Phaser® 7760
Color Laser Printer

Phaser® 7760
Service Manual

xerox

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Introduction

About this Manual

The Phaser 7760 Color Laser Printer Service Documentation is the primary document used for diagnosing, repairing, maintaining, and troubleshooting the printer. It is the controlling publication for a service call. Information on its use is found in the Introduction of the Service Documentation.

For Online Support Assistant (OSA) and Software/Driver Updates, visit www.xerox.com/office/7760support.

Service Documentation Revision

The Service Documentation will be updated as the machine changes or as problem areas are identified.

Organization

The titles of the sections and a description of the information contained in each section are contained in the following paragraphs:

Introduction and General Information

This section contains documentation organization, symbology and nomenclature, translated warnings, safety symbols, regulatory specifications, and general information.

Section 1 - Service Call Procedures

This section contains procedures that determine what actions are to be taken during a service call on the machine and in what sequence they are to be completed. This is the entry level for all service calls. This section covers the General Startup, PostScript, and Power Supply Operations of the printer to aid in troubleshooting not associated with an error code or Front Panel error message.

Section 2 - Status Indicator RAPs

This section contains the diagnostic aids for troubleshooting the Fault Code and non-Fault Code related faults (with the exception of image quality problems).

Section 3 - Image Quality

This section contains the diagnostic aids for troubleshooting any image quality problems, as well as image quality specifications and image defect samples.

Section 4 - Repairs/Adjustments

This section contains all the Repairs and Adjustments procedures.

Repairs

Repairs include procedures for removal and replacement of parts which have the following special conditions:

When there is a personnel or machine safety issue.

When removal or replacement cannot be determined from the exploded view of the Parts List.

When there is a cleaning or a lubricating activity associated with the procedure.

When the part requires an adjustment after replacement.

When a special tool is required for removal or replacement.

Use the repair procedures for the correct order of removal and replacement, for warnings, cautions, and notes.

Adjustments

Adjustments include procedures for adjusting the parts that must be within specification for the correct operation of the system.

Use the adjustment procedures for the correct sequence of operation for specifications, warnings, cautions and notes.

Section 5 - Parts Lists

This section contains the Printer and Finisher Parts Lists.

Section 6 - General Procedures/Information

This section contains General Procedures and Diagnostic Programs.

Section 7 - Wiring Data

This section contains drawings, lists of Plug/Jack locations, and diagrams of the power distribution wire networks in the machine. Individual wire networks are shown in the Circuit Diagrams contained in Section 2. This section also contains the Block Schematic Diagrams.

Section 8 - Theory of Operation

This section contains detailed functional information on the print engine components.

How to Use this Documentation

The Service Call Procedures in Section 1 describe the sequence of activities used during the service call. The call **must** be entered using these procedures.

Use of the Circuit Diagrams

Circuit Diagrams (CDs) are included in Section 2 (Status Indicator RAPs) and Section 3 (Image Quality RAPs) of the Service Documentation. All wirenets, with the exception of power distribution wirenets, are shown on the CDs. Power distribution wirenets are shown in Section 7 (Wiring Data) of the Service Documentation. The power distribution wirenets on the CDs will end at the terminal board for the power being distributed. Find the wirenet for that power and locate the terminal board on the wirenet. Use the wirenet to troubleshoot any power distribution wiring not shown on the CD.

Use of the Block Schematic Diagrams

Block Schematic Diagrams (BSDs) are included in Section 7 (Wiring Data) of the Service Documentation. The BSDs show the functional relationship of the electrical circuitry to any mechanical, or non-mechanical, inputs or outputs throughout the machine. Inputs and outputs such as motor drive, mechanical linkages, operator actions, and air flow are shown. The BSDs provides an overall view of how the entire subsystem works.

The BSDs do not contain an Input Power Block referring to Chain 1. It will be necessary to refer to the Wirenets in order to trace a wire back to its source.

Illustration Symbols

Figure 1 provides Symbols and Conventions that are commonly used in illustrations.

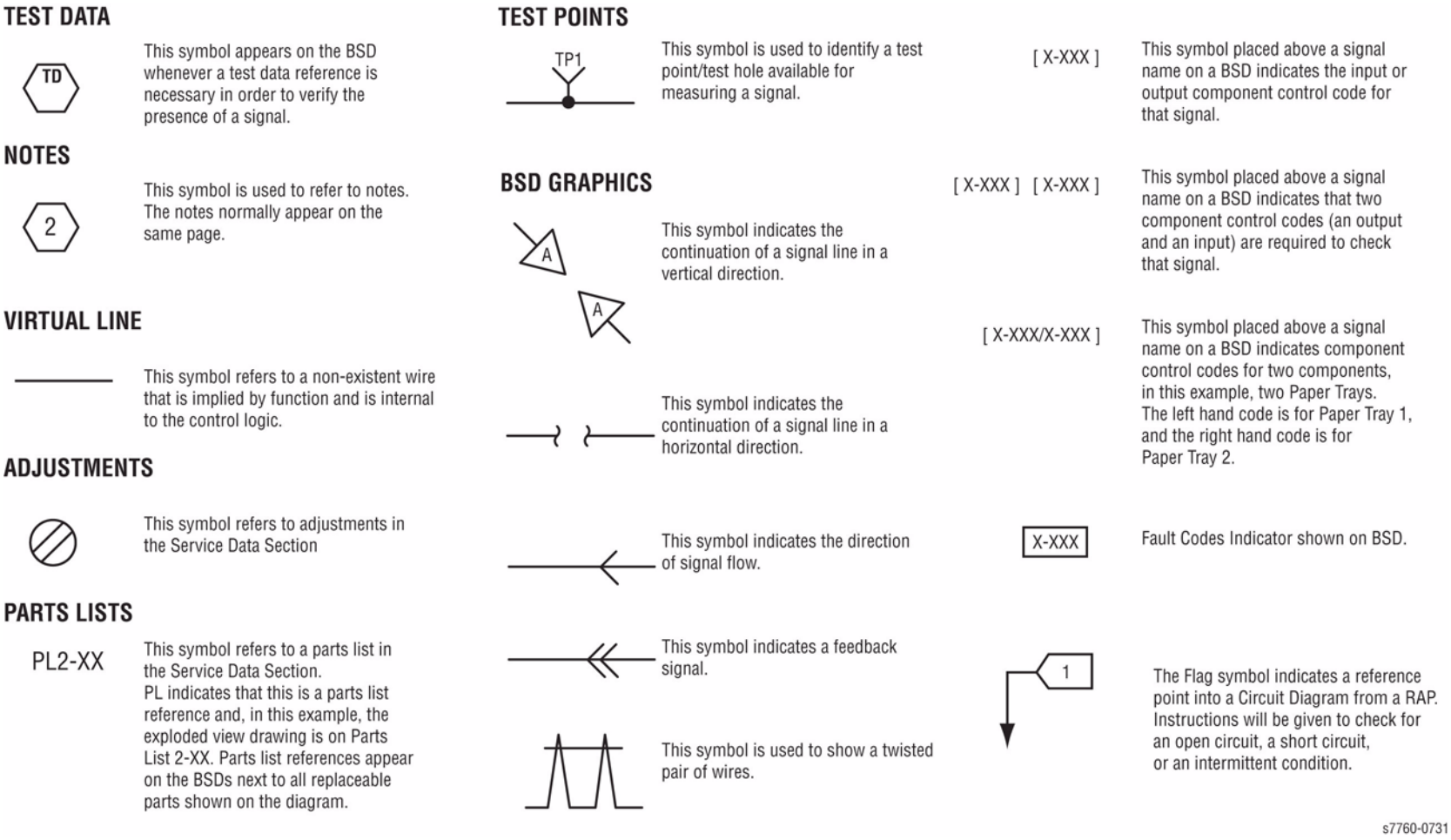

Figure 1 Illustration Symbols

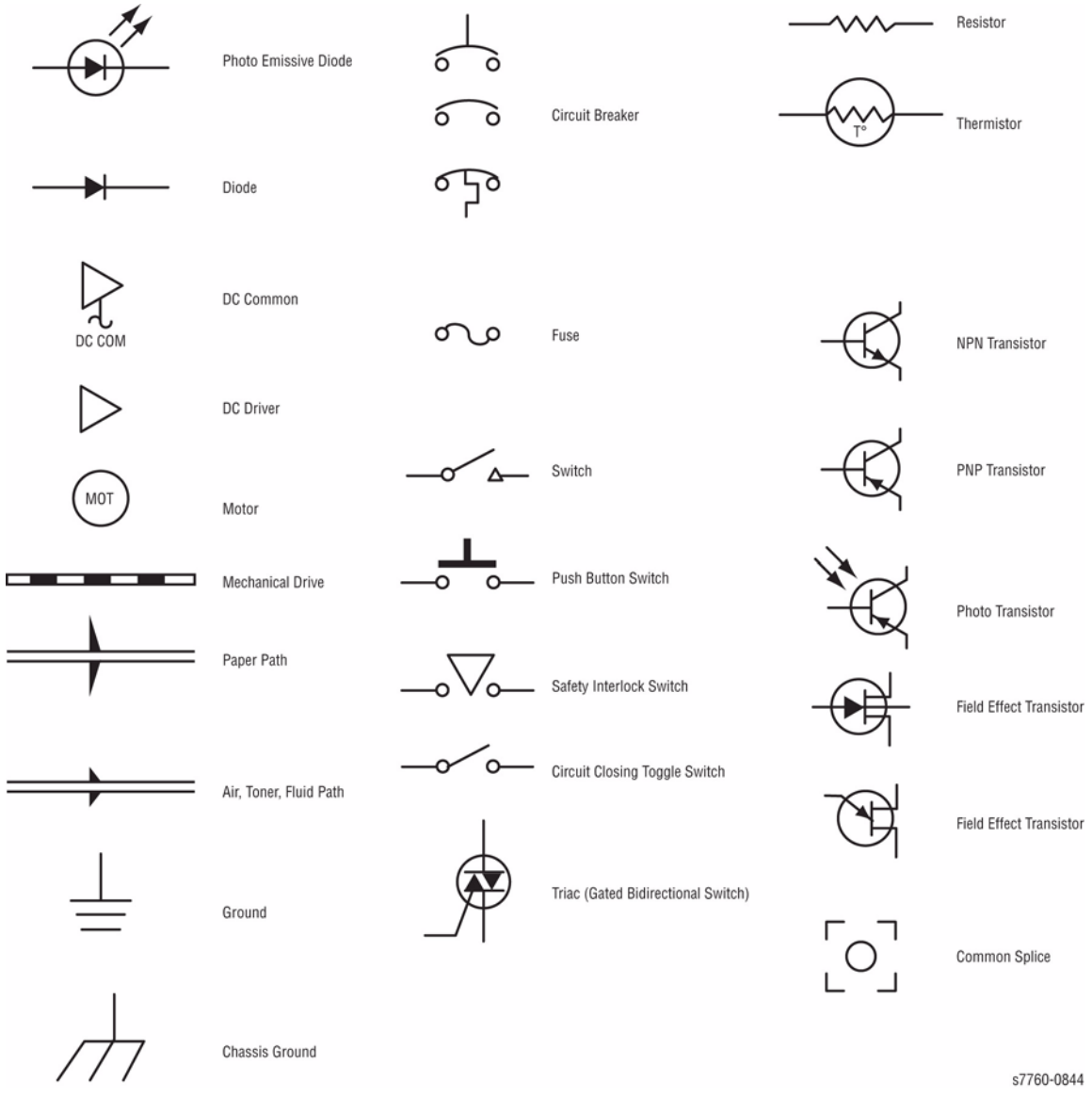

Figure 2 Illustration Symbols

Signal Nomenclature

Refer to Figure 3 for an example of Signal Nomenclature used in Circuit Diagrams and BSDs.

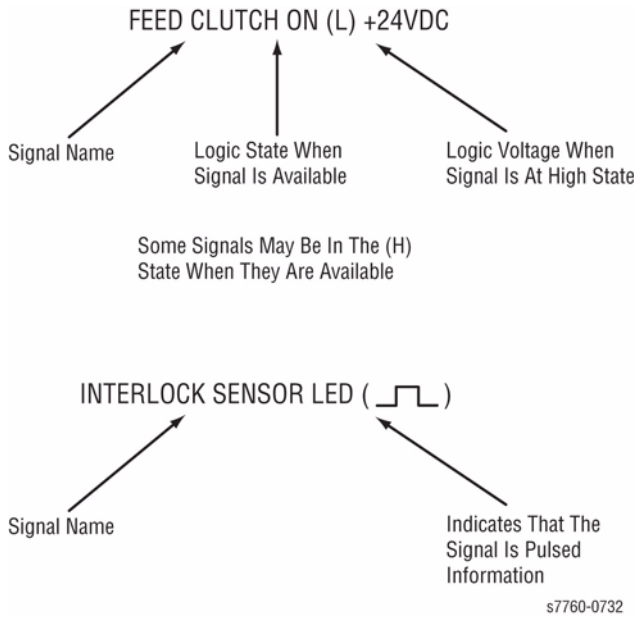

Figure 3 Signal Nomenclature

Voltage Measurement and Specifications

Measurements of DC voltage must be made with reference to the specified DC Common, unless some other point is referenced in a diagnostic procedure. All measurements of AC voltage should be made with respect to the adjacent return or ACN wire.

Table 1 Voltage Measurement and Specifications

VOLTAGE	SPECIFICATION
INPUT POWER 220 V	198 VAC TO 242 VAC
INPUT POWER 100 V	90 VAC TO 135 VAC
INPUT POWER 120 V	90 VAC TO 135 VAC
+5 VDC	+4.75 VDC TO +5.25 VDC
+24 VDC	+23.37 VDC TO +27.06 VDC

Logic Voltage Levels

Measurements of logic levels must be made with reference to the specified DC Common, unless some other point is referenced in a diagnostic procedure.

Table 2 Logic Levels

VOLTAGE	H/L SPECIFICATIONS
+5 VDC	H = +3.00 TO +5.25 VDC L = 0.0 TO 0.8 VDC
+24 VDC	H= +23.37 TO +27.06 VDC L= 0.0 TO 0.8 VDC

DC Voltage Measurements in RAPs

The RAPs have been designed so that when it is required to use the Digital Multimeter (DMM) to measure a DC voltage, the first Test Point (TP) listed is the location for the red (+) meter lead and the second test point is the location for the black meter lead. For example, the following statement may be found in a RAP:

There is +5 VDC from TP7 to TP68.

In this example, the red meter lead would be placed on TP7 and the black meter lead on TP68.

Another example of a statement found in a RAP might be:

There is -15 VDC from TP21 to TP33.

In this example, the red meter lead would be placed on TP21 and the black meter lead would be placed on TP33.

If a second test point is not given, it is assumed that the black meter lead may be attached to the Printer frame.

Power Safety Precautions

Power Source

For 115 VAC printers, do not apply more than 127 volts RMS between the supply conductors or between either supply conductor and ground. For 230 VAC printers, do not apply more than 254 volts RMS between the supply conductors or between either supply conductor and ground. Use only the specified power cord and connector. Only qualified service technician should be using this Service Documentation to perform the services.

Plug the three-wire power cord (with grounding prong) into a grounded AC outlet only. If necessary, contact a licensed electrician to install a properly grounded outlet. If the product loses its ground connection, contact with conductive parts may cause an electrical shock. A protective ground connection by way of the grounding conductor in the power cord is essential for safe operation.

Disconnecting Power

WARNING

Turning the power OFF using the power switch does not completely de-energize the printer. You must also disconnect the power cord from the printer's AC inlet. Disconnect the power cord by pulling the plug, not the cord.

It is also important that sufficient time is allowed for printer shutdown prior to unplugging the power cord from the printer or power source. This can be determined by checking the Control Panel display, after turning the printer power Off, and waiting until the LCD display shuts down.

Disconnect the power cord in the following cases:

- if the power cord or plug is frayed or otherwise damaged,
- if any liquid or foreign material is spilled into the product,
- if the printer is exposed to any excess moisture,
- if the printer is dropped or damaged,
- if you suspect that the product needs servicing or repair,
- whenever you clean the product.

Service Safety Summary

General Guidelines

For qualified service personnel only: Refer also to the Power Safety Precautions.

Avoid servicing alone: Do not perform internal service or adjustment of the product unless another person capable of rendering first aid or resuscitation is present.

Use care when servicing with power: Dangerous voltages may exist at several points in this product. To avoid personal injury, do not touch exposed connections and components while power is on. Disconnect power before removing the power supply shield or replacing components.

Do not wear jewelry: Remove jewelry prior to servicing. Rings, necklaces and other metallic objects could come into contact with dangerous voltages and currents.

Warning Labels

Read and obey all posted warning labels. Throughout the printer, warning labels are displayed on potentially dangerous components. As you service the printer, check to make certain that all warning labels remain in place.

Safety Interlocks

Make sure all covers are in place and all interlock switches are functioning correctly after you have completed a printer service call. If you bypass an interlock switch during a service call, use extreme caution when working on or around the printer.

Servicing Electrical Components

Before starting any service procedure, switch off the printer power and unplug the power cord from the wall outlet. If you must service the printer with power applied, be aware of the potential for electrical shock.

WARNING

Do not touch any electrical component unless you are instructed to do so by a service procedure.

Figure 1 Electrical Components Warning

Servicing Mechanical Components

WARNING

Do not try to manually rotate or stop the drive assemblies while any printer motor is running.

Figure 2 Mechanical Components Warning

Servicing Fuser Components

WARNING

This printer uses heat to fuse the toner image to the media. The Fuser is VERY HOT. Turn the printer power OFF and wait at least 5 minutes for the Fuser to cool before attempting to service the Fuser or adjacent components.

Electrostatic Discharge (ESD) Precautions

Some semiconductor components, and the respective sub-assemblies that contain them, are vulnerable to damage by Electrostatic discharge (ESD). These components include Integrated Circuits (ICs), Large-Scale Integrated circuits (LSIs), field-effect transistors and other semiconductor chip components. The following techniques will reduce the occurrence of component damage caused by static electricity.

Be sure the power is off to the chassis or circuit board, and observe all other safety precautions.

- Immediately before handling any semiconductor components assemblies, drain the electrostatic charge from your body. This can be accomplished by touching an earth ground source or by wearing a wrist strap device connected to an earth ground source. Wearing a wrist strap will also prevent accumulation of additional bodily static charges. Be sure to remove the wrist strap before applying power to the unit under test to avoid potential shock.
- After removing a static sensitive assembly from its anti-static bag, place it on a grounded conductive surface. If the anti-static bag is conductive, you may ground the bag and use it as a conductive surface.
- Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage some devices.
- Do not remove a replacement component or electrical sub-assembly from its protective package until you are ready to install it.
- Immediately before removing the protective material from the leads of a replacement device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
- Minimize body motions when handling unpacked replacement devices. Motion such as your clothes brushing together, or lifting a foot from a carpeted floor can generate enough static electricity to damage an electro-statically sensitive device.
- Handle IC's and EPROM's carefully to avoid bending pins.
- Pay attention to the direction of parts when mounting or inserting them on Printed Circuit Boards (PCB's).

Generic Warnings with FIGS

General Usage

WARNING

Use only Xerox materials and components. This product is safety certified using Xerox materials and components. The use of non Xerox materials and components may invalidate the safety certificate.

DANGER : N'utilisez que des matières premières et des composants Xerox. La sécurité du produit est assurée dans le cadre de son utilisation avec des matières premières et des composants Xerox. L'utilisation de matières premières et de composants autres que ceux de Xerox risque d'invalider le certificat de sécurité.

AVVERTENZA: Utilizzare solo materiali e componenti Xerox per avvalersi della certificazione di protezione. L'utilizzo di materiali e componenti non Xerox può rendere nulla la certificazione di protezione.

VORSICHT: Verwenden Sie nur Materialien und Komponenten von Xerox. Dieses Produkt besitzt die Sicherheitszertifizierung bei Verwendung von Xerox-Materialien und -Komponenten. Die Verwendung von Materialien und Komponenten anderer Hersteller setzt möglicherweise das Sicherheitszertifikat außer Kraft.

AVISO: Utilice solo los materiales y componentes Xerox. Este producto dispone de un certificado de seguridad si se utilizan los materiales y componentes Xerox. Este certificado de seguridad no será válido si se utilizan materiales y componentes que no sean de Xerox.

WARNING

A warning is used whenever an operating or maintenance procedure, practice, condition or statement, if not strictly observed, could result in personal injury.

DANGER: Une note Danger est utilisée chaque fois qu'une procédure d'utilisation ou de maintenance peut être cause de blessure si elle n'est pas strictement respectée.

AVVERTENZA: Un segnale di avvertenza è utilizzato ogni volta che una procedura operativa o di manutenzione, una pratica, una condizione o un'istruzione, se non strettamente osservata, potrebbe causare lesioni personali.

VORSICHT: Weist darauf hin, dass ein Abweichen von den angeführten Arbeits- und Wartungsanweisungen gesundheitliche Schäden, möglicherweise sogar schwere Verletzungen zur Folge haben kann.

AVISO:Un aviso se utiliza siempre que un procedimiento de operación o mantenimiento, práctica o condición puede causar daños personales si no se respetan estrictamente.

Electrical

WARNING

Do not perform repair activities with the power on or electrical power supplied to the machine. Some machine components contain dangerous electrical voltages that can result in electrical shock and possible serious injury.

DANGER: Ne pas effectuer de dépannnage avec le contact principal activé ou avec l'alimentation électrique appliquée à la machine. Certains éléments de la machine comportent des tensions électriques dangereuses qui peuvent causer un choc électrique et de graves blessures.

AVVERTENZA: Non effettuare alcuna riparazione con l'alimentazione elettrica inserita. Alcuni componenti contengono corrente ad alta tensione che può provocare forti scosse e gravi ferite.

VORSICHT: Es dürfen erst Reparaturarbeiten durchgeführt werden, wenn das Gerät ausgeschaltet ist oder der Netzstecker nicht mehr mit der Stromquelle verbunden ist. Einige Komponenten des Gerätes sind stromführend und können daher zu ernsthaften Verletzungen oder Stromschlägen führen.

AVISO: No realice reparaciones con la máquina encendida o conectada a la corriente. Algunos componentes de la máquina contienen voltajes eléctricos peligrosos que pueden producir una descarga eléctrica y causar daños graves.

WARNING

Use extreme care when working near this power supply. High voltage is present on the power supply when the machine is in standby mode. Contact with electrical components or high voltage cables represents a shock potential that could result in serious personal injury.

DANGER: Faire très attention en intervenant près de ce module d'alimentation. Une haute tension y est présente lorsque la machine est en mode d'attente. Tout contact avec les éléments électriques ou les câbles haute tension représente un risque de choc et de graves blessures.

AVVERTENZA: Fare estrema attenzione quando si lavora vicino a questo gruppo statico. Il gruppo statico è caricato ad alta tensione quando la macchina è in modalità standby. Il contatto con componenti sotto tensione o cavi elettrici comportano un serio-pericolo di scossa elettrica e gravi ferite.

VORSICHT: Bei der Verwendung unterbrechungsfreier Stromversorgung benutzt äußerste Vorsichtkeit. Während die Machine sich im Energiespar-Modus befindet, steht es unter Hochspannung. Beim Umgang mit elektrischen Bauteilen und Hochspannungsleitungen erhöht sich das Unfallrisiko. Äußerste Vorsicht ist geboten.

AVISO:Tenga mucho cuidado al trabajar en las proximidades de la fuente de alimentación. Hay voltaje muy alto en la fuente de alimentación cuando la máquina se encuentra en el modo de espera. El contacto con componentes eléctricos o cables de alto voltaje representa peligro de descarga eléctrica que puede ocasionar daños personales graves.

Laser

WARNING

Follow the service procedure exactly as written. Use of controls or adjustments other than those specified in this manual, may result in an exposure to invisible laser radiation. During servicing, the invisible laser radiation can cause eye damage if looked at directly.

DANGER : Les procédures de dépannage doivent être suivies à la lettre. Si les réglages ou vérifications ne sont pas effectués suivant les instructions de ce manuel, il peut y avoir un risque d'exposition dangereuse au faisceau laser. Celui-ci peut provoquer des lésions oculaires s'il est observé directement.

AVVERTENZA: Eseguire le procedure di servizio esattamente come descritto. L'utilizzo di dispositivi di controllo o di registrazione diversi da quelli riportati in questo manuale potrebbe comportare un'esposizione a radiazioni laser invisibili. Tali radiazioni possono danneggiare gli occhi se si guarda direttamente il fascio laser durante gli interventi di servizio.

VORSICHT: Die Wartungsarbeiten genau den Anweisungen entsprechend durchführen. Der Umgang mit Steuer- oder Bedienelementen, deren Verwendung nicht ausdrücklich in diesem Handbuch angewiesen wurde, kann dazu führen, dass unsichtbare Laserstrahlung frei gesetzt wird. Direkter Blickkontakt mit dem Laserstrahl kann bleibende Augenschäden verursachen.

AVISO: Siga los procedimientos de mantenimiento tal como están descritos. El uso de controles o ajustes no especificados en este manual puede tener como resultado la exposición a radiación láser invisible. Durante las operaciones de mantenimiento, la radiación de láser invisible puede causar daños en los ojos si se mira directamente a ella.

WARNING

Avoid exposure to laser beam. Invisible laser radiation.

DANGER : Eviter toute exposition au faisceau laser. Radiation laser invisible.

AVVERTENZA: Evitare l'esposizione al fascio laser. Radiazioni laser invisibili.

VORSICHT: Nicht in den Laserstrahl blicken. Verletzungsgefahr durch unsichtbare Laserstrahlung.

AVISO: Evite la exposición al rayo láser. Radiación de láser invisible.

WARNING

Do not defeat or electrically bypass the ROS Safety Interlock Switch for any reason. The ROS emits an undetectable laser beam that could cause serious permanent damage to the eyes if directly viewed or viewed from a surface that may have reflected the laser beam.

DANGER: Ne pas shunter le contact de sécurité du ROS, quelle que soit la raison. Le ROS émet un rayon laser indétectable qui peut causer de graves blessures permanentes aux yeux s'il est regardé directement ou par le biais d'une surface qui le réfléchit.

AVVERTENZA: Non ostacolare o bypassare elettronicamente l'interruttore blocco di sicurezza ROS per nessun motivo. Il ROS emette un raggio laser invisibile che può causare gravi ferite permanenti agli occhi se viene guardato direttamente o attraverso una superficie riflettente.

VORSICHT: Den ROS (Rasterausgabescanner)-Sicherheitssperrschalter auf keinen Fall vernichten oder elektronisch umgehen. Der ROS sondert einen nicht feststellbaren Laserstrahl ab, der irreparable Augenschäden verursachen kann, wenn direkt oder über eine Spiegelfläche hineingesehen wird.

AVISO: No intente modificar o desviar electrónicamente el interruptor de seguridad por ningún motivo. El ROS emite un rayo láser que no se puede detectar, que podría puede causar grave daño permanente a los ojos si se lo mira directamente o desde una superficie que refleja el rayo láser.

WARNING

Use extreme care when replacing the Raster Output Scanner (ROS) or touching the high voltage lead. Discharge the laser assembly by touching the high voltage lead to the machine frame. The ROS utilizes a laser assembly that stores a high voltage charge after the power has been removed and represents a shock hazard that could cause serious personal injury if not discharged.

DANGER: Faire très attention lors du changement du générateur de balayage (ROS) ou lors de la manipulation du câble de haute tension. Décharger le système laser en touchant le câble HT au bâti machine: le ROS utilise un système laser qui retient une haute tension après la coupure de l'alimentation, représentant un risque de choc et de graves blessures.

AVVERTENZA: Fare estrema attenzione nel sostituire il Raster Output Scanner (ROS) o nel toccare il cavo di alta tensione. Scaricare il complessivo laser collegando il cavo di alta tensione col telaio della macchina. Il ROS utilizza un complessivo laser che ritiene una carica di alta tensione dopo il taglio dell'alimentazione con conseguente grave pericolo di scossa elettrica e serie ferite.

VORSICHT: Beim Ersetzen der Lasereinheit (ROS) und beim Umgang mit Hochspannungsleitern ist äußerste Vorsicht geboten. Die Lasereinheit muss durch Berühren des Hochspannungsleiters mit dem Gehäuse des Geräts entladen werden. Nach Betrieb der Lasereinheit (ROS) bleibt immer eine Hochspannungsladung zurück, welche ein hohes Elektroschockrisiko darstellt. Äußerste Vorsicht ist geboten.

AVISO: Use extrema precaución para sustituir el Escáner de salida ráster (ROS) o tocar el cable de alto voltaje. Descargue el sistema láser tocando el cable de alto voltaje del bastidor de la máquina. El ROS utiliza un sistema láser que retiene carga de alto voltaje después de interrumpir la alimentación de energía y representa un grave peligro que puede ocasionar daños personales graves si no se descarga.

WARNING

Do not attempt to operate the Raster Output Scanner (ROS) in any position other than its designed operating position inside the machine. The ROS emits a laser beam that could cause serious permanent damage to the eyes if directly viewed or viewed from a surface that may have reflected the laser beam.

DANGER: Ne pas tenter de faire fonctionner le générateur de balayage (ROS) dans une position autre que celle de fonctionnement à l'intérieur de la machine. Le ROS émet un rayon laser qui peut causer de graves blessures permanentes aux yeux s'il est regardé directement ou par le biais d'une surface qui le réfléchit.

AVVERTENZA: Non cercare di far funzionare il Raster Output Scanner (ROS) in nessuna posizione diversa da quella prevista all'interno della macchina. Il ROS emette un raggio laser che può causare gravi ferite permanenti agli occhi se viene guardato direttamente o attraverso una superficie riflettente.

VORSICHT: Die Lasereinheit (Raster Output Scanner, ROS) darf nicht in anderen als den dafür vorgesehenen Positionen innerhalb des Geräts verwendet werden. Die direkte oder von den Geräteoberflächen reflektierte Ansicht des von der Lasereinheit ausgegebenden Laserstrahls kann zu ernsthaften Langzeitschäden der Augen führen.

AVISO: No trate de hacer funcionar el Escáner de salida ráster (ROS) en ninguna posición que no sea la posición de funcionamiento diseñada dentro de la máquina. El ROS emite un rayo láser que puede causar grave daño permanente a los ojos si se lo mira directamente o desde una superficie que refleja el rayo láser.

Fuser

WARNING

Do not handle the fuser components until they have cooled. Some fuser components operate at hot temperatures and can produce serious personal injury if touched.

DANGER: Ne pas manipuler les éléments du four avant de les laisser refroidir. Certains éléments du four fonctionnent à des températures très élevées et peuvent causer de graves blessures s'ils sont touchés.

AVVERTENZA: Non maneggiare i componenti del fusore finché non sono raffreddati. Alcuni di questi componenti funzionano ad alte temperature e possono provocare gravi ferite se vengono toccati.

VORSICHT: Die Fixieranlage sollte erst gehandhabt werden, wenn diese genügend abgekühlt ist. Einige Teile der Fixieranlage erzeugen übermäßige Hitze und führen bei der Berührung zu schweren Verbrennungen.

AVISO: No manipule los componentes del fusor antes de que se enfríen. Algunos de los componentes del fusor funcionan a altas temperaturas y pueden ocasionar daños personales graves si se los toca.

Finisher

WARNING

Do not connect the finisher power cord directly to the AC wall outlet. The finisher cannot operate without the machine. The machine controls the distribution of electricity to the finisher for correct power on the power off sequencing.

DANGER : Ne pas connecter le cordon d'alimentation du module de finition directement sur la prise murale. Le module ne peut pas fonctionner sans la machine. Celle-ci contrôle la distribution d'électricité vers le module de finition lors des séquences de mises hors tension.

AVVERTENZA: non connettere il cavo elettrico della stazione di finitura direttamente a una presa a muro. La macchina non è in grado di funzionare indipendentemente dalla stampante, la quale ne gestisce totalmente i cicli di accensione e spegnimento.

VORSICHT: Netzstecker des Finisher nicht direkt an eine Netzsteckdose anschließen. Der Finisher kann nicht ohne das Document Centre betrieben werden. Die Stromversorgung zum Finisher zur richtigen Abschaltsequenz wird vom Document Centre gesteuert.

AVISO: No conecte el cable de alimentación de la acabadora directamente a la toma de corriente alterna. La acabadora no funciona sin la máquina. La máquina controla la distribución de energía eléctrica a la acabadora para la secuencia correcta de encendido y apagado.

Symbology and Nomenclature

Warnings, Cautions, and Notes

Warnings, Cautions, and Notes will be found throughout the Service Documentation. The words **WARNING** or **CAUTION** may be listed on an illustration when the specific component associated with the potential hazard is pointed out; however, the message of the **WARNING** or **CAUTION** is always located in the text. The **WARNING** and **CAUTION** definitions are as follows:

WARNING

A Warning is used whenever an operating or maintenance procedure, a practice, condition, or statement, if not strictly observed, could result in personal injury.

DANGER: Une note Danger est utilisée chaque fois qu'une procédure d'utilisation ou de maintenance peut être cause de blessure si elle n'est pas strictement respectée.

CAUTION

A Caution is used whenever an operating or maintenance procedure, a practice, condition, or statement, if not strictly observed, could result in damage to the equipment.

***NOTE:** A Note is used whenever it is necessary to highlight an operating or maintenance procedure, practice, condition, or statement.*

Specific Warnings

The following sections have additional specific warning information.

Table 1 Introduction and Section 4

Introduction - Symbology and Nomenclature
Section 4 - Repairs and Adjustments

Table 2 Section 2 and Section 6

Section 4 - REP 10.2, Fuser Fan
Section 6 - Developer BIAS

Machine Safety Icons

The following reference symbols are used throughout the documentation.

Machine Safety Icons

This symbol indicates Laser Hazard.

Figure 1 Laser Hazard Symbol

This symbol indicates **DANGER** high voltage.

Figure 2 DANGER High Voltage Symbol

These symbols indicate hot surface on or in the printer. Use caution to avoid personal injury.

Figure 3 Hot Surface on or in the Printer Symbol

Figure 4 Hot Surface Symbol

The surface is hot while the printer is running. After turning off the power, wait 30 minutes.

Figure 5 Caution 30 Minutes Symbol

Avoid pinching fingers in the printer. Use caution to avoid personal injury.

Figure 6 Pinching Fingers Caution Symbol

Use caution (or draws attention to a particular component). Refer to the documentation for information.

Figure 7 Use Caution Symbol

Regulatory Specifications

Xerox has tested this product to electromagnetic emission and immunity standards. These standards are designed to mitigate interference caused or received by this product in a typical office environment.

United States (FCC Regulations)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy. If it is not installed and used in accordance with these instructions, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiver.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

Any changes or modifications not expressly approved by Xerox could void the user's authority to operate the equipment. To ensure compliance with Part 15 of the FCC rules, use shielded interface cables.

Canada (Regulations)

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

European Union

Xerox Corporation declares, under our sole responsibility, that the product to which this declaration relates is in conformity with the following standards and other normative documents:

Table 1 Low Voltage Directive 73/23/EEC as amended

EN 60950-1:2001
EN 60825-1:1994 +A1:2001 +A2:2002

Table 2 Electromagnetic Compatibility Directive 89/336/EEC as amended

EN 55022:1998 +A1:2000 +A2:2003
EN 55024:1998 +A1:2001 +A2:2003
EN 61000-3-2:2000
EN 61000-3-3:1995 +A1:2001

Table 3 Radio & Telecommunications Terminal Equipment Directive 1999/EC as amended

EN 300 330-2 V1.1.1
EN 300 440-2 V1.1.1
EN 300 489-3 V1.3.1

This product, if used properly in accordance with the user's instructions, is neither dangerous for the consumer nor for the environment.

A signed copy of the Declaration of Conformity for this product can be obtained from Xerox.

Phaser 7760 Printer Introduction and Overview

The Phaser 7760 Color Laser Printer uses a ROS laser with an electrophotographic four-color Yellow Magenta Cyan Black (YMCK) tandem architecture. A finisher with stacking, stapling, punching, and booklet making features is available with the Phaser 7760 per selected model.

The Phaser 7760 is an A3 size, tandem laser color printer, which can print at 35 pages per minute (ppm) color and 45 ppm monochrome. The maximum print resolution are 1200 dpi x 1200 dpi. Input trays can support up to 5 trays with 2500-Sheet High-Capacity Feeder or 1500-Sheet High-Capacity Feeder.

The Phaser 7760 configurations support 10baseTX, 100baseTX, and 1000baseTX Ethernet with an RJ45 connector on the motherboard. USB 2.0 connection is provided as a standard.

Adobe PostScript 3 and PCL5c fonts are supported for the Phaser 7760.

EPA ENERGY STAR compliance is certified for the Phaser 7760. After a predefined period of time since its last activity, the Phaser 7760 will enter a power saver standby mode in which the printer systems are shut down as required to comply with ENERGY STAR. Any communications interface will remain active and will have the ability to wake the printer up.

Phaser 7760 Printer Configurations

Table 1 Printer Configurations

Features	DN	GX	DX
Processor and Clock Rate	G4 Class PowerPC @800Mhz 1 MB L2 Cache		
Max Print Speed	35 ppm color 45 ppm monochrome	35 ppm color 45 ppm monochrome	35 ppm color 45 ppm monochrome
Memory Configuration (MB)	1 x 512	1 x 512	1 x 512
Max Memory	1GB DDR2 in 2 slots	1GB DDR2 in 2 slots	1GB DDR2 in 2 slots
Resolutions (dpi)	1200 x 1200	1200 x 1200	1200 x 1200
Post Script Fonts	137	137	137
PCL5c Fonts	81	81	81
Top Output Tray	Standard	Standard	Standard
500-Sheet Feeder	N/A	Standard	Standard
1500-Sheet Hi-Capacity Feeder (Lower Tray Deck)	Optional	Standard	N/A
2500-Sheet High-Capacity Feeder	Optional	N/A	Standard
Hard Drive	Standard 40GB	Standard 40GB	Standard 40GB
Banner Size Printing	Standard	Standard	Standard
Photo Mode	Standard	Standard	Standard
Auto-Duplexer	Standard	Standard	Standard
Ethernet Interface	10/100/1000 Base-TX	10/100/1000 Base-TX	10/100/1000 Base-TX
USB 2.0	Standard	Standard	Standard
Advanced Finisher	N/A	Optional	Optional
Professional Finisher	N/A	Optional	Optional
Phaser Match	Optional	Standard	Standard
PhaserCal	Standard	Standard	Standard
Warranty	One-year On-site Warranty, Xerox Total Satisfaction Guarantee		

Parts of the Printer

Front-Right View

1. Tray 1 (multi-purpose tray)
2. Front door
3. Tray 2
4. Top Output Tray
5. Right Door
6. Power Switch

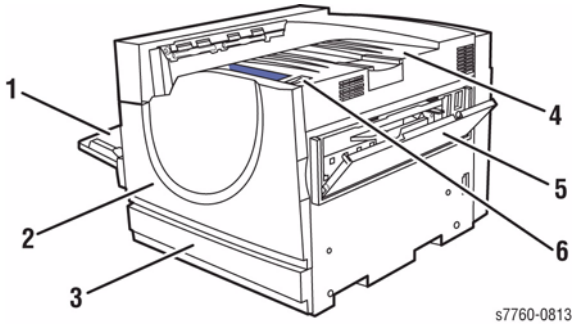

Figure 1 Front-Right View

Front-Left View

1. Door A
2. Door D
3. Tray 1 (MPT)
4. Door B

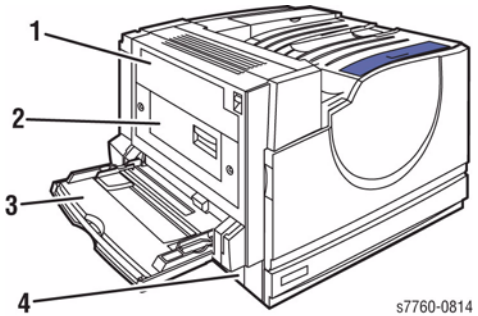

Figure 2 Front-Left View

Rear View

1. USB Connection
2. Ethernet 10/100/1000 Base-T Connection
3. GFI Breaker Reset Button
4. AC Power Cord Connection
5. Door A Latch
6. Tray 1 (MPT)

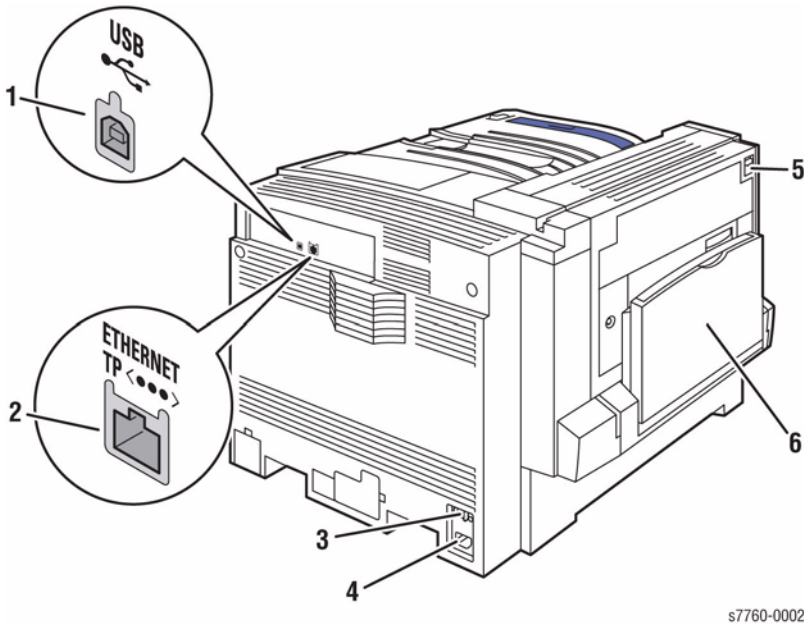

Figure 3 Rear View

Options

Two different Capacity Feeders are available for the Phase 7760 configurations: 2500-Sheet High-Capacity Feeder and 1500-Sheet Feeder.

1. Trays 3-5, (2500-Sheet High-Capacity Feeder)
2. Finisher Door (Finisher with Booklet Maker)
3. Finisher Upper Output Tray
4. Finisher Stacker Output Tray
5. Finisher Booklet Output Tray
6. Cover 5 (Finisher Door 5)

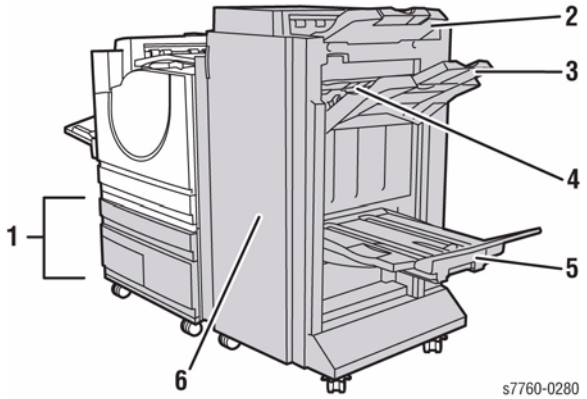

Figure 4 2500-Sheet High-Capacity Feeder

7. Door B
8. Door C
9. Trays 3-5 (1500-Sheet Capacity Feeder)
10. Horizontal Transport (top Output Tray with Finisher installed)
11. Punch Waste Box
12. Staple Unit
13. Saddle Staple Unit
14. Booklet Drawer

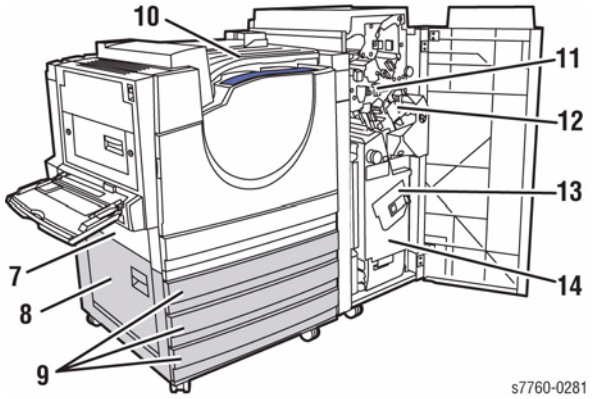

Figure 5 1500-Sheet Feeder

Phaser 7760 Control Panel Configuration

The printer's Control Panel consists of one LED, a display window, and six buttons. These buttons are used to navigate the menu system, perform functions, and select modes of operation for the printer.

Control Panel Button Descriptions

1. Status Indicator LED:
   - **Green**: Printer is ready to print.
   - **Yellow**: Warning condition, printer continues to print.
   - **Red**: Startup sequence or error condition.
   - **Blinking:**
     - **Red:** Error Condition
     - **Green:** Warming Up
2. Graphic display indicates status messages and menus.
3. **Cancel** button:
   - Cancels the current print job.
4. **Back** button:
   - Returns to the previous menu item.
5. **Up Arrow** button:
   - Scrolls upward through the menus.
6. **Down Arrow** button:
   - Scrolls downward through the menus.
7. **OK** button:
   - Accepts the setting selected.
8. **Help (?)** button:
   - Displays a help message with information about the printer, such as Printer Status, Error Messages, and Maintenance Information.

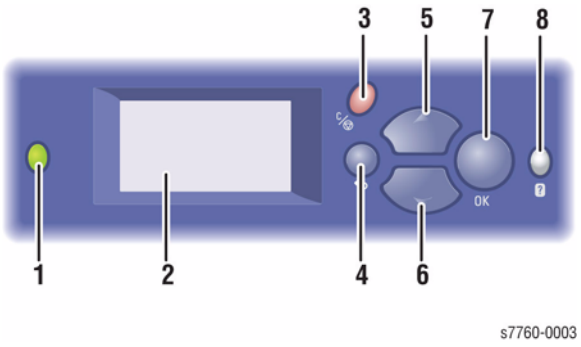

Figure 1 Control Panel

Control Panel Shortcuts

Table 1 Short Cuts

Mode	Press this selection at Power ON
Skip execution of POST diagnostics	OK
Print Service Diagnostics Map	INFO
Enter Service Diagnostics Menu	BACK+INFO

Image Processor Board and Rear Panel Host Interface

The Image Processor Board is powered by and communicates with the engine and Control Panel through two connectors, which mate with a corresponding connector in the card cage when the board is fully inserted. The Image Processor Board can be installed at the factory or in the field. RAM, hard drive, and other options may be installed or changed as needed.

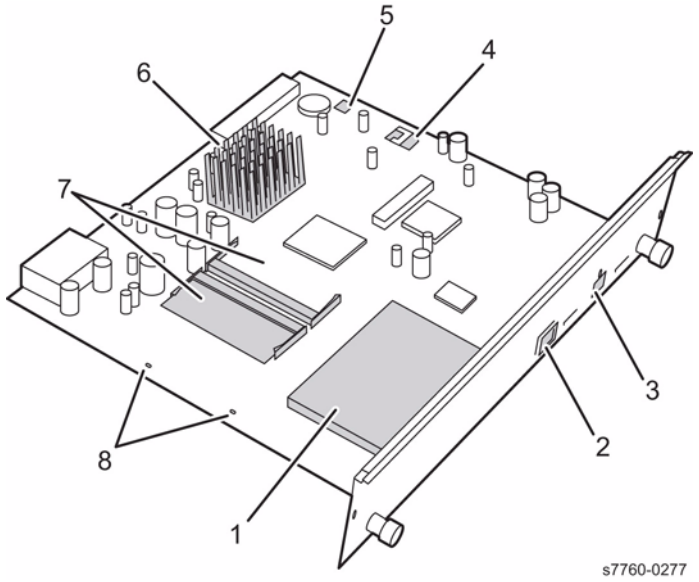

Figure 1 Image Processor Board

1. Hard Drive
2. USB Connector
3. Ethernet Connector
4. Config Card
5. NVRAM
6. Heat Sink
7. RAM (DDR2)
8. Health LEDs

Printer Options

Phaser 7760 Color Laser printer options include:

- Additional Trays
- Memory
- Advanced Finisher
- Professional Finisher
- PhaserMatch Software

Additional Trays

Tray 1 (MPT) and Tray 2 are standard on all configurations. The following additional tray combinations are supported:

- 1500-Sheet High-Capacity Feeder (Trays 3, 4, and 5)
- One 2500-Sheet High-Capacity Feeder which has one 500-Sheet Tray (Tray 3) and two 1000-Sheet Trays (Trays 4 & 5).

Advanced Finisher

The Advanced Finisher provides stapling and hole punching for a variety of paper and media. It is available with either a 3-hole punch (110 V Finisher) or a 2- / 4-hole punch (220 V Finisher). The Advanced Finisher is optional on all 7760 configurations, and requires one of the two tray combinations listed in the Additional Trays section.

Professional Finisher

The Professional Finisher has all features of the Advanced Finisher plus the Booklet Maker. The Professional Finisher requires one of the two tray combinations listed above and is optional for all configurations.

Memory

All configurations have two memory slots supporting 512 MB modules (up to maximum of 1 GB DDR2).

PhaserCal and PhaserMatch Software

PhaserMatch Color Management and PhaserCal Color Calibration software provide instrument-based color calibration tools. These applications use spectrophotometer measurements to achieve optimum calibration of the Phaser 7760 printer.

PhaserCal software is a subset of PhaserMatch and comes standard on all Phaser 7760 configurations. PhaserMatch is standard on Phaser 7760DX and 7760GX configurations, and optional for the Phaser 7760DN.

Routine Maintenance Items and Consumables

The listed items have limited life and require periodic replacement.

1. Transfer Roller
2. Fuser
3. Belt Cleaner Assembly
4. Imaging Units
5. Waste Toner Cartridge
6. Toner Cartridges
7. Accumulator Belt Assembly

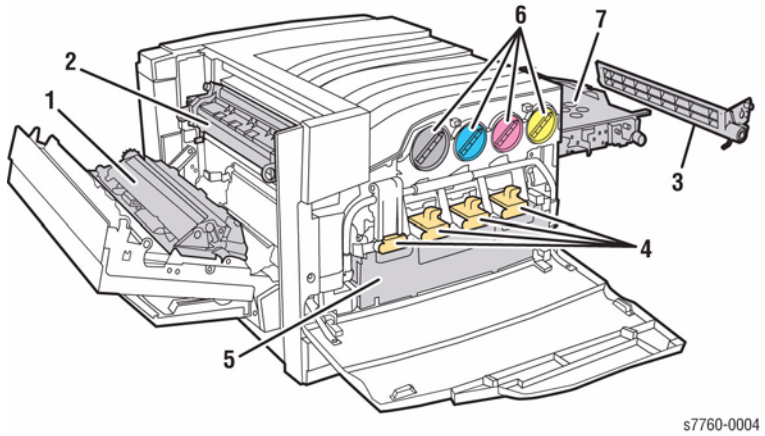

Figure 1 Printer Maintenance Items

Table 1 Routine Maintenance

Items	Routine Maintenance
Transfer Roller	100,000 pages
Fuser Unit	100,000 pages
Belt Cleaner Assembly	100,000 pages
Imaging Unit	35,000 pages
Waste Toner Cartridge	27,000 pages
Stacker Staples	15,000 pages
Booklet Maker Staples	20,000 pages

Table 2 Consumables

Items	Consumables
Toner Cartridge (Cyan, Magenta, Yellow)	25,000 pages
Toner Cartridge (Black)	32,000 pages

Table 3 Service Parts

Items	Service Parts
Accumulator Belt Assembly	Lifetime (480,000 coverage independent)
Paper Feed Roller Kit (3 rollers/Tray)	280,000 feeds per tray (1 set of 3 rollers require for each tray)

Table 4 CRUs and Consumables

Name	Part Number
Imaging Unit	108R00713
Black Toner Cartridge	106R01160
Cyan Toner Cartridge	106R01160
Magenta Toner Cartridge	106R01161
Yellow Toner Cartridge	106R01162
Staple Cartridge Booklet Maker (Professional Finisher)	008R12925
Staple Cartridge (Advanced/Professional Finisher)	008R12964
Staple Refills (Advanced/Professional Finisher)	008R12941
Staple Refills (XC Convenience Stapler)	008R7644
Staple Refills (XE Convenience Stapler)	008R7645
Waste Toner Cartridge	108R00575
Fuser Module (120 V)	115R00049
Fuser Module (220 V)	115R00050

Specifications

Functional Specifications

Table 1 Functional Specifications

Characteristic	Specifications
Printing Process	The Phaser 7760 printer uses a ROS laser with an electrophotographic four-color (CMYK) tandem architecture.
Image System	Discharge the image area with ROS laser beam.
Color Medium	Cyan, Magenta, Yellow, and Black Toner Cartridges
Resolution	Standard: 1200x600x1bit @35/45ppm Enhanced: 1200x1200x1bit @22ppm Photo: 600x600x4bit @35ppm
First Page-Out (from Ready)	Color: 6.9 seconds Monochrome: 6.6 seconds
Warm-up Time	Color and Monochrome: 40 seconds from Power On or ENERGY STAR

Print Speeds

Table 2 Print Speeds

Print Mode (dpi)	Ltr-& A4	Ltr/A4 Duplex (IPM)	Tab & A3	Tab & A3 Duplex (IPM)
Standard (1200x600x1bit)	35/45	28/36	17/22	13/16
Enhanced (1200x1200x1bit)	35/45	28/26	17/22	13/16
Photo (600x600x4bit)	22/22	18/18	11/11	8/8
OHP	8/8	18/18	N/A	N/A
Thin Card Stock	22	18	11	8
Thick Card Stock	11	N/A	5	N/A

Memory Specifications

Table 3 Memory Specifications

Characteristic	Specifications
Minimum RAM	512 MB
Maximum RAM	1 GB
Supported RAM	Supports up to 1 GB of high-speed DDR2 memory using 2 slots

Physical Dimensions and Clearances

Table 4 Print Engine

Dimensions	Value
Height	493 mm (19.4 in.)
Width	644 mm (25.4 in.)
Depth	723 mm (28.5 in.)
Weight (Base Printer)	89 kg (196 lbs.)

Table 5 2500-Sheet Feeder

Dimensions	Value
Height	364 mm (14.3 in.)
Width	644 mm (25.4 in.)
Depth	682 mm (26.9 in.)
Weight	40 kg (88 lbs.)

Table 6 1500-Sheet Feeder

Dimensions	Value
Height	364 mm (14.3 in.)
Width	644 mm (25.4 in.)
Depth	682 mm (26.9 in.)
Weight	30 kg (66 lbs.)

Table 7 Finisher

Dimensions	Value
Height	660 mm (26.0 in.)
Width	995 mm (39.7 in.)
Depth	730 mm (28.7 in.) (without booklet) 870 mm (34.3 in.) (with booklet)
Weight	60 kg (132.1 lbs.) (without booklet) 90 kg (198.1 lbs.) (with booklet)

Minimum Clearances

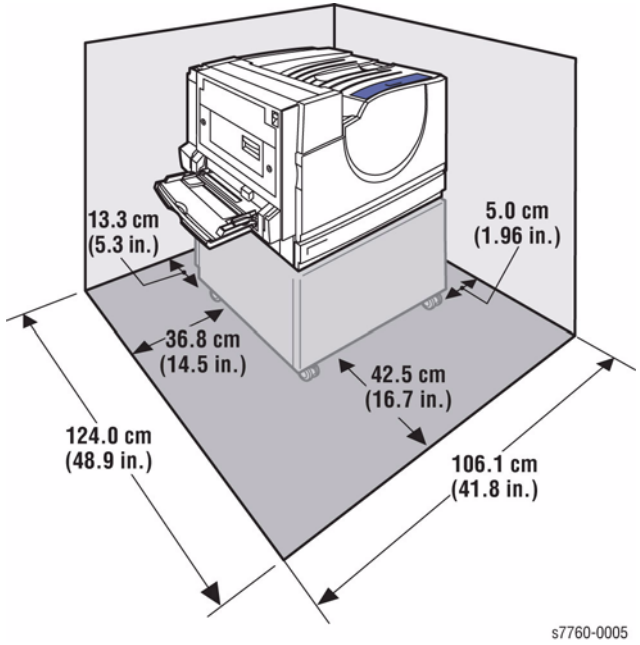

Figure 1 Printer Minimum Clearances

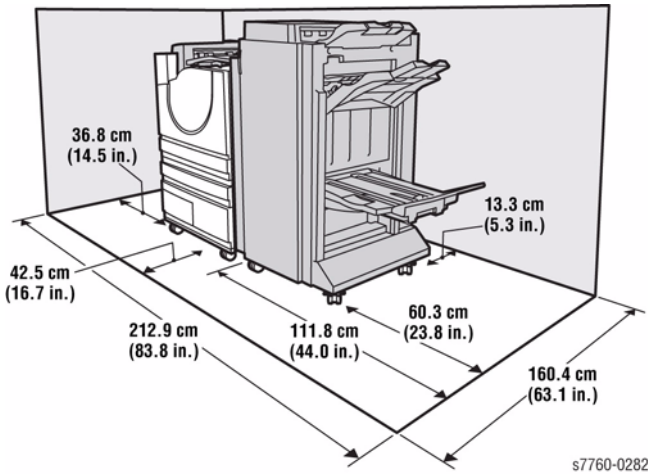

Figure 2 Printer & Finisher Minimum Clearances

Mounting Surface Specifications

These specifications apply to any Phaser 7760 printer used as a table-top printer, without a lower tray assembly or cart. There are 4 feet on the bottom of the printer. The right hand side of the printer is more susceptible to problems due to foot placement.

1. In order to function properly, the printer must be located on a surface with the following **minimum** dimensions (Figure 3). All 4 feet must rest squarely on the mounting surface.

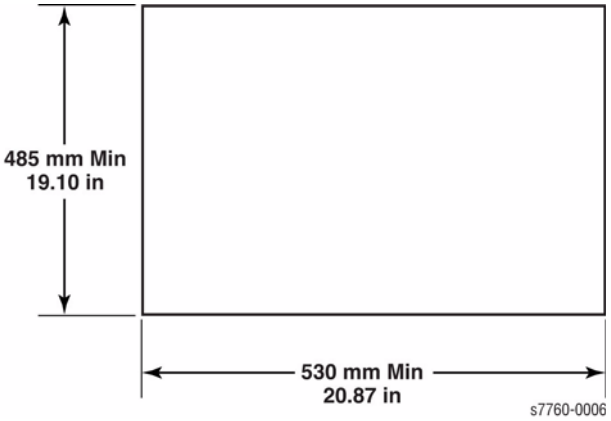

Figure 3 Mounting Surface Dimensions

2. Mounting surface flatness must be within the range shown in Figure 4.

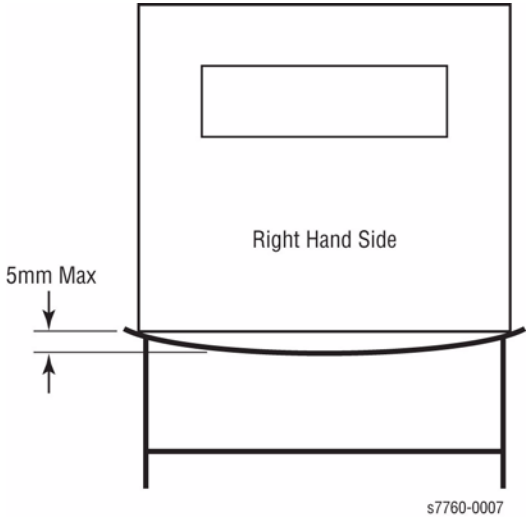

Figure 4 Mounting Surface Flatness

3. The printer must not be tipped or tilted more than 5 mm as in Figure 5.

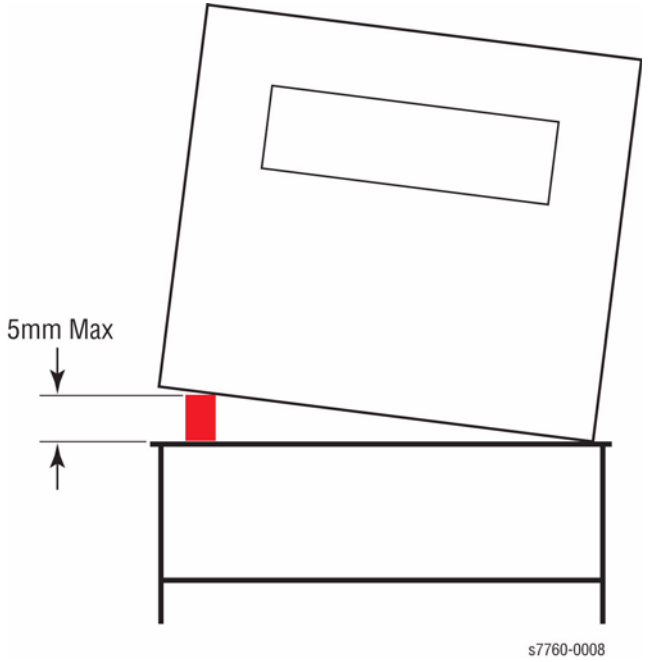

Figure 5 Maximum Dimension for Tilting or Tipting

Failure to adhere to these mounting specifications will void all guarantees of print-quality and/or performance. Known problems that can occur as a result of exceeding the mounting surface specifications are:

- Color-to-Color mis-registration, primarily in the horizontal (laser scan) direction.
- A smear or line of toner approximately 40 mm from the trailing edge of the print.

Electrical Specifications

Table 8 Electrical Specifications

Characteristics	Requirements	Specifications	
Fuses	100-127 VAC engine	5 VDC	5A
	50/60Hz +/- 3%	24 VDC	10 A
	220-240 VAC engine	5 VDC	2 A
	50/60Hz +/- 3%	24 VDC	10 A
Power Supply*	Maximum Power Dissipation	1.25k VA@ 110VAC	
	Nominal Voltage	+5.0 VDC	
	Primary Line Voltage Frequency Range	5.15VDC +/- 3.5% (combined deviation from all sources)	
* All power specifications are based on one-hour measurements using a watt-hour meter.			
ENERGY STAR® Requirements	Power Consumption at Rated Voltage Input	Sleep Mode: * 0 < cppm = 35 W or less * 10 < cppm = 45 W or less * 20 < cppm = 70 W or less	

Environmental Specifications

Table 9 Environmental Specifications

Characteristics	Specification	
	Operating	**Storage**
Temperature	10°C to 32°C	-20°C to 48°C
Humidity	10% to 85% RH @ 15°C to 32°C	30% to 85% RH, non-condensing
	Optimum Operating: 25 - 75%	
Altitude	0 to 2,500 meters (8,000 ft.)	0 to 6,092 meters (20,000 ft.)
Acoustic Noise (db)	<8 ppm: 6.1	<8 ppm: 4.0
	</=14 ppm: 6.5	</=14 ppm: 4.0
	</=25 ppm: 6.8	</=14 ppm: 4.0
	</=30 ppm: 6.8	</=14 ppm: 4.0
	</=50 ppm: 7.5	</=14 ppm: 5.0

Image Specifications

Table 10 Image Specifications

Characteristics	Specification
Margins Specification	1st Side: 5 mm +/- 2.0 mm 2nd Side: 5 mm +/- 2.4 mm
Guaranteed Image Area	Paper Size: 297 mm x 1194 mm (11.7 in. x 47.0 in.)

Table 10 Image Specifications

Characteristics	Specification
Resolution/Gradation	For Full Color or Mono 600 x 600 x 1 bit 1200 x 1200 x 1 bit 600 x 600 x 4 bit
Skew	Tray 2-5 Simplex Centerline/Semi-centerline: +/-0.75%

Media and Tray Specifications

The following paper sizes and selections will be available from the Control Panel and Printer Driver.

Table 11 Media Specifications

Media	Size	Dimensions	Tray 1/MPT	Tray 2, 3, 4, 5
Media				
Paper	12 x 18	12 x 18”	Yes	No
Paper	A3	297 x 420 mm	Yes	Yes
Paper	A4	210 x 297 mm	Yes	Yes
Label	A4	8.5 x 11”	Yes	No
Paper	A5	148 x 210	Yes	No
Paper	A6	105 x 148	Yes	No
Paper	B4	257 x 364 (JIS)	Yes	Yes
Paper	B5	182 x 257 (JIS)	Yes	Yes
Paper	Executive	7.25 x 10.5”	Yes	No
Paper	Legal	8.5 x 14”	Yes	Yes
Paper	Letter	8.5 x 11”	Yes	Yes
Paper	ISO B5	173 x 250 mm	No	Yes
Paper	SRA3	320 x 450 mm	Yes	No
Paper	Statement	5.5 x 8.5”	Yes	Yes
Paper	Tabloid	11 x 17”	Yes	Yes
Paper	US Folio	8.5 x 13”	Yes	Yes
OHP	A4	210 x 297”	Yes	Tray 2 Only
OHP	Letter	8.5 x 11”	Yes	Tray 2 Only
Label Glossy/ Photo	Letter Letter, A3, A4, 12 x 18, SRA3	210 x 297 mm	Yes	No
All	Custom	Any size from A6-12.6 x 48”	Yes	Yes (within acceptable weight, type, and size range)
Banner	Custom	Short Edge: 100-305 mm (3.95-12.00 in)	Yes	Up to 11”

Table 11 Media Specifications

Media	Size	Dimensions	Tray 1/MPT	Tray 2, 3, 4, 5
		Long Edge: 140-1200 mm (5.5-47.25 in.)	Yes	Up to 17”
Envelopes				
Envelope	A7 Envelope	5.25 x 7.25 in	Yes	No
Envelope	B5 Envelope	175 x 250 mm	Yes	No
Envelope	C4 Envelope	359 x 324 mm	Yes	No
Envelope	C5 Envelope	162 x 359 mm	Yes	No
Envelope	C6 Envelope	114 x 162 mm	Yes	No
Envelope	DL Envelope	110 x 350 mm	Yes	No
Envelope	No. 10 Com Envelope	4.1 x 9.5 in	Yes	No
Special Paper				
	Phaser 45 - Series Trans-parency	216 x 279 mm (8.5 x 11 in.)	Yes	Yes

Table 12 Media Weight Specifications

Type	Weight	Trays	Auto Duplex
Plain Paper	75-90 g/m2 (20-24 lb.) Bond	All Trays	Yes
Heavy Plain Paper	91-105 g/m2 (25-28 lb. Bond)	All Trays	Yes
Thin Card Stock	106-169 g/m2 (50-60 lb. Cover)	All Trays	Yes
Thick Card Stock	170-216 g/m2 (65-80 lb. Cover)	All Trays	No
Thin Glossy Card Stock	106-169 g/m2 (50-60 lb. Cover)	All Trays	Yes
Thick Glossy Card Stock	170-216 g/m2 (65-80 lb. Cover)	All Trays	No
Extra Thick Card Stock*	217-255 g/m2 (81-100 lb. Cover)	MPT Only	No
Transparency	N/A	MPT/Tray 2	No
Envelope	N/A	MPT/Tray 2	No
Labels	N/A	MPT Only	No
Banner**	N/A	MPT Only	No
Special	All	All Trays	See Note

*** Xerox does not guarantee Extra Thick Card Stock (over 220 g/m2).**
**** Banner is size and not a media type.**

NOTE: *Auto duplexing will be supported for paper weights range from 64-169 g/m2 and will not auto-duplex 12 x18 and SRA3. Manual duplexing will be supported for card, paper stocks, and glossy paper up to 220 g/m2.*

Media Tray Capacity

Table 13 Tray Capacity

Media and Weight	Universal Tray *	Tray 1 (MPT)	Tray 4 & Tray 5
Standard Paper	500 Sheets	150 Sheets	Tray 4: 867 Sheets Tray 5: 1133 Sheets
Transparency	150 Sheets	50 Sheets	150 Sheets
Envelopes	No	10	No
Weight	75-220 g/m2	75-255 g/m2	75-220 g/m2

* Trays 2 + 3 on all units

* Trays 4 + 5 on 1500 sheet feeders

Prohibited Media

Table 1 Prohibited Media

Media	Media Type	R-number	Reason
Carbonless Paper	Special	3R5834	Smudge
Fabric Transfer Paper	Special	3R5811	Fuser Wrap Jam
Glossy Tabs	Application	3R4417	Feeding Problem
Plain Paper Tabs	Application	3R5420	Feeding Problem
Digital Windows Decals	Application	3R6339	Poor Image Quality (Gloss non-uniformity)
Xerox No Stripe	Transparency	3R3117	Fuser Wrap Jam
Xerox Enhanced Coating	Transparency	3R2780	Fuser Wrap Jam and Lead Edge Gloss non-uniformity

Glossary of Terms

Table 1 Glossary of Terms

Term	Description
3TM	Three Tray Module
A3	Paper size 297 millimeters (11.69 inches) x 420 millimeters (16.54 inches).
A4	Paper size 210 millimeters (8.27 inches) x 297 millimeters (11.69 inches).
A5	Paper size 148 millimeters (5.82 inches) x 210 millimeters (2.10 inches).
AC	Alternating Current is type of current available at power source for machine.
AD	Auto Duplex
A/D	Analog to Digital refers to conversion of signal
ADC	Automatic Density Control
ADJ	Adjustment Procedure
AGC	Automatic Gain Control
A/P	Advanced/Professional (Finisher)
ATC	Automatic Toner Concentration
AWG	American Wire Gauge
Bit	Binary digit, either 1 or 0, representing an electrical state.
BSD	Block Schematic Diagram
BTR	Bias Transfer Roll
BUR	Back up Roll
CCD	Charge Coupled Device (Photoelectric Converter)
CCM	Color Control Module
CD	1:Circuit Diagram; 2: Compact Disc
Chip	Integrated Circuit (IC)
CRU	Customer Replaceable Unit
CRUM	Customer Replaceable Unit Meter/Memory
CYMK	Toner colors for machine; C=cyan, M=magenta, Y=yellow, and K=black
DC	Direct Current is type of power for machine components. Machine converts AC power from power source to DC power.
DMM	Digital Multimeter is generic name for meter that measures voltage, current, or electrical resistance.
DPI	Dot Per Inch
Duplex	2-sided printing
EA	Emulsion Aggregation (toner)
EME	Electromagnetic Emissions are emitted from machine during normal operation and power of these emissions are reduced by machine design features.
EMI	Electro Magnetic Induction
EPROM	Erasable Programmable Read-Only Memory
ESD	Electrostatic Discharge. A transfer of charge between bodies at different electro-static potential.
FE	Field Engineer
FS	Fast Scan (direction) - Inboard-to Outboard

Table 1 Glossary of Terms

Term	Description
GB	Giga Byte
GND	Ground
HCF	High Capacity Feeder
HDD	Hard Disk Drive
HFSI	High Frequency Service Item
HGEA	High Grade Emulsion Aggregation (toner)
HVPS	High Voltage Power Supply
Hz	Hertz (Cycles per second)
IBT	Intermediate Belt Transfer
IC	Integrated Circuit
I/F	Interface
IIO	Intermediate Image Overwrite
IOT	Image Output Terminal - the ROS/Xero/paper handling/ fusing portion of the machine
IP	Image Processor Board
IPS	Image Processing Subsystem
IQ	Image Quality
JBA	Job-based Accounting
KB	Kilo Byte
LCD	Liquid Crystal Display
LE	Lead Edge of copy or print paper, with reference to definition of term TE
LED	Light Emitting Diode
LEF	Long Edge Feed
LST	Large Scale Integrate Circuit
LTR	Letter size paper (8.5 x 11 inches)
LUT	Look Up Table - array of NVM locations that store process control data
LVPS	Low Voltage Power Supply
MB	Mega Byte
MCU	Machine Control Unit (Engine Control Board)
MF	Multi-Function
MM	Millimeters
MN	Multinational
MOB	Marks On Belt
MOD	Magneto Optical Drive
MRD	Machine Resident Disk
NIC	Network Interface Card
NVM	Non Volatile Memory
OCT	Offset Catch Tray
OEM	Original equipment manufacturer
OGM	On-going Maintenance
OHP	Over Head Paper (Transparency)

Table 1 Glossary of Terms

Term	Description
PC	Personal Computer
PCB	Printed Circuit Board
PJ	Plug Jack (electrical connections)
PL	Parts List
PO	Part of (Assembly Name)
PPM	Pages Per Minute
PPS	Pages
PWB	Printed Wiring Board
RAM	Random Access Memory
RAP	Repair Analysis Procedure for diagnosis of machine status codes and abnormal conditions
R/E	Reduction/Enlargement refers to features selection or components that enable reduction or enlargement
RegiCon	Registration Control
REF	Refer to
REP	Repair Procedure for disassembly and reassembly of component on machine
RIS	Raster Input Scanner
ROM	Read Only Memory
ROS	Raster Output Scanner - Device that transfers digitally processed image, using laser light, to photoreceptor.
SAD	Solid Area Density
SCP	Service Call Procedure
SCSI	Small Computer Systems Interface
SEF	Short Edge Feed
Self-test	An automatic process that is used to check Control Logic circuitry. Any fault that is detected during self-test is displayed by fault code or by LEDs on PWB.
SIMM	Single Inline Memory Module used to increase printing capacity
Simplex	Single sided copies
SIR	Standard Image Reference
FS	Fast Scan (direction) - LE - to - TE
TE	Trail Edge of copy or print paper, with reference to definition of term LE
TRC	Tone Reproduction Curve
TTM	Tandem Tray Module
UM	Unscheduled Maintenance
UI	User Interface
USB	Universal Serial Bus
W/	With - indicates machine condition where specified condition is present
W/O	Without - indicates machine condition where specified condition is not present

1 Service Call Procedures

Service Call Procedures

Service Strategy

The service strategy for this printer is to perform any applicable actions before attempting to repair any problems. Some problems will be corrected by this strategy without the need to diagnose them. The Repair Analysis Procedures (RAPs) will be used for any remaining problems.

Problems that occur in the Basic Printer mode will be repaired before problems that occur when using the accessories.

Image Quality problems should be repaired after all other problems are repaired.

Service Call Procedures

The Service Call Procedures are a guide for performing any service on this machine. The procedures are designed to be used with the Service Manual. These procedures are to be used for every service call. It is recommended that you start at the appropriate troubleshooting procedure and proceed from there. When servicing the printer, always follow the safety measures detailed in the Service Safety Summary.

Step 1: Identify the Problem

1. Verify the problem reported by the customer.
2. Check for any error codes and write them down.
3. If the printer is capable of printing, print normal customer prints and service test prints to:
   - Make note of any print-quality problems in the test prints.
   - Make note of any mechanical or electrical abnormalities present.
   - Make note of any unusual noise or smell coming from the printer while printing.
4. Print a **Usage Profile**, if the printer is able to print and/or view the fault history under the **Service Tools** menu.
5. Verify the AC input power supply is within proper specifications by measuring the voltage at the electric outlet while the printer is running.

Step 2: Inspect and Clean the Printer

1. Turn the printer power Off and disconnect the AC power cord from the wall outlet.
2. Verify the power cord is free from damage and is connected properly.
3. Remove the Imaging Units and protect them from light.
4. Clean and inspect the printer interior and remove any foreign objects, dust or loose toner.

   NOTE: *Use only a Toner Type II Vacuum.*

   Do not use solvents or chemical cleaners.

   Do not use any type of oil or lubricant on printer parts.

   Do not use compressed air.

5. Clean all rubber rollers with a lint-free cloth, dampered slightly with cold water and mild detergent.
6. Inspect the interior of the printer for damaged wires, loose connectors, toner leakage, and damaged or obviously worn parts.

Part 3: Find the Cause of the Problem

1. Use the Error Messages and Chain Links Troubleshooting procedures to find the cause of the problem if an error code is reported.
2. Use the Service Diagnostics to check printer parts.
3. Use the Wiring Diagrams and Plug/Jack Locator to locate test points and take voltage readings at various test points as instructed in the appropriate Troubleshooting procedure.

Step 4: Correct the Problem

1. Use the Parts List to locate a part number.
2. Use the Repairs procedures to replace the part.

Step 5: Final Check

1. Test the printer to be sure you have corrected the initial problem and there are no additional problems present.
2. Perform RIP procedures.

Detailed Maintenance Activities (High Frequency Service Items (HFSI))

Procedure

Perform the following procedure whenever you check, service, or repair a printer. Cleaning the printer, as outlined in the following steps, assures proper operation of the printer and reduces the probability of having to service the printer in the future.

The frequency of use and the type of paper a customer prints on determines how critical and how often cleaning the machine is necessary. Record the number of sheets printed.

1. Clean the ADC Sensor (PL 1.3) on every call.
2. Compare the components in Table 1 with % life remaining.
3. Perform the Service Actions for any High Frequency Service Item (HFSI) counters that are over threshold or approaching the threshold. Using the customer's output volume numbers (high, medium, or low volume), evaluate which HFSI actions should be accomplished now to avoid an additional service call in the near future.

Table 1 High Frequency Service Items (HFSI)

HFSI Name	Threshold	Replace the Following
Accumulator Belt	480K increments by 1 for letter size or by 2 for longer size	IBT Assembly (PL 5.3)
Transfer Roller	100,000	2nd BTR Unit (PL 2.8)
Fuser Unit	100,000	Fuser Assembly (PL 7.1)
Belt Cleaner	100K	Belt Cleaner Assembly (PL 5.3)
Imaging Unit	35,000	Imaging Unit Assembly (PL 4.2)
Waste Cartridge	27,000	Waste Cartridge
Stacker Staples	15,000	
Booklet Maker Staples	20,000	
Paper Feed Roller Kit (3 rollers/Tray)	280,000 feeds per tray (1 set of 3 rollers require for each tray)	Roller Kit (PL 2.5).

4. Refer to Cleaning Procedures for detailed cleaning instructions.

Cleaning Procedures

Purpose

The purpose is to provide cleaning procedures to be performed at every service call.

Procedure

CAUTION

Do not use any solvents unless directed to do so by the Service Manual. Never use a damp cloth to clean up toner. If you remove the Imaging Unit, place it in a light protective bag.

Recommended Tools

- Toner Vacuum Cleaner Type II
- Clean water
- Clean, dry, lint-free cloth
- Black light protective bag

General Cleaning

Use a dry lint free cloth or a lint free cloth moistened with water for all cleaning unless directed otherwise by the Service Manual. Wipe with a dry lint free cloth if a moistened cloth is used.

1. Record number of sheets printed.
2. Print several sheets of paper to check for problems or defects.
3. Turn the printer Off.
4. Remove any debris or foreign objects.
5. Vacuum out any loose toner from the interior of the printer with a Type II toner vacuum only.
6. Remove and clean the paper trays.
7. Clean the Pick Rollers with a slightly damp, lint-free cloth.

Components

- **Feed Components** (**Rolls and Pads**) - Follow the General Cleaning procedure.
- **ROS Windows** - Use the cleaning wand to clean the ROS windows (follow procedure in the User Guide).
- **Toner Dispense Units** - Vacuum the Toner Dispense units.
- **Jam Sensors** - Clean the sensors with a dry cotton swab.
- **Fuser Components** (best cleaned when hot) - Wipe with a lint-free cloth.
- **Finisher** - Check the paper path for debris or damage. Clean the Finisher with a dry lint-free cloth.

Cleaning Materials

Table 1 Cleaning Materials

Description	NASG Part Number	ESG Part Number
Cleaning fluid (8 oz., Formula A)	43P48	8R90034
Film remover (8 oz.)	43P45	8R90176
Lens/mirror cleaner	43P81	8R90178
Lint-free (white) cleaning cloth	19P3025	19P3025
Lint-free Optics cleaning cloth	499T90417	499T90417
Cleaning towels	35P3191	600S4372
Drop cloth	35P1737	35P1737
Cotton Swab	35P2162	35P2162

Common Tools

Table 1 Common Tools

Description	Part Number
Screw Driver (-) 3 x 50	600T40205
Screw Driver (+) 6 x 100	600T1989
Screw Driver (+) NO.1	499T356
Stubby Driver (+) (-)	600T40210
Screw Driver (=) 100MM	499T355
Spanner and Wrench 5.5 x 5.5	600T40501
Spanner and Wrench 7x 7	600T40502
Hex Key Set	600T02002
Box Driver 5.5MM	600T1988
Box Driver 1/4 inch	
Side Cutting Nipper	600T40903
Round Nose Pliers	600T40901
Digital Multi-meter Set	600T2020
Interlock Cheater	600T91616
Silver Scale 150MM	600T41503
CE Tool Case	600T1901
Magnetic Screw Pick-up Tool	600T41911
Scribe Tool	600T41913
Magnetic pickup	600T41911
Eye Loop	600T42008
Flash Light	600T1824
Brush	600T41901
Tester Lead Wire (red)	600T 9583
Tester Lead Wire (black)	600T2030

2 Status Indicator RAP's

Chain 10

Chain 12 A/P Finisher

Chain 13 A/P Finisher

Chain 24

Other Faults

001-300 Left Cover (Door A) Open

Left Cover (Door A) is open.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.. Open and close Left Cover (PL 2.7). **The display changes.**

Y N

Measure the voltage between +24 LVPS J172B (Figure 1) and GND(-). **+24 VDC measured.**

Y N

Check for +5 VDC between the gray and violet wires at P511 on the printer +5 VDC LVPS (PL 9.1). **+5 VDC is measured.**

Y N

Go to Section 6, +5 VDC Low-Voltage Power Supplies RAP.

Replace the LVPS (PL 9.1).

Remove the Rear Cover (REP 14.2). Disconnect J172B (Figure 1) (from Left Cover Interlock Switch (PL 2.10)). Check resistance between A1 and B1 when switch is actuated. **Resistance is less than 3 ohms.**

Y N

Replace the Left Cover Interlock Switch (PL 2.10).

Reinstall the Switch. Close the Left Cover (PL 2.7). Measure the voltage at J531-5 (Figure 1) on the I/F PWB. **+24 VDC measured.**

Y N

Repair the open circuit between the +24 VDC LVPS and the I/F PWB.

Replace the Interface PWB (PL 9.1).

If the problem continues, replace the Engine Control Board (MCU PWB) (PL 13.1).

Check installation of the Cover/Actuator.

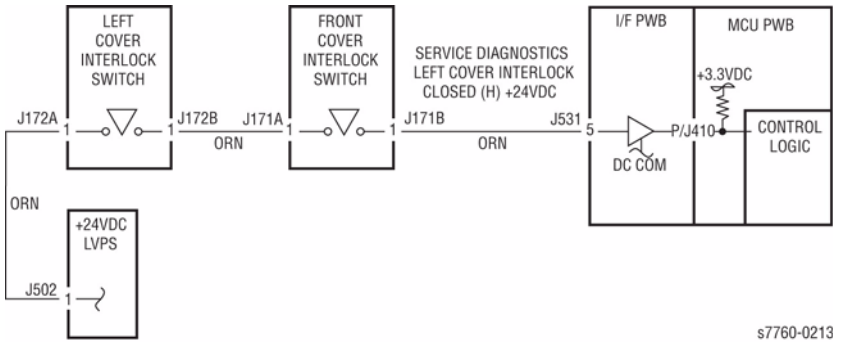

Figure 1 001-300 Left Cover Interlock Switch

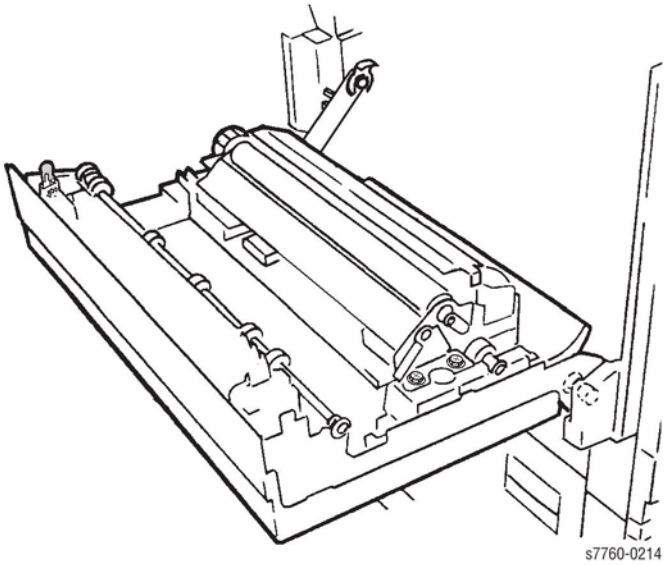

Figure 2 001-300 Left Cover Interlock Actuator

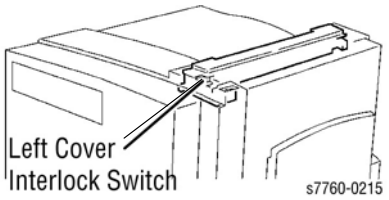

Figure 3 001-300 Left Cover Interlock Switch Location

001-301 Left Lower Cover (Door B) Open

Left Lower Cover (Door B) is open

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Open the Left Lower Cover. Actuate the Left Lower Cover Interlock Switch (PL 2.3) with a screwdriver. **The display changes.**

Y N

Go to Section 6, Transmissive Sensor Procedure and repair the LH Lower Cover Interlock Switch (PL 2.3).

Check the Sensor, Actuator, and Left Lower Cover installation (PL 2.3).

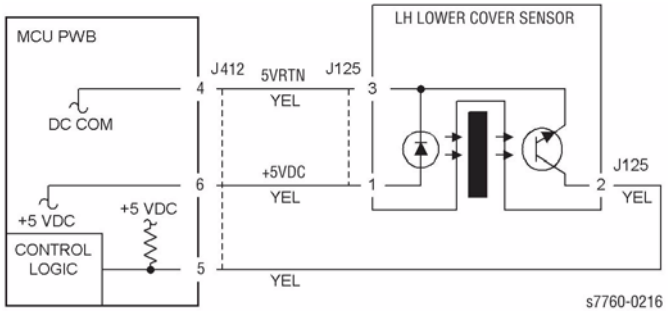

Figure 1 001-301 LH Lower Cover Interlock Sensor

001-302 Front Cover Door Open

Front Cover Door is open.

Initial Actions

Check the operation of the Actuator and the switch for Front Cover and Right Side Cover.

Procedure

Open the Front Cover. Cheat the Front Interlock Switch (PL 10.1). **01-510 is cleared.**

Y N

+24 VDC is measured between the I/F PWB P/J531-1 (+) and GND (-) (Section 7, I/F PWB, MAIN Motor, LVPS Plug/Jack Locations - Figure 16).

Y N

+24 VDC is measured between the Front Interlock Switch P/J171-B1 (+) and GND (-) (Section 7, Xerographic, Plug/Jack Locations - Figure 1).

Y N

+24 VDC is measured between the Front Interlock Switch P/J171-A1 (+) and GND (-) (refer to Section 7, Xerographic - Plug/Jack Locations - Figure 1).

Y N

Repair the open circuit between the Left Cover Interlock Switch P/J172-B1 (Section 7, Exit Transport Assembly - Plug/Jack Locations - Figure 7) and the Front Interlock Switch P/J171-A1.

Replace the Front Interlock Switch (PL 10.1).

+24 VDC is measured between the RH Cover Interlock Switch P/J173-B1 (+) and GND (-) (Section 7, Outlet Panel Assembly - Plug/Jack Locations - Figure 13).

Y N

+24 VDC is measured between the RH Cover Interlock Switch P/J173-A1 (+) and GND (-).

Y N

Repair the open circuit between the Front Interlock Switch P/J171-B1 and the RH Cover Interlock Switch P/J173-A1.

Replace the RH Cover Interlock Switch (PL 10.1).

Check the wire for an open circuit between the RH Cover Interlock Switch P/J173-B1 and P/J531-1 on the I/F PWB (Figure 12 - HVPS, +24V LVPS - Plug/Jack Locations)

Replace the I/F PWB (PL 9.1).

If the problem continues, replace the Engine Control Board (MCU PWB) (PL 13.1).

Check installation of the Cover/Actuator (PL 10.1).

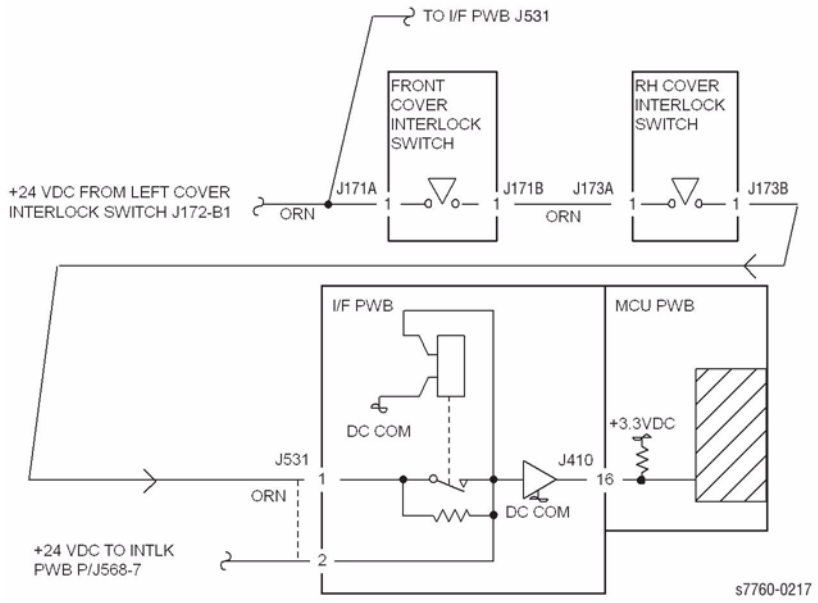

Figure 1 001-302 Front Cover/Right Cover Interlock

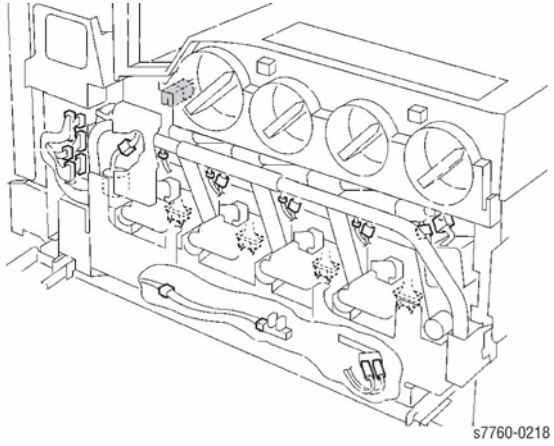

Figure 2 001-302 Front Interlock Switch Location

001-303 Tray Module Left Door (Door C) Open

Tray Module Left Door (Door C) is open.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Tray Module LH Cover Interlock Switch (PL 16.13 TTM, PL 15.10 3TM) with a screwdriver. **The display changes.**

Y N

Check voltage between Tray Module PWB P/J554-3(+) and GND(-) (Section 7, TT Module (rear); Figure 26 - 3T Module (rear) - Plug/Jack Locations - Figure 25). **+24 VDC is measured.**

Y N

Check the wires from the Tray Module PWB P/J554-3 (Section 7, 3T Module (rear) - Plug/Jack Locations - Figure 26) to Tray Module Cover Interlock Switch FS813 for damage. If the wires are good, replace the Tray Module Cover Interlock Switch (PL 16.13 TTM, PL 15.10 3TM).

Replace Tray Module PWB (PL 16.15 TTM, PL 15.9 3TM).

Check the Cover Actuator and Cover installation (PL 16.13).

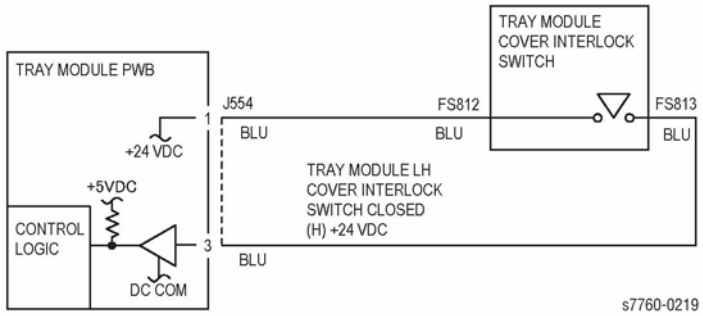

Figure 1 001-303 Tray Module LH Cover Interlock Switch

001-306 Duplex Door

Duplex Door (Door D) is open.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Open the Duplex Transport. Actuate Duplex Cover Interlock Switch with a screwdriver. **The display changes.**

Y N

Deactuate the Duplex Cover Interlock Switch. Check voltage on the Drawer Connector between P/J626-6 (+) and GND(-) (Section 7, Duplex Transport Assembly, Plug/Jack Locations - Figure 4). **+5 VDC is measured.**

Y N

Check voltage between P/J539-B6 (Section 7, I/F PWB, MAIN Motor, LVPS T11-Plug/Jack Locations - Figure 16) on the I/F PWB and GND(-). **+5 VDC is measured.**

Y N

Replace the I/F PWB (PL 13.1).

Check for an open circuit between P/J539-B6 on the I/F PWB and Drawer Connector J626-6.

Check the wires between Drawer Connector between J626-6 (Section 7, Inverter Transport Assembly, Plug/Jack Locations - Figure 3) and Duplex PWB P/J540-1 (Section 7, Duplex Transport Assembly, Plug/Jack Locations - Figure 4). If the wires are good, replace the Duplex Cover Interlock Switch.

Check the Cover Actuator and Cover installation. If there is no problem, replace the Engine Control Board (MCU PWB) (PL 13.1).

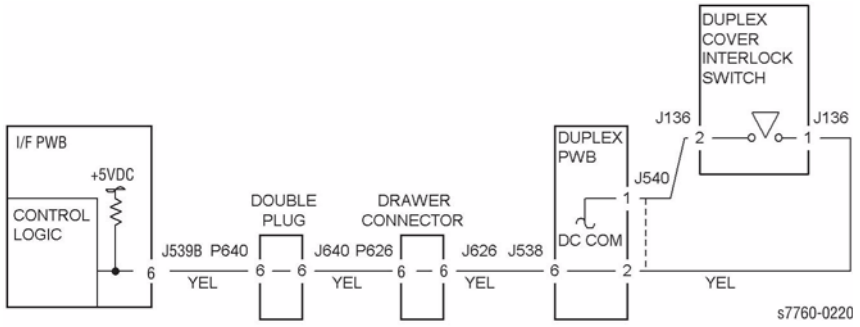

Figure 1 001-306 Duplex Cover Interlock Switch

001-540.01 Tray 1 (MPT) Paper Size Changed

Tray 1 (MPT) Paper Size changed.

Procedure

The paper guides in Tray 1 (MPT) are adjusted against paper.

Y N

Adjust the Paper Guides against paper.

Go to RAP 007-270, Tray 2 Size Sensor.

001-540.02 Tray 3 Paper Size

Tray 3 Paper Size changed.

Procedure

The paper guides in Tray 3 are adjusted against paper.

Y **N**

Adjust the Paper Guides against paper.

Go to RAP 007-271, Tray 3 Size Sensor.

001-540.03 Tray 4 Paper Size

Tray 4 Paper Size changed.

Procedure

The paper guides in Tray 4 are adjusted against paper.

Y **N**

Adjust Paper Guides against paper.

Go to RAP 007-276, Tray 4 Size Sensor.

001-540.04 Tray 5 Paper Size

Tray 5 Paper Size changed.

Procedure

The paper guides in Tray 5 are adjusted against paper.

Y **N**

Adjust the Paper Guides against paper.

Go to RAP 007-277, Tray 5 Size Sensor.

001-540.05 Tray 1 (MPT) Paper Size

Procedure

The paper guides in Tray 1 (MPT) are adjusted against paper.

Y **N**

Adjust the Paper Guides against paper.

Go to RAP 007-274, Tray 1 Size Sensor.

001-545.01 Tray 2 Paper Size Sensor

Incorrect paper size is detected in Tray 2.

Initial Actions

- Check that the paper size setting is correct.
- Check the Tray 2 Paper Size Sensor (PL 2.1) for damage or incorrect mounting. Repair or replace as required.
- Check the switch actuators on Tray 2 (PL 2.1) for wear or damage. Repair or replace as required.

Procedure

Ensure Tray 2 is closed. **The voltage measured at P/J414-A10 (refer to Section 7, Control Board (MCU PWB) Plug/Jack Locations - Figure 15) on the Engine Control Board (MCU PWB) corresponds to the paper size in Table 1.**

Y N

There is +3.5 VDC from P/J115 pin 1 to P/J115 pin 3 on the Tray 1 Size Sensor (Section 7, Developer Motor, Tray 2 Size Switch Plug/Jack Locations - Figure 17).

Y N

There is +3.5 VDC from P/J414-A11 to P/J414-A9.

Y N

Go to the 3.3 VDC Wirenets (Figure 1) to troubleshoot the power circuit.

Check the wires from J414A to J115 (Figure 1).

Check the wire from J414A-10 to J115-2 (Figure 1).

If the problem continues, replace the Engine Control Board (MCU PWB) (PL 13.1).

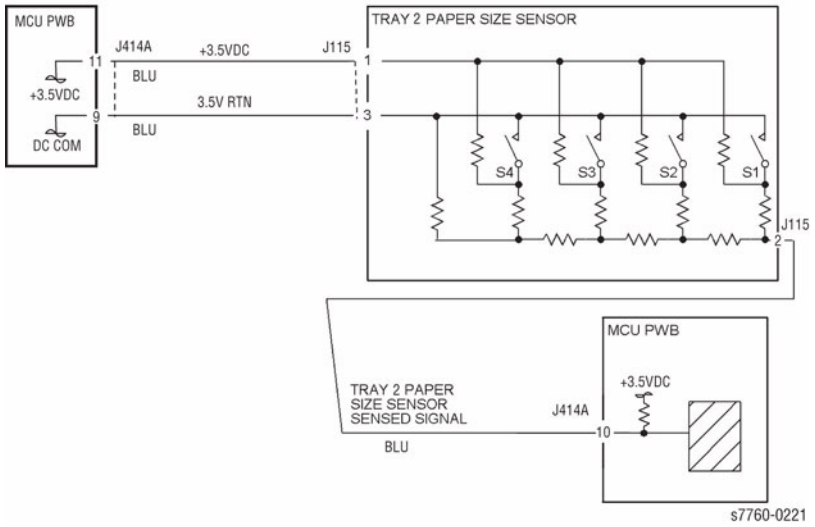

Figure 1 001-545.01 Tray 2 Size Sensor

Table 1 Tray 2 Size Sensor Values

Paper Size	S1	S2	S3	S4	Voltage
No Tray	OFF	OFF	OFF	OFF	3.19
B5 LEF	OFF	OFF	OFF	ON	2.13
11x17 SEF	OFF	OFF	ON	OFF	2.76
A3 SEF	OFF	OFF	ON	ON	2.91
8.5x14 SEF	OFF	ON	OFF	OFF	0.92
A5 or 5.5x8.5 SEF	OFF	ON	OFF	ON	1.12
8.5x11 LEF	OFF	ON	ON	OFF	0.32
A4 LEF	OFF	ON	ON	ON	1.31
8.5x13 SEF	ON	OFF	OFF	OFF	2.53
B4 SEF	ON	OFF	OFF	ON	1.23
8K SEF	ON	OFF	ON	OFF	1.33
A4 SEF	ON	OFF	ON	ON	1.12
8.5x11 SEF	ON	ON	OFF	OFF	1.72
B5 SEF	ON	ON	OFF	ON	1.92
16K LEF	ON	ON	ON	OFF	2.13
8x10 SEF	ON	ON	ON	ON	1.93

001-545.02 Tray 3 Paper Size Sensor

Incorrect paper size is detected in Tray 3.

Initial Actions

- Check that the paper size setting is correct.
- Check the Tray 3 Paper Size Sensor (PL 16.1) for damage or incorrect mounting. Repair or replace as required.
- Check the switch actuators on Tray 3 (PL 16.1) for wear or damage. Repair or replace as required.

Procedure

Ensure Tray 3 is closed. **The voltage measured at P/J546-8 (Section 7 - TT Module (rear); Plug/Jack Locations - Figure 25; 3T Module (rear) Plug/Jack Locations - Figure 26) on the Tray Module PWB (PL 16.15) corresponds to the paper size in Table 1.**

Y N

There is +5 VDC from P/J816-1 to P/J816-3 on the Tray 3 Size Sensor (Section 7 - 3T Module (Tray 3, 4, 5 Paper Size Switch) Plug/Jack Locations - Figure 23).

Y N

There is +5 VDC from P/J546-9 to P/J546-7 on the Tray Module PWB.

Y N

Go to the +5 VDC Wirenets (Section 7, 5.5 VDC Wirenets - Figure 4) to trouble-shoot the power circuit.

Check the wires from P/J546 to P/J816 (Figure 1).

Check the wire from P/J546-8 to P/J816-2 (Figure 1). If the wire is OK, replace the Tray 3 Paper Size Sensor (PL 16.1).

Replace the Tray Module PWB (PL 16.15). If the problem continues, replace the Tray 3 Paper Size Sensor (PL 16.1).

Table 1 Tray 3 Size Sensor Values

Paper Size	S1	S2	S3	S4	Voltage
No Tray	OFF	OFF	OFF	OFF	4.78
A3 SEF	OFF	OFF	OFF	ON	4.45
11x17 SEF	OFF	OFF	ON	OFF	4.12
8.5x13 SEF	OFF	OFF	ON	ON	3.81
----------	OFF	ON	OFF	OFF	3.38
B5 or 16K LEF	OFF	ON	OFF	ON	3.18
B5 or 8x10 SEF	OFF	ON	ON	OFF	2.87
8.5x11 SEF	OFF	ON	ON	ON	2.57
----------	ON	OFF	OFF	OFF	2.15
B4 or 8K SEF	ON	OFF	OFF	ON	1.98
A4 SEF	ON	OFF	ON	OFF	1.67
8.5x14 SEF	ON	OFF	ON	ON	1.37
----------	ON	ON	OFF	OFF	0.91

Table 1 Tray 3 Size Sensor Values

Paper Size	S1	S2	S3	S4	Voltage
A4 LEF	ON	ON	OFF	ON	0.77
8.5x11 LEF	ON	ON	ON	OFF	0.47
A5 or 5.5x8.5 SEF	ON	ON	ON	ON	0.17

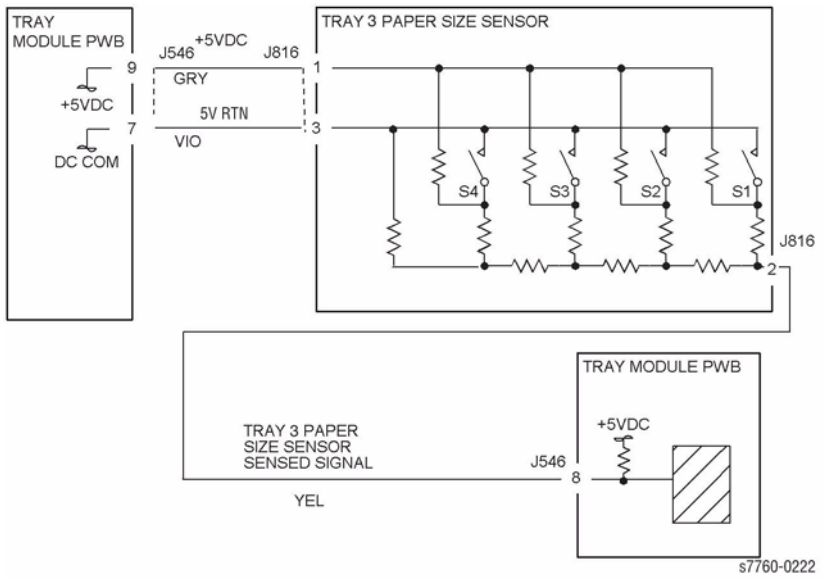

Figure 1 001-545.02 Tray 3 Size Sensor

001-545.03 Tray 4 (HCF) Paper Size Sensor

Incorrect paper size is detected in Tray 4.

Initial Actions

- Check that the paper size setting is correct.
- Check the Tray 4 Paper Size Sensor (PL 16.1) for damage or incorrect mounting. Repair or replace as required.
- Check the switch actuators on Tray 4 (PL 16.1) for wear or damage. Repair or replace as required.

Procedure

Ensure Tray 4 is closed. **The voltage measured at P/J548 (Section 7 - TT Module (rear) Plug/Jack Locations - Figure 25 or 3T Module (rear) Plug/Jack Locations - Figure 26 on the Tray Module PWB (PL 16.15) corresponds to the paper size in Table 1.**

Y N

There is +5 VDC from P/J820-1 to P/J820-3 on the Tray 4 Size Sensor 3T (Section 7, TT Module (Tray 3, 4, 5 Paper Size Switch) Plug/Jack Locations - Figure 23.

Y N

There is +5 VDC from P/J548-12 to P/J548-11.

Y N

Go to the +5 VDC Wirenets (Figure 4) to troubleshoot the power circuit.

Go to Figure 1. Check the wires from J548 to J820. If the check is OK, replace the Tray Module PWB (PL 16.15).

Go to Figure 1. Check the wire from J548-11 to J820-2. If the wire is OK, replace the Tray 4 Paper Size Sensor (PL 16.1).

Go to Figure 1. Check the wires and connectors for intermittent shorts or loose connections. If the check is OK, replace the Tray Module PWB (PL 16.15). If the problem continues, replace the Tray 4 Paper Size Sensor (PL 16.1).

Table 1 Tray 4 Size Sensor Values

Paper Size	S1	S2	S3	S4	Voltage
No Tray	OFF	OFF	OFF	OFF	4.78
B5 LEF	OFF	OFF	ON	OFF	3.19
A4 LEF	ON	OFF	OFF	OFF	0.46
8.5x11 SEF	OFF	OFF	ON	OFF	0.46

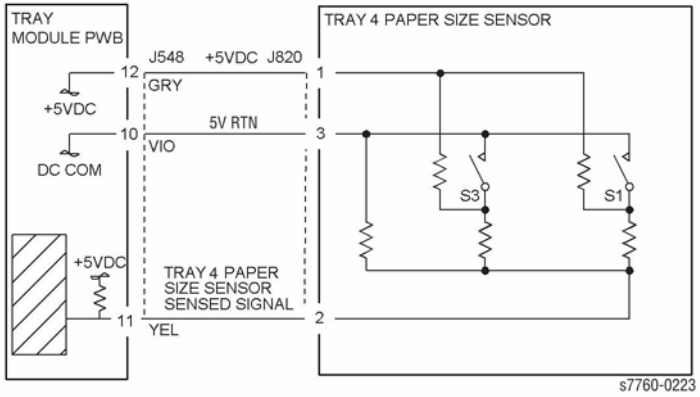

Figure 1 001-545.03 Tray 4 (HCF) Size Sensor

001-545.04 Tray 5 (HCF) Paper Size Sensor

Incorrect paper size is detected in Tray 5.

Initial Actions

- Check that the paper size setting is correct.
- Check the Tray 5 Paper Size Sensor (PL 16.1) for damage or incorrect mounting. Repair or replace as required.
- Check the switch actuators on Tray 5 (PL 16.1) for wear or damage. Repair or replace as required.

Procedure

Ensure Tray 5 is closed. **The voltage measured at P/J548-5 (Section 7, TT Module (rear) Plug/Jack Locations - Figure 25 or 3T Module (rear) Plug/Jack Locations - Figure 26) on the Tray Module PWB (PL 16.15) corresponds to the paper size in the table.**

Y N

There is +5 VDC from P/J824-1 to P/J824-3 on the Tray 5 Size Sensor (Section 7, TT Module (Tray 3, 4, 5 Paper Size Switch) Plug/Jack Locations - Figure 23).

Y N

There is +5 VDC from P/J548-6 to P/J548-4.

Y N

Go to the +5 VDC Wirenets (Figure 4) to troubleshoot the power circuit. Go to Figure 1. Check the wires and connectors. If the check is OK, replace the Tray 5 Paper Size Sensor (PL 16.1).

Go to Figure 1. Check the wires from J548 to J824. If the check is OK, replace the Tray 5 Paper Size Sensor (PL 16.1).

Go to Figure 1. Check the wire from J824-1 to J548-3. If the check is OK, replace the Tray 5 Paper Size Sensor (PL 16.1).

Go to Figure 1. Check the wires and connectors for intermittent shorts or loose connections. If the check is OK, replace the Tray Module PWB (PL 16.15). If the problem continues, replace the Tray 5 Paper Size Sensor (PL 16.1).

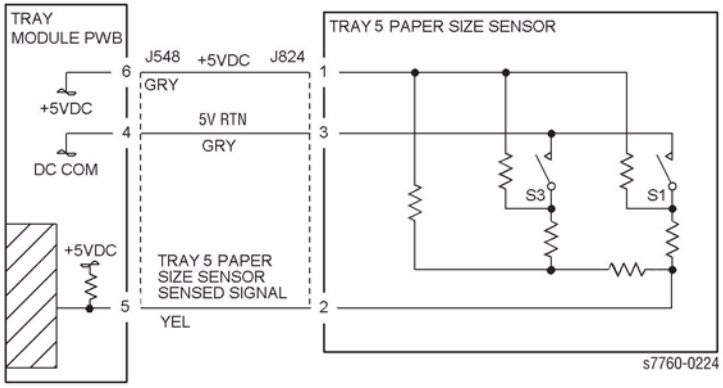

Figure 1 001-545.04 Tray 5 (HCF) Size Sensor

Table 1 Tray 5 Size Sensor Values

Paper Size	S1	S2	S3	S4	Voltage
No Tray	OFF	OFF	OFF	OFF	4.78
B5 LEF	OFF	OFF	ON	OFF	3.19
A4 LEF	ON	OFF	OFF	OFF	0.46
8.5x11 SEF	OFF	OFF	ON	OFF	0.46

002-707 Control Panel Button Fail

Control Panel button failed.

Procedure

Remove the Control Panel (REP 1.15) and check electrical connections.

If connections are good, replace the Control Panel (PL 10.2).

003-578 Paper Tray Error

All the Tray Level Sensors did not energize.

Fault(s) 007-397, 007-935 may be declared.

Procedure

Check the Diagnostic Fault History. **007-281, 007-282, 007-283, 007-284, 007-291, or 007-293 fault has occurred.**

Y N

The machine is equipped with a TTM.

Y N

+24 VDC is measured at P/J555-7 (Section 7, TT Module (rear) Plug/Jack Locations - Figure 25 on the Tray Module PWB (PL 16.15).

Y N

Go to the +24 VDC Wirenets to troubleshoot.

+5 VDC is measured at P/J555-1 on the Tray Module PWB (PL 16.15).

Y N

Go to the +5 VDC Wirenets to troubleshoot.

Replace the following in sequence:

- Tray Module PWB (PL 16.15)
- Engine Control Board (MCU PWB) (PL 13.1)

The machine is equipped with a 1TM or a 3TM. **+24 VDC is measured at P/J555-7 on the Tray Module PWB (PL 15.9).**

Y N

Go to the +24 VDC Wirenets to troubleshoot.

+5 VDC is measured at P/J555-1 on the Tray Module PWB (PL 15.9).

Y N

Go to the +5 VDC Wirenets to troubleshoot.

Replace the following in sequence:

- Tray Module PWB (PL 15.9)
- Engine Control Board (MCU PWB) (PL 13.1)

Go to the appropriate RAP.

003-587 Paper Tray 2 Not Available

Paper Tray 2 not available.

Fault 007-270 is declared.

Procedure

Turn the printer power Off, then On. **The problem continues.**

Y N

Return to Service Call Procedures.

Go to RAP 007-270, Tray 2 Paper Size Sensor.

003-588 Paper Tray 3 Not Available

Paper Tray 3 not available.

Fault(s) 007-271, 007-282 may be declared.

Procedure

Turn the printer power Off, then On. **The problem continues.**

Y N

Return to Service Call Procedures.

Check for Fault(s) 007-271, 007-282. **There is a 007-271 fault declared.**

Y N

Go to RAP 007-281, Tray (2, 3, 4, 5) Lift Failure.

Go to RAP 007-271, Tray 3 Paper Size Sensor.

003-589 Paper Tray 4 Not Available

Paper Tray 4 not available.

Fault(s) 007-276, 007-283, 007-291 may be declared.

Procedure

Turn the printer power Off, then On. **The problem continues.**

Y N

Return to Service Call Procedures.

Check for fault(s) 070-276, 007-291. **There is a 007-276 fault declared.**

Y N

Go to RAP 007-281, Tray (2, 3, 4, 5) Lift Failure.

Go to RAP 007-276, Tray 4 Paper Size Sensor.

003-590 Paper Tray 5 not Available

Paper Tray 5 not available.

Fault(s) 007-277, 007-284, 007-293 may be declared.

Procedure

Turn the printer power Off, then On. **The problem continues.**

Y **N**

Return to Service Call Procedures.

Check for fault(s) 007-277, 007-293. **There is a 007-277 fault declared.**

Y **N**

Go to RAP 007-281, Tray (2, 3, 4, 5) Lift Failure.

Go to RAP 007-277, Tray 5 Paper Size Sensor.

003-594 Tray 1 (MPT) Broken

Tray 1 (MPT) Size Sensor Broken.

Procedure

Go to RAP 007-274, Tray 1 Paper Size Sensor.

003-777 Power Loss Detected

Power Loss Detected.

Procedure

Verify customer power outlet voltage is correct.

003-946 Tray 2 Out of Place

Tray 2 not in position.

Initial Actions

- Check that the paper size setting is correct.
- Check the Tray 2 Paper Size Sensor for damage or incorrect mounting. Repair or replace as required.
- Check the Switch Actuators on Tray 2 for wear or damage. Repair or replace as required.

Procedure

Ensure Tray 2 is closed. Turn the printer power Off, then On. **The problem continues.**

Y **N**

Return to Service Call Procedures.

Go to RAP 007-270, Tray 2 Paper Size Sensor.

003-947 Tray 3 Out of Place

Tray 3 not in position.

Initial Actions

- Check that the paper size setting is correct.
- Check the Tray 3 Paper Size Sensor for damage or incorrect mounting. Repair or replace as required.
- Check the Switch Actuators on Tray 3 for wear or damage. Repair or replace as required.

Procedure

Ensure Tray 3 is closed. Turn the printer power Off, then On. **The problem continues.**

Y **N**

Return to Service Call Procedures.

Go to RAP 007-271, Tray 3 Paper Size Sensor.

003-948 Tray 4 Out of Place

Tray 4 not in position.

Initial Actions

- Check that the paper size setting is correct.
- Check the Tray 4 Paper Size Sensor for damage or incorrect mounting. Repair or replace as required.
- Check the Switch Actuators on Tray 4 for wear or damage. Repair or replace as required.

Procedure

Ensure Tray 4 is closed. Turn the printer power Off, then On. **The problem continues.**

Y **N**

Return to the Service Call Procedures.

The machine is equipped with a 3TM.

Y **N**

Go to RAP 007-276, Tray 4 Paper Size Sensor (TTM).

Go to RAP 007-272, Tray 4 Paper Size Sensor (3TM).

003-949 Tray 5 Out of Place

Tray 5 not in position.

Initial Actions

- Check that the paper size setting is correct.
- Check the Tray 5 Paper Size Sensor for damage or incorrect mounting. Repair or replace as required.
- Check the Switch Actuators on Tray 5 for wear or damage. Repair or replace as required.

Procedure

Ensure Tray 5 is closed. Turn the printer power Off, then On. **The problem continues.**

Y N

Return to the Service Call Procedures.

The machine is equipped with a 3TM.

Y N

Go to RAP 007-277, Tray 5 Paper Size Sensor (TTM).

Go to RAP 007-273, Tray 5 Paper Size Sensor (3TM).

003-950 Tray 2 No Paper Sensor

Tray 2 No Paper Sensor failure.

Procedure

Remove Tray 2. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate Tray 2 No Paper Sensor (PL 2.4). **The display changes.**

Y N

Check the circuit of the Tray 2 No Paper Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

- Go to RAP 007-281 (Tray 2, 3, 4, 5) Lift Failure) and check the circuit of the Tray 2 Level Sensor.
- Ensure that the connectors shown in the circuit diagram (Figure 1) are securely connected and that the wires are not damaged.
- Replace the Tray 2 No Paper Sensor (PL 2.4).
- If the problem persists, replace the Engine Control Board (MCU PWB) (PL 13.1).

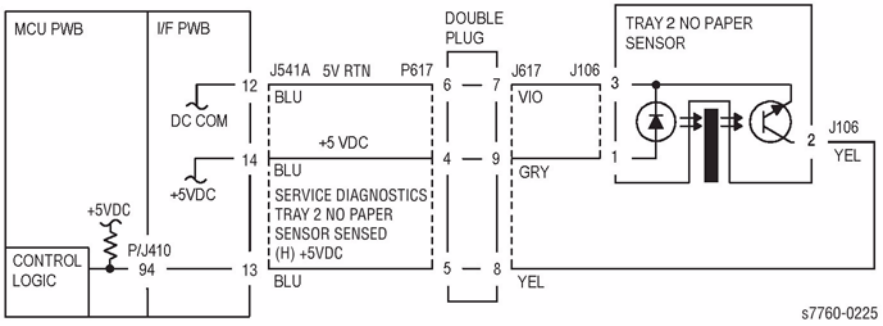

Figure 1 003-950 Tray 2 No Paper Sensor

003-951 Tray 3 No Paper Sensor

Tray 3 No Paper Sensor failure.

Procedure

Remove Tray 3. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Tray 3 No Paper Sensor (TTM or - 3TM). **The display changes.**

Y N

Check the circuit of the Tray 3 No Paper Sensor (Figure 1 - TTM or Figure 2 - 3TM). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Press **Stop**.

- Go to the 007-281 RAP and check the circuit of the Tray 3 No Paper Sensor (PL 2.4).
- Ensure that the connectors shown in the circuit diagram (Figure 1 - TTM or Figure 2 - 3TM) are securely connected and that the wires are not damaged.
- Replace the Tray 3 No Paper Sensor (PL 2.4).
- If the problem persists, replace the Tray Module PWB (PL 16.15 - TTM or PL 15.9 - 3TM).

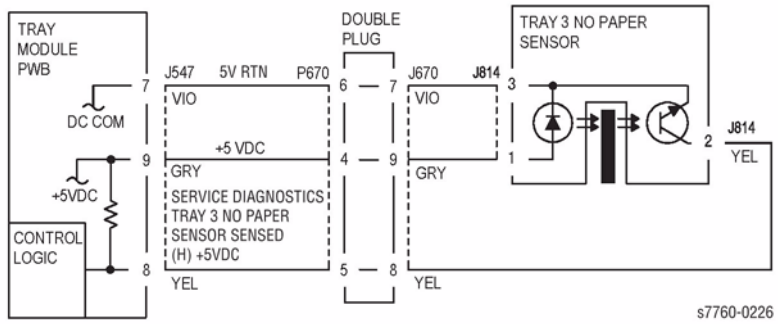

Figure 1 003-951 Tray 3 No Paper Sensor (TTM)

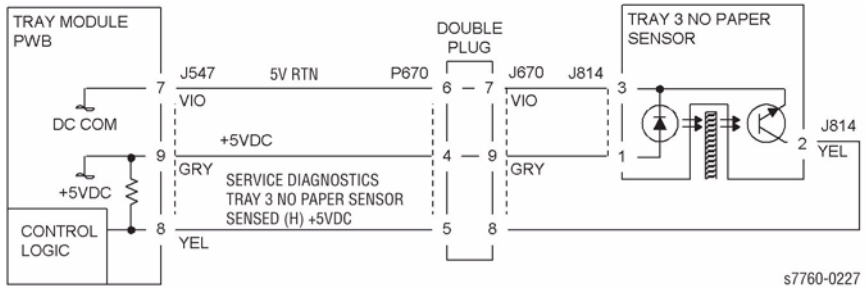

Figure 2 003-951 Tray 3 No Paper Sensor (3TM)

003-952 Tray 4 No Paper Sensor

Tray 4 No Paper Sensor failure.

Procedure

Remove Tray 4. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Tray 4 No Paper Sensor. **The display changes.**

Y N

Check the circuit of the Tray 4 No Paper Sensor (Figure 1 - TTM or Figure 2 - 3TM). Refer to the Transmissive Sensor Procedure for troubleshooting procedure.

- Go to the 007-281 RAP (Tray Lift Failure) and check the circuit of the Tray 4 No Paper Sensor (PL 2.4).
- Ensure that the connectors shown in the circuit diagram (Figure 1 - TTM or Figure 2 - 3TM) are securely connected and that the wires are not damaged.
- Replace the Tray 4 No Paper Sensor (PL 2.4).
- If the problem persists, replace the Tray Module PWB (PL 16.15 - TTM or PL 15.9 - 3TM).

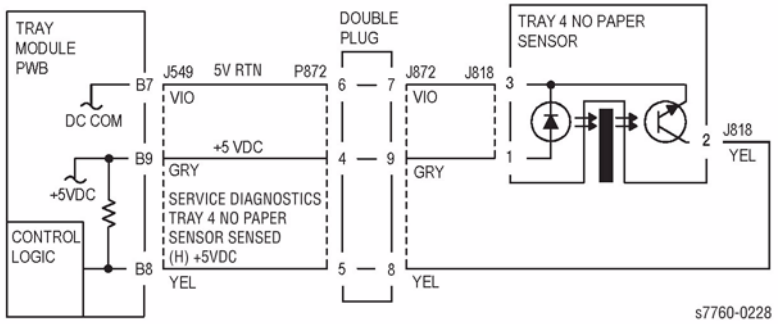

Figure 1 003-952 Tray 4 No Paper Sensor (TTM)

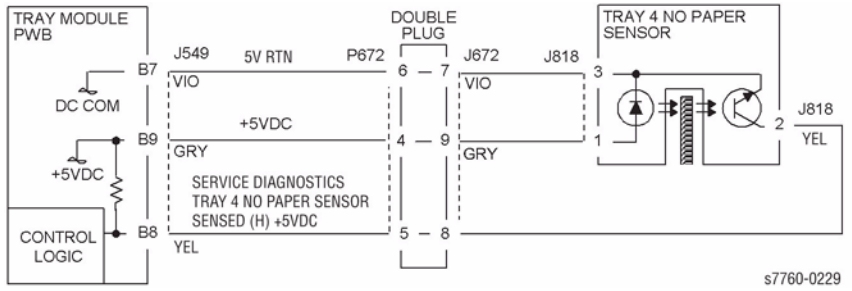

Figure 2 003-952 Tray 4 No Paper Sensor (3TM)

003-953 Tray 5 No Paper Sensor

Tray 5 No Paper Sensor failure.

Procedure

Remove Tray 5. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Tray 5 No Paper Sensor (TTM or - 3TM). **The display changes.**

Y N

Check the circuit of the Tray 5 No Paper Sensor (Figure 1 - TTM or Figure 2 - 3TM). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

- Go to the 007-281 RAP (Tray Lift Failure) and check the circuit of the Tray 5 No Paper Sensor (PL 2.4).
- Ensure that the connectors shown in the circuit diagram (Figure 1 - TTM or Figure 2 - 3TM) are securely connected and that the wires are not damaged.
- Replace the Tray 5 No Paper Sensor (PL 2.4).
- If the problem persists, replace the Tray Module PWB (PL 16.15 - TTM or PL 15.9 - 3TM).

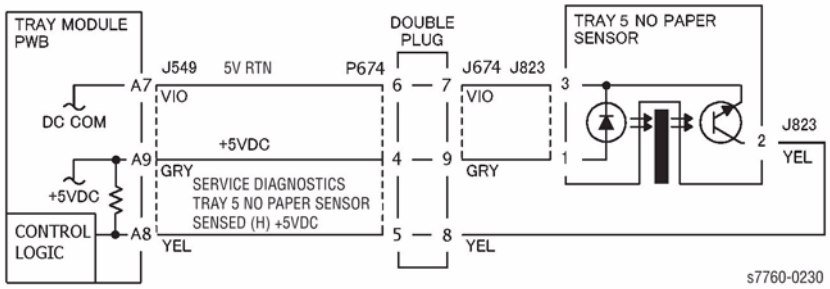

Figure 1 003-953 Tray 5 No Paper Sensor (TTM)

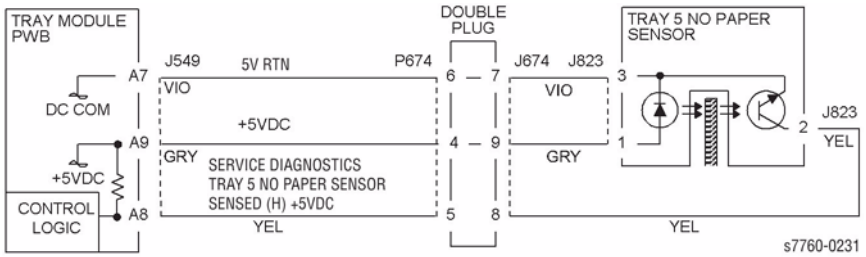

Figure 2 003-953 Tray 5 No Paper Sensor (3TM)

003-954 Tray 1 (MPT) No Paper Sensor

Tray 1 (Bypass) no paper.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Tray 1 (MPT) No Paper Sensor (PL 2.12). **The display changes.**

Y N

Check the circuit of the Tray 1 (MPT) No Paper Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

- Ensure that the connectors shown in the circuit diagram (Figure 1) are securely connected and that the wires are not damaged.
- Replace the Tray 1 No Paper Sensor (PL 2.12).
- If the problem persists, replace the Engine Control Board (MCU PWB) (PL 13.1).

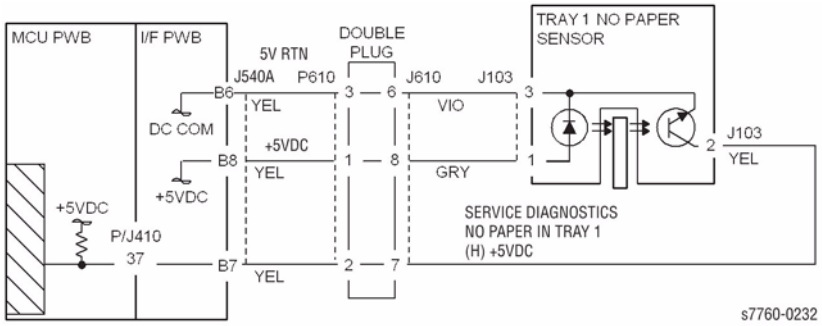

Figure 1 003-954 Tray 1 (MPT) No Paper Sensor

003-958 Tray 1 (MPT) Size Mismatch

The paper in Tray 1 (MPT) does not match the paper size selected.

Procedure

The correct size paper is loaded in Tray 1 (MPT).

Y N

Load the correct size paper and return to Service Call Procedures.

Go to RAP 007-274, Tray 1 Paper Size Sensor.

003-959 Tray 2 Size Mismatch

Tray 2 size mismatch.

Procedure

The correct size paper is loaded in Tray 2.

Y N

Load the correct size paper and return to Service Call Procedures.

Go to RAP 007-270, Tray 2 Paper Size Sensor.

003-960 Tray 3 Size Mismatch

Tray 3 size mismatch.

Procedure

The correct size paper is loaded in Tray 3.

Y N

Load the correct size paper and return to Service Call Procedures.

Go to RAP 007-271, Tray 3 Paper Size Sensor.

003-961 Tray 4 Size Mismatch

Tray 4 size mismatch.

Procedure

The correct size paper is loaded in Tray 4.

Y N

Load the correct size paper and return to Service Call Procedures.

Go to RAP 007-272 (Tray 4 Paper Size Sensor - 3TM) or RAP 007-276 (Tray 4 Paper Size Sensor - TTM).

003-962 Tray 5 Size Mismatch

Tray 5 size mismatch.

Procedure

The correct size paper is loaded in Tray 5.

Y N

Load the correct size paper and return to Service Call Procedures.

Go to RAP 007-273 (Tray 5 Paper Size Sensor - 3TM) or RAP 007-277 (Tray 5 Paper Size Sensor - TTM).

003-985 Tray 1 (MPT) Paper Size

Tray 1 (MPT) Paper Size changed.

Procedure

The paper guides in Tray 1 (MPT) are adjusted against paper.

Y N

Adjust paper guides against paper.

Go to RAP 007-274, Tray 1 Paper Size Sensor.

004-322 Main Motor Fail

Main Motor failure.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Main Drive Motor Assembly	PL 1.2	
I/F PWB	PL 9.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	Enter Service Diagnostics Menu (refer to Control Panel Diagnostics). Does the Main Motor run in diagnostics?	Go to step 2.	Go to step 3.
2	Does the voltage at P/J 203-8 change from +3.3 VDC to 0 VDC when the motor is turned on and off in Service Diagnostics?	Check the wiring from J 203-8 to J536-3 for open or shorted to ground. If the wiring is OK, replace the Interface Board (REP 1.8).	Replace the Main Drive Motor Assembly (REP 4.1).
3	Check P/J 203-1 and P/J 203-2 for +24 VDC. Do both pins have +24 VDC?	Go to step 4.	Replace the Interface PWB (REP 1.8).
4	Turn off the printer and check the wiring between J203 and J 536 for an open condition or short to ground. Is the wiring OK?	Replace the Interface PWB (REP 1.8).	Repair the wiring harness.

004-323 Black Imaging Unit Motor Fail

Black Imaging Unit Motor has failed.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack Map References
Imaging Unit Drive Motor	PL 1.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16
I/F PWB	PL 9.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. 2. Select **Motors/Fan Tests** > **OK**. Select **Imaging Unit Motors** > **OK**.	Go to step 7.	Go to step 2.
2	Is the voltage at J235-4 +5 VDC?	Go to step 3.	Refer to Section 7, Xerographics - Figure 2 to troubleshoot the missing +5 VDC.
3	Is the voltage at J235-1 +5 VDC?	Go to step 4.	Refer to Section 7, Xerographics - Figure 2 to troubleshoot the missing +24 VDC.
4	1. Run the **Imaging Unit Motors** test from Service Diagnostics. 2. Is the voltage at J235-5 0 VDC with the test running?	Go to step 5.	Refer to Section 7, Xerographics - Figure 2 to troubleshoot.
5	Is the frequency between J235-7 between 1KHz and 1.3 KHz?	Replace the Black Imaging Unit Motor (REP 4.4).	Go to step 6.

Table 2 Procedure

Step	Actions and Questions	Yes	No
6	Is the frequency between J535-7 and ground between 1 KHz and 1.3KHz?	Check for an open circuit between J235-8 and J535-2.	Refer to Section 7, Xerographics - Figure 2 to troubleshoot missing +3 VDC.

004-331 Engine Control Board Fuse F1 Open

Fuse F1 on the Engine Control Board is open.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15
		Block Schematics and Wiring Schematics - Chain 13

Troubleshooting Procedure

NOTE: *A 006-372 (Polygon Motor Failure) error code can be displayed if Fuse F1 on the Engine Control Board opens during the printing process. After power is cycled, the 004-331 error code should be displayed.*

Fuser F1 on the Engine Control Board provides circuit protection through the following P/Js. Verify that there ar e no short circuits or components that would cause this Fuse to open again if replaced.

- P400, pin 1
- P402, pin 6
- P403, pin B1
- P404, pin A6, pin A8, pin A10, pin A12, pin B2

004-332 Engine Control Board Fuse F2 Open

Fuse F2 on the Engine Control Board is open.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Engine Control Board (MCU PWB)	PL 13.1	Section, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15
		Block Schematics and Wiring Schematics - Chain 13

Troubleshooting Procedure

NOTE: *No error message will be displayed if Fuse F2 on the Engine Control Board opens during the printing process. After power is cycled, the 004-332 error code should be displayed.*

Fuse F2 on the Engine Control Board provides circuit protection through the following P/Js. Verify that there are no short circuits or components that would cause this Fuse to open again if replaced.

- P400, pin 1
- P402, pin 6
- P403, pin B1, pin B17
- P404, pin A6, pin A10, pin B2

004-333 Engine Control Board Fuse F3 Open

Fuse F3 on the Engine Control Board is open.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Engine Control Board (MCU PWB)	PL 13.1	Section, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15
		Block Schematics and Wiring Schematics - Chain 13

Troubleshooting Procedure

NOTE: *No error message will be displayed if Fuse F3 on the Engine Control Board opens during the printing process. After power is cycled, the 004-333 error code should be displayed.*

Fuse F3 on the Engine Control Board provides circuit protection through the following P/Js. Verify that there are no short circuits or components that would cause this Fuse to open again if replaced.

- P404, pin A4
- P406, pin 9

004-334 Engine Control Board Fuse F5 Open

Fuse F5 on the Engine Control Board is open.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Engine Control Board (MCU PWB)	PL 13.1	Section, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15
		Block Schematics and Wiring Schematics - Chain 13

Troubleshooting Procedure

NOTE: *No error message will be displayed if Fuse F5 on the Engine Control Board opens during the printing process. After power is cycled, the 004-334 error code should be displayed.*

Fuser F5 on the Engine Control Board provides circuit protection through the following P/Js. Verify that there are no short circuits or components that would cause this Fuse to open again if replaced.

- P400, pin 4

004-335 Interface PWB Fuse F2 Open

Fuse F2 on the Interface PWB is open.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Interface PWB	PL 9.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16
		Block Schematics and Wiring Schematics - Chain 13

Troubleshooting Procedure

NOTE: *The error message "Accumulator Belt Failure" will be displayed if Fuse F2 on the Interface PWB opens during the printing process. After power is cycled, the message "Accumulator Belt Failure" and the 004-335 error code should be displayed.*

Fuse F2 on the Interface PWB provides circuit protection through the following P/Js. Verify that there are no short circuits or components that would cause this Fuse to open again if replaced.

- P531, pin 3
- P539, pin A8

004-336 Interface PWB Fuse F3 Open

Fuse F3 on the Interface PWB is open.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
I/F PWB	PL 9.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16
		Block Schematics and Wiring Schematics - Chain 13

Troubleshooting Procedure

NOTE: *No error message will be displayed if Fuse F3 on the Interface PWB opens during the printing process. After power is cycled, the 004-336 error code should be displayed.*

Fuse F3 on the Interface PWB provides circuit protection through the following P/Js. Verify that there are no short circuits or components that would cause this Fuse to open again if replaced.

- P531, pin 3, pin 4, pin 5
- P532, pin 7
- P533, pin 3
- P535, pin 10
- P536, pin 10, pin 11
- P537, pin 6, pin 11
- P539, pin A6
- P540, pin B3, pin B4
- P541, pin A1, pin B1, pin B2

004-337 Interface PWB Fuse F4 Open

Fuse F4 on the Interface PWB is open.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
I/F PWB	PL 9.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16
		Block Schematics and Wiring Schematics - Chain 13

Troubleshooting Procedure

NOTE: *No error message will be displayed if Fuse F4 on the Interface PWB opens during the printing process. After power is cycled, the message "Transfer Roller Contact Failure" and the 004-337 error code should be displayed.*

Fuse F4 on the Interface PWB provides circuit protection through the following P/Js. Verify that there are no short circuits or components that would cause this Fuse to open again if replaced.

- P537, pin 6, pin 11
- P540, pin B3, pin B4
- P541, pin B1, pin B2

004-338 Interface PWB Fuse F5 Open

Fuse F5 on the Interface PWB is open.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
I/F PWB	PL 9.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16
		Block Schematics and Wiring Schematics - Chain 13

Troubleshooting Procedure

NOTE: *No error message will be displayed if Fuse F5 on the Interface PWB opens during the printing process. After power is cycled, the 004-338 error code should be displayed.*

Fuse F5 on the Interface PWB provides circuit protection through the following P/Js. Verify that there are no short circuits or components that would cause this Fuse to open again if replaced.

- P541, pin A8, pin A9, pin B5
- P543, pin 7, pin 9, pin 11

004-340 Controller RAM Fail or Flash ROM Limit Fail

Engine Control Board (MCU PWB) RAM test failed or limit of Flash ROM or Flash ROM failed.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Engine Control Board (MCU PWB)	PL 13.1	Section, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15

Troubleshooting Procedure

CAUTION

Careful replacement of the Engine Control Board (MCU PWB) NVRAM is important to avoid serious machine failure.

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Cycle power the printer to clear the error. 2. Did this clear the error?	Complete.	Replace the Engine Control Board (MCU PWB) (REP 1.2).

004-341 Controller Logic Fail or Flash ROM Read Write Fail

Engine Control Board (MCU PWB) cannot detect INTLK +5 VDC or Flash ROM operation failed.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15
Image Processor Board	PL 13.1	Section 7 - Translator/Bridge PWB's Plug/Jack Locations - Figure 14

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Cycle power to the printer to clear the error. 2. Did the error clear?	Complete.	Go to step 2.
2	1. Reconnect all the wiring harness connectors for the Engine Control Board and the Image Processor Board. 2. Check the Interlock voltage. 3. Is the voltage +5VDC?	Reset NVRAM (refer to Resetting NVRAM).	Replace the Engine Control Board (MCU PWB) (REP 1.2) or the Image Processor Board (REP 1.12).

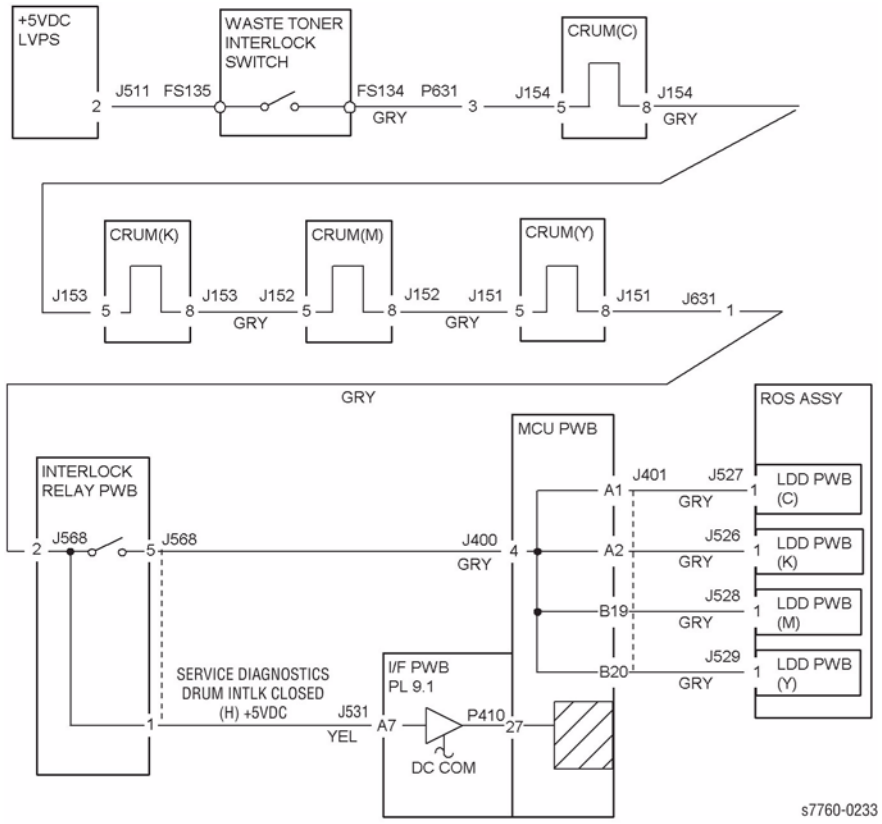

Figure 1 004-341 Printer Logic Failure

004-342 Flash ROM Limit Fail

Limit failure of Flash ROM.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	Turn the printer power Off, then On. Does the problem continue?	Replace the Engine Control Board (MCU PWB) (REP 1.2).	Return to Service Call Procedures.

004-343 Flash ROM Read/Write Fail

Flash ROM operation has failed.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	Switch the printer power Off, then On. The problem continues.	Replace the Engine Control Board (MCU PWB) (REP 1.2).	Return to Service Call Procedures.

004-344 Controller Micro Pitch Fail

The micro pitch did not occur within the specified time.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15
Image Processor Board	PL 13.1	Section 7 - Translator/Bridge PWB's Plug/Jack Locations - Figure 14

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Cycle power to the printer to clear the error. 2. Did the error clear?	Complete.	Replace the following order: 1. Engine Control Board (MCU PWB) (REP 1.2) 2. Image Processor Board (REP 1.12)

004-345, 004-561 MCU/HVPS Communication Fail

Communication error between the Engine Control Board (MCU PWB) and HVPS Control PWB.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
BTR1 HVPS T11	PL 9.1	Section 7, I/F PWB, MAIN Motor, LVPS T11 Plug/Jack Locations - Figure 16
Engine Control Board (MCU PWB)	PL 13.1	Section 7 - Translator/Bridge PWB's Plug/Jack Locations - Figure 14

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	Is there +5 VDC from P/J 574-5 to P/J 574-4 on the HVPS Control PWB?	Go to step 5.	Go to step 2.
2	Disconnect P/J 574. Is there +5 VDC from J 574-5 to J 574-4?	Go to step 4.	Go to step 3.
3	Is there +5 VDC from P/J 411-5 to ground?	Go to Figure 1. Check for open circuit or loose connections in the 5 VDC supply wires between P/J411, pins 5 and 6; and P/J574, pins 5 and 4.	Go to +5 VDC Low-Voltage Power Supplies RAP.
4	Go to Figure 1. Check the wire from J411-5 to J574-5 for a short circuit to GND. Is the wire OK?	Replace the HVPS Control PWB (REP 1.7).	Repair the wiring harness.
5	Switch off the power. Go to Figure 1 and check these wires for an open or short circuit to GND: • HVPS Control PWB P/J574-9 to MCU PWB P/J411-1 • HVPS Control PWB P/J574-8 to MCU PWB P/J411-2 • HVPS Control PWB P/J574-7 to MCU PWB P/J411-3 • HVPS Control PWB P/J574-6 to MCU PWB P/J411-4 Is the wiring OK?	Replace the Engine Control Board (MCU PWB) (REP 1.2). If this does not resolve the problem, replace the HVPS Control PWB (REP 1.7).	Repair the wiring harness.

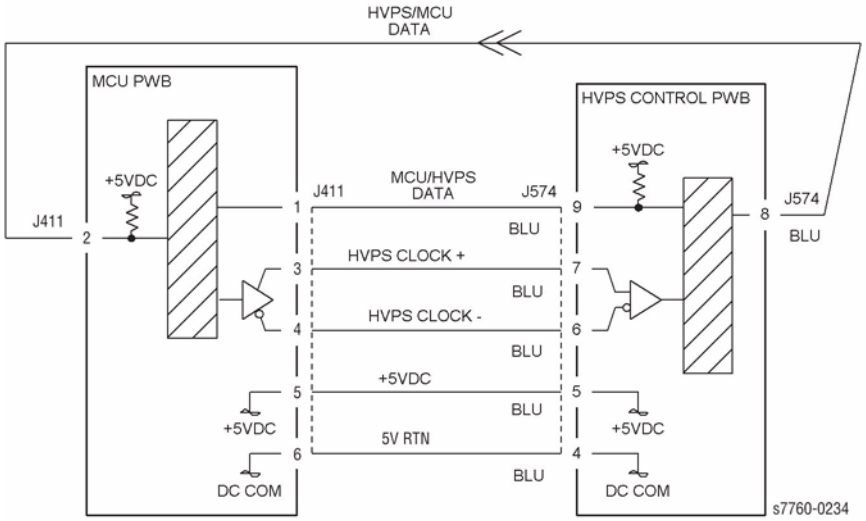

Figure 1 004-345 MCU/HVPS Communication

004-346, 004-347 Accumulator Belt Home Position Fail Too Long or Out of Position

The IBT Home Sensor does not detect the Belt Home signal or does not sense the Transfer Belt edge in the correct position. This procedure can be used for troubleshooting Chain Link code 004-346 or 004-347.

NOTE: *If this failure reoccurs three times successively, an Engine NVRAM value is set preventing further printer use until the Clear Tech Rep Faults (Section 6) is performed.*

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Belt Cleaner	PL 5.3	
Accumulator Belt	PL 5.2	Section 7, IBT Belt Assembly Plug/Jack Locations - Figure 11
Waste Toner	PL 4.1	
Auger Assembly	PL 5.2	
I/F PWB	PL 9.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15

Troubleshooting Procedure

CAUTION

If the Accumulator Belt is damaged, determine the cause of the damage before installing a new assembly.

- *Visually inspect the Accumulator Belt area inside the printer and inside the Left-Hand Door for foreign objects or damaged parts.*
- *Inspect the belt steering mechanism to determine if it is operable.*
- *It may be necessary to query the user for additional information as to likely causes.*

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	Have the Accumulator Belt shipping restrains been completely removed?	Go to step 2.	Remove the restraints.

Table 2 Procedure

Step	Actions and Questions	Yes	No
2	1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK.** Perform the Clear Tech Rep Faults 04-346 procedure. 2. Enter the **Adjustments/Calibrations** menu and run the **Belt Edge Learn** Test with the Right-Hand Door open and the Door Interlock held actuated. 3. Does the Accumulator Belt rotate during the test?	Go to step 3.	Go to step 6.
3	**CAUTION** *Removing the Accumulator Belt Assembly allows light into the Imaging Unit area, avoid exposing the Imaging units to light.* 1. Remove the Accumulator Belt Assembly. 2. Is the Belt Home Marker present?	Go to step 4.	Replace the Accumulator Belt Assembly (REP 9.15).
4	1. On the Accumulator Belt Assembly, rotate the Belt Drive Gear in the normal process direction until the Belt Home Marker is positioned beneath the Belt Home Sensor. 2. Reinstall the Belt Assembly. 3. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Run the **Accum MOB Sensor** test. 4. Is **MOB Sensor is H** displayed?	Replace in the following order: 1. Engine Control Interface Board (REP 1.8) 2. Engine Control Board (MCU PWB) (REP 1.2)	Go to step 5.
5	1. Replace the Accumulator Belt Assembly. 2. Retest. 3. Does error 30 return?	Troubleshoot and repair using the Reflective Sensor Procedure (Section 6).	Complete.
6	1. Partially remove the Accumulator Belt Assembly. 2. Manually rotate the Drive Gear clockwise. 3. Does the Belt turn freely?	Go to step 14.	Go to step 7.

Table 2 Procedure

Step	Actions and Questions	Yes	No
7	1. Inspect the Accumulator Belt Cleaner and Waste Auger for packed toner. 2. Are the Belt Cleaner and Auger clean and free of toner? 3. Do the gears rotate freely?	Go to step 9.	Go to step 8.
8	1. Using a Type II Toner vacuum, vacuum out the Belt Cleaner and Waste Auger. 2. Is the Actuating Lever broken off of the Belt Cleaner Toner Gate?	Replace the Belt Cleaner Assembly (REP 9.16).	Go to step 9.
9	1. Remove the Waste Toner Cartridge. 2. Enter Service Diagnostics and run the Agitator Motor test. 3. Does the Motor operate correctly?	Verify the Waste Toner Cartridge is fully seated. Complete.	Go to step 10.
10	1. Check the voltage at J537 on the harness. 2. Is the voltage +24 VDC?	Go to step 12.	Go to step 11.
11	1. Check the voltage at J537 on the harness. 2. Is the voltage +24 VDC?	Replace the Engine Control Board (MCU PWB) (REP 1.2).	Go to step 13.
12	1. Check the voltage at J537 on the harness.	Replace the Engine Control Board (MCU PWB) (REP 1.2)	Replace the Waste Toner Agitator Motor (REP 9.13).
13	Is +24 VDC present at the Low-Voltage Power Supply Board?	Troubleshoot the wiring between the +24 VDC LVPS and the Engine Control Board.	Refer to Troubleshooting Low-Voltage Power Supplies procedure (Section 6).

Table 2 Procedure

Step	Actions and Questions	Yes	No
14	1. Remove the Accumulator Belt Assembly. 2. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Run the **Accumulator Belt Motor** test. 3. Does the Motor run?	Diagnose and repair the mechanical condition binding the Accumulator Belt Assembly.	Since the Accumulator Belt Drive Motor is a servo motor, there are no voltage checks. This failure can be caused by 1 of 3 components. Replace and test in the following order: 1. Motor 2. Interface Board (REP 1.8) 3. Engine Control Board (MCU PWB) (REP 1.2)

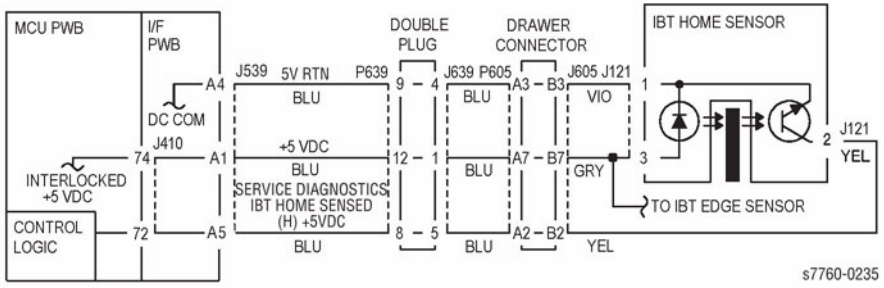

Figure 1 004-346, 004-347 IBT Home Sensor

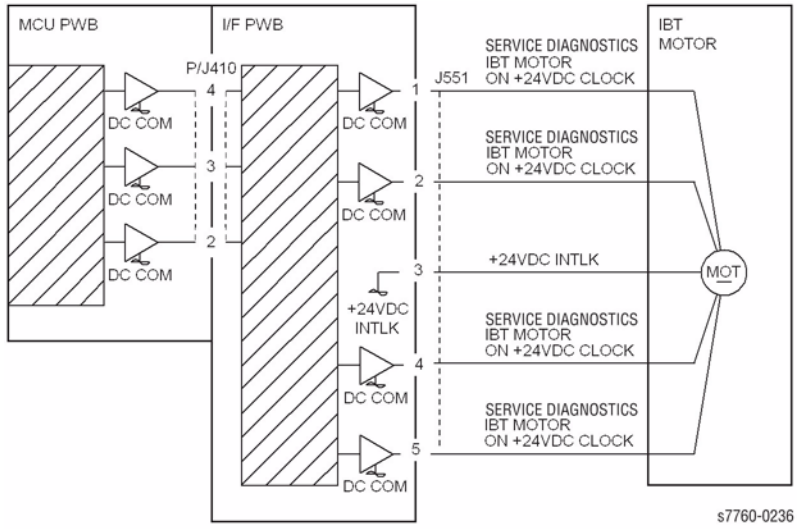

Figure 2 004-346, 004-347 IBT Motor

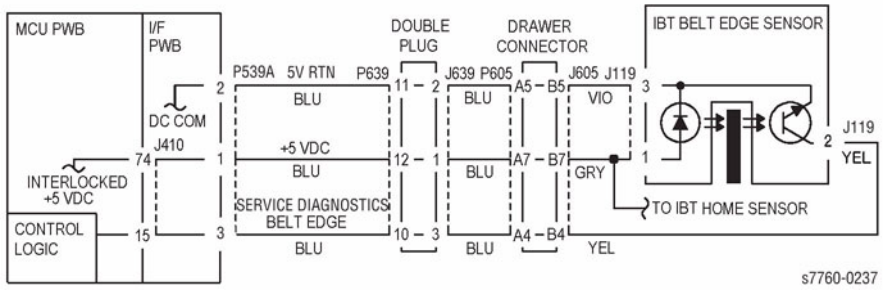

Figure 3 004-346, 004-347 IBT Edge Sensor

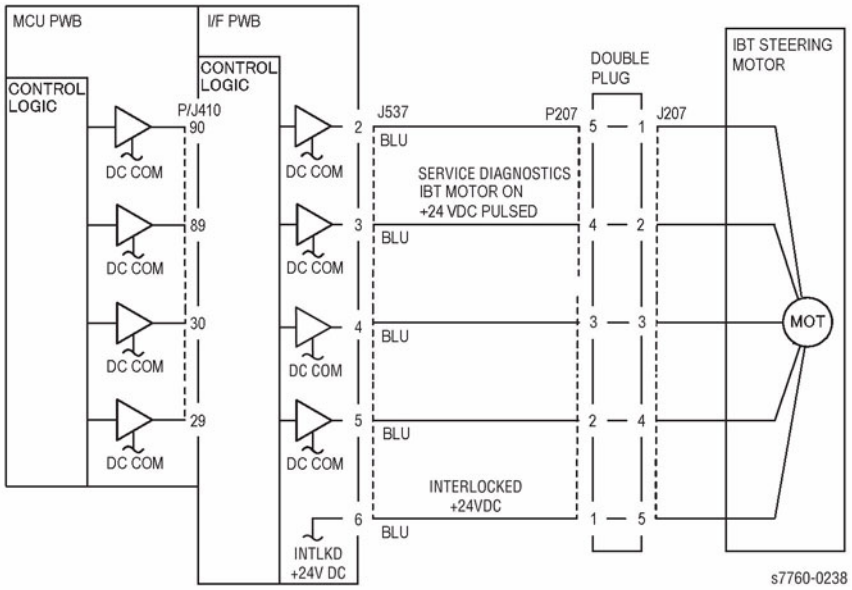

Figure 4 004-346, 004-347 IBT Steering Motor

004-348 IBT Belt Edge Sensor Fail

IBT Belt Edge not detected.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Drive Assembly - Steering	REP 1.3	
Accumulator Belt	PL 5.2	Section 7, IBT Belt Assembly Plug/Jack Locations - Figure 11
I/F PWB	PL 9.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15

Troubleshooting Procedures

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Remove the Accumulator Belt Assembly. 2. Inspect the connector for damage. 3. Is the connector damaged?	Replace the Accumulator Belt Assembly (REP 9.15).	Go to step 2.
2	Is the Edge Sensor Actuator touching the Belt?	Replace the Accumulator Belt Assembly (REP 9.15).	Go to step 3.
3	Is the mating connector inside the printer damaged?	Repair or replace the wiring harness between the connector and J605 (refer to Section 7,IBT Belt Assembly - Figure 11).	Go to step 4.
4	1. Reinstall the Accumulator Belt Assembly. 2. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Run the Belt Edge Sensor test. 3. Is the result OK?	Go to step 5.	Run the Belt Edge Learn and recheck. If it still fails, go to step 8.

Table 2 Procedure

Step	Actions and Questions	Yes	No
5	1. Switch the printer power On. 2. Remove the Rear Cover. 3. Measure the voltage between the Engine Control Interface Board and J533A+11 (refer to section 7, I/F PWB, MAIN Motor, LVPS T11 Plug/Jack Locations - Figure 16) and Frame ground. 4. Does the voltage measure between +1 to +3 VDC?	Go to step 8.	Go to step 6.
6	1. Measure the voltage between the Engine Control Interface Board and J533A-9 and Frame ground. 2. Does the voltage measure +5 VDC?	Go to step 7.	Replace in the following order: 1. Engine Control Interface Board (REP 1.8) 2. Engine Control Board (MCU PWB) (REP 1.2)
7	1. Measure the voltage between the Engine Control Interface Board and J533A-10 (refer to Section 7, I/F PWB, MAIN Motor, LVPS T11 Plug/Jack Locations - Figure 16) and Frame ground. 2. Does the voltage measure +5 VDC?	Replace in the following order: 1. Engine Control Interface Board (REP 1.8) 2. Engine Control Board (MCU PWB) (REP 1.2)	The Edge Sensor is defective, replace the Accumulator Belt (REP 9.15).
8	1. Remove the Accumulator Belt Assembly. 2. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Run the **Steering Motor** test. 3. Does the Motor run?	Replace the Accumulator Belt Assembly (REP 9.15). If the problem is unresolved, replace the Engine Control Board (MCU PWB) (REP 1.2).	Go to step 9.

Table 2 Procedure

Step	Actions and Questions	Yes	No
9	1. Measure the voltage between the Engine Control Interface Board J551-5 (refer to Section 7, I/F PWB, MAIN Motor, LVPS T11 Plug/Jack Locations - Figure 16) and Frame ground. 2. Is the voltage +24 VDC?	Go to step 10.	Replace the following order: 1. Engine Control Interface Board (REP 1.8) 2. Engine Control Board (MCU PWB) (REP 1.2)
10	1. Measure the voltage between the Engine Control Board J551 Pins 1, 2, 3, 4, 5 and Frame ground. 2. Is the voltage +24 VDC?	Replace in the following order: 1. Engine Control Interface Board (REP 1.8) 2. Engine Control Board (MCU PWB) (REP 1.2)	Replace the Steering Drive Assembly (REP 9.12).

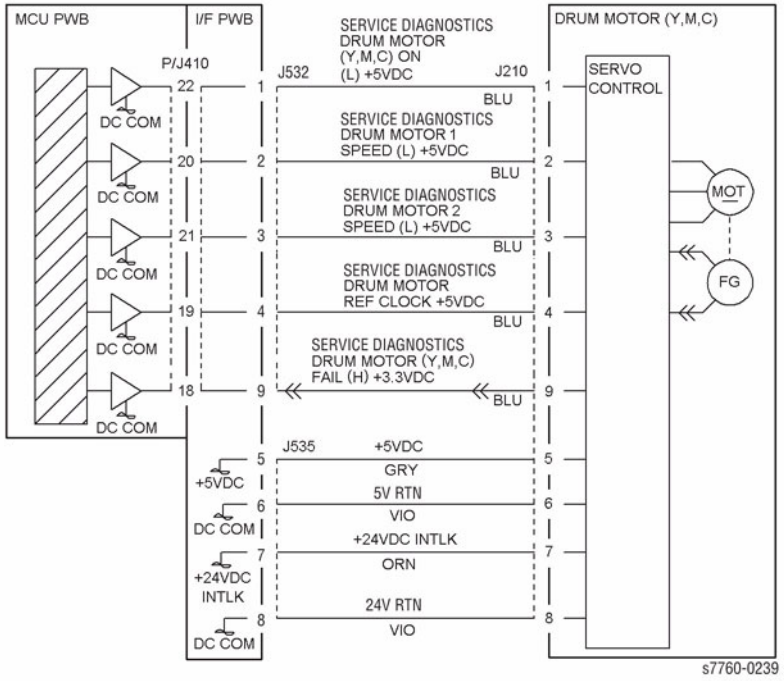

Figure 1 004-348 IBT Belt Edge Sensor

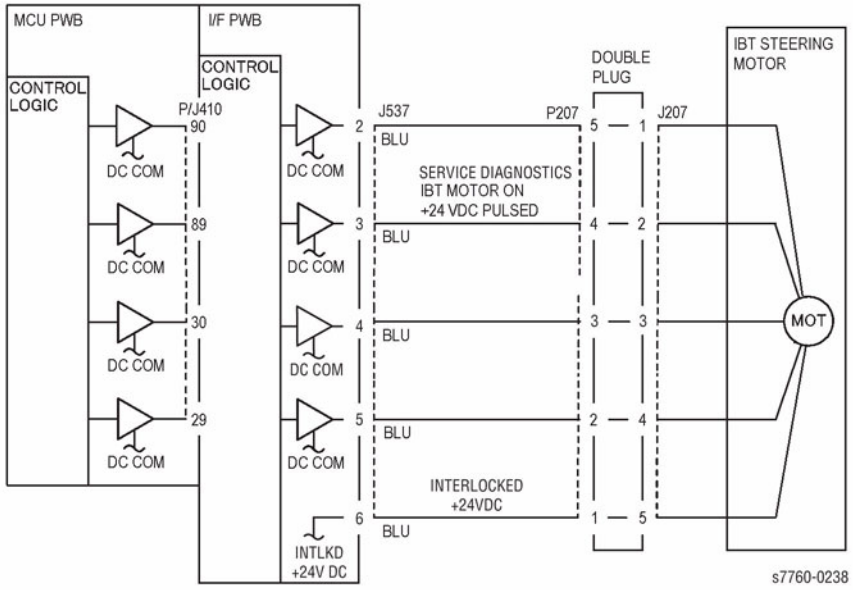

Figure 2 004-348 IBT Steering Motor

004-349 Marking Software Logic Fail

Control Logic detected a fatal failure in the Marking software.

Procedure

Turn the printer power Off, then On. **The problem continues.**

Y **N**

Return to Service Call Procedures.

Again, turn the printer power Off, then On. Perform the job again.

004-350 Marking Device Fail (Controller Video)

Failure occurred in controller video.

Procedure

NOTE: *An auto-reset should be underway.*

If the problem continues, turn the printer power Off, then On.

If the problem continues, perform Service Diagnostics.

004-351 Controller Xerographics Fail

Failure occurred in controller xerographics.

Procedure

NOTE: *An auto-reset should be underway.*

If the problem continues, turn the printer power Off, then On.

If the problem continues, perform Service Diagnostics.

004-352 Controller Communications Fail

Failure occurred in Printer communications.

Procedure

NOTE: *An auto-reset should be underway.*

If the problem continues, turn the printer power Off, then On.

If the problem continues, perform Service Diagnostics.

004-353 Printer Paper Handling Fail

Failure occurred in printer paper handling.

Procedure

NOTE: *An auto-reset should be underway.*

If the problem continues, turn the printer power Off, then On.

If the problem continues, perform Service Diagnostics.

004-354 Controller Communications Fail

Failure occurred in Printer communications.

Procedure

NOTE: *An auto-reset should be underway.*

If the problem continues, turn the printer power Off, then On.

If the problem continues, perform Service Diagnostics.

004-358 Controller Communication Fail

Failure occurred in Printer Communication.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Accumulator Belt	PL 5.2	Section 7, IBT Belt Assembly Plug/Jack Locations - Figure 11
I/F PWB	PL 9.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15

Troubleshooting Procedures

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Cycle power to the printer to clear the error. 2. Turn the printer power Off. 3. Remove the Image Processor Board. 4. Inspect the orange ribbon cable between the Relay Board and Engine Control Board. 5. Is the connector fully seated and free from damage?	Replace in the following order: 1. Image Processor Board (REP 1.12) 2. Electrical Chassis Assembly (REP 1.3) 3. Engine Control Board (MCU PWB) (REP 1.2)	

004-361 Imaging Unit Motor Fail

Imaging Unit Motor has failed.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Imaging Unit Drive Motor	PL 1.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16
I/F PWB	PL 9.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the **Imaging Unit Motor** test. 2. Does the Motor operate correctly?	Go to step 7.	Go to step 2.
2	Is the voltage at J535-5 +5 VDC?	Go to step 3.	Replace the I/F PWB (REP 1.8).
3	Is the voltage at J535-10 +24 VDC?	Go to step 4.	Replace the I/F PWB (REP 1.8).
4	1. Enter Service Diagnostics Menu. 2. While running the **Imaging Unit Motor** test, check the voltage at J535-1 and J535-2. 3. Is the voltage 0 VDC while the test is running?	Go to step 5.	Replace the I/F PWB (REP 1.8).
5	Is the frequency between J535-4 and ground between 1 KHz and 1.3 KHz?	Replace the Imaging Unit Drive Motor (REP 4.4).	Go to step 6.
6	1. Check for a short to ground at J535-4. 2. Is the wire grounded?	Repair or replace the wiring harness.	Replace the I/F PWB (REP 1.8).
7	1. Enter Service Diagnostics Menu. 2. While running the **Imaging Unit Motor** test, check the voltage at J535-7. 3. Is the voltage +5 VDC while the test is running?	Replace the Imaging Unit Drive Motor (REP 4.4).	Replace the I/F PWB (REP 1.8).

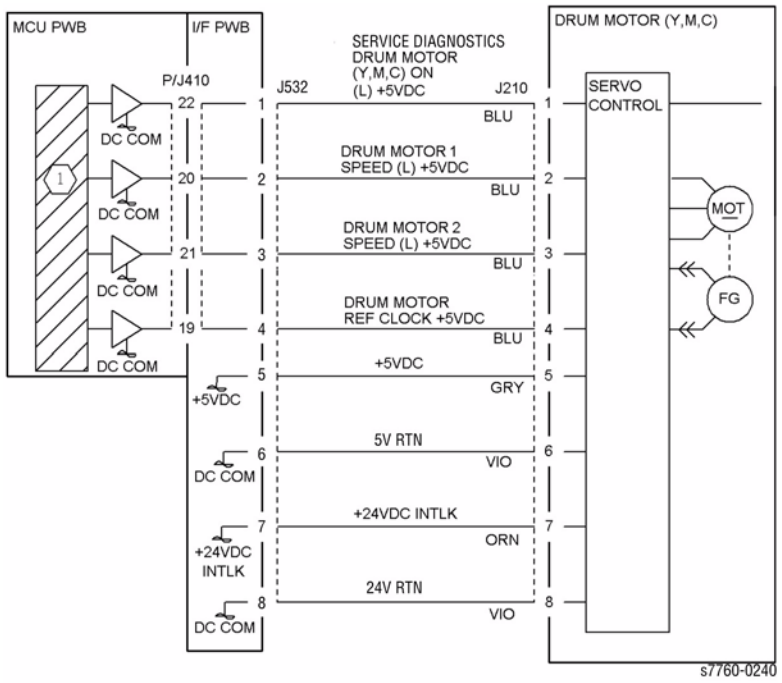

Figure 1 004-361 Imaging Unit Motor (Y, M, C)

004-362 Printer NVM Read Write Fail

Read Write at the Engine Control Board (MCU PWB) NVM R/W.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Image Processor Board	PL 9.1	Section 7 - Translator/Bridge PWB's Plug/Jack Locations - Figure 14
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Cycle power to the printer to clear the error. 2. Did this clear the error?	Complete.	Replace the following order: 1. Engine Control Board (MCU PWB) (REP 1.2) 2. Image Processor Board (REP 1.12)

004-363 K Imaging Unit Motor Fail

Imaging Unit Motor K failure.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Imaging Unit Drive Motor	PL 1.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16
I/F PWB	PL 9.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Run the **Black Imaging Motor** test. 2. Does the Motor operate correctly?	Go to step 7.	Go to step 2.
2	Is the voltage at J535-6 +5 VDC?	Go to step 3.	Refer to Section 7, BSD 8.2 Paper Transportation) to troubleshoot the missing + 5 VDC - Figure 2.
3	Is the voltage at J535-10 +24 VDC?	Go to step 4.	Refer to Section 7, BSD 8.2 Paper Transportation) to troubleshoot the missing + 5 VDC - Figure 2.
4	Perform the Black Imaging Unit Motor test. Is the voltage at J535-5 0 VDC with the test running?	Go to step 5.	Refer to Section 7, BSD 8.2 Paper Transportation) to troubleshoot - Figure 2.
5	Is the frequency between J535-8 and ground between 1 KHz and 1.3 KHz?	Replace the Black Imaging Unit Drive Motor (REP 4.4).	Go to step 6.

Table 2 Procedure

Step	Actions and Questions	Yes	No
6	Is the frequency between J535-2 and ground between 1KHz and 1.3 KHz?	Check for an open circuit between J534A-8 and J535-8.	Replace in order until resolved: 1. Engine Interface Board (REP 1.8) 2. Engine Control Board (MCU PWB) (REP 1.2)
7	Is +3.3 VDC present at J535-7 with the Motor test running from Service Diagnostics?	Is there is no mechanical blind in the Black Imaging Unit, replace the Black Drum Drive Motor (REP 4.4).	Refer to Section 7, - BSD 8.2 Paper Transportation) to troubleshoot the missing +3.3 VDC - Figure 2.

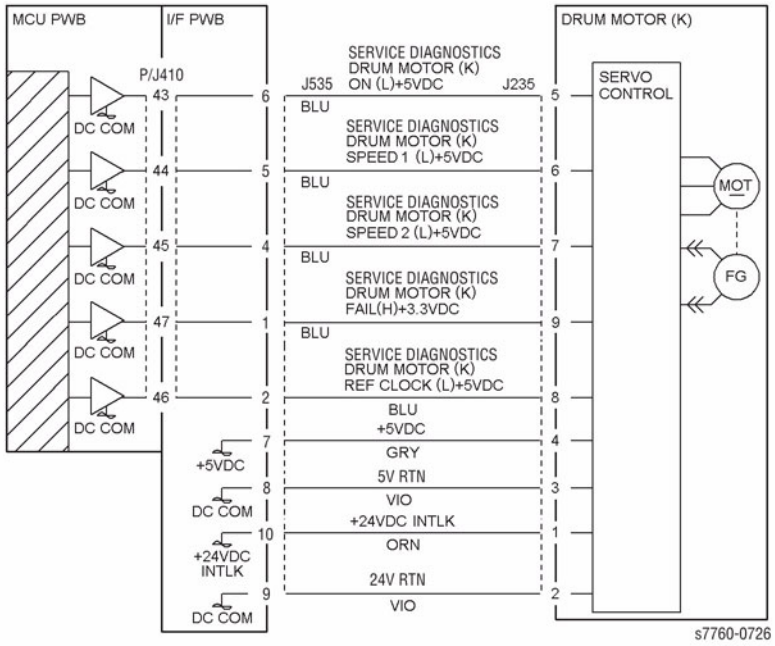

Figure 1 004-363 Imaging Unit Motor K

004-371 Printer Controller System Timing Fail

There is a communication failure between the Controller and Printer.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Cycle power the printer to clear the error. 2. Did the error clear?	Complete.	Replace the Engine Control Board (MCU PWB) (REP 1.2).

004-375 Controller Software Mismatch

Print Engine software mismatched.

Procedure

Turn the printer power Off, then On.

004-376 Zero Crossing Signal Not Detected

The zero crossing signal is not detected.

Procedure

Check that J590 on the AC Drive PWB (PL 9.2) is securely connected.
Check that J412 on the Engine Control Board (MCU PWB) (PL 13.1) is securely connected.
Check the condition of the wires between J590 and J412 (Figure 1). **The connections and wires are good.**

Y N

Repair as required.

Measure the voltage at 590-1 on the AC Drive PWB (pin 1 is toward inside of machine). Check for both DC and AC voltages of 0.44 VDC and 0.92 VAC (Figure 1). **The voltage measures approximately 0.5 VDC and 1 VAC.**

Y N

Measure the voltage at J590-7 (pin 1 is toward inside of machine) for +5 VDC. **The voltage measures +5 VDC.**

Y N

The wires were previously checked. Replace the Engine Control Board) (MCU PWB (PL 13.1).

Measure the voltage at J590-5 (pin 1 is toward inside of machine) for less than +1 VDC. **The voltage measures less than 1 VDC.**

Y N

The wires were previously checked. Replace the Engine Control Board (MCU PWB) (PL 13.1).

Replace the AC Drive PWB (PL 9.2).

Measure the voltage at J412-19 on the Engine Control Board (MCU PWB). **The voltage measures less than 1 VDC.**

Y N

Repair the open circuit between J590-1 on the AC Drive PWB and J412-19 on the Control Board (MCU PWB).

Replace the Engine Control Board (MCU PWB) (PL 13.1).

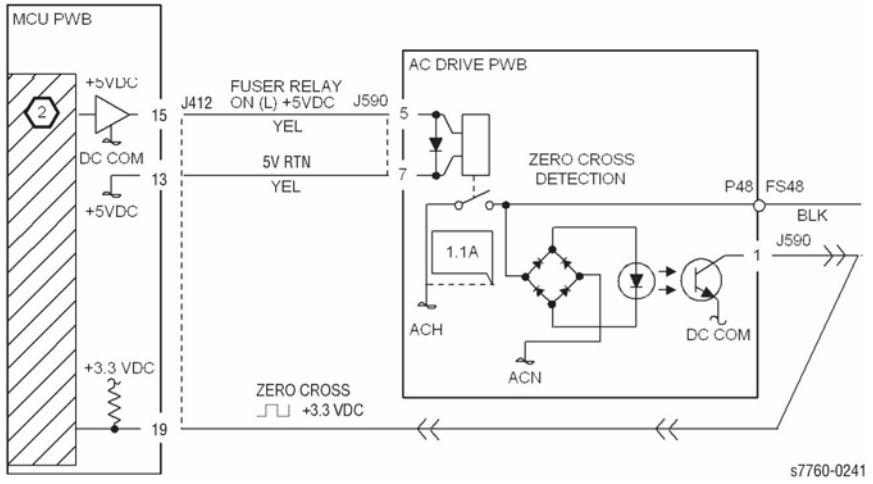

Figure 1 004-376 Zero Cross Signal and Fuser Relay

004-414 IBT Belt Cleaner Change Soon

IBT Belt Cleaner near end of life.

Procedure

Replace the IBT Belt Cleaner Assembly (PL 5.3). **The problem continues.**

Y N

Return to Service Call Procedures.

Was the IBT Belt Cleaner Assembly HFSI Counter reset.

Y N

Reset the IBT Belt Cleaner Assembly Counter.

Replace the Engine Control Board (MCU PWB) (PL 13.1).

CAUTION

Careful replacement of the MCU NVRAM PWB is important to avoid serious machine failure.

If the problem continues, replace the Engine Control Board (MCU PWB) NVRAM (PL 13.1).

004-415 2nd BTR Unit Change Soon

It is time to replace the 2nd BTR Unit.

Procedure

Replace the 2nd BTR Unit (PL 2.8). **The problem continues.**

Y N

Return to Service Call Procedures.

Was the 2nd BTR Unit HFSI Counter reset.

Y N

Reset the 2nd BTR Unit Counter.

Replace the Engine Control Board (MCU PWB) (PL 13.1).

CAUTION

Careful replacement of the MCU NVRAM PWB is important to avoid serious machine failure.

If the problem continues, replace the Engine Control Board (MCU PWB) NVRAM (PL 13.1).

004-417 Transfer Belt Assembly Change Soon

Transfer Belt Assembly near end of life.

Procedure

Replace the Transfer Belt Assembly (PL 5.3). **The problem continues.**

Y N

Return to Service Call Procedures.

Was the Transfer Belt Assembly HFSI Counter reset.

Y N

Reset the Transfer Belt Assembly Counter.

Replace the Engine Control Board (MCU PWB) (PL 13.1)

CAUTION

Careful replacement of the MCU NVRAM PWB is important to avoid serious machine failure.

If the problem continues, replace the Engine Control Board (MCU PWB) NVRAM (PL 13.1).

004-420 Transfer Belt Assembly Life End

Transfer Belt Assembly end of life.

Procedure

Replace the Transfer Belt Assembly (PL 5.3). **The problem continues.**

Y N

Return to Service Call Procedures.

Was the Transfer Belt Assembly HFSI Counter reset.

Y N

Reset the Transfer Belt Assembly Counter.

Replace the Engine Control Board (MCU PWB) (PL 13.1).

CAUTION

Careful replacement of the MCU NVRAM PWB is important to avoid serious machine failure.

If the problem continues, replace the Engine Control Board (MCU PWB) NVRAM (PL 13.1).

004-421 IBT Belt Cleaner Life End

IBT Belt Cleaner Assembly end of life.

Procedure

Replace the IBT Belt Cleaner Assembly (PL 5.3). **The problem continues.**

Y N

Return to Service Call Procedures.

Was the IBT Belt Cleaner Assembly HFSI Counter reset.

Y N

Reset the IBT Belt Cleaner Assembly Counter.

If the problem continues, replace the Engine Control Board (MCU PWB) (PL 13.1).

CAUTION

Careful replacement of the MCU NVRAM PWB is important to avoid serious machine failure.

If the problem continues, replace the Engine Control Board (MCU PWB) NVRAM (PL 13.1).

004-435 HVPS Comm. Fail

HVPS Communication failure.

Procedure

1. Check for poor connection at the blue-wired connector J574.
2. Turn off the printer and check the wiring between J574 and J411 for continuity or a shorted to ground condition.
3. If the wiring is OK, replace the HVPS Board (REP 1.7).
4. If the HVPS Board does not correct the error, then replace the Engine Control Board (MCU PWB) (REP 1.2).

004-605 Printer NVRAM Corrupt

The system detected that the NVRAM of the Printer is empty.

Procedure

Turn the printer power Off, then On. **The problem continues.**

Y N

Return to Service Call Procedures.

Replace the Engine Control Board (MCU PWB) (PL 13.1).

CAUTION

Careful replacement of the MCU NVRAM PWB is important to avoid serious machine failure.

If the problem continues, replace the Engine Control Board (MCU PWB) NVRAM (PL 13.1).

004-640 Belt Tracking

IBT tracking failure.

Procedure

BSD: CH9.19 CH9.31A

Check if actuator for IBT Edge Sensor touches belt edge. **IBT Edge Sensor touches belt edge.**

Y N

Check actuator installation.

Turn the printer power On. Measure voltage between I/F PWB P539-A3(+) and GND(-). **Between +3 VDC and 1 VDC is measured.**

Y N

Measure voltage between I/F PWB P539-A1(+) P539-A2(-). **+5 VDC is measured.**

Y N

Check +5 VDC circuit to I/F PWB P539-A1.

Measure voltage between I/F PWB P539-A3(+) and GND(-). **+5 VDC is measured.**

Y N

Measure voltage between I/F PWB P539-A3(+) and GND(-). **0 VDC is measured.**

Y N

Check wire damage or bad connection between I/F PWB P539A and IBT Edge Sensor J119.
If the check is good, replace IBT Edge Sensor.
If the problem continues, replace the Engine Control Board (MCU PWB) (PL 13.1).

Check wire damage or bad connection between I/F PWB P539-A3 and IBT Edge Sensor J119-2.

Replace IBT Edge Sensor.

Measure voltage between I/F PWB P539-A1(+) and GND(-). **+24 VDC is measured.**

Y N

Following Wire Network, check +24 VDC circuit up to I/F PWB P539-A1.

Remove IBT Assembly (REP 9.15). Enter Service Diagnostics Menu: **Printer Menu** > **Trouble-shooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simulta-neously > **Run Service Diagnostics** > **OK**. Perform the **Steering Motor** test. **IBT Steering Motor energizes.**

Y N

Check wire damage or bad connection between I/F PWB J537 and IBT Steering Motor P207. **There are broken wires or bad connections.**

Y N

Replace the Engine Control Board (MCU PWB) (PL 13.1).
If the problem continues, replace I/F PWB (PL 9.1).
If the problem continues, replace IBT Steering Motor (PL 1.3).

Repair broken wire and bad connection.

A

A

Check IBT Belt installation (REP 9.22). If the check is good, replace the Engine Control Board (MCU PWB) (PL 13.1).

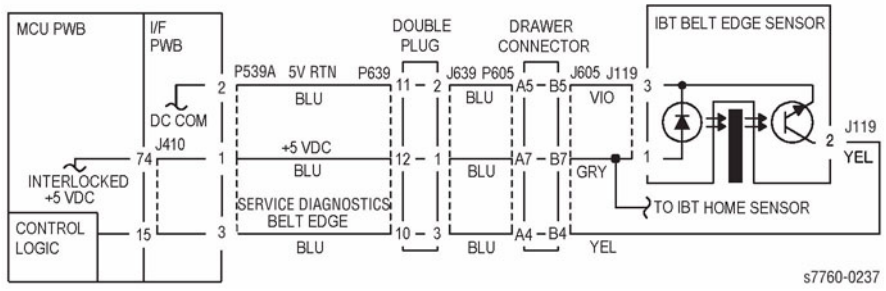

Figure 1 004-640 Belt Edge Sensor

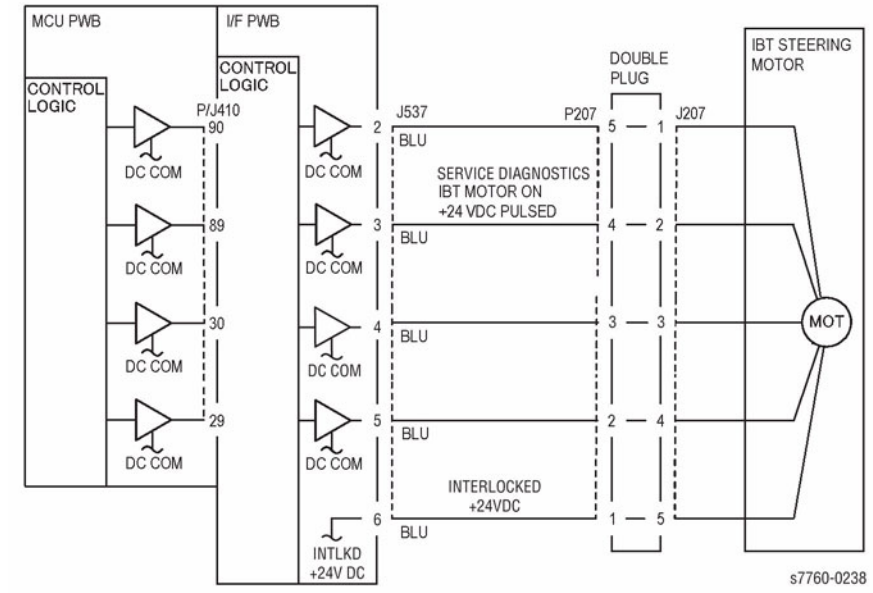

Figure 2 004-640 IBT Steering Motor

004-641 Belt Edge Not Detected

IBT Belt Edge not detected.

Procedure

Check if actuator for IBT Edge Sensor touches belt edge. **IBT Edge Sensor touches belt edge.**

Y N

Check actuator installation.

Turn the printer power On. Measure voltage between I/F PWB P539-A3(+) and GND(-). **Between +3 VDC and 1 VDC is measured.**

Y N

Measure voltage between I/F PWB P539-A1(+) P539-A2(-). **+5 VDC is measured.**

Y N

Close the Front Cover. If voltage between P539-A1(+) P539-A2(-) is less than +5 VDC, replace the Engine Control Board (MCU PWB) (PL 13.1).

Measure voltage between I/F PWB P539-A3(+) and GND(-). **+5 VDC is measured.**

Y N

Measure voltage between I/F PWB P539-A3(+) and GND(-). **0 VDC is measured.**

Y N

Check wire damage or bad connection between I/F PWB P539A and IBT Edge Sensor J119.
If the check is good, replace IBT Edge Sensor.
If the problem continues, replace the Engine Control Board (MCU PWB) (PL 13.1).

Check wire damage or bad connection between I/F PWB P539-A3 and IBT Edge Sensor J119-2.

Replace the IBT Edge Sensor.

Measure voltage between I/F PWB P539-A1(+) and GND(-). **+24 VDC is measured.**

Y N

Following Wire Network, check +24 VDC circuit up to I/F PWB P539-A1.

Remove IBT Assembly (REP 9.15). Enter Service Diagnostics Menu: **Printer Menu** > **Trouble-shooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simulta-neously > **Run Service Diagnostics** > **OK**. Perform the **Steering Motor** test. **IBT Steering Motor energizes.**

Y N

Check wire damage or bad connection between I/F PWB J537 and IBT Steering Motor J207. **There are broken wires or bad connections.**

Y N

Replace the Engine Control Board (MCU PWB) (PL 13.1).
If the problem continues, replace the I/F PWB (PL 9.1).
If the problem continues, replace the IBT Steering Motor (PL 1.3).

Repair broken wire and bad connection.

A

A

Check IBT Belt installation (REP 9.22). If the check is good, replace the Engine Control Board (MCU PWB) (PL 13.1).

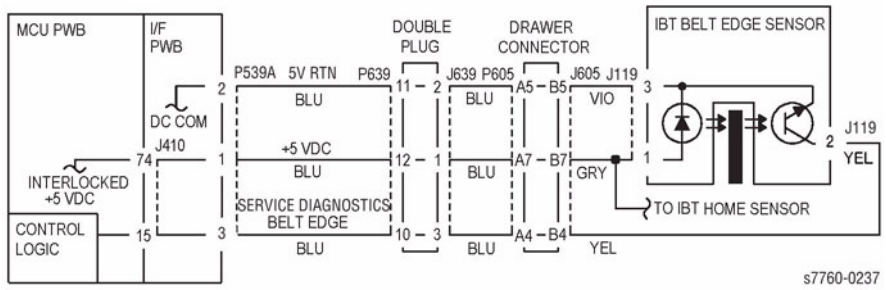

Figure 1 004-641 IBT Belt Edge Sensor

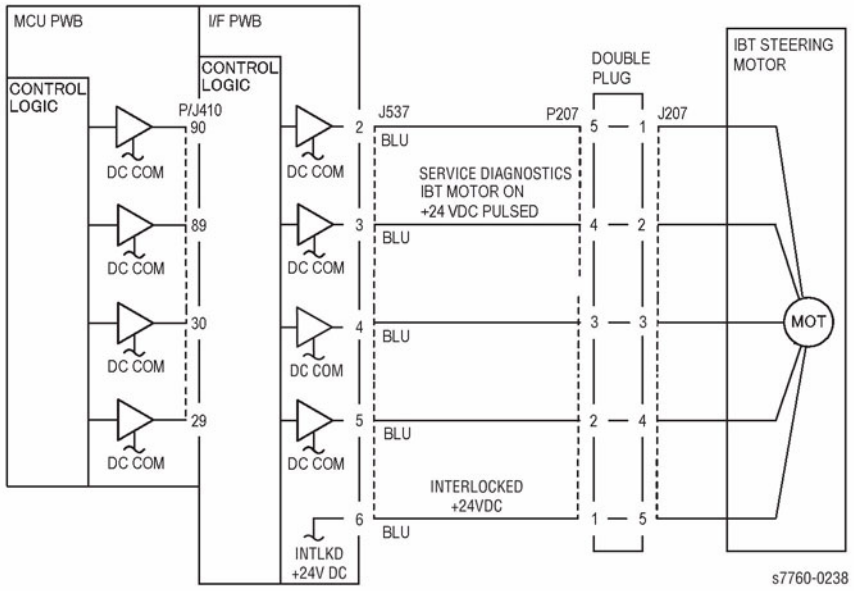

Figure 2 004-641 IBT Steering Motor

004-642 Belt Edge Not in Position

IBT Belt Edge not in position.

Procedure

Check if actuator for IBT Edge Sensor touches belt edge. **IBT Edge Sensor touches belt edge.**

Y N

Check actuator installation.

Turn the printer power On. Measure voltage between I/F PWB P539-A3(+) and GND(-). **Between +3 VDC and 1 VDC is measured.**

Y N

Measure voltage between the I/F PWB P539-A1(+) P539-A2(-). **+5 VDC is measured.**

Y N

Close the Front Cover. If voltage between P539-A1(+) P539-A2(-) is less than +5 VDC, replace the Engine Control Board (MCU PWB) (PL 13.1).

Measure voltage between I/F PWB P539-A3(+) and GND(-). **+5 VDC is measured.**

Y N

Measure voltage between I/F PWB P539-A3(+) and GND(-). **0 VDC is measured.**

Y N

Check wire damage or bad connection between I/F PWB P539A and IBT Edge Sensor J119.
If the check is good, replace the IBT Edge Sensor.
If the problem continues, replace the Engine Control Board (MCU PWB) (PL 13.1).

Check wire damage or bad connection between I/F PWB P539-A3 and IBT Edge Sensor J119-2.

Replace the IBT Edge Sensor.

Measure voltage between I/F PWB P539-A1(+) and GND(-). **+24 VDC is measured.**

Y N

Following Wire Network, check +24 VDC circuit up to I/F PWB P539-A1.

Remove IBT Assembly (REP 9.15). Enter Service Diagnostics Menu: **Printer Menu** > **Trouble-shooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simulta-neously > **Run Service Diagnostics** > **OK**. Perform the **Steering Motor** test. **IBT Steering Motor energizes.**

Y N

Check wire damage or bad connection between I/F PWB J537 and IBT Steering Motor J207. **There are broken wires or bad connections.**

Y N

Replace the Engine Control Board (MCU PWB) (PL 13.1).
If the problem continues, replace the I/F PWB (PL 9.1).
If the problem continues, replace the IBT Steering Motor (PL 1.3).

Repair broken wire and bad connection.

Check IBT Belt installation (REP 9.22). If the check is good, replace MCU PWB (PL 13.1).

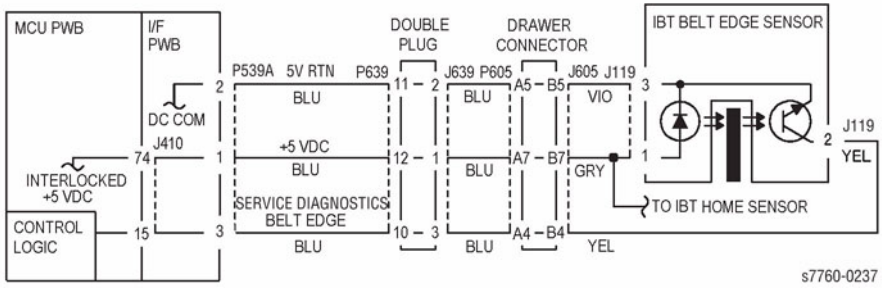

Figure 1 004-642 IBT Belt Edge Sensor

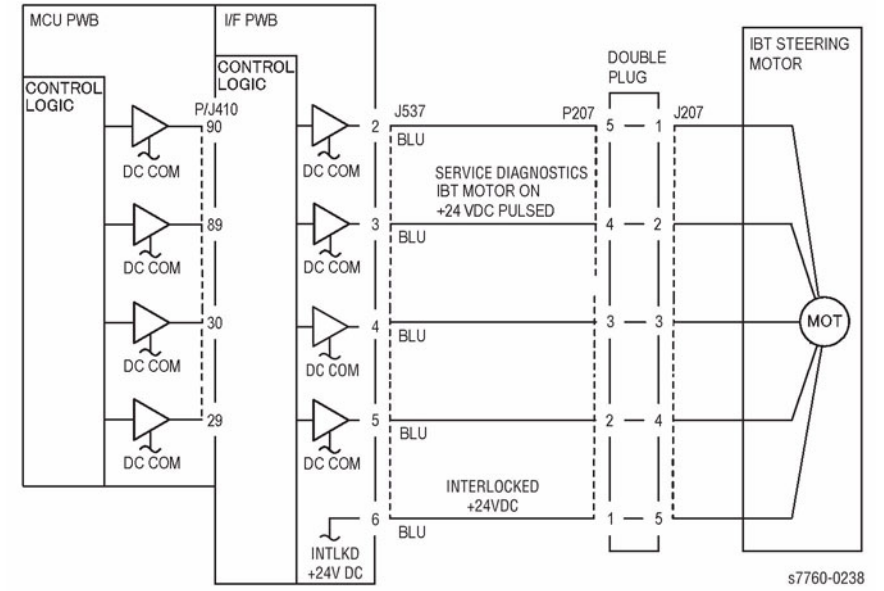

Figure 2 004-642 IBT Steering Motor

004-650 Printer Cycle Down Time Out

Incorrect print processing continued for 2 minutes.

Procedure

Check the harness connections on the Engine Control Board (MCU PWB) (PL 13.1). **The problem continues.**

Y N

Return to Service Call Procedures.

Replace the Engine Control Board (MCU PWB) (PL 13.1)

006-372 ROS Polygon Motor Fail

ROS Motor failure.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15
Laser Assembly	PL 3.1	Section 7, ROS Assembly Plug/Jack Locations - Figure 10

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Remove the Rear Cover. 2. Disconnect P401 and P402 from the Engine Control Board. 3. Carefully reinsert the plugs into their join socket and firmly seat them. 4. Did this fix the problem?	Complete.	Replace the Laser Unit (REP 6.1). (You must perform the RegiCon Adjustment ADJ 9.10 (Section 4) after replacing the Laser Unit.) If the problem persists, replace the Engine Control Board (MCU PWB) (REP 1.2).

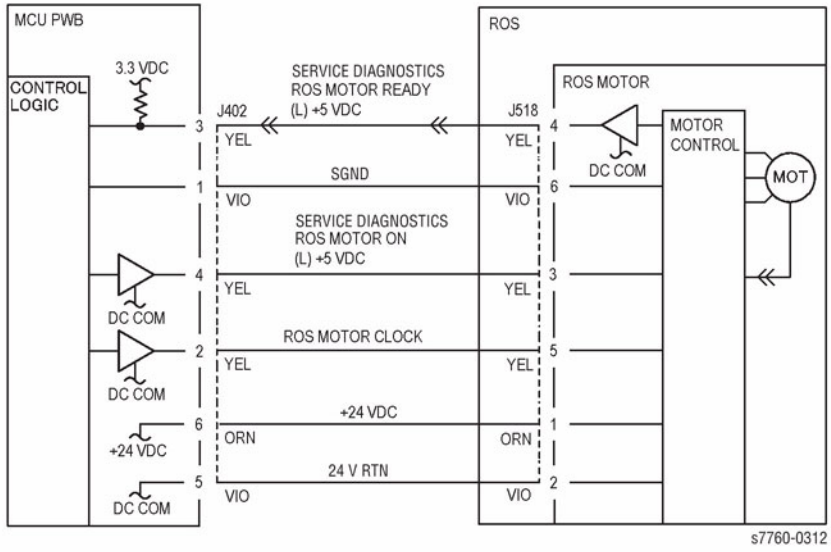

Figure 1 006-372 Polygon Motor Control

006-380 ROS SOS Y, M, C, K Length Fail

ROS SOS Length Failure for Y, M, C, and K.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15
Laser Assembly	PL 3.1	Section 7, ROS Assembly Plug/Jack Locations - Figure 10
		Section 7, Xerographic Plug/Jack Locations - Figure 1

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Remove the Rear Cover. 2. Disconnect P401 and P402 from the Engine Control Board. 3. Carefully reinsert the plugs into their join socket and firmly seat them. 4. Did this fix the problem?	Complete.	Replace the Laser Unit (REP 6.1). (You must perform the RegiCon Adjustment ADJ 9.10 (Section 4) after replacing the Laser Unit.) If the problem persists, replace the Engine Control Board (MCU PWB) (REP 1.2).

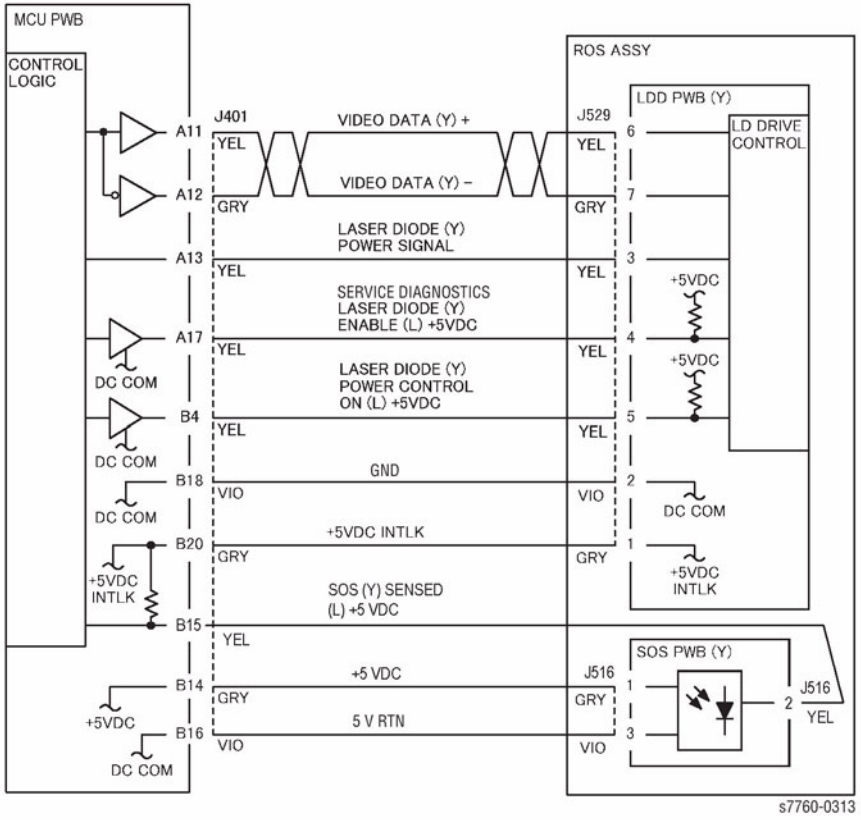

Figure 1 006-380 ROS SOS Y

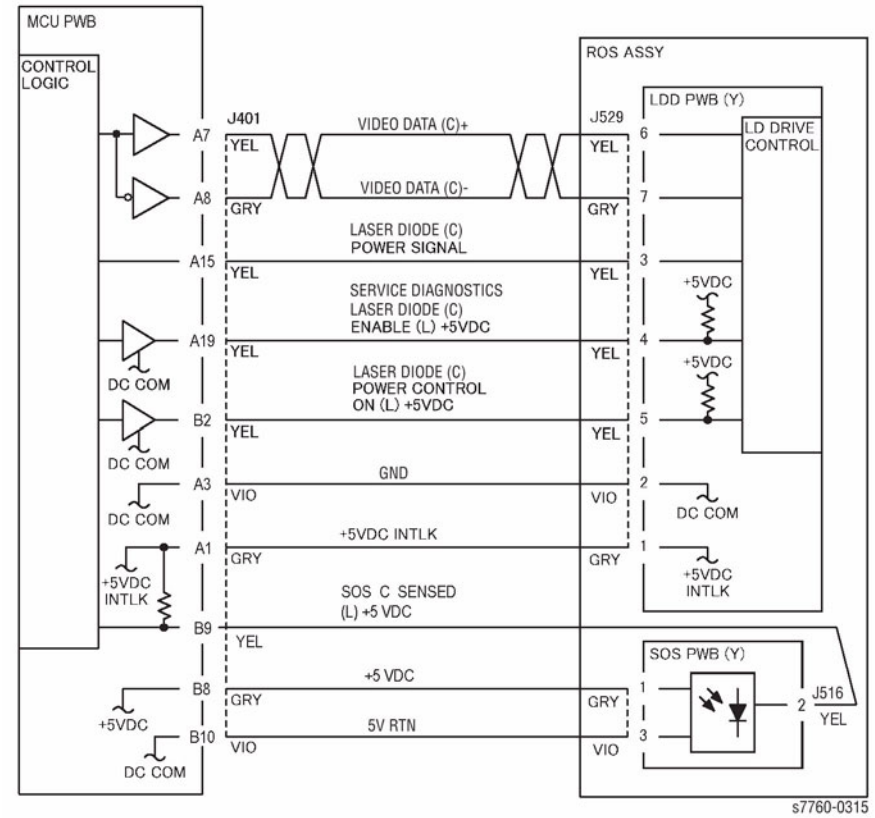

Figure 2 006-380 ROS SOS C

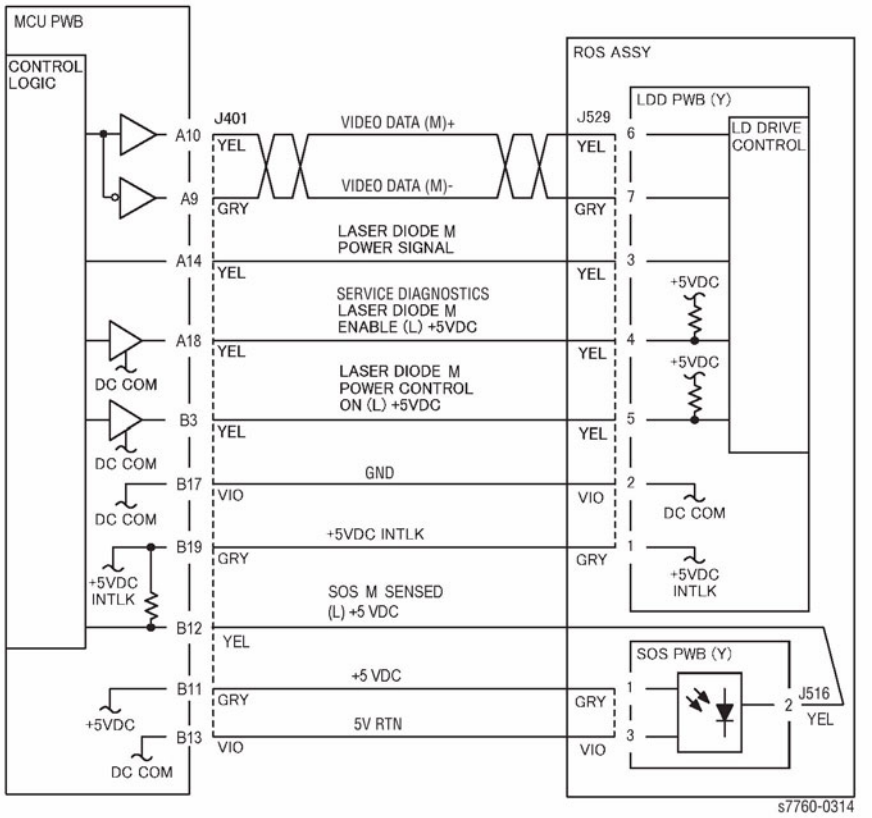

Figure 3 006-380 ROS SOS M

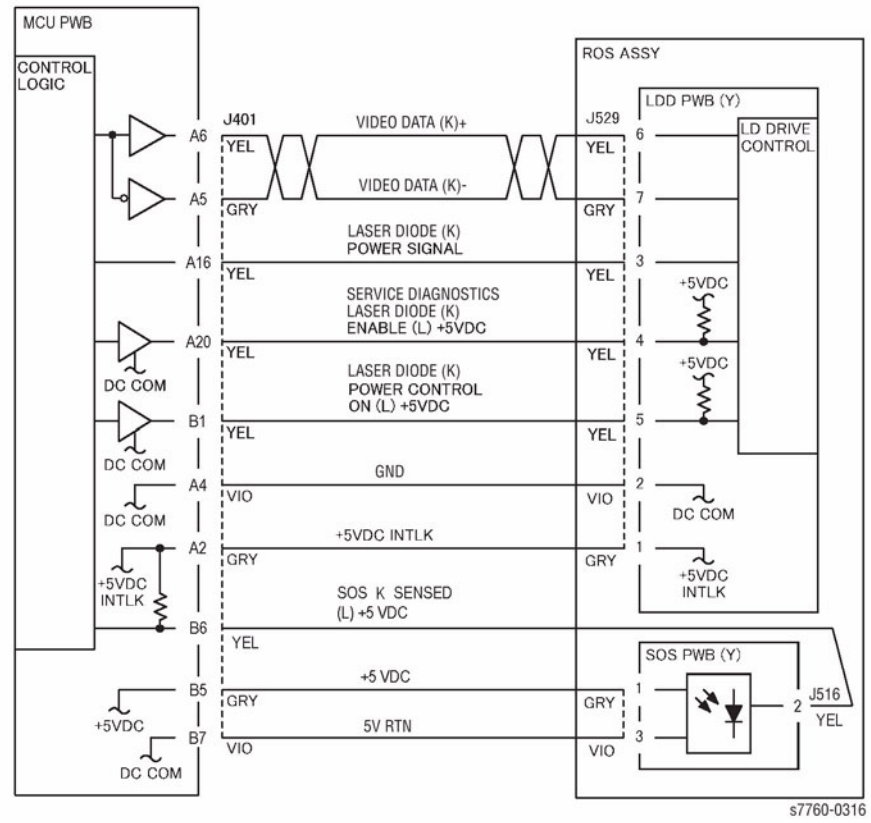

Figure 4 006-380 ROS SOS K

006-385 ROS ASIC Fail

Operation failure of the ROS ASIC in the Engine Control Board (MCU PWB).

Procedure

Turn the printer power Off, then On. **The problem continues.**

Y **N**

Return to Service Call Procedures.

Replace the Engine Control Board (MCU PWB) (PL 13.1).

007-104 Tray 2 Feed Out Sensor On Jam

The Tray 2 Feed Out Sensor does not detect paper fed from Tray 3, 4, or 5 in time after the Takeaway Sensor actuated.

Initial Actions

- Check condition and specification of paper in Tray 3, 4 and 5.
- Check for intermittent misfeeds ensure paper type selection is correct (open tray, select Change Description).
- Check the paper path for obstructions. Ensure that the Left Lower Cover (PL 2.3) latches correctly.
- Check for wear and clean the Takeaway Rolls and the Pinch Rolls.

Procedure

Open the Left Lower Cover (PL 2.3). Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Block and unblock Tray 2 Feed Out Sensor (PL 2.3). **The display changes.**

Y N

Check the circuit of the Tray 2 Feed Out Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Close the Left Lower Cover and open the Left Cover and cheat the Left Cover Interlock Switch (PL 16.13). Block and unblock the Takeaway Sensor (PL 16.6). **The display changes.**

Y N

Check the circuit of the Takeaway Sensor (Figure 2). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform the **Tray Feed Sensors** test. **Both Takeaway Rolls (PL 16.6) rotate.**

Y N

Takeaway Motor 1 energizes.

Y N

Check the circuit of the Takeaway Motor 1 (Figure 3). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check Takeaway Motor 1 and its associated Gears (PL 16.15) for damage, contamination or misalignment. Repair or replace as required. (Figure 3).

- Ensure that the Chutes (PL 2.3, PL 16.5, PL 16.6) are properly seated and not damaged.
- Check the Pinch Rolls (PL 2.3, PL 16.13) for damage or contamination.
- Ensure that the connectors shown in the circuit diagrams (Figure 1, Figure 2, Figure 3) are securely connected and that the wires are not damaged.
- If the problem persists, replace the Tray Module PWB (PL 16.15).

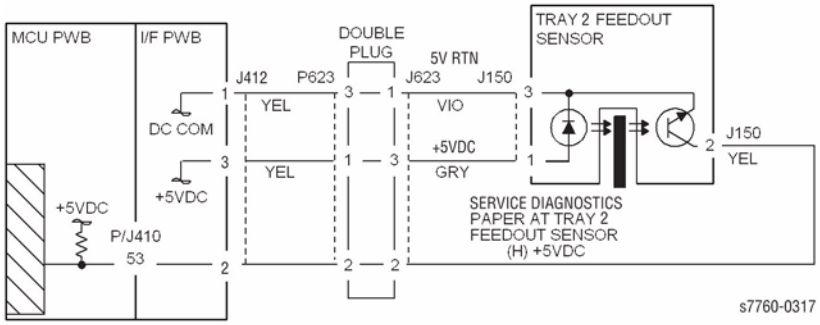

Figure 1 007-104 Tray 2 Feed Out Sensor

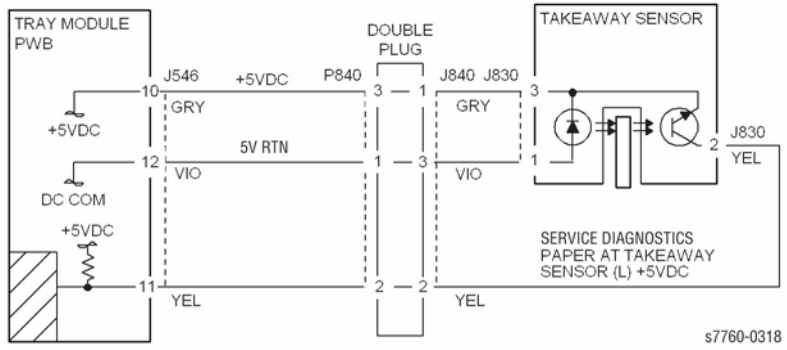

Figure 2 007-104 Takeaway Sensor

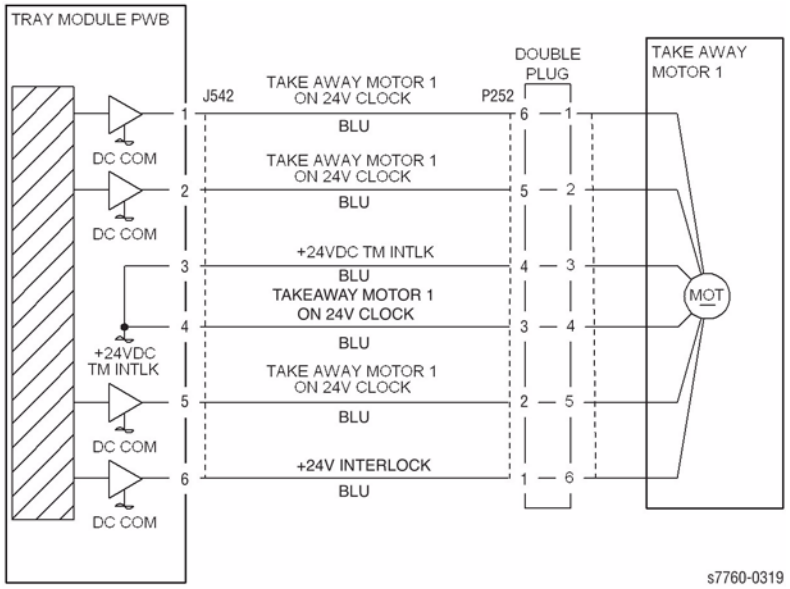

Figure 3 007-104 Takeaway Motor 1

007-105 Tray 2 Misfeed

The Tray 2 Feed Out Sensor does not detect paper after feeding from Tray 2.

Initial Actions

- Check condition and specification of paper in Tray 2.
- Check for intermittent misfeeds ensure paper type selection is correct (open tray, select Change Description).
- Check the paper path for obstructions. Ensure that the Left Lower Cover (PL 2.3) latches correctly.
- Check for wear and clean the Tray 2 Feed Roll, Takeaway Roll and the Pinch Roll.

Procedure

Open the Left Lower Cover (PL 2.3). Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Block and unblock the Tray 2 Feed Out Sensor (PL 2.3). **The display changes.**

Y N

Check the circuit of the Tray 2 Feed Out Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Close the Left Lower Cover. Perform the **Paper Feed Motors** test. **The Tray 2 Feed/Lift Motor (PL 2.4) energizes.**

Y N

Check the circuit of the Tray 2 Feed/Lift Motor (Figure 2). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

- Check the Tray 2 Feed / Lift Motor and its associated gears (PL 2.4) for damage, contamination or misalignment.
- Ensure that the Tray 2 Chute (PL 2.3) is properly seated and not damaged.
- Ensure that the connectors shown in the circuit diagrams (Figure 1, Figure 2) are securely connected and that the wires are not damaged.
- If these checks are OK, replace the I/F PWB (PL 9.1).
- If the problem persists, replace the Engine Control Board (MCU PWB) (PL 13.1).

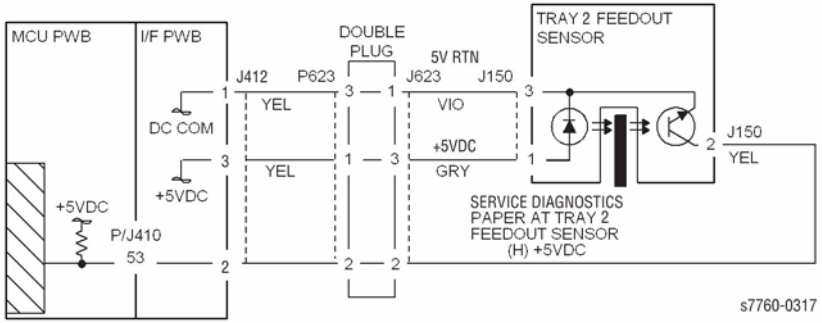

Figure 1 007-105 Tray 2 Feed Out Sensor

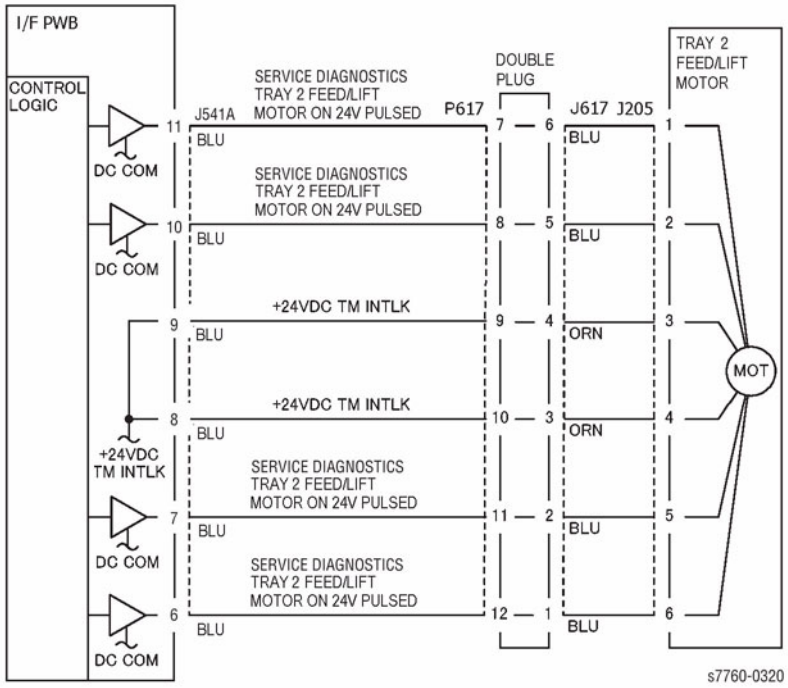

Figure 2 007-105 Tray 2 Feed/Lift Motor

007-110 Tray 3 Misfeed

The Takeaway Sensor does not detect paper after feeding from Tray 3.

Initial Actions

- Remove Tray 2 (REP 7.8). Ensure P/J840 is securely connected (below the left paper tray rail, near the rear side of the machine) (refer to section 7, 3T Module (Tray 3, 4, 5 feeder) Plug/Jack Locations - Figure 21).
- Check condition and specification of paper in Tray 3.
- Check for intermittent misfeeds ensure paper type selection is correct (open tray, select Change Description).
- Check the paper path for obstructions.
- Check for wear and clean the Tray 3 Feeder Roll, Takeaway Roll and the Pinch Roll.

Procedure

Open the Left Cover and cheat the Left Cover Interlock Switch (PL 16.13 - TTM or PL 15.10 - 3TM). Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Block and unblock the Takeaway Sensor (PL 16.6- TTM or PL 15.10 - 3TM).

The display changes.

Y N

Check the circuit of the Takeaway Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform **the Paper Feed Motors** test. **Both Takeaway Rolls (PL 16.6 - TTM or PL 15.10 - 3TM) rotate.**

Y N

Takeaway Motor 1 energizes.

Y N

+24 VDC is measured between P/J542-10 and GND on the Tray Module PWB (refer to section 7, TT Module (rear) Plug/Jack Locations - Figure 25, or 3T Module (rear) Plug/Jack Locations - Figure 26).

Y N

+24 VDC is measured at P/J668-3 on the Tray Module PWB (refer to section 7, TT Module (rear) Plug/Jack Locations - Figure 25).

Y N

Refer to the +24 VDC Wirenets (Figure 4). Check the +24 VDC to the Tray Module PWB.

Replace the Tray Module PWB (PL 16.15 - TTM or PL 15.9 - 3TM).

+24 VDC is measured at each of the following pins on P/J542: Pins 1, 2, 5, and 6.

Y N

Refer to Figure 3. Check the wires from the Tray Module PWB to the Takeaway Motor 1 for an open circuit. If the wires are good, replace the Takeaway Motor 1 (PL 15.9)

A B C

A B C

Check that the voltage at P/J542 pins 1, 2, 5, and 6 each drop to approximately +22 VDC. **The voltage at P/J542 pins 1, 2, 5, and 6 all drop to approximately +22 VDC when [008-036] is entered.**

Y N

Replace the Tray Module PWB (PL 16.15 - TTM or PL 15.9 - 3TM).

Replace the Takeaway Motor 1 (PL 16.15 - TTM or PL 15.9 - 3TM).

Check the Takeaway Motor 1 (PL 16.15 - TTM or PL 15.9 - 3TM) and its associated gears for damage, contamination and misalignment.

The Tray 3 Feed/Lift Motor energizes.

Y N

Check the circuit of the Tray 3 Feed/Lift Motor (Figure 2). Refer to the OF 99-9 RAP for troubleshooting procedure.

- Check the Tray 3 Feed / Lift Motor and its associated gears (PL 2.4) for damage and misalignment.
- Ensure that the Tray 3 Chute (PL 16.6) is properly seated and not damaged.
- Ensure that the connectors shown in the circuit diagrams (Figure 1, Figure 2, Figure 3) are securely connected and that the wires are not damaged.
- If these checks are OK, replace the Tray Module PWB (PL 16.15 - TTM or PL 15.9 - 3TM).

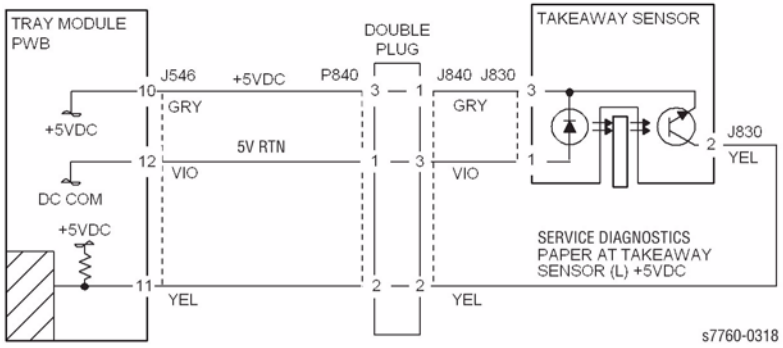

Figure 1 007-110 Takeaway Sensor

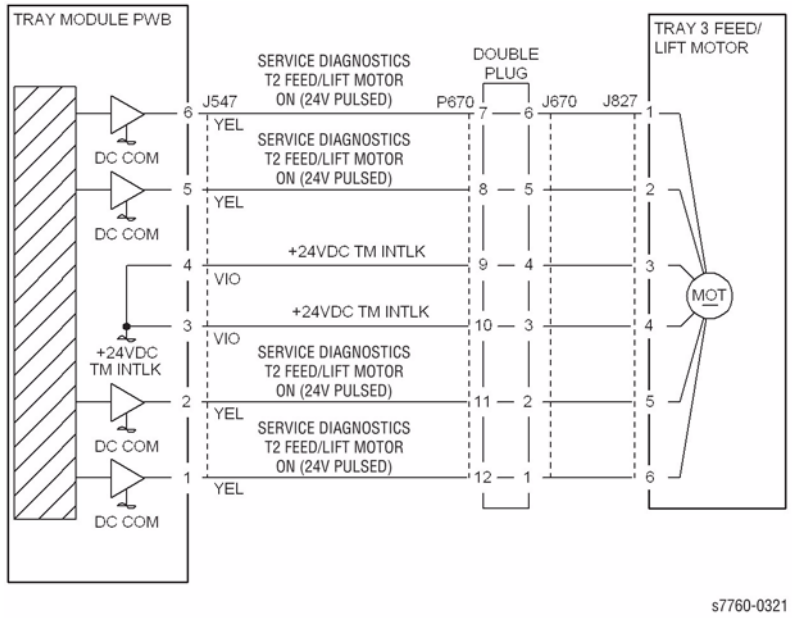

Figure 2 007-110 Tray 3 Feed/Lift Motor

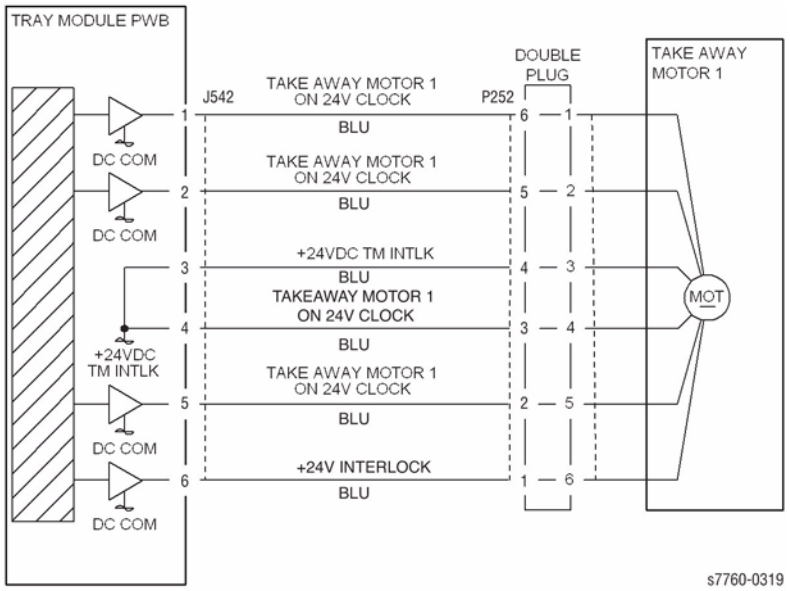

Figure 3 007-110 Takeaway Motor 1

007-115 Tray 4 Misfeed (TTM)

The Tray 4 Feedout Sensor does not detect paper after feeding from Tray 4.

Initial Actions

- Remove Tray 2 (REP 7.8). Ensure P/J840 is securely connected (below the left paper tray rail, near the rear side of the machine) (refer to Section 7, TT Module (Tray 3, 4, 5 Feeder Plug/Jack Locations - Figure 21).
- Check condition and specification of paper in Tray 4.
- Check for intermittent misfeeds ensure paper type selection is correct (open tray, select Change Description).
- Check the paper path for obstructions.
- Check for wear and clean the Tray 4 Feeder Roll, Takeaway Roll, and the Pinch Roll.

Procedure

Open the Left Cover and cheat the Left Cover Interlock Switch (PL 16.13). Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Block and unblock the Tray 3 Feed Out Sensor (PL 16.6). **The display changes.**

Y N

Check the circuit of the Tray 4 Feed Out Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

The Tray 4 Feed/Lift Motor energizes (PL 2.4).

Y N

Check the circuit of the Tray 4 Feed/Lift Motor (Figure 2). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Both Takeaway Rolls (PL 16.6) rotate.

Y N

Takeaway Motor 1 energizes.

Y N

Check the circuit of the Takeaway Motor 1 (Figure 3). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the Takeaway Motor 1 and its associated gears (PL 16.15) for damage, contamination and misalignment.

- Check the Tray 4 Feed / Lift Motor and its associated gears (PL 2.4) for damage and misalignment.
- Ensure that the Tray 4 Chute (PL 16.6) is properly seated and not damaged.
- Ensure that the connectors shown in the circuit diagrams (Figure 1, Figure 2, Figure 3) are securely connected and that the wires are not damaged.
- If these checks are OK, replace the Tray Module PWB (PL 16.15).

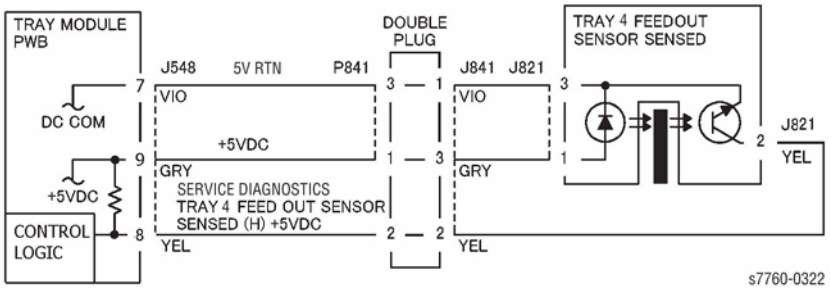

Figure 1 007-115 Tray 4 Feedout Sensor

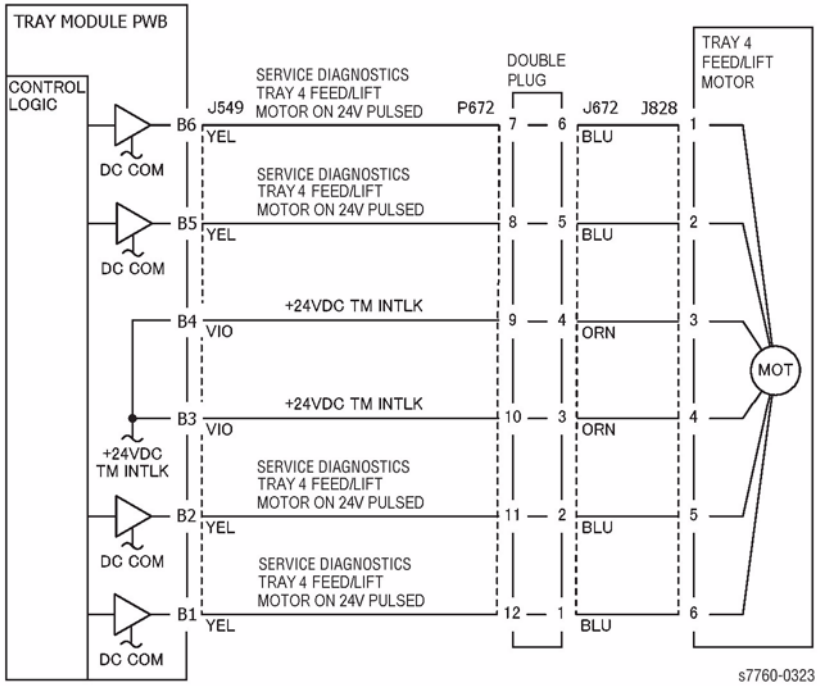

Figure 2 007-115 Tray 4 Feed/Lift Motor

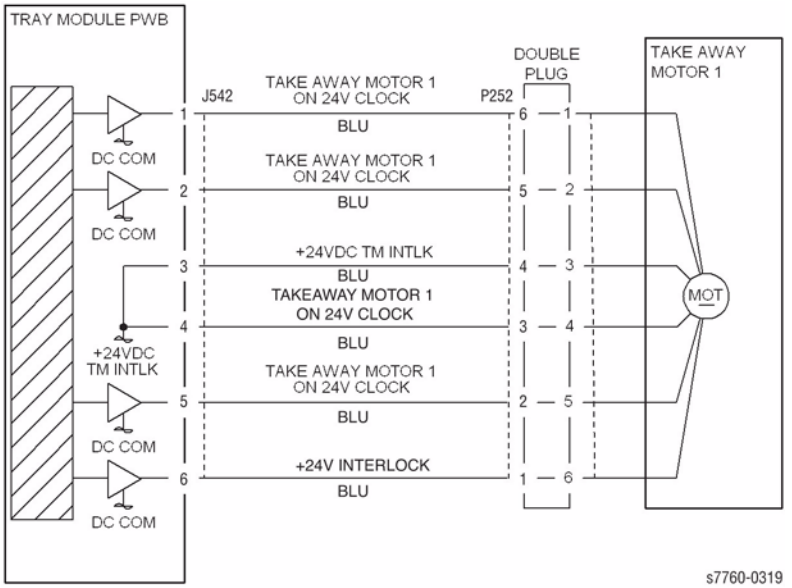

Figure 3 007-115 Takeaway Motor 1

007-117 Tray 4 Misfeed (3TM)

The Tray 4 Feedout Sensor does not detect paper after feeding from Tray 4.

Initial Actions

- Check condition and specification of paper in Tray 4.
- Check for intermittent misfeeds ensure paper type selection is correct (open tray, select Change Description).
- Check the paper path for obstructions.
- Check for wear and clean the Tray 4 Feeder Roll, Takeaway Roll, and the Pinch Roll.

Procedure

Open the Left Cover and cheat the Left Cover Interlock Switch (PL 15.10). Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Block and unblock the Tray 4 Feed Out Sensor (PL 15.10). **The display changes.**

Y N

Check the circuit of the Tray 4 Feed Out Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform the **Paper Feed Motors** test. **The Tray 4 Feed/Lift Motor (PL 2.4) energizes.**

Y N

Check the circuit of the Tray 4 Feed/Lift Motor (Figure 2). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Perform Service Diagnostics. **All 3 Takeaway Rolls (PL 15.10) rotate.**

Y N

Takeaway Motor 1 (PL 15.9) energizes.

Y N

Check the circuit of the Takeaway Motor 1 (Figure 3). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the Takeaway Motor 1 and its associated gears (PL 15.9) for damage, contamination and misalignment.

- Check the Tray 4 Feed/Lift Motor and its associated gears (PL 2.4) for damage, contamination and misalignment.
- Ensure that the Tray 4 Chute (PL 15.10) is properly seated and not damaged.
- Ensure that the connectors shown in the circuit diagrams (Figure 1, Figure 2, Figure 3) are securely connected and that the wires are not damaged.
- If these checks are OK, replace the Tray Module PWB (PL 15.9).

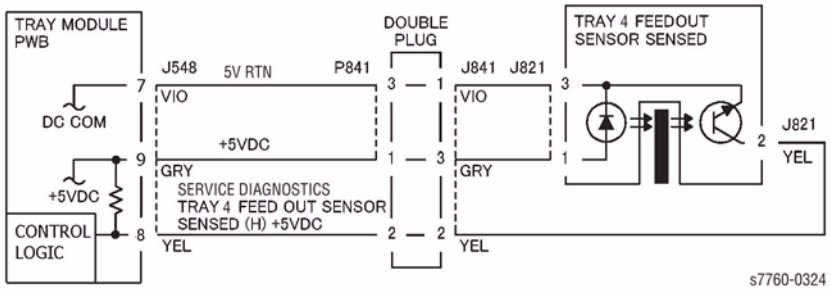

Figure 1 007-117 Tray 4 Feed Out Sensor

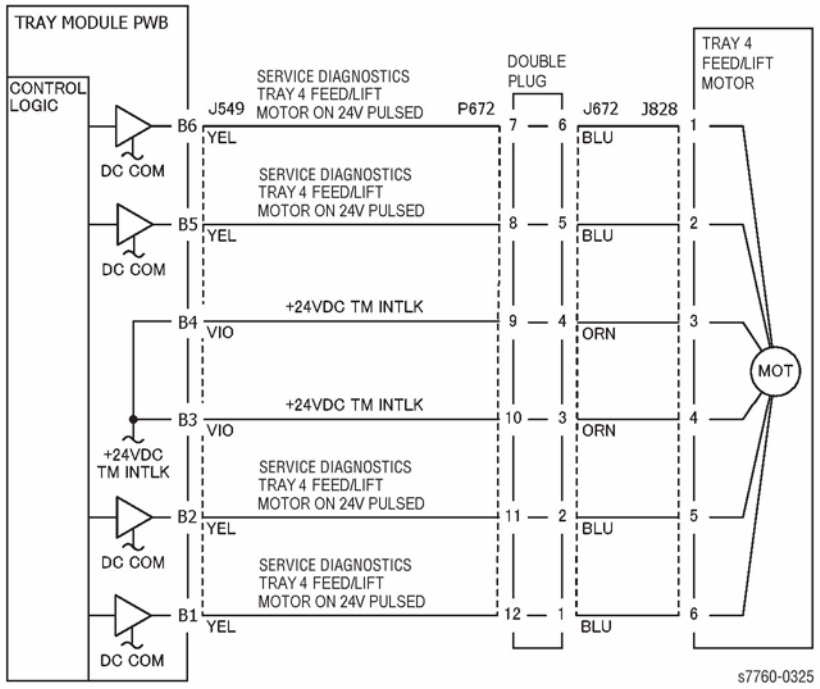

Figure 2 007-117 Tray 4 Feed/Lift Motor

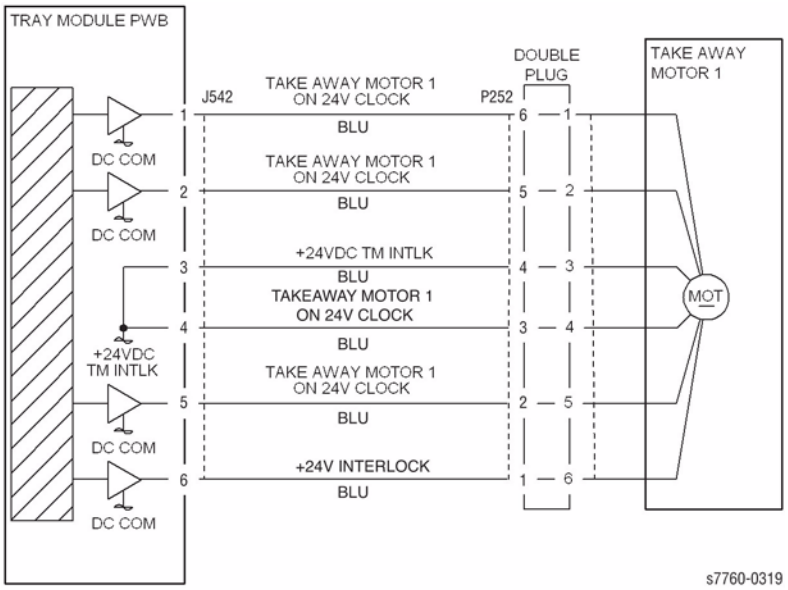

Figure 3 007-117 Takeaway Motor 1

007-119 Tray 5 Misfeed (TTM)

The Tray 5 Feed Out Sensor does not detect paper after feeding from Tray 5.

Initial Actions

- Remove Tray 2 (REP 7.8). Ensure P/J840 is securely connected (below the left paper tray rail, near the rear side of the machine).
- Check condition and specification of paper in Tray 5.
- Check for intermittent misfeeds ensure paper type selection is correct (open tray, select Change Description).
- Check the paper path for obstructions.
- Check for wear and clean the Tray 5 Feeder Roll, Takeaway Roll and the Pinch Roll.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Block and unblock the Tray 5 Feed Out Sensor (PL 16.5) by sliding Tray 5 in and out of the machine. **The display changes.**

Y N

Check the circuit of the Tray 5 Feed Out Sensor (Figure 1). Refer to Section 6, Reflective Sensor Procedure for troubleshooting procedure.

Perform the **Paper Feed Motors** test. **The Tray 5 Feed/Lift motor energizes (PL 2.4).**

Y N

Check the circuit of the Tray 5 Feed/Lift Motor (Figure 2). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Remove the TTM Rear Cover. Perform Service Diagnostics. **The Takeaway Motor 2 (PL 16.15) energizes.**

Y N

Check the circuit of the Takeaway Motor 2 (Figure 3). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

- Check the Tray 5 Feed / Lift Motor and its associated gears (PL 2.4) for damage, contamination and misalignment.
- Check the Takeaway Motor 2 and its associated gears (PL 16.15) for damage, contamination and misalignment.
- Check that the Tray 5 Upper and Lower Chutes (PL 16.5) are properly seated and not damaged.
- Ensure that the connectors shown in the circuit diagrams (Figure 1, Figure 2, Figure 3) are securely connected and that the wires are not damaged.
- If these checks are OK, replace the Tray Module PWB (PL 16.15).

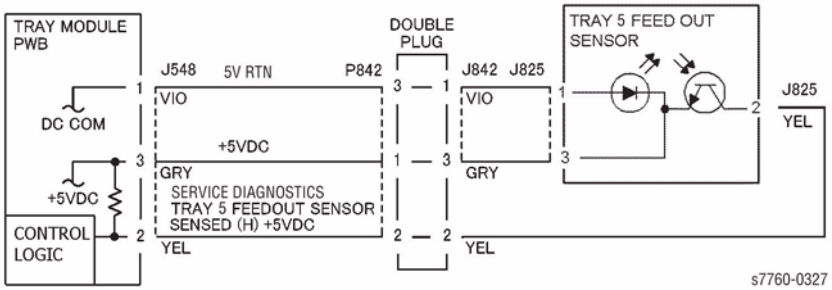

Figure 1 007-119 Tray 5 Feedout Sensor

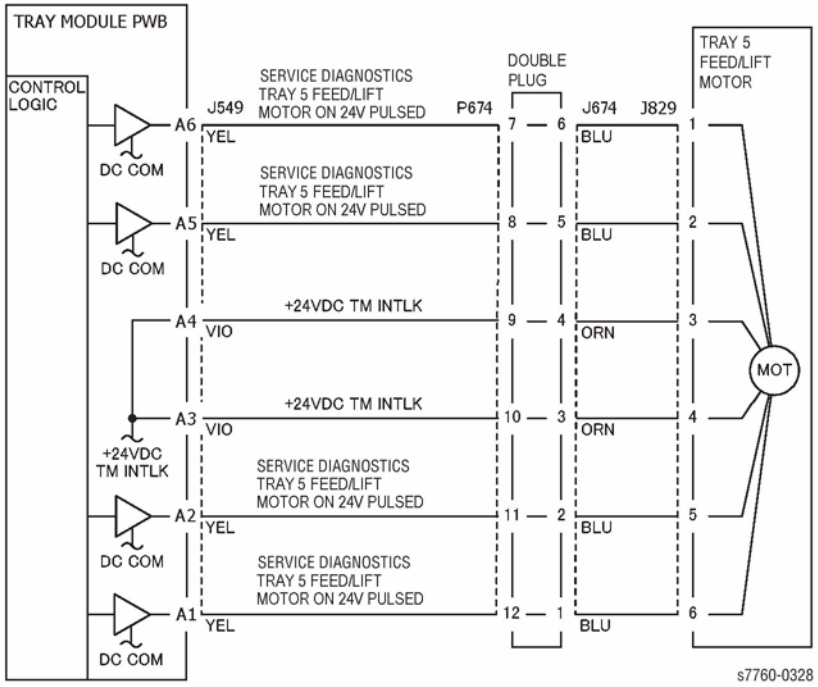

Figure 2 007-119 Tray 5 Feed/Lift Motor

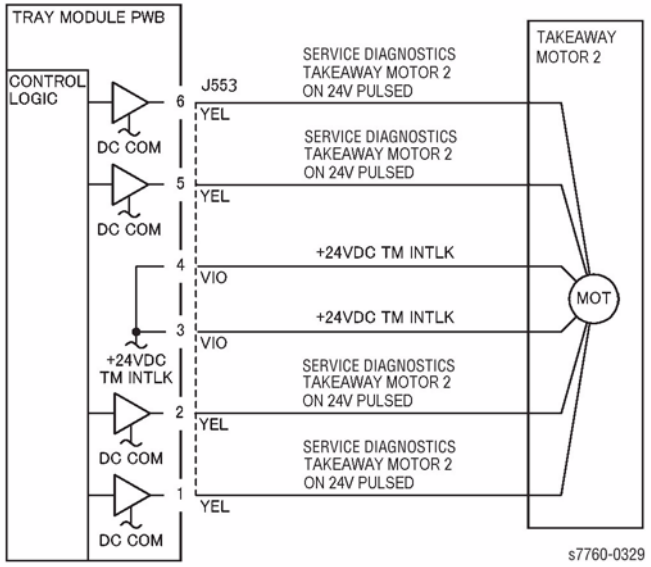

Figure 3 007-119 Takeaway Motor 2

007-120 Tray 5 Misfeed (3TM)

The Tray 5 Feed Out Sensor does not detect paper after feeding from Tray 5.

Initial Actions

- Check condition and specification of paper in Tray 5.
- Check for intermittent misfeeds ensure paper type selection is correct (open tray, select Change Description).
- Check the paper path for obstructions.
- Check for wear and clean the Tray 5 Feeder Roll, Takeaway Roll and Pinch Roll.

Procedure

Open the Left Cover and cheat the Left Cover Interlock Switch (PL 15.10). Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Block and unblock the Tray 5 Feed Out Sensor (PL 15.10). **The display changes.**

Y N

Check the circuit of the Tray 5 Feed Out Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform the **Paper Feed Motors** test. **The Tray 5 Feed/Lift Motor (PL 2.4) energizes.**

Y N

Check the circuit of the Tray 5 Feed/Lift Motor (Figure 2). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Perform Service Diagnostics. **All 3 Takeaway Rolls (PL 15.10) rotates.**

Y N

Takeaway Motor 1 (PL 15.9) energizes.

Y N

Check the circuit of the Takeaway Motor 1 (Figure 3). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the Takeaway Motor 1 and its associated gears (PL 15.9) for damage, contamination, or misalignment.

- Check the Tray 5 Feed/Lift Motor and its associated gears (PL 2.4) for damage, contamination, or misalignment.
- Ensure that the Tray 5 Chute (PL 15.10) is properly seated and not damaged.
- Ensure that the connectors shown in the circuit diagrams (Figure 1, Figure 2, Figure 3) are securely connected and that wires are not damaged.
- If these checks are OK, replace the Tray Module PWB (PL 15.9).

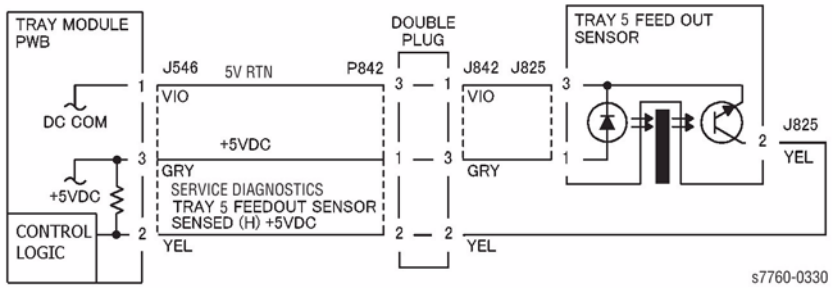

Figure 1 007-120 Tray 5 Feed Out Sensor

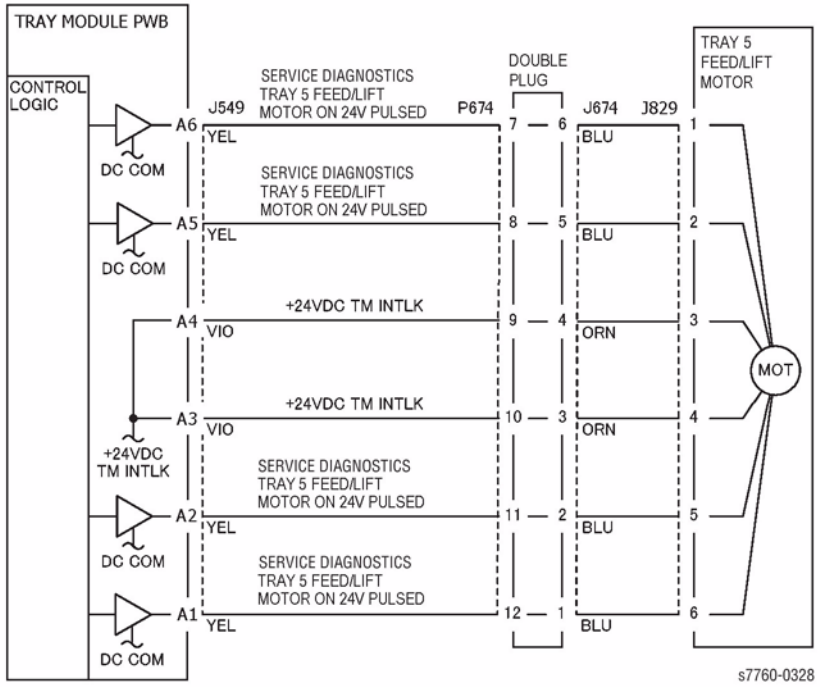

Figure 2 007-120 Tray 5 Feed/Lift Motor

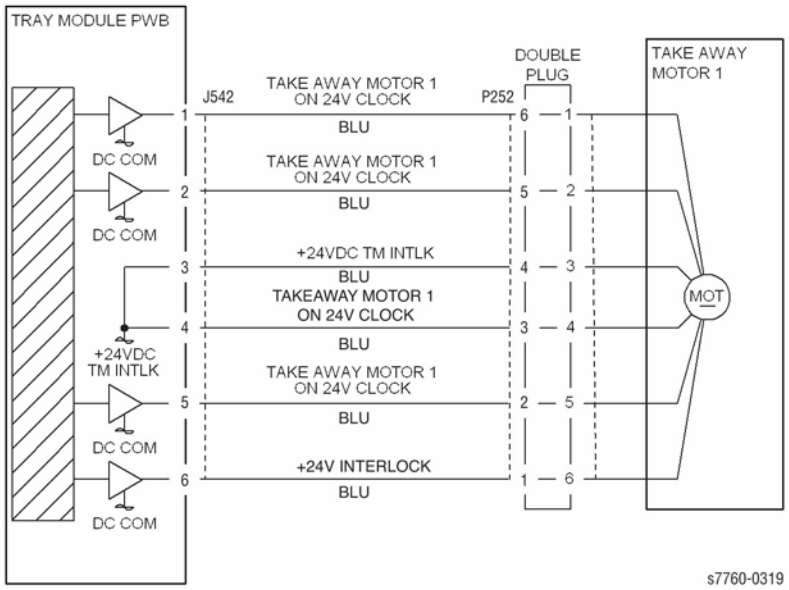

Figure 3 007-120 Takeaway Motor 1

007-122 Tray 5 Opened (TTM)

The Tray 5 Feed Out Sensor detected paper when Tray 5 is pulled out and pushed in during a print.

Initial Actions

- Check condition and specification of paper in Tray 5.
- Check the paper path for obstructions and clean the Tray 5 Feed Out Sensor.
- Check the Tray 5 mechanical operation.
- Check that Tray 5 is properly closed.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Block and unblock the Tray 5 Feed Out Sensor (PL 16.5) by sliding Tray 5 in and out of the machine. **The display changes.**

Y **N**

Check the circuit of the Tray 5 Feed Out Sensor (Figure 1). Refer to Section 6, Reflective Sensor Procedure for troubleshooting procedure.

- Ensure that the connectors shown in the circuit diagram (Figure 1) are securely connected and that the wires are not damaged.
- Check the machine Shutdown History Report. If there is a history of this failure, replace the Tray 5 Feed Out Sensor (PL 16.5).
- If the problem continues, replace the Tray Module PWB (PL 16.15).

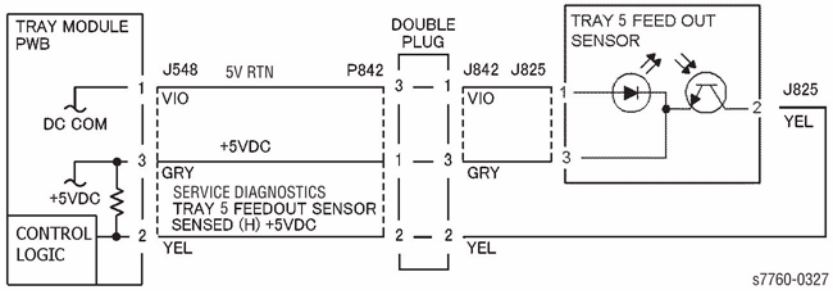

Figure 1 007-122 Tray 5 Feedout Sensor

007-250 Tray Module Communication Fail

Communication fault between Tray Module PWB and Engine Control Board (MCU PWB).

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack Map References
Tray Module Board	PL 16.15	
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	Is J668-1 on the Tray Module Board +5 VDC?	Go to step 2.	Refer to wirenets to troubleshoot and repair the open wire.
2	Is the J668-3 on the Tray Module Board +24 VDC?	Go to step 3.	Refer to wirenets to troubleshoot and repair the open wire.
3	1. Check the following connectors for continuity: • P669-1 to J534A-15 • P669-2 to J534A-14 • P669-3 to J534A-13 • P669-4 to J534A-12 • P669-5 to J534A-11 • P669-6 to J534A-10 2. Do all checks indicate continuity?	Replace in the following order: 1. Tray Module Board 2. Engine Control Board (MCU PWB) (REP 1.2)	Check and repair broken wires or bad connectors.

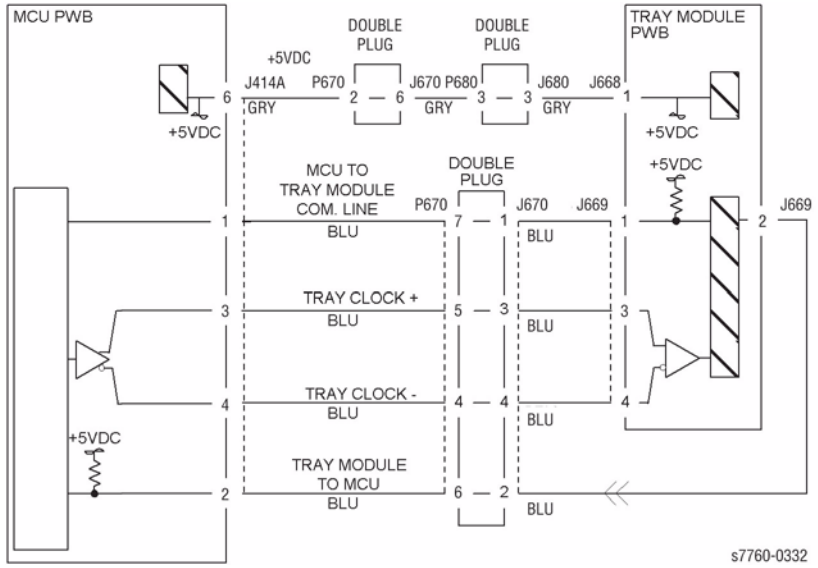

Figure 1 007-250 Tray Module PWB

007-270 Tray 2 Paper Size Sensor Broken

An abnormal A/D value was detected by the Tray 2 Paper Size Sensor.

Initial Actions

- Check that the paper size setting is correct.
- Check the Tray 2 Paper Size Sensor (PL 2.1) for damage or incorrect mounting. Repair or replace as required.
- Check the switch actuators on Tray 2 (PL 2.1) for wear or damage. Repair or replace as required.

Procedure

Ensure Tray 2 is closed. **The voltage measured at P/J536-B9 (refer to Section 7, I/F PWB, MAIN Motor, LVPS T11 - Plug/Jack Locations - Figure 16) on the I/F PWB corresponds to the paper size in Table 1.**

Y N

There is +3.3 VDC from P/J115 pin 1 to P/J115 pin 3 on the Tray 2 Size Sensor (refer to Section 7, Developer Motor, Tray 2 Size Switch - Plug/Jack Locations - Figure 17).

Y N

There is +3.3 VDC from P/J536-B10 to P/J536-B8 (refer to section 7, I/F PWB, MAIN Motor, LVPS T11 - Plug/Jack Locations - Figure 16).

Y N

Go to the +3.3 VDC Wirenet (Section 7, +3.3 VDC Wirenet - Figure 1) to troubleshoot the power circuit.

Check the wires from J414-11 to J115-1 (Figure 1).

Check the wire from J414-9 to J115-3 (Figure 1).

Check the connection between the I/F PWB and the MCU PWB. If the check is OK, replace the I/F PWB (PL 9.1). If the problem continues, replace the MCU PWB (PL 13.1).

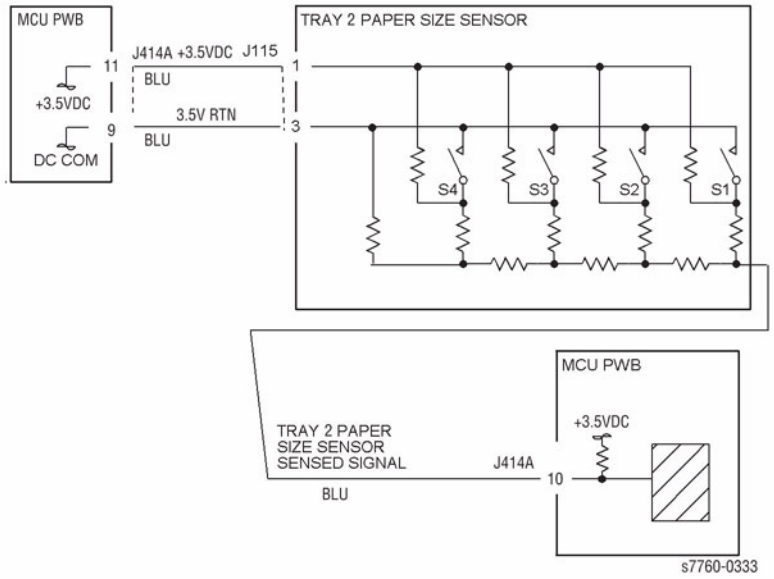

Figure 1 007-270 Tray 2 Paper Size Sensor

Table 1 Tray 2 Size Sensor Values

Paper Size	S1	S2	S3	S4	Voltage
No Tray	OFF	OFF	OFF	OFF	3.18
A3 SEF	OFF	OFF	OFF	ON	2.96
11x17 SEF	OFF	OFF	ON	OFF	2.75
8.5x13 SEF	OFF	OFF	ON	ON	2.55
B5 or 16K LEF	OFF	ON	OFF	ON	2.12
B5 or 8x10 SEF	OFF	ON	ON	OFF	1.92
8.5x11 SEF	OFF	ON	ON	ON	1.71
B4 or 8K SEF	ON	OFF	OFF	ON	1.32
A4 SEF	ON	OFF	ON	OFF	1.24
8.5x14 SEF	ON	OFF	ON	ON	0.92
A4 LEF	ON	ON	OFF	ON	0.51
8.5x11 LEF	ON	ON	ON	OFF	0.32
A5 or 5.5x8.5 SEF	ON	ON	ON	ON	0.12

007-271 Tray 3 Paper Size Sensor Broken

An abnormal A/D value was detected by the Tray 3 Paper Size Sensor.

Initial Actions

- Check that the paper size setting is correct.
- Check the Tray 3 Paper Size Sensor (PL 16.1) for damage or incorrect mounting. Repair or replace as required.
- Check the switch actuators on Tray 3 (PL 16.1) for wear or damage. Repair or replace as required.

Procedure

Ensure Tray 3 is closed. **The voltage measured at P/J546-9 (refer to Section 7, TT Module (rear) - Figure 26 - 3T Module (rear) - Plug/Jack Locations - Figure 25) - on the Tray Module PWB (PL 16.15) corresponds to the paper size in Table 1.**

Y N

There is +5 VDC from P/J816-1 to P/J816-3 on the Tray 2 Size Sensor (refer to Section 7, TT Module (Tray 2,3,4, Paper Size Switch) - Plug/Jack Locations - Figure 23).

Y N

There is +5 VDC from P/J546-9 to P/J546-7 (refer to Section 7, TT Module (rear) Plug/Jack Locations - Figure 25 or 3T Module (rear) - Plug/Jack Locations - Figure 26) on the Tray Module PWB.

Y N

Go to the +5 VDC Wirenets (Section 7, +5 VDC Wirenet - Figure 4) to troubleshoot the power circuit.

Check the wires from P/J546 to P/J816 (Figure 1).

Check the wire from P/J546-9 to P/J816-1 (Figure 1). If the wire is OK, replace the Tray 3 Paper Size Sensor (PL 16.1).

Replace the Tray Module PWB (PL 16.15 - TTM or PL 15.9 - 3TM). If the problem continues, replace the Tray 3 Paper Size Sensor (PL 16.1).

Table 1 Tray 3 Size Sensor Values

Paper Size	S1	S2	S3	S4	Voltage
No Tray	OFF	OFF	OFF	OFF	4.78
A3 SEF	OFF	OFF	OFF	ON	4.45
11x17 SEF	OFF	OFF	ON	OFF	4.12
8.5x13 SEF	OFF	OFF	ON	ON	3.81
B5 or 16K LEF	OFF	ON	OFF	ON	3.18
B5 or 8x10 SEF	OFF	ON	ON	OFF	2.87
8.5x11 SEF	OFF	ON	ON	ON	2.57
B4 or 8K SEF	ON	OFF	OFF	ON	1.98
A4 SEF	ON	OFF	ON	OFF	1.67
8.5x14 SEF	ON	OFF	ON	ON	1.37
A4 LEF	ON	ON	OFF	ON	0.77

Table 1 Tray 3 Size Sensor Values

Paper Size	S1	S2	S3	S4	Voltage
8.5x11 LEF	ON	ON	ON	OFF	0.47
A5 or 5.5x8.5 SEF	ON	ON	ON	ON	0.17

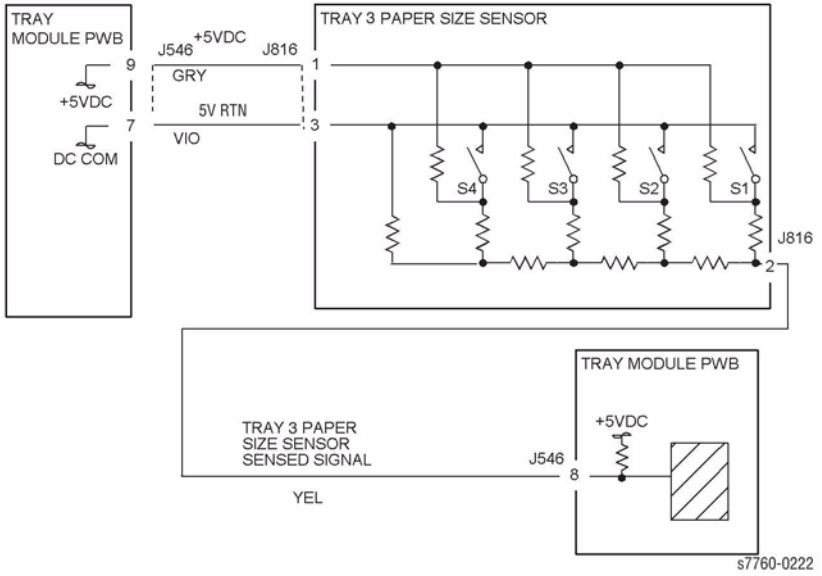

Figure 1 007-271 Tray 3 Paper Size Sensor

007-272 Tray 4 Paper Size Sensor Broken (3TM)

An abnormal A/D value was detected by the Tray 4 Paper Size Sensor.

Initial Actions

- Check that the paper size setting is correct.
- Check the Tray 4 Paper Size Sensor for damage, or incorrect mounting. Repair or replace as required.
- Check the switch actuators on Tray 4 for wear or damage.

Procedure

Ensure Tray 4 is properly closed. Measure the voltage at P/J548-11 on the Tray Module PWB (PL 15.9). **The voltage measured corresponds with the paper size in Table 1.**

Y N

There is +5 VDC between P/J820-1 and 3 (refer to Section 7, TT Module (Tray 2,3,4, Paper Size Switch) - Plug/Jack Locations - Figure 23) on the Paper Size Sensor (PL 16.1).

Y N

There is +5 VDC between P/J548-12 and 10 on the Tray Module PWB.

Y N

Go to the +5 VDC Wirenets (Section 7, +5 VDC Wirenet - Figure 4) to trouble-shoot the power circuit.

Check the wires from P/J548 to P/J820 (Figure 1) for damage. Repair or replace as required.

Check the wire from P/J548-11 to P/J820-2 for damage. Repair or replace as required. If the wire check out OK, replace the Tray 4 Paper Size Sensor (PL 16.1).

- Ensure that the connectors shown in the circuit diagram (Figure 1) are securely connected and that the wires are not damaged.
- Replace the Tray 4 Paper Size Sensor (PL 16.1).
- If the problem persists, replace the Tray Module PWB (PL 15.9).

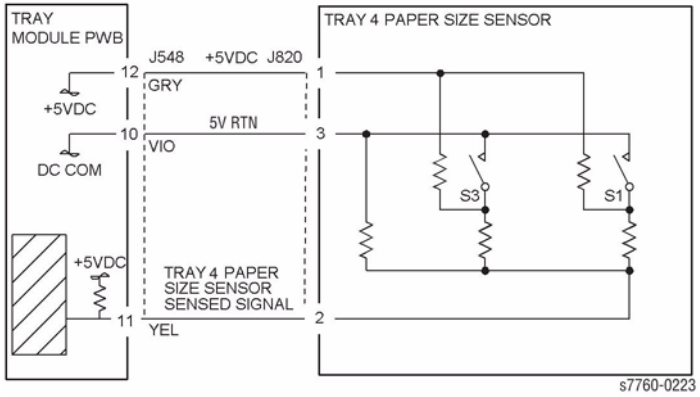

Figure 1 007-272 Tray 4 Paper Size Sensor

Table 1 Tray 4 Paper Size Sensor Values

Paper Size	S1	S2	S3	S4	Voltage
No Tray	OFF	OFF	OFF	OFF	4.78
A3SEF	OFF	OFF	OFF	ON	4.45
11x17SEF	OFF	OFF	ON	OFF	4.12
8.5x13SEF	OFF	OFF	ON	ON	3.81
B5 or 16K LEF	OFF	ON	OFF	ON	3.18
B5 or 8 x 10 SEF	OFF	ON	ON	OFF	2.87
8.5x11SEF	OFF	ON	ON	ON	2.57
B4 or 8K SEF	ON	OFF	OFF	ON	1.98
A4SEF	ON	OFF	ON	OFF	1.67
8.5x14SEF	ON	OFF	ON	ON	1.37
A4LEF	ON	ON	OFF	ON	0.77
8.5x11LEF	ON	ON	ON	OFF	0.47
A5 or 5.5x8.5SEF	ON	ON	ON	ON	0.17

007-273 Tray 5 Paper Size Sensor Broken (3TM)

An abnormal A/D value was detected by the Tray5 Paper Size Sensor.

Initial Actions

- Check that the paper size setting is correct.
- Check the Tray 5 Paper Size Sensor (PL 16.1) for damage, or incorrect mounting. Repair or replace as required.
- Check the switch actuators on Tray 5 for wear or damage. Repair or replace as required.

Procedure

Ensure Tray 5 is properly closed. Measure the voltage at P/J548-5 (refer to Section 7, 3T Module (rear) Plug/Jack Locations - Figure 26) on the Tray Module PWB (PL 15.9). **The voltage measured corresponds with the paper size in Table 1.**

Y N

There is +5 VDC between P/J824-1 and 3 on the Paper Size Sensor (PL 16.1).

Y N

There is +5 VDC between P/J548-6 and 4 on the Tray Module PWB.

Y N

Go to the +5 VDC Wirenets (Section 7, +5 VDC Wirenet - Figure 4) to troubleshoot the power circuit.

Check the wires from P/J548 to P/J824 (Figure 1) for damage. Repair or replace as required.

Check the wire from P/J548-5 to P/J824-2 for damage. Repair or replace as required. If the wire check out OK, replace the Tray 5 Paper Size Sensor (PL 16.1).

- Ensure that the connectors shown in the circuit diagram (Figure 1) are securely connected and that the wires are not damaged.
- Replace the Tray 5 Paper Size Sensor (PL 16.1).
- If the problem persists, replace the Tray Module PWB (PL 15.9).

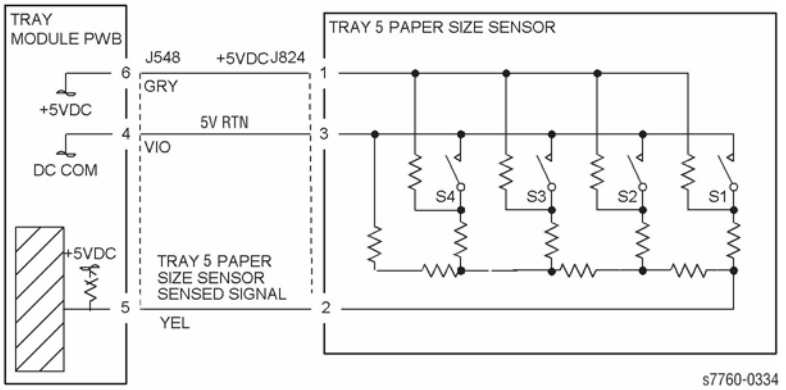

Figure 1 007-273 Tray 5 Paper Size Sensor (3TM)

Table 1 Tray 5 Paper Size Sensor Values

Paper Size	S1	S2	S3	S4	Voltage
No Tray	OFF	OFF	OFF	OFF	4.78
A3SEF	OFF	OFF	OFF	ON	4.45
11x17SEF	OFF	OFF	ON	OFF	4.12
8.5x13SEF	OFF	OFF	ON	ON	3.81
B5 or 16K LEF	OFF	ON	OFF	ON	3.18
B5 or 8 x 10 SEF	OFF	ON	ON	OFF	2.87
8.5x11SEF	OFF	ON	ON	ON	2.57
B4 or 8K SEF	ON	OFF	OFF	ON	1.98
A4SEF	ON	OFF	ON	OFF	1.67
8.5x14SEF	ON	OFF	ON	ON	1.37
A4LEF	ON	ON	OFF	ON	0.77
8.5x11LEF	ON	ON	ON	OFF	0.47
A5 or 5.5x8.5SEF	ON	ON	ON	ON	0.17

007-274 Tray 1 (MPT) Paper Size Sensor Broken

An abnormal A/D value was detected by the Tray 1 (MPT) Paper Size Sensor.

Initial Actions

Check the connectors between the Tray 1 (MPT) Paper Size Sensor and the I/F PWB.

Procedure

Check the voltage between P/J265-2 (Figure 1) (yellow wire toward rear) and ground. Move the Side Guide for Tray 1 (MPT). **The voltage changes from 0 VDC to 3 VDC.**

Y N

+3.3 VDC is measured at P/J265-1 on the Tray 1 Paper Size Sensor (refer to Section 7, Tray 1 - Plug/Jack Locations - Figure 8).

Y N

Check the wires and connectors. If the check is OK, replace the I/F PWB (PL 9.1)

Replace Tray 1 (MPT) Assembly (PL 2.12).

Check the wires and connectors. If the check is OK, replace the I/F PWB (PL 9.1).

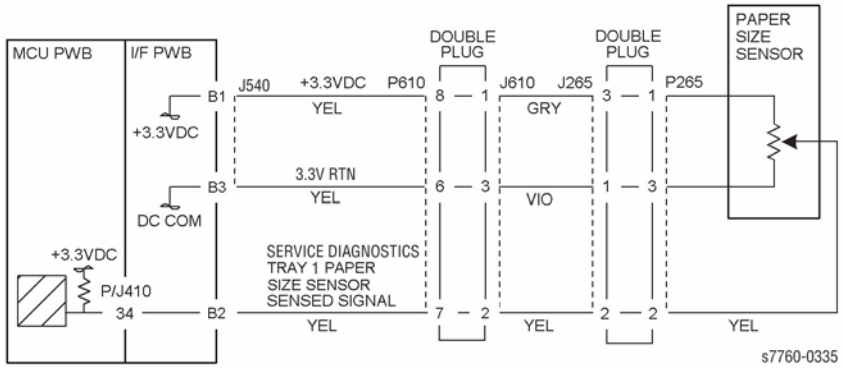

Figure 1 007-274 Tray 1 (MPT) Paper Size Sensor

007-276 Tray 4 Paper Size Sensor Broken (TTM)

An abnormal A/D value was detected by the Tray 4 Paper Size Sensor.

Initial Actions

- Check that the paper size setting is correct.
- Check the Tray 4 Paper Size Sensor (PL 16.1) for damage or incorrect mounting. Repair or replace as required.
- Check the switch actuators on Tray 4 (PL 16.1) for wear or damage. Repair or replace as required.

Procedure

Ensure Tray 4 is closed. **The voltage measured at P/J548-11 (refer to Section 7, TT Module (rear), Plug/Jack Locations - Figure 25) on the Tray Module PWB (PL 16.15) corresponds to the paper size in Table 1.**

Y N

There is +5 VDC from P/J820-1 to P/J820-3 on the Tray 3 Size Sensor (refer to Section 7, TT Module (Tray 3, 4, 5 Paper Size Switch) - Plug/Jack Locations - Figure 23).

Y N

There is +5 VDC from P/J548-12 to P/J548-10.

Y N

Go to the +5 VDC Wirenets (Section 7, +5 VDC Wirenet - Figure 4) to troubleshoot the power circuit

Check the wires from J548 to J820 (Figure 1). If the check is OK, replace the Tray Module PWB (PL 16.15).

Check the wire from J548-11 to J820-2 (Figure 1). If the wire is OK, replace the Tray 4 Paper Size Sensor (PL 16.1).

Check the wires and connectors for intermittent shorts or loose connections (Figure 1). If the check is OK, replace the Tray Module PWB (PL 16.15). If the problem continues, replace Tray 4 Paper Size Sensor (PL 16.1).

Table 1 Tray 4 Size Sensor Values

Paper Size	S1	S3	Voltage
No Tray	OFF	OFF	4.78
B5 LEF	OFF	ON	4.11
8.5x11 LEF	ON	OFF	2.23
A4 LEF	ON	ON	1.59

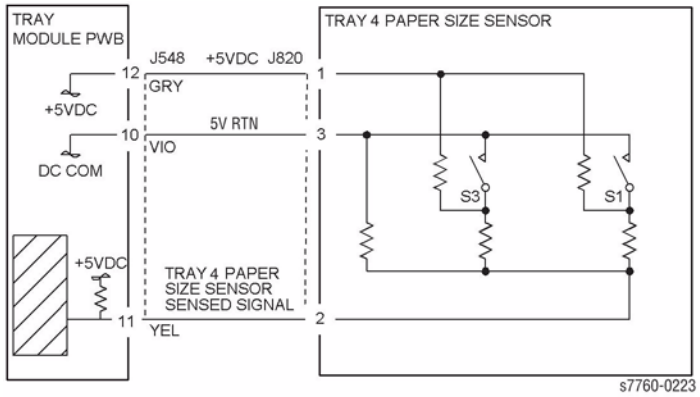

Figure 1 007-276 Tray 4 Paper Size Sensor (TTM)

007-277 Tray 5 Paper Size Sensor Broken (TTM)

An abnormal A/D value was detected by the Tray 5 Paper Size Sensor.

Initial Actions

- Check that the paper size setting is correct.
- Check the Tray 5 Paper Size Sensor (PL 16.1) for damage or incorrect mounting. Repair or replace as required.
- Check the switch actuators on Tray 5 (PL 16.1) for wear or damage. Repair or replace as required

Procedure

Ensure Tray 5 is closed. **The voltage measured at P/J548-5 (refer to Section 7, TT Module (rear) - Plug/Jack Locations - Figure 25) on the Tray Module PWB (PL 16.15) corresponds to the paper size in Table 1.**

Y N

There is +5 VDC from P/J824-1 to P/J824-3 on the Tray 5 Size Sensor (refer to Section 7, TT Module (Tray 3, 4, 5 Paper Size Switch) - Plug/Jack Locations - Figure 23).

Y N

There is +5 VDC from P/J548-6 to P/J548-4.

Y N

Go to the +5 VDC Wirenets (Section 7, +5 VDC Wirenet - Figure 4) to troubleshoot the power circuit.

Check the wires and connectors (Figure 1). If the check is OK, replace the Tray Module PWB (PL 16.15).

Check the wires from J548 to J824 (Figure 1). If the check is OK, replace Tray 5 Paper Size Sensor (PL 16.1).

Check the wire from J824-2 to J548-5 (Figure 1). If the wire is OK, replace Tray 5 Paper Size Sensor (PL 16.1).

Check the wires and connectors for intermittent shorts or loose connections (Figure 1). If the check is OK, replace the Tray Module PWB (PL 16.15). If the problem continues, replace Tray 5 Paper Size Sensor (PL 16.1).

Table 1 Tray 5 Size Sensor Values

Paper Size	S1	S3	Voltage
No Tray	OFF	OFF	4.78
B5 LEF	OFF	ON	4.11
8.5x11 LEF	ON	OFF	2.23
A4 LEF	ON	ON	1.59

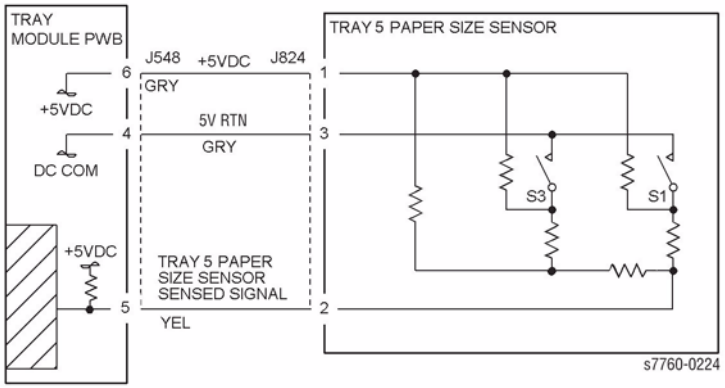

Figure 1 007-277 Tray 5 Paper Size Sensor (TTM)

007-281 Tray 2 Lift Fail

The Tray 2 Level Sensor does not detect that the Tray has lifted. Examine the trays and paper feed assemblies for any physical damage before starting the troubleshooting procedure.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack Map References
Tray 2 Level Sensor	PL 2.4	
Paper Select Switch Assembly	PL 2.1	
Paper Feed Motor	PL 2.4	
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15
I/F PWB	PL 9.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	Is the problem with Tray 2?	Go to step 2.	Go to step 7.
2	1. Remove and then reseat Tray 2. 2. Does the Lift Motor operate?	Go to step 3.	Go to step 4.
3	Did the error clear from the Control Panel?	Complete. This could be an intermittent problem. If the problem returns, replace in order: 1. Tray Level Sensor 2. Engine Control Board (MCU PWB) (REP 1.2)	Replace the Engine Control Board (MCU PWB) (REP 1.2).

Table 2 Procedure

Step	Actions and Questions	Yes	No
4	1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Run **Tray 2 Sensor** test: **Tray Sensors** > **Tray2**. 2. Does the level indicate H?	Replace in order until resolved: 1. Tray Level Sensor 2. No Paper Sensor 3. Engine Interface Board (REP 1.8) 4. Engine Control Board (MCU PWB) (REP 1.2)	Go to step 5.
5	1. While still in Service Diagnostics, remove Tray 2. 2. Does SW1-4 indicate LLLL?	Replace in order until resolved: 1. Paper-Select Switch Assembly (REP 7.5) 2. Engine Interface Board (REP 1.8) 3. Engine Control Board (MCU PWB) (REP 1.2)	Go to step 6.
6	1. Reseat the Paper Tray. 2. Does SW1-4: indicate H in any position?	Replace the Paper Feed Motor (REP 7.4).	Replace in order until resolved: 1. Paper-Select Switch Assembly (REP 7.5) 2. Engine Interface Board (REP 1.8) 3. Engine Control Board (MCU PWB) (REP 1.2)
7	1. Remove and then reseat the problem tray. 2. Listen for the Motor. Does the Lift Motor operate?	Go to step 8.	Go to step 9.

Table 2 Procedure

Step	Actions and Questions	Yes	No
8	Did the error clear from the Control Panel?	Complete. This could be an intermittent problem. If the problem returns, replace in order: 1. Tray Level Sensor 2. Engine Control Board (MCU PWB) (REP 1.2)	Replace the Engine Control Board (MCU PWB) (REP 1.2).
9	Using Service Diagnostics, check the Level Sensor and No Paper Sensor.	Replace in order until resolved: 1. Tray Level Sensor 2. No Paper Sensor 3. LTA HCF Control Board 4. Engine Interface Board (REP 1.8) 5. Engine Control Board (MCU PWB) (REP 1.2)	Go to step 10.
10	While still in Service Diagnostics, remove Tray 2.	Replace in order until resolved: 1. Paper-Select Switch Assy. (REP 7.5) 2. Engine Interface Board (REP 1.8) 3. Engine Control Board (MCU PWB) (REP 1.2)	Go to step 11.

Table 2 Procedure

Step	Actions and Questions	Yes	No
11	1. Reseat the Paper Tray. 2. Does SW1-4 indicate H in any position?	Replace the Paper Feed Motor.	Replace in order until resolved: 1. Paper-Select Switch Assembly (REP 7.5) 2. Engine Interface Board (REP 1.8) 3. Engine Control Board (MCU PWB) (REP 1.2)

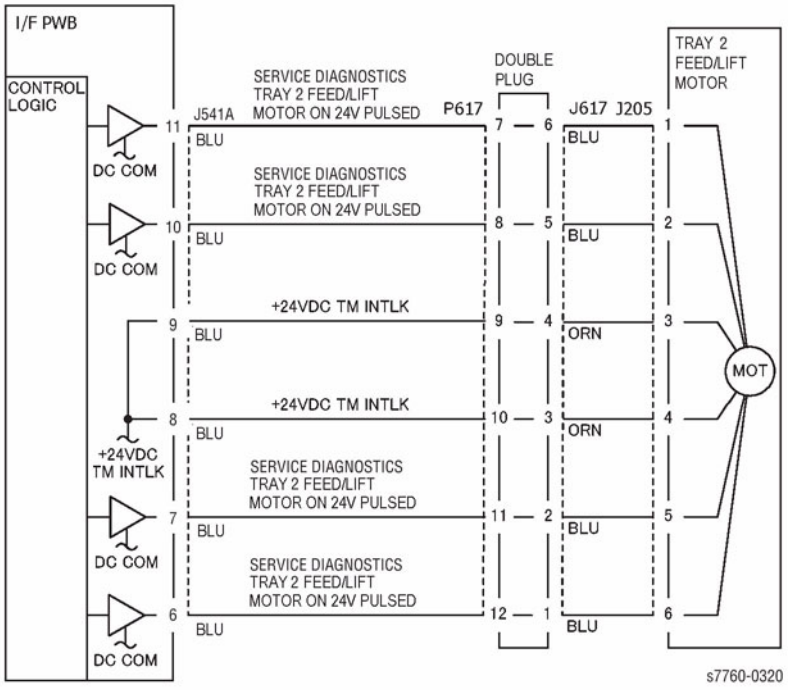

Figure 1 007-281 Tray 2 Lift/Feed Motor

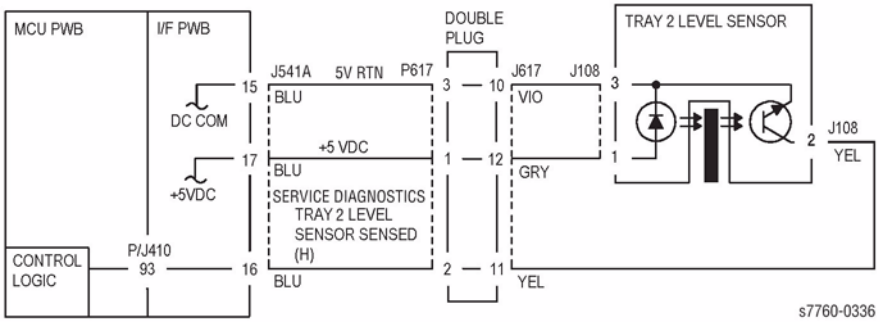

Figure 2 007-281 Tray 2 Level Sensor

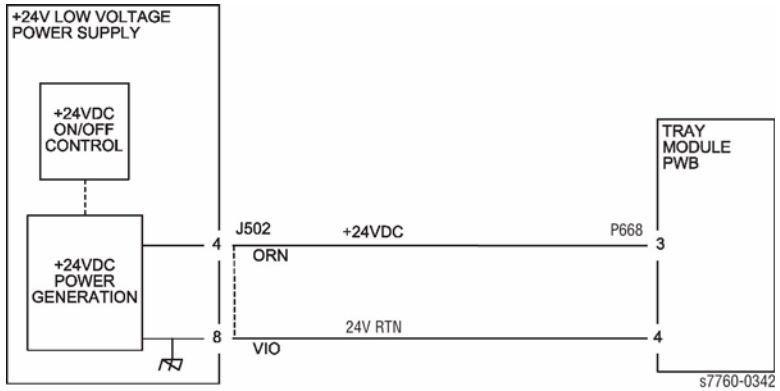

Figure 3 007-281 +24 VDC to the Tray Module PWB

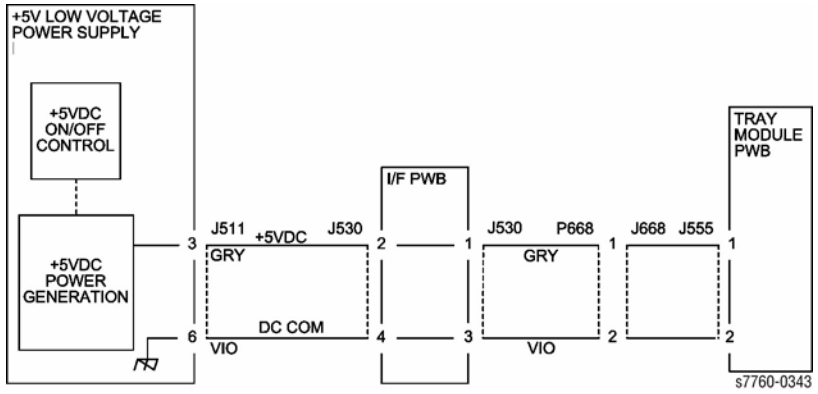

Figure 4 007-281 +5 VDC to the Tray Module PWB

007-282 Tray 3 Lift Fail

The Tray 3 Level Sensor does not detect that the Tray has lifted. Examine the trays and paper feed assemblies for any physical damage before starting the troubleshooting procedure.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack Map References
Tray 3 Level Sensor	PL 2.4	
Paper Select Switch Assembly	PL 2.1	
Paper Feed Motor	PL 2.4	
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15
I/F PWB	PL 9.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	Is the problem with Tray 3?	Go to step 2.	Go to step 7.
2	1. Remove and then reseat Tray 3. 2. Does the Lift Motor operate?	Go to step 3.	Go to step 4.
3	Did the error clear from the Control Panel?	Complete. This could be an intermittent problem. If the problem returns, replace in order: 1. Tray Level Sensor 2. Engine Control Board (MCU PWB) (REP 1.2)	Replace the Engine Control Board (MCU PWB) (REP 1.2).

Table 2 Procedure

Step	Actions and Questions	Yes	No
4	1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Run **Tray 3 Sensor** test: **Tray Sensors** > **Tray3**. 2. Does the level indicate H?	Replace in order until resolved: 1. Tray Level Sensor 2. No Paper Sensor 3. Engine Interface Board (REP 1.8) 4. Engine Control Board (MCU PWB) (REP 1.2)	Go to step 5.
5	1. While still in Service Diagnostics, remove Tray 3. 2. Does SW1-4 indicate LLLL?	Replace in order until resolved: 1. Paper-Select Switch Assembly (REP 7.5) 2. Engine Interface Board (REP 1.8) 3. Engine Control Board (MCU PWB) (REP 1.2)	Go to step 6.
6	1. Reseat the Paper Tray. 2. Does SW1-4: indicate H in any position?	Replace the Paper Feed Motor (REP 7.4).	Replace in order until resolved: 1. Paper-Select Switch Assembly (REP 7.5) 2. Engine Interface Board (REP 1.8) 3. Engine Control Board (MCU PWB) (REP 1.2)
7	1. Remove and then reseat the problem tray. 2. Listen for the Motor. Does the Lift Motor operate?	Go to step 8.	Go to step 9.

Table 2 Procedure

Step	Actions and Questions	Yes	No
8	Did the error clear from the Control Panel?	Complete. This could be an intermittent problem. If the problem returns, replace in order: 1. Tray Level Sensor 2. Engine Control Board (MCU PWB) (REP 1.2)	Replace the Engine Control Board (MCU PWB) (REP 1.2).
9	Using Service Diagnostics, check the Level Sensor and No Paper Sensor.	Replace in order until resolved: 1. Tray Level Sensor 2. No Paper Sensor 3. LTA HCF Control Board 4. Engine Interface Board (REP 1.8) 5. Engine Control Board (MCU PWB) (REP 1.2)	Go to step 10.
10	While still in Service Diagnostics, remove Tray 3.	Replace in order until resolved: 1. Paper-Select Switch Assembly (REP 7.5) 2. Engine Interface Board (REP 1.8) 3. Engine Control Board (MCU PWB) (REP 1.2)	Go to step 11.

Table 2 Procedure

Step	Actions and Questions	Yes	No
11	1. Reseat the Paper Tray. 2. Does SW1-4 indicate H in any position?	Replace the Paper Feed Motor (REP 7.4).	Replace in order until resolved: 1. Paper-Select Switch Assembly (REP 7.5) 2. Engine Interface Board (REP 1.8) 3. Engine Control Board (MCU PWB) (REP 1.2)

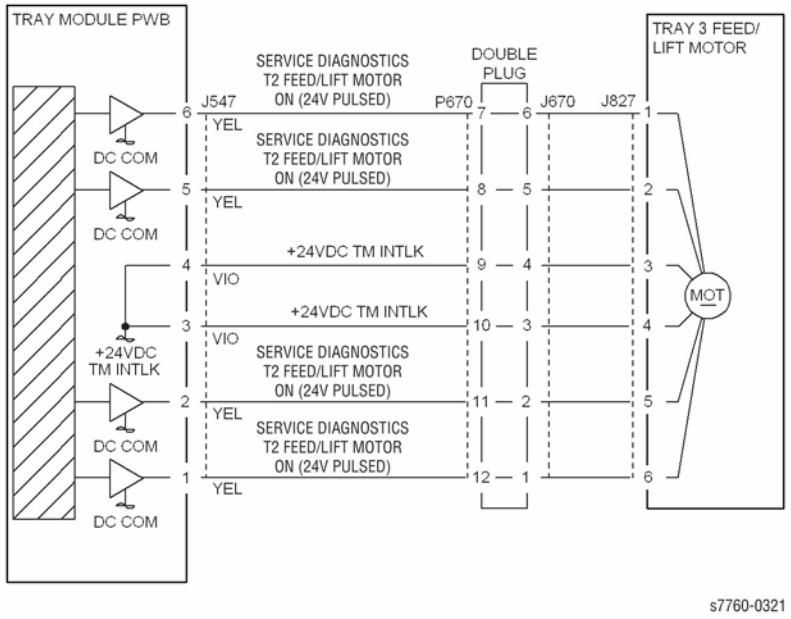

Figure 1 007-282 Tray 3 Lift/Feed Motor

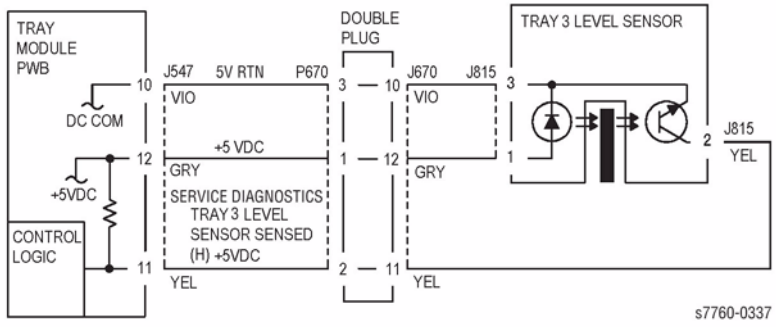

Figure 2 007-282 Tray 3 Level Sensor

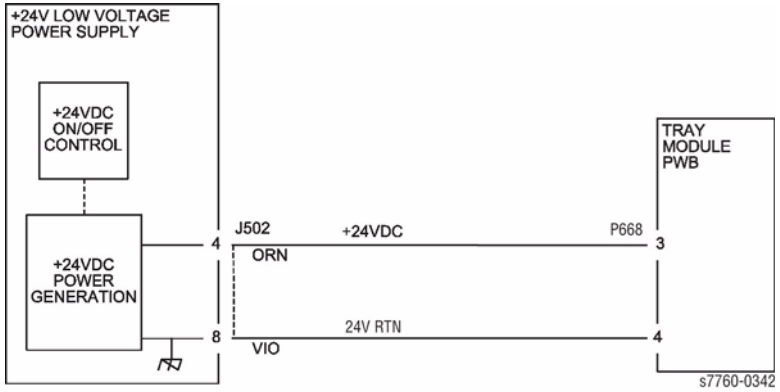

Figure 3 007-282 +24 VDC to the Tray Module PWB

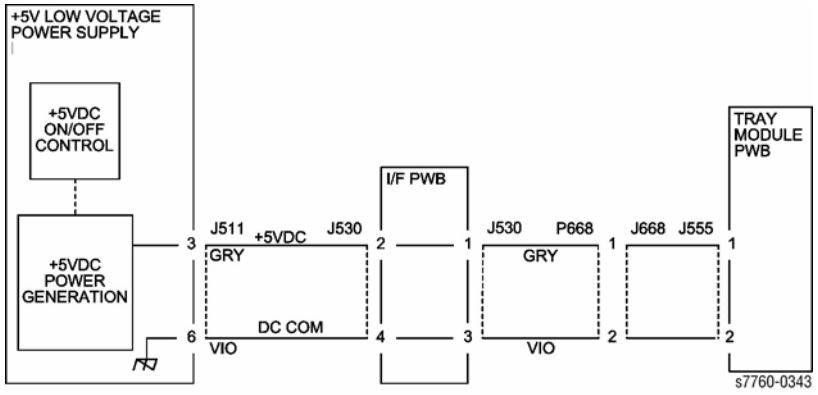

Figure 4 007-282 +5 VDC to the Tray Module PWB

007-283 Tray 4 Lift Fail

The Tray 4 Level Sensor does not detect that the Tray has lifted. Examine the trays and paper feed assemblies for any physical damage before starting the troubleshooting procedure.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Map References
Tray 4 Level Sensor	PL 2.4	
Paper Select Switch Assembly	PL 2.1	
Paper Feed Motor	PL 2.4	
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15
Interface PWB	PL 9.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	Is the problem with Tray 4?	Go to step 2.	Go to step 7.
2	1. Remove and then reseat Tray 4. 2. Does the Lift Motor operate?	Go to step 3.	Go to step 4.
3	Did the error clear from the Control Panel?	Complete. This could be an intermittent problem. If the problem returns, replace in order: 1. Tray Level Sensor 2. Engine Control Board (MCU PWB) (REP 1.2)	Replace the Engine Control Board (MCU PWB) (REP 1.2).

Table 2 Procedure

Step	Actions and Questions	Yes	No
4	1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Run **Tray 4 Sensor** test: **Tray Sensors** > **Tray4**. 2. Does the level indicate H?	Replace in order until resolved: 1. Tray Level Sensor 2. No Paper Sensor 3. Engine Interface Board (REP 1.8) 4. Engine Control Board (MCU PWB) (REP 1.2)	Go to step 5.
5	1. While still in Service Diagnostics, remove Tray 4. 2. Does SW1-4 indicate LLLL?	Replace in order until resolved: 1. Paper-Select Switch Assembly (REP 7.5) 2. Engine Interface Board (REP 1.8) 3. Engine Control Board (MCU PWB) (REP 1.2)	Go to step 6.
6	1. Reseat the Paper Tray. 2. Does SW1-4: indicate H in any position?	Replace the Paper Feed Motor (REP 7.4).	Replace in order until resolved: 1. Paper-Select Switch Assembly (REP 7.5) 2. Engine Interface Board (REP 1.8) 3. Engine Control Board (MCU PWB) (REP 1.2)
7	1. Remove and then reseat the problem tray. 2. Listen for the Motor, does the Lift Motor operate?	Go to step 8.	Go to step 9.

Table 2 Procedure

Step	Actions and Questions	Yes	No
8	Did the error clear from the Control Panel?	Complete. This could be an intermittent problem. If the problem returns, replace in order: 1. Tray Level Sensor 2. Engine Control Board (MCU PWB) (REP 1.2).	Replace the Engine Control Board (MCU PWB) (REP 1.2).
9	Using Service Diagnostics, check the Level Sensor and No Paper Sensor.	Replace in order until resolved: 1. Tray Level Sensor 2. No Paper Sensor 3. LTA HCF Control Board 4. Engine Interface Board (REP 1.8) 5. Engine Control Board (MCU PWB) (REP 1.2)	Go to step 10.
10	While still in Service Diagnostics, remove Tray 4.	Replace in order until resolved: 1. Paper-Select Switch Assembly (REP 7.5) 2. Engine Interface Board (REP 1.8) 3. Engine Control Board (MCU PWB) (REP 1.2)	Go to step 11.

Table 2 Procedure

Step	Actions and Questions	Yes	No
11	1. Reseat the Paper Tray. 2. Does SW1-4 indicate H in any position?	Replace the Paper Feed Motor (REP 7.4).	Replace in order until resolved: 1. Paper-Select Switch Assembly (REP 7.5) 2. Engine Interface Board (REP 1.8) 3. Engine Control Board (MCU PWB) (REP 1.2)

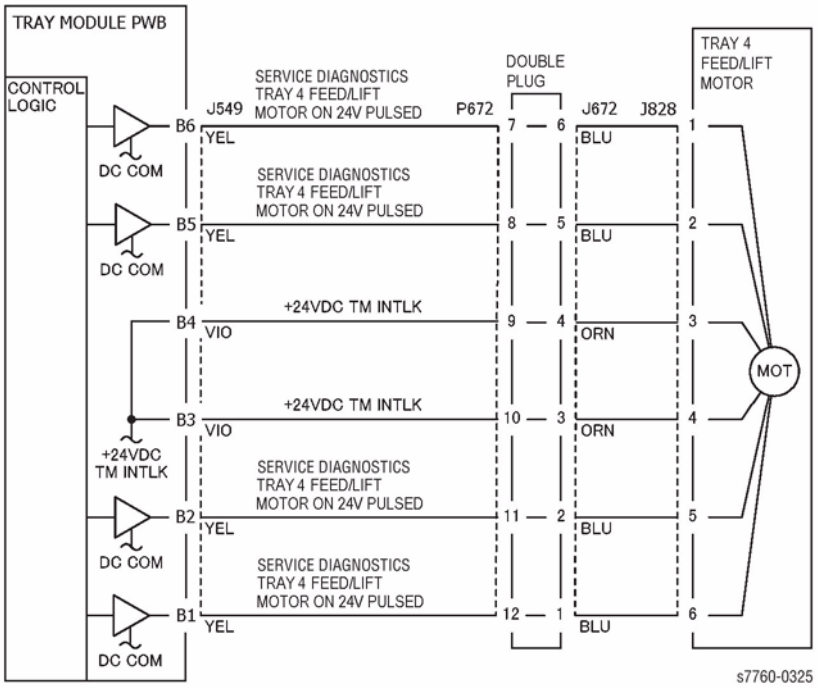

Figure 1 007-283 Tray 4 Feed/Lift Motor

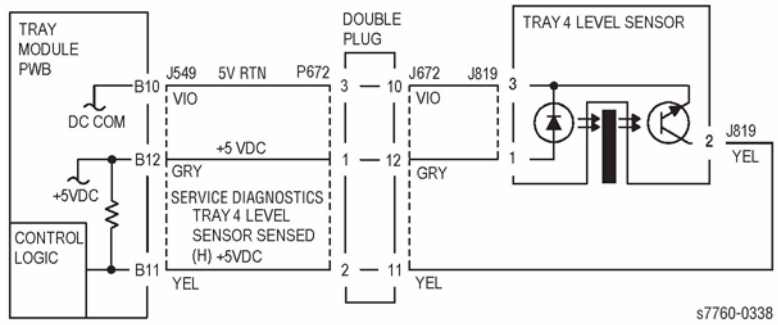

Figure 2 007-283 Tray 4 Level Sensor

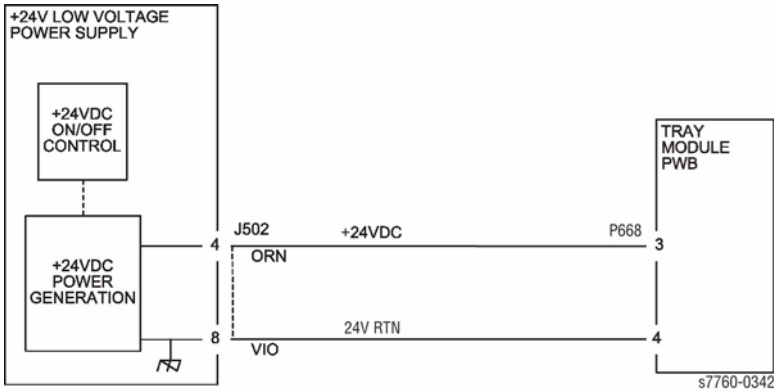

Figure 3 007-283 +24 VDC to the Tray Module PWB

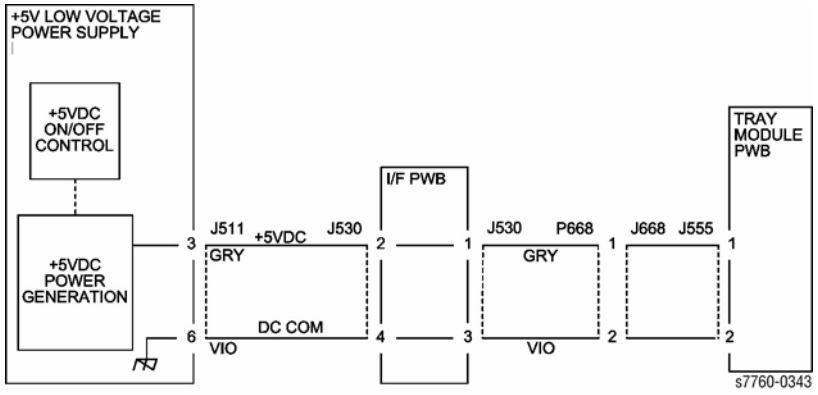

Figure 4 007-283 +5 VDC to the Tray Module PWB

007-284 Tray 5 Lift Fail

The Tray 5 Level Sensor does not detect that the Tray has lifted. Examine the trays and paper feed assemblies for any physical damage before starting the troubleshooting procedure.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack Map References
Tray 5 Level Sensor	PL 2.4	
Paper Select Switch Assembly	PL 2.1	
Paper Feed Motor	PL 2.4	
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15
Interface PWB	PL 9.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	Is the problem with Tray 5?	Go to step 2.	Go to step 7.
2	1. Remove and then reseat Tray 5. 2. Does the Lift Motor operate?	Go to step 3.	Go to step 4.
3	Did the error clear from the Control Panel?	Complete. This could be an intermittent problem. If the problem returns, replace in order: 1. Tray Level Sensor 2. Engine Control Board (MCU PWB) (REP 1.2)	Replace the Engine Control Board (MCU PWB) (REP 1.2).

Table 2 Procedure

Step	Actions and Questions	Yes	No
4	1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Run **Tray 5 Sensor** test: **Tray Sensors** > **Tray5**. 2. Does the level indicate H?	Replace in order until resolved: 1. Tray Level Sensor 2. No Paper Sensor 3. Engine Interface Board (REP 1.8) 4. Engine Control Board (MCU PWB) (REP 1.2)	Go to step 5.
5	1. While still in Service Diagnostics, remove Tray 5. 2. Does SW1-4 indicate LLLL?	Replace in order until resolved: 1. Paper-Select Switch Assembly (REP 7.5) 2. Engine Interface Board (REP 1.8) 3. Engine Control Board (MCU PWB) (REP 1.2)	Go to step 6.
6	1. Reseat the Paper Tray. 2. Does SW1-4: indicate H in any position?	Replace the Paper Feed Motor (REP 7.4).	Replace in order until resolved: 1. Paper-Select Switch Assembly (REP 7.5) 2. Engine Interface Board (REP 1.8) 3. Engine Control Board (MCU PWB) (REP 1.2)
7	1. Remove and then reseat the problem tray. 2. Listen for the Motor, does the Lift Motor operate?	Go to step 8.	Go to step 9.

Table 2 Procedure

Step	Actions and Questions	Yes	No
8	Did the error clear from the Control Panel?	Complete. This could be an intermittent problem. If the problem returns, replace in order: 1. Tray Level Sensor 2. Engine Control Board (MCU PWB) (REP 1.2)	Replace the Engine Control Board (MCU PWB) (REP 1.2).
9	Using Service Diagnostics, check the Level Sensor and No Paper Sensor.	Replace in order until resolved: 1. Tray Level Sensor 2. No Paper Sensor 3. LTA HCF Control Board 4. Engine Interface Board (REP 1.8) 5. Engine Control Board (MCU PWB) (REP 1.2)	Go to step 10.
10	While still in Service Diagnostics, remove Tray 5.	Replace in order until resolved: 1. Paper-Select Switch Assembly (REP 7.5) 2. Engine Interface Board (REP 1.8) 3. Engine Control Board (MCU PWB) (REP 1.2)	Go to step 11.

Table 2 Procedure

Step	Actions and Questions	Yes	No
11	1. Reseat the Paper Tray. 2. Does SW1-4 indicate H in any position?	Replace the Paper Feed Motor (REP 7.4).	Replace in order until resolved: 1. Paper-Select Switch Assembly (REP 7.5) 2. Engine Interface Board (REP 1.8) 3. Engine Control Board (MCU PWB) (REP 1.2)

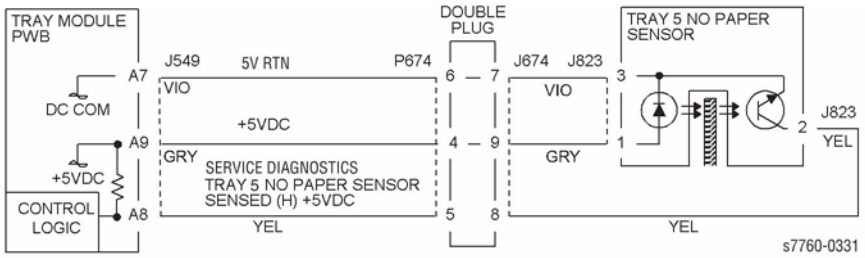

Figure 1 007-284 Tray 5 Feed/Lift Motor

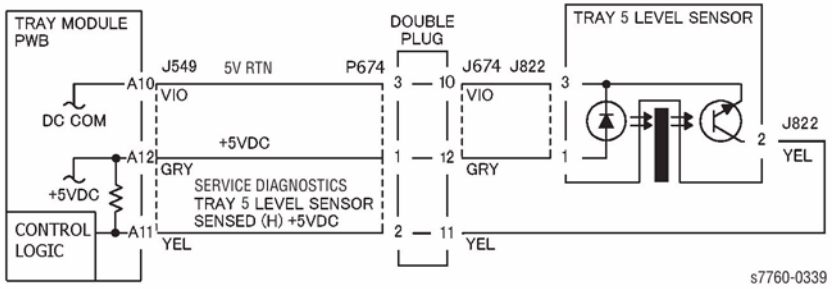

Figure 2 007-284 Tray 5 Level Sensor

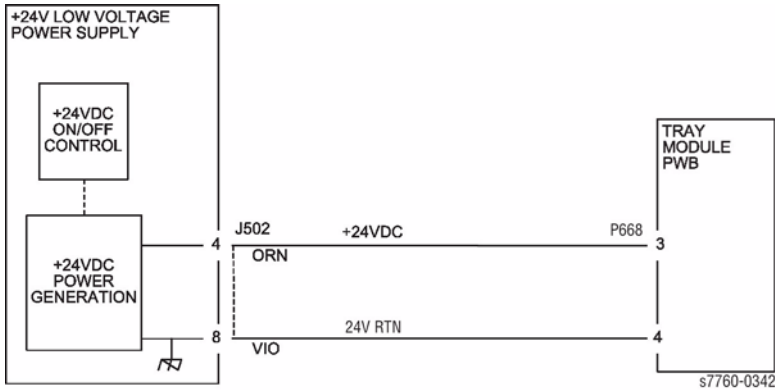

Figure 3 007-284 +24 VDC to the Tray Module PWB

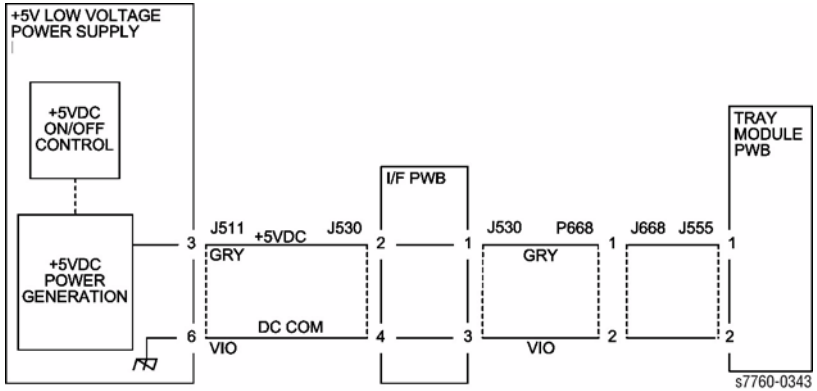

Figure 4 007-284 +5 VDC to the Tray Module PWB

007-291 Tray 4 Lift Fail (TTM)

Tray 4 Level Sensor does not detect Tray Lift.

Initial Actions

Remove Tray 4 and empty the paper stock, then:

- Manually turn the gear underneath Tray 4 to check that the Bottom Plate moves up and down smoothly.
- Check that the Tray 4 Level Sensor Actuator (PL 2.4) is properly seated and operates smoothly.
- Gently push Tray 4 in to check that the drive transmission is firmly engaged.
- Ensure that Tray 4 is properly closed/seated.

Procedure

Enter Service Diagnostics Menu: **Print Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. **Perform the Paper Lift Motor test. The Tray 4 Feed/Lift Motor (PL 2.4) energizes.**

Y N

Check the circuit of the Tray 4 Feed/Lift Motor (Figure 1). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Open and close Tray 4. **The display changes.**

Y N

Check the circuit of the Tray 4 Level Sensor (Figure 2). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

- Check the Tray 4 Feed/Lift Motor and its associated gears (PL 2.4) for damage, contamination or misalignment.
- Check the Tray 4 Tray Cables, Pulleys, and associated gears (PL 16.5) for damage, contamination or misalignment.
- Ensure that the connectors show in the circuit diagrams (Figure 1, Figure 2) are securely connected and that the wires are not damaged.
- Replace the Tray 4 Level Sensor (PL 2.4).
- If these checks ar e OK, replace the Tray Module PWB (PL 16.15).

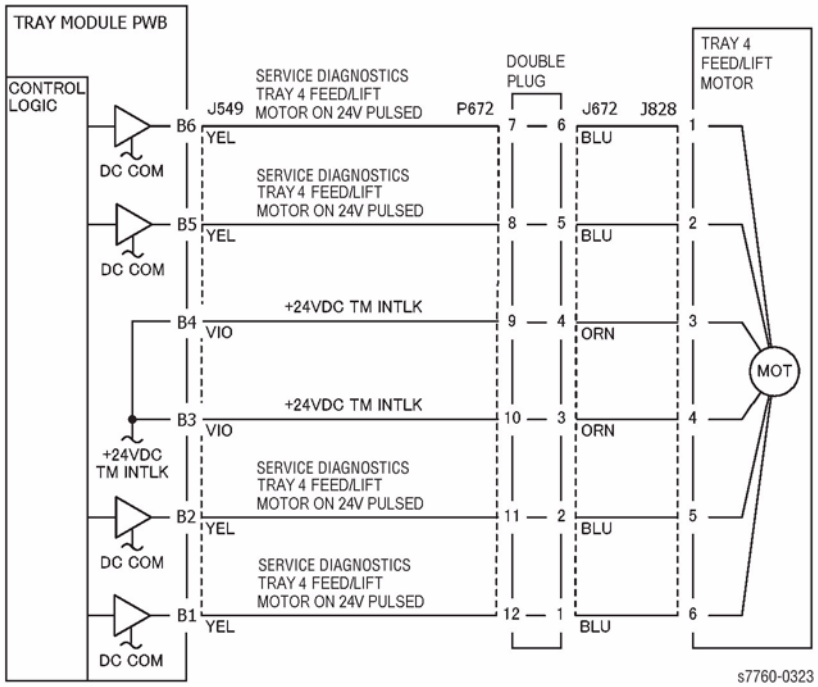

Figure 1 007-291 Tray 4 Lift/Feed Motor (TTM)

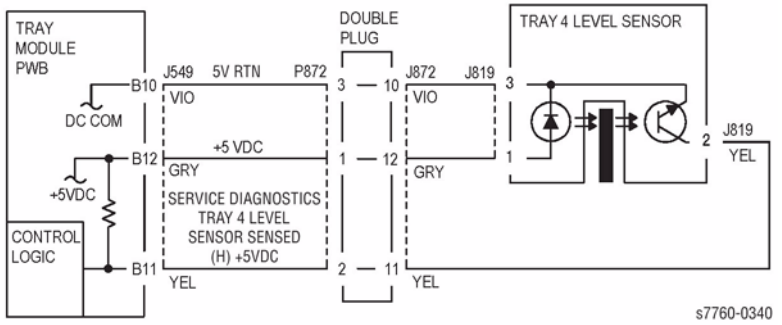

Figure 2 007-291 Tray 4 Level Sensor (TTM)

007-293 Tray 5 Lift (TTM)

The Tray 5 Level Sensor does not detect Tray Lift.

Initial Actions

Remove Tray 5 and empty the paper stock, then:

- Manually turn the gear underneath Tray 5 to check that the Bottom Plate moves up and down smoothly.
- Check that the Tray 5 Level Sensor Actuator (PL 2.4) is properly seated and operates smoothly.
- Gently push Tray 5 in to check that the drive transmission is firmly engaged.
- Ensure that Tray 5 is properly closed / seated.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. **Perform the Paper Lift Motor test. The Tray 5 Feed/Lift Motor (PL 2.4) energizes.**

Y N

Check the circuit of the Tray 5 Feed/Lift Motor (Figure 1). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Open and close Tray 5. **The display changes.**

Y N

Check the circuit of the Tray 5 Level Sensor (Figure 2). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

- Check the Tray 5 Feed / Lift Motor and its associated gears (PL 2.4) for damage, contamination or misalignment.
- Check the Tray 5 Tray Cables, Pulleys and associated gears (PL 16.5) for damage, contamination or misalignment.
- Ensure that the connectors shown in the circuit diagrams (Figure 1, Figure 2) are securely connected and that the wires are not damaged.
- Replace the Tray 5 Level Sensor (PL 2.4).
- If these checks are OK, replace the Tray Module PWB (PL 16.15).

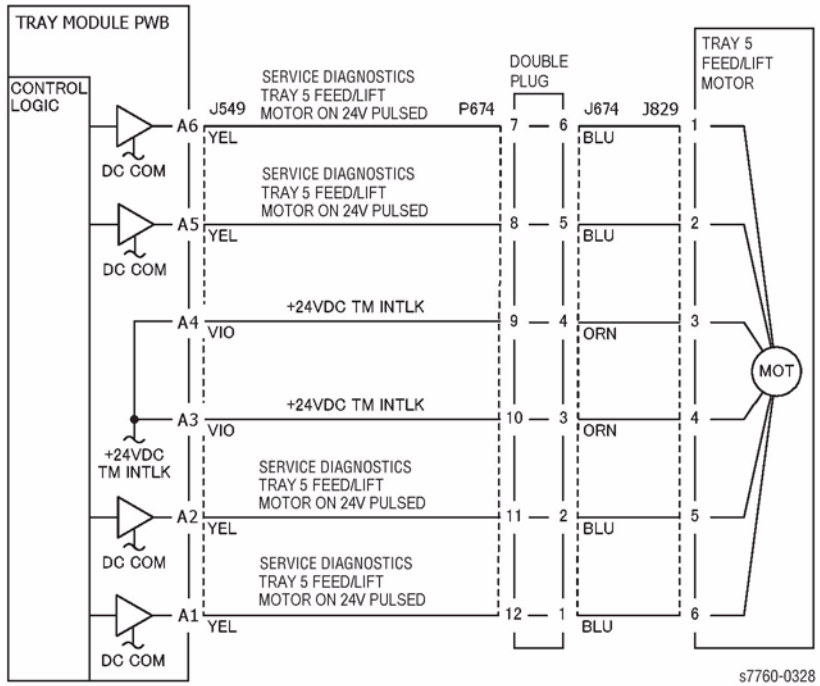

Figure 1 007-293 Tray 5 Lift/Feed Motor (TTM)

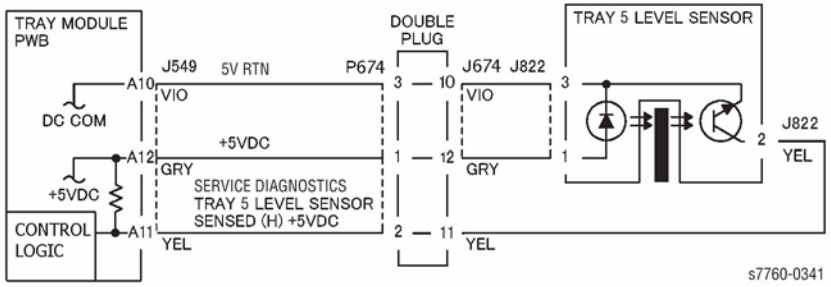

Figure 2 007-293 Tray 5 Level Sensor (TTM)

007-397 All Tray Lift Fail

The Tray 2, 3, 4, and 5 Level Sensors do not detect that the Tray has lifted. Examine the trays and Paper Feed Assemblies for any physical damage before starting the troubleshooting procedure.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack Map References
Tray 2 Level Sensor	PL 2.4	
Paper Select Switch Assembly	PL 2.1	
Paper Feed Motor	PL 2.4	
Engine Control Board 9MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations -Figure 15
I/F PWB	PL 9.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	Is the problem with Tray 2, 3, 4, or 5?	Go to step 2.	Go to step 7.
2	1. Remove and then reseat problem tray. 2. Does the Lift Motor operate?	Go to step 3.	Go to step 4.
3	Did the error clear from the Control Panel?	Complete. This could be an intermittent problem. If the problem returns, replace in order: 1. Tray Level Sensor 2. Engine Control Board (MCU PWB) (REP 1.2)	Replace the Engine Control Board (MCU PWB) (REP 1.2).

Table 2 Procedure

Step	Actions and Questions	Yes	No
4	1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Run **Tray 2 Sensor** test: **Tray Sensors** > **Tray2**. 2. Does the level indicate H?	Replace in order until resolved: 1. Tray Level Sensor 2. No Paper Sensor 3. Engine Interface Board (REP 1.8) 4. Engine Control Board (MCU PWB) (REP 1.2)	Go to step 5.
5	1. While still in Service Diagnostics, remove the problem tray. 2. Does SW1-4 indicate LLLL?	Replace in order until resolved: 1. Paper-Select Switch Assembly 2. Engine Interface Board (REP 1.8) 3. Engine Control Board (MCU PWB) (REP 1.2)	Go to step 6.
6	1. Reseat the Paper Tray. 2. Does SW1-4: indicate H in any position?	Replace the Paper Feed Motor (REP 7.4).	Replace in order until resolved: 1. Paper-Select Switch Assembly (REP 7.5) 2. Engine Interface Board (REP 1.8) 3. Engine Control Board (MCU PWB) (REP 1.2)
7	1. Remove and then reseat the problem tray. 2. Listen for the Motor, does the Lift Motor operate?	Go to step 8.	Go to step 9.

Table 2 Procedure

Step	Actions and Questions	Yes	No
8	Did the error clear from the Control Panel?	Complete. This could be an intermittent problem. If the problem returns, replace in order: 1. Tray Level Sensor 2. Engine Control Board (MCU PWB) (REP 1.2)	Replace the Engine Control Board (MCU PWB) (REP 1.2).
9	Using Service Diagnostics, check the Level Sensor and No Paper Sensor.	Replace in order until resolved: 1. Tray Level Sensor 2. No Paper Sensor 3. LTA HCF Control Board 4. Engine Interface Board (REP 1.8) 5. Engine Control Board (MCU PWB) (REP 1.2)	Go to step 10.
10	While still in Service Diagnostics, remove the problem tray.	Replace in order until resolved: 1. Paper-Select Switch Assembly (REP 7.5) 2. Engine Interface Board (REP 1.8) 3. Engine Control Board (MCU PWB) (REP 1.2)	Go to step 11.

Table 2 Procedure

Step	Actions and Questions	Yes	No
11	1. Reseat the Paper Tray. 2. Does SW1-4 indicate H in any position?	Replace the Paper Feed Motor (REP 7.4).	Replace in order until resolved: 1. Paper-Select Switch Assembly (REP 7.5) 2. Engine Interface Board (REP 1.8) 3. Engine Control Board (MCU PWB) (REP 1.2)

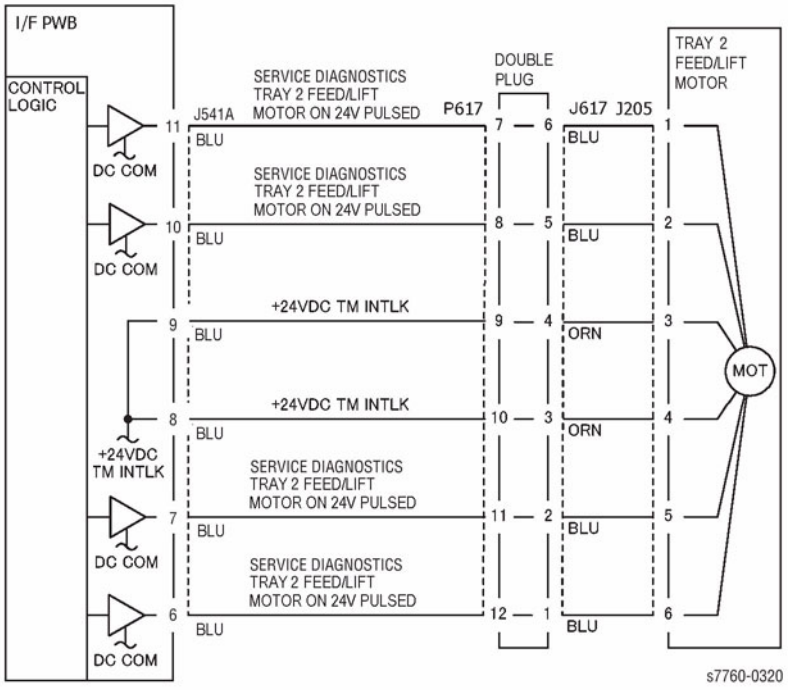

Figure 1 007-397 Tray 2 Lift/Feed Motor

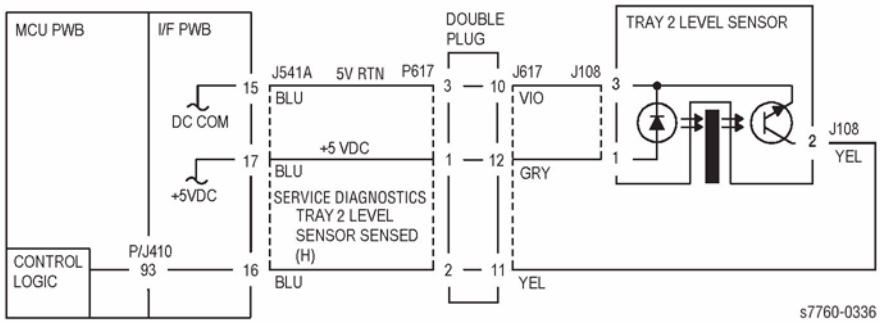

Figure 2 007-397 Tray 2 Level Sensor

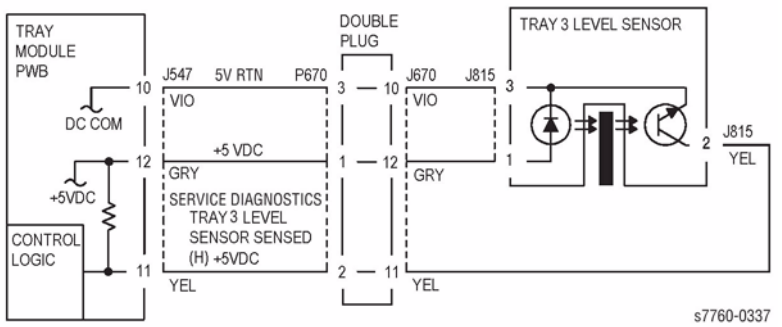

Figure 4 007-397 Tray 3 Level Sensor

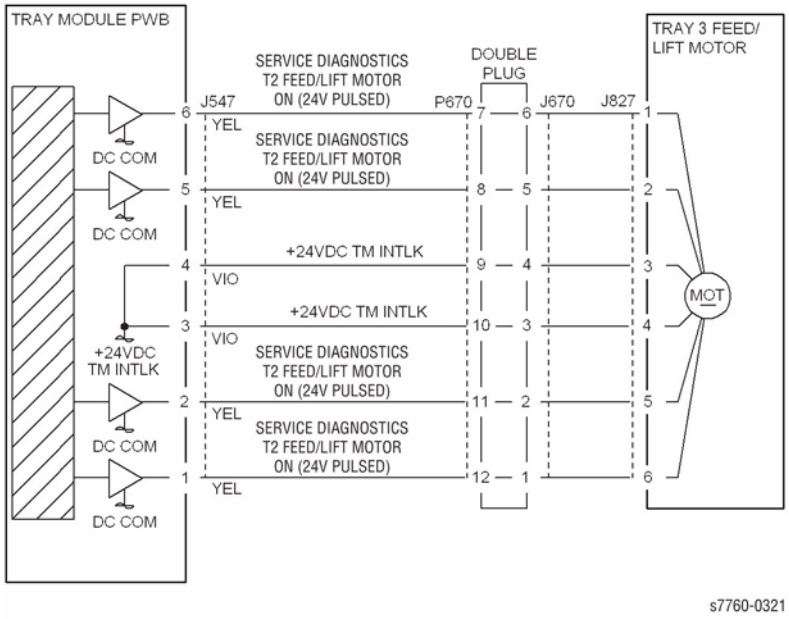

Figure 3 007-397 Tray 3 Lift/Feed Motor

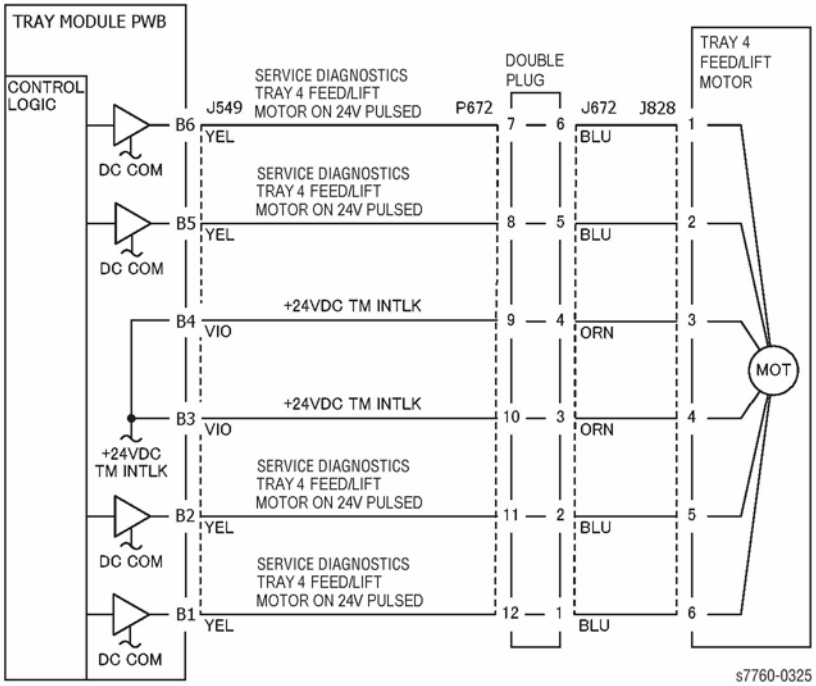

Figure 5 007-397 Tray 4 Lift/Feed Motor

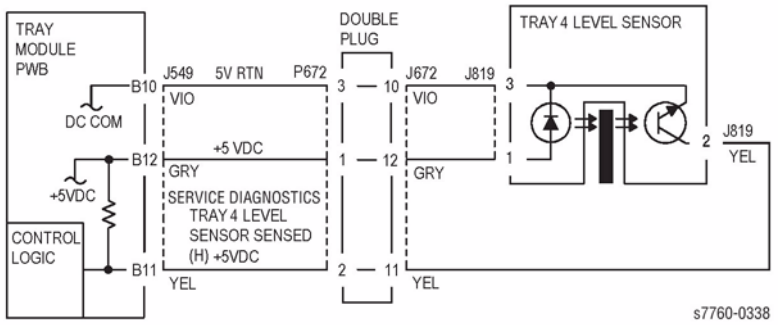

Figure 6 007-397 Tray 4 Level Sensor

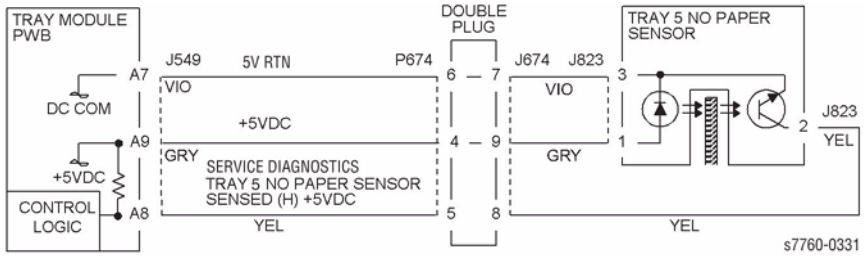

Figure 7 007-397 Tray 5 Lift/Feed Motor

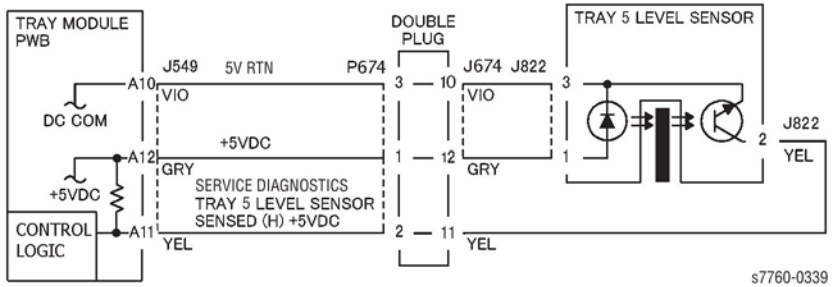

Figure 8 007-397 Tray 5 Level Sensor

007-401 ~ 007-409 Tray 1, 2, 3, 4 Feed Roller Near Life or Feed Roller Life End

This procedure covers Feed Roller Near Life or Feed Roller Life End. This procedure can be used for troubleshooting Chain Link code 007-401, 007-402, 007-403, 007-404, 007-405, 007-406, 007-407, 007-408, or 007-409.

Troubleshooting Procedure

1. Replace the Tray Feed Rollers in the indicated Tray with P/N 600K78460 following provided instructions in the Kit.
2. Reset the indicated Tray's Feed Roller life in the Service Tools menu.

007-930 Tray 2 Paper Size Mismatch

The paper in Tray 2 does not match the paper size selected.

Procedure

The correct size paper is loaded in Tray 2 and the paper guides are set correctly.

Y N

Ensure the Paper Guides are correctly adjusted. Load the correct size paper.

Go to RAP 007-270, Tray 2 Size Sensor.

007-931 Tray 3 Paper Size Mismatch

The paper in Tray 3 does not match the paper size selected.

Procedure

The correct size paper is loaded in Tray 3 and the paper guides are set correctly.

Y N

Ensure the Paper Guides are correctly adjusted. Load the correct size paper.

Go to RAP 007-271, Tray 3 Size Sensor.

007-932 Tray 4 Paper Size Mismatch

The paper in Tray 4 does not match the paper size selected.

Procedure

The correct size paper is loaded in Tray 4 and the paper guides are set correctly.

Y N

Ensure the Paper Guides are correctly adjusted. Load the correct size paper.

Go to RAP 007-276, Tray 4 Size Sensor.

007-933 Tray 5 Paper Size Mismatch

The paper in Tray 5 does not match the paper size selected.

Procedure

The correct size paper is loaded in Tray 5 and the paper guides are set correctly.

Y N

Ensure the Paper Guides are correctly adjusted. Load the correct size paper.

Go to RAP 007-277, Tray 5 Size Sensor.

007-954 Tray 1 (MPT) Size Mismatch (Slow Scan Direction)

The paper in the slow scan direction is shorter than the specified paper size.

Procedure

The correct size paper is loaded in the Tray 1 (MPT).

Y N

Load the correct size paper.

Both paper guides are adjusted correctly.

Y N

Adjust the Paper Guides.

Replace the Registration Sensor (PL 2.6).

007-959 Tray 1 Paper Mismatch 1

Incorrect media detected by the OHP Sensor.

Initial Actions

- Check for obstructions and clean the OHP Sensor (PL 2.6).
- Check that the transparencies are oriented correctly.

Procedure

Open the Left Cover Assembly (PL 2.9). Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Block the OHP Sensor R (PL 2.6) using a plain sheet of paper. **The display changes.**

Y N

Check the circuit of the OHP Sensor (Figure 1). Refer to Section 6, Reflective Sensor Procedurefor troubleshooting procedure.

- Ensure that the connectors shown in the circuit diagram (Figure 1) are securely connected and that the wires are not damaged.
- If the problem persists, replace the Engine Control Board (MCU PWB) (PL 13.1).

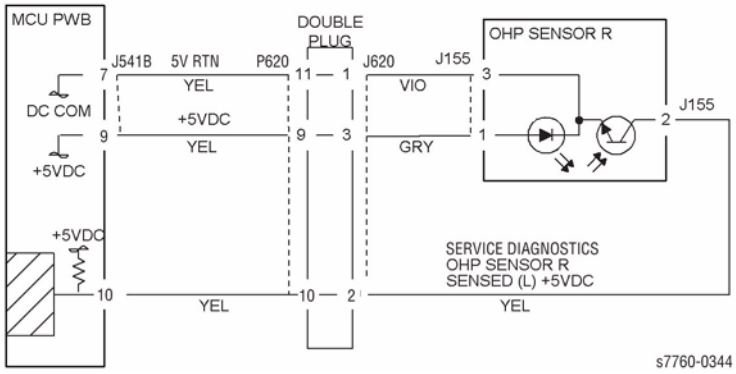

Figure 1 007-959 OHP Sensor R

007-960 Tray 1 (MPT) Paper Mismatch 2

A different paper type or transparency was detected when plain/heavyweight paper was specified.

Initial Actions

- Check that the loaded paper type matches the UI selection.
- Check the OHP sensor area for contamination or blockage.

Procedure

Open the Left Cover Assembly (PL 2.9). Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Block the OHP Sensor (PL 2.6) using a plain sheet of paper. **The display changes.**

Y **N**

Check the circuit of the OHP Sensor (Figure 1). Refer to Section 6, Reflective Sensor Procedure for troubleshooting procedure.

- Ensure that the connectors shown in the circuit diagram (Figure 1) are securely connected and that the wires are not damaged.
- If the problem persists, replace the Engine Control Board (MCU PWB) (PL 13.1).

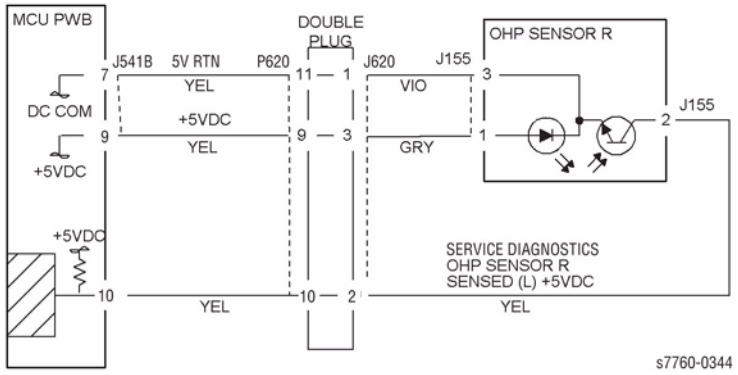

Figure 1 007-960 OHP Sensor R

007-969 Full Paper Stack

The Full Paper Stack Sensor detects that Face Down Tray is full.

Initial Actions

Check the Full Paper Stack Sensor for obstructions and actuator operation.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Move the Full Paper Stack Sensor Actuator (PL 2.10) up and down. **The display changes.**

Y **N**

Check the circuit of the Full Paper Stack Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

- Ensure that the connectors shown in the circuit diagram (Figure 1) are securely connected and that the wires are not damaged.
- If the connectors and wires check out OK, replace the Full Paper Stack Sensor (PL 2.10).
- If the problem continues, replace the Engine Control Board (MCU PWB) (PL 13.1).
- If the problem persists, replace the I/F PWB (PL 9.1).

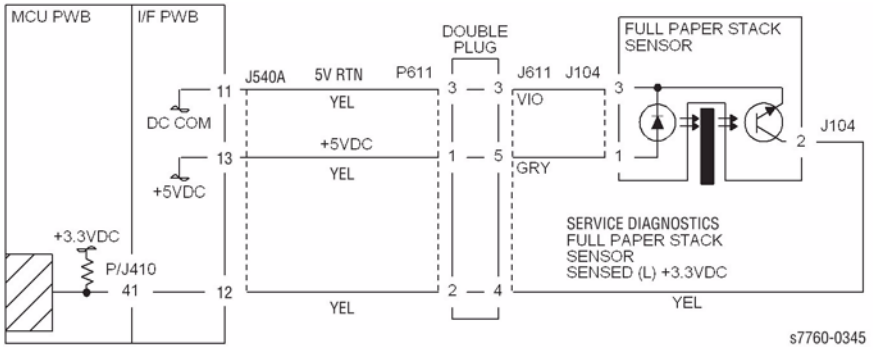

Figure 1 007-969 Full Paper Stack

008-149 (3TM) Tray 4 Takeaway Sensor On Jam

The Takeaway Sensor does not detect paper fed from Tray 4.

Initial Actions

- Check condition and specification of paper in Tray 4.
- Check the paper path and sensor area for obstructions.
- Check for wear and clean the Tray 4 Feeder Roll, Takeaway Roll and the Pinch Roll.
- Check that the Left Cover is properly latched and that the Interlock Actuator is not damaged.

Procedure

Open the Left Cover and cheat the Left Cover Interlock Switch (PL 15.10). Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Block and unblock the Takeaway Sensor (PL 15.10). **The display changes state.**

Y N

Check the circuit of the Takeaway Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform Service Diagnostics. **All three Takeaway Rolls (PL 15.10) rotates.**

Y N

Takeaway Motor 1 (PL 15.9) energizes.

Y N

Check the circuit of the Takeaway Motor 1 (Figure 2). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the Takeaway Motor 1 and its associated gears (PL 15.9) for damage, contamination or misalignment.

- Ensure that the Chutes (PL 15.10) are properly seated and not damaged.
- Ensure that the connectors shown in the circuit diagrams (Figure 1, Figure 2) are securely connected and that the wires are not damaged.
- Replace the Takeaway Sensor (PL 15.10).
- If the problem persists, replace the Tray Module PWB (PL 15.9).

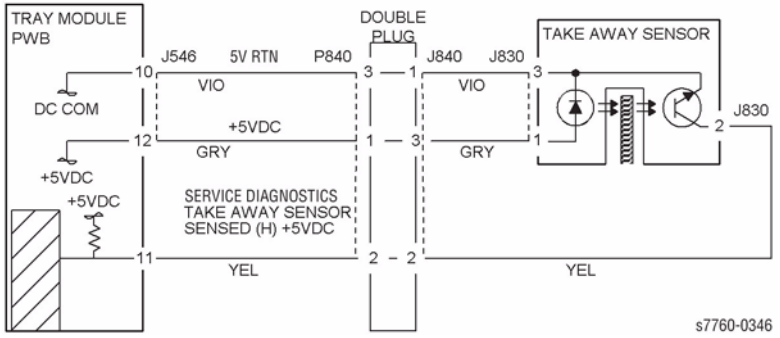

Figure 1 008-149 Takeaway Sensor

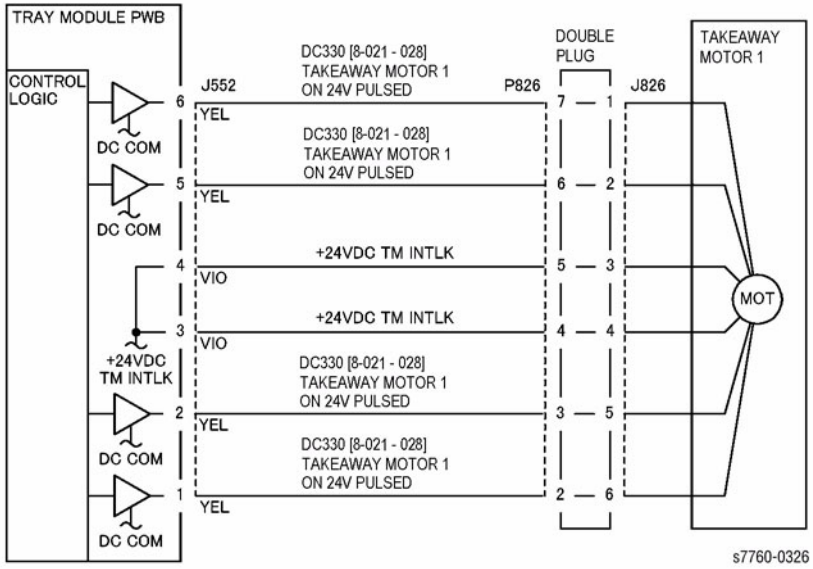

Figure 2 008-149 Takeaway Motor 1

008-150 (3TM) Tray 5 Takeaway Sensor On Jam

The Takeaway Sensor does not detect paper fed from Tray 5.

Initial Actions

- Check condition and specification of paper in Tray 5.
- Check the paper path and sensor area for obstructions.
- Check for wear and clean the Tray 5 Feeder Roll, Takeaway Roll and the Pinch Roll.
- Check that the Left Cover is properly latched and that the Interlock Actuator is not damaged.

Procedure

Open the Left Cover and cheat the Left Cover Interlock Switch (PL 15.10). Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Block and unblock the Takeaway Sensor (PL 15.10). **The display changes state.**

Y N

Check the circuit of the Takeaway Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform Service Diagnostics. **All three Takeaway Rolls (PL 15.10) rotates.**

Y N

Takeaway Motor 1 (PL 15.9) energizes.

Y N

Check the circuit of the Takeaway Motor 1 (Figure 2). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the Takeaway Motor 1 and its associated gears (PL 15.9) for damage, contamination or misalignment.

- Ensure that the Chutes (PL 15.10) are properly seated and not damaged.
- Ensure that the connectors shown in the circuit diagrams (Figure 1, Figure 2) are securely connected and that the wires are not damaged.
- Replace the Takeaway Sensor (PL 15.10).
- If the problem persists, replace the Tray Module PWB (PL 15.9).

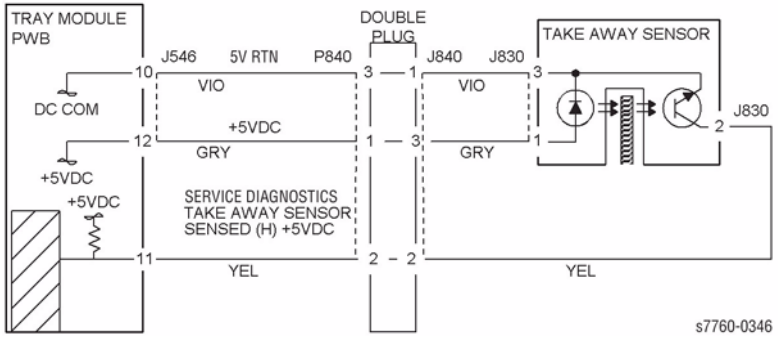

Figure 1 008-150 Takeaway Sensor

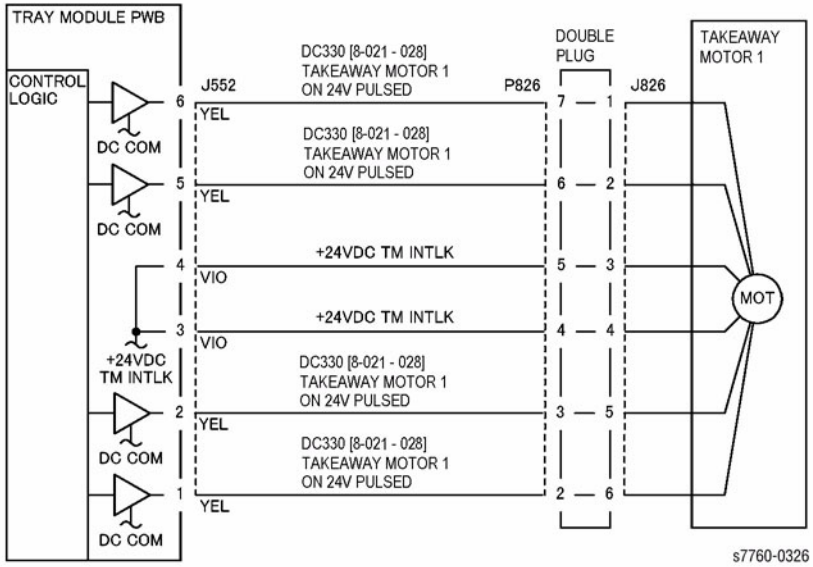

Figure 2 008-150 Takeaway Motor 1

008-151 Tray 4 Takeaway Sensor On Jam

The Takeaway Sensor does not detect paper fed from Tray 4.

Initial Actions

- Check condition and specification of paper in Tray 4.
- Check the paper path and sensor area for obstructions.
- Check for wear and clean the Tray 4 Feeder Roll, Takeaway Roll and the Pinch Roll.
- Check that the Left Cover is properly latched and that the Interlock Actuator is not damaged.

Procedure

Open the Left Cover and cheat the Left Cover Interlock Switch (PL 16.13). Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Block and unblock the Takeaway Sensor (PL 16.6). **The display changes state.**

Y N

Check the circuit of the Takeaway Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform Service Diagnostics. **Both Takeaway Rolls (PL 16.6) rotate.**

Y N

Takeaway Motor 1 (PL 16.15) energizes.

Y N

Check the circuit of the Takeaway Motor 1 (Figure 2). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the Takeaway Motor 1 and its associated gears (PL 16.15) for damage, contamination or misalignment.

- Ensure that the Chutes (PL 16.6) are properly seated and not damaged.
- Ensure that the connectors shown in the circuit diagrams (Figure 1, Figure 2) are securely connected and that the wires are not damaged.
- Replace the Takeaway Sensor (PL 16.6).
- If the problem persists, replace the Tray Module PWB (PL 16.15).

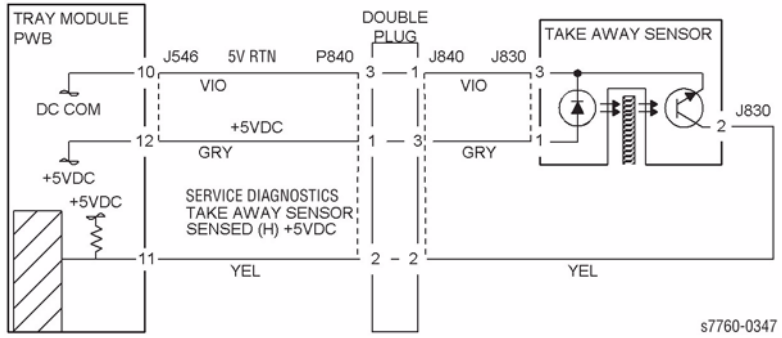

Figure 1 008-151 Takeaway Sensor

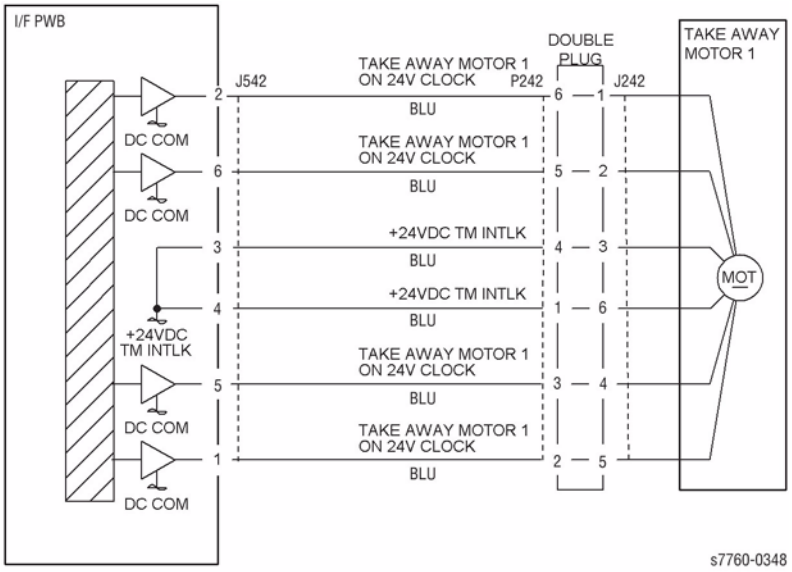

Figure 2 008-151 Takeaway Motor 1

008-152 Tray 5 Takeaway Sensor On Jam

The Takeaway Sensor does not detect paper fed from Tray 5.

Initial Actions

- Check condition and specification of paper in Tray 5.
- Check the paper path and sensor area for obstructions.
- Check for wear and clean the Tray 4 Feeder Roll, Takeaway Roll and the Pinch Roll.
- Check that the Left Cover is properly latched and that the Interlock Actuator is not damaged.

Procedure

Open the Left Cover and cheat the Left Cover Interlock Switch (PL 16.13). Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Block and unblock the Takeaway Sensor (PL 16.6). **The display changes state.**

Y N

Check the circuit of the Takeaway Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform Service Diagnostics. **Both Takeaway Rolls (PL 16.6) rotate.**

Y N

Takeaway Motor 1 (PL 16.15) energizes.

Y N

Check the circuit of the Takeaway Motor 1 (Figure 2). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the Takeaway Motor 1 and its associated gears (PL 16.15) for damage, contamination and misalignment.

Remove the TTM Rear Cover. Perform Service Diagnostics. **The Takeaway Motor 2 (PL 16.15) energizes.**

Y N

Check the circuit of the Takeaway Motor 2 (Figure 3). Refer to the OF 99-9 RAP for troubleshooting procedure.

- Check the Takeaway Motor 2 and its associated gears (PL 16.15) for damage, contamination and misalignment.
- Ensure that the Chutes (PL 16.6) are properly seated and not damaged.
- Ensure that the connectors shown in the circuit diagrams (Figure 1, Figure 2, Figure 3) are securely connected and that the wires are not damaged.
- Replace the Takeaway Sensor (PL 16.6).
- If the problem persists, replace the Tray Module PWB (PL 16.15).

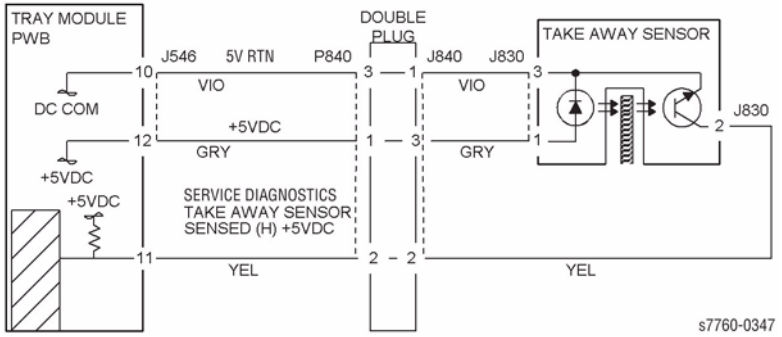

Figure 1 008-152 Takeaway Sensor

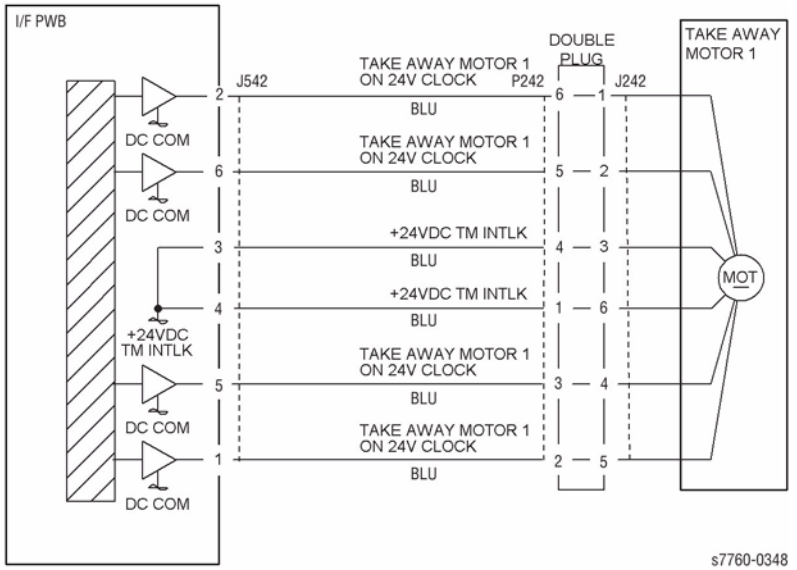

Figure 2 008-152 Takeaway Motor 1

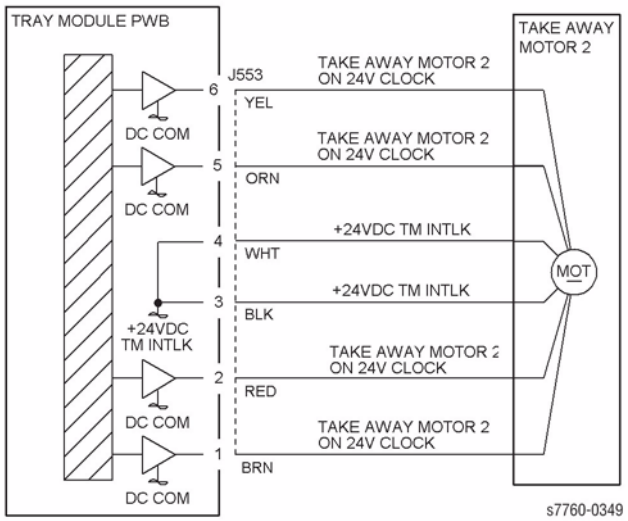

Figure 3 008-152 Takeaway Motor 2

008-164 POB Sensor Jam

The POB Sensor did not detect paper after the Registration Clutch Energized.

Initial Actions

- Check condition and specification of the paper supply.
- Check for paper on the IBT.
- Check for obstructions in the paper feed path.
- Clean the POB Sensor.
- Check the 2nd BTR transmission gears for wear.
- Clean the Registration Roll and check for damage or wear.

Procedure

Open the Left Cover Assembly (PL 2.9). Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Block and unblock the POB Sensor (PL 2.9). **The display changes state.**

Y N

Check the circuit of the POB Sensor (Figure 1). Refer to Section 6, Reflective Sensor Procedure for troubleshooting procedure.

Perform the **Registration Clutch** test. **The Registration Clutch (PL 2.6) energizes.**

Y N

Check the circuit of the Registration Clutch (Figure 2). Refer to Section 2, OF 99-4 RAP for troubleshooting procedure.

Open the Left Cover Assembly (PL 2.8). Actuate the Fuser Exit Switch (PL 2.8). **The display changes state.**

Y N

Check the circuit of the Fuser Exit Switch (Figure 3). Refer to Section 2, OF 99-3 RAP for troubleshooting procedure.

Close the Left Cover Assembly. Perform the **2nd BTR Motor** test. **The 2BTR contacts and retracts.**

Y N

Go to RAP 009-342, 009-343, 2nd BTR Contact a Retract Failure troubleshooting procedure.

Perform the **Main Motor** test. **The Main Motor energizes.**

Y N

Check the circuit of the Main Motor (Figure 4).

- Ensure that the connectors shown in the circuit diagrams (Figure 1, Figure 2) are securely connected and that the wires are not damaged.
- Replace the POB Sensor (PL 2.9).

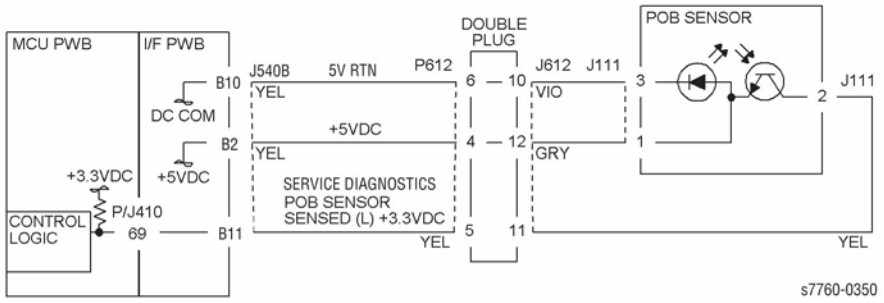

Figure 1 008-164 POB Sensor

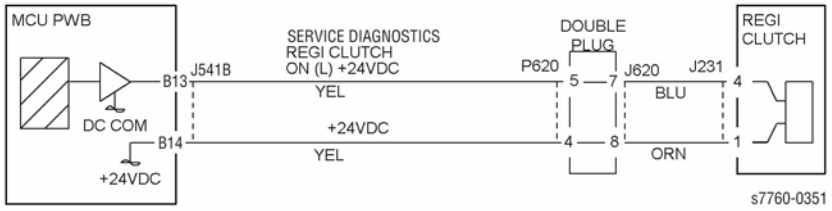

Figure 2 008-164 Registration Clutch

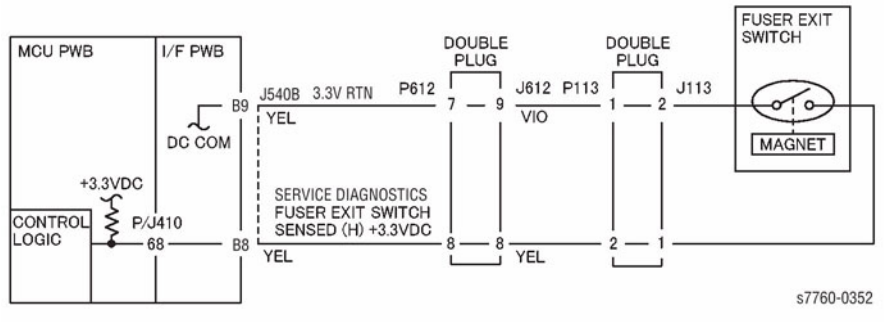

Figure 3 008-164 Fuser Exit Switch

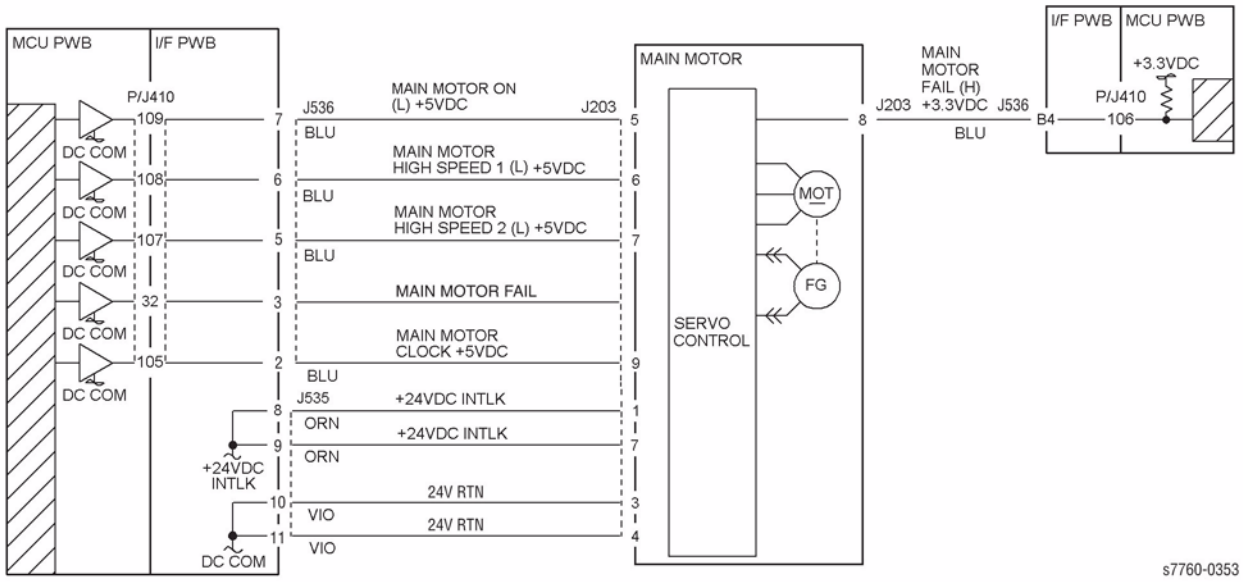

Figure 4 008-164 Main Motor

008-175 Tray 1 (MPT) Registration Sensor On Jam

The Registration Sensor does not detect paper fed from Tray 1/MPT.

Initial Actions

- Check condition and specification of the paper supply.
- Check for obstructions in the paper feed path.
- Clean the Tray 1 Feed Roll and check for wear.
- Clean the Takeaway Roll and check for wear.
- Check the drive transmissions for damage or wear.
- Check for weak or damaged spring/s.

Procedure

Open the Left Cover Assembly (PL 2.9). Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Block and unblock the Registration Sensor (PL 2.6). **The display changes state.**

Y N

Check the circuit of the Registration Sensor (Figure 1). Refer to Section 6, Reflective Sensor Procedure for troubleshooting procedure.

Close the Left Cover Assembly. Perform **Tray 1 Feed Solenoid** test. **The Tray 1 Feed Solenoid (PL 2.13) energizes.**

Y N

Check the circuit of the Tray 1 Feed Solenoid (Figure 2). Refer to Section 2, OF 99-4 RAP for troubleshooting procedure.

- Ensure that the connectors shown in the circuit diagrams (Figure 1, Figure 2) are securely connected and that the wires are not damaged.
- Replace the Registration Sensor (PL 2.6).

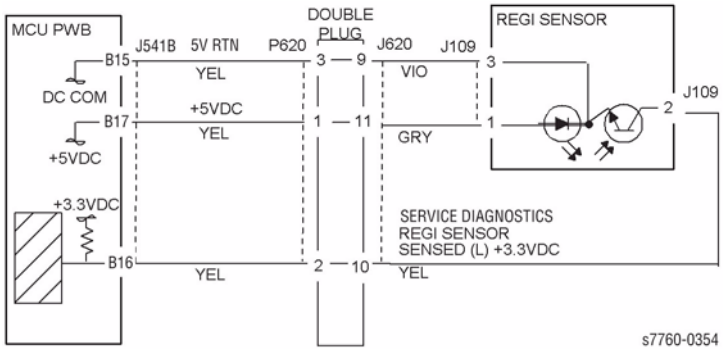

Figure 1 008-175 Registration Sensor

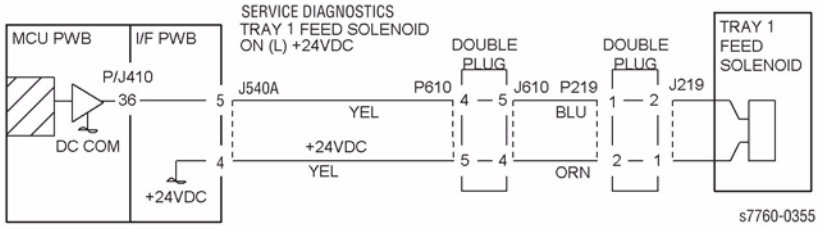

Figure 2 008-175 Tray 1 (MPT) Feed Solenoid

008-176 Tray 2~5 Registration Sensor On Jam

The Registration Sensor does not detect paper fed from Trays 2~5.

Initial Actions

- Ensure customer closes Left Lower Cover (PL 2.3) firmly if dog ears also occur.
- Check condition and specification of the paper supply.
- Check for obstructions in the paper feed path
- Clean the Takeaway Roll and Pinch Roll and check for wear.
- Check the drive transmissions for damage or wear.

Procedure

Open the Left Cover Assembly (PL 2.9) Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Block and unblock the Registration Sensor. **The display changes state.**

Y N

Check the circuit of the Registration Sensor (Figure 1). Refer to Section 6, Reflective Sensor Procedure for troubleshooting procedure.

Perform Service Diagnostics. **The Takeaway Motor (PL 1.1) rotates.**

Y N

Takeaway Motor (PL 1.1) energizes.

Y N

Check the circuit of the Takeaway Motor (Figure 2). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the Takeaway Motor and its associated gears (PL 1.1) for damage, contamination or misalignment.

Check the following:

- Ensure that the Chute (PL 2.3) is properly seated and not damaged.
- Check the Pinch Rolls (PL 2.3) for damage or contamination.
- Ensure that the connectors shown in the circuit diagrams (Figure 1, Figure 2) are securely connected and that the wires are not damaged.
- Replace the Registration Sensor (PL 2.6).

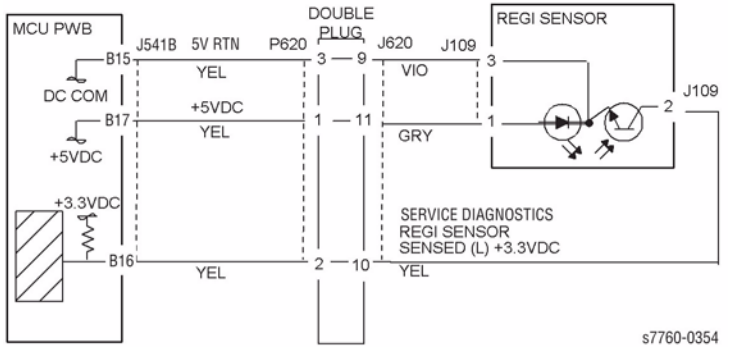

Figure 1 008-176 Registration Sensor

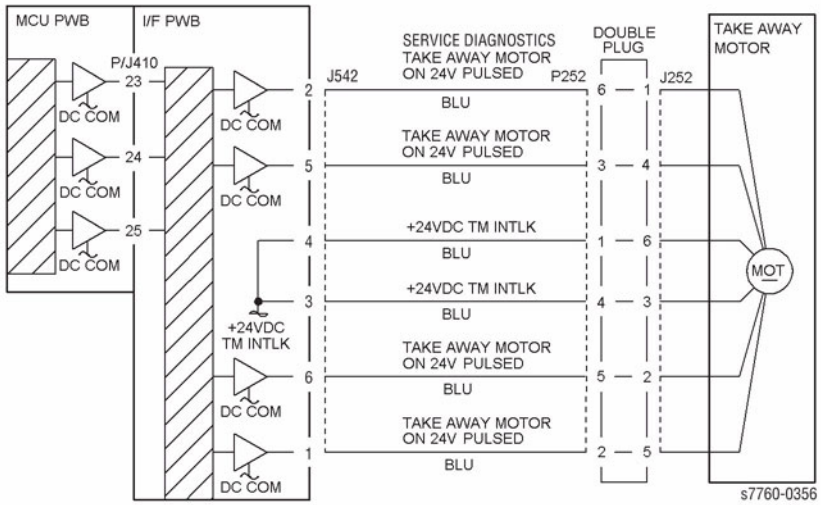

Figure 2 008-176 Takeaway Motor

008-180 Duplex Registration Sensor On Jam

The Registration Sensor does not detect paper after a duplex feed.

Initial Actions

- Check condition and specification of the paper supply.
- Check for obstructions in the paper feed path.
- Clean the Registration Roll and check for wear.
- Clean the Exit Roll, Transport Roll, Wait Roll and check for wear.

Procedure

Open the Left Cover Assembly (PL 2.9). Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Block and unblock the Registration Sensor (PL 2.6). **The display changes state.**

Y N

Check the circuit of the Registration Sensor (Figure 1). Refer to Section 6, Reflective Sensor Procedure for troubleshooting procedure.

Close the Left Cover Assembly and remove the Left Upper Cover (PL 2.7). Perform **Duplex Motor** test. **The Duplex Transport Roll (PL 12.1) rotates.**

Y N

The Duplex Motor (PL 12.1) energizes.

Y N

Check the circuit of the Duplex Motor (Figure 2). Refer to Section 2, OF 99-6 RAP for troubleshooting procedure.

Check the Duplex Motor and its associated pulleys and belts for damage, contamination or misalignment.

Perform Service Diagnostics. **The Inverter Reverse Clutch energizes.**

Y N

Check the circuit of the Inverter Reverse Clutch (Figure 3). Refer to Section 2, OF 99-4 RAP for troubleshooting procedure.

Perform Service Diagnostics. **The Duplex Gate Solenoid energizes.**

Y N

Check the circuit of the Duplex Gate Solenoid (Figure 4). Refer to Section 2, OF 99-4 RAP for troubleshooting procedure.

- Check that the Duplex Chute (PL 2.8) is properly seated and not damaged.
- Ensure that the connectors shown in the circuit diagrams (Figure 1, Figure 2, Figure 3, Figure 4) are securely connected and that the wires are not damaged.
- If the problem persists, replace the Duplex PWB (PL 12.1).

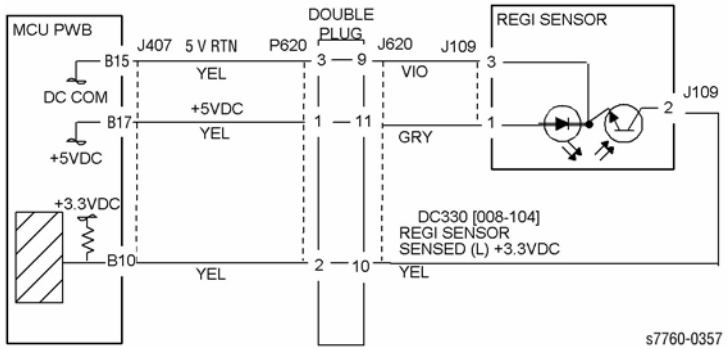

Figure 1 008-180 Registration Sensor

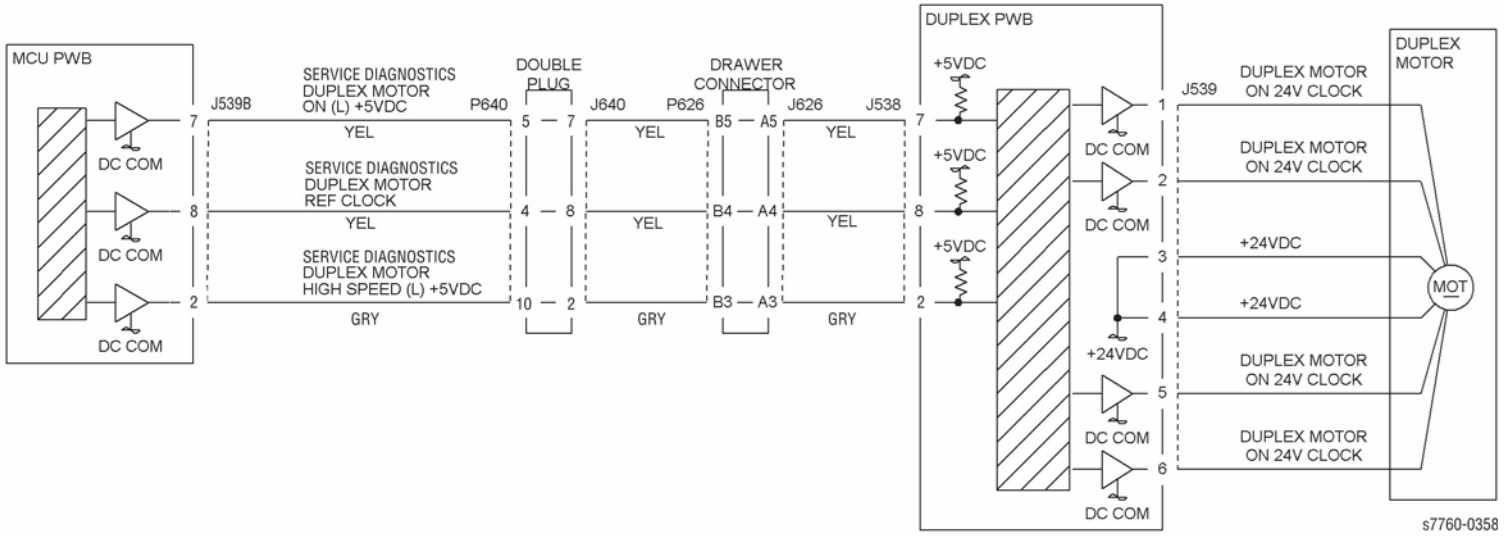

Figure 2 008-180 Duplex Motor

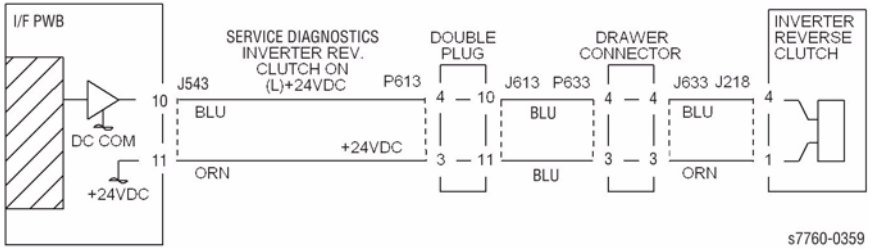

Figure 3 008-180 Inverter Reverse Clutch

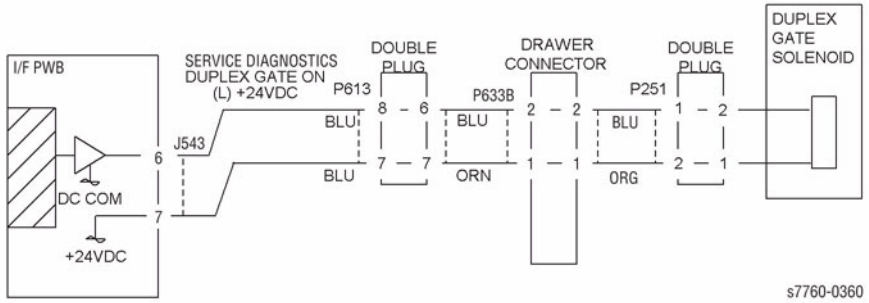

Figure 4 008-180 Duplex Gate Solenoid

008-181 Registration Sensor On Jam (Wait Sensor)

The Registration Sensor does not detect paper after the Duplex Wait Sensor actuated.

Initial Actions

- Check condition and specification of the paper supply.
- Check for obstructions in the paper feed path.
- Clean the Registration Roll and check for wear.
- Clean the Duplex Transport Roll and check for wear.

Procedure

Open the Left Cover Assembly (PL 2.9). Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Block and unblock the Registration Sensor (PL 2.6). **The display changes state.**

Y N

Check the circuit of the Registration Sensor (Figure 1). Refer to Section 6, Reflective Sensor Procedure for troubleshooting procedure.

Close the Left Cover Assembly and open the Duplex Module Cover. Block and unblock the Duplex Wait Sensor. **The display changes state.**

Y N

Check the circuit of the Duplex Wait Sensor (Figure 2). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Close the Duplex Module Cover and remove the Left Upper Cover (PL 2.7). Perform Service Diagnostics. **The Duplex Transport Roll (PL 12.1) rotates.**

Y N

The Duplex Motor (PL 12.1) energizes.

A

A

Y N

Check the circuit of the Duplex Motor (Figure 3). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the Duplex Motor and its associated pulleys and belts for damage, contamination and misalignment.

- Check the Duplex Wait Roll and Pinch Rolls for damage and contamination.
- Ensure that the connectors shown in circuit diagrams (Figure 1, Figure 2, Figure 3) are securely connected and that the wires are not damaged.
- Ensure that the Duplex Chute (PL 2.8) is properly seated and not damaged.
- If the problem persists, replace the Duplex PWB.

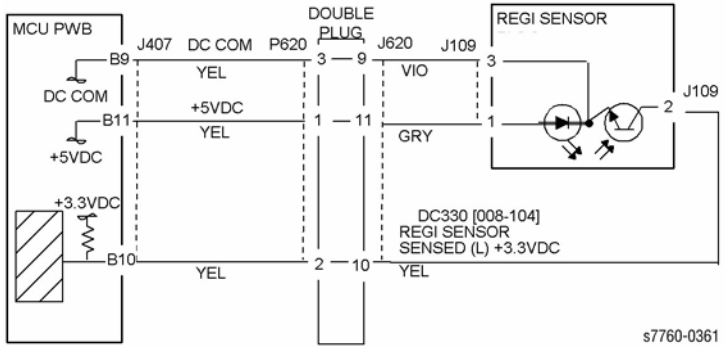

Figure 1 008-181 Registration Sensor

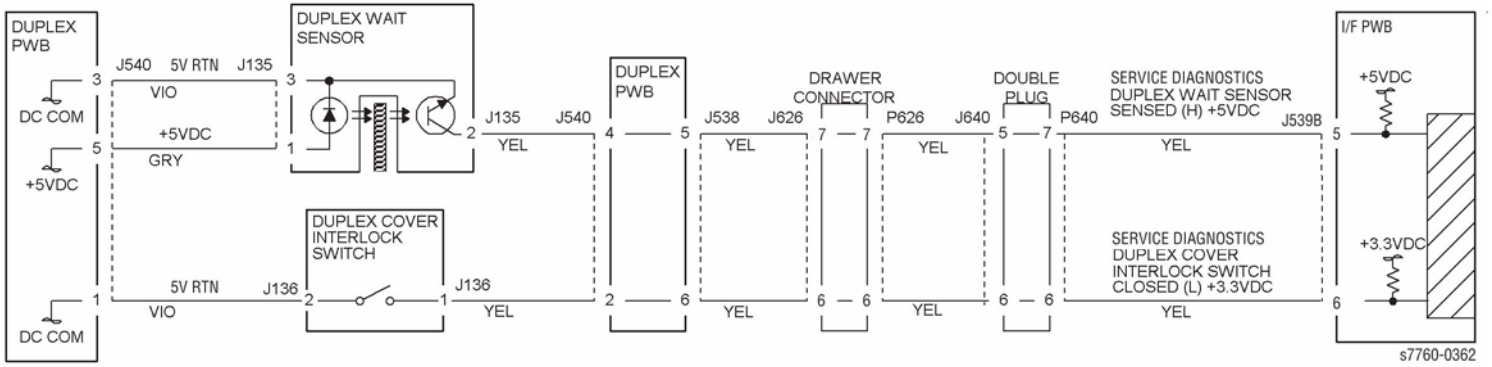

Figure 2 008-181 Duplex Wait Sensor

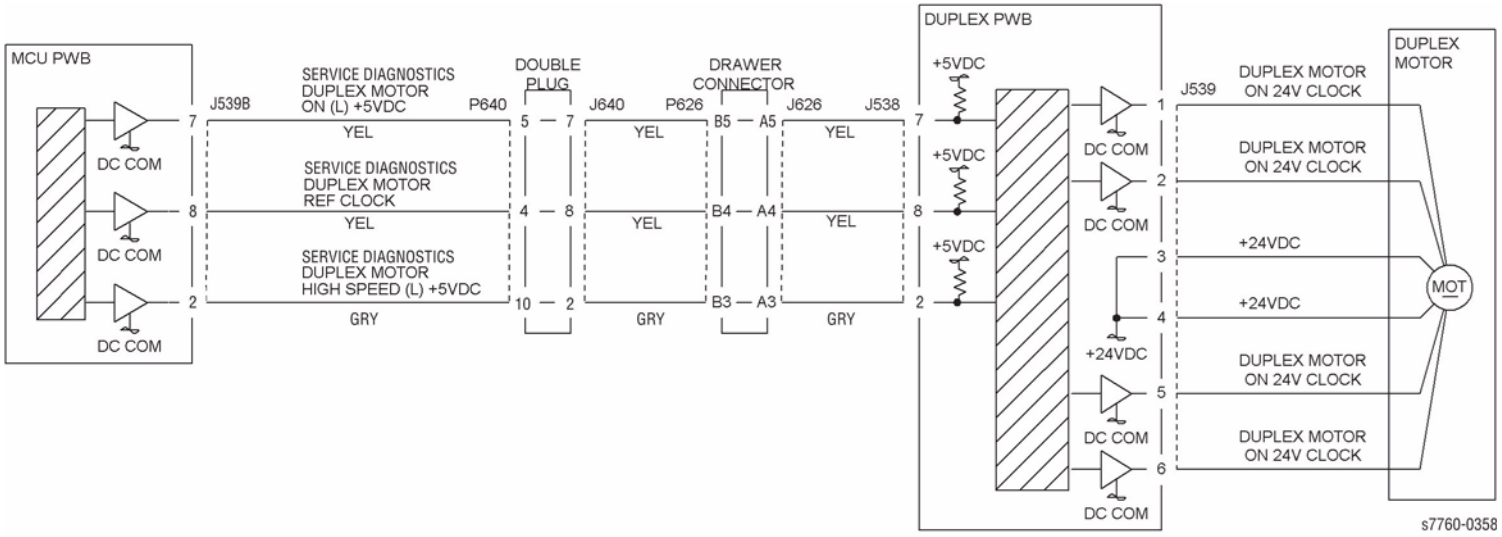

Figure 3 008-181 Duplex Motor

008-184 Registration Sensor Off Jam

The Fuser Exit Switch did not detect paper after the Registration Clutch was energized.

Initial Actions

- Check condition and specification of the paper supply.
- Check for obstructions in the paper feed path.
- Check the Fuser Belt and the Heat Roll for damage or wear.
- Clean the Registration Roll and check for wear.
- Clean the Duplex Transport Roll and check for wear.
- Check that the Fuser Exit Switch Actuator is properly seated and not damaged.

Procedure

Open the Left Cover Assembly (PL 2.9). Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Fuser Exit Switch (PL 2.8).
The display changes state.

Y N

Check the circuit of the Fuser Exit Switch (Figure 1). Refer to Section 2, OF 99-3 RAP for troubleshooting procedure.

Perform the **Registration Clutch** test. **The Registration Clutch (PL 2.6) energizes.**

Y N

Check the circuit of the Registration Clutch (Figure 2). Refer to Section 2, OF 99-4 RAP for troubleshooting procedure.

Close the Left Cover Assembly. Perform the **2nd BTR Retract Motor** test. **The 2nd BTR Retract Motor (PL 2.9) energizes.**

Y N

Refer to RAP 009-342, 009-343, 2nd Contact or Retract Failure troubleshooting procedure.

- Ensure that the connectors shown in the circuit diagrams (Figure 1, Figure 2) are securely connected and that the wires are not damaged.
- If the problem persists, replace the Duplex PWB (PL 12.1).

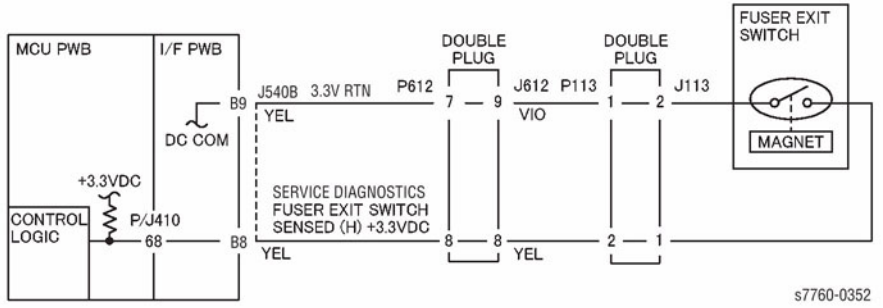

Figure 1 008-184 Fuser Exit Switch

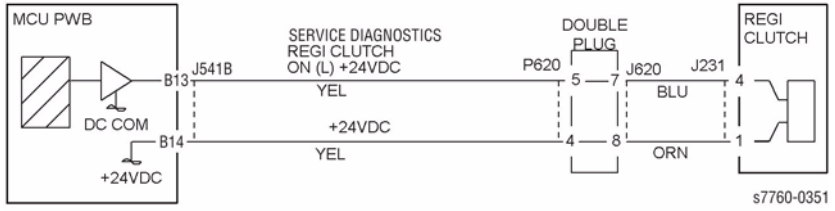

Figure 2 008-184 Registration Clutch

008-620 Environmental Sensor Fail

Environment Sensor not in range.

Procedure

NOTE: *Machine operation continues. Status Code not displayed on UI. Status Code logged in History.*

Turn the printer power **Off**. Disconnect the Environment Sensor (PL 1.3).
Measure the resistance between the following:

- I/F PWB J404-12 and J255-1
- I/F PWB J404-10 and J255-3
- I/F PWB J404-9 and J255-4

The Resistance is 1 ohm or less.

Y N

Check the wires and connectors. If the check is OK, replace the replace Engine Control Board (MCU PWB) (PL 13.1).

Measure resistance between P/J255-2 and P/J255-4 on Environment Sensor. **6k ohms to 20k ohms is measured.**

Y N

Replace the Environment Sensor (PL 1.3).

Replace Engine Control Board (MCU PWB) (PL 13.1).

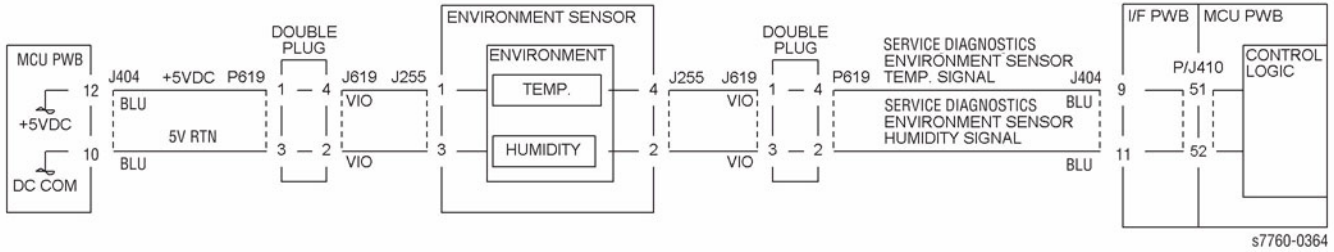

Figure 1 008-620 Environmental Sensor

008-622 RegiCon Data Overflow (A1 Patch X)

At A1 patch detection, the XSO correction setting value for either Y, M, C, or K exceeds the setting range (NVRAM value 0 to 472).

NOTE: *Status Code not displayed on UI. Machine operation continues.*

Procedure

Check the IBT Belt and Drum for a scratch or contamination. **The check is OK.**

Y **N**

Replace as required.

Perform RegiCon Adjustment procedure ADJ 9.10.

008-623 Regicon Data Overflow (A2 Patch Y)

At A2 patch detection, the YSO correction setting value of either Y, M, C, or K exceeds the setting range (NVRAM value 0 to 474).

NOTE: *Status Code not displayed on UI. Machine operation continues.*

Procedure

Check the IBT Belt and Drum for a scratch or contamination. **The check is OK.**

Y **N**

Replace as required.

Perform RegiCon Adjustment procedure ADJ 9.10.

008-624 Regicon Data Overflow (Patch Magnification)

MAG Adjusted Set Point of operation results for each of Y,M,C exceeded the set range (NVRAM value: 0~1432).

NOTE: *Status Code not displayed on UI. Machine operation continues.*

Procedure

Check the IBT Belt and Drum for a scratch or contamination. **The check is OK.**

Y **N**

Replace as required.

Perform RegiCon Adjustment procedure ADJ 9.10.

008-625 Regicon Sample Block (A1 Patch-rear)

At A1 (IN) patch detection, the number of the sample blocks does not reach the specified number.

NOTE: *Status Code not displayed on UI. Machine operation continues.*

Procedure

Check the IBT Belt and Drum for a scratch or contamination. **The check is OK.**

Y **N**

Replace as required.

Perform RegiCon Adjustment procedure ADJ 9.10.

008-626 Regicon Sample Block (A1 Patch-front)

At A1 (OUT) patch detection, the number of the sample blocks does not reach the specified number.

NOTE: *Status Code not displayed on UI. Machine operation continues.*

Procedure

Check the IBT Belt and Drum for a scratch or contamination. **The check is OK.**

Y **N**

Replace as required.

Perform RegiCon Adjustment procedure ADJ 9.10.

008-627 Regicon Sample Lateral (A1 Patch-rear)

At A1 (IN) patch detection, the Fast Scan scan position of CYAN color that is the standard for the rest is incorrect. (Against the MOB SENSOR, the center position of the CYAN pattern is shifted by ±500µm or more.)

NOTE: *Status Code not displayed on UI. Machine operation continues.*

Procedure

Check the IBT Belt and Drum for a scratch or contamination. **The check is OK.**

Y **N**

Replace as required.

Perform RegiCon Adjustment procedure ADJ 9.10.

008-628 Regicon Sample Lateral (A1 Patch-front)

At A1 (OUT) patch detection, the scan position of CYAN color that is the standard for the rest is incorrect. (Against the MOB SENSOR, the center position of the CYAN pattern is shifted by ±500µm or more.?

NOTE: *Status Code not displayed on UI. Machine operation continues.*

Procedure

Check the IBT Belt and Drum for a scratch or contamination. **The check is OK.**

Y **N**

Replace as required.

Perform RegiCon Adjustment procedure ADJ 9.10.

008-629 Regicon Skew (Patch Y)

During A1 Patch detection, skew deviation for Y exceeded tolerance.

NOTE: *Machine operation continues. Status Code not displayed on UI. Status Code logged in History.*

Initial Actions

Clean the MOB Sensor (REP 9.14).

Procedure

Check the IBT Belt and Drum for a scratch or contamination. **The check is OK.**

Y **N**

Replace as required.

Perform the RegiCon Skew ADJ 9.9 procedure.

008-630 Regicon Skew (Patch M)

During A1 Patch detection, skew deviation for M exceeded tolerance.

NOTE: *Machine operation continues. Status Code not displayed on UI. Status Code logged in History.*

Initial Actions

Clean the MOB Sensor (REP 9.14).

Procedure

Check the IBT Belt and Drum for a scratch or contamination. **The check is OK.**

Y **N**

Replace as required.

Perform the RegiCon Skew ADJ 9.9 procedure.

008-631 Regicon Skew (Patch K)

During A1 Patch detection, skew deviation for K exceeded tolerance.

NOTE: *Machine operation continues. Status Code not displayed on UI. Status Code logged in History.*

Initial Actions

Clean the MOB Sensor (REP 9.14).

Procedure

Check the IBT Belt and Drum for a scratch or contamination. **The check is OK.**

Y **N**

Replace as required.

Perform the RegiCon Skew ADJ 9.9 procedure.

008-900 Static Jam

When the machine power is turned off then on before a paper path fault is cleared, an unclearable paper jam occurs. A voltage drop or interruption can also cause this fault.

Initial Actions

- Check the entire paper path for paper or obstructions.
- Clean all the paper path sensors.
- Check the Fault History for the last paper path fault. Go to that paper path fault RAP.

Procedure

In sequence, enter the following dC330 codes:
Block and unblock each sensor. Go to the RAP if the sensor does not respond.

- 8-100 Tray 2 Feedout Sensor, Area 3; 007-105 RAP.
- 8-106 Tray 3 Takeaway Sensor, Area 4; 007-110 RAP.
- 8-102 Tray 4 Feedout Sensor, Area 4; 007-115 RAP.
- 8-103 Tray 5 Feedout Sensor, Area 4; 007-119 RAP.
- 8-104 Registration Sensor, Area 1; 008-175 RAP.
- 8-105 Duplex Transport Wait Sensor; 010-125 RAP.
- 9-201 POB On Jam; 008-164 RAP.
- 10-101 Fuser Exit Switch; 010-106 RAP.

The display changes for each code.

Y **N**

Go to the appropriate paper path fault RAP.

Check the machine input voltage.

009-330 Developer Drive Motor Fail

Developer Motor failure.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Developer Drive Motor	PL 1.1	
I/F PWB	PL 9.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16

Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	Does the Developer Drive Motor turn in the Diagnostic mode?	Examine the Developers and Drive System for any binding conditions and repair.	Go to step 2.
2	Is 24 VDC present on J 533 pin 3?	Go to step 3.	Replace the Interface Board (REP 1.8).
3	Is 5 VDC present on J-533 pin 6?	Go to step 4.	Replace the Interface Board (REP 1.8).
4	Check the continuity or for shorting to ground of the wiring from J-533 to J-232. Is the wiring OK?	Replace the Developer Drive Motor Assembly (REP 4.3).	Repair or replace the wiring harness.

009-342, 009-343 2nd BTR Contact or Retract Fail

The 2nd BTR did not meet the Contact position, or the 2nd BTR did not reach the Retract position. This procedure can be used for troubleshooting Chain Link code 009-342 or 009-343.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Left Door	PL 2.8	
Retract Home Sensor	PL 2.9	
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Run the **2nd BTR Motor** test. 2. Does the Motor operate correctly?	Go to step 2.	Go to step 5.
2	1. Clean the 2nd BTR Retract Sensor. 2. Does the error still occur?	Go to step 3.	Complete.
3	1. Run the **Transmissive Sensor** test. 2. Does the Sensor operate correctly?	Go to step 4.	Replace the Sensor or Left Hand Door Assembly (REP 8.1).
4	1. Check the Transfer Roller Transmission Gears for damage. 2. Are the gears damaged?	Replace the Left Hand Door Assembly (REP 8.1).	Go to step 6.
5	1. Remove the Left-Hand Rear Mid Cover. 2. Inspect the Left-Hand Cover Assembly wiring harness for damage and ensure the connectors are all properly seated. 3. Is the wiring harness damaged?	Replace the Left-Hand Cover Assembly (REP 8.1).	Go to step 6.
6	1. Remove the Rear Cover. 2. Reconnect power and enter Service Diagnostics. 3. Measure the voltage at the Engine Control Board J540B4 while running the 2nd BTR Motor test several times. 4. Does the voltage between +5 VDC and 0 VDC when the test running?	Replace the Engine Control Board (MCU PWB) (REP 1.2).	Replace the Transfer Roller Retract Sensor.

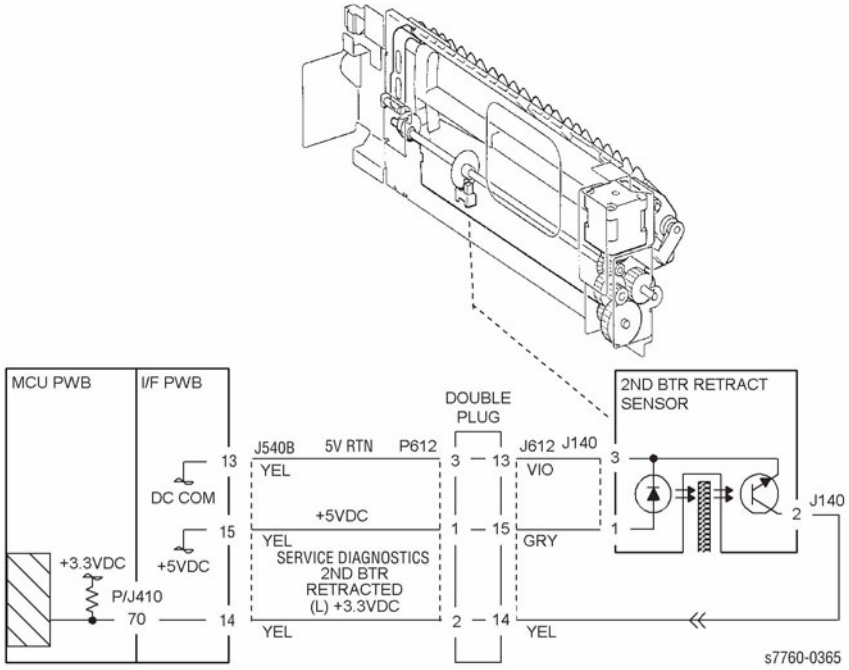

Figure 1 009-342, 009-343 2nd BTR Retract Sensor

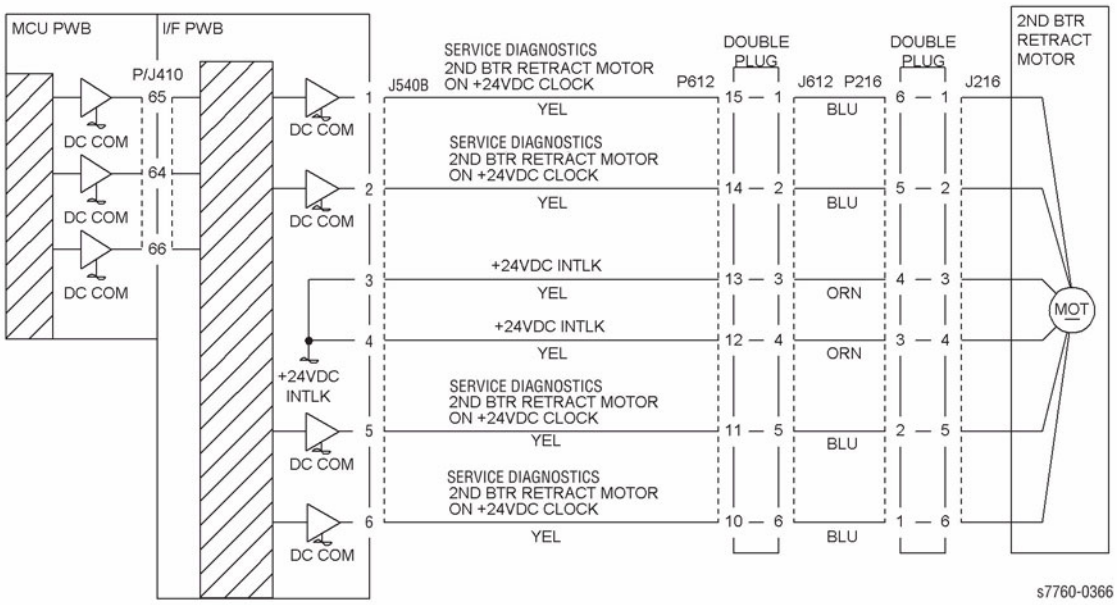

Figure 2 009-342, 009-343 2nd BTR Retract Motor

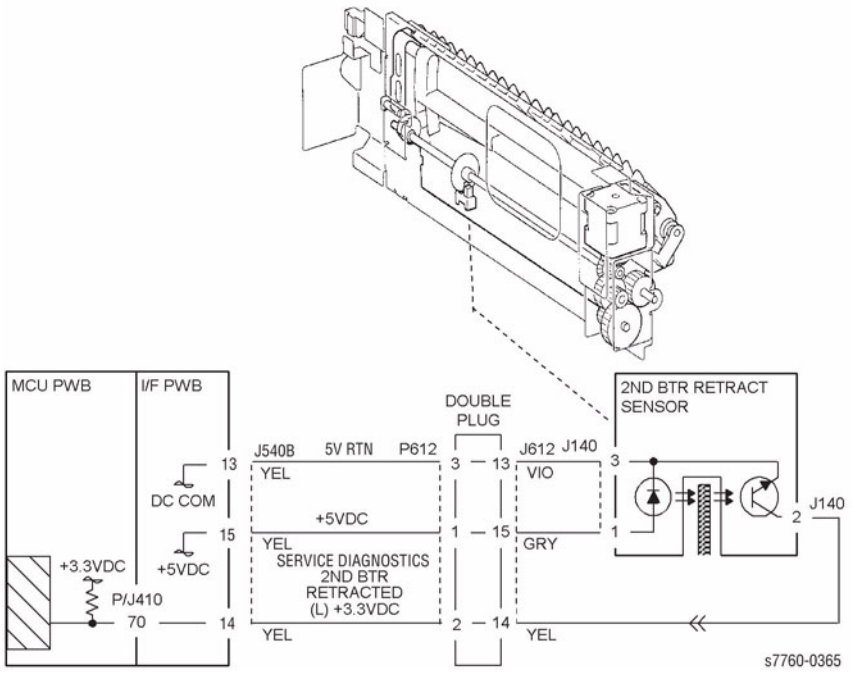

Figure 3 009-342, 009-343 2nd BTR Retract Sensor

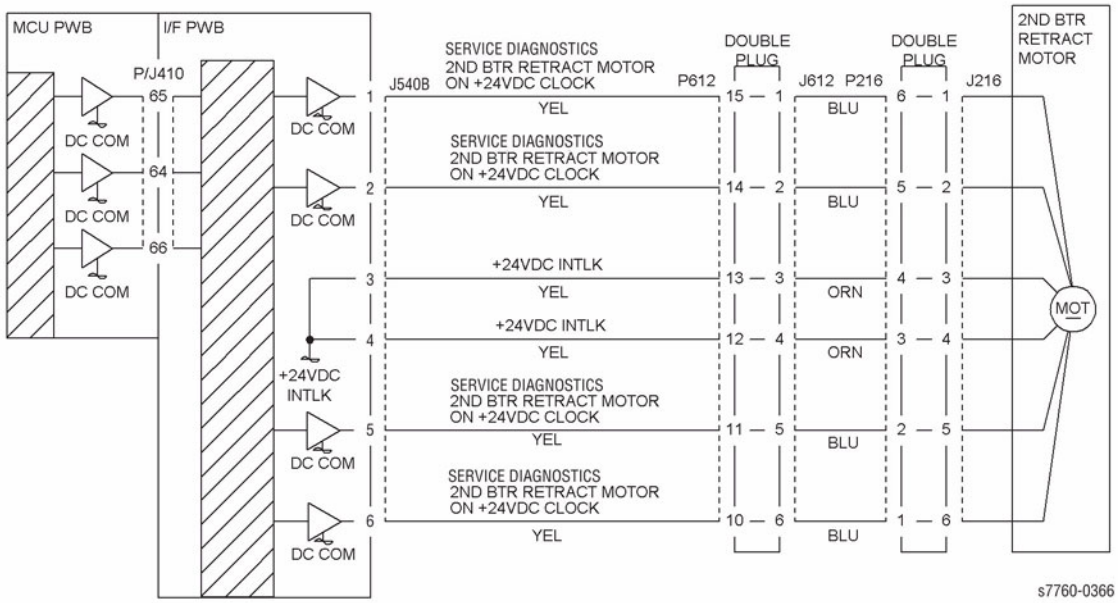

Figure 4 009-342, 009-343 2nd BTR Retract Motor

009-348, 009-349 1st BTR Contact Fail

The 1st BTR did not meet the Contact position or the 1st BTR did not reach the Retract position. This procedure can be used for troubleshooting Chain Link code 009-348 or 009-349.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Left Door	PL 2.8	
Retract Home Sensor	PL 2.9	
Accumulator Belt Assembly	PL 5.2	
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	Is the Retract Sensor or Actuator damaged or out of position?	Repair or reseat the Sensor.	Go to step 2.
2	1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Run the **1st BTR Motor Contact/Retract** test in Diagnostics. 2. Do the 1st BTRs contact and retract?	Replace the Accumulator Belt Assembly (REP 9.15).	Go to step 3.
3	1. Run the **1st BTR Retract Sensor** test. 2. Does the status change between H and L?	Go to the Transmissive Sensor Procedure.	Replace the Accumulator Belt Assembly (REP 9.15).

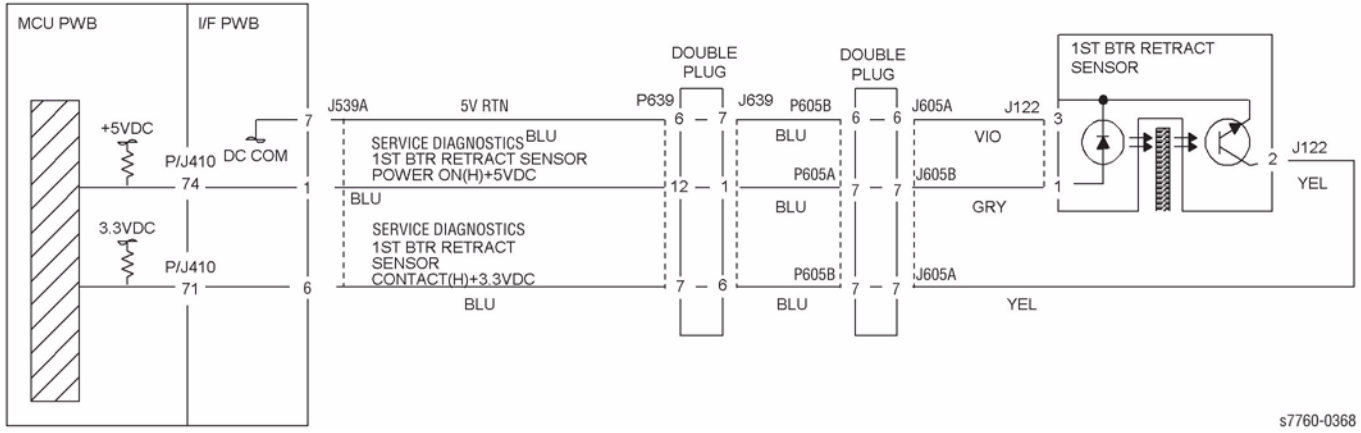

Figure 1 009-348, 009-349 1st BTR Retract Sensor

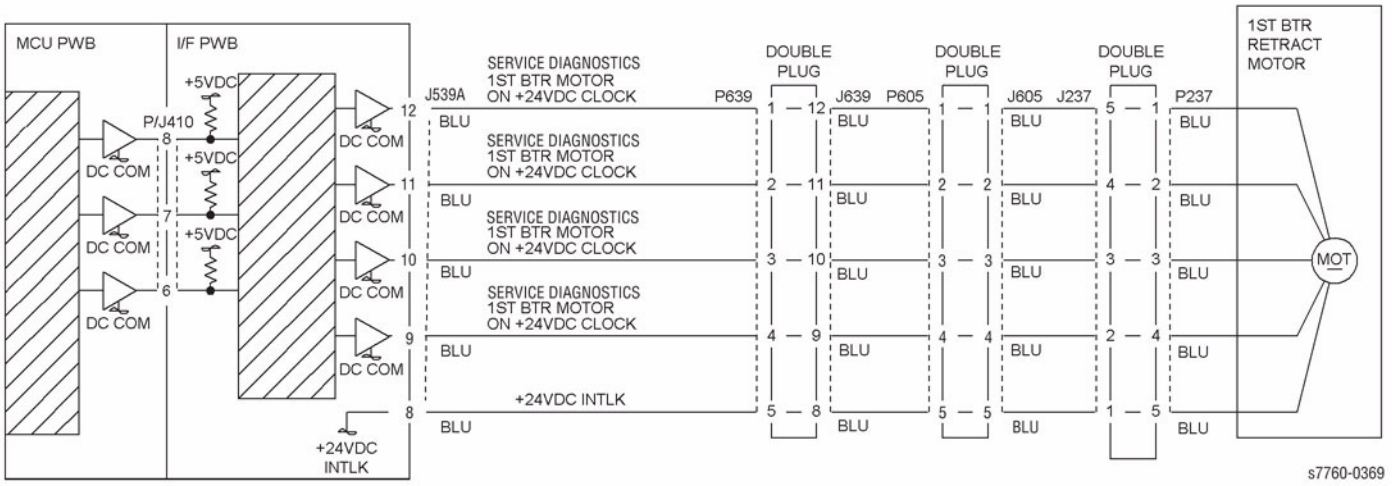

Figure 2 009-348, 009-349 1st BTR Retract Motor

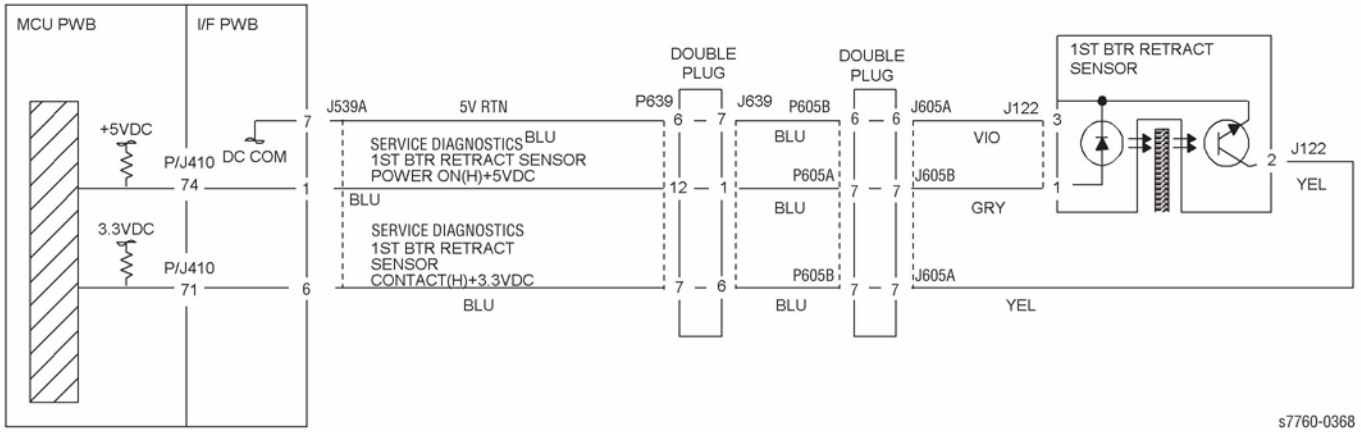

Figure 3 009-348, 009-349 1st BTR Retract Sensor

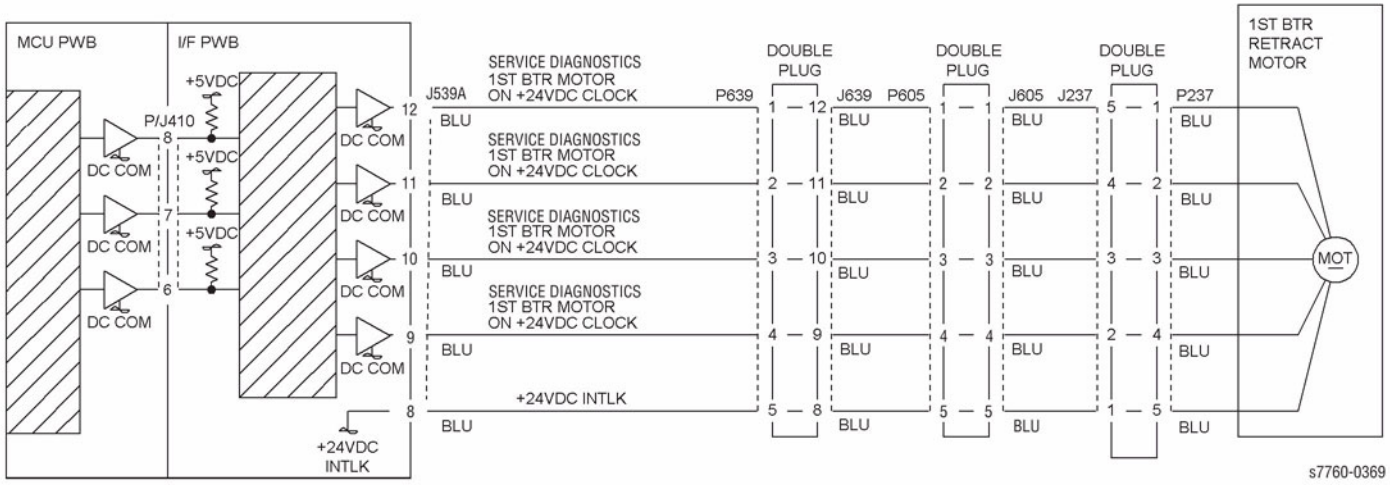

Figure 4 009-348, 009-349 1ST BTR Retract Motor

009-350 Unexpected IBT Home Sensor Signal

The IBT Home Sensor detected the IBT position strip before the IBT Belt made a complete revolution.

CAUTION

If the Accumulator Belt is damaged, determine the cause of the damage before installing a new assembly.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Accumulator Belt Assembly	PL 5.2	
I/F PWB	PL 9.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Remove the Accumulator Belt Assembly. 2. Inspect the DTS Connector for damage. 3. Is the connector damaged?	Replace the Accumulator Belt Assembly.	Go to step 2.
2	Is the mating connector inside the printer damaged?	Repair or replace the wiring harness between J605 and the Connector.	Go to step 3.
3	1. Reinstall the Accumulator Belt Assembly. 2. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Run the **Accumulator MOB Sensor** test. 3. Is the value H when the Belt Home Marker is **NOT** under the Belt Home Sensor?	Refer to Section 6, Reflective Sensor Procedure.	Replace the following order: 1. Engine Control Interface Board (REP 1.8) 2. Engine Control Board (MCU PWB) (REP 1.2)

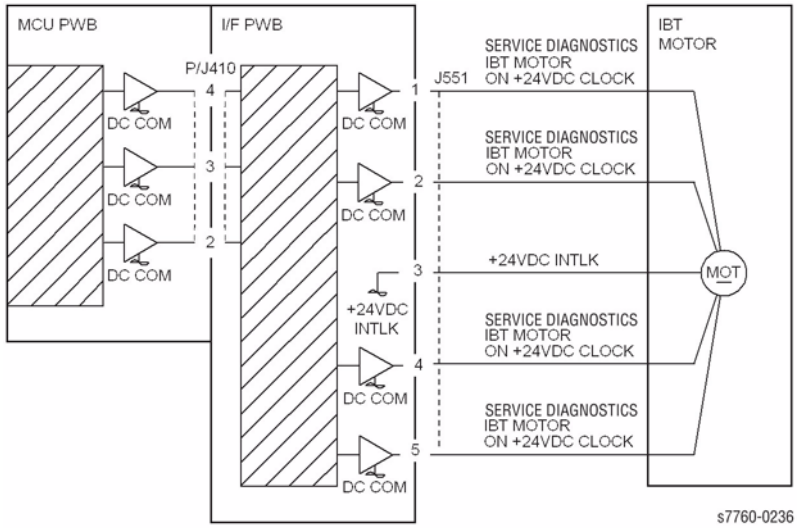

Figure 1 009-350 IBT Motor

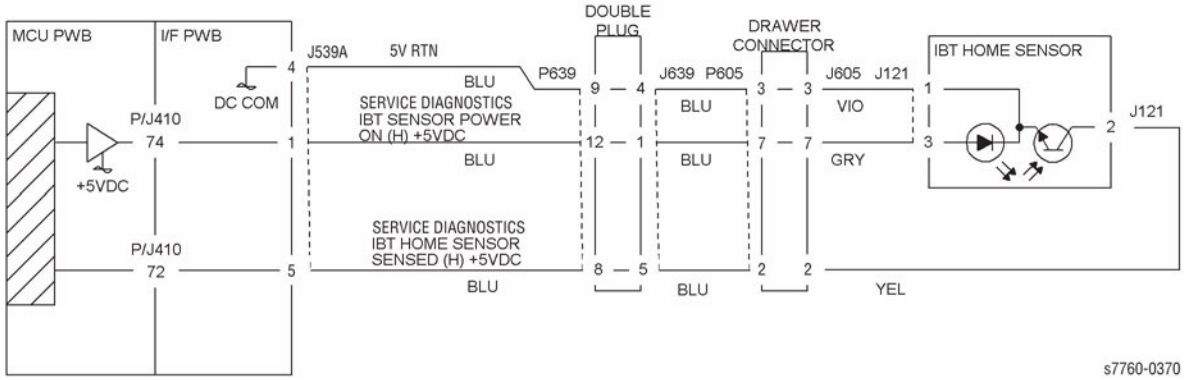

Figure 2 009-350 IBT Home Sensor

009-351 Accumulator Belt Drive Logic Fail

The IBT Edge Sensor detected that the IBT Belt is not tracking correctly.

CAUTION

If the Accumulator Belt is damaged, determine the cause of the damage before installing a new assembly.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Drive Assembly - Steering	PL 1.3	
Accumulator Belt Assembly	PL 5.2	
I/F PWB	PL 9.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Remove the Accumulator Belt Assembly. 2. Inspect the DTS Connector for damage. 3. Is the connector damaged?	Replace the Accumulator Belt Assembly (REP 9.15).	Go to step 2.
2	Is the Edge Sensor Actuator touching the Belt?	Replace the Accumulator Belt Assembly (REP 9.15).	Go to step 3.
3	Is the mating connector inside the printer damaged?	Repair or replace the wiring harness between the connector and J605.	Go to step 4.
4	1. Reinstall the Accumulator Belt Assembly. 2. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Run the **Belt Edge Sensor** test. 3. Is the result OK?	Go to step 5.	Run the Belt Edge Learn and recheck. If it still fails, go to step 8.

Table 2 Procedure

Step	Actions and Questions	Yes	No
5	1. Switch the printer power On. 2. Remove the Rear Cover. 3. Measure the voltage between the Engine Control Interface Board and J539A3(+) and frame ground. 4. Does the voltage measure between +1 to +3 VDC?	Go to step 8.	Go to step 6.
6	1. Measure the voltage between the Engine Control Interface Board and J539A-1 and frame ground. 2. Does the voltage measure +5 VDC?	Go to step 7.	Replace in the following order: 1. Engine Control Interface Board (REP 1.8) 2. Engine Control Board (MCU PWB) (REP 1.2)
7	1. Measure the voltage between the Engine Control Interface Board and J539A-2 and frame ground. 2. Does the voltage measure +5 VDC?	Replace in the following order: 1. Engine Control Interface Board (REP 1.8) 2. Engine Control Board (MCU PWB) (REP 1.2)	The Edge Sensor is defective, replace the Accumulator Belt Assembly (REP 9.15).
8	1. Remove the Accumulator Belt Assembly. 2. Enter Service Diagnostics and run the **Steering Motor** test. 3. Does the Motor turn?	Replace the Accumulator Belt Assembly (REP 9.15). If the problem is unresolved, replace the Engine Control Board (MCU PWB) (REP 1.2).	Go to step 9.
9	1. Measure the voltage between the Engine Control Interface Board J537-6 and frame ground. 2. Is the voltage +24 VDC?	Go to step 10.	Replace in the following order: 1. Engine Control Interface Board (REP 1.8) 2. Engine Control Board (MCU PWB) (REP 1.2)

Table 2 Procedure

Step	Actions and Questions	Yes	No
10	1. Measure the voltage between the Engine Control Interface Board J537 Pins 2, 3, 4, 5 and frame ground. 2. Is the voltage +24 VDC?	Replace in the following order: 1. Engine Control Interface Board (REP 1.8) 2. Engine Control Board (MCU PWB) (REP 1.2)	Replace the Steering Drive Assembly (REP 9.12).

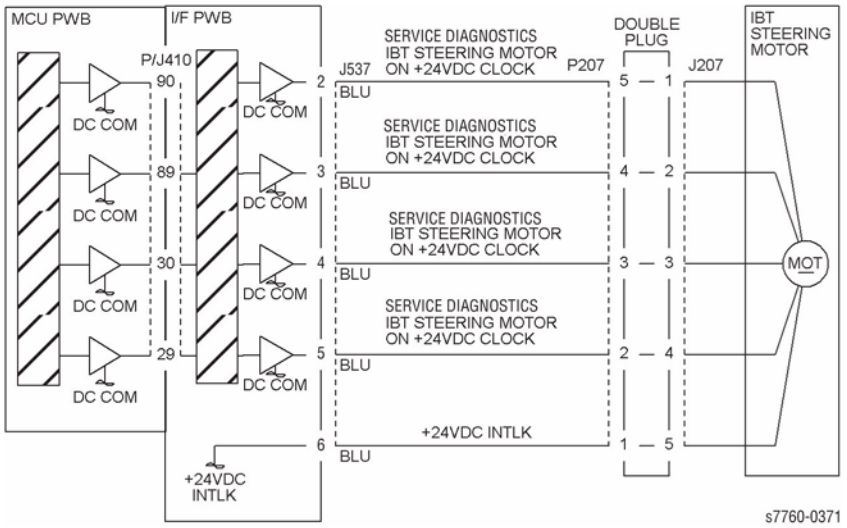

Figure 1 009-351 IBT Steering Motor

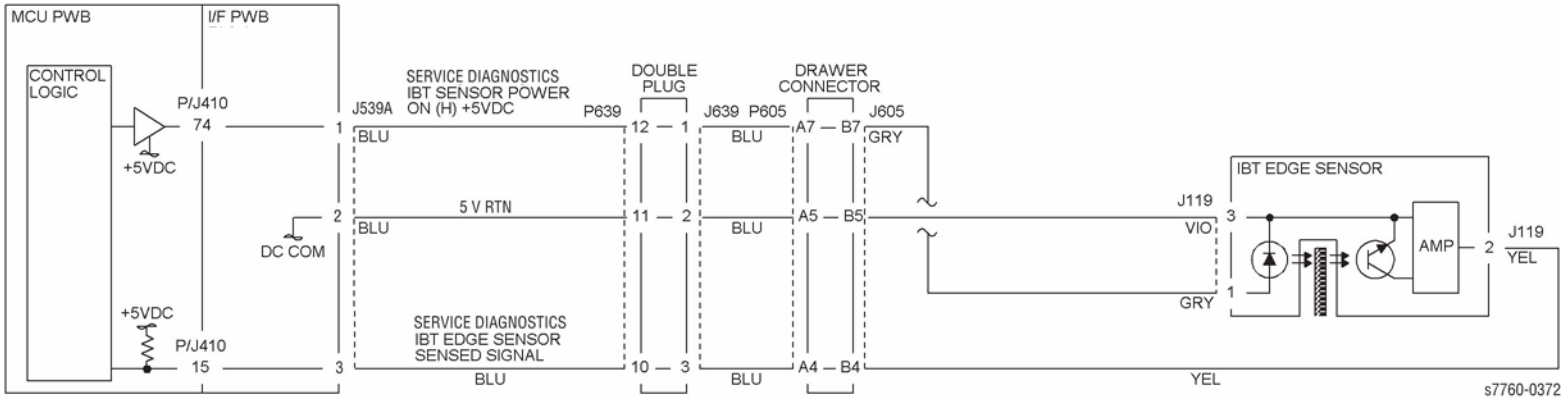

Figure 2 009-351 IBT Edge Sensor

009-358 Waste Cartridge Full Toner Sensor Fail

The Full Toner Sensor detects a full toner condition.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Waste Cartridge	PL 4.1	
Waste Cartridge Full Sensor	PL 4.1	Section 7, Xerographic Plug/Jack Locations - Figure 1
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Remove the Waste Cartridge Sensor Holder without disconnecting the harnesses. 2. Measure the voltage between the Yellow wire on the Waste Cartridge Full Sensor and frame ground, alternately interrupting the sensor. 3. Does the voltage toggle between +5 and 0 VDC?	Go to step 5.	Go to step 2.
2	1. Measure the voltage between the gray wire and frame ground. 2. Does the voltage measure +5 VDC?	Go to step 4.	Go to step 3.
3	1. Remove the Rear Cover. 2. Measure the voltage at J404B-15 on the Engine Control Board. 3. Does the voltage measure +5 VDC?	Inspect the wiring harness for damage and replace, if necessary.	Replace the Engine Control Board (MCU PWB) (REP 1.2).
4	1. Measure the voltage between the violet wire and frame ground. 2. Does the voltage measure 0 VDC?	Replace the Waste Cartridge Full Sensor.	Inspect the wiring harness for damage and replace, if necessary.
5	1. Remove the Rear Cover. 2. Measure the voltage at J404B-14 on the Engine Control Board. 3. Alternately interrupt the Sensor. 4. Does the voltage measure between +5 and 0 VDC?	Replace the Engine Control Board (MCU PWB) (REP 1.2).	Inspect the wiring harness for damage and replace, if necessary.

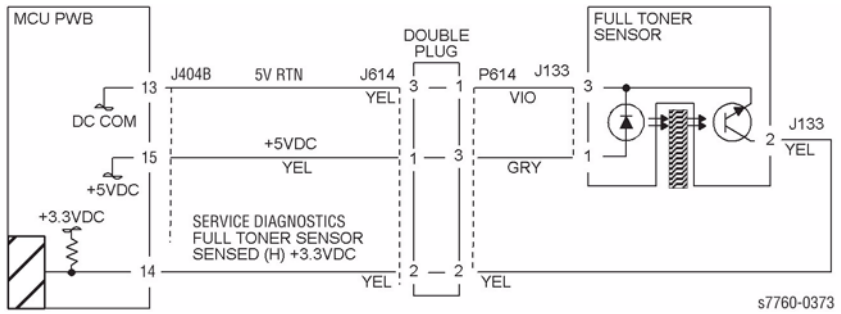

Figure 1 009-358 Full Toner Sensor

009-360 Yellow Imaging Unit Communication Fail

A communication failure with the Yellow Imaging Unit was detected.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Imaging Unit	PL 4.1	
Imaging Unit Plate Assembly	PL 4.2	Section 7, Toner Dispense Motor (Y, M, C, K) Main Switch - Figure 9

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Replace the Imaging Unit reporting the error. 2. Does the error still appear?	Go to step 2.	Complete.
2	1. Remove the Imaging Unit from the problem location and inspect the connector. 2. Is the connector damaged?	Replace the Imaging Unit Plate Assembly (REP 9.8).	Troubleshoot the wiring. If wiring is OK, replace the Engine Control Board (MCU PWB) (REP 1.2).

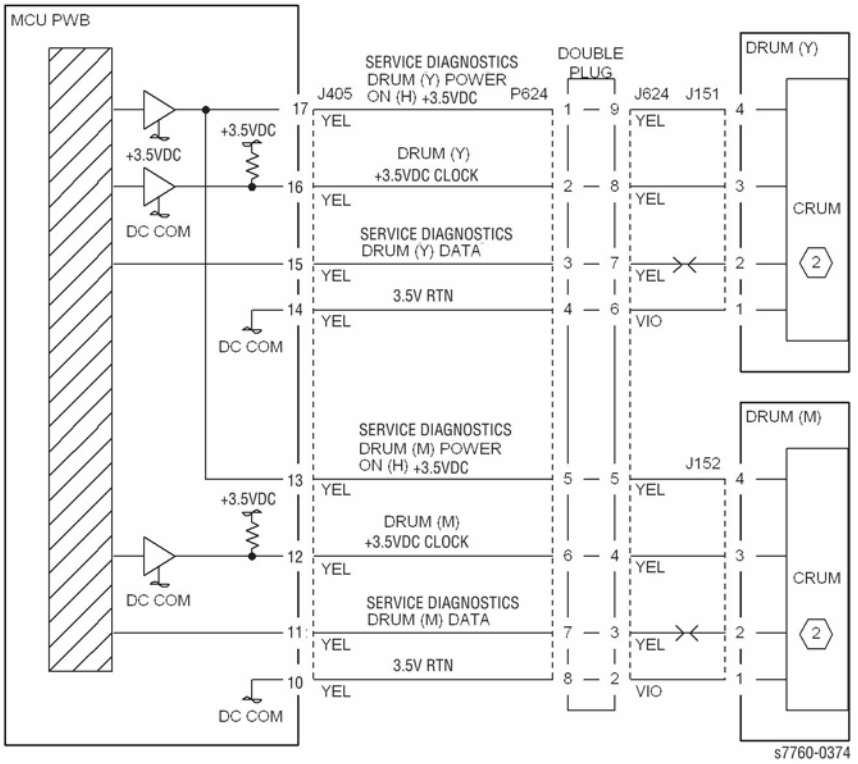

Figure 1 009-360 Yellow Imaging Unit Communication Fail

009-361 Magenta Imaging Unit Communication Fail

A communication failure with the Magenta Imaging Unit was detected.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Imaging Unit	PL 4.1	
Imaging Unit Plate Assembly	PL 4.2	Section 7, Toner Dispense Motor (Y, M, C, K) Main Switch - Figure 9

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Replace the Imaging Unit reporting the error. 2. Does the error still appear?	Go to step 2.	Complete.
2	1. Remove the Imaging Unit from the problem location and inspect the connector. 2. Is the connector damaged?	Replace the Imaging Unit Plate Assembly (REP 9.8).	Troubleshoot the wiring. If wiring is OK, replace the Engine Control Board (MCU PWB) (REP 1.2).

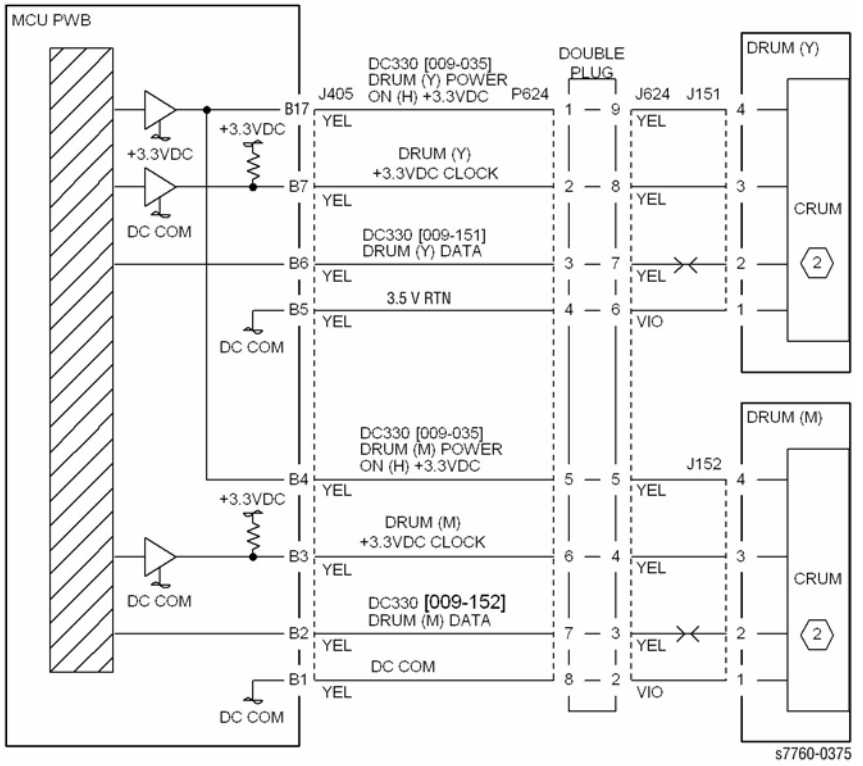

Figure 1 009-361 Magenta Imaging Unit Communication Fail

009-362 Cyan Imaging Unit Communication Fail

A communication failure with the Cyan Imaging Unit was detected.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack Map References
Imaging Unit	PL 4.1	
Imaging Unit Plate Assembly	PL 4.2	Section 7, Toner Dispense Motor (Y, M, C, K) Main Switch - Figure 9

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Replace the Imaging Unit reporting the error. 2. Does the error still appear?	Go to step 2.	Complete.
2	1. Remove the Imaging Unit from the problem location and inspect the connector. 2. Is the connector damaged?	Replace the Imaging Unit Plate Assembly (REP 9.8).	Troubleshoot the wiring. If wiring is OK, replace the Engine Control Board (MCU PWB) (REP 1.2).

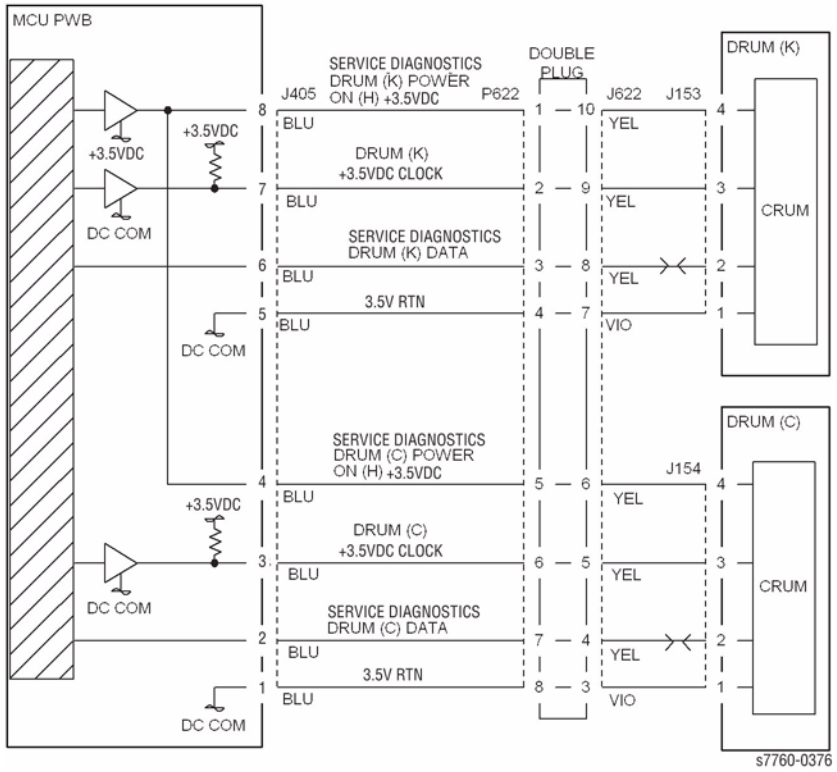

Figure 1 009-362 Cyan Imaging Unit Communication Fail

009-363 Black Imaging Unit Communication Fail

A communication failure with the Black Imaging Unit was detected.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack Map References
Imaging Unit	PL 4.1	
Imaging Unit Plate Assembly	PL 4.2	Section 7, Toner Dispense Motor (Y, M, C, K) Main Switch - Figure 9

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Replace the Imaging Unit reporting the error. 2. Does the error still appear?	Go to step 2.	Complete.
2	1. Remove the Imaging Unit from the problem location and inspect the connector. 2. Is the connector damaged?	Replace the Imaging Unit Plate Assembly (REP 9.8).	Troubleshoot the wiring. If wiring is OK, replace the Engine Control Board (MCU PWB) (REP 1.2).

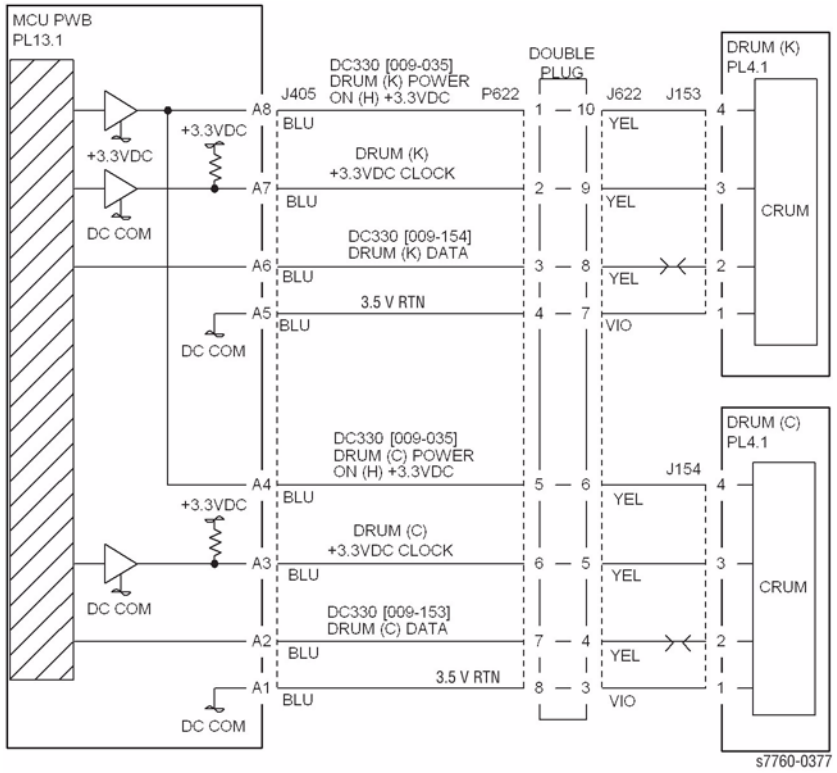

Figure 1 009-363 Black Imaging Unit Communication Fail

009-380, 009-381, 009-382, 009-383 Y, M, C, K ATC Sensor Fail

The ATC Sensor detects an insufficient amount of Developer. This procedure can be used for troubleshooting Chain Link code 009-380, 009-381, 009-382, or 009-383.

NOTE: *If this failure reoccurs three times successively, an Engine NVRAM value is set preventing further printer use until the Clear Tech Rep Faults (Section 6) is performed.*

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15
ATC Sensor and Harness	PL 6.2	

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	Is the problem toner and/or Developer empty?	Replace the Tone or Developer.	Go to step 2.
2	Is the ATC Sensor clean and free of dust, toner, or any other contaminates?	Go to step 3.	Clean the ATC Sensor.
3	1. Check the ATC Sensor wiring harness: • Yellow = P/J129 • Magenta = P/J130 • Cyan = P/J131 • Black = P/J132 2. Is the wiring harness or the sensor defective?	Replace the ATC Sensor (REP 9.26) and/or wiring harness.	Go to step 4.
4	1. Remove the Rear Cover. 2. Measure the voltage on the Engine Control Board at: • Yellow = P401B3 • Magenta = P401B8 • Cyan = P401A10 3. Is the voltage between +1 and +3 VDC?	Replace the Engine Control Board (MCU PWB) (REP 1.2).	Go to step 5.

Table 2 Procedure

Step	Actions and Questions	Yes	No
5	1. Measure the voltage on the Engine Control Board at: • Yellow = P401B14 • Magenta = P401B11 • Cyan = P401A11 2. Is the voltage +5 VDC?	Replace the Engine Control Board (MCU PWB) (REP 1.2).	Go to step 6.
6	1. Measure the voltage on the Engine Control Board at: • Yellow = P405B2 • Magenta = P405B9 • Cyan - P405A9 2. Is the voltage 0 VDC?	Replace the Engine Control Board (MCU PWB) (REP 1.2).	Go go step 7.
7	1. Remove the Imaging Unit Plate Cover. 2. Inspect the wiring harness between the Engine Control Board and the Developer Housing Assembly. 3. Is the wiring harness defective?	Replace the wiring harness.	Replace the ATC Sensor (REP 9.26).
8	Run approximately 10 pages of the **Solid Fill** full-page prints for this color to ensure the error is cleared.		

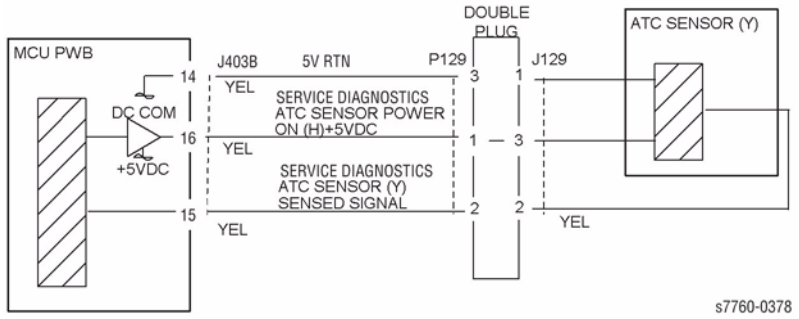

Figure 1 009-380, 009-381, 009-382, 009-383 ATC Sensor Y

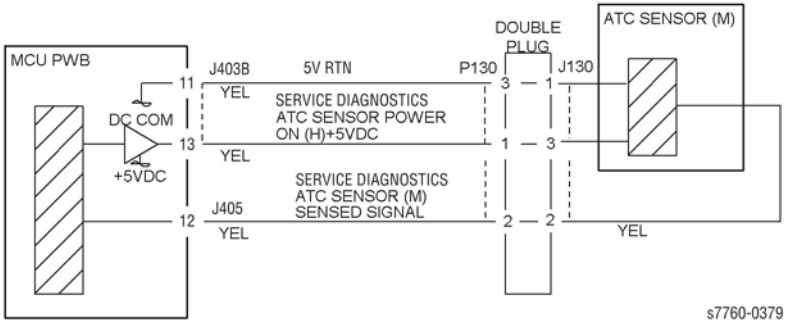

Figure 2 009-380, 009-381, 009-382, 009-383 ATC Sensor M

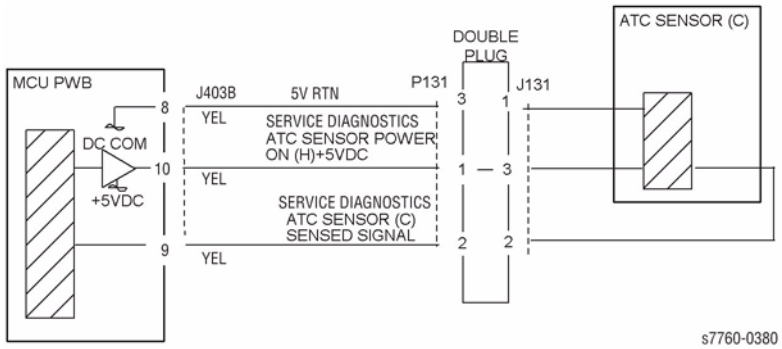

Figure 3 009-380, 009-381, 009-382, 009-383 ATC Sensor C

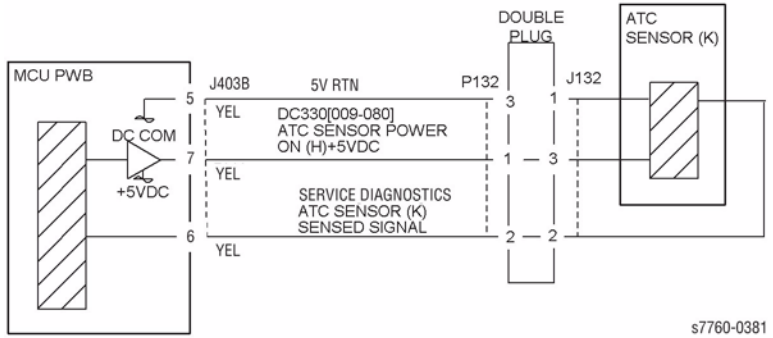

Figure 4 009-380, 009-381, 009-382, 009-383 ATC Sensor K

009-390 New Black Toner Cartridge

The Control Logic did not detect New Black Cartridge CRUM.

Initial Actions

- Re-install the Toner Cartridge ensuring that the Dispense Motor and the Toner Cartridge are both engaged.
- Try installing a different Black Toner Cartridge.
- Check that the CRUM is present and not damaged on the Toner Cartridge.
- Check that the CRUM Reader Board and Mounting Bracket are not damaged.
- Check that the Dispense Motor is operating in Diagnostics.

Procedure

Swap the Black CRUM Antenna PWB with the CRUM Antenna PWB of any other color. **Does the Chain Link Error indicate a different color failure?**

Y N

Verify that the wiring has continuity between P407 on the Engine Control Board (MCU PWB) and the Black CRUM Antenna PWB (refer to section 7, BSD, Wiring Diagram - Figure 6). If continuity is OK, replace the Engine Control Board (MCU PWB) (PL 13.1).

Replace the Black CRUM Antenna PWB (PL 6.1).

009-391 New Cyan Toner Cartridge

The Control Logic did not detect New Cyan Cartridge CRUM.

Initial Actions

- Re-install the Toner Cartridge ensuring that the Dispense Motor and the Toner Cartridge are both engaged.
- Try installing a different Cyan Toner Cartridge.
- Check that the CRUM is present and not damaged on the Toner Cartridge.
- Check that the CRUM Reader Board and Mounting Bracket are not damaged.
- Check that the Dispense Motor is operating in Diagnostics.

Procedure

Swap the Cyan CRUM Antenna PWB with the CRUM Antenna PWB of any other color. **Does the Chain Link Error indicate a different color failure?**

Y N

Verify that the wiring has continuity between P407 on the Engine Control Board (MCU PWB) and the Cyan CRUM Antenna PWB (refer to section 7, BSD, Wiring Diagram - Figure 6). If the continuity is OK, replace the Engine Control Board (MCU PWB) (PL 13.1).

Replace the Cyan CRUM Antenna PWB (PL 6.1).

009-392 New Magenta Toner Cartridge

The Control Logic did not detect New Magenta Cartridge CRUM.

Initial Actions

- Re-install the Toner Cartridge ensuring that the Dispense Motor and the Toner Cartridge are both engaged.
- Try installing a different Magenta Toner Cartridge.
- Check that the CRUM is present and not damaged on the Toner Cartridge.
- Check that the CRUM Reader Board and Mounting Bracket are not damaged.
- Check that the Dispense Motor is operating in Diagnostics.

Procedure

Swap the Magenta CRUM Antenna PWB with the CRUM Antenna PWB of any other color. **Does the Chain Link Error indicate a different color failure?**

Y N

Verify that the wiring has continuity between P407 on the Engine Control Board (MCU PWB) and the Magenta CRUM Antenna PWB (refer to Section 7, BSD, Wiring Diagram - Figure 6). If continuity is OK, replace the Engine Control Board (MCU PWB) (PL 13.1).

Replace the Magenta CRUM Antenna PWB (PL 6.1).

009-393 New Yellow Toner Cartridge

The Control Logic did not detect New Yellow Cartridge CRUM.

Initial Actions

- Re-install the Toner Cartridge ensuring that the Dispense Motor and the Toner Cartridge are both engaged.
- Try installing a different Yellow Toner Cartridge.
- Check that the CRUM is present and not damaged on the Toner Cartridge.
- Check that the CRUM Reader Board and Mounting Bracket are not damaged.
- Check that the Dispense Motor is operating in Diagnostics.

Procedure

Swap the Yellow CRUM Antenna PWB with the CRUM Antenna PWB of any other color. **Does the Chain Link Error indicate a different color failure?**

Y N

Verify that the wiring has continuity between P407 on the Engine Control Board (MCU PWB) and the Yellow CRUM Antenna PWB (refer to Section 7, BSD, Wiring Diagram - Figure 6). If continuity is OK, replace the Engine Control Board (MCU PWB) (PL 13.1).

Replace the Yellow CRUM Antenna PWB (PL 6.1).

009-408 Waste Toner Cartridge Near Full

The Waste Toner Cartridge is nearly full. This fault requires service only if the message appears before the Toner Cartridge is depleted.

Initial Actions

Replace the Waste Toner Cartridge. Check the Full Toner Sensor for contaminants.

Procedure

If the problem persists, go to RAP 009-358, Waste Cartridge Full Toner Sensor Failure.

009-409 Waste Toner Cartridge

Waste Toner Cartridge was replaced.

Procedure

No action required.

009-410 Yellow Toner Cartridge Near Empty

The Yellow Toner Cartridge is nearly empty/empty. This fault requires service only if the message appears before the Toner Cartridge is depleted.

NOTE: *Continuous running of high density prints can temporarily deplete the toner supply.*

Initial Actions

- Ensure that there is toner and the toner is evenly distributed in the cartridge (Y).
- Check the Yellow ATC Sensor for blockage or contaminants.
- Check the drive system from the Developer Drive Motor to the Developer Housing (Y) for damage.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Run the Yellow Dispenser Motors test. **The Yellow Toner Dispense Motor (PL 6.1) energizes.**

Y N

Go to Figure 1. **There is +24 VDC from J406-3 to GND.**

Y N

Go to the +24 VDC Wirenets (Section 7, Wiring Data, +24 VDC Wirenets - Figure 1) and troubleshoot the problem.

There is +24 VDC from J406-2 to GND.

Y N

Check the wires from J406 to J227 for an open circuit. If the wires are OK, replace the Yellow Toner Dispense Motor (PL 6.1).

Perform Service Diagnostics. **The voltage from J406-2 to GND drops to less than 1 VDC.**

Y N

Replace the MCU PWB (PL 13.1). If the problem continues, replace the I/F PWB (PL 9.1).

Check the wires from J406 to J227 for an open circuit. If the wires are OK, replace the Yellow Toner Dispense Motor (PL 6.1).

Run the **Developer Motors** test. **The Developer Motor energizes (PL 1.1).**

Y N

Go to Figure 2. **There is +24 VDC from J535-3 to J535-4 on the I/F PWB.**

Y N

Go to the +24 VDC Wirenets (Section 7, Wiring Data, +24VDC - Figure 1) and troubleshoot the problem.

There is +5 VDC from J535-7 to J535-6 on the I/F PWB.

Y N

Refer to the +5 VDC Wirenets (Section 7, Wiring Data, +5.5 VDC Wirenet - Figure 3) and troubleshoot the problem.

A B

Check the wires between J533 and J535 on the I/F PWB and J232 at the Developer Motor for open or short circuit failures or loose connections. If the wires are OK, replace the Developer Motor (PL 1.1). If the problem continues, replace the MCU PWB (PL 13.1).

Perform TRC Adjustment ADJ 9.3. **The Yellow ATC Sensor check is OK.**

Y N

Go to the 009-380, 009-381, 009-382, 009-383, ATC Sensor Failure RAP.

After checking that no failures are detected during normal operation, go to call closeout.

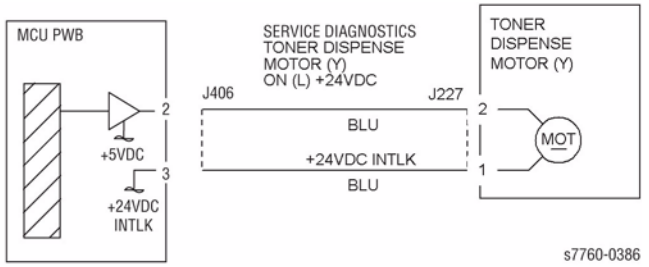

Figure 1 009-410 Toner Dispenser Motor Y

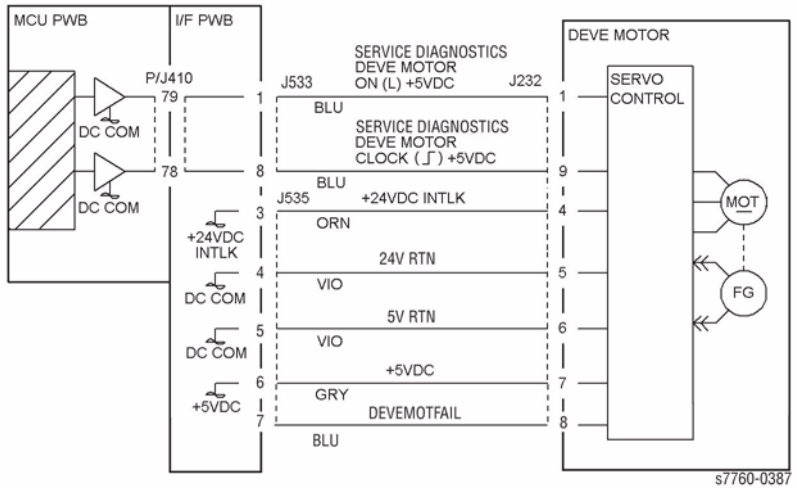

Figure 2 009-410 Developer Motor

009-411 Magenta Toner Cartridge Near Empty

The Magenta Toner Cartridge is nearly empty. This fault requires service only if the message appears before the Toner Cartridge is depleted.

NOTE: *Continuous running of high density prints can temporarily deplete the toner supply.*

Initial Actions

- Ensure that there is toner and the toner is evenly distributed in the Magenta cartridge.
- Check the Magenta ATC Sensor for blockage or contaminants.
- Check the drive system from the Developer Drive Motor to the Magenta Developer Housing for damage.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Run the Magenta Dispenser Motors test. **The Magenta Toner Dispense Motor (PL 6.1) energizes.**

Y N

Go to Figure 1. **There is +24 VDC from J406-5 to GND.**

Y N

Go to the +24 VDC Wirenets (Section 7, Wiring Data, +24 VDC - Figure 1) and troubleshoot the problem.

There is +24 VDC from J406-4 to GND.

Y N

Check the wires from J406 to J228 for an open circuit. If the wires are OK, replace the Magenta Toner Dispense Motor (PL 6.1).

The voltage from J406-4 to GND drops to less than 1 VDC.

Y N

Replace the Engine Control Board (MCU PWB) (PL 13.1). If the problem continues, replace the I/F PWB (PL 9.1).

Check the wires from J406 to J228 for an open circuit. If the wires are OK, replace the Magenta Toner Dispense Motor (PL 6.1).

Perform the **Developer Motors** test. **The Developer Motor energizes (PL 1.1).**

Y N

Go to Figure 2. **There is +24 VDC from J535-3 to J535-4 on the I/F PWB.**

Y N

Go to the +24 VDC Wirenets (Section 7, Wiring Data, +24 VDC - Figure 1) and troubleshoot the problem.

There is +5 VDC from J535-7 to J535-6 on the I/F PWB.

Y N

Go to the +5 VDC Wirenets (Section 7, Wiring Data, +5.5 VDC Wirenet - Figure 3) and troubleshoot the problem.

A B

Check the wires between J533 and J535 on the I/F PWB and J232 at the Developer Motor for open or short circuit failures or loose connections. If the wires are OK, replace the Developer Motor (PL 1.1). If the problem continues, replace the MCU PWB (PL 13.1).

Check ADJ 9.3. **The Magenta ATC Sensor check is OK.**

Y N

Go to RAP 009-380, 009-381, 009-382, 009-383, ATC Sensor Failure RAP.

After checking that no failures are detected during normal operation, go to call closeout.

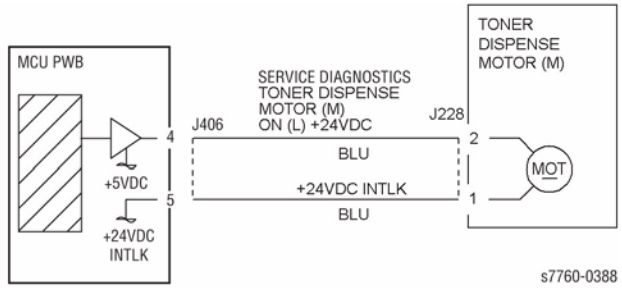

Figure 1 009-411 Toner Dispense Motor M

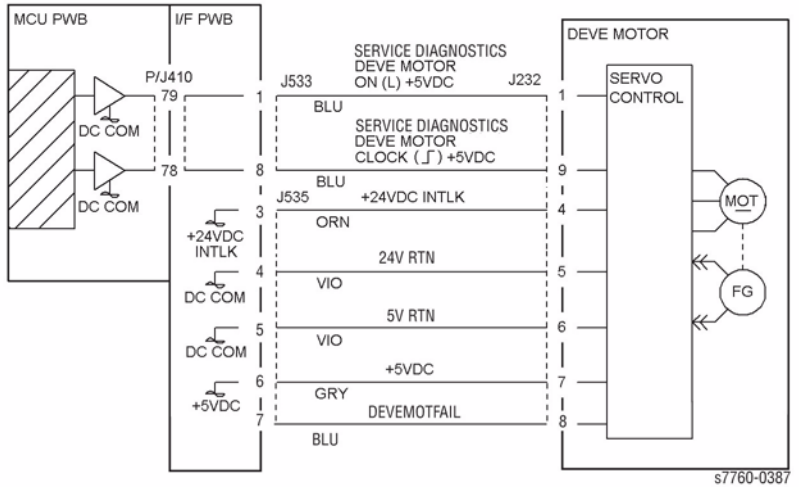

Figure 2 009-411 Developer Motor

A B

009-412 Cyan Toner Cartridge Near Empty

The Cyan Toner Cartridge is nearly empty/empty. This fault requires service only if the message appears before the Toner Cartridge is depleted.

NOTE: *Continuous running of high density prints can temporarily deplete the toner supply.*

Initial Actions

- Ensure that there is toner and the toner is evenly distributed in the cartridge (C).
- Check the Cyan ATC Sensor for blockage or contaminants.
- Check the drive system from the Developer Drive Motor to the Developer Housing (C) for damage.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the Cyan Dispenser Motors test. **The Cyan Toner Dispense Motor (PL 6.1) energizes.**

Y N

Go to Figure 1. **There is +24 VDC from J406-7 to GND.**

Y N

Go to the +24 VDC Wirenets (Section 7, Wiring Data, +24 VDC Wirenets - Figure 1) and troubleshoot the problem.

There is +24 VDC from J406-6 to GND.

Y N

Check the wires from J406 to J229 for an open circuit. If the wires are OK, replace the Cyan Toner Dispense Motor (PL 6.1).

The voltage from J406-6 to GND drops to less than 1 VDC.

Y N

Replace the MCU PWB (PL 13.1). If the problem continues, replace the I/F PWB (PL 9.1).

Check the wires from J406 to J229 for an open circuit. If the wires are OK, replace the Cyan Toner Dispense Motor (PL 6.1).

Perform the **Developer Motors** test. **The Developer Motor energizes (PL 1.1).**

Y N

Go to Figure 2. **There is +24 VDC from J535-3 to J535-5 on the I/F PWB.**

Y N

Go to the +24 VDC Wirenets (Section 7, Wiring Data, +24 VDC Wirenets - Figure 1) and troubleshoot the problem.

There is +5 VDC from J535-7 to J535-3 on the I/F PWB.

Y N

Go to the +5 VDC Wirenets (Section 7, Wiring Data, +5.5 VDC Wirenets - Figure 3) and troubleshoot the problem.

A B

Check the wires between J533 and J533 on the I/F PWB and J232 at the Developer Motor for open or short circuit failures or loose connections. If the wires are OK, replace the Developer Motor (PL 1.1). If the problem continues, replace the Engine Control Board (MCU PWB) (PL 13.1).

Check ADJ 9.3. **The Cyan ATC Sensor check is OK.**

Y N

Go the 009-380, 009-381, 009-382, 009-383, ATC Sensor Failure RAP.

After checking that no failures are detected during normal operation, go to call closeout.

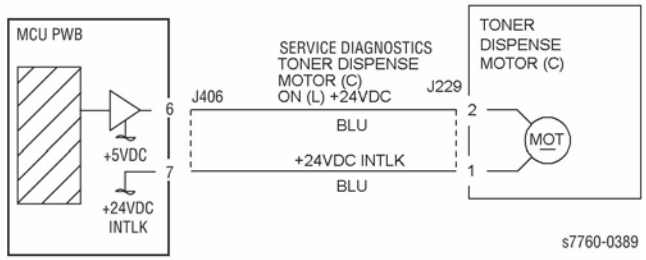

Figure 1 009-412 Toner Dispense Motor C

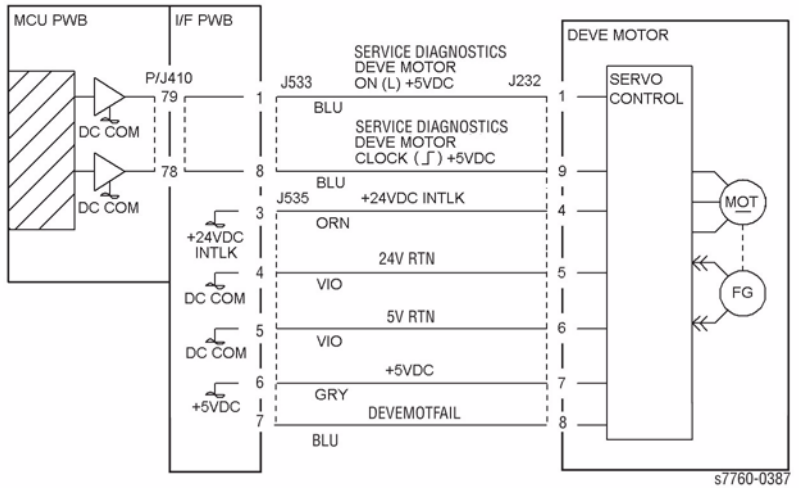

Figure 2 009-412 Developer Motor

A B

009-413 Black Toner Cartridge Near Empty

The Black Toner Cartridge is nearly empty. This fault requires service only if the message appears before the Toner Cartridge is depleted.

NOTE: *Continuous running of high density prints can temporarily deplete the toner supply.*

Initial Actions

- Ensure that there is toner and the toner is evenly distributed in the Black cartridge.
- Check the Black ATC Sensor for blockage or contaminants.
- Check the drive system from the Main Drive Motor to the Black Developer Housing for damage.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Run the Black Dispenser Motors test. **The Black Toner Dispense Motor energizes (PL 6.1).**

Y N

There is +24 VDC from J406-9 to GND (Figure 1).

Y N

Go to the +24 VDC Wirenets (Section 7, Wiring Data, +24 VDC Wirenets - Figure 1) and troubleshoot the problem.

There is +24 VDC from J406-8 to GND.

Y N

Check the wires from J406 to J230 for an open circuit. If the wires are OK, replace the Cyan Toner Dispense Motor (PL 6.1).

The voltage from J406-8 to GND drops to less than 1 VDC.

Y N

Replace the Engine Control Board (MCU PWB) (PL 13.1). If the problem continues, replace the I/F PWB (PL 9.1).

Check the wires from J406 to J230 for an open circuit. If the wires are OK, replace the Cyan Toner Dispense Motor (PL 6.1).

Perform the **Developer Motors** test. **The Black Developer Assembly energizes (PL 1.1).**

Y N

Check the mechanical drive to the Clutch, refer to BSD 4.1.
Check the circuit of the Developer Clutch (K) (Figure 2) (PL 1.2).

Check ADJ 9.3. **The Black ATC Sensor check is OK.**

Y N

Go to RAP 009-380, 009-381, 009-382, 009-383, ATC Sensor Failure.

After checking that no failures are detected during normal operation, go to call closeout.

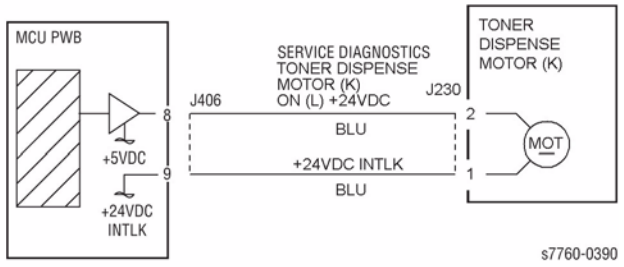

Figure 1 009-413 Toner Dispense Motor K

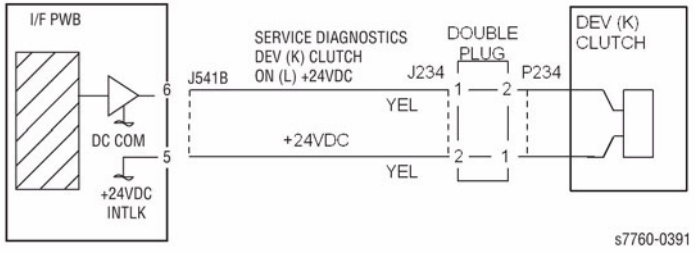

Figure 2 009-413 Dev Clutch K

009-428 Change Black Imaging Unit Soon

The Black Imaging Unit must be replaced soon/reached end of life.

Procedure

Replace the Black Imaging Unit. **The problem is corrected.**

Y **N**

Replace the Engine Control Board (MCU PWB) (PL 13.1).

Return to Service Call Procedures.

009-429 Change Yellow Imaging Unit Soon

The Yellow Imaging Unit must be replaced soon.

Procedure

Replace the Yellow Imaging Unit. **The problem is corrected.**

Y **N**

Replace the Engine Control Board (MCU PWB) (PL 13.1).

Return to Service Call Procedures.

009-430 Change Magenta Imaging Unit Soon

The Magenta Imaging Unit must be replaced soon.

Procedure

Replace the Magenta Imaging Unit. **The problem is corrected.**

Y **N**

Replace the Engine Control Board (MCU PWB) (PL 13.1).

Return to Service Call Procedures.

009-431 Change Cyan Imaging Unit Soon

The Imaging Unit (C) must be replaced soon.

Procedure

Replace the Cyan Imaging Unit. **The problem is corrected.**

Y **N**

Replace the Engine Control Board (MCU PWB) (PL 13.1).

Return to Service Call Procedures.

009-432 Yellow Imaging Unit Replaced

The Y Imaging Unit has been replaced.

Procedure

No action required.

009-433 Magenta Imaging Unit Replaced

The M Imaging Unit has been replaced.

Procedure

No action required.

009-434 Cyan Imaging Unit Replaced

The Cyan Imaging Unit has been replaced.

Procedure

No action required.

009-435 Black Imaging Unit Replaced

The Black Imaging Unit has been replaced.

Procedure

No action required.

009-446 Black Imaging Unit End of Life

The Black Imaging Unit must be replaced.

Procedure

Replace the Black Imaging Unit (PL 4.1). **The problem is corrected.**

Y N

Replace the Engine Control Board (MCU PWB) (PL 13.1).

Return to Service Call Procedures.

009-447 Cyan Imaging Unit End of Life

The Cyan Imaging Unit must be replaced.

Procedure

Replace the Cyan Imaging Unit (PL 4.1). **The problem is corrected.**

Y N

Replace the Engine Control Board (MCU PWB) (PL 13.1).

Return to Service Call Procedures.

009-448 Magenta Imaging Unit End of Life

The Magenta Imaging Unit must be replaced.

Procedure

Replace the Magenta Imaging Unit (PL 4.1). **The problem is corrected.**

Y N

Replace the Engine Control Board (MCU PWB) (PL 13.1).

Return to Service Call Procedures.

009-449 Yellow Imaging Unit End of Life

The Yellow Imaging Unit must be replaced.

Procedure

Replace the Yellow Imaging Unit (PL 4.1). **The problem is corrected.**

Y N

Replace the Engine Control Board (MCU PWB) (PL 13.1).

Return to Service Call Procedures.

009-451~ 09-459 C, M, Y, K Dev Near Life or Dev Near Life End

This procedure covers Dev Near Life or Dev Near Life End for C, M, Y, and K Developers. This procedure can be used for troubleshooting Chain Link code 009-451, 009-452, 009-453, 009-454, 009-455, 009-456, 009-457, 009-458, or 009-459.

Procedure

1. Replace the Developer and Developer Beads of the color indicated (PL 6.2).
2. After the Developer has been replaced, reset the Developer Life Count in the Service Tools menu.

NOTE: *It is recommended that all the Developers and Beads be replaced at one time rather than on successive visits.*

009-654 ADC Sensor Fail

The control logic detected an ADC Sensor operation failure.

Procedure

Perform the ADC Output Check, ADJ 9.4 (Section 4). **The check of the ADC Sensor is OK.**

Y **N**

There is +5 VDC from J404B-8 on the MCU PWB to GND.

Y **N**

Check the wires and connectors (Figure 1). If the check is OK, replace the Engine Control Board (MCU PWB) (PL 13.1).

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. **Perform the ADC Sensor test. The ADC Shutter Solenoid energized (PL 1.3).**

Y **N**

Check the wires and connectors. If the check is OK, replace the Engine Control Board (MCU PWB) (PL 13.1).

There is 0 VDC from J404B-3 on the I/F PWB to GND.

Y **N**

Check the wires and connectors. If the check is OK, replace the MCU PWB (PL 13.1).

The voltage from J404B-1 to GND changed to 0VDC momentarily.

Y **N**

Check the wires and connectors. If the check is OK, replace the MCU PWB (PL 13.1).

Check the wires and connectors. If the check is OK, replace the, replace the ADC Sensor Assembly (PL 1.3).

After checking that no failures are detected during normal operation, go to call closeout.

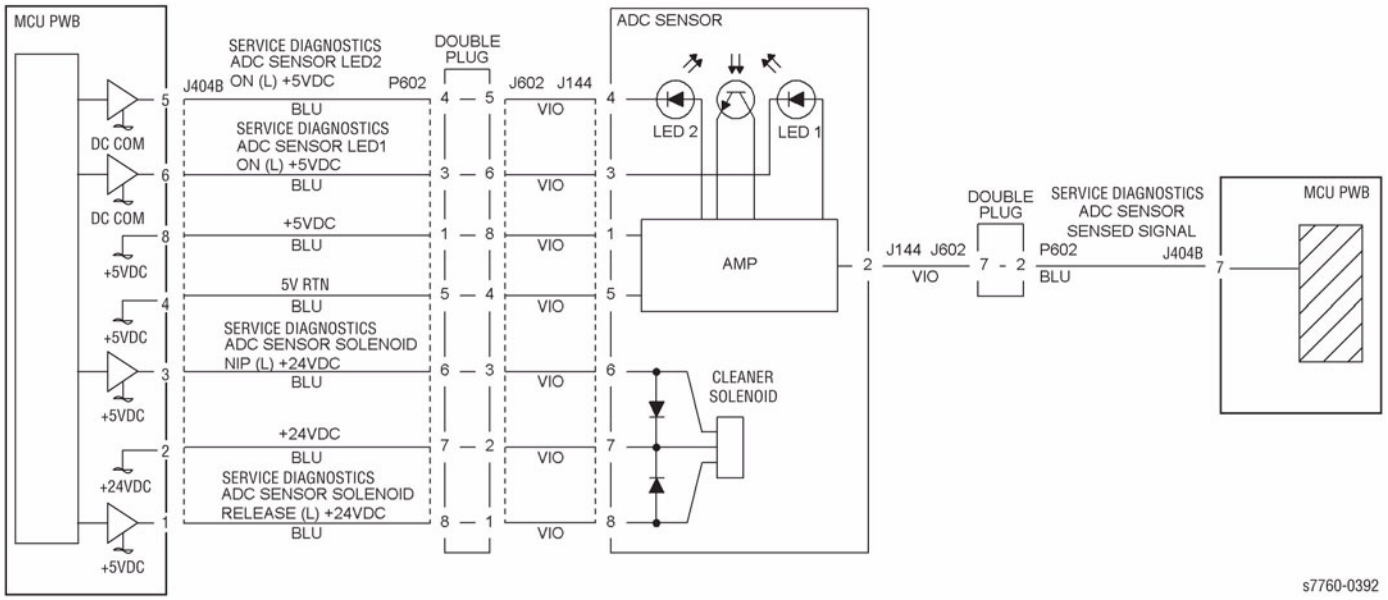

Figure 1 009-654 ADC Sensor

009-660 Environmental Sensor Temperature

An incorrect value was detected by the Environmental Sensor (Temperature).

Procedure

Disconnect J255. **There is 1 Ohm or less measured between P255-3 and P255-4 on the Environment Sensor.**

Y **N**

Replace the Environment Sensor (PL 1.3).

Replace the I/F PWB (PL 9.1) and Engine Control Board (MCU PWB) (PL 13.1) in sequence.

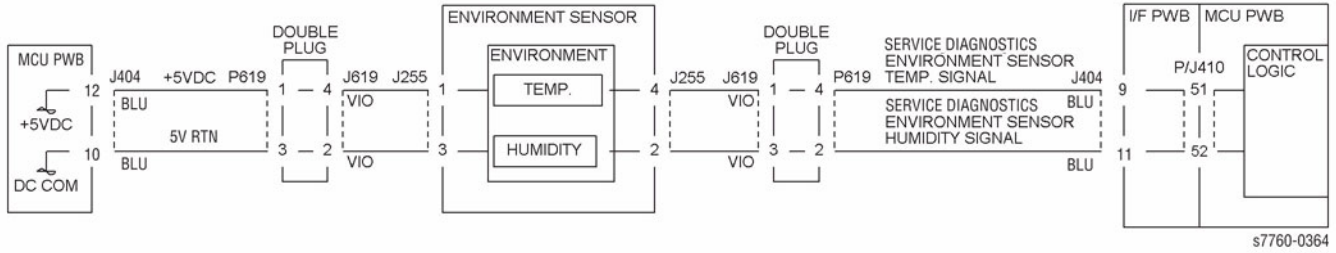

Figure 1 009-660 Environmental Sensor Temperature

009-661 Environmental Sensor Temperature

An incorrect value was detected by the Environmental Sensor (Temperature).

Procedure

There is +0.4 VDC to +17 VDC from J404-11 on the MCU PWB to GND.

Y N

There is +5 VDC from J404-12 on the I/F PWB to GND.

A

A

Y N

Check the wires and connectors (Figure 1). If the check is OK, replace the Engine Control Board (MCU PWB) (PL 13.1).

Check for an open circuit and poor contact (Figure 1). If the check is OK replace the Environment Sensor (PL 1.3).

Replace the I/F PWB (PL 9.1). If the problem continues, replace the Engine Control Board (MCU PWB) (PL 13.1).

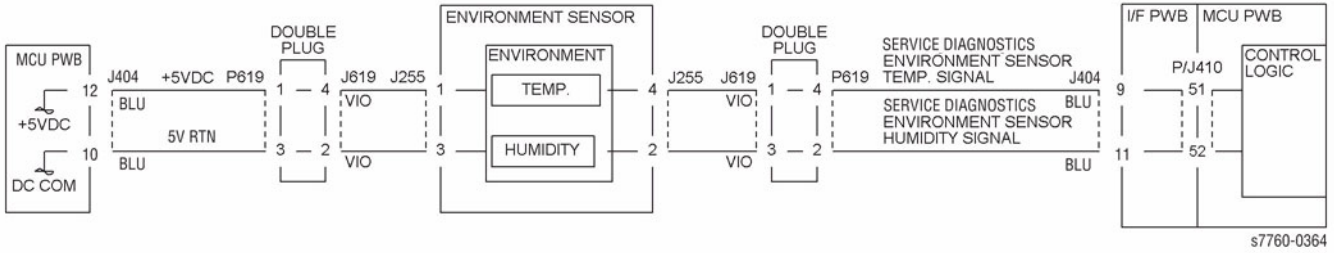

Figure 1 009-661 Environmental Sensor Temperature

009-670 New Black Toner Cartridge Detected

The control logic detected that the Toner Cartridge has been replaced. This is a message fault only.

Procedure

Turn the printer power Off, then On. **The message fault clears.**

Y **N**

Go to RAP 009-390, New Black Toner Cartridge.

Return to Service Call Procedures.

009-671 New Cyan Toner Cartridge Detected

The control logic detected that the Toner Cartridge has been replaced. This is a message fault only.

Procedure

Turn the printer power Off, then On. **The message fault clears.**

Y **N**

Go to RAP 009-391, New Cyan Toner Cartridge.

Return to Service Call Procedures.

009-672 New Magenta Toner Cartridge Detected

The control logic detected that the Toner Cartridge has been replaced. This is a message fault only.

Procedure

Turn the printer power Off, then On. **The message fault clears.**

Y N

Go to RAP 009-392, New Magenta Toner Cartridge.

Return to Service Call Procedures.

009-673 New Yellow Toner Cartridge Detected

The control logic detected that the Toner Cartridge has been replaced.This is a message fault only.

Procedure

Turn the printer power Off, then On. **The message fault clears.**

Y N

Go to RAP 009-393, New Yellow Toner Cartridge.

Return to Service Call Procedures.

009-684 ADC Shutter Fail

The control logic detected an ADC Shutter operation failure.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the **ADC Solenoid** tests. **The ADC Shutter Solenoid energized.**

Y **N**

There is +24 VDC from J404B-2 on the MCU PWB to GND.

Y **N**

Check the wires and connectors (Figure 1). If the check is OK, replace the I/F PWB (PL 9.1). If the problem continues, replace the ADC Sensor (PL 1.3).

There is 0 VDC from J404B-3 on the MCU PWB to GND.

A

A

Y **N**

Check the wires and connectors. If the check is OK, replace the I/F PWB (PL 9.1). If the problem continues, replace the MCU PWB (PL 13.1). If the problem continues, replace the ADC Sensor (PL 1.3).

The voltage from J404B-1 on the MCU PWB to GND changed to 0VDC momentarily.

Y **N**

Check the wires and connectors (Figure 1). If the check is OK, replace the I/F PWB (PL 9.1). If the problem continues, replace the Engine Control Board (MCU PWB) (PL 13.1). If the problem continues, replace the ADC Sensor (PL 1.3).

Check the wires and connectors (Figure 1). If the check is OK, replace the ADC Sensor (PL 1.3).

After checking that no failures are detected during normal operation, go to call closeout.

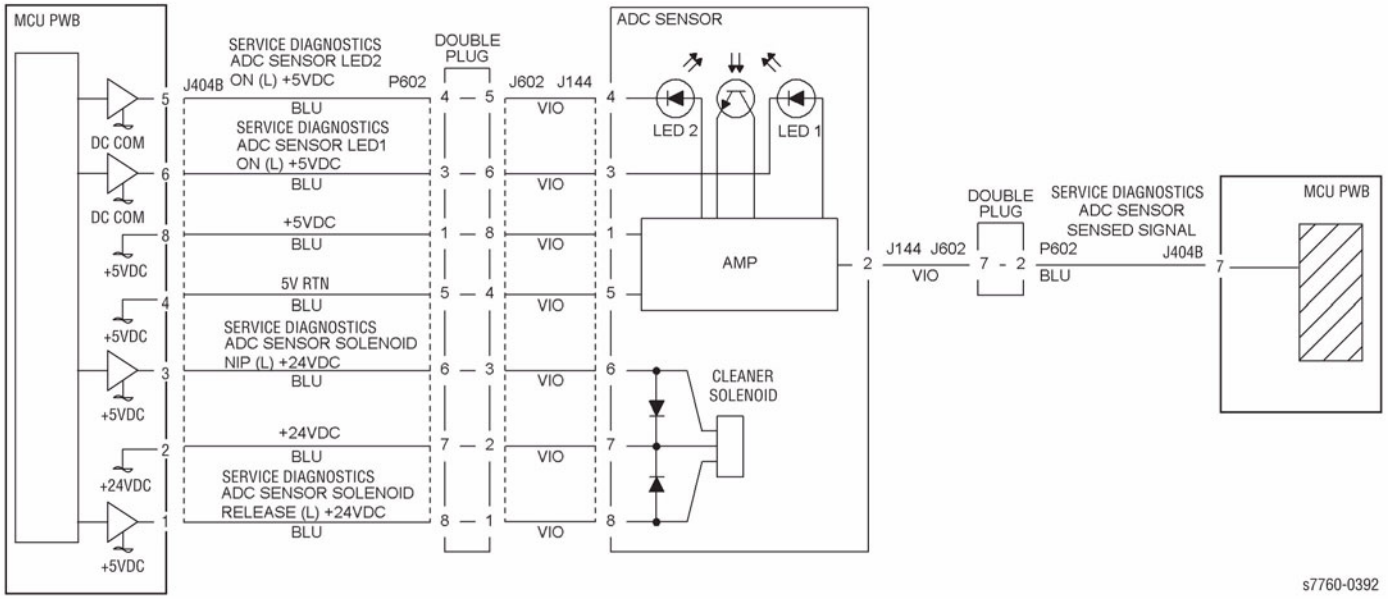

Figure 1 009-684 ADC Sensor

009-695 Failure Position Judgement

Position Judgement Failure.

Procedure

Turn the printer power Off, then On. If the problem continues, call service support for assistance.

009-910 Black Imaging Unit Type Mismatch

Imaging Unit Type Mismatch.

Initial Actions

Ensure that the correct Imaging Unit type is installed.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.

Run the Imaging Unit Sensors test. **The display is High.**

Y **N**

Check the wires and connectors (Figure 1). If the check is OK, replace the Black Imaging Unit (PL 4.1).

Replace the Engine Control Board (MCU PWB) (PL 13.1).

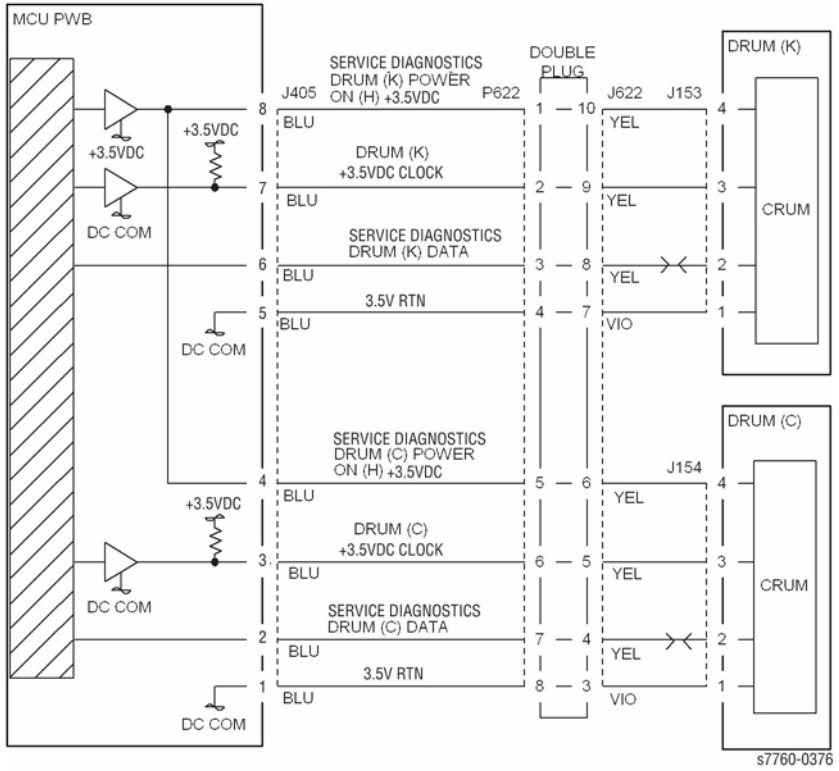

Figure 1 009-910 Black Imaging Unit Communication

009-911 Cyan Imaging Unit Type Mismatch

Imaging Unit Type Mismatch.

Initial Actions

Ensure that the correct Imaging Unit type is installed.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.

Run the Imaging Unit Sensors test. **The display is High.**

Y **N**

Check the wires and connectors (Figure 1). If the check is OK, replace the Cyan Imaging Unit (PL 4.1).

Replace the Engine Control Board (MCU PWB) (PL 13.1).

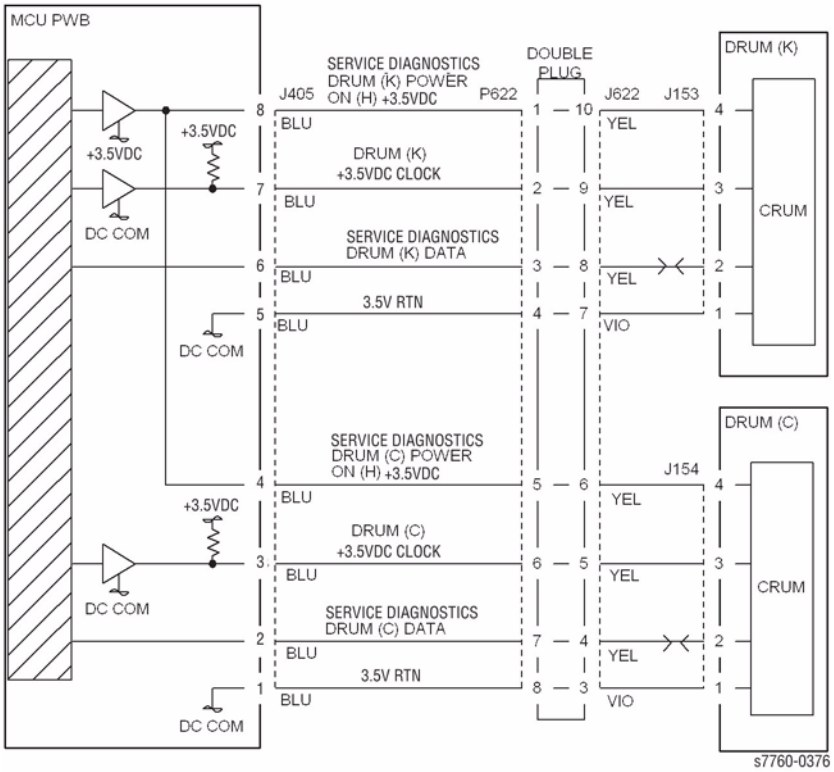

Figure 1 009-911 Cyan Imaging Unit Communication

009-912 Magenta Imaging Unit Type Mismatch

Imaging Unit Type Mismatch.

Initial Actions

Ensure that the correct Imaging Unit type is installed.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.

Run the Imaging Unit Sensors test. **The display is High.**

Y **N**

Check the wires and connectors (Figure 1). If the check is OK, replace the Magenta Imaging Unit (PL 4.1).

Replace the Engine Control Board (MCU PWB) (PL 13.1).

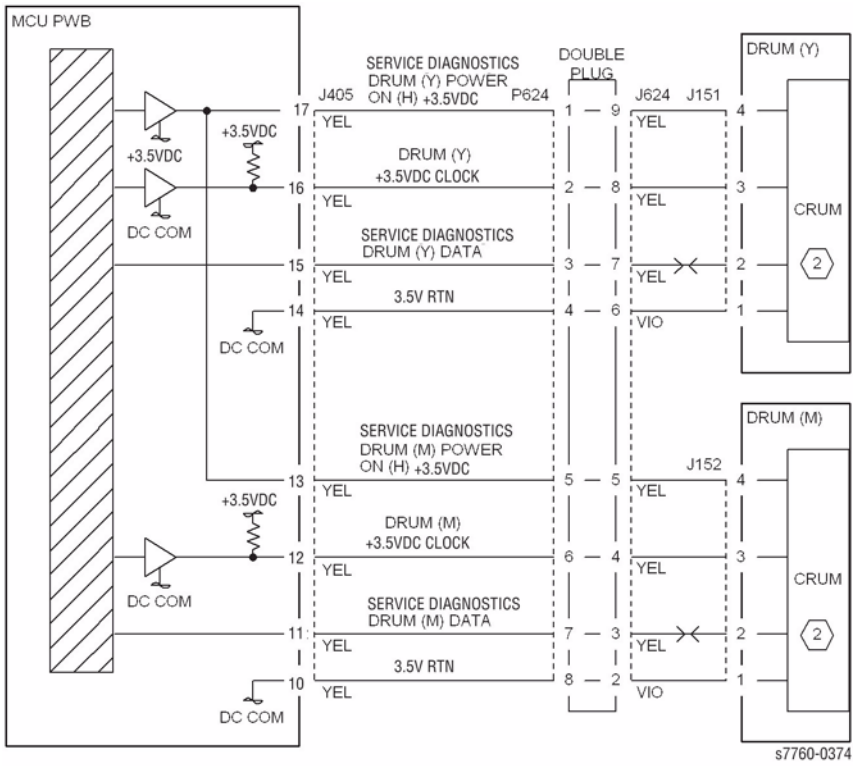

Figure 1 009-912 Magenta Imaging Unit Communication

009-913 Yellow Imaging Unit Type Mismatch

Imaging Unit Type Mismatch.

Initial Actions

Ensure that the correct Imaging Unit type is installed.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.

Run the Imaging Unit Sensors test. **The display is High.**

Y **N**

Check the wires and connectors (Figure 1). If the check is OK, replace the Yellow Imaging Unit (PL 4.1).

Replace the Engine Control Board (MCU PWB) (PL 13.1).

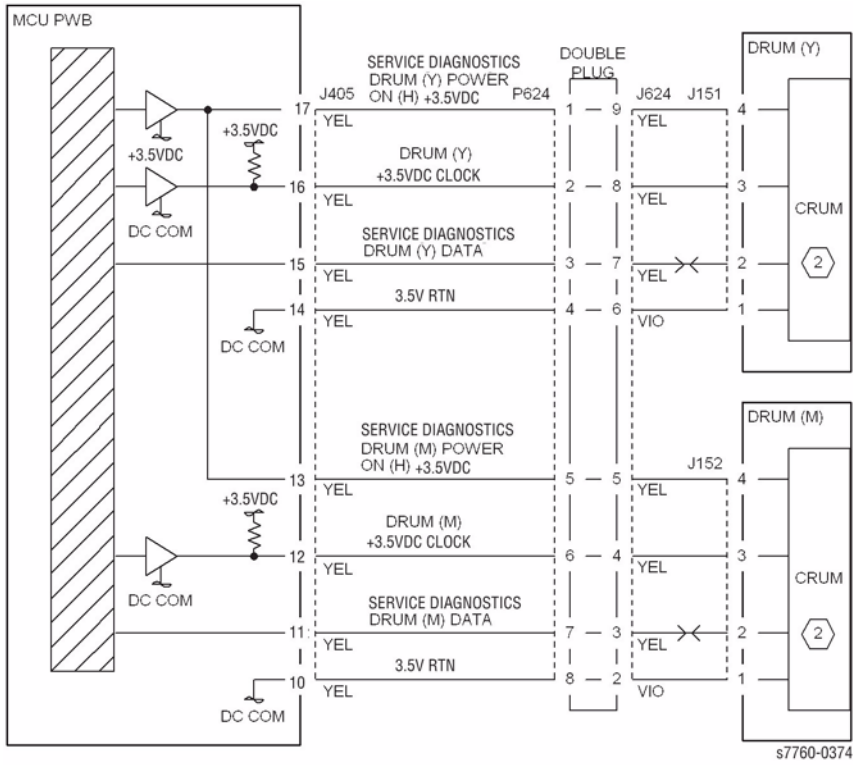

Figure 1 009-913 Yellow Imaging Unit Communication

009-920 Yellow Toner Cartridge Empty

The Yellow Toner Cartridge is empty. This fault requires service only if the message appears before the Toner Cartridge is depleted.

NOTE: *Continuous running of high density prints can temporarily deplete the toner supply.*

Initial Actions

- Ensure that there is toner and the toner is evenly distributed in the Yellow cartridge.
- Check the Yellow ATC Sensor for blockage or contaminants.
- Check the drive system from the Developer Drive Motor to the Yellow Developer Housing for damage.

Procedure

Replace the Toner Cartridge (PL 6.1). If the problem continues, go RAP 009-410, Yellow Toner Cartridge Near Empty.

009-921 Magenta Toner Cartridge Empty

The Yellow Toner Cartridge is empty. This fault requires service only if the message appears before the Toner Cartridge is depleted.

NOTE: *Continuous running of high density prints can temporarily deplete the toner supply.*

Initial Actions

- Ensure that there is toner and the toner is evenly distributed in the Magenta cartridge.
- Check the Magenta ATC Sensor for blockage or contaminants.
- Check the drive system from the Developer Drive Motor to the Magenta Developer Housing for damage.

Procedure

Replace the Toner Cartridge (PL 6.1). If the problem continues, go to RAP 009-411, Magenta Toner Cartridge Near Empty.

009-922 Cyan Toner Cartridge Empty

The Cyan Toner Cartridge is empty. This fault requires service only if the message appears before the Toner Cartridge is depleted.

NOTE: *Continuous running of high density prints can temporarily deplete the toner supply.*

Initial Actions

- Ensure that there is toner and the toner is evenly distributed in the cartridge (C).
- Check the Cyan ATC Sensor for blockage or contaminants.
- Check the drive system from the Developer Drive Motor to the Developer Housing (C) for damage.

Procedure

Replace the Toner Cartridge (PL 6.1). If the problem continues, go to RAP 009-412, Cyan Toner Cartridge Near Empty.

009-923 Black Toner Cartridge Empty

The Black Toner Cartridge is empty. This fault requires service only if the message appears before the Toner Cartridge is depleted.

NOTE: *Continuous running of high density prints can temporarily deplete the toner supply.*

Initial Actions

- Ensure that there is toner and the toner is evenly distributed in the Black cartridge.
- Check the Black ATC Sensor for blockage or contaminants.
- Check the drive system from the Main Drive Motor to the Black Developer Housing for damage.

Procedure

Replace the Toner Cartridge (PL 6.1). If the problem continues, go to RAP 009-413, Black Toner Cartridge Near Empty.

009-924 Waste Toner Cartridge Full

The Waste Toner Cartridge is full.

Initial Actions

Replace the Waste Toner Cartridge (PL 4.1). Check the Full Toner Sensor for contaminants.

Procedure

If the problem persists, go to RAP 009-358, Waste Cartridge Full Toner Sensor Failure.

009-925 Waste Toner Cartridge Installation

The Waste Toner Cartridge was not installed correctly.

Initial Actions

Ensure that the Waste Toner Cartridge is installed correctly.

Procedure

There is +5 VDC from J408-5 on the Engine Control Board (MCU PWB) to GND.

Y N

There is +5 VDC from FS135 on the Waste Toner Cartridge Interlock Switch to GND.

Y N

Check the wire from J511B on the +5 VDC LVPS to FS135 on the Waste Toner Cartridge Interlock Switch (Figure 1).

There is +5 VDC from FS135 on the Waste Toner Cartridge Interlock Switch to GND.

Y N

Replace the Waste Toner Cartridge Interlock Switch (PL 4.1).

Check the wire between J511B on the +5 VDC LVPS and FS134 on the Waste Toner Cartridge Interlock Switch and the MCU PWB J408-5 for an open circuit or poor contact (Figure 1).

Check the connector J408-5 between the MCU PWB and GND. If no problems are found, replace the Engine Control Board (MCU PWB) (PL 13.1).

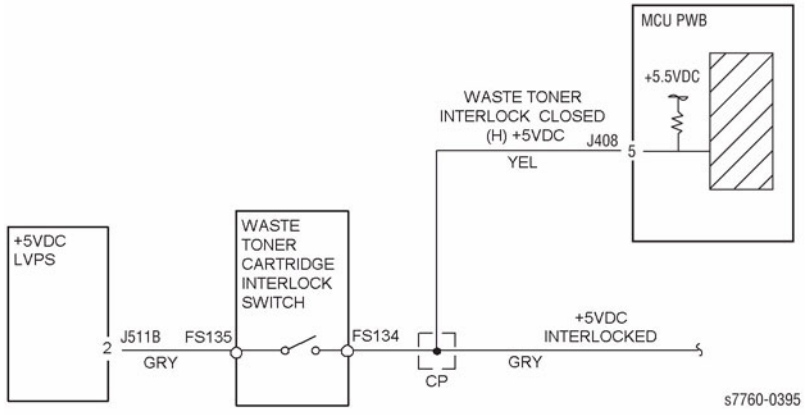

Figure 1 009-925 Waste Toner Cartridge Installation

009-926 Black Imaging Unit End of Life

The Black Imaging Unit must be replaced.

Procedure

Replace the Black Imaging Unit (PL 4.1). **The problem is corrected.**

Y N

Replace the Engine Control Board (MCU PWB) (PL 13.1).

Return to Service Call Procedures.

009-927 Cyan Imaging Unit End of Life

The Cyan Imaging Unit must be replaced.

Procedure

Replace the Cyan Imaging Unit (PL 4.1). **The problem is corrected.**

Y N

Replace the Engine Control Board (MCU PWB) (PL 13.1).

Return to Service Call Procedures.

009-928 Magenta Imaging Unit End of Life

The Magenta Imaging Unit must be replaced.

Procedure

Replace the Magenta Imaging Unit (PL 4.1). **The problem is corrected.**

Y N

Replace the Engine Control Board (MCU PWB) (PL 13.1).

Return to Service Call Procedures.

009-929 Yellow Imaging Unit End of Life

The Yellow Imaging Unit must be replaced.

Procedure

Replace the Yellow Imaging Unit (PL 4.1). **The problem is corrected.**

Y **N**

Replace the Engine Control Board (MCU PWB) (PL 13.1).

Return to Service Call Procedures.

009-930 Black Imaging Unit Not Detected

The control logic detected that Black Imaging Unit is not installed.

Initial Actions

- Ensure Black Imaging Unit is installed correctly.
- Turn the printer power Off, then On.

Procedure

Swap the Black Imaging Unit with Imaging Unit (Y), (C) or (M). **The problem is corrected.**

Y **N**

Check that J405 on the Engine Control Board (MCU PWB) and J622 are connected. Check the wires for an open or short (Figure 1). If the check is OK, replace the Engine Control Board (MCU PWB) (PL 13.1).

Replace the defective Imaging Unit (PL 4.1).

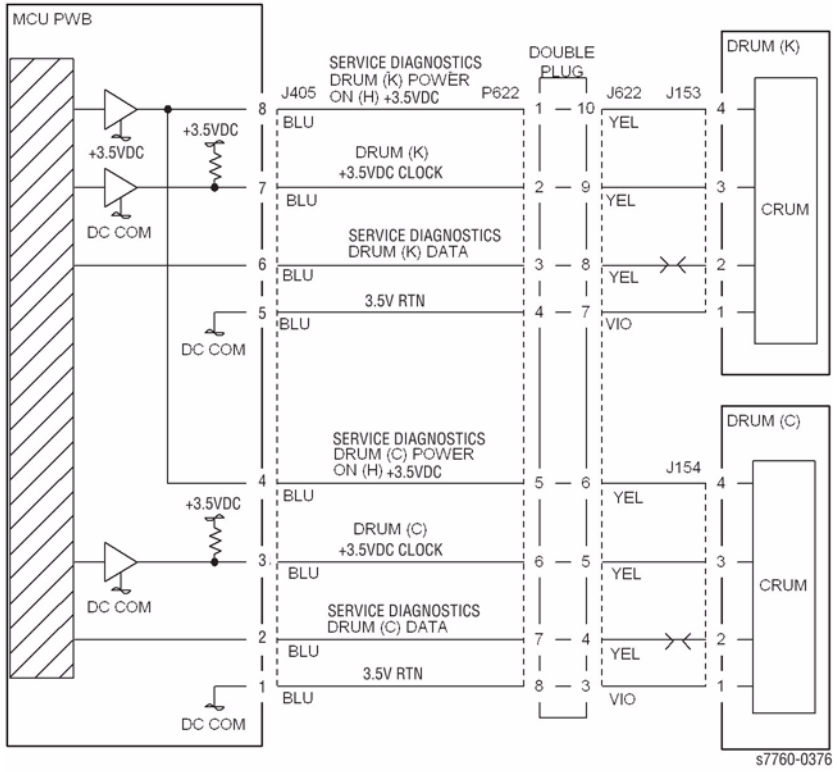

Figure 1 009-930 Black Imaging Unit Communication

009-931 Cyan Imaging Unit Not Detected

The control logic detected that Cyan Imaging Unit is not installed.

Procedure

- Ensure Cyan Imaging Unit is installed correctly.
- Turn the printer power Off, then On.

Swap the Cyan Imaging Unit with Imaging Unit (Y), (K) or (M). **The problem is corrected.**

Y **N**

Check that J405 on the MCU PWB and J622 are connected. Check the wires for an open or short (Figure 1). If the check is OK, replace the Engine Control Board (MCU PWB) (PL 13.1).

Replace the defective Imaging Unit (PL 4.1).

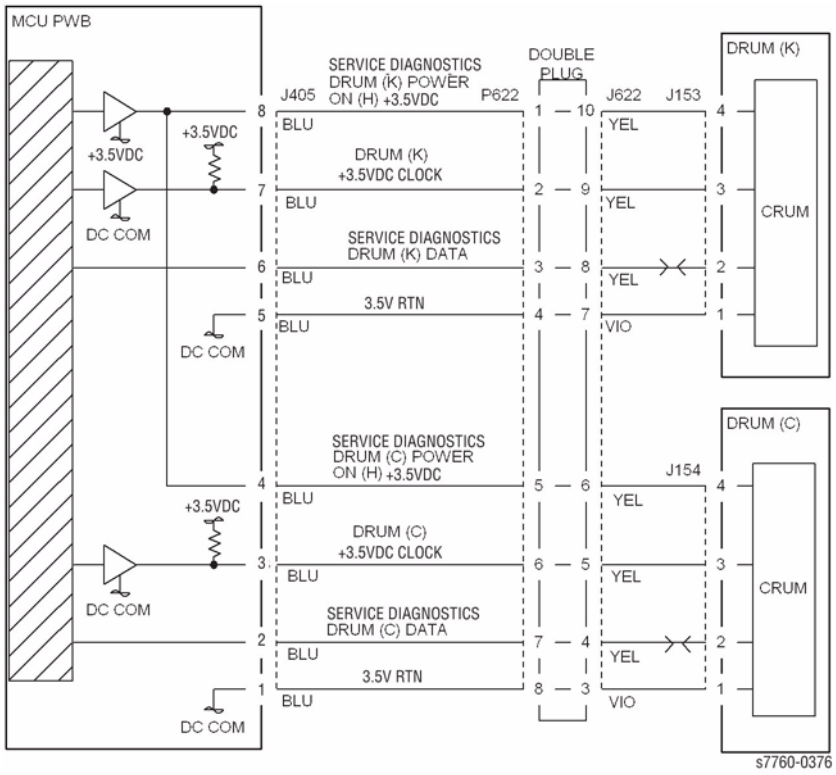

Figure 1 009-931 Cyan Imaging Unit Communication

009-932 Magenta Imaging Unit Not Detected

The control logic detected that Magenta Imaging Unit is not installed.

Initial Actions

- Ensure Magenta Imaging Unit is installed correctly.
- Turn the printer power Off, then On.

Procedure

Swap the Magenta Imaging Unit with Imaging Unit (Y), (C) or K). **The problem is corrected.**

Y **N**

Check that J405 on the MCU PWB and J604 are connected. Check the wires for an open or short (Figure 1). If the check is OK, replace the Engine Control Board (MCU PWB) (PL 13.1).

Replace the defective Imaging Unit (PL 4.1).

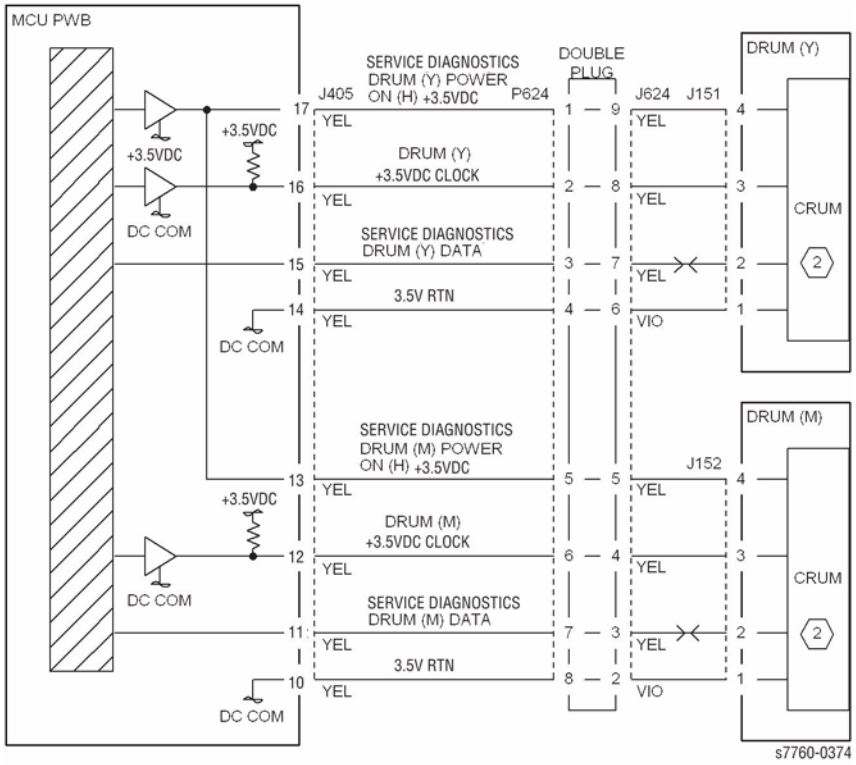

Figure 1 009-932 Magenta Imaging Unit Communication

009-933 Yellow Imaging Unit Not Detected

The control logic detected that the Yellow Imaging Unit is not installed.

Initial Actions

- Ensure Yellow Imaging Unit is installed correctly.
- Turn the printer power Off, then On.

Procedure

Swap the Yellow Imaging Unit with Imaging Unit (K), (C) or (M). **The problem is corrected.**

Y N

Check that J405 on the MCU PWB and J624 are connected. Check the wires for an open or short (Figure 1). If the check is OK, replace the Engine Control Board (MCU PWB) (PL 13.1).

Replace the defective Imaging Unit (PL 4.1).

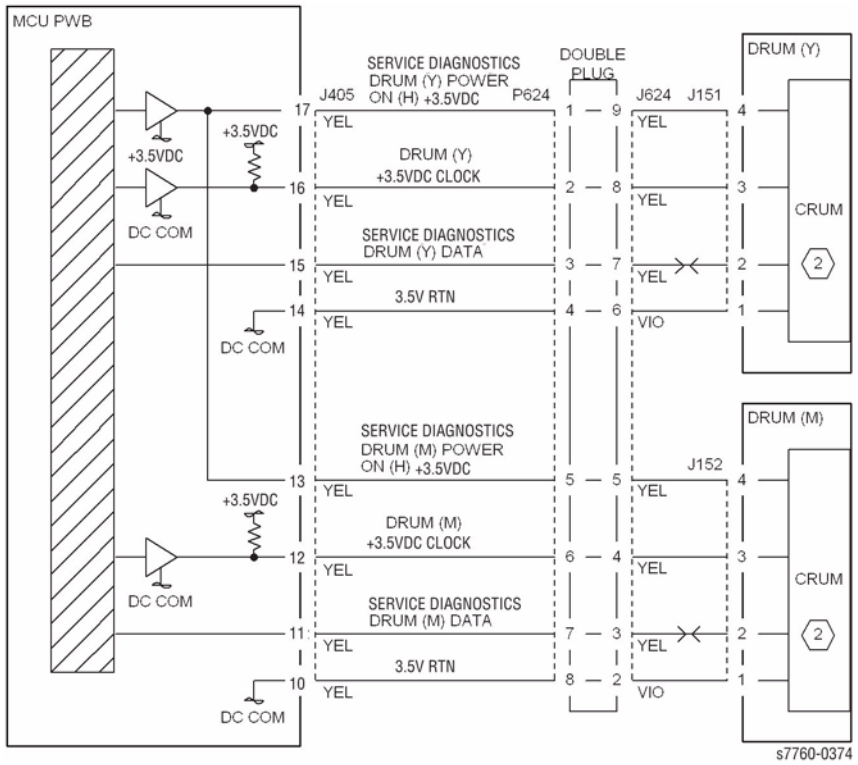

Figure 1 009-933 Yellow Imaging Unit Communication

010-105 Fuser Exit Switch On Jam

The Fuser Exit Switch did not actuate.

Initial Actions

- Check condition and specification of the paper supply.
- Check for obstructions in the paper feed path.
- Clean the Fuser Exit Roll and check for wear.
- Check the drive transmissions for damage or wear.

Procedure

Remove the Fuser Assembly from the machine and check Check the Fuser Stripper Fingers and Fuser Roll (PL 7.1) for dirt build up, wear or damage. **The check is OK.**

Y N

Clean or replace the Fuser Assembly (PL 7.1).

Open the Left Cover Assembly (PL 2.8). Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Fuser Exit Switch (PL 2.8). **The display changes state.**

Y N

Check the circuit of the Fuser Exit Switch (Figure 1). Refer to Section 2, OF 99-3 RAP for troubleshooting procedure.

Perform the **Registration Clutch** test. **The Registration Clutch (PL 2.6) energizes.**

Y N

Check the circuit of the Registration Clutch (Figure 2). Refer to Section 2, OF 99-4 RAP for troubleshooting procedure.

Close the Left Cover Assembly. Perform the **2nd BTR Retract Motor** test. **The 2nd BTR Retract Motor (PL 2.9) contacts and retracts.**

Y N

Go to RAP 009-342, 009-343, Contact or Retract Failure procedure.

- Ensure that the connectors shown in the circuit diagrams (Figure 1) are securely connected and that the wires are not damaged.
- If the problem persists, replace the Engine Control Board (MCU PWB) (PL 13.1).

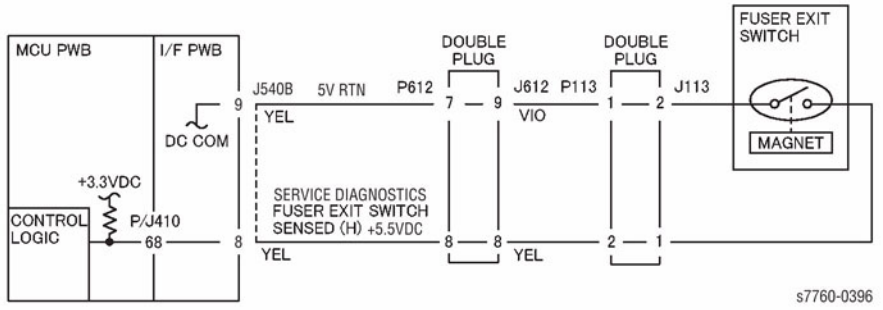

Figure 1 010-105 Fuser Exit Switch

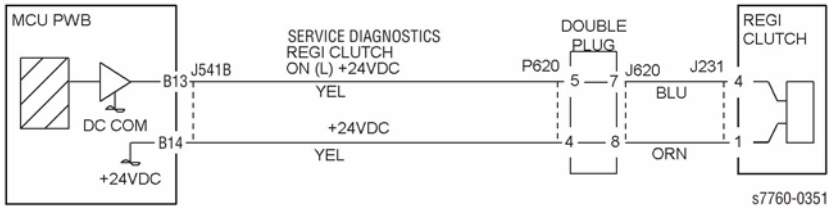

Figure 2 010-105 Registration Clutch

010-106 Fuser Exit Switch Off Jam

The Fuser Exit Switch did not deactuate.

Initial Actions

- Check condition and specification of the paper supply.
- Check for obstructions in the paper feed path.
- Clean the Fuser Exit Roll and check for wear.
- Check the drive transmissions for damage or wear.

Procedure

Remove the Fuser Assembly from the machine and check the Fuser Stripper Fingers and Fuser Roll for dirt build up, wear or damage. **The check is OK.**

Y N

Clean or replace the Fuser Assembly (PL 7.1).

Open the Left Cover Assembly (PL 2.8). Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Fuser Exit Switch (PL 2.8). **The display changes state.**

Y N

Check the circuit of the Fuser Exit Switch (Figure 1). Refer to Section 2, OF 99-3 RAP for troubleshooting procedure.

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged.
- If the problem persists, replace the Engine Control Board (MCU PWB) (PL 13.1).

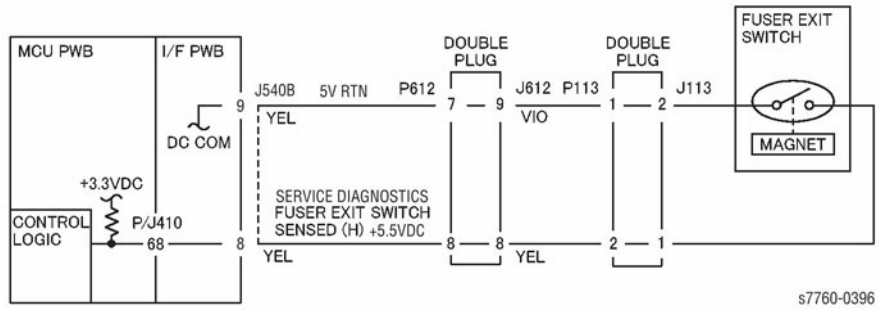

Figure 1 010-106 Fuser Exit Switch

010-110 Printer Exit Sensor On Jam

The Fuser Exit Switch did not actuate.

Initial Actions

- Check condition and specification of the paper supply.
- Check for obstructions in the paper feed path.
- Clean the Fuser Exit Roll and check for wear.
- Check the drive transmissions for damage or wear.

Procedure

Remove the Fuser Assembly from the machine and check the Fuser Stripper Fingers and Fuser Roll (PL 7.1) for dirt build up, wear or damage. **The check is OK.**

Y N

Clean or replace the Fuser Assembly (PL 7.1).

Open the Left Cover Assembly (PL 2.8). Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Fuser Exit Switch (PL 2.8). **The display changes state.**

Y N

Check the circuit of the Fuser Exit Switch (Figure 1). Refer to Section 2, OF 99-3 RAP for troubleshooting procedure.

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged.
- If the problem persists, replace the Engine Control Board (MCU PWB) (PL 13.1).

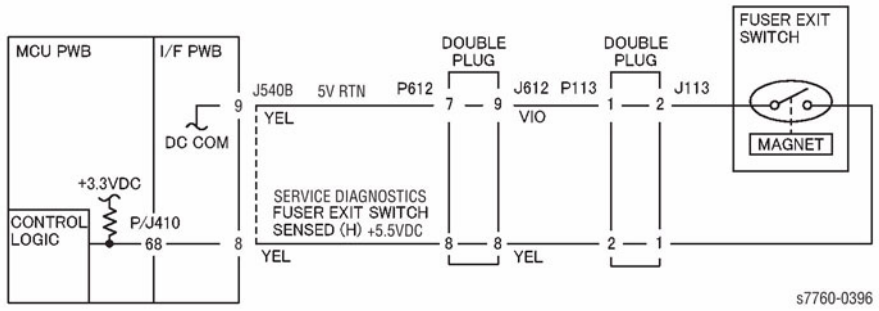

Figure 1 010-110 Fuser Exit Switch

010-111 Printer Exit Sensor Off Jam

The Fuser Exit Switch did not deactuate.

Initial Actions

- Check condition and specification of the paper supply.
- Check for obstructions in the paper feed path.
- Clean the Fuser Exit Roll and check for wear.
- Check the drive transmissions for damage or wear.

Procedure

Remove the Fuser Assembly from the machine and check the Fuser Stripper Fingers and Fuser Roll (PL 7.1) for dirt build up, wear or damage. **The check is OK.**

Y N

Clean or replace the Fuser Assembly (PL 7.1).

Open the Left Cover Assembly (PL 2.8). Actuate the Fuser Exit Switch (PL 2.8). **The display changes state.**

Y N

Check the circuit of the Fuser Exit Switch (Figure 1). Refer to Section 2, OF 99-3 RAP for troubleshooting procedure.

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged.
- If the problem persists, replace the Engine Control Board (MCU PWB) (PL 13.1).

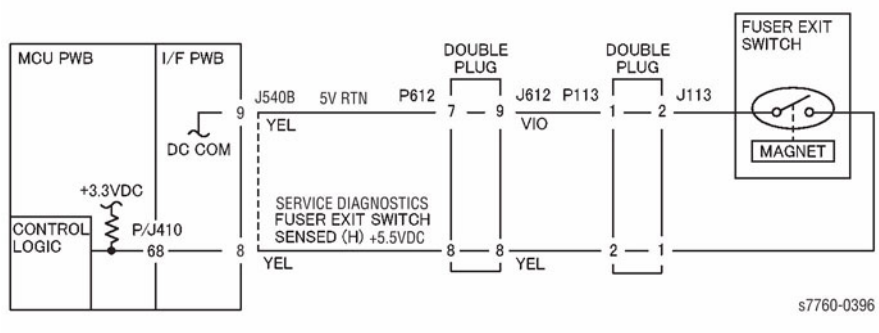

Figure 1 010-111 Fuser Exit Switch

010-125 Duplex Wait Sensor On Jam

The Duplex Wait Sensor did not actuate.

Initial Actions

- Check condition and specification of the paper supply.
- Check the paper path for obstructions.
- Check for wear and clean the Duplex Transport Roll.
- Check for wear and clean the Pinch Rolls.

Procedure

Make a 2 sided print. **The first sided print is seen to partially exit and then move back into the Printer for side 2.**

Y N

Repair following as required:

- Gate, linkage, and Gate Solenoid for binding

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Open the Duplex Module Cover and block and unblock the Duplex Wait Sensor. **The display changes state.**

Y N

Check the circuit of the Duplex Wait Sensor (Figure 1). Refer to Section 6, Reflective Sensor Procedure for troubleshooting procedure.

Remove the Left Upper Cover (PL 2.7). Perform the **Duplex Motor** test. **The Duplex Transport Roll (PL 12.1) rotates.**

Y N

The Duplex Motor (PL 12.1) energizes.

Y N

Check the circuit of the Duplex Motor (Figure 2). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the Duplex Motor and its associated pulleys and belts for damage, contamination and misalignment.

Perform the **Duplex Clutch** test. **The Inverter Forward Clutch (CW) energizes.**

Y N

Check the circuit of the Inverter Forward Clutch (Figure 3). Refer to Section 2, OF 99-4 RAP for troubleshooting procedure.

Perform the **Duplex Clutch** test. **The Inverter Reverse Clutch (CCW) energizes.**

Y N

Check the circuit of the Inverter Reverse Clutch (Figure 4). Refer to Section 2, OF 99-4 RAP for troubleshooting procedure.

- Ensure that the connectors shown in the circuit diagrams (Figure 1, Figure 2, Figure 3, Figure 4) are securely connected and that the wires are not damaged.
- If the 10-125 occurs when duplexing, there may be excessive clearance between the Tray Nip Solenoid arm and shaft. Refer to TAG F-001.

- If the problem persists, replace the Engine Control Board (MCU PWB) (PL 13.1).

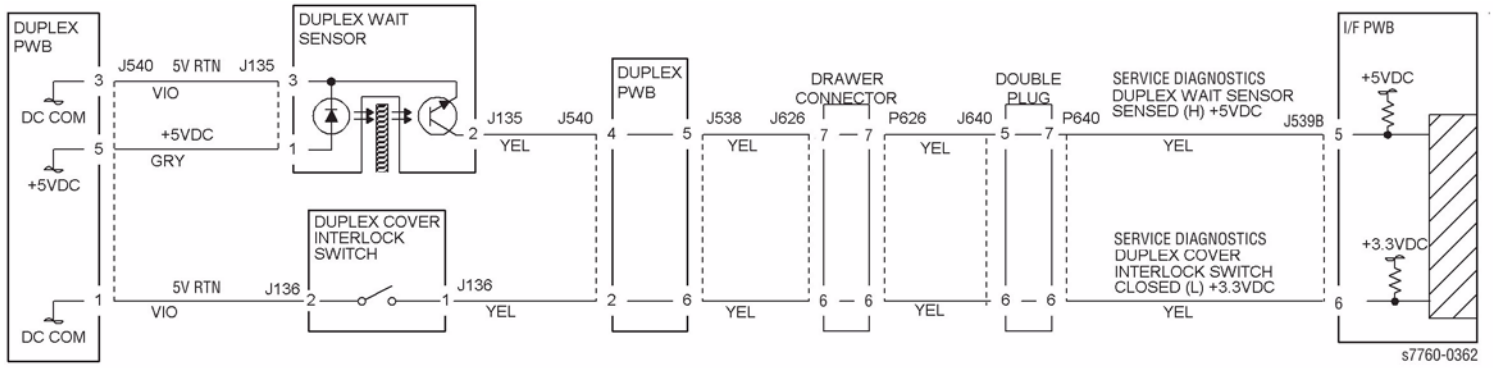

Figure 1 010-125 Duplex Wait Sensor

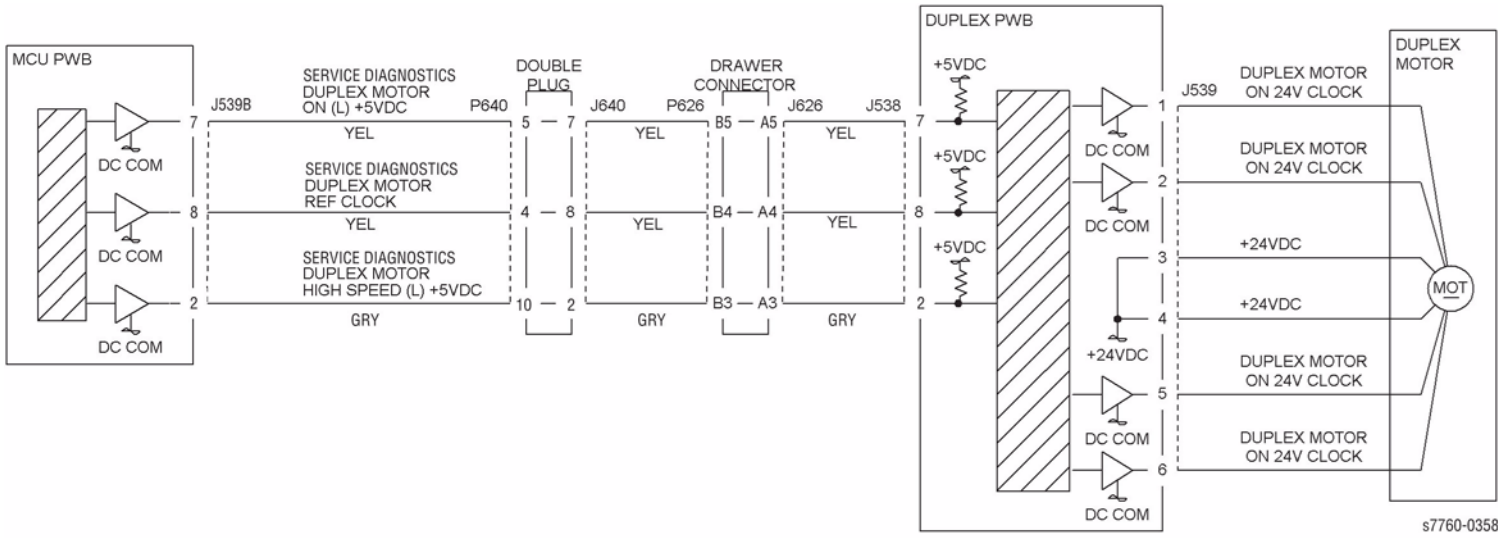

Figure 2 010-125 Duplex Motor

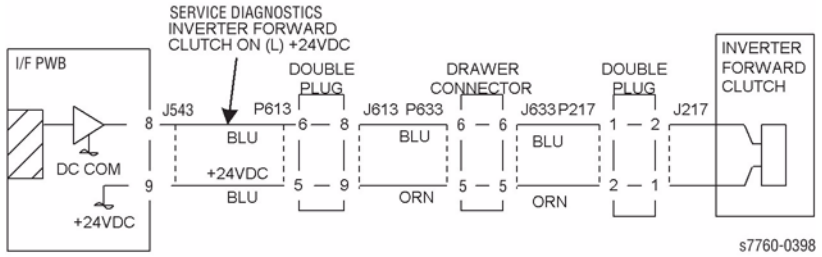

Figure 3 010-125 Inverter Forward Clutch

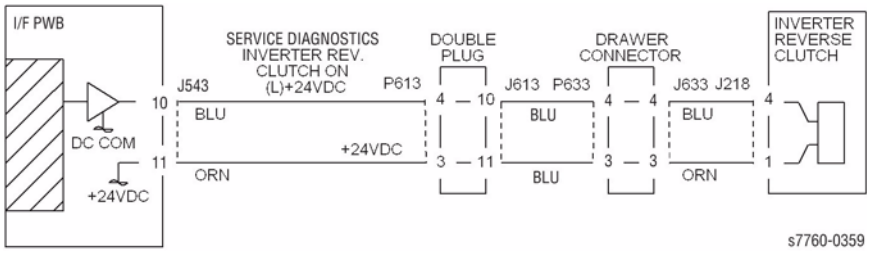

Figure 4 010-125 Inverter Reverse Clutch

010-348 Fuser Main Lamp Fail

The Lamp Control circuit has failed resulting in the front thermistor detecting an overheat condition.

Troubleshooting References

Table 1 References

Applicable Parts	Part List	Wiring and Plug/Jack References
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15
Fuser	PL 7.1	Section 7, Fuser Assembly Plug/Jack Locations - Figure 6

NOTE: *If this failure reoccurs three times successfully, an Engine NVRAM value is set preventing further printer use until the Clear Tech Rep Faults (Section 6) is performed.*

Troubleshooting Procedure

CAUTION

Careful replacement of the MCU NVRAM PWB is important to avoid serious machine failure.

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off. Remove the Fuser Assembly and allow it to cool down. 2. Measure the resistance between the Fuser connector P600-4 -and P600-6. 3. Does the resistance measure between 30 K and 190 K Ohms?	Go to step 2.	Replace the Fuser (PL 7.1).
2	1. Reinstall the Fuser Assembly. 2. Enter Service Diagnostics Menu (refer to Control Panel Diagnostics). Perform the Fuser Temperature test. 3. Is the temperature indicated approximately 165°C?	Go to step 4.	Go to step 3.
3	1. Turn the printer power Off. 2. Measure the resistance between J641-2 J641-3 on the Engine Control Board. 3. Does the resistance measure between 30 K and 190 K Ohms?	Go to step 4.	Repair or replace the wiring harness.

Table 2 Procedure

Step	Actions and Questions	Yes	No
4	1. Turn the printer power On. 2. Is there +3.4 VDC between J590-5 and ground?	Check the AC wiring harness to the Fuser. If the check is OK, replace the AC Drive Assembly.	Replace the Engine Control Board (MCU PWB) (REP 1.2).

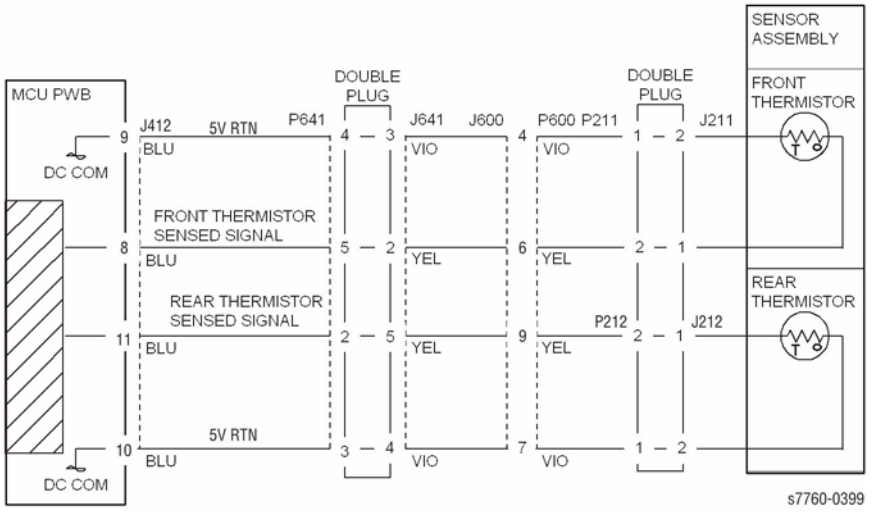

Figure 1 010-348 Fuser Front and Rear Thermistor

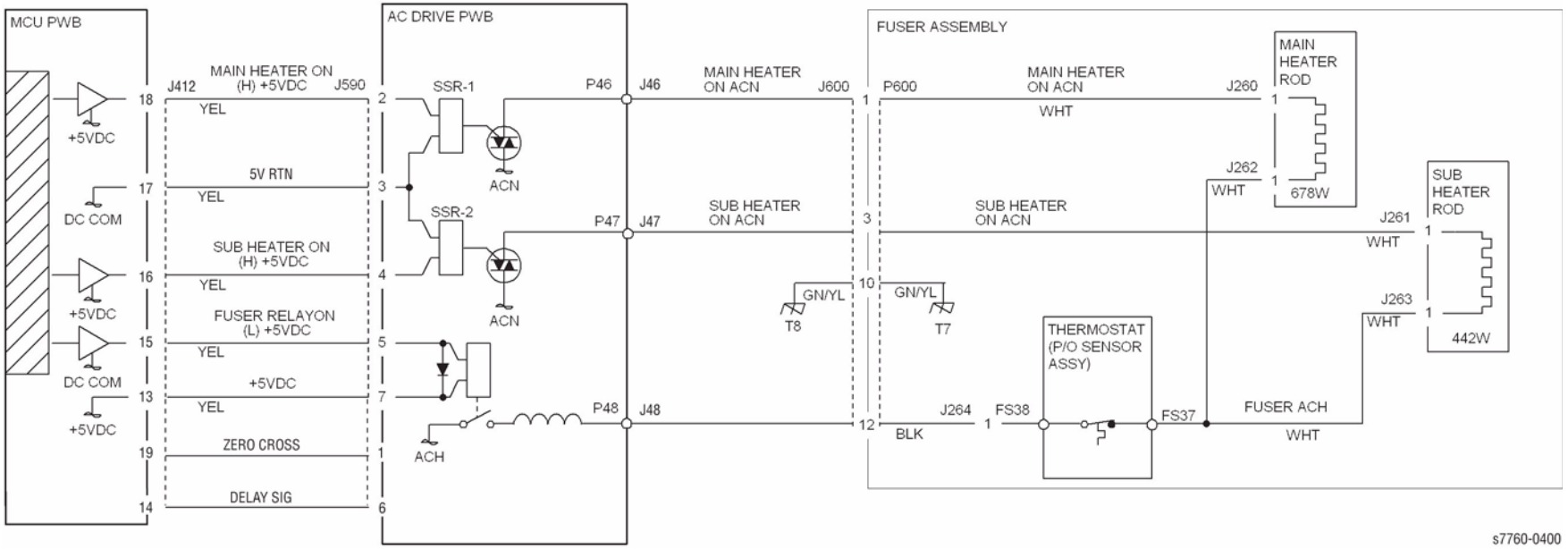

Figure 2 010-348 Fuser Main Heater and Sub Heater

010-349 Fuser Front Thermistor Open

The Front Thermistor open error. This is a cold condition.

Troubleshooting References

Table 1 References

Applicable Parts	Part List	Wiring and Plug/Jack References
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15
Fuser	PL 7.1	Section 7, Fuser Assembly Plug/Jack Locations - Figure 6

NOTE: *If this failure reoccurs three times successfully, an Engine NVRAM value is set preventing further printer use until the Clear Tech Rep Faults (Section 6) is performed.*

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off and remove the Fuser Assembly. 2. Measure the resistance between the Fuser connector P600-4 -and P600-6. 3. Does the resistance measure between 30 K and 190 K Ohms?	Go to step 2.	Replace the Fuser (PL 7.1).
2	1. Reinstall the Fuser Assembly. 2. Enter Service Diagnostics Menu (refer to Control Panel Diagnostics). Run the Fuser Temperature test. 3. Is the temperature indicated approximately 165°C?	Go to step 4.	Go to step 3.
3	1. Turn the printer power Off. 2. Check for an open circuit or poor connection between J600-4 J600-6 to J412-8 to J600-6, and J412-9 to J600-4. 3. Is the wiring OK?	Replace the Engine Control Board (MCU PWB) (REP 1.2).	Repair or replace the wiring harness.

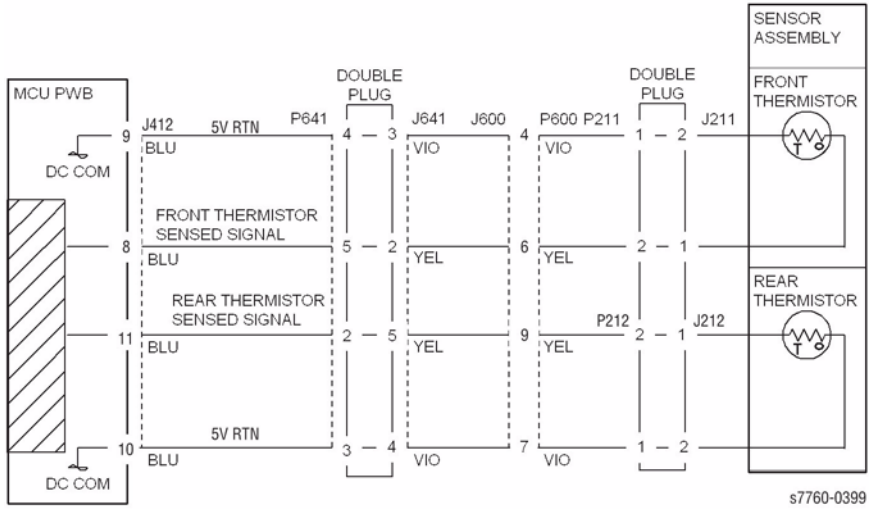

Figure 1 010-349 Fuser Front and Rear Thermistor

010-350 Fuser Sub Lamp Heat Fail

The Rear Thermistor has detected an overheat condition.

Troubleshooting References

Table 1 References

Applicable Parts	Part List	Wiring and Plug/Jack References
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15
Fuser	PL 7.1	Section 7, Fuser Assembly Plug/Jack Locations - Figure 6

NOTE: *If this failure reoccurs three times successfully, an Engine NVRAM value is set preventing further printer use until the Clear Tech Rep Faults (Section 6) is performed.*

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off. Remove the Fuser Assembly and allow it to cool down. 2. Measure the resistance between the Fuser connector P600-7 -and P600-9. 3. Does the resistance measure between 30 K and 190 K Ohms?	Go to step 2.	Replace the Fuser (PL 7.1).
2	1. Reinstall the Fuser Assembly. 2. Enter Service Diagnostics Menu (refer to Control Panel Diagnostics). Perform the Fuser Temperature test. 3. Is the temperature indicated approximately 165°C?	Go to step 4.	Go to step 3.
3	1. Turn the printer power Off. 2. Measure the resistance between J641-4 J641-5 on the Engine Control Board. 3. Does the resistance measure between 30 K and 190 K Ohms?	Replace the Engine Control Board (MCU PWB) (REP 1.2).	Repair or replace the wiring harness.
4	1. Turn the printer power On. 2. Is there ~+3.4 VDC between J590-3?	Check the AC wiring harness to the Fuser. If the check is OK, replace the AC Drive Assembly.	Replace the Engine Control Board (MCU PWB) (REP 1.2).

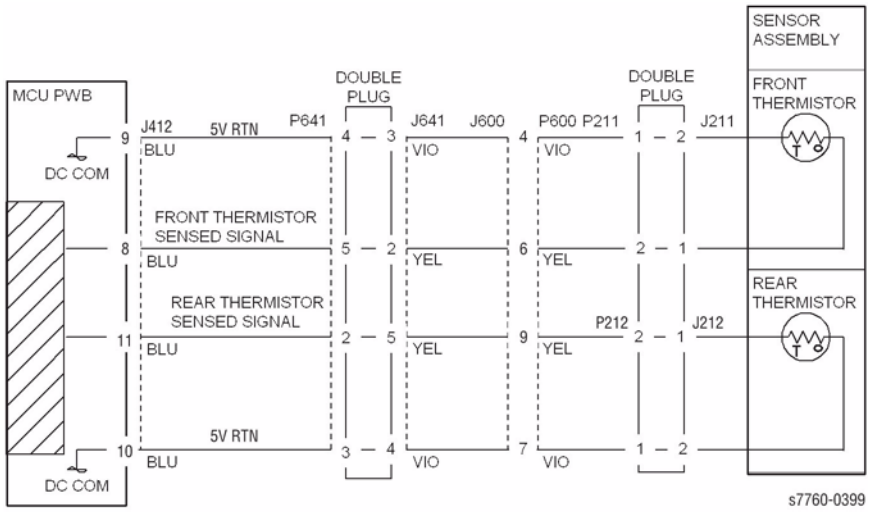

Figure 1 010-350 Fuser Front and Rear Thermistor

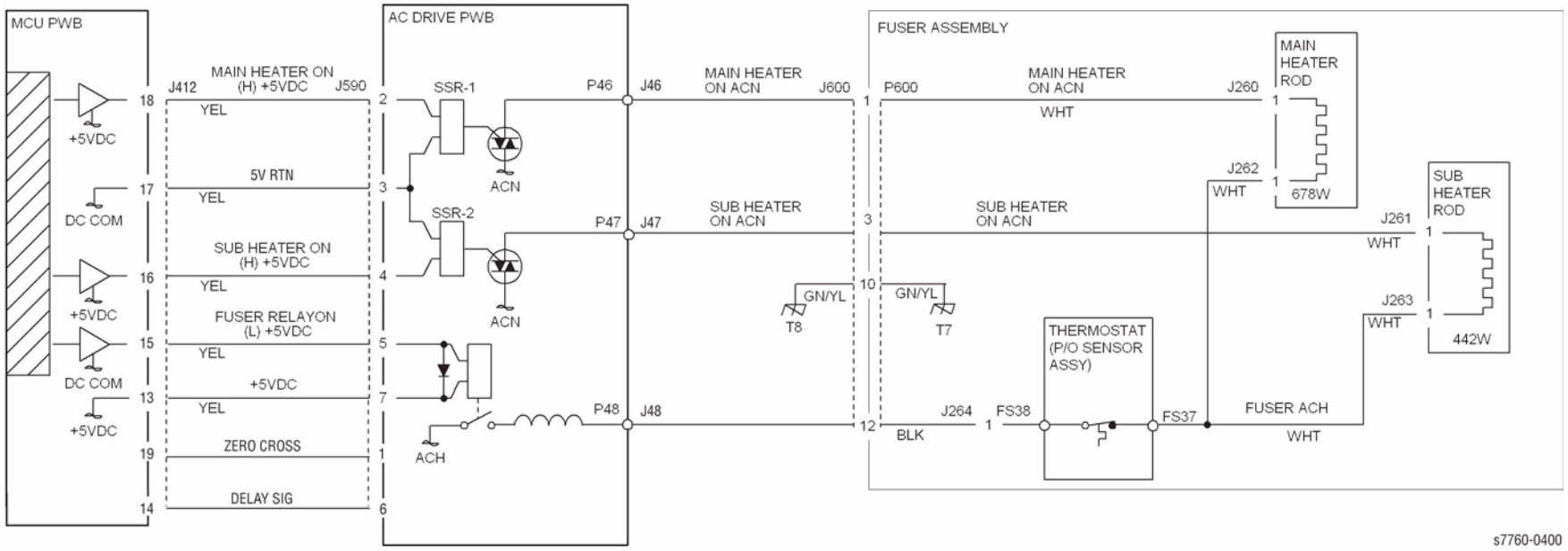

Figure 2 010-350 Fuser Main Heater and Sub Heater

010-351 Fuser Rear Thermistor Open

The Rear Thermistor open error. The machine logic detected an open circuit in the Rear Thermistor.

Troubleshooting References

Table 1 References

Applicable Parts	Part List	Wiring and Plug/Jack References
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15
Fuser	PL 7.1	Section 7, Fuser Assembly Plug/Jack Locations - Figure 6

NOTE: *If this failure reoccurs three times successfully, an Engine NVRAM value is set preventing further printer use until the Clear Tech Rep Faults is performed.*

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Turn the printer power Off. Remove the Fuser Assembly and allow it to cool down. 2. Measure the resistance between the Fuser connector P600-7 -and P600-9. 3. Does the resistance measure between 30 K and 190 K Ohms?	Go to step 2.	Replace the Fuser (PL 7.1).
2	1. Reinstall the Fuser Assembly. 2. Enter Service Diagnostics Menu (refer to Control Panel Diagnostics). Perform the Fuser Temperature test. 3. Is the temperature indicated approximately 165°C?	Go to step 4.	Go to step 3.
3	1. Turn the printer power Off. 2. Check for an open circuit or poor connection between J641-4 J641-5. 3. Does the resistance measure between 30 K and 190 K Ohms?	Replace the Engine Control Board (MCU PWB) (REP 1.2).	Repair or replace the wiring harness.

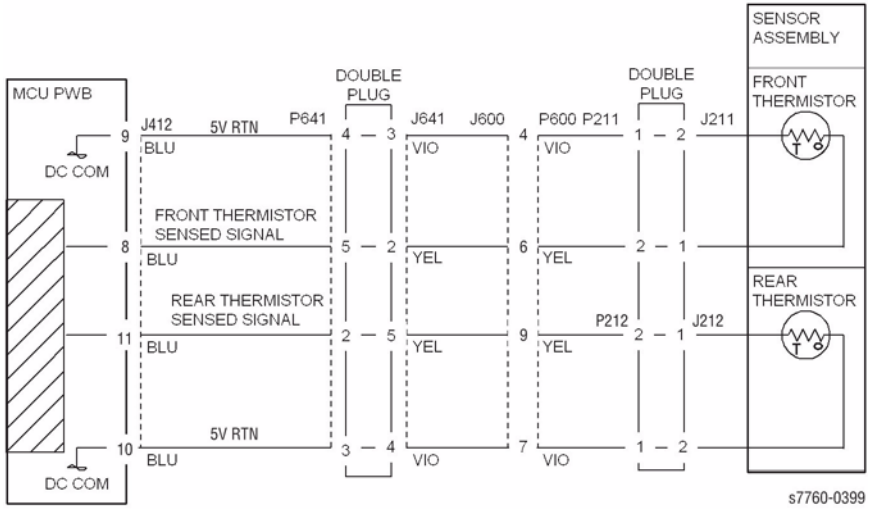

Figure 1 010-351 Fuser Front and Rear Thermistor

010-352 Main Heater Warm Up

The temperature did not reach the Ready temperature.

NOTE: *If this fault is declared 3 times succession, printing will be disabled. To clear this condition, perform Clear Tech Rep Faults from the Service Tools menu.*

Troubleshooting References

Table 1 References

Applicable Parts	Part List	Wiring and Plug/Jack References
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15
Fuser	PL 7.1	Section 7, Fuser Assembly Plug/Jack Locations - Figure 6
AC Power Chassis Assy.	PL 9.2	

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	Turn off the power, remove the Fuser, and allow it to cool down. Measure the resistance between the Fuser connector P600-1 and P600-12 on the Fuser Assembly (pin numbers are marked on tapered edge of P600 housing. Is less than 20 ohms measured?	Go to step 2.	Replace the Fuser (PL 7.1).
2	Measure the resistance between the Fuser connector pins P600-4 -and P600-5. Is the resistance between 30 and 190 ohms?	Go to step 3.	Replace the Fuser (PL 7.1).
3	Reinstall the Fuser and switch on the power. Measure the voltage between P/J48 and P/J46 on the AC Drive PWB (PL 9.2). Is it AC Line Voltage?	Go to step 4.	Go to step 5.
4	Go to Figure 1 and Figure 2. Check the wires and connectors for continuity and that they are not grounding to the frame. Is the check OK?	Replace the Fuser (PL 7.1).	Repair the wiring harness.
5	Measure the voltage at P/J590-5 on the AC Drive PWB (PL 9.2). Is it less than 1 VDC?	Go to step 7.	Go to step 6.
6	Go to Figure 2. Check the wires and connectors for continuity and that they are not grounding to frame. Is the check OK?	Replace the Engine Control Board (MCU PWB) (REP 1.2).	Repair the wiring harness.

Table 2 Procedure

Step	Actions and Questions	Yes	No
7	While the Fuser is warming up, is +5VDC is measured at P/J590-2 on the AC Drive PWB (PL 9.2)?	Replace the AC Power Chassis Assembly (PL 9.2).	Go to step 8.
8	Go to Figure 2. Check the wires and connectors for continuity and that they are not grounding to frame. Is the check OK?	Replace the Engine Control Board (MCU PWB) (REP 1.2).	Repair the wiring harness.

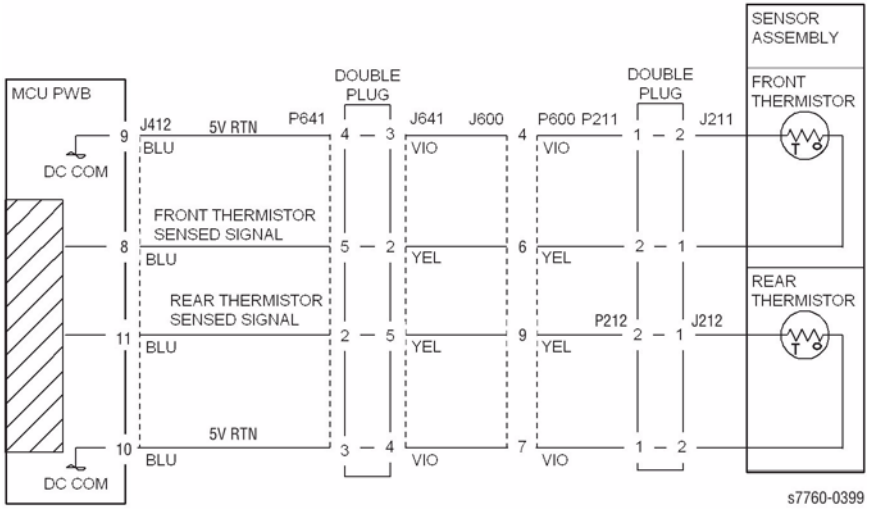

Figure 1 010-352, 010-353 Fuser Front and Rear Thermistor

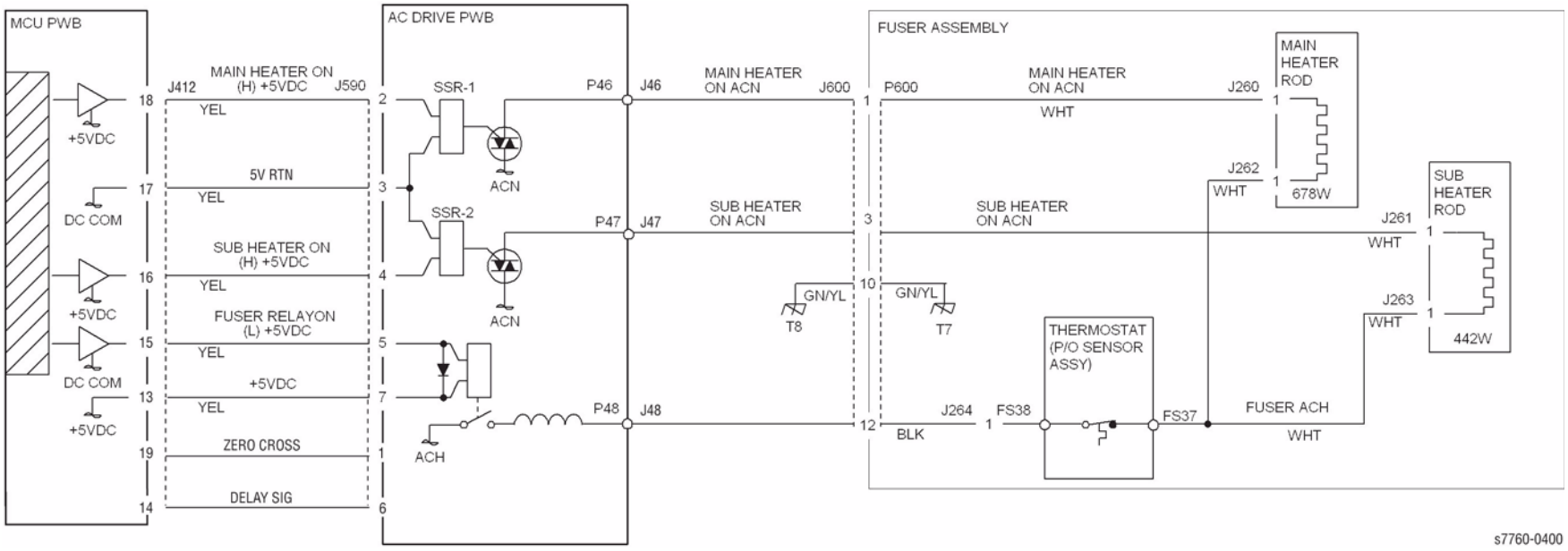

Figure 2 010-352, 010-353 Fuser Main Heater and Sub Heater

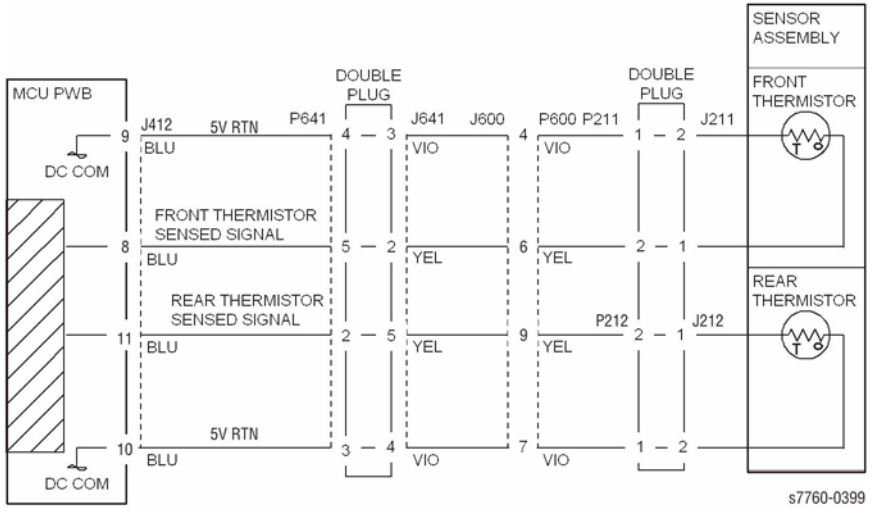

Figure 3 010-352, 010-353 Fuser Front and Rear Thermistor

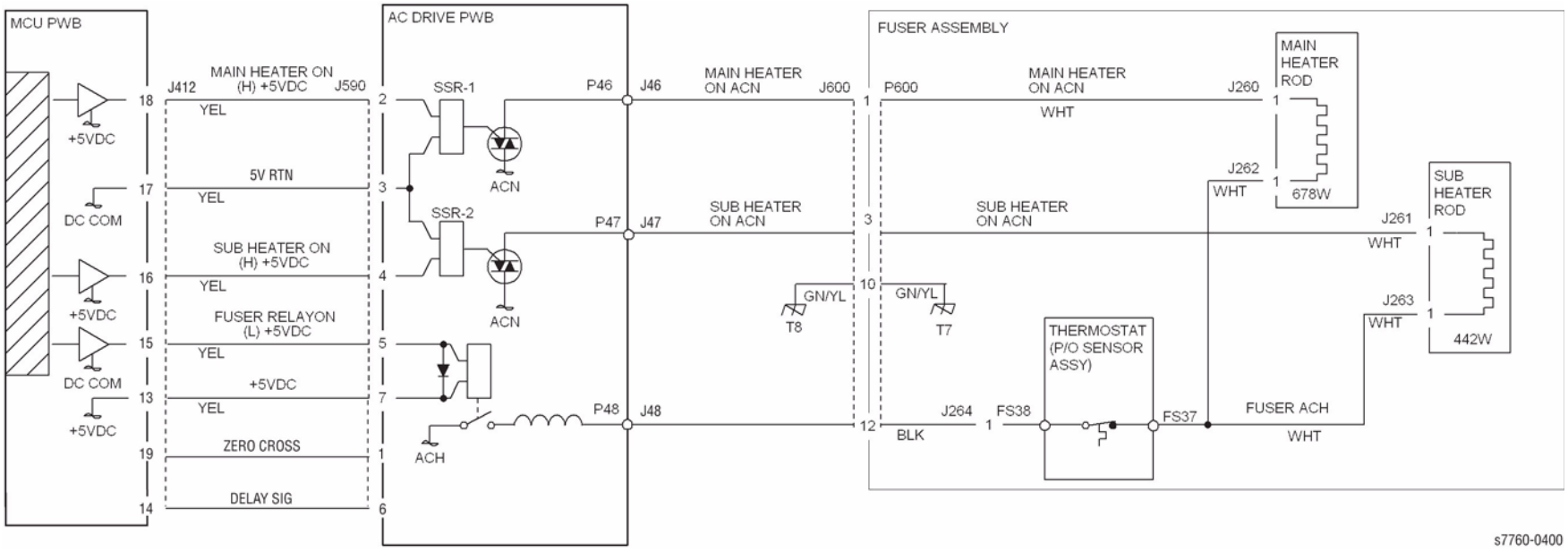

Figure 4 010-352, 010-353 Fuser Main Heater and Sub Heater

010-354, 010-527 Sub Heater Warm Up

The temperature did not reach the Ready temperature.

NOTE: *If this fault is declared 3 times in succession, printing will be disabled. To clear this condition, perform Clear Tech Rep Faults from the Service Tools menu.*

Troubleshooting References

Table 1 References

Applicable Parts	Part List	Wiring and Plug/Jack References
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15
Fuser	PL 7.1	Section 7, Fuser Assembly Plug/Jack Locations - Figure 6
AC Drive PWB	PL 9.2	

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	Turn off the power, remove the Fuser, and allow it to cool down. Measure the resistance between P600-3 and P600-12 on the Fuser (pin numbers are marked on tapered edge of P600 housing). Is less than 50 ohms measured?	Go to step 2.	Replace the Fuser (PL 7.1).
2	Measure the resistance between the Fuser connector P600-7 and P600-8. Is the resistance between 30 and 190 ohms?	Go to step 3.	Replace the Fuser (PL 7.1).
3	Reinstall the Fuser and switch on the power. Measure the voltage between P/J48 and P/J47 on the AC Drive PWB (PL 9.2). Is it AC Line Voltage?	Go to step 4.	Go to step 5.
4	Go to Figure 1 and Figure 2. Check the wires and connectors for continuity and that they are not grounding to frame. Is the check OK?	Replace the Fuser (PL 7.1).	Repair the wiring harness.
5	Measure the voltage at P/J590-5 on the AC Drive PWB (PL 9.2). Is it less than 1 VDC?	Go to step 7.	Go to step 6.
6	Go to Figure 2. Check the wires and connectors for continuity and that they are not grounding to frame. Is the check OK?	Replace the Engine Control Board (MCU PWB) (REP 1.2).	Repair the wiring harness.

Table 2 Procedure

Step	Actions and Questions	Yes	No
7	While the Fuser is warming up, is +5VDC is measured at P/J590-4 on the AC Drive PWB (PL 9.2)?	Replace the AC Drive PWB (REP 1.11).	Go to step 8.
8	Go to Figure 2. Check the wires and connectors for continuity and that they are not grounding to frame. Is the check OK?	Replace the MCU Board (MCU PWB) (REP 1.2).	Repair the wiring harness.

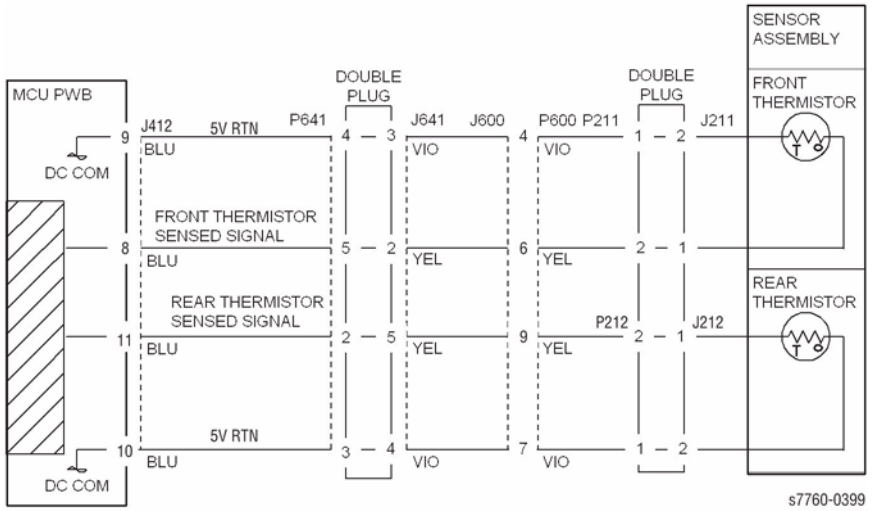

Figure 1 010-354, 010-356 Fuser Front and Rear Thermistor

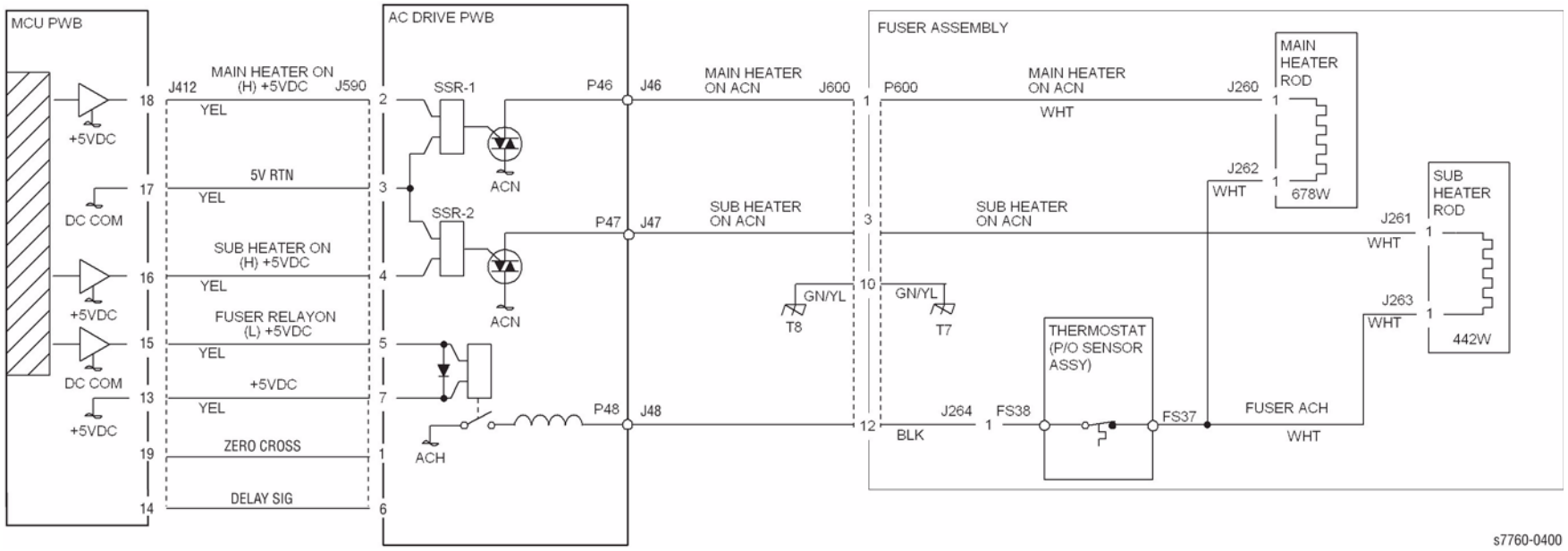

Figure 2 010-354, 010-356 Fuser Main Heater and Sub Heater

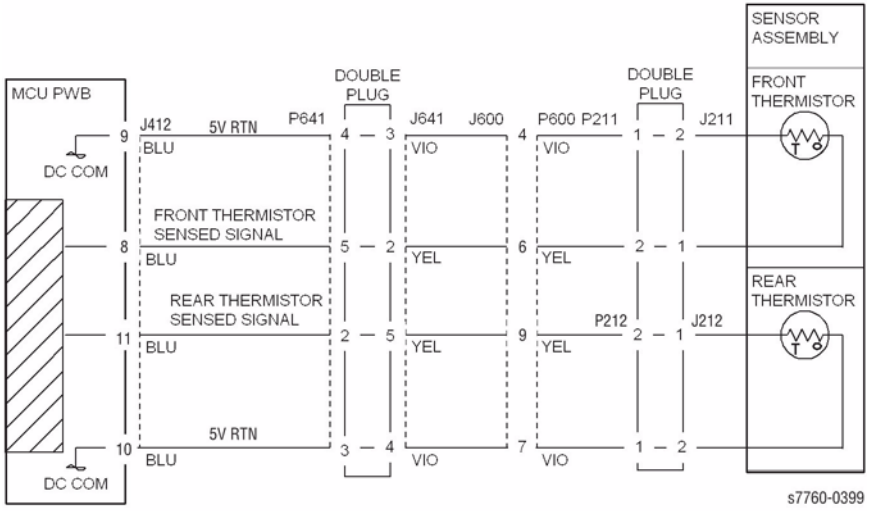

Figure 3 010-354, 010-356 Fuser Front and Rear Thermistor

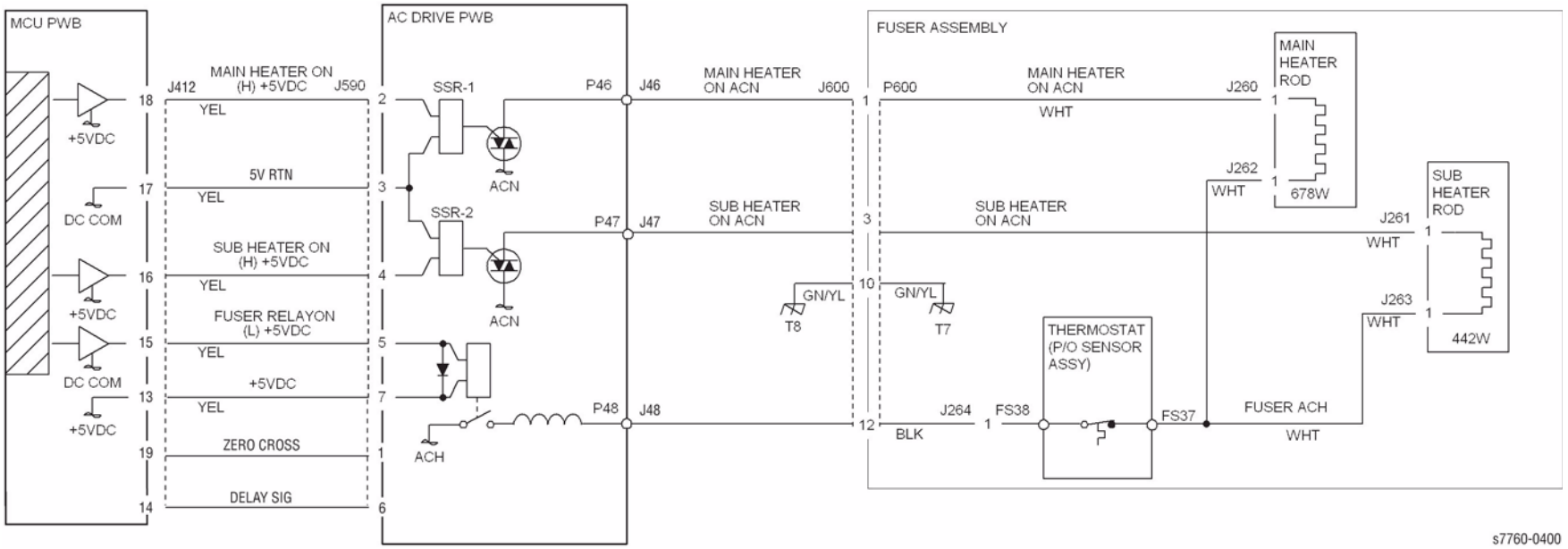

Figure 4 010-354, 010-356 Fuser Main Heater and Sub Heater

010-391 LVPS Fan Fail

The machine logic detected a failure LVPS Fan.

Troubleshooting References

Table 1 References

Applicable Parts	Part List	Wiring and Plug/Jack References
LVPS Fan	PL 9.1	
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/ Jack Locations - Figure 15
LVPS	PL 9.1	Section 7, HVPS, +24V LVPS T10 - Figure 12

Troubleshooting Procedure

Table 2 Troubleshooting

Step	Actions and Questions	Yes	No
1	Enter Service Diagnostics Menu (refer to Control Panel Diagnostics). Does the LVPS Fan revolve at high speed?	Go to step 3.	Go to step 2.
2	Is +24 VDC present at J214-4?	Go to step 3.	Check the wiring to the LVPS Fan. If the wiring is OK, replace the Engine Control Board (MCU PWB) (REP 1.2).
3	Does the Control Panel indicate the Fans are On?	Replace the LVPS Assembly (REP 1.4).	Check the wiring to the LVPS Fan. If the wiring is OK, replace the Engine Control Board (MCU PWB) (REP 1.2).

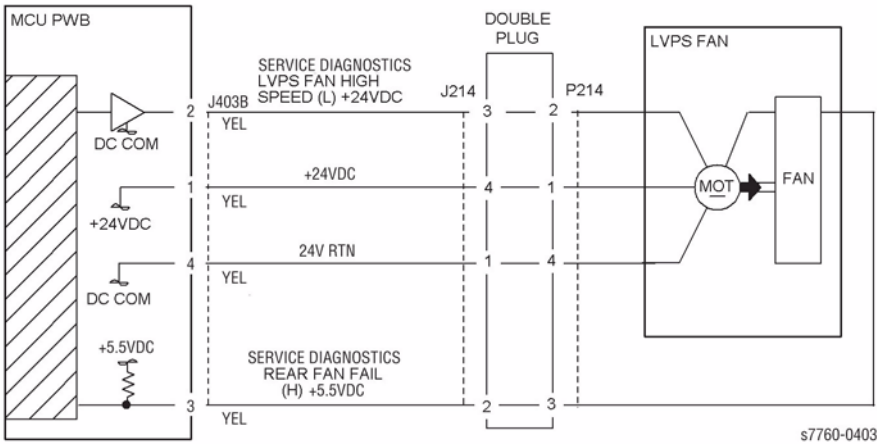

Figure 1 010-391 LVPS Fan Fail

010-392 Rear Cooling Fan Fail

The machine logic detected a failure of the Rear Fan.

Troubleshooting References

Table 1 References

Applicable Parts	Part List	Wiring and Plug/Jack References
Rear Fan	PL 8.1	
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15

Troubleshooting Procedure

Table 2 Troubleshooting

Step	Actions and Questions	Yes	No
1	Enter Service Diagnostics Menu (refer to Control Panel Diagnostics). Does the Rear Fan revolve at high speed?	Go to step 3.	Go to step 2.
2	Is +24 VDC present at J552-1?	Go to step 3.	Check the wiring to the Rear Fan. If the wiring is OK, replace the Interface Board. If the problem continues, replace the Engine Control Board (MCU PWB) (REP 1.2).
3	Does the Control Panel indicate the Fans are On?	Replace the Rear Fan.	Check the wiring to the Rear Fan. If the wiring is OK, replace the Engine Control Board (MCU PWB) (REP 1.2).

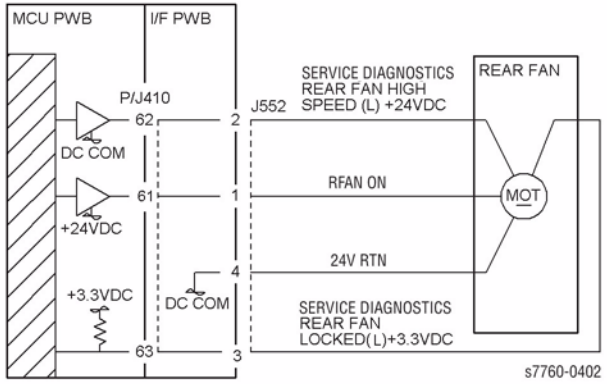

Figure 1 010-392 Rear Cooling Fan Fail

010-398, 010-527 Fuser Fan Fail

The machine logic detected a failure of the Fuser Fan.

Troubleshooting References

Table 1 References

Applicable Parts	Part List	Wiring and Plug/Jack References
Fuser Fan	PL 8.1	
LVPS Fan	PL 9.1	
Rear Fan	PL 8.1	
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15
I/F PWB	PL 9.1	Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	Enter Service Diagnostics Menu (refer to Control Panel Diagnostics). Perform the **Fan Motors** test. Does the Fuser Fan rotate at a high speed?	Go to step 3.	Go to step 2.
2	Is +24 VDC present at J222-4?	Go to step 3.	Check the wiring to the Fuser Fan. If the wiring is OK, replace the Engine Control Board (MCU PWB) (REP 1.2).
3	Does the Control Panel indicate the Fans are **On**?	Replace the Fuser Fan (REP 10.2).	Check the wiring to the Fuser Fan. If the wiring is OK, replace the Engine Control Board (MCU PWB) (REP 1.2).

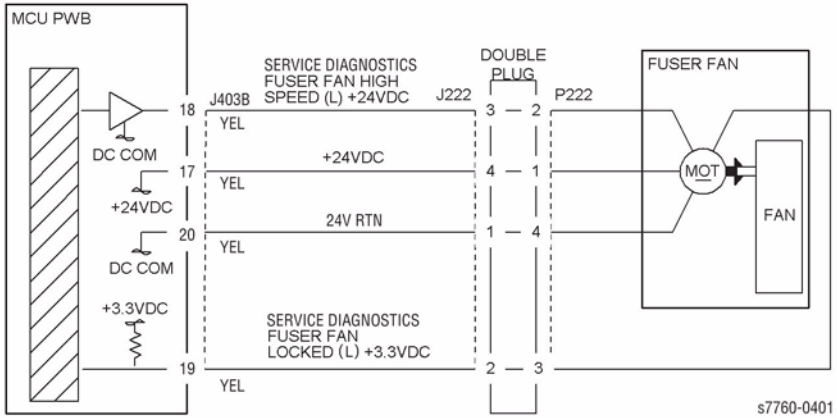

Figure 1 010-398 Fuser Fan

010-420 Fuser Near End Of Life

Replace the Fuser Assembly in 100K copies.

Procedure

The Fuser Assembly was replaced.

Y N

Replace the Fuser Assembly.

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the Fuser Present test. **Fuser is present.**

Y N

Replace the Engine Control Board (MCU PWB) (PL 13.1).

Ensure that the Life setting value is 100K, turn the printer power Off, then On.
If the problem continues, replace the Engine Control Board (MCU PWB) (PL 13.1).

010-421 Fuser End Of Life

Fuser at end of life.

Procedure

The Fuser Assembly was replaced.

Y N

Replace the Fuser Assembly.

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the Fuser Present test. **Fuser is present.**

Y N

Replace the Engine Control Board (MCU PWB) (PL 13.1).

Ensure that the Life setting value is 100K, turn the printer power Off, then On.
If the problem continues, replace the Engine Control Board (MCU PWB) (PL 13.1).

010-505 Fuser Warm Up

Message is displayed, Fuser is warming up, during jam clearance when a cover is open and the Fuser has dropped below operating temperature.

Procedure

Clear the jam. Close any covers or doors. **The machine is comes to ready.**

Y **N**

Go to 008-900 Static Jam RAP.

Return to Service Call Procedures.

010-600 Bottom, Developer Fan Fail

The machine logic detected a failure of the Bottom Fan or the Developer Fan.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.

Run the Fan Motors test. **The Developer Fan (PL 9.1) revolves at high speed.**

Y **N**

There is +24 VDC from J404A pin 1 to frame gnd.

Y **N**

Check the wires and connectors to the Developer Fan (Figure 1). If the check is OK, replace the Engine Control Board (MCU PWB) (PL 13.1). If the problem continues replace the I/F PWB (PL 9.1).

Check the wires and connectors to the Developer Fan (Figure 1). If the check is OK, replace the Developer Fan (PL 9.1).

The Bottom Fan (PL 8.1) revolves at high speed.

Y **N**

There is +24 VDC from J534 pin 1 to frame gnd.

Y **N**

Check the wires and connectors to the Bottom Fan (Figure 1). If the check is OK, replace the Engine Control Board (MCU PWB) (PL 13.1).

Check the wires and connectors to the Bottom Fan (Figure 1). If the check is OK, replace the Bottom Fan (PL 8.1).

Perform **Service Diagnostics**. **The display is L.**

Y **N**

Check the fan failure wires and connectors for an open circuit (Figure 1). If the check is OK, replace the fans, one at a time. If this does not resolve the problem, replace the Engine Control Board (MCU PWB) (PL 13.1).

The Fans are operating correctly. If the problem continues replace the Engine Control Board (MCU PWB) (PL 13.1).

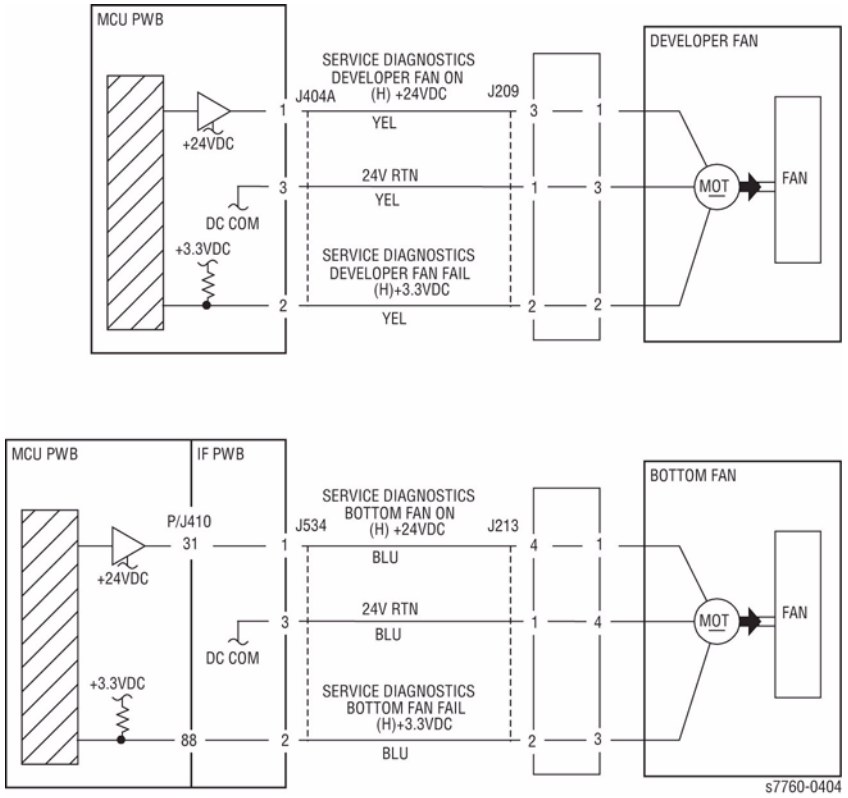

Figure 1 010-600 Bottom and Developer Fan

012-112 H-Transport Entrance Sensor On Jam

H-Transport Entrance Sensor is not turned on within a specified time.

Initial Actions

- Check for obstructions in the paper path
- Check the H-Transport Drive Motor Belt for wear or damage.
- Check the Guides on the H-Transport Cover for damage, wear or faulty installation.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Open the H-Transport Cover and actuate the H-Transport Entrance Sensor (PL 21.25). **The display changes.**

Y N

Check the circuit of the H-Transport Entrance Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform the **H-Transport Drive Motor** test. **The H-Transport Drive Motor (PL 21.26) energizes.**

Y N

Check the circuit of the H-Transport Drive Motor (Figure 1). Refer to the OF 99-9 RAP for troubleshooting procedure.

Close the H-Transport Cover. Perform the **Gate Solenoid** test. **The Gate Solenoid (PL 21.25) actuates.**

Y N

Check the circuit of the Gate Solenoid (Figure 1). Refer to Section 2, OF 99-8 RAP for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged.
- Check the H-Transport Motor and its associated gears and belts for damage, contamination or misalignment.
- Remove the Bumpers from the Baffle in Horizontal Transport and verify operation (PL 21.27).

If the above checks are OK, then replace the H-Transport Entrance Sensor (PL 21.25). If the problem persists, replace the Finisher PWB (PL 21.12).

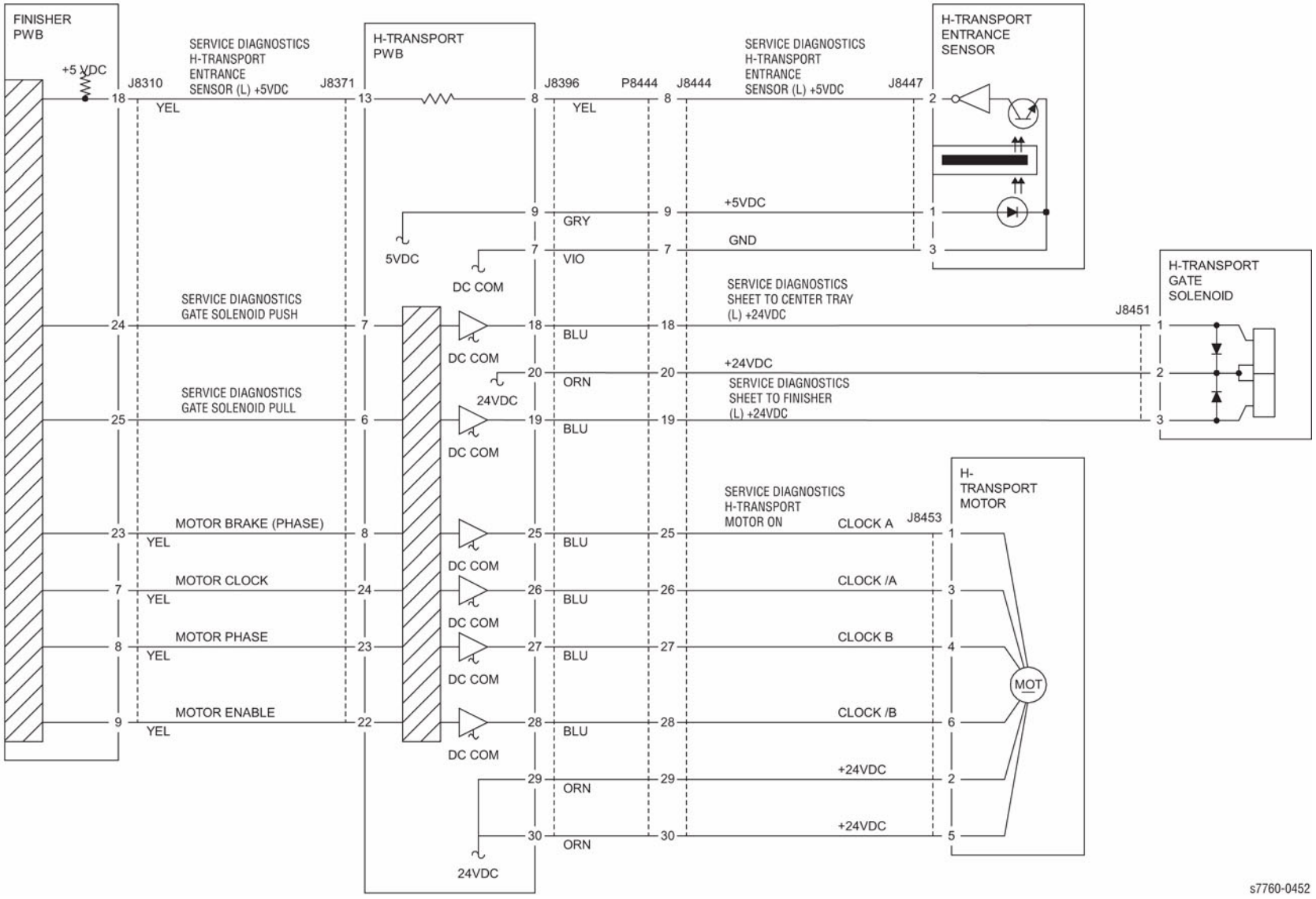

Figure 1 012-112 H-Transport Entrance

012-113 Booklet In Sensor On Jam

The Booklet In Sensor did not turn On within the specified time after Punch Out Sensor ON.

Initial Actions

- Check for obstructions in the paper path.
- Check that the Finisher is dock correctly to ensure proper Transport Gate operation.
- Check the Booklet In Sensor for obstructions (PL 21.21).
- Check for transportation failure of non-standard paper.
- Check the Booklet In Roll for wear or damage.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Booklet In Sensor (PL 21.21). **The display changes.**

Y N

Check the circuit of the Booklet In Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform the **Booklet Gate Solenoid** test. **The Booklet Gate Solenoid (PL 21.21) actuates.**

Y N

Check the circuit of the Booklet Gate Solenoid (Figure 1). Refer to Section 2, OF 99-8 RAP for troubleshooting procedure.

Perform the **Finisher Transport Motor** test. **The Finisher Transport Motor PL 21.10) energizes.**

Y N

Check the circuit of the Finisher Transport Motor (Figure 1). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Check the H-Transport Motor and its associated gears and belts for damage, contamination or alignment
- Check the Finisher Transport Motor and its associated gears and belts for damage, contamination or alignment

If the above checks are OK, then replace the Booklet In Sensor (PL 21.25). If the problem persists, replace the Finisher PWB (PL 21.12).

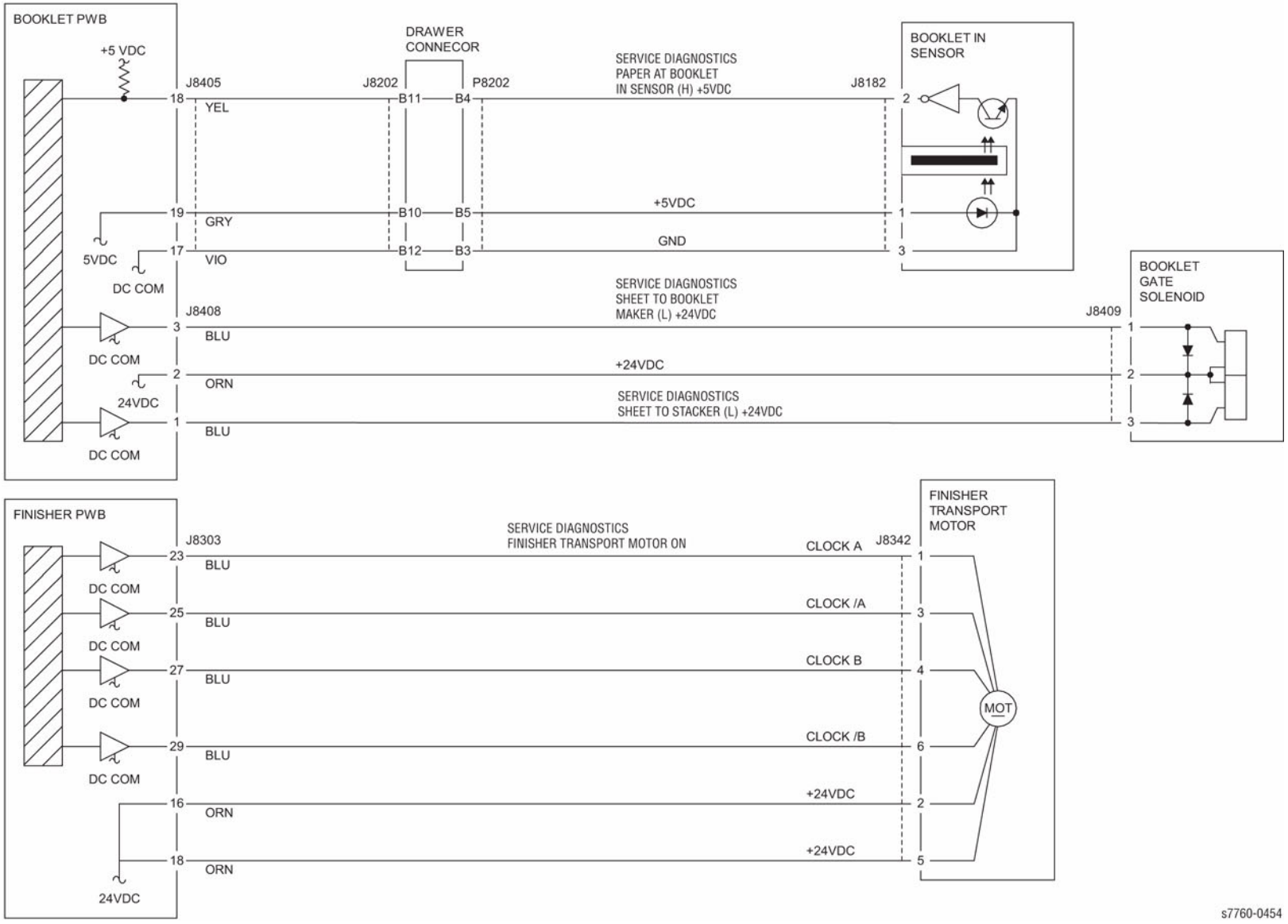

Figure 1 012-113 Booklet Entrance

012-114 Booklet In Sensor Off Jam 1

The Booklet In Sensor did not turn Off within the specified time.

Initial Actions

- Check for obstructions in the paper path.
- Check that the Finisher is dock correctly to ensure proper Transport Gate operation.
- Check the Booklet In Sensor for obstructions (PL 21.21).
- Check for transportation failure of non-standard paper.
- Check the Booklet In Roll for wear or damage.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Booklet In Sensor (PL 21.21). **The display changes.**

Y **N**

Check the circuit of the Booklet In Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform the **Finisher Solenoid** test. **The Booklet Gate Solenoid (PL 21.21) actuates.**

Y **N**

Check the circuit of the Booklet Gate Solenoid (Figure 1). Refer to Section 2, OF 99-8 RAP for troubleshooting procedure.

Perform **Service Diagnostics**. **The motor energizes.**

Y **N**

Check the circuit of the Booklet Paper Path Motor (Figure 1). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Check the H-Transport Motor and its associated gears and belts for damage, contamination or alignment
- Check the Booklet Paper Path Motor and its associated gears and belts for damage, contamination or alignment

If the above checks are OK, then replace the Booklet In Sensor (PL 21.25). If the problem persists, replace the Finisher PWB (PL 21.12).

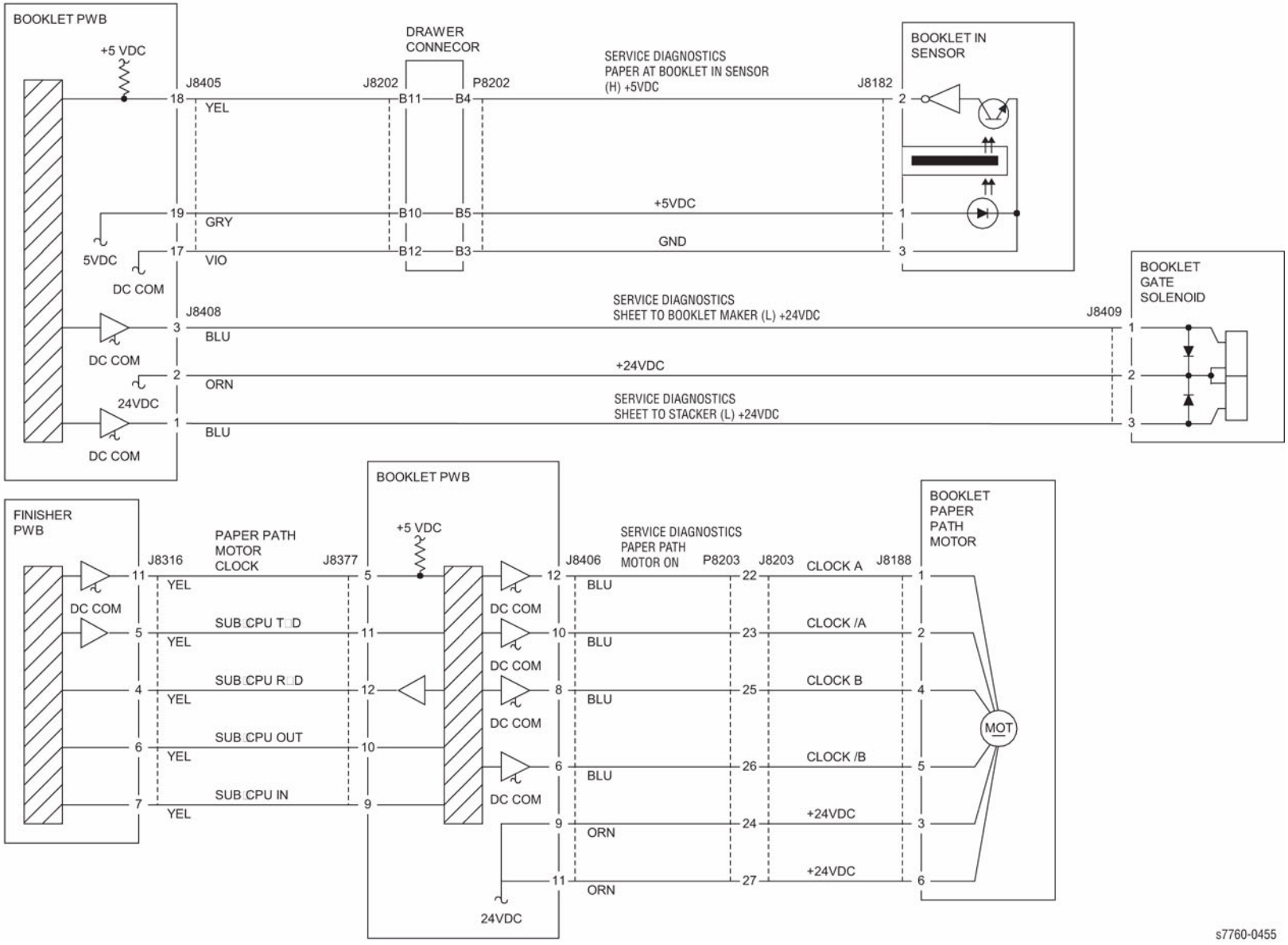

Figure 1 012-114 Booklet Paper Path

012-115 Booklet Folder Roll Exit Sensor On Jam

Booklet Folder Roll Exit Sensor is not turned Off within a specified time.

Initial Actions

- Check for obstructions in the paper path.
- Check that the Finisher is dock correctly to ensure proper Transport Gate operation.
- Check the Booklet Folder Roll Exit Sensor for obstructions (PL 21.21).
- Check for transportation failure of non-standard paper.
- Check the Booklet Folding Roll for wear or damage.
- Check the Booklet Eject Roll Drive rolls for wear or damage.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Booklet Folder Roll Exit Sensor (PL 21.21). **The display changes.**

Y **N**

Check the circuit of the Booklet Folder Roll Exit Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform the Finisher Motors test (PL 21.22). **The motor energizes.**

Y **N**

Check the circuit of the Booklet Paper Path Motor (Figure 1). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Perform the **Finisher Motors** test (PL 21.22). **The motor energizes.**

Y **N**

Check the circuit of the Booklet Folder Roll Motor (Figure 1). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Check the Booklet Paper Path Motor and its associated gears and belts for damage, contamination or alignment
- Check the Booklet Folder Roll Motor and its associated gears and belts for damage, contamination or alignment

If the above checks are OK, then replace the Booklet Folder Roll Exit Sensor (PL 21.21). If the problem persists, replace the Finisher PWB (PL 21.12).

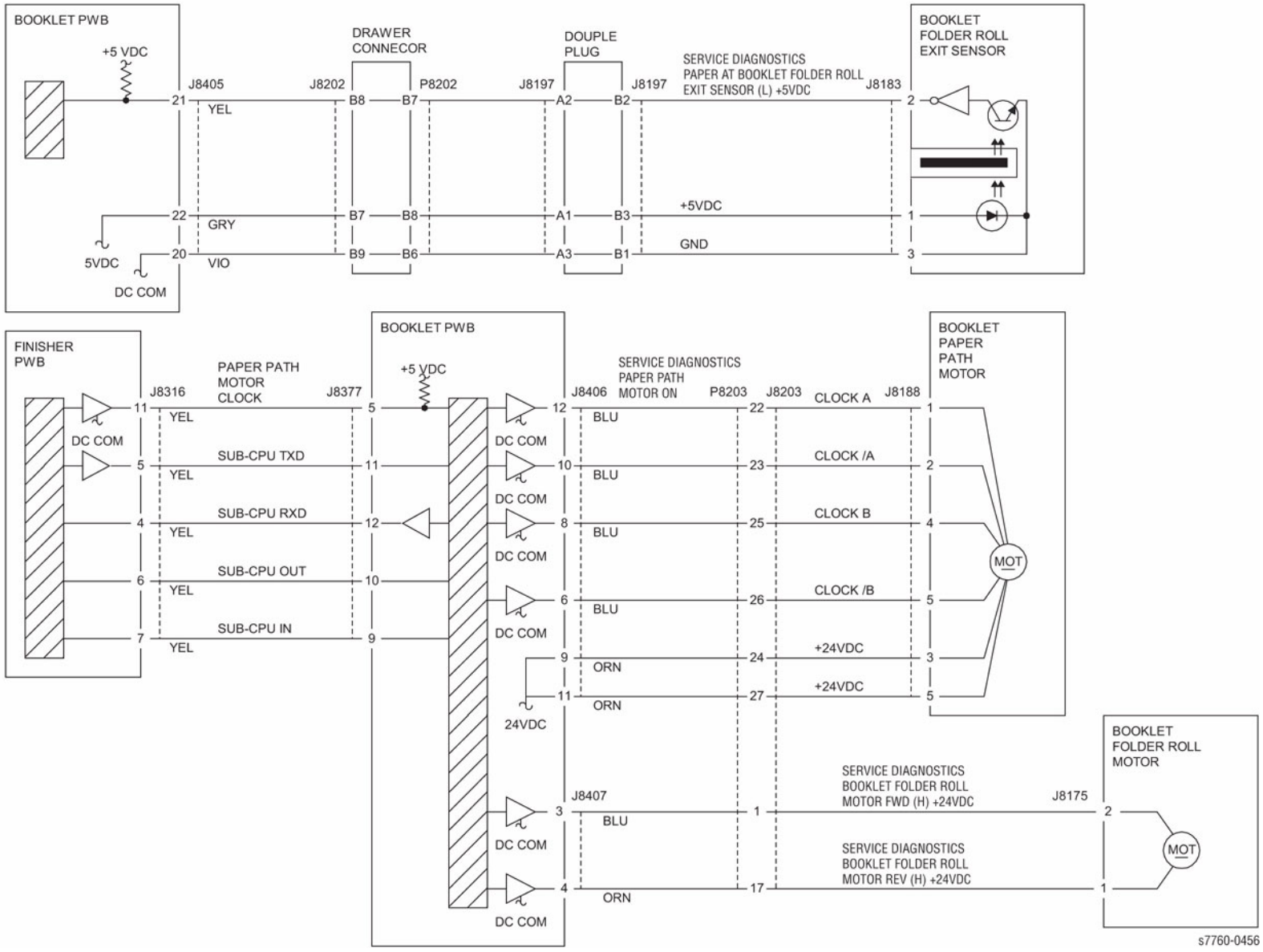

Figure 1 012-115 Booklet Paper Path

012-123 H-Transport Tray Exit Sensor On Jam

H-Transport Tray Exit Sensor is not turned On within a specified time.

Initial Actions

- Check for obstructions in the paper path.
- Check that the Finisher is dock correctly to ensure proper Transport Gate operation.
- Check the H-Transport Drive Motor Belt for wear or damage.
- Check the Guides on the H-Transport Cover for damage, wear or faulty installation.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Open the H-Transport Cover and actuate the H-Transport Tray Exit Sensor (PL 21.25). **The display changes.**

Y N

Check the circuit of the H-Transport Tray Exit Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform the **Finisher Motors** test. **The H-Transport Drive Motor (PL 21.26) energizes.**

Y N

Check the circuit of the H-Transport Drive Motor (Figure 1). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Close the H-Transport Cover. Perform the **Gate Solenoid** test. **The Gate Solenoid (PL 21.25) actuates.**

Y N

Check the circuit of the Gate Solenoid (Figure 1). Refer to Section 2, OF 99-8 RAP for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Check the H-Transport Motor and its associated gears and belts for damage, contamination or misalignment

If the above checks are OK, then replace the H-Transport Exit Sensor (PL 21.25). If the problem persists, replace the Finisher PWB (PL 21.12).

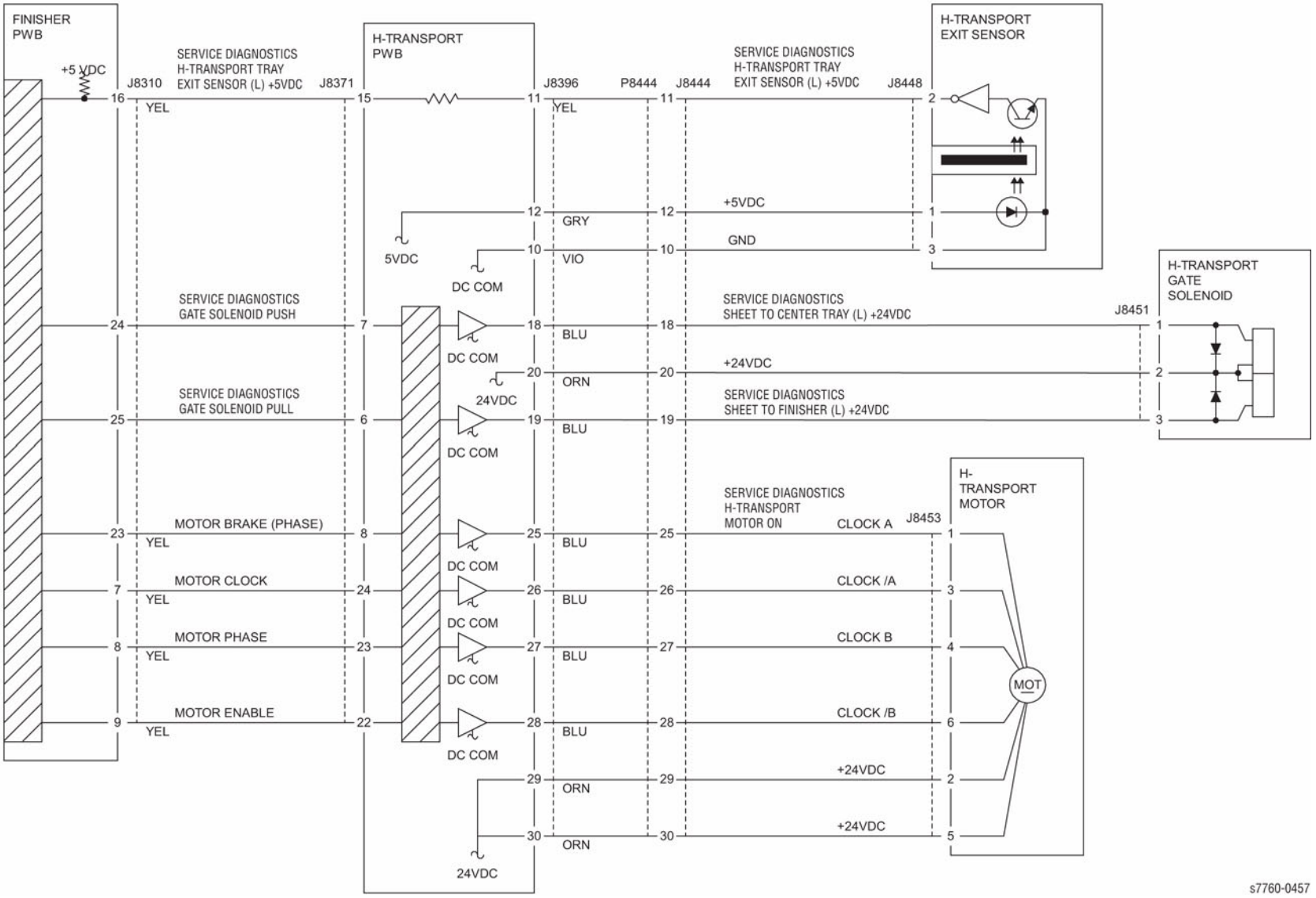

Figure 1 012-123 H-Transport Exit

012-124 H-Transport Top Tray Exit Sensor Off Jam

H-Transport Top Tray Exit Sensor is not turned Off within a specified time.

Initial Actions

- Check for obstructions in the paper path.
- Check that the Finisher is dock correctly to ensure proper Transport Gate operation.
- Check the H-Transport Drive Motor Belt for wear or damage.
- Check the Guides on the H-Transport Cover for damage, wear or faulty installation.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Open the H-Transport Cover and actuate the H-Transport Tray Exit Sensor (PL 21.25). **The display changes.**

Y N

Check the circuit of the H-Transport Tray Exit Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform the **H-Transport Drive Motor** test. **The H-Transport Drive Motor (PL 21.26) energizes.**

Y N

Check the circuit of the H-Transport Drive Motor (Figure 1). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Close the H-Transport Cover. Perform the **Gate Solenoid** test. **The Gate Solenoid (PL 21.25) actuates.**

Y N

Check the circuit of the Gate Solenoid (Figure 1). Refer to Section 2, OF 99-8 RAP for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Check the H-Transport Motor and its associated gears and belts for damage, contamination or misalignment

If the above checks are OK, then replace the H-Transport Exit Sensor (PL 21.25). If the problem persists, replace the Finisher PWB (PL 21.12).

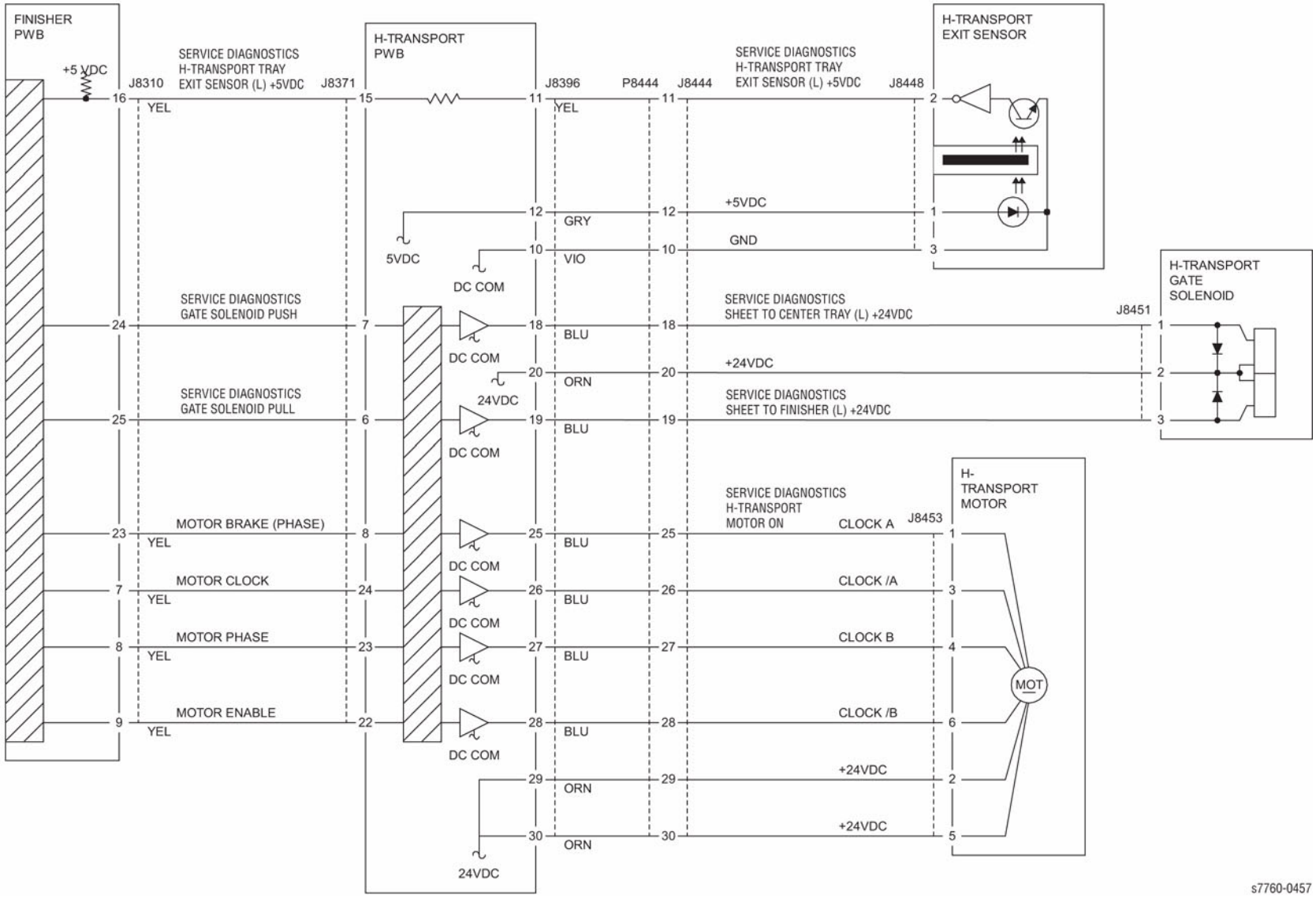

Figure 1 012-124 H-Transport Exit

012-125 Gate Sensor On Jam

Gate Sensor is not turned On within a specified time.

Initial Actions

- Check for obstructions in the paper path.
- Check the Finisher Drive Motor Gears and Drive rolls for wear or damage.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Gate Sensor. **The display changes.**

Y **N**

Check the circuit of the Gate Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform the **Finisher Transport Motor** test. **The Transport Motor (PL 21.10) energizes.**

Y **N**

Check the circuit of the Finisher Transport Motor (Figure 1). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Check the Finisher is docked properly
- Check the Finisher Transport Motor and its associated gears and belts for damage, contamination or misalignment

If the above checks are OK, then replace the Gate Sensor. If the problem persists, replace the Finisher PWB (PL 21.12).

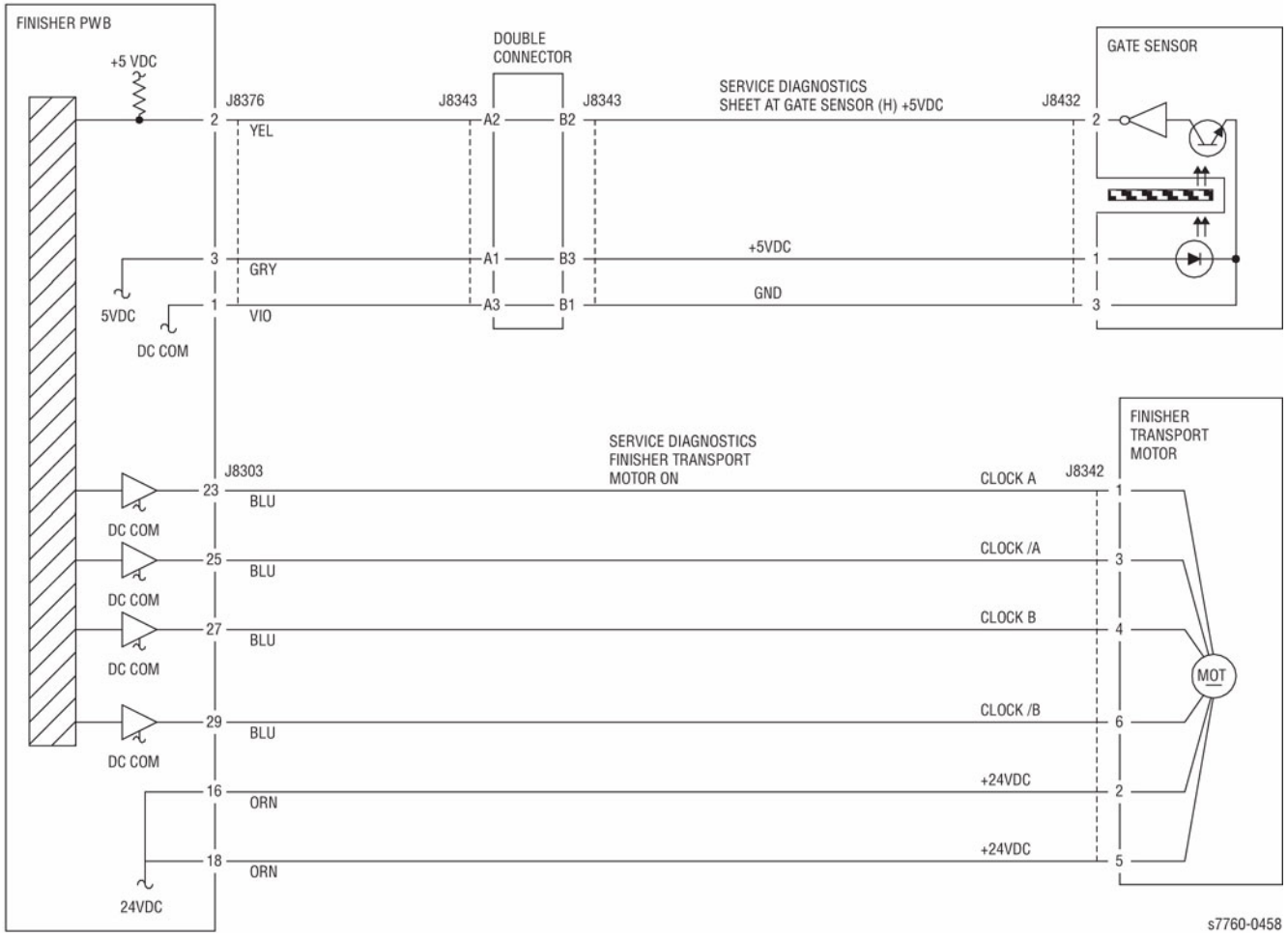

Figure 1 012-125 Finisher Entrance

012-132 Xport Entrance Sensor On Jam

Transport Entrance Sensor is not turned On within a specified time.

Initial Actions

- Check for obstructions in the paper path.
- Check that the Finisher is dock correctly to ensure proper Transport Gate operation.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Transport Entrance Sensor (PL 21.10). **The display changes.**

Y N

Check the circuit of the Transport Entrance Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform the **Finisher Transport Motor** test. **The Finisher Transport Motor (PL 21.10) energizes.**

Y N

Check the circuit of the Finisher Transport Motor (Figure 1). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Check the H-Transport Motor and its associated gears and belts for damage, contamination or alignment
- Check the Finisher Transport Motor and its associated gears and belts for damage, contamination or alignment

If the above checks are OK, then replace the Transport Entrance Sensor (PL 21.10). If the problem persists, replace the Finisher PWB (PL 21.12).

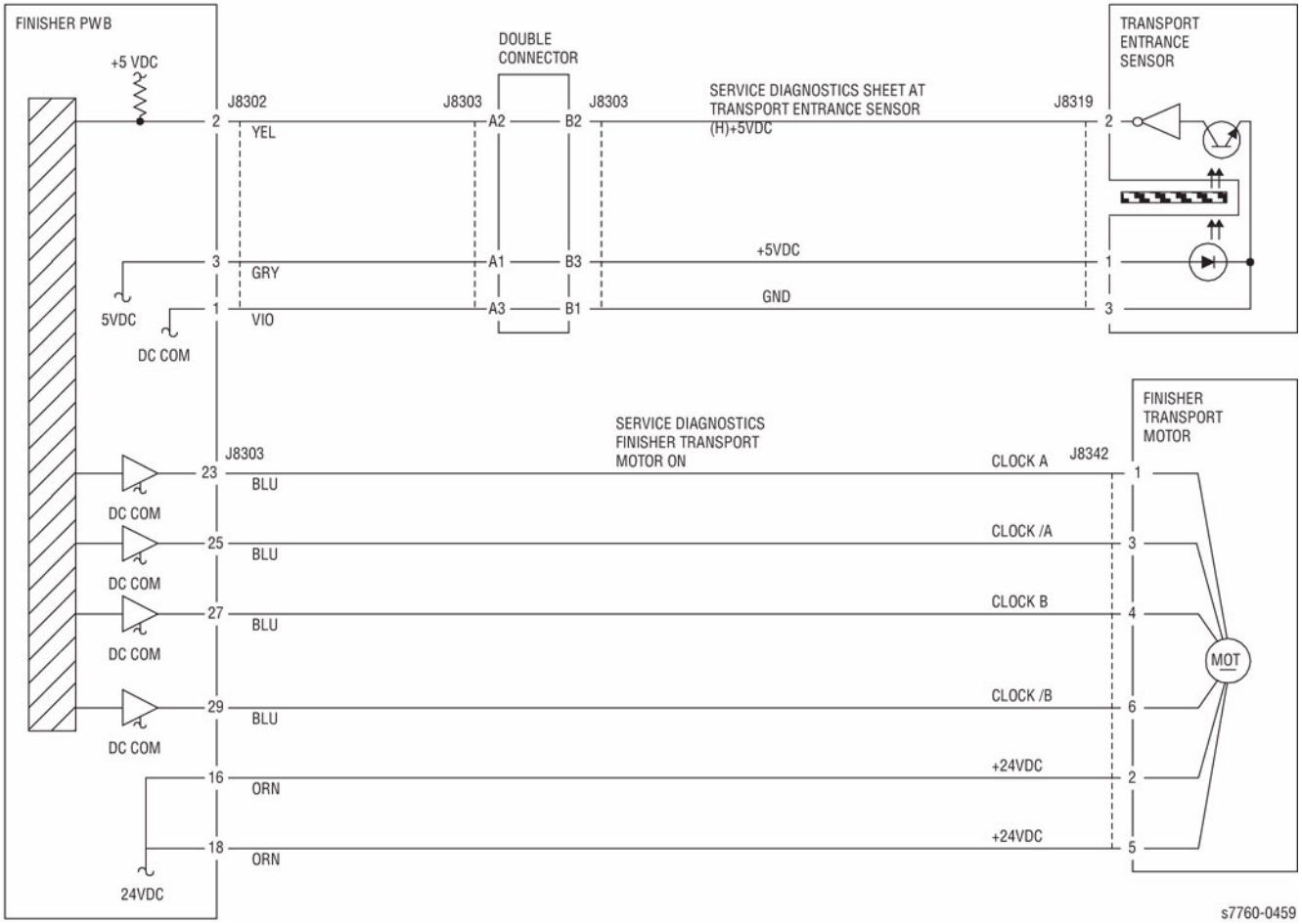

Figure 1 012-132 Finisher Entrance

012-142 Buffer Path Sensor On Jam

Buffer Path Sensor is not turned On within a specified time.

Initial Actions

- Check for obstructions in the paper path.
- Check the Finisher Transport Motor Belt, Gears and Drive Rolls for wear or damage.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Buffer Path Sensor (PL 21.10). **The display changes.**

Y N

Check the circuit of the Buffer Path Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform the **Finisher Transport Motor** test. **The Finisher Transport Motor (PL 21.10) energizes.**

Y N

Check the circuit of the Finisher Transport Motor (Figure 1). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Perform the **Buffer Gate Solenoid** test. **The Gate Solenoid (PL 21.10) actuates.**

Y N

Check the circuit of the Buffer Gate Solenoid (Figure 1). Refer to Section 2, OF 99-8 RAP for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Check the Buffer Rolls for obstructions
- Check the Finisher Transport Motor and its associated gears and belts for damage, contamination or misalignment

If the above checks are OK, then replace the Buffer Path Sensor (PL 21.10). If the problem persists, replace the Finisher PWB (PL 21.12).

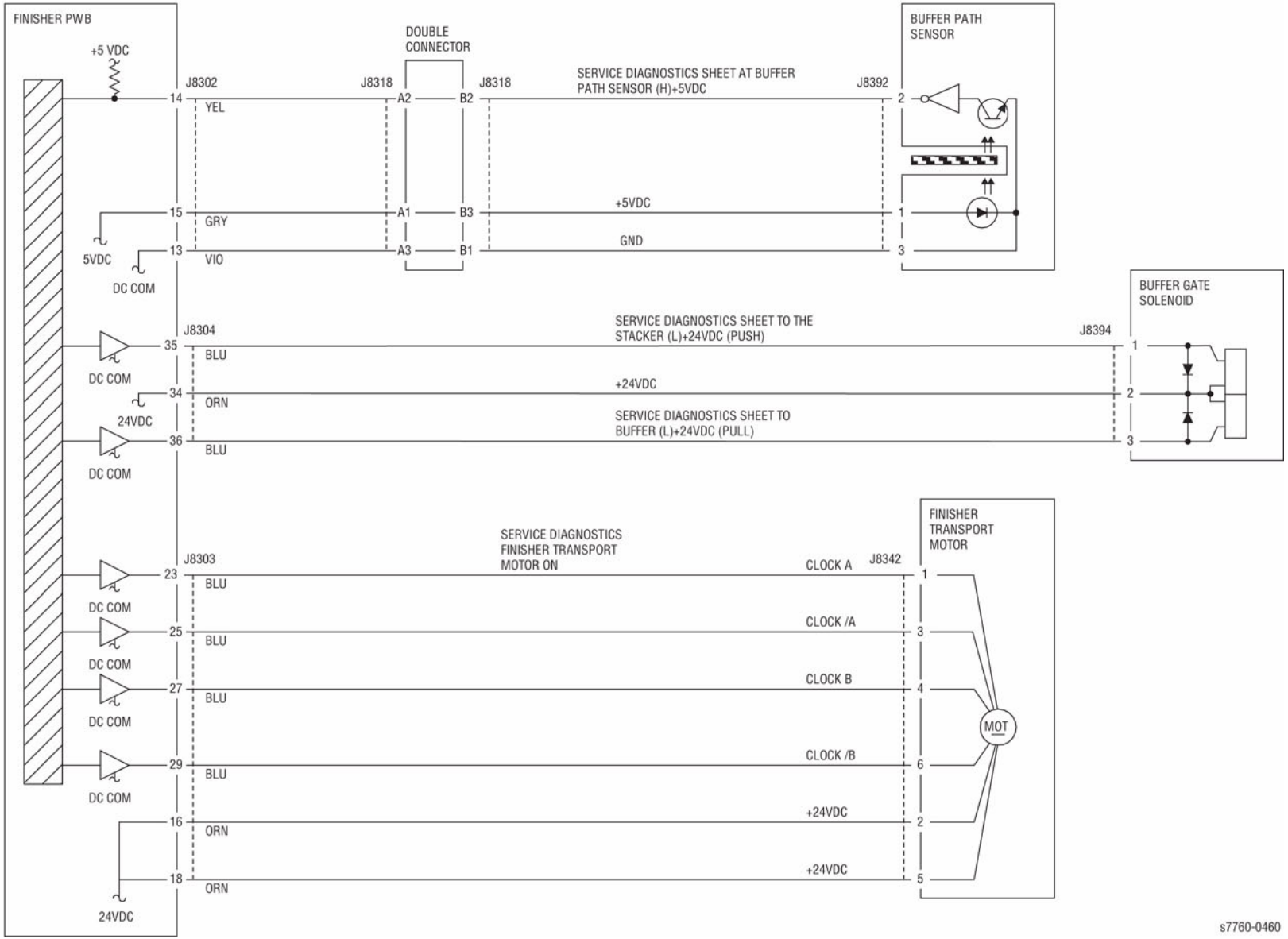

Figure 1 012-142 Buffer Paper Path

012-151 Compile Exit Sensor Off Jam

The Compile Exit Sensor did not turn Off within the specified time after Compile Exit Sensor On.

Initial Actions

- Check the Buffer Reverse Roll for wear or damage.
- Check the Compile Exit Roll for wear or damage.
- Check for paper transportation failure due to a foreign substance/burr on the paper path.
- Check for transportation failure of non-standard paper.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Compile Exit Sensor (PL 21.9). **The display changes.**

Y N

Check the circuit of the Compile Exit Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform the **Transport Gate Solenoid** test. **The Transport Gate Solenoid (PL 21.10) actuates.**

Y N

Check the circuit of the Transport Gate Solenoid (Figure 1). Refer to Section 2, OF 99-8 RAP for troubleshooting procedure.

Perform the **Buffer Gate Solenoid** test. **The Buffer Gate Solenoid (PL 21.10) actuates.**

Y N

Check the circuit of the Buffer Gate Solenoid (Figure 2). Refer to Section 2, OF 99-8 RAP for troubleshooting procedure.

Perform the **Exit Motor** test. **The Exit Motor (PL 21.8) energizes.**

Y N

Check the circuit of the Exit Motor (Figure 2). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Check the Exit Motor and its associated gears and belts for damage, contamination or tension

If the above checks are OK, then replace the Compile Exit Sensor (PL 21.9). If the problem persists, replace the Finisher PWB (PL 21.12).

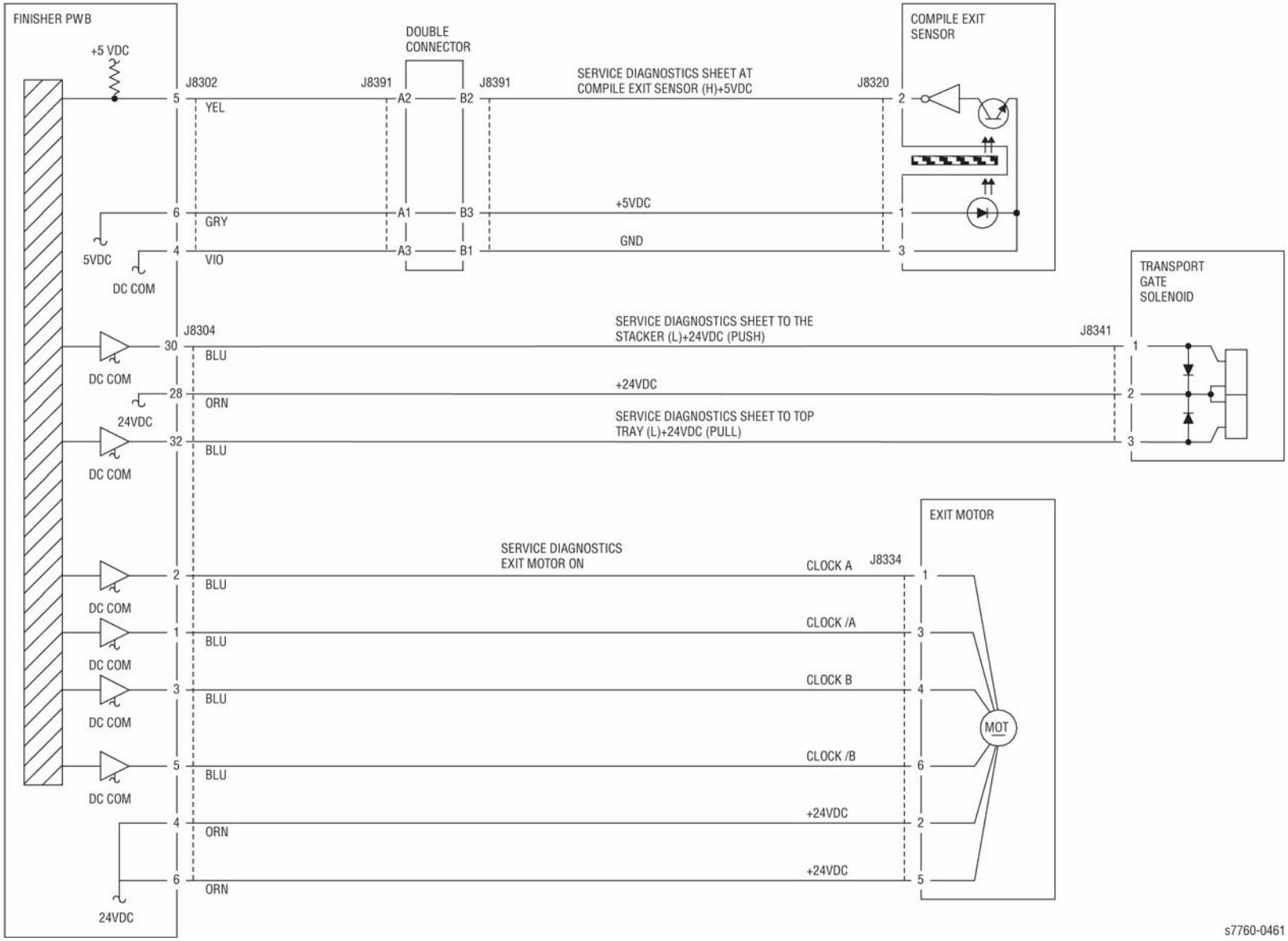

Figure 1 012-151 Compiler Paper Path

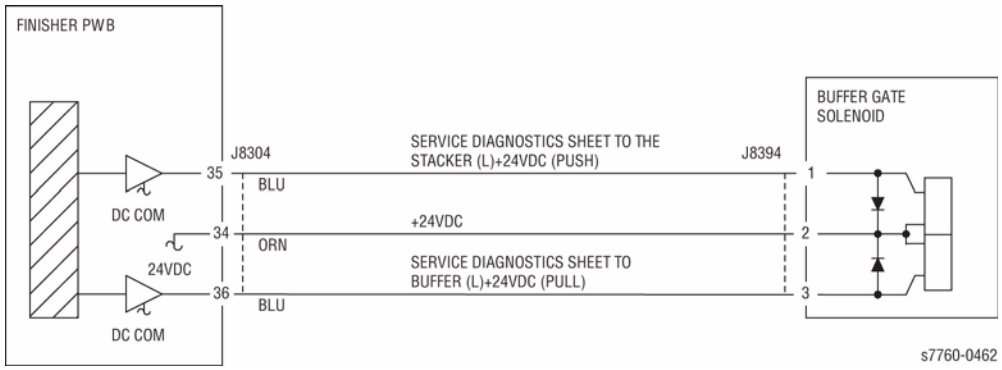

Figure 2 012-151 Compiler Paper Path

012-152 Compile Exit Sensor On Jam

Not in the Punch mode: The Compile Exit Sensor did not turn On within the specified time after Punch Out Sensor On.

In Punch mode: The Compile Exit Sensor did not turn On within the specified time after the punching operation had begun.

Initial Actions

- Check the Buffer Roll for wear or damage.
- Check the Compile Exit Roll for wear or damage.
- Check for paper transportation failure due to a foreign substance/burr on the paper path.
- Check for transportation failure of non-standard paper.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Compile Exit Sensor (PL 21.9). **The display changes.**

Y N

Check the circuit of the Compile Exit Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform the **Buffer Gate Solenoid** test. **The Buffer Gate Solenoid (PL 21.10) actuates.**

Y N

Check the circuit of the Buffer Gate Solenoid (Figure 2). Refer to Section 2, OF 99-8 RAP for troubleshooting procedure.

Perform the **Transport Gate Solenoid** test. **The Transport Gate Solenoid (PL 21.10) actuates.**

Y N

Check the circuit of the Transport Gate Solenoid (Figure 1). Refer to Section 2, OF 99-8 RAP for troubleshooting procedure.

Perform the **Exit Motor** test. **The Exit Motor (PL 21.8) energizes.**

Y N

Check the circuit of the Exit Motor (Figure 1). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Check the Exit Motor and its associated gears and belts for damage, contamination or tension

If the above checks are OK, then replace the Compile Exit Sensor (PL 21.9). If the problem persists, replace the Finisher PWB (PL 21.12).

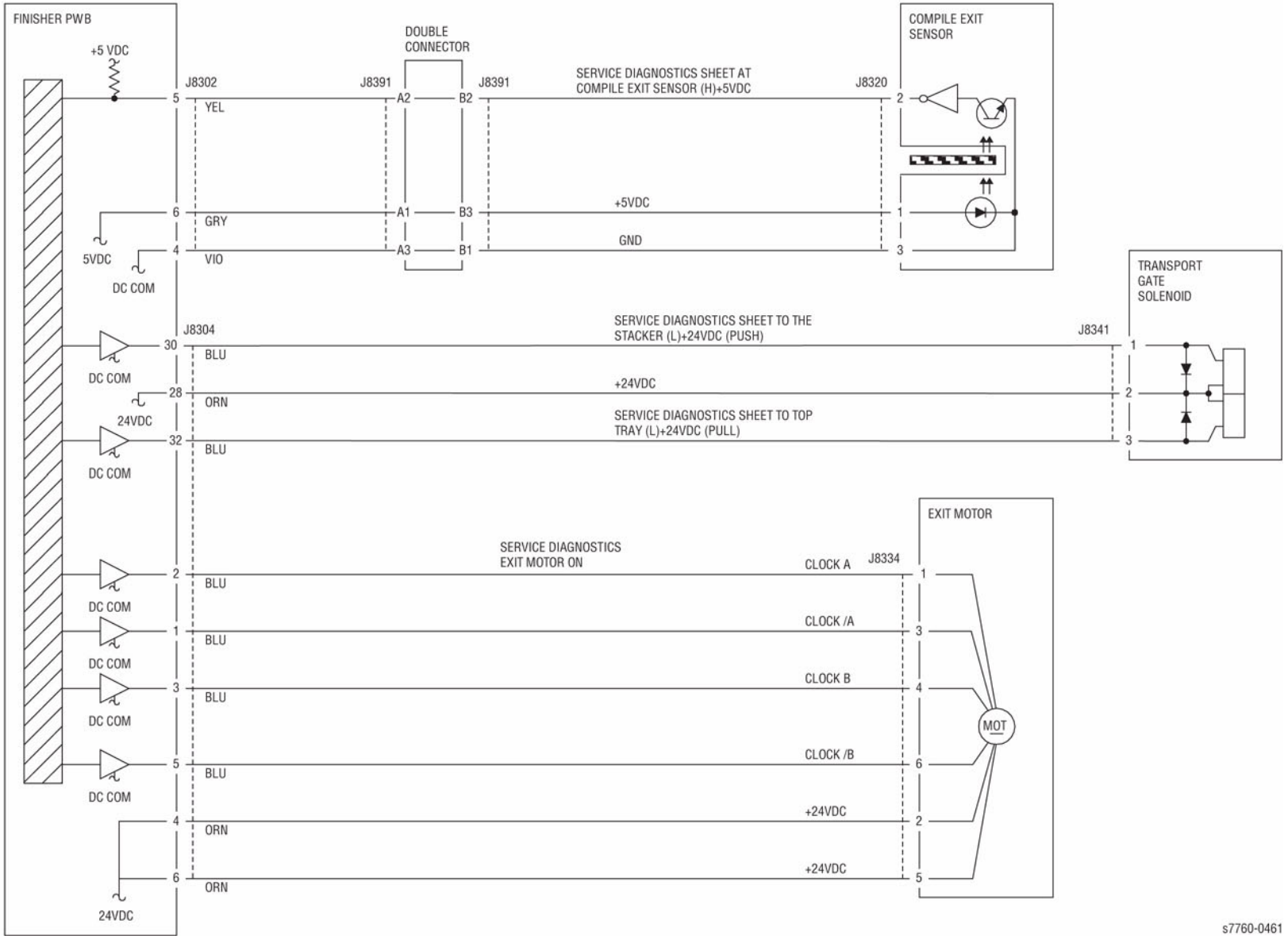

Figure 1 012-152 Compiler Paper Path

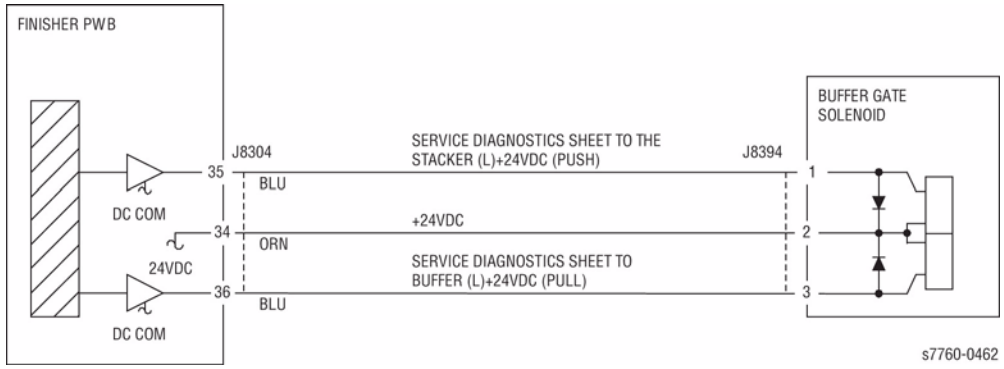

Figure 2 012-152 Compiler Paper Path

012-161 Set Eject Jam

The Compile Exit Sensor did not turn Off within the specified time after the Eject operation has begun.

Initial Actions

- Check the Buffer Reverse Roll for wear or damage.
- Check the Compile Exit Roll for wear or damage.
- Check for paper transportation failure due to a foreign substance/burr on the paper path.
- Check for transportation failure of non-standard paper.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Compile Exit Sensor (PL 21.9). **The display changes.**

Y N

Check the circuit of the Compile Exit Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform the **Paper Path/No Pick** test, Exit Motor. **The Exit Motor (PL 21.8) energizes.**

Y N

Check the circuit of the Exit Motor (Figure 1). Refer to Section 2, OF 99-9 RAP for trouble-shooting procedure.

Perform the **Finisher Solenoids** test. **The Transport Gate Solenoid (PL 21.10) actuates.**

Y N

Check the circuit of the Transport Gate Solenoid (Figure 1). Refer to Section 2, OF 99-8 RAP for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Check the Exit Motor and its associated gears and belts for damage, contamination or tension

If the above checks are OK, then replace the Compile Exit Sensor (PL 21.9). If the problem persists, replace the Finisher PWB (PL 21.12).

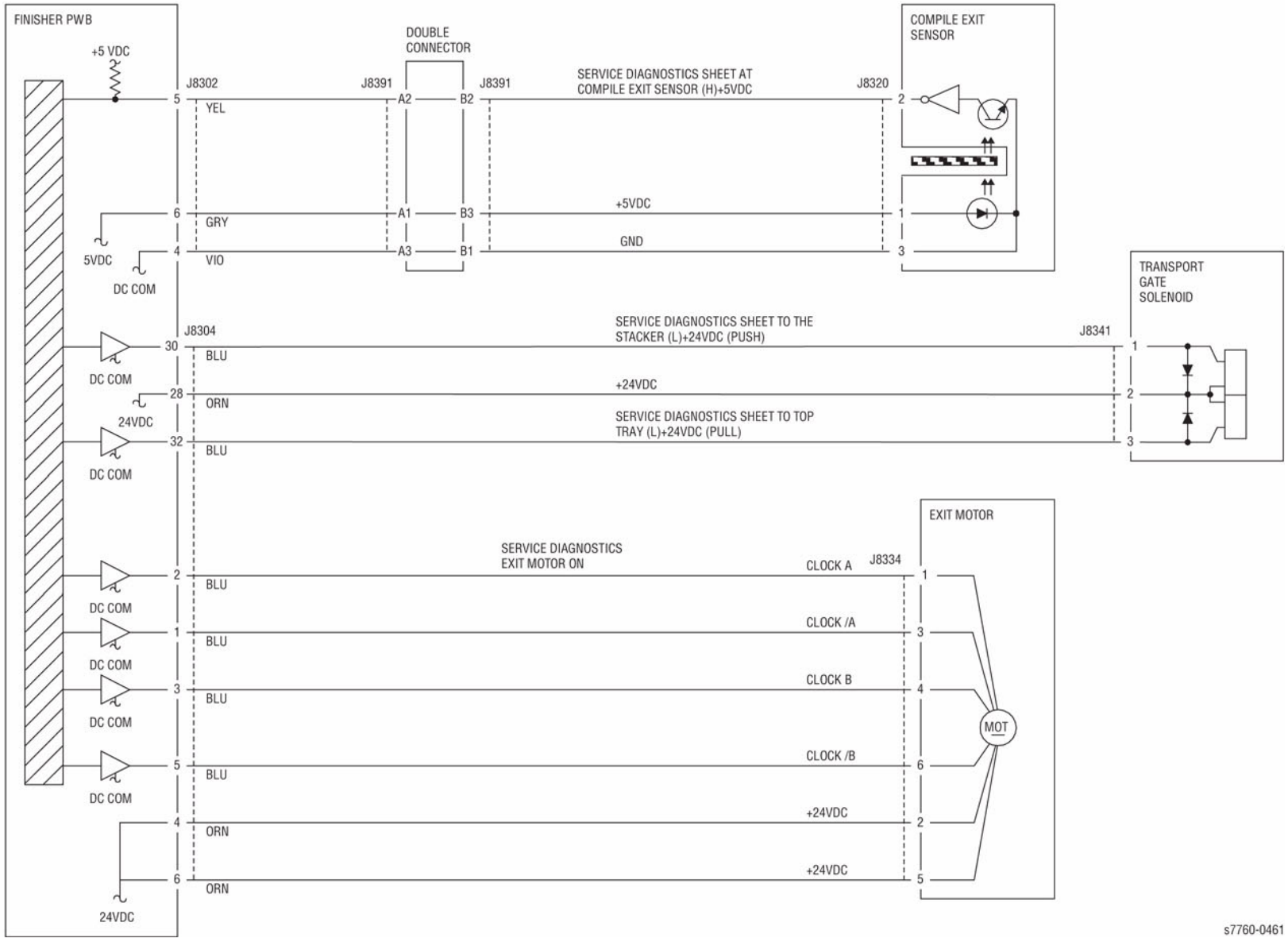

Figure 1 012-161 Compiler Paper Path

012-162 H-Transport Exit Sensor On Jam

H-Transport Exit Sensor is not turned On within a specified time.

Initial Actions

- Check for obstructions in the paper path.
- Check that the Finisher is dock correctly to ensure proper Transport Gate operation.
- Check the H-Transport Drive Motor Belt for wear or damage.
- Check the Guides on the H-Transport Cover for damage, wear or faulty installation.
- Check the Fuser Exit Switch actuator for damage, installed properly, or actuator spring damaged or missing.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Open the H-Transport Cover and actuate the H-Transport Exit Sensor (PL 21.25). **The display changes.**

Y N

Check the circuit of the H-Transport Exit Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform the H-Transport Drive Motor test. **The H-Transport Drive Motor (PL 21.26) energizes.**

Y N

Check the circuit of the H-Transport Drive Motor (Figure 1). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Check the H-Transport Motor and its associated gears and belts for damage, contamination or misalignment

If the above checks are OK, then replace the H-Transport Exit Sensor (PL 21.25). If the problem persists, replace the Finisher PWB (PL 21.12).

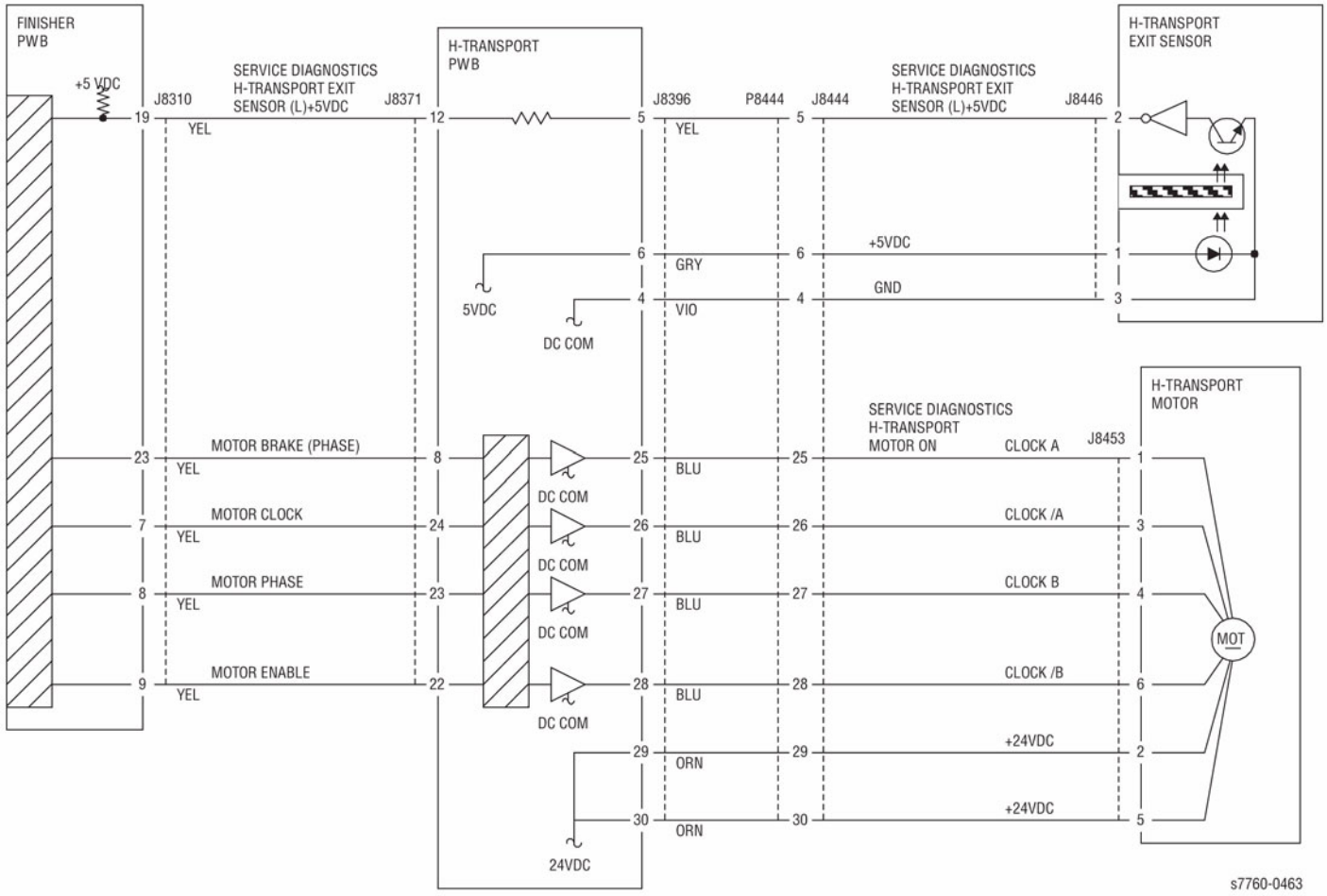

Figure 1 012-162 H-Transport Exit

012-171 Top Tray Exit Sensor On Jam

Not in the Punch mode: The Top Tray Exit Sensor did not turn On within the specified time after Punch Out Sensor On.

In Punch mode: The Top Tray Exit Sensor did not turn on within the specified time after the punching operation had begun.

Initial Actions

- Check Top Tray Exit for operation failure.
- Check paper transportation failure due to a foreign substance/burr on the paper path.
- Check transportation failure of non-standard paper.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Top Tray Exit Sensor (PL 21.11) **The display changes.**

Y N

Check the circuit of the Top Tray Exit Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform the Finisher Exit Motor test. **The Exit Motor (PL 21.11) energizes.**

Y N

Check the circuit of the Exit Motor (Figure 2). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Perform the **Finisher Solenoids** test. **The Transport Gate Solenoid (PL 21.10) actuates.**

Y N

Check the circuit of the Transport Gate Solenoid (Figure 1). Refer to Section 2, OF 99-8 RAP for troubleshooting procedure.

Perform the **Finisher Transport Motors** test. **The Finisher Transport Motor (PL 21.10) energizes.**

Y N

Check the circuit of the Finisher Transport Motor (Figure 2). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Check the Exit Motor and its associated gears and belts for damage, contamination or misalignment
- Exit Drive Shaft for wear and a revolution failure
- The Exit Pinch Rolls for wear and/or damage

If the above checks are OK, then replace the Top Tray Exit Sensor (PL 21.11). If the problem persists, replace the Finisher PWB (PL 21.12).

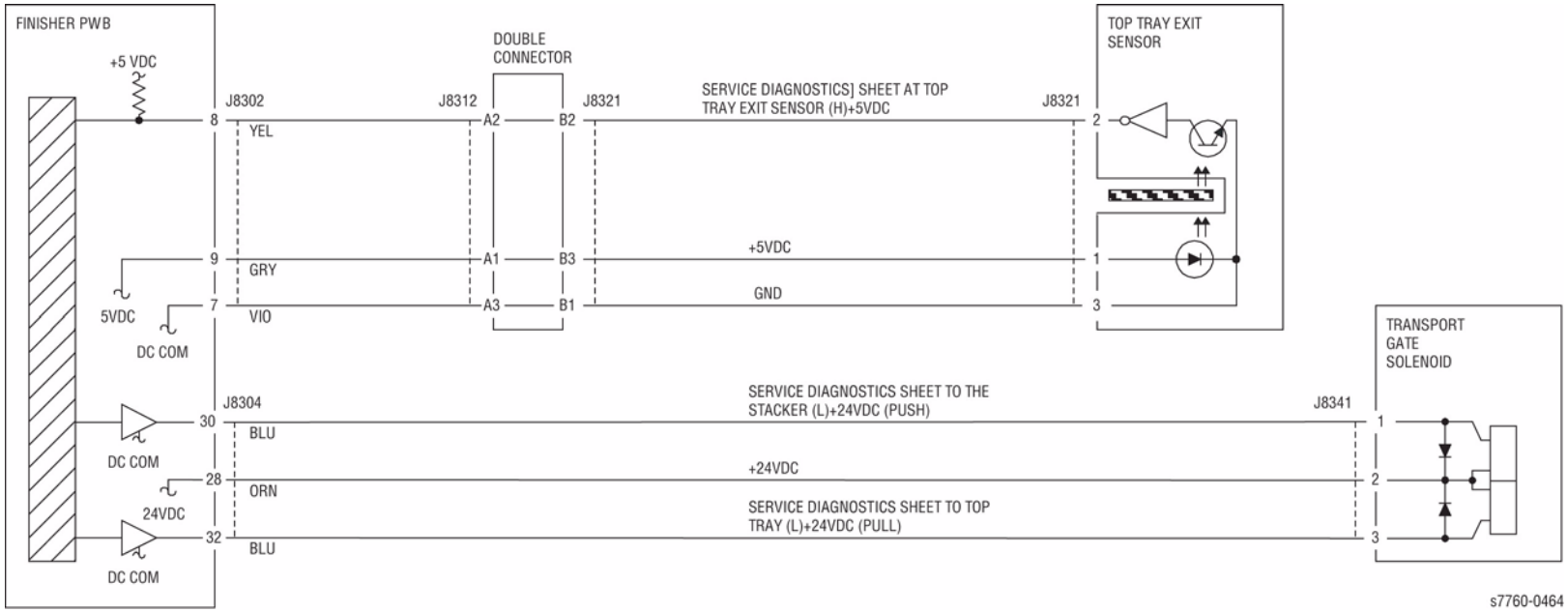

Figure 1 012-171 Top Tray Exit

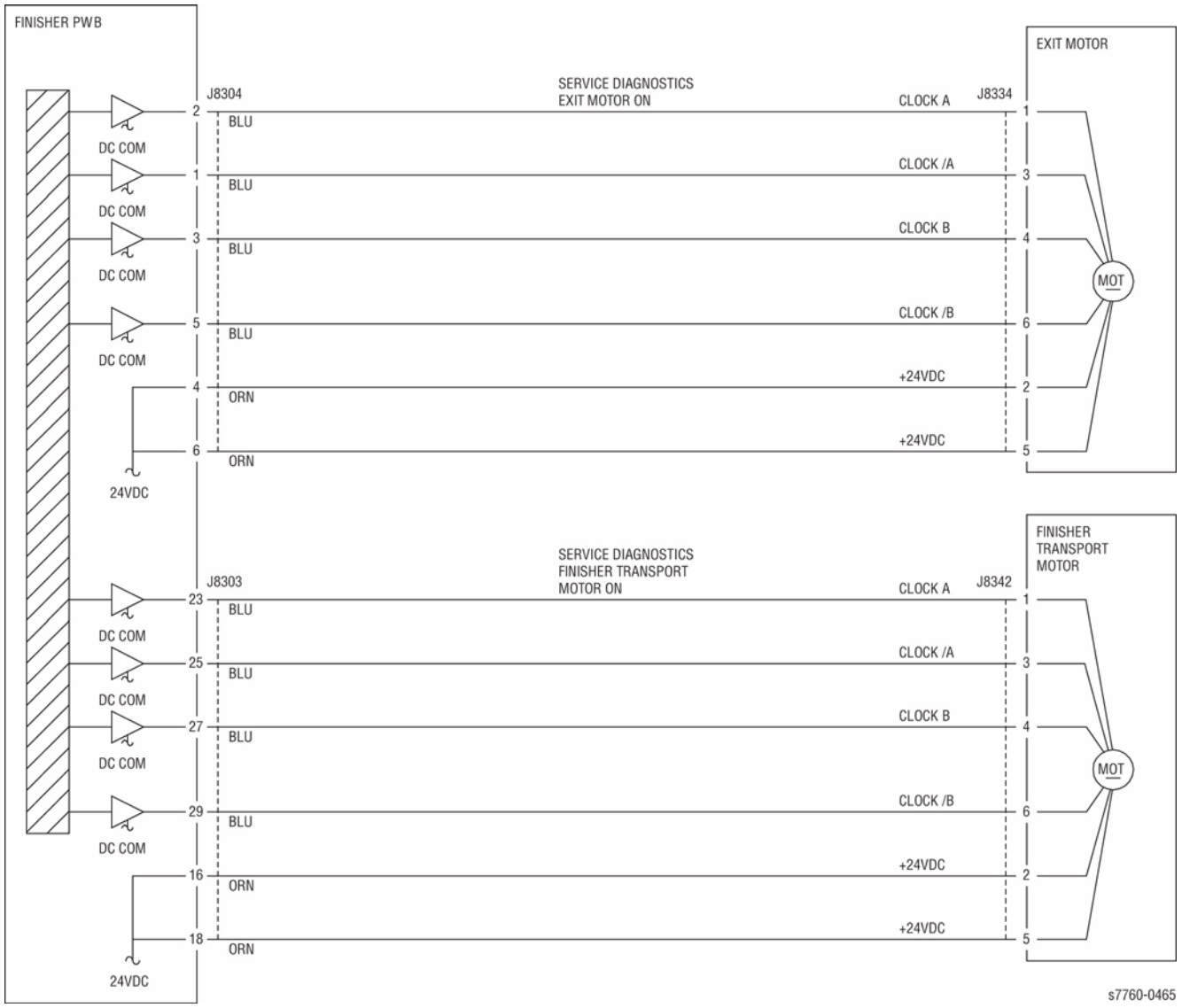

Figure 2 012-171 Top Tray Exit

012-172 Top Tray Exit Sensor Off Jam

The Top Tray Exit Sensor Off was not detected at the rear edge of paper within the specified time after Punch Out Sensor detected at the leading edge of the same paper.

The Top Tray Exit Sensor Off was not detected at the rear edge of paper within the specified time after the punching operation had begun.

Initial Actions

- Check the Top Tray Exit for operation failure.
- Check paper transportation failure due to a foreign substance/burr on the paper path.
- Check transportation failure of non-standard paper.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Top Tray Exit Sensor (PL 21.11). **The display changes.**

Y N

Check the circuit of the Top Tray Exit Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform the **Finisher Exit Motor** test. **The Exit Motor (PL 21.11) energizes.**

Y N

Check the circuit of the Exit Motor (Figure 2). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Perform the **Transport Gate Solenoid** test. **The Transport Gate Solenoid (PL 21.10) actuates.**

Y N

Check the circuit of the Transport Gate Solenoid (Figure 1). Refer to Section 2, OF 99-8 RAP for troubleshooting procedure.

Perform the **Finisher Transport Motor** test. **The Finisher Transport Motor (PL 21.10) energizes.**

Y N

Check the circuit of the Finisher Transport Motor (Figure 2). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Check the Exit Motor and its associated gears and belts for damage, contamination or misalignment
- Exit Drive Shaft for wear and a revolution failure
- The Exit Pinch Rolls for wear and/or damage

If the above checks are OK, then replace the top Tray Exit Sensor (PL 21.11). If the problem persists, replace the Finisher PWB (PL 21.12).

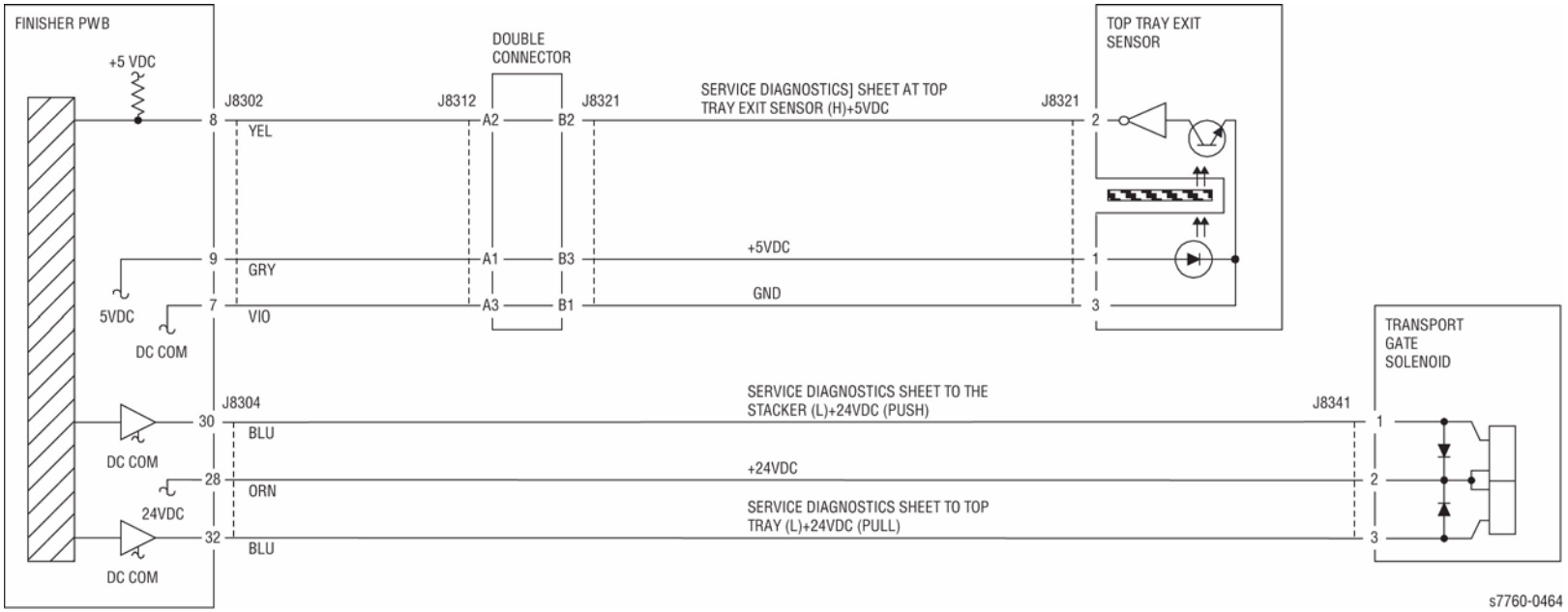

Figure 1 012-172 Top Tray Exit

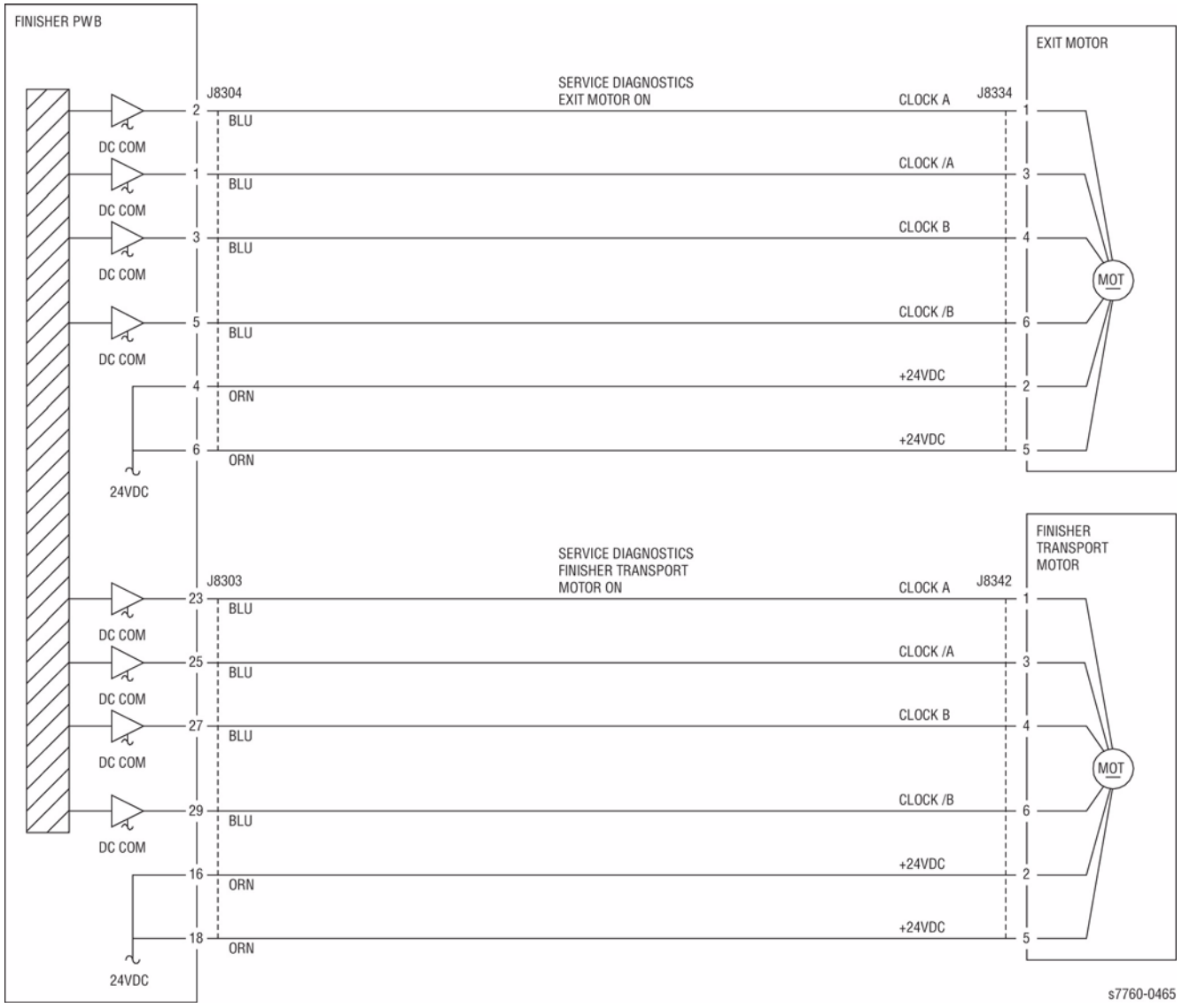

Figure 2 012-172 Top Tray Exit

012-180 Booklet Folder Roll Exit Sensor Off Jam

Booklet Folder Roll Exit Sensor is not turned Off within a specified time.

Initial Actions

- Check for obstructions in the paper path.
- Check the Booklet Folder Roll Exit Sensor for obstructions (PL 21.21).
- Check for transportation failure of non-standard paper.
- Check the Booklet Folding Roll for wear or damage.
- Check the Booklet Eject Roll Drive rolls for wear or damage.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Booklet Folder Roll Exit Sensor (PL 21.21). **The display changes.**

Y N

Check the circuit of the Booklet Folder Roll Exit Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform the **Booklet Paper Path Motor** test. **The Booklet Paper Path Motor (PL 21.22) energizes.**

Y N

Check the circuit of the Booklet Paper Path Motor (Figure 1). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Perform the **Booklet Folder Roll Motor** test. **The Booklet Folder Motor (PL 21.22) energizes.**

Y N

Check the circuit of the Booklet Folder Roll Motor (Figure 1). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Check the Booklet Paper Path Motor and its associated gears and belts for damage, contamination or alignment
- Check the Booklet Folder Roll Motor and its associated gears and belts for damage, contamination or alignment

If the above checks are OK, then replace the Booklet Folder Roll Exit Sensor (PL 21.21). If the problem persists, replace the Finisher PWB (PL 21.12).

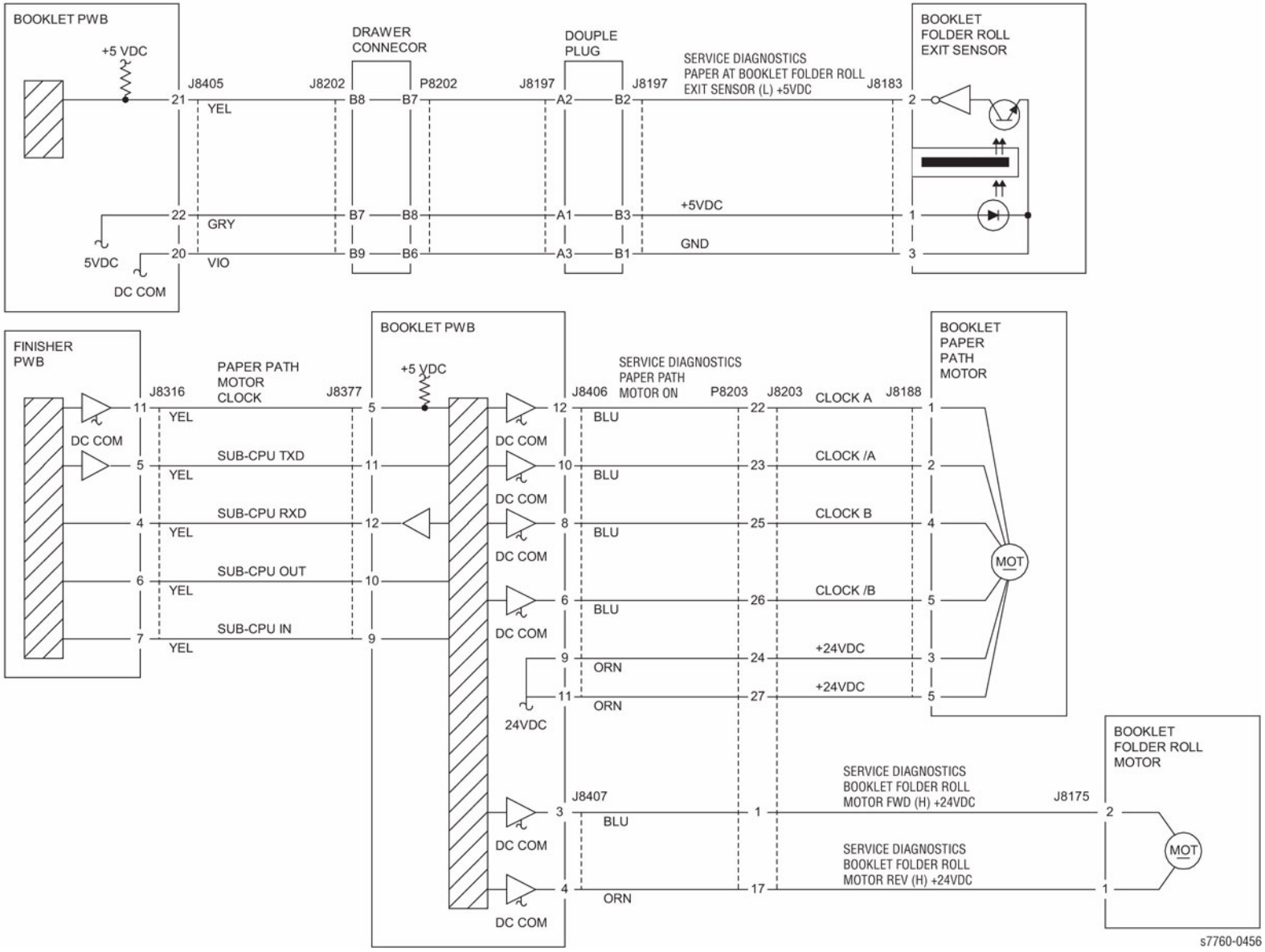

Figure 1 012-180 Booklet Paper Path

012-211 Stacker Tray Fail

The system detected the Stacker Tray Upper Limit Sensor was turned On after the Stacker Tray began lifting up, or the Stacker Tray Upper Limit Sensor remained On after the lowering down of the Stacker Tray was completed.

Troubleshooting References

Table 1 References

Applicable Parts	Part List	Wiring and Plug/Jack References
Stacker Motor	PL 21.4	
Finisher Control Board	PL 21.12	Section 7, Finisher PWB Plug/Jack Locations - Figure 30

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Actuate the Stacker Upper Limit Sensor in Diagnostics. 2. Does the value change between H and L?	Go to step 2.	Troubleshoot using the Transmissive Sensor Procedure procedure (Section 6).
2	1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Run the **Finisher Stacker Motor Down** test. 2. Does the Stacker Tray lower?	Go to step 5.	Go to step 3.
3	Does the Stacker Motor turn?	Diagnose and repair the mechanical problems. Check the Stacker Motor Gear, Stacker Tray, and Belt Track Gear.	Go to step 4.
4	Is +24 VDC present at P/J847-12 with the Finisher Stacker Motor Down test running in Diagnostics?	Replace the Stacker Motor.	Replace the Finisher Control Board (REP 12.68).
5	1. Run the Finisher Stacker Motor Up test in Diagnostics. 2. Does the Stacker Tray move up?	Replace the Finisher Control Board.	Go to step 6.

Table 2 Procedure

Step	Actions and Questions	Yes	No
6	Does the Stacker Motor turn?	Diagnose and repair the mechanical problem. Check the Stacker Motor Gear, Stacker Tray, and Belt Track Gear.	Go to step 7.
7	Is +24 VDC present at P/J847-11 with the Finisher Stacker Motor Down test running in Diagnostics?	Replace the Stacker Motor.	Replace the Finisher Control Board (REP 12.68).

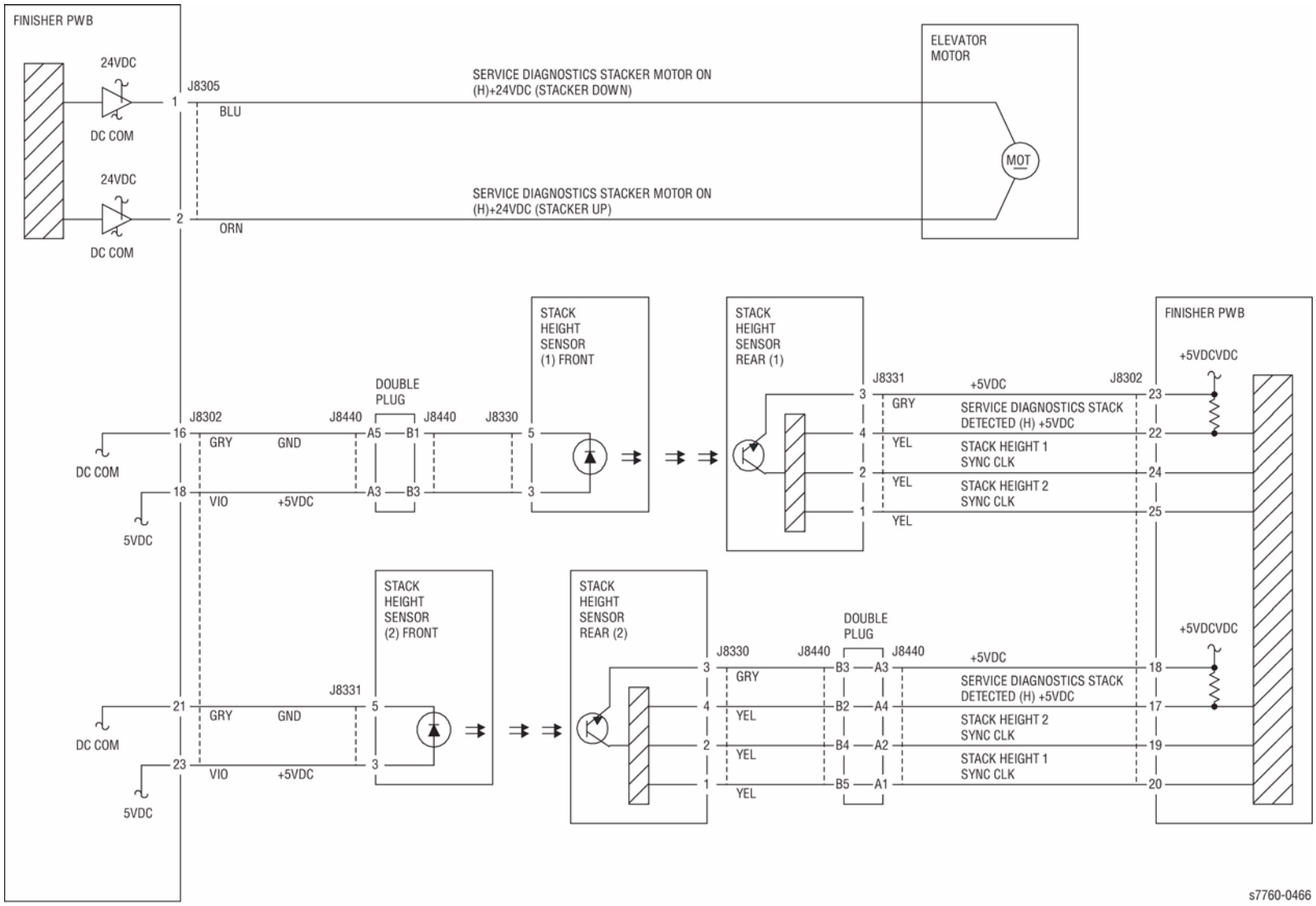

Figure 1 012-211 Stacker Tray

012-212 Stacker Upper Limit Fail

When Stack Height Sensor 2 On was detected after the Stacker Tray had started lifting up.

Initial Actions

Check the following components:

- Upper Limit SW for improper installation
- Upper Limit SW connectors for connection failure
- Elevator Motor for operation failure
- Elevator Motor connectors for connection failure

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Elevator Motor alternately. **The Elevator Motor (PL 21.4) runs.**

Y N

Check continuity between the Elevator Motor and Finisher Main PWB (Figure 1). **The continuity check is OK.**

Y N

Repair the open circuit or short circuit.

Replace the Elevator Motor (PL 21.4). If the problem continues, replace the Finisher PWB (PL 21.12).

Enter the **Service Diagnostics** menu. Block/unblock the Stacker No Paper Sensor (PL 21.4). **The display changes.**

Y N

Check continuity between the Stacker No Paper Sensor and Finisher PWB (Figure 1). **The continuity check is OK,**

Y N

Repair the open circuit or short circuit.

Replace the Stacker No Paper Sensor (PL 21.4). If the problem continues, replace the Finisher PWB

Enter the **Service Diagnostics** menu. Block/unblock the Upper Limit Sensor (PL 21.4). **The display changes.**

Y N

Check continuity between the Upper Limit Sensor and Finisher PWB (Figure 1). **The continuity check is OK,**

Y N

Repair the open circuit or short circuit.

Replace the Upper Limit Sensor (PL 21.4). If the problem continues, replace the Finisher PWB.

If the problem continues, replace the Finisher PWB (PL 21.12).

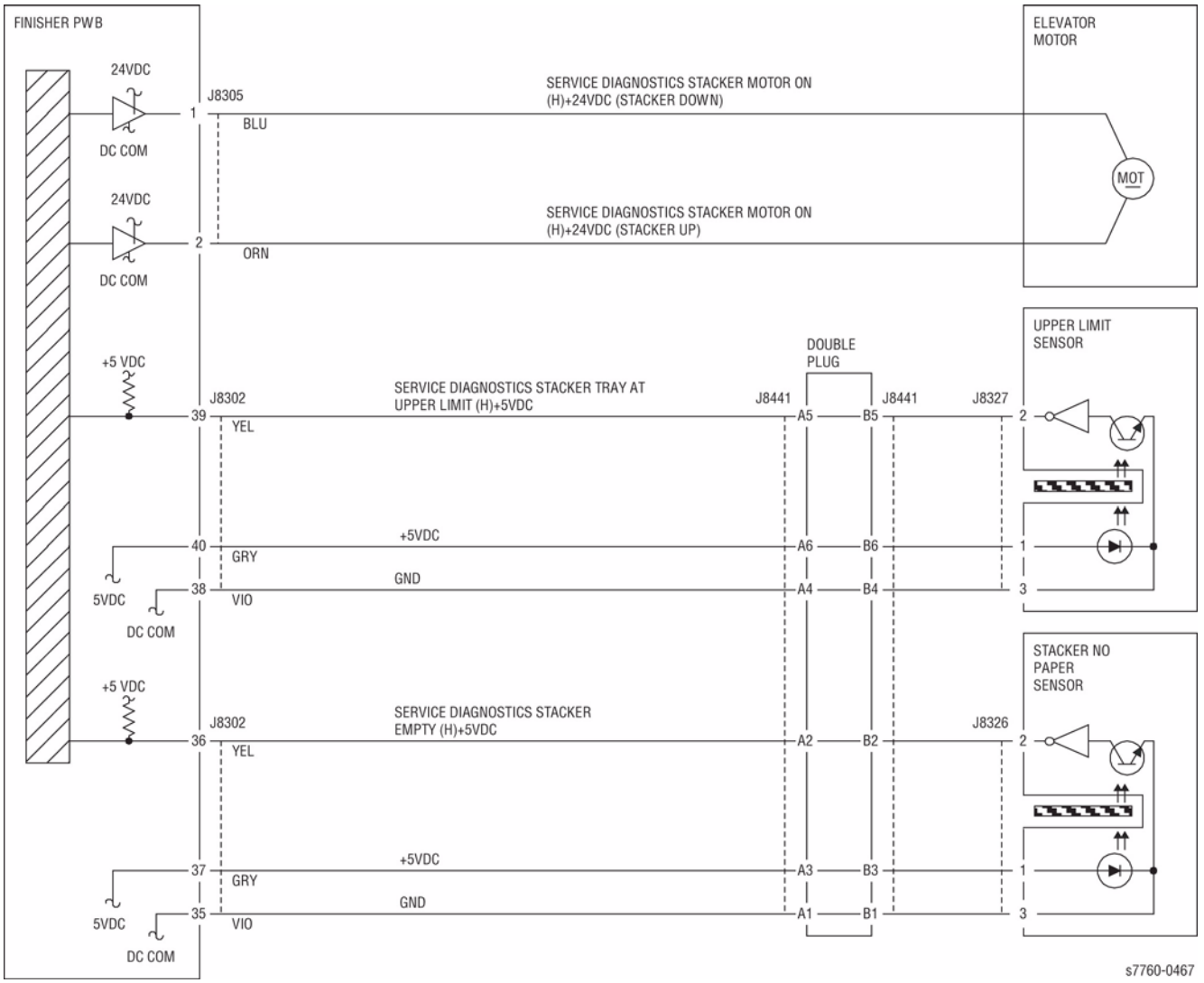

Figure 1 012-212 Stacker Tray

012-213 Stacker Lower Limit Fail

When Lower Limit Sensor On was detected after the Stacker Tray had started driving down.

Initial Actions

Check the following components:

- Upper Limit SW for improper installation
- Upper Limit SW connectors for connection failure
- Elevator Motor for operation failure
- Elevator Motor connectors for connection failure

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Elevator Motor alternately. **The Elevator Motor (PL 21.4) runs.**

Y **N**

Check continuity between the Elevator Motor and Finisher Main PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Elevator Motor (PL 21.4). If the problem continues, replace the Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

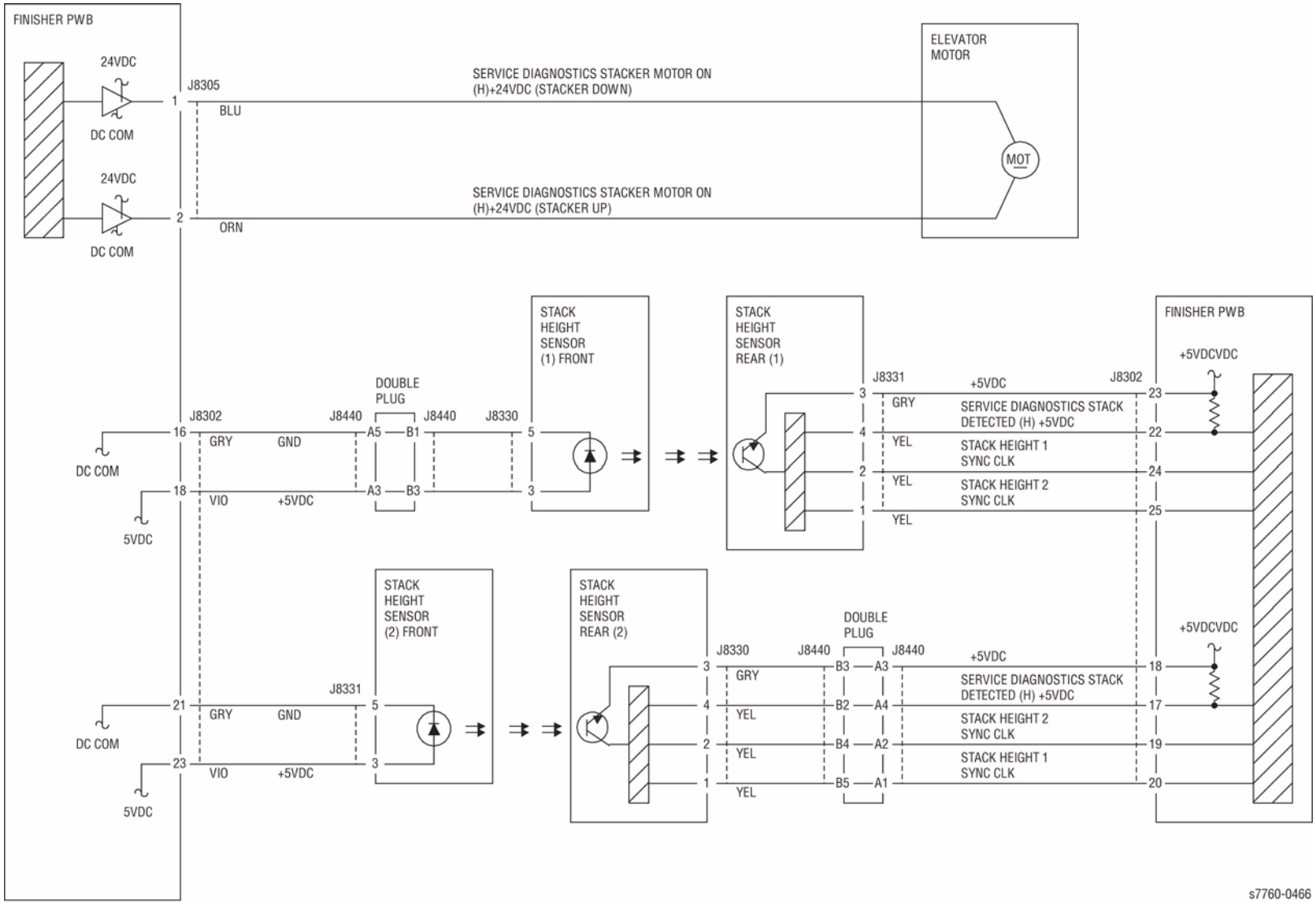

Figure 1 012-213 Stacker Tray

012-221 Front Tamper Home Sensor On Fail

With the Front Tamper Home Sensor Off, the Front Tamper Home Sensor did not turn On within 800 ms after the move to the Front Tamper Home position has begun.

With the Front Tamper Home Sensor on the Front Tamper Sensor did not turn Off when the Front Tamper Home Sensor is deactuated.

Troubleshooting References

Table 1 References

Applicable Parts	Part List	Wiring and Plug/Jack References
Front Tamper Motor	PL 21.8	
Finisher PWB	PL 21.12	Section 7, Finisher PWB Plug/Jack Locations - Figure 30

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the Front Tamper Low Rear test. 2. Does the Front Tamper Guide operate?	Go to step 6.	Go to step 2.
2	Does the Front Tamper Motor operate?	Check the tampering mechanism for a mechanical problem.	Go to step 3.
3	1. Check the pins J877 A pins 1, 3, 4, and 6. 2. Is +24 VDC present on any of the pins?	Go to step 4.	Go to step 5.
4	Check the following wires for and open circuit or short circuit to ground. Is any wire open or shorted? • J877A-1 to J848B-7 • J877A-3 to J848B-9 • J877A-4 to J848B-10 • J877A-6 to J848B-12	Repair or replace the wiring harness.	Replace in order until resolved: 1. Front Tamper Motor 2. Finisher Control Board (REP 12.68)

Table 2 Procedure

Step	Actions and Questions	Yes	No
5	Is +24 VDC present on pins J848B-8 and J848B-11 on the Finisher Control Board?	Replace the Finisher Control Board (REP 12.68).	Troubleshoot and repair the +24 VDC Interlock Circuit.
6	1. Check the Tamper Front Home Sensor in Diagnostics. 2. Does the value change from H to L when the Tamper is moved away from the Home position?	Replace the Finisher Control Board (REP 12.68).	Repair the Sensor using the Transmissive Sensor Procedure (Section 6).

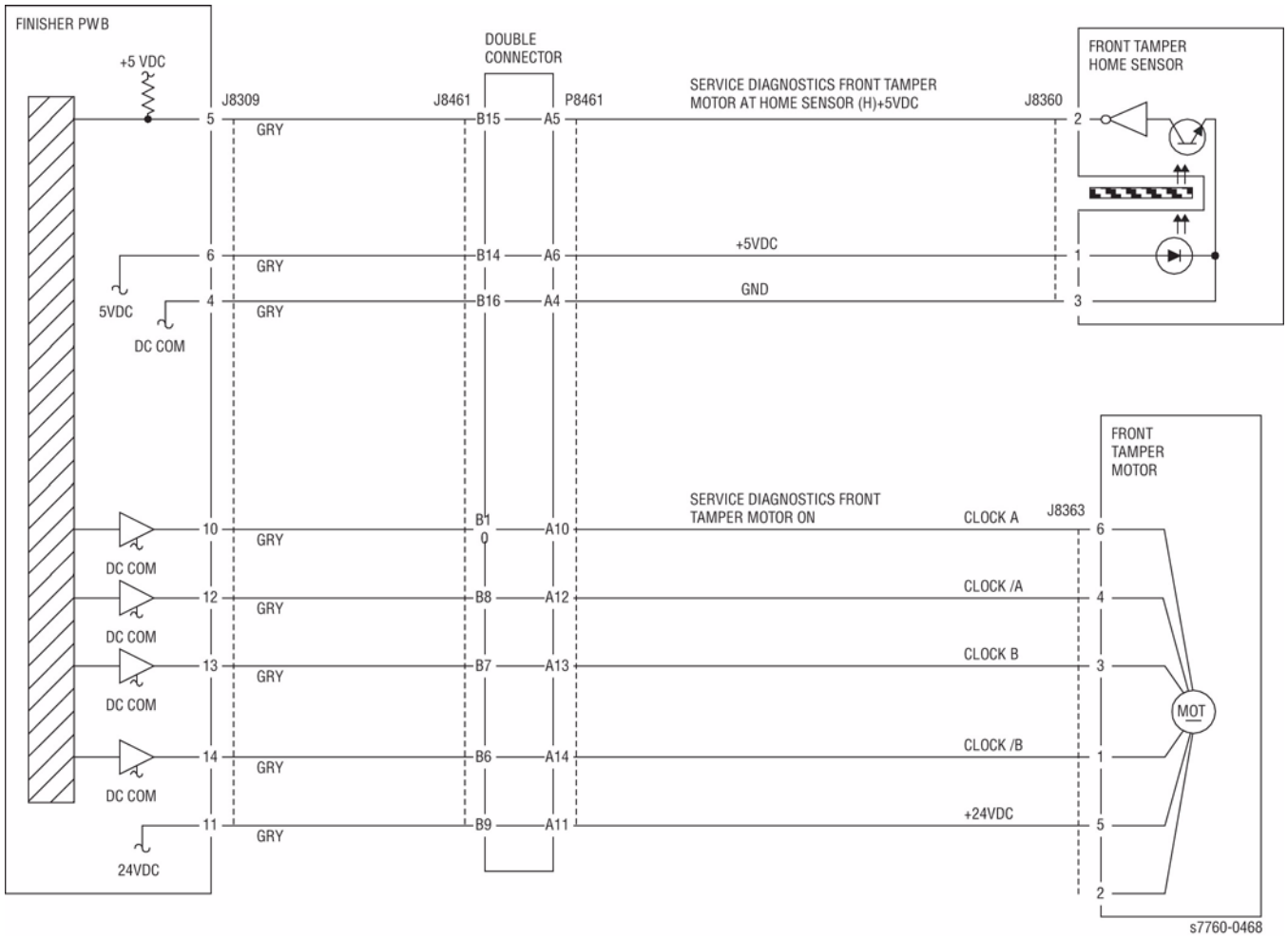

Figure 1 012-221 Front Tramper

012-223 Front Tamper Home Sensor Off Fail

Front Tamper Home Sensor is not turned Off within a specified time.Front Tamper Home Sensor is not turned Off after the stop following Front Tamper Home Sensor Off.

Initial Actions

Check the following components:

- Front Tamper Actuator for deformation.
- Front Tamper Home Sensor for proper installation.
- Front Tamper Home Sensor connectors.
- Front Tamper Motor for proper operation.
- Front Tamper Motor connectors.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Activate the Front Tamper Motor alternately. **The Front Tamper Motor (PL 21.8) runs.**

Y N

Check circuit of the Front Tamper Motor (Figure 1). Refer to OF 99-9 RAP for troubleshooting procedure.

Actuate the Front Tamper Home Sensor (PL 21.8) with a piece of paper. **The display changes.**

Y N

Check circuit of the Front Tamper Home Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

If the problem continues, replace the Finisher PWB (PL 21.12).

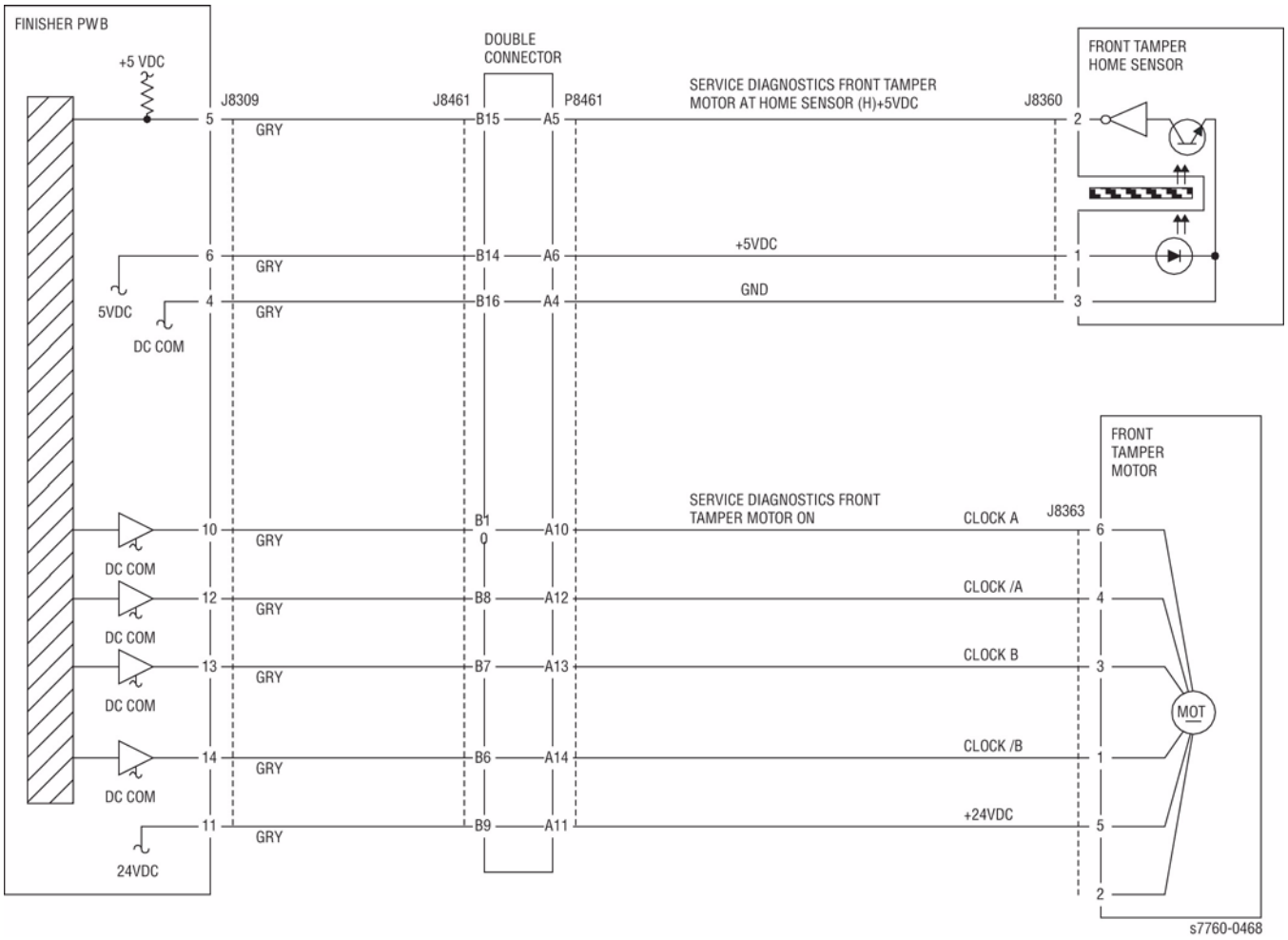

Figure 1 012-223 Front Tramper

012-224 Rear Tamper Home Sensor Off Fail

With the Rear Tamper Home Sensor Off, the Rear Tamper Home Sensor did not turn On within 800 ms after the move to the Rear Tamper Home position has begun.

With the Rear Tamper Home Sensor On, the Rear Tamper Sensor did not turn Off when the Rear Tamper Home Sensor is deactuated.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Rear Tamper Motor	PL 21.8	
Finisher PWB	PL 21.12	

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. 2. Perform the Rear Tamper Low Front or Rear Tamper Low Rear test. 3. Does the Rear Tamper Guide operate?.	Go to step 6.	Go to step 2.
2	Does the Rear Tamper Motor operate?	Check the tampering mechanism for a mechanical problem.	Go to step 3.
3	1. Check pins J878A pins 1, 3, 4, and 6. 2. Is +24 VDC present on any of the pins?	Go to step 4.	Go to step 5.
4	1. Check the following wires for an open or short circuit to ground. 2. Is any wire open or shorted? • J878A-1 to J848B-1 • J878A-3 to J848B-3 • J878A-4 to J848B-4 • J878A-6 to J848B-6	Repair or replace the wiring harness.	Replace in order until resolved: 1. Rear Tamper Motor 2. Finisher Control Board (REP 12.68)
5	Is +24 VDC present on pins J848B-2 and J848B-5 on the Finisher Control Board?	Replace the Finisher Control Board (REP 12.68).	Troubleshoot and repair the +24 VDC Interlock Circuit.

Table 2 Procedure

Step	Actions and Questions	Yes	No
6	1. Check the Tamper Rear Home Sensor in Diagnostics. 2. Does the value change from H to L when the tamper is moved away from the home position?	Replace the Finisher Control Board (REP 12.68).	Repair the Sensor circuit using the Transmissive Sensor Procedure (Section 6).

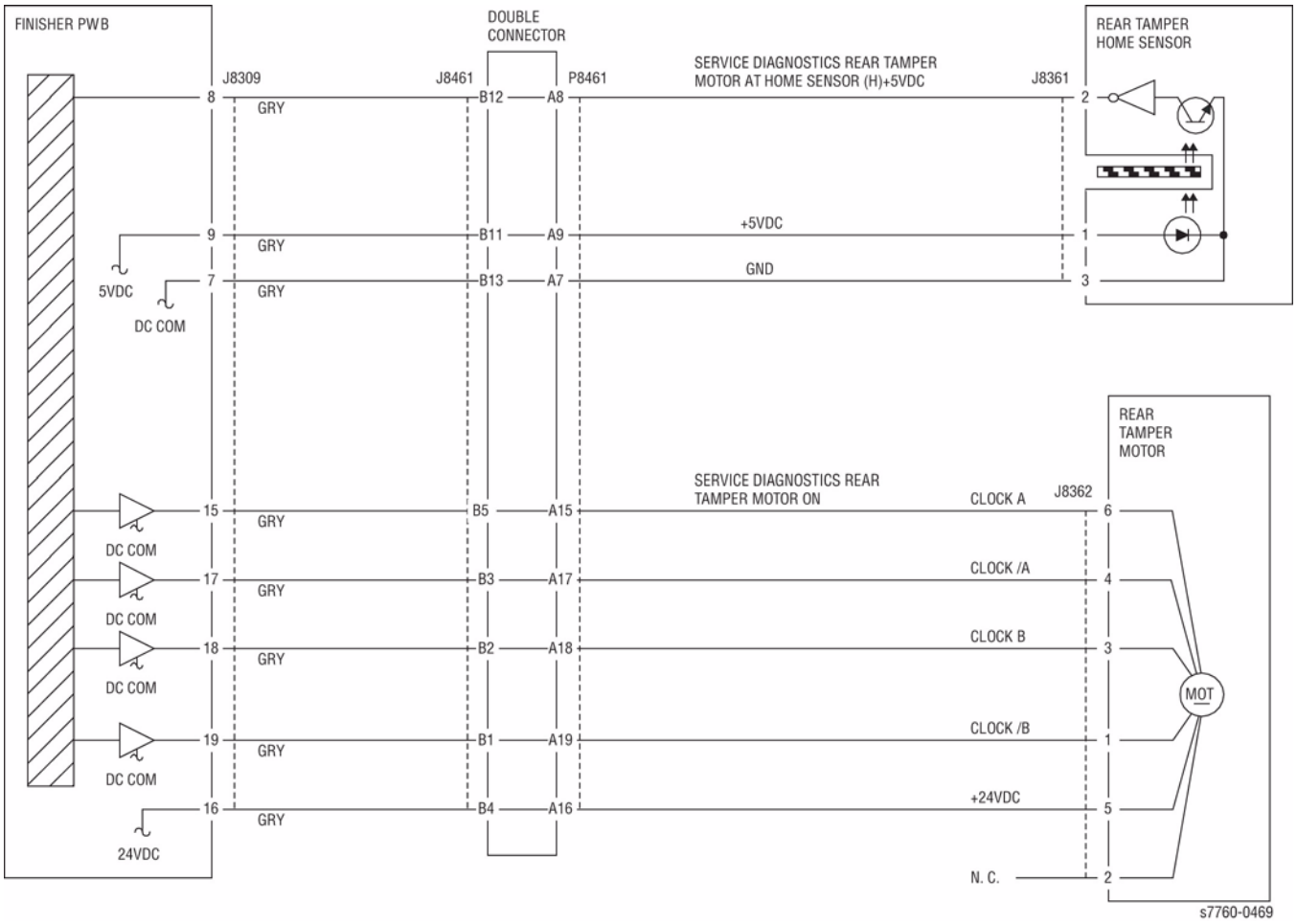

Figure 1 012-224 Rear Tamper

012-225 Booklet Tamper F Home Sensor On Fail

Tamper Home Sensor Front is not turned On within 1000msec from motor ON while Booklet Tamper Front is returning to Home.

Initial Actions

- Check the Booklet Tamper Home Sensor Front for improper installation.
- Check the Booklet Tamper Home Sensor Front connectors for connection failure.
- Check the Booklet Tamper Motor Front connectors for connection failure.
- Check the Booklet Tamper Motor Front for improper installation.
- Check the gear part for wear or damage.
- Check the Booklet Tamper Front for deformation.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Front Booklet Tamper Motor alternately. **The Front Booklet Tamper Motor (PL 21.19) energizes.**

Y **N**

Check continuity between the Booklet Tamper Motor Front and the Booklet PWB and the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Booklet Tamper Motor Front (PL 21.19). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace Finisher PWB (PL 21.12).

Perform the **Booklet Tamper Home Sensor Front** test (PL 21.19). Block/unblock the Booklet Tamper Home Sensor Front. **The display changes.**

Y **N**

Check continuity between the Booklet Tamper Home Sensor Front and the Booklet PWB and the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Booklet Tamper Home Sensor Front (PL 21.19). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

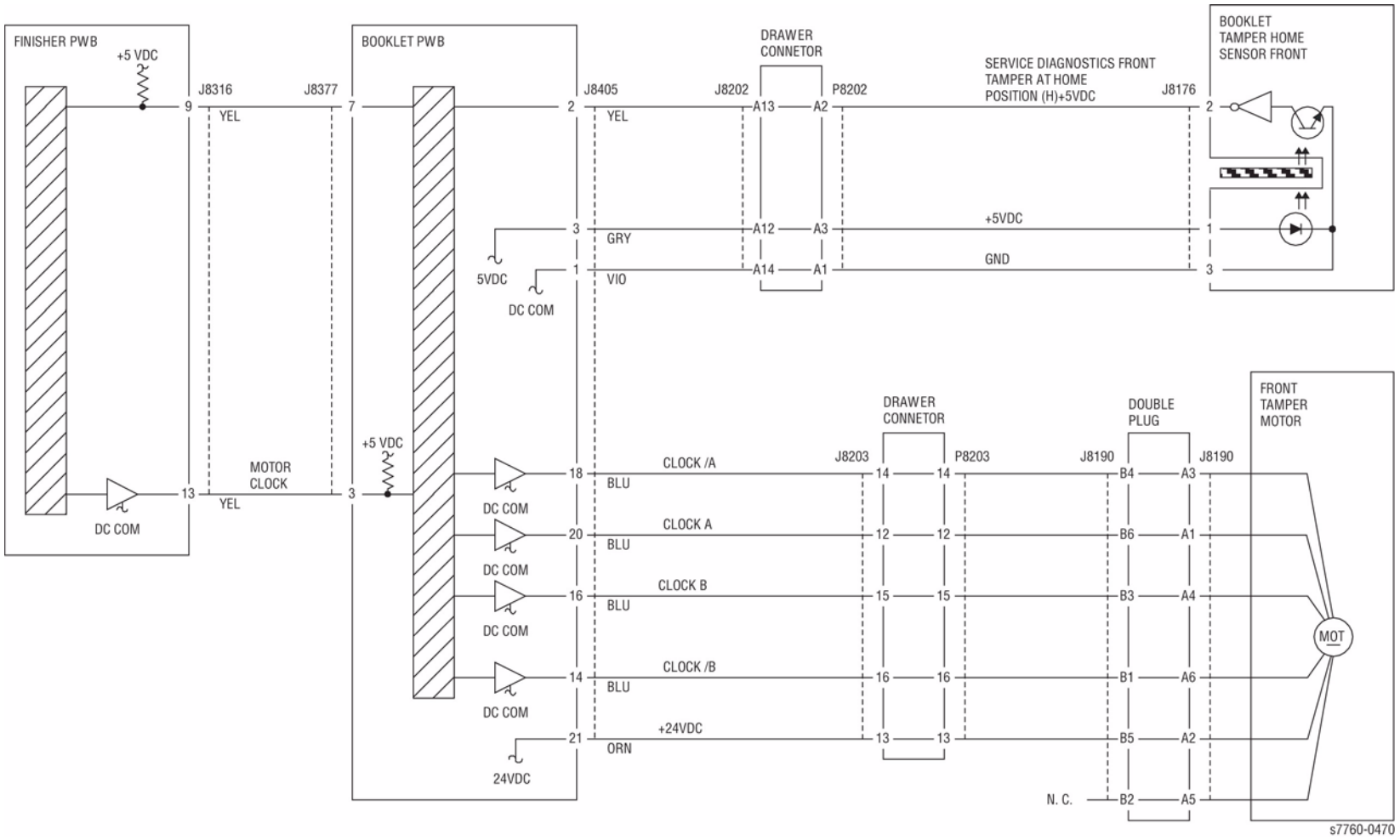

Figure 1 012-225 Booklet Tamper Front

012-226 Booklet Tamper F Home Sensor Off Fail

Even when Booklet tamper Front motor outputs 75pulse, Tamper Front Home Sensor is not turned Off.

Initial Actions

- Check the Booklet Tamper Home Sensor Front for improper installation.
- Check the Booklet Tamper Home Sensor Front connectors for connection failure.
- Check the Booklet Tamper Motor Front connectors for connection failure.
- Check the Booklet Tamper Motor Front for improper installation.
- Check the gear part for wear or damage.
- Check the Booklet Tamper Front for deformation.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the **Front Booklet Tamper Motor** test. **The Front Booklet Tamper Motor (PL 21.19) energizes.**

Y **N**

Check continuity between the Booklet Tamper Motor Front and the Booklet PWB and the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Booklet Tamper Motor Front (PL 21.19). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace Finisher PWB (PL 21.12).

Perform the **Booklet Tamper Home Sensor Front** test (PL 21.19). Block/unblock the Booklet Tamper Home Sensor Front. **The display changes.**

Y **N**

Check continuity between the Booklet Tamper Home Sensor Front and the Booklet PWB and the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Booklet Tamper Home Sensor Front (PL 21.19). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

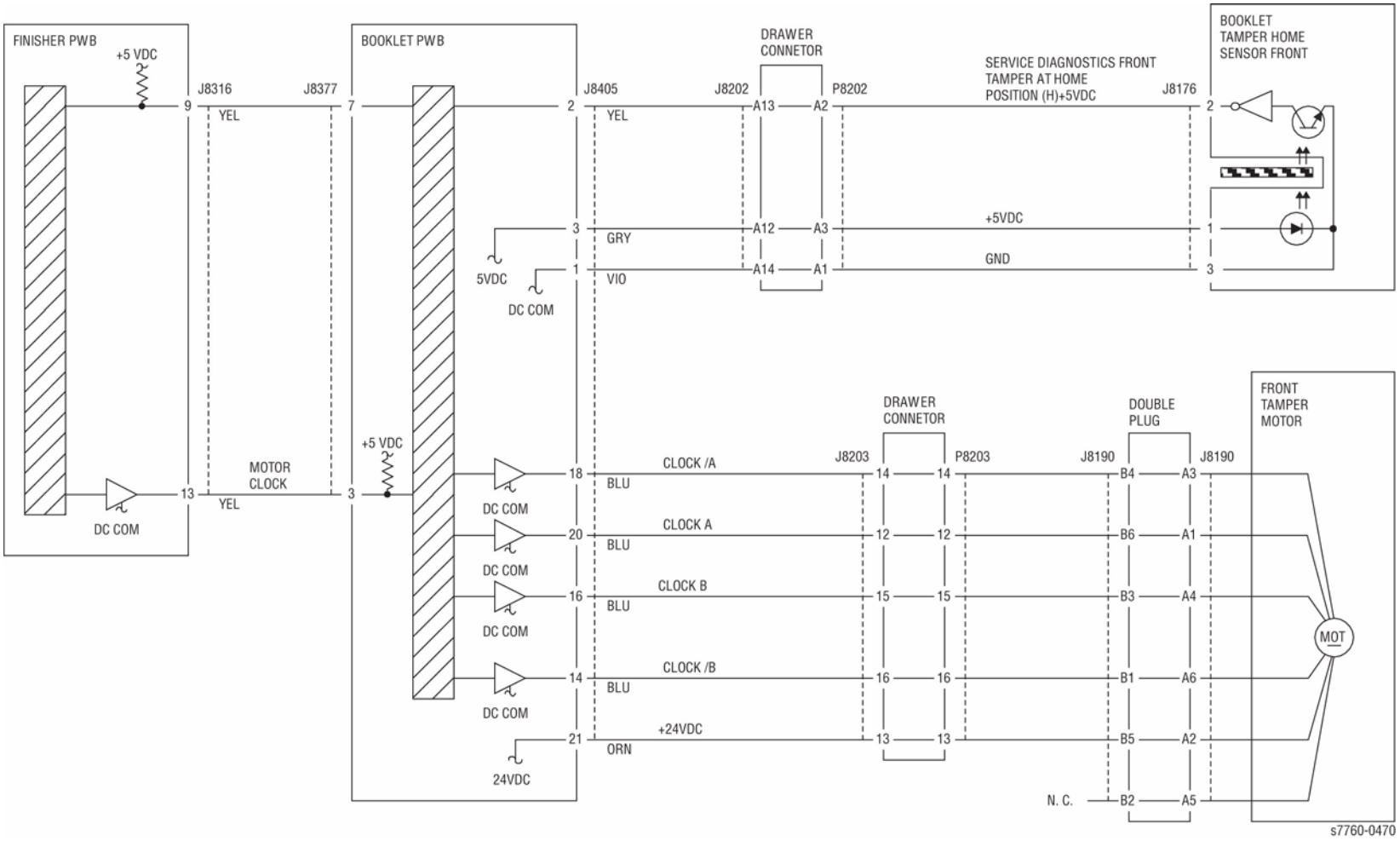

Figure 1 012-226 Booklet Tamper Front

012-227 Booklet End Guide Home Sensor Off Fail

Even when Booklet End Guide motor outputs 200 pulse after the start, Booklet End Guide Home Sensor is not turned Off.

Initial Actions

- Check the Booklet End Guide Home Sensor for improper installation.
- Check the Booklet End Guide Home Sensor connectors for connection failure.
- Check the Booklet End Guide Motor connectors for connection failure.
- Check the Guide for deformation.
- Check the Guide for a foreign substance.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the **Booklet End Guide Motor** test. **The Booklet End Guide Motor (PL 21.17) energizes.**

Y N

Check continuity between the Booklet End Guide Motor and the Booklet PWB and the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y N

Repair the open circuit or short circuit.

Replace the Booklet End Guide Motor (PL 21.17). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace Finisher PWB (PL 21.12).

Block/unblock the Booklet End Guide Home Sensor to the light with paper strip. **The display changes.**

Y N

Check continuity between the Booklet End Guide Home Sensor and the Booklet PWB and the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y N

Repair the open circuit or short circuit.

Replace the Booklet End Guide Home Sensor (PL 21.17). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace Finisher PWB (PL 21.12).

Check the following:

- The Booklet End Guide Motor for proper installation
- Booklet End Guide Belt for proper tension
- Booklet End Guide Belt for wear or damage

If the above checks are OK, replace the Finisher PWB (PL 21.12).

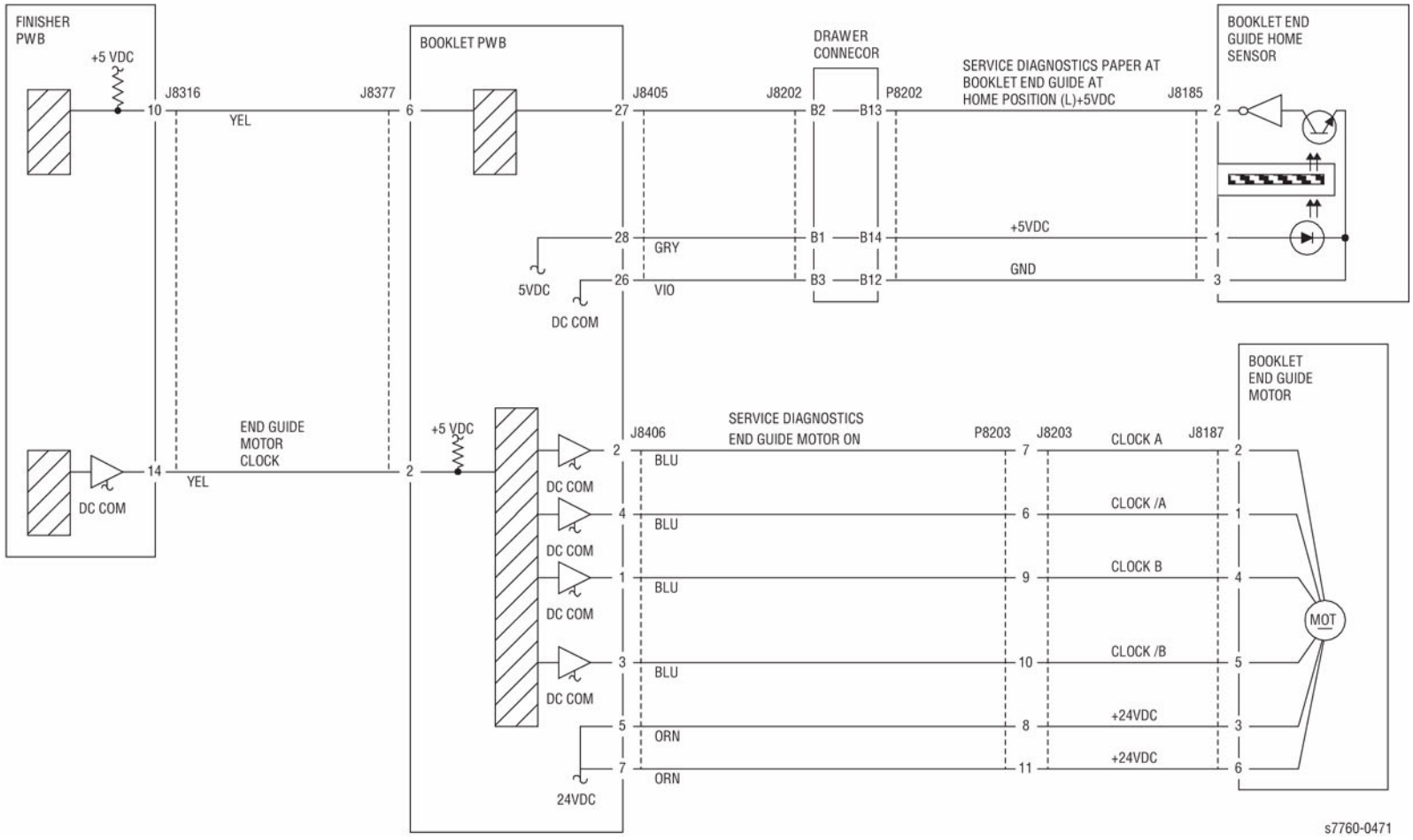

Figure 1 012-227 Booklet End Guide

012-228 Booklet End Guide Home Sensor On Fail

Booklet End Guide Home Sensor is not turned On within 2000ms from motor On while Booklet End Guide is returning to Home.

Initial Actions

- Check the Booklet End Guide Home Sensor for improper installation.
- Check the Booklet End Guide Home Sensor connectors for connection failure.
- Check the Booklet End Guide Motor connectors for connection failure.
- Check the Guide for deformation.
- Check the Guide for a foreign substance.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the **Booklet End Guide Motor** test. **The Booklet End Guide Motor (PL 21.17) energizes.**

Y **N**

Check continuity between the Booklet End Guide Motor and the Booklet PWB and the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Booklet End Guide Motor (PL 21.17). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace Finisher PWB (PL 21.12).

Block/unblock the Booklet End Guide Home Sensor. **The display changes.**

Y **N**

Check continuity between the Booklet End Guide Home Sensor and the Booklet PWB and the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Booklet End Guide Home Sensor (PL 21.17). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace Finisher PWB (PL 21.12).

Check the following:

- The Booklet End Guide Motor for proper installation
- Booklet End Guide Belt for proper tension
- Booklet End Guide Belt for wear or damage

If the above checks are OK, replace the Finisher PWB (PL 21.12).

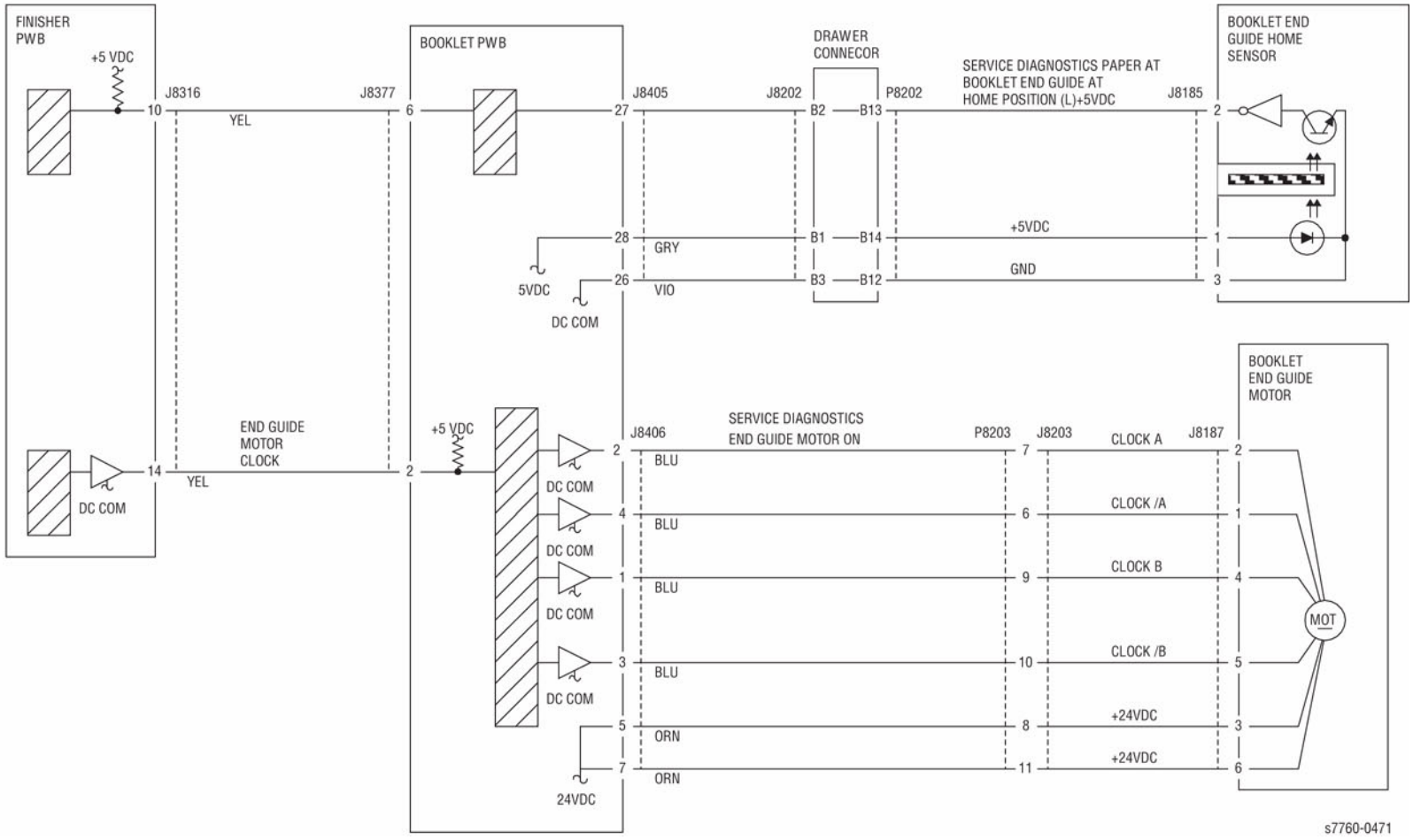

Figure 1 012-228 Booklet End Guide

012-229 Booklet Tamper R Home Sensor On Fail

Tamper Home Sensor Rear is not turned On within 1000msec from motor On while Booklet Tamper Rear is returning to Home.

Initial Actions

- Check the Booklet Tamper Home Sensor Rear for improper installation.
- Check the Booklet Tamper Home Sensor Rear connectors for connection failure.
- Check the Booklet Tamper Motor Rear connectors for connection failure.
- Check the Booklet Tamper Motor Rear for improper installation.
- Check the gear part for wear or damage.
- Check the Booklet Tamper Rear for deformation.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the **Booklet Tamper Motor Rear** test alternately. **The Rear Booklet Tamper Motor (PL 21.19) energizes.**

Y N

Check continuity between the Booklet Tamper Motor Rear and the Booklet PWB and the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y N

Repair the open circuit or short circuit.

Replace the Booklet Tamper Motor Rear (PL 21.19). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace Finisher PWB (PL 21.12).

Block/unblock the Booklet Tamper Home Sensor Front. **The display changes.**

Y N

Check continuity between the Booklet Tamper Home Sensor Rear and the Booklet PWB and the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y N

Repair the open circuit or short circuit.

Replace the Booklet Tamper Home Sensor Rear (PL 21.19). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

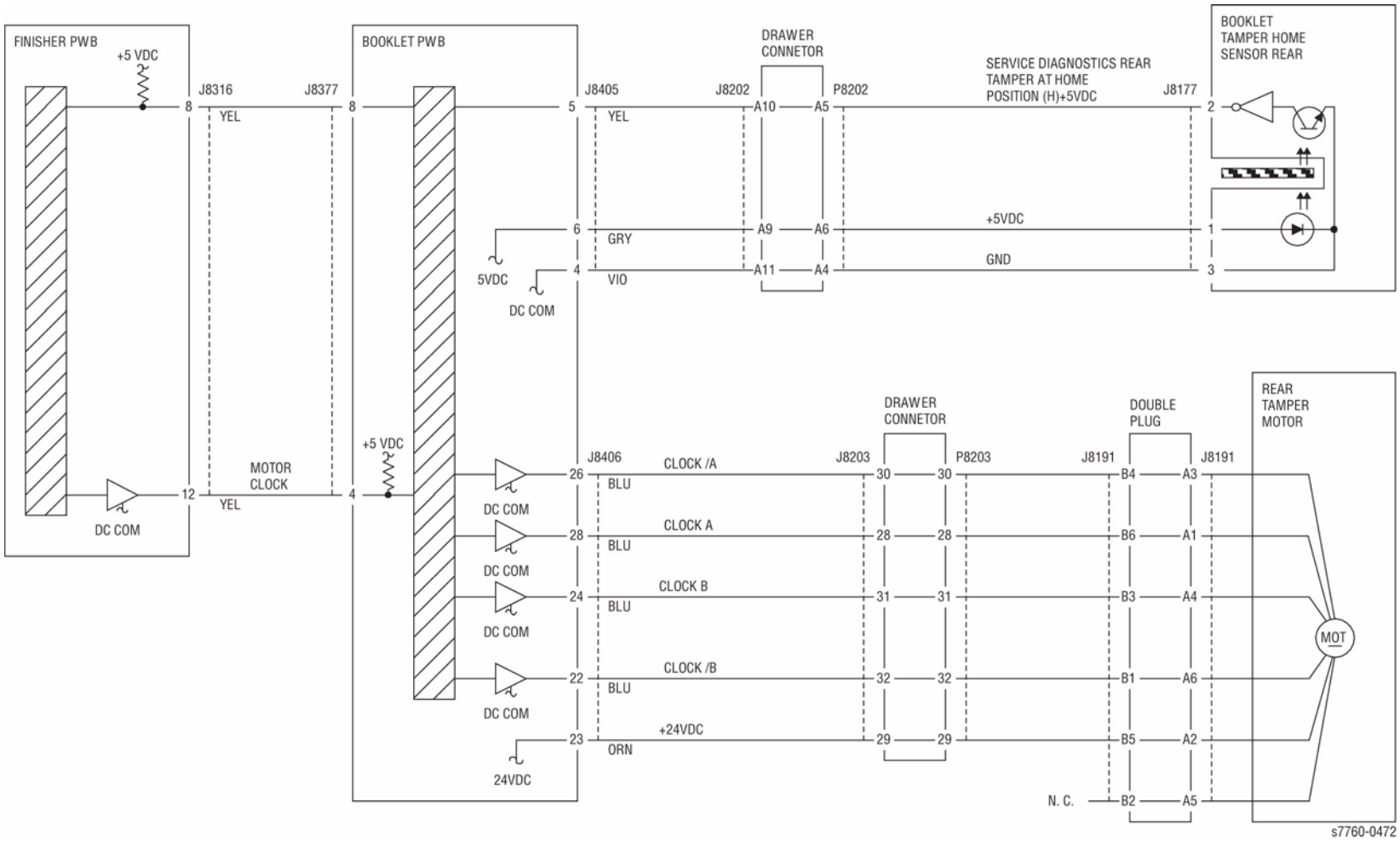

Figure 1 012-229 Booklet Tamper Rear

012-230 Booklet Tamper R Home Sensor Off Fail

Even when Booklet tamper Rear motor outputs 75 pulse, the Tamper Rear Home Sensor is not turned Off.

Initial Actions

- Check the Booklet Tamper Home Sensor Rear for improper installation.
- Check the Booklet Tamper Home Sensor Rear connectors for connection failure.
- Check the Booklet Tamper Motor Rear connectors for connection failure.
- Check the Booklet Tamper Motor Rear for improper installation.
- Check the gear part for wear or damage.
- Check the Booklet Tamper Rear for deformation.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the **Rear Booklet Tamper Motor** test, **The Rear Booklet Tamper Motor (PL 21.19) energizes.**

Y **N**

Check continuity between the Booklet Tamper Motor Rear and the Booklet PWB and the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Booklet Tamper Motor Rear (PL 21.19). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace the Finisher PWB (PL 21.12).

Block/unblock the Booklet Tamper Home Sensor Front. **The display changes.**

Y **N**

Check continuity between the Booklet Tamper Home Sensor Rear and the Booklet PWB and the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Booklet Tamper Home Sensor Rear (PL 21.19). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

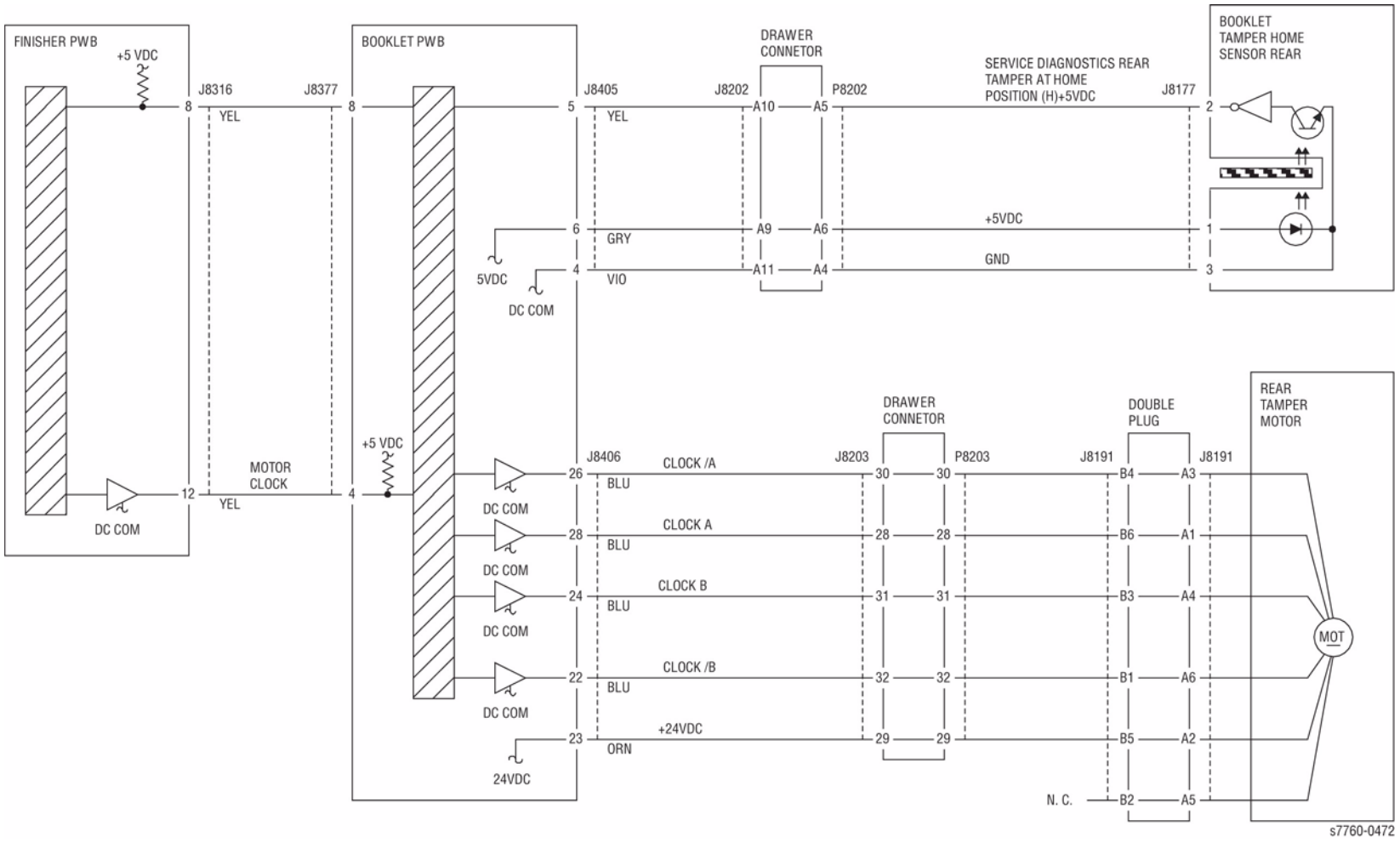

Figure 1 012-230 Booklet Tamper Rear

012-231 Puncher Home Sensor On Fail

The Puncher Home Sensor did not turn On within the specified time after the Puncher Motor started running.

Initial Actions

Check the following components:

- Puncher Home Actuator for deformation
- Puncher Home Sensor for proper installation
- Puncher Home Sensor connectors
- Puncher Motor for proper operation
- Puncher Motor connectors

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the **Puncher Motor** test. **The Puncher Motor (PL 21.5) runs.**

Y **N**

Check circuit of the Punch Motor (Figure 1). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Actuate the Puncher Home Sensor (PL 21.5) with a piece of paper. **The display changes.**

Y **N**

Check circuit of the Puncher Home Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

If the problem continues, replace the Finisher PWB (PL 21.12).

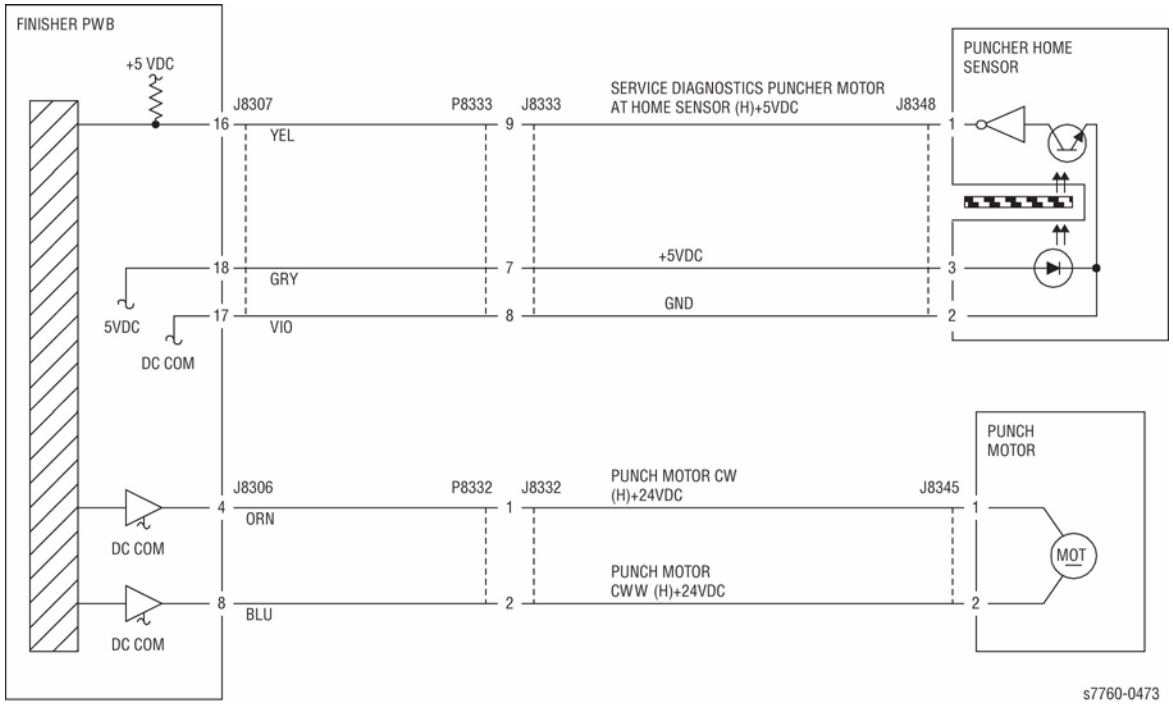

Figure 1 012-231 Puncher Home

012-232 Puncher Home Sensor Off Fail

The Puncher Home Sensor did not turn Off within 100 msec. after the Puncher Motor had started running.

Initial Actions

Check the following components:

- Puncher Home Actuator for deformation
- Puncher Home Sensor for proper installation
- Puncher Home Sensor connectors
- Puncher Motor for proper operation
- Puncher Motor connectors

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the **Puncher Motor** test. **The Puncher Motor (PL 21.5) runs.**

Y **N**

Check circuit of the Punch Motor (Figure 1). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Actuate the Puncher Home Sensor (PL 21.5) with a piece of paper. **The display changes.**

Y **N**

Check circuit of the Puncher Home Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

If the problem continues, replace the Finisher PWB (PL 21.12).

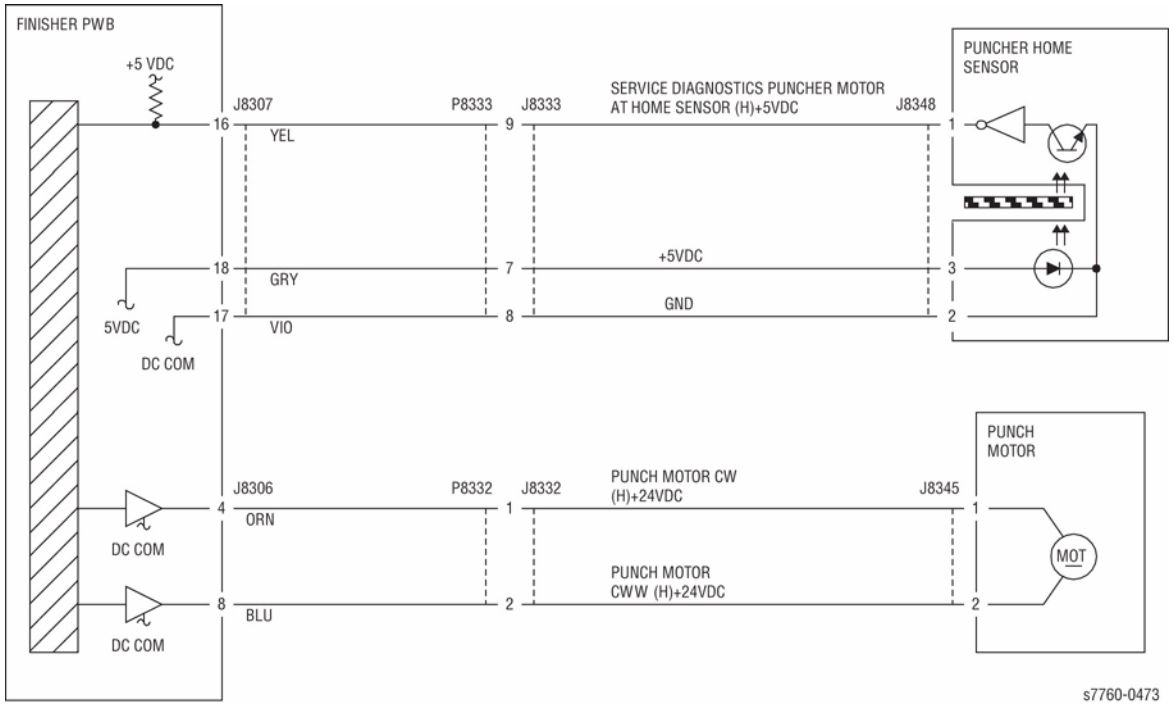

Figure 1 012-232 Puncher Home

012-233 Puncher Move Home Sensor On Fail

Puncher Move Home Sensor is not turned On after the lapse of 400(300*500**)msec from operation start.Puncher Move Home Sensor is not turned on after the stop following Puncher Move Home Sensor On.

Initial Actions

Check the following components:

- Actuator for deformation
- Puncher Move Home Sensor for improper installation
- Puncher Move Home Sensor connectors for connection failure
- Puncher Move Motor connectors for connection failure

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the **Puncher Move Motor** test. **The Puncher Move Motor (PL 21.5) energizes.**

Y **N**

Check continuity between the Puncher Move Motor and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Puncher Move Motor (PL 21.5). If the problem continues, replace the Finisher PWB (PL 21.12).

Block/unblock the Puncher Move Home Sensor (PL 21.5). **The display changes.**

Y **N**

Check continuity between the Puncher Move Home Sensor and Finisher Main PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Puncher Move Home Sensor (PL 21.5). If the problem continues, replace the Finisher PWB (PL 21.12).

Check the following:

- Puncher Move Motor rack and gear for binding, wear, or damage

If the above check is OK, replace the Finisher PWB (PL 21.12).

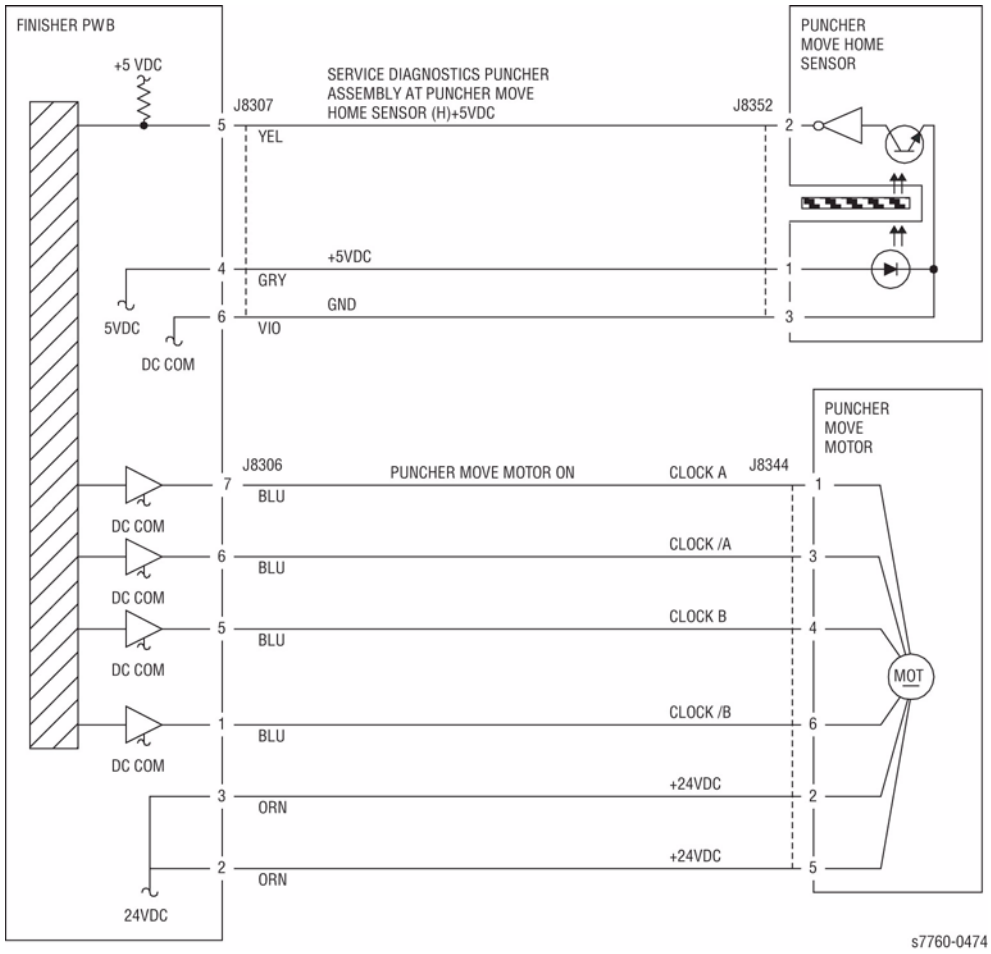

Figure 1 012-233 Puncher Move Home

012-234 Puncher Move Home Sensor Off Fail

Puncher Move Home Sensor is not turned Off after the lapse of 1000 (100*) msec. from operation start. Puncher Move Home Sensor is not turned Off after the stop following Puncher Move Home Sensor Off.

Initial Actions

- Check the Actuator for deformation.
- Check the Puncher Move Home Sensor for improper installation.
- Check the Puncher Move Home Sensor connectors for connection failure.
- Check the Puncher Move Motor connectors for connection failure.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the **Puncher Move Motor** test. **The Puncher Move Motor (PL 21.5) runs.**

Y **N**

Check continuity between the Puncher Move Motor and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Puncher Move Motor (PL 21.5). If the problem continues, replace the Finisher PWB (PL 21.12).

Block/unblock the Puncher Move Home Sensor (PL 21.5). **The display changes.**

Y **N**

Check continuity between the Puncher Move Home Sensor and Finisher Main PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Puncher Move Home Sensor (PL 21.5). If the problem continues, replace the Finisher PWB (PL 21.12).

Check the following:

- The Puncher Move Motor Belt for improper tension
- The Puncher Move Motor Belt for disengagement

If the above checks are OK, replace the Finisher PWB (PL 21.12).

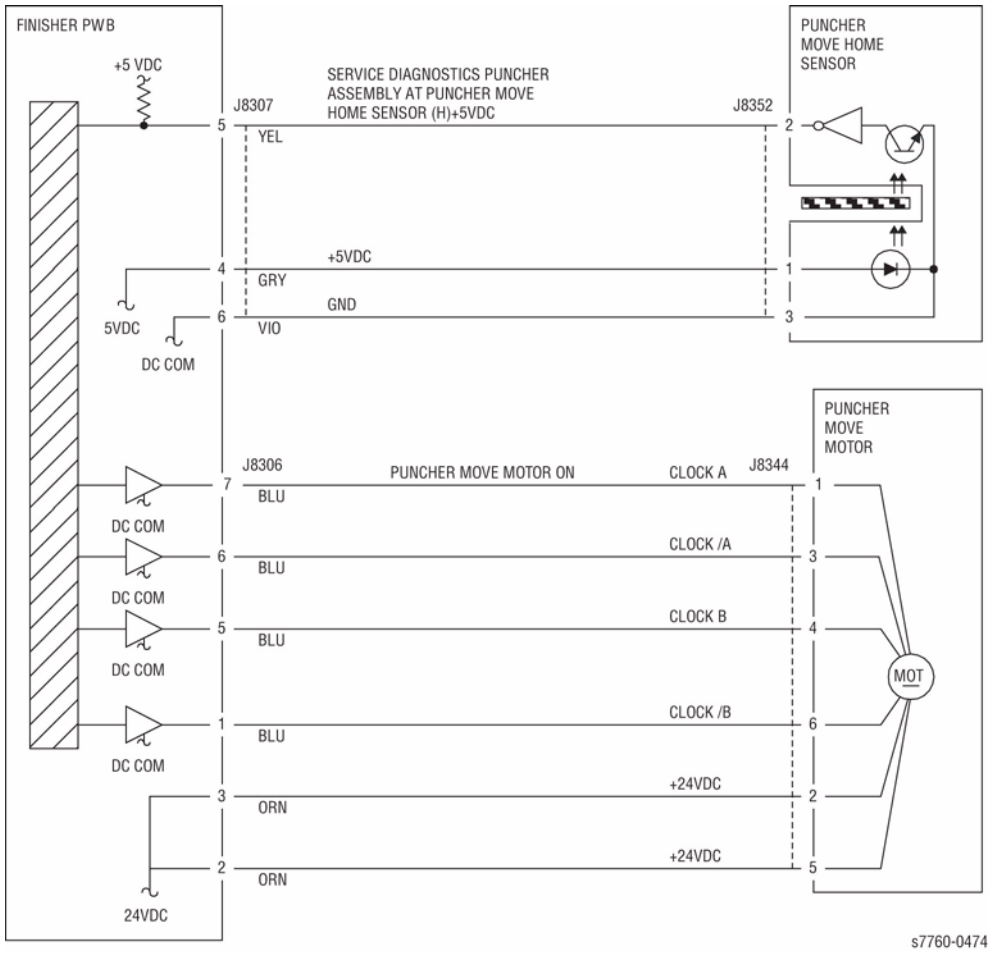

Figure 1 012-234 Puncher Move Home

012-243 Booklet Knife Home Sensor On Fail

Knife Home Sensor is not turned On after the lapse of 500ms from Clutch On while Booklet Knife is returning to Home.

Initial Actions

- Check the Knife Home Sensor for improper installation.
- Check the Knife Home Sensor connectors for connection failure.
- Check the Booklet Fold Motor connectors for connection failure.
- Check the Knife Clutch connectors for connection failure.
- Check the Knife Clutch for improper installation.
- Check the Knife drive mechanism for a foreign substance.

Procedure

Manually move the Booklet Tamper to both ends. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Run the **Booklet Folder Roll Motor** test. **The Booklet Folder Roll Motor (PL 21.22) energizes.**

Y **N**

Check continuity between the Booklet Folder Roll Motor and the Booklet PWB and between the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Booklet Folder Roll Motor (PL 21.22). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace Finisher PWB (PL 21.12).

Perform the Knife Solenoid test (PL 21.22). **The Knife Solenoid actuates.**

Y **N**

Check continuity between the Knife Solenoid and the Booklet PWB and between the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Knife Solenoid (PL 21.22). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace Finisher PWB (PL 21.12).

Block/unblock the Knife Home Sensor (PL 21.22). The display changed.

Y **N**

Check continuity between the Knife Home Sensor and the Booklet PWB and between the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Knife Home Sensor (PL 21.22). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

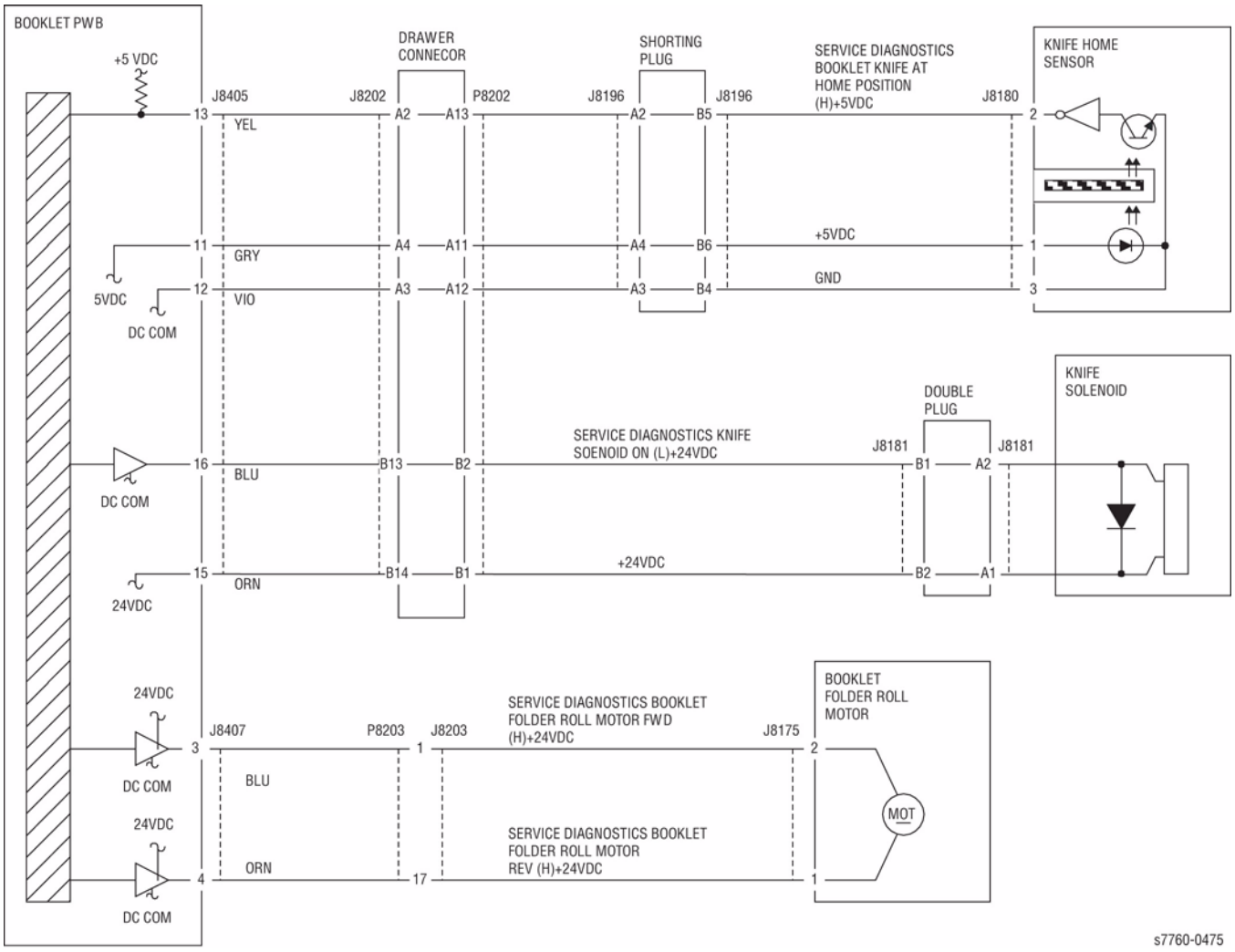

Figure 1 012-243 Booklet Knife

012-246 Booklet Stapler Fail

Error signal On and Ready signal Off output from the Booklet Stapler were detected after Booklet Stapling operation.

The Stapler Ready signal did not turn to 'Not Ready' within the specified time after Booklet Stapler Start signal On.

Error signal On and Ready signal Off output from the Booklet Stapler were detected after Stapler Power On check was performed at Power On or when the interlock was closed.

Error signal On was detected just before the Booklet Stapling operation.

Procedure

Check continuity between the Staple and Booklet PWB. **The continuity check is OK.**

Y N

Repair the open circuit or short circuit.

Check continuity between the Booklet PWB and Finisher PWB (Figure 1). **The continuity check is OK.**

Y N

Repair the open circuit or short circuit.

Replace the Staple (PL 21.16). The problem is resolved.

Y N

Replace the Booklet PWB (PL 21.12). If the problem continues, replace the Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

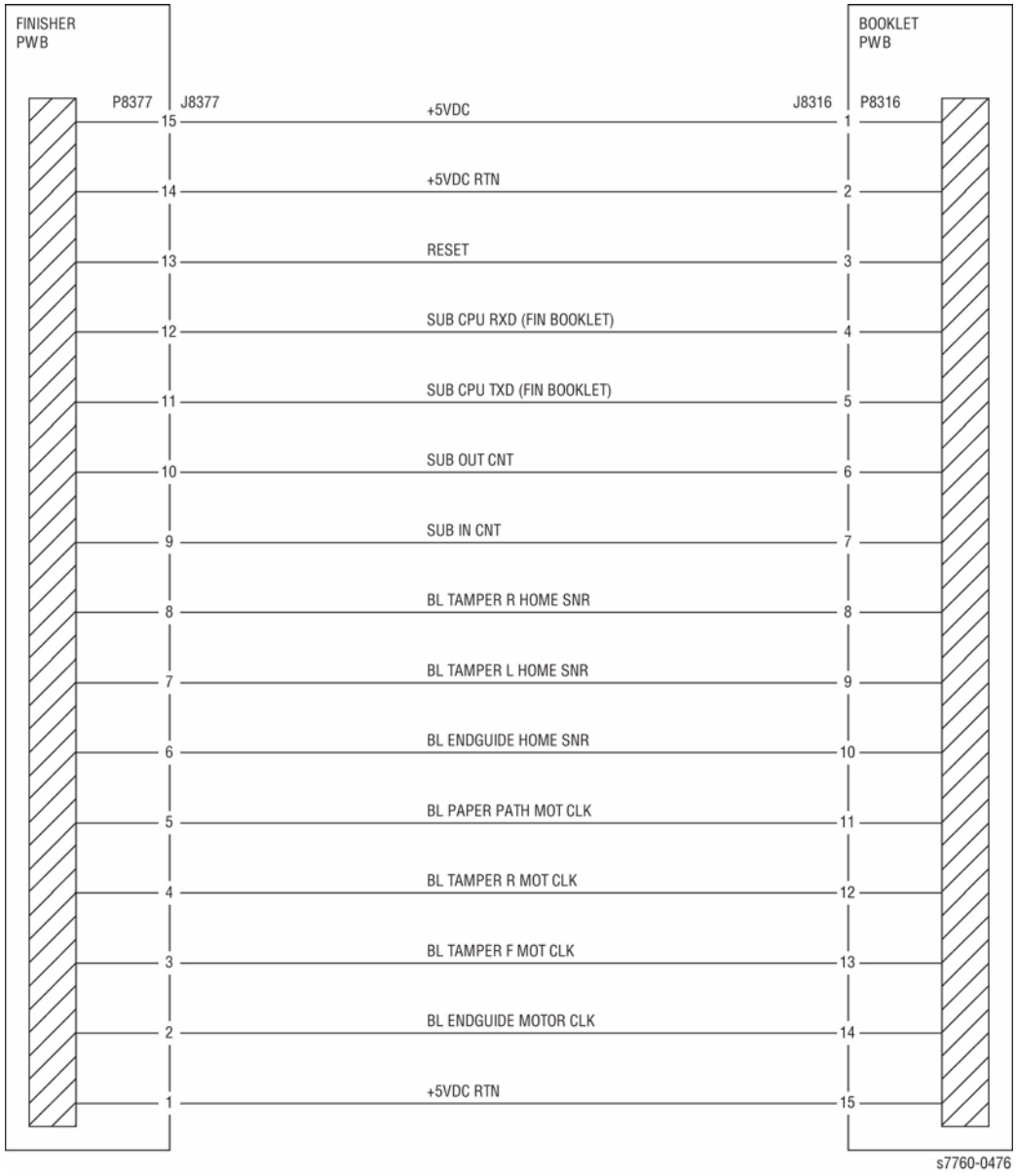

Figure 1 012-246 Finisher, Booklet PWBs

012-247 Side Regi Sensor Off Fail

Side Regi Sensor not turned Off after the lapse of 500msec from operation start. Side Regi Sensor is not turned Off after the stop following Side Regi Sensor Off. Target Side Regi Sensor1 or Side Regi Sensor2 is not turned Off at operation start.

Initial Actions

- Check the Actuator for deformation.
- Check the Side Reg 1 and 2 Sensors for improper installation.
- Check the Side Reg 1 and 2 Sensors connectors for connection failure.
- Check the Puncher Move Motor connectors for connection failure.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Run the **Puncher Move Motor** test. **The Puncher Move Motor (PL 21.5) runs.**

Y N

Check continuity between the Puncher Move Motor and Finisher PWB (Figure 1). **The continuity check is OK.**

Y N

Repair the open circuit or short circuit.

Replace the Puncher Move Motor (PL 21.5). If the problem continues, replace the Finisher PWB (PL 21.12).

Block/unblock the Side Reg 1 Sensor (PL 21.5). **The display changes.**

Y N

Check continuity between the Side Reg 1 Sensor and Finisher Main PWB (Figure 1). **The continuity check is OK.**

Y N

Repair the open circuit or short circuit.

Replace the Side Reg 1 Sensor (PL 21.5). If the problem continues, replace the Finisher PWB (PL 21.12).

Block/unblock the Side Reg 2 Sensor (PL 21.5). **The display changes.**

Y N

Check continuity between the Side Reg 2 Sensor and Finisher PWB (Figure 1). **The continuity check is OK.**

Y N

Repair the open circuit or short circuit.

Replace the Side Reg 2 Sensor (PL 21.5). If the problem continues, replace the Finisher PWB (PL 21.12).

Check the following:

- The Puncher Move Motor Belt for improper tension
- The Puncher Move Motor Belt for disengagement

If the above checks are OK, replace the Finisher PWB (PL 21.12).

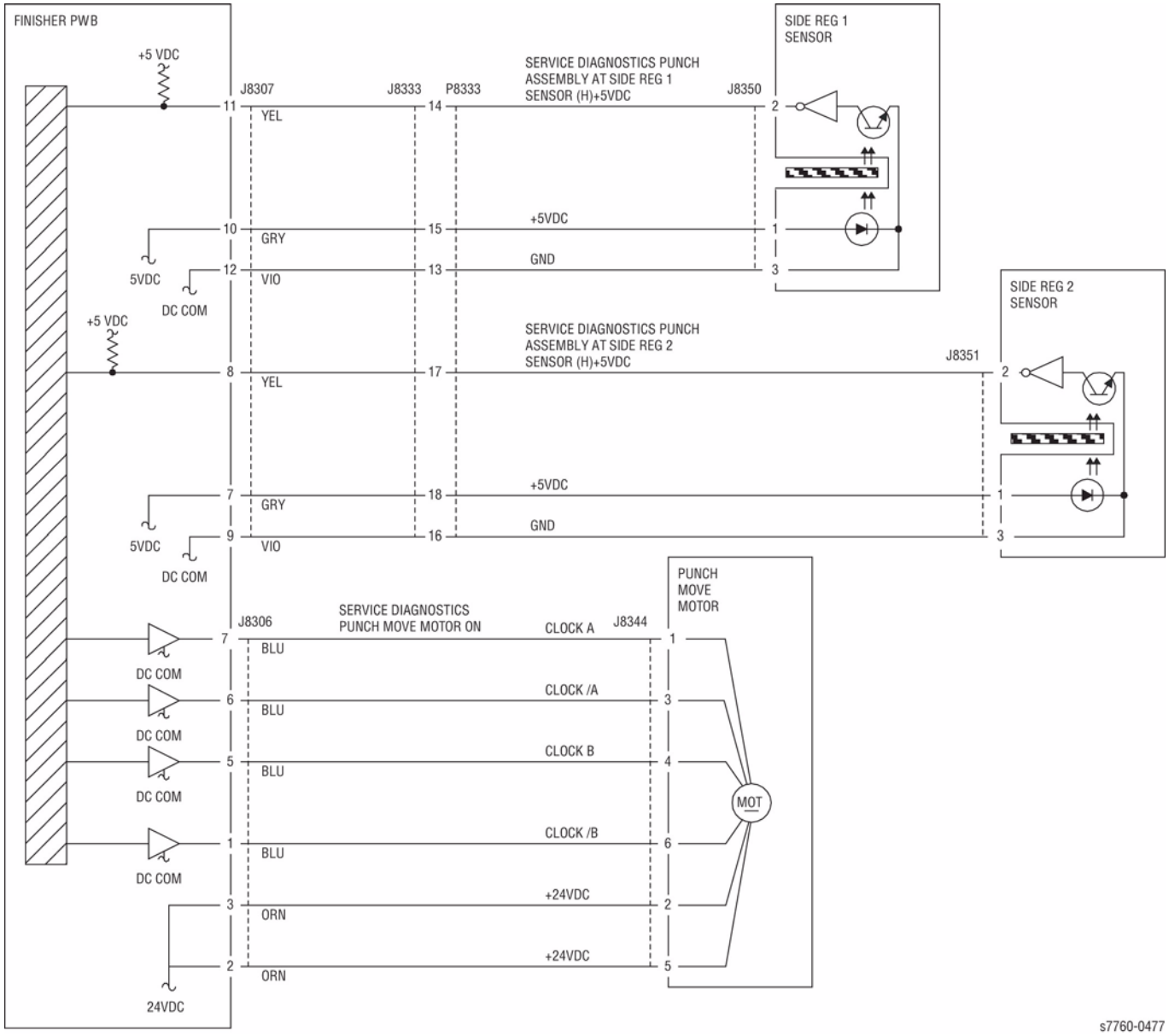

Figure 1 012-247 Side Registration

012-258 Booklet Broken

The specified number of Booklet Set Recoveries were detected in the same Job. (The specified number is 5 by default. The setting can be changed in NVRAM.)

Procedure

Check the setting value in NVRAM. Perform the process again. **The Fault Code reoccurs.**

Y **N**

If the problem continues, replace the Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

012-260 Eject Clamp Home Sensor On Fail

Eject Clamp Home Sensor did not turn On within 5 seconds after the Eject Clamp Up was started.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Eject Motor	PL 21.7	
Finisher PWB	PL 21.12	

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Remove the Set Clamp Home Sensor Bracket from the Finisher while leaving the connector plugged in. 2. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Check the Set Clamp Home Sensor: **Finisher Tests** > **Finisher Sensors** > **Misc**. 3. Does the value change from H to L while blocking and unblocking the Sensor?	Go to step 2.	Refer to the Transmissive Sensor Procedure (Section 6) to diagnose and repair the Sensor.
2	1. Reinstall the Sensor in the Finisher. Turn the printer On. 2. Is the Eject Clamp up?	Replace the Finisher Control Board (REP 12.68).	Go to step 3.
3	1. Perform the **Eject Release** test in Diagnostics. 2. Does the Eject Motor run?	Diagnose and repair the mechanical problem with the Eject Clamp Assembly.	Go to step 4.
4	Is +24 VDC present at P846-12?	Replace the Eject Motor.	Go to step 5.
5	Is the +24 VDC present at test point 9 on the Finisher PWB?	Replace the Finisher PWB (REP 12.68).	Troubleshoot and repair the +24 VDC Interlock circuit.

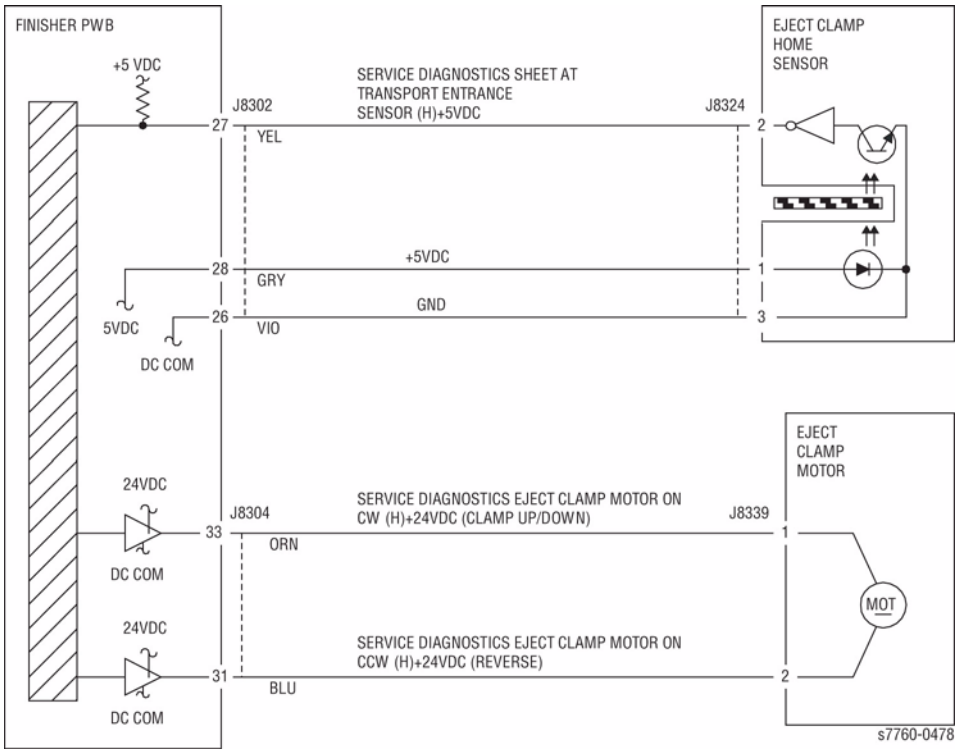

Figure 1 012-260 Eject Clamp

012-261 Booklet Knife Folding Sensor Fail

When the Booklet Knife performs folding operation, the Knife Folding Sensor did not turn On within 400 msec. after Knife Solenoid On.

Initial Actions

- Check the Knife Folding Sensor for improper installation.
- Check the Knife Folding Sensor connectors for connection failure.
- Check the Booklet Fold Motor connectors for connection failure.
- Check the Knife Solenoid connectors for connection failure.
- Check the Knife Solenoid for improper installation.
- Check the Knife drive mechanism for a foreign substance.

Procedure

Manually move the Booklet Tamper to both ends. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Booklet Folder Roll Motor alternately. **The Booklet Folder Roll Motor (PL 21.22) energizes.**

Y **N**

Check continuity between the Booklet Folder Roll Motor and the Booklet PWB and between the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Booklet Folder Roll Motor (PL 21.22). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace Finisher PWB (PL 21.12).

Enter Service Diagnostics Menu. Check the Knife Solenoid (PL 21.22). **The Knife Solenoid actuates.**

Y **N**

Check continuity between the Knife Solenoid and the Booklet PWB and between the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Knife Solenoid (PL 21.22). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace Finisher PWB (PL 21.12).

Enter Service Diagnostics Menu. Block/unblock the Knife Home Sensor (PL 21.22). **The display changed.**

Y **N**

Check continuity between the Knife Home Sensor and the Booklet PWB and between the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Knife Home Sensor (PL 21.22). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

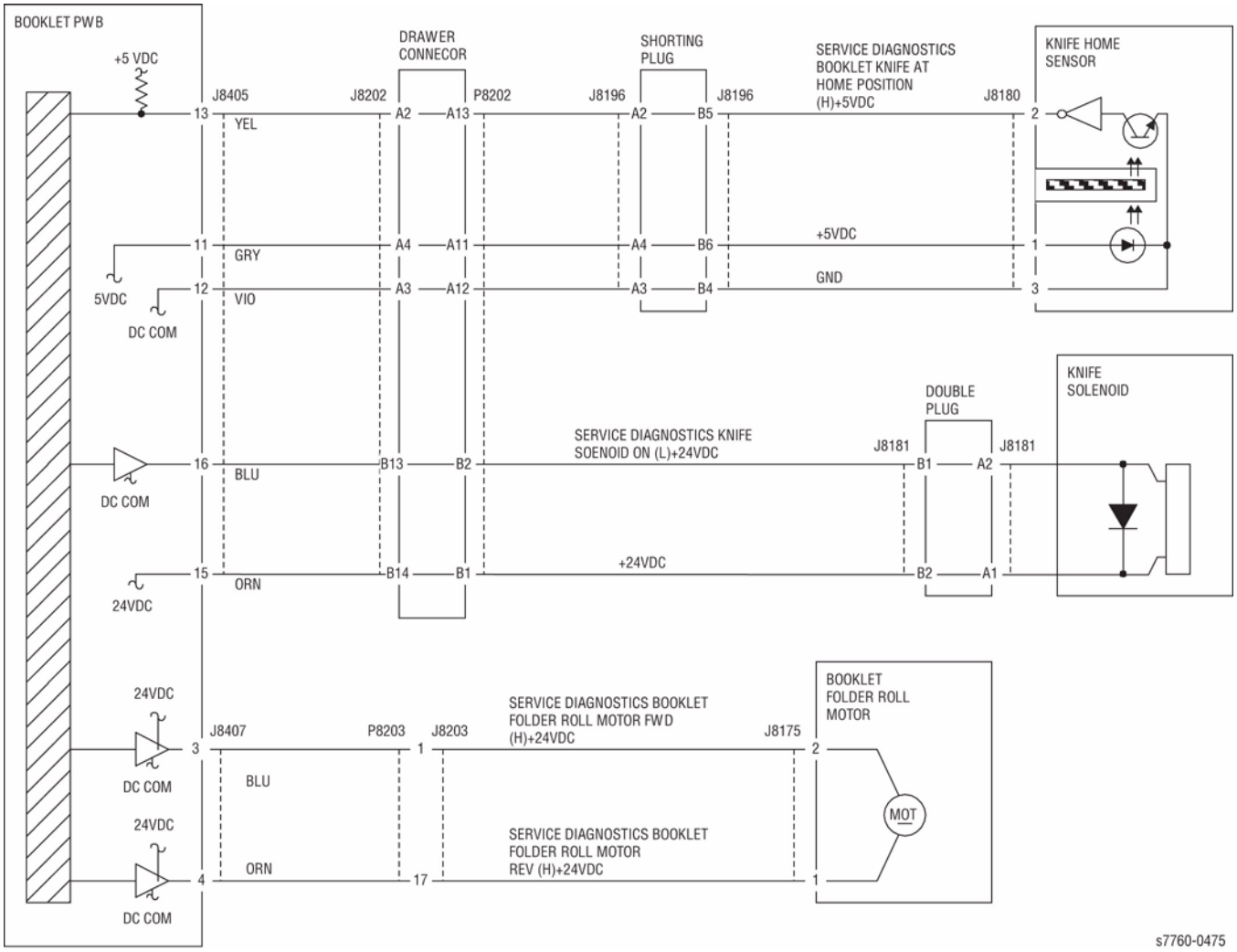

Figure 1 012-261 Booklet Knife

012-263 Rear Tamper Home Sensor On Fail

The Rear Tamper Home Sensor did not turn On within the specified time after the Tamper Motor had started running.

Initial Actions

Check the following components:

- Rear Tamper Actuator for deformation
- Rear Tamper Home Sensor for proper installation
- Rear Tamper Home Sensor connectors
- Rear Tamper Motor for proper operation
- Rear Tamper Motor connectors

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Rear Tamper Motor alternately. **The Rear Tamper Motor (PL 21.8) runs.**

Y N

Check circuit of the Rear Tamper Motor (Figure 1). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Enter Service Diagnostics Menu. Actuate the Rear Tamper Home Sensor (PL 21.8) with a piece of paper. **The display changes.**

Y N

Check circuit of the Rear Tamper Home Sensor (Figure 1). Refer to Transmissive Sensor Procedure (Section 6) for troubleshooting procedure.

If the problem continues, replace the Finisher PWB (PL 21.12).

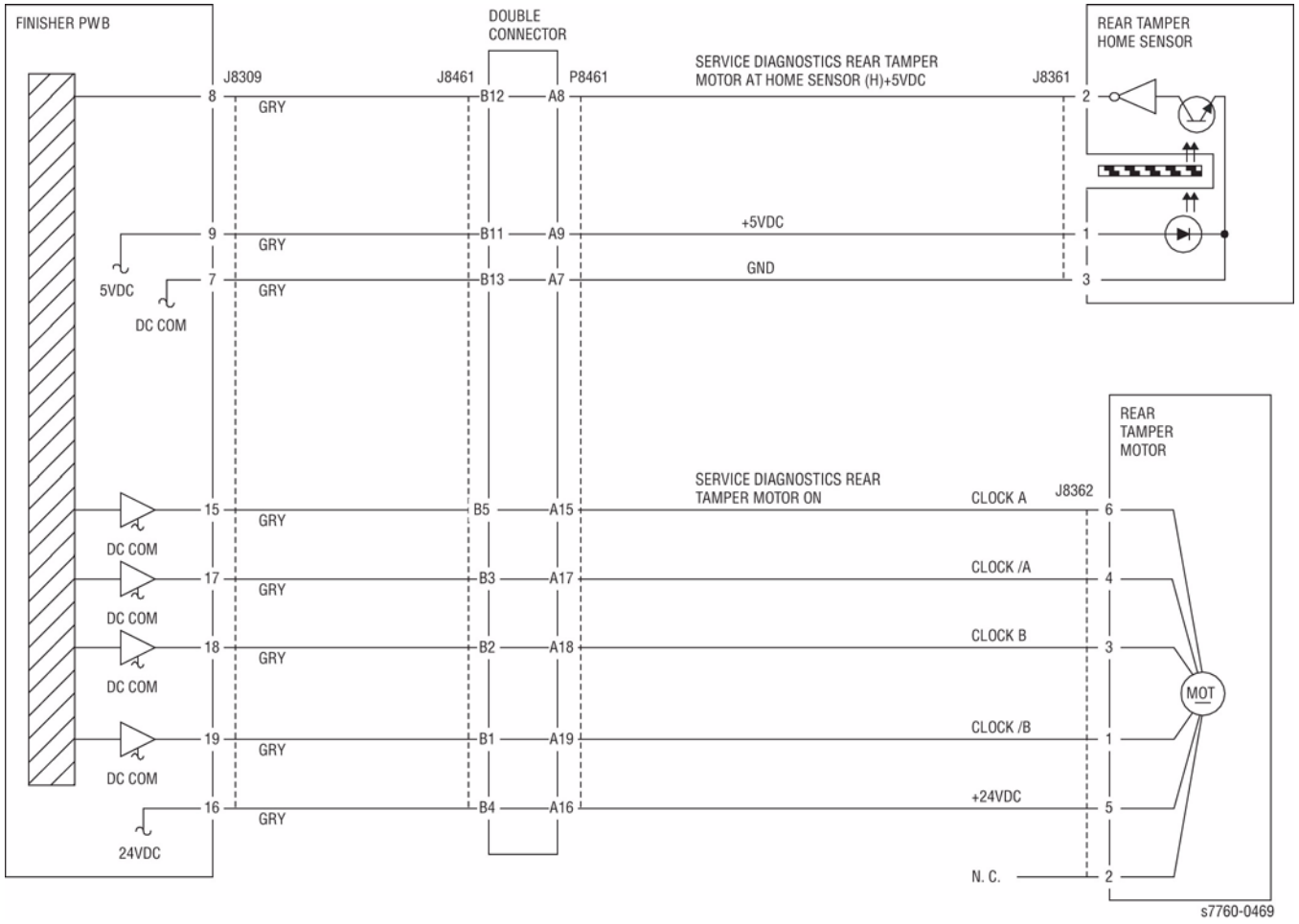

Figure 1 012-263 Rear Tamper

012-264 Booklet Drawer Broken Fail

Booklet Drawer Set Sensor Open was detected when the Finisher Front Door Interlock was closed.

Initial Actions

- Check the Booklet Drawer Set Sensor for improper installation.
- Check the Booklet Drawer Set Sensor connectors for connection failure.
- Check the Booklet Drawer Actuator part for a foreign substance and deformation.
- Check the Drawer mechanism for a foreign substance and deformation.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the **Booklet Drawer Set Sensor** test. Remove and insert the Booklet Drawer (PL 21.15) manually. **The display changes.**

Y **N**

Check the circuit of the Booklet Drawer Set Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure RAP for troubleshooting procedure.

If the problem continues, replace the Finisher PWB (PL 21.12).

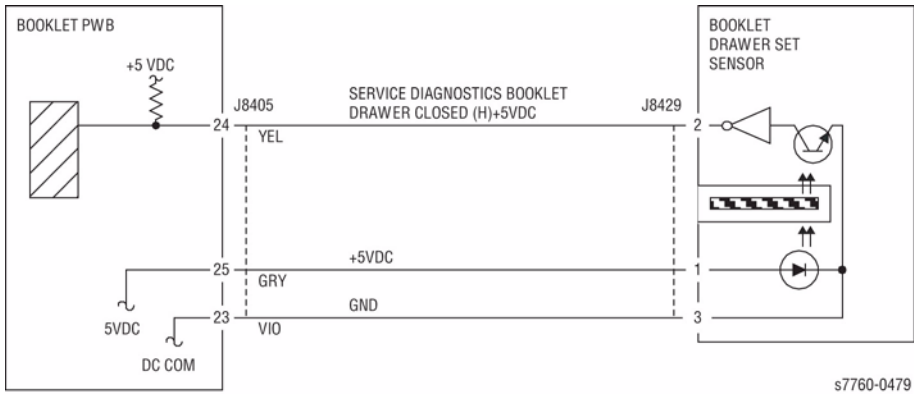

Figure 1 012-264 Booklet Drawer

012-265 Booklet Knife Home Sensor Off Fail

When the Booklet Knife moves from Home position, the Knife Home Sensor did not turn Off within the specified time after Knife Solenoid On.

Initial Actions

- Check the Knife Home Sensor for improper installation.
- Check the Knife Home Sensor connectors for connection failure.
- Check the Booklet Fold Motor connectors for connection failure.
- Check the Knife Solenoid connectors for connection failure.
- Check the Knife Solenoid for improper installation.
- Check the Knife drive mechanism for a foreign substance.

Procedure

Manually move the Booklet Tamper to both ends. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the Booklet Folder Roll Motor test alternately. **The Booklet Folder Roll Motor (PL 21.22) energizes.**

Y **N**

Check continuity between the Booklet Folder Roll Motor and the Booklet PWB and between the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Booklet Folder Roll Motor (PL 21.22). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace the Finisher PWB (PL 21.12).

Enter Service Diagnostics Menu. Check the Knife Solenoid (PL 21.22). **The Knife Solenoid actuates.**

Y **N**

Check continuity between the Knife Solenoid and the Booklet PWB and between the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Knife Solenoid (PL 21.22). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace the Finisher PWB (PL 21.12).

Enter Service Diagnostics Menu. Block/unblock the Knife Folding Sensor (PL 21.18). **The display changed.**

Y **N**

Check continuity between the Knife Folding Sensor and the Booklet PWB and between the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Knife Folding Sensor (PL 21.18). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace the Finisher PWB (PL 21.12).

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If the problem continues, replace the Finisher PWB (PL 21.12).

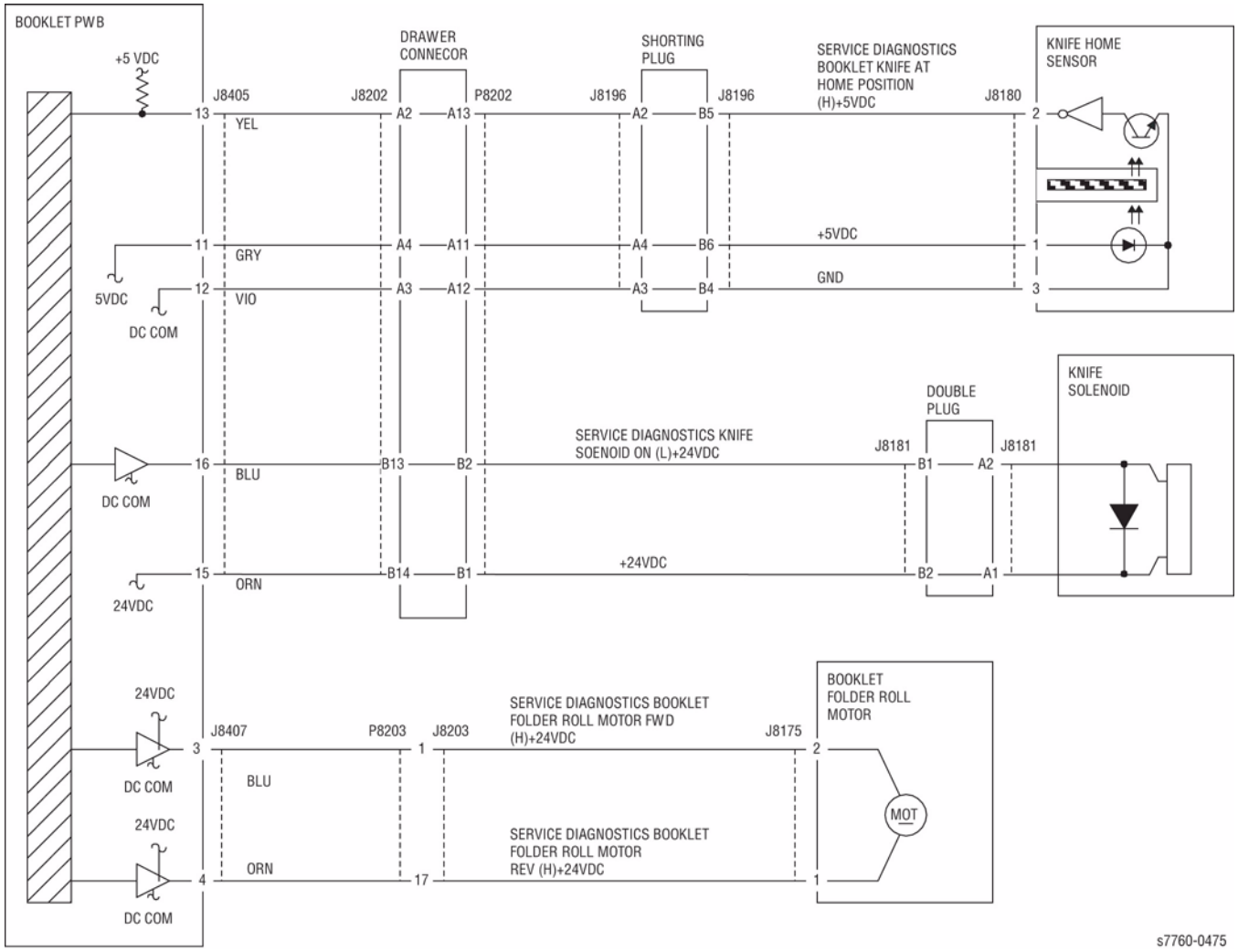

Figure 1 012-265 Booklet Knife

012-266 Booklet Compiler No Paper Sensor Fail

The Booklet Compile No Paper Sensor did not turn On within the specified time.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the Booklet Compile No Paper Sensor test (PL 21.18). Block/unblock the Booklet Compile No Paper Sensor. **The display changed.**

Y **N**

Check continuity between the Booklet Compile No Paper and the Booklet PWB and between the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Booklet Compile No Paper Sensor (PL 21.18). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace the Finisher PWB (PL 21.12).

Perform the **Booklet Paper Path Motor** test (PL 21.22). **The Motor energizes.**

Y **N**

Check continuity between the Booklet Paper Path Motor and the Booklet PWB and between the Booklet PWB and the Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Booklet Paper Path Motor (PL 21.22). If the problem continues, replace the Booklet PWB (PL 21.12). If the problem persists, replace the Finisher PWB (PL 21.12).

If the problem persists, replace the Finisher PWB (PL 21.12).

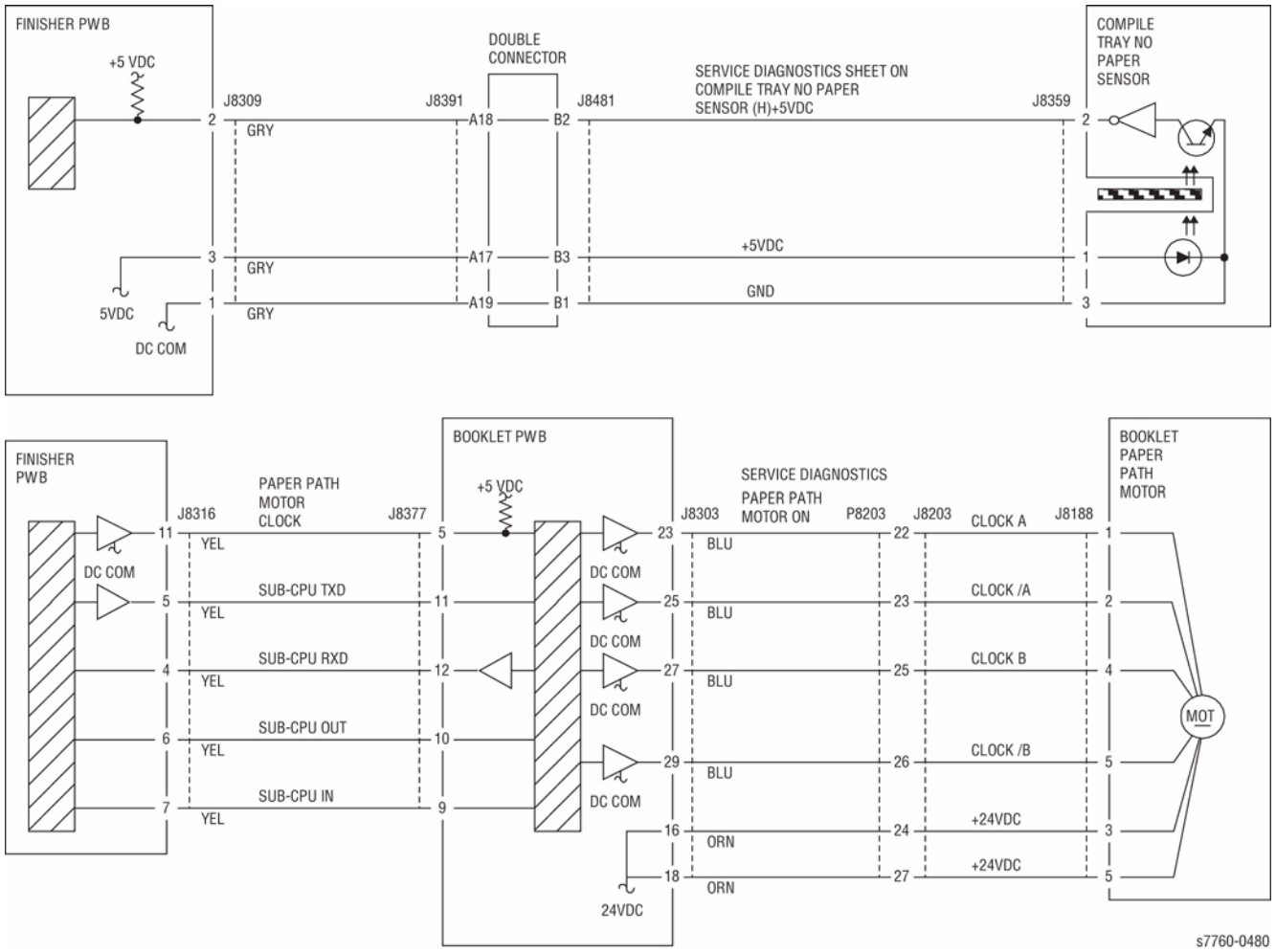

Figure 1 012-266 Booklet Compiler

012-269 Booklet Sub-CPU Communications Fail

Communications between the Finisher PWB and the Booklet PWB Failed

Initial Actions

- Check the connectors at the Finisher PWB and the Booklet PWB are connected or seated properly (Figure 1).
- Check the wiring between the Finisher PWB and the Booklet PWB for damage (Figure 1).

Procedure

Power the printer Off and On. **The problem is resolved.**

Y **N**

Reload the Software. **The problem is resolved.**

Y **N**

Replace the Finisher PWB (PL 21.12). If the problem continues, replace the Booklet PWB (PL 21.12).

Rerun the job.

Rerun the job.

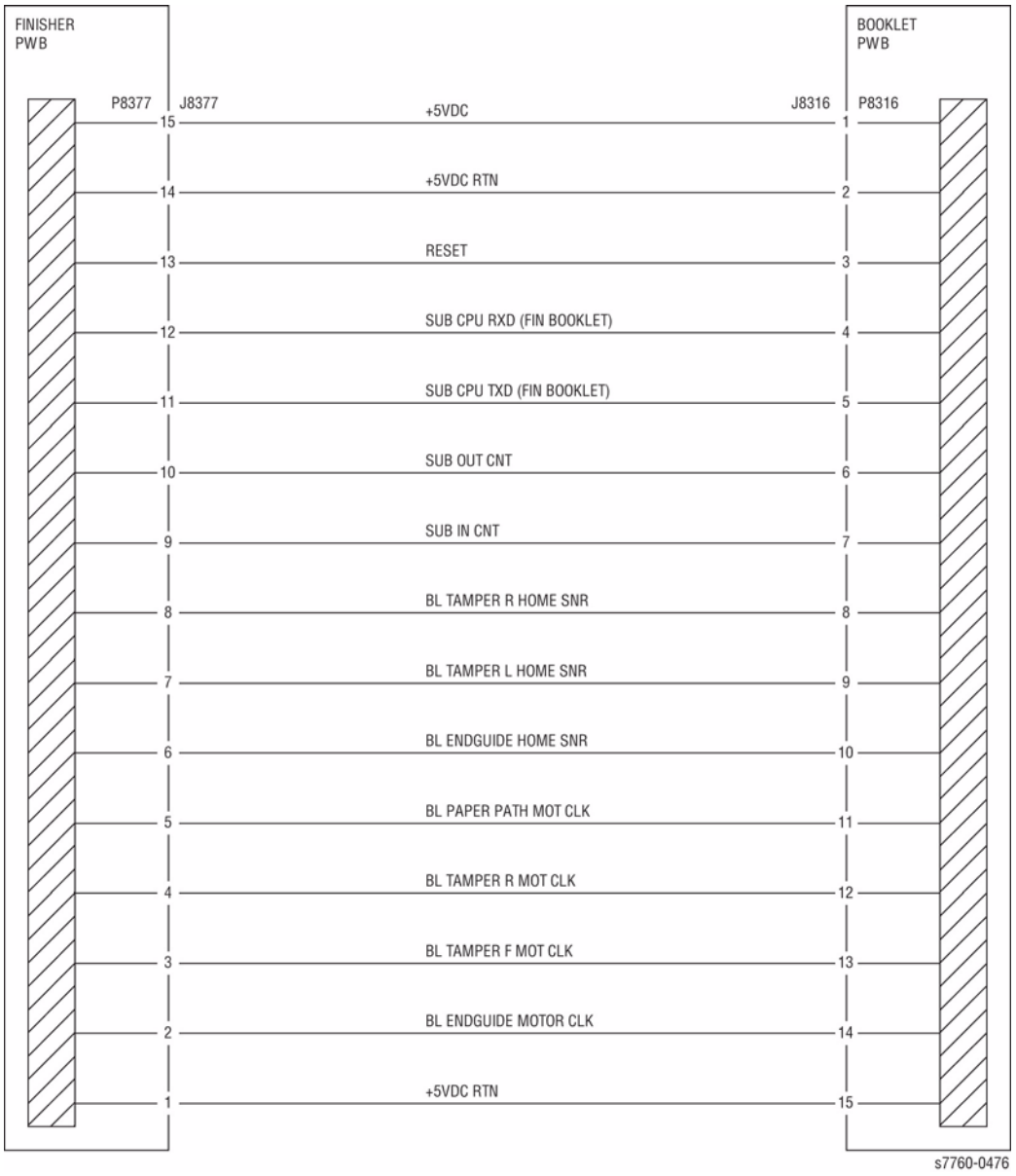

Figure 1 012-269 Finisher, Booklet PWBs

012-282 Eject Clamp Home Sensor Off Fail

The Eject Clamp Home Sensor did not turn Off within 2 seconds after the Eject Clamp Down was started.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Eject Motor	PL 21.8	
Finisher PWB	PL 21.12	

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Remove the Set Clamp Home Sensor Bracket from the Finisher while leaving the connector plugged in. 2. Check the Set Clamp Home Sensor in Diagnostics. 3. Does the value change from H to L while blocking and unblocking the Sensor?	Go to step 2.	Refer to the Transmissive Sensor Procedure (Section 6) to diagnose and repair the Sensor.
2	1. Reinstall the Sensor in the Finisher. Turn the printer On. 2. Is the Eject Clamp up?	Replace the Finisher Control Board (REP 12.68).	Go to step 3.
3	1. Perform the Eject Release test in Diagnostics. 2. Does the Eject Motor run?	Diagnose and repair the mechanical problem with the Eject Clamp Assembly.	Go to step 4.
4	Is +24 VDC present at P846-12?	Replace the Eject Motor.	Go to step 5.
5	Is the +24 VDC present at test point 9 on the Finisher Control Board?	Replace the Finisher Control Board (REP 12.68).	Troubleshoot and repair the +24 VDC Interlock circuit.

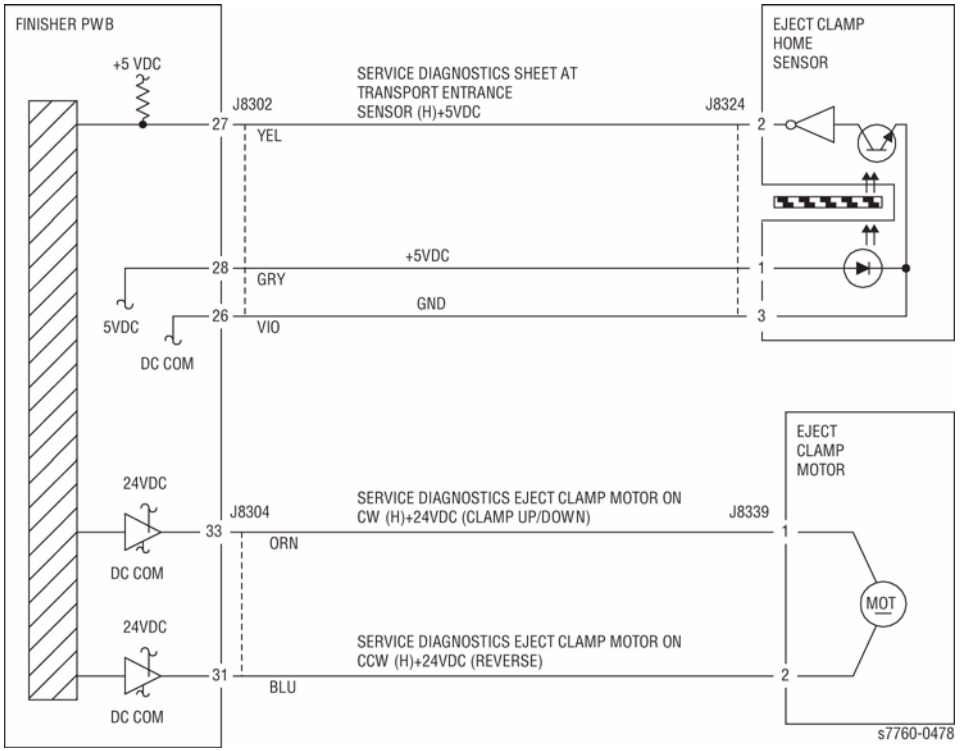

Figure 1 012-282 Eject Clamp

012-283 Clamp Home Sensor On Fail

Set Clamp Home Sensor is not turned On within a specified time.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Set Clamp Solenoid	PL 21.8	
Finisher PWB	PL 21.12	

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Check the Set Clamp Home Sensor: Finisher Tests > Finisher Sensors > Misc. 2. Does the value change from H to L while rotating the actuator?	To to step 2.	Use the Transmissive Sensor Procedure (Section 6) to diagnose and repair the Sensor.
2	Does the Solenoid energize when running the Set Clamp Paddle test in Diagnostics?	Go to step 3.	Go to step 4.
3	1. Perform the Eject Forward test and then the Eject Release test in Diagnostics. 2. Does the Set Clamp Paddle turn once?	Replace the Finisher Control Board (REP 12.68).	Go to step 4.
4	Is +24 VDC present at P848A-10?	Go to step 5.	Go to step 6.
5	Is +24 VDC present at 848A-11?	Replace the Finisher Control Board (REP 12.68).	Replace the Set Clamp Solenoid.
6	Is +24 VDC present at test point 9 on the Finisher Control Board?	Replace the Finisher Control Board (REP 12.68).	Troubleshoot and repair the +24 VDC Interlock circuit.

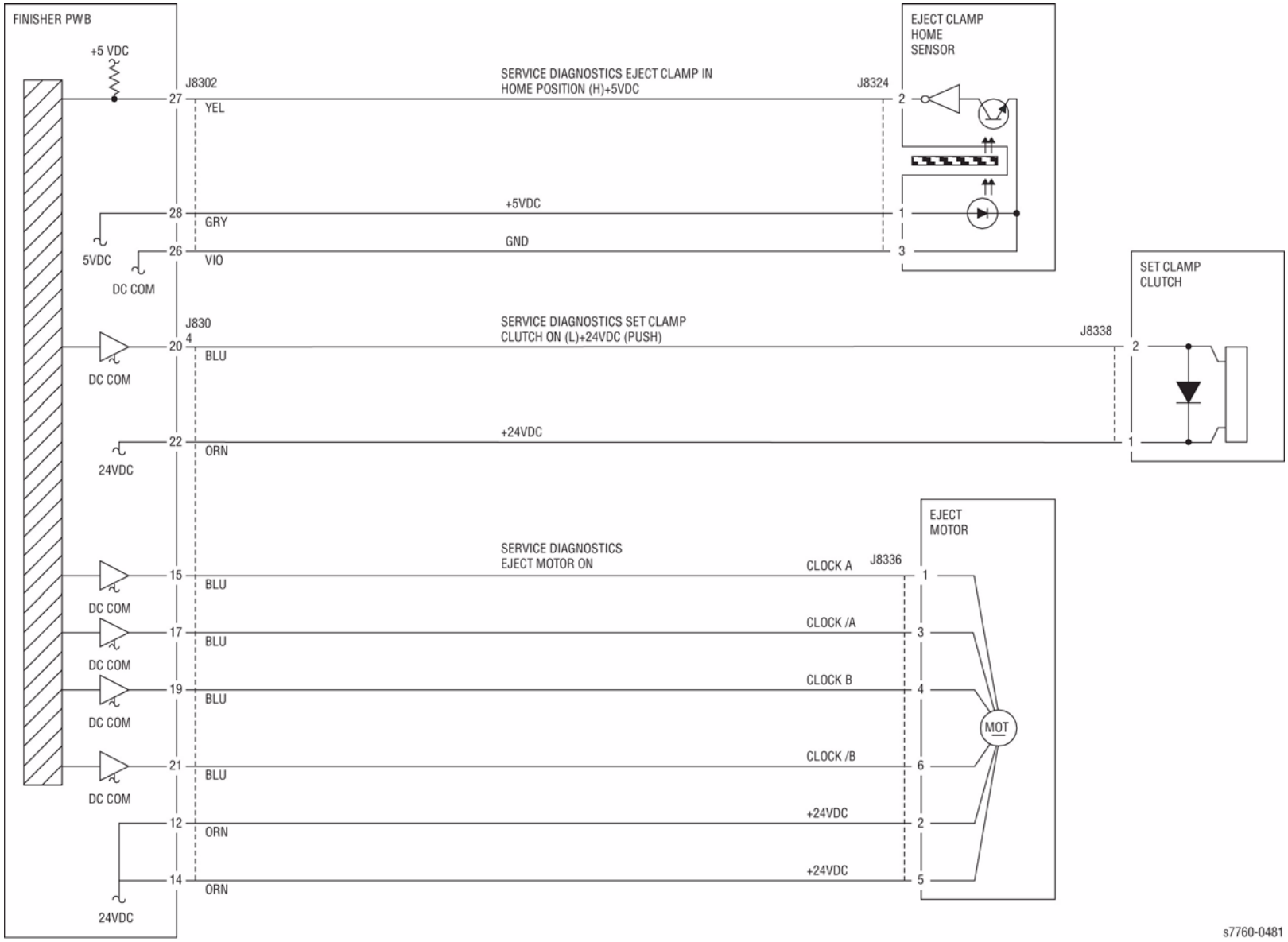

Figure 1 012-283 Set Clamp

012-284 Set Clamp Home Sensor Off Fail

Set Clamp Home Sensor is not turned Off within a specified time.

Initial Actions

- Check for obstructions in the Clamp area.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Eject Clamp Home Sensor (PL 21.8). **The display changes.**

Y **N**

Check the circuit of the Eject Clamp Home Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform the **Eject Motor** test. **The Eject Motor (PL 21.8) moves up.**

Y **N**

The Eject Motor energized.

Y **N**

Check the circuit of the Eject Motor (Figure 1). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the Eject Motor and its associated gears, pulleys and belts for damage, contamination and misalignment (PL 21.8).

Perform the **Set Clamp Clutch** test. **The Eject Roll Shaft (PL 21.8) rotates.**

Y **N**

The Set Clamp Clutch energized.

Y **N**

Check the circuit of the Set Clamp Clutch (Figure 1). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the Set Clamp Clutch and its associated gears, pulleys and belts for damage, contamination and misalignment (PL 21.8).

Check the following:

- Ensure that the Eject Clamp Home Sensor connectors are securely connected and that the wires are not damaged
- Ensure that the Eject Motor connectors are securely connected and that the wires are not damaged

If the above checks are OK, replace the Eject Clamp Home Sensor (PL 21.7). If the problem persists, replace the Finisher PWB (PL 21.12).

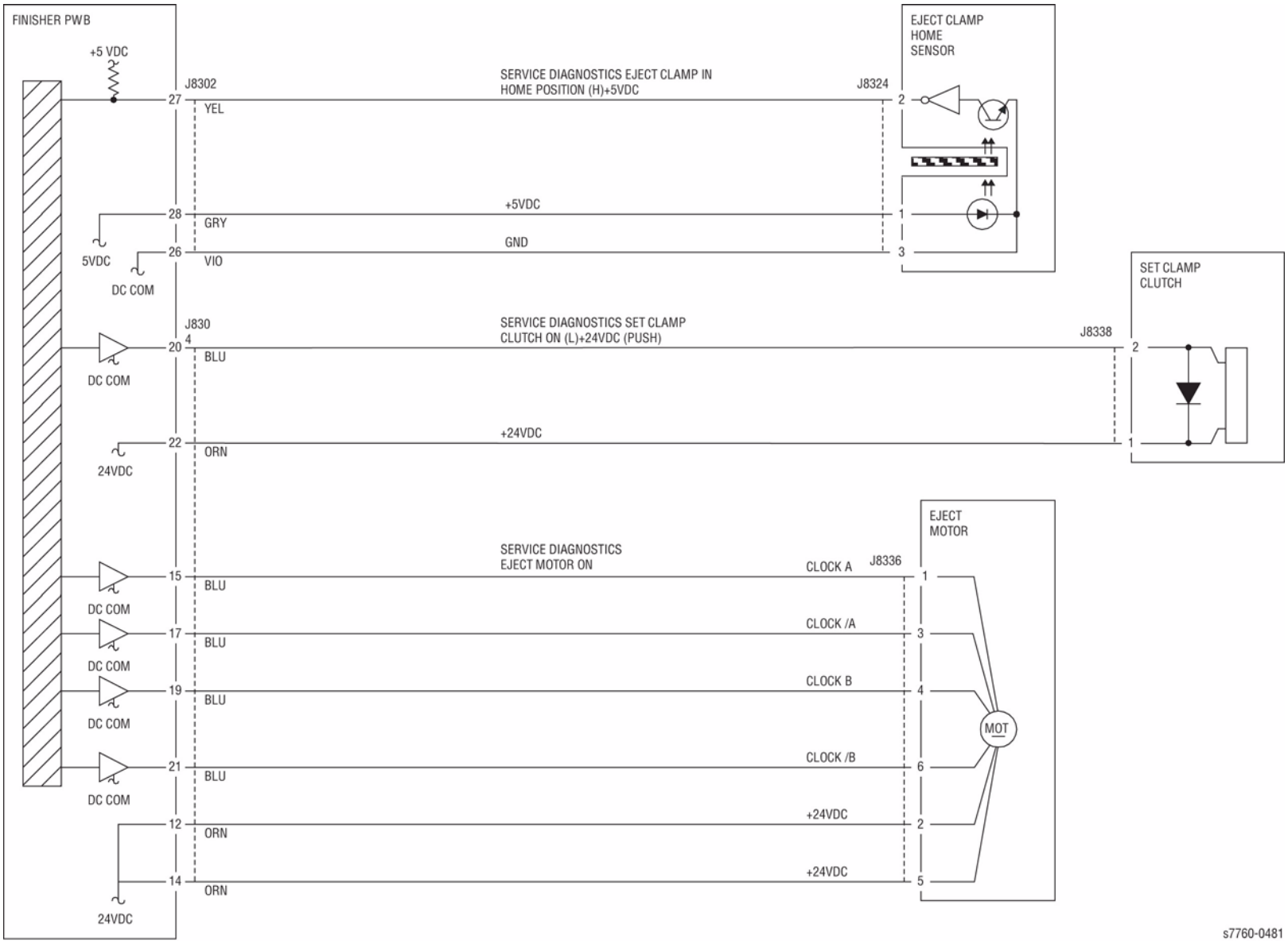

Figure 1 012-284 Set Clamp

012-286 Decurler Home Sensor On Fail

Decurler Home Sensor is not turned On after the lapse of 1000msec from the detection of Decurler Home Sensor Off.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Decurler Cam Clutch		
Stacker Motor		
Finisher PWB	PL 21.12	

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Rotate the Actuator while running the Decurler Cam Position test. 2. Does the value change from H to L while rotating the actuator?	To to step 2.	Refer to the Transmissive Sensor Procedure (Section 6) to diagnose and repair the Sensor.
2	Does the Solenoid energize when running the Set Clamp Paddle test in Diagnostics?	Check for a mechanical problem with the Decurler Cam Clutch Drive. If no problem is found, replace the Clutch.	Go to step 3.
3	Is +24 VDC present at P/J849-1?	Replace the Decurler Cam Clutch.	Go to step 4.
4	Is +24 VDC present at test point 5 on the Finisher Control Board?	Replace the Finisher Control Board (REP 12.68).	Troubleshoot the +24 VDC Interlock circuit.
5	Is +24 VDC present at P/J847-11 with the Finisher Stacker Motor Down test running in Diagnostics?	Replace the Stacker Motor.	Replace the Finisher PWB (REP 12.68).

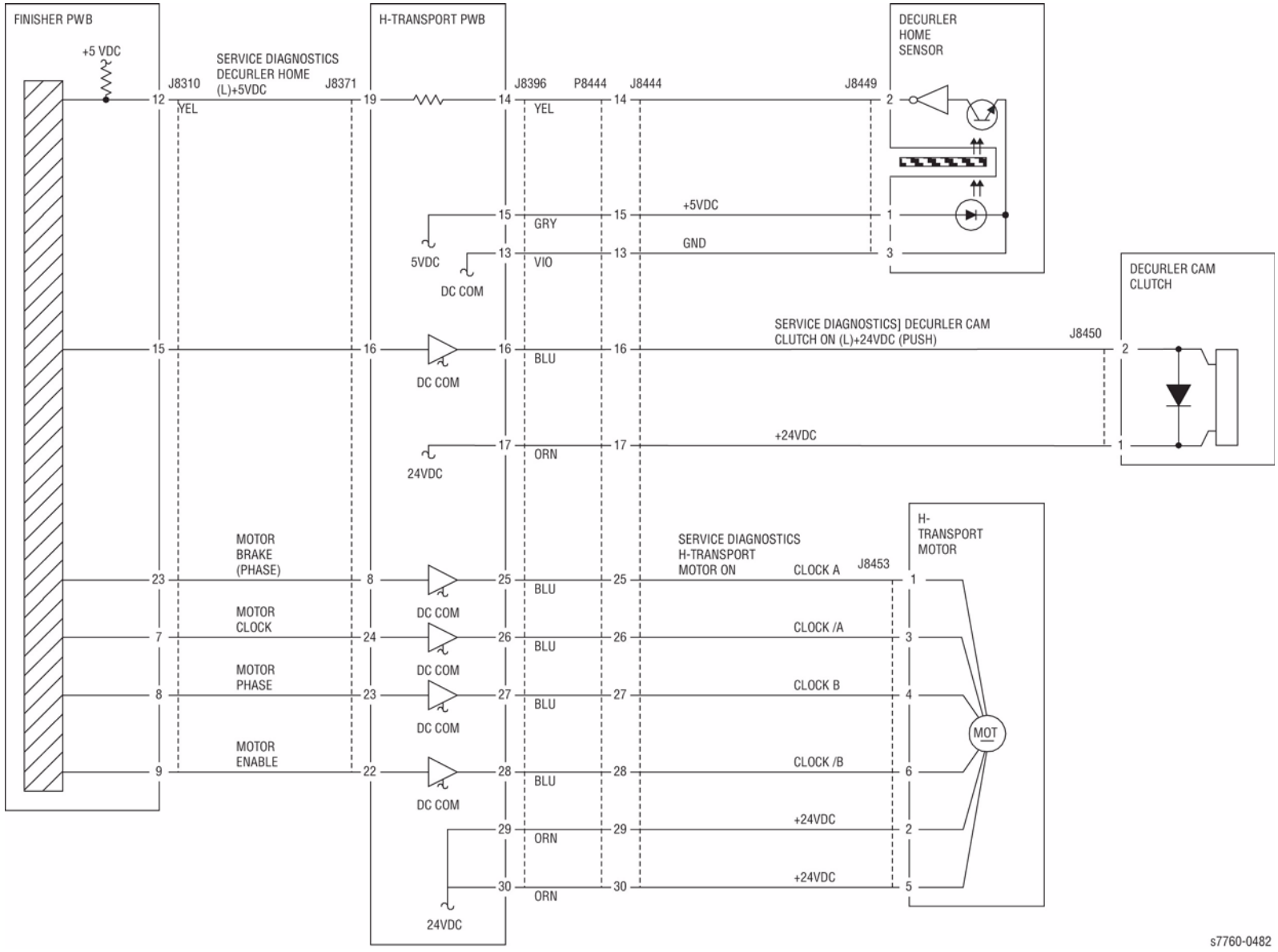

Figure 1 012-286 Decurler Home

012-287 Decurler Home Sensor Off Fail

Decurler Move Home Sensor is not turned Off after the lapse of 1000msec from the detection of Decurler Home Sensor On.

Initial Actions

- Check for obstructions in the Decurler area.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Decurler Home Sensor (PL 21.26). **The display changes.**

Y **N**

Check the circuit of the Decurler Home Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Perform the **Decurler Cam Clutch** test (PL 21.26). **The Decurler Roll Shaft rotates.**

Y **N**

The Decurler Cam Clutch energized.

Y **N**

Check the circuit of the Decurler Cam Clutch (Figure 1). Refer to Section 2, OF 99-9 RAP for troubleshooting procedure.

Check the Decurler Cam Clutch and its associated gears, pulleys and belts for damage, contamination and misalignment (PL 21.26).

Check the following:

- Ensure that the Decurler Cam Home Sensor connectors are securely connected and that the wires are not damaged
- Ensure that the Decurler Cam Clutch connectors are securely connected and that the wires are not damaged
- H-Transport Motor Drive belt for wear, damage, or loose
- H-Transport Motor connections are securely connected and that the wires are not damaged

If the above checks are OK, replace the Decurler Home Sensor (PL 21.26). If the problem continues, replace the H-Transport PWB (PL 21.12). If the problem persists, replace the Finisher PWB (PL 21.12).

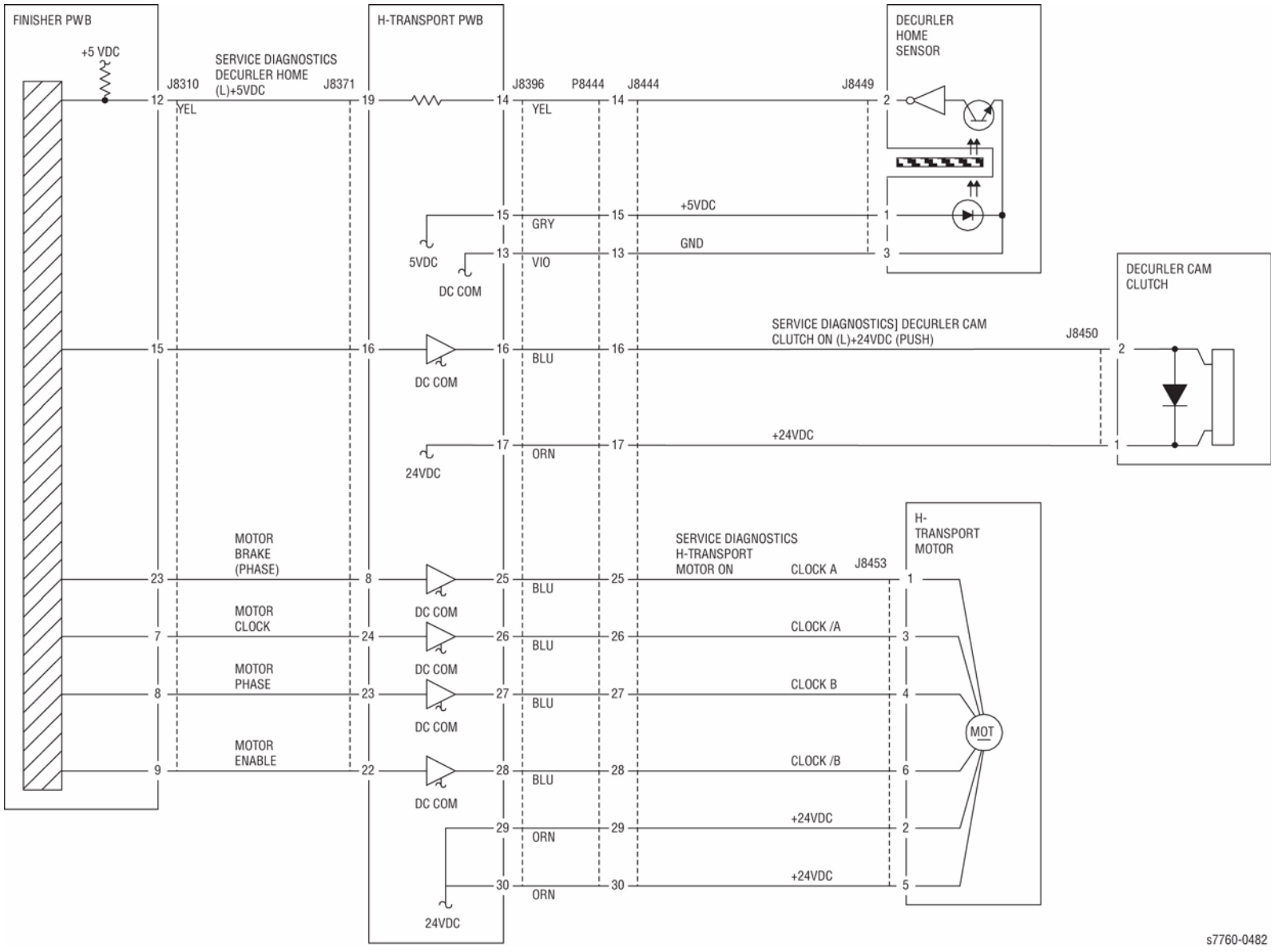

Figure 1 012-287 Decurler Home

012-291 Stapler Fail

The Stapler Home Sensor does not turn On within 2 seconds after the Stapler Motor started to turn backwards.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Stapler Assembly	PL 21.6	
Finisher PWB	PL 21.12	

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. 2. Perform the Stapler Home Sensor test. 3. Does the value change from H to L when the Stapler is moved away from the Home position?	To to step 6.	Go to step 2.
2	1. Measure the voltage between the Finisher PWB connector P852-2 and Frame ground. 2. Does the voltage change between 0 and +5 VDC when the Sensor is blocked and unblocked	Replace the Finisher PWB (REP 12.68).	Go to step 3.
3	1. Measure the voltage at the Finisher Board connector P852-1. 2. Does the voltage measure +5 VDC?	The Home Sensor or the wiring is bad. Replace the Staple Assembly (REP 12.53).	Go to step 4.
4	1. Disconnect the Stapler Unit Assembly. 2. Measure the voltage between the Finisher PWB connector P852-1 and Frame ground. 3. Does the voltage measure +5 VDC?	Replace the Stapler Assembly (REP 12.53).	Go to step 5.
5	Is +24 VDC present at P/J847-7 or J847-9?	Replace the Finisher PWB (REP 12.68).	Troubleshoot and repair the +24 VDC Interlock circuit.

Table 2 Procedure

Step	Actions and Questions	Yes	No
6	1. Enter Service Diagnostics Menu. Run the **Stapler Close Motor** test. 2. Does the Stapler Motor operate correctly?	Replace the Finisher Control Board (REP 12.68).	Go to step 7.
7	With the Stapler Close Motor test running, is +24 VDC present at J847-7?	Replace in the following order: 1. Stapler Assembly (REP 12.53) 2. Finisher PWB (REP 12.68)	Troubleshoot and repair the +24 VDC Interlock circuit.

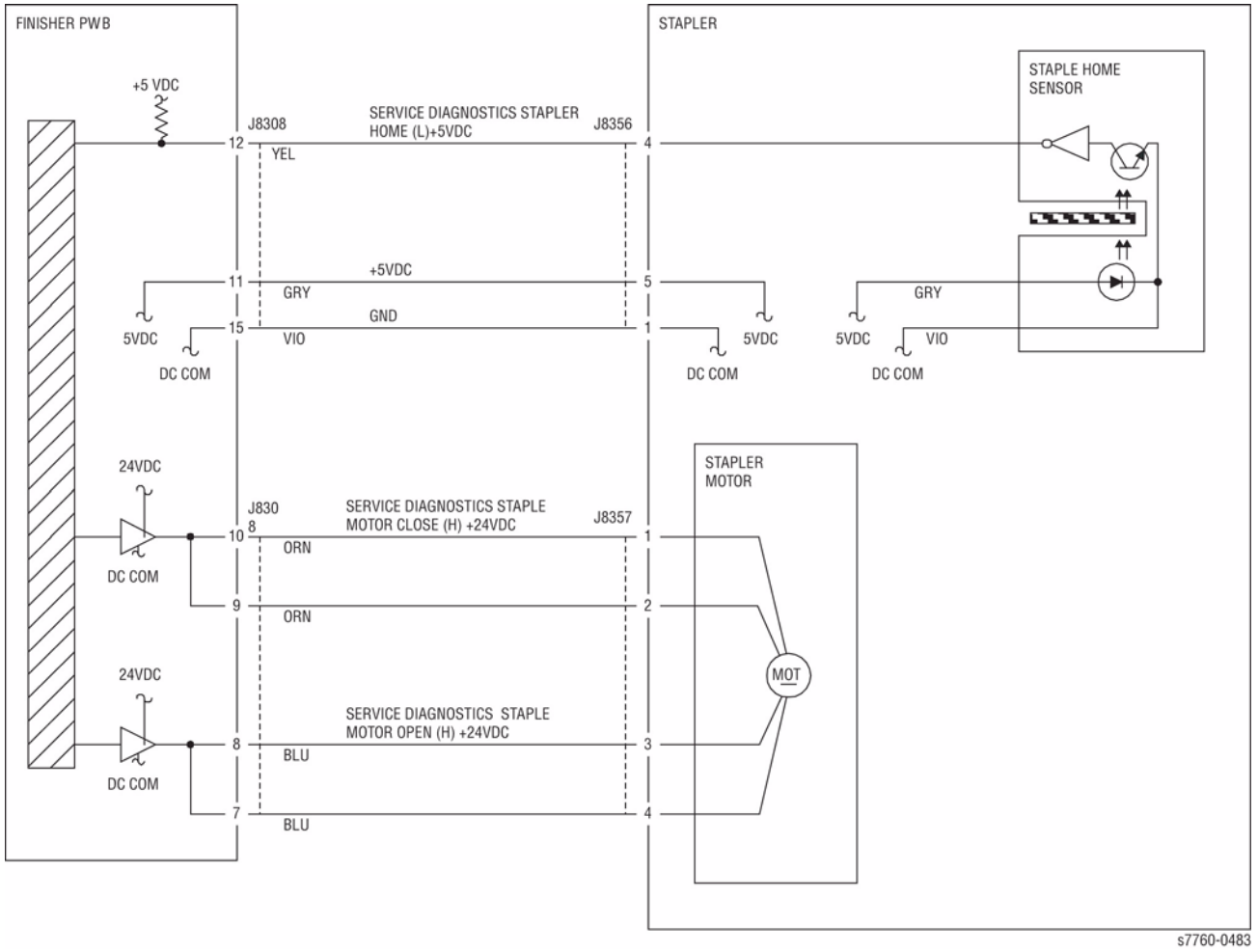

Figure 1 012-291 Stapler

012-295 Stapler Move Position Sensor On Fail

The Staple Move Sensor did not turn On within 2 seconds after the system has started to move to the Staple position and the Staple Move Sensor has turned Off, or the Staple Move Sensor did not turn On after the move to the Staple position has completed.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Staple Move Motor	PL 21.6	
Stapler Assembly	PL 21.6	
Finisher PWB	PL 21.12	

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Manually move the Staple Head. 2. Does the Head move smoothly from front to rear?	To to step 2.	Diagnose and repair the mechanical defect.
2	1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. 2. Perform the **Staple Move Sensor** test. 3. Does the value change from L to H when the Sensor is blocked?	Go to step 3.	Refer to Transmissive Sensor Procedure (Section 6) to diagnose and repair the Sensor.
3	1. Measure the voltage at the Finisher Board connector P852-1. 2. Does the voltage measure +5 VDC?	The Home Sensor or the wiring is bad. Replace the Stapler Assembly (REP 12.53).	Go to step 4.
4	Is +24 VDC present at P847 pins 1, 2, 5, and 6?	Replace the following order: 1. Stapler Move Motor 2. Finisher PWB (REP 12.68)	Go to step 5.

Table 2 Procedure

Step	Actions and Questions	Yes	No
5	Is +24 VDC present at P847-4?	Replace the Finisher PWB (REP 12.68).	Troubleshoot the +24 VDC Interlock circuit using 24 VDC Low-Voltage Power Supplies troubleshooting procedure (Section 6).

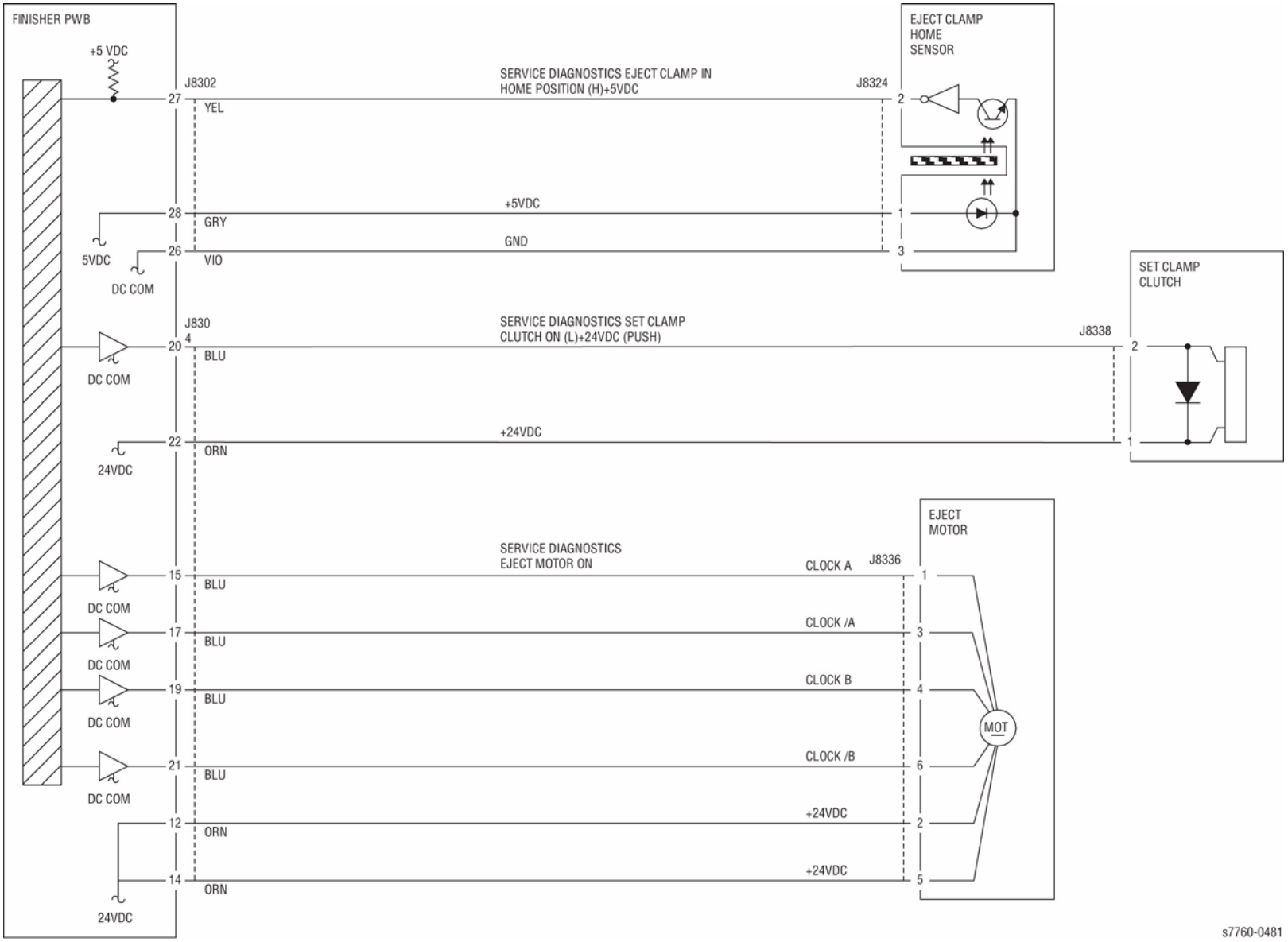

Figure 1 012-295 Stapler Move Position

012-296 Stapler Move Position Sensor Off Fail

The Staple Move Sensor does not turn Off within 5 seconds after the move to the Staple position has started. Or, the Staple Move Sensor turned Off after the Staple position has been fixed. Or, the Staple Move Sensor does not turn Off within 5 seconds after it has turned On when the paper passed through the 1st position of the dual staple, moving to the rear staple position.

Troubleshooting References

Table 1 References

Applicable Parts	Parts List	Wiring and Plug/Jack References
Staple Move Motor	PL 21.6	
Stapler Assembly	PL 21.6	
Finisher PWB	PL 21.12	

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Manually move the Staple Head. 2. Does the Head move smoothly from front to rear?	To to step 2.	Diagnose and repair the mechanical defect.
2	1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. 2. Perform the **Staple Move Sensor** test. 3. Does the value change from L to H when the Sensor is blocked?	Go to step 3.	Refer to Transmissive Sensor Procedure (Section 6) to diagnose and repair the Sensor.
3	1. Measure the voltage at the Finisher Board connector P852-1. 2. Does the voltage measure +5 VDC?	The Home Sensor or the wiring is bad. Replace the Stapler Assembly (REP 12.53).	Go to step 4.
4	Is +24 VDC present at P847 pins 1, 2, 5, and 6?	Replace the following order: 1. Stapler Move Motor 2. Finisher PWB (REP 12.68)	Go to step 5.

Table 2 Procedure

Step	Actions and Questions	Yes	No
5	Is +24 VDC present at P847-4?	Replace the Finisher PWB (REP 12.68).	Troubleshoot the +24 VDC Interlock circuit using 24 VDC Low-Voltage Power Supplies troubleshooting procedure (Section 6).

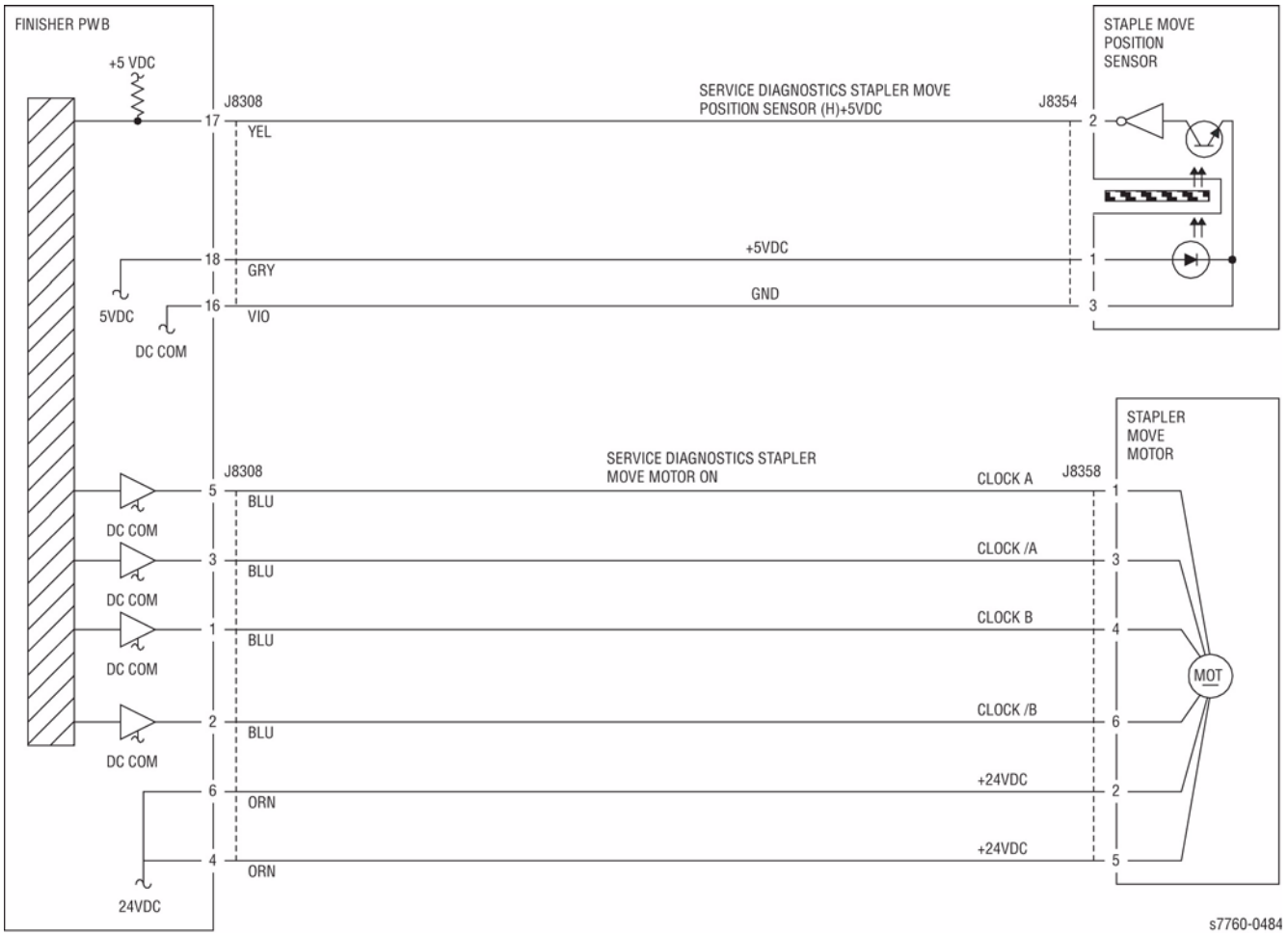

Figure 1 012-296 Stapler Move Position

012-300 Eject Cover Open

Eject Cover Switch open was detected.

Initial Actions

- Ensure that the Eject Cover is down.
- Check the Eject Cover Switch for improper installation.
- Check the Eject Cover Switch connectors for connection failure.
- Check the Actuator part for deformation.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Eject Cover Switch (PL 21.7). **The display changes.**

Y **N**

Check continuity of the Eject Cover Switch. **The continuity check is OK.**

Y **N**

Replace the Eject Cover Switch (PL 21.7).

Check continuity between the Eject Cover Switch and the Finisher PWB (Figure 1). If the check is OK, replace the Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

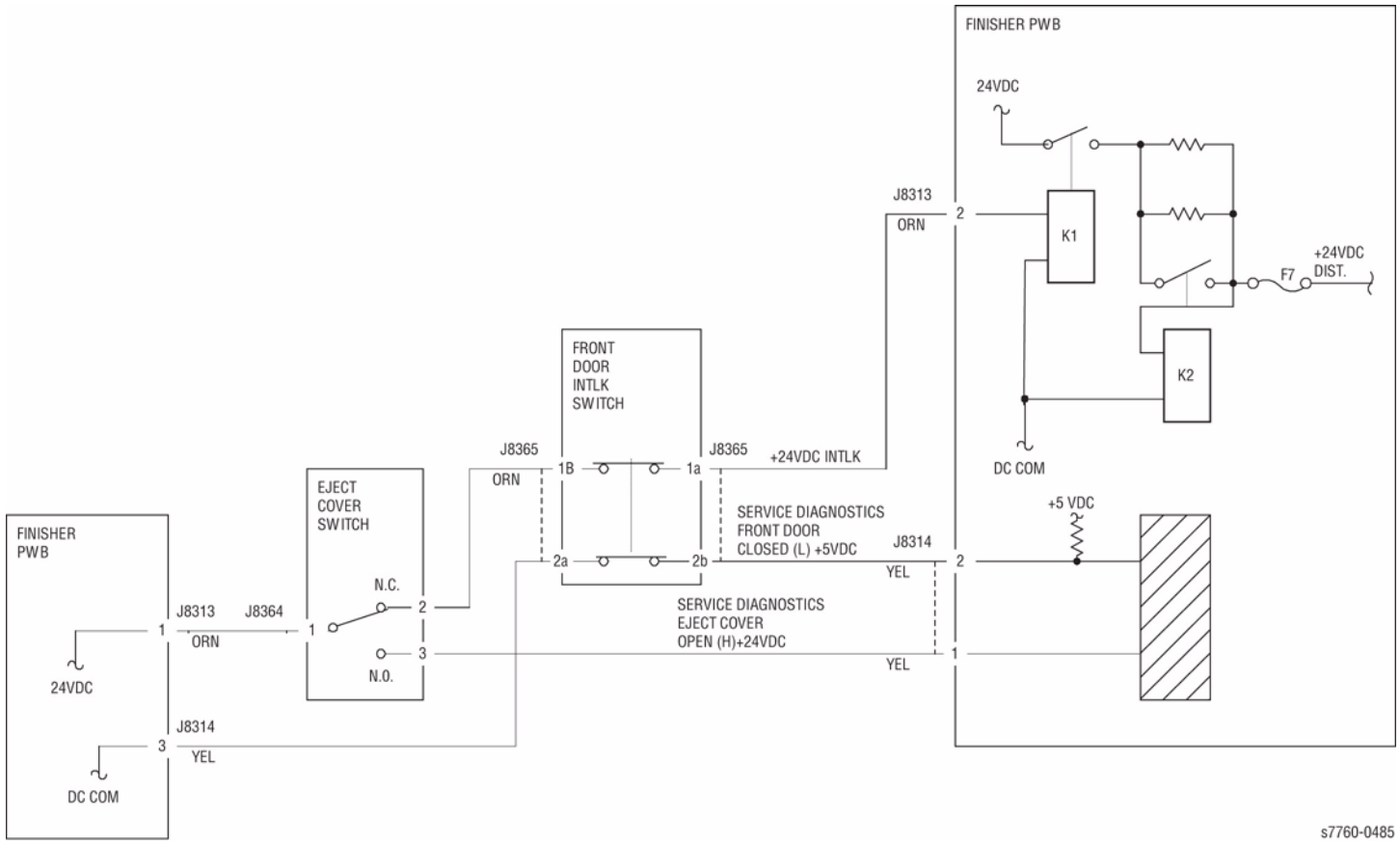

Figure 1 012-300 Eject Cover

012-302 Finisher Front Door Interlock Open (A/P Finisher)

Finisher Front Door Switch Open was detected.

Initial Actions

Check the following components:

- Finisher Front Door Switch for proper installation.
- Finisher Front Door Switch connectors for connection failure.
- Actuator part for deformation.
- Ensure that the Eject Cover is in the closed/down position.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Front Door Interlock Switch (PL 21.3). Open and close the Front Door. **The display changes.**

Y **N**

Disconnect P/J8314 on the Finisher PWB (Figure 1). **+5 VDC is measured between the Finisher PWB P8314-2 and P8314-3.**

Y **N**

Replace the Finisher PWB (PL 21.12).

There is less than 5 ohms between P?J8314-3 and the finisher frame.

Y **N**

Replace the Finisher PWB (PL 21.12).

Check the wires between the Finisher PWB, the Eject Cover Switch and the Finisher Front Door Switch for an open circuit or poor contact (Figure 1).
If the wires are good, replace the Front Door Interlock Switch (PL 21.3).

Check the following:

- Alignment between the Front Door and the Front Door Interlock Switch
- Front Door and Front Cover for proper installation
- Actuator for damage or bent
- Magnet for proper mounting

If the above checks are OK, replace the Finisher PWB (PL 21.12).

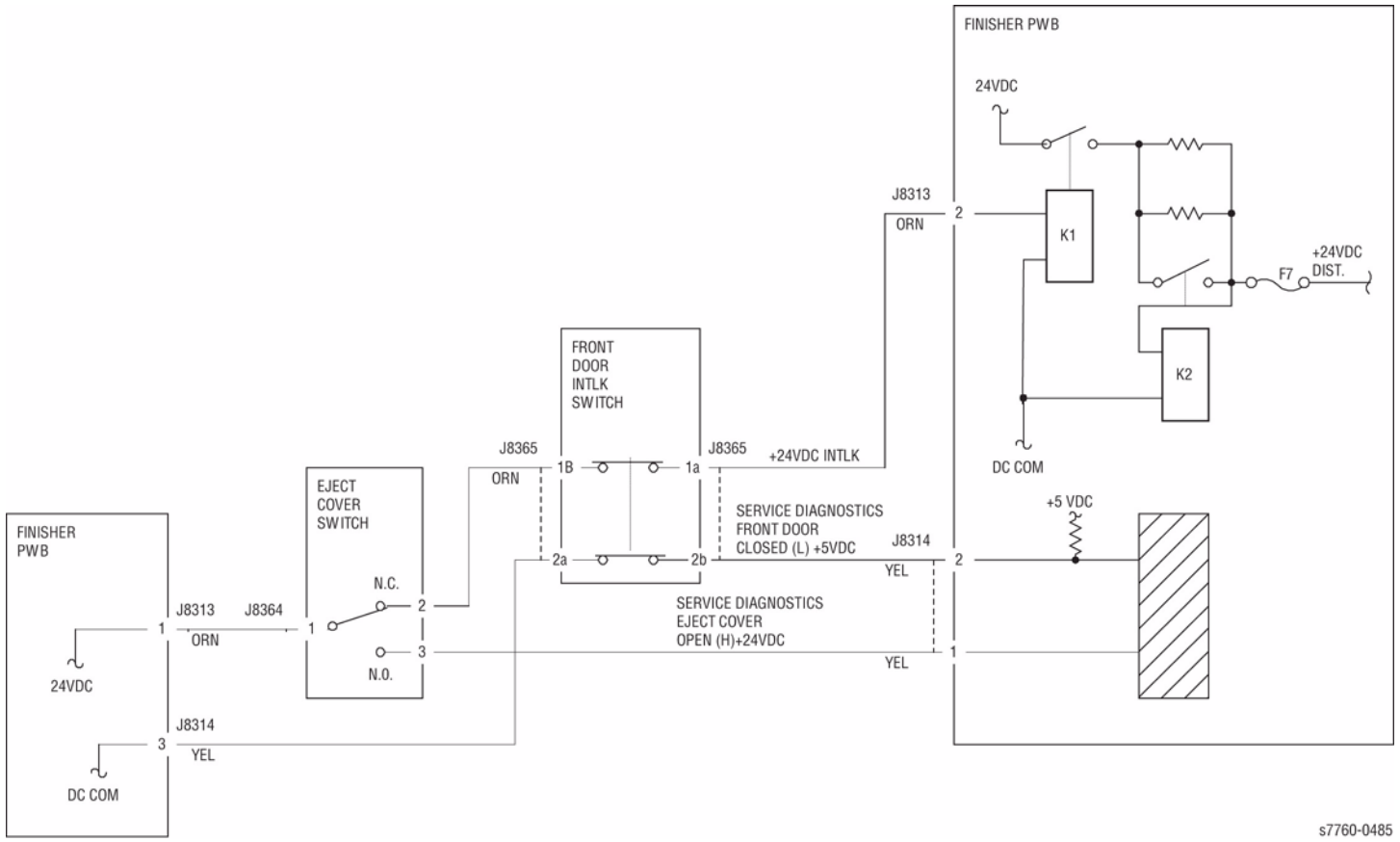

Figure 1 012-302 Finisher Door Interlock

012-303 H-Transport Cover Open

H-Transport Cover Interlock Sensor Open was detected.

Initial Actions

Check the following components:

- The H-Transport Cover Interlock Sensor for improper installation
- Check for obstruction in the between the H-Transport Cover and the H-Transport paper transport area
- The H-Transport Cover Interlock Sensor connectors for connection failure
- The Actuator part for deformation

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Block and unblock the H-Transport Interlock Sensor (PL 21.25). **The display changes.**

Y N

+5 VDC is measured between the H-Transport Interlock Sensor J8445-1 and -3.

Y N

Disconnect P/J8396 on the Finisher PWB (Figure 1). **+5 VDC is measured between Finisher PWB P/J8396-1 and -3.**

Y N

Replace the Finisher PWB (PL 21.3).

Check for an open circuit between Finisher PWB P/J8396-3 and -1 and H-Transport Interlock Sensor J8445-1 and -3.

+5 VDC is measured between Finisher PWB P/J8396-2 and ground.

Y N

Replace the Finisher PWB (PL 21.3).

+5 VDC is measure between H-Transport Interlock Switch J8454-2 and ground.

Y N

Check the wire between the H-Transport Interlock Switch J8454-2 and the Finisher PWB P/J8396-2 for an open circuit or poor contact.

+5 VDC is measured between H-Transport Interlock Switch J8454-1 and ground.

Y N

Replace the H-Transport Interlock Switch (PL 21.24).

+5 VDC is measured at the H-Transport Interlock Sensor J8445-2 and ground.

Y N

Check for an open circuit between H-Transport Interlock Switch J8454-1 and H-Transport Interlock Sensor J8445-2.

Replace the H-Transport Interlock Sensor (PL 21.25).

Check the following:

- Alignment between the H-Transport Cover and the H-Transport Interlock Sensor.
- Alignment between the H-Transport Cover and the H-Transport Interlock Switch.
- The H-Transport Cover for proper installation
- The Actuator for bending or alignment
- The Magnets for proper mounting

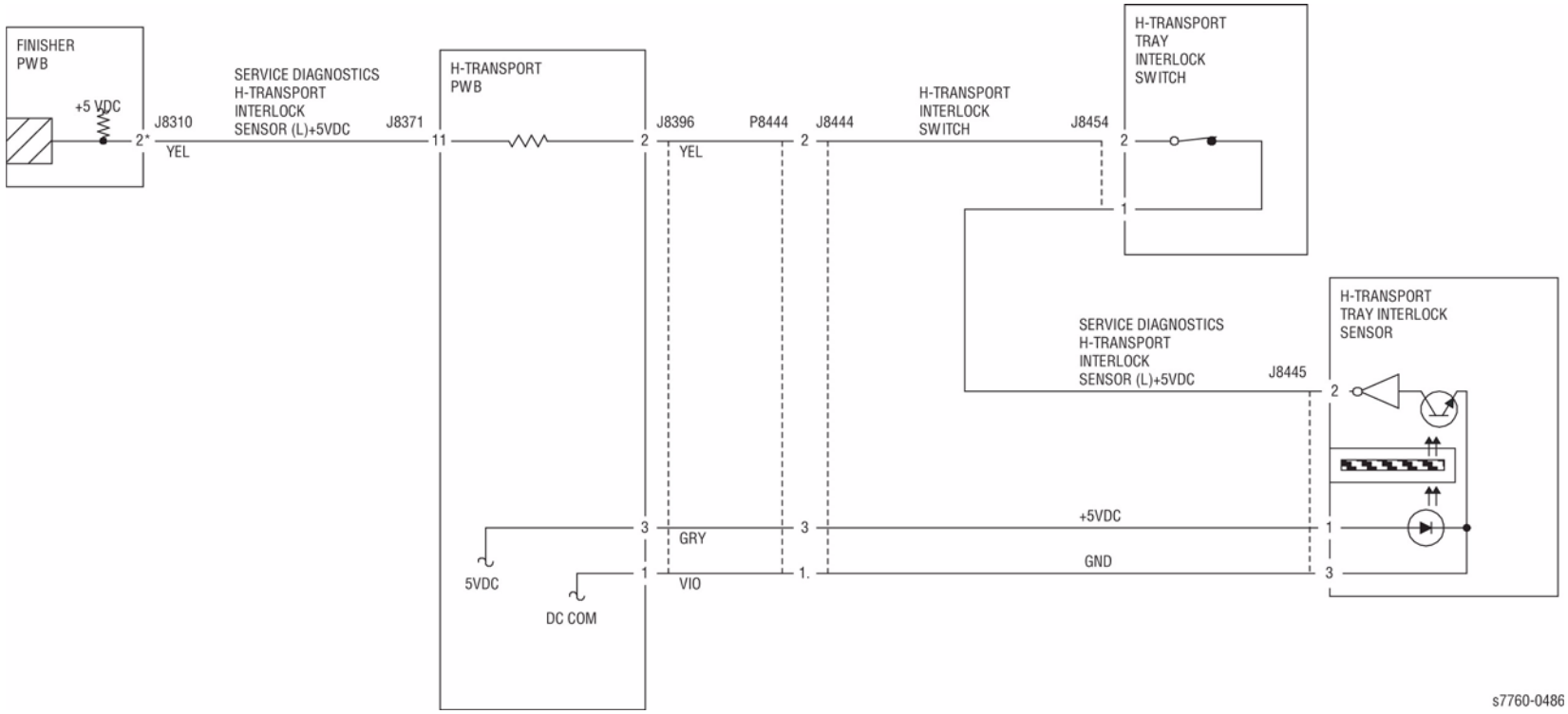

Figure 1 012-303 H-Transport Interlock

012-307 Booklet Drawer Set Fail

Booklet Drawer Set Sensor OPEN was detected.

Initial Actions

- Check the Booklet Drawer Set Sensor for improper installation.
- Check the Booklet Drawer Set Sensor connectors for connection failure.
- Check the Actuator part for deformation.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the **Booklet Drawer Set Sensor** test. Remove and insert the Booklet Drawer (PL 21.15) manually. **The display changes.**

Y **N**

Check continuity between the Booklet Drawer Set Sensor and Finisher Main PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Booklet Drawer Set Sensor (PL 21.15). If the problem continues, replace the Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

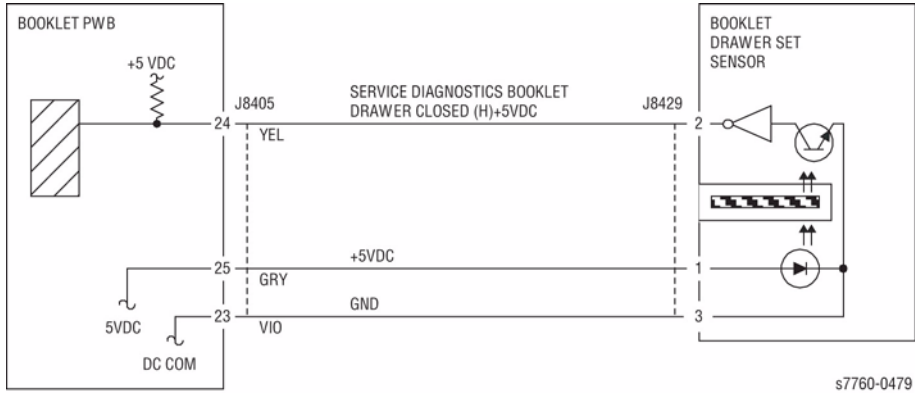

Figure 1 012-307 Booklet Drawer

012-350 Finisher Communication Fail

Finisher Communication has failed.

Procedure

There are no diagnostic routines for problems involving serial communications. It is recommended that you address the following assemblies in this order:

1. Finisher PWB (PL 21.12)
2. Engine Control Board (MCU) (PL 13.1)
3. Perform continuity checks on any wiring harnesses involved.

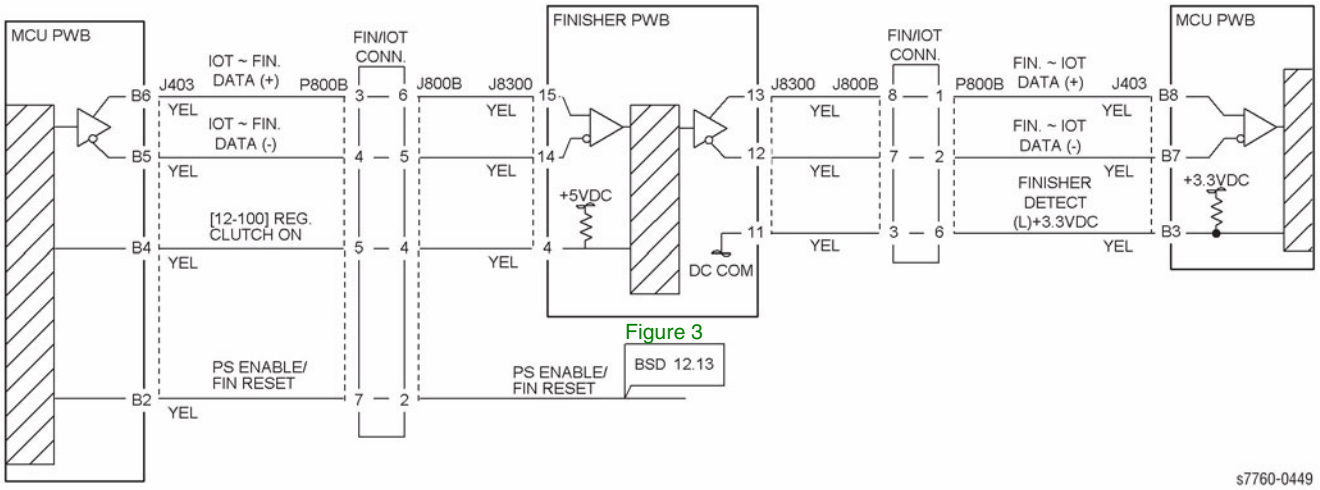

Figure 3

Figure 1 012-350 Finisher Communication

012-900 Paper at Buffer Path Sensor

Control logic reports paper at the Buffer Path Sensor.

Initial Actions

Check the following:

- Paper on the Buffer Path Sensor
- Obstructions in the paper path

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Buffer Path Sensor (PL 21.10). **The display changes.**

Y **N**

Check the circuit of the Buffer Path Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Finisher for a docking failure

If the above checks are OK, then replace the Buffer Path Sensor (PL 21.10). If the problem persists, replace the Finisher PWB (PL 21.12).

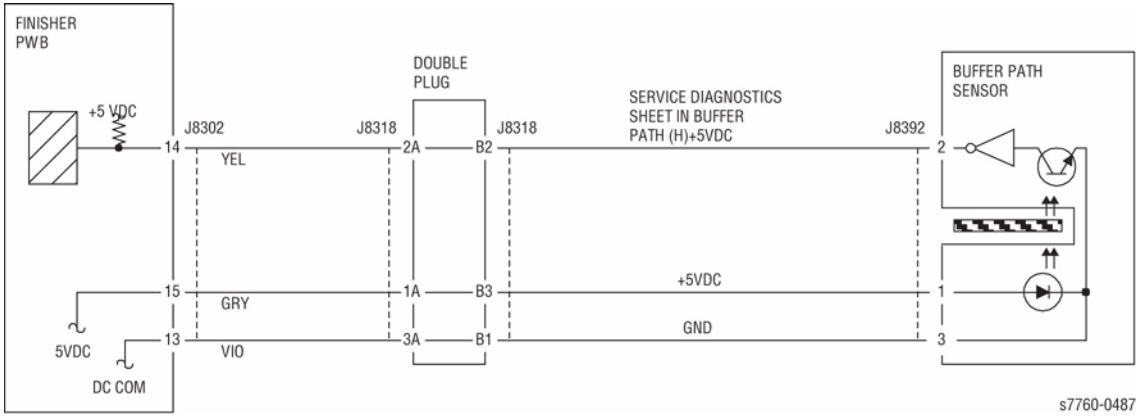

Figure 1 012-900 Buffer Path Sensor

012-901 Paper at H-Transport Entrance Sensor (A/P Finisher)

Control logic reports paper at the H-Transport Entrance Sensor.

Initial Actions

- Check paper on the H-Transport Entrance Sensor.
- Check for obstructions in the paper path.
- Check the H-Transport Drive Motor Belt for wear or damage.
- Check the Guides on the H-Transport Cover for damage, wear or faulty installation.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Open the H-Transport Cover and actuate the H-Transport Entrance Sensor (PL 21.25). **The display changes.**

Y N

Check the circuit of the H-Transport Entrance Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- H-Transport and Finisher for a docking failure
- H-Transport Motor and its associated gears and belts for damage, contamination or mis-alignment

If the above checks are OK, then replace the H-Transport Entrance Sensor (PL 21.25). If the problem persists, replace the Finisher PWB (PL 21.12).

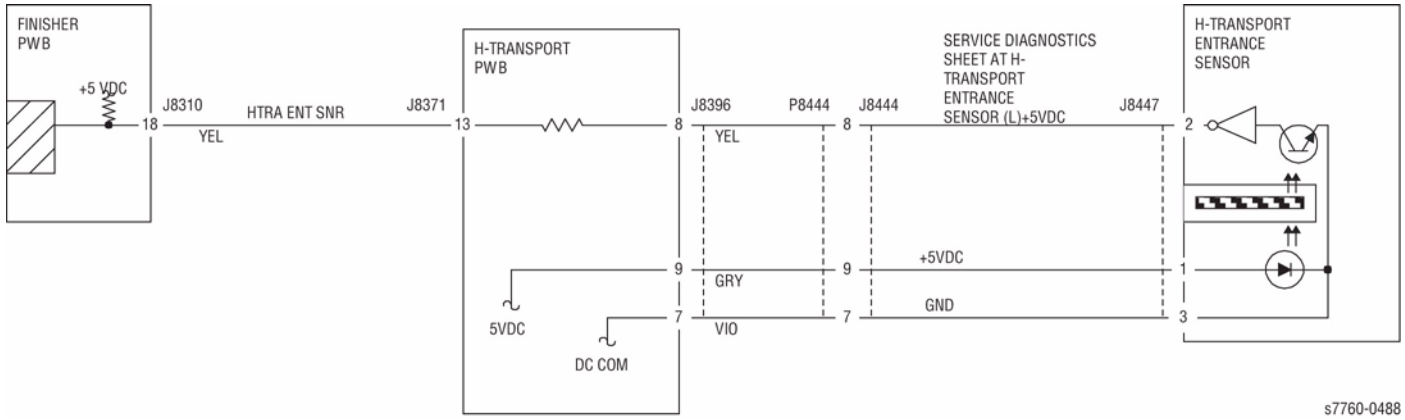

Figure 1 012-901 H-Transport Entrance Sensor

012-902 Paper at H-Transport Exit Sensor

Control logic reports paper at the H-Transport Exit Sensor.

Initial Actions

- Check paper on the H-Transport Exit Sensor.
- Check for obstructions in the paper path.
- Check the H-Transport Drive Motor Belt for wear or damage.
- Check the Guides on the H-Transport Cover for damage, wear or faulty installation.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Open the H-Transport Cover and actuate the H-Transport Tray Exit Sensor (PL 21.25). **The display changes.**

Y **N**

Check the circuit of the H-Transport Tray Exit Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- H-Transport and Finisher for a docking failure
- H-Transport Motor and its associated gears and belts for damage, contamination or misalignment

If the above checks are OK, then replace the H-Transport Entrance Sensor (PL 21.25). If the problem persists, replace the Finisher PWB (PL 21.12).

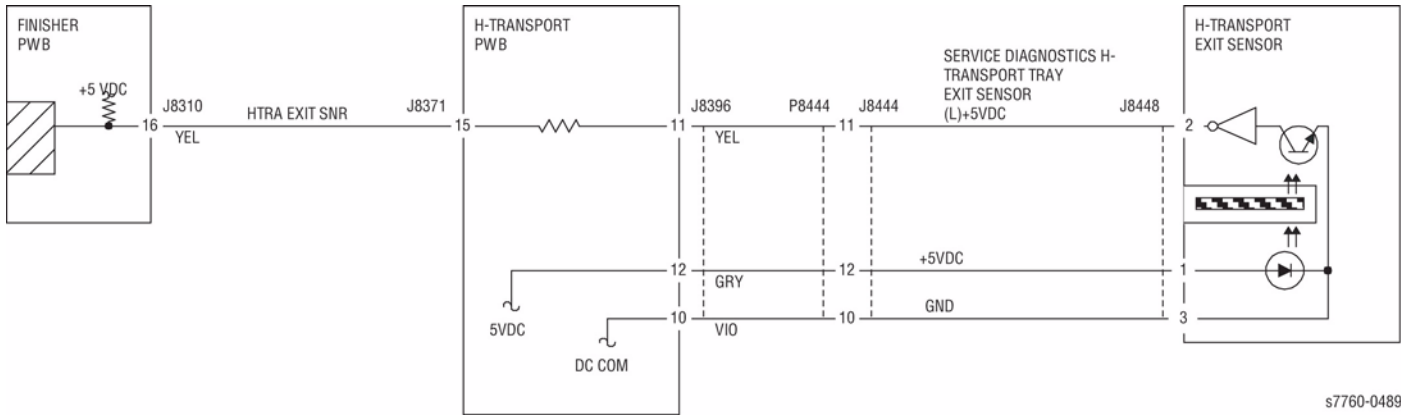

Figure 1 012-902 H-Transport Exit Sensor

012-903 Paper at Compiler Exit Sensor (Finisher)

Control logic reports paper at the Compiler Exit Sensor.

Initial Actions

- Check paper on the Compiler Exit Sensor.
- Check for obstructions in the paper path.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Open the H-Transport Cover and actuate the Compiler Exit Sensor (PL 21.9). **The display changes.**

Y N

Check the circuit of the Compiler Exit Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Exit Motor Belt for wear or damage
- Exit Pinch Rollers 1 and 2 for damage
- Lower Exit Roller for wear or damage
- Synchronous Belt for wear or damage

If the above checks are OK, then replace the Compiler Exit Sensor (PL 21.9). If the problem continues, replace the Finisher PWB (PL 21.12).

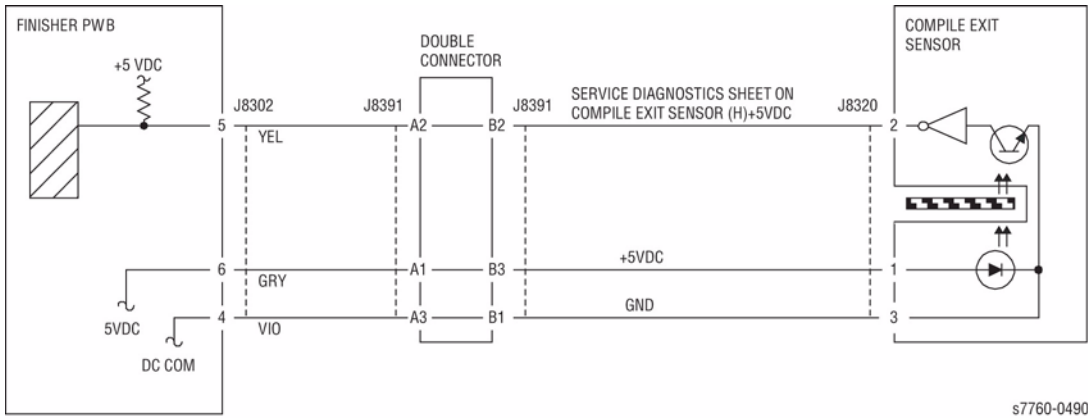

Figure 1 012-903 Compiler Exit Sensor

012-905 Paper Remains at Compiler Tray Paper Sensor

Control logic reports paper at the Compiler Tray Paper Sensor.

Initial Actions

- Check paper on the Compiler Tray Paper Sensor.
- Check for obstructions in the paper path.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Compiler Tray No Paper Sensor (PL 21.8). **The display changes.**

Y **N**

Check the circuit of the Compiler Tray No Paper Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Exit Motor Belt for wear or damage
- Exit Pinch Rollers 1 and 2 for damage
- Lower Exit Roller for wear or damage
- Synchronous Belt for wear or damage

If the above checks are OK, then replace the Compiler Tray No Paper Sensor (PL 21.8). If the problem continues, replace the Finisher PWB (PL 21.12).

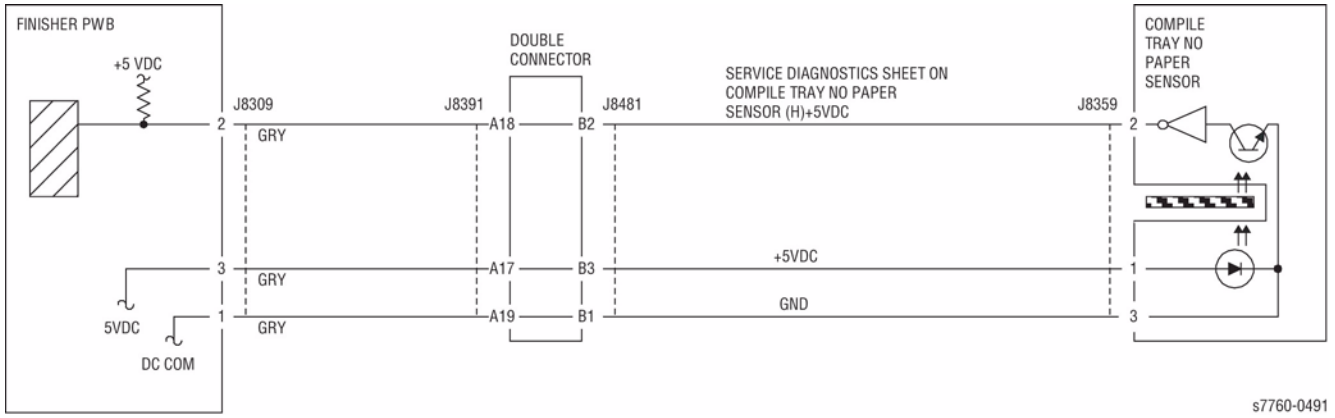

Figure 1 012-905 Compiler Tray Paper Sensor

012-906 Paper at H-Transport Tray Exit Sensor

Control logic reports paper at the H-Transport Tray Exit Sensor.

Initial Actions

- Check paper on the H-Transport Exit Sensor.
- Check for obstructions in the paper path.
- Check the H-Transport Drive Motor Belt for wear or damage.
- Check the Guides on the H-Transport Cover for damage, wear or faulty installation.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Open the H-Transport Cover and actuate the H-Transport Entrance Sensor (PL 21.25). **The display changes.**

Y **N**

Check the circuit of the H-Transport Entrance Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- H-Transport and Finisher for a docking failure
- H-Transport Motor and its associated gears and belts for damage, contamination or mis-alignment

If the above checks are OK, then replace the H-Transport Entrance Sensor (PL 21.25). If the problem persists, replace the Finisher PWB (PL 21.12).

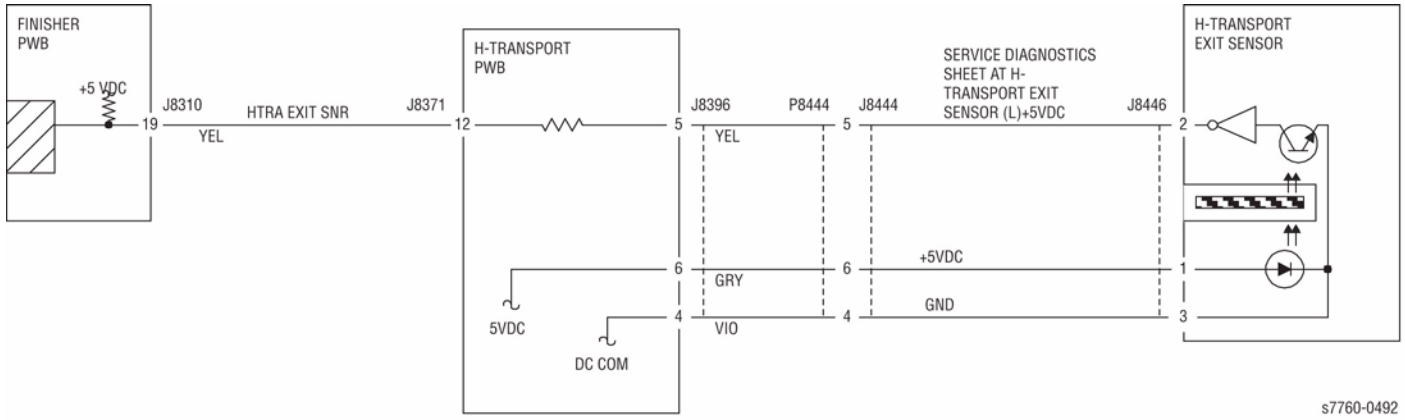

Figure 1 012-906 H-Transport Tray Exit Sensor

012-907 Paper at Top Tray Exit Sensor

Control logic reports paper at the Top Tray Exit Sensor.

Initial Actions

- Check paper on the Top Tray Exit Sensor.
- Check for obstructions in the paper path.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Top Tray Exit Sensor (PL 21.11). **The display changes.**

Y N

Check the circuit of the Top Tray Exit Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Exit Motor Belt for wear or damage
- Exit Drive Shaft Rolls for wear or damage
- Exit Pinch Rollers for wear or damage
- Synchronous Belt for wear or damage

If the above checks are OK, then replace the Top Tray Exit Sensor (PL 21.11). If the problem continues, replace the Finisher PWB (PL 21.12).

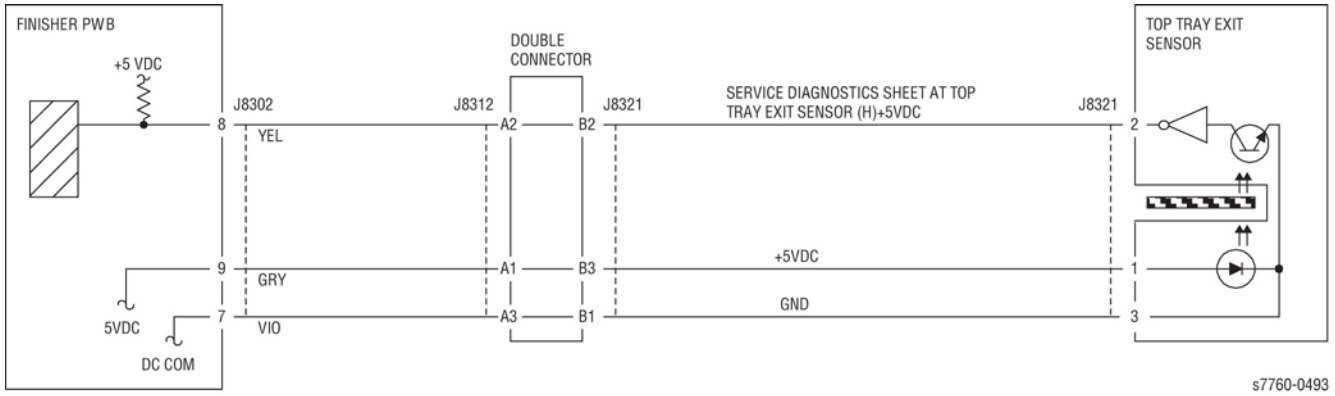

Figure 1 012-907 Top Tray Exit Sensor

012-910 Staple Ready Sensor Fail

Staple Ready Sensor is turned Off at stapling start.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Block/unblock the Stapler Ready Sensor (PL 21.6). **The display changed.**

Y **N**

Check continuity between the Stapler Ready Sensor and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Stapler Ready Sensor (PL 21.6). If the problem continues, replace the Finisher PWB (PL 21.12).

Check the following:

- Wiring between the Staple Ready Sensor and the Finisher PWB
- Wiring between the Staple Motor and the Finisher PWB
- Obstructions on the Stapler Upper Rail
- Stapler Move Motor Gear

If the above checks are OK. replace the Finisher PWB (PL 21.12).

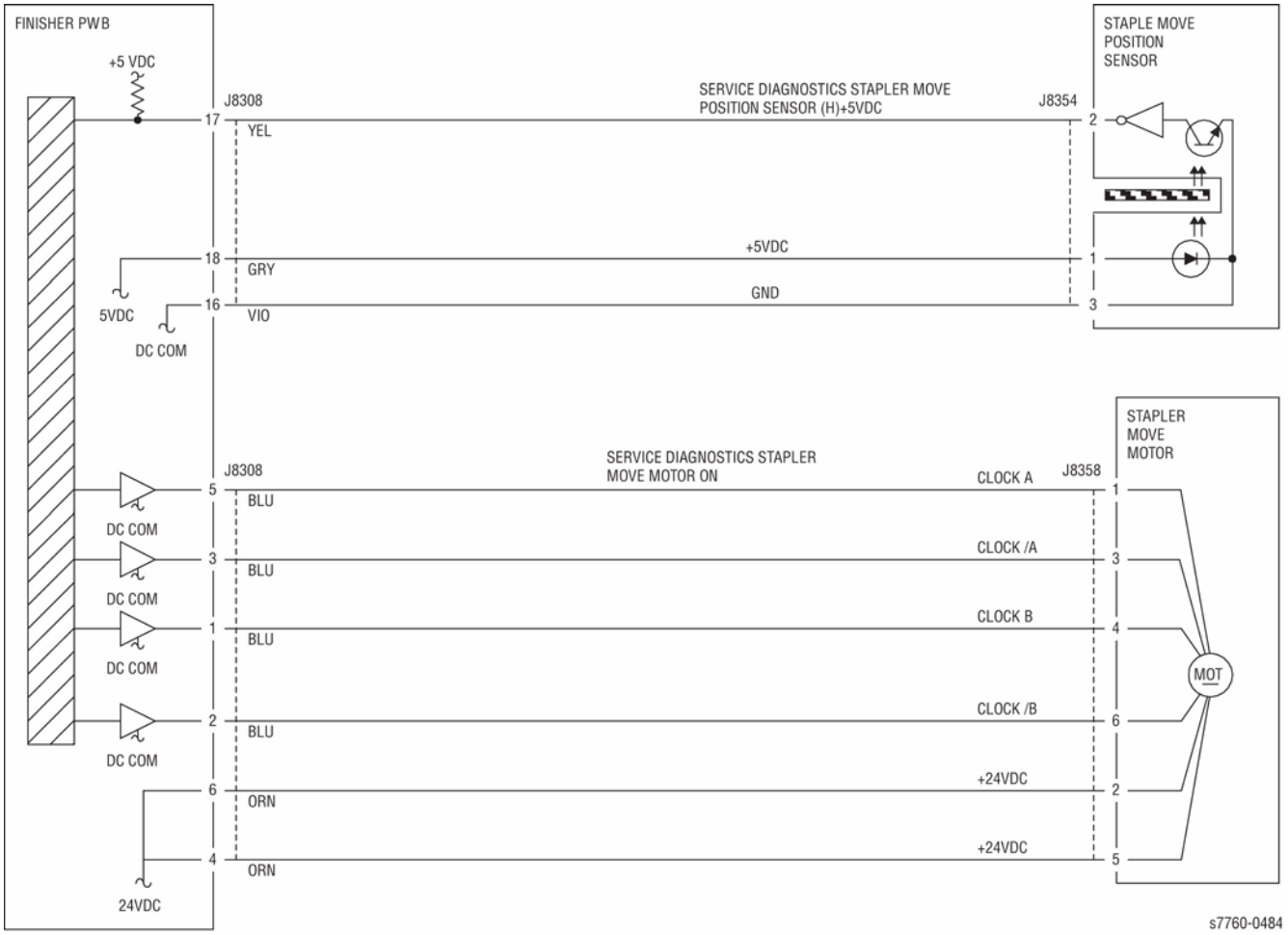

Figure 1 012-910 Staple Ready Sensor

012-916 Stapler NG

The Staple Home Sensor has not switched from Off to On within the specified time after the Staple Motor started rotating forward.

The Staple Head Home Sensor turned On within xxx msec. after the Staple Motor reversed.

Initial Actions

- Check the Actuator for deformation.
- Check the Staple Home Sensor for improper installation.
- Check the Staple Home Sensor connectors for connection failure.
- Check the Staple Guide for a foreign substance and deformation.
- Check the Staple Motor for operation failure.
- Check the Staple Motor connectors for connection failure.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the Staple Motor test alternately. **The Staple Motor (PL 21.6) energizes.**

Y N

Check continuity between the Stapler Head and Finisher PWB (Figure 1). **The continuity check is OK.**

Y N

Repair the open circuit or short circuit.

Replace the Stapler Head (PL 21.6). If the problem continues, replace the Finisher PWB (PL 21.6).

Actuate the Staple Home Sensor (PL 21.6). Perform the Staple Motor test (PL 21.6), alternately. **The display changes.**

Y N

Check continuity between the Stapler Head and Finisher PWB (Figure 1). **The continuity check is OK.**

Y N

Repair the open circuit or short circuit.

Replace the Stapler Head (PL 21.6). If the problem continues, replace the Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

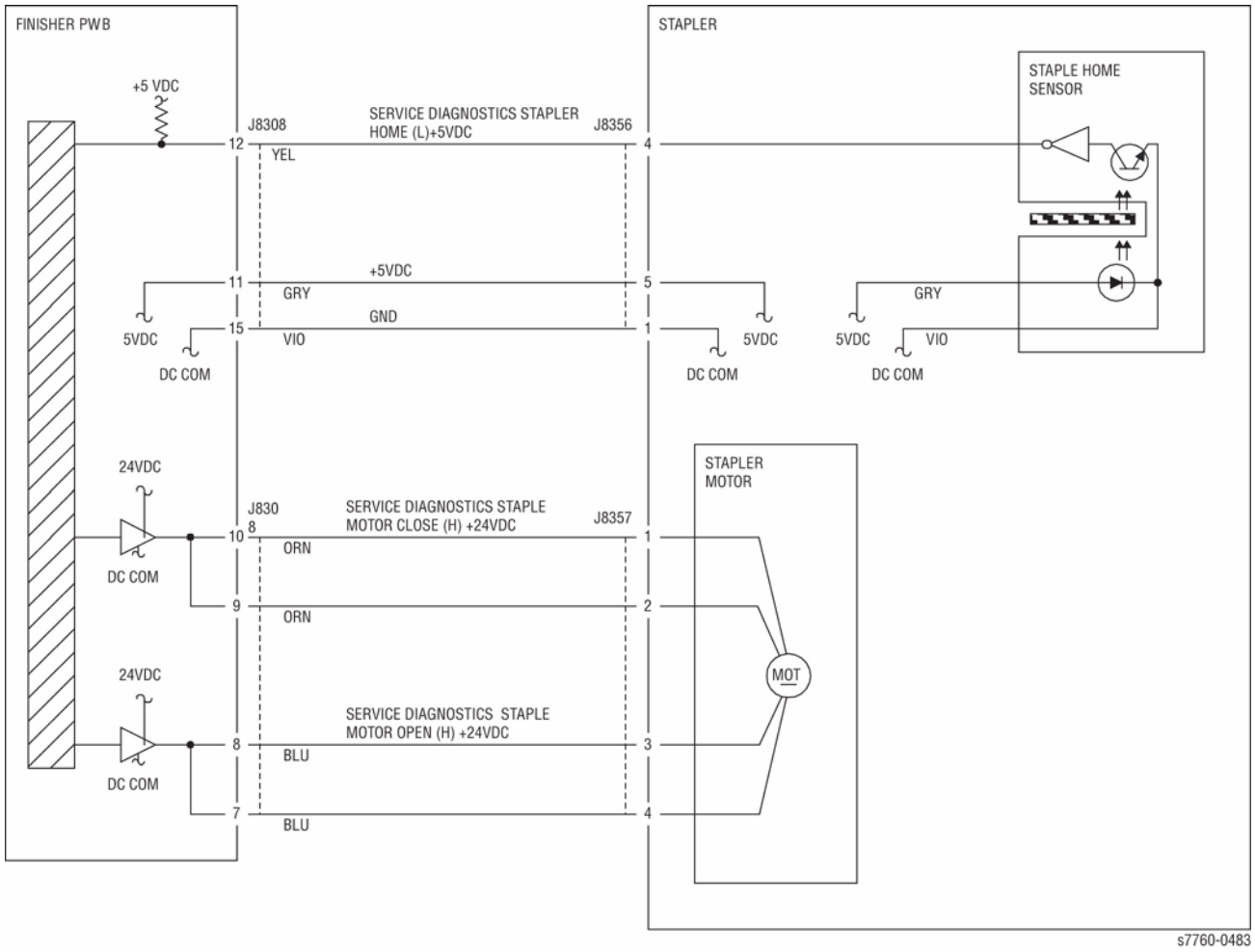

Figure 1 012-916 Staple Home Sensor

012-920 Paper at Gate Sensor (Top Tray Job)

Control logic reports paper at the Gate Sensor.

Initial Actions

- Check for obstructions in the paper path.
- Check the Finisher Drive Motor Gears and Drive rolls for wear or damage.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Gate Sensor (PL 21.11). **The display changes.**

Y **N**

Check the circuit of the Gate Sensor. (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Check the Finisher is docked properly
- Check the Finisher Transport Motor and its associated gears and belts for damage, contamination or misalignment

If the above checks are OK, then replace the Gate Sensor (PL 21.11). If the problem persists, replace the Finisher PWB (PL 21.12).

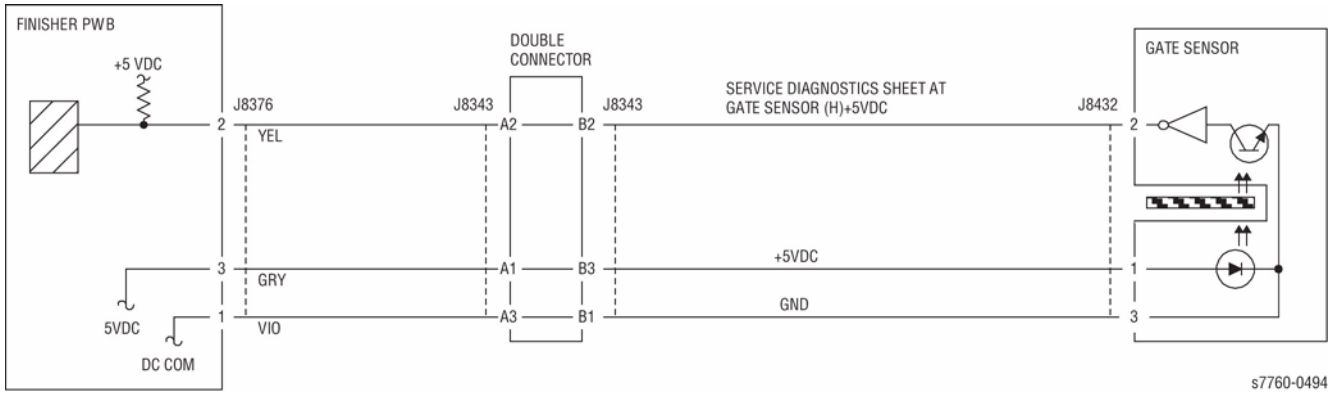

Figure 1 012-920 Gate Sensor

012-921 Paper at Gate Sensor (Compiler Path Job)

Control logic reports paper at the Gate Sensor.

Initial Actions

- Check for obstructions in the paper path.
- Check the Finisher Drive Motor Gears and Drive rolls for wear or damage.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Gate Sensor (PL 21.11). **The display changes.**

Y **N**

Check the circuit of the Gate Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Check the Finisher is docked properly
- Check the Finisher Transport Motor and its associated gears and belts for damage, contamination or misalignment

If the above checks are OK, then replace the Gate Sensor (PL 21.11). If the problem persists, replace the Finisher PWB (PL 21.12).

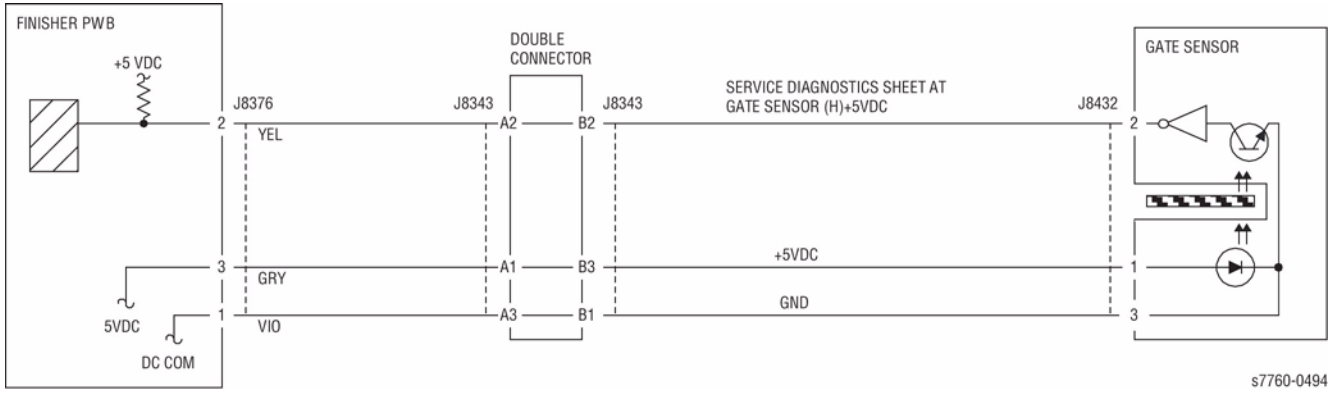

Figure 1 012-921 Gate Sensor

012-922 Paper at Gate Sensor (Buffer Path Job)

Control logic reports paper at the Gate Sensor.

Initial Actions

- Check for obstructions in the paper path.
- Check the Finisher Drive Motor Gears and Drive rolls for wear or damage.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Gate Sensor (PL 21.11). **The display changes.**

Y **N**

Check the circuit of the Gate Sensor. (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Check the Finisher is docked properly
- Check the Finisher Transport Motor and its associated gears and belts for damage, contamination or misalignment

If the above checks are OK, then replace the Gate Sensor (PL 21.11). If the problem persists, replace the Finisher PWB (PL 21.12).

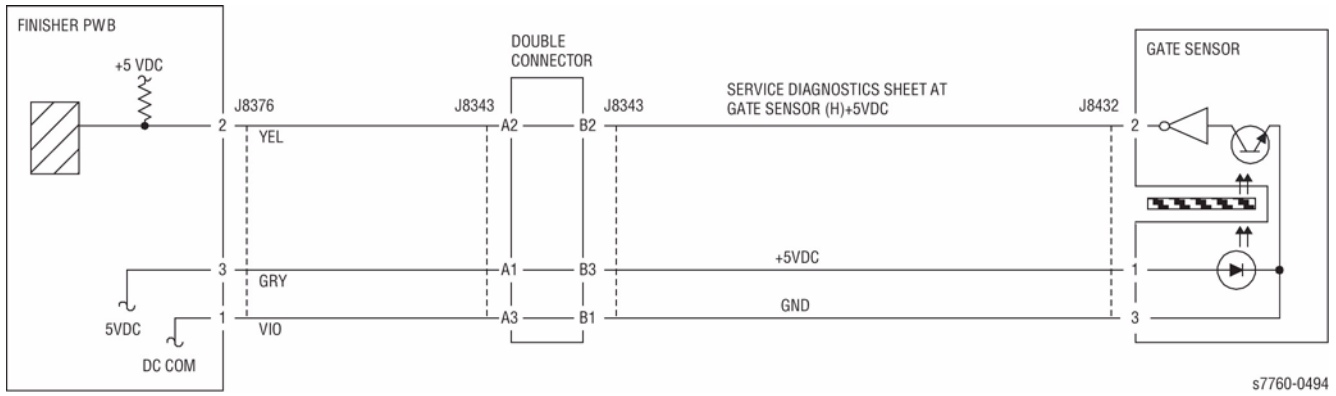

Figure 1 012-922 Gate Sensor

012-925 Stacker Lower Safety Warning

Stacker Safety Switch On was detected.

Procedure

Check for obstacles in the under the Stacker Tray Bracket. **The problem is resolved.**

Y **N**

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Move the Stacker Tray manually. **The display changes.**

Y **N**

Check conductivity between the Stacker Safety Switch and Finisher PWB. **The conducting check is OK.**

Y **N**

Repair the open circuit or short circuit.

Check the operation and conductivity of the Stacker Safety Switch contact points. **The contact points are operating and conducting properly.**

Y **N**

Replace the Stacker Safety Switch.

Replace the Finisher PWB (PL 21.12).

Replace the Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

012-935 Paper at Xport Entrance Sensor

Control logic reports paper at the Xport Entrance Sensor.

Initial Actions

- Check for obstructions in the paper path
- Check that the Finisher is dock correctly to ensure proper Transport Gate operation

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Transport Entrance Sensor (PL 21.10). **The display changes.**

Y **N**

Check the circuit of the Transport Entrance Sensor. (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Check the following:

- Ensure that the connectors shown in the circuit diagrams are securely connected and that the wires are not damaged
- Check the H-Transport Motor and its associated gears and belts for damage, contamination or alignment
- Check the Finisher Transport Motor and its associated gears and belts for damage, contamination or alignment

If the above checks are OK, then replace the Transport Entrance Sensor (PL 21.25). If the problem persists, replace the Finisher PWB (PL 21.12).

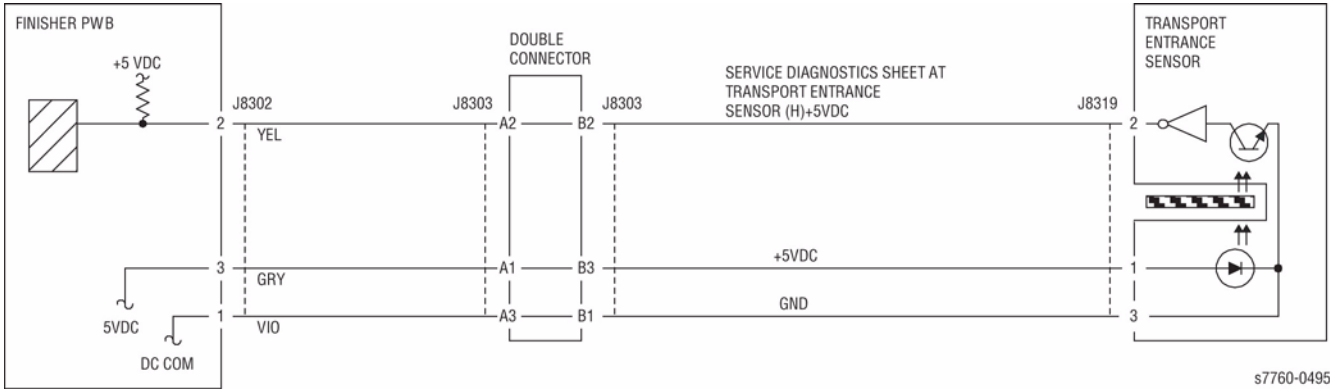

Figure 1 012-935 Transport Entrance Sensor

012-936 Paper Remains at Booklet Sensor A

Paper remains at Booklet Sensor A.

Troubleshooting Procedure

1. Check paper jammed (present) at Booklet In Sensor, located at the top of the Booklet Maker. Remove paper if present.
2. If no paper present, perform Diagnostics test for Booklet Sensors for testing the Sensors.
3. The following displays and should toggle:
   - In is [H | L]

   Explanation:
   - Paper Present = L
   - No Paper Present = H
4. Check for +5 VDC and for ground connection up to infrared (IC) sensor (the two outside connector wires). The middle wire is the signal (sense) out line and should reveal a toggle to the correct state, if working.
5. Replace the Sensor if power/ground exists to the Sensor, but Sensor output fails to toggle.

012-944 Stacker Set Over Full

The Staple Set Count exceeded the maximum number of sheets on the Stacker Tray during the Staple Set Eject operation.

Procedure

Remove all paper from the Stacker. Perform the job again. **The problem is resolved**

Y **N**

Replace the Finisher PWB (PL 21.12).

Check the following:

- Eject Motor Gears for wear or damage.
- Paddle Shaft and Paddles for wear or damage.

012-945 Low Staples

The Low Staple Sensor turned ON just before the Staple Motor started running.

Initial Actions

- Check the Stapler Head connectors for connection failure.
- Check the staple remaining amount.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Low Staple Sensor (PL 21.6). **'LOW' (staples available) is displayed.**

Y **N**

Check continuity between the Stapler Head and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Stapler Head (PL 21.6). If the problem continues, replace the Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

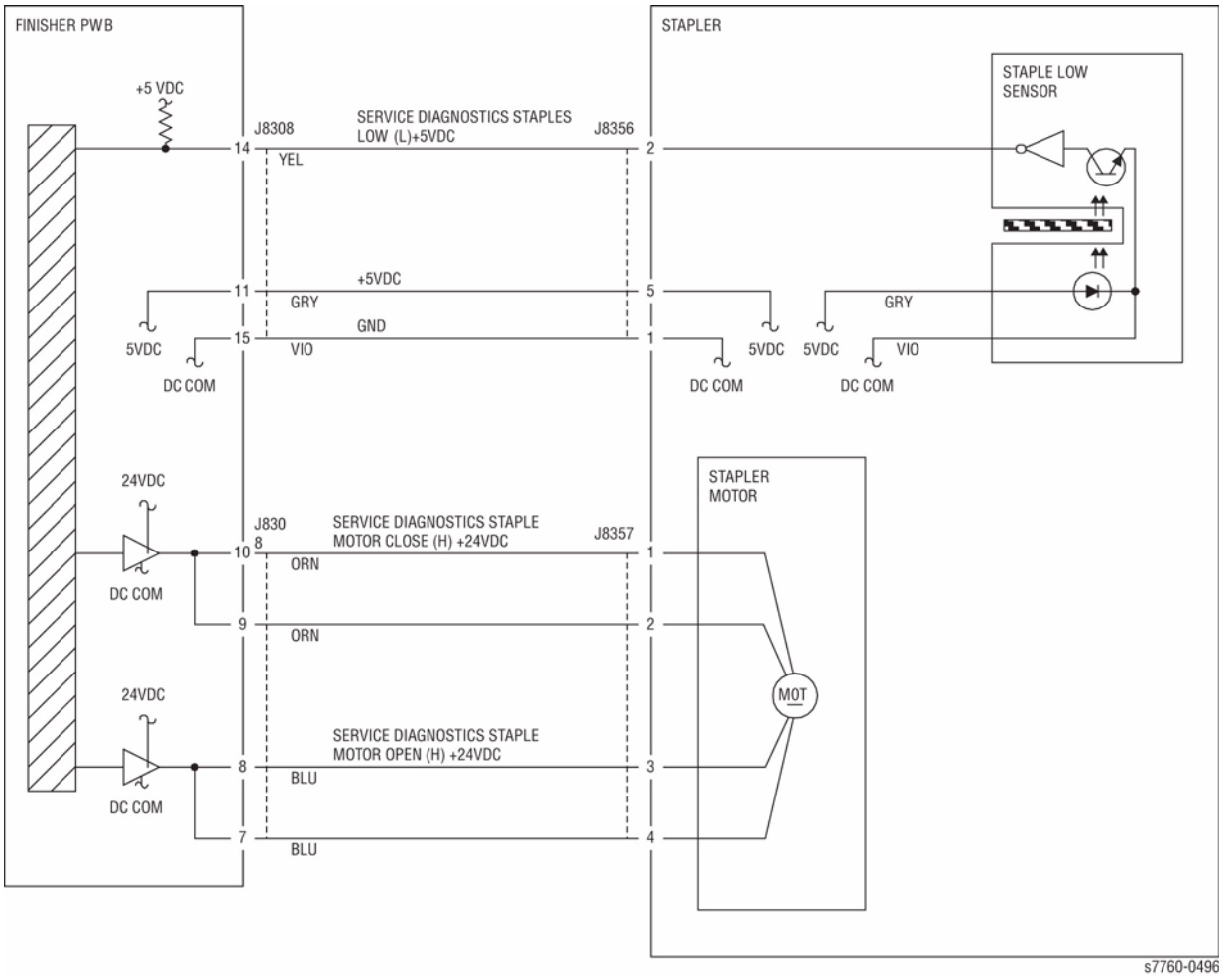

Figure 1 012-945 Low Staple

012-946 Top Tray Full

The Top Tray Full Sensor was turned On for 10 seconds continuously.

Initial Actions

- Check the Top Tray Full Sensor for improper installation.
- Check the Top Tray Full Sensor connectors for connection failure.
- Check the Top Tray Full Sensor Actuator for deformation and operation failure.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Top Tray Full Sensor. (PL 21.11) **The display changes.**

Y **N**

Check continuity between the Top Tray Full Sensor and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Top Tray Full Sensor (PL 21.11). If the problem continues, replace the Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

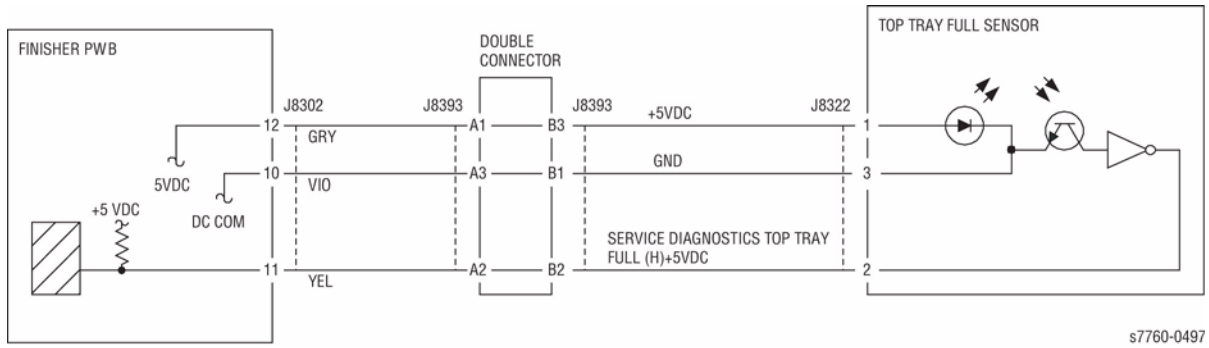

Figure 1 012-946 Top Tray Full Sensor

012-948, 015-400, 112-700 Puncher Waste Bin Nearly Full

Cumulative punching count reached the specified times (2-hole punching: 5000 times, 4-hole punching: 2500 times). This procedure can be used for troubleshooting Chain Link code 012-948, 015-400, or 112-700.

Procedure

Remove the Puncher Waste Bin and discard its dust. Install the Puncher Waste Bin. **The problem resolved.**

Y **N**

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Run the **Puncher Box Set Sensor** test. Remove and insert the Puncher Waste Bin. **The display changes.**

A

A

Y **N**

Check continuity between the Puncher Box Set Sensor and Finisher Main PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Puncher Box Set Sensor (PL 21.5). If the problem continues, replace the Finisher PWB (PL 21.12).

Replace the Finisher PWB (PL 21.12).

Ensure the Puncher Waste Bin is installed properly.

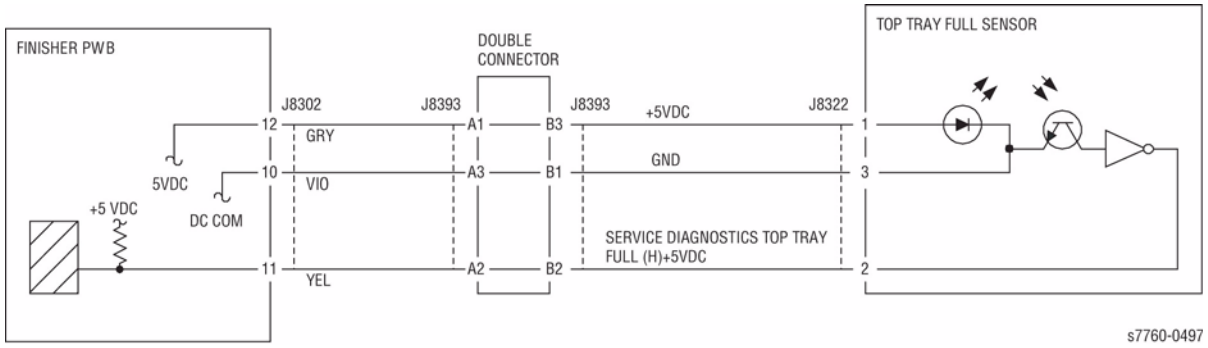

Figure 1 012-948, 015-400, 112-700 Puncher Set Box

012-949 Puncher Waste Bin Open/Reseat Punch Box

The Puncher Waste Bin Set Sensor detected Off (No Puncher Waste Bin).

Initial Actions

- Check the Puncher Waste Bin Set Sensor for improper installation.
- Check the Puncher Waste Bin Set Sensor connectors for connection failure.
- Check the Puncher Waste Bin Actuator part for deformation and damage.
- Check the Guide for deformation.
- Check the Guide for a foreign substance.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Puncher Box Set Sensor (PL 21.5). Remove and insert the Puncher Waste Bin manually. **The display changes.**

Y **N**

Check continuity between the Puncher Box Set Sensor and Finisher Main PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Puncher Box Set Sensor (PL 21.5). If the problem continues, replace the Finisher PWB (PL 21.12).

Check the Puncher Waste Box Actuator and Guide for deformation. **The Puncher Waste Bin can be removed and inserted properly.**

Y **N**

Repair or replace the Puncher Waste Bin (PL 21.5).

If the problem continues, replace the Finisher PWB (PL 21.12).

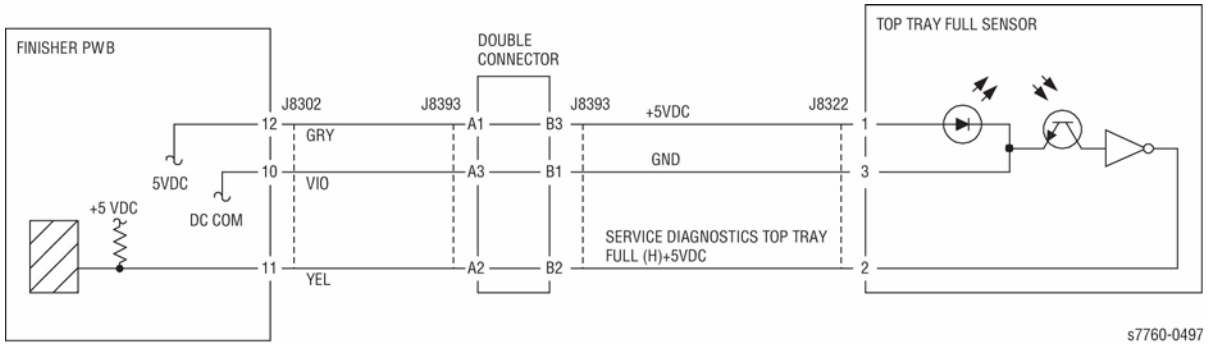

Figure 1 012-949 Puncher Waste Bin Open/Reseat Punch Box

012-959 Full Stack was Detected

Stacker No Paper Sensor On was detected during the Stacker Tray height adjusting operation.

Initial Actions

- Check the Stacker No Paper Sensor for improper installation.
- Check the Stacker No Paper Sensor connectors for connection failure.
- Check the Elevator Motor for operation failure.
- Check the Elevator Motor connectors for connection failure.

CAUTION

Caution must be used when activating Elevator Motor test. When activating this test in the Down position, there is no limit sensor for downward Stacker travels.

Downward steps increment (or decrement) in single steps, not 5. When continuing in the Down direction, DO NOT continue after an initial thump sound is heard.

Further downward movements may cause damage to the Stacker Unit/Finisher.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the Elevator Motor test (PL 21.4), alternately. **The Elevator Motor energizes.**

Y **N**

Check continuity between the Elevator Motor and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Elevator Motor (PL 21.4). If the problem continues, replace the Finisher PWB.

Block/unblock the Stacker No Paper Sensor (PL 21.4). **The display changes.**

Y **N**

Check continuity between the Stacker No Paper Sensor and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Stacker No Paper Sensor (PL 21.4). If the problem continues, replace the Finisher PWB (PL 21.12).

Block/unblock the Stacker Encoder Sensor (PL 21.4). **The display changes.**

Y **N**

Check continuity between the Stacker Encoder Sensor and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Stacker Encoder Sensor (PL 21.4). If the problem continues, replace the Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

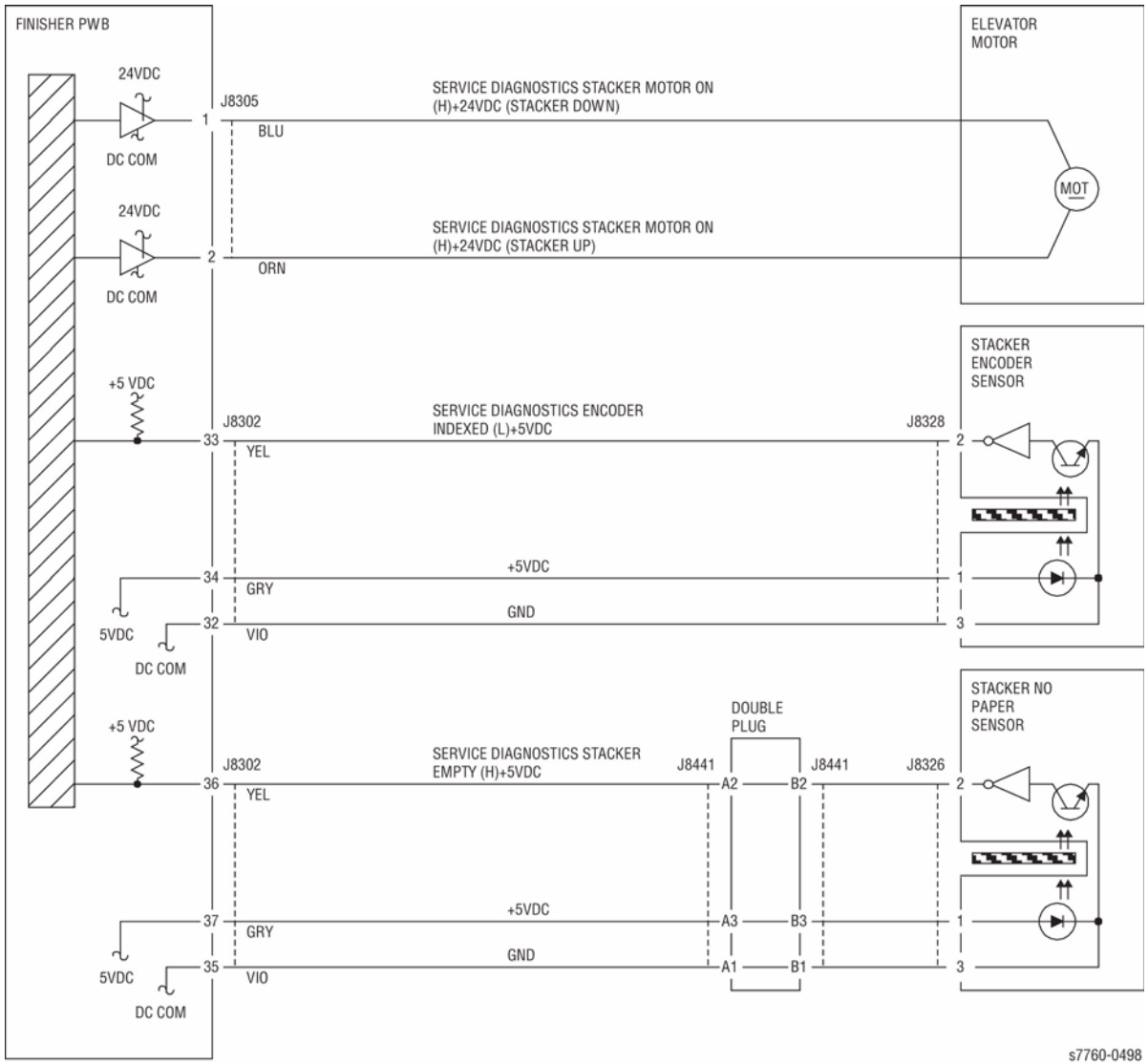

Figure 1 012-959 Stacker Tray

012-960 Full Stack was Detected (Finisher)

Stacker No Paper Sensor On was detected during the Stacker Tray height adjusting operation.

Initial Actions

- Check the Stacker No Paper Sensor for improper installation.
- Check the Stacker No Paper Sensor connectors for connection failure.
- Check the Elevator Motor for operation failure.
- Check the Elevator Motor connectors for connection failure.

CAUTION

Caution must be used when activating Elevator Motor test. When activating this test in the Down position, there is no limit sensor for downward Stacker travels.

Downward steps increment (or decrement) in single steps, not 5. When continuing in the Down direction, DO NOT continue after an initial thump sound is heard.

Further downward movements may cause damage to the Stacker Unit/Finisher.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the **Elevator Motor** test alternately. **The Elevator Motor (PL 21.4) energizes.**

Y **N**

Check continuity between the Elevator Motor and Finisher PWB (Figure 1). **The continuity check is OK,**

Y **N**

Repair the open circuit or short circuit.

Replace the Elevator Motor (PL 21.4). If the problem continues, replace the Finisher PWB.

Block/unblock the Stacker Encoder Sensor (PL 21.4). **The display changes.**

Y **N**

Check continuity between the Stacker Encoder Sensor and Finisher PWB (Figure 1). **The continuity check is OK,**

Y **N**

Repair the open circuit or short circuit.

Replace the Stacker Encoder Sensor (PL 21.4). If the problem continues, replace the Finisher PWB.

Block/unblock the Stacker No Paper Sensor (PL 21.4). **The display changes.**

Y **N**

Check continuity between the Stacker No Paper Sensor and Finisher PWB (Figure 1). **The continuity check is OK,**

Y **N**

Repair the open circuit or short circuit.

Replace the Stacker No Paper Sensor (PL 21.4). If the problem continues, replace the Finisher PWB.

If the problem continues, replace the Finisher PWB (PL 21.12).

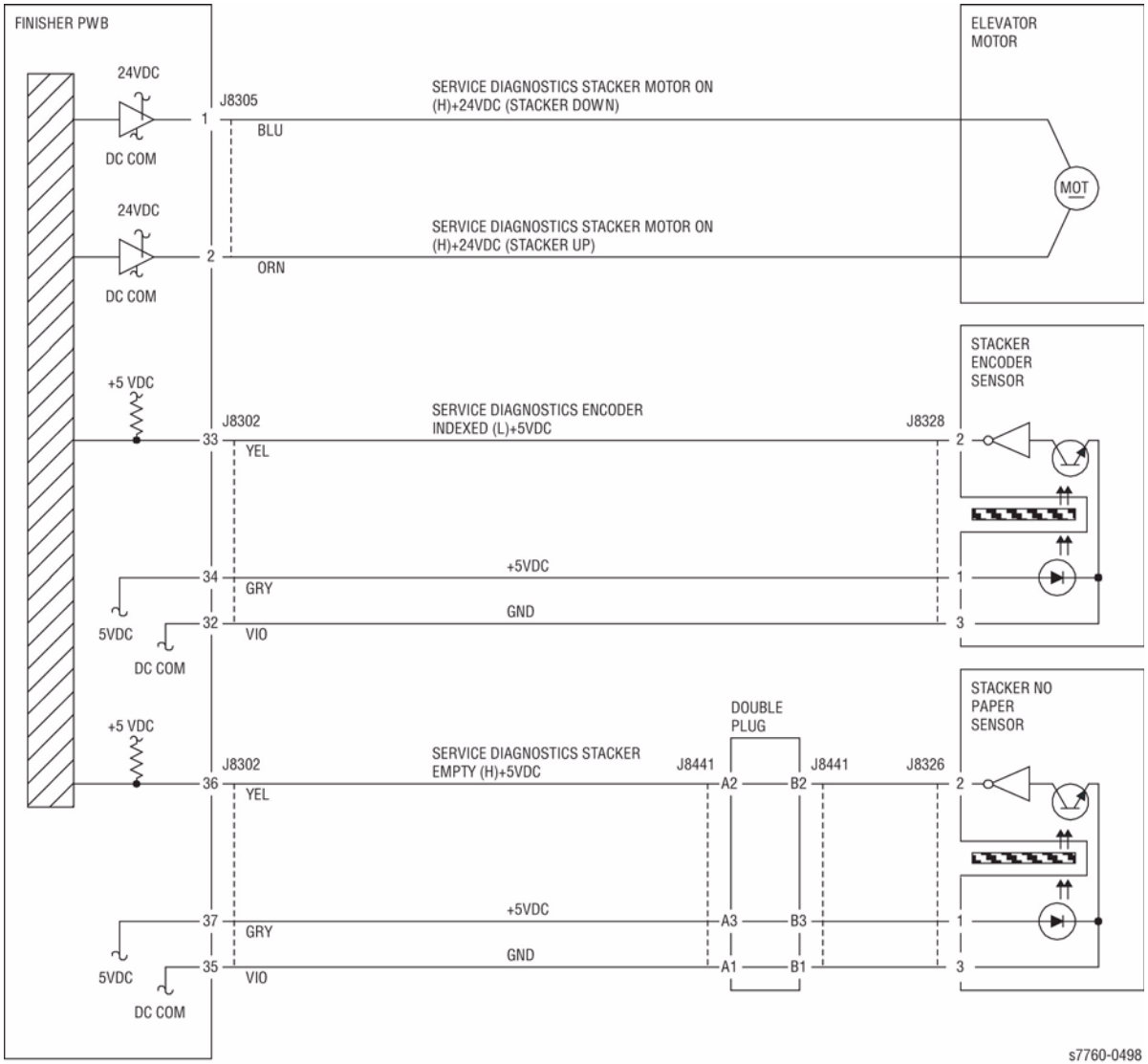

Figure 1 012-960 Stacker Tray

012-961 Mix Stack was Detected

Mix Stack Sensor On was detected during Mix Job.

Initial Actions

- Check the Elevator Motor for operation failure.
- Check the Elevator Motor connectors for connection failure.

CAUTION

Caution must be used when activating Elevator Motor test. When activating this test in the Down position, there is no limit sensor for downward Stacker travels.

Downward steps increment (or decrement) in single steps, not 5. When continuing in the Down direction, DO NOT continue after an initial thump sound is heard.

Further downward movements may cause damage to the Stacker Unit/Finisher.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Verify that NVRAM location Printer/Finisher 2274 is set to 0. **NVM Printer/Finisher 2274 is set to 0.**

Y N

Write a value of 0 in Printer/Finisher 2274.

Perform the **Elevator Motor** test (PL 21.4). **The Elevator Motor energizes.**

Y N

Check continuity between the Elevator Motor and Finisher PWB (Figure 1). The continuity check is OK.

Y N

Repair the open circuit or short circuit.

Replace the Elevator Motor (PL 21.4). If the problem continues, replace the FInisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

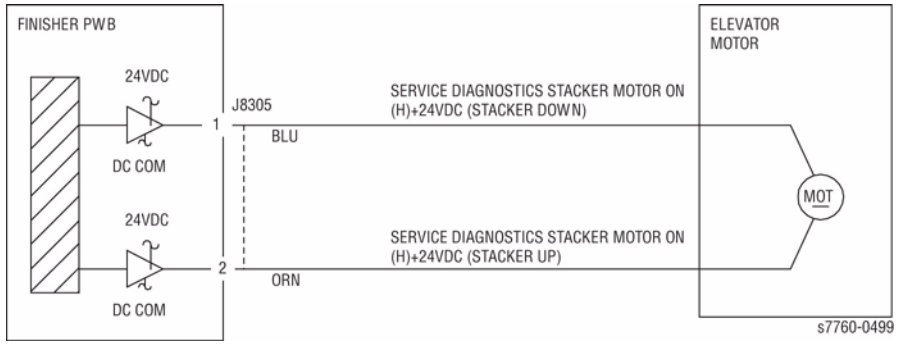

Figure 1 012-961 Elevator Motor

012-978 Booklet Stapler NG

Error signal On and Ready signal On output from the Staple were detected after Booklet Stapling operation.

Procedure

Check continuity between the Booklet PWB and Finisher PWB (Figure 1). **The continuity check is OK.**

Y N

Repair the open circuit or short circuit.

Replace the Staple (PL 21.16). **The problem resolved.**

Y N

Replace the Booklet PWB (PL 21.12). If the problem continues, replace the Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

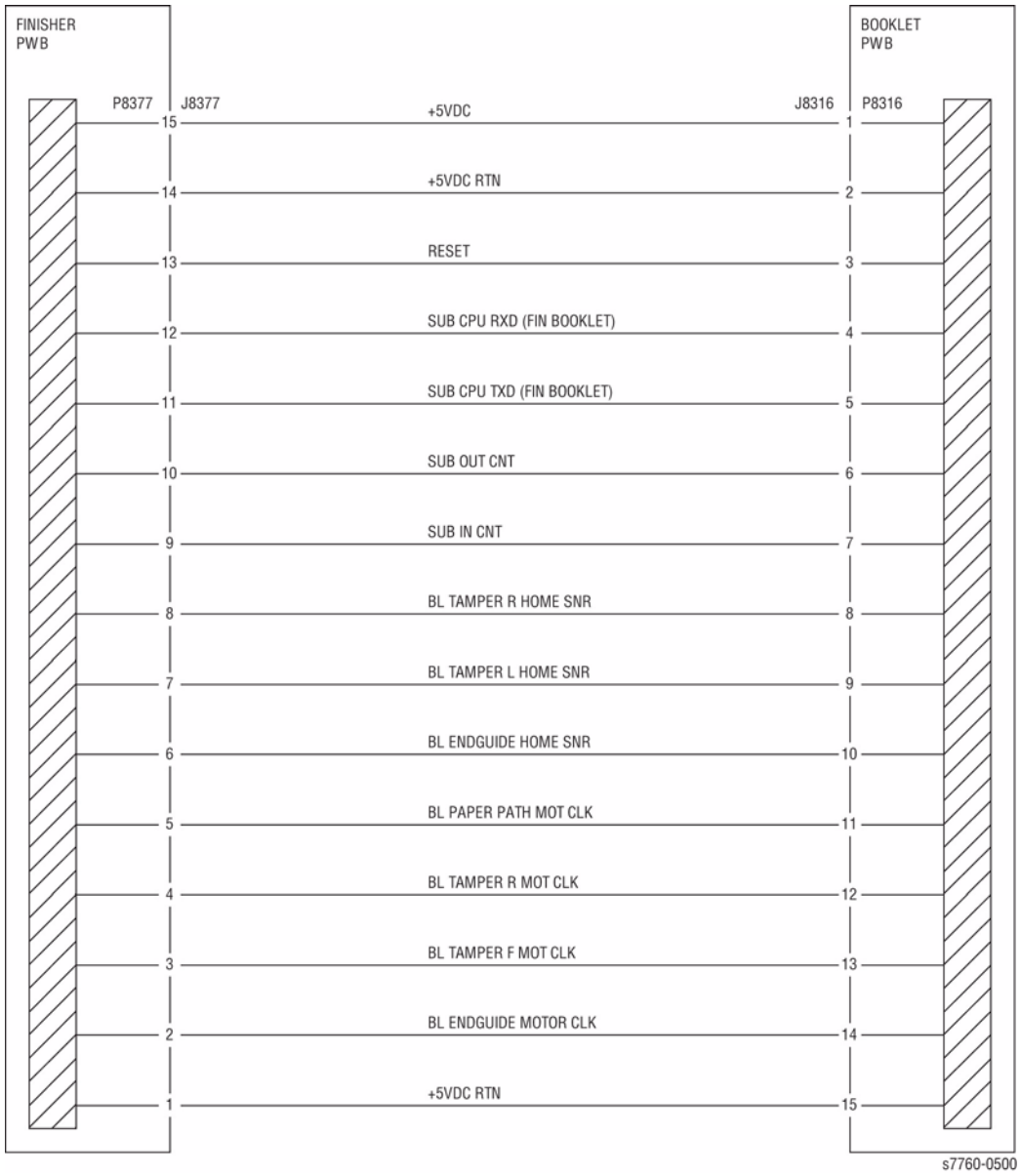

Figure 1 012-978 Finisher, Booklet PWBs

012-983 Booklet Tray Full was Detected

Booklet Tray Full was detected.

Procedure

Remove all sets. Perform the job again. **The problem is resolved.**

Y **N**

Replace the Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

012-984 Booklet Low Staple F

Booklet Stapler Low Staple Front signal was detected just before Stapling operation.

Booklet Stapler Low Staple Front signal was detected at Power On, at initialization, or when the interlock was closed.

Procedure

Supply the staples. **The problem is resolved.**

Y **N**

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Booklet Stapler Low Staple Front. **'LOW' (staples available) is displayed.**

Y **N**

Check continuity between the Staple and Booklet PWB, and between the Booklet PWB and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Booklet Stapler Low Staple Front (PL 21.16). If the problem continues, replace the Finisher PWB (PL 21.12).

Replace the Finisher PWB (PL 21.12). If the problem continues, replace the Booklet PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12). If the problem persists, replace the Booklet PWB (PL 21.12).

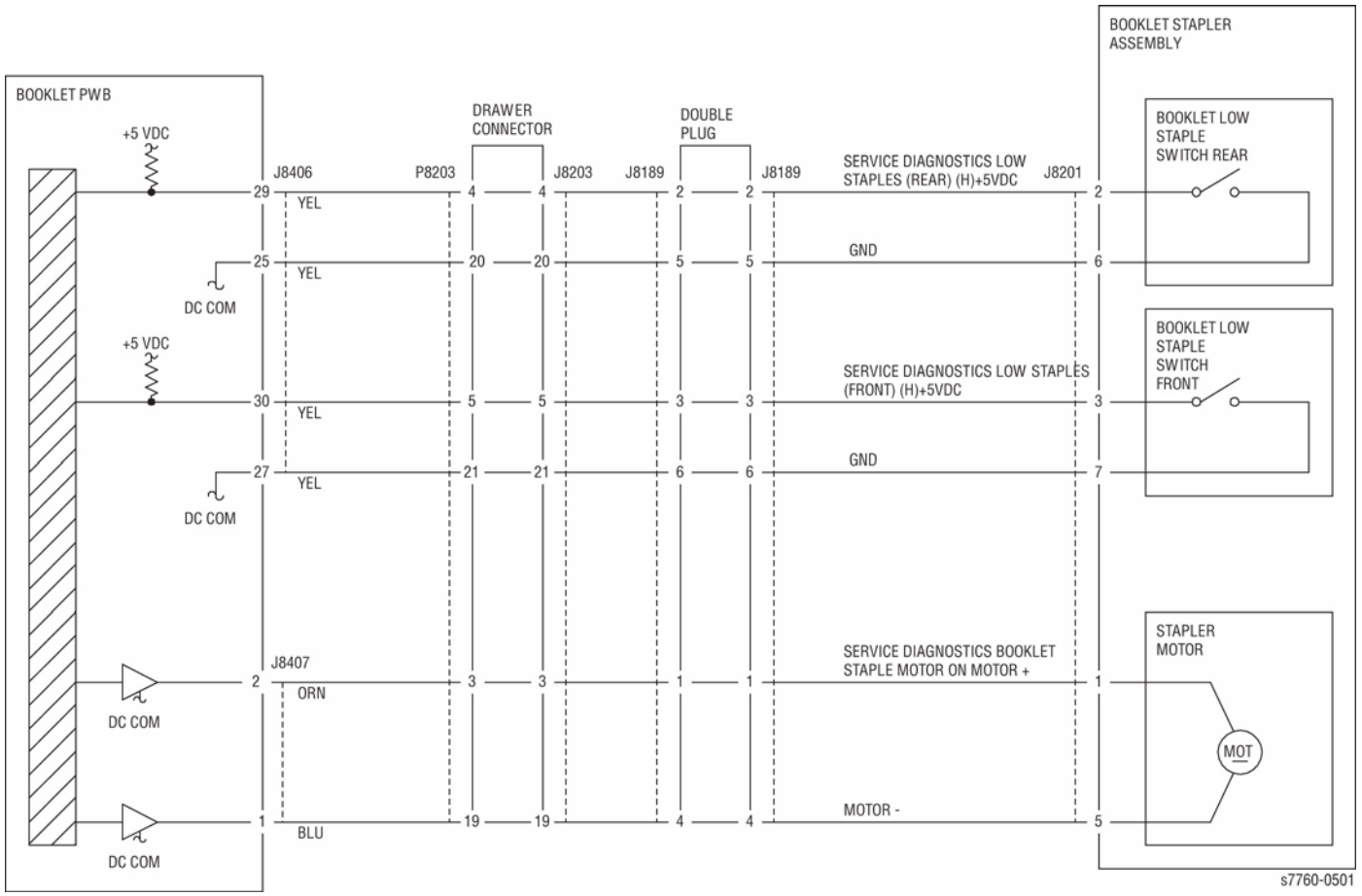

Figure 1 012-984 Stapler Front Assembly

012-989 Booklet Low Staple R

Booklet Stapler Low Staple Rear signal was detected just before Stapling operation.

Booklet Stapler Low Staple Rear signal was detected at Power On, at initialization, or when the interlock was closed.

Procedure

Supply the staples. **The problem is resolved.**

Y **N**

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Booklet Stapler Low Staple Rear. **'LOW' (staples available) is displayed**

Y **N**

Check continuity between the Staple and Booklet PWB, and between the Booklet PWB and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Booklet Stapler Low Staple Rear (PL 21.16). If the problem continues, replace the Finisher PWB (PL 21.12).

Replace the Finisher PWB (PL 21.12). If the problem continues, replace the Booklet PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12). If the problem persists, replace the Booklet PWB (PL 21.12).

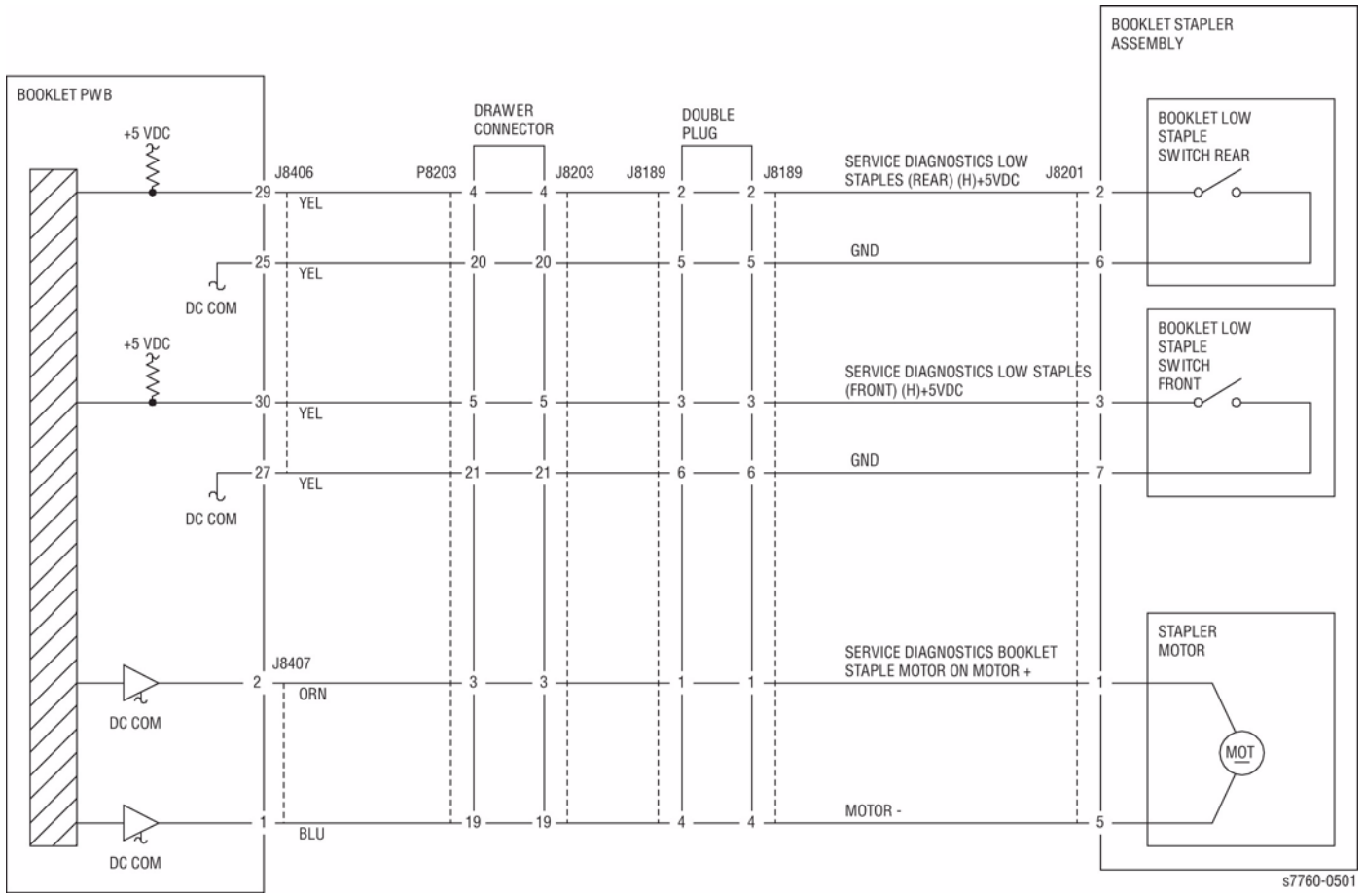

Figure 1 012-989 Stapler Rear Assembly

013-902 Paper remains at Booklet Compiler No Paper Sensor

Paper remains at the Booklet Compile No Paper Sensor.

Procedure

Refer to Section 2, 012-266 to troubleshoot the Fault.

013-903 Paper remain at Booklet Folder Roll Exit Sensor

Paper remains at the Booklet Folder Roll Exit Sensor.

Procedure

Refer to Section 2, 012-115 and/or 012-180 to troubleshoot the Fault.

024-350 Controller Communication Fail 10

An error has been detected by the Controller during communications with the printer.

Procedure

Procedure not available.

024-351 Controller Communication Fail 11

An error has been detected by the Controller during communications with the printer.

Procedure

Procedure not available.

024-352 Controller Communication Fail 12

An error has been detected by the Controller during communications with the printer.

Procedure

Procedure not available.

024-353 Controller Communication Fail 13

An error has been detected by the Controller during communication with the printer.

Procedure

Procedure not available.

024-354 Controller Communication Fail 14

An error has been detected by the Controller during communications with the printer.

Procedure

Procedure not available.

024-355 Controller Communication Fail 15

An error has been detected by the Controller during communications with the printer.

Procedure

Procedure not available.

024-356 Controller Communication Fail 16

An error has been detected by the Controller during communications with the printer.

Procedure

Procedure not available.

024-357 Controller Communication Fail 17

An error has been detected by the Controller during communications with the printer.

Procedure

Procedure not available.

024-358 Controller Communication Fail 18

An error has been detected by the Controller during communications with the printer.

Procedure

Procedure not available.

024-359 Controller Communication Fail 19

An error has been detected by the Controller during communications with the printer.

Procedure

Procedure not available.

024-360 Controller Initialization Fail

An error has been detected by the Controller during communications with the printer.

Procedure

Procedure not available.

024-361 Invalid Controller Paper Size Group Info

Invalid Controller Paper Size Group information.

Procedure

Procedure not available.

024-362 Page Sync Illegal Start

The printer has detected an image processing error during the current operation.

Procedure

Procedure not available.

024-063 Page Sync Illegal Stop

The printer has detected an image processing error during the current operation.

Procedure

Procedure not available.

024-372 Controller Soft Fail

The printer has detected a printer-related software problem within the Controller.

Procedure

Procedure not available.

024-917 Stacker Tray Staple Set Over Count

The Finisher Tray which contains stapled sets is full.

Procedure

Procedure not available.

024-923 Yellow Toner Cartridge Empty

The Yellow Toner Cartridge is empty. This fault requires service only if the message appears before the Toner Cartridge is depleted.

NOTE: *Continuous running of high density prints can temporarily deplete the toner supply.*

Initial Actions

- Ensure that there is toner and the toner is evenly distributed in the Yellow Cartridge.
- Check the Yellow ATC Sensor for blockage or contaminants.
- Check the drive system from the Developer Drive Motor to the Yellow Developer Housing for damage.

Procedure

Replace the Yellow Toner Cartridge (PL 6.1). If the problem continues, go to RAP 009-410, Yellow Toner Cartridge Near Empty.

024-924 Magenta Toner Cartridge Empty

The Magenta Toner Cartridge is empty. This fault requires service only if the message appears before the Toner Cartridge is depleted.

NOTE: *Continuous running of high density prints can temporarily deplete the toner supply.*

Initial Actions

- Ensure that there is toner and the toner is evenly distributed in the Magenta Cartridge.
- Check the Magenta ATC Sensor for blockage or contaminants.
- Check the drive system from the Developer Drive Motor to the Magenta Developer Housing for damage.

Procedure

Replace the Magenta Toner Cartridge (PL 6.1). If the problem continues, go to RAP 009-411, Magenta Toner Cartridge Near Empty.

024-925 Cyan Toner Cartridge Empty

The Cyan Toner Cartridge is empty. This fault requires service only if the message appears before the Toner Cartridge is depleted.

NOTE: *Continuous running of high density prints can temporarily deplete the toner supply.*

Initial Actions

- Ensure that there is toner and the toner is evenly distributed in the Cartridge.
- Check the Cyan ATC Sensor for blockage or contaminants.
- Check the drive system from the Developer Drive Motor to the Developer Housing for damage.

Procedure

Replace the Cyan Toner Cartridge (PL 6.1). If the problem continues, go to RAP009-412, Cyan Toner Cartridge Near Empty.

024-926 Finisher Punch Dust Box Miss Set

The Puncher Waste Bin Sensor detected Off (No Puncher Waste Bin).

Initial Actions

- Check the Puncher Waste Bin Set Sensor for improper installation.
- Check the Puncher Waste Bin Set Sensor connectors for connection failure.
- Check the Puncher Waste Bin Actuator part for deformation and damage.
- Check the Guide for deformation.
- Check the Guide for a foreign substance.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.

Actuate the Puncher Box Set Sensor (PL 21.5). Remove and insert the Puncher Waste Bin manually. **The display changes.**

Y **N**

Check continuity between the Puncher Box Set Sensor and Finisher Main PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Puncher Box Set Sensor (PL 21.5). If the problem continues, replace the Finisher PWB (PL 21.12).

Check the Puncher Waste Box Actuator and Guide for deformation. **The Puncher Waste Bin can be removed and inserted properly.**

Y **N**

Repair or replace the Puncher Waste Bin (PL 21.5).

If the problem continues, replace the Finisher PWB (PL 21.12).

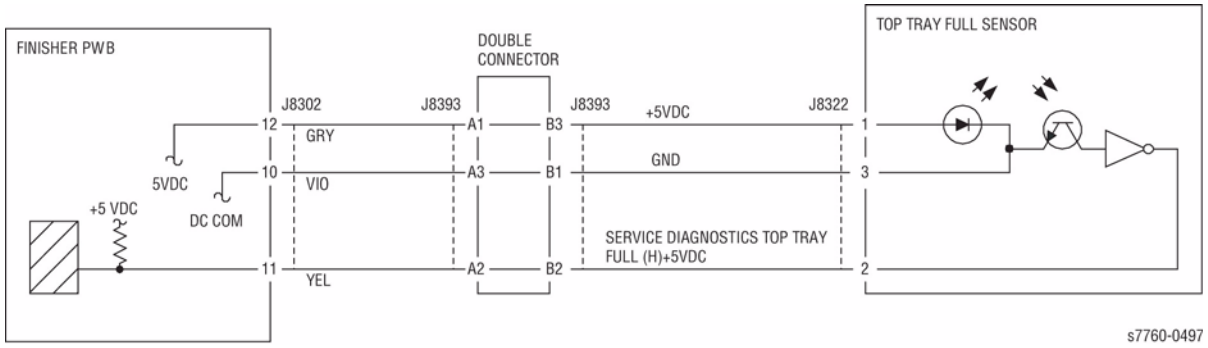

Figure 1 024-926 Finisher Punch Dust Box Miss Set

024-930 Finisher Stacker Tray Full Stack (Large Size Full)

Stacker No Paper Sensor On was detected during the Stacker Tray height adjusting operation.

Initial Actions

- Check the Stacker No Paper Sensor for improper installation.
- Check the Stacker No Paper Sensor connectors for connection failure.
- Check the Elevator Motor for operation failure.
- Check the Elevator Motor connectors for connection failure.

CAUTION

Caution must be used when activating the Elevator Motor test. When activating this test in the Down position, there is no limit sensor for downward Stacker travels.

Downward steps increment (or decrement) in single steps, not 5. When continuing in the Down direction, DO NOT continue after an initial thump sound is heard.

Further downward movements may cause damage to the Stacker Unit/Finisher.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the **Elevator Motor** test alternately. **The Elevator Motor (PL 21.4) energizes.**

Y **N**

Check continuity between the Elevator Motor and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Elevator Motor (PL 21.4). If the problem continues, replace the Finisher PWB (PL 21.12).

Block/unblock the Stacker No Paper Sensor (PL 21.4). **The display changes.**

Y **N**

Check continuity between the Stacker No Paper Sensor and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Stacker No Paper Sensor (PL 21.4). If the problem continues, replace the Finisher PWB (PL 21.12).

Block/unblock the Stacker Encoder Sensor (PL 21.4). **The display changes.**

Y **N**

Check continuity between the Stacker Encoder Sensor and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Stacker Encoder Sensor (PL 21.4). If the problem continues, replace the Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

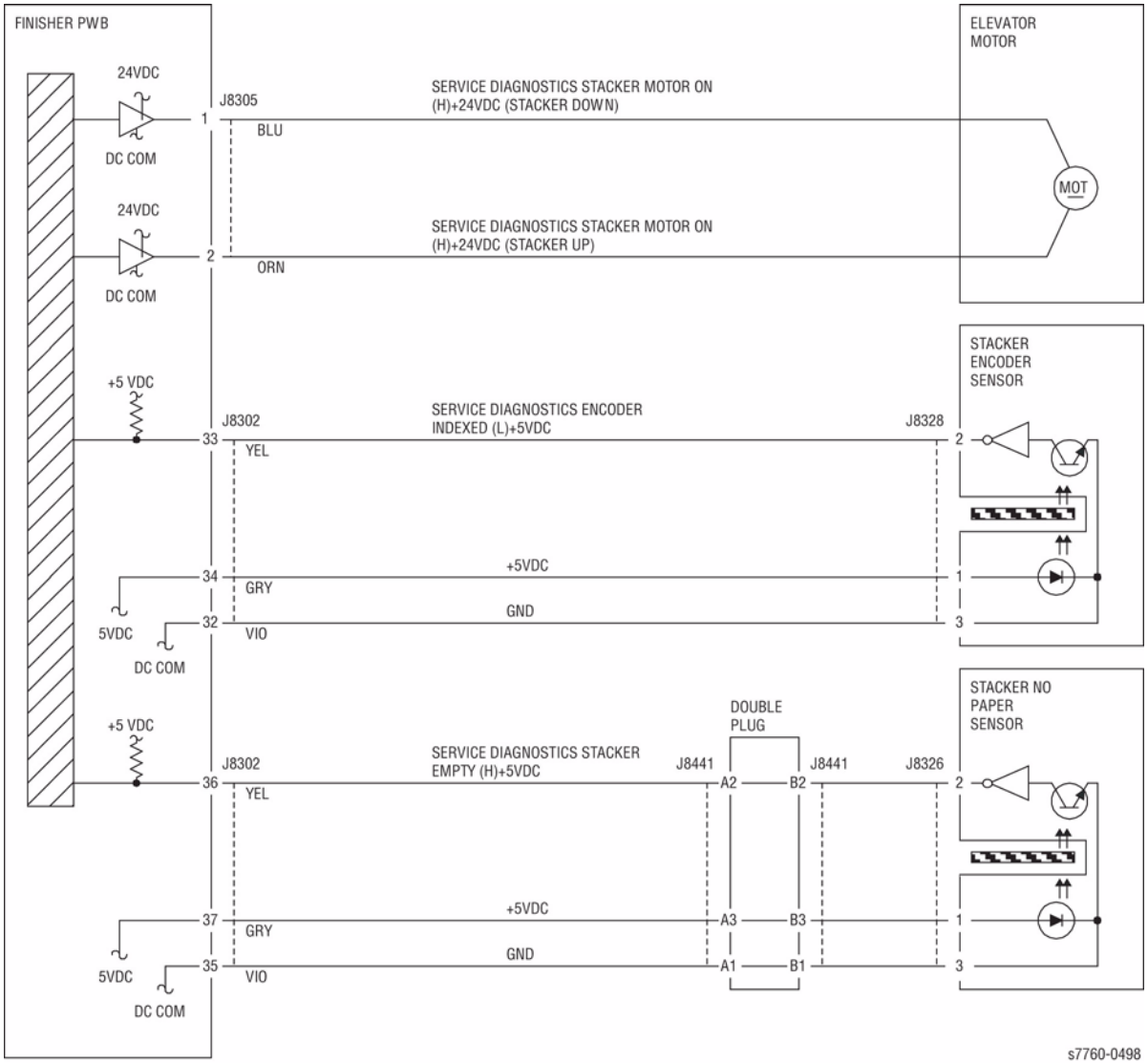

Figure 1 024-930 Finisher Stacker Tray Full Stack

024-942 Booklet Sheets Counts Over

Booklet Sheets Counts over.

Procedure

Procedure not available.

024-943 Booklet Low Staple

Booklet Low Stapler Low Staple signal detected just before Stapling operation.

Booklet Stapler Low Staple signal was detected at power On, at initialization, or when the Interlock was closed.

Procedure

Supply the staples. **The problem is resolved.**

Y N

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Booklet Stapler Low Staple (Front/Rear). **'LOW' (staples available) is displayed.**

Y N

Check continuity between the Staple and Booklet PWB, and between the Booklet PWB and Finisher PWB (Figure 1). **The continuity check is OK.**

Y N

Repair the open circuit or short circuit.

Replace the Booklet Stapler Low Staple Front/Rear (PL 21.16). If the problem continues, replace the Finisher PWB (PL 21.12).

Replace the Finisher PWB (PL 21.12). If the problem continues, replace the Booklet PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12). If the problem persists, replace the Booklet PWB (PL 21.12).

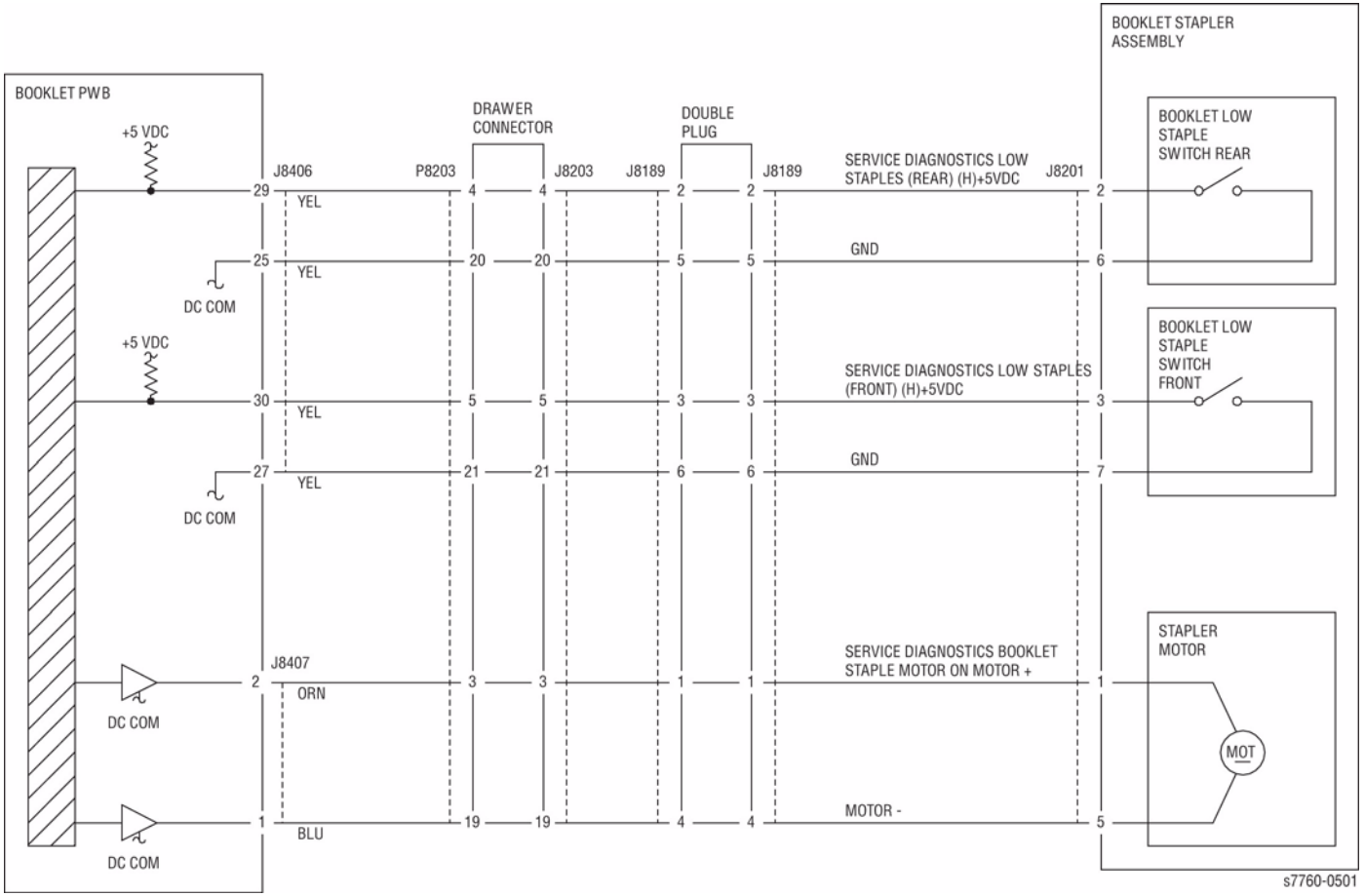

Figure 1 024-943 Booklet Low Staple

024-945 Booklet Fullstack

Stacker No Paper Sensor On was detected during the Stacker Tray height adjusting operation.

Initial Actions

- Check the Stacker No Paper Sensor for improper installation.
- Check the Stacker No Paper Sensor connectors for connection failure.
- Check the Elevator Motor for operation failure.
- Check the Elevator Motor connectors for connection failure.

CAUTION

Caution must be used when activating Elevator Motor test. When activating this test in the Down position, there is no limit sensor for downward Stacker travels.

Downward steps increment (or decrement) in single steps, not 5. When continuing in the Down direction, DO NOT continue after an initial thump sound is heard.

Further downward movements may cause damage to the Stacker Unit/Finisher.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > OK. Perform the **Elevator Motor** test alternately. **The Elevator Motor (PL 21.4) energizes.**

Y **N**

Check continuity between the Elevator Motor and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Elevator Motor (PL 21.4). If the problem continues, replace the Finisher PWB (PL 21.12).

Block/unblock the Stacker No Paper Sensor (PL 21.4). **The display changes.**

Y **N**

Check continuity between the Stacker No Paper Sensor and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Stacker No Paper Sensor (PL 21.4). If the problem continues, replace the Finisher PWB.

Block/unblock the Stacker Encoder Sensor (PL 21.4). **The display changes.**

Y **N**

Check continuity between the Stacker Encoder Sensor and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open the circuit or short circuit.

Replace the Stacker Encoder Sensor (PL 21.4). If the problem continues, replace the Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

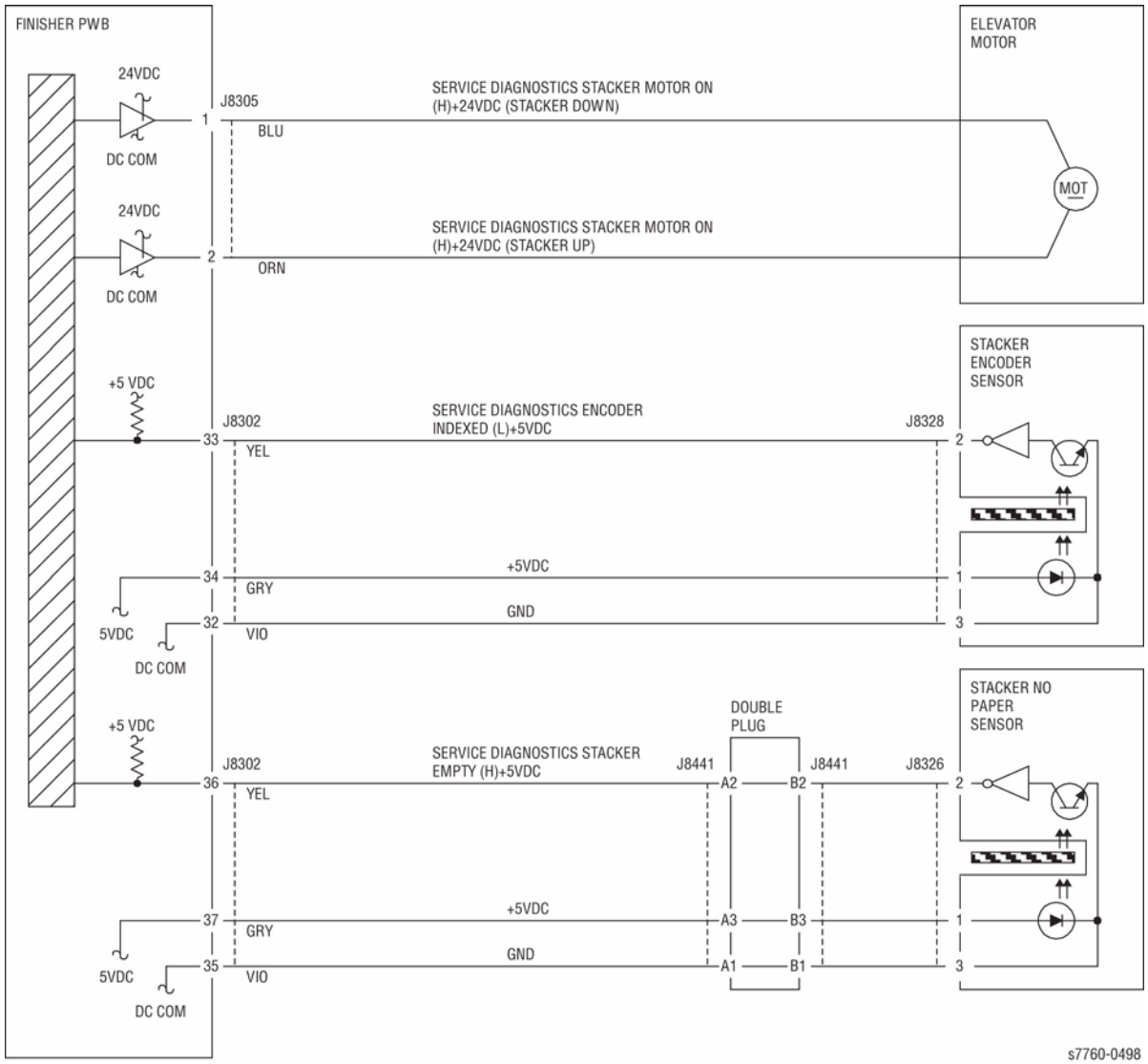

Figure 1 024-945 Stacker Tray

024-946 Tray 2 Out of Place

Tray 2 not in position.

Initial Actions

- Check that the paper size setting is correct.
- Check the Tray 2 Paper Size Sensor for damage or incorrect mounting. Repair or replace as required.
- Check the Switch Actuators on Tray 2 for wear or damage. Repair or replace as required.

Procedure

Ensure Tray 2 is closed. Turn the printer power Off, then On. **The problem continues.**

Y **N**

Return to Service Call Procedures.

Go to RAP 007-270, Tray 2 Paper Size Sensor.

024-947 Tray 3 Out of Place

Tray 3 not in position.

Initial Actions

- Check that the paper size setting is correct.
- Check the Tray 3 Paper Size Sensor for damage or incorrect mounting. Repair or replace as required.
- Check the Switch Actuators on Tray 3 for wear or damage. Repair or replace as required.

Procedure

Ensure Tray 3 is closed. Turn the printer power Off, then On. **The problem continues.**

Y **N**

Return to Service Call Procedures.

Go to RAP 007-271, Tray 3 Paper Size Sensor.

024-948 Tray 4 Out of Place

Tray 4 not in position.

Initial Actions

- Check that the paper size setting is correct.
- Check the Tray 4 Paper Size Sensor for damage or incorrect mounting. Repair or replace as required.
- Check the Switch Actuators on Tray 4 for wear or damage. Repair or replace as required.

Procedure

Ensure Tray 4 is closed. Turn the printer power Off, then On. **The problem continues.**

Y N

Return to the Service Call Procedures.

The machine is equipped with a 3TM.

Y N

Go to RAP 007-276, Tray 4 Paper Size Sensor (TTM).

Go to RAP 007-272, Tray 4 Paper Size Sensor (3TM).

024-949 Tray 5 Out of Place

Tray 5 not in position.

Initial Actions

- Check that the paper size setting is correct.
- Check the Tray 5 Paper Size Sensor for damage or incorrect mounting. Repair or replace as required.
- Check the Switch Actuators on Tray 5 for wear or damage. Repair or replace as required.

Procedure

Ensure Tray 5 is closed. Turn the printer power Off, then On. **The problem continues.**

Y N

Return to the Service Call Procedures.

The machine is equipped with a 3TM.

Y N

Go to RAP 007-277, Tray 5 Paper Size Sensor (TTM).

Go to RAP 007-273, Tray 5 Paper Size Sensor (3TM).

024-950 Tray 2 No Paper Sensor

Tray 2 No Paper Sensor failure.

Procedure

Remove Tray 2. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate Tray 2 No Paper Sensor (PL 2.4). **The display changes.**

Y N

Check the circuit of the Tray 2 No Paper Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

- Go to RAP 007-281 (Tray 2, 3, 4, 5) Lift Failure) and check the circuit of the Tray 2 Level Sensor.
- Ensure that the connectors shown in the circuit diagram (Figure 1) are securely connected and that the wires are not damaged.
- Replace the Tray 2 No Paper Sensor (PL 2.4).
- If the problem persists, replace the Engine Control Board (MCU PWB) (PL 13.1).

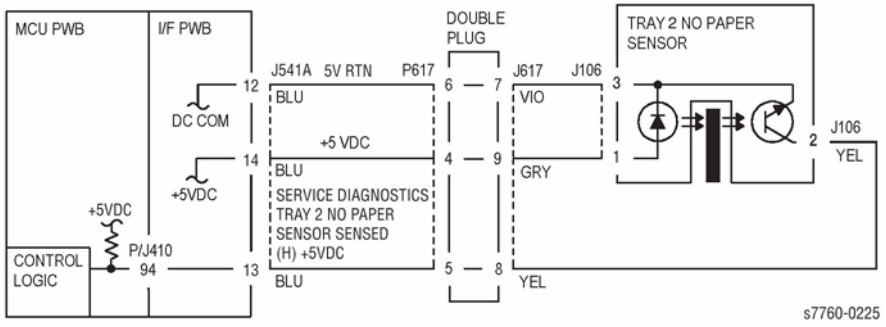

Figure 1 024-950 Tray 2 No Paper Sensor

024-951 Tray 3 No Paper Sensor

Tray 3 No Paper Sensor failure.

Procedure

Remove Tray 3. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Tray 3 No Paper Sensor (TTM or - 3TM). **The display changes.**

Y N

Check the circuit of the Tray 3 No Paper Sensor (Figure 1 - TTM or Figure 2 - 3TM). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

Press **Stop**.

- Go to the 007-281 RAP and check the circuit of the Tray 3 No Paper Sensor (PL 2.4).
- Ensure that the connectors shown in the circuit diagram (Figure 1 - TTM or Figure 2 - 3TM) are securely connected and that the wires are not damaged.
- Replace the Tray 3 No Paper Sensor (PL 2.4).
- If the problem persists, replace the Tray Module PWB (PL 16.15 - TTM or PL 15.9 - 3TM).

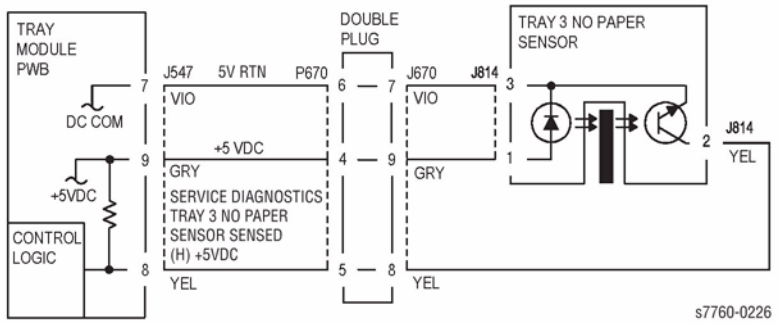

Figure 1 024-951Tray 3 No Paper Sensor (TTM)

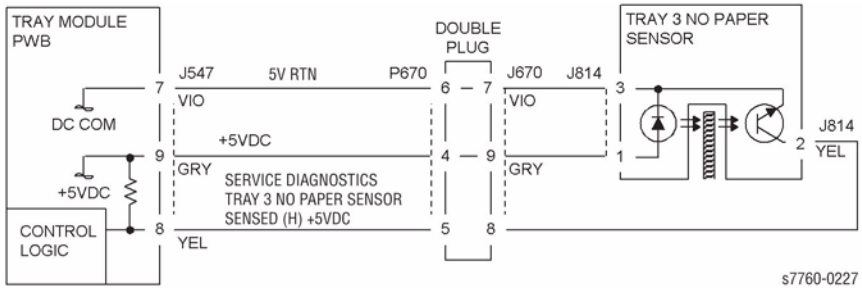

Figure 2 024-951 Tray 3 No Paper Sensor (3TM)

024-952 Tray 4 No Paper Sensor

Tray 4 No Paper Sensor failure.

Procedure

Remove Tray 4. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Tray 4 No Paper Sensor. **The display changes.**

Y N

Check the circuit of the Tray 4 No Paper Sensor (Figure 1 - TTM or Figure 2 - 3TM). Refer to the Transmissive Sensor Procedure for troubleshooting procedure.

- Go to the 007-281 RAP (Tray Lift Failure) and check the circuit of the Tray 4 No Paper Sensor (PL 2.4).
- Ensure that the connectors shown in the circuit diagram (Figure 1 - TTM or Figure 2 - 3TM) are securely connected and that the wires are not damaged.
- Replace the Tray 4 No Paper Sensor (PL 2.4).
- If the problem persists, replace the Tray Module PWB (PL 16.15 - TTM or PL 15.9 - 3TM).

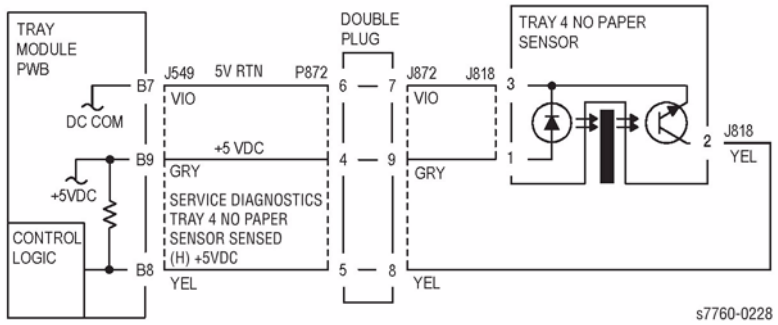

Figure 1 024-952 Tray 4 No Paper Sensor (TTM)

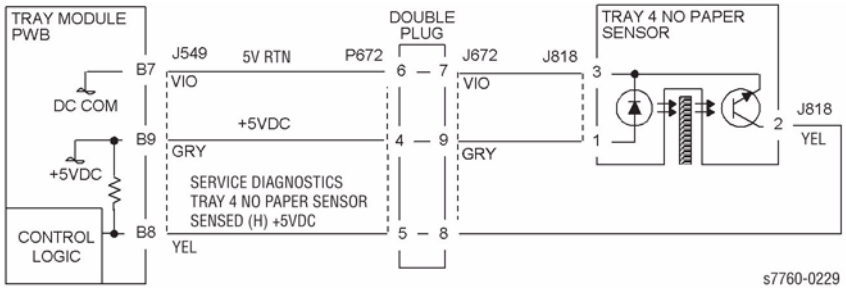

Figure 2 024-952 Tray 4 No Paper Sensor (3TM)

024-953 Tray 5 No Paper Sensor

Tray 5 No Paper Sensor failure.

Procedure

Remove Tray 5. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Tray 5 No Paper Sensor (TTM or - 3TM). **The display changes.**

Y N

Check the circuit of the Tray 5 No Paper Sensor (Figure 1 - TTM or Figure 2 - 3TM). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

- Go to the 007-281 RAP (Tray Lift Failure) and check the circuit of the Tray 5 No Paper Sensor (PL 2.4).
- Ensure that the connectors shown in the circuit diagram (Figure 1 - TTM or Figure 2 - 3TM) are securely connected and that the wires are not damaged.
- Replace the Tray 5 No Paper Sensor (PL 2.4).
- If the problem persists, replace the Tray Module PWB (PL 16.15 - TTM or PL 15.9 - 3TM).

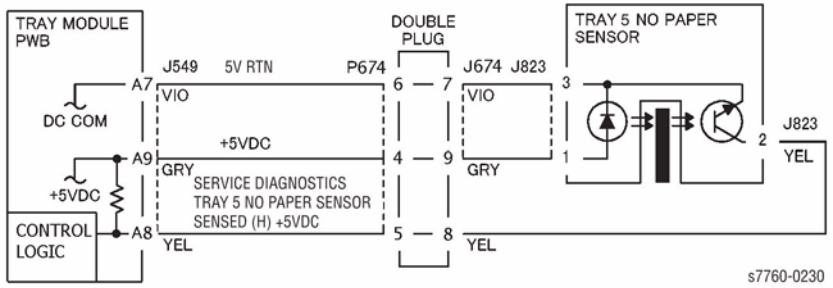

Figure 1 024-953 Tray 5 No Paper Sensor (TTM)

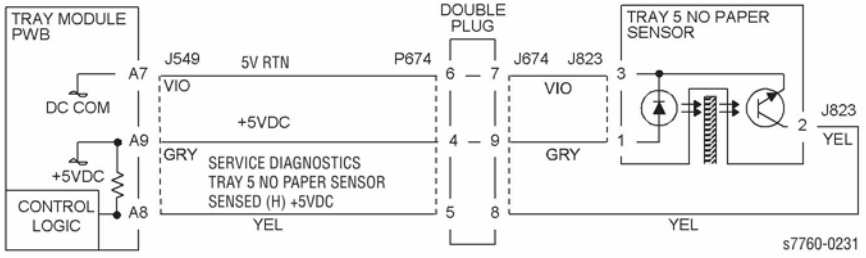

Figure 2 024-953 Tray 5 No Paper Sensor (3TM)

024-954 Tray 1 (MPT) No Paper Sensor

Tray 1 (Bypass) No Paper. Sensor failure.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Tray 1 (MPT) No Paper Sensor (PL 2.12). **The display changes.**

Y **N**

Check the circuit of the Tray 1 (MPT) No Paper Sensor (Figure 1). Refer to Section 6, Transmissive Sensor Procedure for troubleshooting procedure.

- Ensure that the connectors shown in the circuit diagram (Figure 1) are securely connected and that the wires are not damaged.
- Replace the Tray 1 No Paper Sensor (PL 2.12).
- If the problem persists, replace the Engine Control Board (MCU PWB) (PL 13.1).

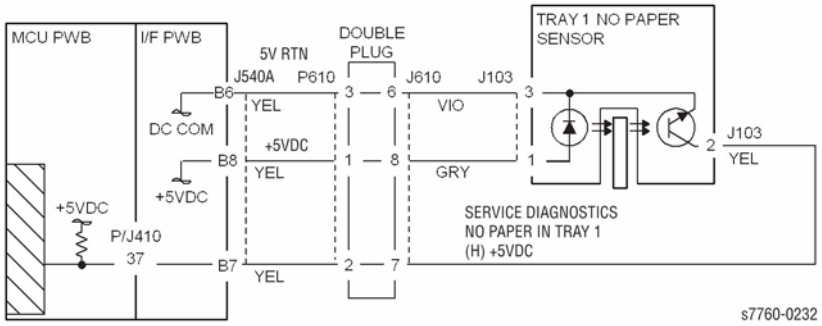

Figure 1 024-954 Tray 1 (MPT) No Paper Sensor

024-958 Tray 1 (MPT) Size Mismatch

The paper in Tray 1 (MPT) does not match the paper size selected.

Procedure

The correct size paper is loaded in Tray 1 (MPT).

Y **N**

Load the correct size paper and return to Service Call Procedures.

Go to RAP 007-274, Tray 1 Paper Size Sensor.

024-959 Tray 2 Size Mismatch

Tray 2 size mismatch.

Procedure

The correct size paper is loaded in Tray 2.

Y N

Load the correct size paper and return to Service Call Procedures.

Go to RAP 007-270, Tray 2 Paper Size Sensor.

024-960 Tray 3 Size Mismatch

Tray 3 size mismatch.

Procedure

The correct size paper is loaded in Tray 3.

Y N

Load the correct size paper and return to Service Call Procedures.

Go to RAP 007-271, Tray 3 Paper Size Sensor.

024-961 Tray 4 Size Mismatch

Tray 4 size mismatch.

Procedure

The correct size paper is loaded in Tray 4.

Y N

Load the correct size paper and return to Service Call Procedures.

Go to RAP 007-272 (Tray 4 Paper Size Sensor - 3TM) or RAP 007-276 (Tray 4 Paper Size Sensor - TTM).

024-962 Tray 5 Size Mismatch

Tray 5 size mismatch.

Procedure

The correct size paper is loaded in Tray 5.

Y N

Load the correct size paper and return to Service Call Procedures.

Go to RAP 007-273 (Tray 5 Paper Size Sensor - 3TM) or RAP 007-277 (Tray 5 Paper Size Sensor - TTM).

024-965 ATS/APS No Paper

A job is held within the queue because the machine does not contain the proper media required for the current job.

Procedure

Procedure not available.

024-966 ATS/APS No Destination Error

The media required by the current job is now empty.

Procedure

Procedure not available.

024-967 Staple Mix

The printer has detected that the current job requires different paper sizes which cannot be stapled.

Procedure

Procedure not available.

024-975 Booklet Sheets Counts Over

Booklet Sheets Counts over.

Procedure

Procedure not available.

024-976 Finisher Staple Status NG

The Staple Home Sensor has not switched Off to On within the specified time after the Staple Motor started rotating forward.

The Staple Head Home Sensor turned On within xxx msec. after the Staple Motor reversed.

Initial Actions

- Check the Actuator for deformation.
- Check the Staple Home Sensor for improper installation.
- Check the Staple Home Sensor connectors for connection failure.
- Check the Staple Guide for a foreign substance and deformation.
- Check the Staple Motor for operating failure.
- Check the Staple Motor connectors for connection failure.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the **Staple Motor** test alternately. **The Staple Motor (PL 21.6) energizes.**

Y **N**

Check continuity between the Stapler Head and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Stapler Head (PL 21.6). If the problem continues, replace the Finisher PWB (PL 21.12).

Actuate the Staple Home Sensor (PL 21.6). Perform the **Staple Motor** test alternately. **The display changes.**

Y **N**

Check continuity between the Stapler Head and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Stapler Head (PL 21.6). If the problem continues, replace the Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

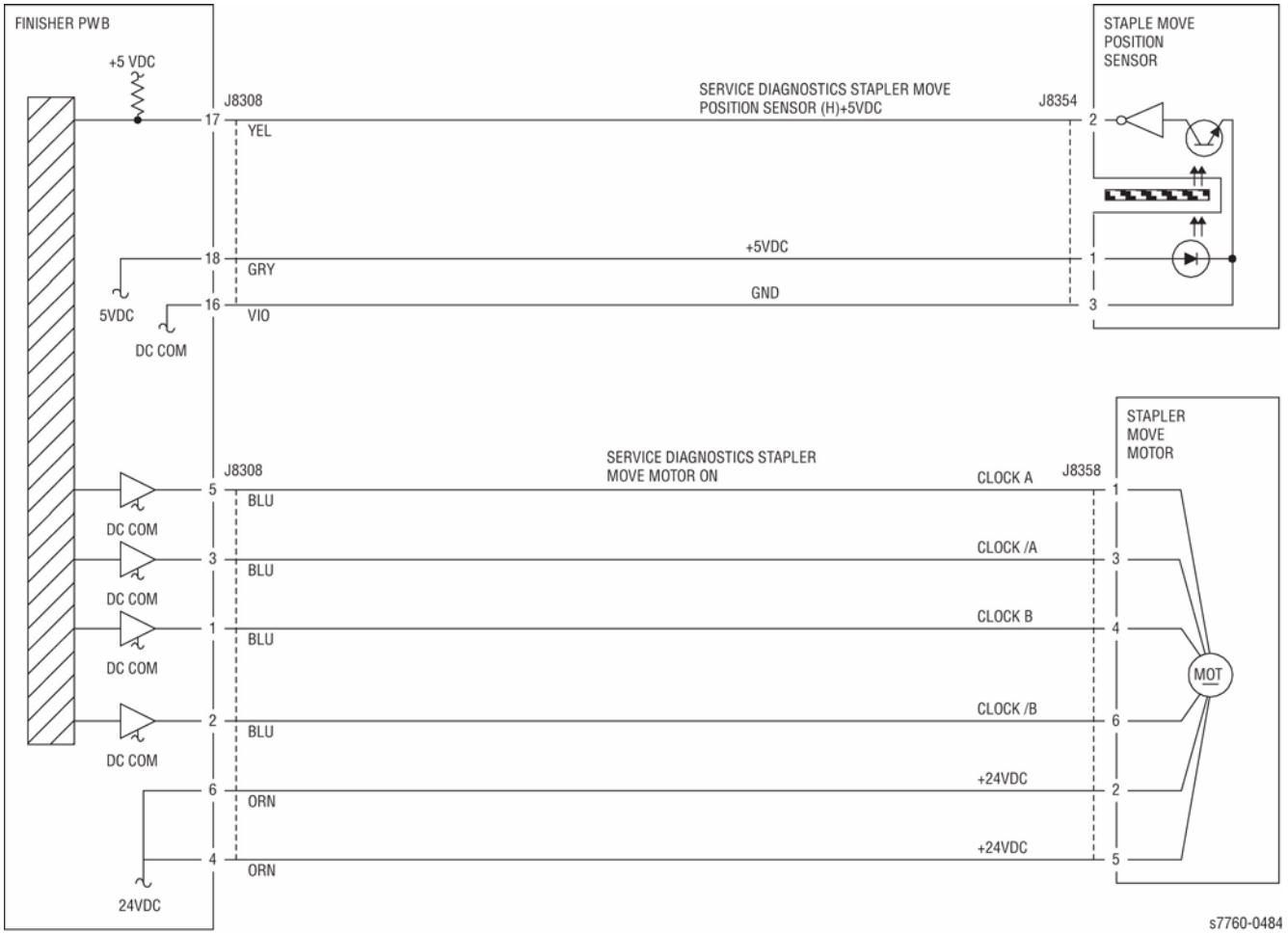

Figure 1 024-976 Staple Ready Sensor

024-977 Stapler Feed Ready Fail

- At the staple preparation operation at initialization, the Staple Ready Sensor does not go to ready (L) status after 13 ready attempts.
- The Stapler Ready Sensor is turned off (H) just before the Staple.

Procedure

Procedure not available.

024-978 Booklet Stapler NG

Error signal **On** and Ready signal **On** output from the Staple were detected after Booklet Stapling operation.

Procedure

Check continuity between the Booklet PWB and Finisher PWB (Figure 1). **The continuity check is OK.**

Y N

Repair the open circuit or short circuit.

Replace the Staple (PL 21.16). **The problem is resolved.**

Y N

Replace the Booklet PWB (PL 21.12). If the problem continues, replace the Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

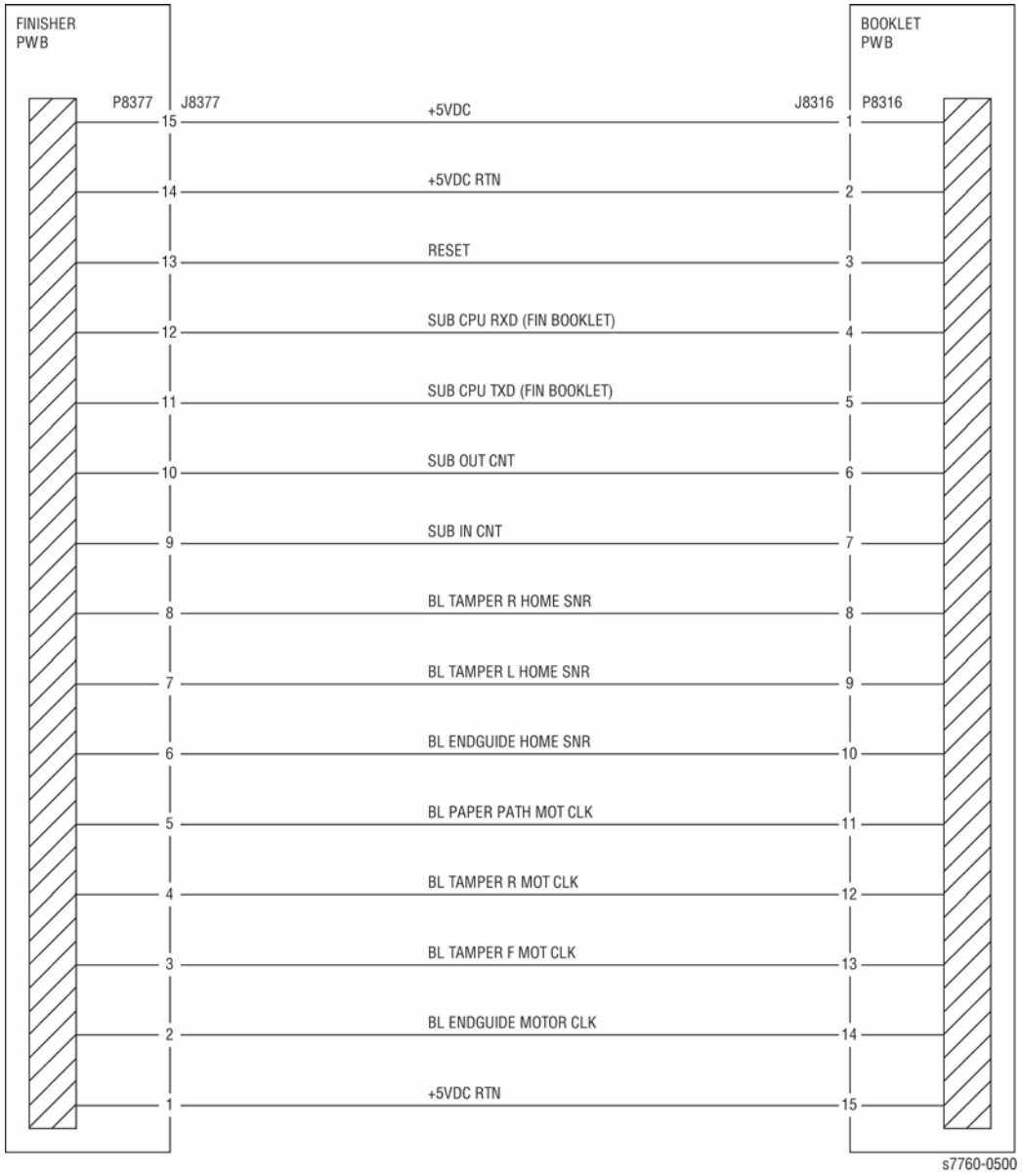

Figure 1 024-978 Booklet Stapler NG

024-979 Stapler Near Empty

The Finisher's Stapler Cartridge is low on staples, only 20 more sets can be stapled.

Initial Actions

- Check the Stapler Head connectors for connection failure.
- Check Staple remaining amount.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Low Staple Sensor (PL 21.6). **'LOW' (staples available) is displayed.**

Y **N**

Check continuity between the Stapler Head and Finished PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Stapler Head (PL 21.6). If the problem continues, replace the Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

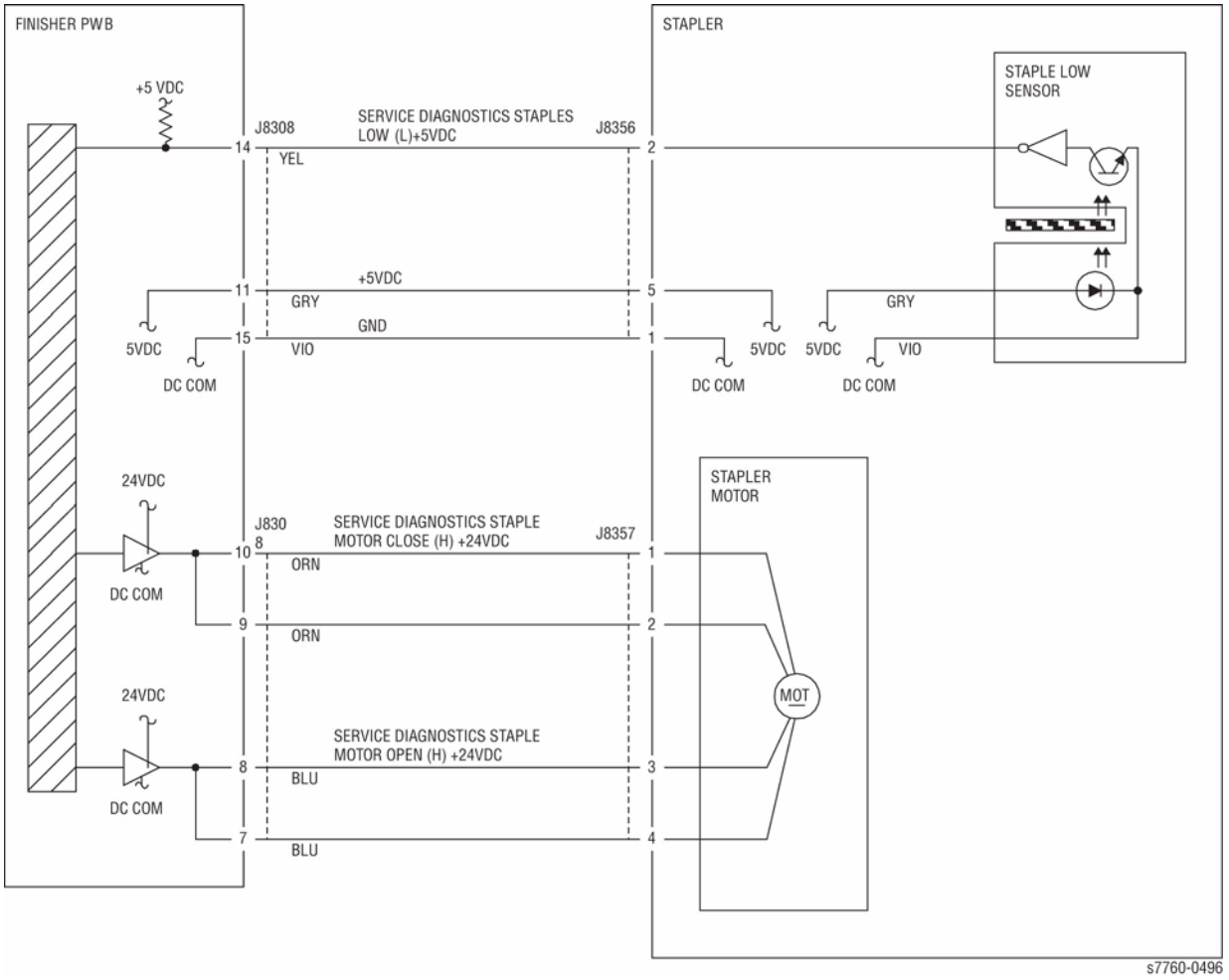

Figure 1 024-979 Stapler Near Empty

024-980 Finisher Stacker Tray Full

Stacker No Paper Sensor On was detected during the Stacker Tray height adjusting operation.

Initial Actions

- Check the Stacker No Paper Sensor for improper installation.
- Check the Stacker No Paper Sensor connectors for connection failure.
- Check the Elevator Motor for operation failure.
- Check the Elevator Motor connectors for connection failure.

CAUTION

Caution must be used when activating the Elevator Motor test. When activating this test in the Down position, there is no limit sensor for downward Stacker travels.

Downward steps increment (or decrement) in single steps, not 5. When continuing in the Down direction, DO NOT continue after an initial thump sound is heard.

Further downward movements may cause damage to the Stacker Unit/Finisher.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the **Elevator Motor** test alternately. **The Elevator Motor (PL 21.4) energizes.**

Y **N**

Check continuity between the Elevator Motor and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Elevator Motor (PL 21.4). If the problem continues, replace the Finisher PWB (PL 21.12).

Block/unblock the Stacker Encoder Sensor (PL 21.4). **The display changes.**

Y **N**

Check continuity between the Stacker Encoder Sensor and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Stacker Encoder Sensor (PL 21.4). If the problem continues, replace the Finisher PWB (PL 21.12).

Block/unblock the Stacker No Paper Sensor (PL 21.4). **The display changes.**

Y **N**

Check continuity between the Stacker No Paper Sensor and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Stacker No Paper Sensor (PL 21.4). If the problem continues, replace the Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

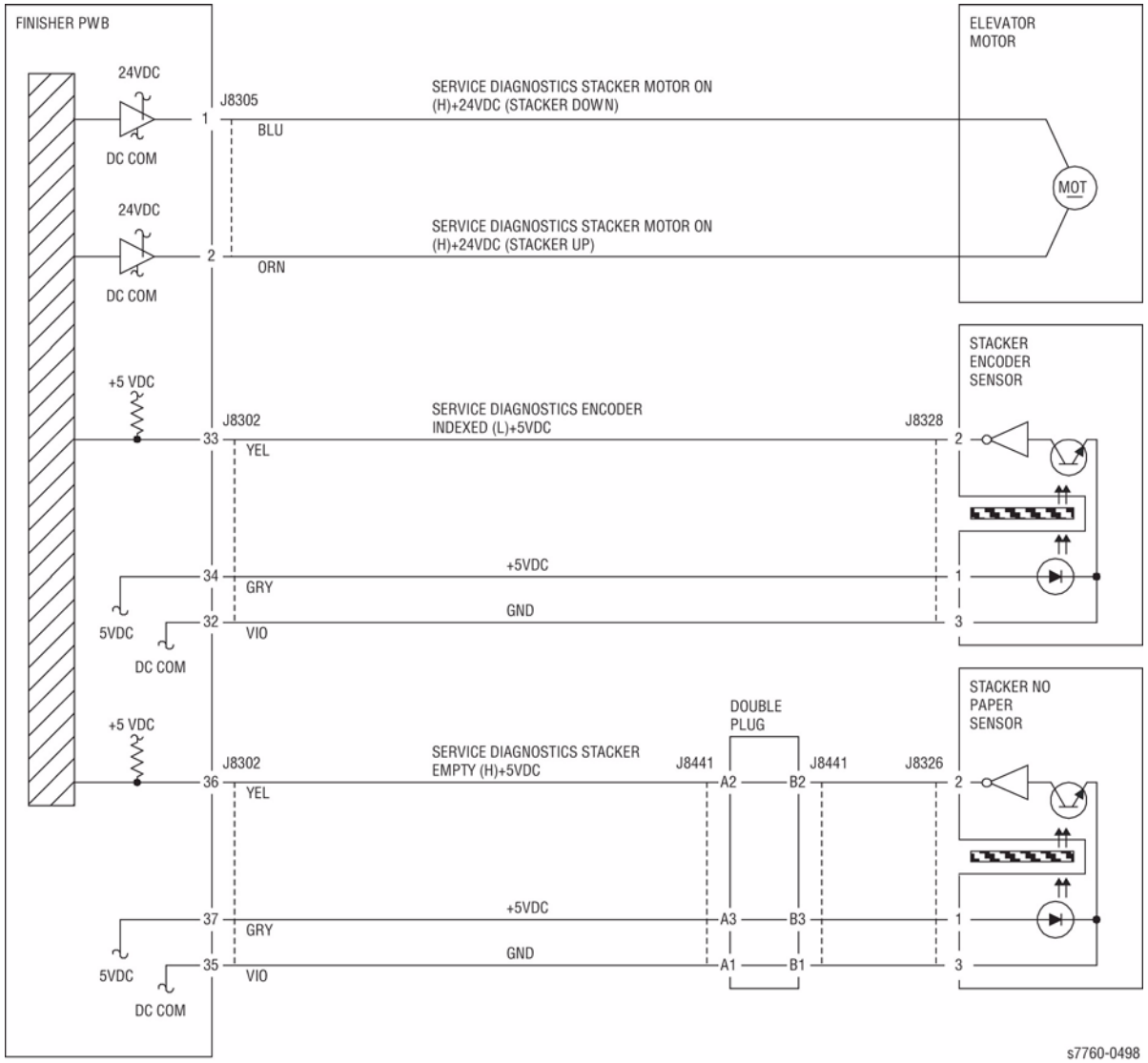

Figure 1 024-980 Finisher Stacker Tray Full

024-981 Finisher Top Tray Full Paper

The machine has detected that the Finisher's Top Tray is full.

Initial Actions

- Check the Top Tray Full Sensor for improper installation.
- Check the Top Tray Full Sensor connectors for connection failure.
- Check the Top Tray Full Sensor Actuator for deformation and operation failure.

Procedure

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > Printer Status Page > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Top Tray Full Sensor (PL 21.11). **The display changes.**

Y **N**

Check continuity between the Top Tray Full Sensor and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Top Tray Full Sensor (PL 21.11). If the problem continues, replace the Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.11).

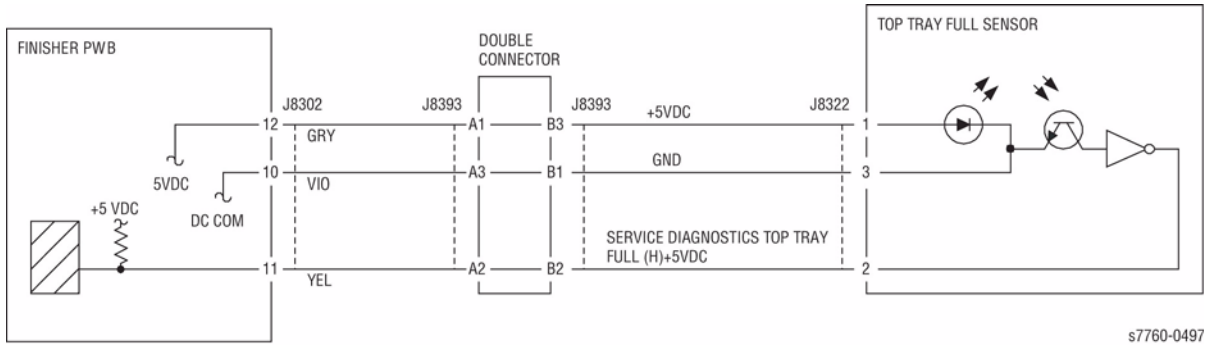

Figure 1 024-981 Top Tray Full Sensor

024-982 Finisher Stacker Tray Lower Safety Warning

The machine has detected a fault with the Sensor that detects vertical motion of the Finisher Tray.

Procedure

Check for obstacles in the under Stacker Tray Bracket. **The problem is resolved.**

Y **N**

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Move the Stacker Tray manually. **The display changes.**

Y **N**

Check conductivity between the Stacker Safety Switch and Finisher PWB. **The conducting check is OK.**

Y **N**

Repair the open circuit or short circuit.

Check the operation and conductivity of the Stacker Safety Switch contact points. **The contact points are operating and conducting properly.**

Y **N**

Replace the Stacker Safety Switch.

Replace the Finisher PWB (PL 21.12).

Replace the Finisher PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

024-983 Booklet Tray Full

Booklet Tray Full was detected.

Procedure

Remove all sets. Perform the job again. **The problem is resolved.**

Y **N**

Replace the Finisher Main PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12).

024-984 Booklet Low Staple F

Booklet Stapler Low Staple Front signal was detected just before Stapling operation.

Booklet Stapler Low Staple Front signal was detected at power On, at initialization, or when the Interlock was closed.

Procedure

Supply the staples. **The problem is resolved.**

Y **N**

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Booklet Stapler Low Staple Front. **'LOW' (staples available) is displayed.**

A

A

Y **N**

Check continuity between the Staple and Booklet PWB, and between the Booklet PWB and Finisher PWB (Figure 1). **The continuity check is OK.**

Y **N**

Repair the open circuit or short circuit.

Replace the Booklet Stapler Low Staple Front (PL 21.16). If the problem continues, replace the Finisher PWB (PL 21.12).

Replace the Finisher PWB (PL 21.12). If the problem continues, replace the Booklet PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12). If the problem continues, replace the Booklet PWB (PL 21.12).

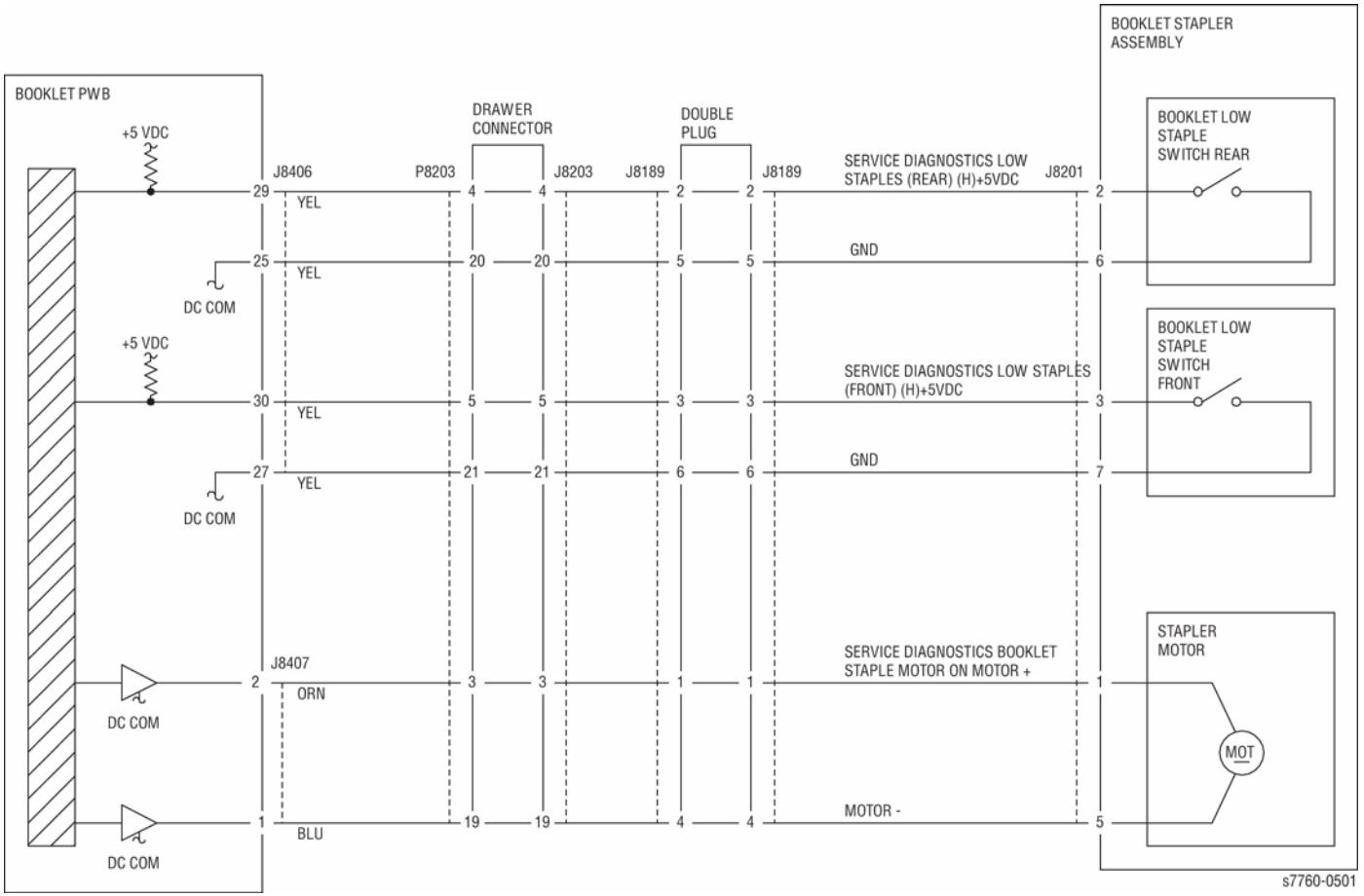

Figure 1 024-984 Stapler Front Assembly

024-985 Tray 1 (MPT) Paper Size

Tray 1 (MPT) Paper Size changed.

Procedure

The paper guides in Tray 1 (MPT) are adjusted against paper.

Y N

Adjust paper guides against paper.

Go to RAP 007-274, Tray 1 Paper Size Sensor.

024-989 Booklet Low Staple R

Booklet Stapler Low Staple Rear signal was detected just before Stapling operation.

Booklet Stapler Low Staple Rear signal was detected at power On, at initialization, or when the Interlock was closed.

Procedure

Supply the staples. **The problem is resolved.**

Y N

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Actuate the Booklet Stapler Low Staple Rear. **'LOW' (staples available) is displayed.**

Y N

Check continuity between the Staple and Booklet PWB, and between the Booklet PWB and Finisher PWB (Figure 1). **The continuity check is OK.**

Y N

Repair the open circuit or short circuit.

Replace the Booklet Stapler Low Staple Rear (PL 21.16). If the problem continues, replace the Finisher PWB (PL 21.12).

Replace the Finisher PWB (PL 21.12). If the problem continues, replace the Booklet PWB (PL 21.12).

If the problem continues, replace the Finisher PWB (PL 21.12). If the problem continues, replace the Booklet PWB (PL 21.12).

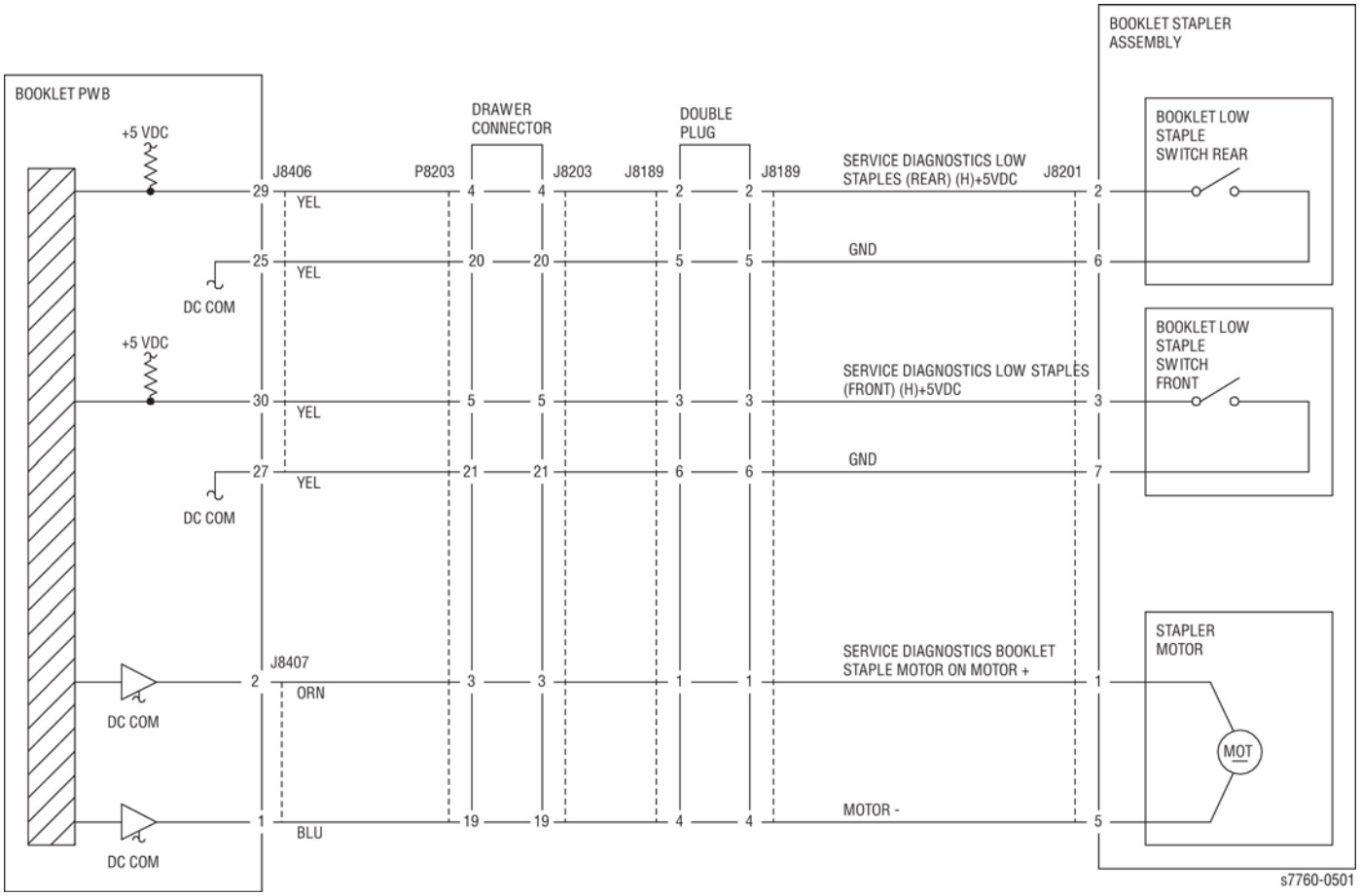

Figure 1 024-989 Stapler Rear Assembly

OF 1-4 AC Input Power

There is an AC input power failure between power cord and AC Drive PWB.

Initial Actions

- Entry to this RAP is from Call Flow.
- Check that the required voltage is available at the customer power outlet (approx. 110 VAC or 220 VAC). Inform customer if power is not available.

Procedure

AC Line Voltage is measured between the GFI Breaker P/J72-2 (+) and P/J72-1 (-) (Figure 1) (refer to Section 7, HVPS, +24V LVPS T10 Plug/Jack Locations - Figure 12).

Y N

Check the Power Cord for an open circuit. If no problems are found, replace the GFI Breaker (PL 9.2).

Measure voltage between P/J39-1 (ACH/BLK) and P/J39-3 (ACN/WHT) on the AC Drive PWB (Figure 1) (refer to Section 7, AC Drive PWB, Noise Filter PWB Plug/Jack Locations - Figure 18). **AC Line Voltage is measured.**

Y N

Check the connections between the GFI Breaker and the Noise Filter PWB.

A

If the connections are good, push the small button to reset the GFI Breaker.
If it is not tripped, replace the Noise Filter PWB (PL 9.2).

Measure voltage between J57 (ACH) on the Main Power Switch and J40 (ACN/WHT) on the AC Drive PWB (Figure 1). **AC Line Voltage is measured.**

Y N

Repair the open circuit between the Main Power Switch and the AC Drive PWB.

Hold the Main Power Switch in the on position while measuring voltage between J69 (ACH) on the Main Power Switch and J39-1 (ACN/WHT) on the AC Drive PWB (Figure 1). **AC Line Voltage is measured.**

Y N

Replace the Main Power Switch (PL 10.2).

Hold the Main Power Switch in the on position while measuring voltage between P/J41 (ACH/BLK) and P/J40 (ACN/WHT) on the AC Drive PWB (Figure 1). **AC Line Voltage is measured.**

Y N

Repair the open circuit between the AC Drive PWB (PL 9.2) and the Main Power Switch (PL 10.2).

AC input power to the AC Drive PWB is good.

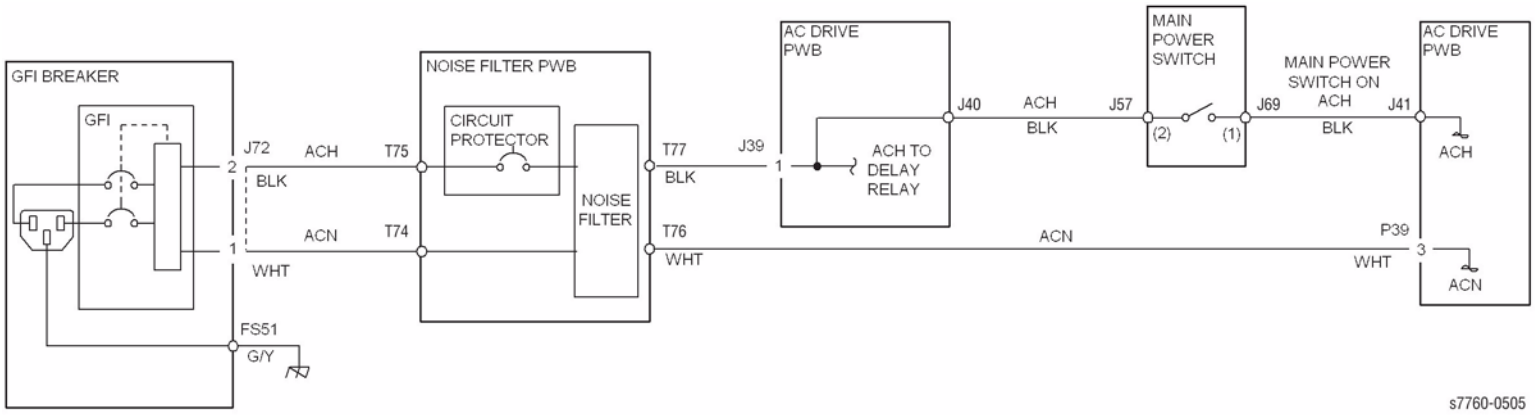

Figure 1 OF 1-4 Input Power

OF 7-1 Paper Trays

A paper tray problem occurs without a status or fault code.

Procedure

Ensure the protective shield is removed from the rear of the paper trays in the 3 Tray Module or Tandem Tray Module.

NOTE: *The shield protects the paper size actuators during shipping.*

OF 10-1 No Printer Top Tray Offset

Sets are not offset in Printer Top Tray.

Procedure

Enter Service Diagnostics Menu: Printer Menu > Troubleshooting > Service Tools > Printer Status Page > hold the Up and Down buttons simultaneously > Run Service Diagnostics > OK. Perform the Offset Motor test.

Y N

Check the circuit of the Offset Motor (Figure 1).

Repair the offset components as required (PL 2.11).

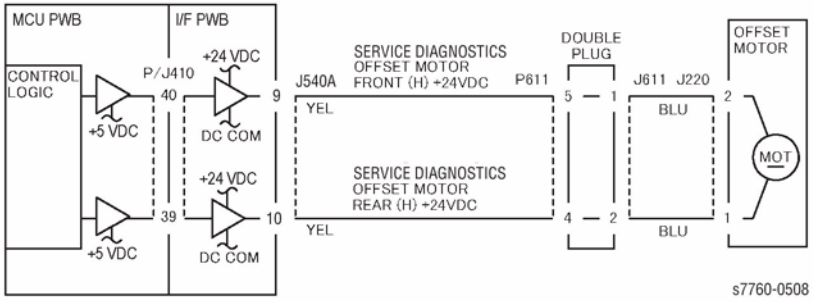

Figure 1 OF 10-1 Offset Motor

OF 10-16 Noise/Odor RAP

The machine produces noise or odor.

Procedure

The machine produces noise.

Y N

Then odor is produced.

Identify the source of the odor such as the Fuser (PL 7.1), AC Input Power area (PL 9.1 - PL 9.3), Paper Trays (PL 2.1), Xerographics (PL 4.1 - PL 6.2). Service as required.

The Left Cover Assembly is free of noise.

Y N

Refer to PL 2.8, Exit Roll Shaft, and clean and lubricate the bearings.

Operate machine with covers removed to identify the source of noise. Clean or lubricate the appropriate component. Operate Motors on sub-system individually to isolate the noise to a particular mechanism.

OF 12-1 Finisher Problem

There is a problem with the Finisher that does not produce a fault code.

Procedure

The machine is equipped with an Advanced / Professional Finisher.

Y N

Refer to the Parts List to repair the Finisher problem.

- Major Finisher Components
- Gate Assembly
- H-Transport
- Covers
- Top Cover and Eject Rolls
- Paper Transportation
- Stapler within Finisher
- Convenience Stapler
- Compiler
- Elevator
- Exit Assembly
- Electrical Components
- Rack Assembly (base)

Refer to the appropriate procedure to adjust the Finisher.

- ADJ 12.2 Finisher Leveling
- ADJ 12.4 Booklet Fold Skew
- ADJ 12.5 BookletFold Position
- ADJ 12.6 Booklet Staple Position (Staple on Fold)
- ADJ 12.7 Booklet Staple Alignment
- ADJ 12.8 Booklet Wrinkle
- ADJ 12.9 Booklet Fold Position (Fine Adjustment)
- ADJ 12.10 Booklet Staple Position (Staple on Fold Fine Adjustment)

OF 99-3 Switch

Procedure

Actuate the Switch. **The display changed.**

Y N

There is +3.5/+5 VDC measured between Pin 2(+) of the Switch and GND(-).

Y N

Check the wire between the switch Pin 2 and the PWB Pin 3 for an open circuit and poor contact. If the check is OK, replace the PWB.

There is +3.5/5 VDC measured between Pin 1(+) of the Switch and GND(-).

Y N

Replace the Switch.

Check the wire between the PWB Pin 4 and the switch Pin 1 for an open circuit and poor contact. If the check is OK, replace the PWB.

De-actuate the Switch. **The display changed.**

Y N

Disconnect the connector on the Switch. **The display changed.**

Y N

Check for a short between the switch Pin 2 and the PWB Pin 3. If the check is OK, replace the PWB.

Replace the Switch.

Replace the Switch.

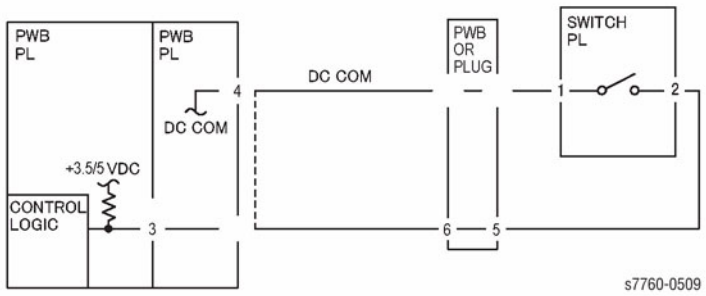

Figure 1 OF 99-3 Switch

OF 99-4 Generic Solenoid/Clutch

Solenoids and electric Clutches are essentially electromagnets. Typically, a positive voltage is applied to one end of a coil, and a current driver is connected to the other end. Control Logic switches this driver to GND potential, actuating the magnet. Bi-directional solenoids have a bipolar driver connected to each end. One leg is switched to 24 VDC and the other to GND.

Figure 1 is a circuit diagram of a typical Solenoid.

Initial Actions

Ensure that there is no damage or binding in the solenoid or in any mechanical linkage. If there is an Adjustment for the clutch or solenoid, make sure that the procedure was performed correctly

Procedure

The Clutch/Solenoid is always energized.

Y N

Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** >hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the **Clutch** or **Solenoid** tests. **The Clutch or Solenoid energizes.**

Y N

There is +24 VDC between the switched leg (J543 pin A6 in the example, Figure 1) of the control PWB and GND.

Y N

There is +24 VDC between the powered leg (J543 pin A7 in the example, Figure 1) of the control PWB and GND.

Y N

Disconnect the connector (J543 in the example, Figure 1). **There is +24 VDC between the powered leg of the control PWB and GND.**

Y N

Refer to the 24 VDC wirenets. check the input power to the control PWB. **+24 VDC is present.**

Y N

Use the 24 VDC wirenets to troubleshoot the problem.

Replace the control PWB.

Check the wire in the powered leg of the circuit, (J543 pin A7 in the example, Figure 1) for a short circuit to GND (refer to Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15). If the wire is OK, replace the clutch or solenoid.

Disconnect the connector (J543 in the example, Figure 1). Check continuity through the two wires and the Clutch or Solenoid. **There is less than 100 ohms between the two legs of the circuit.**

Y N

Disconnect the Clutch or Solenoid. Check continuity through the two wires and the Clutch or Solenoid. **There is less than 100 ohms across the clutch or solenoid.**

A B C D

A B C D

Y N

Replace the Clutch or Solenoid.

One of the two wires between the control PWB and the Clutch or Solenoid is open. Repair or replace the wiring as required.

Replace the Control PWB.

There is less than 1 VDC between the switched leg of the control PWB and GND.

Y N

Replace the PWB.

Replace the Clutch or Solenoid.

The clutch or solenoid appears to be functioning correctly. Refer to the Circuit Diagram for the RAP that sent you here. Check the wires for loose connections or damage that may cause intermittent operation. Perform any required adjustments.

There is a short circuit on the switched leg (J543 pin A6 in the example) from the solenoid or clutch. Check the wire for a short circuit to GND. If the wire is OK, replace the solenoid. If the problem persists, replace the controlling PWB.

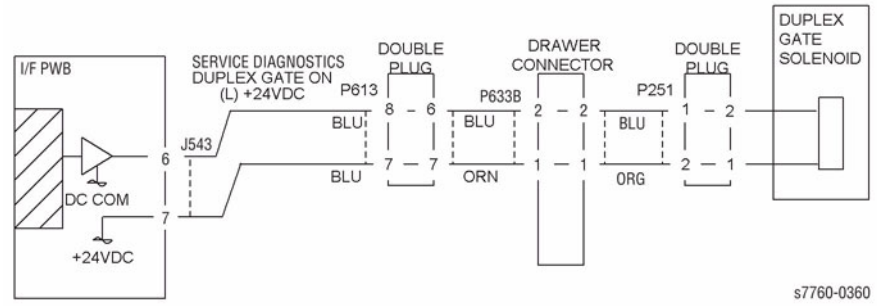

Figure 1 OF 99-4 Generic Solenoid/Clutch

OF 99-6 2 Wire Motor Open

Procedure

NOTE: *Before performing this RAP, ensure that the motor is free to rotate.*

There is +24 VDC measured between Pin 3(+) of the PWB and GND(-).

Y N

There is +24 VDC measured between the Motor Pin 2(+) of the Motor and GND(-).

Y N

There is +24 VDC measured between the Motor Pin 1(+) of the Motor and GND(-).

Y N

There is +24 VDC measured between the PWB Pin 4(+) of the PWB and GND(-).

Y N

Replace the PWB.

Check the wire between the PWB Pin 4 and the Motor Pin 1 for an open circuit or poor contact.

Replace the motor.

Check the wire between the PWB Pin 3 and the Motor Pin 2 for an open circuit or poor contact.

Replace the PWB.

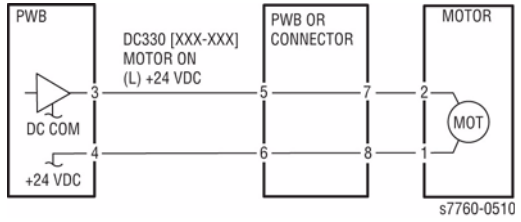

Figure 1 OF 99-6 Motor

OF 99-7 2 Wire Motor On

Procedure

Turn the printer power Off. Remove the PWB connector. **There is 10 Ohm's or less measured between the connector Pin 3 and the frame.**

Y N

Replace the PWB.

Check the wire between the connector Pin 3 and the motor Pin 2 for a short circuit.
If the check is OK, replace the motor.

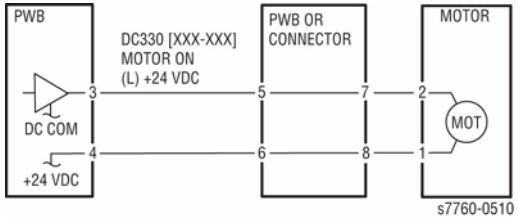

Figure 1 OF 99-7 Motor

OF 99-8 Set Gate Solenoid Open

Procedure

There is +24 VDC measured between the Nip/Release Solenoid Pin 1 (+) and GND (-).

Y N

There is +24 VDC measured between the PWB Pin 5 (+) and GND(-).

Y N

Check +24 VDC inputs on the PWB. If the check is OK, replace the PWB.

Check the wire between the PWB Pin 5 and the Nip/Release Solenoid Pin 1 for an open circuit or poor contact.

There is +24 VDC measured between the PWB Pin 4 (+) and GND(-).

Y N

There is +24 VDC measured between the Nip/Release Solenoid Pin 3 (+) and GND (-).

Y N

Replace the Nip/Release Solenoid.

Check the wire between the PWB Pin 4 and the Nip/Release Solenoid Pin 3 for an open circuit and poor contact.

Follow the following when the release caused a problem.

There is +24 VDC measured between the PWB Pin 6 (+) and GND(-).

Y N

There is +24 VDC measured between the Nip/Release Solenoid Pin 2 (+) and GND (-)

Y N

Replace the Nip/Release Solenoid.

Check the wire between the PWB Pin 6 and the Nip/Release Solenoid Pin 2 for an open circuit or poor contact.

Replace the PWB.

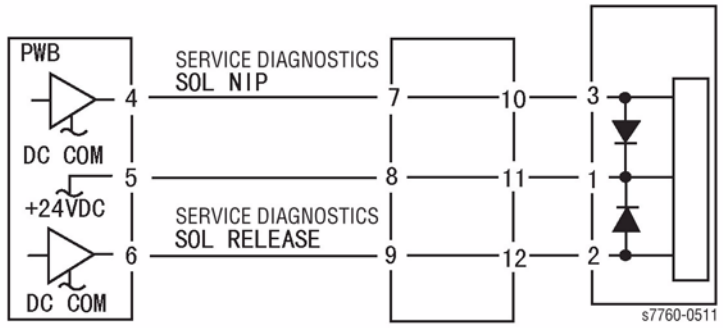

Figure 1 OF 99-8 Nip Solenoid

OF 99-9 Multiple Wire Motor

For use on DC motors that:

- have 1 or 2 DC power inputs
- are controlled by 2 or more drivers
- have no DC COM connections for return power
- have no specific feedback circuits

Procedure

Connect black meter lead to ground. Measure voltage at each pin of J2 (example only, refer to the actual Circuit Diagram for the correct voltage and connector designation). **+24 VDC is measured at each pin.**

Y N

Disconnect J2. Measure voltage at P2-1 and P2-6 (refer to Section 7, HVPS, +24V LVPS T10 Plug/Jack Locations - Figure 12). **+24 VDC is measured.**

Y N

Turn the machine **Off** then **On**. Measure voltage at P2-1 and P2-6. **+24 VDC is measured.**

Y N

If an interlock circuit is present, check the interlock circuit. Repair as required. If the interlock circuit is good, replace the PWB.

Check the motor wires for a short circuit. If the wires are good, replace the Motor.

Check the motor wires for obvious damage. If the wires are good, replace the Motor.

Replace the PWB.

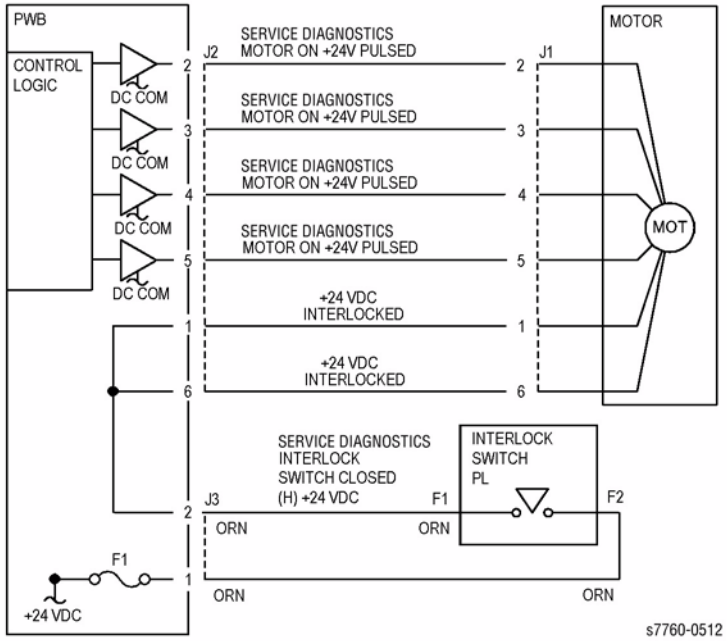

Figure 1 OF 99-9 Motor

3 Image Quality

Print-Quality Problems Overview

Print-quality defects can be attributed to printer components, consumables, media, internal software, external software applications and environmental conditions. To successfully trouble-shoot print-quality problems, as many variables as possible must be eliminated. The first step is to generate prints using printable pages embedded in the printer on laser paper. The paper should be from an unopened ream that has been acclimated to room temperature and you should ensure that genuine Xerox Toner is installed in the printer.

Print the **Paper Tips Page** (refer to Information Pages Menu) for media that has been tested and approved for use in the Phaser 7760 printer. If the print-quality defect is still present when printing on approved media from unopened ream of paper, then software applications, and environmental conditions need to be researched.

Print a **Service Usage Profile** (refer to Printer Menu Map) to determine the temperature and humidity the printer has been operating under. Compare this to the environmental specifications for the printer found in Introduction Section, Environmental Specifications. Temperature and humidity extremes can adversely affect the Xerographic and fusing characteristics of the printer.

When analyzing a print-quality defect, first determine if the defect occurs in **All Colors** or only **One Color** and if it is repeating or random. Continuous defects in the process direction, such as **Voids** and **Lines**, are the most difficult to diagnose. The visible surfaces of all rollers should be inspected for obvious defects.

Defects Associated with Specific Printer Components

Some print-quality problems can be associated with specific assemblies. The most common problems and the associated assemblies are the ROS, Imaging Units, Developer Housings, Accumulator Belt Assembly, Fuser, and Paper and Paper Trays.

The ROS

Potential Defects:

- Streaks from contamination on ROS window (usually Single Color)
- Light Image (Single Color, or All Colors)
- Banding (Slow Scan direction)

The Imaging Units

Potential Defects (usually Single Color):

- Spots
- Deletions
- Bands
- Repeating defects - 44 mm (1.7 in.) or 94 mm (3.7 in.)

The Developer Housings

Potential Defects (usually Single Color):

- Bead Carryout (grit on copy)
- Spots
- Deletions
- Mottle
- Uneven density front to rear
- Repeating defects - 28.3 mm (1.1 in.)

The Accumulator Belt Assembly

Potential Defects (usually All Colors):

- Spots
- Deletions
- Banding
- Uneven density front to rear
- Offsetting/Ghost Images (Cleaner malfunction)

The Fuser

Potential Defects (All Colors):

- Streaks
- Spots
- Bands
- Offsetting
- Repeating defects - 84 mm (3.3 in.) or 94 mm (3.7 in.)
- Transfer Roller - 88 mm

Paper and Paper Trays

Potential Defects (All Colors):

- Mottled Image (low quality or damp paper)
- Creases and folds

Control Panel Test Prints

A variety of test prints are available from the Control Panel's Troubleshooting Menu to aid in determining the quality of output from the printer and to assist in troubleshooting problems. This section shows how to select and analyze all test prints available to the Phaser 7760 Printer.

Refer to Section 3, Test Prints procedure for accessing the Control Panel.

NOTE: *Ensure to load letter size (LEF) media in Tray 1 (MPT) when working on the printer. This will prevent any printing issues from Tray 1 (MPT).*

Troubleshooting Print-Quality Page

Selecting the **Troubleshooting Print-Quality Page** (**Printer Menu** > **Troubleshooting** > **Print Quality Problems** > **Troubleshooting Print Quality Page**) causes a tutorial to be printed that provides tips on diagnosing print-quality problems. The tutorial contains examples of various Print-Quality Issues that may be encountered and also contains examples of the various Color Test pages, Solid Fill pages, and Test Pattern page.

Color Test Pages

Selecting **Color Test Pages** (**Printer Menu** > **Troubleshooting** > **Print Quality Problems** > **Troubleshooting Print Quality Page** > **Color Test Pages**) causes a group of seven pages to print as in Figure 1 and Figure 2. This group includes a full page each of 25% CMYK, a page of 80% solid fill red, a page consisting of 25% tint vertical CMYK bands with each band labeled, and the Test Patterns shown in Figure 2.

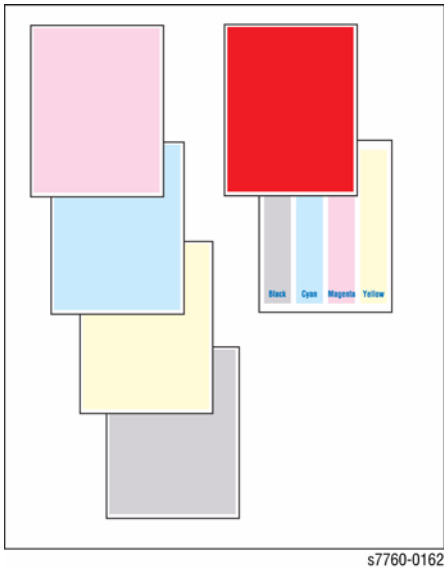

Figure 1 Color Test Pages

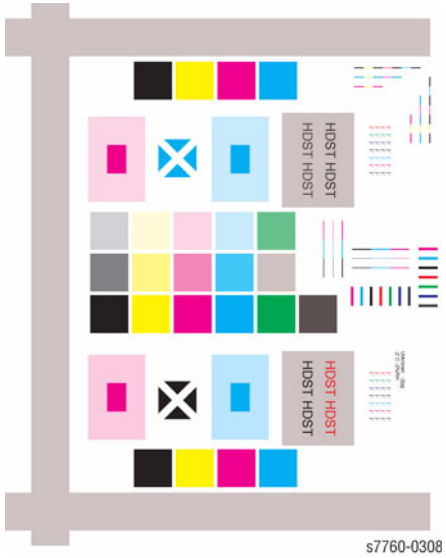

Figure 2 Test Patterns

Analyzing the Test Pattern

1. **Color Registration (Horizontal)**: The colored lines should match as shown in Figure 3.

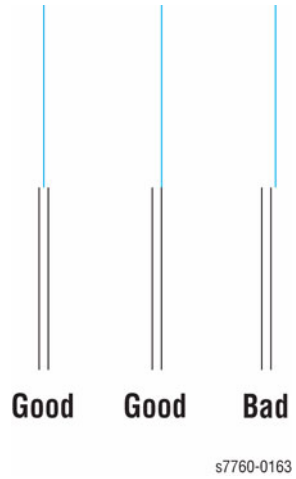

Figure 3 Color Registration (Horizontal)

2. **Color Registration (Vertical)**: The colored lines should match as shown in Figure 4.

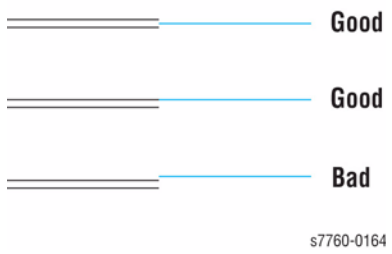

Figure 4 Color Registration (Vertical)

3. **Uniform RGB**: The Secondary color squares should be uniformly colored with no mottling.
4. **Density**: The color squares should have even density from top to bottom.

Solid Fill Pages

NOTE: *Must have 8 x 11 LEF in Tray 1 (MPT) when performing this procedure.*

Selecting **Solid Fill Pages** causes a group of six pages, as shown in Figure 5, to print that consist of 80% solid fill on individual pages of CMYK for primary colors and BG for secondary.

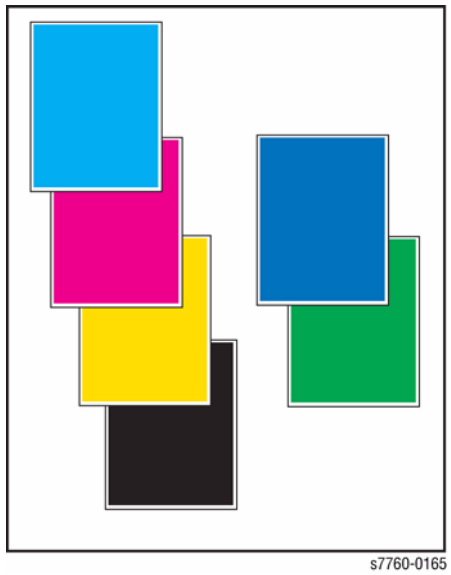

Figure 5 Solid Fill Pages

Repeating Defects Page

The **Repeating Defects Page** provides a measurement tool that allows you to match the spacing between repeated defects on the printed pages with the component that would cause such spacing to occur. Instructions for using the Repeating Defects Page are printed on the page.

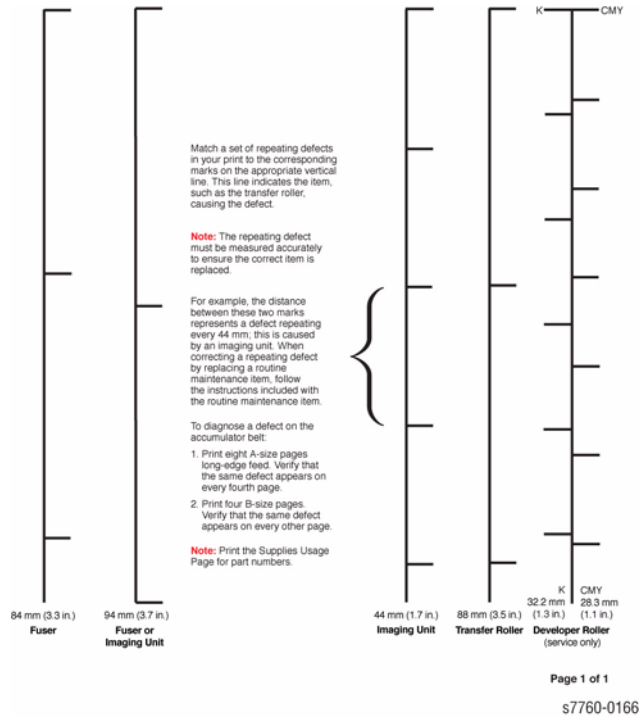

Figure 6 Repeating Defects Page

Removing Print Smears

Selecting **Remove Print Smears** (**Printer Menu** > **Troubleshooting** > **Print Quality Problems** > **Remove Print Smears**) causes the printer to cycle blank paper through the printing path, continue selecting this function until the paper comes out clean. The printer prints 5 prints 5 blank pages.

Engine Test Prints

These features are available from the Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. If the **Engine Test Prints** are rendered correctly and other test prints are defective, the problem is not on the Engine Control Board. Refer to Section 3, Test Prints for accessing the Control Panel.

NOTE: *Ensure to load letter size (LEF) media in Tray 1 (MPT) when working on the printer. This will prevent any printing issues from Tray 1 (MPT).*

Paper Path Options

Selecting **Paper Path Options** (**Service Diagnostics Menu** > **Built-in Test Prints** > **Paper Path Options**) allows the printer to be configured desired for printing any of the following Test Prints. The selectable options are:

- Source Tray
- Current # of sheets
- Offset
- Media Type
- Output Destination
- Stapling

Print Laser Check

NOTE: *Must have 8 x 11 LEF media in Tray 1 (MPT) when performing this procedure.*

Since all of the Laser Diodes are energized, all colors will be printed resulting in a composite grey image. If the image is not composite grey, one or more of the diodes may be bad. If there are gaps in the printout or the color is not uniform, the unit may required cleaning, adjustment, or repair.

Figure 1 Print Laser Check

Print Halftones

NOTE: *Must have 8 x 11 LEF media in Tray 1 (MPT) when performing this procedure.*

Selecting **Print Halftones** (Service Diagnostics Menu > **Built-in Test Prints** > **Print Halftones**) causes a group of six pages to print that consist of 80% solid fill on individual pages of CMYK for primary colors and RG for secondary. Colors should be uniform from top to bottom of the page with no mottling and the density for each color should be approximately equal.

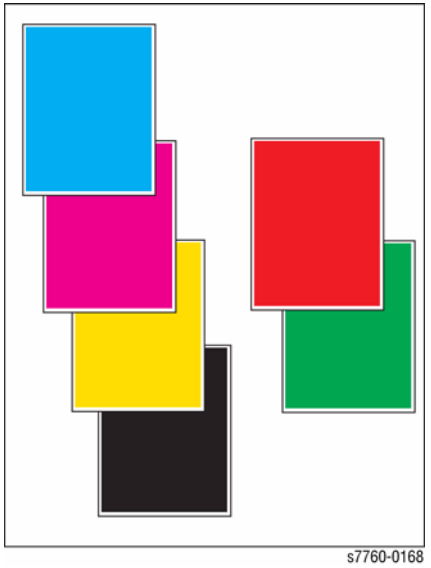

Figure 2 Print Halftones

Print Grid 1-Dot

NOTE: *Must have 8 x 11 LEF media in Tray 1 (MPT) when performing this procedure.*

This process prints a square grid over the complete sheet of paper. The Square should be uniform and vertical and the horizontal lines should be straight and of uniform thickness, if not, the problem should be diagnosed and corrected. All colors should align.

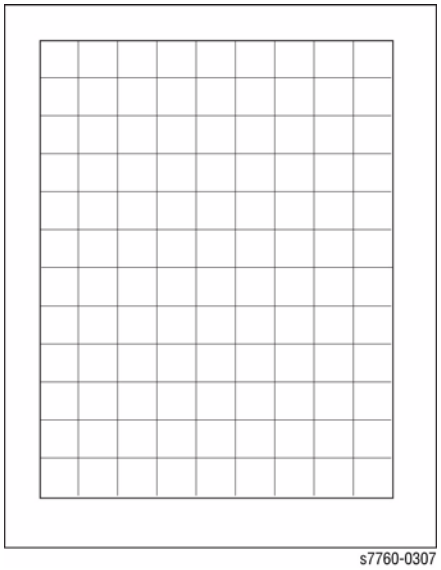

Figure 3 Print Grid 1-Dot

Print Fast Scan 8 Tone

This process prints one sheet each of CMYK seven distinct graduated bands of the color forming a block in the center of the page and a seventh band, with density that falls between the two lightest in the block, located at the bottom of the page.

The variation between bands should be distinct and the color in each band should be uniform. All should print with an equal amount of density bands +/- one band.

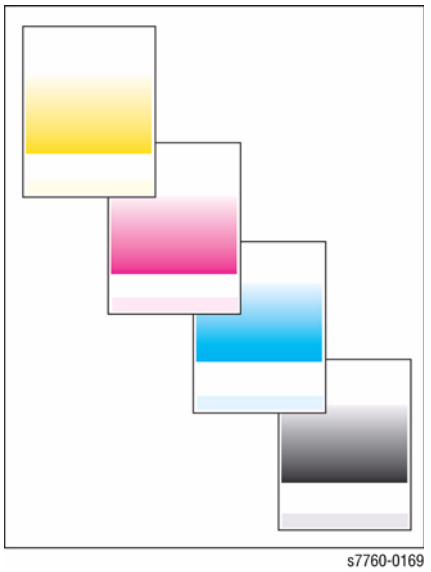

Figure 4 Print Fast Scan 8 Tone

Initial Actions Before Troubleshooting

1. Print a **Paper Tips Page** (**Printer Menu** > **Information** > **Information Pages** > **Paper Tips Page**) to verify the media being used is supported by the printer and the tray being used.
2. Verify the media settings are correct in both the printer driver software and at the printer's Control Panel.
3. Check the Color Correction and Print Mode settings in the printer driver.
4. Cycle power to the printer, this will run an Auto Density Control cycle.
5. Run the test prints and compare the results to the customer problems.

Light or Undertone Prints in All Colors

The overall image density is too light in all colors.

1. Verify the Transfer Roller has not reached its end-of-life.
2. Perform Calibrate for Paper procedure (ADJ 9.16) (**Printer Menu** > **Troubleshooting** > **Print Quality Problems** > **Calibrate for Paper** > **Calibrate for Paper Pages**). The printer prints 9 pages of the Calibrate for Paper process. Follow the instructions on the Calibrate for Paper to perform the procedure.
3. Check the Accumulator Belt Assembly for mis-alignment.
4. Replace the Transfer Roller.
5. Replace the High-Voltage Power Supply.

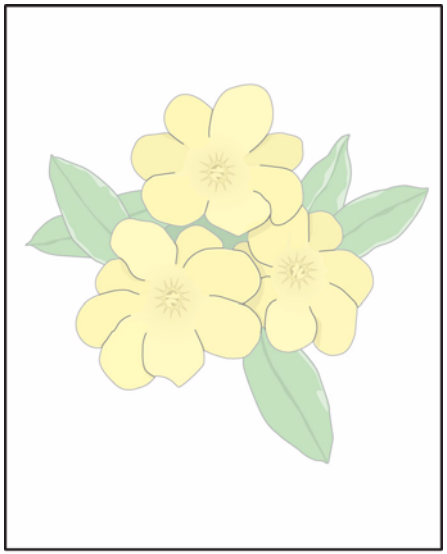

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Figure 1 Light or Undertone Prints in All Colors

Blank Prints

The entire image area is blank.

1. Perform **Solid Fill Pages** procedure (**Printer Menu** > **Troubleshooting** > **Print Quality Problems** > **Solid Fill Pages**). The printer prints 6 pages of Solid Fill Pages.
2. Open the Door in the middle of the print job.
   - Is there toner on the Accumulator Belt?
3. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Test the Shutter Motor. Does the Laser Shutter Motor work properly?
   a. Remove an Imaging Unit and check to see if the Shutter opens and closes freely.
4. Inspect the wiring harness for loose or disconnected wiring connectors. Check the wiring connectors on the Engine Control Board.
5. Perform the Engine Test Prints procedure.
   - If the test prints are free from defects, replace the Image Processor Board.
   - If the test prints show defects, replace the PWBA MCU (Engine Control Board).

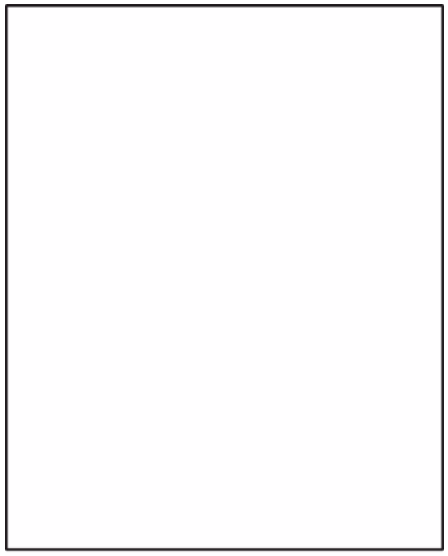

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Figure 2 Blank Prints

One Color Is Faded or Missing

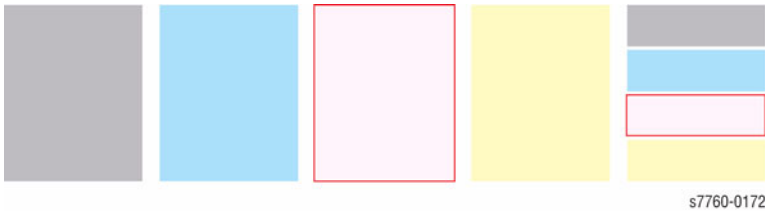


Figure 3 One Color Is Faded or Missing

1. Under high tone-coverage conditions, toner may be depleted during the Toner low state, but before the toner out message is displayed.
2. Is the Toner low or near empty?
   a. Remove the Toner Cartridge and inspect the top of the feed tube.
   b. Replace the Toner Cartridge if necessary. Ensure that genuine Xerox Toner is installed.
3. Perform **Calibrate for Paper** procedure (ADJ 9.16) (**Printer Menu** > **Troubleshooting** > **Print Quality Problems** > **Calibrate for Paper** > **Calibrate for Paper Pages**). The printer prints 9 pages of the Calibrate for Paper process. Follow the instructions on the Calibrate for Paper to perform the procedure.
4. Check the transfer setting before running **Calibrate for Paper** procedure. If the value is -4, you need to adjust the Transfer Settings.
5. Remove the Imaging Unit and verify that the Laser Shutter opens and closes using the Shutter Solenoid test (refer to the Service Diagnostics Menu).
6. Inspect and test the Toner Auger system. Ensure that the Toner Auger Motor operates. Ensure that the Toner Dispense Assembly is carrying toner from the Toner Cartridge to the Developer.
7. Remove the Accumulator Belt Assembly and inspect the high-voltage connectors on the back side to ensure they are not damaged.
8. Inspect the high-voltage wiring leading to the Accumulator Belt Assembly for damage.
9. Verify that the Developer is seated properly.
10. Replace the Developer Beads.
11. If the missing or faded primary color appears as speckle on the entire page, the high-voltage wire leading to that color's Developer Housing is grounded. Inspect the high-voltage wiring harness and Power Supply. Repair/Replace as necessary.
12. Replace the Laser Unit.
13. Swap the leads of the affected color with another color on the BTR1 HVPS. If the symptom changes, replace the BTR1 HVPS.
14. Replace the BCR HVPS.

Missing Band in Direction of Paper Travel, All Colors

There are areas of the image are extremely light or are missing entirely. These missing areas form wide bands from leading edge to trailing edge (B-size print shown in Figure 4). The printer displays no error code.

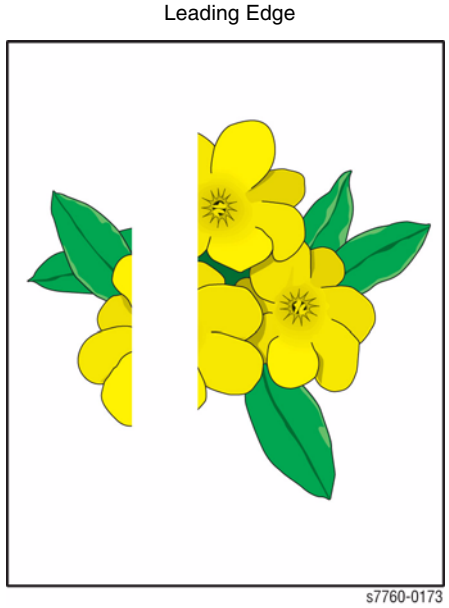


Figure 4 Missing Band

NOTE: *A-size prints are processed through the printer with the short edge of the print parallel to the direction of the paper path, making print artifacts parallel to the short edge of the print.*

1. Clean the Laser windows with the cleaning wand located in the Front Door.

Streaks in Direction of Paper Travel

There are dark lines running along the page in the direction of paper travel from the Leading edge to the Trailing edge (B-size print shown in Figure 5). The printer displays no error code.

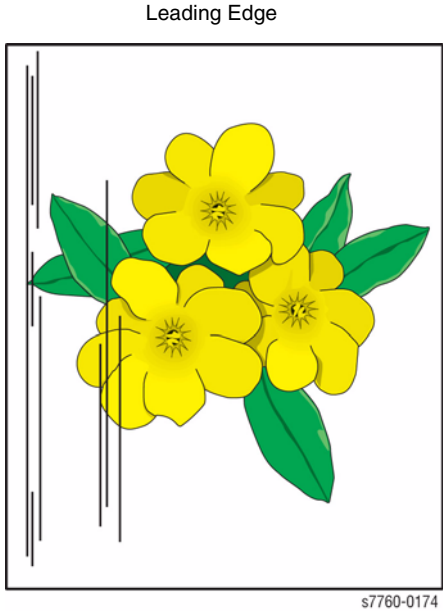


Figure 5 Streaks in Direction of Paper Travel

NOTE: *A-size prints are processed through the printer with the short edge of the print parallel to the direction of the paper path.*

B-size prints are processed through the printer with the long edge of the print parallel to the paper path, making horizontal artifacts parallel to the long axis of the print.

1. Perform the **Solid Fill Pages** procedure (**Printer Menu** > **Troubleshooting** > **Print Quality Problems** > **Solid Fill Pages**). The printer prints 6 Solid Fill pages.

   If the missing bands only occur in a single primary color,

   - replace the Imaging Unit of the affected color Or
   - swap the Imaging Units and perform another test print.

   NOTE: *Under some circumstances, streaking may occur in the margin of SRA3 -size paper. This is due to the edges of the paper extending beyond the end of the Imaging components. Print-quality in the margins of SRA3 paper is not guaranteed.*

2. Print the repeating defects page. Do the lines/streaks align with any of the repeating defect marks?
3. Inspect the Accumulator Belt Cleaner. Replace the Belt Cleaner if necessary.
4. Replace the Developer Housing Assembly, if the defect is in One Color only.
5. Perform the **Remove Print Smears** procedure (**Printer Menu** > **Troubleshooting** > **Print Quality Problems** > **Remove Print Smears**). The printer prints 5 blank pages. If the defect returns, replace the Fuser.

Streaks Parallel with the Leading Edge

There are dark lines running parallel with the leading edge of the print, perpendicular to the direction of paper travel (B-size print shown in Figure 6). The printer displays no error code.

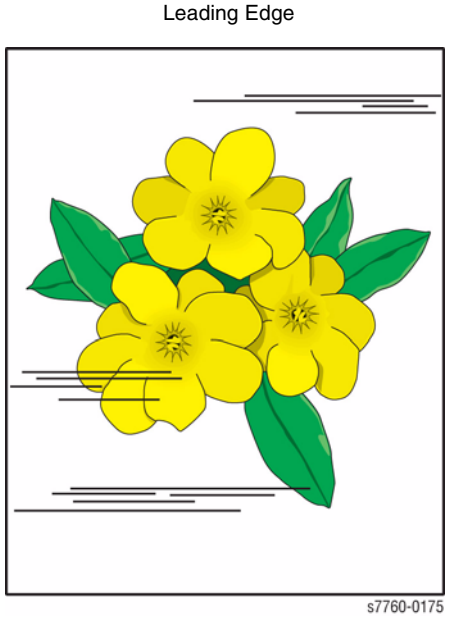


Figure 6 Streaks Parallel with the Leading Edge

NOTE: *A-size prints are processed through the printer with the short edge of the print parallel to the direction of the paper path, making print artifacts parallel to the long edge of the print.*

B-size prints are processed through the printer with the long edge of the print parallel to the paper path, making artifacts parallel to the short axis of the print.

1. Inspect the paper that is loaded in the paper tray.
   - Is the paper wrinkled, dimpled, or show any signs of having a high moisture content?
2. Does the band repeat at a specific interval?
   - If so, troubleshoot using **Repeating Defects Page** procedure (**Printer Menu** > **Troubleshooting** > **Print Quality Problems** > **Repeating Defects Page**). The printer prints 1 Repeating Defects page.
3. Perform the **Remove Print Smears** procedure (**Printer Menu** > **Troubleshooting** > **Print Quality Problems** > **Remove Print Smears**). The printer prints 5 blank pages.
4. If the engine test prints are all okay, but prints from an application or the Image Processor Board are not, replace the Image Processor Board.

Banding

1. Print the **Repeating Defects Page** (**Printer Menu** > **Troubleshooting** > **Print Quality Problems** > **Repeating Defects Page**). The printer prints 1 Repeating Defects page.
2. Replace the Imaging Unit of the affected color, using the repeating defects page.
3. If the defect still appears in the same color, the problem is the Developer.
4. If all colors, the problem is with the Accumulator Belt, Belt Cleaner, Transfer Roller, or Fuser.

Figure 7 Banding

Random Spotting

There are spots of toner randomly scattered across the page. The printer displays no error code.

Figure 8 Random Spotting

Single Color

1. Inspect the Toner Cartridge for toner clumping.
2. Check the Imaging Units.

All Colors

1. Inspect the paper path.
2. Inspect the Accumulator Belt Cleaner and replace it if necessary.
3. Inspect the Transfer Roller and replace it if necessary.
4. Replace the Fuser.

Repeating Bands, Streaks, Spots, and Smears Appear on Each Print

An identical mark or image appears on each, or every other printed image.

Figure 9 Repeating Bands, Streaks, Spots, and Smears Appear on Each Print

1. Perform **Remove Print Smears** procedure (**Printer Menu** > **Troubleshooting** > **Print Quality Problems** > **Remove Print Smears**). The printer prints 5 blank pages. This function passes blank sheets of paper through the printer to clean the Fuser Rollers.
2. Perform **Repeating Defects Page** (**Printer Menu** > **Troubleshooting** > **Print Quality Problems** > **Repeating Defects Page**). The printer prints 1 Repeating Defects page. The Repeating Defects Page contains rulers to help determine the source of the repeating defects.

Table 1 Repeating Defects

Measurement	Printer Component	Repair Actions
84 mm (3.3 in.)	Fuser	Remove the Fuser Assembly. Check the Heat Roll for damage (nicks, wear, or cuts) or contamination. Clean or replace as required.
94 mm (3.7 in.)	Fuser (mark in All Colors) OR Imaging Unit (mark in Single Color)	**All Colors** - Remove the Fuser Assembly. Check the Heat Roll for damage (nicks, wear, or cuts) or contamination. Clean or replace as required. **Single Color** - Replace the Drum Cartridge.
88 mm (3.5 in.)	Transfer Roller (2nd bias)	Check the 2nd BTR Assembly for damage or contamination. Clean, repair, or replace as required. Replace the Transfer Belt.
44 mm (1.7 in.)	Imaging Unit	Replace the Imaging Unit.
28.3 mm (1.1 in.)	Developer Housing Roller	Check the Developer Roll Bias for floating or shorting out. Replace the Developing Housing if required.

Random Missing Spots

There are small areas of the image that are extremely light or are missing entirely. These missing areas form spots that are localized to small areas of the page. The printer displays no error code. A small number of occasional missing spots is normal.

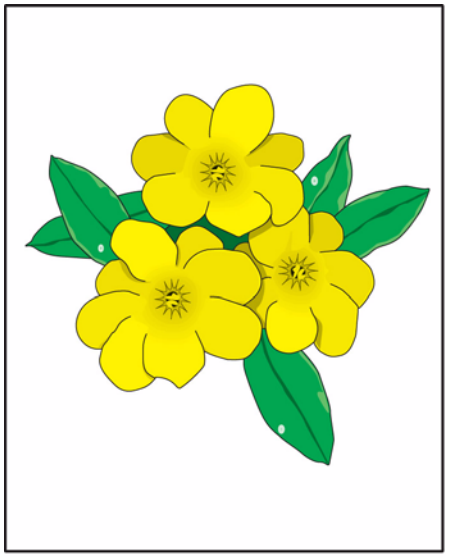


Figure 10 Random Missing Spots

1. If a **Toner Low** message is displayed, replace the Toner Cartridge in question.
2. Ensure that the loaded media matches the Control Panel settings.
3. Try to use an approved media to see if the spots still appear.
4. Perform Calibrate for Paper procedure (ADJ 9.16) (**Printer Menu** > **Troubleshooting** > **Print Quality Problems** > **Calibrate for Paper** > **Calibrate for Paper Pages**). The printer prints 9 pages of the Calibrate for Paper process. Follow the instructions on the Calibrate for Paper to perform the procedure.
5. This could be cold offset. Change the paper type to **one type heavier.** (from the Control Panel).
6. Perform **Solid Fill Pages** procedure (**Printer Menu** > **Troubleshooting** > **Print Quality Problems** > **Solid Fill Pages**). The printer prints 6 Solid Fill pages.
7. If the missing spots only occur in a single primary color, replace the Developer Housing Assembly.

Background Contamination

There is toner contamination on all or most the page. The contamination appears as a very light grey dusting. The printer displays no error code.

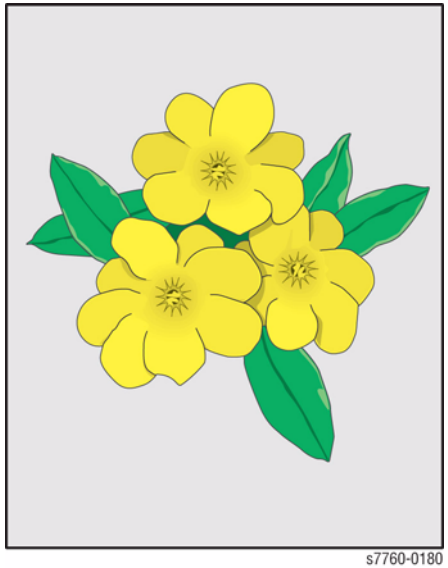


Figure 11 Background Contamination

1. Ensure that the loaded media matches the Control Panel settings. In some cases, switching the paper type setting, for example from **Heavy Laser Paper** to **Thin Cover/Index**, may improve the print-quality.
2. Perform **Calibrate for Paper** procedure (ADJ 9.16) (**Printer Menu** > **Troubleshooting** > **Print Quality Problems** > **Calibrate for Paper** > **Calibrate for Paper Pages**). The printer prints 9 pages of the Calibrate for Paper process. Follow the instructions on the Calibrate for Paper to perform the procedure

   NOTE: *Printing on some specialty papers, such as some glossy finish papers may show some background contamination.*
3. Inspect the Imaging Units for contamination. Replace the Imaging Units if necessary.
4. If the Transfer Roller or Belt Cleaner Assembly is near the end of its life, replace that part.
5. If the background contamination is a primary color (and that primary color is missing from the print), the high-voltage wire leading to that color's Developer Housing is grounded. Inspect the high-voltage wiring harnesses.

Unfused Image or Image Easily Rubs Off of Page

The toner image is not completely fused to the paper. The image easily rubs off. The printer displays no error code.

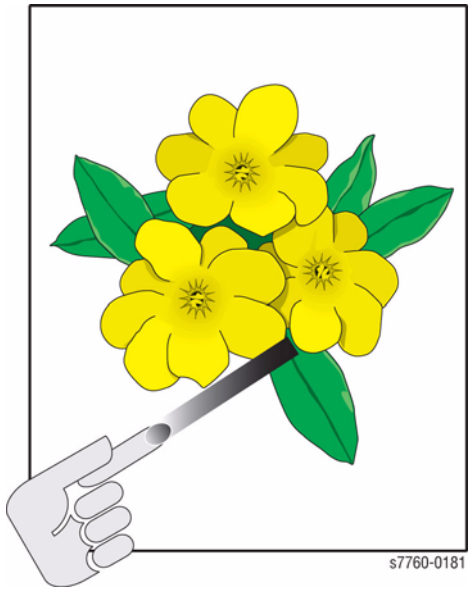


Figure 12 Unfused or Image Easily Rubs Off Page

1. Ensure that the paper you are using is
   - the correct type for the printer,
   - correctly loaded in the printer, and
   - loaded in the correct tray.

   Perform **Paper Tips Page** procedure (**Printer Menu** > **Troubleshooting** > **Paper Jams** > **Paper Tips Page**). The printer prints 3 Paper Tips pages. Follow the instructions on the Paper Tips Page to perform the procedure.
2. Ensure that the paper loaded in the tray matches the paper type selected on the printer's Control Panel.
3. If the problem continues, change the paper type to the **next heavier type** than existing type from the Control Panel Menu.
4. Check for paper wrapped around or blocking the Fuser Roller. Inspect the Fuser Roller for damage. Replace the Fuser if necessary.

Toner on Back of Print

There is toner on the back of the printed sheet of paper.

Figure 13 Toner on Back of Print

1. Clean the printer interior.
2. Inspect the paper that is loaded in the paper trays.
   - Is the paper clean and free of toner?
3. Try to print using supported media.
4. Ensure that the loaded media matches the Control Panel settings. In some cases, switching the paper type setting, for example from **Heavy Laser Paper** to **Thin Cover/Index**, may improve the print-quality.
5. Perform the Fuser cleaning pages.
6. After the Fuser has been cleaned, change the paper setting to one type heavier.
7. If the Transfer Roller or Belt Cleaner Assembly is near the end of its life, replace that part.

Print is Mottled

The printed image has a mottled appearance.

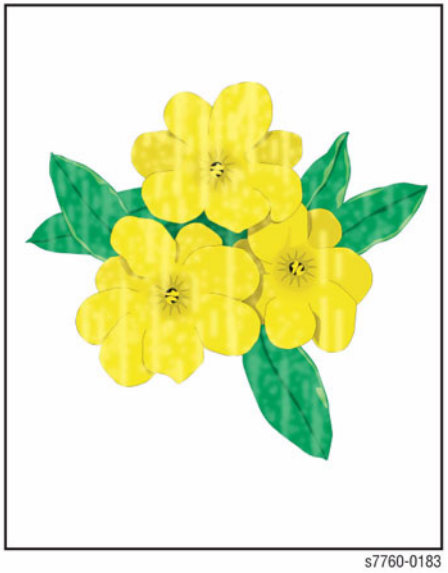


Figure 14 Print is Mottled

1. Ensure that the paper is in good condition and appropriate for a laser printer.
2. Ensure that the loaded media matches the Control Panel settings. Also, check the media selected in the printer driver.
3. Ensure supported media is being used.
4. For specialty papers, experiment with alternate paper type settings such as **Heavy Laser Paper, Thick Cover/Index** or others.
5. Perform **Calibrate for Paper** procedure (ADJ 9.16) (**Printer Menu** > **Troubleshooting** > **Print Quality Problems** > **Calibrate for Paper** > **Calibrate for Paper Pages**). The printer prints 9 pages of the Calibrate for Paper process. Follow the instructions on the Calibrate for Paper to perform the procedure

   NOTE: *Verify the settings. Ensure the setting is not at +4 value before running Calibrate for Paper. Tray 1 (MPT) must have the correct setting to run Calibrate for Paper.*

Image Mis-Registered on Paper

The image area is not centered on the page or the image is bleeding off of the page. The printer displays no error code.

NOTE: *Ensure to verify the Specification before continuing with the procedure.*

Table 2 Specification

Item	Item Description	Conditions	Specification
Skew	Margins skewed	Tray 2-5 Simplex Center-line/Semi-centerline	+/-0.75 (+/-1.5 mm Lead Edge at 200 mm)

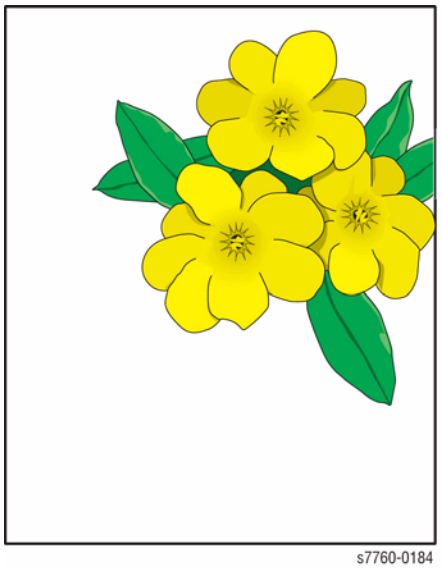


Figure 15 Image Mis-Registered on Paper

1. Print the **Configuration Page** or **Startup Page** (**Printer Menu** > **Information** > **Information Pages** > **Configuration Pages/Startup Page**) to verify the Hard Drive, Application, and Driver settings (refer to Printer Menu Map).
2. Is this the correct weight paper loaded in the tray?
3. Ensure that the Paper Guides are set to the correct position for the paper loaded in the tray.
4. Try to print from the other trays. If the problem only occurs from one tray, clean the Rollers in that tray.
5. Perform **Calibrate Margins** procedure (ADJ 9.18) (**Printer Menu** > **Troubleshooting** > **Print Quality Problems** > **Calibrate Margins**).
6. Verify that Tray 1 (MPT) or Tray 2 has not been inadvertently set to custom width while standard sized paper is installed.

7. Verify that the front Tray 1 (MPT) Guide is in the correct position.

Residual Image or Ghosting

There are faint, ghostly images appearing on the page. The images may be either from a previous page or from the page currently being printed. The printer displays no error code.

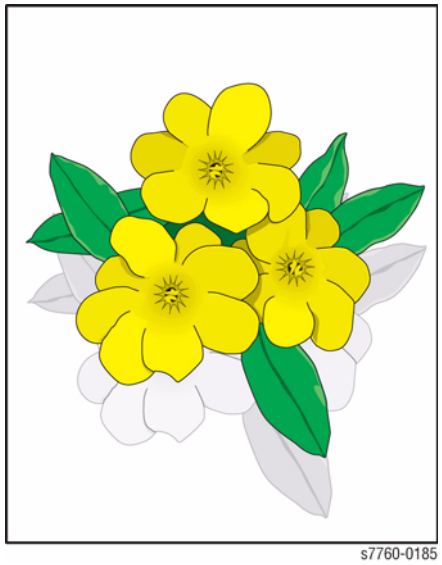


Figure 16 Residual Image or Ghosting

1. Ensure that the paper you are using is the correct type for the printer and is correctly loaded in the printer. Print the **Paper Tips Page** (**Printer Menu** > **Information Pages** > **Paper Tips Page**). The printer prints 3 Paper Tips pages. Follow the instructions on the Paper Tips Page to perform the procedure.
2. Ensure that the paper loaded in the tray matches the paper type selected on the Control Panel.
3. Ensure that genuine Xerox Toner is installed in the printer.
4. If the problem continues, change the paper type from the **Control Panel Menu** to the **next lightest** type of paper than existing type of paper.
5. If the colors are offset by only a small amount (10 mm maximum), then calibration of the Laser may be needed. This is mis-registration, not Ghosting, refer to Section 3, Image Mis-Registered on Paper.
6. If the ghosting is offset by 84 mm, perform the **Remove Print Smears** procedure (**Printer Menu** > **Troubleshooting** > **Print Quality Problems** > **Remove Print Smears**). The printer prints 5 blank pages. Inspect, clean, and replace the Fuser if necessary.

   NOTE: *Some ghosting may appear on transparency film and is a limitation of the printer.*

Missing Colors

One of more of the primary (YMCK) colors is missing from the image.

1. Refer to Section 6, Developer BIAS Failure to check the Developer Bias Circuit.
2. If the circuits are OK, check ROS for damage or contamination. Clean, repair, or replace as required (PL 3.1).

4 Repairs and Adjustments

Covers

Adjustments - Xerographic/Registration

Adjustments - Finisher

REP 1.1 5 V LVPS Bracket

Parts List on PL 9.1

Removal

CAUTION

PWB's can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage.

1. Remove the Rear Cover (REP 14.2).
2. Tilt out the High Voltage Power Supply Chassis (REP 1.6).
3. Release the 6 harness clips.
4. Removing the 5V LVPS Bracket (Figure 1).
   a. Disconnect the wiring harness P/Js.
   b. Loosen the lower 2 screws.
   c. Remove the upper 2 screws.
   d. Remove the 5V LVPS Bracket.

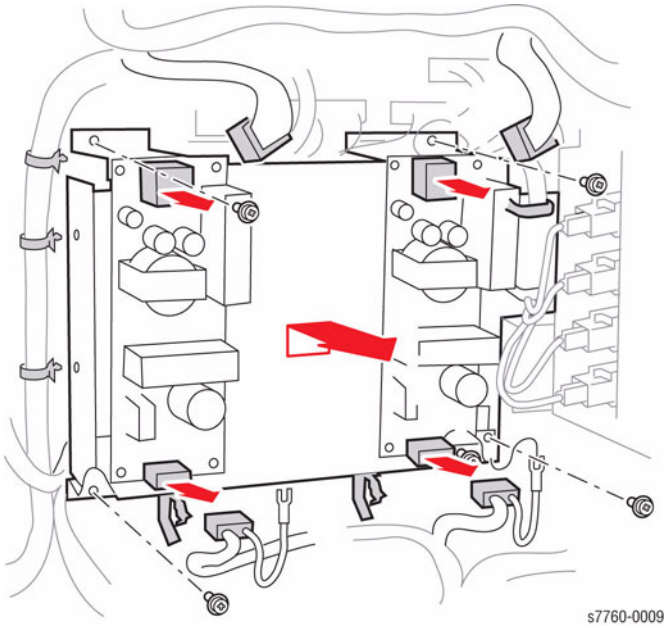


Figure 1 Removing 5 V LVPS Bracket

REP 1.2 Engine Control Board (PWBA MCU)

Parts List on PL 13.1

Removal

1. Store the Engine Control Board NVRAM values to the Hard Drive (refer to Section 6, Store Engine NVRAM using the Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** >hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.

CAUTION

PWB's can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage.

2. Remove the Electrical Chassis Assembly (REP 1.3).
3. Disconnect the 14 P/Js.
4. Remove the screws 10 screws securing the PWBA MCU and remove the PWBA MCU.

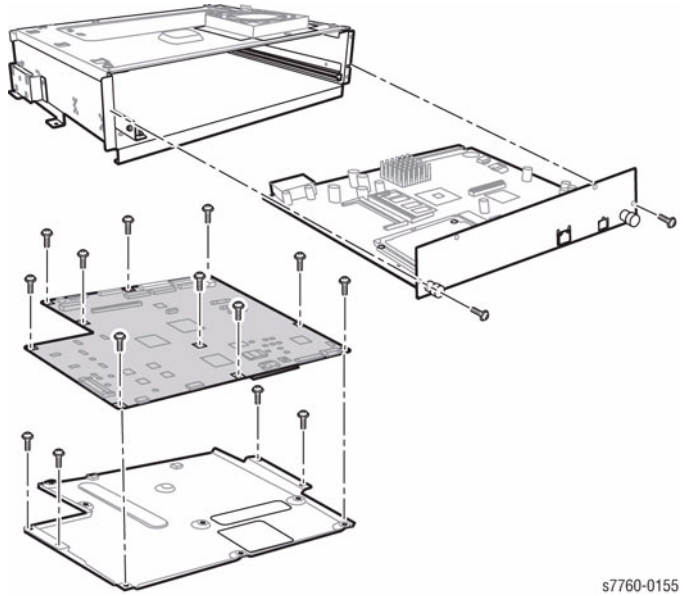


Figure 1 Removing Engine Control Board (MCU PWB)

NOTE: *If an NVRAM (PL 13.1) is replaced, ensure to perform Resetting NVRAM procedure.*

Replacement

CAUTION

When reinstalling the Engine Control Board, be sure to fully reconnected all P/Js.

1. Write the stored NVRAM values to the Engine Control Board (refer to Section 6, Resetting NVRAM using the Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** >hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.

REP 1.3 Electrical Chassis Assembly

Parts List on PL 13.1

Removal

1. Remove the Rear Cover (REP 14.2).
2. Remove the Right Cover (REP 14.3).
3. Remove the Top Cover (REP 14.1).

CAUTION

PWB's can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage.

4. Remove the Image Processor Board (Coordinator PWB) (REP 1.12).
5. Removing the Electrical Chassis Assembly (Figure 1).
   a. Remove the 4 screws securing the Electrical Chassis Assembly.
   b. Disconnect and rotate the Image Processor Board connector to the Engine Control Board Connector and push it away from the Chassis.
   c. Release the metal rod connecting the Power Switch to disengage it from the Chassis. Lift the Chassis away from the Printer.

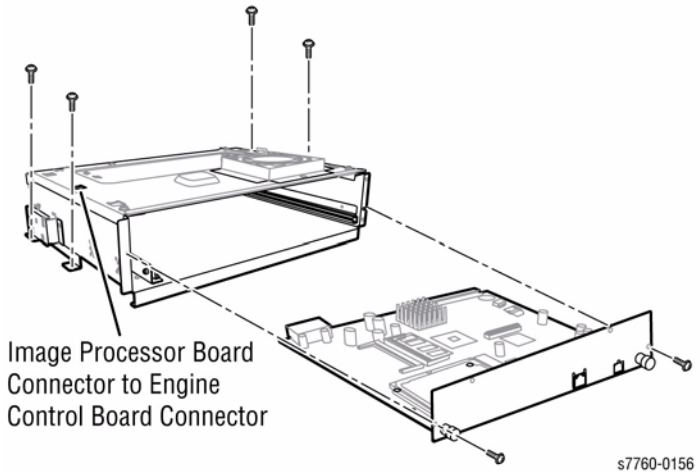


Figure 1 Removing Coordinator Chassis

REP 1.4 5 V LVPS

Parts List on PL 9.1

Removal

CAUTION

PWB's can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage.

1. Remove the Rear Cover (REP 14.2).
2. Tilt out the HVPS Chassis (DEV/BTR2/DTS - BCR HVPS) (REP 1.6).
3. Removing the 5V LVPS (Figure 1).
   a. Disconnect the 2 wiring harnesses at P/J16 and P/J511 (refer to Section 7, I/F PWB, Main Motor, LVPS T11 Plug/Jack Locations - Figure 16).
   b. Remove the 4 screws securing the bracket to the frame.
   c. Lift the Power Supply up and out to remove.

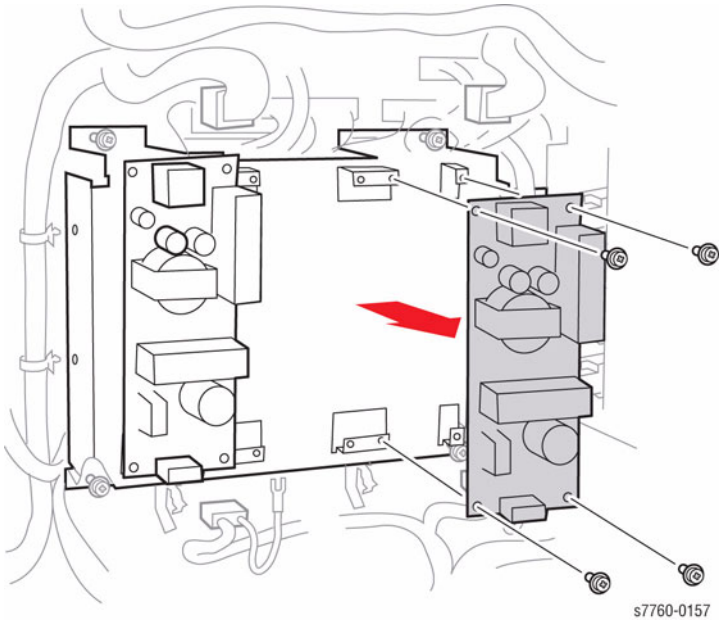


Figure 1 Removing LVPS

REP 1.5 24V LVPS

Parts List on PL 9.1

Removal

CAUTION

PWB's can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage.

1. Remove the Rear Cover (REP 14.2).
2. Remove the Developer Fan (PL 9.1).
3. Removing the 24V LVPS (Figure 1).
   a. Disconnect the 3 wiring harnesses (refer to Section 7, HVPS, +24 V LVPS T10 Plug/Jack Locations - Figure 12).

CAUTION

5 screws with red marks secure LVPS to heat sink. Do not remove them.

   b. Remove 1 screw at the top of the Bracket, loosen the 2 bottom screws and remove the LVPS.

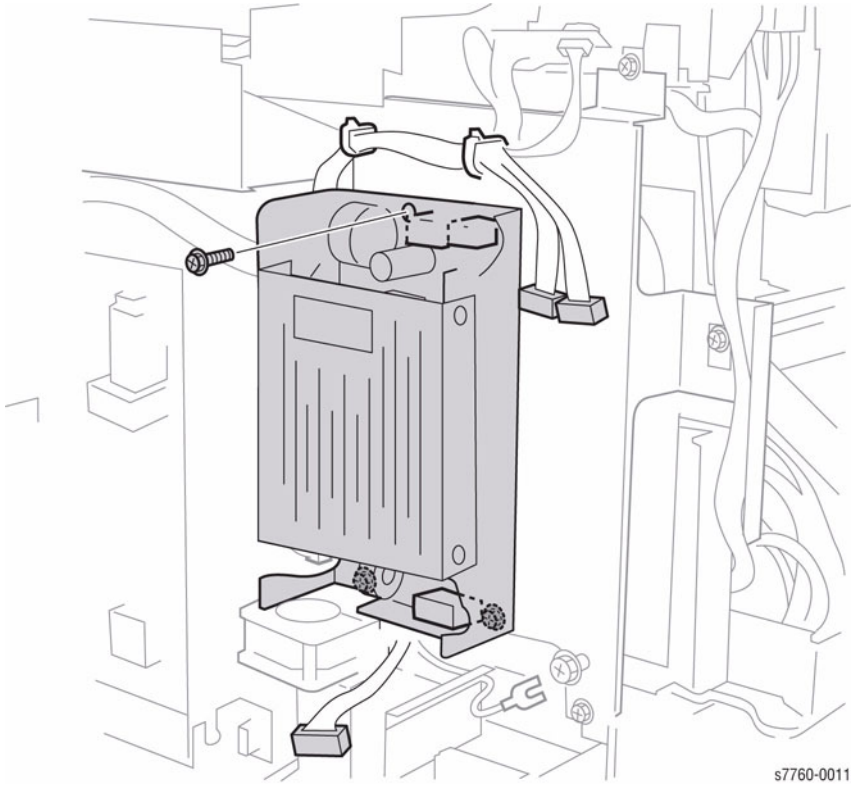


Figure 1 Removing 24V LVPS

REP 1.6 HVPS Chassis

Parts List on PL 9.1

Removal

CAUTION

HVPS can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage.

1. Remove the Rear Cover (REP 14.2).
2. Remove the Developer Fan (PL 9.1).
3. Removing the HVPS Chassis (Figure 1).
   a. Disconnect the 2 wiring harnesses at P/J501 and P/J574 (refer to Section 7, HVPS, +24 V LVPS T10 Plug/Jack Locations - Figure 12). Do not disconnect the Soldered Connection Harness.
   b. Disconnect the High Voltage wiring harnesses at T205, P/J580, and P/J801 (refer to Section 7, HVPS, +24 V LVPS T10 Plug /Jack Locations - Figure 12).
   c. Loosen 1 screw and remove the Ground Wire.
   d. Remove the 3 screws securing the HVPS. Remove the wiring harnesses from the Clamps.
   e. Pivot down the HVPS and engage the Stop Strap with the Frame Tab.
   f. Lift the HVPS Chassis to remove.

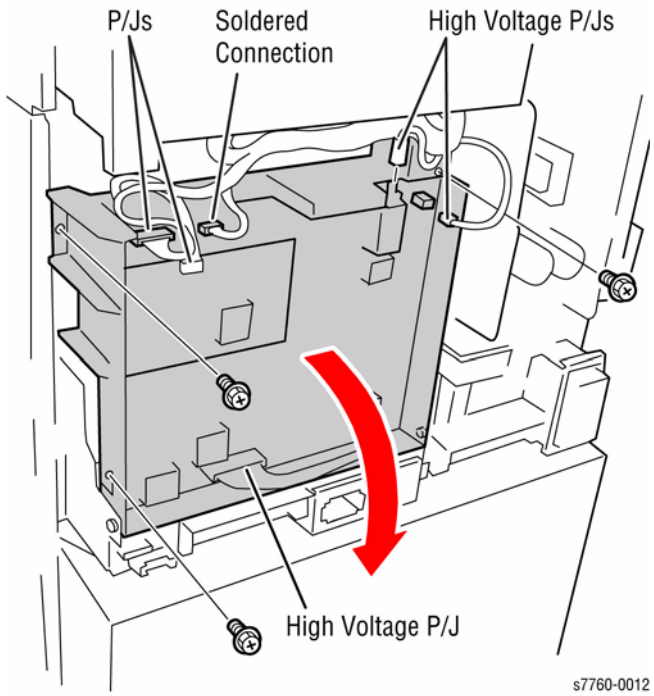


Figure 1 Removing the High Voltage Power Supply

REP 1.7 DEV/BTR2/DTS T10 HVPS or BCR T11 HVPS

Parts List on PL 9.1

Removal

1. Remove the Rear Cover (REP 14.2).

CAUTION

PWB's can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage.

2. Remove the HVPS Chassis (REP 1.6).
3. Remove the High Voltage Power Supplies from the Chassis.
   - DEV/BTR2/DTS T10 HVPS is power supply facing toward the front of the Printer (Figure 1).

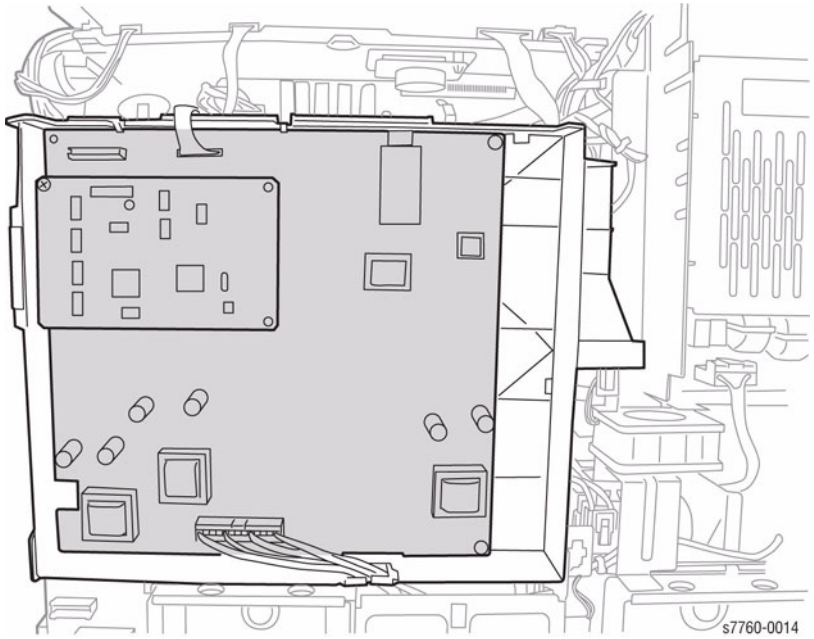


Figure 1 DEV/BTR2/DTS T10 HVPS (facing the rear of the Printer)

- BCR T11 HVPS is the power supply facing toward the rear of the Printer (Figure 2).

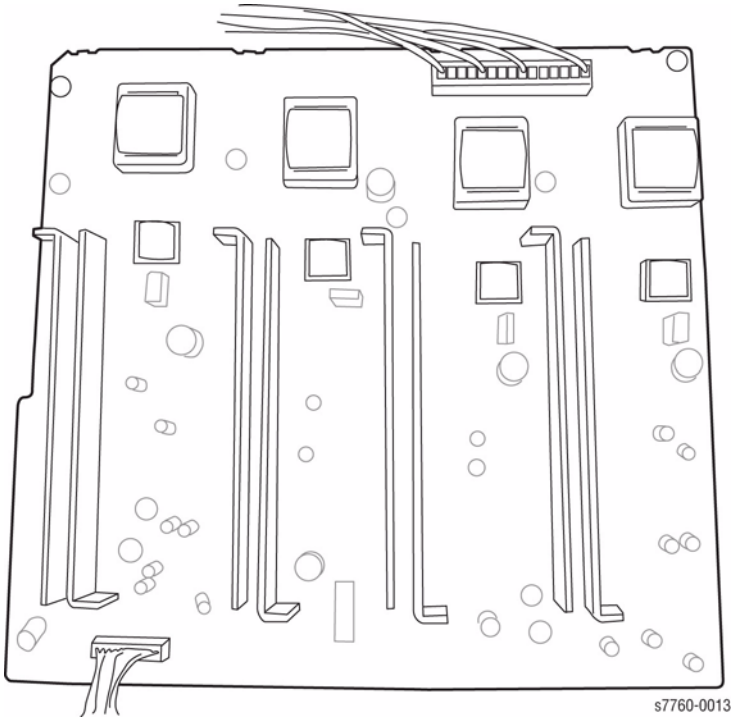


Figure 2 BCR T11 HVPS (facing the front of the Printer)

REP 1.8 Interface PWB (Engine Control Interface Board)

Parts List on PL 9.1

Removal

1. Remove the Rear Cover (REP 14.2).
2. Remove the Right Cover (REP 14.3).
3. Remove the Top Cover (REP 14.1).
4. Pivot down the HVPS Chassis (REP 1.6).

CAUTION

PWB's can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage.

5. Remove the Engine Control Board (PWBA) (REP 1.2).
6. Removing the Interface PWB (Figure 1).
   a. Disconnect the 15 wiring harnesses (refer to Section 7, Interface Bridge PWB, Main Motor, LPVS Plug/Jack Locations - Figure 16).
   b. Loosen the 2 screws securing the Mounting Bracket.
   c. Remove the Engine Control Interface Board from the Chassis.

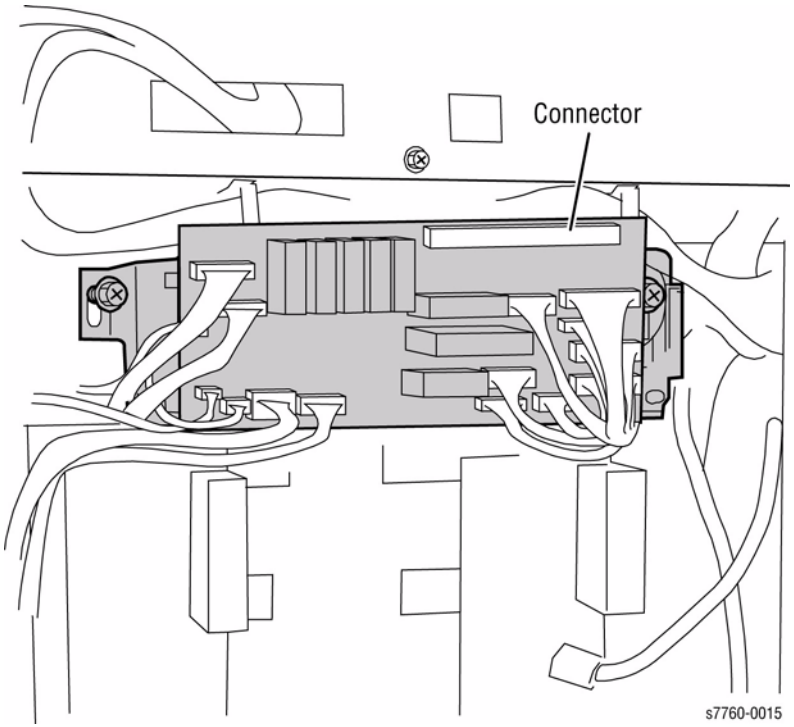


Figure 1 Removing Interface PWB

Replacement

1. Ensure the 2 screws are positioned in the slots and the Interface Board Connector is fully seated before tightening the screws (Figure 1).
2. Push up on the Board to fully seat the large Connector with the Engine Control Board.
3. After the Connector is seated, tighten the 2 screws.

REP 1.9 24V LVPS Chassis

Parts List on PL 9.1

Removal

1. Remove the Rear Cover (REP 14.2).
2. Remove the Rear Left Upper Cover (REP 14.5).
3. Remove the Rear Left Middle Cover (REP 14.4).
4. Disconnect the cables.
5. Removing the 24V LVPS Chassis (Figure 1).
   a. Remove the 1 top screw and 1 screw on the right side.
   b. Remove the upper harnesses from the Harness Clips.
   c. Disconnect the Fan P/J and remove the harness from Harness Clip.
   d. Loosen the 2 lower screws and remove the 1 middle screw.
   e. Remove the 24V LVPS Chassis.

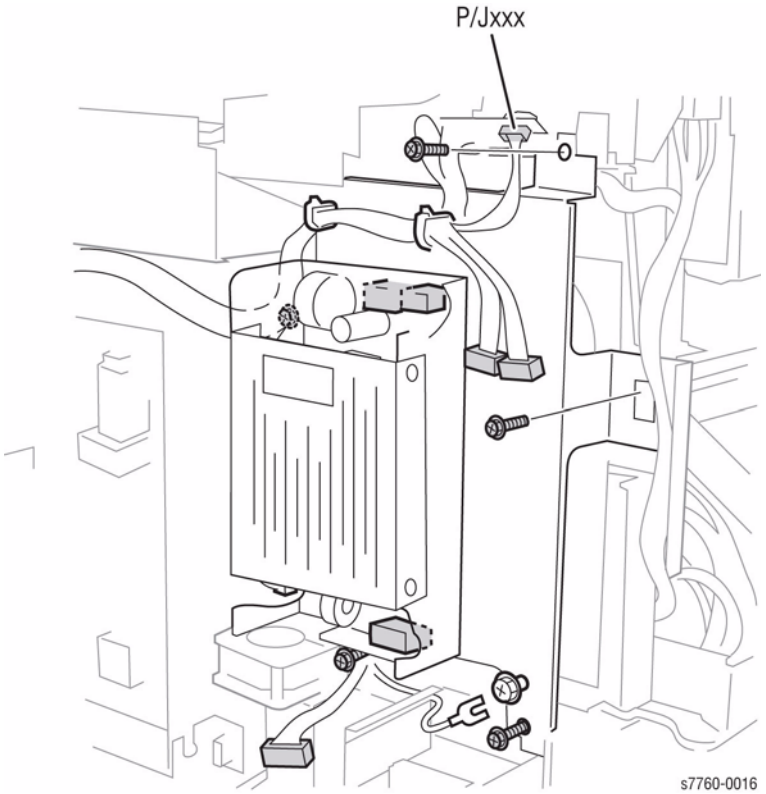


Figure 1 Removing 24V LVPS Bracket Assembly

REP 1.10 BTR1 T12 HVPS (Developer HVPS)

Parts List on PL 9.1

Removal

1. Remove the Rear Cover (REP 14.2).
2. Lower the HVPS Chassis (REP 1.6).
3. Remove the 24V LVPS Chassis (REP 1.9).
4. Removing the BTR1 T12 HVPS (Figure 1).
   a. Disconnect the 4 1st BTR P/Js.
   b. Disconnect the wiring harnesses at P/J575 and P/J576 (refer to Section 7, I/F PWB, Main Motor, LVPS Plug/Jack Locations - Figure 16).
   c. Remove the 2 screws and remove the T12 HVPS from the printer frame.

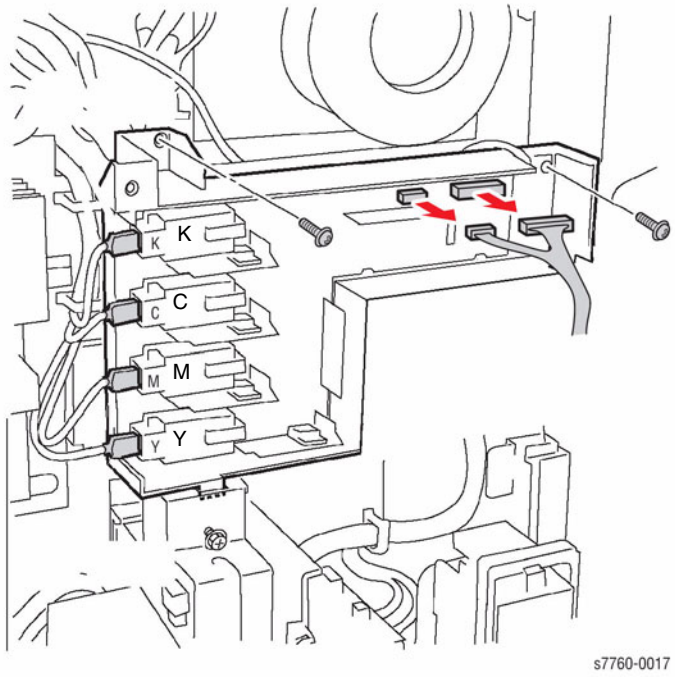


Figure 1 Removing BTR1 T12 HVPS

REP 1.11 AC Power Assembly

Parts List on PL 9.2

Removal

1. Remove the Rear Cover (REP 14.2).
2. Remove the 24V LVPS Chassis (REP 1.9).
3. Remove the BTR1 HVPS (REP 1.10).
4. Removing the AC Drive PWB (Figure 1).
   a. Disconnect the wiring harnesses on the AC Drive PWB (refer to Section 7,AC Drive PWB, Noise Filter PWB Plug/Jack Locations - Figure 18).
   b. Disconnect the wiring harnesses on the Noise Filter Board (refer to Section 7,AC Drive PWB, Noise Filter PWB Plug/Jack Locations - Figure 18).
   c. Clear the wiring harnesses from their retaining clips.
   d. Remove the 7 screws securing the chassis assembly to the printer frame.
   e. Remove the complete assembly from the printer frame.

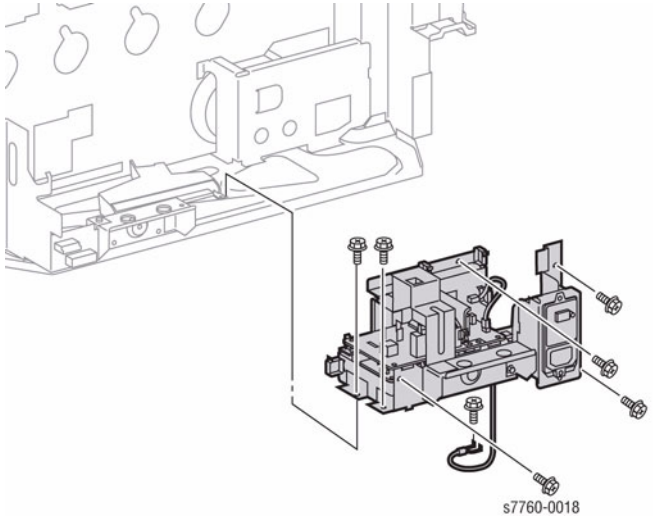


Figure 1 Removing AC Drive PWB

Replacement

CAUTION

Ensure White connector is P43 and Blue connector is P42 (refer to Section 7,AC Drive PWB, Noise Filter PWB Plug/Jack Locations - Figure 18).

REP 1.12 Image Processor Board (Coordinator PWB)

Parts List on PL 13.1

Removal

CAUTION

PWB's can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage.

1. Remove the 2 screws securing the Image Processor Board.
2. Pull the Image Processor Board away from the Chassis to remove.

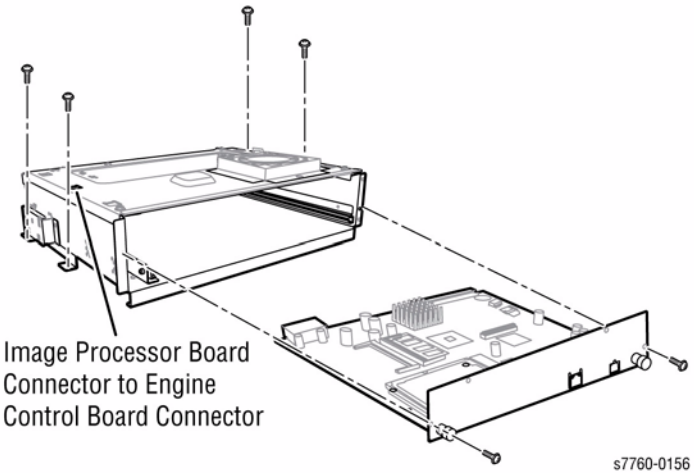


Figure 1 Removing Image Processor Board

3. Transfer the following parts to the new Image Processor Board.
   - Hard Drive
   - Memory
   - NVRAM
   - Configuration Card

Replacement

CAUTION

Ensure the Image Processor Board is fully seated when reinstalling.

REP 1.15 Control Panel

Parts List on PL 10.2

Removal

WARNING

LCD Color Screen disposal must be done in accordance with local regulations regarding machine parts that contain mercury. The Control Panel containing the LCD Color Screen must be prepared for disposal by protecting the LCD Screen from breakage. This can be done by using the original shipping packaging to repack the Control Panel for disposal.

High Voltage under the Control Panel if the machine power is ON.

1. Open the Front Door.
2. Removing the Control Panel (Figure 1).
   a. Release the Control Panel Assembly by inserting a screwdriver or button into the two access holes indicated in the illustration and push the tabs inward to release.
   b. Lift up the panel slightly and unplug the cable connected to the Control Panel.
   c. Release the 2 tabs on the left-hand end of the Control Panel Assembly and remove.

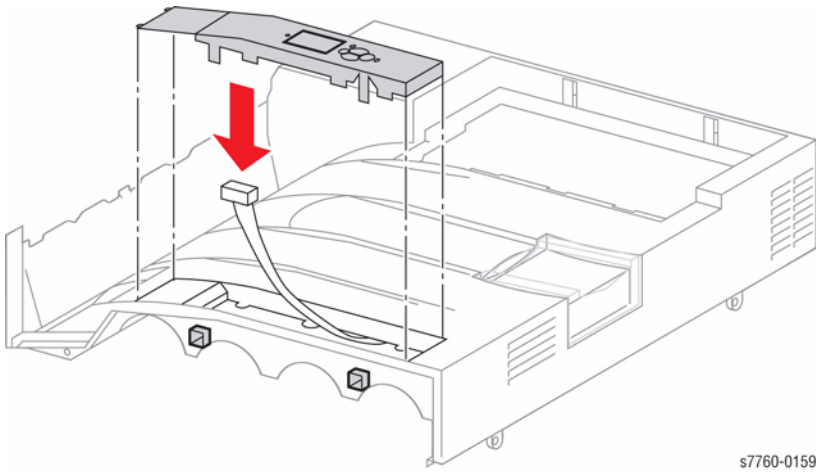


Figure 1 Removing Control Panel

Replacement

NOTE: *Order the correct name bezel when installing a new (User Interface Assembly (Control Panel).*

NOTE: *UI software automatically downloads from Controller if UI software is at a previous version compared to Controller software. Refer to CAUTION.*

CAUTION

If installing a new Control Panel or reconnecting the existing Control Panel, Control Panel failure will result if power is interrupted before automatic software check occurs. Wait for software check/upgrade to take place.

REP 1.17 Hard Drive

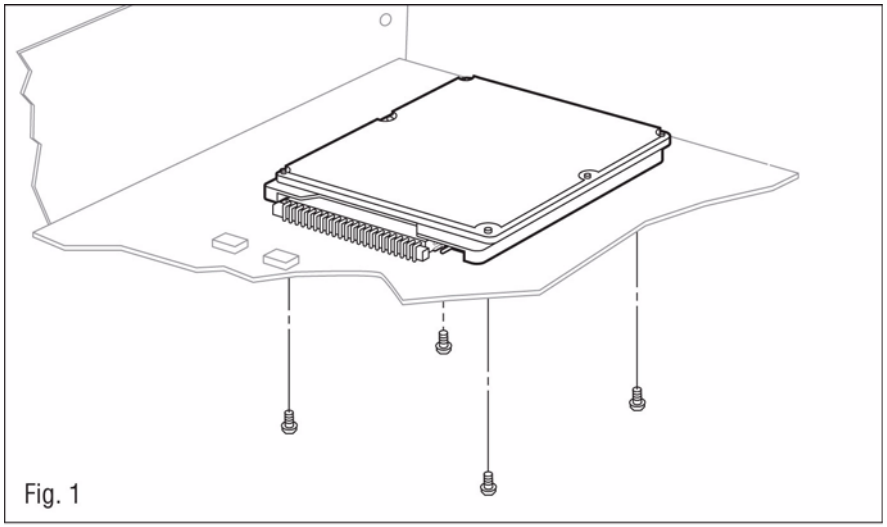
Parts List on PL 13.1

Removal

CAUTION

The Hard Drive is susceptible to ESD damage. Observe proper ESD precautions.

1. Remove the Image Processor Board (REP 1.12).
2. Removing the Hard Drive (Figure 1).
   a. Using a T-10 torque bit, remove the 4 screws from the bottom side of the Image Processor PWB holding the Hard Drive.
   b. Slide the Hard Drive away from the connector to remove.



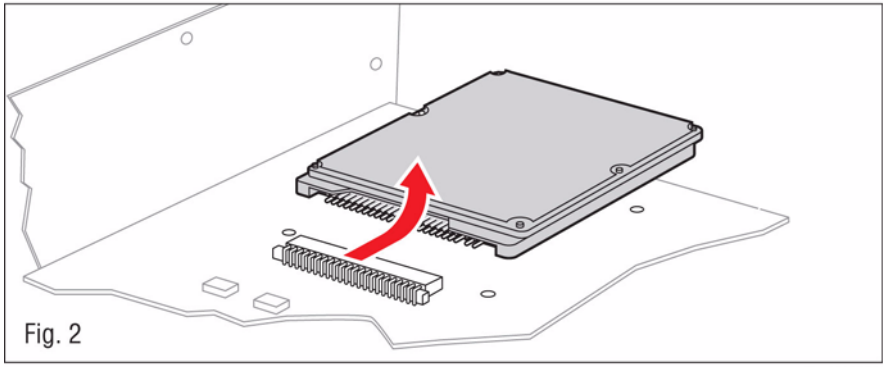


Figure 1 Removing Hard Drive

REP 1.18 Interlock Relay (LD Power Relay)

Parts List on PL 9.1

Removal

1. Remove the Rear Cover (REP 14.2).
2. Remove the Interface PWB (Engine Control Interface Board) (REP 1.8).
3. Removing the Interlock Relay (Figure 1).
   a. Disconnect the wiring harness.
   b. Remove 1 screw and remove the Interlock Relay.

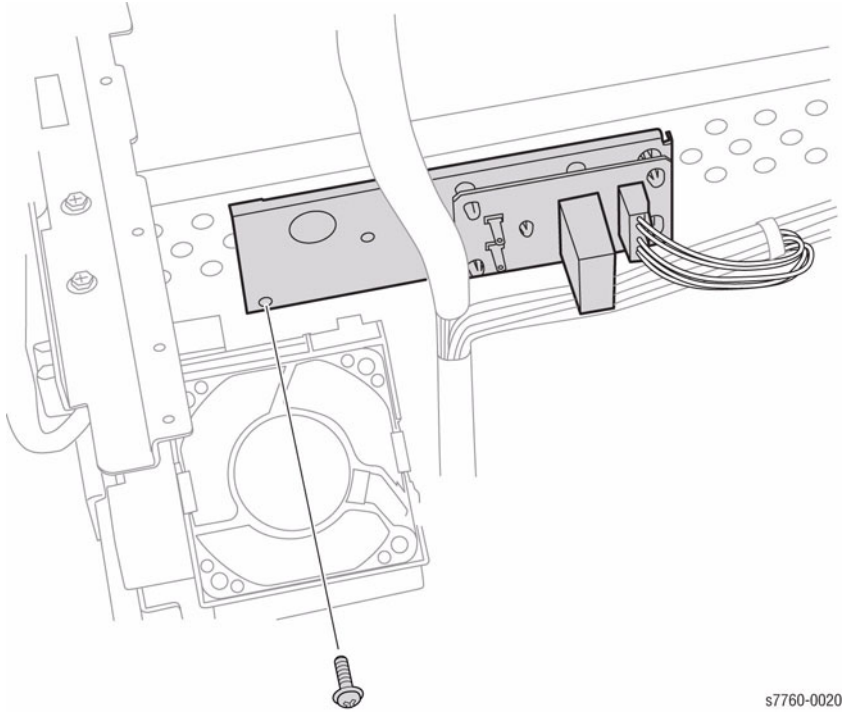


Figure 1 Removing Interlock Relay

REP 4.1 Main Drive Motor Assembly

Parts List on PL 1.1

Removal

1. Remove the Fuser Module. Remove Tray 1 (MPT) (REP 7.1).
2. Remove the 24 VDC LVPS Chassis (REP 1.9).
3. Remove the HBTR1 HVPS (Developer HVPS) (REP 1.10).
4. Removing the Main Drive Motor Assembly (Figure 1).
   a. Disconnect the 8 harness connectors and release them from the Retainers.
   b. Remove the 3 screws and lift the Assembly from the Printer.
   c. Ensure to move the wiring harnesses out of the way. Disconnect the wiring harnesses from the Main Drive Motor Assembly.
   d. Disconnect the 3 wiring harnesses from the right side of the Printer Chassis. Open the Retainers to release the wires.
   e. Disconnect the small wiring harness near the bottom of the Main Drive Assembly.
   f. Unplug the Retainer.
   g. Disconnect the High Voltage Power Supply wire and release it from the Retainers.
   h. Remove the AC Assembly Bracket.

CAUTION

There are 5 black screws that hold the Main Drive Assembly to the machine. DO NOT REMOVE these screws. (Figure 2)

i. Remove the 5 screws and lift the Main Drive Motor Assembly up and out of the Printer.

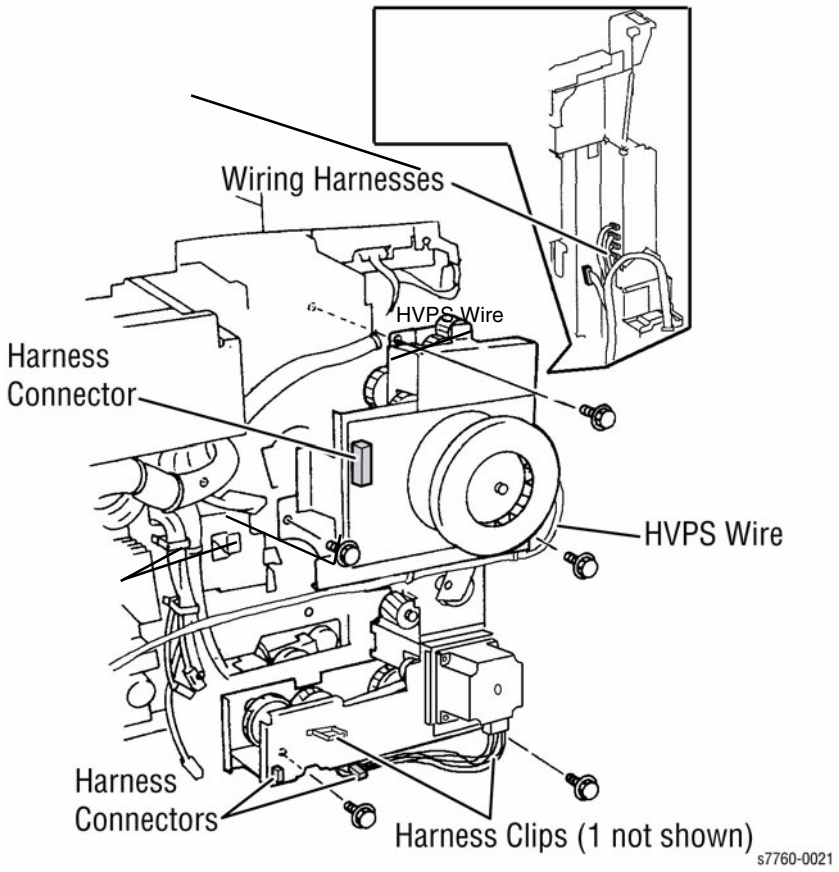


Figure 1 Removing Main Drive Motor Assembly

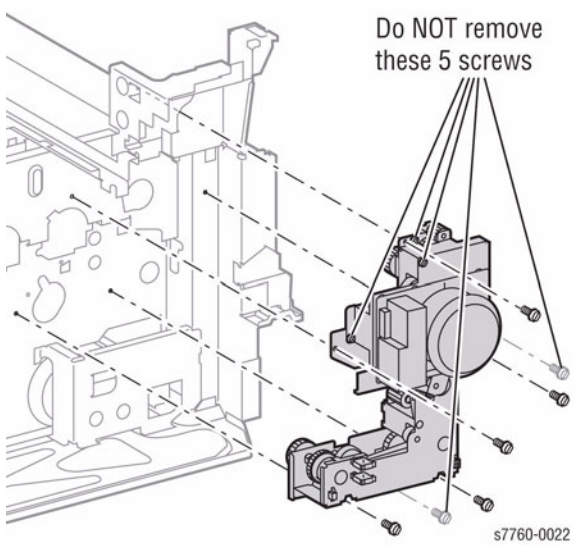


Figure 2 Screw Location

REP 4.2 IBT Motor Assembly

Parts List on PL 1.1

Removal

1. Remove the Rear Cover (REP 14.2).
2. Tilt down the High Voltage Power Supply Chassis (REP 1.6).
3. Removing the IBT Motor.
   a. Disconnect the Cooling Fan connector.
   b. Remove the 2 screws and remove the Cooling Fan.
   c. Disconnect the IBT Motor connector.
   d. Remove the 3 screws and remove the IBT Motor.

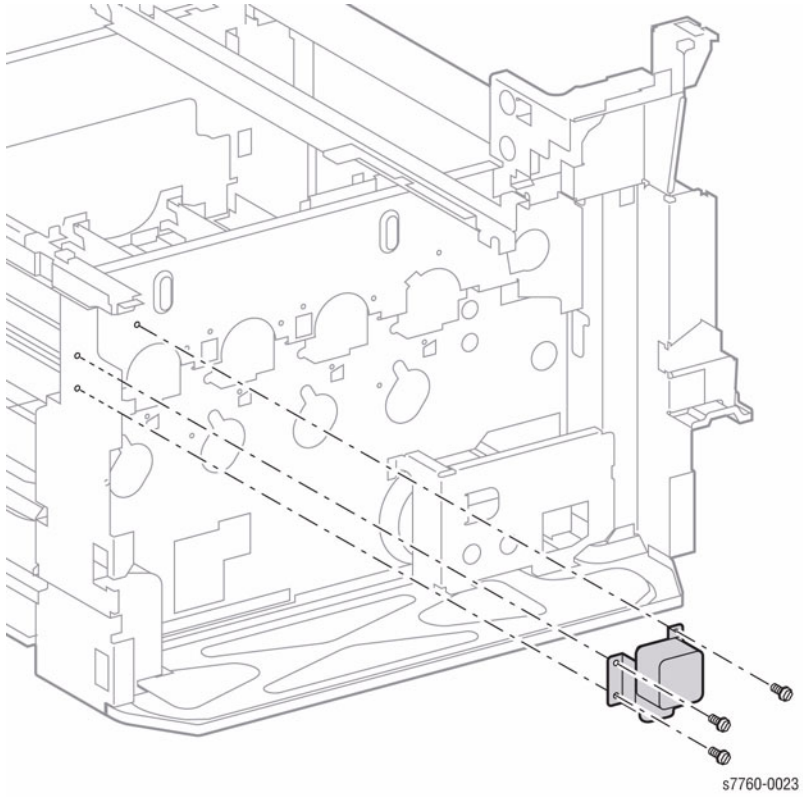


Figure 1 Removing IBT Drive Motor

REP 4.3 Developer Drive Motor

Parts List on PL 1.1

Removal

1. Remove the Rear Cover (REP 14.2).
2. Remove the HVPS Chassis (REP 1.6).
3. Remove the 5 V LVPS Bracket (REP 1.1).
4. Removing the Developer Drive Module (Figure 1).
   a. Disconnect P/J232 (refer to Section 7, Developer Motor, Tray 2 Size Switch Plug/ Jack Locations - Figure 17).
   b. Remove the harness from the Harness Clip.
   c. Remove the 2 screws and remove the Developer Drive Module.

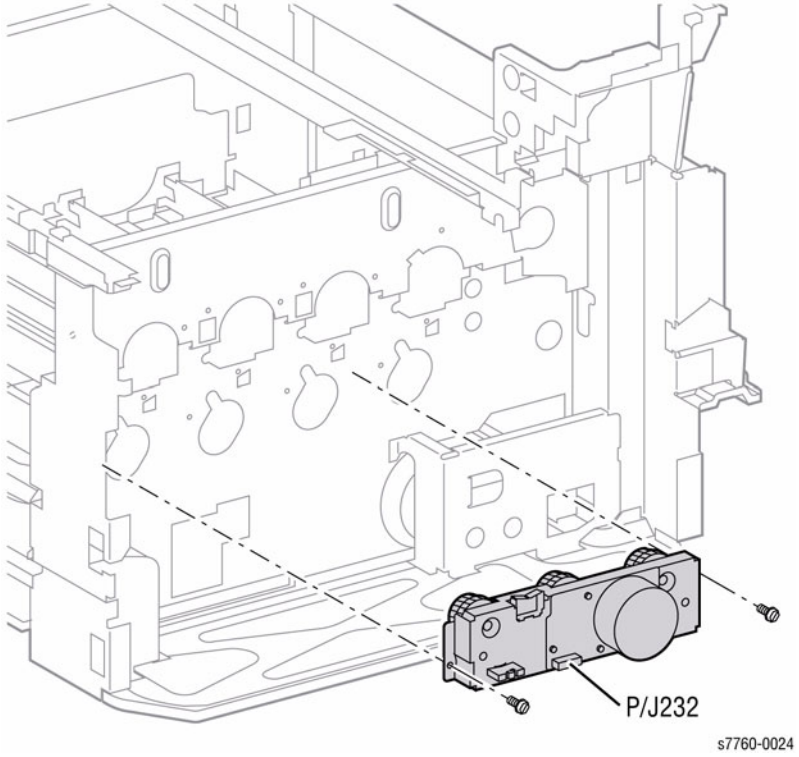


Figure 1 Removing Developer Drive Module

REP 4.4 Imaging Unit Motor Assembly

Parts List on PL 1.1

Removal

CAUTION

Machine problems will result from careless harness routing during reassembly. Carefully observe position of wiring harnesses for later reinstallation.

1. Remove the Rear Cover (REP 14.2).
2. Remove the Right Cover (REP 14.3).
3. Remove the Top Cover (REP 14.1).
4. Remove the 24 VDC LVPS Chassis (REP 1.9).
5. Remove the High Voltage Power Supply Chassis (REP 1.6).
6. Loosen the 2 Interface PWB chassis mounting screws and move the chassis up (REP 1.8).
7. Remove the 5 V LVPS Bracket (REP 1.1).
8. Remove the Developer High Voltage Power Supply (REP 1.10).
9. Disconnect the Wiring Harnesses (1 to YM and 1 to CK) to the Print Engine Drive Assembly.
10. Removing the Imaging Unit Motor Assembly (Figure 1).
    a. Remove the 2 screws securing the Finisher Connector (now accessible after removing the Right Cover Assembly) and let it hang loose.
    b. Remove 1 screw that is accessible through the frame access hole near the Finisher Connector.
    c. Remove the Wiring Harnesses and Clips from the rear left side.
    d. Remove the 8 screws and lift the Imaging Unit Drive Assembly up and out of the Printer.

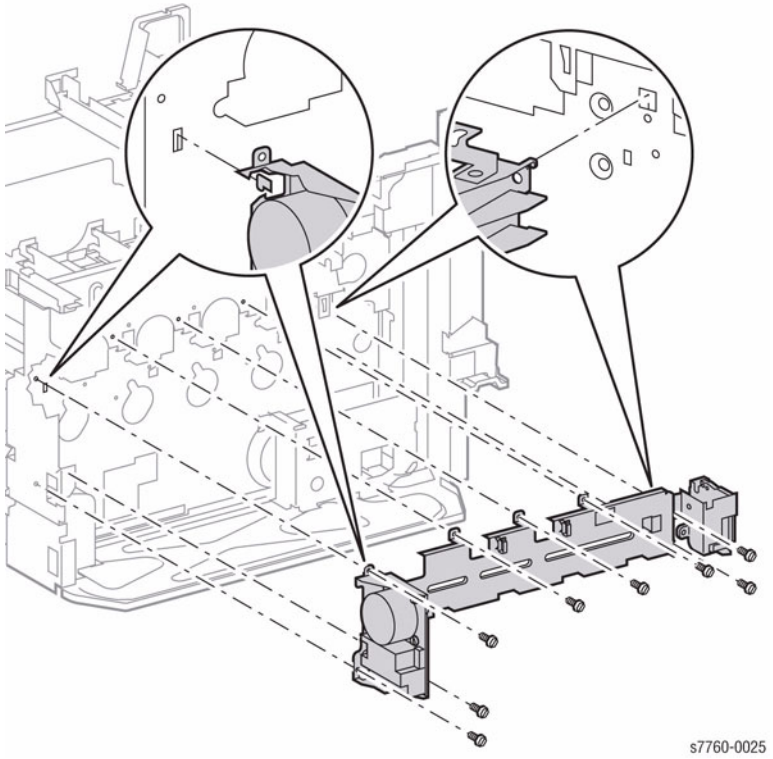


Figure 1 Removing Imaging Unit Motor Assembly

REP 6.1 ROS (Laser Unit)

Parts List on PL 3.1

Removal

1. Remove the Rear Cover (REP 14.2).
2. Remove the Right Cover (REP 14.3).

CAUTION

Image quality defects result if covers on ROS are removed. The ROS is heavy.

3. Removing the ROS (Figure 1).
   a. Disconnect the wiring harness from the Harness Clips.
   b. Disconnect the 2 connectors.
   c. Remove the 2 screws securing the ROS and pull the ROS out from the Printer.

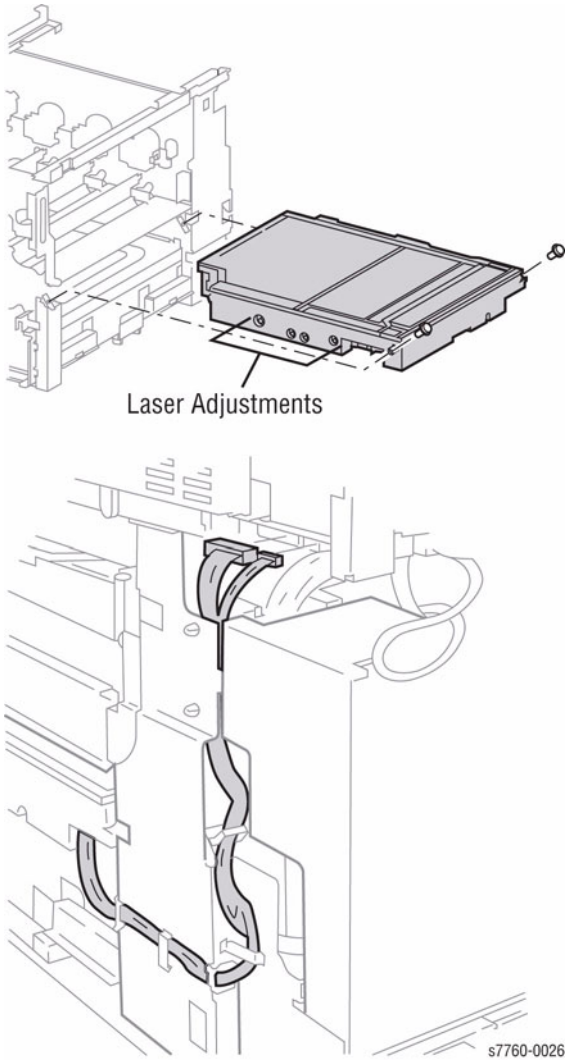


Figure 1 Removing ROS

Replacement

NOTE: *You must perform the RegiCon Adjustment procedures after replacing the Laser Unit (refer to ADJ 9.10).*

NOTE: *Store the NVRAM values to the Hard Drive after calibration (refer to Section 6, Store Engine NVRAM using the Service Diagnostics Menu:* ***Printer Menu*** *>* ***Troubleshooting*** *>* ***Service Tools*** *>* ***Printer Status Page*** *>hold the* ***Up*** *and* ***Down*** *buttons simultaneously >* ***Run Service Diagnostics*** *>* ***OK****.*

REP 7.1 Tray 1 (MPT)

Parts List on PL 2.11

Removal

1. Remove the Rear Cover (REP 14.2).
2. Remove the Rear Left Middle Cover (REP 14.4).
3. Open the Left Door Transport (Left-Hand Cover).
4. Removing Tray 1 (Figure 1).
   a. Disconnect the wiring harness and Clip from the printer's frame.
   b. Remove the 2 screws securing Tray 1.
   c. Pull Tray 1 out of the Printer while slightly lift on the right-hand side of the assembly.

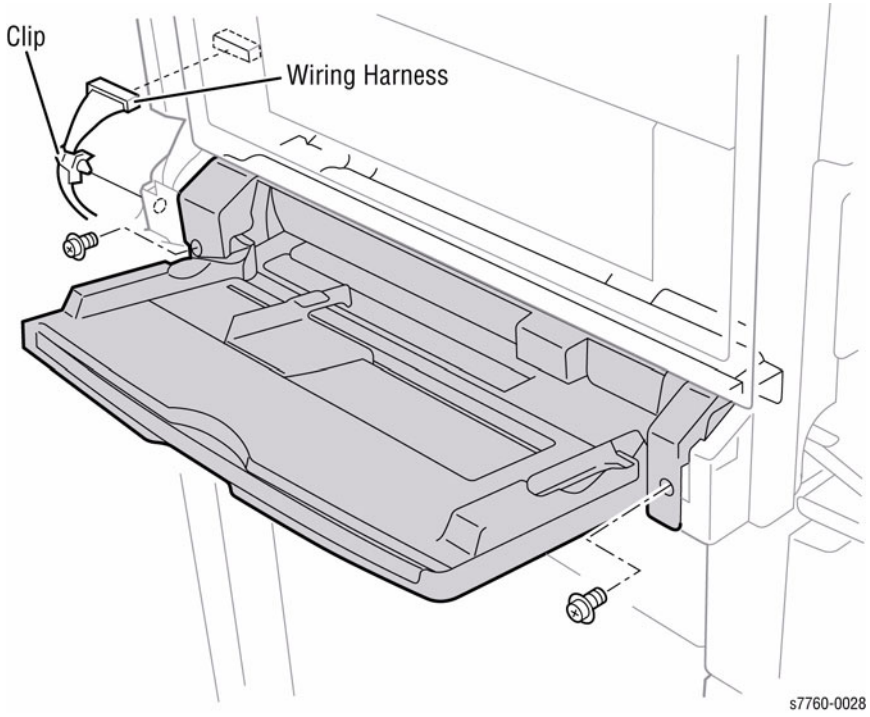


Figure 1 Removing Tray 1 (MPT)

Replacement

CAUTION

DO NOT pinch the wires between the left bracket and the left screw hole.

NOTE: *The Duplex Chute must be in up position before installing Tray 1. Open Door A, position the Chute in the proper position, and then close the door.*

1. Open Door A, position the Chute in the proper position, and then close the door.
2. Install Tray 1.

REP 7.2 Tray 1 (MPT) Feed Roll

Parts List on PL 2.13

Removal

1. Open the Left-Hand Door A and locate the Pick Rollers near the Duplex Chute.
2. Rotate the white Retainers to locate the tabs.
3. Lift the Tab and slide the white Retainers away from the Pick Rollers.
4. Slide the Pick Rollers off the Retaining Pins.
5. Lift and remove the Feed Rolls.

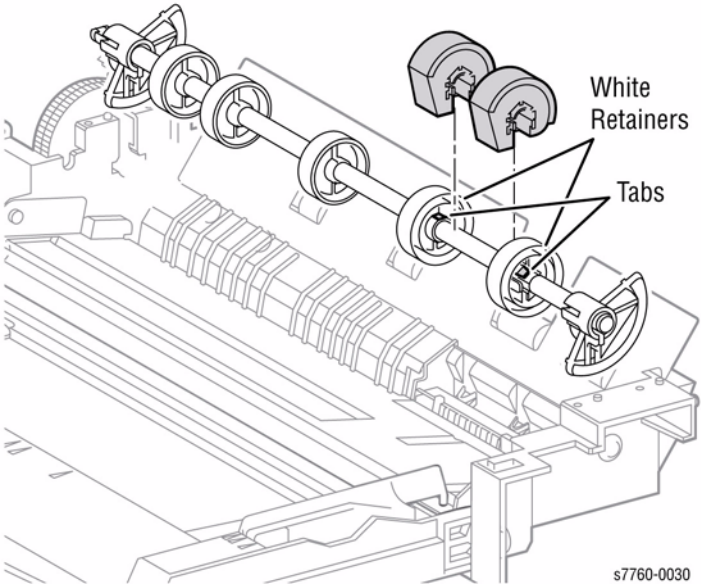


Figure 1 Removing Feed Roll

REP 7.3 Tray 2 Feeder

Parts List on PL 2.3

Removal

1. Remove the Left Lower Cover (REP 14.12).
2. Pull out Tray 2 halfway.
3. Removing Tray 2 Feeder (Figure 1).
   a. Disconnect the wiring harness.
   b. Remove the 2 screws securing Tray 2 Feeder Assembly.

      NOTE: *Some manipulation may be required to disengage the gears.*

   c. Remove Tray 2 Feeder Assembly by sliding out the Feeder Assembly at an angle.

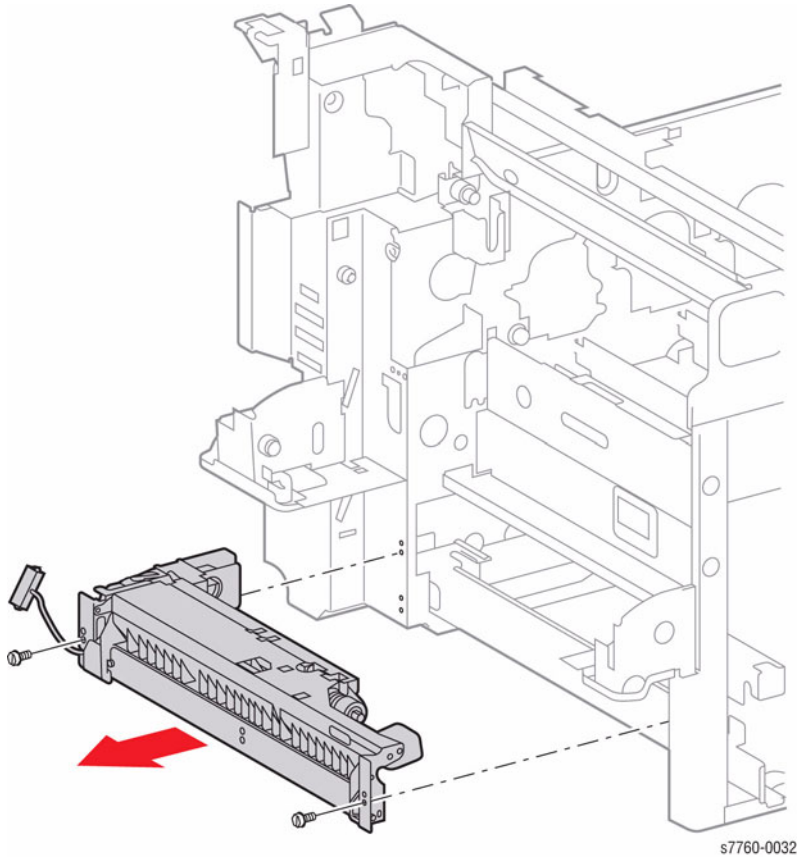


Figure 1 Removing Tray 2 Feeder

REP 7.4 Tray 2/3/4/5 Feed/Lift Motor

Parts List on PL 2.4

Removal

1. Remove Tray 2 Feeder (REP 7.3).
2. Remove the 2 screws and remove the Motor (Figure 1).

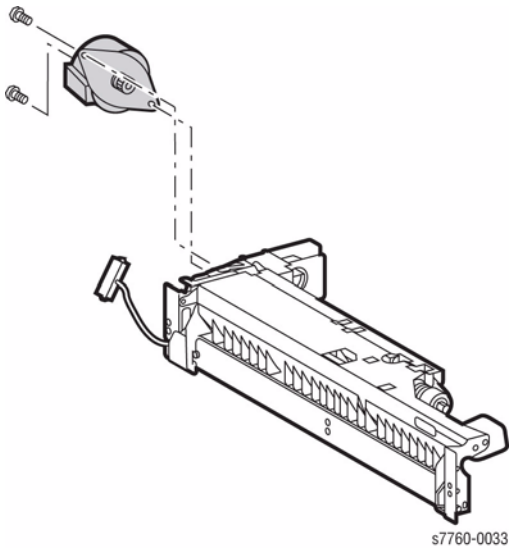


Figure 1 Removing Tray 2 Feed Motor

Replacement

NOTE: *When reinstalling the Motor, it may be necessary to manually rotate the Gears to mesh them with the other gears.*

REP 7.5 Tray 2 Paper Size Sensor

Parts List on PL 2.1

Removal

1. Remove the Rear Cover (REP 14.2).
2. Remove the HVPS Chassis (REP 1.6).
3. Remove the 5 V HVPS Bracket (REP 1.1).
4. Removing Tray 2 Paper Size Sensor (Figure 1).
   a. Disconnect the wiring harnesses from Tray 2 paper-select switches.
   b. Remove the 2 screws securing the Mounting Bracket and remove the Paper Size Sensor.

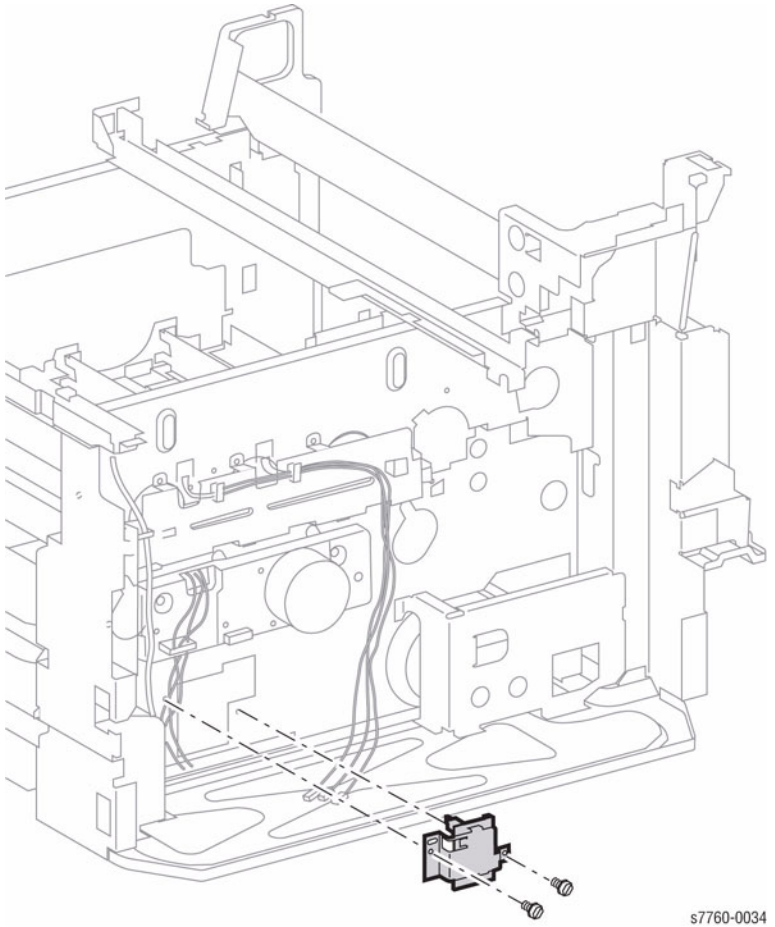


Figure 1 Removing Tray 2 Paper Size Sensor

REP 7.6 Tray 4 (TTM - High-Capacity)

Parts List on PL 16.1

Removal

1. Open the Left Cover Assembly.
2. Removing Tray 4 (Figure 1).
   a. Pull out Tray 4.
   b. Remove 1 screw holding the Stopper Bracket.
   c. Pivot the bottom of the Tray Lock away from Tray 4 and pull out Tray 4 to remove it.

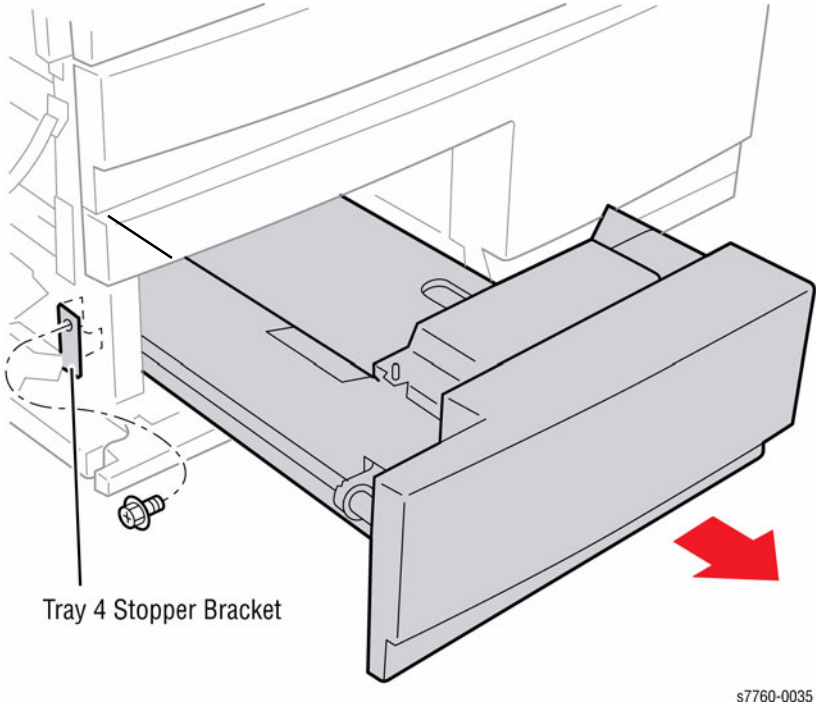


Figure 1 Removing Tray 4

REP 7.7 Tray 5 (TTM - High-Capacity)

Parts List on PL 16.1

Removal

1. Pull out Tray 5.
2. Removing Tray 5 (Figure 1).
   a. Remove 2 screw securing the Tray Lock and remove the Tray Lock.
   b. Remove the 1 screw securing the Paper Transport and slide it back in.
   c. Pull out Tray 5 to remove it.

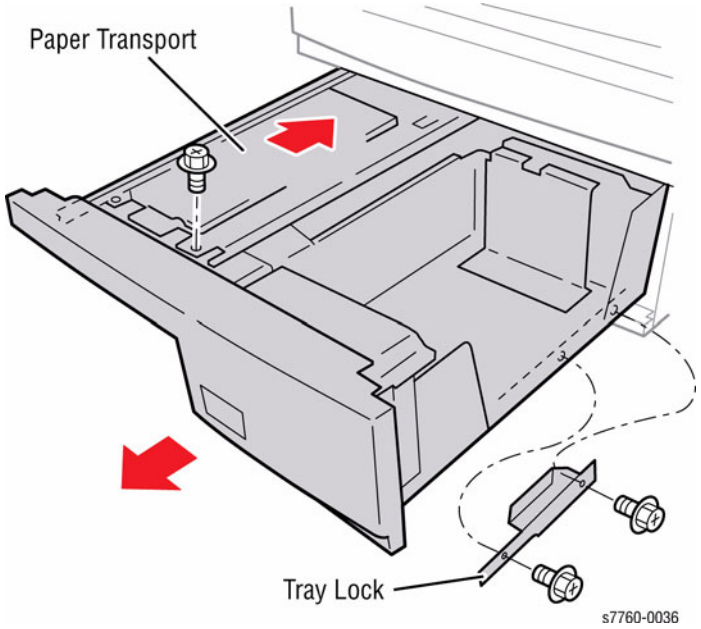


Figure 1 Removing Tray 5

REP 7.8 Tray 2 (TTM - High-Capacity)

Parts List on PL 2.1

Removal

1. Pull out Tray 2.
2. Lift the end of Tray 2 to disengage the Lock on the Rail (not visible) and remove Tray 2.

REP 7.9 Tray 3 (TTM - High-Capacity)

Parts List on PL 16.1

Removal

1. Pull out Tray 3.
2. Lift the end of Tray 3 to disengage the Lock on the Rail (not visible) and remove Tray 3.

REP 7.10 Tray 3 Feeder (TTM - High-Capacity)

Parts List on PL 16.6

Removal

1. Pull out Tray 3.
2. Remove the Left Lower Cover (PL 16.16).
3. Removing Tray 3 Feeder (Figure 1).
   a. Loosen 1 screw holding the Bracket.
   b. Release the wiring harness from the Clamp and disconnect the P/J.
   c. Remove the 2 screws and Tray 3 Feeder Assembly.

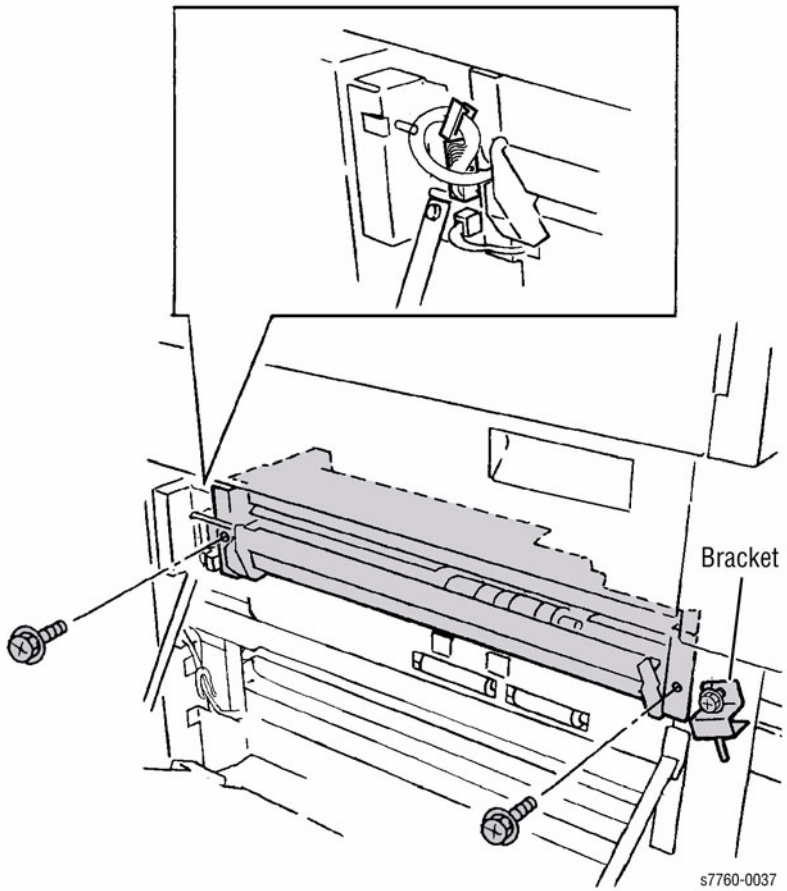


Figure 1 Removing the Tray 3 Feeder

REP 7.11 Tray 4 Feeder (TTM - High-Capacity)

Parts List on PL 16.6

Removal

1. Remove Tray 3.
2. Pull out Tray 4 and Tray 5.
3. Open the Left Cover.
4. Remove the Lower Chute.
5. Removing Tray 4 Feeder Assembly (Figure 1).
   a. Remove 2 screws securing the Cover Straps.
   b. Disconnect the wiring harness and disconnect the P/J.
   c. Loosen the inner screw.
   d. Remove the 2 screws and Tray 4 Feeder Assembly.

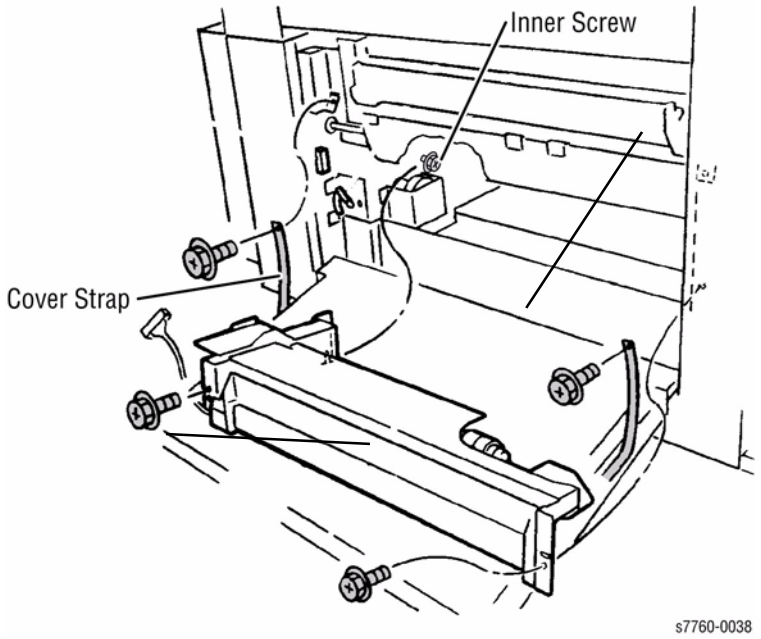


Figure 1 Removing the Tray 4 Feeder Assembly

6. Remove Tray 4 Feeder from the Mounting Bracket (Figure 2).

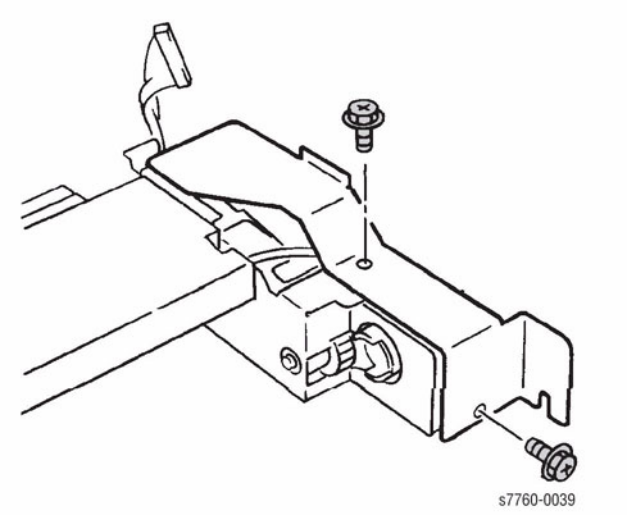


Figure 2 Removing Tray 4 Feeder from Bracket

REP 7.12 Tray 5 (TTM - High-Capacity) Feeder

Parts List on PL 16.5

Removal

1. Remove Tray 3.
2. Pull out Tray 5.
3. Remove1 screw and the Stud Bracket (Figure 1).

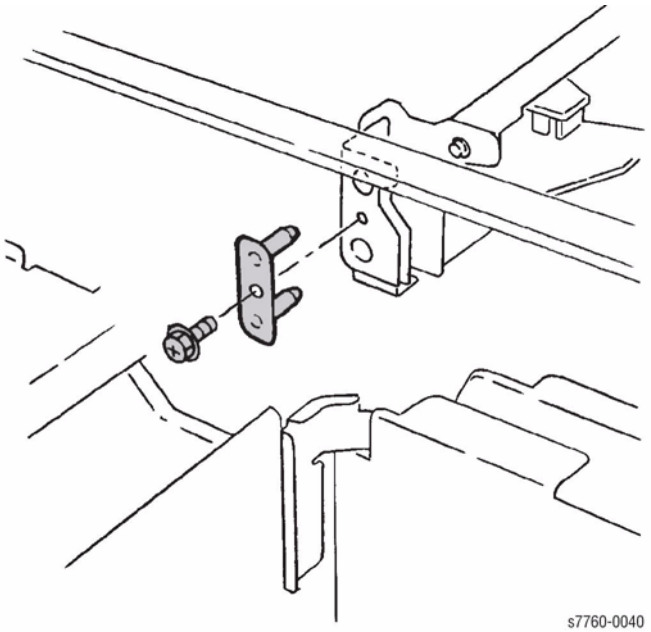


Figure 1 Removing Stud Bracket

4. Removing Tray 5 Feeder Assembly (Figure 2).
   a. Disconnect the wiring harness P/Js.
   b. Remove the 2 screws holding the Feeder.

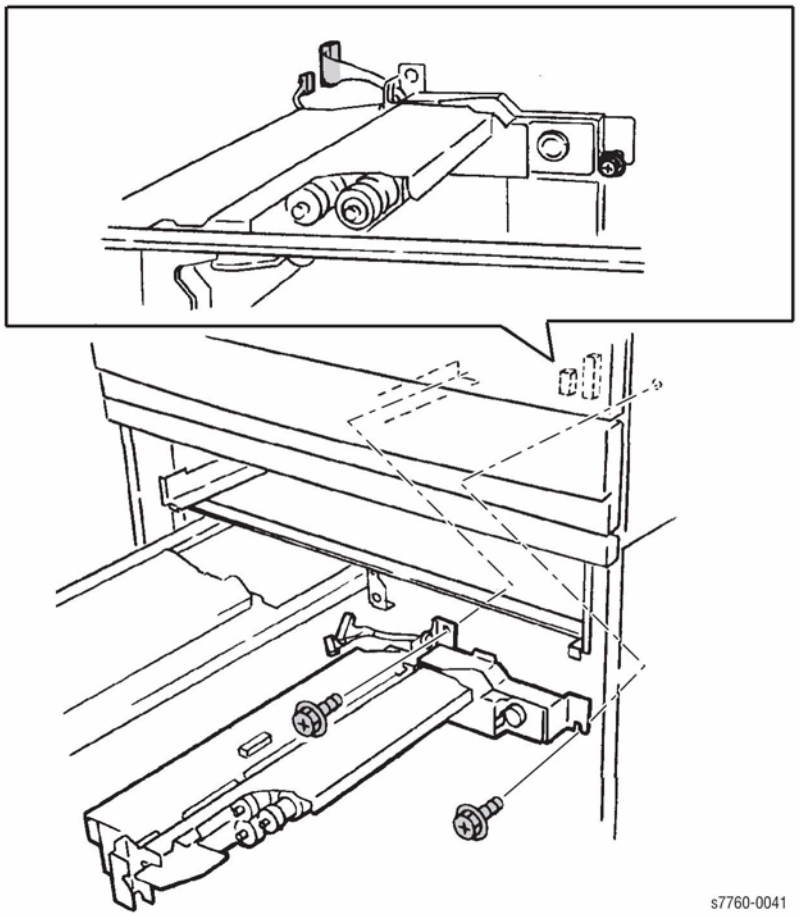


Figure 2 Removing Tray 4 Feeder Assembly

5. Removing Tray 5 Feeder Guides (Figure 3).
   a. Remove the 2 screws and the Upper Guide.
   b. Remove the 2 screws and Lower Guide.

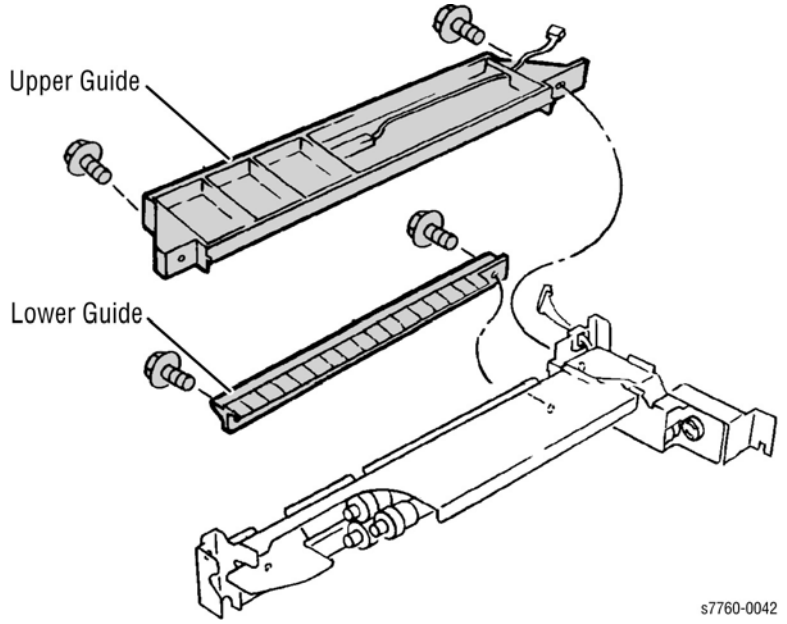


Figure 3 Removing the Guides

6. Remove the 4 screws and the Brackets (Figure 4).

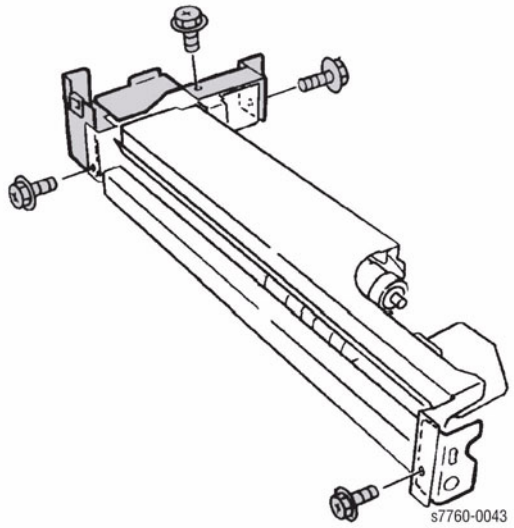


Figure 4 Removing Brackets

REP 7.13 Tray 3 (3TM)

Parts List on PL 16.1

Removal

1. Pull out Tray 3.
2. Lift the end of Tray 3 to disengage the lock on the rail (not visible) and remove Tray 3.

REP 7.14 Tray 4 (3TM)

Parts List on PL 16.1

Removal

1. Pull out Tray 4.
2. Lift the end of Tray 4 to disengage the lock on the rail (not visible) and remove Tray 4.

REP 7.15 Tray 5 (3TM)

Parts List on PL 16.1

Removal

1. Pull out Tray 5.
2. Lift the end of the Tray 5 to disengage the lock on the rail (not visible) and remove Tray 5.

REP 7.16 Tray 3 Feeder (3TM)

Parts List on PL 16.6

Removal

1. Pull out Tray 3.
2. Remove the Left Lower Cover (REP 14.12).
3. Removing Tray 3 Feeder (Figure 1).
   a. Loosen 1 screw holding the Bracket.
   b. Release the wiring harness from the Clamp and disconnect the P/J.
   c. Remove the 2 screws and Tray 3 Feeder.

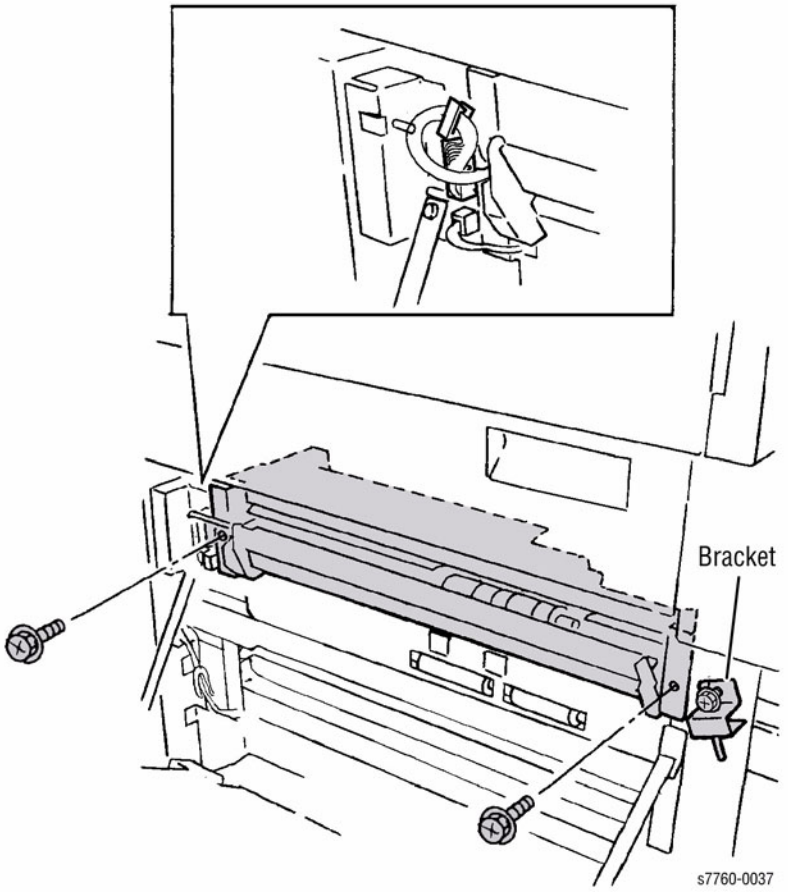


Figure 1 Removing Tray 3 Feeder

REP 7.17 Tray 4 Feeder (3TM)

Parts List on PL 16.6

Removal

1. Pull out Tray 4.
2. Open the Left Cover (PL 15.10).
3. Removing the Tray 4 Feeder (Figure 1).
   a. Remove the 2 screws holding the Left Cover Supports.
   b. Release the wiring harness from the Clamp and disconnect the P/J.
   c. Remove the 2 screws and Tray 4 Feeder.

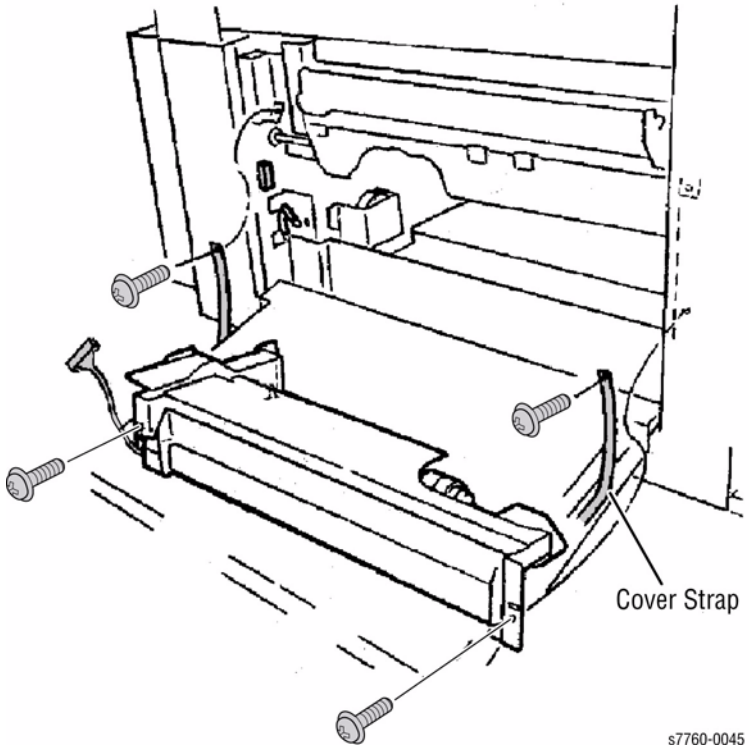


Figure 1 Removing Tray 4 Feeder

REP 7.18 Tray 5 Feeder (3TM)

Parts List on PL 16.6

Removal

1. Pull out Tray 5.
2. Remove the Left Lower Cover (REP 14.12).
3. Removing Tray 5 Feeder (Figure 1).
   a. Remove the 2 screws holding the Left Cover Supports.
   b. Release the wiring harness from the Clamp and disconnect the P/J.
   c. Remove the 2 screws and Tray 5 Feeder.

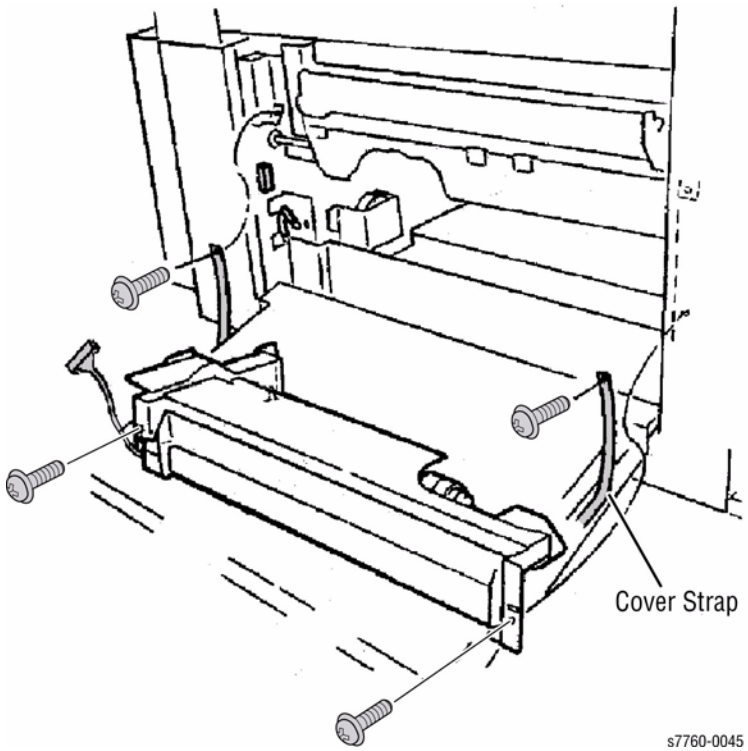


Figure 1 Removing Tray 5 Feeder

REP 8.1 Left Cover Assembly (Left-Hand Door A)

Parts List on PL 2.8

Removal

1. Remove the Rear Cover (REP 14.2).
2. Remove the Rear Left Middle Cover (REP 14.4).
3. Remove Tray 1 (MPT) (REP 7.1).
4. Remove the Fuser Cover (REP 14.8).
5. Removing the Plastic Harness Cover (Figure 1).
   a. Disconnect the 3 wiring harnesses.
   b. Remove 1 screw and the Plastic Harness Cover.

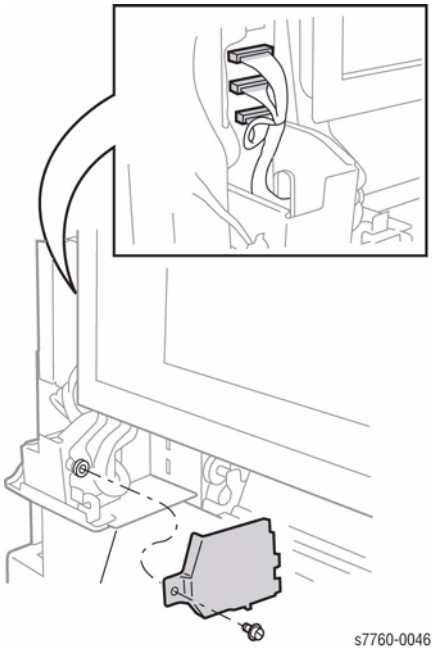


Figure 1 Removing Plastic Harness Cover

6. Removing the Left Cover Assembly (Figure 2).
   a. Remove the Retaining Clip off the link mounting post.
   b. While supporting the Left Cover Assembly, lift up the Stop Arm.
   c. Lower the Left Cover Assembly and lift the Cover Assembly off the pivot pins to remove.

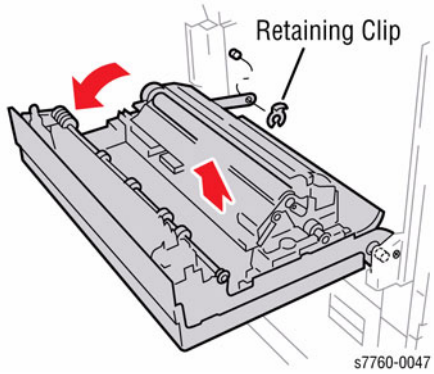


Figure 2 Removing Left Cover Assembly

Replacement

NOTE: *Install the Left Cover Assembly on the hinge pins, manually align marks on the Motion Damper before completing the installation (Figure 3). Failure to align the gears can result in binding and gear damage.*

CAUTION

Before closing the Left Cover Assembly to connect the harness, hold up the black plastic Duplex Baffle while closing transport.

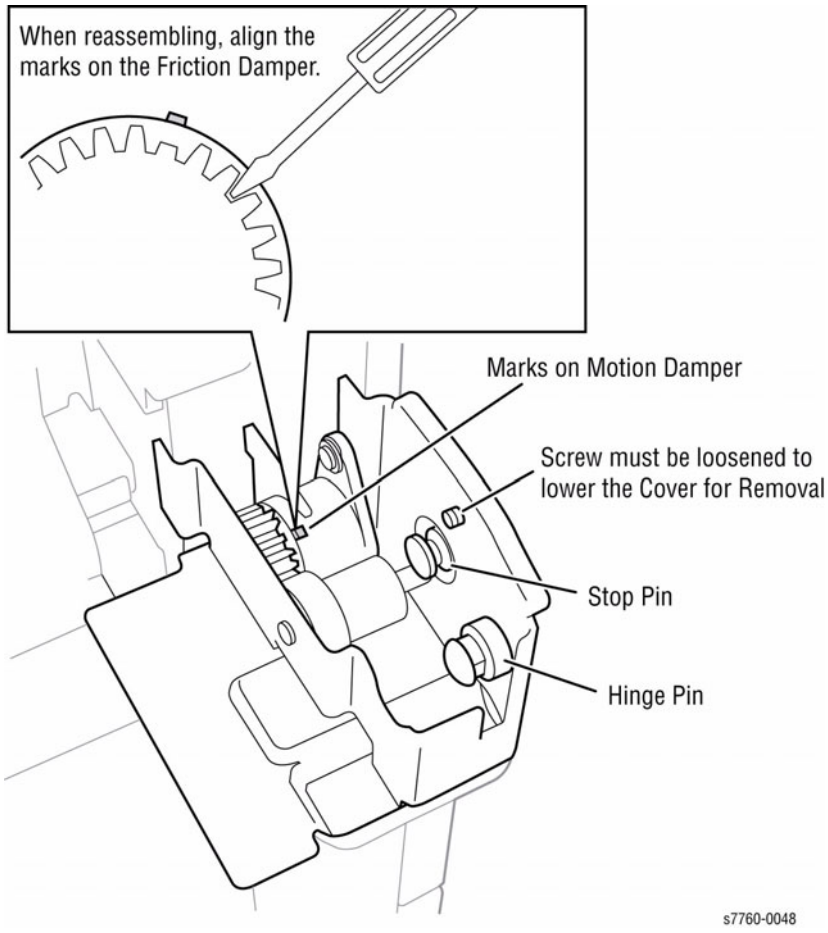


Figure 3 Aligning Marks on Motion Damper

REP 8.2 Duplex Chute

Parts List on PL 2.8

Removal

1. Remove Tray 1 (MPT) (REP 7.1).
2. Open the Left-Hand Door A to allow the Duplex Chute to swing down.
3. Removing the Duplex Chute.
   a. Rotate the Duplex Chute downward until the keyed pivot shaft can be removed from the Pivot Bracket.
   b. Remove the Duplex Chute.

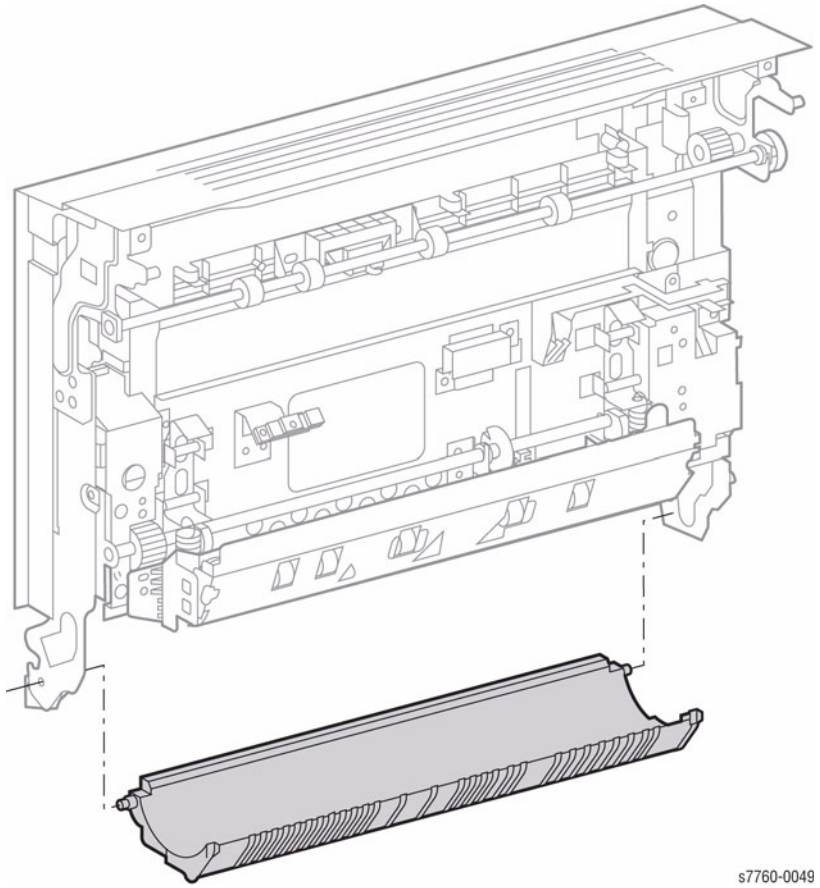


Figure 1 Removing Duplex Chute

REP 8.3 Duplex Transport Assembly

Parts List on PL 12.1

Removal

1. Release the Clip and the Left Upper Cover (Figure 1).
2. Loosen the 2 screws and remove the Duplex Transport Assembly.

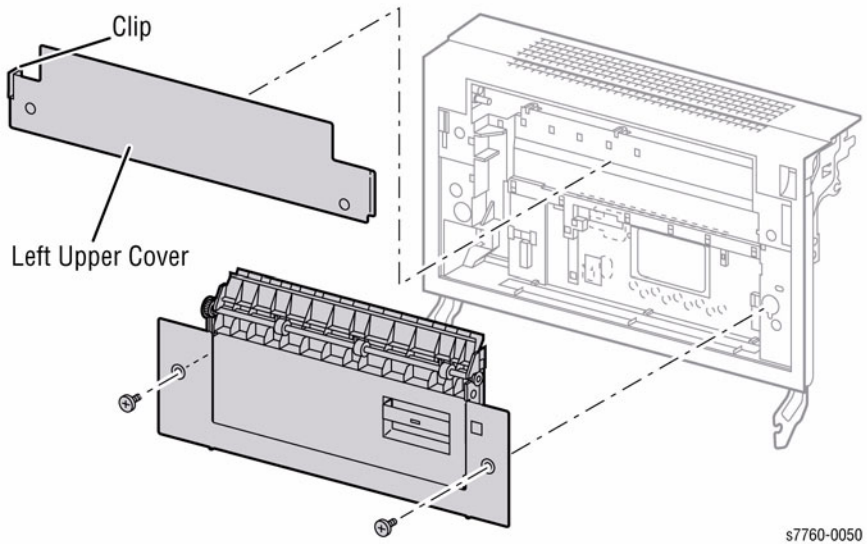


Figure 1 Removing Duplex Transport Assembly

REP 8.5 Inverter Transport

Parts List on PL 11.1

Removal

1. Open the Left Cover Assembly (Left-Hand Door A).
2. Removing the Inverter Transport (Figure 1).
   a. Remove the 1 E-ring and 1 Bearing from the front of the Shaft. Push the Shaft to the rear.
   b. Remove the 2 screws and remove the Inverter Transport.

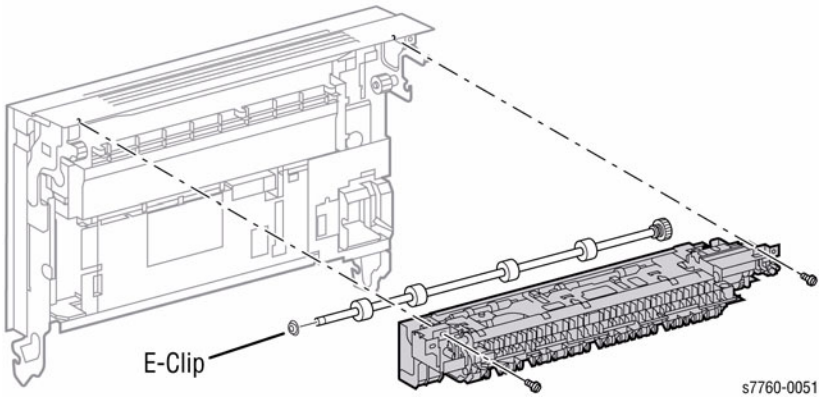


Figure 1 Removing Inverter Transport

REP 8.6 Registration Transport Assembly

Parts List on PL 2.6

Removal

1. Remove the Rear Cover (REP 14.2).
2. Remove the Rear Left Middle Cover (REP 14.4).
3. Remove the Left Cover Assembly (REP 8.1).

NOTE: *DO NOT remove the 2 inside screws. Note the wiring harness position for reinstalling and make sure that the wires are routed behind the black plastic cover on the Registration Transport Assembly.*

4. Removing the Registration Transport Assembly (Figure 1).
   a. Disconnect the wiring harness.
   b. Remove the 2 screws securing the Registration Transport Assembly.
   c. Pivot the top and lift the Registration Transport to remove.

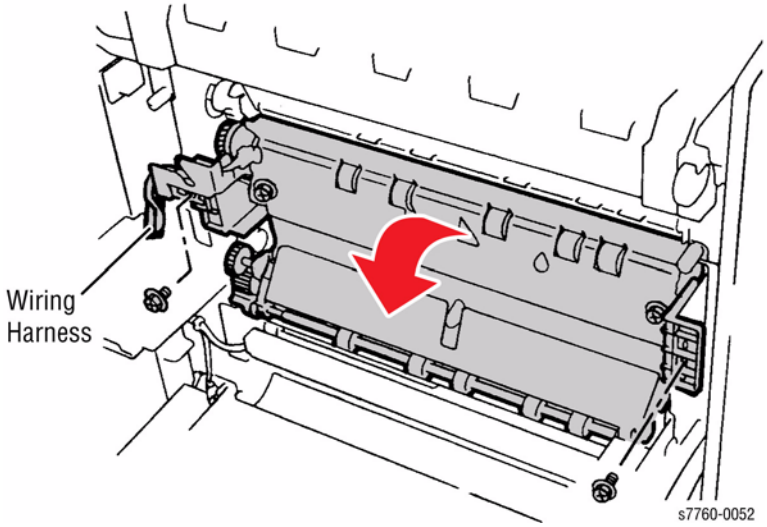


Figure 1 Removing Registration Transport Assembly

Replacement

NOTE: *The bearing is equipped with two Anti-rotation Tabs. If one breaks during removal, install bearing so other tab is employed.*

REP 8.7 Exit Transport Assembly

Parts List on PL 2.10

Removal

1. Remove the Rear Cover (REP 14.2).
2. Remove the Rear Left Upper Cover (REP 14.5).
3. Remove the Fuser Cover (REP 14.8).
4. Open the Left-Hand Door A.
5. Removing the Exit Transport (Figure 1).
   a. Remove the 1 screw securing the Transport Assembly Cover and remove the Cover.
   b. Disconnect the wiring harness P/J and the Left-Hand Cover Interlock Connector.
   c. Remove the 3 screws and remove the Transport Assembly.

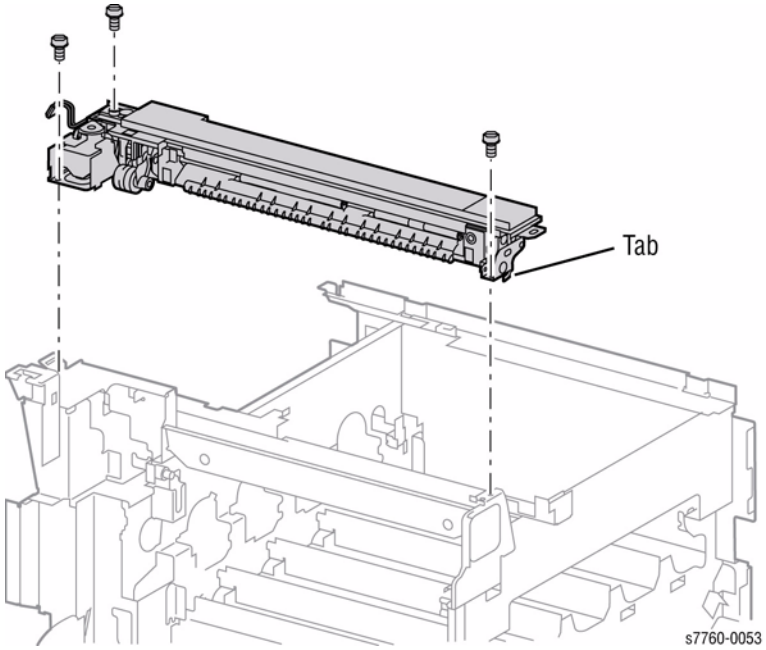


Figure 1 Removing Exit Transport

REP 9.2 ROS Shutter Motor

Parts List on PL 8.1

Removal

1. Remove Tray 1 (MPT) (REP 7.1).
2. Remove the Left Cover Assembly (REP 8.1).
3. Remove the Registration Transport Assembly (REP 8.6).
4. Removing the Shutter Actuator (Figure 1).
   a. Disconnect the wiring harness P/J from the Frame Connector.
   b. Remove the 2 screws and remove the ROS Shutter Motor.

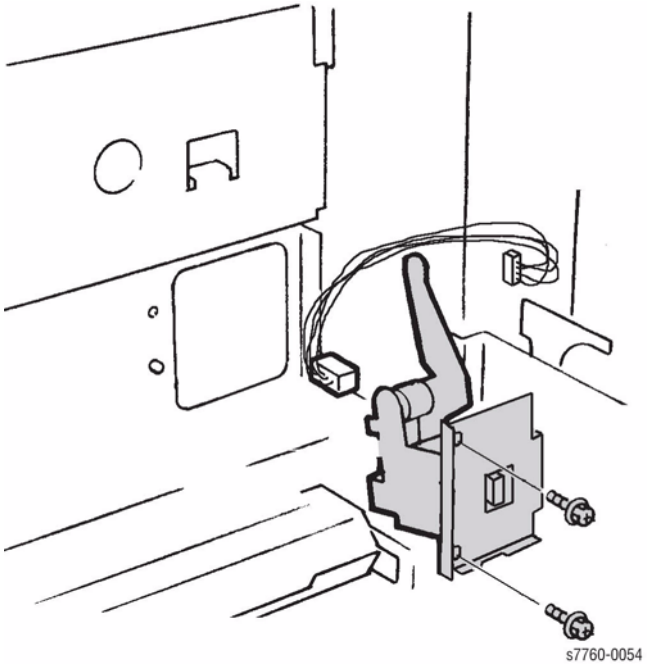


Figure 1 Removing Shutter Motor

Replacement

CAUTION

Verify that the Lever is correctly positioned in the slot on reassembly. Ensure the Shutter Motor Assembly engages.

1. Remove the Waste Toner Cartridge.
2. Remove the Black Imaging Unit.
3. While installing the ROS Shutter Motor, verify that the Shutter Motor Assembly Level engages the notch in the Shutter Plate (Figure 2).
4. Tighten the screw and reconnect the wiring harness (Figure 1).

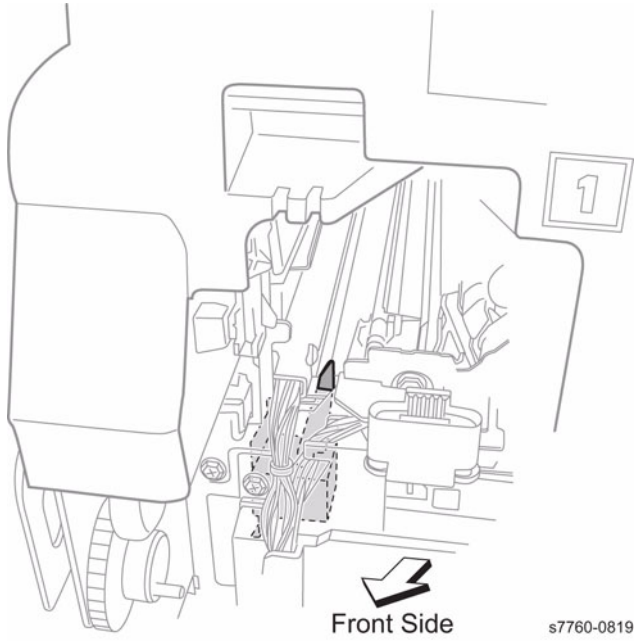


Figure 2 Installing ROS Shutter Motor

REP 9.3 Waste Toner Cartridge Cover

Parts List on PL 4.1

Removal

1. Open the Front Door.
2. Removing the Waste Toner Cartridge Cover (Figure 1).
   a. Open the Waste Toner Cartridge Cover.
   b. Remove 1 screw securing the Waste Toner Cartridge Pivot Hinge and remove the Hinge and the Cover.

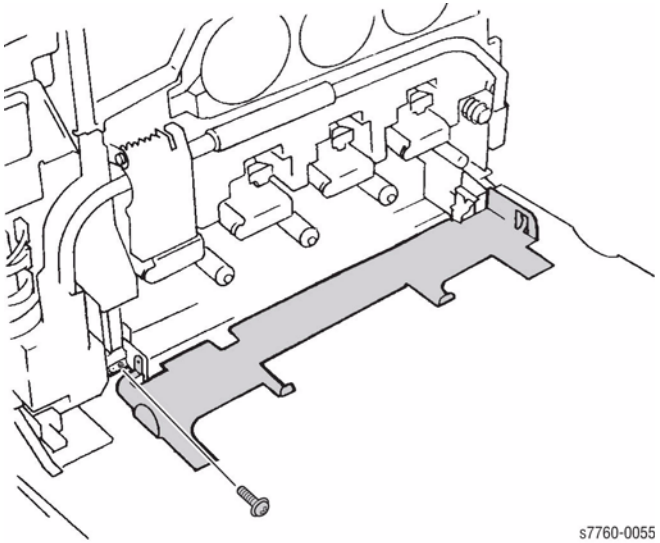


Figure 1 Removing Waste Toner Cartridge Cover

REP 9.5 Full Toner Sensor

Parts List on PL 4.1

Removal

1. Open the Front Door.
2. Remove the Waste Toner Cartridge.
3. Remove the Waste Toner Cartridge Cover (REP 9.3).
4. Removing the Full Toner Sensor (Figure 1).
   a. Lift Left End slightly and pull left to disengage Mounting Tabs.
   b. Disconnect the wiring harnesses, if necessary to replace the sensor.

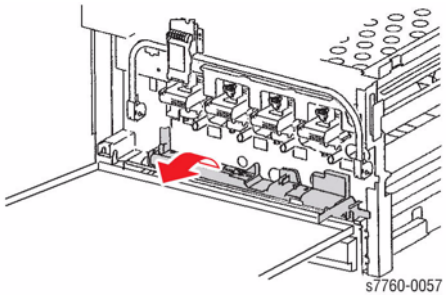


Figure 1 Removing Full Toner Sensor

Replacement

CAUTION

Ensure to handle the wiring carefully when installing the Full Toner Sensor. DO NOT trap and smash the wiring.

REP 9.6 Dispenser Cover (Imaging Unit Plate Cover)

Parts List on PL 10.2

Removal

1. Open the Front Door.
2. Open the Left Cover Assembly (Left-Hand Door A).
3. Remove the Fuser Cover (REP 14.8).
4. Slide the 4 Imaging Units out lightly.
5. Release and move the IBT Cam Lever half way down.
6. Remove the 4 screws and remove the Dispense Cover (Figure 1).

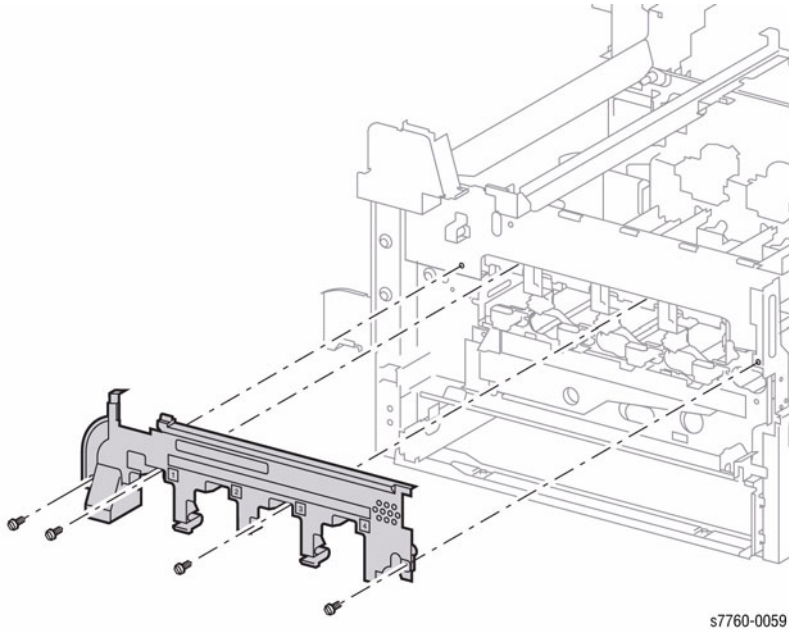


Figure 1 Removing Dispenser Cover

REP 9.7 Toner Dispenser (Dispense Assembly)

Parts List on PL 6.1

Removal

NOTE: *Use only a type II Toner Vacuum to clean up toner spills. Have a drop cloth available to place the removed assemblies on.*

CAUTION

The Dispense Assemblies overlap and must be removed in the following order: Y - M - C - K, then reinstalled as K - C - M - Y.

1. Open the Front Door.
2. Remove the Waste Toner Cartridge.
3. Remove the Imaging Units if necessary.
4. Remove the Toner Cartridges.
5. Remove the Imaging Unit Plate Cover (REP 9.6). Leave the Main Level down.
6. Removing the Toner Dispenser.
   a. Cover the exposed opening with a wide piece of tape to avoid spillage (Figure 1).

      NOTE: *The tape will not stick unless all toner is cleaned off the dispenser first. Do not overlap the tape to the base plate located behind the opening.*

   b. Beginning with the Yellow Toner Dispenser, remove the screw securing each Dispense Assembly to the Printer (Figure 1).

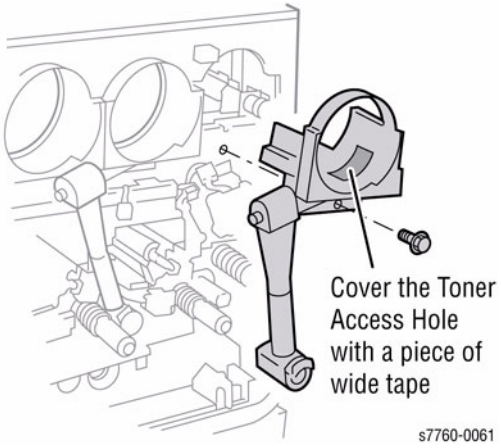


Figure 1 Removing Toner Dispenser

CAUTION

Be careful when moving the Shut-Off Gate; they are easily broken and may come out completely. The flexible tubing is not secure and can come apart during removal and replacement causing toner spillage.

c. Pull the Shut-Off Gate of each Toner Cartridge toward you approximately 3/4" (or 20 mm) to shut off the toner supply for each toner tube (Figure 2).

d. Remove the Dispense Assembly by pulling both the top and bottom sections evenly away from the Printer.

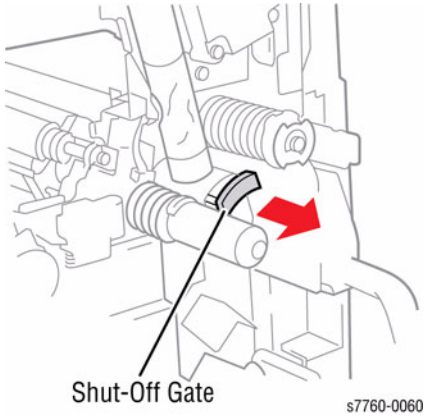


Figure 2 Closing Toner Outlet

REP 9.8 Imaging Unit Plate Assembly

Parts List on PL 4.2

Removal

1. Remove the Front Cover Assembly (REP 14.7).
2. Remove the Imaging Units.
3. Remove the Waste Toner Cartridge.
4. Remove Waste Toner Cartridge Cover (REP 9.3).
5. Remove the Full Toner Sensor (REP 9.5).
6. Remove Fuser Front Cover (REP 14.8).
7. Release and move the IBT Cam Lever half way down.
8. Remove the Dispenser Cover (REP 9.6).
9. Remove all the Toner Dispensers (REP 9.7).

CAUTION

Note the position of the harnesses. Correct harness routing is required for assembly.

10. Disconnect the wiring harnesses to all 4 Developer Housing Assemblies and remove them from under their Retaining Clips and dress the wires so they stick straight out to the front of the Printer (Figure 1).

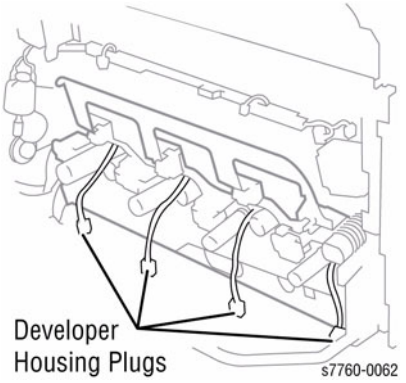


Figure 1 Disconnecting Developer Housing Plugs

11. Clear the wiring harnesses from the Guide located on the lower left side of the assembly.
12. Disconnect Developer Housing Wiring Harnesses (Figure 2).
    a. Open the Harness Clip and remove the harness.
    b. Disconnect the 5 wiring harness P/Js.
    c. Remove 1 screw from Inner Left Harness Cover and remove the Cover.
    d. Remove the Developer Housing Harnesses from additional harness clips (not shown, under the Harness Cover).

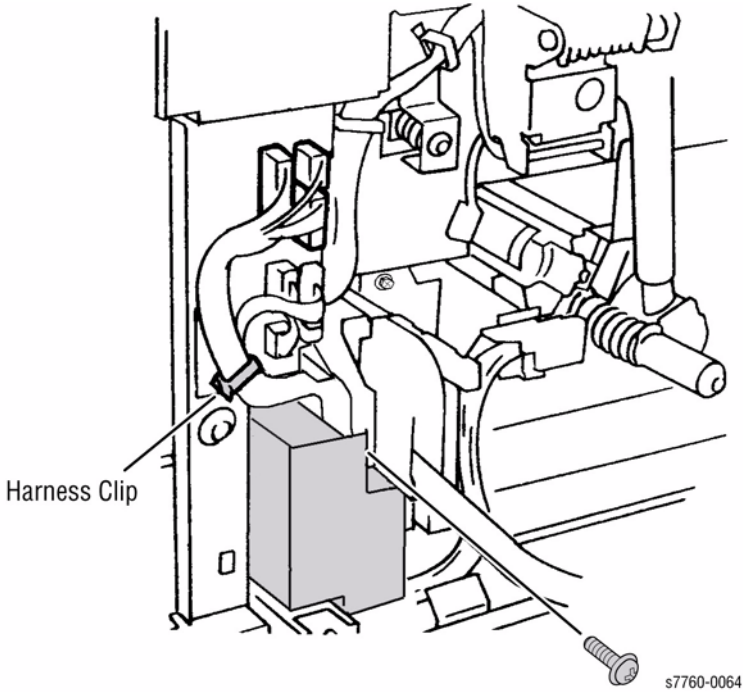


Figure 2 Disconnecting Developer Housing Wiring Harnesses

13. Removing the Plate Assembly (Figure 3).
    a. Remove the 6 chrome plated screws securing the Plate to the Frame.
    b. Remove the Imaging Unit Plate Assembly.

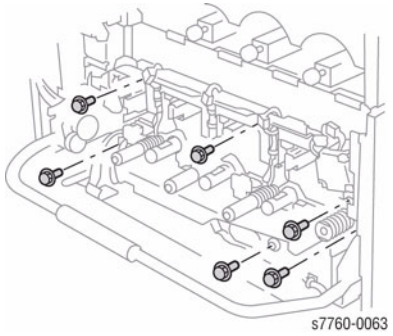


Figure 3 Removing Plate Assembly

Replacement

NOTE: *Ensure the Developer Assemblies are fully and evenly seated when reinstalling the Imaging Unit Plate. There is a locating Pin at the back of each Developer Housing Assembly. Lightly tug the wires to ensure that they are not pinched by the Plate or the Developers while reinstalling. Center the Connectors flat against the Wire Guide with the yellow Developer Connector further to the right.*

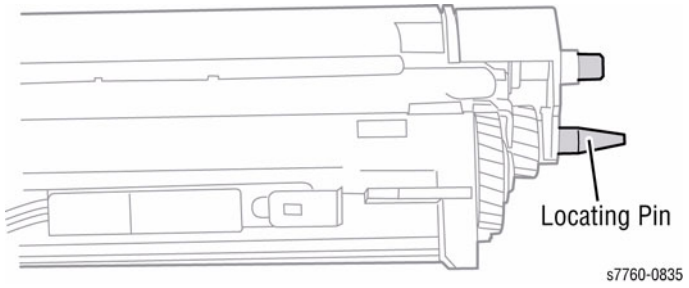


Figure 4 Locating Pin

CAUTION

Be careful not to catch any of the wires on the left-hand side of the Plate while re-installing. There are two locating holes in the Imaging Unit Plate that correspond to the locating Pins on the frame of the Printer. Failure to align the holes with the pins prior to tightening the screws could result in bending the Plate.

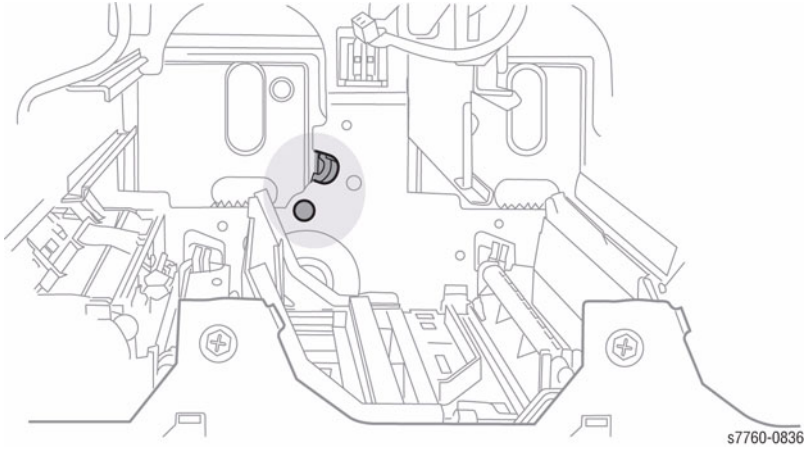


Figure 5 Pin Hole and Notch

- When inserting a Developer Housing Assembly, it should match.

REP 9.9 Developer Housing

Parts List on PL 6.2

Removal

NOTE: *Complete removal of the Imaging Unit Plate is not required for removal of the Developer(s). Tilt the Imaging Unit Plate forward enough to allow the Developer(s) to be removed. Do not disconnect the Imaging Unit Plate harnesses.*

1. Partially remove the Imaging Unit Plate (REP 9.8).

CAUTION

IBT belt damage results when the Developer Housing is removed carelessly.

2. Remove the Developer Housing (Figure 1).

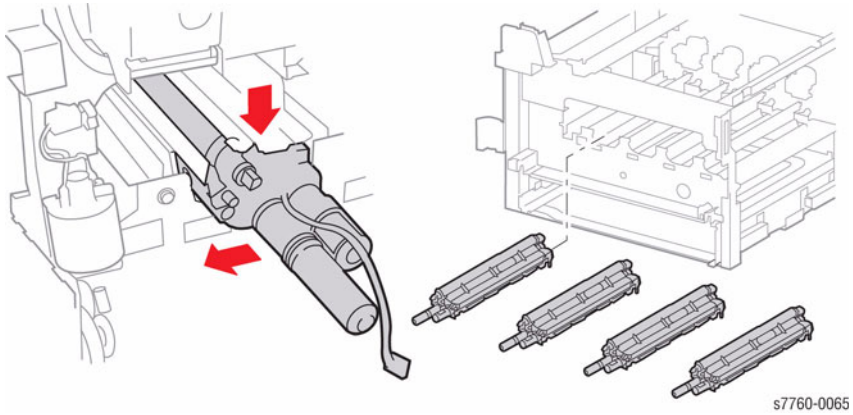


Figure 1 Removing Developer Housing

Replacement

NOTE: *If installing a new Developer Housing, go to 1. If reinstalling existing developer housing, go to 5.*

1. Install a new Developer (REP 9.10) as required.
2. Remove ATC Sensor Setup Data Tag from new Developer Housing. On the tag, highlight K, C, M, or Y as required for color of developer housing. Tag will be installed during machine reassembly.

CAUTION

Image quality defects occur when ATC Sensor Data is mishandled in dC921.

3. During machine assembly, install the ATC Sensor Setup Data Tag as shown (Figure 2).

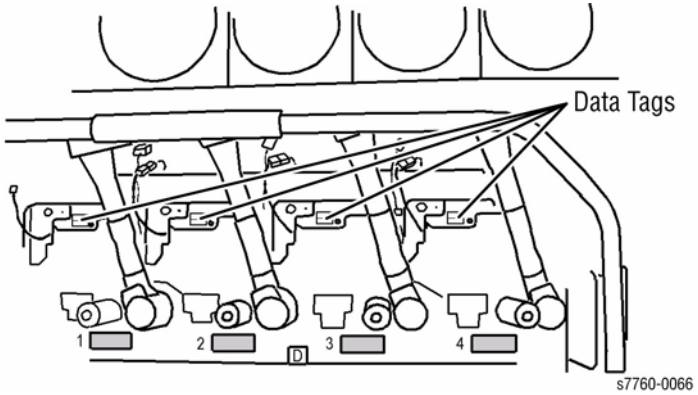


Figure 2 Installing ATC Sensor Setup Data Tag

4. Perform ATC Sensor Setup (ADJ 9.2) using Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.
5. While reinstalling the Developer Housing, ensure the Pin at the rear of the Developer Housing engages the hole in the rear frame of the machine.

REP 9.10 Developer

Parts List on PL 6.2

Removal

NOTE: *In next step, it may not be necessary to disconnect harnesses for Plate Assembly (PL 4.2) to remove a Developer Housing.*

1. Remove the Plate Assembly (REP 9.8).
2. Remove the Developer Housing (REP 9.9).
3. Removing the Developer. (Figure 1).
   a. Carefully observe the position of the wiring harness for later reinstallation.

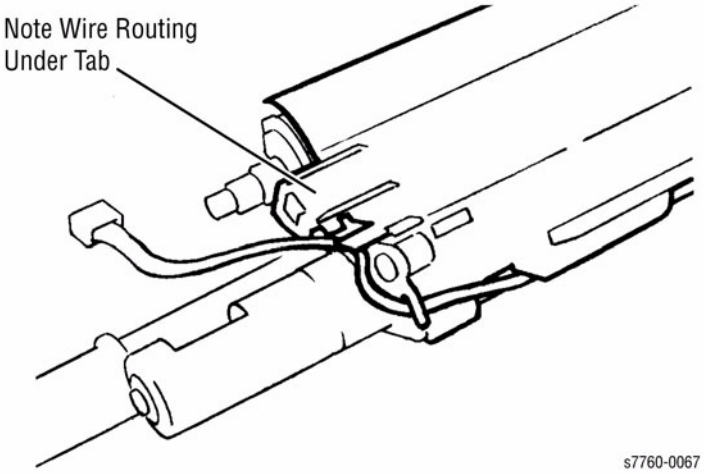


Figure 1 Observing position of Harness

b. Release Tabs and remove the Housing Cover (Figure 2).

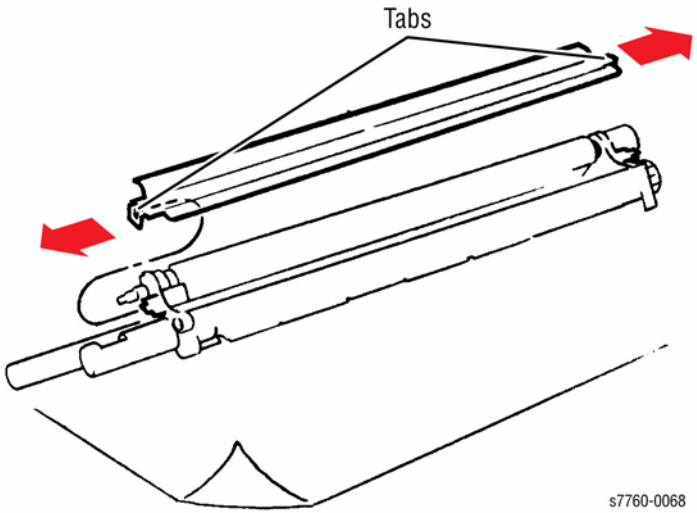


Figure 2 Removing Housing Cover

c. Rotate the Drive Gear to remove the Developer (Figure 3).

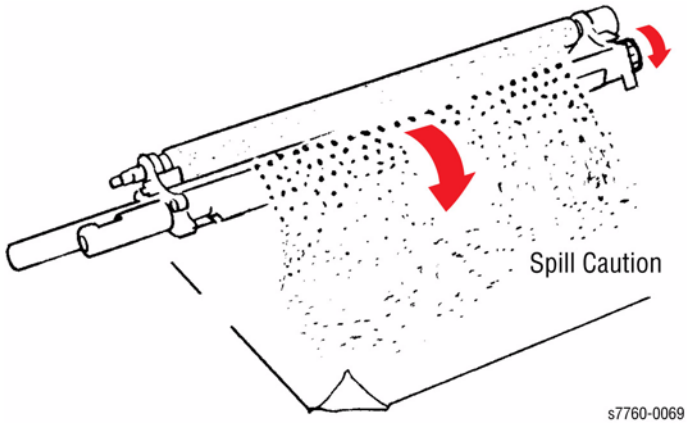


Figure 3 Removing Developer

Replacement

1. Recharging a Developer Housing Assembly.

NOTE: *Be careful when handling the Developer Housing Assembly. It is easy to spill toner in this procedure.*

Check the temperature sensitive label on the Developer Beads. If the label has turned dark, the Beads have been exposed to a higher than expected temperature and should not be used.

If the Developer Beads are being replaced for toner clumping, also replace the Toner Cartridge of the effected color. The dispense assembly of the effected color should also be purged of all toner before the new toner cartridge is installed.

a. Place the Developer Housing Assembly (new or used) to be recharged on a drop cloth.

CAUTION

During this procedure, the Developer Housing Assembly must be kept level at all times. To prevent toner spillage, it is recommended that the Developer Housing Assembly be fully supported level by laying it on something like a large piece of cloth, paper towels or styrofoam hollowed out for the Developer Housing Assembly to lie on. If new, remove the protective cover over the magnetic roller. Do not touch the magnetic roller.

NOTE: *The wires are routed under and behind the right snap tab.*

b. Release the snap tabs at each end of the Developer Housing Assembly and remove the Assembly Cover.

c. Agitate the package of the developer mix and then cut it open. Carefully pour the entire contents of the developer mix as evenly as possible over the two augers. Do not let the developer mix accumulate heavily on the roller. Keep the Developer Housing Assembly level.

d. Reinstall the cover making sure that the rear tabs are all engaged in their respective slots while positioning the wire harness under the snap tab. Press firmly until you hear a positive ‘”snap” sound for each tab indicating each tab is securely fastened.

e. Tear off the ATC sensor perforated tag. Do not remove the ATC sensor label from the Developer Housing. Peel off the protective backing, and adhere the label to the appropriate or corresponding Imaging Unit Plate. Make sure the ATC sensor tab label can be located if needed later.

f. Record the number for entering into NVRAM.

2. Rotate the Drive Gear while installing a new Developer (Figure 4).

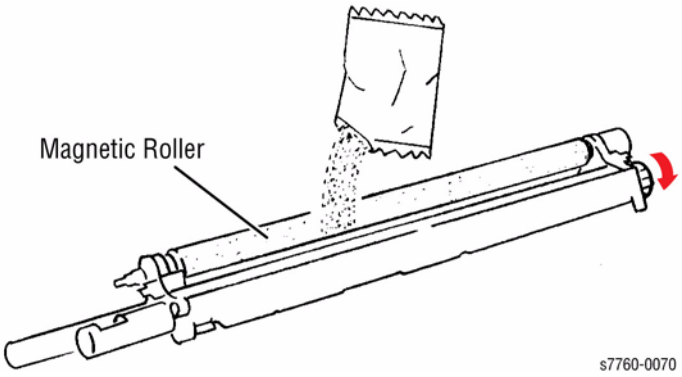


Figure 4 Installing Developer

3. Installing the Developer Housing.
   a. Ensure the pin at the rear of the Developer Housing engages hole in the rear frame of the machine.
   b. Reassemble the machine.
4. Enter the Service Diagnostics Menu: Printer Menu > Troubleshooting > Service Tools > Printer Status Page > hold the Up and Down buttons simultaneously > Run Service Diagnostics > OK.
5. Reset the Developer Count for each Developer using NVRAM locations and values listed in Table 1.

Table 1 Developer Count Reset

Color / NVRAM location	Set to Value
Yellow (Y) / 1079	0
Magenta (M) / 1080	0
Cyan (C) / 1081	0
Black (B) / 1082	0

CAUTION

It is important to re-enter the ATC value when replacing a Developer. Failing to do so could result in poor color balance and shortened the Developer life.

NOTE: *The ATC sensor tag is difficult to view once the Developer has been installed. Remove the label prior to installation.*

6. Perform the ATC Sensor Setup (ADJ 9.2 - Section 4) using the Service Diagnostics Menu: Printer Menu > Troubleshooting > Service Tools > Printer Status Page > hold the Up and Down buttons simultaneously > Run Service Diagnostics > OK.

REP 9.11 Toner Dispenser Base Assembly

Parts List on PL 6.1

Removal

CAUTION

Ensure to route the wires correctly to prevent the wires from trapping under the Base Plate. The Printer could provide false install Black Toner message. if the wires get under the Base Plate.

1. Remove all Toner Dispensers (REP 9.7).
2. Remove the Right Cover (REP 14.3).
3. Remove the Top Cover (REP 14.1).
4. Remove the Toner Dispense Module (Figure 1).
   a. Remove the 2 screws securing the Toner Dispenser Base Assembly.
   b. Disconnect the wiring harness from each Motor.
   c. Lift the Toner Dispenser Base Assembly to remove.

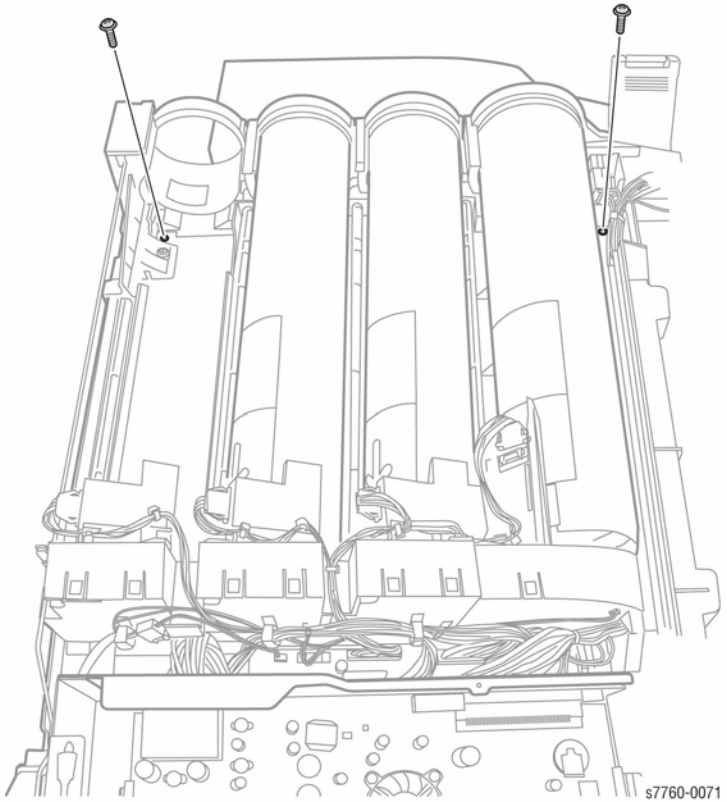


Figure 1 Removing Toner Dispense Module

REP 9.12 IBT Steering Drive Assembly

Parts List on PL 1.3

Removal

1. Open the Front Cover.
2. Remove the Fuser Cover (REP 14.8).
3. Release and move the IBT Cam Lever half way down.
4. Remove the Dispenser Cover (REP 9.6).
5. Removing the Steering Drive Motor (Figure 1).
   a. Disconnect the wiring harness.
   b. Remove the 3 screws securing the IBT Steering Drive Assembly and remove the Assembly from the Printer.

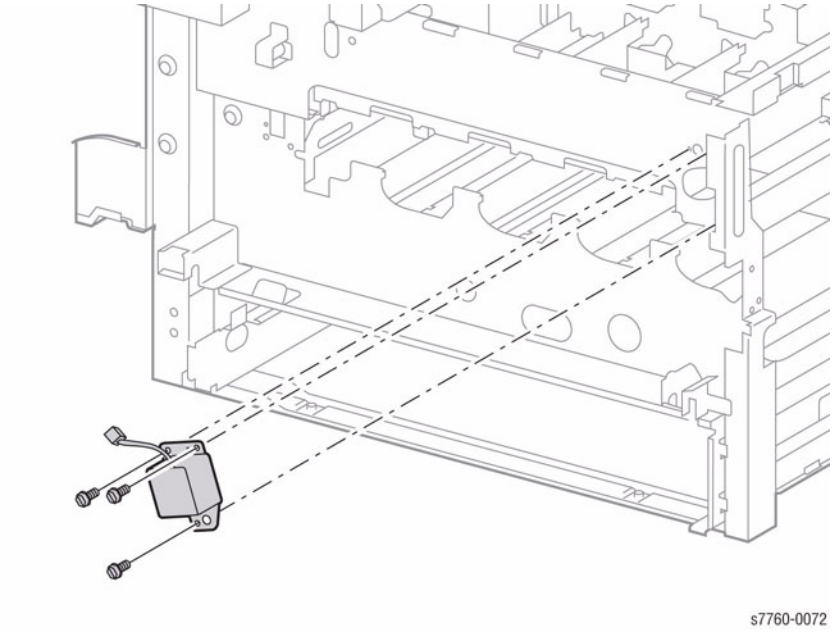


Figure 1 Removing Steering Drive Motor

REP 9.13 Agitator Motor Assembly

Parts List on PL 4.1

Removal

1. Open the Front Cover.
2. Remove the Waste Toner Cartridge.
3. Remove the Fuser Cover (REP 14.8).
4. Release and move the IBT Cam Lever half way down.
5. Remove Dispenser Cover (REP 9.6).
6. Removing the Waste Toner Agitator (Figure 1).
   a. Disconnect the wiring harness.
   b. Remove the 2 screws and remove the Waste Toner Agitator.

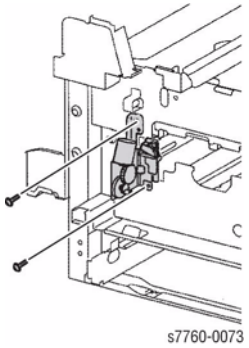


Figure 1 Removing Waste Toner Agitator

REP 9.14 MOB Sensor Assembly

Parts List on PL 1.3

Removal

1. Open the Front Cover.
2. Remove the Waste Toner Cartridge.
3. Remove the Fuser Cover (REP 14.8).
4. Release and move the IBT Cam Lever half way down.
5. Remove the Dispenser Cover (REP 9.6).
6. Remove Agitator Motor Assembly (REP 9.13).
7. Removing the MOB Sensor Assembly (Figure 1).
   a. Remove the Inner Cover (REP 14.10).
   b. Remove the Full Toner Sensor (REP 9.5).
   c. Disconnect the purple harnesses.
   d. Remove the wiring harnesses from 3 clips.
   e. Ensure to have the Locking Lever down. Remove 1 black screw and remove the MOB Sensor Assembly.

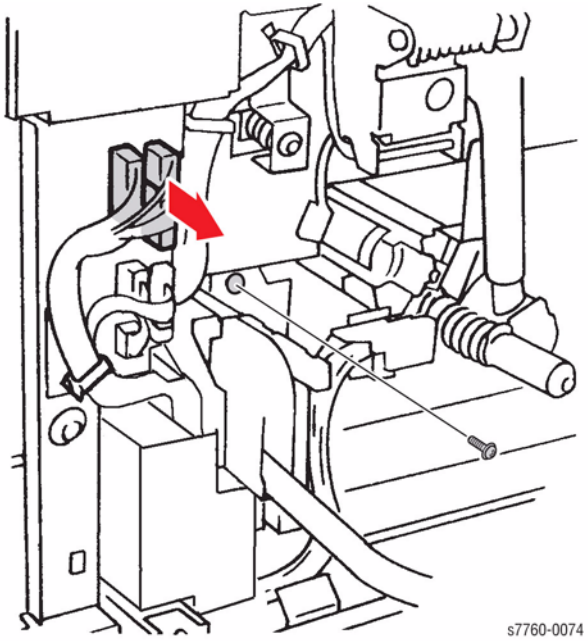


Figure 1 Removing MOB Sensor Assembly

REP 9.15 IBT Belt Assembly (Accumulator Belt Assembly)

Parts List on PL 5.2

Removal

CAUTION

Ensure to carefully remove the IBT Belt Assembly to prevent damaging the Waste Auger Gate.

1. Open the Front Cover.
2. Release and move the IBT Cam Lever down.
3. Open the Right Side Door.
4. Removing the IBT Belt Assembly (Figure 1).
   a. Lift the Accumulator Belt Locking Level and pull the Assembly out to remove.
   b. Use Handle to transport IBT Unit. Protect the IBT Belt Assembly from direct light.

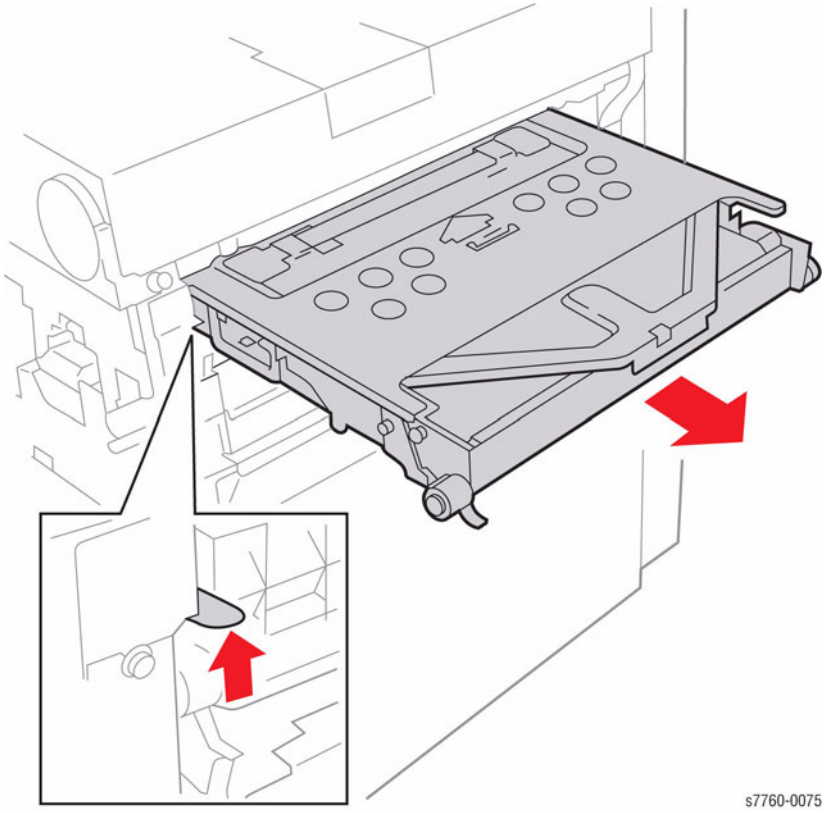


Figure 1 Removing IBT Belt Assembly

REP 9.16 IBT Belt (Accumulator Belt) Cleaner Assembly

Parts List on PL 5.3

Removal

1. Open the Front Cover.
2. Release and move the IBT Cam Lever down.
3. Remove the Right Cover (REP 14.3).
4. Pull the IBT Belt Assembly out a few inches just enough to access Belt Cleaner (REP 9.15).

CAUTION

Handle the Cleaner Assembly with care to prevent spilling toner.

5. Remove the 2 screws and remove IBT Belt Cleaner Assembly (Figure 1).

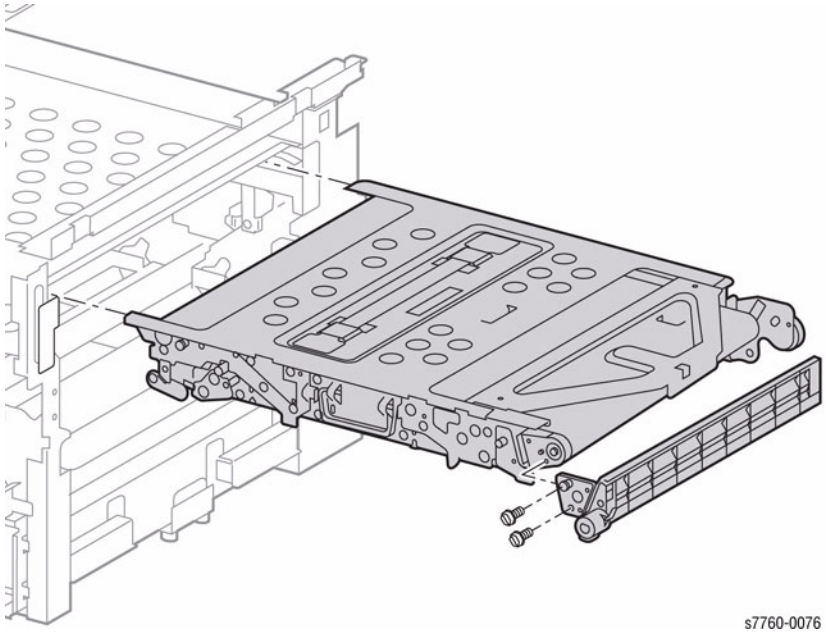


Figure 1 Removing IBT Belt (Accumulator Belt) Cleaner Assembly

Replacement

CAUTION

Never run the Printer without the Belt Cleaner installed or severe damage to the Accumulator Belt can occur.

Ensure the Accumulator Belt is fully inserted or severe printer damage can result. NEVER FORCE the IBT Cam Lever.

REP 9.17 Auger Assembly

Parts List on PL 5.2

Removal

1. Open the Front Cover.
2. Remove the Waste Toner Cartridge.
3. Release and move the IBT Cam Lever down.
4. Remove the Right Cover (REP 14.3).
5. Remove the IBT Belt Assembly (REP 9.15).
6. Return the IBT Cam Lever to its upright position.
7. Removing the Waste Toner Agitator (Figure 1).
   a. Remove the 2 screws securing the Auger Assembly.

      NOTE: *Be careful not to knock the Bearing out of its seat or to spill the waste toner during removal.*

   b. Shift the Auger Assembly to remove the Drive Shaft from the Bearing and remove the Auger Assembly.

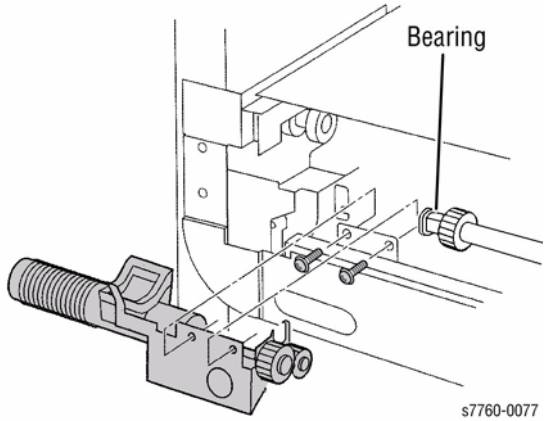


Figure 1 Removing Waste Toner Agitator

Replacement

NOTE: *Before reinstalling the Auger Assembly, be sure to return the IBT Cam Level to the Down position*

REP 9.18 IBT Cam Lever

Parts List on PL 5.1

Removal

1. Open the Front Cover.
2. Remove the Fuser Cover (REP 14.8).
3. Remove the Waste Toner Cartridge.
4. Remove the Waste Toner Cartridge Cover (REP 9.3).
5. Remove the Inner Cover (REP 14.10).
6. Remove the Imaging Units.
7. Remove the Right Cover (REP 14.3).
8. Remove the IBT Belt Assembly (REP 9.15).
9. Removing the Lever Assembly (Figure 1).
   a. On the left-hand side, remove 1 screw, 1 Washer, and 1 Hinge Pin.
   b. On the right-hand side, remove 1 E-Ring and 1 Hinge Pin.
   c. Remove the IBT Cam Level.

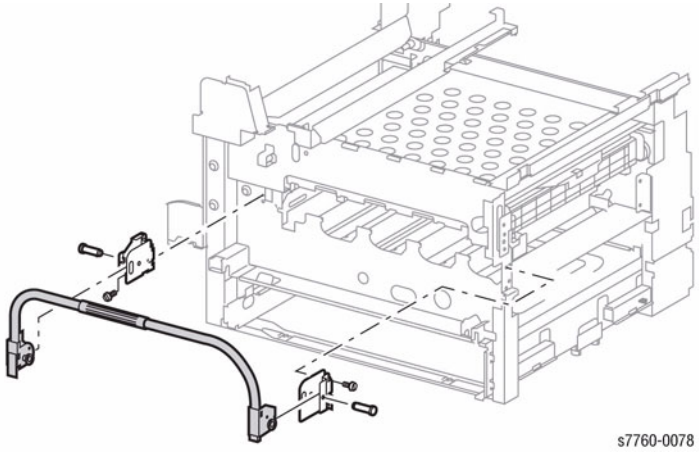


Figure 1 Removing Lever Assembly

Replacement

NOTE: *Ensure the Right and Left Lift Assemblies are fully extended.*

1. Move the Lever to down position before reinstalling the IBT Belt Assembly.
2. Slide the Main Level Gears under the Lift Jack Assembly Racks and lift into position. Verify that the Timing Marks on the IBT Cam Lever and the Lift Jack Assemblies align (Figure 2). The IBT Cam Lever Assembly requires extra pressure approximately 1” from the front of the Printer when properly aligned.

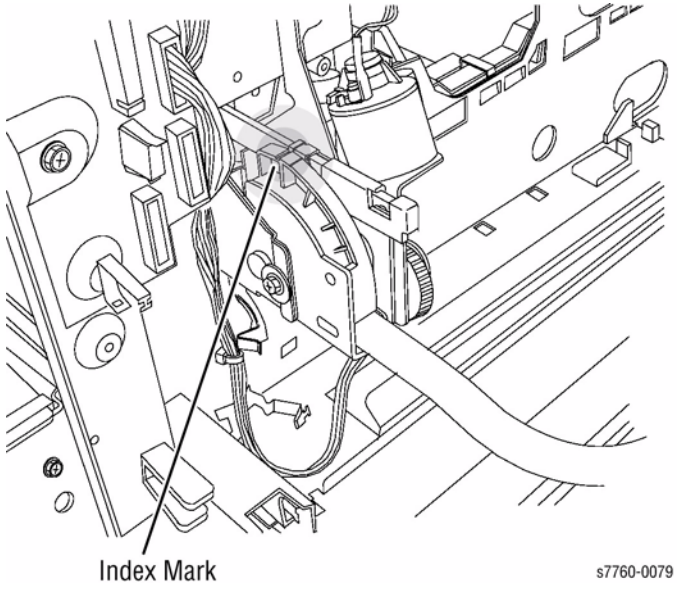


Figure 2 Index Marks

REP 9.19 Left Hinge/Right Hinge

Parts List on PL 5.1

Removal

1. Open the Front Cover.
2. Remove the Fuser Cover (REP 14.8).
3. Remove the Waste Toner Cartridge.
4. Remove Waste Toner Cartridge Cover (REP 9.3).
5. Remove the Inner Cover (REP 14.10).
6. Release and move the IBT Cam Lever down.
7. Remove the Imaging Units.
8. Remove the Right Cover (REP 14.3).
9. Remove the IBT Belt Assembly (REP 9.15).
10. Remove the IBT Cam Lever (REP 9.18).
11. Remove the 4 screws and remove the Left and Right Hinges (Figure 1).

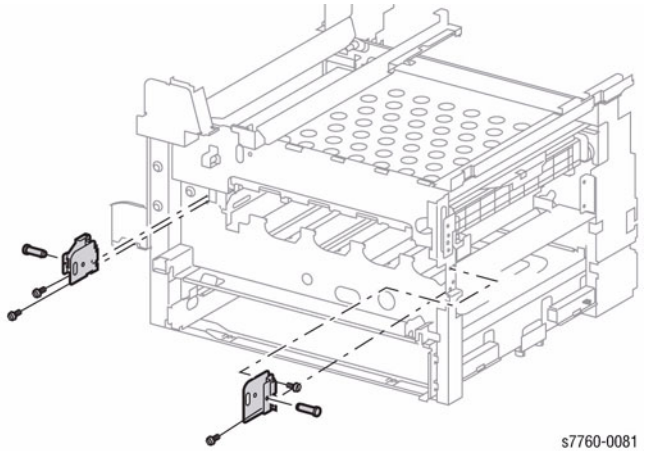


Figure 1 Removing Left Hinge/Right Hinge

Replacement

Move the IBT Cam Release Lever to downward position before reinstalling the IBT Belt Assembly.

Ensure alignment marks on the Release Lever Gear teeth align with the marks on the left and right hinges.

REP 9.20 Right Lift Assembly (Right-Hand Lift Jack Assy.)

Parts List on PL 5.1

Removal

1. Open the Front Cover.
2. Remove the Fuser Cover (REP 14.8).
3. Remove the Waste Toner Cartridge.
4. Remove the Waste Toner Cartridge Cover (REP 9.3).
5. Remove the Inner Cover (REP 14.10).
6. Release and move the IBT Cam Lever down.
7. Remove the Imaging Units. Ensure to protect the Imaging Units from light.
8. Remove the Right Cover (REP 14.3).
9. Remove Belt Module (REP 9.15).
10. Remove the IBT Cam Lever (REP 9.18).
11. Removing the Lift Bracket (Figure 1).
    a. Remove the 2 E-Rings and 2 Washers.
    b. Remove the 4 screws and remove the Right Lift Assembly.
    c. Remove the 2 Bearings and Washers.

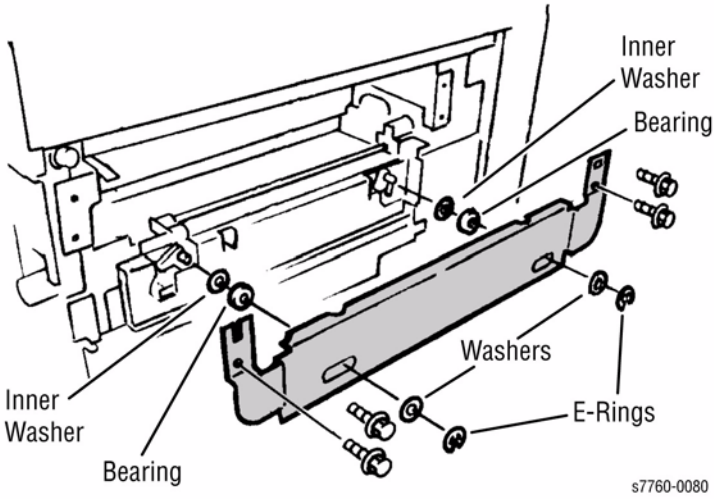


Figure 1 Removing Lift Bracket

12. Removing the Right IBT Cam Lift (Figure 2).
    a. Remove the 2 Auger Mounting screws.
    b. Remove the 4 Lift Position screws.
    c. Remove the Right Lift Assembly.

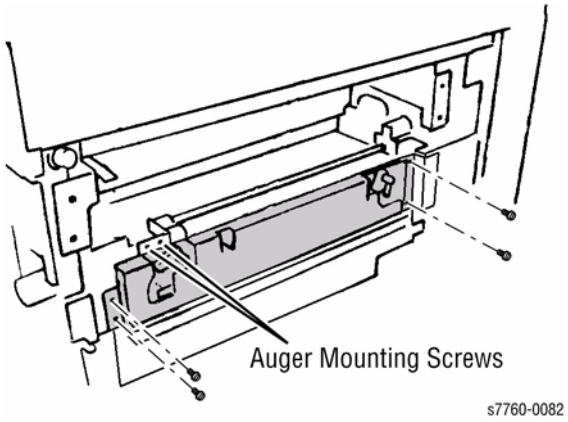


Figure 2 Removing Right IBT Cam Lift

Replacement

NOTE: *When reinstalling the Right-Hand Lift Jack Assembly, install the screws as follows: 1 - - Upper Left; 2 - Upper Right; 3 - Lower Screws.*

1. *Move the IBT Release Lever to downward position before reinstalling the IBT Belt Assembly.*
2. *Verify that the Timing Marks on the IBT Cam Lever and the Lift Jack Assembly align.*

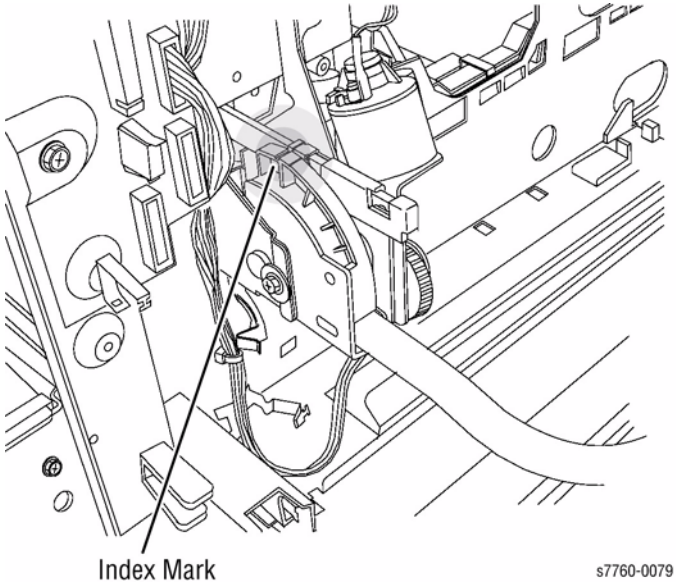


Figure 3 Index Marks

REP 9.21 Left Lift Assembly

Parts List on PL 5.1

Removal

1. Open the Front Cover.
2. Remove Fuser Cover (REP 14.8).
3. Remove Waste Toner Cartridge.
4. Remove Waste Toner Cartridge Cover (REP 9.3).
5. Remove the Inner Cover (REP 14.10).
6. Release and move the IBT Cam Lever down.
7. Remove the Imaging Units.
8. Remove the Right Cover (REP 14.3).
9. Remove the IBT Belt Assembly (Accumulator Belt) (REP 9.15).
10. Remove the IBT Cam Lever (REP 9.18).
11. Remove the Rear Cover (REP 14.2).
12. Remove the Rear Left Middle Cover (REP 14.4).
13. Remove Tray 1 (MPT) (REP 7.1).
14. Remove the Left Cover Assembly (REP 8.1).
15. Remove the Registration Transport Assembly (REP 8.6).
16. Remove the Dispenser Cover (REP 9.6).
17. Remove the Agitator Motor Assembly (REP 9.13).
18. Remove the MOB Sensor Assembly (REP 9.14).
19. Remove the Left Hinge (REP 9.19).

NOTE: *In next step, it may not be necessary to disconnect harnesses for Plate Assembly (PL 4.2) to remove a Developer Housing.*

20. Remove the Black Developer (REP 9.9).
21. Remove the K Erase Lamp/Rail (REP 9.25).
22. Removing the Left Lift Assembly (Figure 1).

CAUTION

The Washers can fall out into the lower metal cavity. Lay something underneath to catch the Washers and screws.

NOTE: *In next step, use a magnet to capture E-Ring and Washer while removing them.*

a. Remove the E-Clips, washers, and bearings from the Left Lift Assembly Roller Guides.
b. Partially remove the left hand side of the Main Level Assembly.
c. Remove the Left Hand Lever Hinge.
d. Remove the 4 screws securing the Left Lift Assembly Bracket and remove the Bracket.
e. Remove the 4 screws and remove the Left Lift Assembly from the Printer.

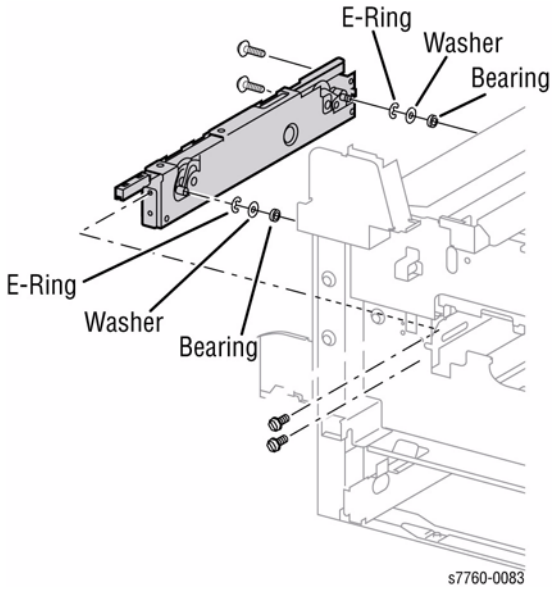


Figure 1 Removing Left Xerographic Lift

Replacement

NOTE: *When reinstalling the Left Lift Assembly, install the screws as follows: Upper Left, Upper Right, then the Lower screws. Verify that the Timing Marks on the Main Level and the Lift Jack Assembly align.*

1. Installing the Left Lift Assembly.
   a. Position the Lift in the frame.
   b. Raise or lower the frame as required and push in or pull out the Lift Actuator as required to engage the Lift bearings with slots in the frame.
   c. Install the Upper Left screws, Upper Right screws, and Lower screws.
   d. Install the 2 washers and 2 E-Rings.
2. Assemble the remaining machine components.

Aligning Lift Jack Assemblies

Visually examine both ends of the Accumulator Belt Assembly or Belt Lift Frame Assembly while operating the Lift Handle to determine if the left or right end is out of alignment. Refer to REP 9.20 or REP 9.21 to remove the affected Lift Jack Assembly. Once the Assembly is removed, check the alignment of the Lift Pins as shown in Figure 2. The center of both pins should be the same distance from the bottom of the assembly.

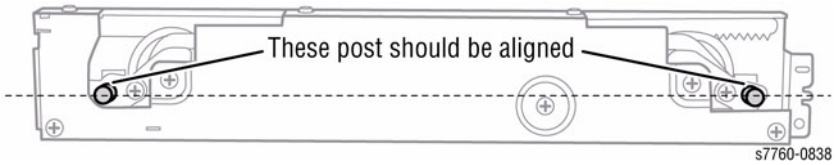


Figure 2 Lift Pin Alignment

If the Lift Pins are misaligned, follow this procedure to realign the individual Gears with the Rack.

1. Remove the 8 Cover screws from the Lift Jack Assembly (Figure 3).

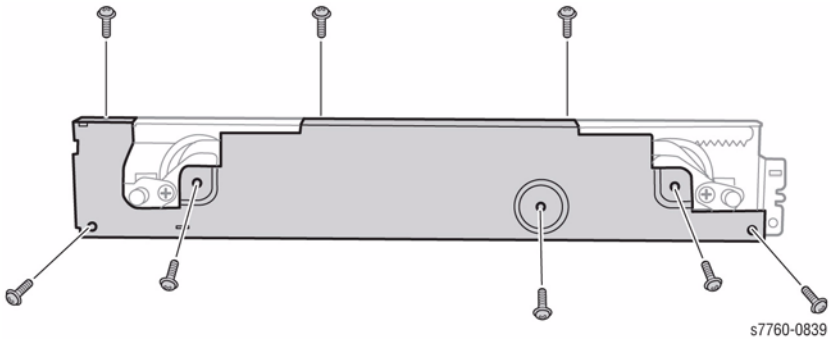


Figure 3 Cover Screw Location

2. Flip open the Cover Plate (Figure 4).

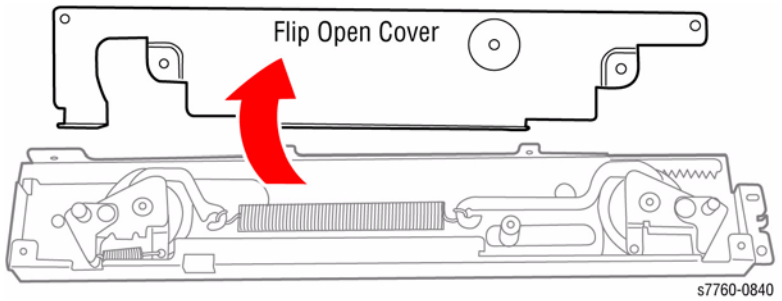


Figure 4 Cover Removed

3. Remove the Tension Spring (Figure 5).

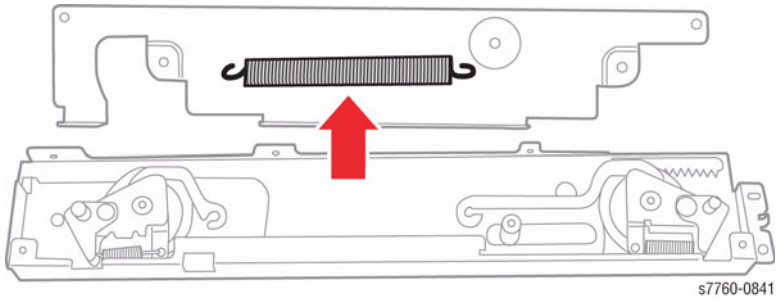


Figure 5 Tension Spring Location

4. Align the triangle marks on the Gears and the Rack by lifting the Gear Assemblies on their mounting posts until they disengage from the Rack and rotating them until the triangle align (Figure 6). Then reseat the Gear fully on its post.

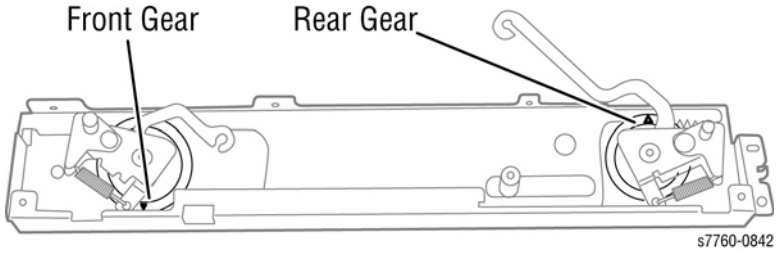


Figure 6 Front and Rear Gears Aligned

REP 9.22 Transfer Belt

Parts List on PL 5.3

Removal

CAUTION

Cover the Transfer Belt in a black bag to protect from light.

NOTE: *Keep your hand off the Transfer Belt.*

1. Remove the IBT Belt Assembly (Accumulator Belt) (REP 9.15).
2. Remove the IBT Belt Cleaner Assembly (REP 9.16).
3. Removing the Stand Plate (Figure 1).
   a. Remove the 2 screws securing the Stand Plate.
   b. Lift the Stand Plate up to remove it.

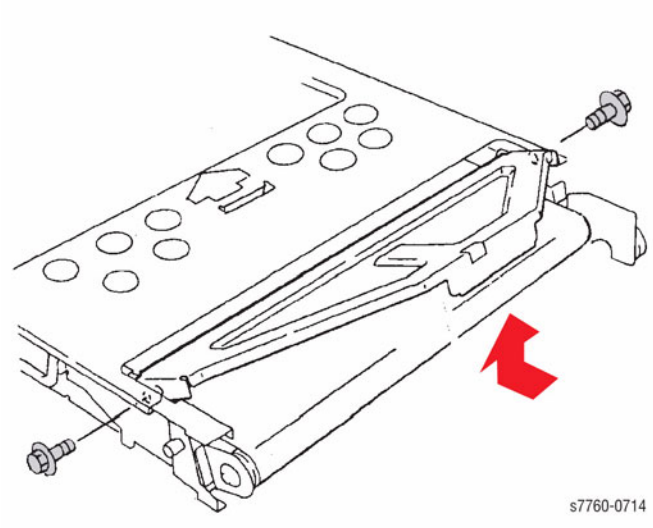


Figure 1 Removing Stand Plate

4. Slide the Left Handle out to remove it (Figure 2).

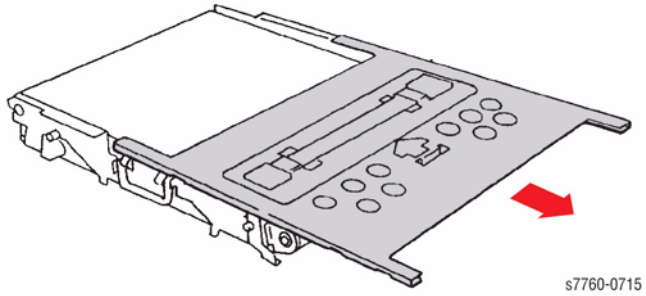


Figure 2 Removing Handle

5. Remove the 2 screws on both side of the IBT Belt Assembly (Figure 3).

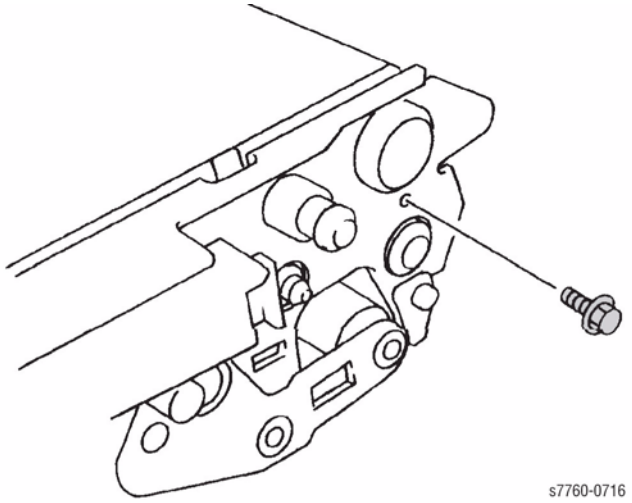


Figure 3 Removing Screws

6. Positioning the Latch (Figure 4).
   a. Remove 1 screw and the Support.
   b. Install the Support and screw.

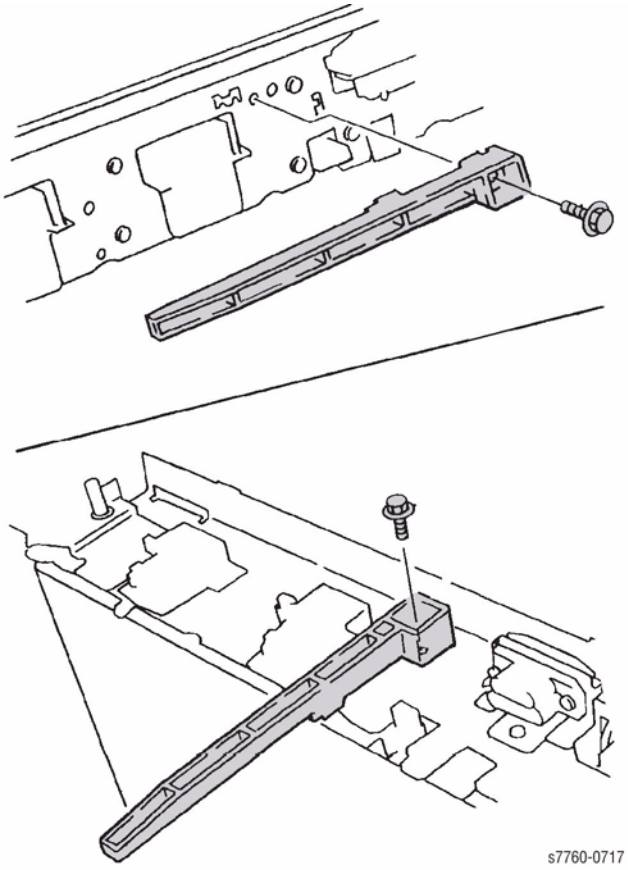


Figure 4 Positioning Latch

7. Install the Stand Plate (Figure 5).

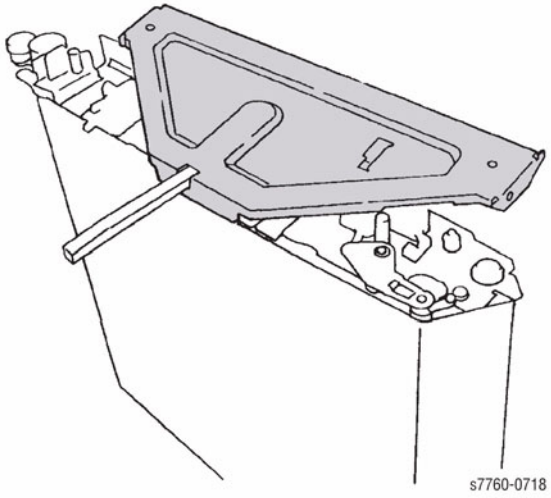


Figure 5 Installing Stand Plate

8. Place the Stand Plate below and stand the IBT Belt Assembly.
9. Relaxing the Belt Tension (Figure 6).
   a. Forcefully push the Roll.
   b. Push the Tab so the Lock engages the Plate.

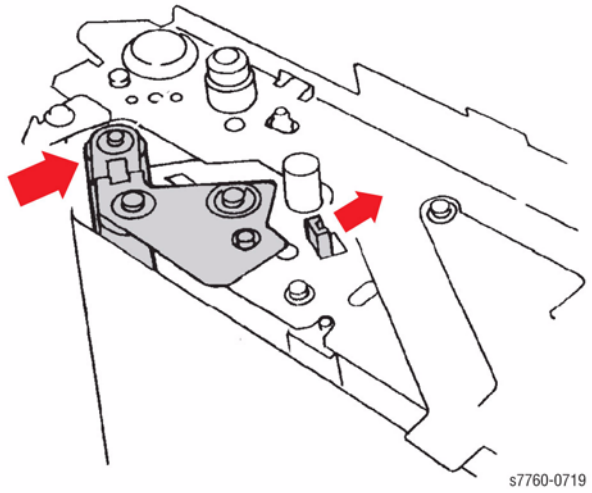


Figure 6 Relaxing Belt Tension

10. Remove the 2 screws and remove the Brackets (Figure 7).

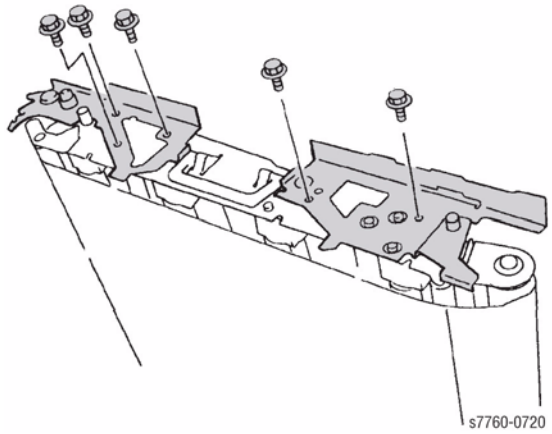


Figure 7 Removing Brackets

11. Pulling out the Back Up Roll (BUR) Housing (Figure 8).
    a. Lift the BUR Housing to disengage the bottom.
    b. Rotate the Housing 1/4 turn.

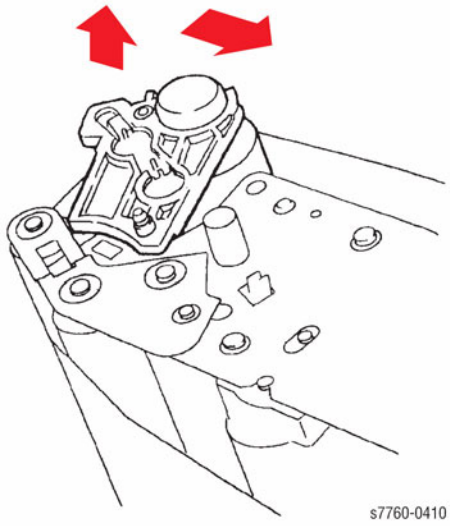


Figure 8 Pulling Out BUR Housing

12. Remove the Transfer Belt (Figure 9).

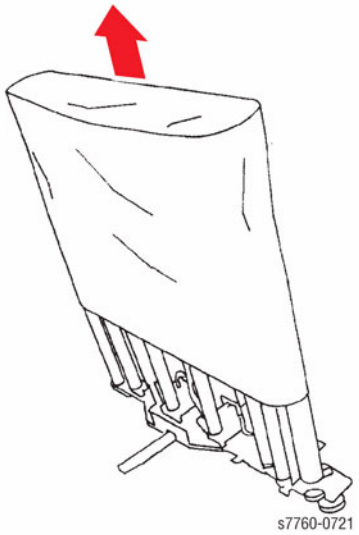


Figure 9 Removing Transfer Belt

Replacement

CAUTION

Note that the Reflector is on the inside of the Belt. Be careful when handle the belt on the sensor to prevent from damaging it.

1. Install the Transfer Belt with the Reflector facing the rear. Note that the Reflector is on the inside of the Belt.
2. After installing the Transfer Belt, move it to the center of the IBT Frame so that exposed parts of the IBT Drive Roll should be equal (Figure 10).

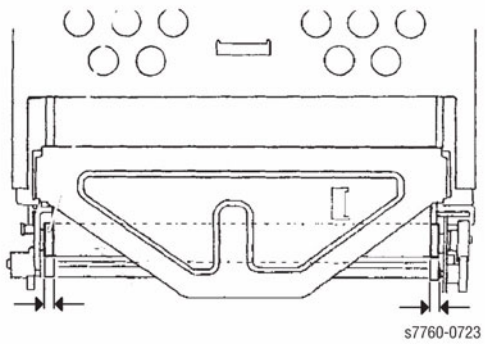


Figure 10 Positioning Transfer Belt

3. If the Transfer Belt is skewed or wrinkled, perform the following steps: (Figure 11)
   a. Relax tension of the Belt.
   b. Rotate the Gear in arrow direction and move the Transfer Belt.

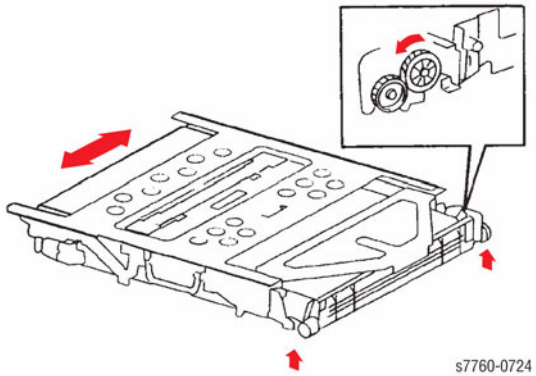


Figure 11 Re-positioning Transfer Belt

REP 9.25 Erase Lamp Rail (K,Y,M,C)

Parts List on PL 4.2

Removal

CAUTION

Use Caution when removing the Erase Lamp Rail. Do not lift the Erase Lamp/Rail up to high when removing the Rail. The Erase Lamp Rail has a sharp edge at the end of the rail, which could damage the Accumulator Belt.

1. Remove the IBT Belt Assembly (Accumulator Belt) (REP 9.15).
2. Remove the Dispenser Cover (REP 9.6).
3. Raise the IBT Cam Lever.
4. Removing the Bracket and Erase Lamp Rail (Figure 1).
   a. Disconnect the P/J Connector.
   b. Loosen 1 screw, move the Bracket, and remove the Erase Lamp Rail.

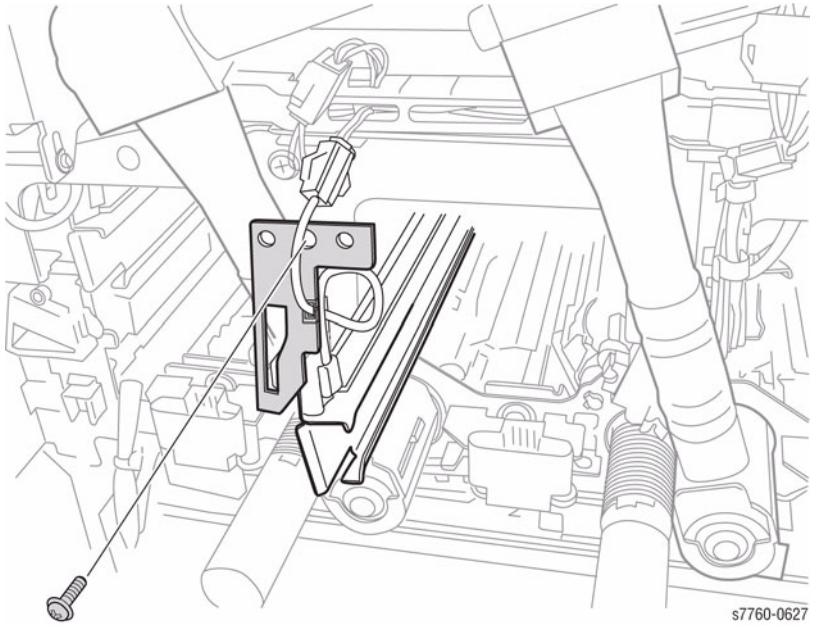


Figure 1 Removing the Erase Lamp Rail

Replacement

NOTE: *Remove the IBT Belt Assembly (Accumulator Belt) if it has not been removed (REP 9.15). Ensure to align the hook on the rear of the Erase Lamp Rail with the hole on the Accumulator Belt Mounting Frame (Figure 2).*

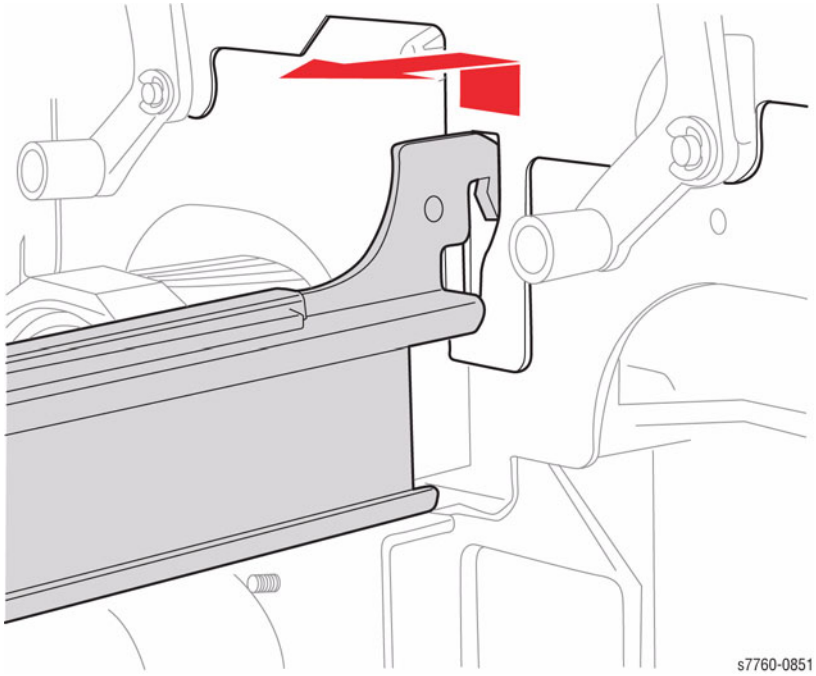


Figure 2 Installing Erase Lamp with Rail

REP 9.26 ATC Sensor

Parts List on PL 6.2

Removal

1. Remove the Developer Housing (REP 9.9).
2. Releasing the harness from Harness Clips (Figure 1).
   a. Release the Tab and remove the wires.
   b. Lift the Tab and remove the wires.

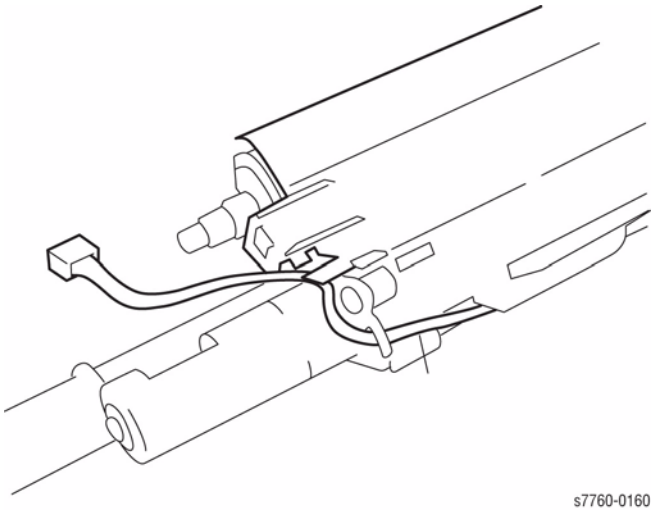


Figure 1 Removing Harness form Clips

3. Removing the ATC Sensor (Figure 2).
   a. Lift the Lock and move end away from the Tab.
   b. Remove the Seal from the under the Sensor.

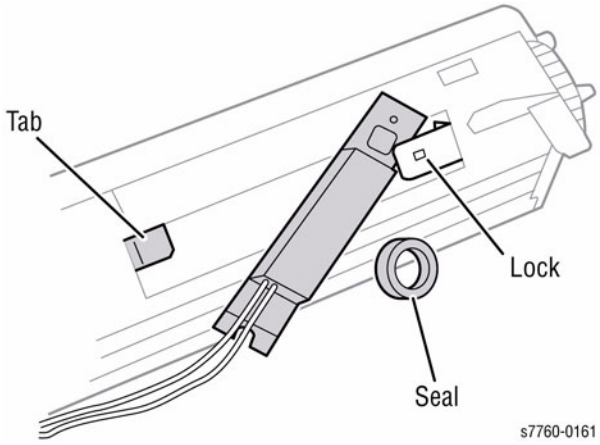


Figure 2 Removing ATC Sensor

Replacement

NOTE: *Ensure to install the Seal (Figure 2) correctly and fully seated to prevent from leakage.*

Remove the ATC Sensor Setup Data Tag from new sensor. On tag, highlight K, C, M, or Y as required for color of developer housing. Raise the IBT Cam Lever and install Tag in position shown (Figure 3).

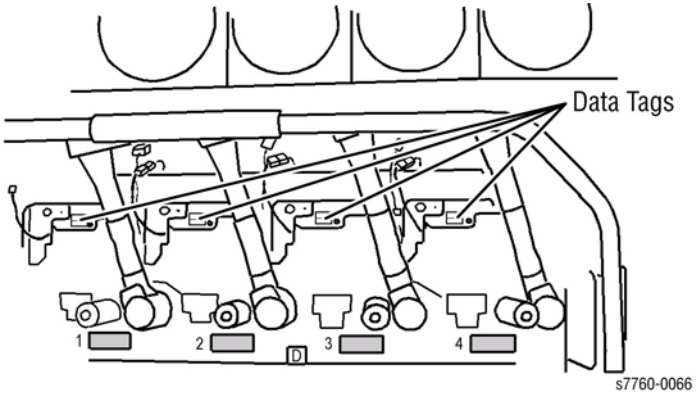


Figure 3 Installing ATC Sensor Setup Data Tag

NOTE: *Perform ATC Sensor Setup, (ADJ 9.2 - Section 4) using the Service Diagnostics Menu:* ***Printer Menu*** *>* ***Troubleshooting*** *>* ***Service Tools*** *>* ***Printer Status Page*** *>hold the* ***Up*** *and* ***Down*** *buttons simultaneously >* ***Run Service Diagnostics*** *>* ***OK****.*

REP 9.27 Accumulator Belt Mounting Frame

Parts List on PL 5.6

Removal

1. Open the Front Cover.
2. Remove the Fuser Cover (REP 14.8).
3. Remove the Waste Toner Cartridge.
4. Remove the Waste Toner Cartridge Cover (REP 9.3).
5. Remove the Inner Cover (REP 14.10).
6. Release and move the IBT Cam Lever down.
7. Remove the Imaging Units.
8. Remove the Dispense Cover (Imaging Unit Plate Cover) (REP 9.6).
9. Remove the IBT Steering Drive Assembly (REP 9.12).
10. Remove the Agitator Motor Assembly (REP 9.13).
11. Remove the MOB Sensor Assembly (REP 9.14).
12. Remove the Right Cover (REP 14.3).
13. Remove the IBT Belt Assembly (Accumulator Belt) (REP 9.15).
14. Remove the IBT Cam Lever (REP 9.18).
15. Remove the Rear Cover (REP 14.2).
16. Remove the Rear Left Middle Cover (REP 14.4).
17. Remove Tray 1 (MPT) (REP 7.1).
18. Remove the Left Cover Assembly (Left-Hand Door A) (REP 8.1).
19. Remove the Fuser.
20. Remove the Registration Transport Assembly (REP 8.6).
21. Removing the Accumulator Belt Mounting Frame
    a. Remove the mounting screws from the Main Drive Assembly and push it 1/4 inch to the rear of the Printer.
    b. Remove the 4 black screws securing the Accumulator Belt Frame to the Left Lift Jack Assembly.

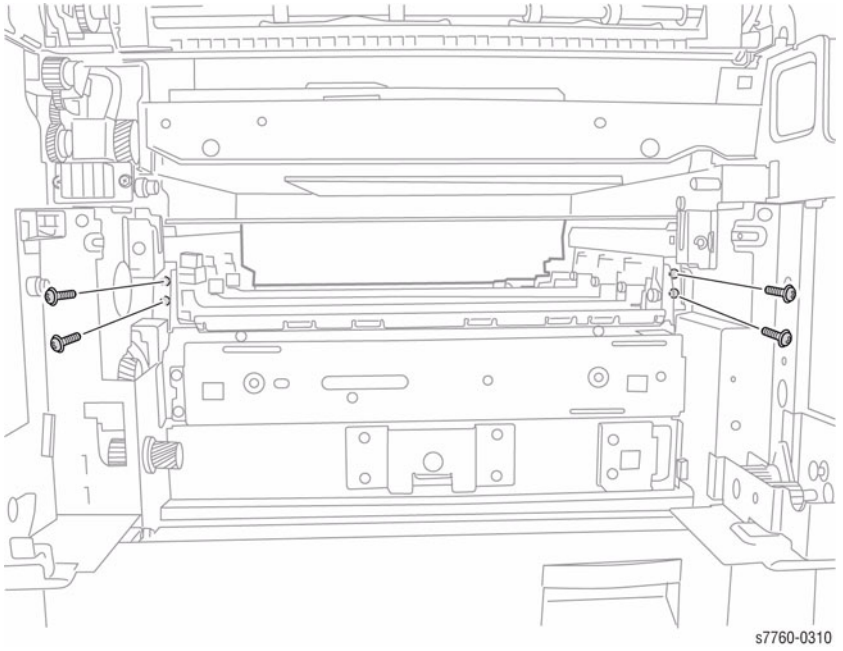


Figure 1 Mounting screws for Accumulator Belt Frame on the Left Lift Jack Assembly

c. Remove the E-Clips and washers from the right-hand Lift Jack Roller Guides.

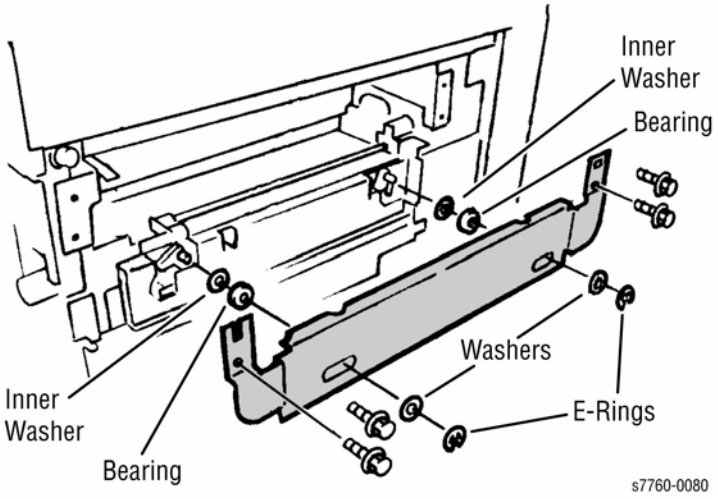


Figure 2 E-Clips and Washers on right-hand Lift Jack Assembly

d. Remove the 4 black screws securing the right-hand Lift Bracket to the Accumulator Belt Frame and remove the Bracket.

e. Remove 1 screw securing the Accumulator to the rear frame and move the wiring harness out of the way.

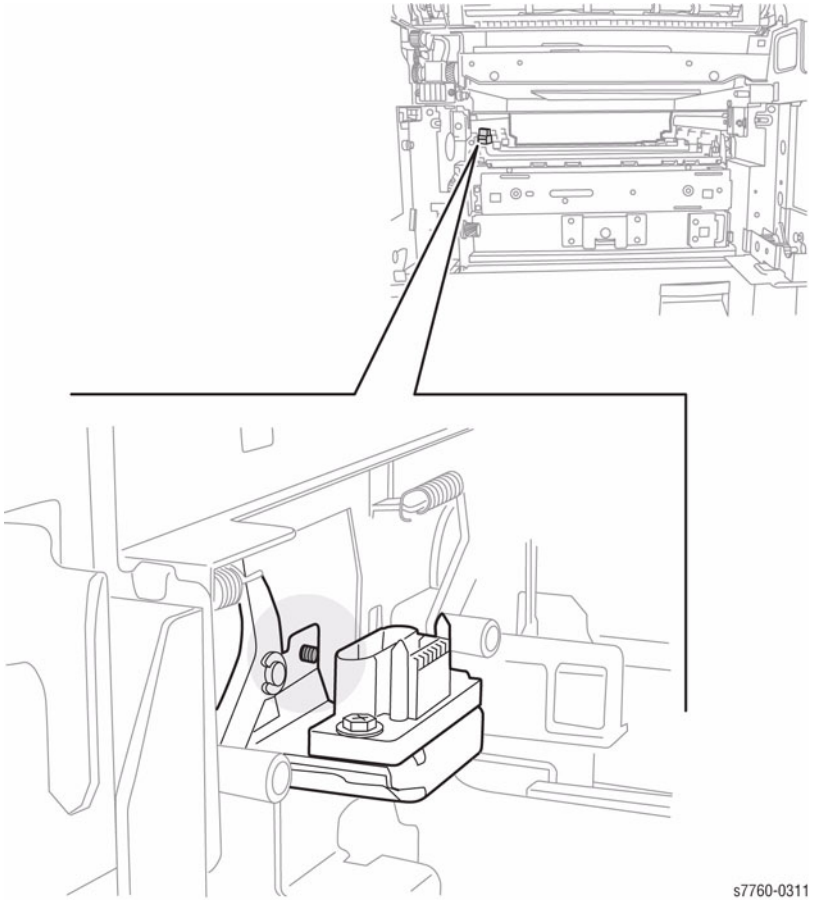


Figure 3 Screw Securing the Accumulator Belt Connector

f. Remove the 2 screws securing the First Bias Transfer Contacts to the rear frame and move them out of the way.

g. Remove the Guide Studs on the front and rear of the Printer.

h. Unhook the Erase Lamps mounted on each Guide Rail and remove the Guide Rails (REP 9.25).

i. Raise the IBT Cam Lever.

j. Lift the Accumulator Belt Frame Assembly as high as it goes and remove it from the right side of the Printer.

REP 10.2 Fuser Fan

Parts List on PL 8.1

Removal

WARNING

Personal injury may result from grasping hot areas of Fuser Module. If a hot Fuser Module must be removed, grasp the Fuser Module by the amber gold plastic frame component.

CAUTION

Damage to work surface may result if a hot Fuser Module is removed and positioned on an unprotected work surface. Place a hot fuser on ten sheets of paper.

1. Remove the Rear Cover (REP 14.2).
2. Remove the Right Cover (REP 14.3).
3. Remove Top Cover (REP 14.1).
4. Note the routing of the wiring harness.

   NOTE: *It is easier to re-install the wiring harness if the Fuser Fan and plastic mounting Bracket are removed from the Printer.*

5. Removing Fuser Cooling Fan (Figure 1).
   a. Disconnect wiring harness P/J.
   b. Remove the 2 screws and remove the Fuser Cooling Fan.

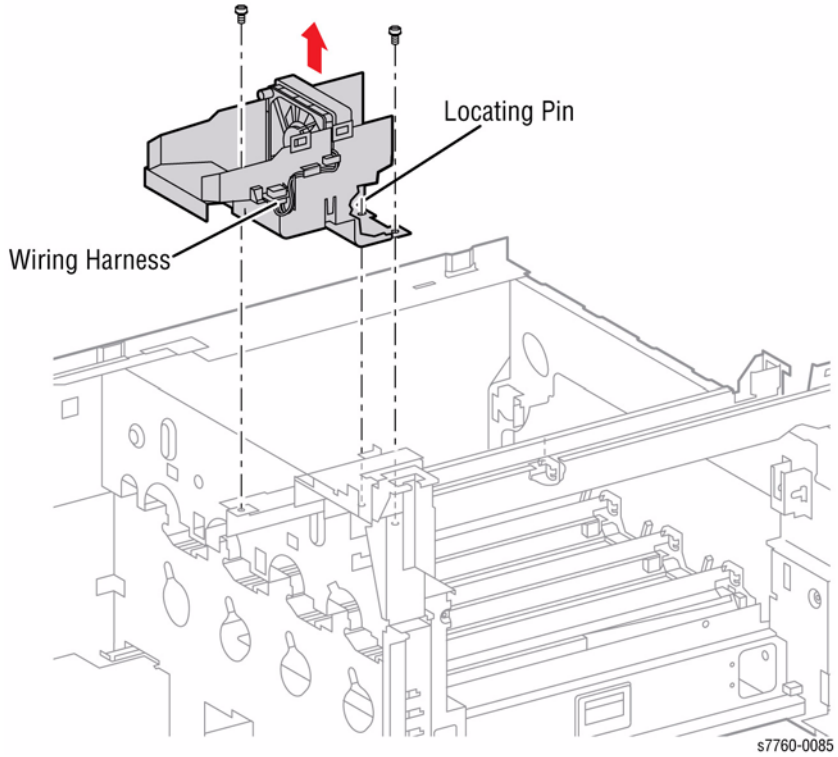


Figure 1 Removing Fuser Cooling Fan

REP 12.40 Finisher Front Door

Parts List on PL 21.3

Removal

1. Open the Front Door.
2. Remove the 3 screws securing the Front Door (Figure 1).
3. Remove the Front Door.

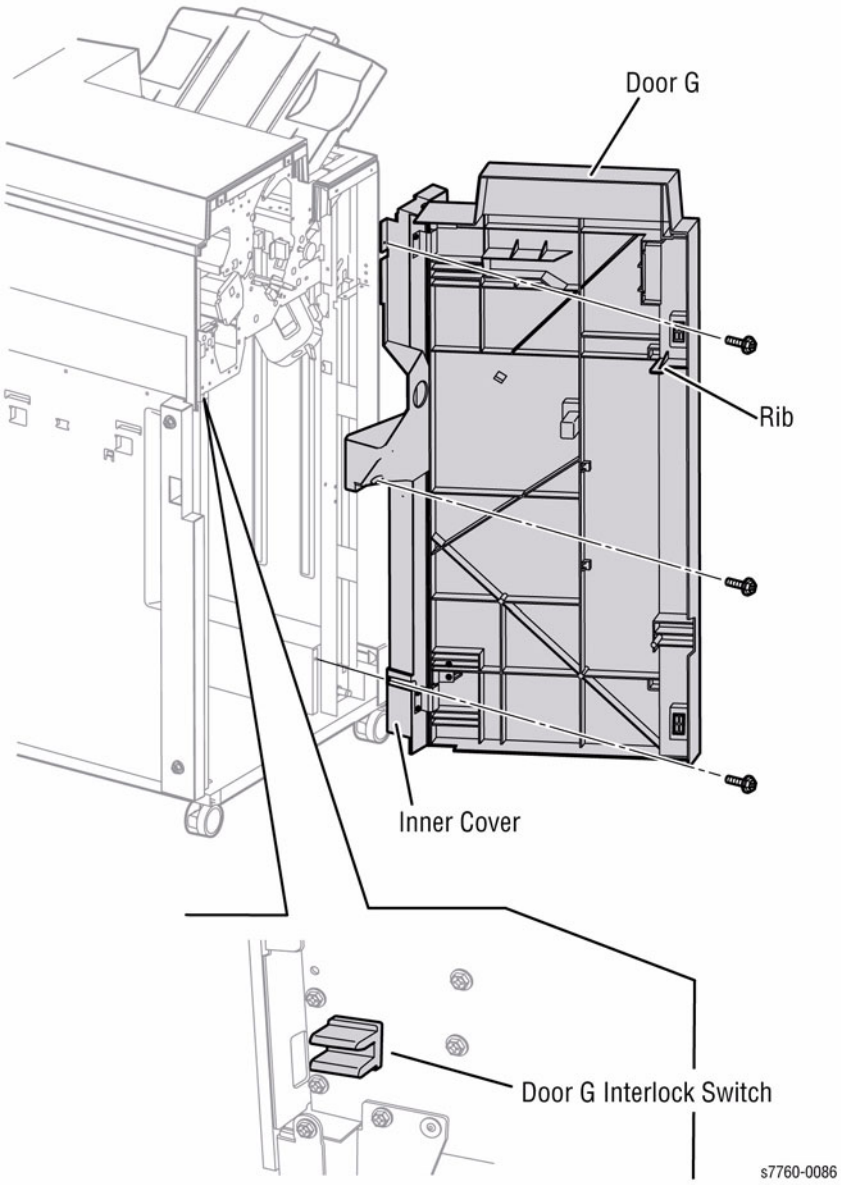


Figure 1 Removing Front Door

REP 12.41 Finisher Rear Upper Cover

Parts List on PL 21.2

Removal

1. Remove the Horizontal Transport Connector Cover.
2. Disconnect the wiring harness J8444 (refer to Section 7, H-Transport Top View Plug/Jack Locations - Figure 9).
3. Remove the 4 screws securing the Rear Upper Cover.
4. Lift the Cover up and slide it out (Figure 1).

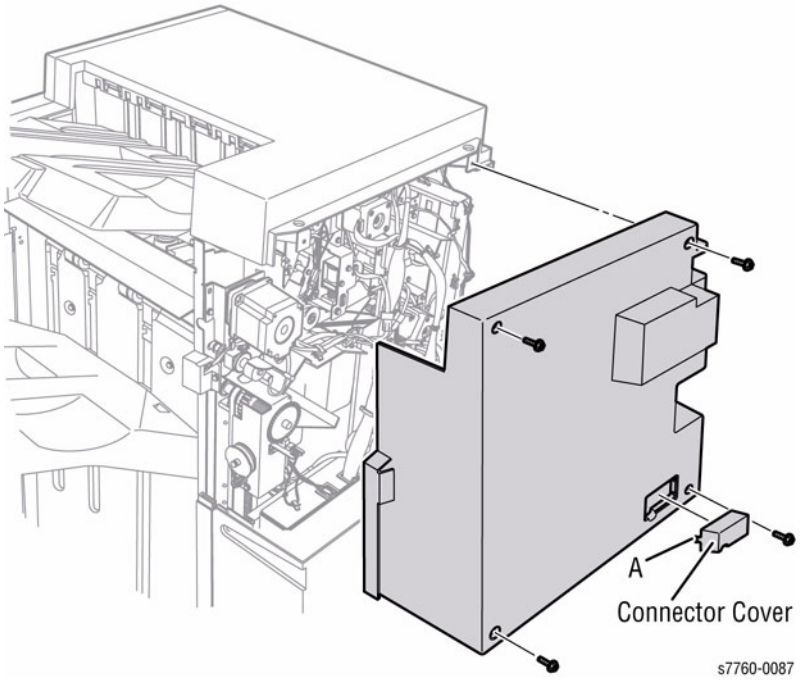


Figure 1 Removing Rear Upper Cover

REP 12.42 Finisher Rear Lower Cover

Parts List on PL 21.2

Removal

1. Remove the 4 screws securing the Finisher Rear Lower Cover.
2. Remove the Rear Lower Cover (Figure 1).

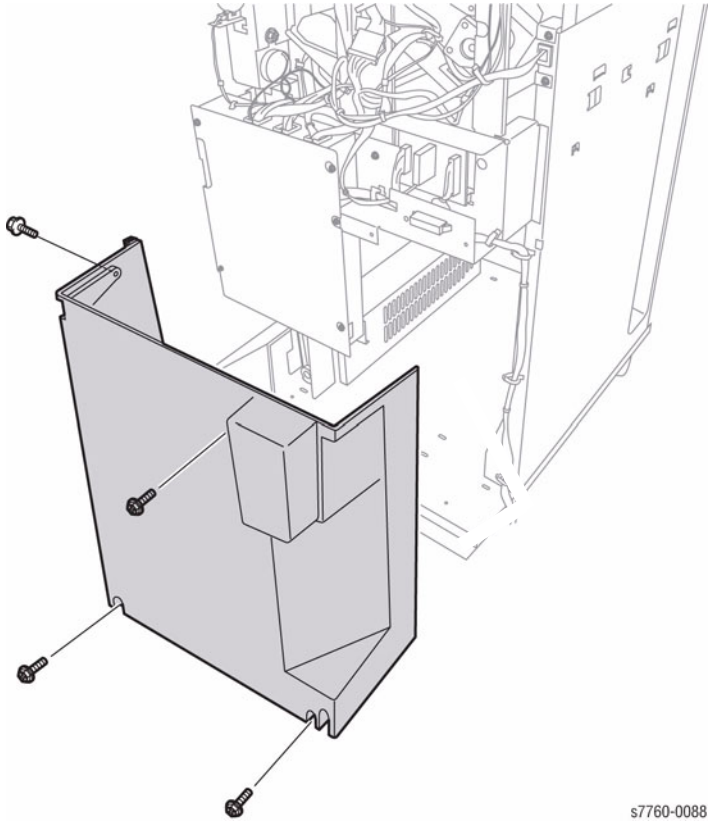


Figure 1 Removing Rear Lower Cover

REP 12.43 Finisher Top Cover

Parts List on PL 21.2

Removal

1. Remove the Rear Upper Cover (REP 12.41).
2. Remove the Top Tray (REP 12.45).
3. Remove the 2 screws and remove the Top Cover (Figure 1).

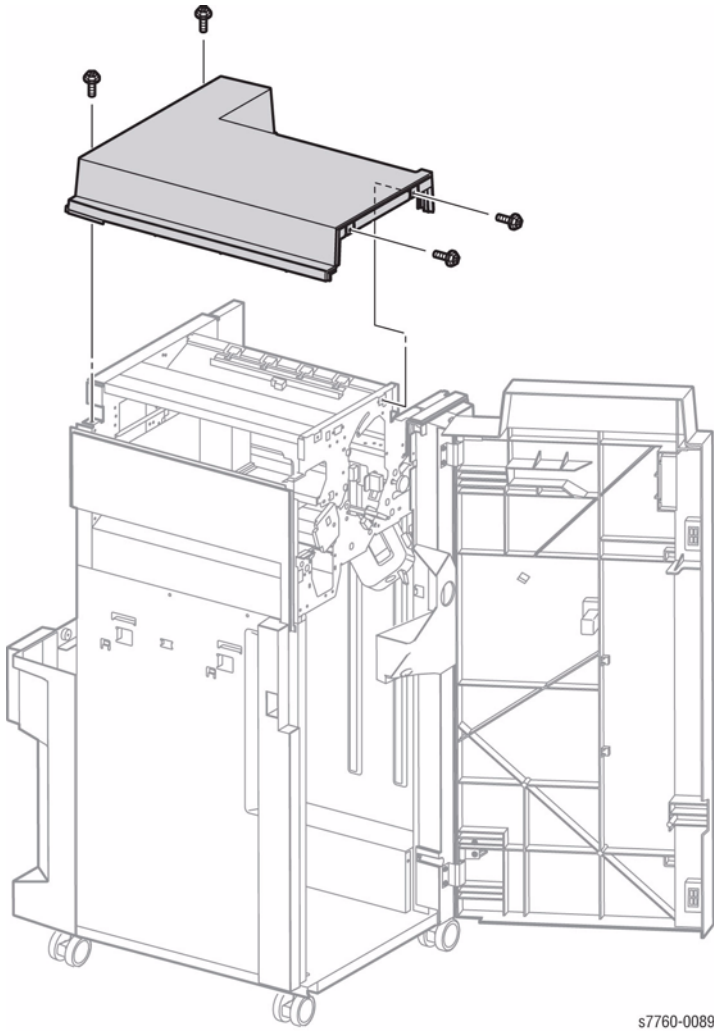


Figure 1 Removing Top Cover

REP 12.44 Finisher Front Top Cover

Parts List on PL 21.3

Removal

1. Remove the Front Door (REP 12.40).
2. Remove the Top Cover (REP 12.43).
3. Remove the 2 screws and remove the Front Top Cover (Figure 1).

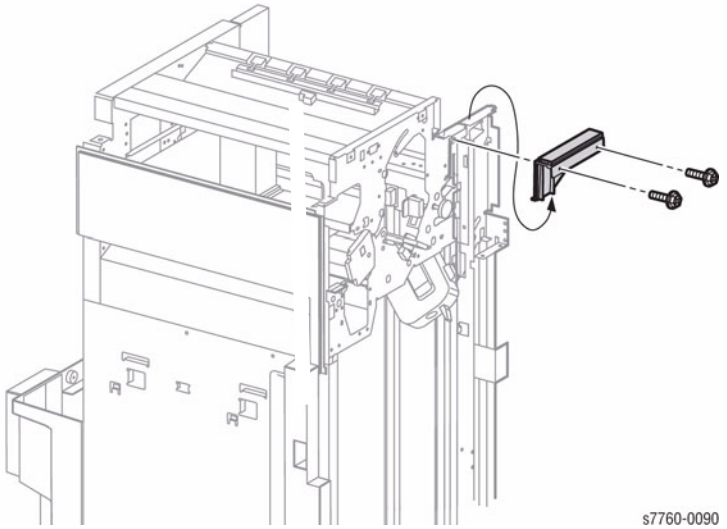


Figure 1 Removing Front Top Cover

REP 12.45 Finisher Top Tray

Parts List on PL 21.2

Removal

1. Remove the 2 screws securing the Top Tray. (Figure 1).
2. Lift the Tray in the direction of the arrow to remove the Tray.

NOTE: *There are Springs inside the Tray Assembly.*

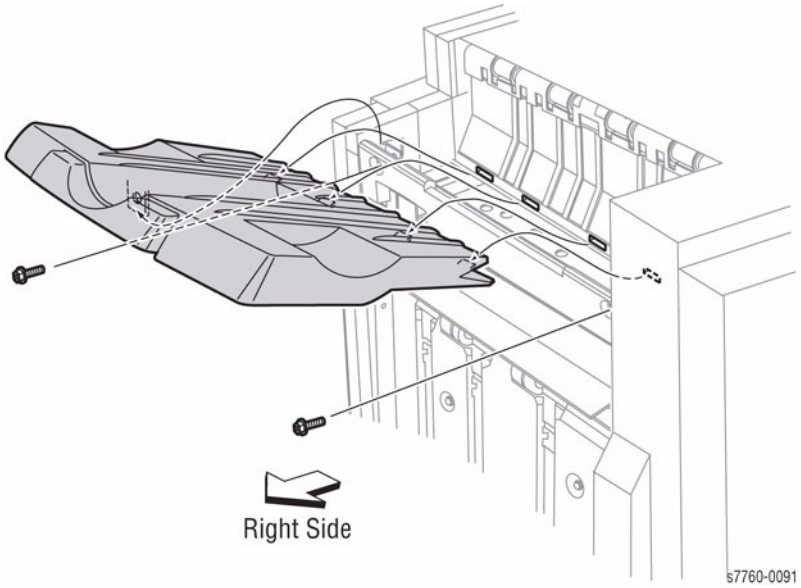


Figure 1 Removing Top Tray

REP 12.46 Finisher Eject Cover

Parts List on PL 21.2

Removal

1. Remove the Front Door (REP 12.40).
2. Remove the Top Tray (REP 12.45).
3. Remove the Rear Upper Cover (REP 12.41).
4. Remove the 2 plastic thread screws and remove the Eject Cover (Figure 1).

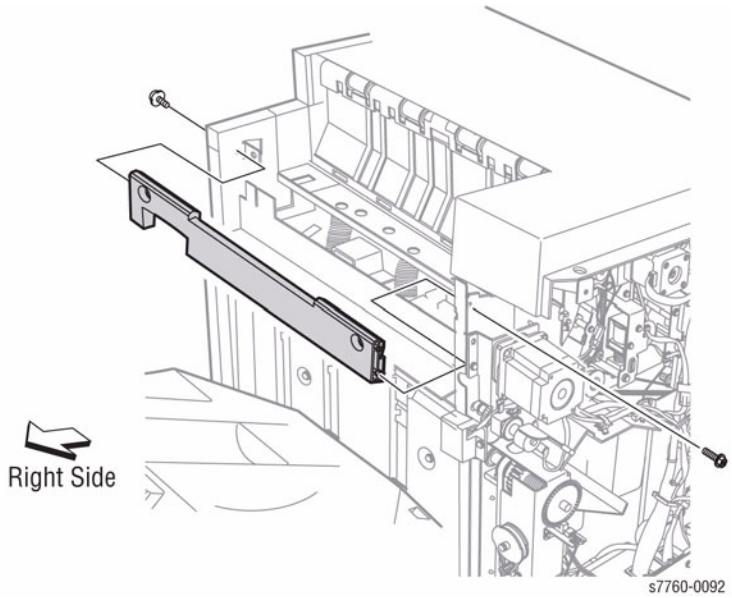


Figure 1 Removing Eject Cover

REP 12.47 Finisher Tray Spring Guide and Top Tray Full Sensor

Parts List on PL 21.2, PL 21.11

Removal

1. Remove the Front Door (REP 12.40).
2. Remove the Rear Upper Cover (REP 12.41).
3. Remove the Top Cover (REP 12.43).
4. Remove the Front Top Cover (REP 12.44).
5. Remove the Top Tray (REP 12.45).
6. Remove the 2 screws on the rear of the Finisher (Figure 1).

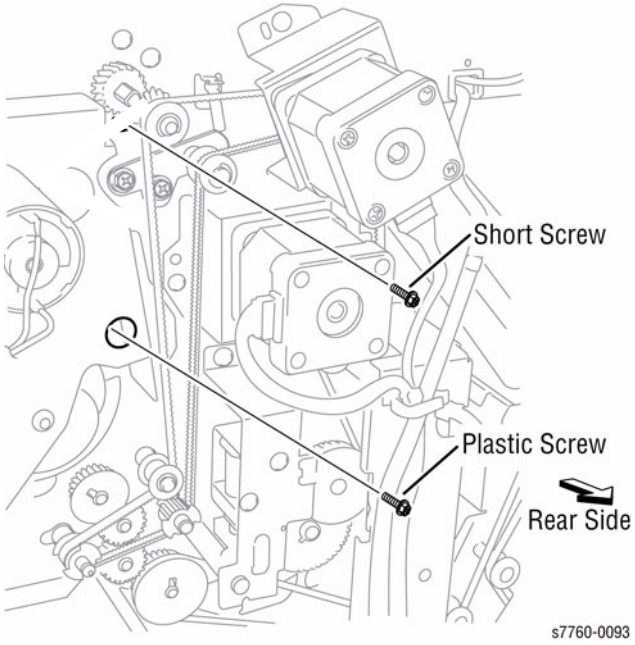


Figure 1 Removing screws on Rear of the Finisher

7. Remove the 2 screws on the front of the Finisher (Figure 2).

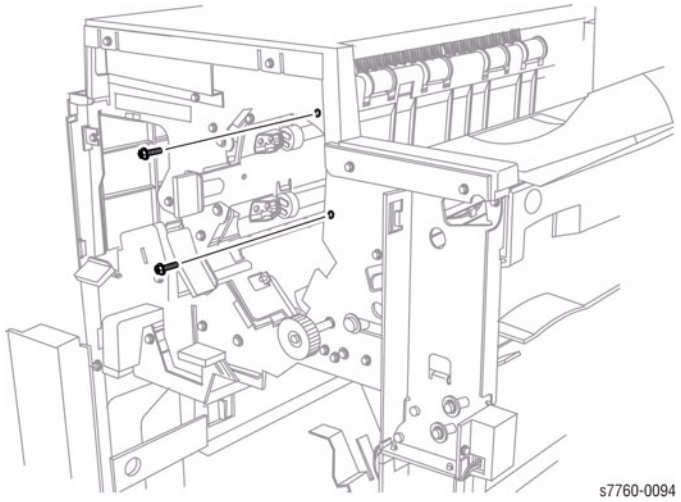


Figure 2 Removing screws on Front of the Finisher

8. Removing the Tray Spring Guide and Top Tray Full Sensor.
   a. Remove the 2 screws securing the Top Tray Full Sensor Bracket to the Tray Spring Guide.
   b. Disconnect J8322 (refer to Section 7, Finisher Rear View Plug/Jack Locations - Figure 2) and remove the Top Tray Full Sensor from the Sensor Bracket.

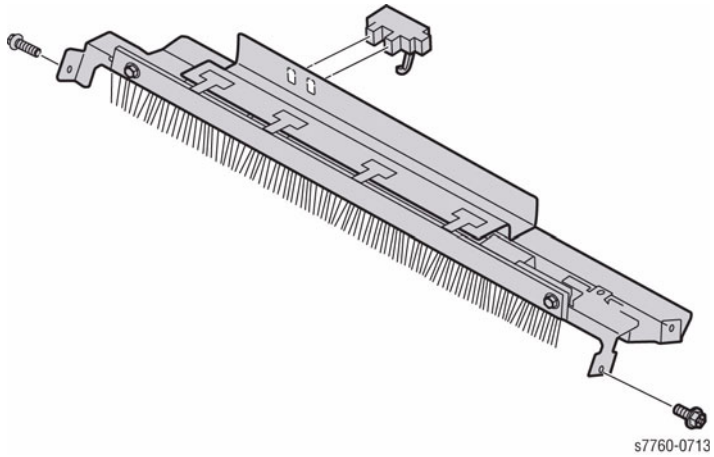


Figure 3 Removing Finisher Tray Spring Guide and Top Tray Full Sensor

REP 12.48 Finisher Inner Cover

Parts List on PL 21.8

Removal

1. If needed, perform REP 12.58 Stacker Tray (position the Stacker Tray Bracket so that all 4 screws holding the Inner Cover are accessible) (refer to Figure 2 and Figure 3).
2. Remove the Tray by releasing the 2 Tabs on the Tray from the Bracket (Figure 1). Remove the Stacker Tray Bracket.

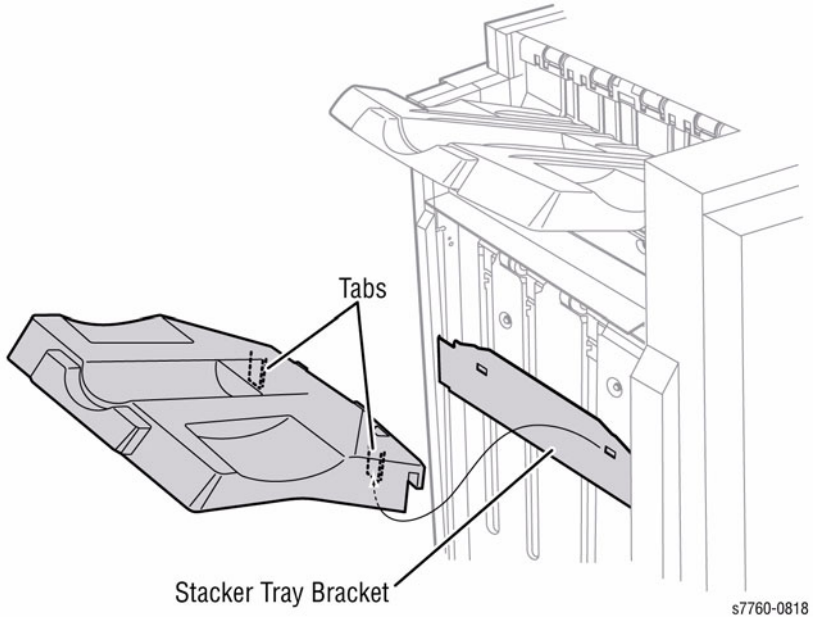


Figure 1 Removing Tray

3. Remove the 4 short screws securing the Inner Cover and remove the Cover (Figure 2 and Figure 3).

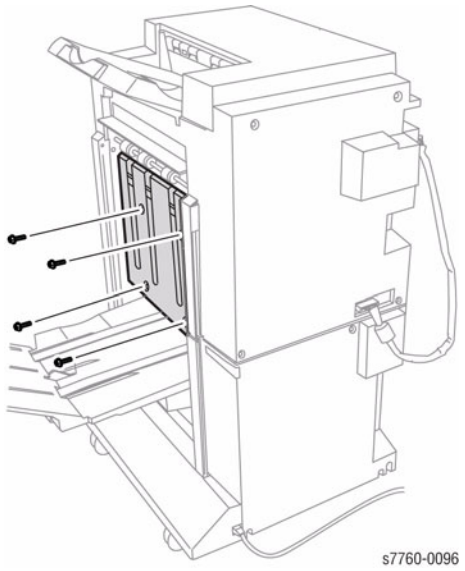


Figure 2 Removing Inner Cover (Advanced Finisher shown)

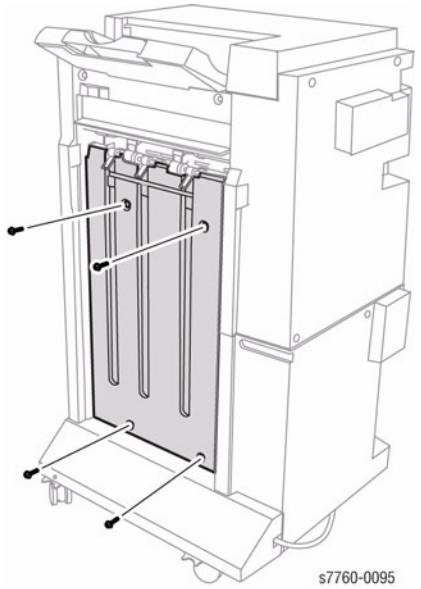


Figure 3 Removing Inner Cover (Professional Finisher shown)

REP 12.49 Finisher Left Top Cover

Parts List on PL 21.3

Removal

1. Separate the Finisher from the Printer (REP 12.50).
2. Loosen the 2 screws securing the Left Top Cover.
3. Slide the Left Top Cover to the front to remove (Figure 1).

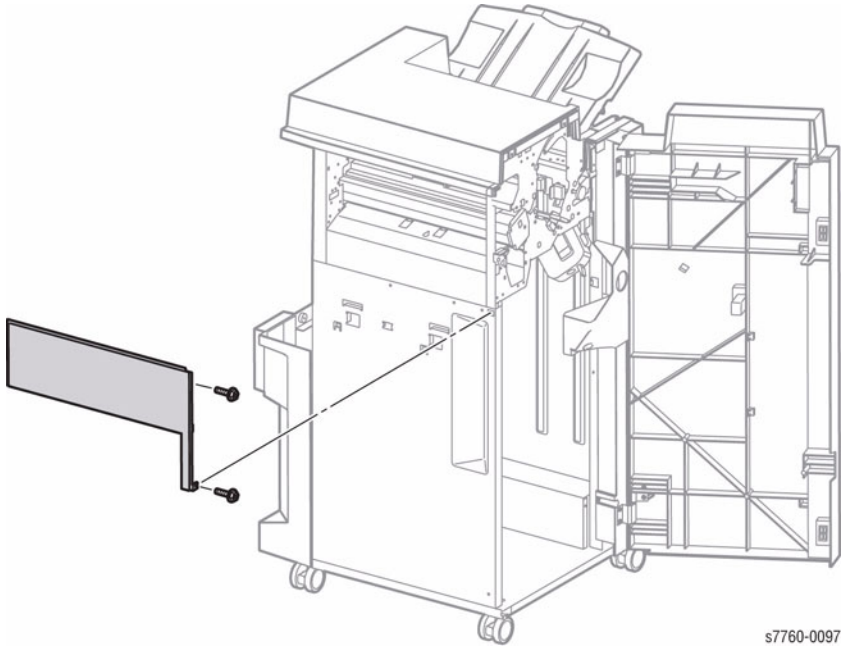


Figure 1 Removing Left Top Cover

REP 12.50 Finisher

Parts List on PL 21.1

Removal

1. Remove the Horizontal Transport Connector Cover (PL 21.2).
2. Disconnect the Power Cord, connector CN2, and P8444 (Figure 1) (refer to Section 7, H-Transport PWB Plug/Jack Locations - Figure 3).

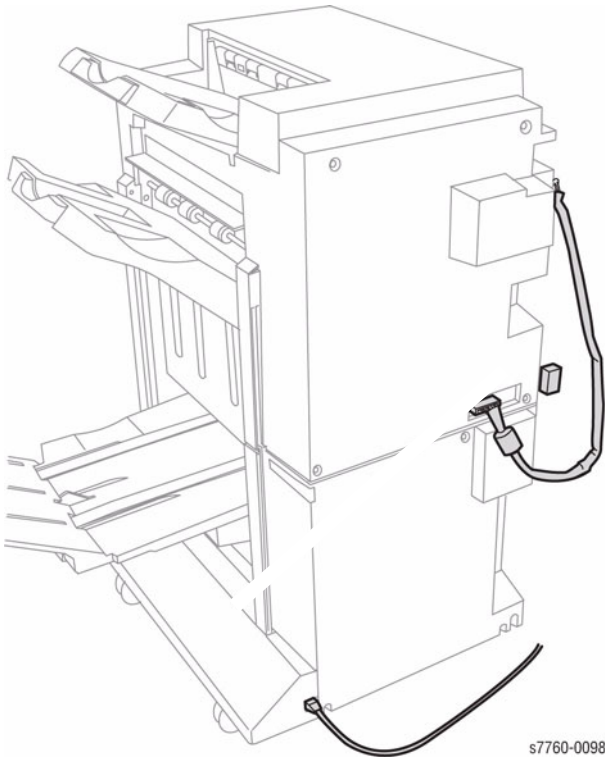


Figure 1 Disconnecting Connectors

3. Open the Front Door.

4. Separating the Finisher from the Printer (Figure 2).
   a. Release the Docking Plate by pulling it forward.
   b. Separate the Finisher from the Printer.

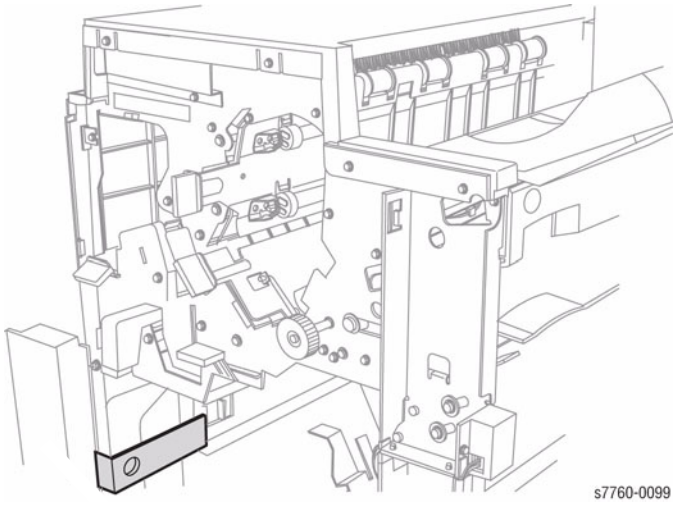


Figure 2 Separating the Finisher from the Printer

Replacement

1. If the Printer and Finisher have been moved to a new location, check (ADJ 12.2) Finisher Leveling.

REP 12.51 Finisher Horizontal Transport Assembly

Parts List on PL 21.1

Removal

1. Separate the Finisher from the Printer (REP 12.50).
2. Removing the Horizontal Transport (Figure 1).
   a. Loosen 1 screw securing the Ground Strap.
   b. Remove the 2 screws securing the Horizontal Transport to the Printer.
   c. Open the Printer Left Cover Assembly.
   d. Lift the front of the Horizontal Transport to disengage the Hook.
   e. Remove the Horizontal Transport.

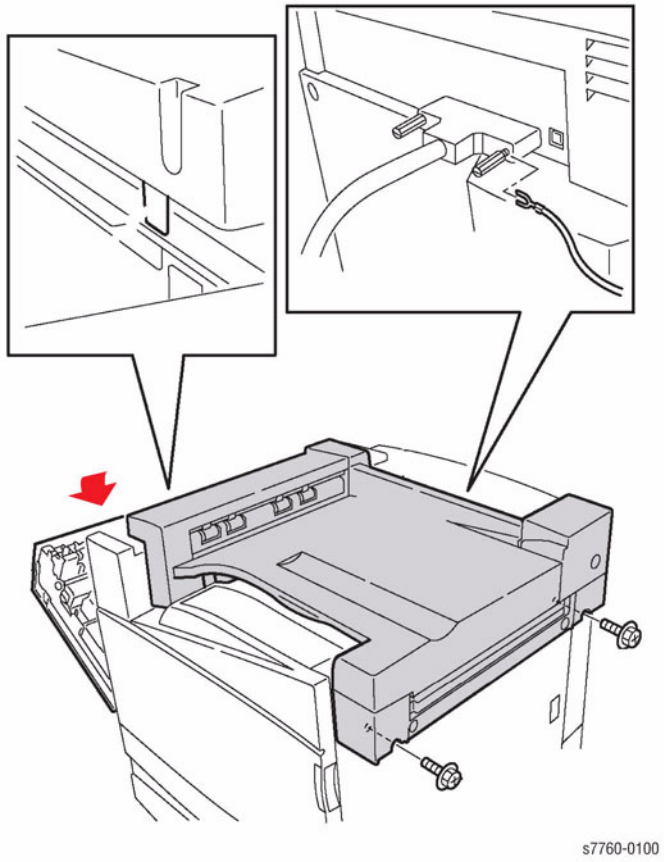


Figure 1 Removing Horizontal Transport

REP 12.52 Finisher Punch Frame Assembly

Parts List on PL 21.5

Removal

1. Open the Front Door.
2. Remove the Rear Upper Cover (REP 12.41).
3. Remove the 2 screws securing the Punch Frame Assembly from the front of the Finisher (Figure 1).

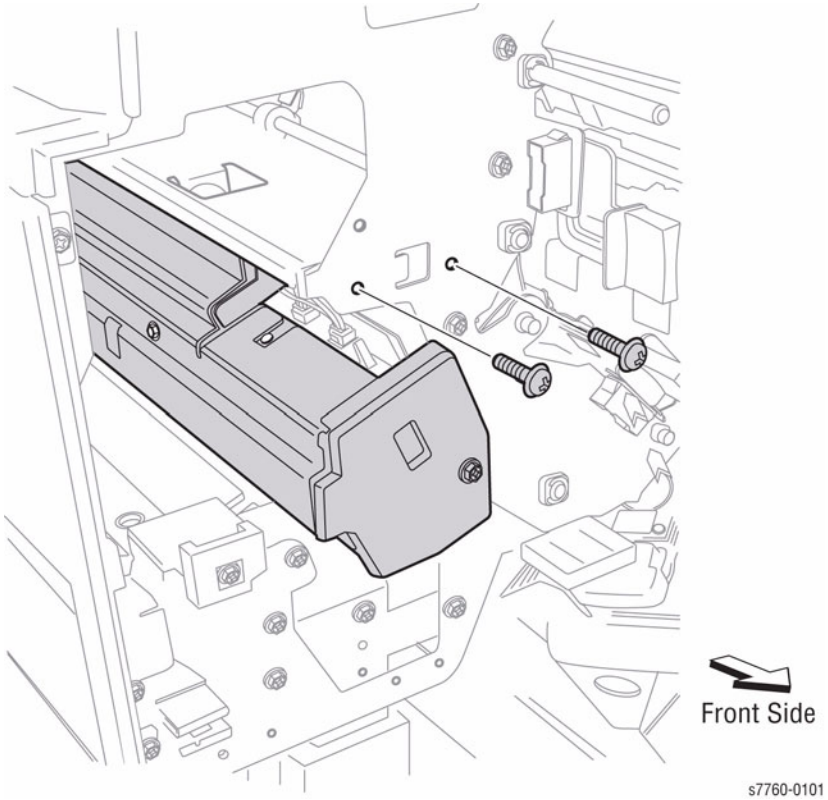


Figure 1 Removing Screws (Front Side of Finisher)

NOTE: *In order to prevent from damaging the Registration Motor Drive Belt during the next step, use caution when removing the Punch Frame Assembly from the Finisher.*

4. Removing the Punch Frame Assembly (Figure 2).
   a. Disconnect wiring harness J8344 (refer to Section 7, Finisher Top Rear View Plug/Jack Locations - Figure 4). Open the Harness Clip and move the wiring harness to the side.
   b. Disconnect wiring harness P/J8352 and release the cable-tie.
   c. Disconnect the wiring harnesses P/J8332, P/J8333 (refer to Section 7, Finisher Rear View Plug/Jack Locations - Figure 2), and J8344.
   d. Open the 3 harness clips and release the cable-tie.
   e. Remove the 2 screws and the Punch Frame Assembly from the rear side of the Finisher.

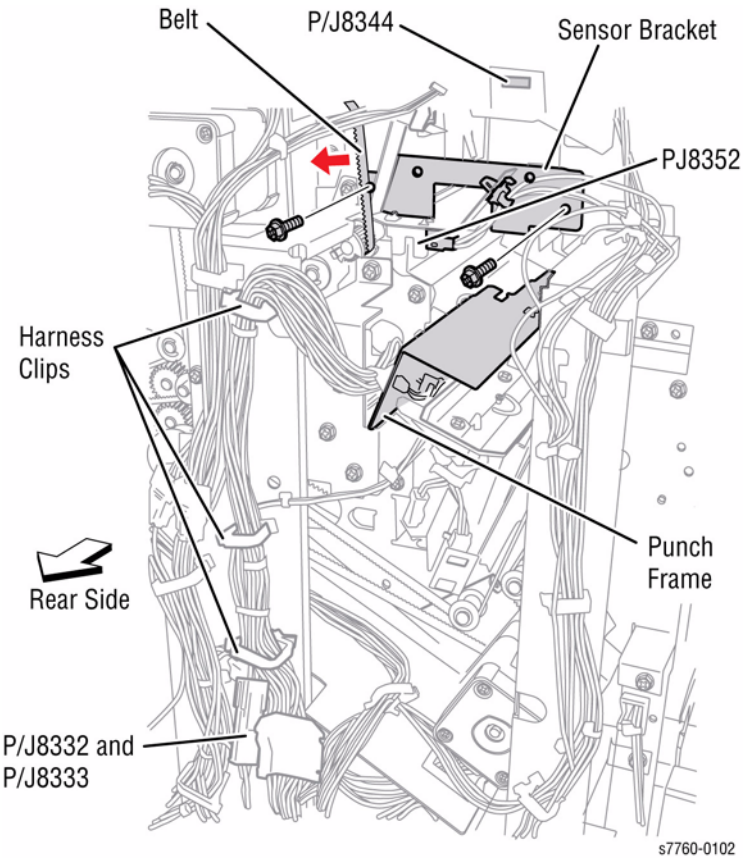


Figure 2 Removing the Punch Frame Assembly (Rear Side of Finisher)

Replacement

NOTE: *Dress all cable slack toward the Punch Unit to prevent the Cables from binding.*

REP 12.53 Finisher Stapler Assembly

Parts List on PL 21.6

Removal

1. Open the Front Door.
2. Removing the Stapler Cover (Figure 1).
   a. Remove 1 long screw.
   b. Remove the Stapler Cover.

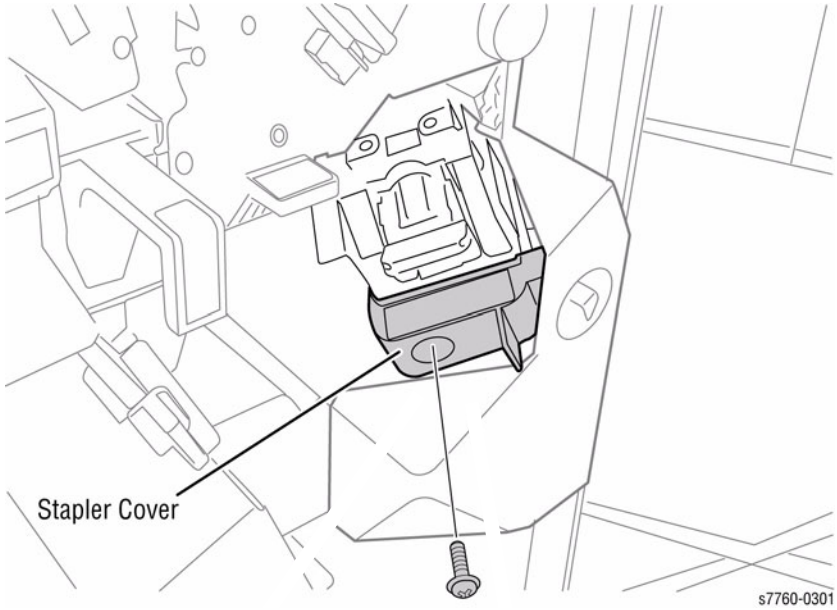


Figure 1 Removing Stapler Cover

3. Removing the Stapler Assembly (Figure 2).
   a. Disconnect the wiring harnesses J8356 and J8357 (refer to Section 7, Finisher Front View Plug/Jack Locations - Figure 10).
   b. Remove the 2 short screws and remove the Stapler Assembly.

   NOTE: *There is a tab on the back. Ensure to disconnect the Ground Wire.*

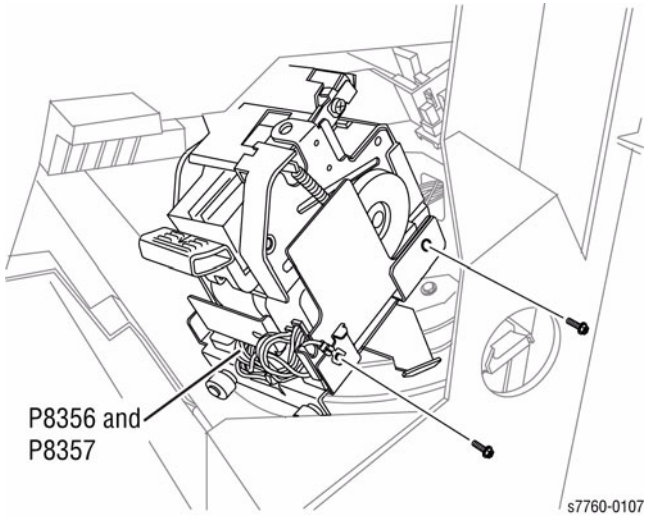


Figure 2 Removing Stapler Assembly

REP 12.54 Finisher Stapler Rail

Parts List on PL 21.6

Removal

1. Remove the Stapler Assembly (REP 12.53).
2. Remove the Inner Cover (REP 12.48).
3. Removing the Stapler Carriage (Figure 1).

   NOTE: *Underneath the Rail Assembly, ensure to use a stubby screwdriver or wrench.*

   a. Remove the 2 screws securing the Stapler Move Motor.
   b. Lift the Stapler Carriage out of the way.

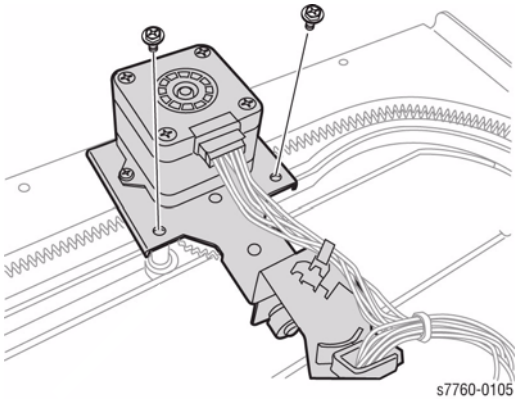


Figure 1 Removing Stapler Carriage

4. Remove the 6 screws securing the Stapler Rail and remove the Rail (Figure 2).

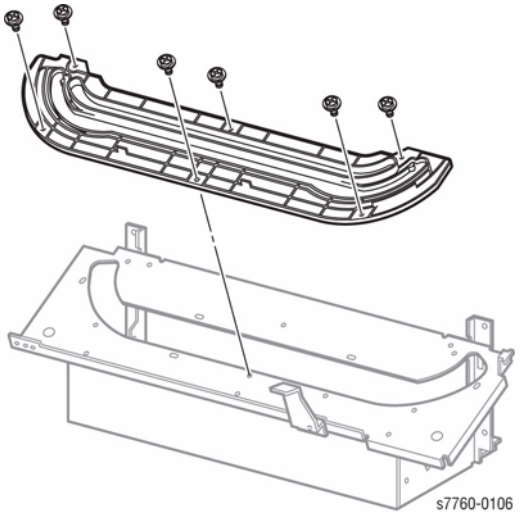


Figure 2 Removing Stapler Rail

REP 12.55 Professional Finisher Booklet Maker Unit

Parts List on PL 21.1, PL 21.15

Removal

1. Open the Front Door.
2. Pull out the Booklet Maker Unit until it stops.
3. Loosen 1 screw securing the Booklet Maker Stopper (Figure 1).
4. Removing the Booklet Maker Unit (Figure 1).
   a. Push in the Stopper on the right Rail and pull the Booklet Maker Unit out until it stops.
   b. Push in the Stopper on the Left Rail.
   c. Pull out and remove the Booklet Maker Unit from the Finisher.

   NOTE: *Rails bind easily. Ensure to support weight of the Booklet Maker.*

NOTE: *Use caution to avoid personal injury and/or damage to the Booklet Maker when removing the Booklet Maker Unit from the Finisher.*

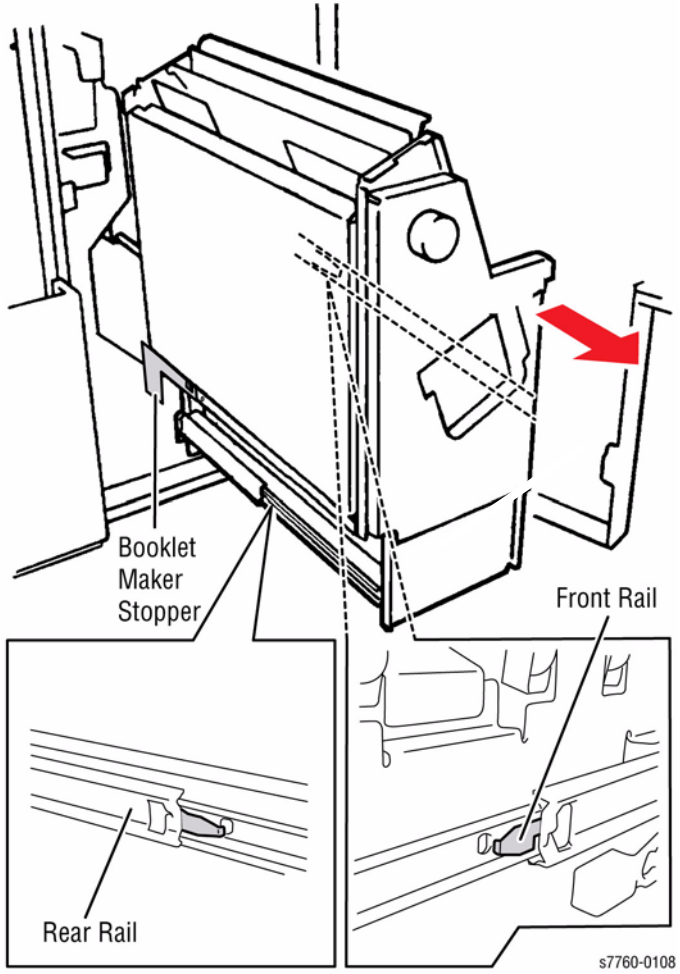


Figure 1 Removing Booklet Maker Unit

Replacement

1. Perform the installation in the reverse order of the removal procedure, starting with attaching the left Rail then the right Rail.
2. Ensure to push back the release on the Rail Slide of the Rear Rail in order to push back into the Printer.
3. Use about 2/3 reams of paper to support the bottom of the Booklet Maker and prop up to align the Rails.

REP 12.56 Professional Finisher Booklet Stapler

Parts List on PL 21.16

Removal

1. If the Booklet Maker Unit has been removed from the Finisher (REP 12.55), go to step step 4.
2. Open the Front Door.
3. Pull out the Booklet Maker Unit.
4. Removing the Booklet Stapler (Figure 1).
   a. Pull out the Booklet Stapler.
   b. Remove the 2 screws on the left Rail.
   c. Push in the Stopper on the right Rail.
   d. Remove the Booklet Stapler.

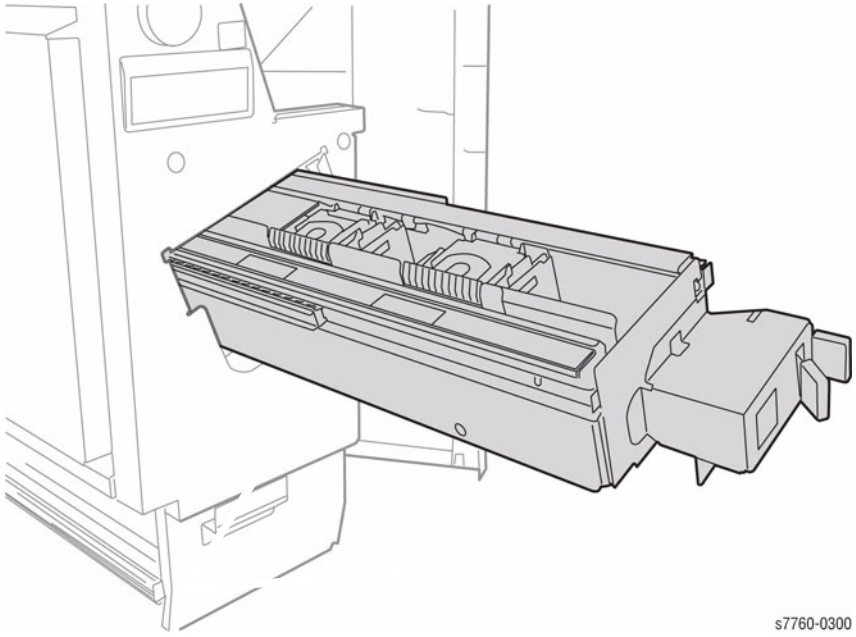


Figure 1 Removing the Booklet Stapler

REP 12.57 Finisher Compiler Tray

Parts List on PL 21.8

Removal

1. Remove the Rear Upper Cover (REP 12.41).
2. Remove the Front Door (REP 12.40).

   NOTE: *Ensure to use a stubby screwdriver for the next step.*

3. Remove 1 screw securing the Compiler Tray (Figure 1).

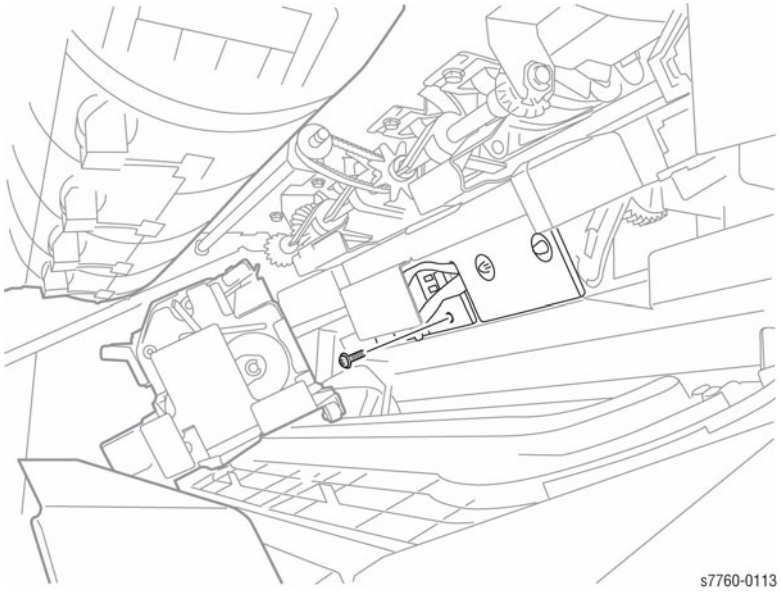


Figure 1 Removing Screw Securing the Compiler Tray

4. Remove the Stapler Assembly (REP 12.53).
5. Remove the Inner Cover (REP 12.48).

6. Disconnect the Compiler wiring harnesses (Figure 2).

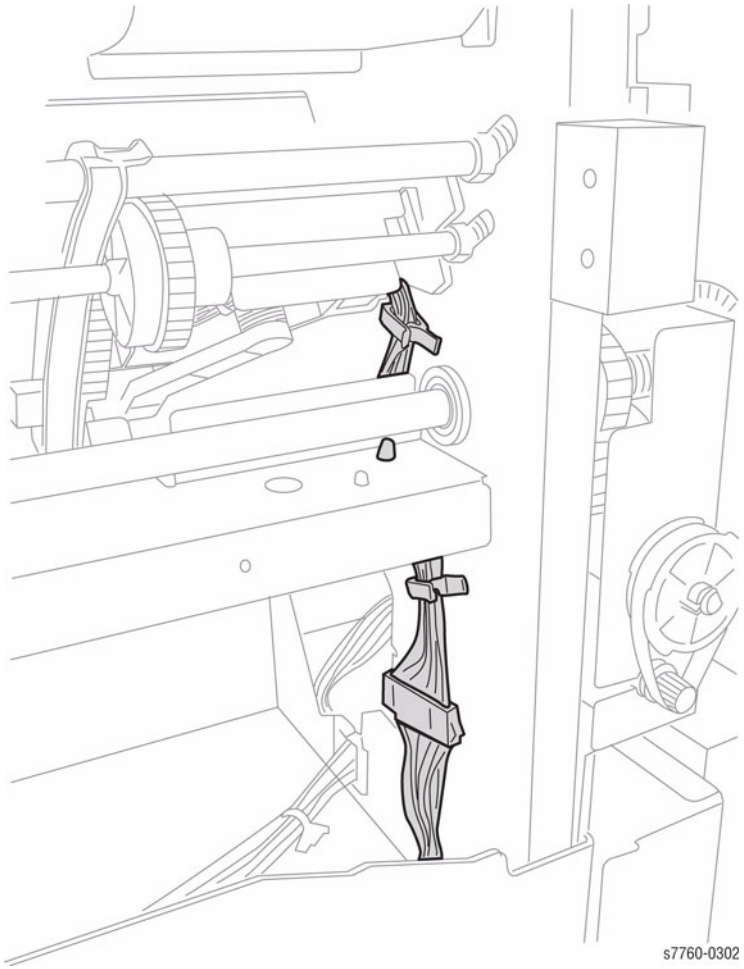


Figure 2 Disconnecting Compiler Wiring Harnesses

7. Removing the Compiler Tray (Figure 3).
   a. Push in the front Tab.
   b. Push in the rear Tab.

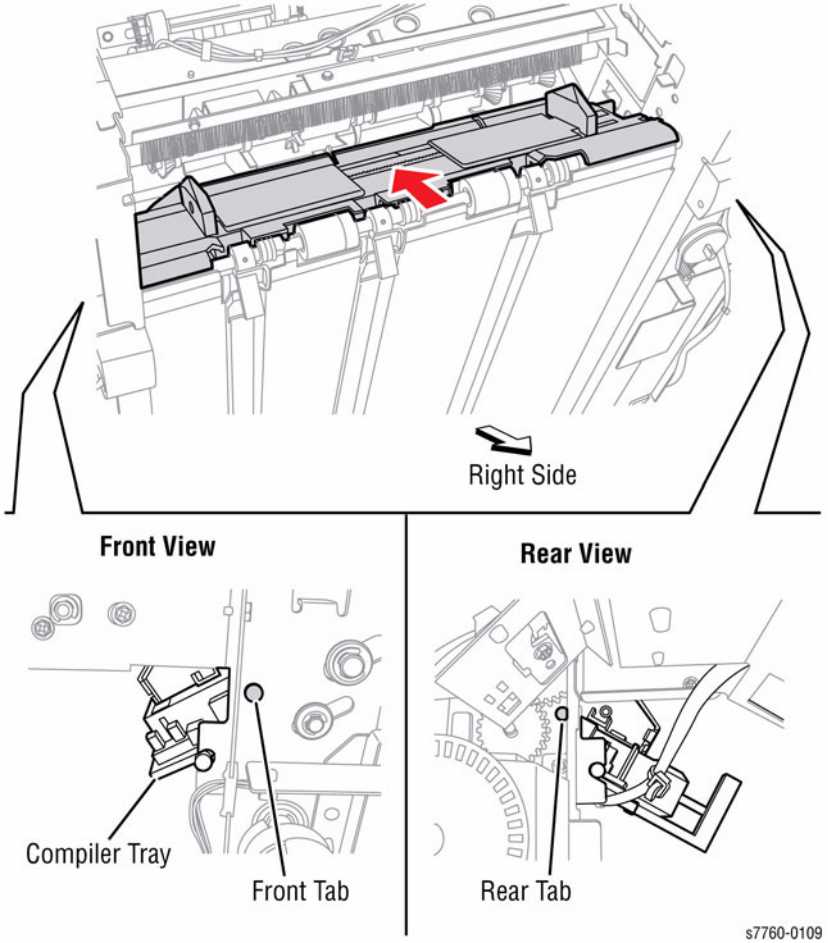


Figure 3 Tab Locations

   c. Ensure the Staple Carriage is pushed to the rear out of the way. Remove the Compiler Tray.

Replacement

NOTE: *Watch the Black Guides. Lift up on the Eject Cover #5 to gain access.*

REP 12.58 Finisher Stacker Tray Position

Parts List on PL 21.2

Removal

1. Remove the Rear Upper Cover (REP 12.41).

   NOTE: *In the next step, while disengaging the Elevator Pulley, hold the Stacker Tray with one hand.*

2. Disengaging the Elevator Pulley (Figure 1).
   a. Disengage the Elevator Pulley by pulling the Gear towards the rear of the Finisher. OR
   b. Use a screwdriver to turn the Motor Pulley to move the Stacker Tray Bracket up or down.

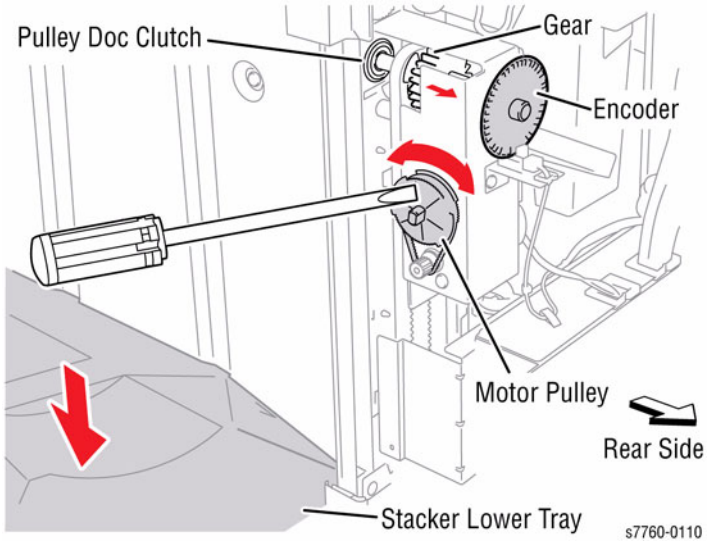


Figure 1 Disengaging Elevator Pulley

REP 12.59 Finisher Paddle Shaft

Parts List on PL 21.9

Removal

1. Open the Front Door.
2. Manually move the Stapler Assembly towards the rear of the Finisher.
3. Remove the Rear Upper Cover (REP 12.41).
4. Removing the Paddle Shaft (Figure 1).
   a. Remove 1 E-Clip and 1 Bushing.
   b. Press the Bracket down and remove the Paddle Shaft. Move the Shaft to the rear until the rear Bushing comes out.
   c. Disengage the Tab on the Synchronous Belt Pulley and remove the Pulley.

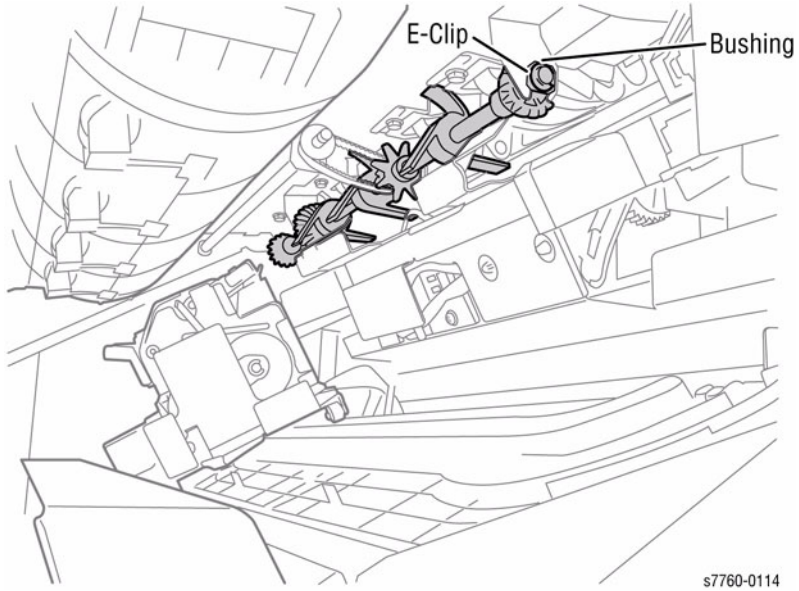


Figure 1 Removing Paddle Shaft

Replacement

1. Reinstall the components in the reverse order of the removal procedure.

REP 12.60 Finisher Stacker Drive Belt

Parts List on PL 21.4

Removal

1. Remove the Front Door (REP 12.40).
2. Remove the Rear Upper Cover (REP 12.41).
3. Remove the Rear Lower Cover (REP 12.42).
4. Perform REP 12.58 Stacker Tray (position the Stacker Tray in the lowest position).
5. Removing the rear Stacker Drive Belt (Figure 1).
   a. Remove the 2 screws securing the Tray Carriage.
   b. Loosen the 3 screws (2 from rear on lower Clamp, 1 from front) securing the Belt Clamp.
   c. Release the 2 Tabs on the Belt Clamps and remove the rear Stacker Drive Belt.

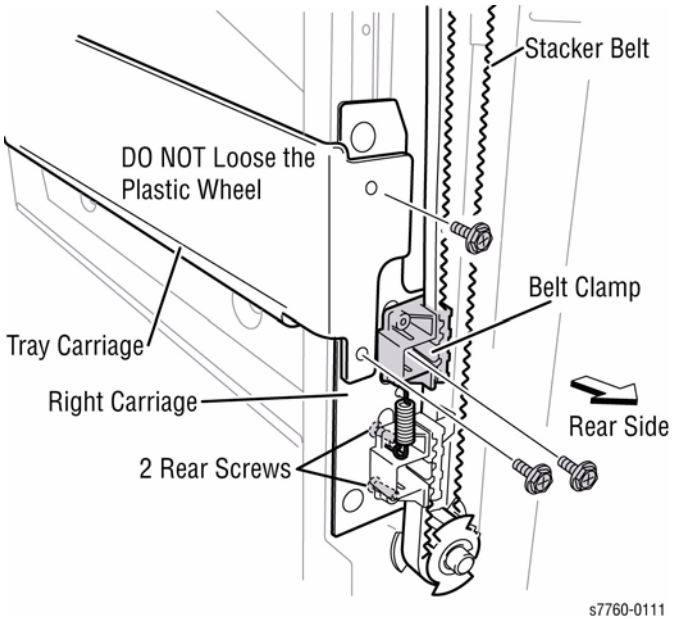


Figure 1 Removing Rear Stacker Belt

6. Removing the front Stacker Drive Belt (Figure 2).
   a. Remove the 2 screws securing the Tray Carriage.
   b. Loosen the 3 screws (2 from rear on lower Clamp, 1 from front) securing the Belt Clamp.
   c. Release the 2 Tabs on the Belt Clamps and remove the front Stacker Drive Belt.

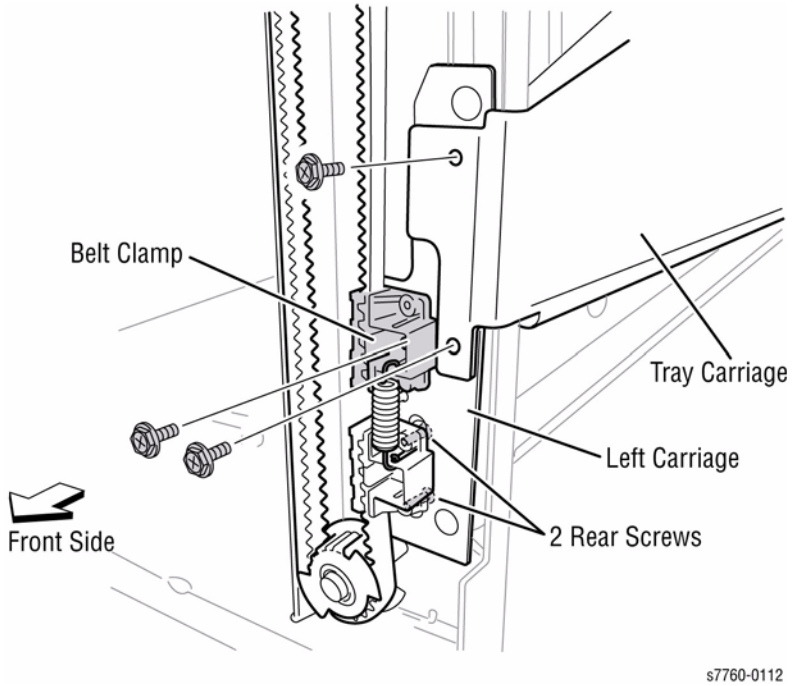


Figure 2 Removing Front Stacker Belt

Replacement

NOTE: *Ensure the Belt Clamps are at the top position in order to access the Tray Carriage screws. Verify the Front and Rear alignments.*

1. Reinstall the components in the reverse order of the removal procedure. Refer to Figure 1 and Figure 2 for Stacker Drive Belt positioning in the Belt Clamps.

REP 12.61 Finisher Buffer Path Sensor

Parts List on PL 21.10

Removal

1. Remove the Finisher from the Printer (REP 12.50).
2. Remove the Punch Assembly (REP 12.52).
3. Remove the Left Top Cover (REP 12.49).
4. Removing the Buffer Path Sensor (Figure 1).

NOTE: *Ensure to use a stubby screwdriver in order to remove screws because of angle.*

a. Disconnect the wiring harness connector.
b. Remove 1 screw and the Buffer Path Sensor.

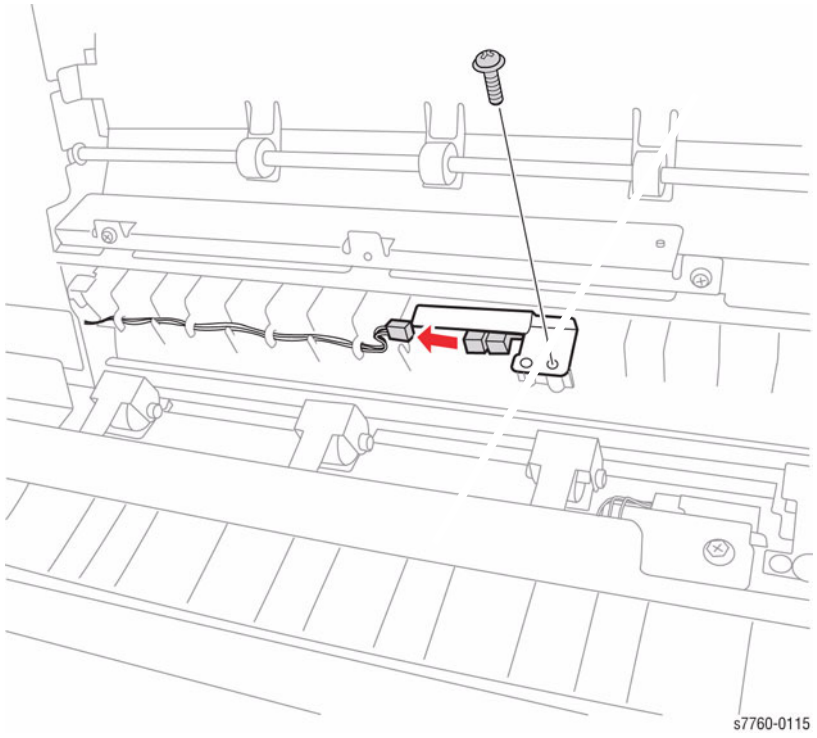


Figure 1 Removing Buffer Path Sensor

REP 12.62 Finisher Gate Sensor

Parts List on PL 21.11

Removal

1. Remove the Finisher from the Printer (REP 12.50).
2. Remove the Punch Frame Assembly (REP 12.52).
3. Remove the Left Top Cover (REP 12.49).
4. Removing the Gate Sensor (Figure 1).

NOTE: *Use a stubby screwdriver to remove the screws because of angle of the screw locations.*

a. Remove the 2 screws securing the Bracket.
b. Disconnect the wiring harness connector and remove 1 screw. Remove the Gate Sensor.

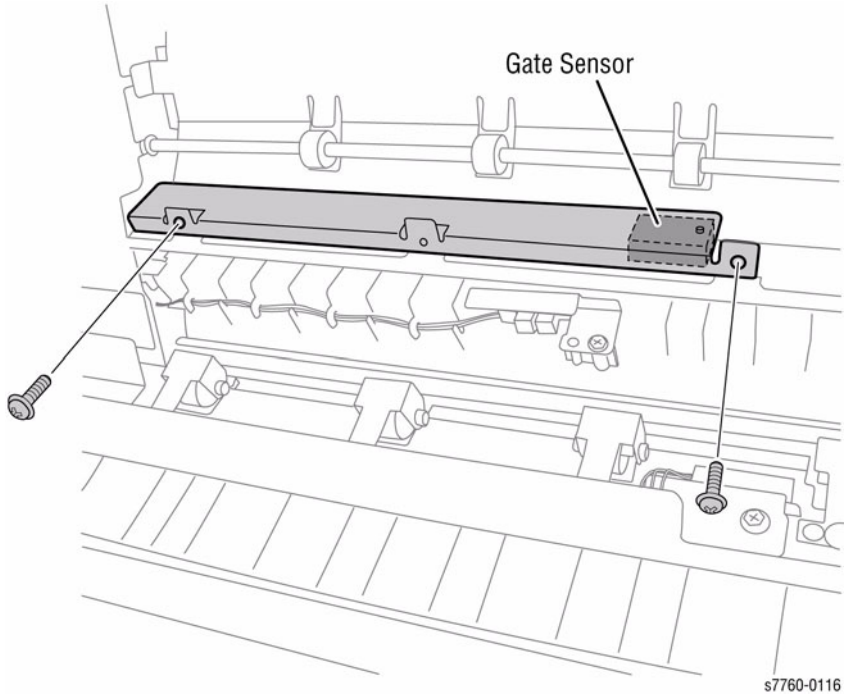


Figure 1 Removing the Gate Sensor

REP 12.64 Finisher Buffer Roll

Parts List on PL 21.10

Removal

1. Remove the Rear Upper Cover (REP 12.41).
2. Removing the Transport Gate Solenoid Bracket (Figure 1).
   a. Remove the outer Bracket with cables.
   b. Remove the 2 screws and remove the Bracket.

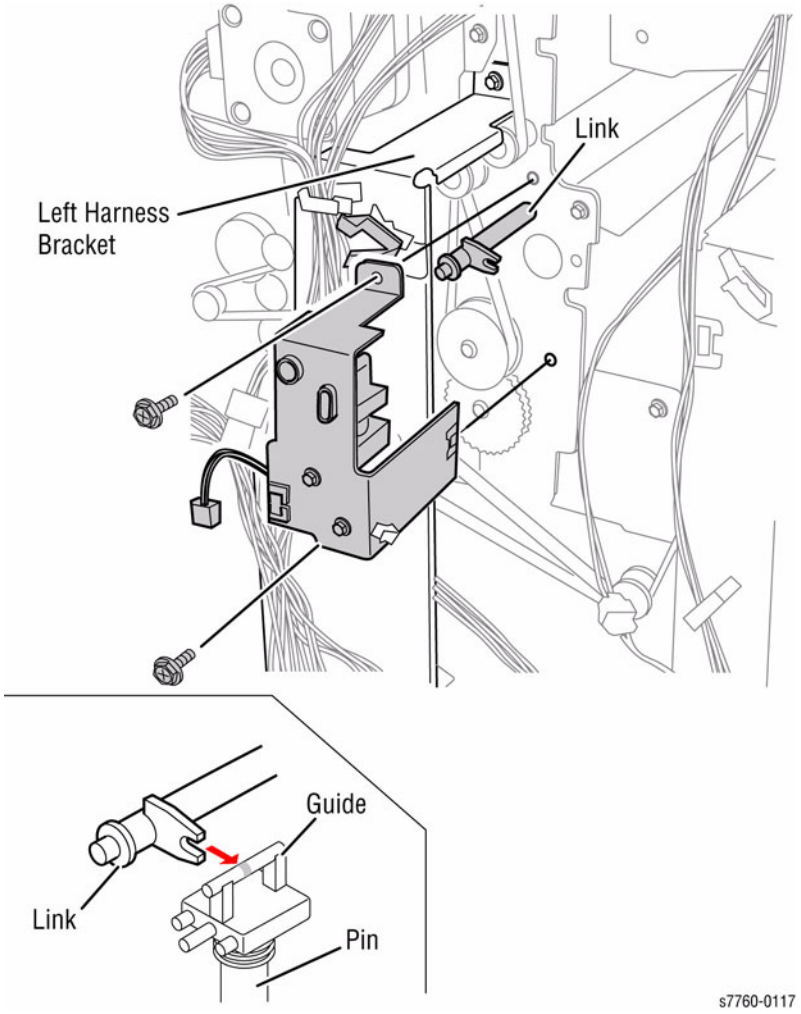


Figure 1 Removing Transport Gate Solenoid Bracket

3. Removing the Pulley and Gear (Figure 2).
   a. Release tab on the Gear. Pull the Buffer Roll to the front of the Finisher.
   b. Remove the Pulley and Gear.

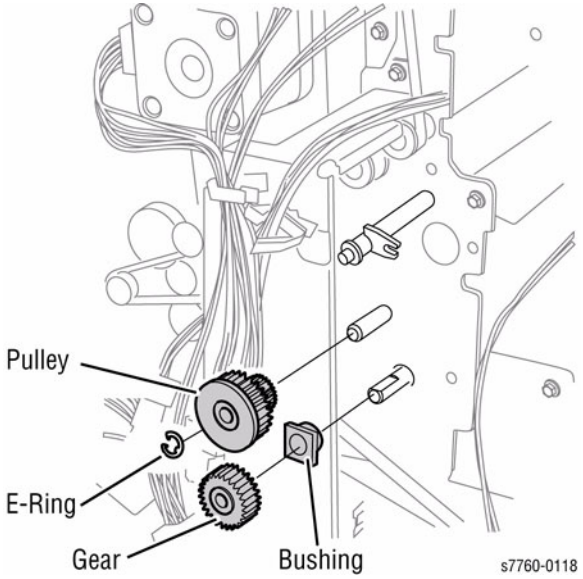


Figure 2 Removing Pulley and Gear

4. Removing the Buffer Roll.
   a. Open the Lower Exit Chute. Lower the bottom Buffer Chute Assembly (Figure 3).

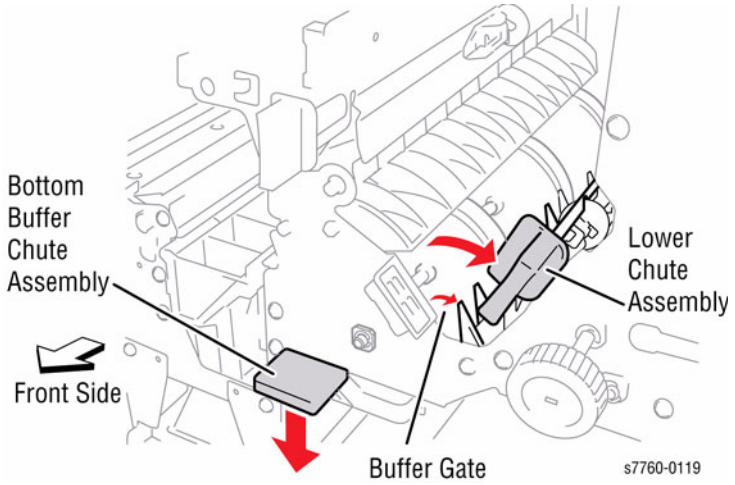


Figure 3 Removing Buffer Roll

b. Pull Buffer Roller Shaft out to remove the E-Ring and Bearing (Figure 4).

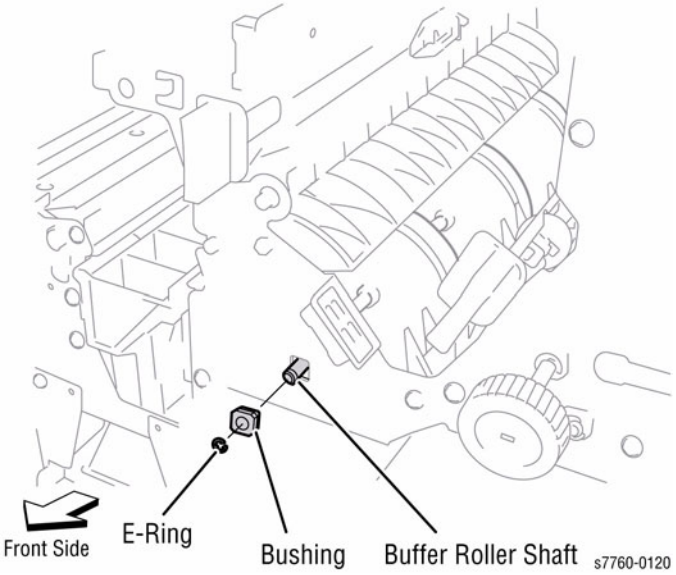


Figure 4 Removing the Buffer Roll

c. Move the Buffer Roller Shaft to the rear and downward and remove the Shaft. Remove the Buffer Roller (Figure 5).

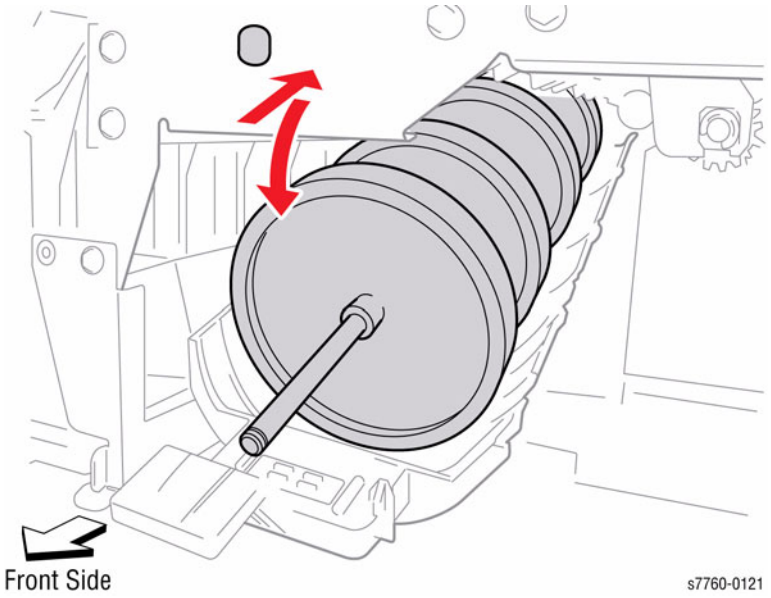


Figure 5 Removing Buffer Roll

Replacement

1. Ensure that the Transport Gate is in the correct position when re-assembling.

REP 12.65 Finisher Bottom Buffer Chute Assembly

Parts List on PL 21.10

Removal

1. Open the Front Door.
2. Remove the Booklet Maker Unit (REP 12.55).
3. Removing the Stapler Frame (Figure 1).
   a. Disconnect the wiring harnesses at J8326 and J8327.
   b. Remove the 2 front screws and 2 rear screws. Remove the Stapler Frame.

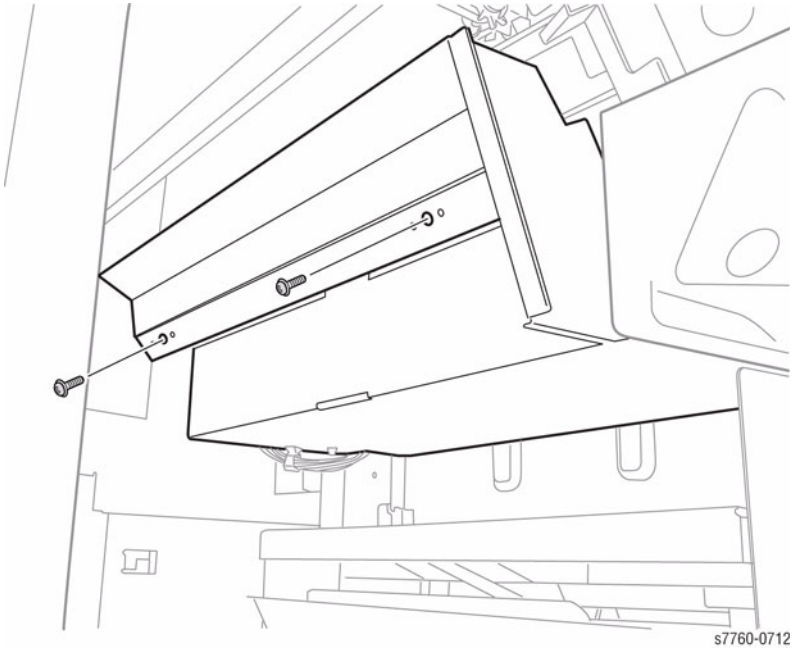


Figure 1 Removing Stapler Frame

4. Removing the Bottom Buffer Chute Assembly.
   a. Lower the Bottom Buffer Chute Assembly (Figure 2).

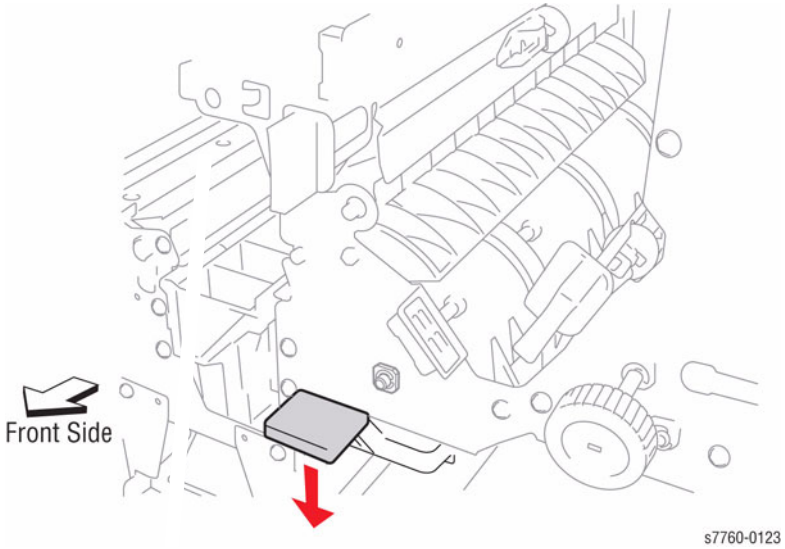


Figure 2 Bottom Buffer Chute Assembly

b. Hold the bottom of the Buffer Chute Assembly and move the Boss out of the hole from the rear Frame (Figure 3).

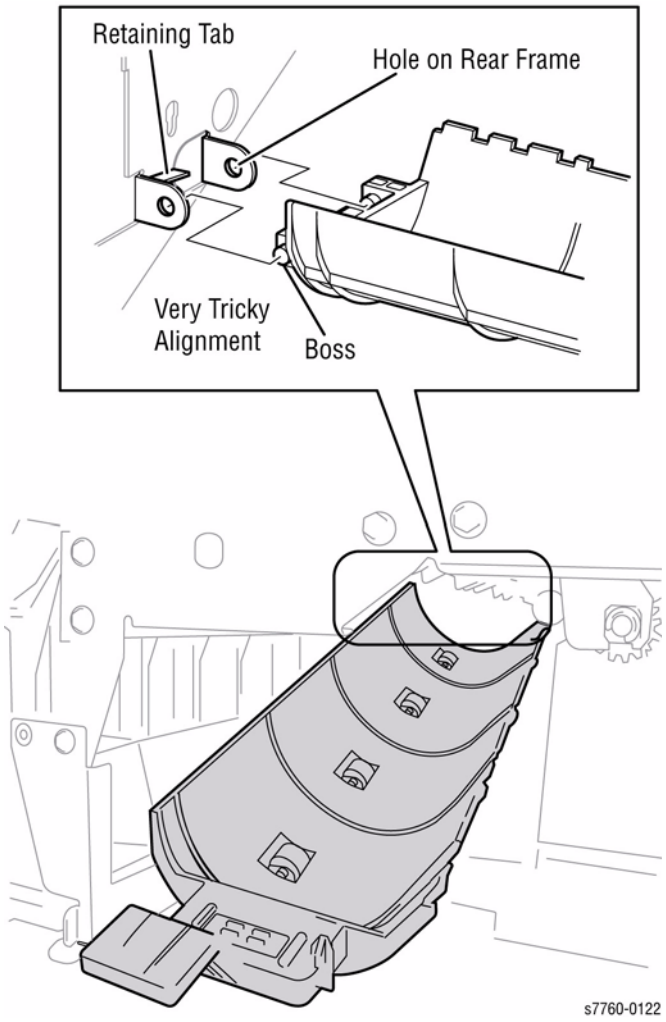


Figure 3 Removing Bottom Buffer Chute Assembly

Replacement

NOTE: *Ensure to align the Boss in the hole in the rear Frame (Figure 3).*

REP 12.66 Finisher H-Transport Drive Belt

Parts List on PL 21.27

Removal

1. Move the Finisher away and unplug the connector to the Horizontal Transport.
2. Remove the Horizontal Transport Assembly (REP 12.51).
3. Remove the Horizontal Transport Rear Cover (remove 3 screws and loosen 1 screw).
4. Remove the Upper Decurler Cover (PL 21.24).
5. Removing the Horizontal Transport Center Tray (Figure 1).
   a. Remove the 2 screws and the Horizontal Transport Center Tray (Figure 1).

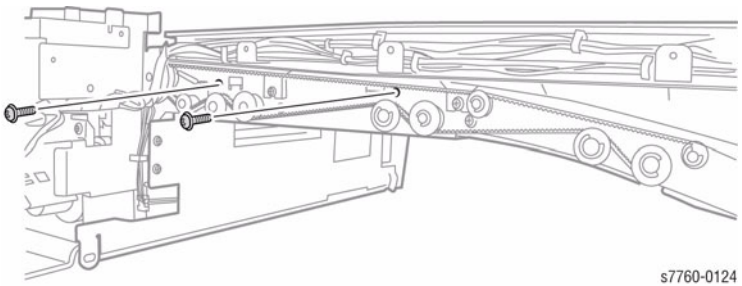


Figure 1 Removing the Horizontal Transport Center Tray

b. Remove the 3 screws and 1 Washer securing the Decurler Cover (Figure 2).

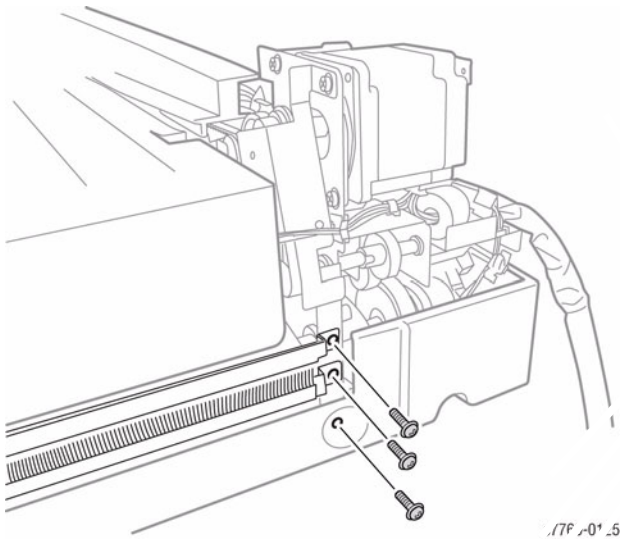


Figure 2 Removing 3 Screws and 1 Washer

c. Remove the 2 screws securing the Frame (Figure 3).

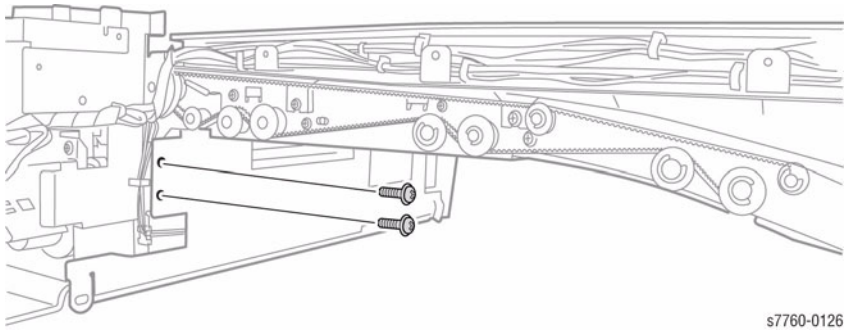


Figure 3 Removing 2 Screws

d. Release the Belt tension and remove the Drive Belt from the Drives.

e. Separate the Decurler/Drive Assembly from the Horizontal Transport Frame. Remove the Horizontal Drive Belt (Figure 4).

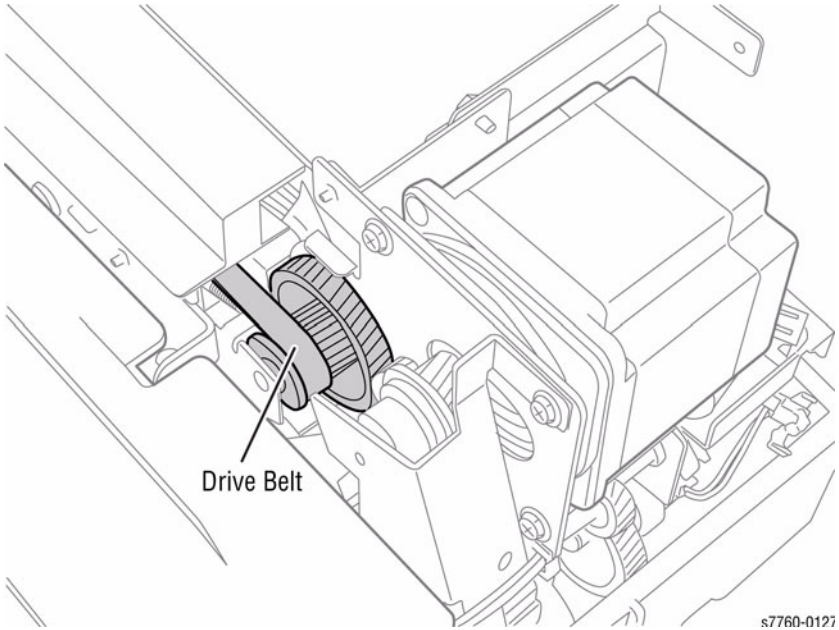


Figure 4 Removing the H-Transport Drive Belt

REP 12.67 Finisher Eject Chute Assembly

Parts List on PL 21.7

Removal

1. Remove the Front Door (REP 12.40).
2. Remove the Rear Upper Cover (REP 12.41).
3. Remove the Top Tray (REP 12.45).
4. Remove the Eject Cover (REP 12.46).
5. Remove 1 E-clip and 1 Bushing from the Eject Pinch Shaft (Figure 1).

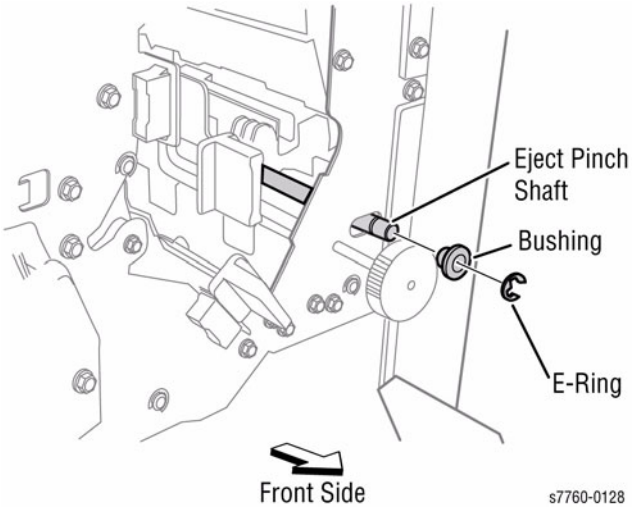


Figure 1 Removing E-clip and Bushing

6. Removing the Pinch Springs (Figure 2).
   a. Remove the Pinch Springs.
   b. Disconnect the wiring harness at P/J8340 (refer to Section 7, Finisher Rear View Plug and Jack Locations - Figure 2).

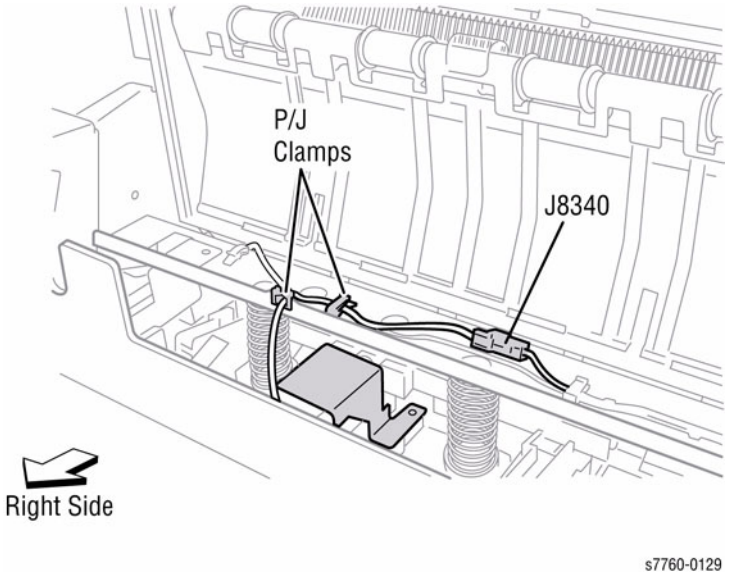


Figure 2 Removing Pinch Springs

7. Removing the Eject Chute Assembly (Figure 3).
   a. Remove the Eject Cam Follower.
   b. Remove the E-Clip and Bushing.

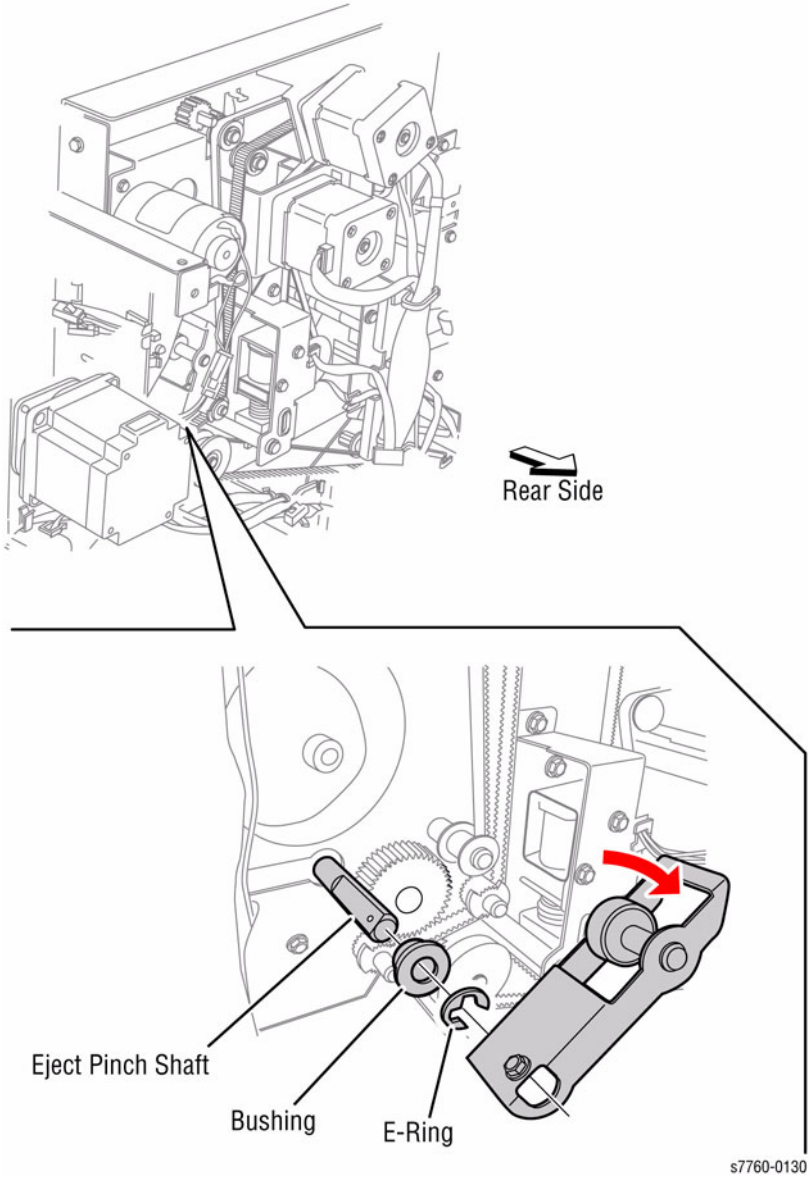


Figure 3 Removing Eject Cam Follower

c. Remove the Eject Chute Assembly (Figure 4).

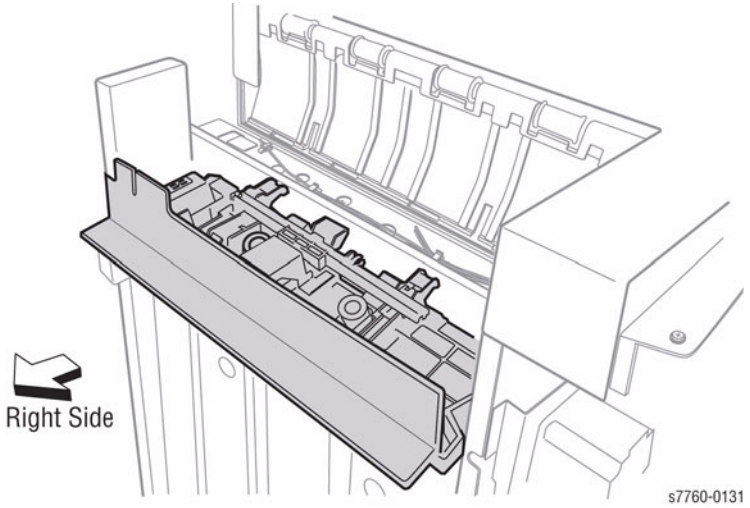


Figure 4 Removing Eject Chute Assembly

REP 12.68 Finisher PWB

Parts List on PL 21.12

Removal

1. Remove the Finisher Rear Upper Cover (REP 12.41).
2. Remove the Finisher Rear Lower Cover (REP 12.42).
3. Remove the 4 screws securing the Finisher PWB (Figure 1).

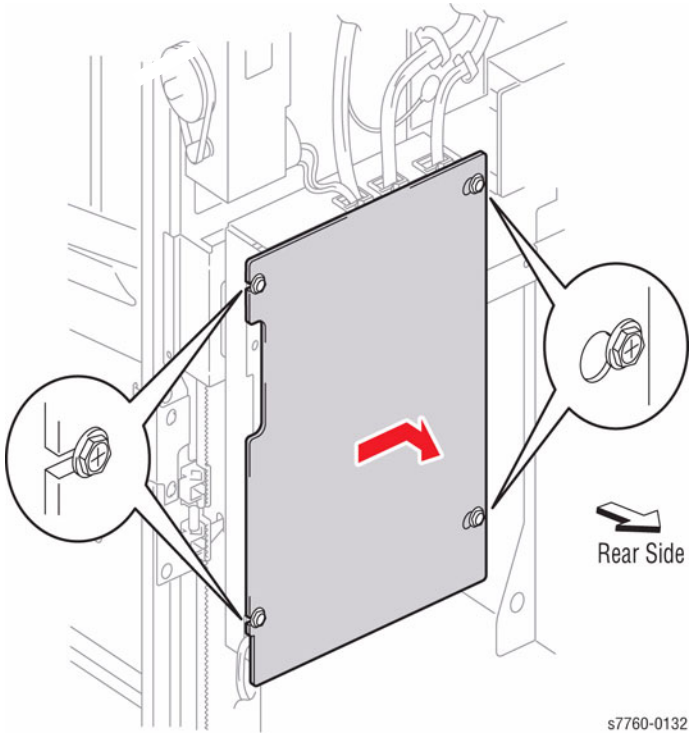


Figure 1 Removing Advanced/Professional Finisher PWB Cover

4. Removing the Finisher PWB (Figure 2).
   a. Disconnect the wiring harness connectors (Advanced Finisher - 13, Professional Finisher - 17).
   b. Remove the 6 screws and remove the PWB.

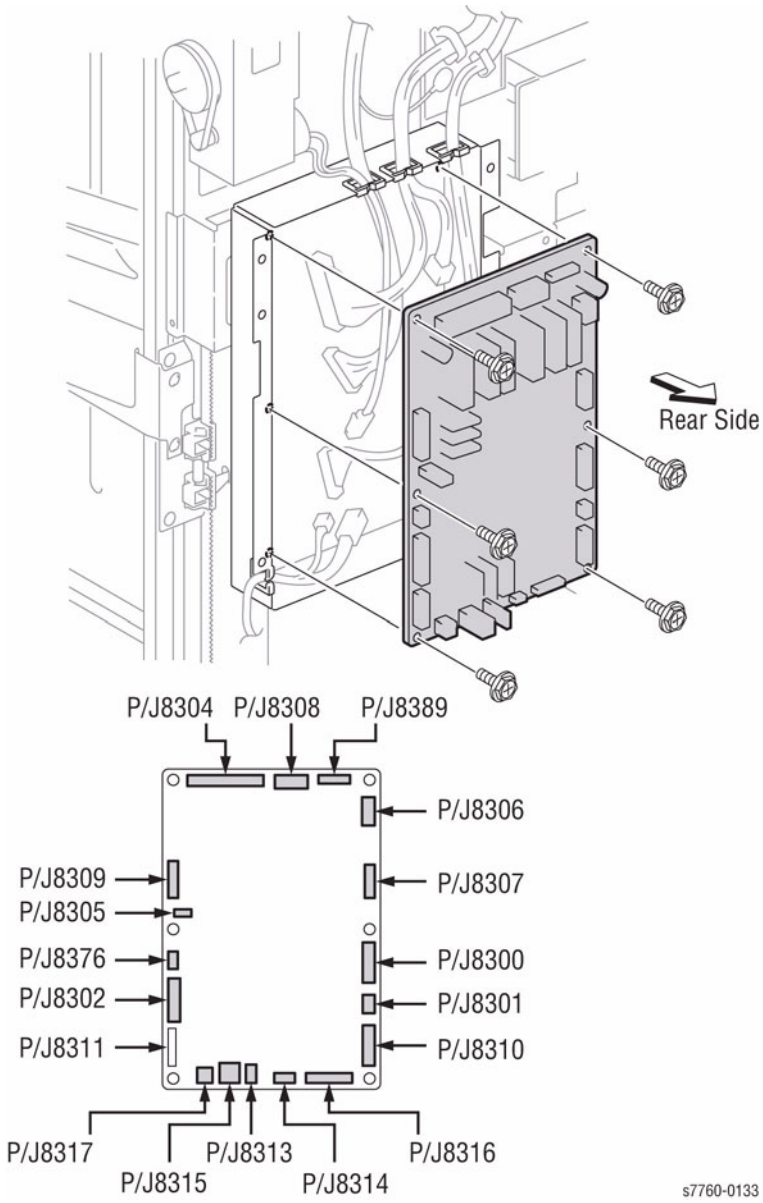


Figure 2 Removing Finisher PWB (Professional Finisher shown)

REP 12.69 Gear Replacement

Parts List on PL 21.10

Removal

1. Remove the Finisher Rear Upper Cover (REP 12.41).
2. Remove the Gear (Figure 1).

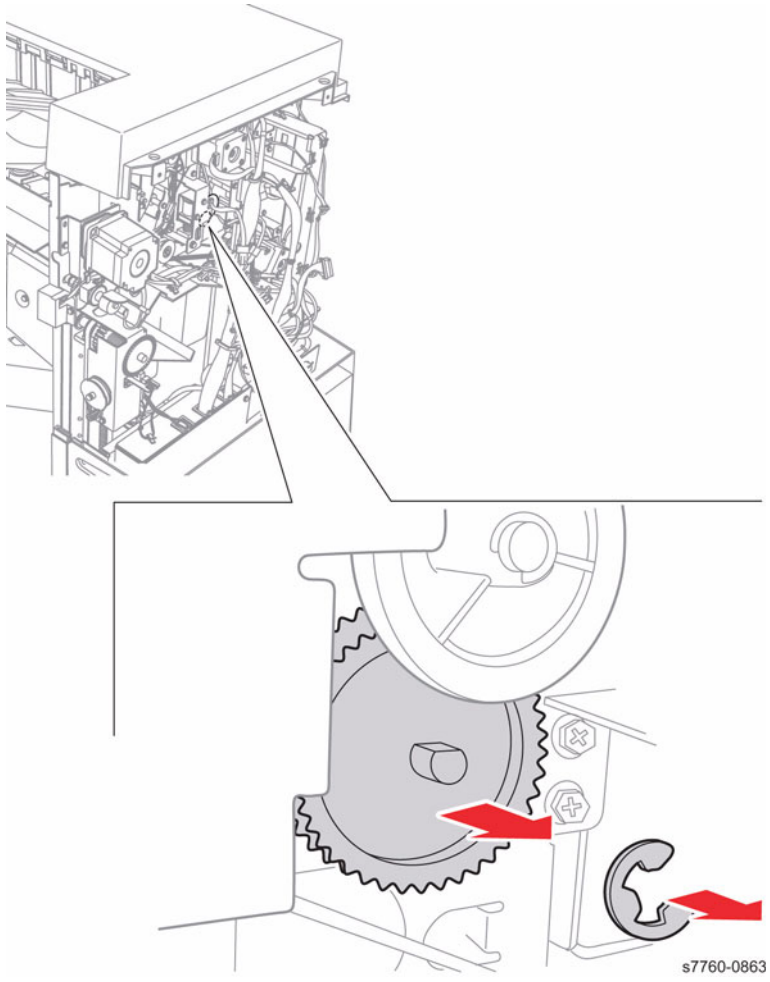


Figure 1 Removing Gear

3. Ensure to push the Shaft to the front if the Transport Roller is retracted by opening Chutes 2b and 3 (Figure 2).

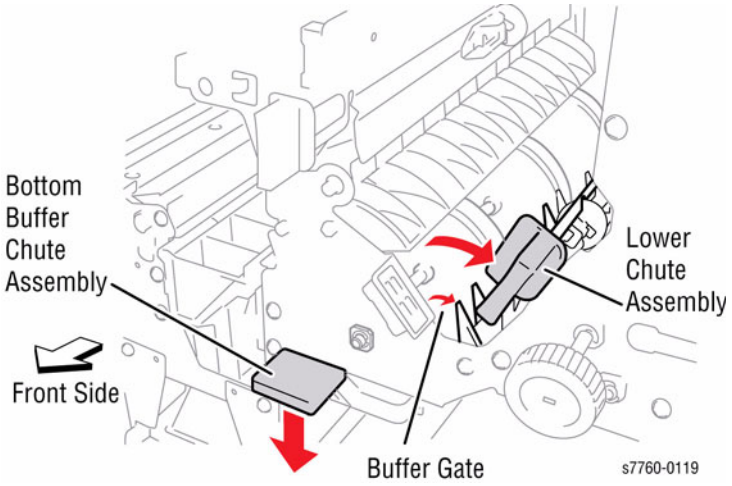


Figure 2 Opening Chutes

Replacement

Ensure to match the D-shape of the Gear to the D-shape of the Shaft (Figure 3). Then, faster with a KL-clip (354W 24254).

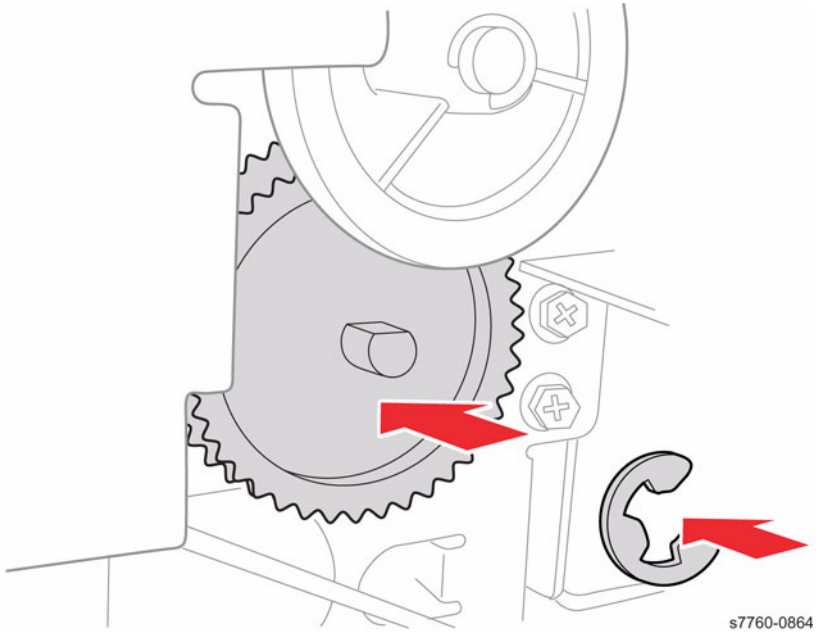


Figure 3 Attaching New Gear

REP 14.1 Top Cover

Parts List on PL 10.2

Removal

Without Finisher

1. Remove the Right Cover (REP 14.3).
2. Removing the Top Cover (Figure 1).
   a. Open the Front Door.
   b. Remove the 3 screws and the Top Cover.

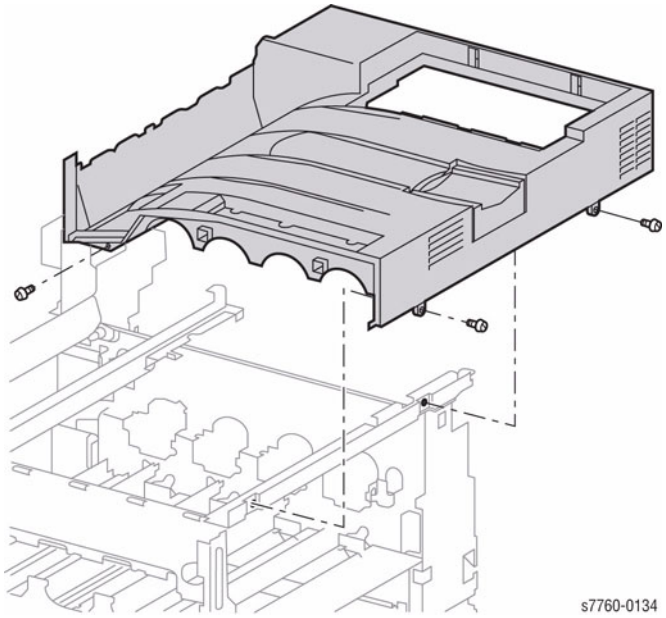


Figure 1 Removing Top Cover

3. Remove the Finisher (REP 12.50).
4. Remove the Finisher H-Transport (REP 12.51).
5. Remove the Right Cover (REP 14.3).
6. Remove the Top Cover (Figure 1).

With A/P Finisher

1. Remove the Finisher (REP 12.50).
2. Remove the Finisher H-Transport (REP 12.51).
3. Remove the Right Cover (REP 14.3).
4. Remove the Top Cover (Figure 1).

REP 14.2 Rear Cover

Parts List on PL 10.3

Removal

1. Removing the Rear Cover (Figure 1).
   a. Disconnect the AC Power Cord and the 2 connectors.
   b. Remove the 4 screws and remove the Rear Cover.

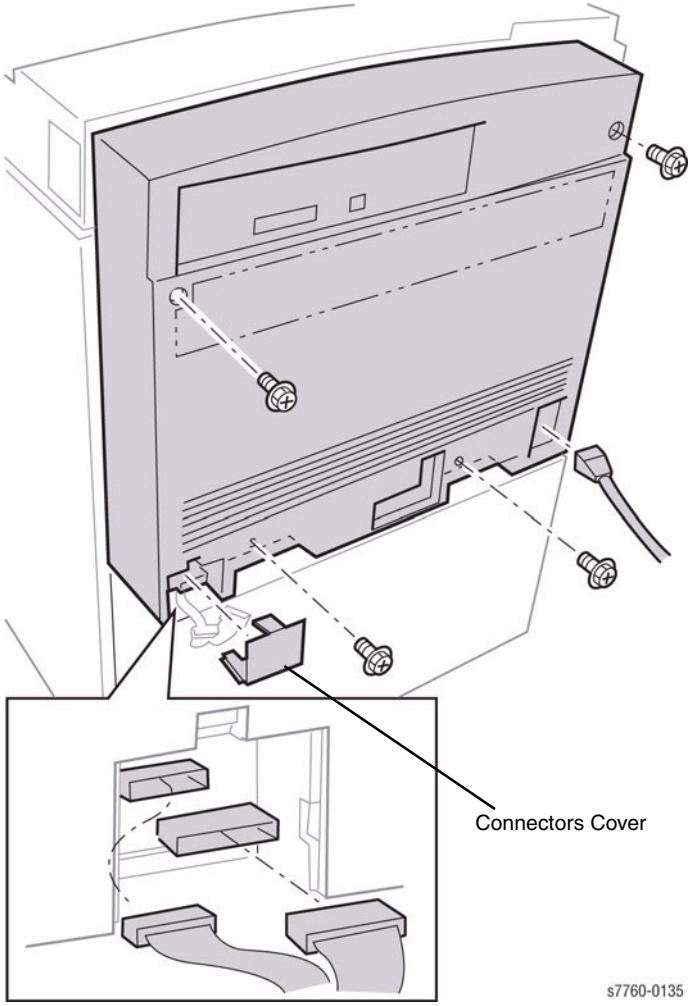


Figure 1 Removing Rear Cover

REP 14.3 Right Cover

Parts List on PL 10.1

Removal

1. Open the Front Door.
2. Without the Finisher, go to step 3.
   With A/P Finisher, remove the Finisher (REP 12.50) (REP 12.51) and remove the Docking Plate (PL 21.3).
3. Removing the Right Cover (Figure 1).
   a. Open the Right Door.
   b. Remove the 3 screws (1 screw is located behind the Right-Hand Door.
   c. Lightly press downward to release the four hidden tabs behind the right side Cover, then pull the Cover away from the Printer.

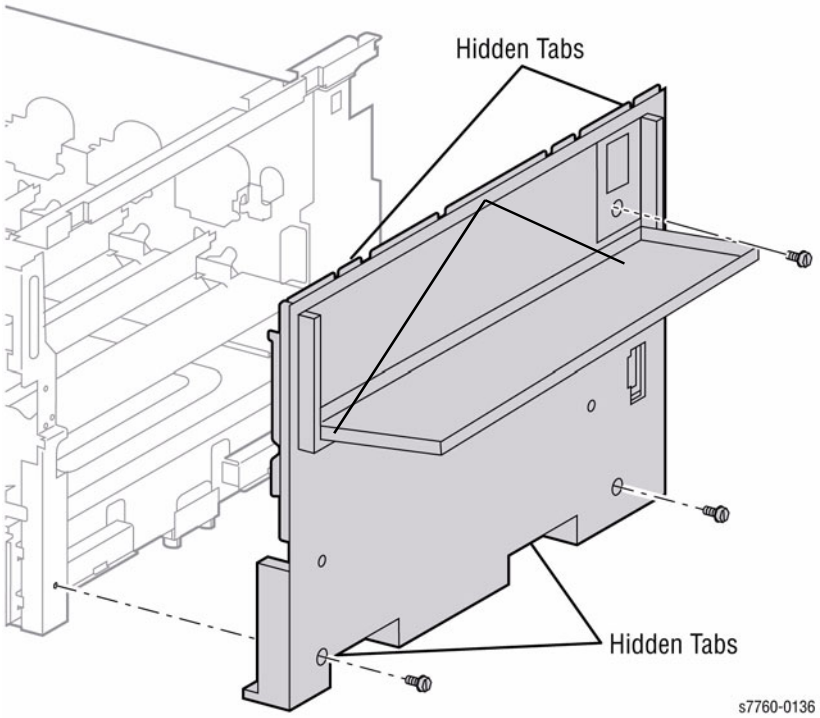


Figure 1 Removing Right Cover

REP 14.4 Rear Left Middle Cover

Parts List on PL 10.3

Removal

1. Remove the Rear Cover (REP 14.2).
2. Open the Left Cover Assembly (Left-Hand Door A).
3. Removing the Rear Left Middle Cover (Figure 1).
   a. Remove 1 screw securing the Rear Left Middle Cover.
   b. Lift the Cover up to release captive hooks then toward you out of the Printer.

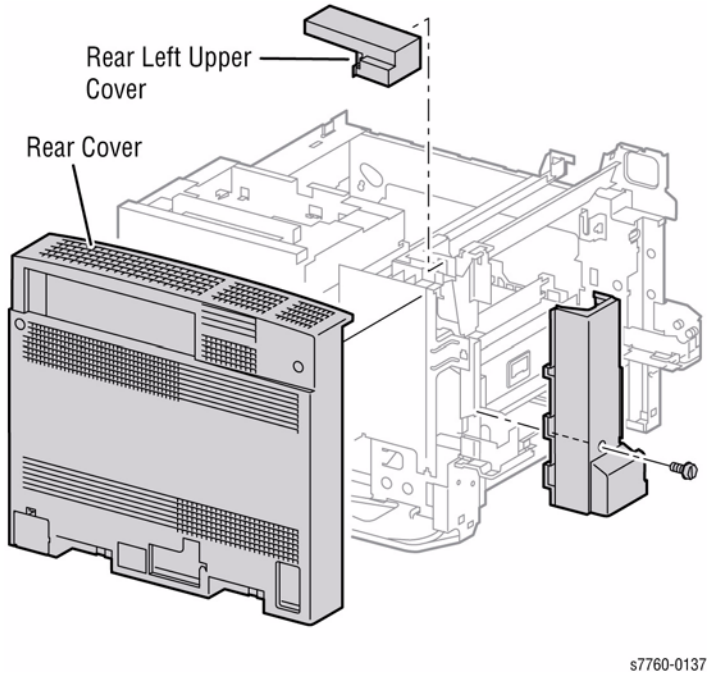


Figure 1 Removing Rear Left Middle Cover

REP 14.5 Rear Left Upper Cover

Parts List on PL 10.3

Removal

1. Remove the Rear Cover (REP 14.2).
2. Open the Left Cover Assembly (Left-Hand Door A).
3. Removing the Rear Left Upper Cover (Figure 1).
   a. Remove 1 screw securing the Rear Left Upper Cover.
   b. There is a hidden captive Tab on the front and side of the Cover that resists the upward pull. Place your finger on the front side of the Cover to release the Tab and pull towards you.

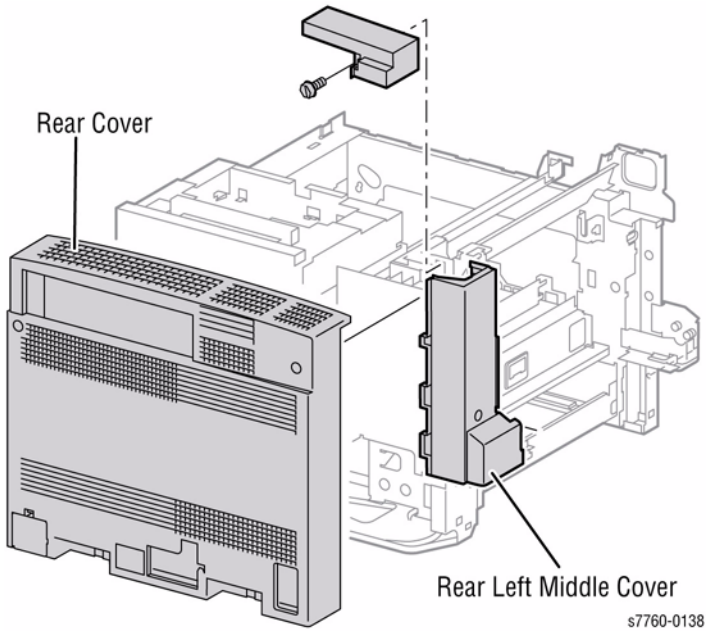


Figure 1 Removing Rear Left Upper Cover

REP 14.6 Left Lower Cover Assembly (Left-Hand Door B)

Parts List on PL 2.3

Removal

1. Removing the Left Lower Cover Assembly (Figure 1).
   a. Open the Left Lower Cover Assembly.
   b. Disconnect the wiring harness connector.
   c. With a flat tip screwdriver, pry out the Pivot Pin, then pry out the Pivot Sleeve.
   d. Remove the Lower Left Cover Assembly.

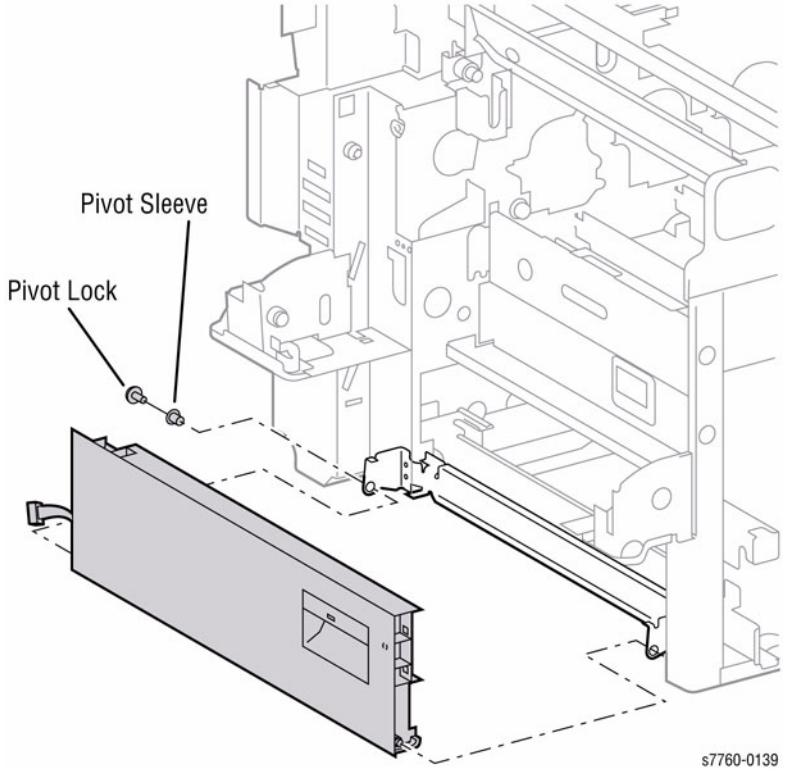


Figure 1 Removing Left Lower Cover Assembly

Replacement

NOTE: *Partially install the Pivot Sleeve, then install the Left Lower Cover Assembly and push in Pivot Sleeve.*

REP 14.7 Front Cover Assembly

Parts List on PL 10.1

Removal

1. Removing the Front Cover (Figure 1).
   a. Pull out Tray 2 approximately 100 mm for cover support. Open the Front Cover.
   b. Remove the 2 screws securing the Support Strap.
   c. Remove the 2 screws securing the Hinge Pin Locks and remove the Hinge Pin Locks.
   d. Remove Front Cover.

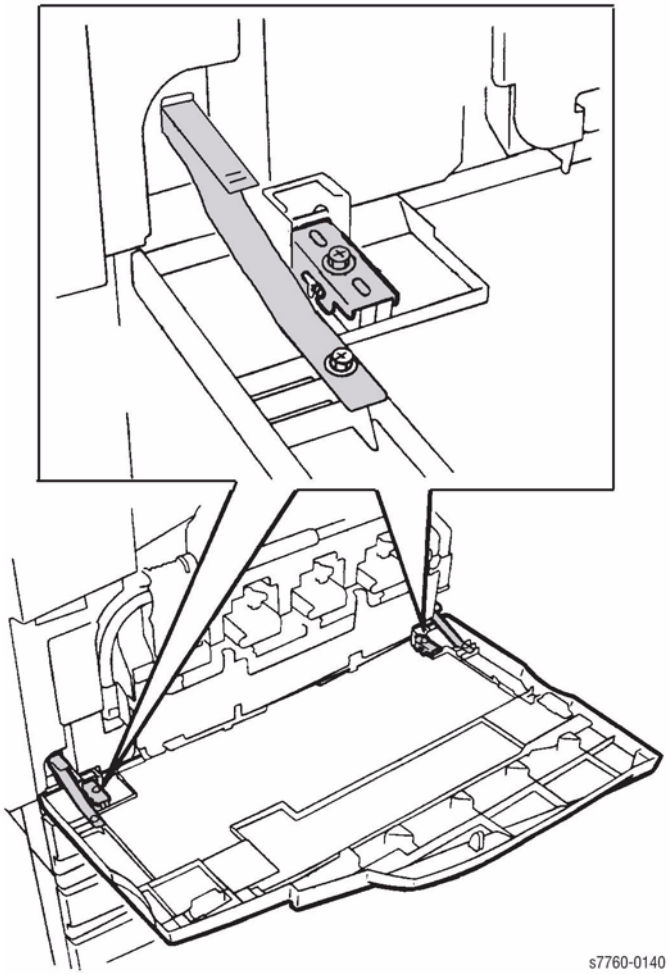


Figure 1 Removing Front Cover Assembly

REP 14.8 Fuser Cover

Parts List on PL 10.2

Removal

1. Open the Front Cover.
2. Removing the Fuser Cover (Figure 1).
   a. Remove the 2 screws securing the Fuser Cover.
   b. Move the Cover up to release the 3 hidden Tabs and pull out to remove the Cover.

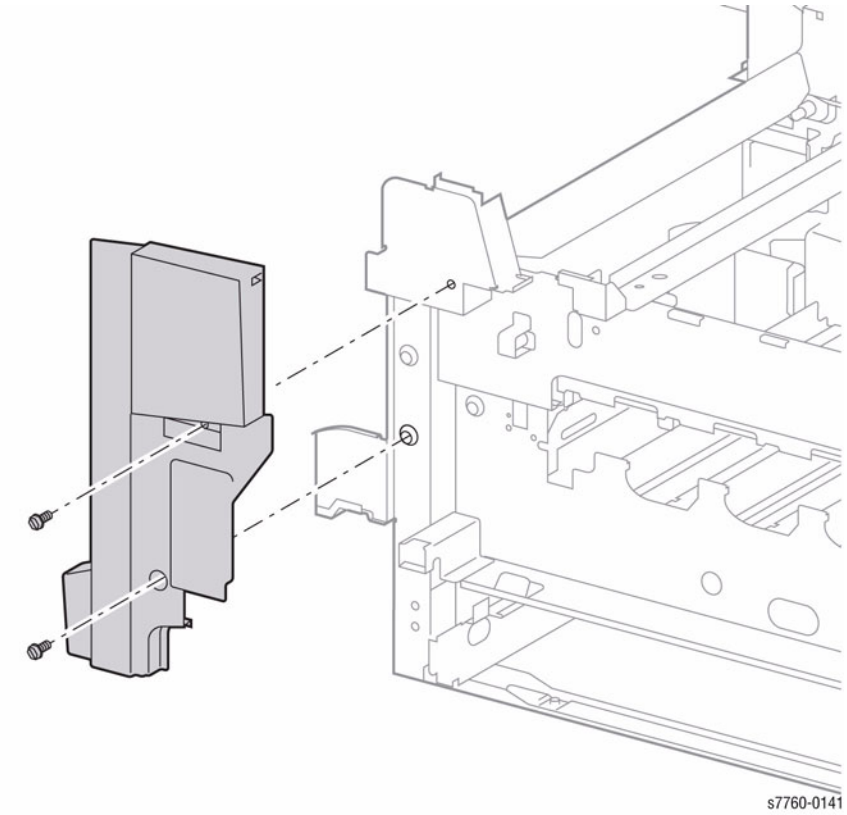


Figure 1 Removing Fuser Cover

REP 14.9 Rear Cover (Tray Module)

Parts List on PL 15.11 (1TM, 3TM), PL 16.16 (TTM)

Removal

1. Remove the 4 screws and remove the Rear Cover.

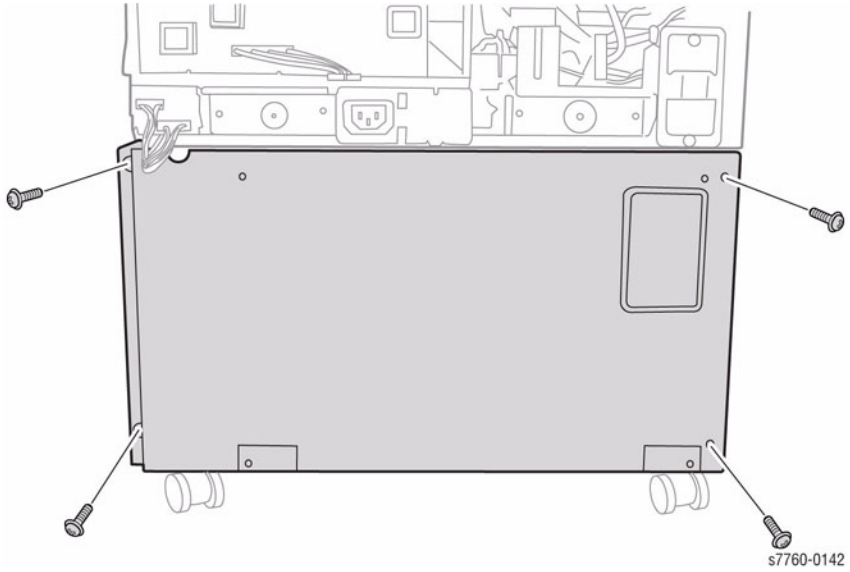


Figure 1 Removing Rear Cover (Tray Module)

REP 14.10 Inner Cover

Parts List on PL 8.1

Removal

1. Open the Front Cover.
2. Remove the Fuser Cover (REP 14.8).
3. Remove the Waste Toner Cartridge Cover (REP 9.3).
4. Removing the Inner Cover (Figure 1).
   a. Remove the wiring harness from the harness clip.
   b. Remove 1 screw and remove the Inner Cover.

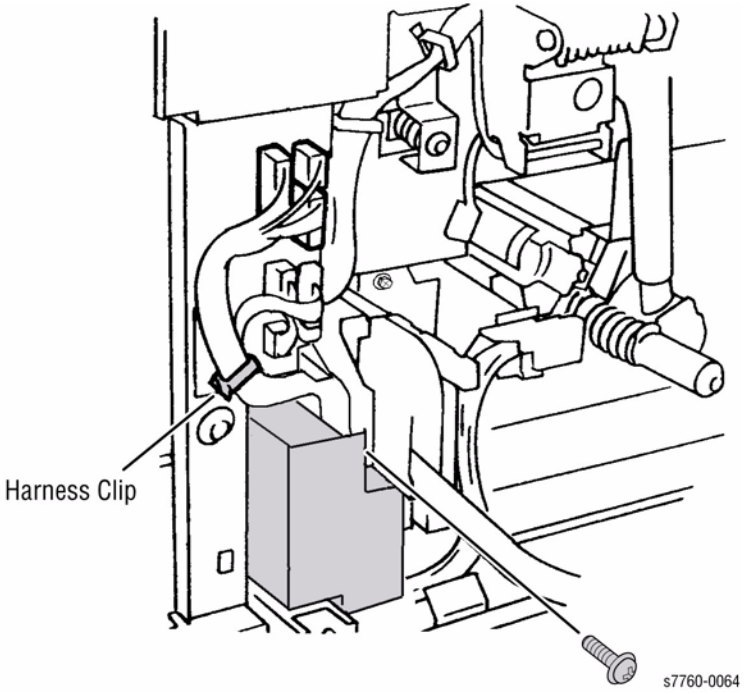


Figure 1 Removing Inner Cover

REP 14.11 Left Cover Assembly (Left-Hand Door C)

Parts List on PL 16.13

Removal

1. Remove the Left Lower Cover (REP 14.12).
2. Removing the Left Cover Assembly (Figure 1).
   a. Remove the 2 screws from the Support Straps.
   b. Remove 1 screw securing the Front Pivot Bracket and remove the Left Cover Assembly.

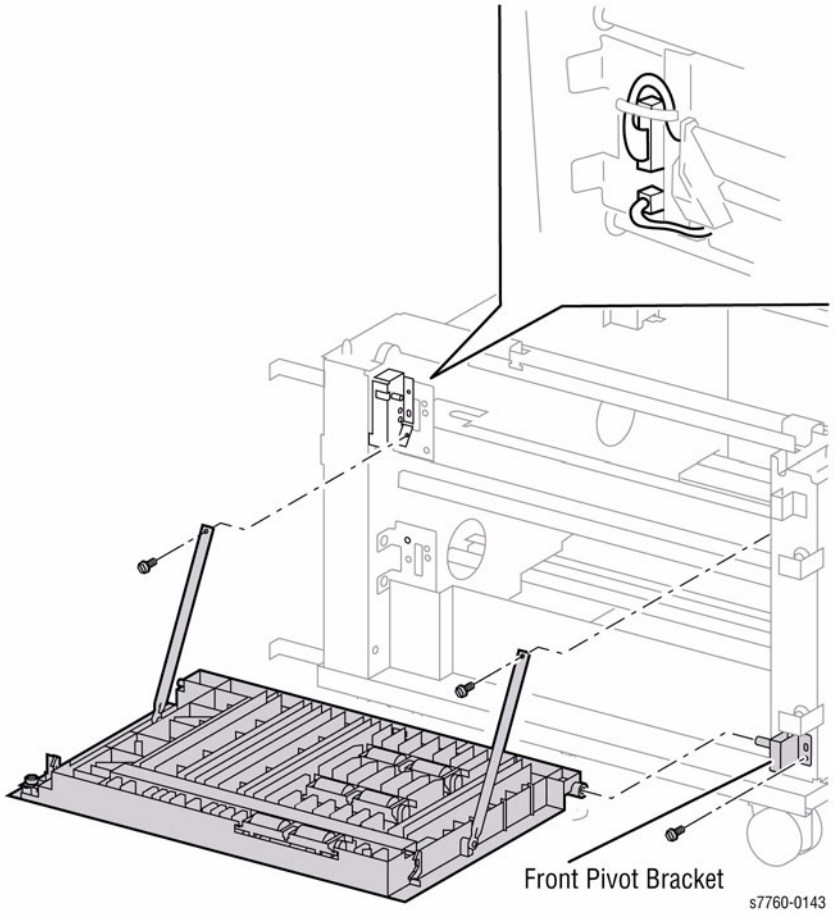


Figure 1 Removing Left Cover Assembly

REP 14.12 Left Lower Cover (Left-Hand Door C)

Parts List on PL 16.13, PL 16.16

Removal

1. Remove the 4 screws and remove the Left Lower Cover (Figure 1).

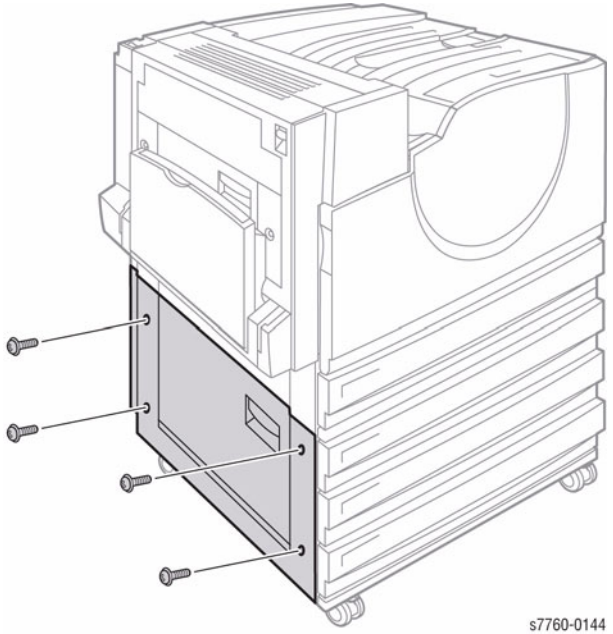


Figure 1 Removing Left Lower Cover

ADJ 9.1 Belt Edge Learn

Purpose

To establish correct horizontal and vertical positioning of the four primary color images.

Procedure

NOTE: *Data cannot be adjusted within this function. This is an information only.*

1. Enter the Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.
2. Select **Adjustments/Calibrations** and press **OK**.
3. Select **Belt Edge Learn** and press **OK**.
4. The printer starts processing with blinking **Running...** message appears.
5. Review the result on the display.
   - Belt Edge Learn Result: {OK | Fail}
6. Press **Back** or **Cancel** to abort the process.

ADJ 9.2 ATC Sensor Setup

Purpose

CAUTION

This procedure should only be performed when the ATC Sensor or Developer Housing is being replaced, ***OR*** *when there is reason to believe that the calibration values in NVRAMM are incorrect.*

The Automatic Toner Concentration (ATC) sensor measures the toner to bead ratio in each Developer. These sensors have an intrinsic gain and output value that are stored in printer NVRAM. New values must be entered when a new Developer Housing is installed. Incorrect values have color balance effects.

On the side of each Developer Housing Assembly is a small tag with a bold-faced three-digit number printed near the bottom. The first digit is always 0. The other digits range between 0 and 99.

Procedure

To set the new values:

1. Enter the Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.
2. Select **Adjustments/Calibrations** and press **OK**.
3. Select **ATC Sensor Setup** and press **OK**.
4. Note the current values for the tag numbers on the Control Panel display. The values should correspond to the tag numbers of the Developers actually installed.
5. Select the color of the Developer you installed.
6. Enter the tag number. Use the **Back** and **Help** buttons to select which digit you want to change. Use the **Up** and **Down** buttons to modify the digit.
7. Press **OK** to enter the data in the Engine NVRAM.
8. Press any button to abort the process.

ADJ 9.3 TRC Adjust

Purpose

To check the output of ATC Sensor and to determine if TRC Control performed normally.

Procedure

NOTE: *Data cannot be adjusted within this function. This is an information only.*

1. Enter the Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.
2. Select **Adjustments/Calibrations** and press **OK**.
3. Select **TRC Adjust** and press **OK**.
4. Press any key to see the data.
5. Press any key to exit.

ADJ 9.4 ADC Output Check

Purpose

To test the Automatic Density Correction sensor and compare a target value in logic to the value seen by the individual sensors.

Procedure

NOTE: *Data cannot be adjusted within this function. This is an information only.*

1. Enter the Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.
2. Select **Adjustments/Calibrations** and press **OK**.
3. Select **ADC Output Check** and press **OK**.
4. The printer starts processing with blinking **Measuring...** message appears.
5. Review the results to ensure there are no failures (refer to Section 8, ADC Output Check for detailed information).
6. Press any key to see more data.

ADJ 9.5 Tone Up/Down

Purpose

This function compares a corrected target value to the ATC Sensor value on each individual Developer.

Procedure

NOTE: *Data cannot be adjusted within this function. This is an information only.*

1. Enter the Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.
2. Select **Adjustments/Calibrations** and press **OK**.
3. Select **Tone Up/Down** and press **OK**.
4. The printer starts processing data with **Measuring...** message appears.
5. Review the results to ensure there are no failures (refer to Section 8, ATC Sensors for detailed information).
6. Press any key to see more data.

ADJ 9.6 Laser Power Check

Purpose

This function tests the laser output.

Procedure

NOTE: *Data cannot be adjusted within this function. This is an information only.*

1. Enter the Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.
2. Select **Adjustments/Calibrations** and press **OK**.
3. Select **Laser Power Check** and press **OK**.
4. The printer starts processing the data and displays the results:
   - Y=OK M=OK C=OK K=OK
   - YMCK=OK
   - YMCK(CycUp)=OK
5. Press any key to exit.

ADJ 9.7 PWM Mapping Data Read

Procedure

NOTE: *Data cannot be adjusted within this function. This is an information only.*

1. Enter the Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.
2. Select **Adjustments/Calibrations** and press **OK**.
3. Select **PWM Mapping Data Read** and press **OK**.
4. The results are displayed. Press any key to see more data. Press any key to exit.

ADJ 9.8 Coarse RegiCon Initialization

Procedure

1. Enter the Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.
2. Select **Adjustments/Calibrations** and press **OK**.
3. Select **Coarse RegiCon Init** and press **OK**.
   a. After NVRAM values are read, the test asks **Set Factory Defaults**? **Yes/No**. Select **Yes**.
   b. This sets the horizontal and vertical alignment to centered values. At this time, it should not be necessary to reset the magnification or magnification balance values.
      Reset Mag/Bal Values?
      - Yes/No - select **No**

   NOTE: *In all the following steps, Cyan is the reference line and cannot be adjusted, so you need to adjust all the other lines toward the Cyan line.*

4. From the **Built-in Test Prints** menu, select **Print Grid 1-Dot**.

   NOTE: *Must have 8 x 11 media (LEF) in Tray 1 (MPT) to perform this procedure.*

   a. This print provides the relative error between the C and MYK scan lines. Always indicate which edge of the print comes out of the printer first to be certain which way is Left/Right or Up/Down (refer to Figure 1 Grid 1-Dot pattern orientation for A-size paper.) Measure the distance (in millimeters) between the vertical lines, with the Cyan line being the reference line.
   b. It is best if the default paper tray contains A-size paper.

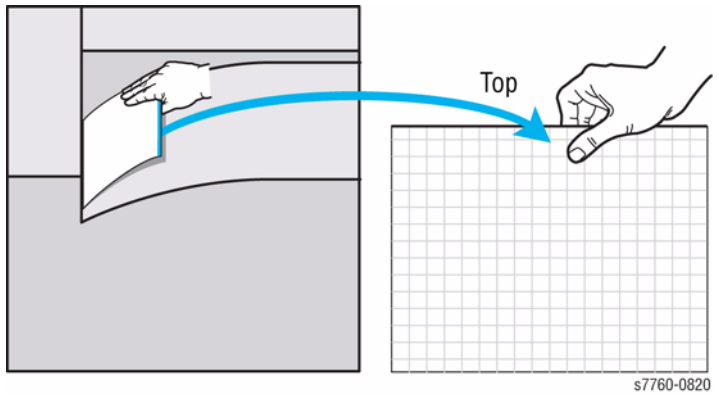


Figure 1 Grid 1-Dot Pattern Orientation

c. Note the leading edge of the paper when removing the test print from the tray. Use a pen or pencil to note the leading edge as the **TOP** of the print Grid 1-Dot pattern annotations in Figure 2. With **TOP** up, note the direction of scan from left to right as the **FAST** direction. The direction from the bottom of the print to the top is referred as the **SLOW** direction.

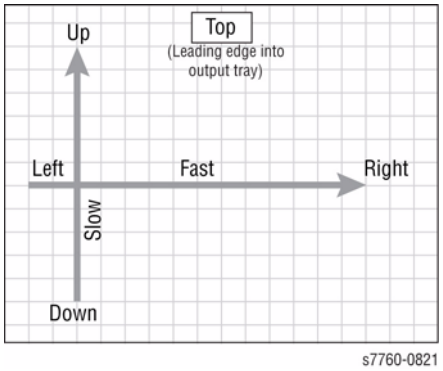


Figure 2 Grid 1-Dot Pattern Annotations

d. Notice which vertical line color(s) on the print needs to be moved right or left to line up as closely as possible with the cyan color line.

e. Measure how much each line needs to move (in millimeters) and whether it must be moved left or right.

NOTE: *Cyan is the reference color and does not move. Make the adjustments of M, Y, and K toward Cyan.*

5. From the **Adjustments**/**Calibrations** menu, select **Coarse RegiCon Init.**
   a. Select **No** to the **Set Factory Defaults? Yes/No.**
   b. Select **Yes** to **Do you want to adjust NVRAM Yes/No.**
   c. Select **No** to **Set Skew Error Threshold? Yes/No.**
   d. Select **Fast** to **Which scan direction? Fast/Slow.**
6. Select the color {Y | M | C | K} to adjust. Select how may millimeters {1-5} to adjust. Select the direction {Left | Right}. The confirmation screen appears (**Adjust <color> by <n> mm? Yes/No**). Select **Yes**.
7. Reprint the **Grid 1-Dot** pattern to verify changes.
8. Print the **Grid 1-Dot** page to see if the vertical lines are all clustered within 1 mm of the Cyan line. If not, repeat the process.
9. If the adjustments are no longer having an effect or the lines move in the opposite direction selected, go back to 5 and select **Yes** to **Set Factory Defaults**.

   Repeat steps 5 through 8. If the results are still not satisfactory, examine the Chevron pattern on the belt during RegiCon.

ADJ 9.9 Registration Control (RegiCon) Adjustment Overview

Purpose

The RegiCon tests are the means by which registration is accomplished. Registration establishes the alignment of the four primary colors in the process and scan directions, tilt or skew, length of lines and linearity. When the registration process is completed, all color planes are positioned properly.

The RegiCon Adjustment procedures should be used whenever the technician replaces the Laser Unit or where color registration is bad.

The printer registration process consists of the following adjustments and is briefly summarized in this overview:

- Fine Skew Adjustment
- In/Out Skew Adjustment
- Center Skew Adjustment
- Coarse Skew Adjustment

RegiCon is the procedure by which the printer aligns the magenta, yellow, and black vertical and horizontal scan lines to the cyan reference scan line. Horizontal and vertical alignment ensures that the magenta, yellow and black lines are superimposed on Cyan.

NOTE: *Cyan is the reference color to which all other colors are aligned.*

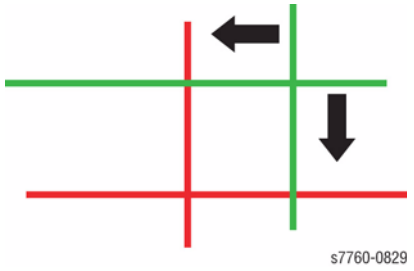


Figure 1 Horizontal and Vertical Margins

Coarse and Fine Skew Adjustments

Skew error is the misalignment of one or more of the four scan lines (C, M, Y, K). During the RegiCon #4 (Coarse) and RegiCon #1 (Fine) adjustments, the front side of each line is adjusted to be level with the rear end.

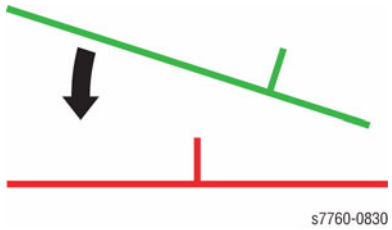


Figure 2 Skew Adjustment

In/Out Skew Adjustment

The In/Out Adjustment (Magnification) ensures that all four scan lines are the same length. During RegiCon #2, the printer measures, then adjusts the four scan lines to the proper length.

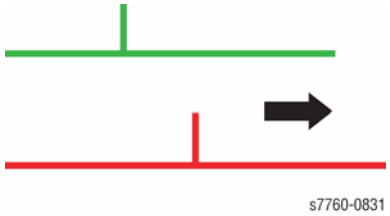


Figure 3 Magnification

Center Skew Adjustment

The Center Skew Adjustment (Magnification Balance) adjusts the linearity of the scan lines. During RegiCon #3, the printer measures a specific midpoint of each scan line and adjusts it to a horizontal reference midpoint.

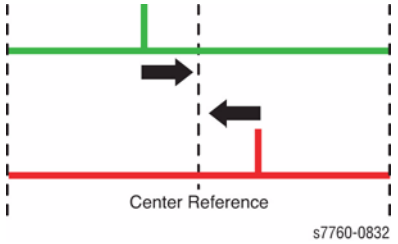


Figure 4 Magnification Balance

ADJ 9.10 RegiCon Adjustment

Procedure

For the following procedure, you must perform certain steps prior to, during, and after the tests are run. The following information is vital to the process and must be followed in order for each procedure to function properly.

- RegiCon fails if there are any print-quality problems. Diagnose and repair any print-quality problems before running any RegiCon procedure. To resolve a print-quality problem, refer to Print-Quality Problems Overview procedure (Section 3).
- To perform the test, enter the Hidden Service Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **RegiCon Setup Cycle** > **OK**.
- The procedures are listed in the order they need to be performed for optimal adjustments.

Table 1 Troubleshooting Procedures

Step	Actions and Questions	Yes	No
1	1. Enter the Service Diagnostics Menu and print the Grid 1-Dot test print. 2. Do all the colors align correctly?	Complete. Color registration problem is not related to RegiCon.	Go to step 2.
2	1. Perform the Resetting NVRAM procedure (Section 6) using the original hard drive that has been replaced. 2. Reprints the Grid 1-Dot test print. 3. Do all the colors align correctly now?	Complete.	Go to step 3.
3	1. Perform the RegiCon #1 Fine Skew Adjustment procedure, ADJ 9.11 (Section 4). 2. Do the results indicate the test has passed?	Perform skew correction adjustments as indicated in the second panel data until less than +/-5 clicks are required for each color (Figure 1). Go to step 4.	Go to step 8.
4	1. Perform the RegiCon #2 In/Out Skew Adjustment procedure, ADJ 9.12 (Section 4). 2. Do the results indicate the test has passed?	Perform skew correction adjustments as indicated in the Control Panel data until less than +/- 5 clicks are required for each color (Figure 1). Go to step 5.	Go to step 8.
5	1. Perform the RegiCon #3 Center Skew Adjustment procedure, ADJ 9.13 (Section 4). 2. Do the results indicate the test has passed?	Go to step 7.	Diagnose and repair the MOB Sensor.
6	1. Verify the MOB Sensor is correctly positioned in the center and repeat the RegiCon #3 test. 2. Does the test pass now?	Go to step 7.	Diagnose and repair the MOB Sensor.
7	1. Print the Grid 1-Dot test print. 2. Do the colors all align correctly?	Complete. Follow the Store Engine NVRAM procedure (Section 6).	Go to step 8.
8	1. Perform the RegiCon #4 Coarse Skew Adjustment, ADJ 9.14 (Section 4).	Perform the skew correction adjustments as indicated in the Control Panel data, only until the test passes, then go to step 3.	Perform the Coarse RegiCon Initialization procedure, ADJ 9.8 (Section 4).

Adjustment screws are located behind the Waste Cartridge, which must be removed for access. From left to right, the adjustment screws are: K, C, M, and Y.

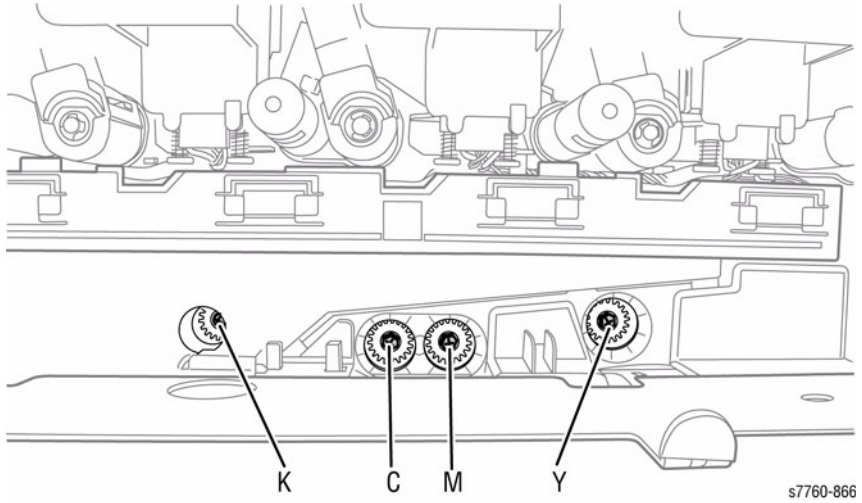


Figure 1 Adjustment Screws

ADJ 9.11 RegiCon #1 Fine Skew Adjustment

Purpose

This process uses sensors to examine the RegiCon image on the Belt and report what adjustments need to be made. A side effect of this test is that horizontal and vertical alignments are automatically done (if the test passed).

The data output presents the skew screw adjustment values (some number of **clicks** of the screw, either CW or CCW direction). Values less than 5 or so are **noise** and should not need to be adjusted.

Procedure

1. Enter the hidden Service Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **RegiCon Setup Cycle** > **OK**.

   NOTE: *The first time any RegiCon test is requested, the pages used to perform the test must be created, so there is a short delay. During this time, the Control Panel displays Processing Data - Please Wait.*

2. Select **Do #1: Fine Skew Setup** and press **OK**. The Control Panel displays: **Testing - Please Wait**.
3. Wait until the test results are displayed as follows:

   Fine Skew Setup
   Passed
   Min A Blocks: 24
   Min B Blocks: 4
   Yellow 1 Click CWW
   Magenta 2 Clicks CW
   Cyan 12 Clicks CCW
   Black 7 Clicks CCW

   NOTE: *Only 5 lines will be displayed at a time under the Information header. Use the arrow buttons to scroll down or up as required to see the rest of the data.*

   NOTE: *If the block counts are not the same number as presented here, the printer has a print-quality problem. Refer to Streaks in Direction of Paper Travel procedure (Section 3) to resolve the print-quality problems before proceeding further with RegiCon.*

4. If an adjustment is needed, adjust by the amounts displayed on the Control Panel until all clicks displayed are 5 or less.

   NOTE: *Adjustment screws are located behind the Waste Cartridge, which must be removed for access. From left to right, the adjustment screws are: K, C, M, and Y.*

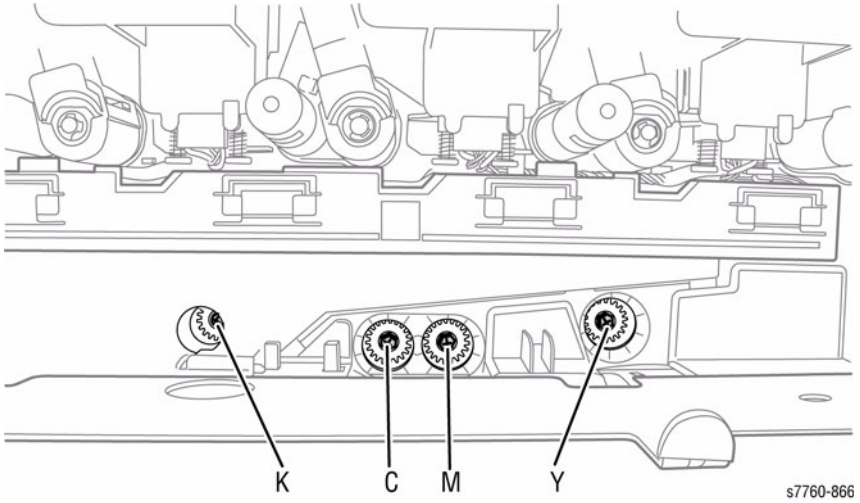


Figure 1 Adjustment Screws

5. After 2 minutes, the test selection menu will re-appear. To examine the test results after this occurs, highlight the appropriate test and select **Information Setup**.

When RegiCon #1 Fails

Refer to RegiCon #4 Coarse Skew Adjustment procedure, ADJ 9.14 (Section 4).

ADJ 9.12 RegiCon #2 In/Out Skew Adjustment

Purpose

This test makes magnification adjustments for registration. Magnification is the length of the scan line for the four colors, so that each scan line for each color is the same length.

The data output can indicate PASSED, or READJUST (PASSED), or FAILED. If the result is READJUST, the indicated adjustment values for the skew adjustment should be done. It should not be necessary to rerun the test after making this adjustment.

Procedure

1. Enter the hidden Service Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **RegiCon Setup Cycle** > **OK**.

   NOTE: *The first time any RegiCon test is requested, the pages used to perform the test must be created, so there is a short delay. During this time the Control Panel displays* ***Processing Data - Please Wait****.*

2. Select **Do #2: In/Out Skew Setup** and press **OK**. The Control Panel displays: **Testing - Please Wait**.
3. Wait until the test results are displayed as follows:

   In/Out Skew Setup
   Passed Readjust
   Min A Blocks: 24
   Min B Blocks: 0
   Yellow 6 Clicks CCW
   Magenta 4 Clicks CW
   Cyan 12 Clicks CCW
   Black 27 Clicks CCW

   NOTE: *Only 5 lines will be displayed at a time under the Information header. Use the arrow buttons to scroll down or up as required to see the rest of the data.*

   NOTE: *If the block counts are not the same number as presented here, the printer has a print-quality problem. Refer to Streaks in Direction of Paper Travel procedure (Section 3) to resolve the problems before proceeding further with RegiCon.*

4. If an adjustment is needed, adjust by the amounts displayed on the Control Panel.

   NOTE: *Adjustment screws are located behind the Waste Cartridge, which must be removed for access. From left to right, the adjustment screws are: K, C, M, and Y.*

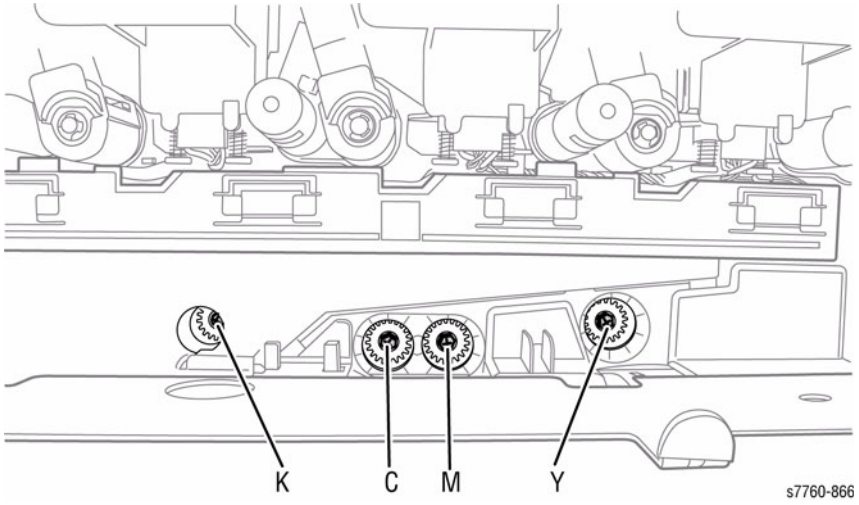


Figure 1 Adjustment Screws

5. After 2 minutes, the test selection menu will re-appear. To examine the test results after this occurs, highlight the appropriate test and select **Information Setup**.

When RegiCon #1 or RegiCon #2 Fails

The horizontal alignment error is excessive and a manual adjustment is required before the diagnostics test routines for fine skew can pass. Perform the **Coarse RegiCon Ini** procedure, ADJ 9.8 (Section 4).

ADJ 9.13 RegiCon #3 Center Skew Adjustment

Purpose

This test adjusts magnification balance. There are no manual adjustments required after completing the test.

Procedure

NOTE: *To perform this test, move the Mark-On-Belt sensor to the Center position. After the test has been run, the mark-on-belt sensor must be moved back to the home position.*

1. Remove the Waste Cartridge.
2. Remove the screw that holds the Mark-On-Belt (MOB) Sensor to the front of the printer.
3. Using the laser lens cleaning tool, move the sensor all the way to the **CENTER** position (until it hits the stop).
4. Reinstall the Waste Cartridge.
5. Close the door and run the test.
6. Enter the hidden Service Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **RegiCon Setup Cycle** > **OK**.

   NOTE: *The first time any RegiCon test is requested, the pages used to perform the test must be created, so there is a short delay. During this time the Control Panel displays* ***Processing Data - Please Wait****.*

7. Select **Do #3: Center Skew Setup** and press **OK**. The Control Panel displays: **Testing - Please Wait**.
8. Wait until the test results are displayed as follows:

   Center Skew Setup

   Passed

   Min A Blocks: 24

   Max B Blocks: 4

   Yellow 0 Click CCW

   Magenta 0 Click CW

   Cyan 0 Click CCW

   Black 0 Click CCW

   NOTE: *Only 5 lines will be displayed at a time under the Information header. Use the arrow buttons to scroll down or up as required to see the rest of the data.*

   NOTE: *If the block counts are not the same number as presented here, the printer has a print-quality problems. Refer to Streaks in Direction of Paper Travel procedure (Section 3) to resolve the print-quality problems before proceeding further with RegiCon.*

9. Using the back of the laser cleaning tool, hook the loop of the MOB Sensor (just moved in 3 above) and pull it all the way to the front. Continue holding the MOB Sensor in position while reinserting the securing screw (removed in 2 above).

When RegiCon #3 Fails

This is probably due to the mark-on-belt Sensor not being positioned properly (assuming that RegiCon 1 and 2 tests have already passed). The sensor has a **wedge fit** when in position for the number 3 **center** position. If the mark-on-belt Sensor not correctly positioned, it can cause the test to fail. Recheck the MOB Sensor position and run the test again.

ADJ 9.14 RegiCon #4 Coarse Skew Adjustment

Procedure

1. Enter the hidden Service Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **RegiCon Setup Cycle** > **OK**.

   NOTE: *The first time any RegiCon test is requested, the pages used to perform the test must be created, so there is a short delay. During this time the Control Panel displays* ***Processing Data - Please Wait****.*

2. Select **Do #4: Coarse Skew Setup** and press **OK**. The Control Panel displays: **Testing - Please Wait**.

   Coarse Skew Setup

   Passed

   Min A Blocks: 0

   Min B Blocks: 4

   Yellow 40 Click CW

   Magenta 47 Clicks CW

   Cyan 47 Clicks CW

   Black 46 Clicks CW

   NOTE: *Only 5 lines will be displayed at a time under the Information header. Use the arrow buttons to scroll down or up as required to see the rest of the data.*

   NOTE: *If the block counts are not the same number as presented here, the printer has a print-quality problems. Refer to Streaks in Direction of Paper Travel procedure (Section 3) to resolve the print-quality problems before proceeding further with RegiCon.*

If RegiCon Coarse Skew Fails

This indicates that the horizontal alignment is so far out of adjustment that a manual adjustment is required before the diagnostics test routines for fine skew can pass. Other possible problems include: Mark-On-Belt Sensor Failure, Developer, Developer Bias Voltage, Imaging Unit, or Engine Control Board failure.

- Perform the **Coarse RegiCon Initialization** procedure, ADJ 9.8 (Section 4). This adjusts the horizontal alignment closer and allows RegiCon #4 to pass.
- After Coarse RegiCon Initialization is complete, perform RegiCon #4 (Coarse Skew Adjustment) again. Make the required adjustments.

Adjustments should be made only if the skew correction indicated is greater than 5 clicks.

Adjustment screws are located behind the Waste Cartridge, which must be removed for access. From left to right, the adjustment screws are: K, C, M, and Y.

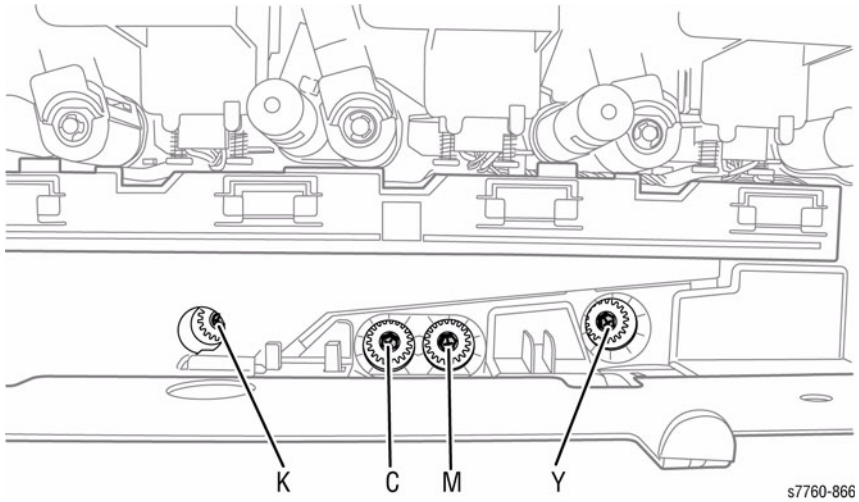


Figure 1 Adjustment Screws

ADJ 9.15 Finisher Folder Position

Procedure

Refer to ADJ 12.5, ADJ 12.6, ADJ 12.7, ADJ 12.9, and ADJ 12.10 (Section 4) for detailed procedures.

ADJ 9.16 Calibrate for Paper

Purpose

Calibrate for Paper is used for adjusting the printer for various paper types and environmental conditions. You may need to readjust the printer when you change brands, paper types, or the temperature or humidity changes significantly.

Procedure

NOTE: *Ensure to load 8 x 11 media (LEF) in Tray 1 (MPT) to perform this procedure.*

1. Go to the Printer Menu. Scroll down the menu to find **Troubleshooting** and press **OK**.
2. Select **Print Quality Problems** and press **OK**.
3. Scroll down the menu to find **Calibrate for Paper** and press **OK**.
4. Select **Calibrate for Paper Pages** and press **OK**.
5. The printer prints 9 Calibrate for Paper pages.
6. Follow the instructions on the Calibrate for Paper to perform the procedure.

ADJ 9.17 Calibrate Colors

Purpose

Calibrate for Colors is used for adjusting the printer for optimal color output. Color settings may need adjustment upon initial printer setup or when toners and Imaging Units are replaced.

Procedure

NOTE: *Ensure to load 8 x 11 media (LEF) in Tray 1 (MPT) to perform this procedure.*

1. Go to the Printer Menu. Scroll down the menu to find **Troubleshooting** and press **OK**.
2. Select **Print Quality Problems** and press **OK**.
3. Scroll down the menu to find **Calibrate Colors** and press **OK**.
4. Select **Tutorial Page** and press **OK**.
5. The printer prints 2 Color Calibration Tutorial pages.
6. Follow the instructions on the Color Calibration Tutorial pages to perform the procedure.

ADJ 9.18 Calibrate Margins

Purpose

Calibrate Margins is used for adjusting the printed area to fit within the edges of the paper.

- Margin adjustments for Trays 2-5 affect all of the lower trays and only need to be performed once.
- Margin adjustment for Tray 1 (MPT) affect only affect Tray 1.

Procedure

NOTE: *Ensure to load 8 x 11 media (LEF) in Tray 1 (MPT) to perform this procedure.*

1. Go to the Printer Menu. Scroll down the menu to find **Troubleshooting** and press **OK**.
2. Select **Print Quality Problems** and press **OK**.
3. Scroll down the menu to find **Calibrate Margins** and press **OK**.
4. Select **Calibrate Margins Page** and press **OK**.
5. Select the appropriate Tray to be calibrated (i.e., Tray 1, 2, 3, 4, or 5) and press OK.
6. The printer prints 2 pages of the selected Tray Calibrate Margins.
7. Follow the instructions on the Calibrate Margins pages to perform the procedure.

ADJ 12.2 Finisher Leveling

Parts List on PL 21.1

Purpose

The Finisher level should be checked if the machine has been moved to a new location or if the machine is having Booklet Quality issues or entrance jams.

Adjustment

WARNING

To avoid personal injury or shock, do not perform repair or adjustment activities with the power switch on or electrical power applied to the machine.

1. Verify the Finisher is properly latched and secured to the Printer (Figure 1).

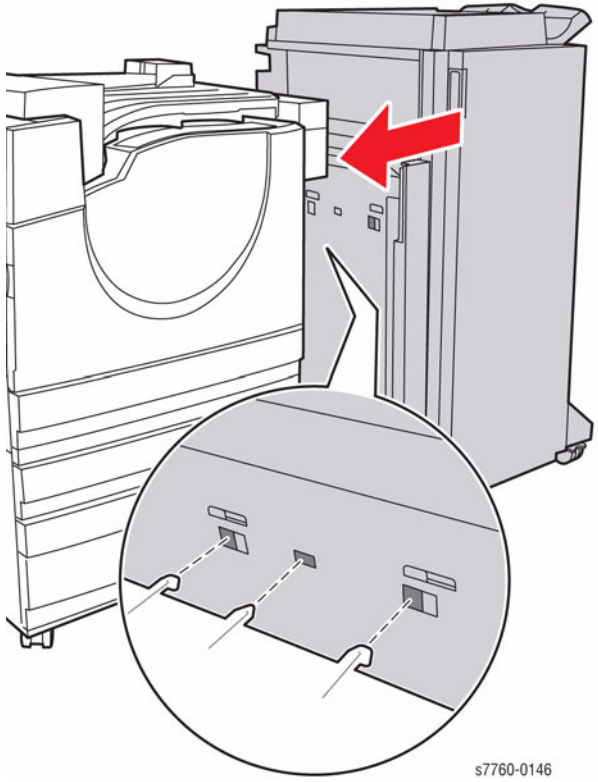


Figure 1 Securing Finisher to the Printer

2. Adjust the Finisher Level so that it is parallel with the Printer (Figure 2).

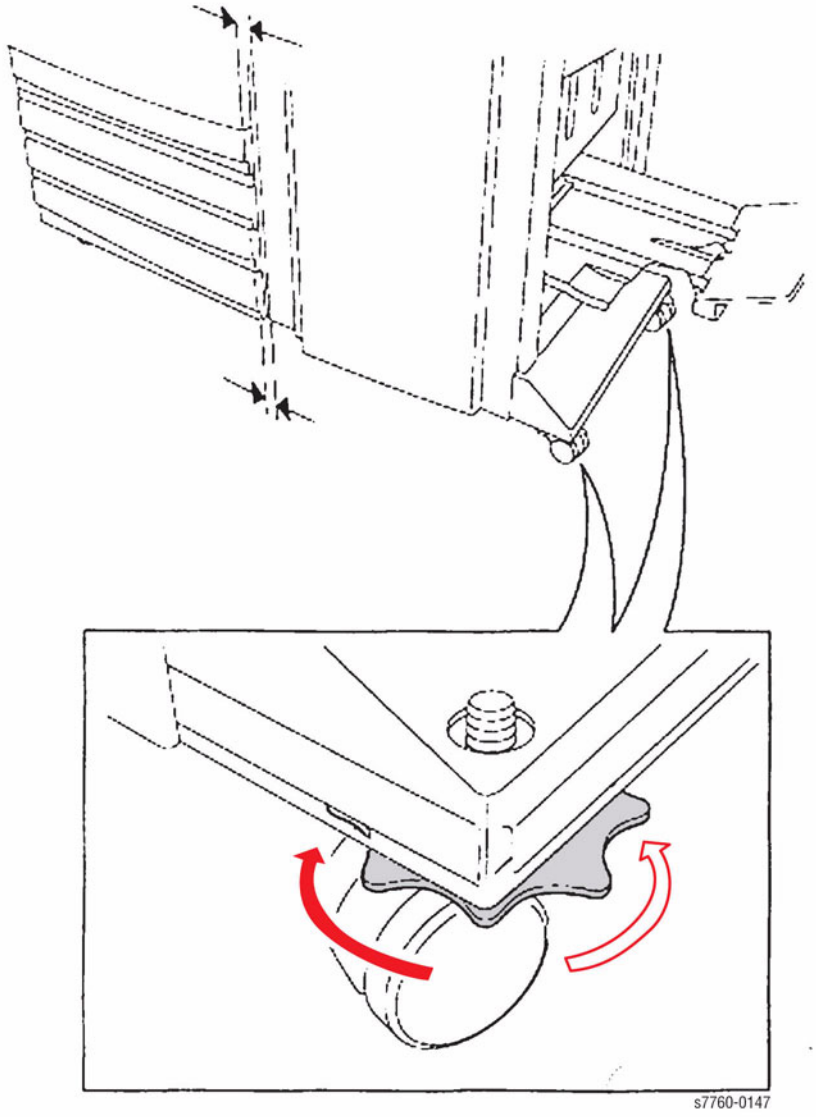


Figure 2 Leveling the Finisher

3. When the Finisher is parallel to the Printer, verify the H-Transport does not interfere with the Finisher Entrance Gate.

ADJ 12.4 Booklet Fold Skew

Parts List on PL 21.15, PL 21.17

Purpose

To adjust the Booklet Maker so that the fold is square.

Check

WARNING

To avoid personal injury or shock, do not perform repair or adjustment activities with the power switch on or electrical power applied to the machine.

1. Set up the machine according to instructions in Table 1 and run a set of each Booklet job in **Customer** mode. Label each booklet.

Table 1 Booklet Jobs

Job #	Select Paper Supply	Select Booklet Creation Mode	Booklet Size
1	8.5 x 11 / A4 SEF	Booklet Layout, 2 sided originals / Booklet Fold Only	3 sheet
2	11 x 17 / A3 SEF	Booklet Layout, 2 sided originals / Booklet Fold Only	3 sheet

2. Measure the skew (A) on all sheets of paper and verify against the Skew Specification table in Figure 1.

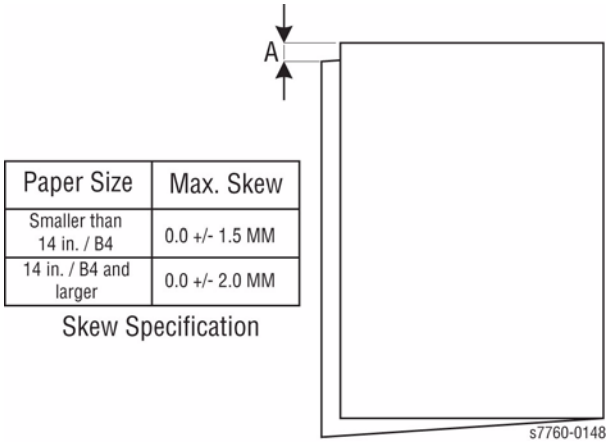


Figure 1 Skew Specification

3. If the fold is within specification on all sheets, go to ADJ 12.5 Booklet Fold Position. If any of the sheets are out of specification, go to the adjustment.

Adjustment

1. Determine the type of Fold Skew:
   a. Set machine up according to instructions in Table 2 (run in **Customer** mode).

Table 2 Booklet Jobs

Job #	Select Paper Supply	Select Booklet Creation Mode	Booklet Size
1	11 x 17 / A3 SEF	Booklet Layout, 2 sided originals / Booklet Fold Only	3 sheet

   b. Observe the booklet as it comes out on to the Booklet Tray (Figure 2) and determine the type of skew.

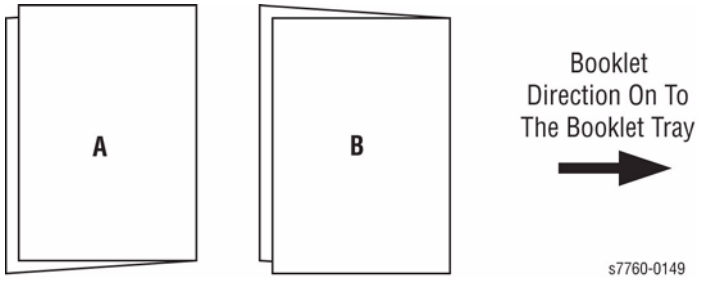


Figure 2 Type of Skew

2. Adjusting the Booklet skew (Figure 3).
   a. Open the Front Door and slide out the Booklet Maker.
   b. Loosen one screw.
   c. For A-type skew, move the End Guide to the left. For B-type skew, move the End Guide to the Right.

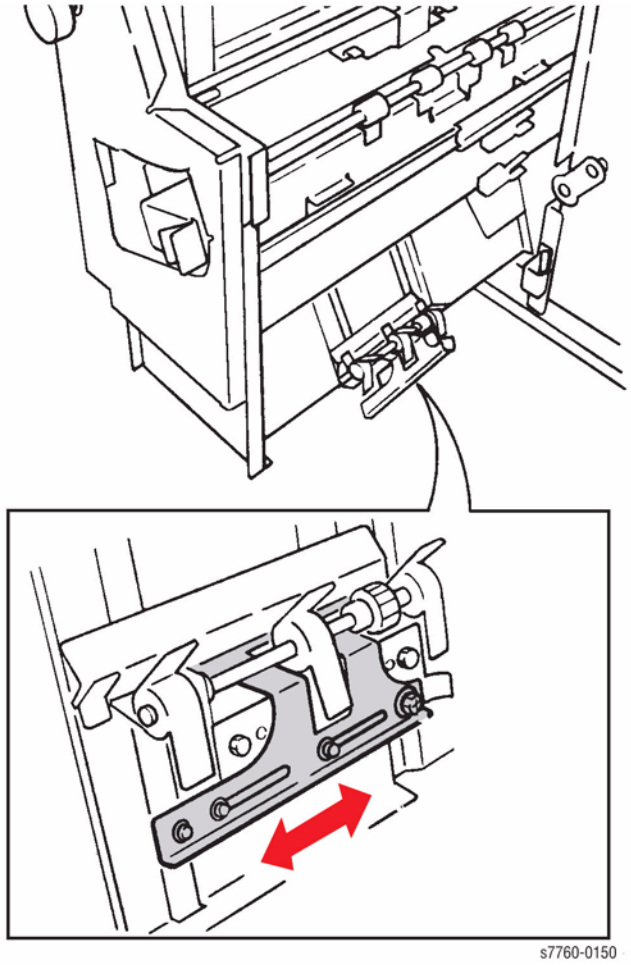


Figure 3 Adjusting the Fold Skew

3. Set machine up according to instructions in Table 2 and run a sample job. Repeat steps 1 - 2 until the Fold Skew setup meets specification or customer request.
4. After adjustment is done, go to ADJ 12.5 Booklet Fold Position.

ADJ 12.5 Booklet Fold Position

Parts List on PL 21.15

Purpose

To set up the Booklet Maker so that the fold is in the center of the booklet. Several setups are needed depending on paper size, set size, unstapled or stapled sets.

Check

1. Ensure the trays used are correctly programmed.
2. Ensure the Fold Skew is within specification (ADJ 12.4).
3. Set up the machine according to instructions in Table 1 and run 1 set of each Booklet job in **Customer** mode. Label each booklet.

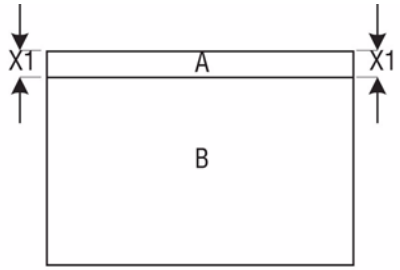
Table 1 Booklet Jobs

Job #	Select Paper Supply	Select Booklet Creation Mode	Booklet Size
1	11 x 17 / A3 SEF	Booklet Layout, 2 sided originals / Booklet Fold Only	1 sheet
2	8.5 x 11 / A4 SEF	Booklet Layout, 2 sided originals / Booklet Fold Only	1 sheet
3	11 x 17 / A3 SEF	Booklet Layout, 2 sided originals / Booklet Fold Only	2 sheets
4	11 x 17 / A3 SEF	Booklet Layout, 2 sided originals / Booklet Fold Only	5 sheets
5	11 x 17 / A3 SEF	Booklet Layout, 2 sided originals / Booklet Fold and Staple	2 sheets
6	8.5 x 11 / A4 SEF	Booklet Layout, 2 sided originals / Booklet Fold and Staple	2 sheets

4. Measure X1 and verify Fold Position on each job against the Fold Specification table in Figure 1.

Paper Size	X1
Smaller than 14 in. / B4	0.0 +/- 1.5 MM
14 in. / B4 and larger	0.0 +/- 2.0 MM

Fold Position Specification



Note: Example showing A-side longer than B-side

Note: To Determine Which Side Is "A" And Which Side Is "B", Open The Booklet As It Comes Out On The Booklet Tray. The "A"-Side Is To The Left And The "B"-Side Is To The Right.

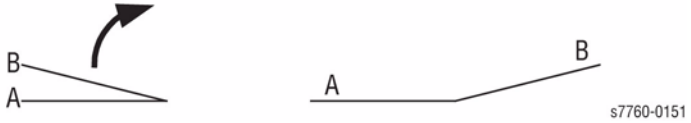


Figure 1 Fold Specification

5. If the fold is within specification on each job, go to the Booklet Staple Position (Staple on Fold) (ADJ 12.6). If any of the booklets are out of specification, go to the Adjustment procedure.

Adjustment

1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** >hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.
2. Select **Adjustments/Calibrations** and press **OK**.
3. Select **Finisher Fold Position** and press **OK**.
4. Select ADJ 12.5 and press **OK**.
5. Perform adjustment using Adjustment locations in Table 2.

   NOTE: *If the "A"-side is longer than the "B"-side, the current NVRAM value should be increased. If the "B"-side is longer than the "A"-side, the current NVRAM value should be decreased.*

Table 2 Adjustment Locations

Job #	Default	Range	Remark
1	100	0 ~ 200	1 count = 0.1 mm. Target amount to be adjusted is half the amount of the total Fold Misalignment.
2	100	0 ~ 200	1 count = 0.1 mm. Target amount to be adjusted is half the amount of the total Fold Misalignment.
3	100	0 ~ 200	1 count = 0.1 mm. Target amount to be adjusted is half the amount of the total Fold Misalignment.
4	100	0 ~ 200	1 count = 0.1 mm. Target amount to be adjusted is half the amount of the total Fold Misalignment.
5	100	0 ~ 200	1 count = 0.1 mm. Target amount to be adjusted is half the amount of the total Fold Misalignment.
6	100	0 ~ 200	1 count = 0.1 mm. Target amount to be adjusted is half the amount of the total Fold Misalignment.

6. Check the output against specifications in Figure 1. Repeat steps 5 - 7 until the Fold Position meets specification or customer request.
7. After adjustment is done, go to ADJ 12.6 Booklet Staple Position (Staple on Fold).

ADJ 12.6 Booklet Staple Position (Staple on Fold)

Purpose

To set up the machine so that the Staples are within specification on the folded booklet.

Check

1. Ensure that the trays used are correctly programmed.
2. Ensure that the Fold Skew is within specification (ADJ 12.4).
3. Ensure that the Fold Position is within specification (ADJ 12.5).
4. Set up the machine according to instructions in Table 1 and run 1 set of each Booklet job from **Customer** mode. Label each booklet.

Table 1 Booklet Jobs

Job #	Select Paper Supply	Select Booklet Creation Mode	Booklet Size
1	11 x 17 / A3 SEF	Booklet Layout, 2 sided originals / Booklet Fold and Staple	2 sheets
2	8.5 x 11 / A4 SEF	Booklet Layout, 2 sided originals / Booklet Fold and Staple	2 sheets

5. Measure A and B on both Booklet jobs and verify X1 against specification in Figure 1.

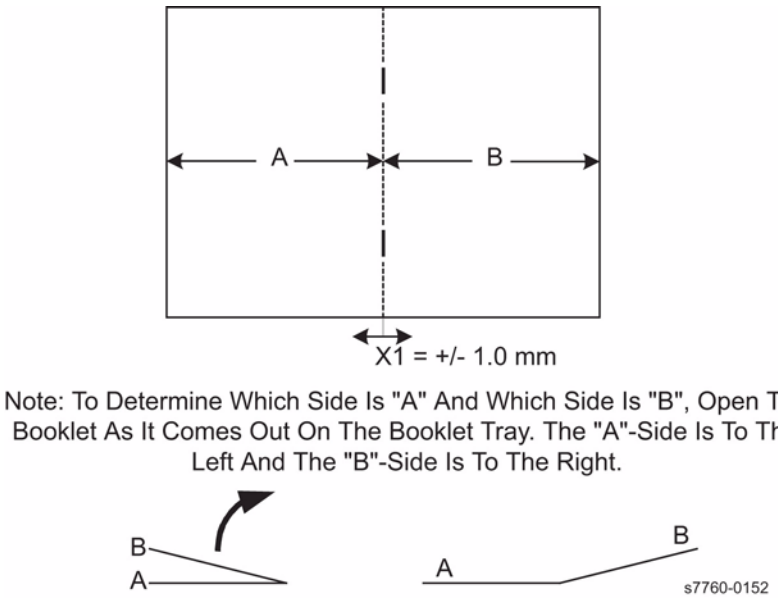


Figure 1 Staple Position

6. If X1 is within specification, go to the Booklet Staple Alignment (ADJ 12.7). If X1 is out of specification, go to the Adjustment procedure.

Adjustment

1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** >hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.
2. Select **Adjustments/Calibrations** and press **OK**.
3. Select **Finisher Fold Position** and press **OK**.
4. Select **ADJ 12.6** and press **OK**.
5. Perform adjustment using Adjustment locations in Table 2.

   NOTE: *If the "A"-side is longer than the "B"-side, the current NVRAM value should be decreased. If the "B"-side is longer than the "A"-side, the current NVRAM value should be increased.*

Table 2 Adjustment Locations

Job #	Default	Range	Remark
1	100	0 ~ 200	1 count = 0.1 mm. Target amount to be adjusted is half the amount of the total Fold Misalignment.
2	100	0 ~ 200	1 count = 0.1 mm. Target amount to be adjusted is half the amount of the total Fold Misalignment.

6. Check the output against specifications in Figure 1. Repeat steps 5 - 7 until the Staple Position meets specification or customer request.
7. After adjustment is done, go to ADJ 12.9 Booklet Fold Position (Fine Adjustment).

ADJ 12.7 Booklet Staple Alignment

Parts List on PL 21.16, PL 21.20

Purpose

To center the Staple Position on the fold in the SE direction.

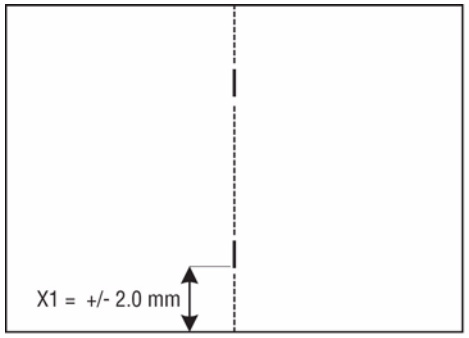
Check

1. Ensure the trays used are correctly programmed.
2. Ensure the Fold Skew is within specification (ADJ 12.4).
3. Ensure the Fold Position is within specification (ADJ 12.5).
4. Ensure the Staple Position is within specification (ADJ 12.6).
5. Set up the machine according to instructions in Table 1 and run the Booklet job in **Customer** mode.

Table 1 Booklet Jobs

Select Paper Supply	Select Booklet Creation Mode	Booklet Size
11 x 17 / A3 SEF	Booklet Layout, 2 sided originals / Booklet Fold and Staple	2 sheets

6. Measure X1 and verify against specification in Figure 1.



Paper Size / Orientation	X1
8.5 X 11 / SEF	42.5 mm
8.5 X 13 / SEF	42.5 mm
8.5 X 14 / SEF	42.5 mm
11 X 17 / SEF	74.2 mm
8 K / SEF	68 mm
A4 / SEF	39.5 mm
A3 / SEF	83 mm
B4 / SEF	63 mm

s7760-0153

Figure 1 Staple Specification

7. If X1 is out of specification, go to the Adjustment procedure.

Adjustment

1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** >hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.
2. Select **Adjustments/Calibrations** and press **OK**.
3. Select **Finisher Fold Position** and press **OK**.
4. Select **ADJ 12.7** and press **OK**.
5. Perform adjustment using Adjustment locations in Table 2.

   NOTE: *To increase X1, the current NVRAM value should be decreased. To decrease X1, the current NVRAM value should be increased.*

Table 2 Adjustment Location

Job #	NVRAM	Default	Range	Remark
1	2300	30	0 ~ 50	1 count = 0.26 mm.

6. Check the output against specifications in Figure 1. Repeat steps 5 - 6 until the Staple Alignment meets specification or customer request.

ADJ 12.8 Finisher Booklet Wrinkle

Parts List on PL 21.15

Purpose

To prevent the Booklet Cover from getting wrinkled.

Check

WARNING

To avoid personal injury or shock, do not perform repair or adjustment activities with the power switch on or electrical power applied to the machine.

- Verify the customer is not running jobs that are out of specification.
- Check the Fold Rollers for wear or contamination.

Adjustment

1. Remove the Booklet Maker Unit (REP 12.55).
2. Remove the KL-clip (Figure 1).

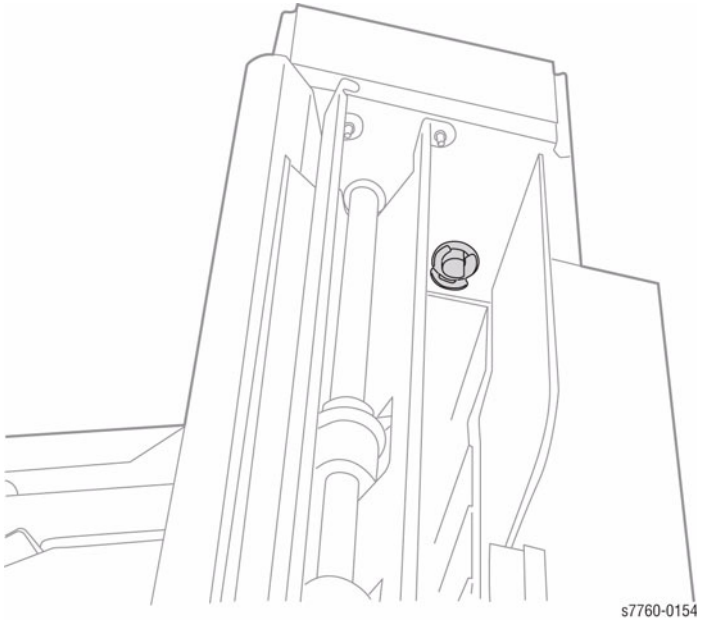


Figure 1 Removing KL-Clip

3. Remove 4 screws and the Booklet Maker Front Cover (Figure 2).

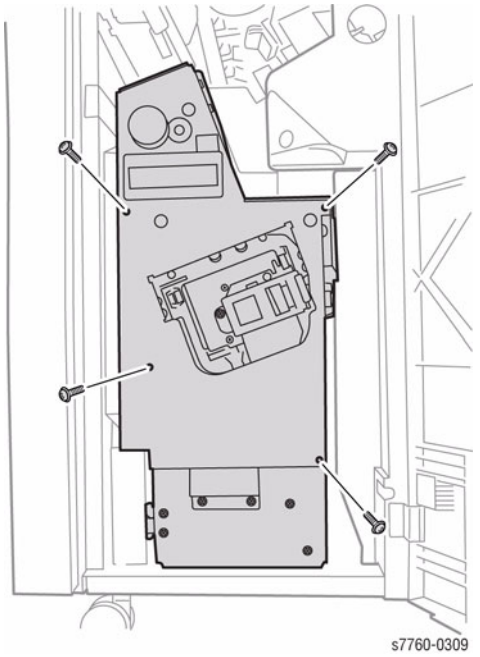


Figure 2 Removing the Booklet Maker Front Cover

4. Adjust the Front Spring tension by moving the Spring to the Lower hole (Figure 3).

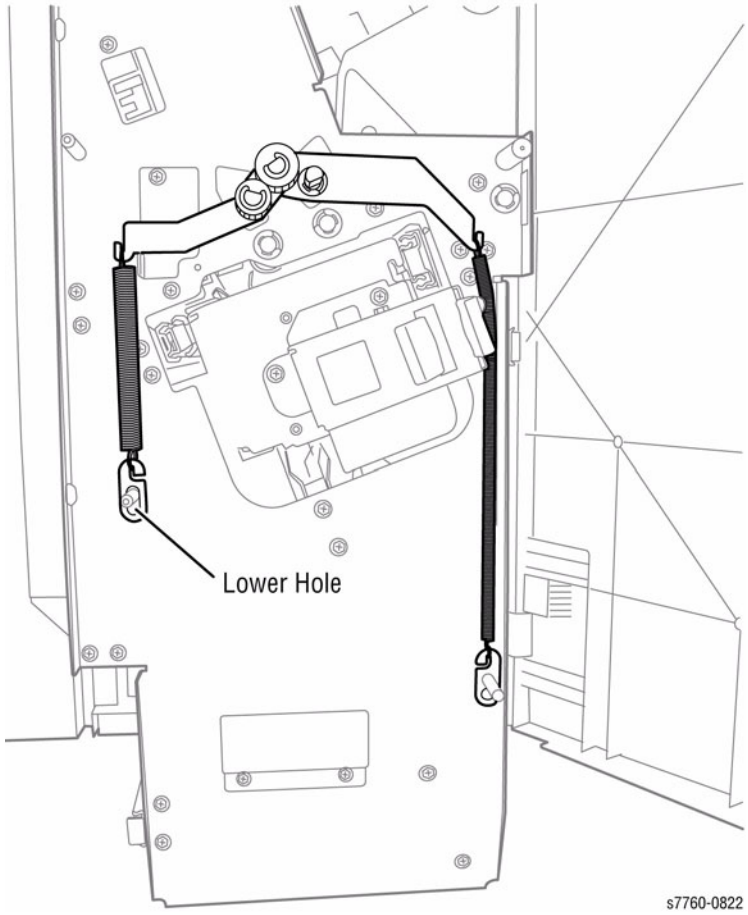


Figure 3 Adjusting the Front Spring Tension

5. Adjust the rear Spring tension by moving the Spring to the Lower hole (Figure 4).

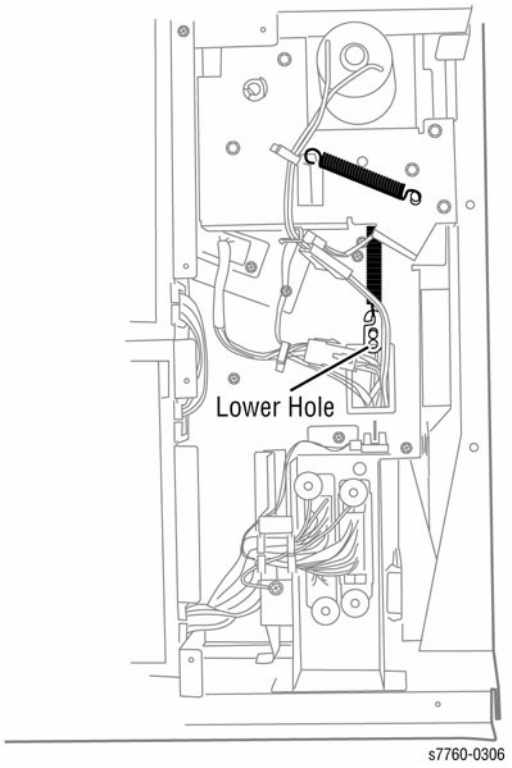


Figure 4 Adjusting the Rear Spring Tension

ADJ 12.9 Booklet Fold Position (Fine Adjustment)

Parts List on PL 21.15

Purpose

To set up the Booklet Maker so that the fold is in the center of the booklet. Several setups are needed depending on paper size, set size, unstapled or stapled sets.

Check

1. Ensure the trays used are correctly programmed.
2. Ensure the Fold Skew is within specification (ADJ 12.4).
3. Ensure the Fold Position is within specification (ADJ 12.5).
4. Ensure the Staple Position is within specification (ADJ 12.6).
5. Set up the machine according to instructions in Table 1 and run 1 set of each job from **Customer** mode. Label each booklet.

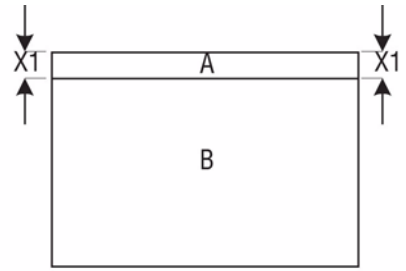
Table 1 Fine Adjustment

Job #	Select Paper Supply	Select Booklet Creation Mode	Booklet Size
1	8.5 x 11 / A4 SEF	Booklet Layout, 2 sided originals / Booklet Fold and Staple	3 sheets
2	8.5 x 11 / A4 SEF	Booklet Layout, 2 sided originals / Booklet Fold and Staple	4 sheets
3	8.5 x 11 / A4 SEF	Booklet Layout, 2 sided originals / Booklet Fold and Staple	5 - 7 sheets (setup is for 5 - 7 sheets)
4	8.5 x 11 / A4 SEF	Booklet Layout, 2 sided originals / Booklet Fold and Staple	8 - 14 sheets (setup is for 8 - 14 sheets)
5	11 x 17 / A3 SEF	Booklet Layout, 2 sided originals / Booklet Fold and Staple	3 sheets
6	11 x 17 / A3 SEF	Booklet Layout, 2 sided originals / Booklet Fold and Staple	4 sheets
7	11 x 17 / A3 SEF	Booklet Layout, 2 sided originals / Booklet Fold and Staple	5 - 7 sheets (setup is for 5 - 7 sheets)
8	11 x 17 / A3 SEF	Booklet Layout, 2 sided originals / Booklet Fold and Staple	8 - 14 sheets (setup is for 8 - 14 sheets)
9	11 x 17 / A3 SEF	Booklet Layout, 2 sided originals / Booklet Fold and Staple	15 sheets
10	8.5 x 11 / A4 SEF	Booklet Layout, 2 sided originals / Booklet Fold and Staple	15 sheets

6. Measure X1 and verify Fold Position on each job against the Fold Specification table in Figure 1.

Paper Size	X1
Smaller than 14 in. / B4	0.0 +/- 1.5 MM
14 in. / B4 and larger	0.0 +/- 2.0 MM

Fold Position Specification



Note: Example showing A-side longer than B-side

Note: To Determine Which Side Is "A" And Which Side Is "B", Open The Booklet As It Comes Out On The Booklet Tray. The "A"-Side Is To The Left And The "B"-Side Is To The Right.

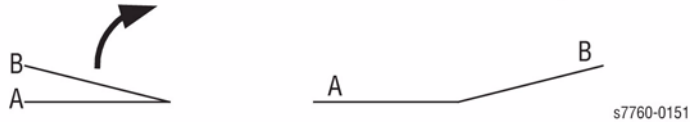


Figure 1 Fold Specification

7. If the fold is within specification on each job, go to the Booklet Staple Position (Staple on Fold Fine Adjustment) (ADJ 12.10). If any of the booklets are out of specification, go to the Adjustment procedure.

Adjustment

1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** >hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.
2. Select **Adjustments/Calibrations** and press **OK**.
3. Select **Finisher Fold Position** and press **OK**.
4. Select ADJ 12.9 and press **OK**.
5. Perform adjustment using Adjustment locations in Table 2.

NOTE: *If the "A"-side is longer than the "B"-side, the current NVRAM value should be increased. If the "B"-side is longer than the "A"-side, the current NVRAM value should be decreased.*

Table 2 Fine Adjustment Locations

Job #	Default	Range	Remark
1	100	0 ~ 200	1 count = 0.1 mm. Target amount to be adjusted is half the amount of the total Fold Misalignment.
2	100	0 ~ 200	1 count = 0.1 mm. Target amount to be adjusted is half the amount of the total Fold Misalignment.
3	100	0 ~ 200	1 count = 0.1 mm. Target amount to be adjusted is half the amount of the total Fold Misalignment.
4	100	0 ~ 200	1 count = 0.1 mm. Target amount to be adjusted is half the amount of the total Fold Misalignment.
5	100	0 ~ 200	1 count = 0.1 mm. Target amount to be adjusted is half the amount of the total Fold Misalignment.
6	100	0 ~ 200	1 count = 0.1 mm. Target amount to be adjusted is half the amount of the total Fold Misalignment.
7	100	0 ~ 200	1 count = 0.1 mm. Target amount to be adjusted is half the amount of the total Fold Misalignment.
8	100	0 ~ 200	1 count = 0.1 mm. Target amount to be adjusted is half the amount of the total Fold Misalignment.
9	100	0 ~ 200	1 count = 0.1 mm. Target amount to be adjusted is half the amount of the total Fold Misalignment.
10	100	0 ~ 200	1 count = 0.1 mm. Target amount to be adjusted is half the amount of the total Fold Misalignment.

6. Check the output against specifications in Figure 1. Repeat steps 5 - 6 until the Fold Position meets specification or customer request.
7. After adjustment is done, go to ADJ 12.10 Booklet Staple Position (Staple on Fold Fine Adjustment).

ADJ 12.10 Booklet Staple Position (Staple on Fold Fine Adjustment)

Parts List on PL 21.16

Purpose

To set up the machine so that the Staples are within specification on the folded booklet.

Check

1. Ensure the trays used are correctly programmed.
2. Ensure the Fold Skew is within specification (ADJ 12.4).
3. Ensure the Fold Position is within specification (ADJ 12.5).
4. Ensure the Staple Position (Staple on Fold) is within specification (ADJ 12.6).
5. Ensure the Fold Position (Fine Adjust) is within specification (ADJ 12.9).
6. Set up the machine according to instructions in Table 1 and run 1 set of each Booklet job in **Customer** mode. Label each booklet.

Table 1 Booklet Jobs

Job #	Select Paper Supply	Select Booklet Creation Mode	Booklet Size
1	8.5 x 11 / A4 SEF	Booklet Layout, 2 sided originals / Booklet Fold and Staple	3 sheets
2	8.5 x 11 / A4 SEF	Booklet Layout, 2 sided originals / Booklet Fold and Staple	4 sheets
3	8.5 x 11 / A4 SEF	Booklet Layout, 2 sided originals / Booklet Fold and Staple	5 sheets (setup is for 5 - 7 sheets)
4	8.5 x 11 / A4 SEF	Booklet Layout, 2 sided originals / Booklet Fold and Staple	8 sheets (setup is for 8 - 14 sheets)

7. Measure A and B on both Booklet jobs and verify X1 against specification in Figure 1.

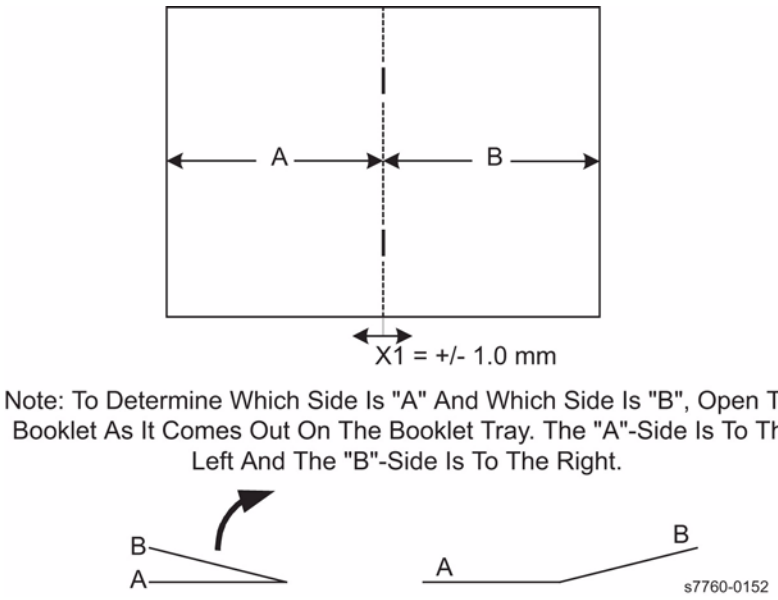


Figure 1 Staple Position

8. If X1 is within specification, the complete Booklet Maker setup is done. If X1 is out of specification, go to the Adjustment procedure.

Adjustment

1. Enter Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** >hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.
2. Select **Adjustments/Calibrations** and press **OK**.
3. Select **Finisher Fold Position** and press **OK**.
4. Select ADJ 12.10 and press **OK**.
5. Perform adjustment using Adjustment locations in Table 2.

   NOTE: *If the "A"-side is longer than the "B"-side, the current NVRAM value should be increased. If the "B"-side is longer than the "A"-side, the current NVRAM value should be decreased.*

Table 2 Adjustment Locations

Job #	Default	Range	Remark
1	100	0 ~ 200	1 count = 0.1 mm. Target amount to be adjusted is half the amount of the total Fold Misalignment.
2	100	0 ~ 200	1 count = 0.1 mm. Target amount to be adjusted is half the amount of the total Fold Misalignment.
3	100	0 ~ 200	1 count = 0.1 mm. Target amount to be adjusted is half the amount of the total Fold Misalignment.
4	100	0 ~ 200	1 count = 0.1 mm. Target amount to be adjusted is half the amount of the total Fold Misalignment.

6. Check the output against specifications in Figure 1. Repeat step 5 until the Staple Position meets specification or customer request.

5 Parts Lists

Options Service Part Numbers

Common Hardware

Introduction

Overview

The Parts List section identifies all part numbers and the corresponding location of all spared subsystem components.

Organization

Parts Lists

Each item number in the part number listing corresponds to an item number in the related illustration. All the parts in a given subsystem of the machine will be located in the same illustration or in a series of associated illustrations.

Electrical Connectors and Fasteners

This section contains the illustrations and descriptions of the plugs, jacks, and fasteners used in the machine. A part number listing of the connectors is included.

Common Hardware

The common hardware is listed in alphabetical order by the letter or letters used to identify each item in the part number listing and in the illustrations. Dimensions are in millimeters unless otherwise identified.

Symbology

Symbology used in the Parts List section is identified in the Symbology section.

Service Procedure Referencing

If a part or assembly has an associated repair or adjustment procedure, the procedure number will be listed at the end of the part description in the parts lists e.g. (REP 5.1, ADJ 5.3)

Subsystem Information

Use of the Term “Assembly”

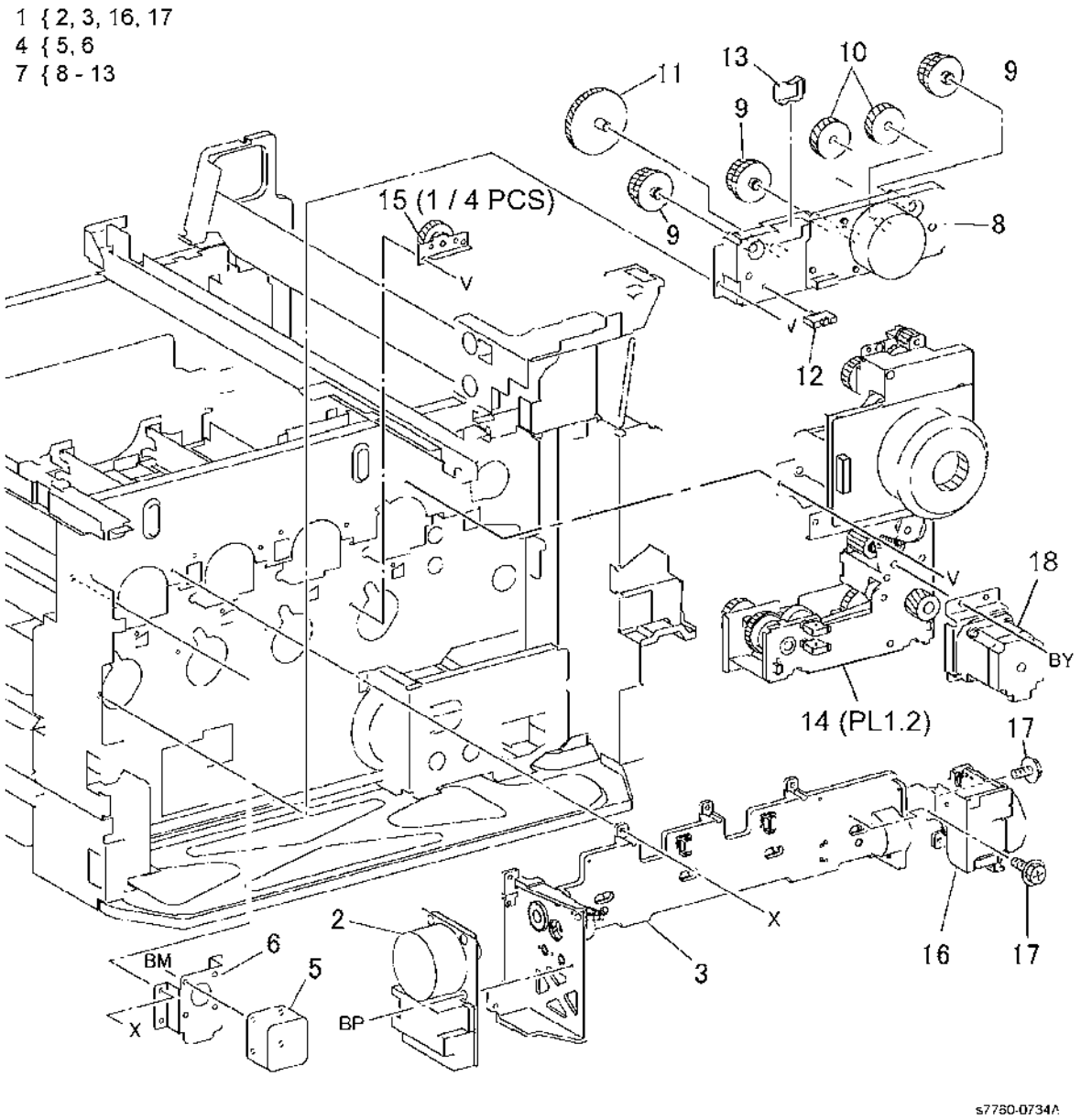
The term “assembly” will be used for items in the part number listing that include other itemized parts in the part number listing. When the word “assembly” is found in the part number listing, there will be a corresponding item number on the illustrations followed by a bracket and a listing of the contents of the assembly.

Brackets

A bracket is used when an assembly or kit is spared, but is not shown in the illustration. The item number of the assembly or kit precedes the bracket; the item numbers of the piece parts follow the bracket.

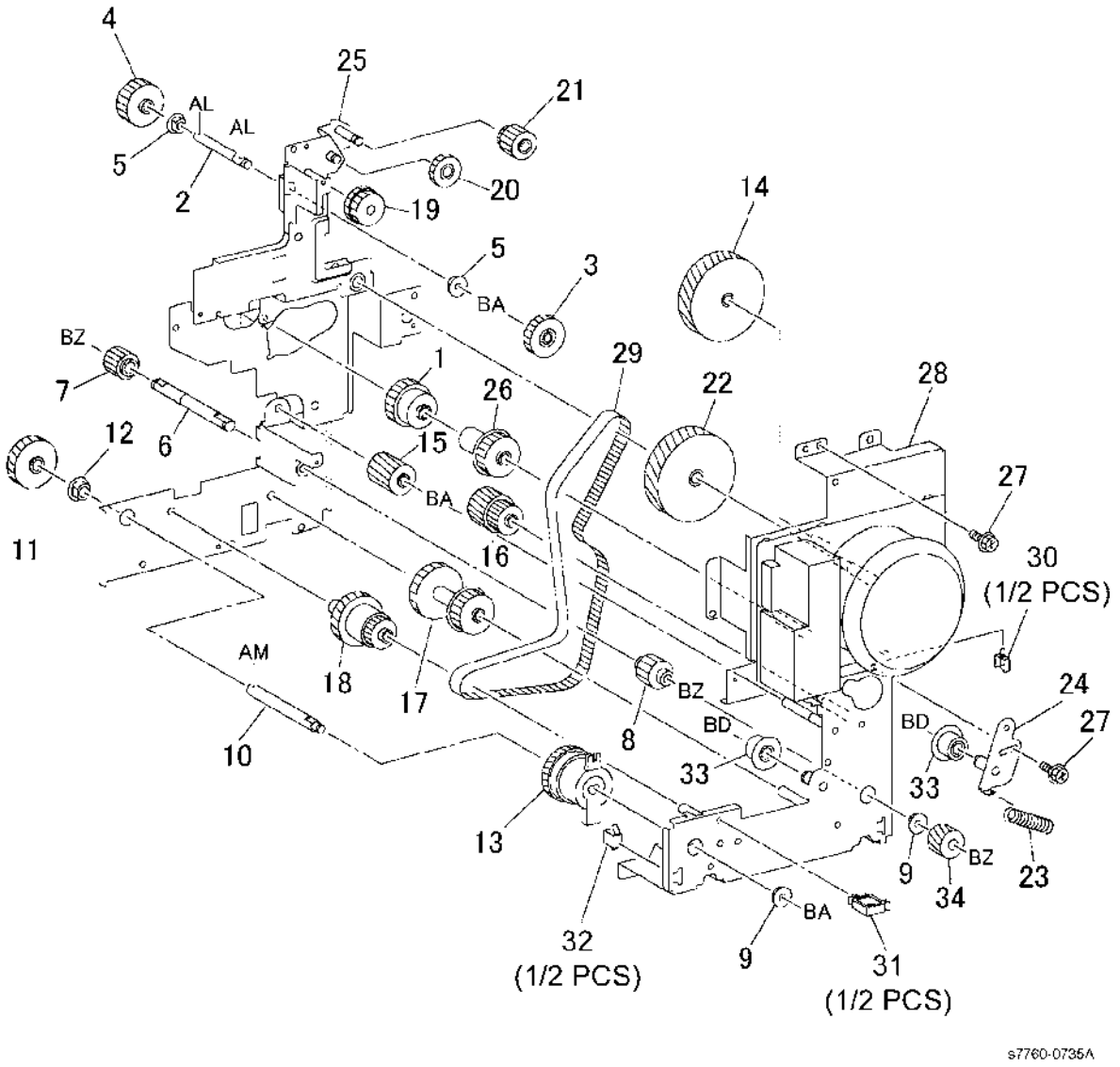
PL 1.1 Drive Unit

Item	Part	Description
1	007K88604	Drive Assy Drum FT (REP 4.4)
2	–	Imaging Unit Motor (P/O PL 1.1 Item 1)
3	–	Gear Bracket (P/O PL 1.1 Item 1)
4	007K87600	Drive Assy - IBT (REP 4.2)
5	–	IBT Motor (P/O PL 1.1 Item 4)
6	–	Gear Bracket (P/O PL 1.1 Item 4)
7	007K88661	Drive Assy - Developer FT (REP 4.3)
8	–	Developer Drive Motor (P/O PL 1.1 Item 7)
9	–	Gear (47/38T) (P/O PL 1.1 Item 7)
10	–	Gear (51/25T) (P/O PL 1.1 Item 7)
11	–	Gear (P/O PL 1.1 Item 7) (76T)
12	–	Clamp (P/O PL 1.1 Item 7)
13	–	Edge Saddle (P/O PL 1.1 Item 7)
14	007K88114	Drive Assy - Main FT (REP 4.1)
15	007K87221	Gear Assy Developer
16	–	Imaging Unit Motor (P/O PL 1.1 Item 1)
17	–	Screw (P/O PL 1.1 Item 1)
18	–	Take Away Motor



PL 1.2 Main Drive Motor Assembly

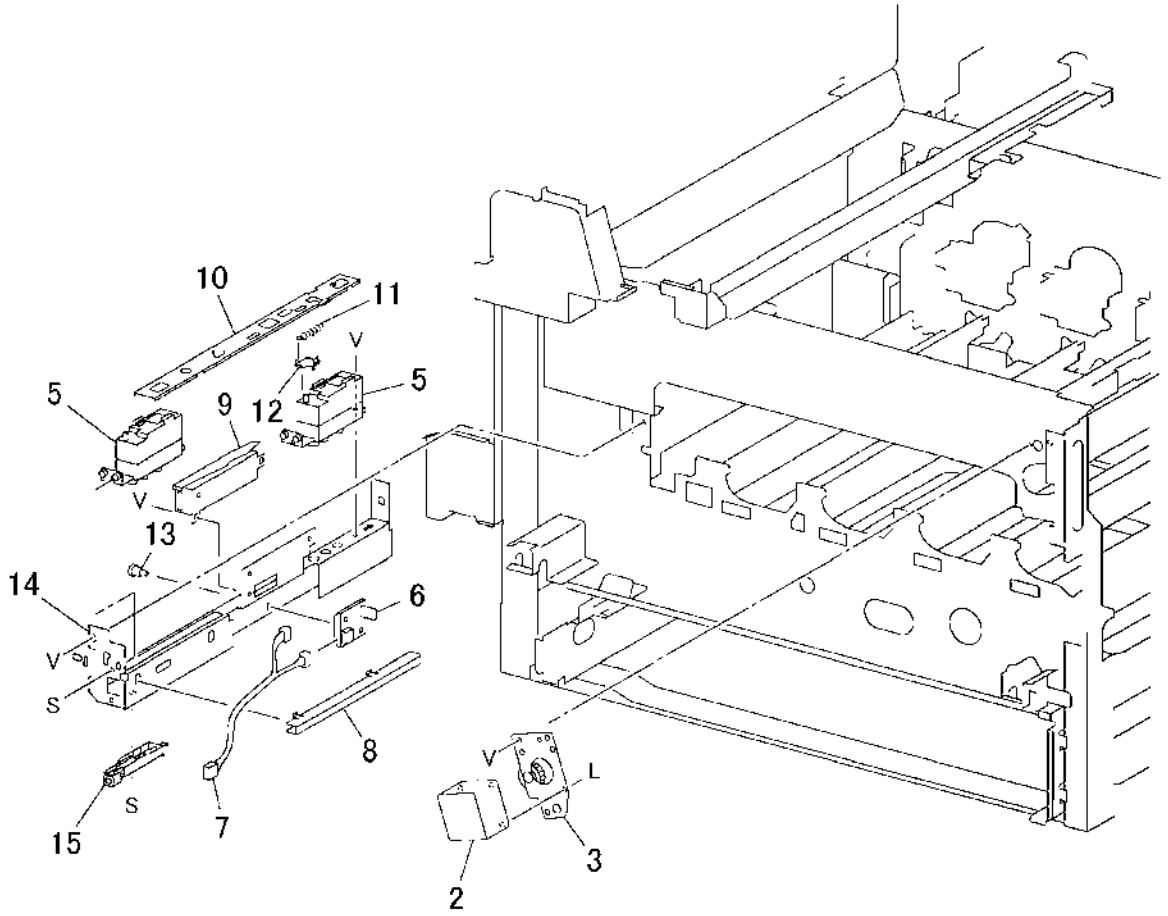
Item	Part	Description
1	–	Friction Clutch (P/O PL 1.1 Item 14)
2	–	Shaft (P/O PL 1.1 Item 14)
3	–	Gear (32T) (P/O PL 1.1 Item 14)
4	–	Gear (28T) (P/O PL 1.1 Item 14)
5	–	Bearing (P/O PL 1.1 Item 14)
6	–	Shaft (P/O PL 1.1 Item 14)
7	–	Gear (20T) (P/O PL 1.1 Item 14)
8	–	Gear (25T) (Not Spared)
9	–	Bearing (P/O PL 1.1 Item 14)
10	–	Shaft (P/O PL 1.1 Item 14)
11	–	Gear (39T) (P/O PL 1.1 Item 14)
12	–	Bearing (P/O PL 1.1 Item 14)
13	121K23270	Clutch Assy - Developer
14	–	Gear (69/27T) (P/O PL 1.1 Item 14)
15	–	Gear (23T) (P/O PL 1.1 Item 14)
16	–	Gear (28/22T) (P/O PL 1.1 Item 14)
17	–	Gear (45/30T) (P/O PL 1.1 Item 14)
18	–	Gear (41/25T) (P/O PL 1.1 Item 14)
19	–	Gear (24/20T) (P/O PL 1.1 Item 14)
20	–	Gear (19T) (P/O PL 1.1 Item 14)
21	–	Gear (18T) (P/O PL 1.1 Item 14)
22	–	Gear (73/23T) (P/O PL 1.1 Item 14)
23	–	Spring (P/O PL 1.1 Item 14)
24	–	Tension Bracket (P/O PL 1.1 Item 14)
25	–	Bracket (P/O PL 1.1 Item 14)
26	–	Pulley (P/O PL 1.1 Item 14)
27	–	Screw (P/O PL 1.1 Item 14)
28	–	Main Motor (P/O PL 1.1 Item 14)
29	–	Belt (P/O PL 1.1 Item 14)
30	–	Clamp (P/O PL 1.1 Item 14)
31	–	Clamp (P/O PL 1.1 Item 14)
32	–	Connector (P/O PL 1.1 Item 14)
33	–	Pulley (P/O PL 1.1 Item 14)
34	–	Gear (30T) (Not Spared)



PL 1.3 IBT Steering Motor and MOB Sensor

Item	Part	Description
1	007K85582	Drive Assy - Steering (REP 9.12)
2	–	IBT Steering Motor (P/O PL 1.3 Item 1)
3	–	Plate (P/O PL 1.3 Item 1)
4	130K60866	Sensor Assy - MOB (REP 9.14)
5	–	MOB Sensor (P/O PL 1.3 Item 4)
6	–	Environment Sensor (P/O PL 1.3 Item 4)
7	–	Wire Harness (P/O PL 1.3 Item 4)
8	–	Cover (P/O PL 1.3 Item 4)
9	–	ADC Sensor (P/O PL 1.3 Item 4)
10	–	Shutter (P/O PL 1.3 Item 4)
11	–	Spring (P/O PL 1.3 Item 4)
12	–	Link (P/O PL 1.3 Item 4)
13	–	Spacer (P/O PL 1.3 Item 4)
14	–	MOB Bracket (P/O PL 1.3 Item 4)
15	–	Slide (P/O PL 1.3 Item 4)

1 { 2, 3
4 { 5 - 15



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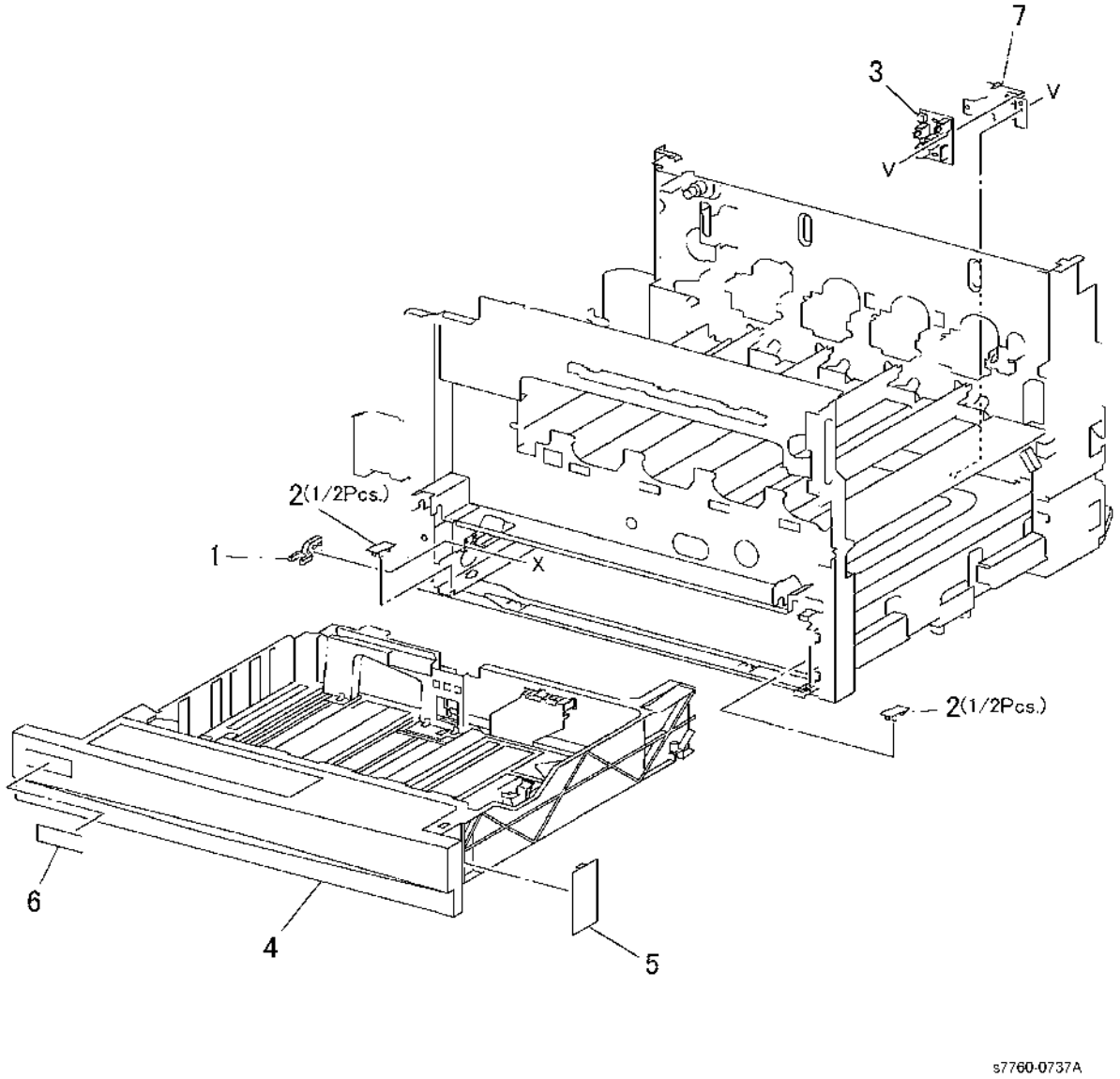
PL 2.1 Tray 2

Item	Part	Description
1	003E23672	Stopper Tray
2	–	Spacer
3	110K12990	Switch Assy - P.S. (Tray 2 Paper Size Sensor) (REP 7.5) (Serial Number below AUA333097 or AUB334474)
–	110K14920	Switch Assy - P.S. (Tray 2 Paper Size Sensor) (REP 7.5) (Serial Number greater than AUA333097 or AUB334474)
4	050K48175	Tray 2/3/4/5 (Universal Tray) (REP 7.8)
5	–	Cover (Not Spared)
6	–	Label (1)
7	–	Bracket (Not Spared)



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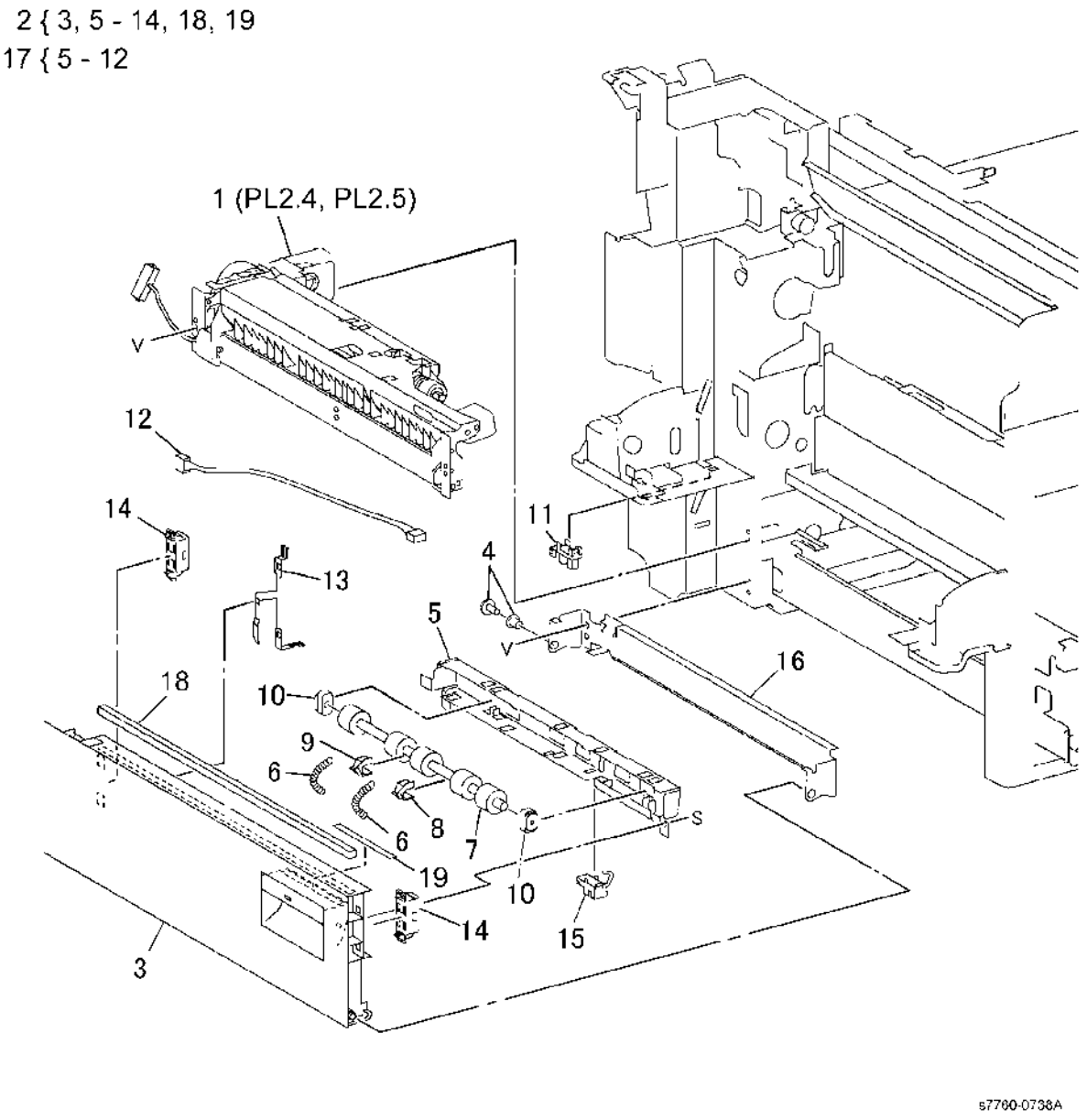
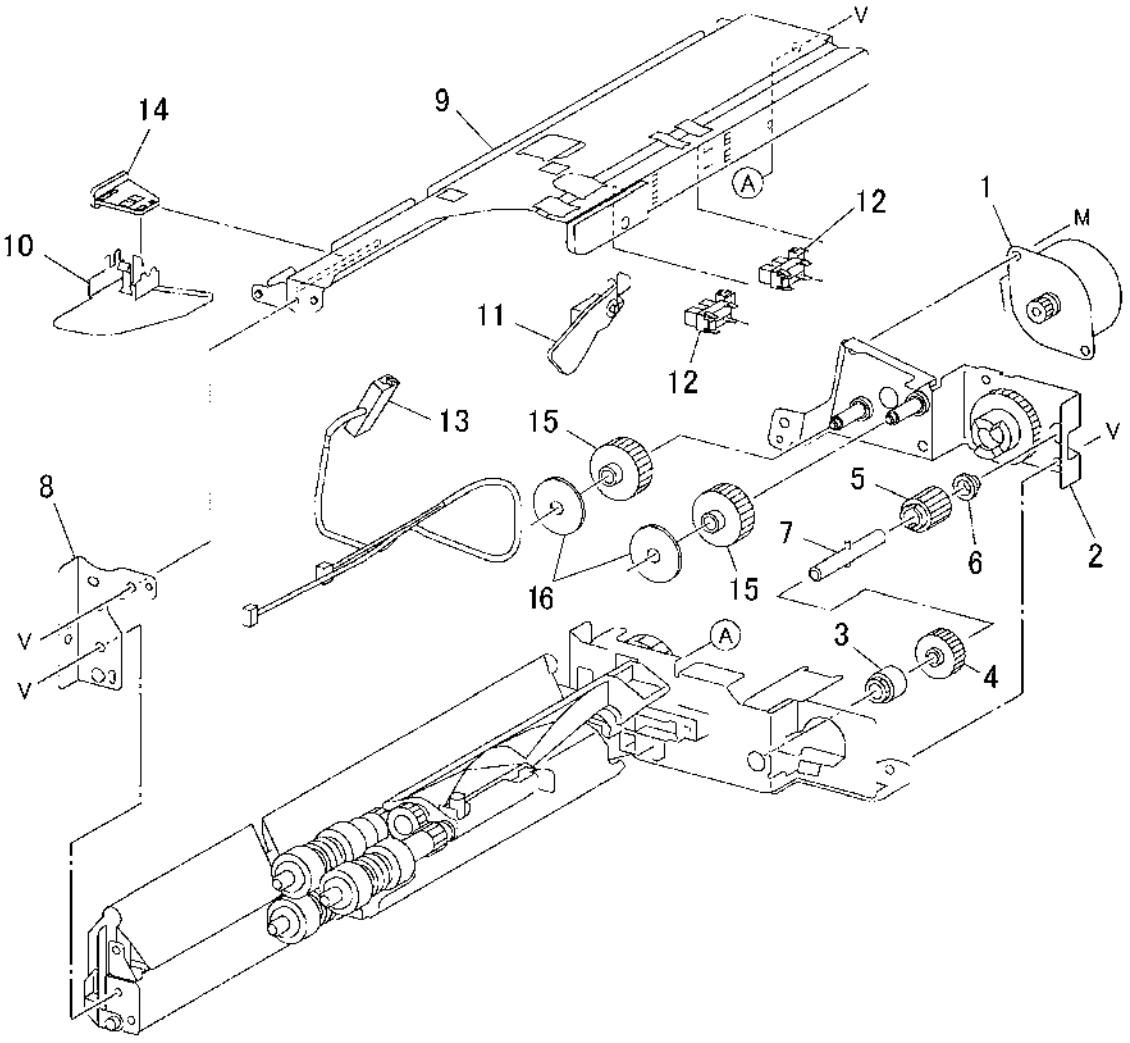
PL 2.3 Tray 2 Feeder and Left Lower Cover Assembly (Left Hand Door B Assembly)

Item	Part	Description
1	059K15577	Feeder Assy (Tray 2 Feeder) (REP 7.3)
2	802K56394	Cover Assy - LH Low (Left Lower Cover Assy) (REP 14.6)
3	–	Left Lower Cover (P/O PL 2.3 Item 2)
4	029E31600	Rivet
5	–	Bracket (P/O PL 2.3 Item 2)
6	–	Spring (P/O PL 2.3 Item 2)
7	–	Pinch Roll (P/O PL 2.3 Item 2)
8	–	Bearing (P/O PL 2.3 Item 2)
9	–	Bearing (P/O PL 2.3 Item 2)
10	–	Bearing (P/O PL 2.3 Item 2)
11	130K60851	Tray 2 Feed Out Sensor
12	–	Wire Harness (P/O PL 2.3 Item 2)
13	–	Ground Plate (P/O PL 2.3 Item 2)
14	–	Magnet (P/O PL 2.3 Item 2)
15	–	LH Lower Cover Interlock Switch
16	054E16060	Chute Lower
17	–	Pinch Roll Assembly
18	–	Seal (Not Spared)
19	–	Seal (Not Spared)



PL 2.4 Tray 2 Feeder: 1 of 2

Item	Part	Description
1	127K23231	Motor Assy (Tray 2/3/4/5 Feed/Lift Motor) (REP 7.4)
2	–	Bracket (P/O PL 2.3 Item 1)
3	–	One-way Clutch
4	–	One-way Gear
5	–	Gear (13T) (P/O PL 2.3 Item 1)
6	–	Bearing (P/O PL 2.3 Item 1)
7	–	Shaft (P/O PL 2.3 Item 1)
8	–	Front Frame (P/O PL 2.3 Item 1)
9	–	Upper Frame (P/O PL 2.3 Item 1)
10	–	Front Chute (P/O PL 2.3 Item 1)
11	–	Actuator
12	604K16630	Tray 2 Level / No Paper Sensor (part of Sensor Kit)
13	–	Wire Harness (P/O PL 2.3 Item 1)
14	–	Support (P/O PL 2.3 Item 1)
15	–	Gear (15T) (P/O PL 2.3 Item 1)
16	–	Washer (P/O PL 2.3 Item 1)



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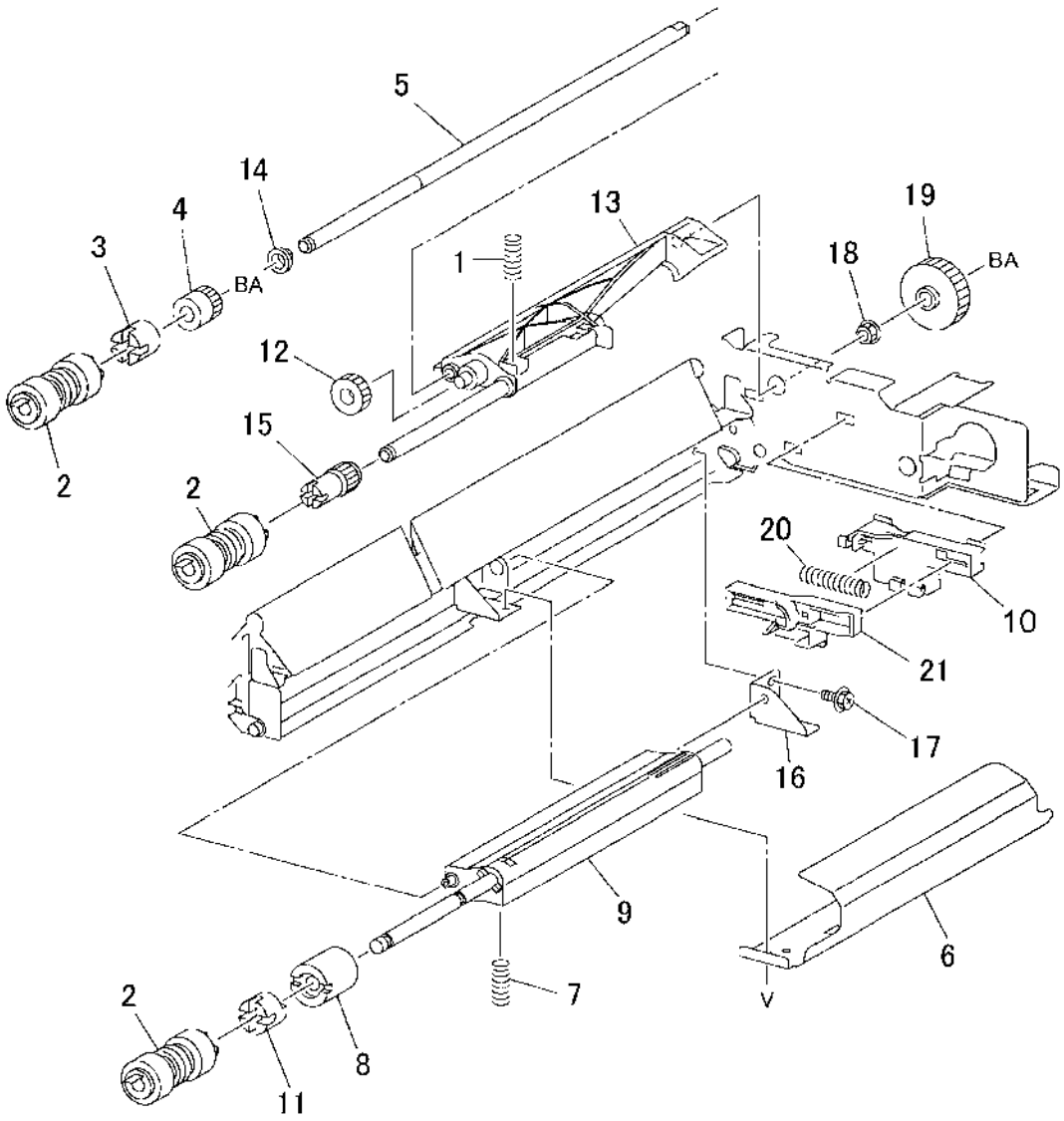
PL 2.5 Tray 2 Feeder: 2 of 2

Item	Part	Description
1	–	Spring (P/O PL 2.3 Item 1)
2	600K36850	Roll Kit (3 Rolls/Kit)
3	_	One-way Clutch
4	–	Gear (P/O PL 2.3 Item 1)
5	–	Shaft (P/O PL 2.3 Item 1)
6	–	Chute (P/O PL 2.3 Item 1)
7	–	Spring (P/O PL 2.3 Item 1)
8	–	Friction Clutch (P/O PL 2.3 Item 1)
9	–	Support (P/O PL 2.3 Item 1)
10	–	Holder (P/O PL 2.3 Item 1)
11	–	Spacer (P/O PL 2.3 Item 1)
12	–	Gear (31T) (P/O PL 2.3 Item 1)
13	–	Support (P/O PL 2.3 Item 1)
14	–	Bearing (P/O PL 2.3 Item 1)
15	–	Gear (P/O PL 2.3 Item 1)
16	–	Support (P/O PL 2.3 Item 1)
17	–	Screw (P/O PL 2.3 Item 1)
18	–	Bearing (P/O PL 2.3 Item 1)
19	–	Gear (35T) (P/O PL 2.3 Item 1)
20	–	Spring (P/O PL 2.3 Item 1)
21	–	Lever (P/O PL 2.3 Item 1)



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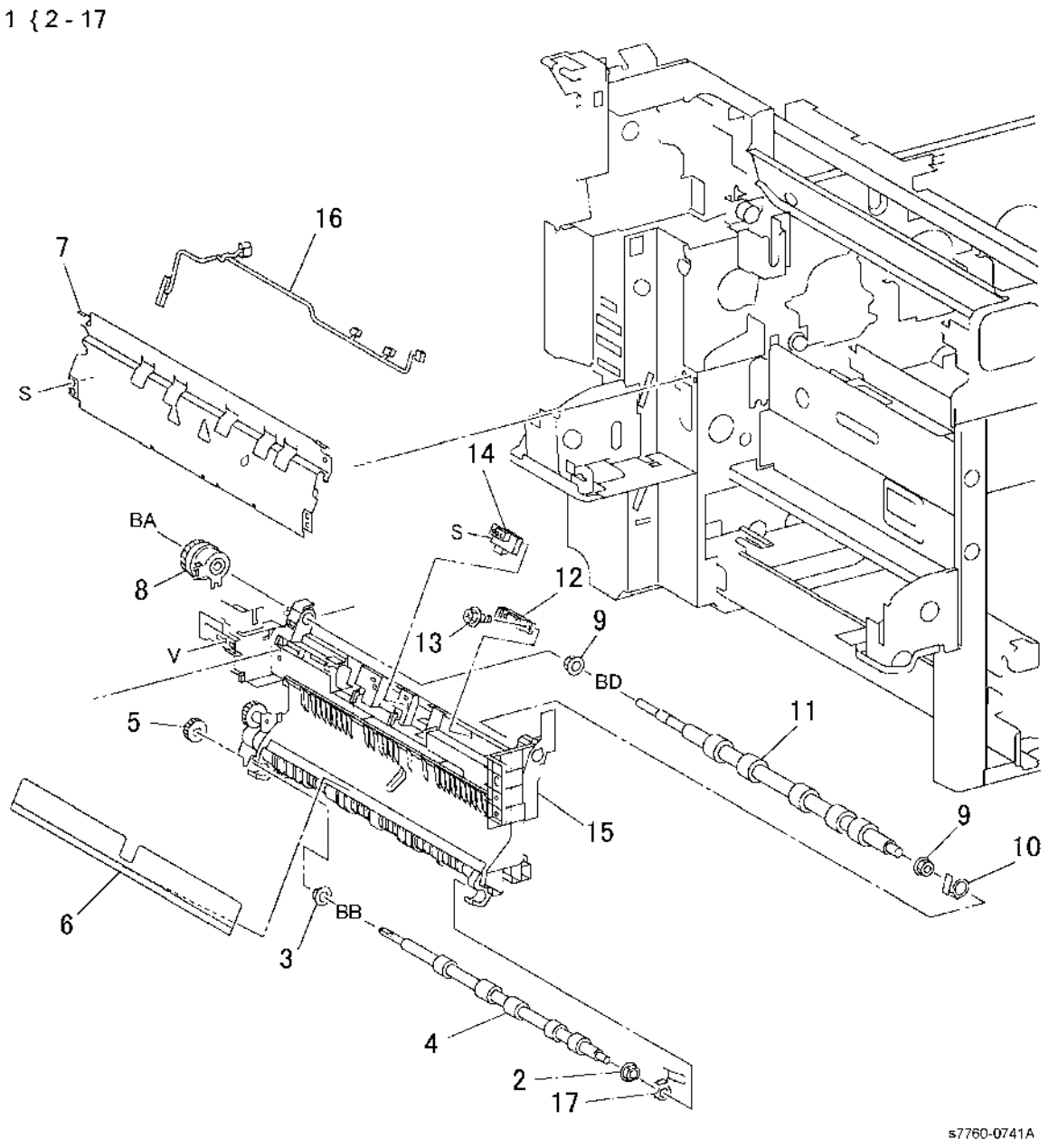
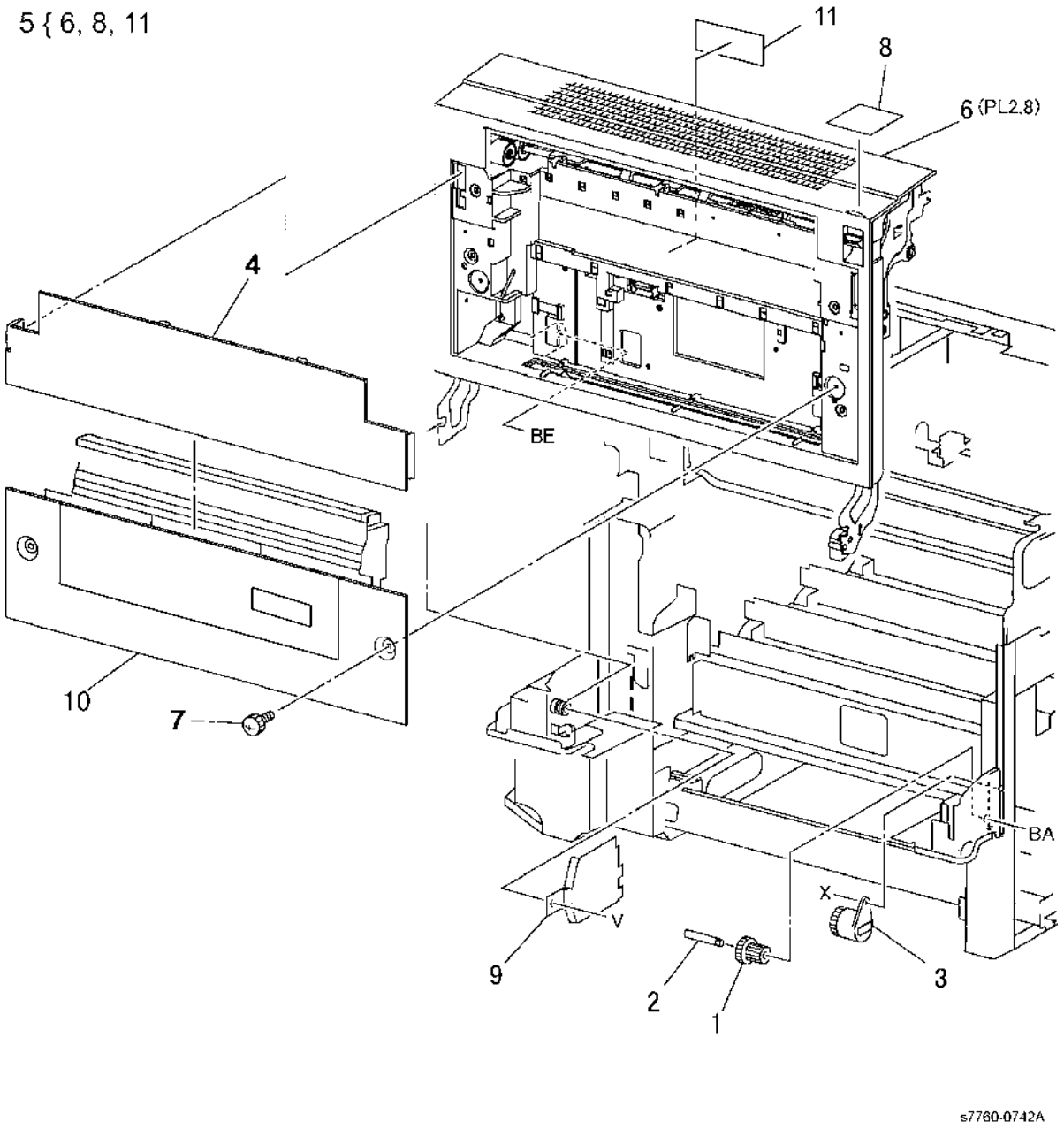
PL 2.6 Registration Transport

Item	Part	Description
1	059K26794	Registration Transport Assembly (REP 8.6)
2	–	Bearing (P/O PL 2.6 Item 1)
3	–	Bearing (P/O PL 2.6 Item 1)
4	–	Takeaway Roll (Not Spared)
5	–	Gear (22T) (P/O PL 2.6 Item 1)
6	–	Paper Guide (P/O PL 2.6 Item 1)
7	–	Registration Chute (P/O PL 2.6 Item 1)
8	–	Registration Clutch
9	–	Bearing (P/O PL 2.6 Item 1)
10	–	Ground Plate (P/O PL 2.6 Item 1)
11	–	Registration Roll (P/O PL 2.6 Item 1)
12	604K16630	Registration Sensor (part of Sensor Kit)
13	–	Screw (P/O PL 2.6 Item 1)
14	604K16630	OHP Sensor (part of Sensor Kit)
15	–	Registration Support (P/O PL 2.6 Item 1)
16	–	Wire Harness (P/O PL 2.6 Item 1)
17	–	Ground Plate (P/O PL 2.6 Item 1) (ACO)



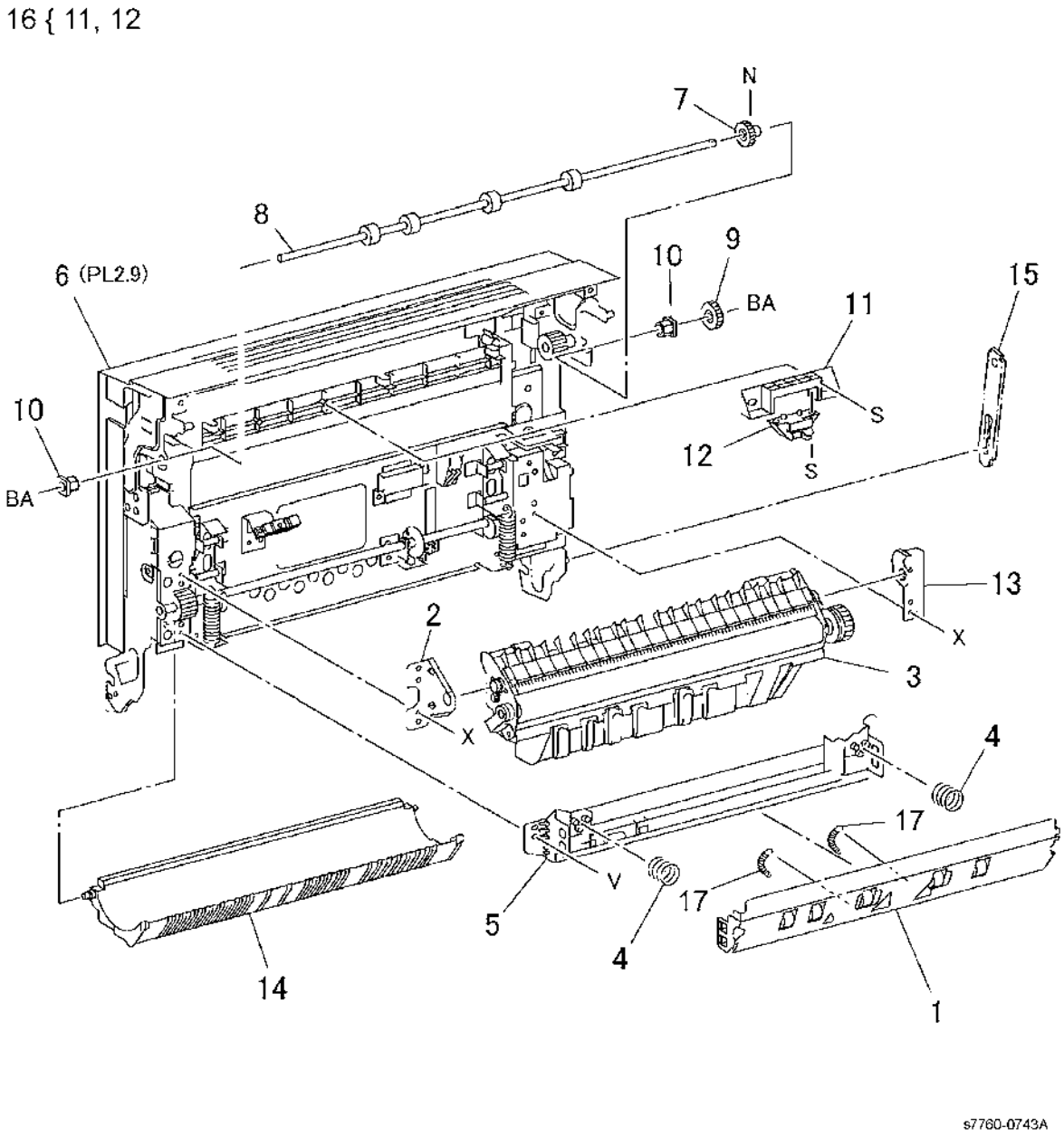
PL 2.7 Left Cover Unit (Left Hand Door A)

Item	Part	Description
1	007E64740	Gear Damper (11/23T)
2	–	Stud (Not Spared)
3	004E11831	Damper-LH (White)
4	–	Left Upper Cover (Not Spared)
5	802K89430	Cover Assy-LH OPB 3 (Left Cover Assembly) (Left Hand Door A)
6	–	Left Cover (P/O PL 2.7 Item 5)
7	–	Screw (Not Spared)
8	–	Label (P/O PL 2.7 Item 5)
9	–	Cover (Not Spared)
10	–	Lower Cover (Left Hand Door B) (Not Spared)
11	–	Label (Not Spared)



PL 2.8 Left Cover Assembly (Left Hand Door A): 1 of 2

Item	Part	Description
1	–	Registration Chute
2	–	Holder (Not Spared)
3	108R00579	2nd BTR
4	–	Spring
5	–	Support
6	–	Left Cover (Left Hand Door A) (Not Spared)
7	007E62630	Gear (22T)
8	059K15613	Roll Assy - Exit
9	007E79480	Gear (22T)
10	–	Bearing (Not Spared)
11	–	Holder (Not Spared)
12	110K10651	Switch Assy-Exit (Fuser Exit Switch)
13	–	Holder (Not Spared)
14	054K16131	Duplex Chute Assy (REP 8.2)
15	–	Stop (Not Spared)
16	–	Fuser Exit Switch Assembly
17	–	Extension Spring



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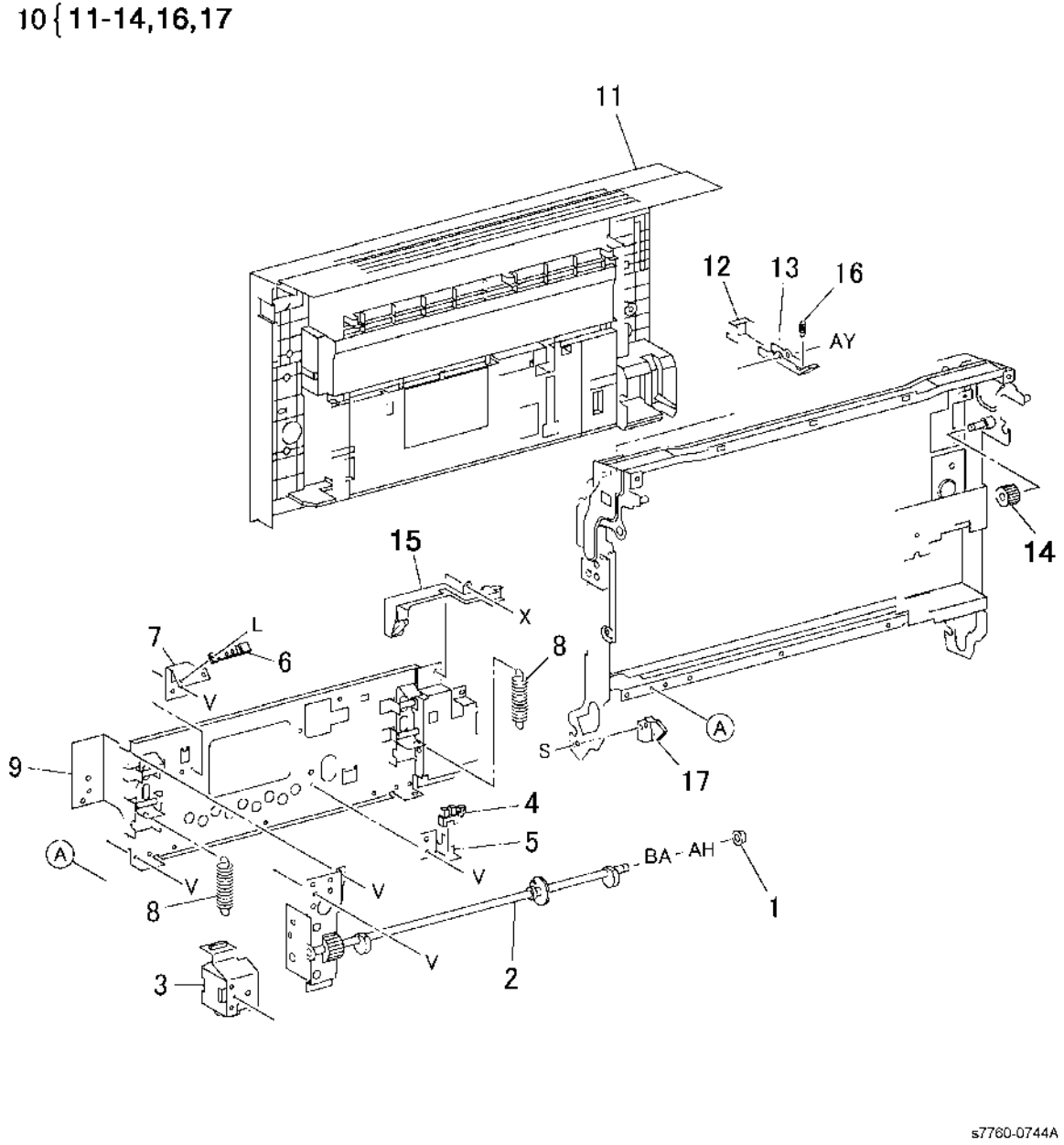
PL 2.9 Left Cover Assembly: 2 of 2

Item	Part	Description
1	–	Bearing (Not Spared)
2	–	Gear Assembly
3	127K29513	Motor Assy (2nd BTR Retract Motor)
4	604K16630	2nd BTR Retract Sensor (part of Sensor Kit)
5	–	Bracket (Not Spared)
6	130E84300	Sensor - APS, Long (POB Sensor)
7	830E62811	Bracket Sensor
8	–	Spring (Not Spared)
9	–	Bracket (Not Spared)
10	802K27076	Cover Assy-LH PH2 (Left Cover Assy)
11	–	Left Cover (Left Hand Door A) (P/O PL 2.9 Item 10)
12	–	Lever (P/O PL 2.9 Item 10)
13	–	Bracket (P/O PL 2.9 Item 10)
14	–	Gear (21T) (P/O PL 2.9 Item 10)
15	–	Connector Assembly (Not Spared)
16	–	Spring (P/O PL 2.9 Item 10)
17	007K86932	Gear Assy - Damper (45T)



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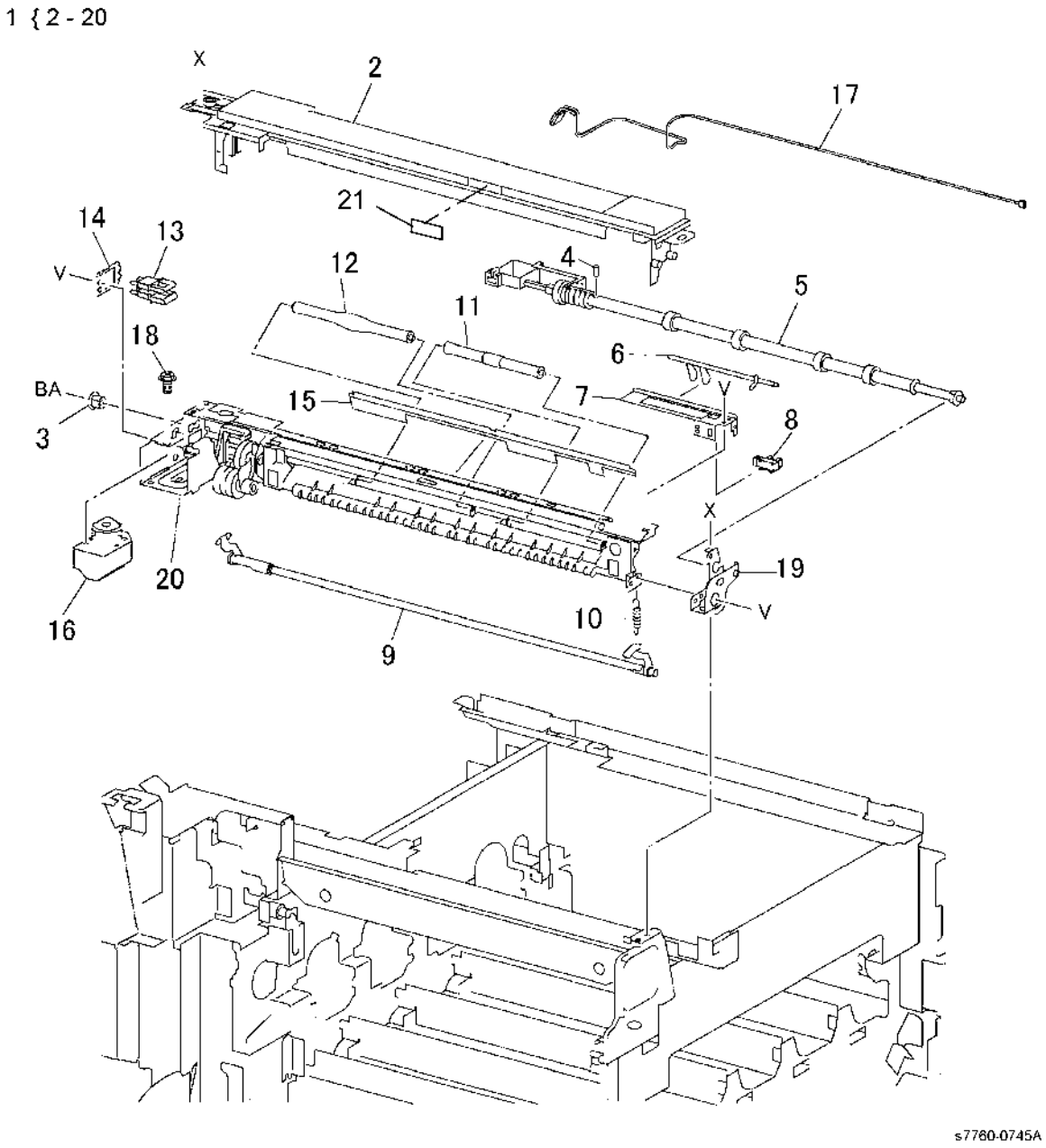
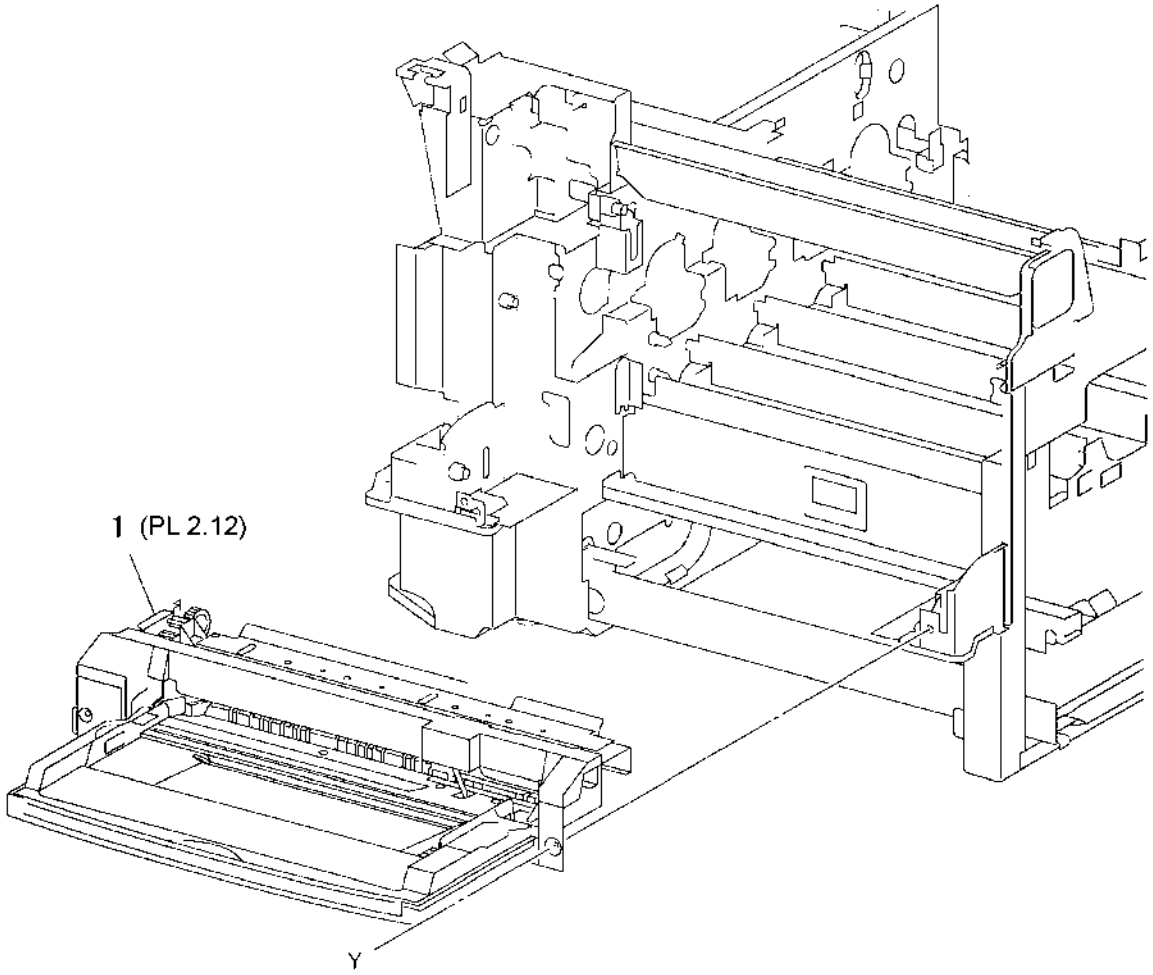
PL 2.10 Exit Transport Assembly

Item	Part	Description
1	059K45940	Exit Transport Assembly (REP 8.7)
2	802E12772	Cover Exit (Exit Transport Cover)
3	–	Bearing (P/O PL 2.10 Item 1)
4	–	Pin (P/O PL 2.10 Item 1)
5	–	Exit Roll (P/O PL 2.10 Item 1)
6	–	Actuator
7	–	Bracket (P/O PL 2.10 Item 1)
8	604K16630	Full Paper Stack Sensor (part of Sensor Kit)
9	–	Latch (P/O PL 2.10 Item 1)
10	–	Spring (P/O PL 2.10 Item 1)
11	–	Pinch Roll (P/O PL 2.10 Item 1)
12	–	Pinch Roll (P/O PL 2.10 Item 1)
13	–	LH Cover Interlock Switch (P/O PL 2.10 Item 1)
14	–	Bracket (P/O PL 2.10 Item 1)
15	–	Static Eliminator (P/O PL 2.10 Item 1)
16	–	Offset Motor (P/O PL 2.10 Item 1)
17	–	Wire Harness (P/O PL 2.10 Item 1)
18	–	Screw (P/O PL 2.10 Item 1)
19	–	Front Bracket (P/O PL 2.10 Item 1)
20	–	Frame (P/O PL 2.10 Item 1)
21	–	Label (Not Spared)



PL 2.11 Tray 1 (MPT): 1 of 2

Item	Part	Description
1	059K45883	Feeder Assembly Tray 1 (MPT) (REP 7.1)



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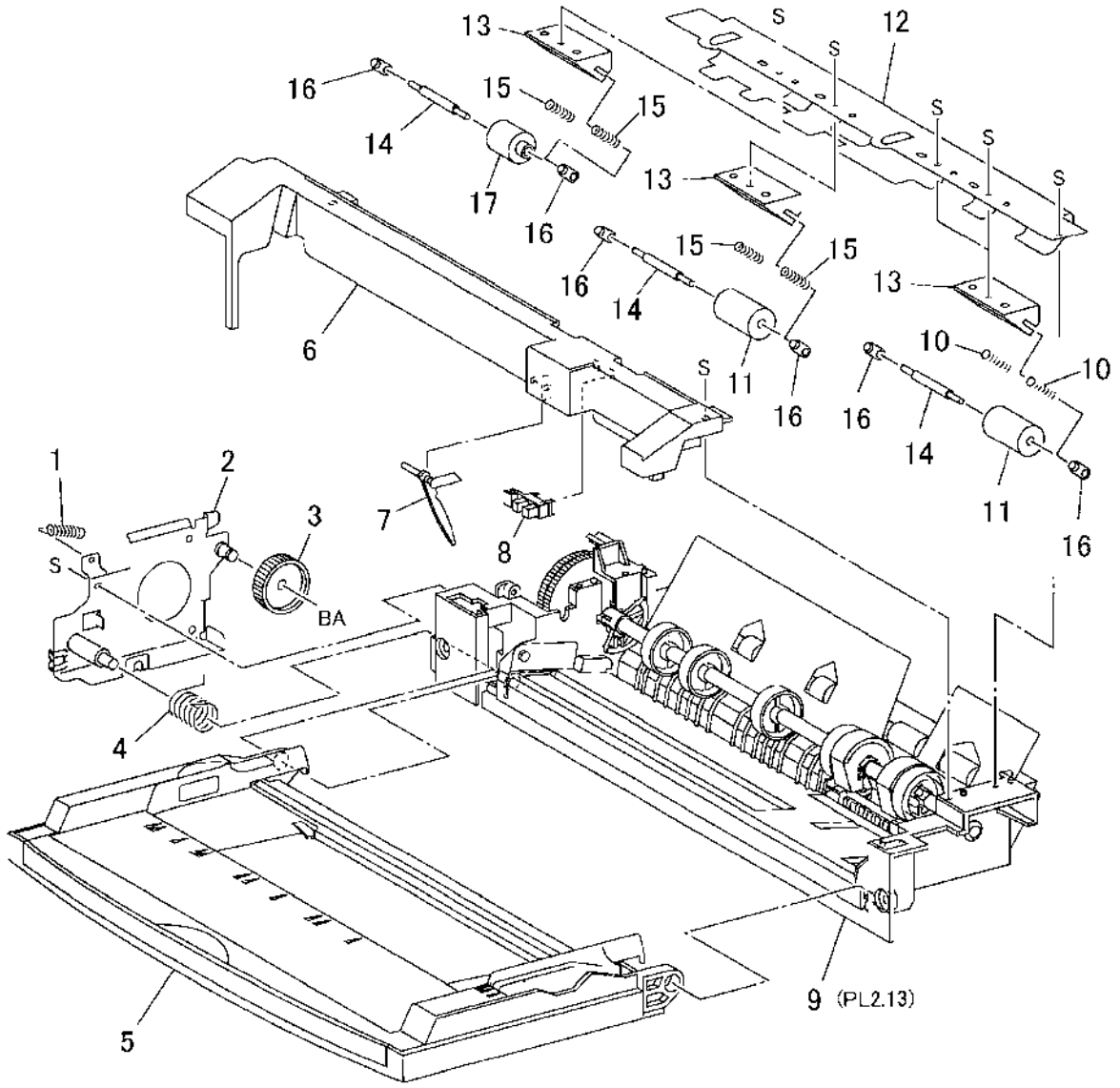
PL 2.12 Tray 1 (MPT): 2 of 2

Item	Part	Description
1	–	Spring (P/O PL 2.11 Item 1)
2	–	Bracket (P/O PL 2.11 Item 1)
3	–	Gear (P/O PL 2.11 Item 1)
4	–	Spring (P/O PL 2.11 Item 1)
5	050K56372	Tray 1 (MPT) Assembly
6	–	Upper Frame (P/O PL 2.11 Item 1)
7	600K87510	Actuator (part of Sensor Flag Kit)
8	604K16630	Tray 1 (MPT) No Paper Sensor (part of Sensor Kit)
9	–	Tray 1 (MPT) Feed Assembly (P/O PL 2.11 Item 1)
10	–	Spring (P/O PL 2.11 Item 1)
11	–	Pinch Roll 1/2 (P/O PL 2.11 Item 1)
12	–	Chute (P/O PL 2.11 Item 1)
13	–	Guide (P/O PL 2.11 Item 1)
14	–	Shaft (P/O PL 2.11 Item 1)
15	–	Spring (P/O PL 2.11 Item 1)
16	–	Spacer (P/O PL 2.11 Item 1)
17	–	Pinch Roll 3 (P/O PL 2.11 Item 1)



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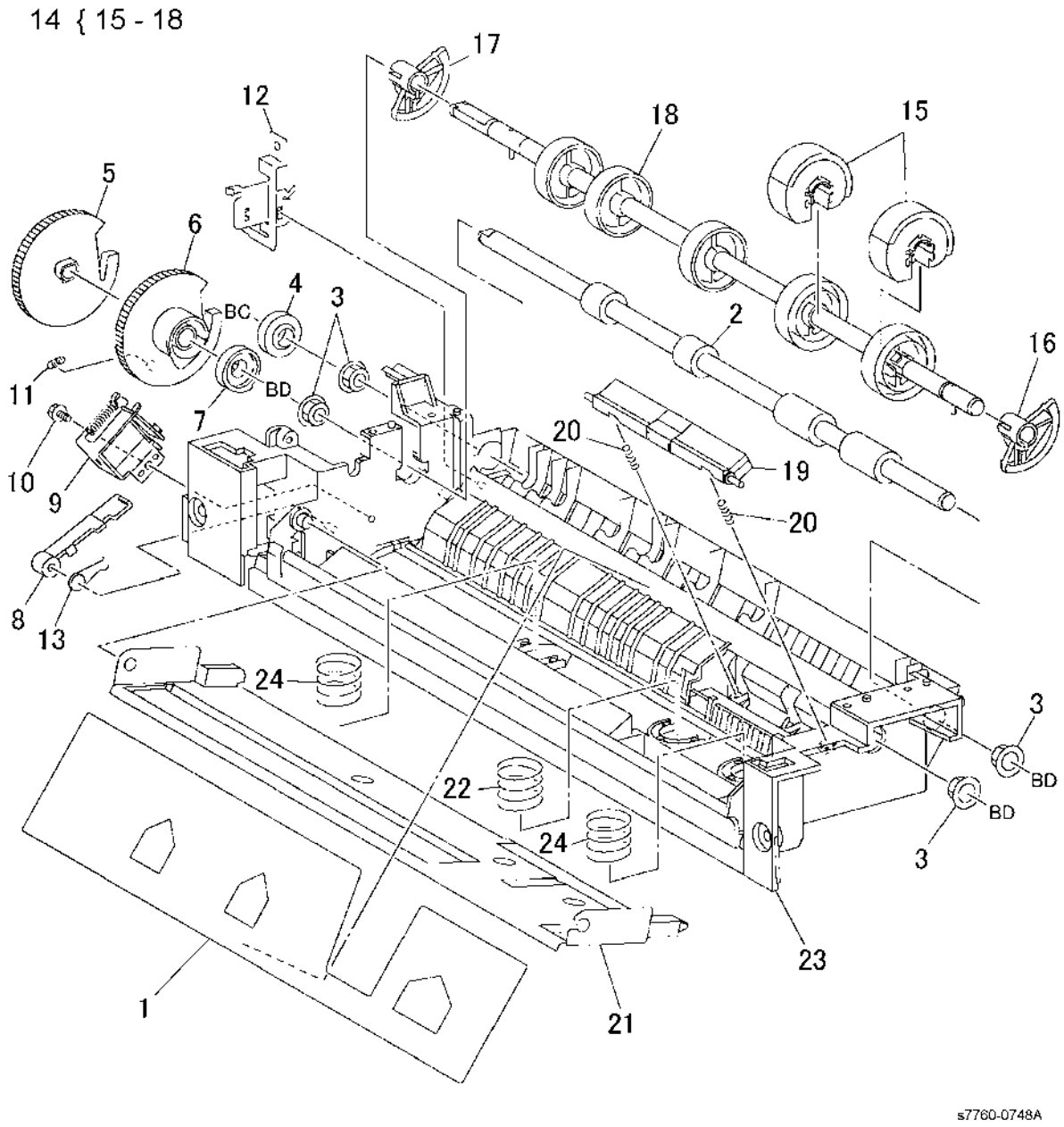
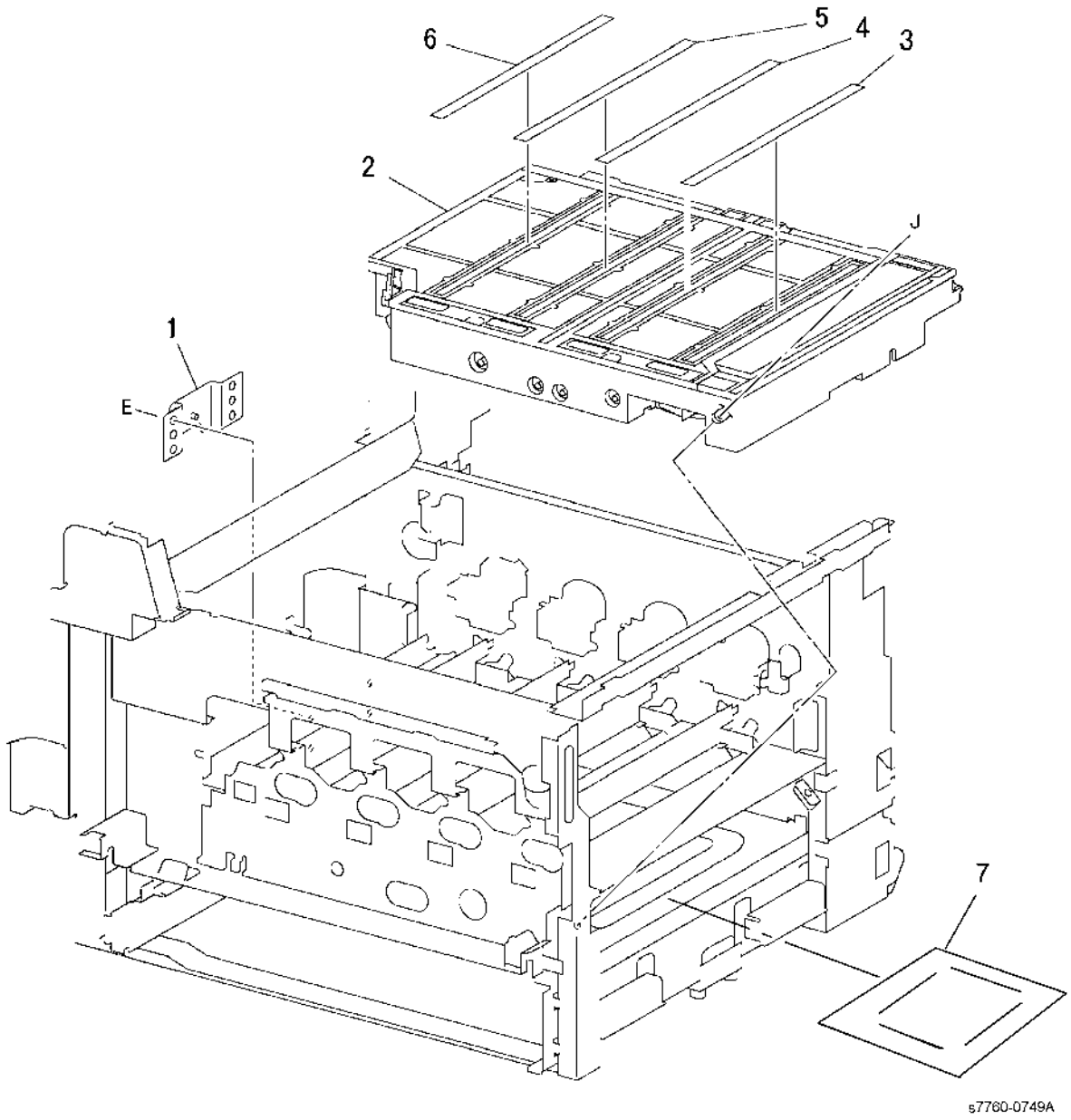
PL 2.13 Tray 1 (MPT) Feed Assembly

Item	Part	Description
1	–	Paper Guide
2	–	Takeaway Roll (Not Spared)
3	–	Bearing (Not Spared)
4	–	Gear (Not Spared)
5	–	Pick-up Gear (Not Spared)
6	–	Cam Gear (Not Spared)
7	–	Stop Lever (Not Spared)
8	–	Gear Lever (Not Spared)
9	–	Tray 1 Feed Solenoid
10	–	Screw (Not Spared)
11	–	Spring (Not Spared)
12	–	Ground Plate (Not Spared)
13	–	Spring (Not Spared)
14	–	Feed Roll Assembly
15	059K24010	Roller Assy - Feed (Feed Roll) (REP 7.2)
16	–	Cam (P/O PL 2.13 Item 14)
17	–	Cam (P/O PL 2.13 Item 14)
18	–	Shaft (P/O PL 2.13 Item 14)
19	019K08650	Retard Pad
20	–	Spring (Not Spared)
21	–	Bottom Plate (Not Spared)
22	809E07520	Spring N/F Rear (90)
23	–	Lower Frame (Not Spared)
24	809E27640	Spring-N_F



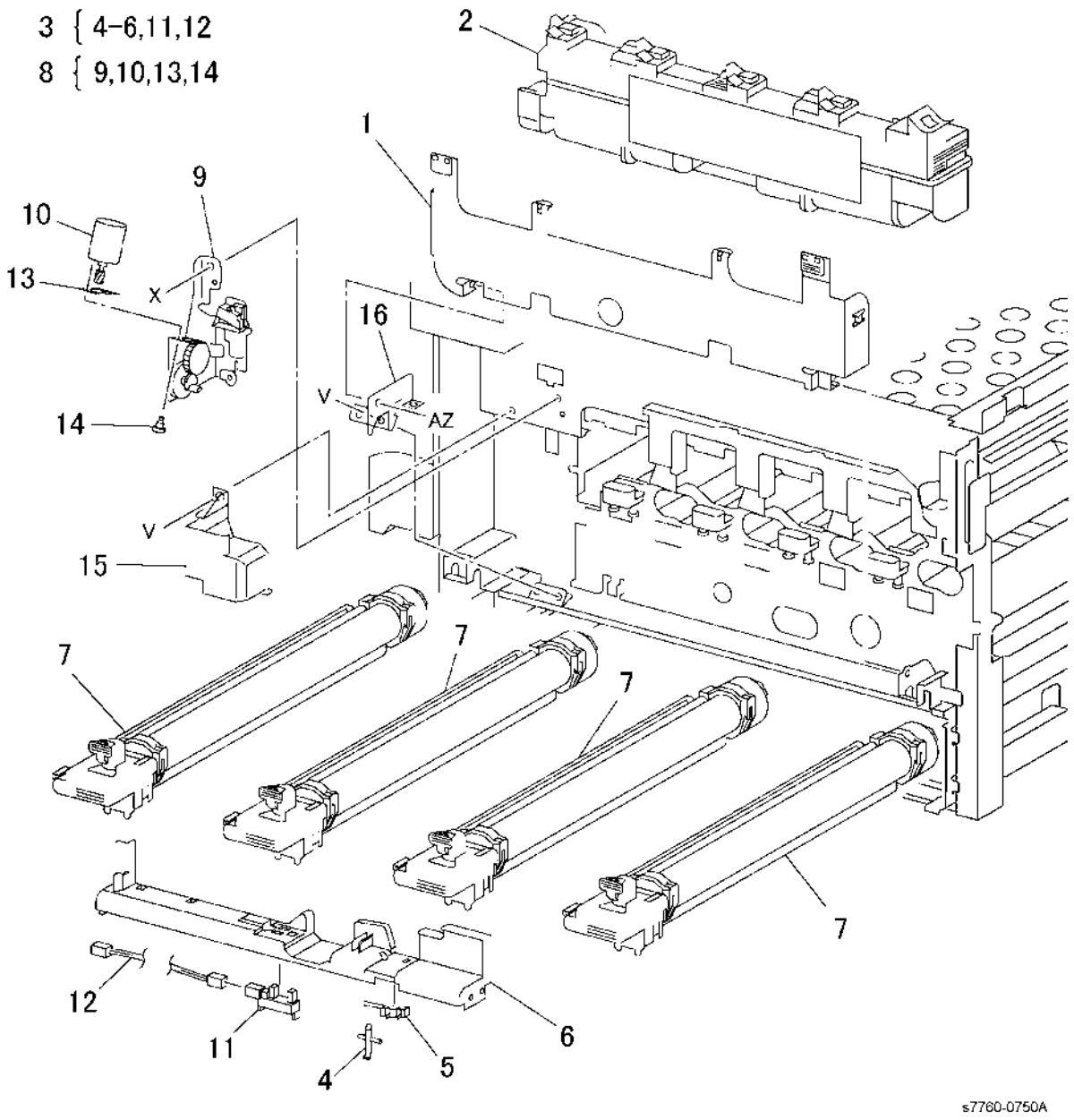
PL 3.1 ROS Assembly

Item	Part	Description
1	–	Bracket (Not Spared)
2	062K16910	ROS Assy FT (REP 6.1)
3	–	Seal Glass (Y) (Not Spared)
4	–	Seal Glass (M) (Not Spared)
5	–	Seal Glass (C) (Not Spared)
6	–	Seal Glass (K) (Not Spared)
7	–	M/C Heater (Not Spared)



PL 4.1 Xerographic Module: 1 of 2

Item	Part	Description
1	–	Waste Toner Cartridge Cover (REP 9.3)
2	108R00575	Waste Toner Cartridge
3	003K86123	Sensor Holder Assembly
4	–	Lever (P/O PL 4.1 Item 3)
5	–	Waste Toner Cartridge Interlock Switch (P/O PL 4.1 Item 3)
6	–	Holder (P/O PL 4.1 Item 3)
7	108R00713	Imaging Unit
8	127K29244	Motor Assembly Agitator (REP 9.13)
9	–	Bracket (P/O PL 4.1 Item 8)
10	–	Agitator Motor (P/O PL 4.1 Item 8)
11	604K16630	Full Toner Sensor (REP 9.5) (part of Sensor Kit)
12	–	Wire Harness (P/O PL 4.1 Item 3)
13	–	Damper (P/O PL 4.1 Item 8)
14	–	Screw (P/O PL 4.1 Item 8)
15	–	Inner Cover (Not Spared)
16	–	Bracket (Not Spared)



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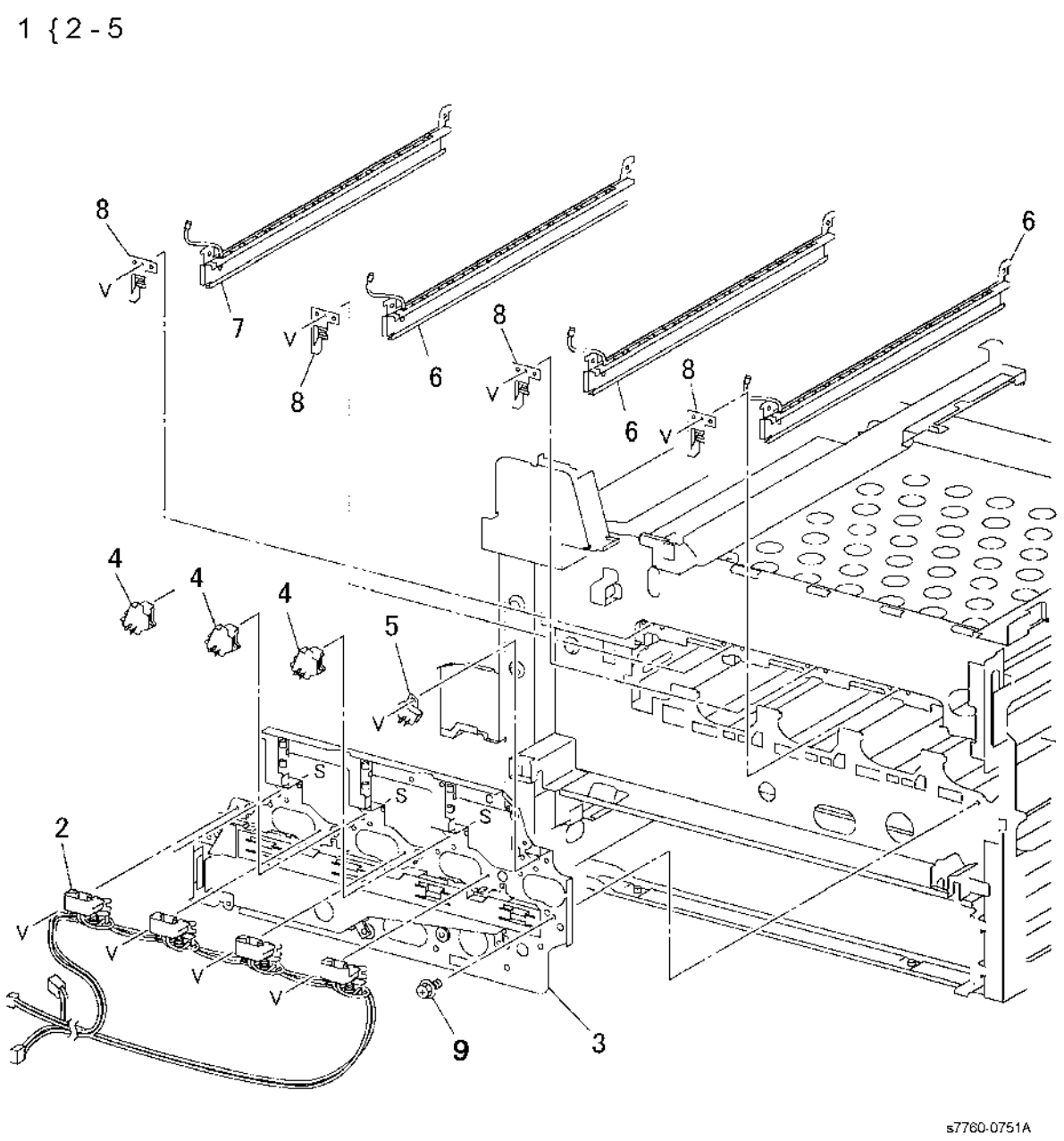
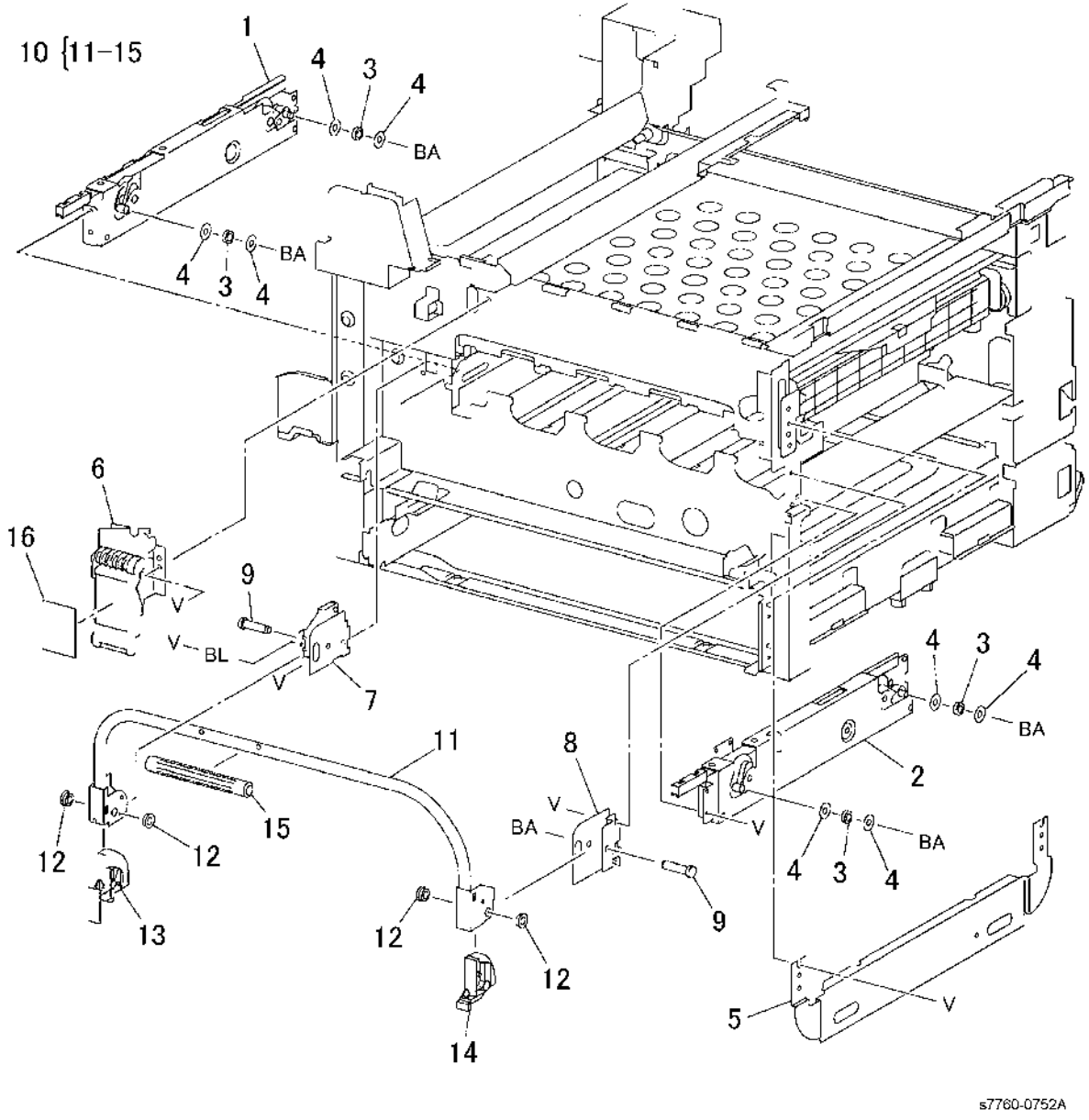
PL 4.2 Xerographic Module: 2 of 2

Item	Part	Description
1	015K65012	Plate Assy XERO (Imaging Unit Plate Assy) (REP 9.8)
2	–	Wire Harness (P/O PL 4.2 Item 1)
3		Xero PLate (P/O PL 4.2 Item 1)
4	–	Block (M, C, K) (P/O PL 4.2 Item 1)
5	–	Block (Y) (P/O PL 4.2 Item 1)
6	122K93331	Erase Asst Rail (Erase Lamp w/ Rail) (Y, M, C)
7	122K93341	Erase Asst Rail (Erase Lamp w/ Rail) (K)
8	–	Bracket (Not Spared)
9	–	Screw (Not Spared)



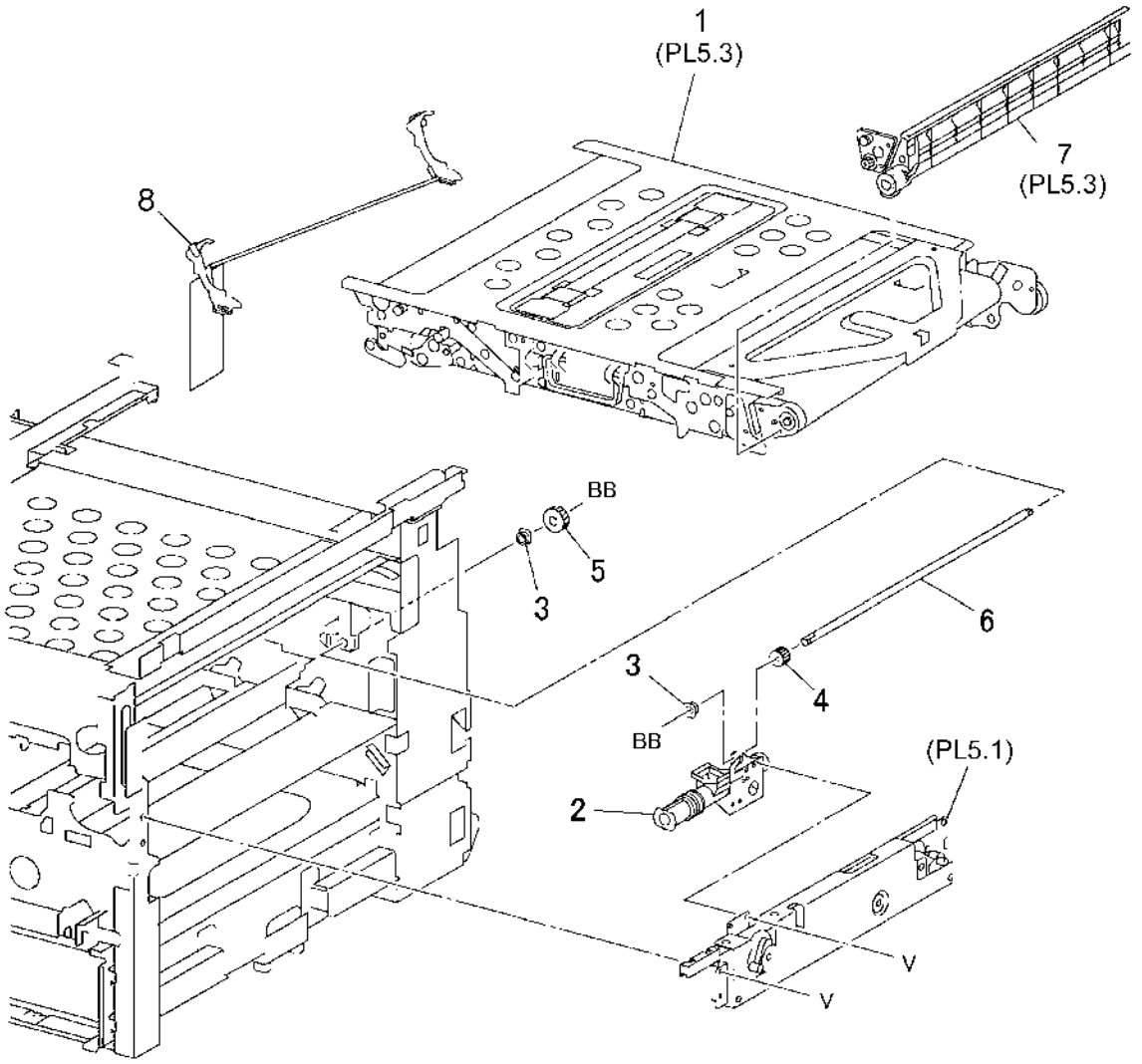
PL 5.1 Lift Unit

Item	Part	Description
1	001K70543	Frame Assy-Lift LH (Left Lift Assy) (REP 9.21)
2	001K70552	Frame Assy-Lift RH (Right Lift Assy) (REP 9.20)
3	413W66150	Bearing
4	028E93620	Washer
5	–	Plate (Not Spared)
6	003K11672	Latch Assy-AST
7	003E52291	Hinge-Handle LH (Left Hinge) (REP 9.19)
8	003E52301	Hinge-Handle RH (Right Hinge) (REP 9.19)
9	006E71740	Shaft-Main
10	011K94970	Lever Assy-Main (REP 9.18)
11	–	IBT Cam Lever (P/O PL 5.1 Item 10)
12	–	Bearing (P/O PL 5.1 Item 10)
13	–	Left Cap (P/O PL 5.1 Item 10)
14	–	Right Cap (P/O PL 5.1 Item 10)
15	–	Grip (P/O PL 5.1 Item 10)
16	003K12910	Stopper Assy-Label



PL 5.2 IBT Unit

Item	Part	Description
1	604K15322	Kit IBT-Unit OPB (Accumulator Belt Assembly) (REP 9.15)
2	802K12951	Auger Assembly (REP 9.17)
3	–	Bearing (Not Spared)
4	007E61910	Gear (14T)
5	007E61890	Gear (18T)
6	–	Shaft (Not Spared)
7	108R00580	IBT Belt Cleaner Assembly (Accumulator Belt Assembly) (REP 9.16)
8	–	Removal Support



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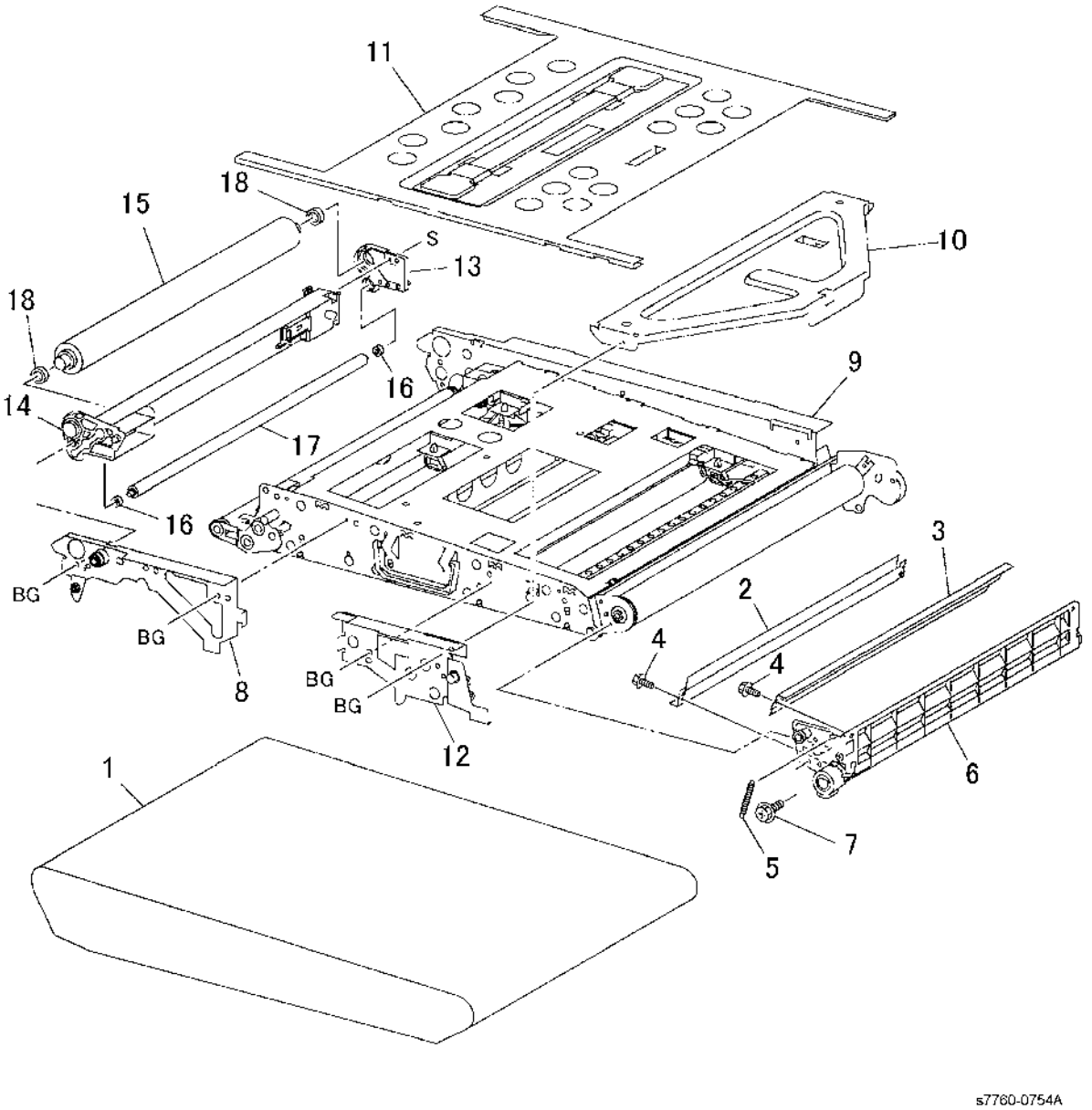
PL 5.3 IBT Belt Assembly (Accumulator Belt Assembly)

Item	Part	Description
1	064K91451	Transfer Belt (REP 9.22)
2	–	Blade (P/O PL 5.2 Item 7)
3	–	Seal (P/O PL 5.2 Item 7)
4	–	Screw (P/O PL 5.2 Item 7)
5	–	Spring (P/O PL 5.2 Item 7)
6	–	Housing (P/O PL 5.2 Item 7)
7	–	Screw (P/O PL 5.2 Item 1)
8	–	Support (P/O PL 5.2 Item 1)
9	–	IBT Frame (P/O PL 5.2 Item 1)
10	–	Right Handle (P/O PL 5.2 Item 1)
11	–	Left Handle (P/O PL 5.2 Item 1)
12	–	Bracket (P/O PL 5.2 Item 1)
13	–	Housing (P/O PL 5.2 Item 1)
14	–	Housing (P/O PL 5.2 Item 1)
15	–	Backup Roll
16	–	Bearing (P/O PL 5.2 Item 1)
17	–	Pre Roll (P/O PL 5.2 Item 1)
18	–	Bearing



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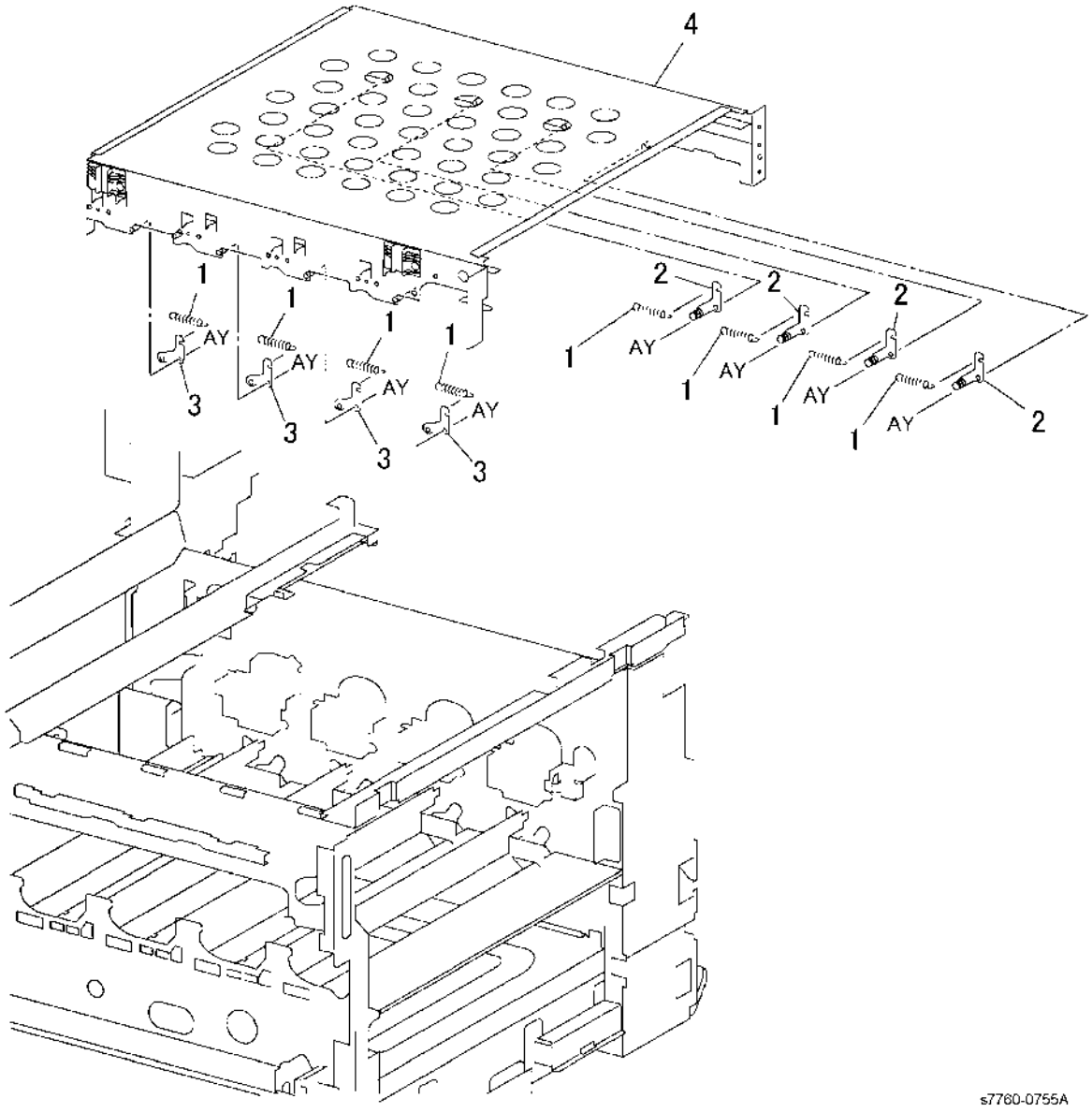
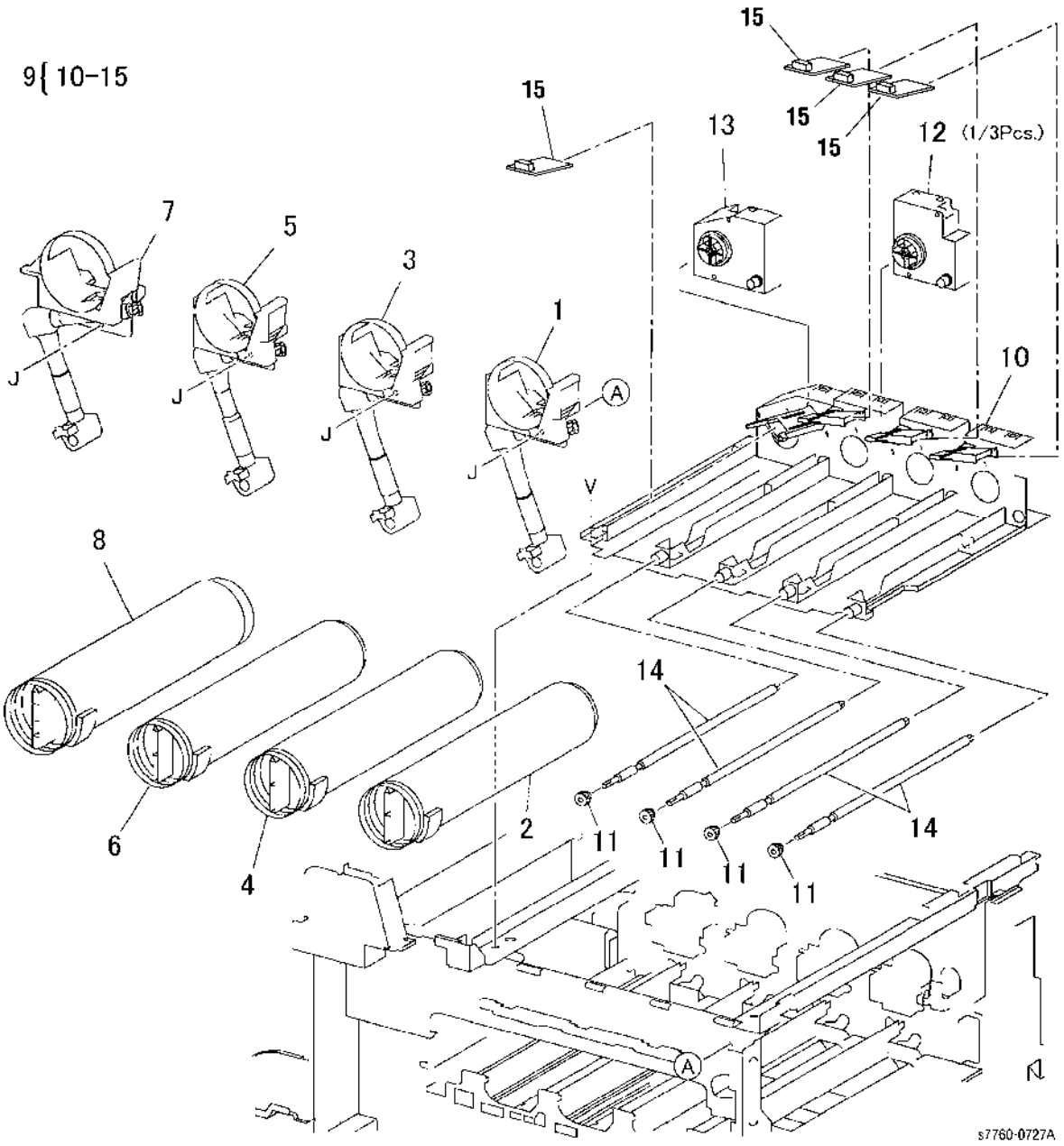
PL 5.6 IBT Elevator

Item	Part	Description
1	–	Spring
2	–	Rear Plunger
3	–	Front Plunger
4	001K70083	IBT Elevator Frame



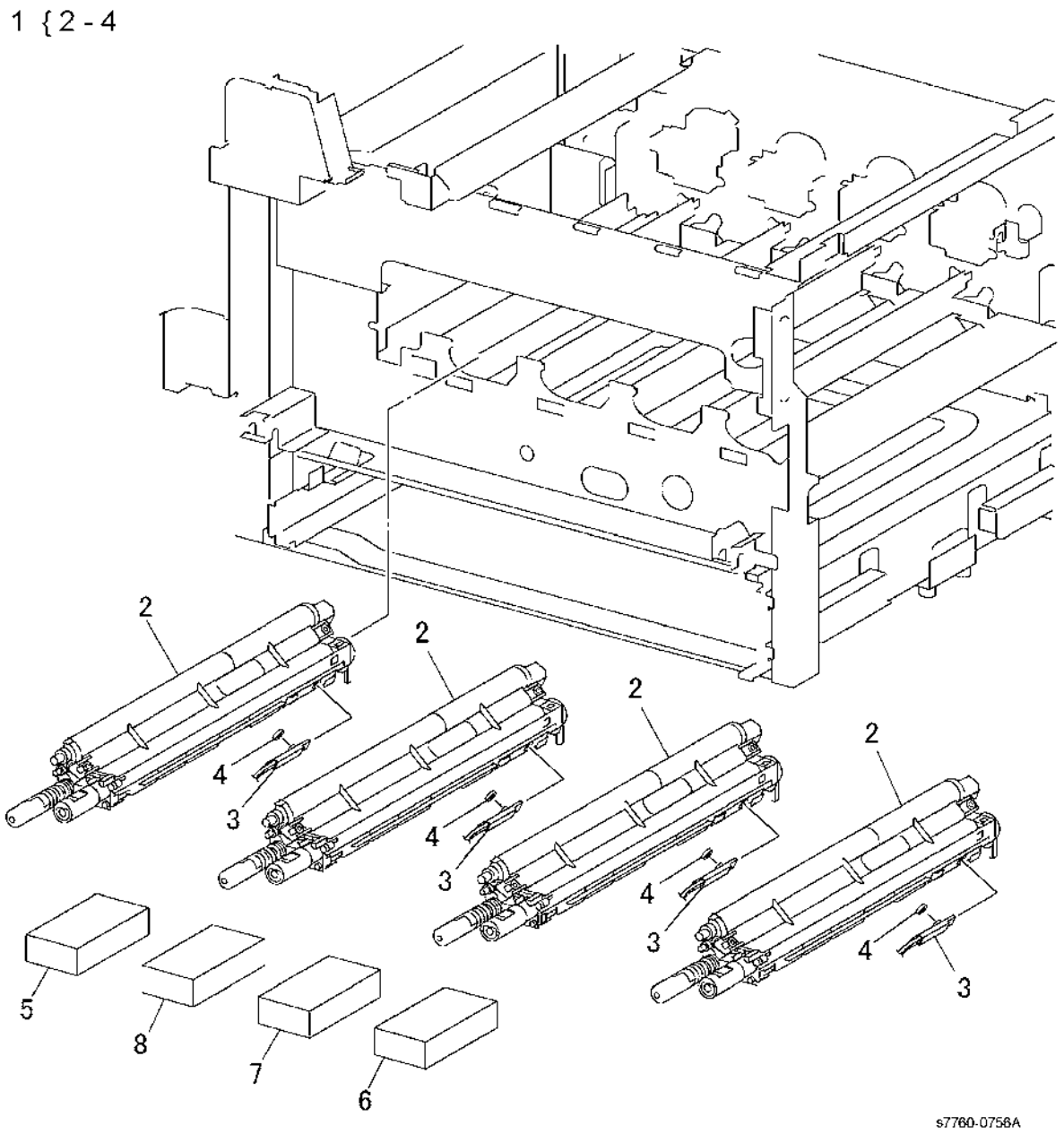
PL 6.1 Developer Unit: 1 of 2

Item	Part	Description
1	802K63551	Disp Assy Y KU (Toner Dispenser) (Y) (REP 9.7)
2	106R01162	Toner Cartridge (Y)
3	802K63561	Disp Assy M KU (Toner Dispenser) (M) (REP 9.7)
4	106R01161	Toner Cartridge (M)
5	802K63571	Disp Assy C KU (Toner Dispenser) (C) (REP 9.7)
6	106R01160	Toner Cartridge (C)
7	802K63581	Disp Assy K KU (Toner Dispenser) (K) (REP 9.7)
8	106R01163	Toner Cartridge (K)
9	802K86531	Toner Dispenser Base Assembly (REP 9.11)
10	–	Toner Dispenser Base (P/O PL 6.1 Item 9)
11	–	Gear (P/O PL 6.1 Item 9)
12	–	Toner Dispenser Motor (Y, M, C)
13	–	Toner Dispenser Motor (K)
14	–	Shaft (P/O PL 6.1 Item 9)
15	–	CRUM Antenna PWB



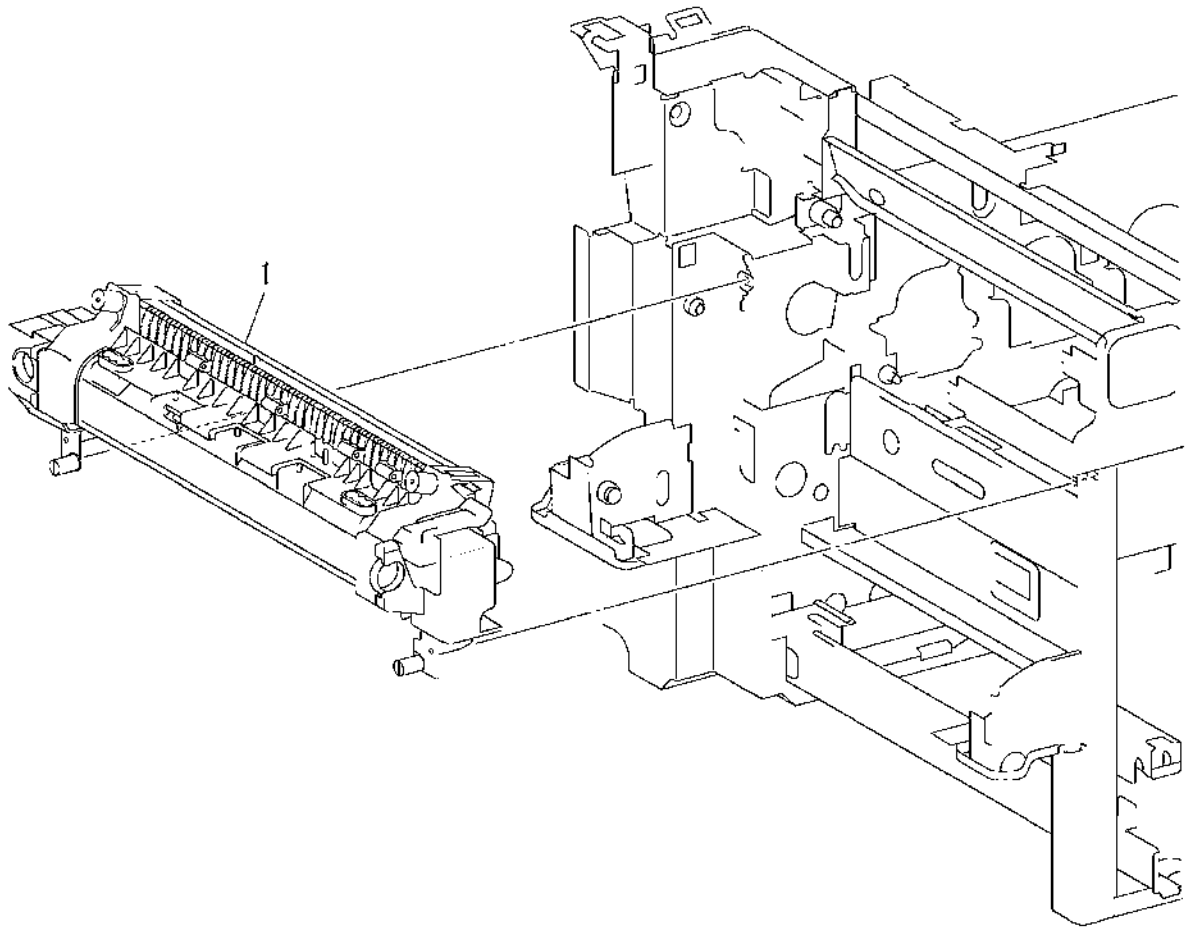
PL 6.2 Developer Unit: 2 of 2

Item	Part	Description
1	802K60194	HSG Assy Deve (Developer Housing) (Y, M, K, C) (REP 9.9)
2	–	Developer Housing (P/O PL 6.2 Item 1)
3	–	ATC Sensor (Y, M, K, C) (REP 9.26)
4	–	Seal
5	675K09680	Developer (K) (REP 9.10)
6	675K09650	Developer (Y) (REP 9.10)
7	675K09660	Developer (M) (REP 9.10)
8	675K09670	Developer (C) (REP 9.10)



PL 7.1 Fuser Assembly

Item	Part	Description
1	115R00049	Fuser (110V)
–	115R00050	Fuser (220V)



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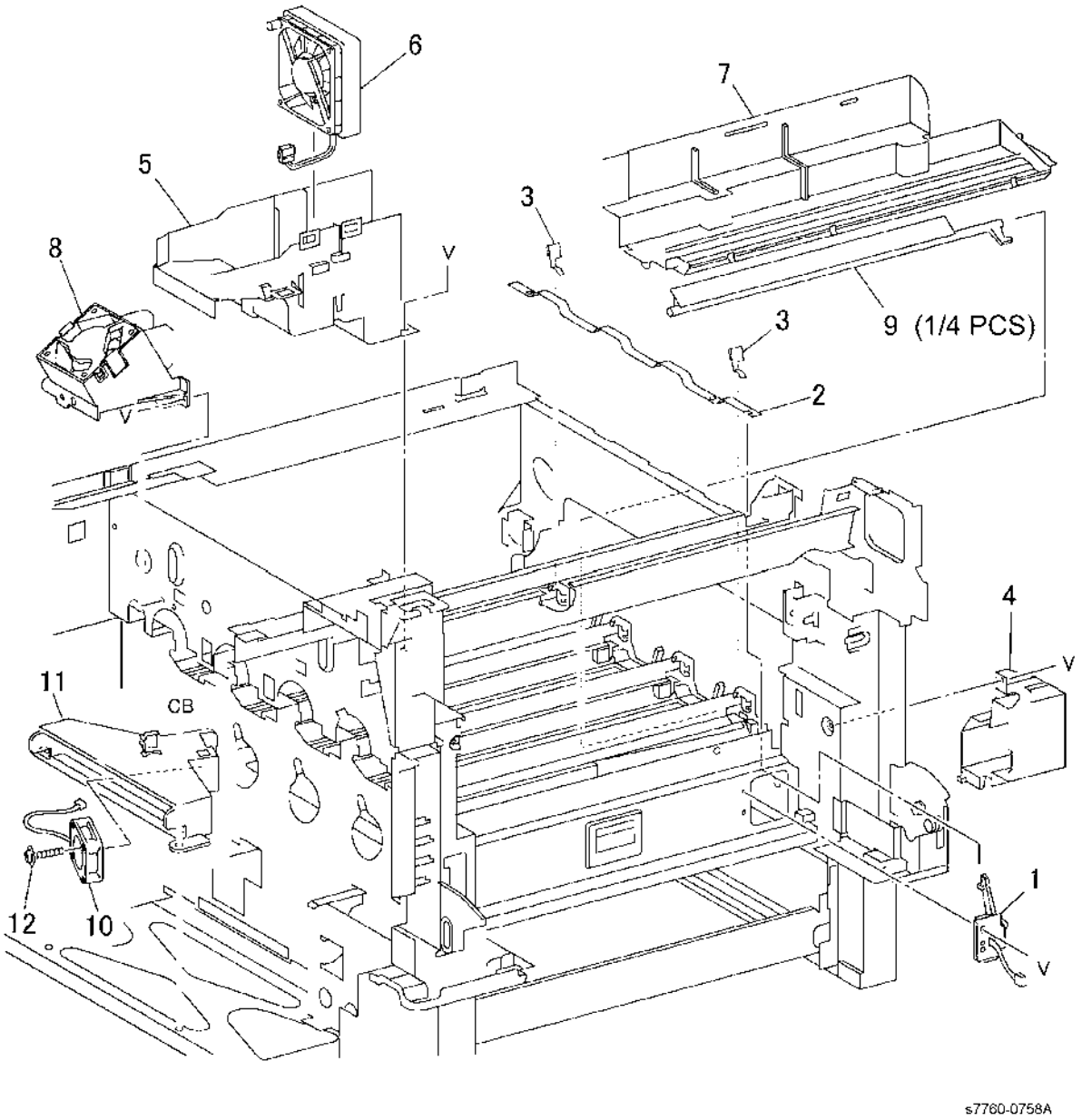
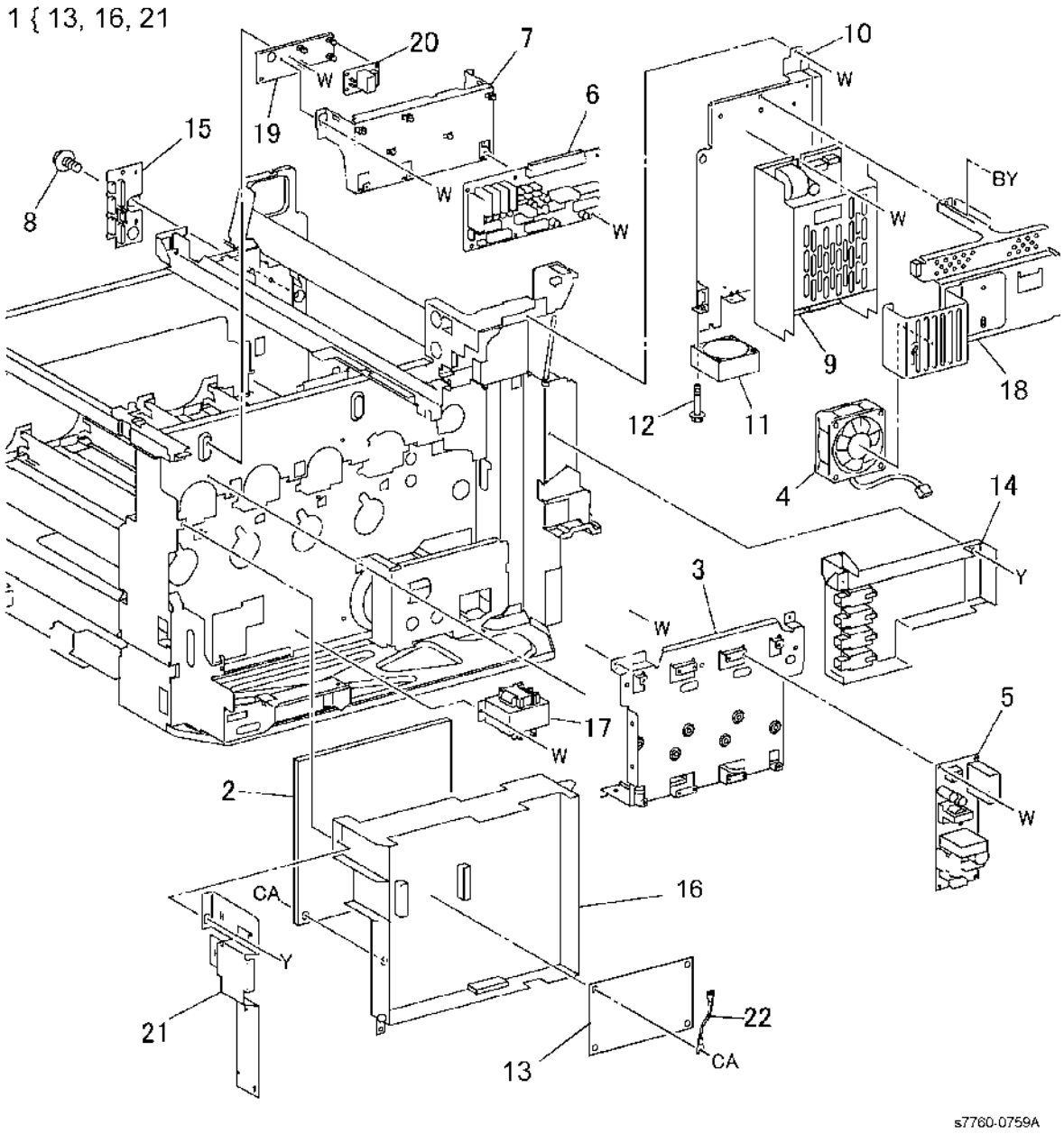
PL 8.1 Air System

Item	Part	Description
1	127K32731	Solenoid Assy-Shut (ROS Shutter Motor) (REP 9.2)
2	–	Link (Not Spared)
3	–	Spring (Not Spared)
4	802E16971	Cover-Inner, L/H, Low (REP 14.10)
5	–	Duct (Not Spared)
6	127K50240	Fan Assy Fuser (REP 10.2)
7	–	Duct (Not Spared)
8	127K50250	Fan Rear Assy (ROS Fan)
9	–	BCR Cleaning CAM
10	054K26141	Fan & Duct Assy-Bottom (Bottom Fan)
11	–	Duct (Not Spared)
12	–	Screw (Not Spared)



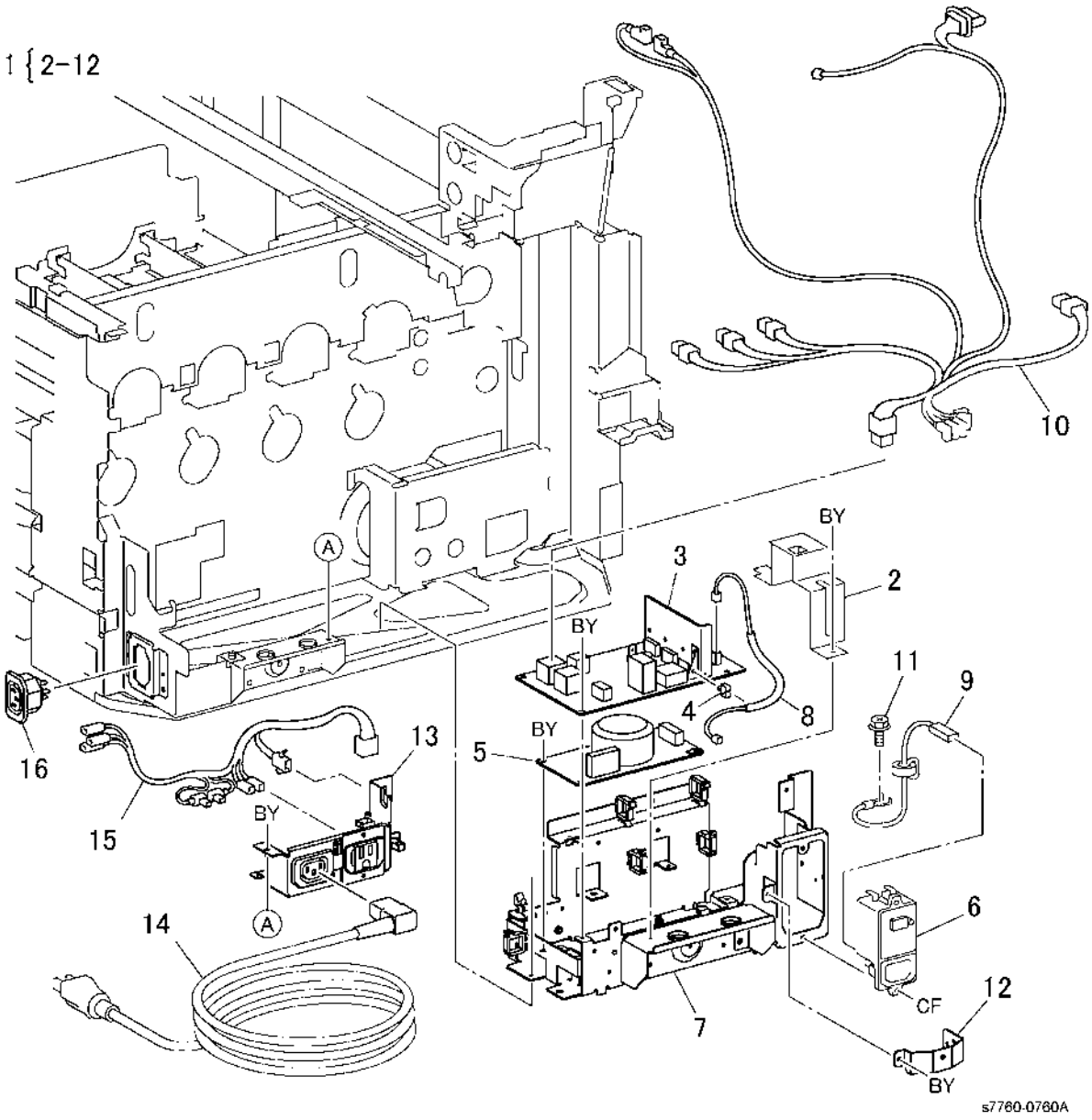
PL 9.1 Electrical Components: 1 of 3

Item	Part	Description
1	105K22140	PSHV-T10F (DEV/BTR2/DTS HVPS T10) (REP 1.7)
2	105E11972	PSHV-T11 (BCR HVPS T11) (REP 1.7)
3	–	LVPS Bracket (Not Spared) (REP 1.1)
4	127K49040	Developer Fan
5	105E16270	PSLV-LF506QR 110V (5V LVPS 110V) (REP 1.4)
–	105E16280	PSLV-LP506QR 220V) 5V LVPS 220V) (REP 1.4)
6	960K15800	PWBA MDD (Interface PWB) (REP 1.8)
7	–	Bracket (Not Spared)
8	–	Screw (Not Spared)
9	105E15190	24V LVPS (120V/220V) (REP 1.5)
10	–	24V LVPS Chassis (Not Spared) (REP 1.9)
11	127K50280	Fan Assy PSLV (LVPS Fan)
12	–	Screw (Not Spared)
13	–	HVPS Control PWB (P/O PL 9.1 Item 1)
14	105E11982	PSHV-T12 (BTR1 HVPS T12) (REP 1.10)
15	–	Connector Chassis (Not Spared)
16	–	HVPS Chassis (P/O PL 9.1 Item 1) (REP 1.6)
17	–	Choke Coil (110V)
–	–	Resistor (220V)
18	–	Mounting Bracket
19	–	Plate (Not Spared)
20	160K88292	LD Power Relay (Interlock Relay PWB)
21	–	Plate
22	–	Wire Harness



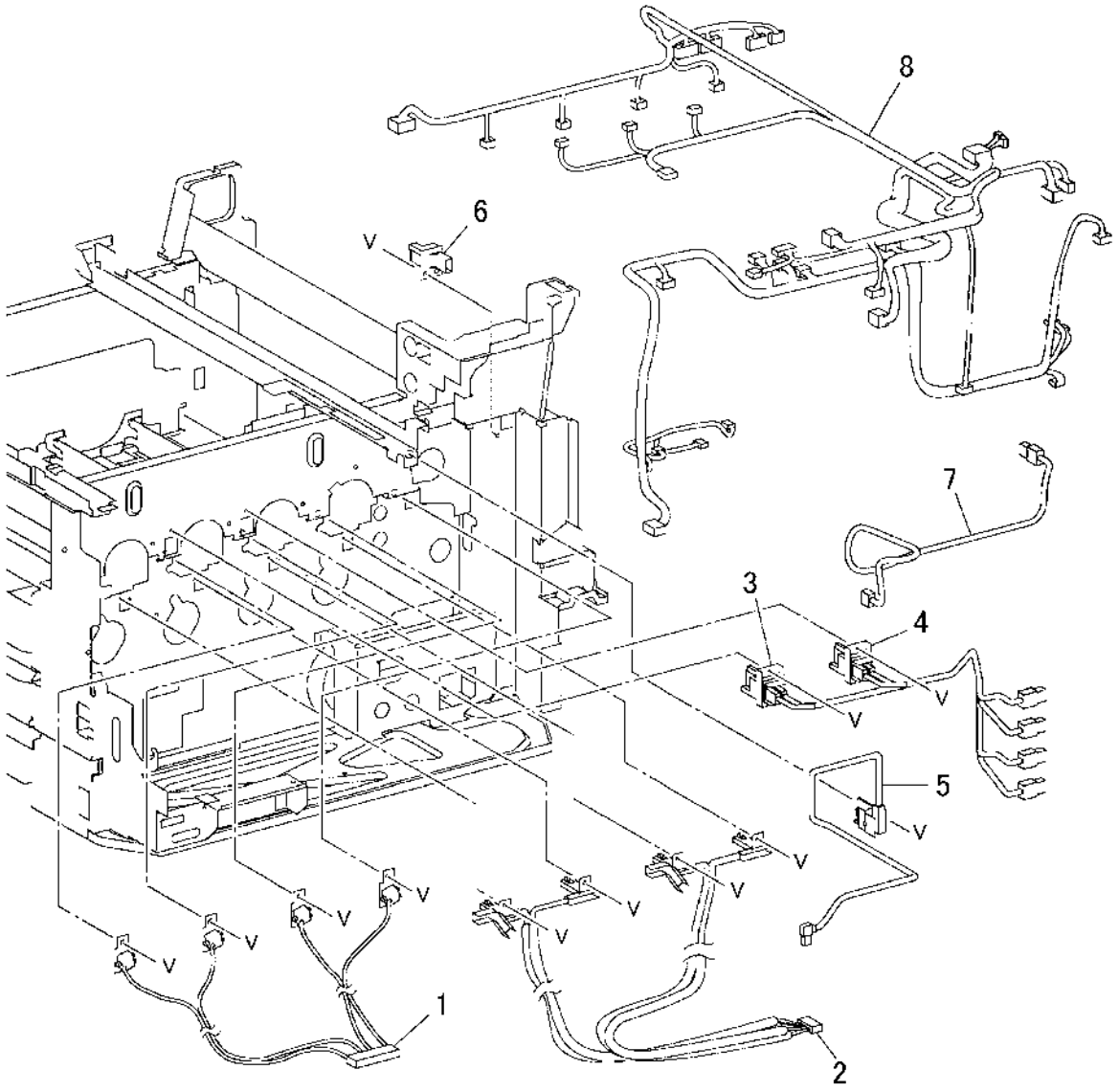
PL 9.2 Electrical Components: 2 of 3

Item	Part	Description
1	101K52401	Chassis Assy AC Power (110V)
–	101K52411	Chassis Assy AC Power (220V)
2	–	Bracket (P/O PL 9.2 Item 1)
3	–	AC Drive PWB (110V) (REP 1.11)
–	–	AC Drive PWB (220V) (REP 1.11)
4	–	Clamp (P/O PL 9.2 Item 1)
5	–	Noise Filter PWB (110V)
–	–	Noise Filter PWB (220V)
6	–	GFI Breaker
7	–	AC Power Chassis (P/O PL 9.2 Item 1)
8	–	Wire Harness (P/O PL 9.2 Item 1)
9	–	Wire Harness (P/O PL 9.2 Item 1)
10	–	Wire Harness (P/O PL 9.2 Item 1) (ACO)
11	–	Screw (P/O PL 9.2 Item 1)
12	–	Bracket (P/O PL 9.2 Item 1)
13	074K97791	Outlet Panel Assy
14	117K31400	Power Cord (110V)
–	–	Power Cord (250V, 10A) Europe
15	–	Wire Harness
16	–	Outlet



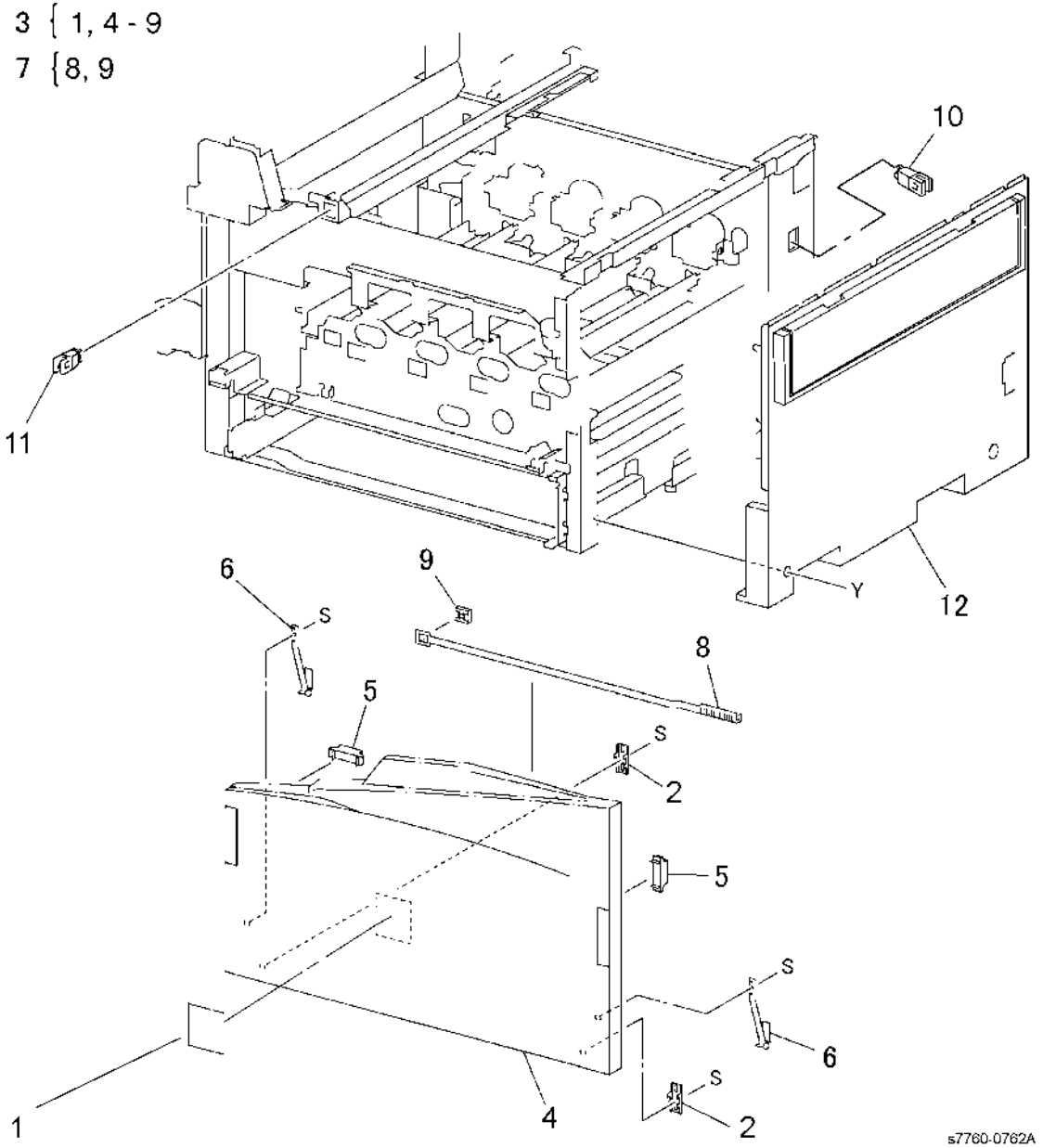
PL 9.3 Electrical Components: 3 of 3

Item	Part	Description
1	014K81604	Block Assembly (Deve)
2	162K62112	Wire Harness (XERO)
3	162K55941	Deve Wire Harness (Y, M)
4	162K55971	Deve Wire Harness (C, K)
5	162K56520	Wire Harness (2nd)
6	113K82310	DTS Connector
7	162K56031	Wire Harness (DTS)
8	962K37974	Harness Assy Main Front
–	962K37980	Harness Assy Main LH (Left)
–	962K37991	Harness Assy Main RH (Right)



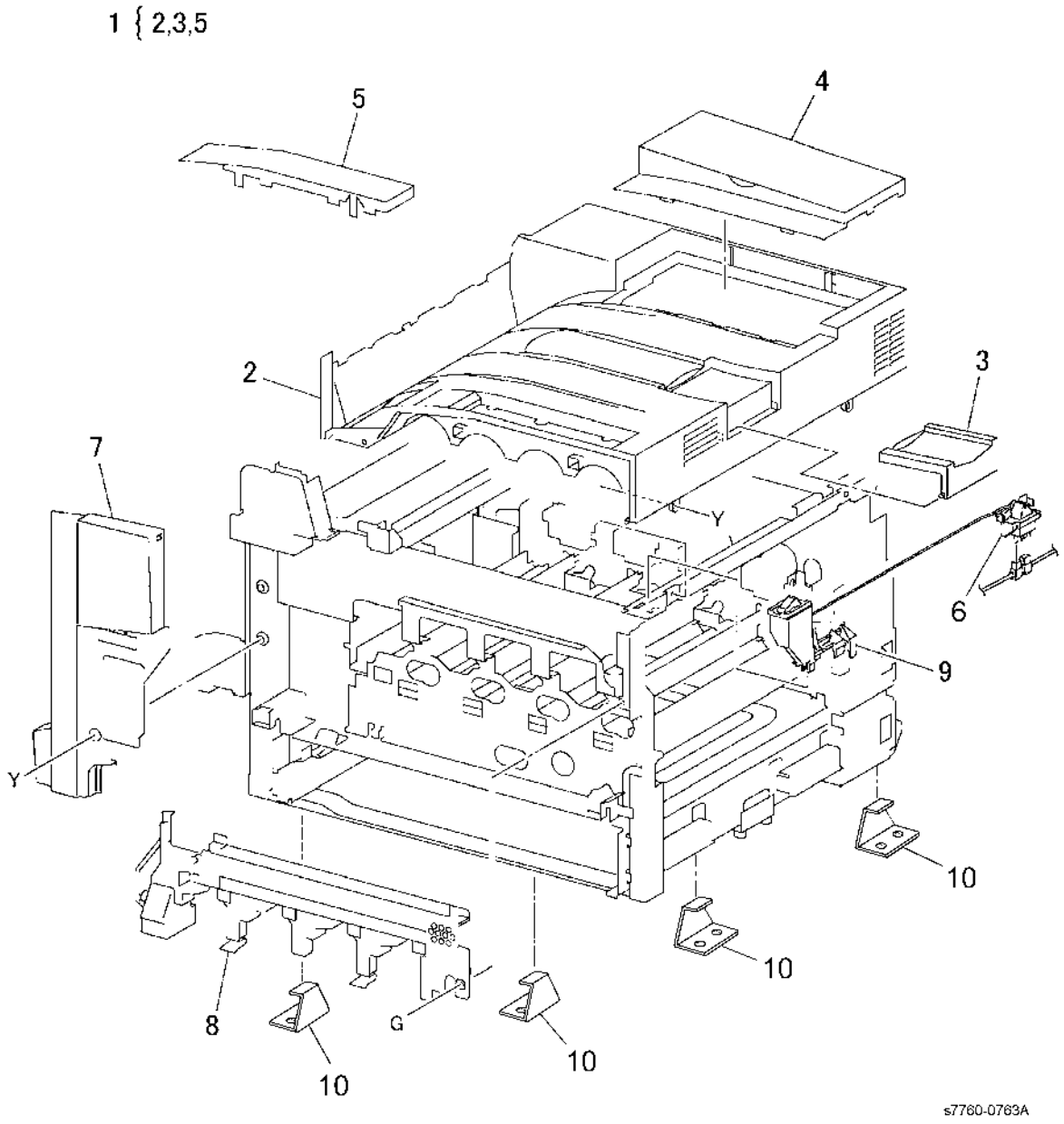
PL 10.1 Front Cover

Item	Part	Description
1	–	Logo Plate
2	–	Hinge (Not Spared)
3	802K97801	Cover Assy Front MN (with 2-10) (REP 14.7)
4	–	Front Cover (P/O PL 10.1 Item 3)
5	–	Magnet (P/O PL 10.1 Item 3)
6	830E57230	Strap
7	042K93270	Cleaner Assembly (ROS)
8	–	ROS Cleaner (P/O PL 10.1 Item 7)
9	042K92010	Cleaner Assy Base
10	–	Right Interlock Switch
11	–	Front Interlock Switch
12	802K59860	Cover Assy Right MN (Right Cover) (REP 14.3)



PL 10.2 Top Covers and Inner Covers

Item	Part	Description
1	802K89970	Top Cover (with 2-3) (REP 14.1)
2	–	Top Cover (P/O PL 10.2 Item 1)
3	–	Stop (P/O PL 10.2 Item 1)
4	–	Connector Cover
5	101K57541	Control Panel
6	110K11211	Main Power Switch
7	802K59881	Fuser Cover (REP 14.8)
8	–	Dispenser Cover (REP 9.6)
9	012K94261	Link Assy
10	–	Pallet Bracket
11	962K41710	Wire Harness (Not Shown)



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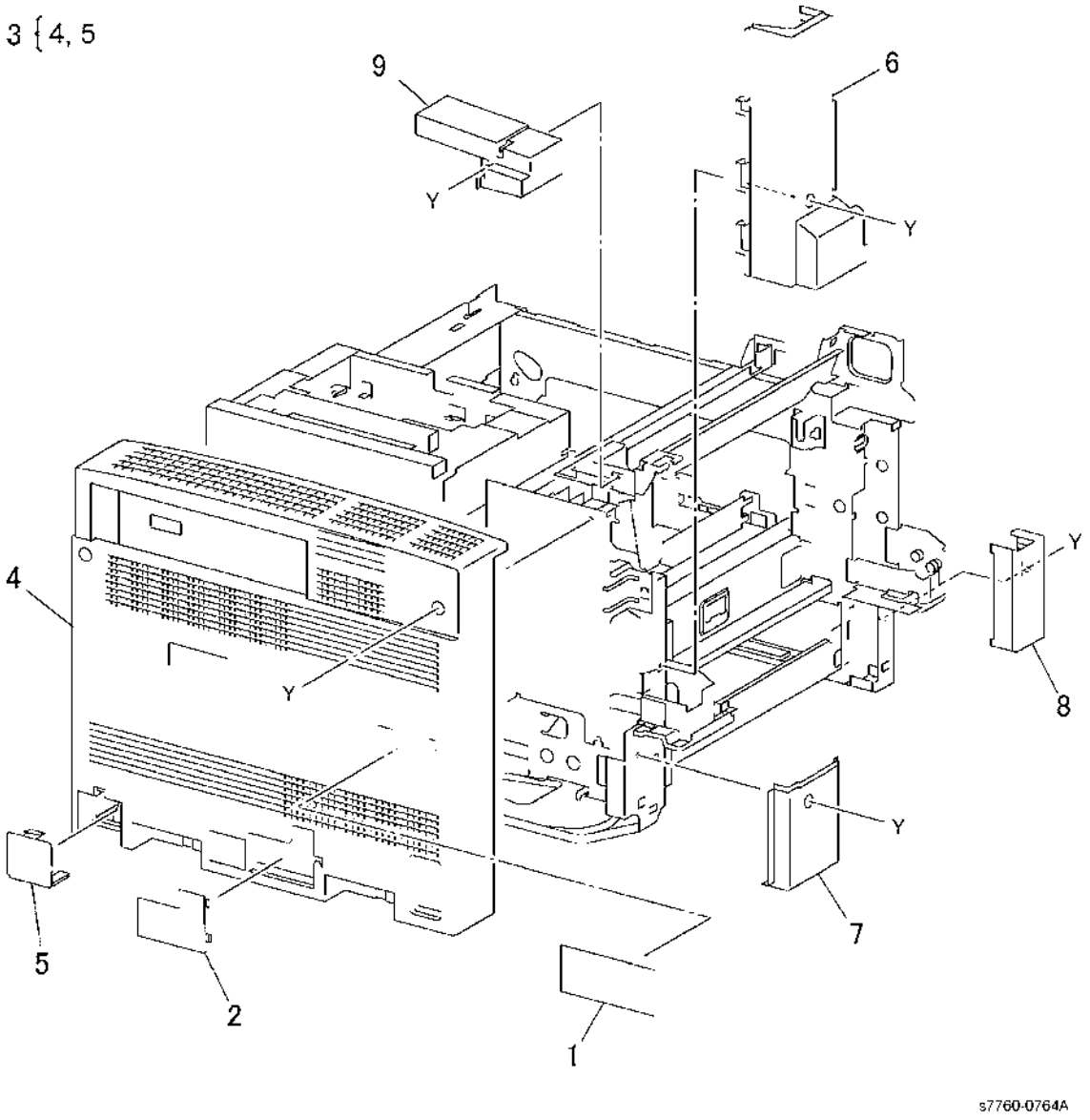
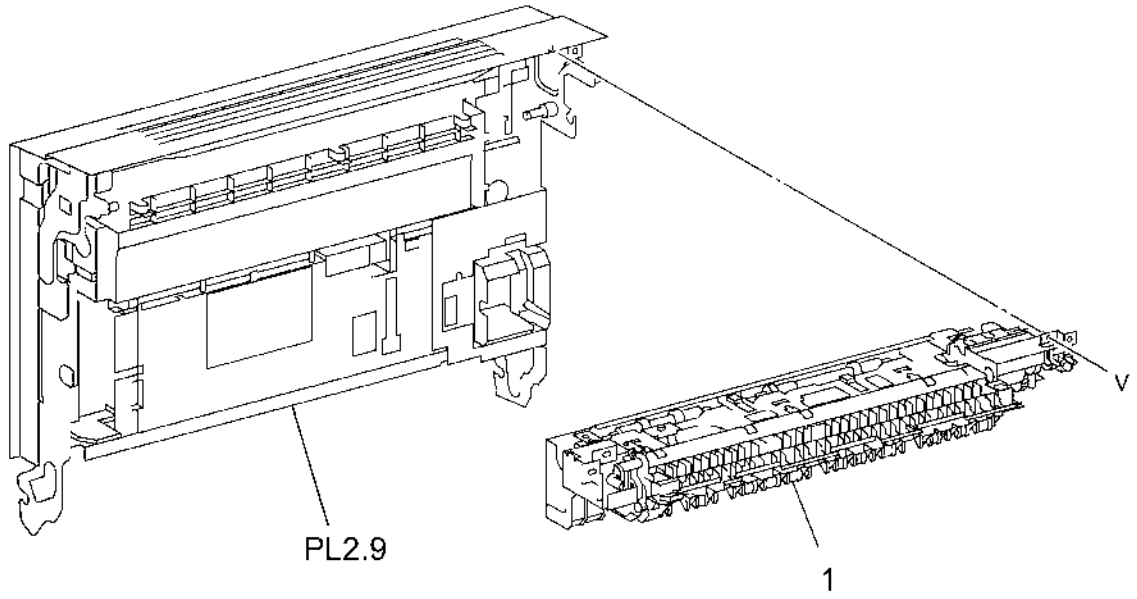
PL 10.3 Rear Cover

Item	Part	Description
1	–	Data Plate (Not Spared)
2	802E12490	Cover Blind TM
3	802K90000	Cover Assy Rear
4	–	Rear Cover (P/O PL 10.3 Item 3) (REP 14.2)
5	802E12490	Blind Cover
6	802E12501	Cover-L/H R, Mid (Rear Left Middle Cover) (REP 14.4)
7	802E14351	Cover-L/H R, Low (Rear Left Lower) Cover
8	802K59890	Cover AY-L/H F, Low MN (Front Left Cover)
9	802E27861	Cover-Top, Rear (Rear Left Upper Cover) (REP 14.5)



PL 11.1 Inverter Transport

Item	Part	Description
1	059K36872	Transport Assy-Inv (Inverter Transport) (REP 8.5)
2	011E10711	Interlock Actuator (not shown)



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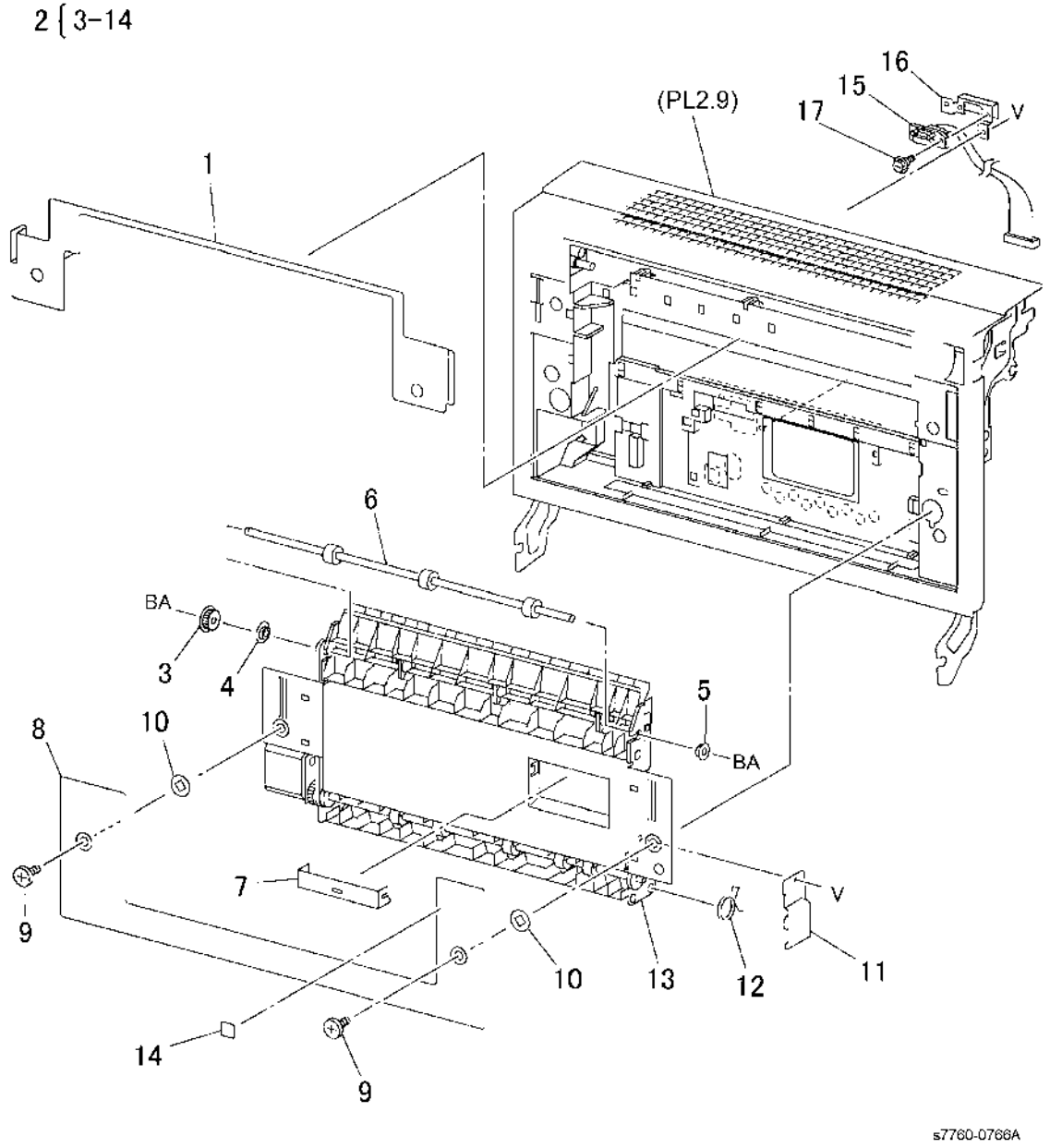
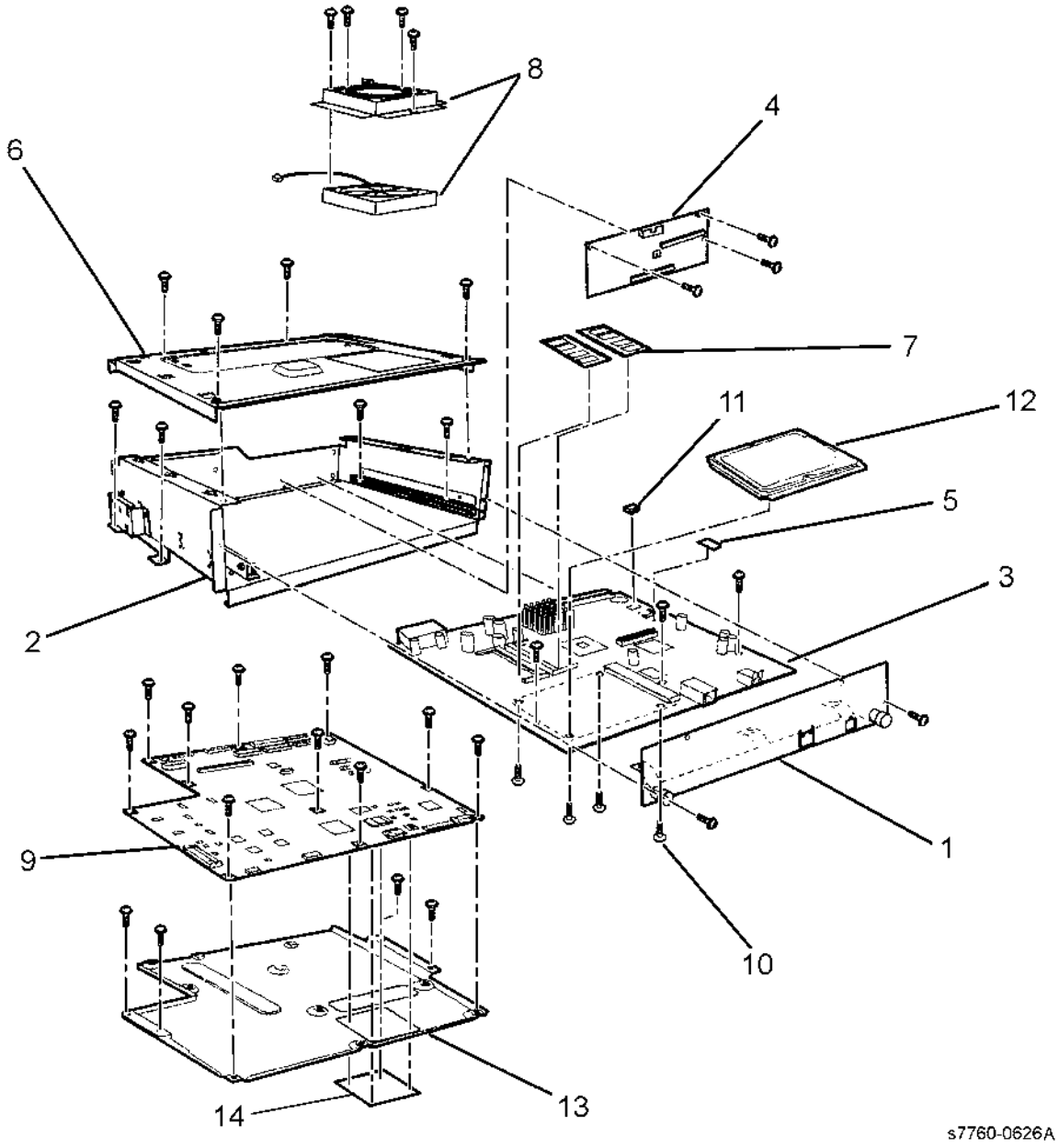
PL 12.1 Duplex Transport Assembly

Item	Part	Description
1	–	Duplex Transport Upper Cover (Not Spared)
2	059K45890	Transport Assy Duplex FT (REP 8.3)
3	–	One-way Pulley (P/O PL 12.1 Item 2)
4	–	Bearing (P/O PL 12.1 Item 2)
5	–	Bearing (P/O PL 12.1 Item 2)
6	–	Duplex Transport Roll
7	–	Handle (P/O PL 12.1 Item 2)
8	–	Lower Cover (P/O PL 12.1 Item 2)
9	–	Screw (P/O PL 12.1 Item 2)
10	–	Nylon Washer (P/O PL 12.1 Item 2)
11	–	Cover (P/O PL 12.1 Item 2)
12	–	Spring (P/O PL 12.1 Item 2)
13	–	Duplex Transport (P/O PL 12.1 Item 2)
14	–	Label (P/O PL 12.1 Item 2)
15	–	Wire Harness (Not Spared)
16	–	Bracket (Not Spared)
17	–	Screw (Not Spared)



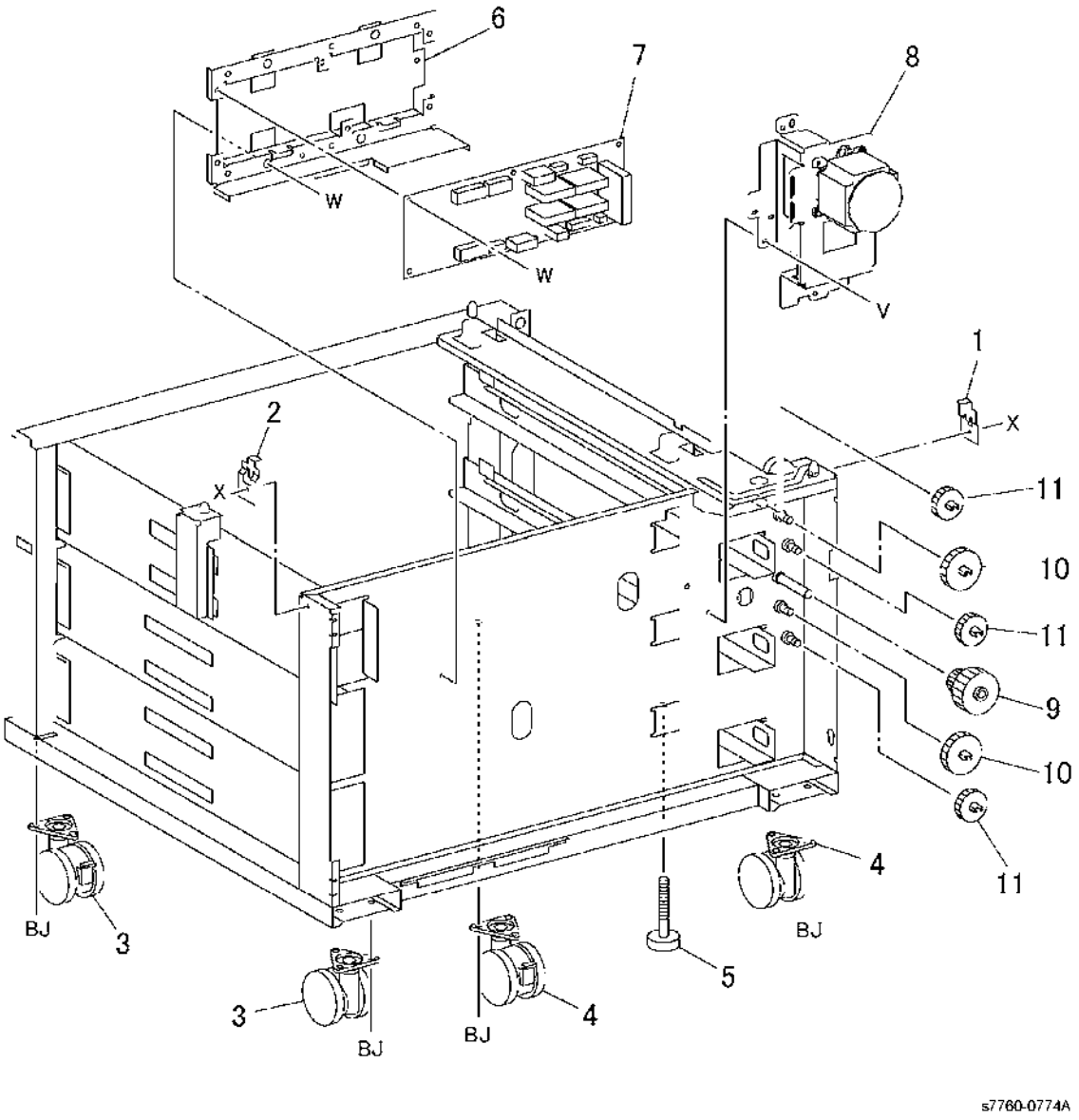
PL 13.1 IOT Control Chassis Assembly

Item	Part	Description
1	–	Rear Panel (Not Spared)
2	101K52470	Chassis Assy Elec (REP 1.3)
3	960K34661	Image Processor Board (REP 1.12)
4	–	Bridge PWB (Not Spared)
5	069E00430	Config Chip, Network
6	802K85142	Chassis Assy-ESS (includes item 8)
7	133K27690	512 MB Memory
8	127K49440	Fan Assembly ESS
9	960K22983	PWBA MCU (Engine Control) (REP 1.2)
10	–	Screw (see FRU Parts List) (Not Spared)
11	237E23660	IP Board EEPROM Chip
12	121E25670	Internal HD Programmed (REP 1.17)
13	–	Cover, Shield (Not Spared)
14	160K76652	MCU-MF NVM PWB (PWBA MCU NVRAM) (Engine Control)



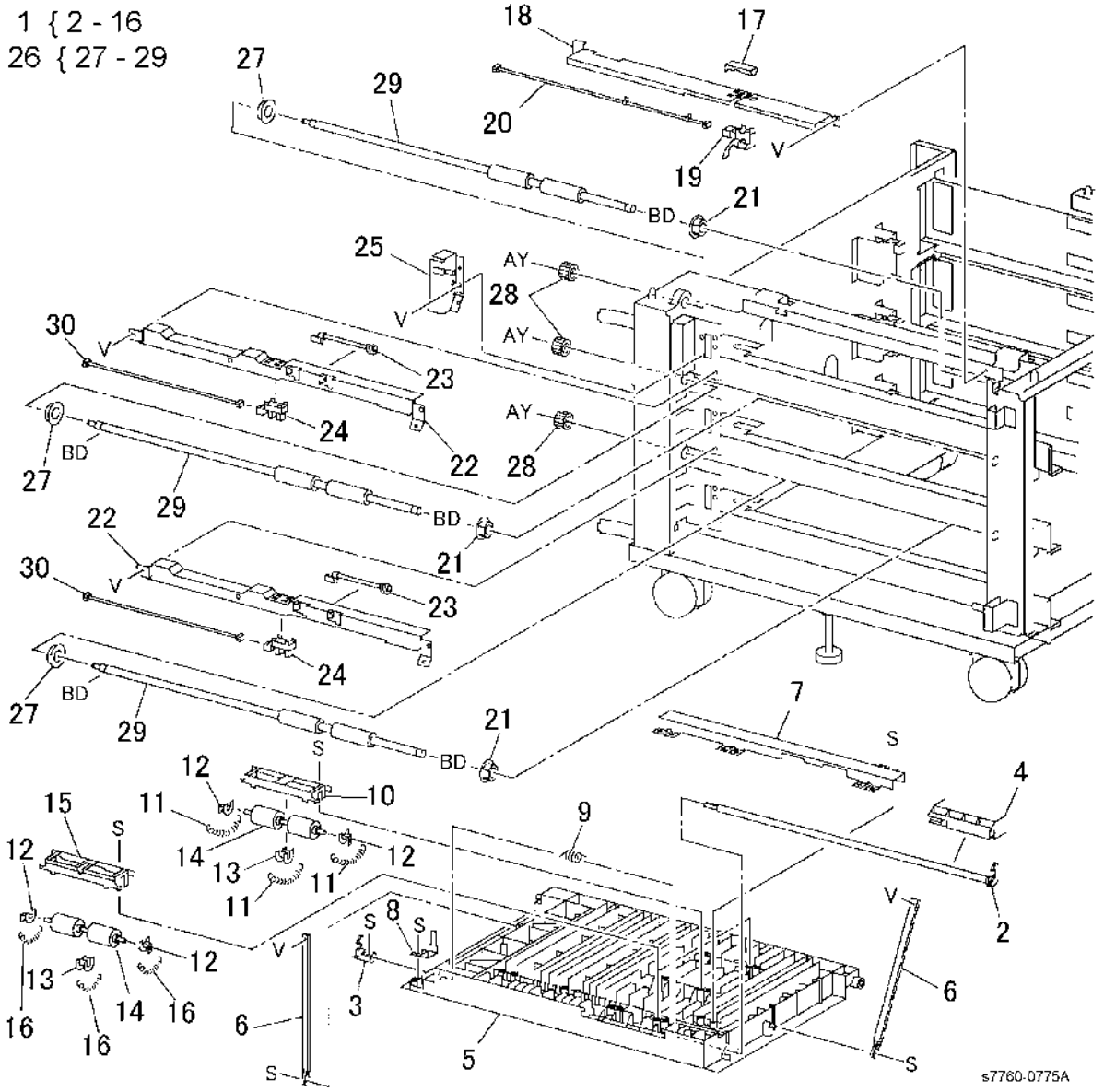
PL 15.9 Electrical Components and Casters

Item	Part	Description
1	–	Left Connecting Bracket (Not Spared)
2	–	Right Connecting Bracket (Not Spared)
3	017K93740	Caster Assy-S
4	017K93750	Caster Assy
5	–	Foot (Not Spared)
6	–	Bracket (Not Spared)
7	960K01342	Tray 3 Module PWB
–	–	3TM PWB
8	127K36021	Motor Assy-3TM (Takeaway Motor 1)
9	–	Gear (23/46T)
10	–	Gear (46T)
11	–	Gear (33T)



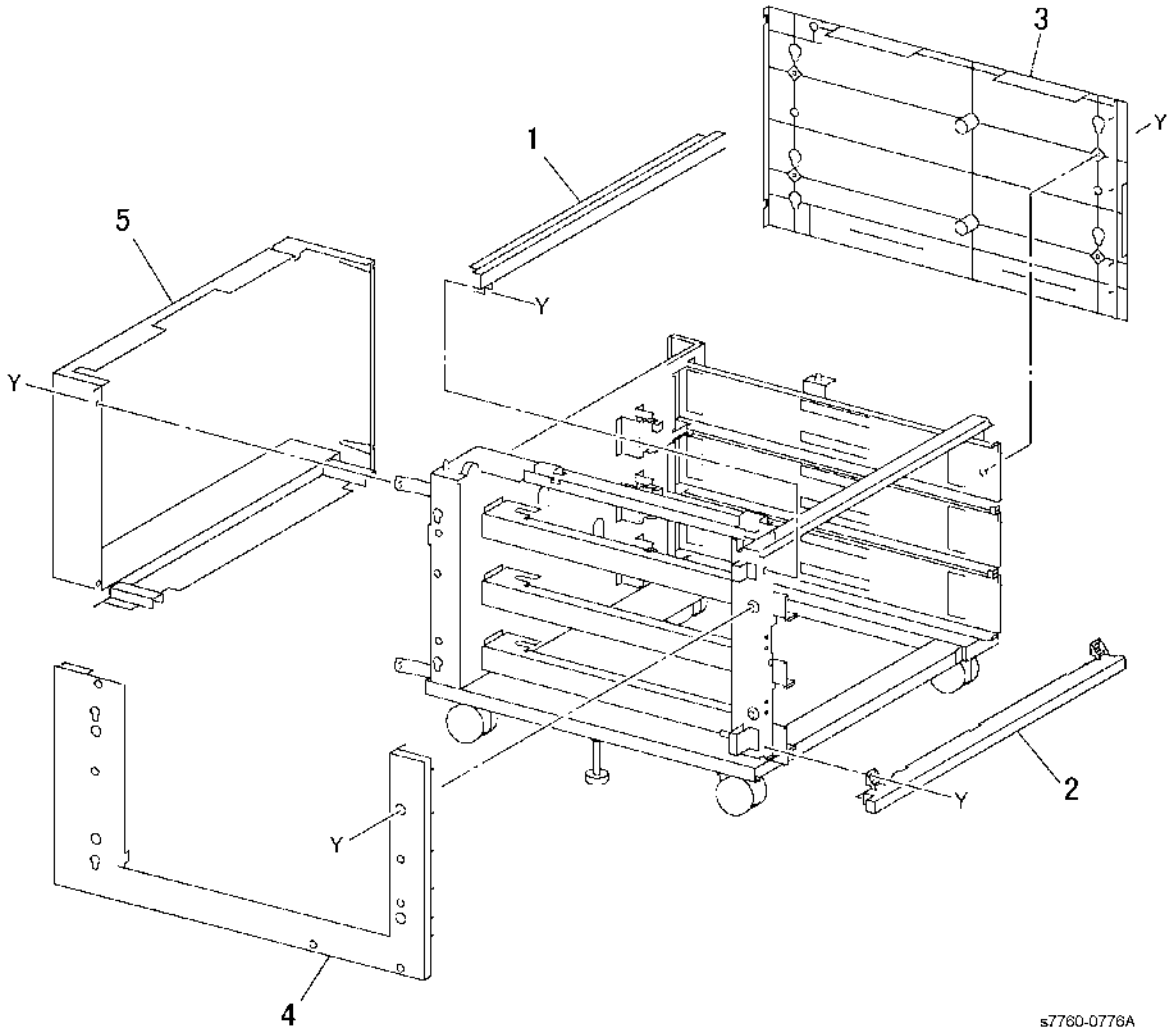
PL 15.10 Left Cover Assembly

Item	Part	Description
1	802K65591	Cover Assy LH 3TM (Left Cover Assembly) (REP 14.11)
2	–	Shaft
3	–	Hook
4	–	Handle
5	–	Left Cover (Left Hand Door C) (P/O PL 15.10 Item 1)
6	–	Support (P/O PL 15.10 Item 1)
7	–	Cover (P/O PL 15.10 Item 1)
8	–	Actuator (P/O PL 15.10 Item 1)
9	–	Spring
10	–	Bearing (P/O PL 15.10 Item 1)
11	–	Spring
12	–	Bearing (P/O PL 15.10 Item 1)
13	–	Bearing (P/O PL 15.10 Item 1)
14	–	Roll (P/O PL 15.10 Item 1)
15	–	Bracket (P/O PL 15.10 Item 1)
16	–	Spring
17	–	Cover (Not Spared)
18	–	Chute (Not Spared)
19	604K16630	Takeaway Sensor (part of Sensor Kit)
20	–	Wire Harness
21	–	Bearing (Not Spared)
22	–	Chute (Not Spared)
23	600K87510	Actuator (part of Sensor Flag Kit)
24	604K16630	Feedout Sensor (Tray 3/4) (part of Sensor Kit)
25	–	Interlock Switch
26	059K18901	Roll Assy TA (Takeaway Roll Assembly)
27	–	Bearing (P/O PL 15.10 Item 26)
28	–	Gear (P/O PL 15.10 Item 26)
29	–	Takeaway Roll (P/O PL 15.10 Item 26)
30	–	Wire Harness (Not Spared)



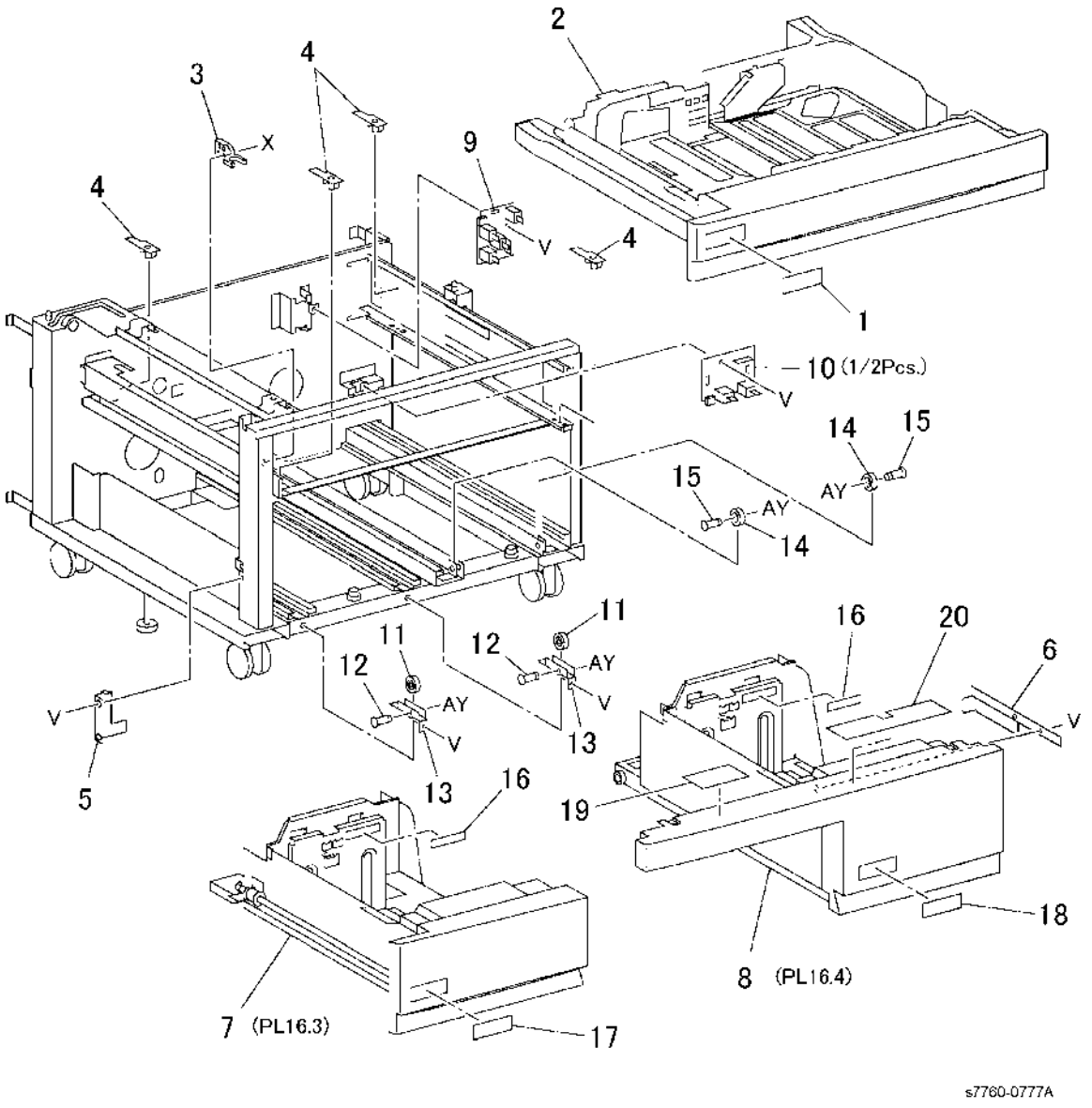
PL 15.11 Covers

Item	Part	Description
1	802E23952	Front Upper Cover
2	802E23961	Front Lower Cover
3	802E23941	Right Cover
4	802E23931	Left Lower Cover (REP 14.12)
5	802K36580	Rear Cover



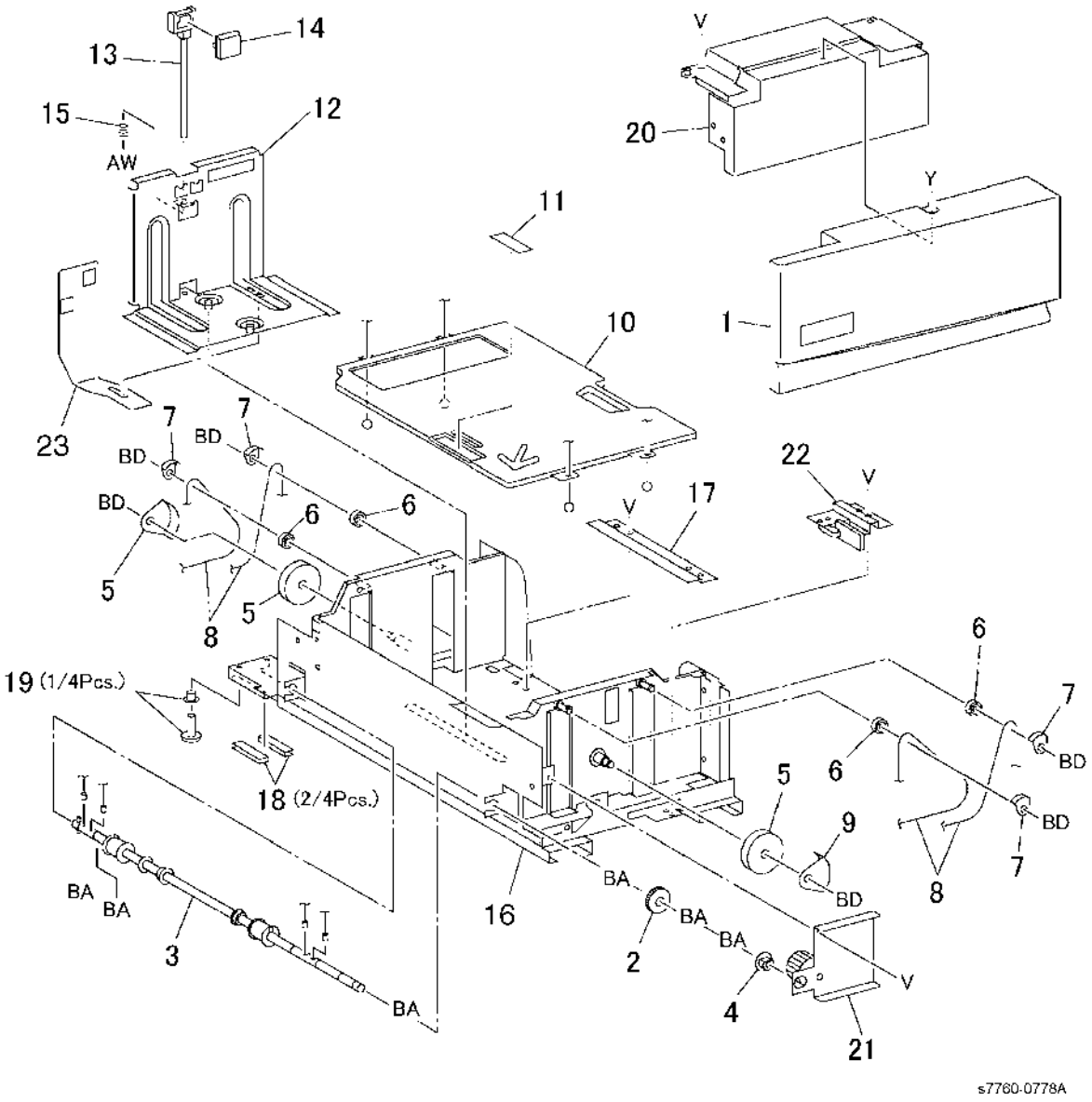
PL 16.1 Tray 2/3/4/5 Assembly

Item	Part	Description
1	–	Label (Not Spared) (Tray 3)
2	050K56361	Tray 2/3/4/5 (Universal Tray Assembly) (REP 7.9)
3	–	Stop (Tray 3)
4	–	Spacer (Tray 3)
5	–	Stop (Not Spared) (Tray 4)
6	–	Stop (Not Spared) (Tray 5)
7	050K43132	Tray Assy-LH (Tray 4 Assembly) (REP 7.6)
8	050K43122	Tray Assy-RH (Tray 5 Assembly) (REP 7.7)
9	110K12990	Tray 3 Paper Size Sensor
10	110K10881	Switch Assy-P.S. (Tray 4/5 Paper Size Sensor)
11	–	Roll
12	–	Shaft (Not Spared)
13	–	Bracket (Not Spared)
14	–	Roll (Not Spared)
15	–	Shaft (Not Spared)
16	–	Max Label (Not Spared)
17	–	Label (Tray 4)
18	–	Label (Tray 5)
19	–	Label (Not Spared)
20	–	Instruction Label (Not Spared)



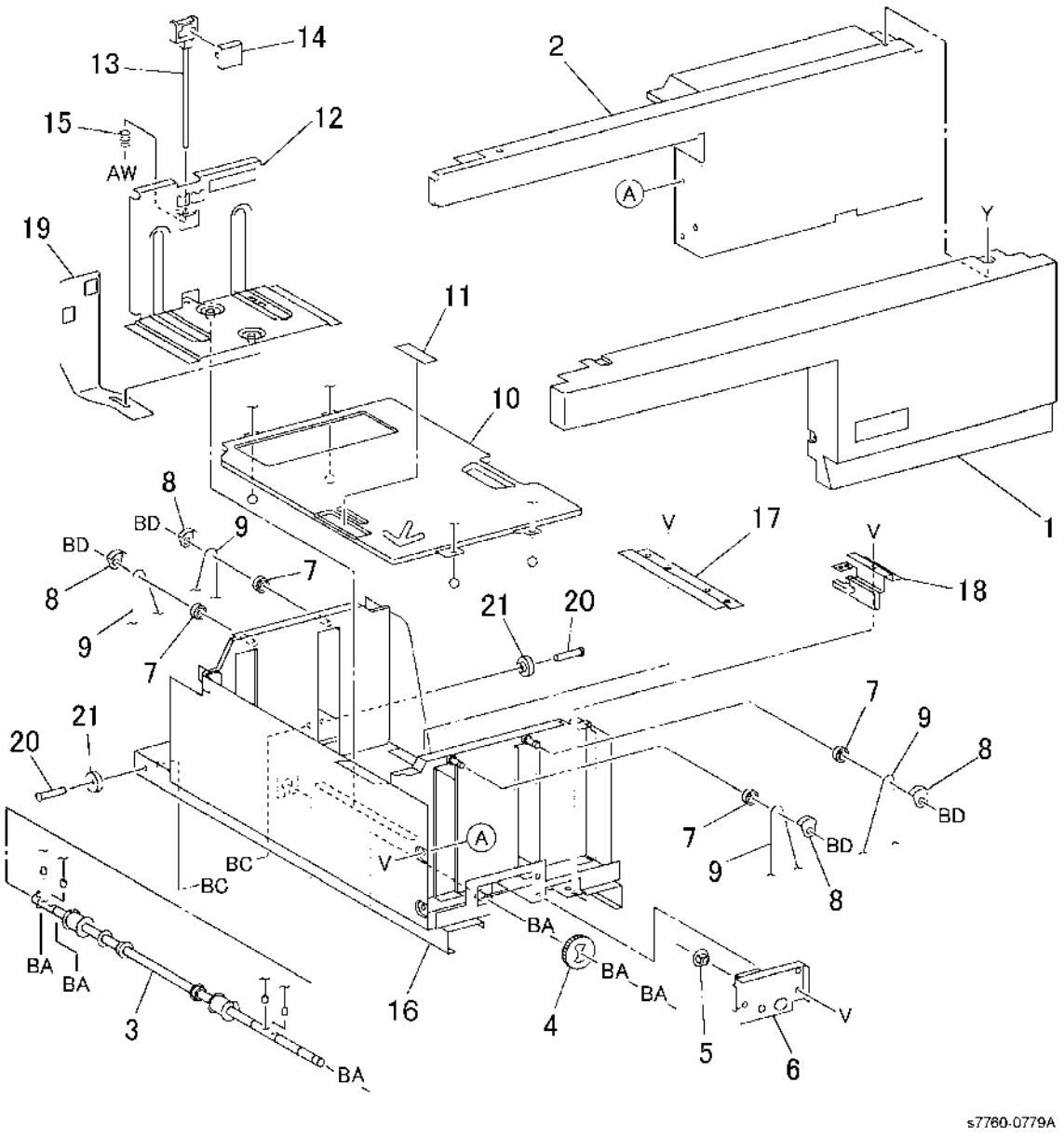
PL 16.3 Tray 4

Item	Part	Description
1	802E23992	Tray 4 Cover
2	–	Pulley (P/O PL 16.1 Item 7)
3	–	Lift Shaft (P/O PL 16.1 Item 7)
4	–	Bearing (P/O PL 16.1 Item 7)
5	–	Pulley
6	–	Pulley (P/O PL 16.1 Item 7)
7	–	Cable Guide (P/O PL 16.1 Item 7)
8	–	Pulley Cable (P/O PL 16.1 Item 7)
9	–	Cable Guide (P/O PL 16.1 Item 7)
10	–	Bottom Plate (P/O PL 16.1 Item 7)
11	–	Pad (P/O PL 16.1 Item 7)
12	–	Side Guide (P/O PL 16.1 Item 7)
13	–	Knob (P/O PL 16.1 Item 7)
14	–	Knob (P/O PL 16.1 Item 7)
15	–	Spring
16	–	Frame (P/O PL 16.1 Item 7)
17	–	Bracket (P/O PL 16.1 Item 7)
18	–	Spacer (P/O PL 16.1 Item 7)
19	–	Spacer (P/O PL 16.1 Item 7)
20	–	Bracket (P/O PL 16.1 Item 7)
21	–	Brake (P/O PL 16.1 Item 7)
22	–	Latch (P/O PL 16.1 Item 7)
23	–	Actuator (P/O PL 16.1 Item 7)



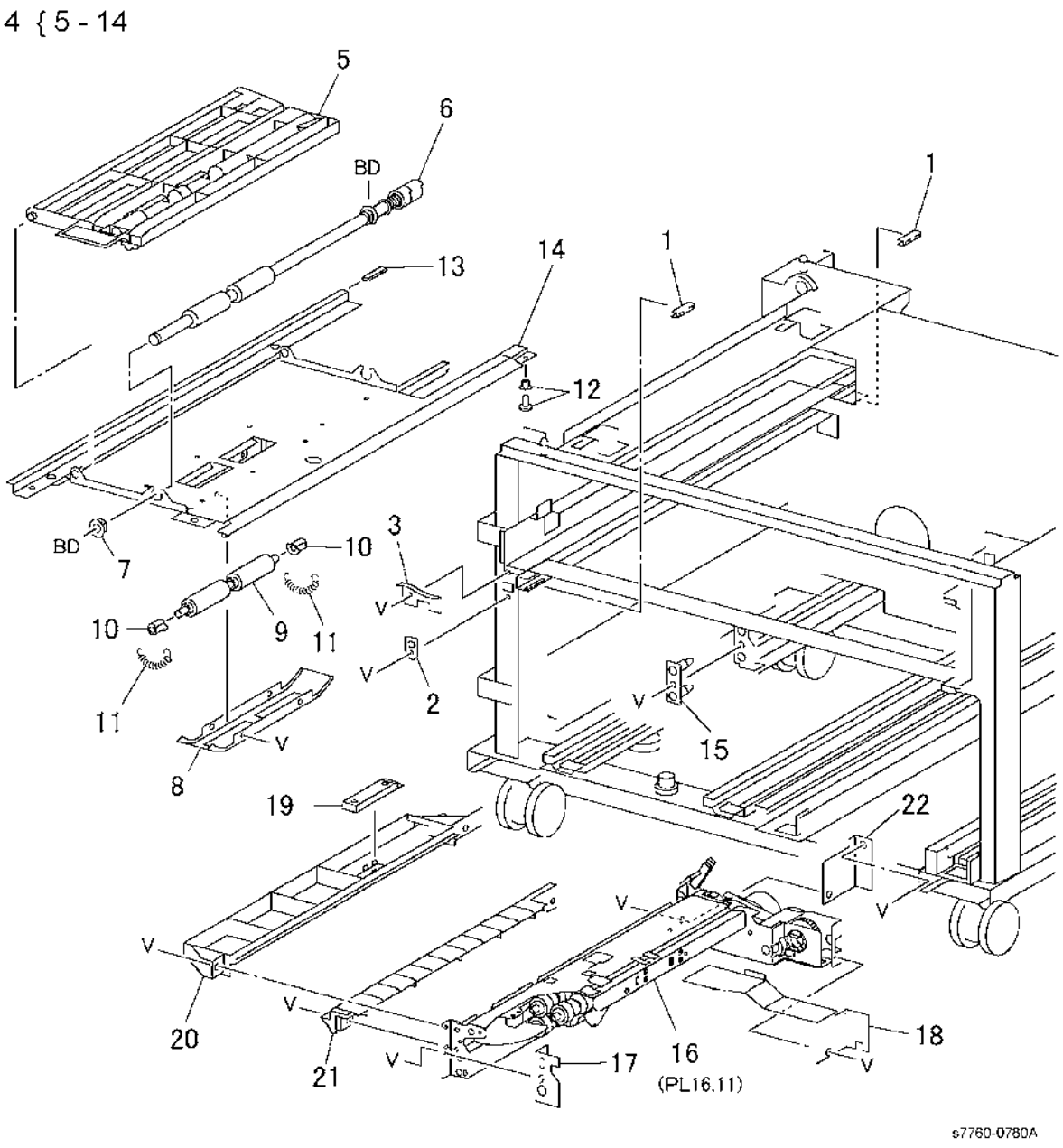
PL 16.4 Tray 5

Item	Part	Description
1	802E23982	Tray 5 Cover
2	–	Tray Front Frame (P/O PL 16.1 Item 8)
3	–	Lift Shaft (P/O PL 16.1 Item 8)
4	–	Lift Gear (P/O PL 16.1 Item 8)
5	–	Bearing (P/O PL 16.1 Item 8)
6	–	Brake (P/O PL 16.1 Item 8)
7	–	Pulley (P/O PL 16.1 Item 8)
8	–	Cable Guide (P/O PL 16.1 Item 8)
9	–	Tray Cable
10	–	Bottom Plate (P/O PL 16.1 Item 8)
11	–	Pad (P/O PL 16.1 Item 8)
12	–	Side Guide (P/O PL 16.1 Item 8)
13	–	Knob (P/O PL 16.1 Item 8)
14	–	Knob (P/O PL 16.1 Item 8)
15	–	Spring
16	–	Tray Frame (P/O PL 16.1 Item 8)
17	–	Bracket (P/O PL 16.1 Item 8)
18	–	Latch (P/O PL 16.1 Item 8)
19	–	Actuator (P/O PL 16.1 Item 8)
20	–	Shaft (P/O PL 16.1 Item 8)
21	–	Roll



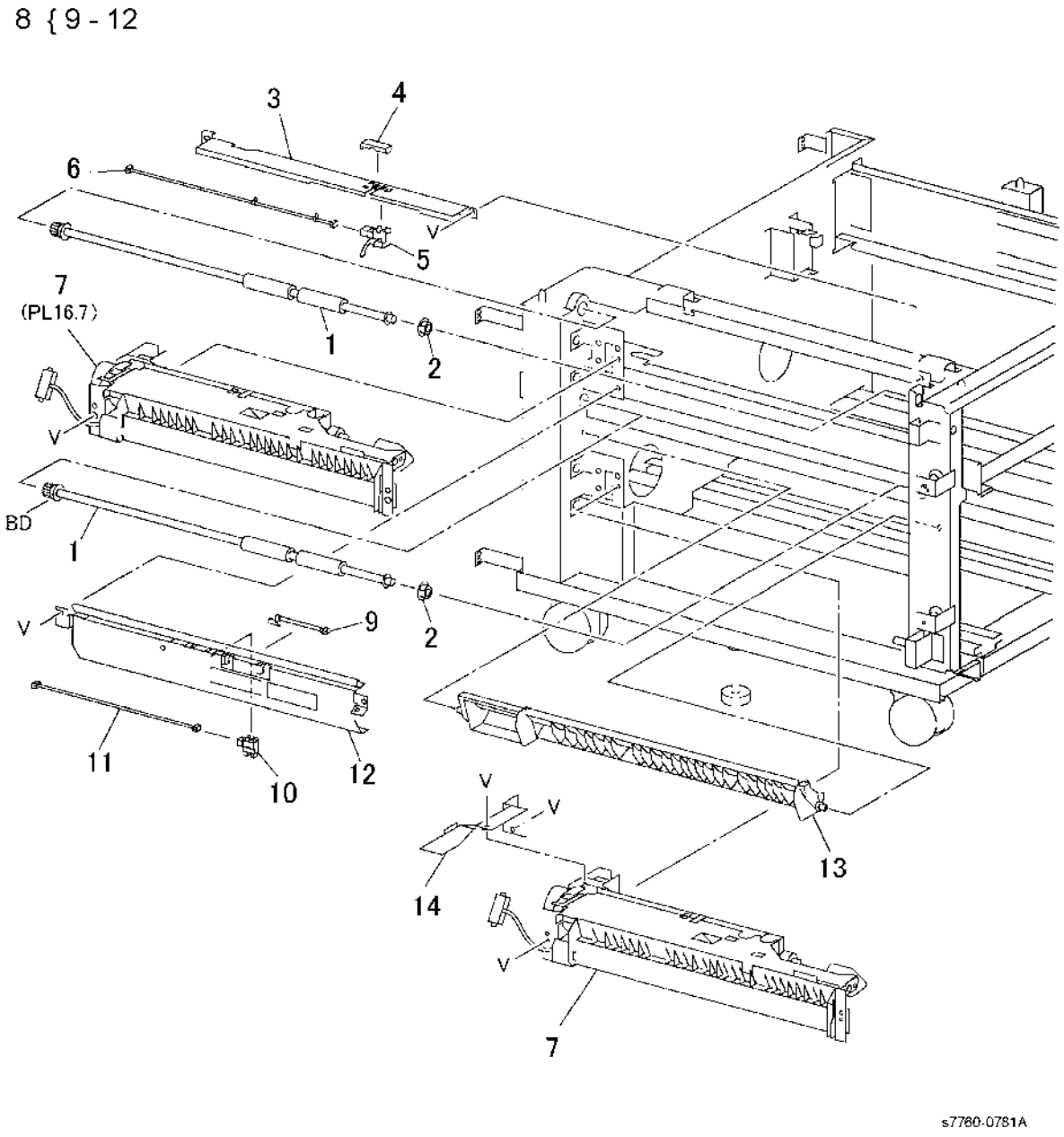
PL 16.5 Tray 3/4/5 Paper Feeder: 1 of 2

Item	Part	Description
1	–	Spacer (Not Spared)
2	–	Guide (Not Spared)
3	–	Stop (Not Spared)
4	059K21792	Tray 5 Transport Assembly
5	–	Upper Chute (P/O PL 16.5 Item 4)
6	–	Takeaway Roll (P/O PL 16.5 Item 4)
7	–	Bearing (P/O PL 16.5 Item 4)
8	–	Cover (P/O PL 16.5 Item 4)
9	–	Pinch Roll (P/O PL 16.5 Item 4)
10	–	Bearing (P/O PL 16.5 Item 4)
11	–	Spring (P/O PL 16.5 Item 4)
12	–	Spacer (P/O PL 16.5 Item 4)
13	–	Spacer (P/O PL 16.5 Item 4)
14	–	Lower Chute (P/O PL 16.5 Item 4)
15	–	Bracket (Not Spared)
16	059K18333	Paper Feeder Assy (with 16, 20, 21) (Tray 5 Feeder) (REP 7.12)
17	–	Bracket (Not Spared)
18	–	Bracket (Not Spared)
19	130E87400	Tray 5 Feedout Sensor
20	054E18542	Chute to Upper (Upper Chute)
21	054E18532	Chute to Lower (Lower Chute)
22	–	Bracket (Not Spared)



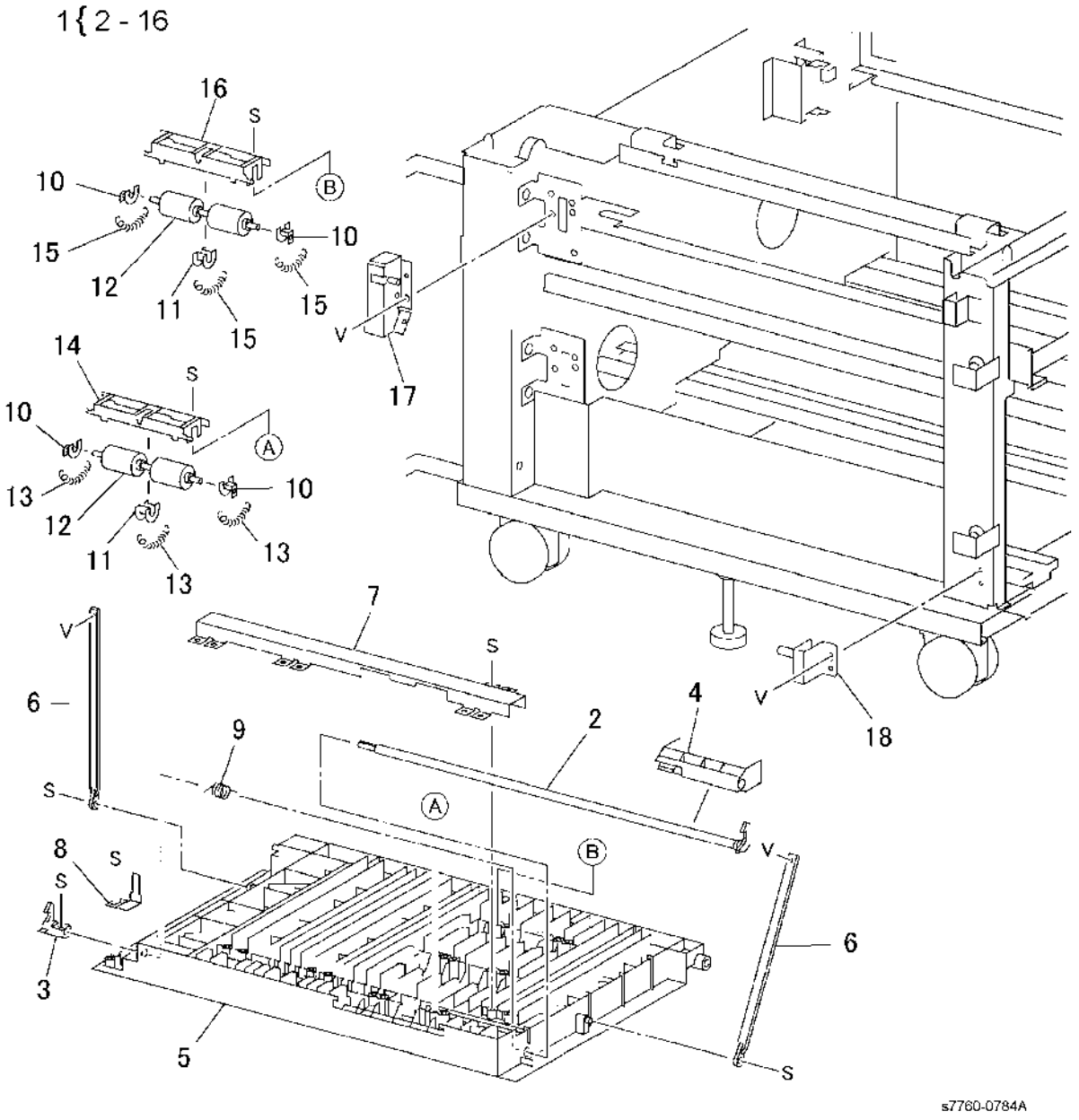
PL 16.6 Tray 3/4/5 Paper Feeder: 2 of 2

Item	Part	Description
1	–	Takeaway Roll
2	–	Bearing (Not Spared)
3	–	Chute (Not Spared)
4	–	Cover (Not Spared)
5	604K16630	Takeaway Sensor (Sensor Kit)
6	–	Wire Harness
7	059K15577	Tray 3/4 Feeder (REP 7.10, REP 7.11)
8	054K18271	Chute Assembly-FO TM
9	–	Actuator (P/O PL 16.6 Item 8)
10	604K16630	Tray 3/4 Feedout Sensor (Sensor Kit)
11	–	Wire Harness (P/O PL 16.6 Item 8)
12	–	Chute (P/O PL 16.6 Item 8)
13	054E18521	Lower Chute
14	–	Bracket (Not Spared)



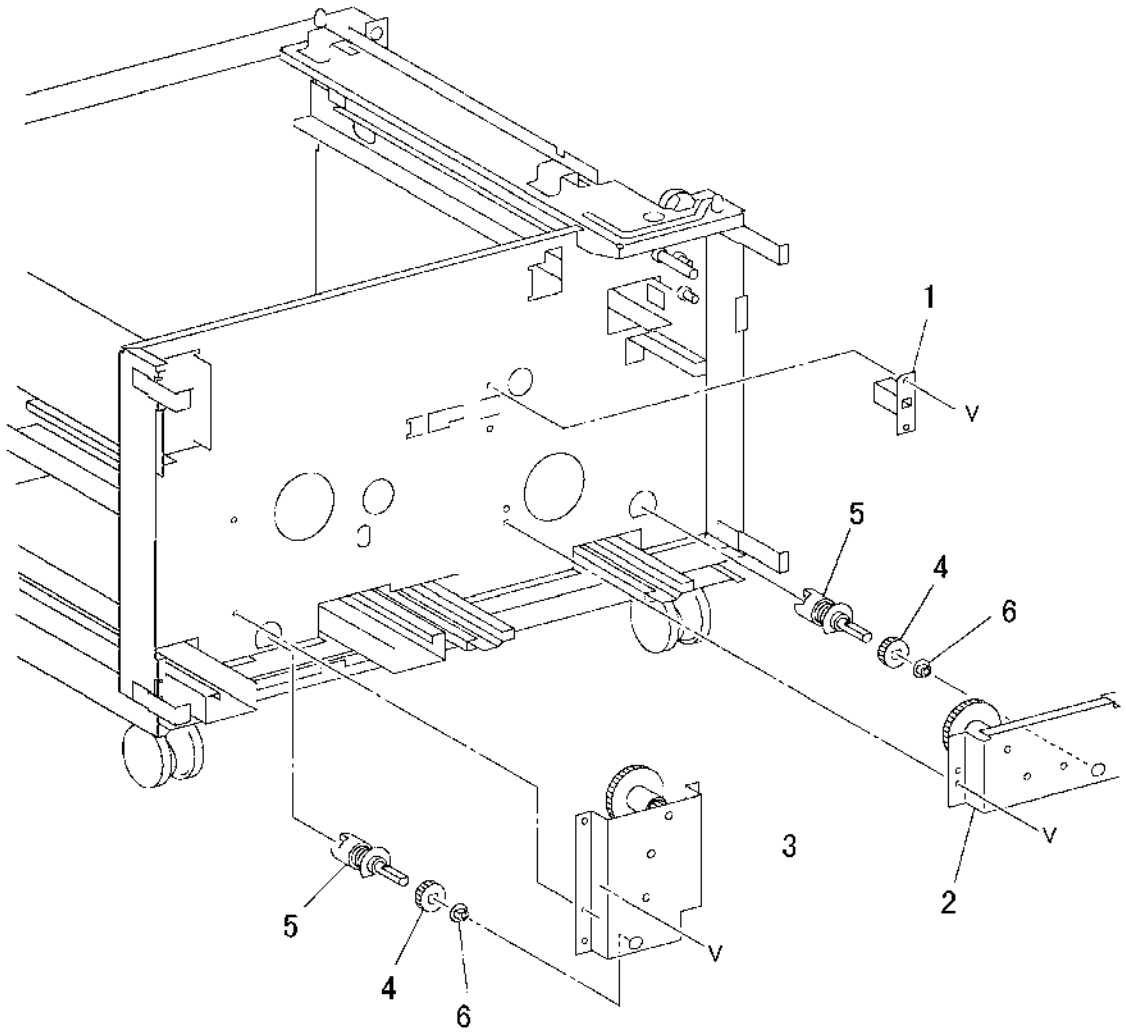
PL 16.13 Left Cover Assembly (Left Hand Door C)

Item	Part	Description
1	802K65601	Cover Assy-LH_TTM (Left Cover Assembly) (REP 14.11)
2	–	Shaft
3	–	Hook
4	–	Handle
5	–	Left Cover (Left Hand Door C) (P/O PL 16.13 Item 1)
6	–	Support (P/O PL 16.13 Item 1)
7	–	Cover (P/O PL 16.13 Item 1)
8	–	Actuator (P/O PL 16.13 Item 1)
9	–	Spring (P/O PL 16.13 Item 1)
10	–	Bearing (P/O PL 16.13 Item 1)
11	–	Bearing (P/O PL 16.13 Item 1)
12	–	Pinch Roll (P/O PL 16.13 Item 1)
13	–	Spring
14	–	Bracket (P/O PL 16.13 Item 1)
15	–	Spring
16	–	Bracket (P/O PL 16.13 Item 1)
17	–	Interlock Switch
18	–	Bracket (Not Spared)



PL 16.14 Tray 4/5 Lift Gear Assembly

Item	Part	Description
1	–	Transport Guide (Not Spared)
2	015K49461	Bracket Assy-Gear, LH (Gear Assembly) (Tray 4)
3	015K49451	Bracket Assy-Gear, RH (Gear Assembly) (Tray 5)
4	–	Lift Gear
5	–	Coupling
6	–	Bearing (Not Spared)



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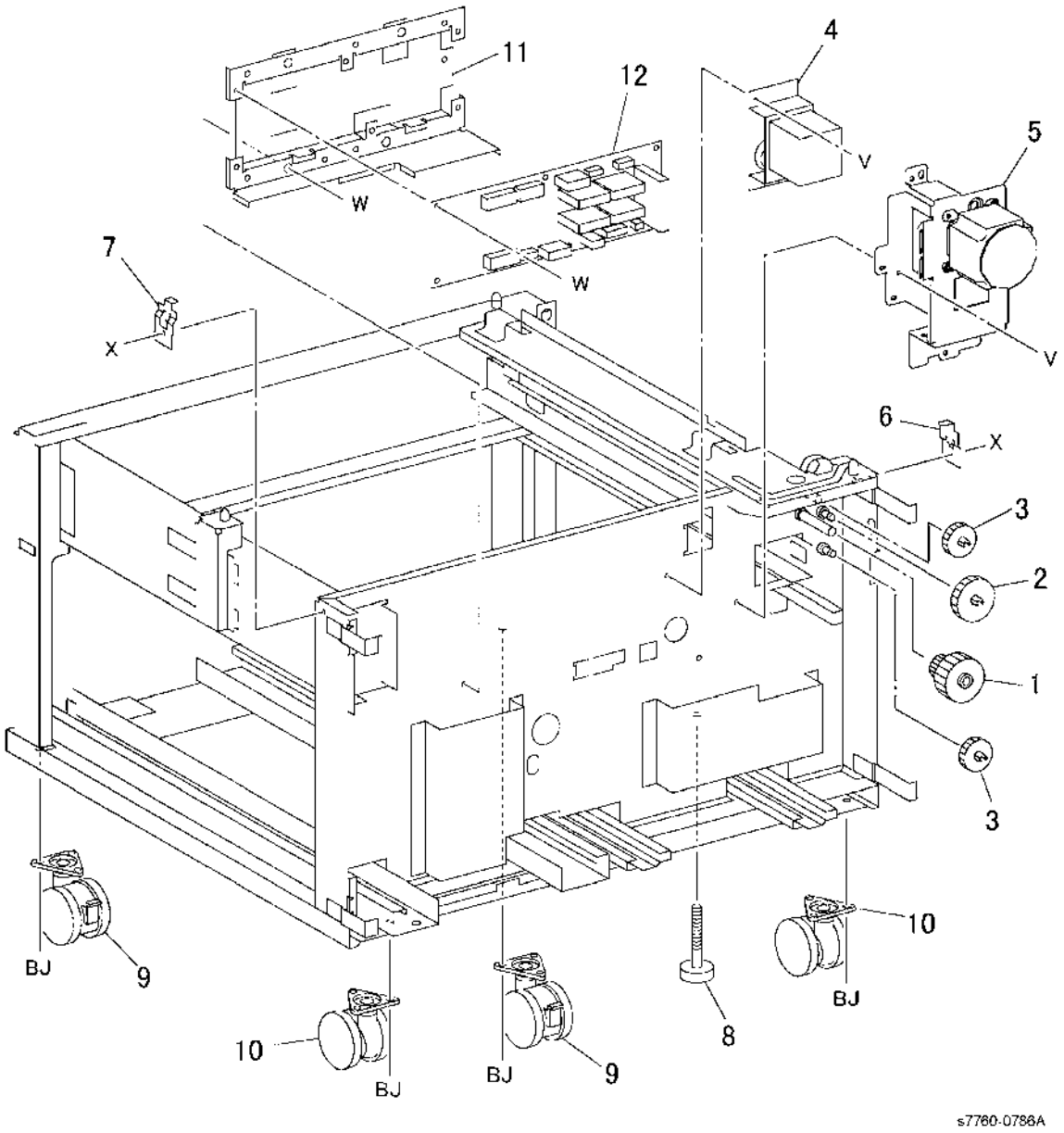
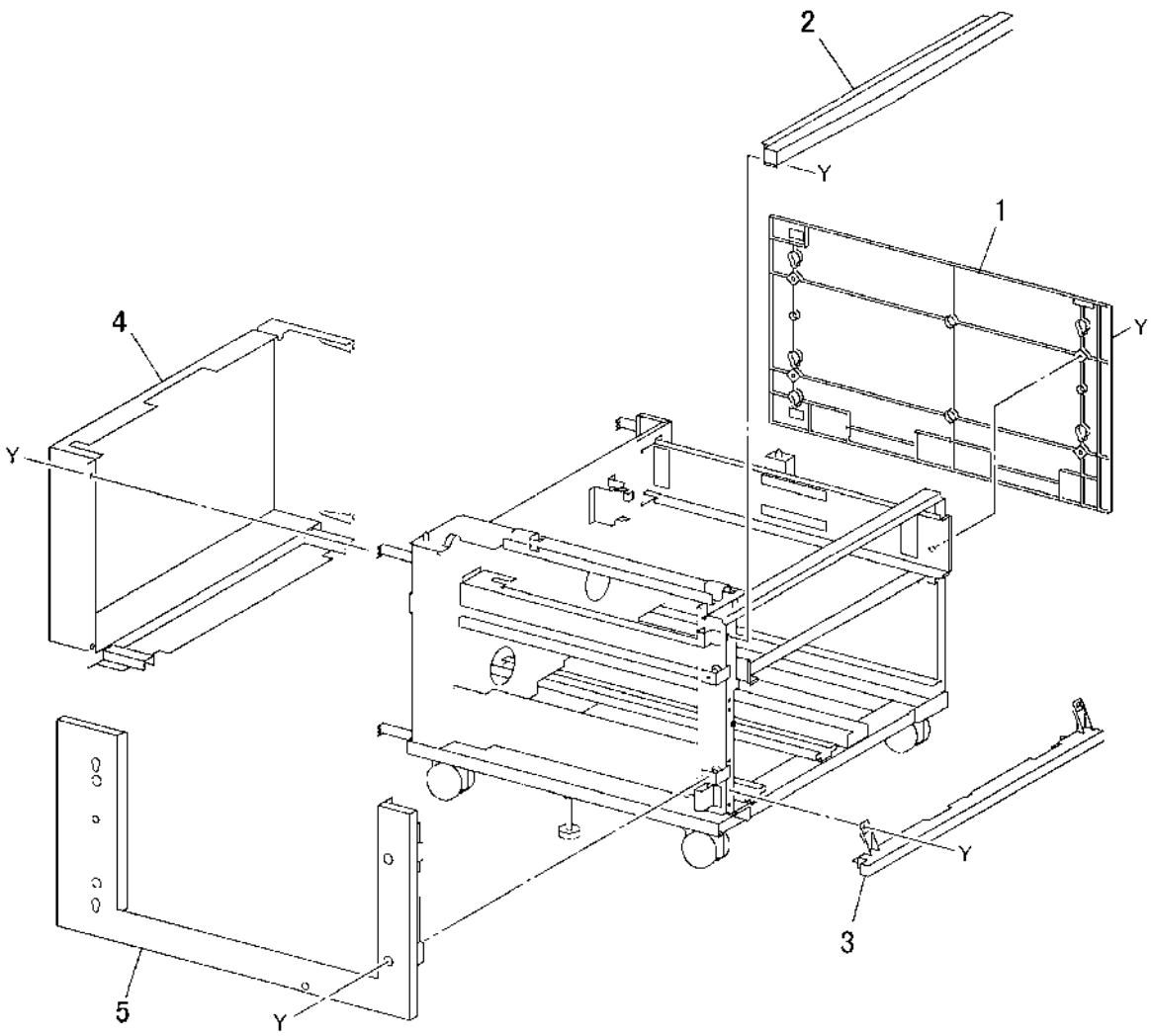
PL 16.15 Electrical Components and Casters

Item	Part	Description
1	–	Gear (23/46T)
2	–	Gear (46T)
3	–	Gear (33T)
4	127K31841	Motor Assy Trans (Takeaway Motor 2)
5	–	Takeaway Motor 1
6	–	Left Coupling (Not Spared)
7	–	Right Coupling (Not Spared)
8	–	Foot (Not Spared)
9	–	Caster
10	–	Caster
11	–	Bracket (Not Spared)
12	960K01752	Tray Module PWB



PL 16.16 Covers

Item	Part	Description
1	802E23941	Right Cover
2	802E23952	Front Upper Cover
3	802E23961	Front Lower Cover
4	802K50492	Rear Cover (REP 14.9)
5	802E23931	Left Lower Cover (Left Hand Door C) (REP 14.12)



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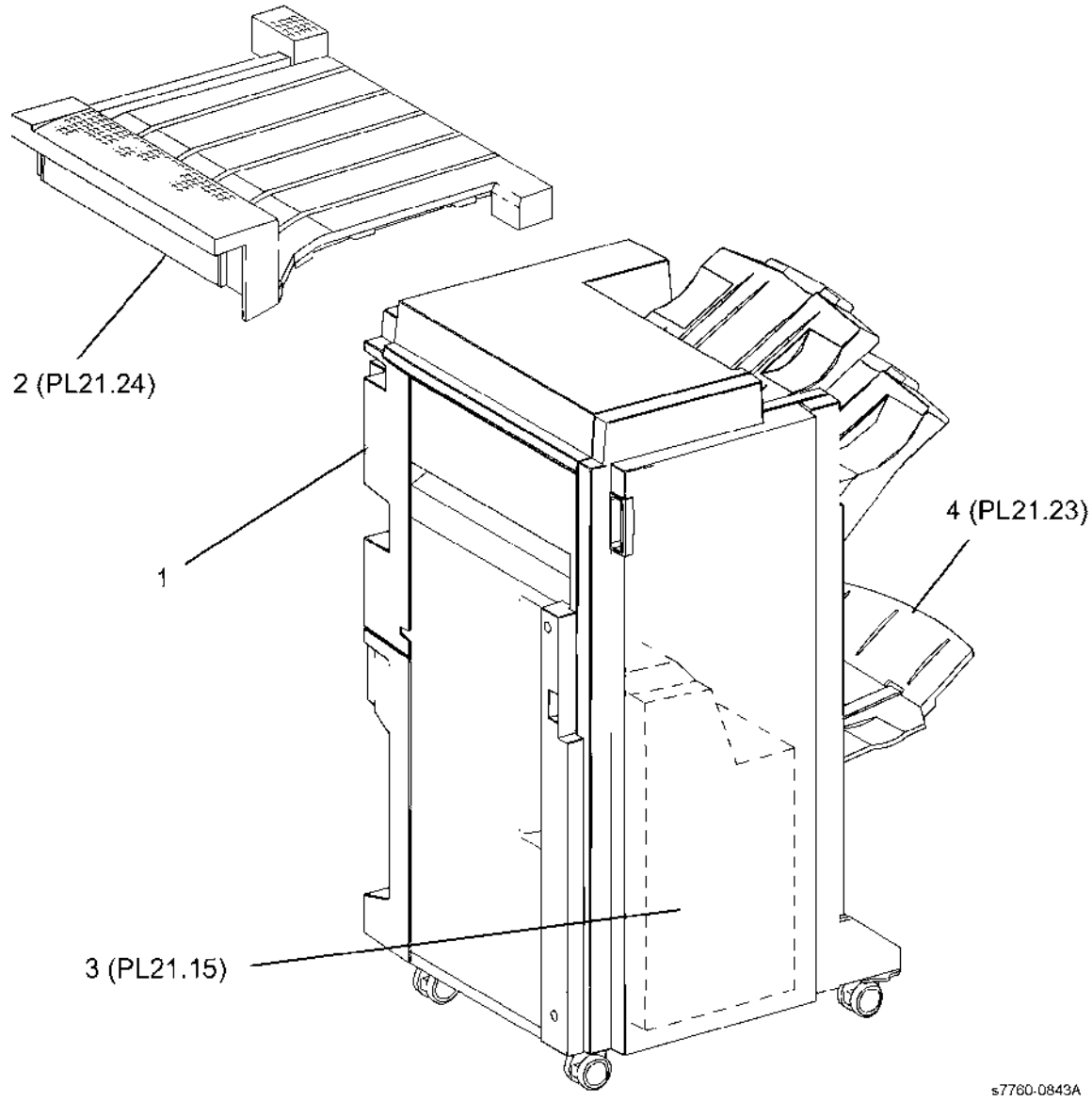
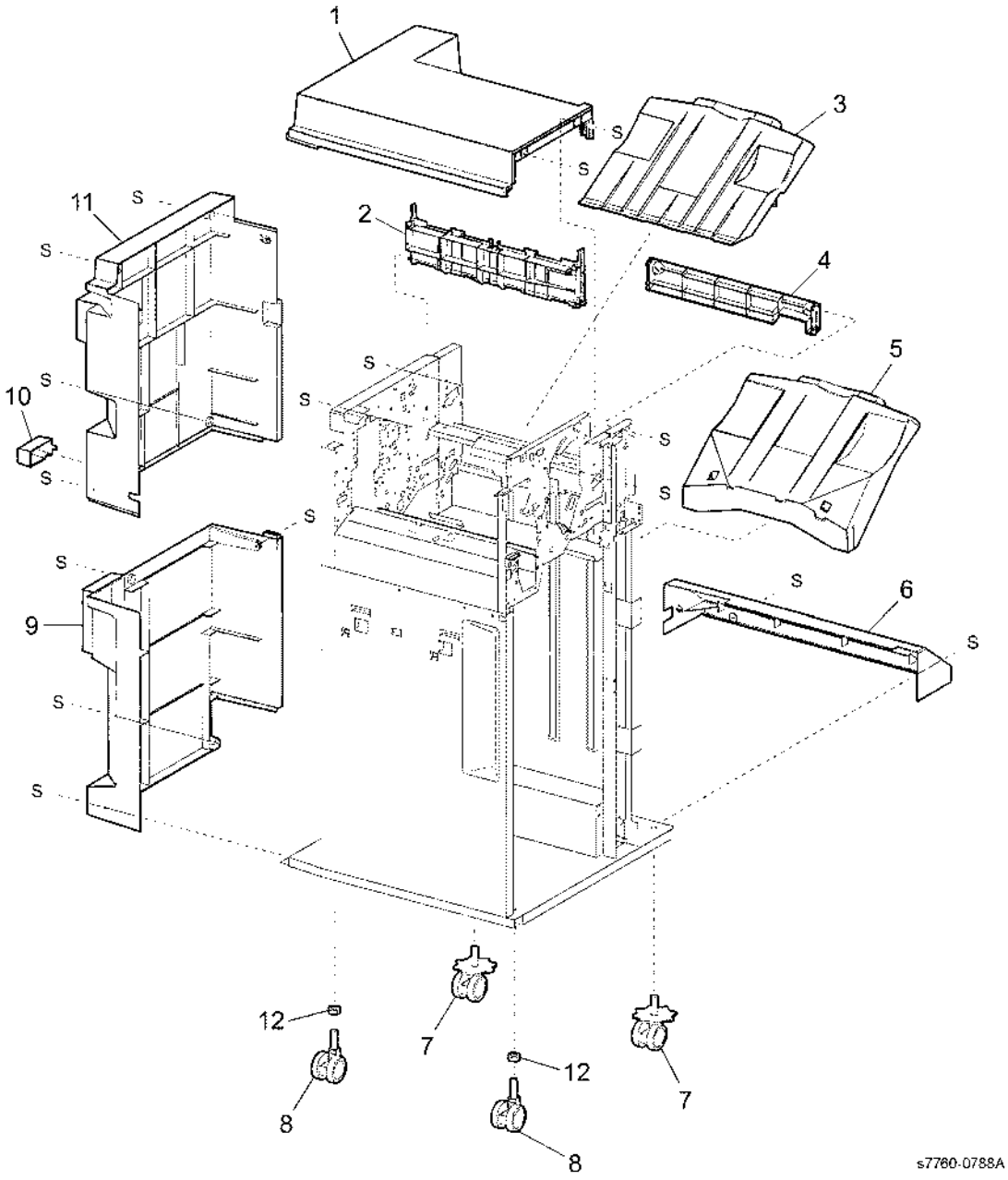
PL 21.1 A/P Finisher

Item	Part	Description
1	–	A/P Finisher (Not Spared) (REP 12.50, ADJ 12.2)
2	059K37916	H-Transport Assembly (PL 21.24) (REP 12.51)
3	–	Booklet Maker (PL 21.15) (REP 12.55)
4	–	Booklet Tray (PL 21.23)



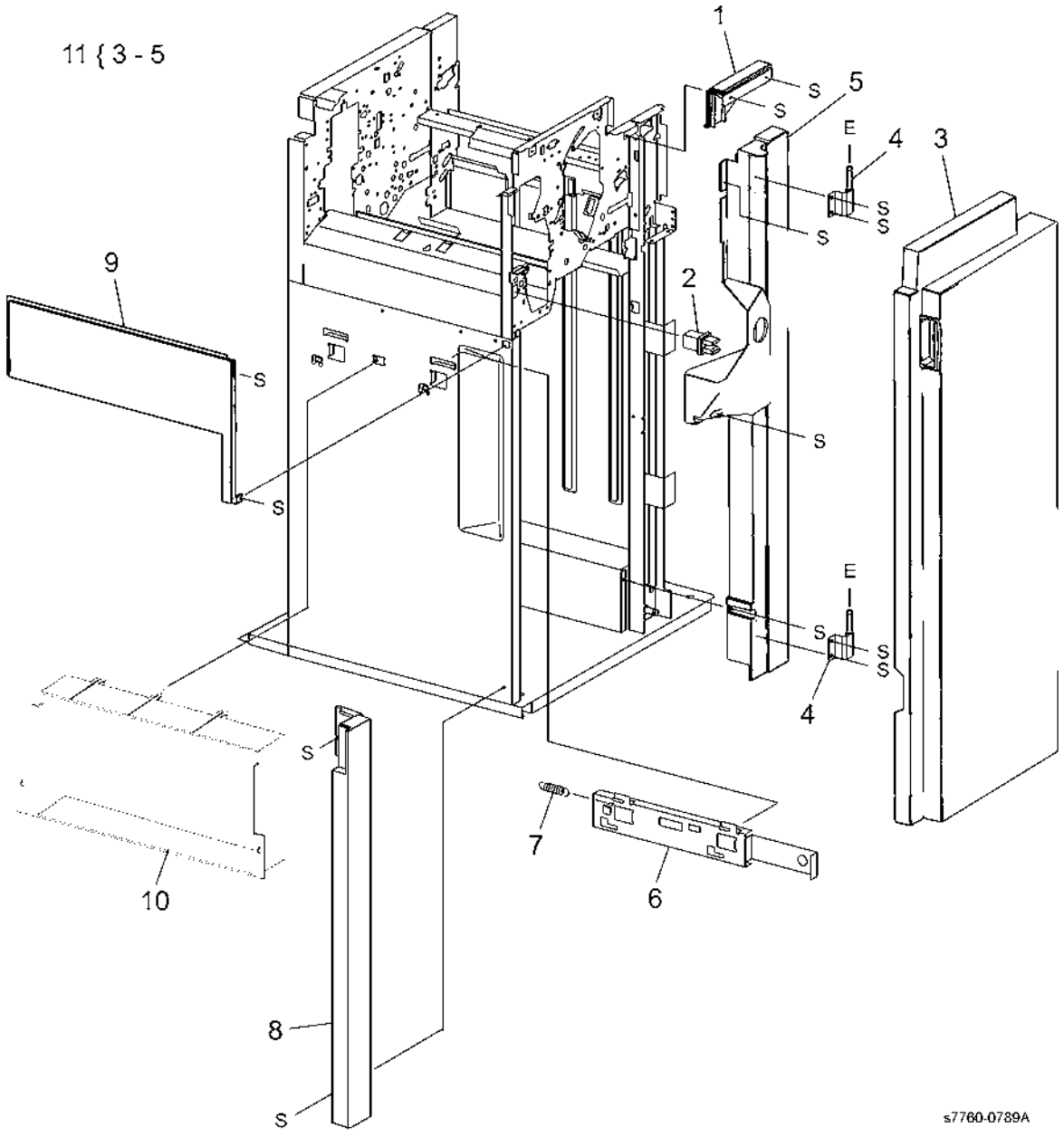
PL 21.2 Finisher Cover: 1 of 2

Item	Part	Description
1	–	Top Cover (Not Spared) (REP 12.43)
2	–	Tray Spring Guide (Not Spared) (REP 12.47)
3	–	Top Tray (Not Spared) (REP 12.45)
4	–	Eject Cover (Not Spared) (REP 12.46)
5	–	Stacker Tray (Not Spared) (REP 12.58)
6	–	Bottom Cover (Not Spared)
7	017E98040	Caster
8	017E97230	Caster
9	–	Rear Lower Cover (Not Spared) (REP 12.42)
10	–	H-Transport Connector Cover (Not Spared)
11	–	Rear Upper Cover (Not Spared) (REP 12.41)
12	–	Nut M12X1.25 (Not Spared)



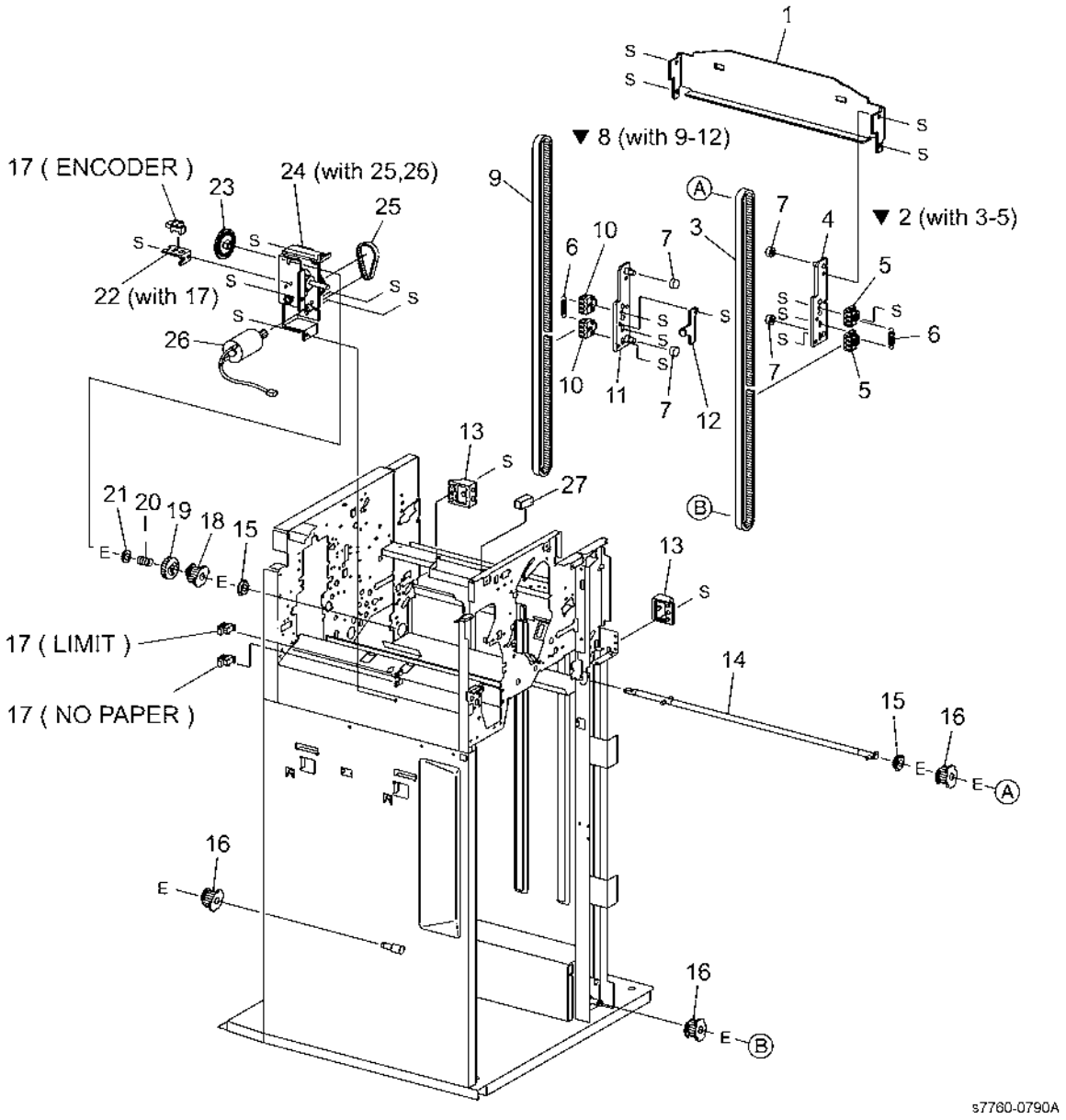
PL 21.3 Finisher Cover: 2 of 2

Item	Part	Description
1	–	Front Top Cover (Not Spared) (REP 12.44)
2	110E97990	Front Door Interlock Switch
3	–	Front Door (P/O PL 21.3 Item 11)
4	–	Hinge Bracket (P/O PL 21.3 Item 11)
5	–	Front Right Cover (P/O PL 21.3 Item 11)
6	–	Docking Plate (Not Spared)
7	–	Spring (Not Spared)
8	802E73871	Front Left Cover
9	–	Left Top Cover (Not Spared) (REP 12.49)
10	015K67230	IOT Docking Plate
11	802K67130	Front Door Assembly (REP 12.40)
12	–	Interlock Cover (Not Spared)



PL 21.4 Finisher Stack

Item	Part	Description
1	–	Stacker Tray Bracket (Not Spared)
2	041K94720	Left Carriage Assembly
3	–	Stacker Drive Belt (P/O PL 21.4 Item 2) (REP 12.60)
4	–	Left Carriage Bracket (P/O PL 21.4 Item 2)
5	–	Belt Clamp (P/O PL 21.4 Item 2)
6	809E56850	Spring
7	013E27150	Carriage Bearing
8	041K94730	Right Carriage Assembly
9	023E21520	Stacker Drive Belt (P/O PL 21.4 Item 8) (REP 12.60)
10	019E58660	Belt Clamp (P/O PL 21.4 Item 8)
11	–	Right Carriage Bracket (P/O PL 21.4 Item 8)
12	–	Stacker Sensor Actuator (P/O PL 21.4 Item 8)
13	802K67140	Stack Height Sensor (Front, Rear)
14	–	Elevator Drive Shaft (Not Spared)
15	413W77559	Bearing
16	020E37720	Pulley (18T)
17	130K88770	Stacker Encoder Sensor, Stacker No Paper Sensor (No Paper), Upper Limit Sensor (Limit)
18	020E37710	Clutch Pulley
19	807E08990	Clutch Gear
20	809E56860	Spring
21	251W31178	Washer
22	–	Sensor Bracket (Not Spared)
23	146E01770	Stacker Encoder
24	015K65900	Elevator Motor Assembly
25	–	Elevator Motor Drive Belt (P/O PL 21.4 Item 24)
26	–	Elevator Motor (P/O PL 21.4 Item 24)
27	110E11990	Down Load Interlock Switch



PL 21.5 Finisher Punch

Item	Part	Description
1	801K16761	Puncher Frame Assembly 3 Hole (REP 12.52)
2	–	Puncher Unit Harness (P/O PL 21.5 Item 9)
3	–	Puncher Motor Cover (P/O PL 21.5 Item 9)
4	015K65880	Puncher Move Motor
5	–	Frame Assembly Holder (Not Spared)
6	015K65840	Sensor Registration Bracket Assembly
7	–	Front Punch Cover (Not Spared)
8	–	Side Registration Sensor 1 (Reg 1) and 2 (Reg 2) (P/O PL 21.5 Item 6)
9	015K65870	Punch Bracket Assembly
10	–	Left Punch Cover (Not Spared)
11	–	Guide Assembly (P/O PL 21.5 Item 9)
12	–	Punch Motor Assembly (P/O PL 21.5 Item 9)
13	–	Punch Motor Sensor (P/O PL 21.5 Item 14)
14	015K65920	Punch Motor Bracket Assembly
15	–	Front Punch Sensor (Front), Home Punch Sensor (Home), Hole Select Punch Sensor (Hole) (P/O PL 21.5 Item 9)
16	–	Sensor Bracket (P/O PL 21.5 Item 9)
17	–	Punch Move Home Sensor (P/O PL 21.5 Item 18)
18	015K65830	Punch Move Home Sensor Assembly
19	060E01140	Puncher Waste Bin
20	130K88770	Puncher Box Set Sensor
21	–	Sensor Registration Bracket (P/O item 6)
22	–	Punch Move Home Sensor Bracket (P/O 18)
23	–	Punch Motor Bracket (P/O PL 21.5 Item 14)
24	–	Punch Bracket (P/O PL 21.5 Item 9)

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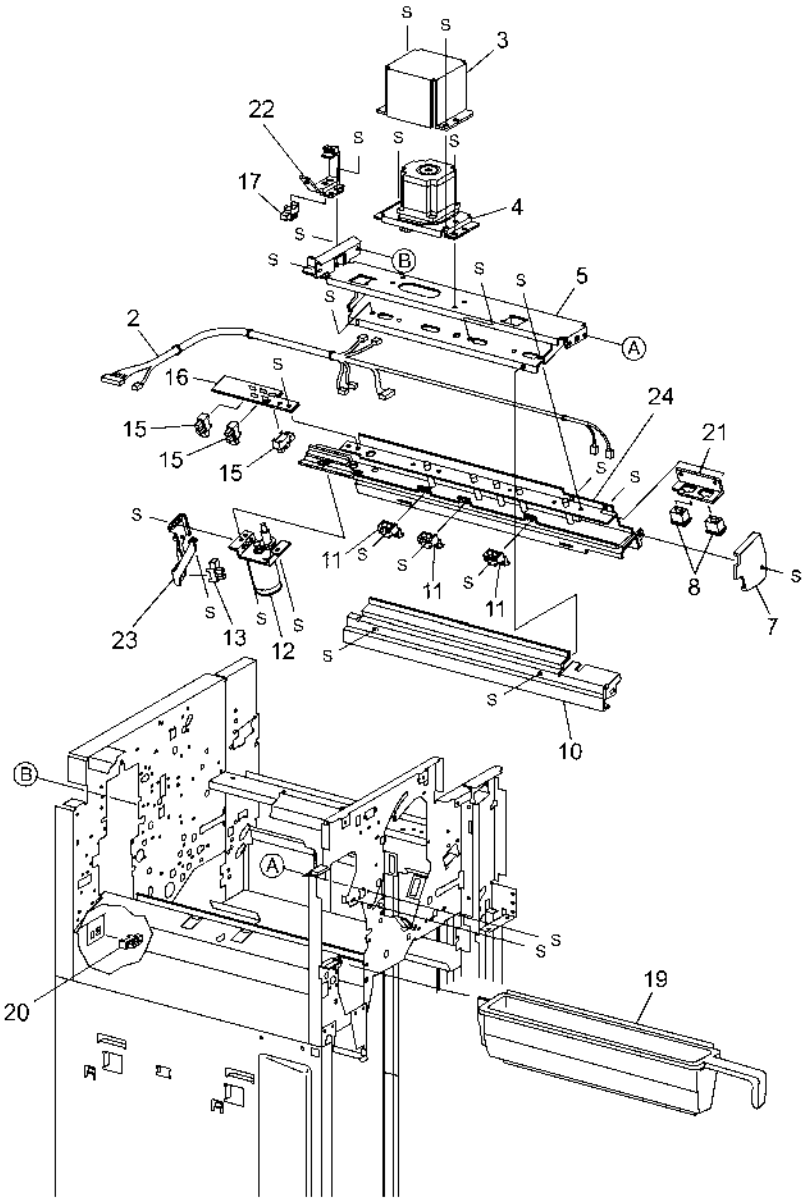

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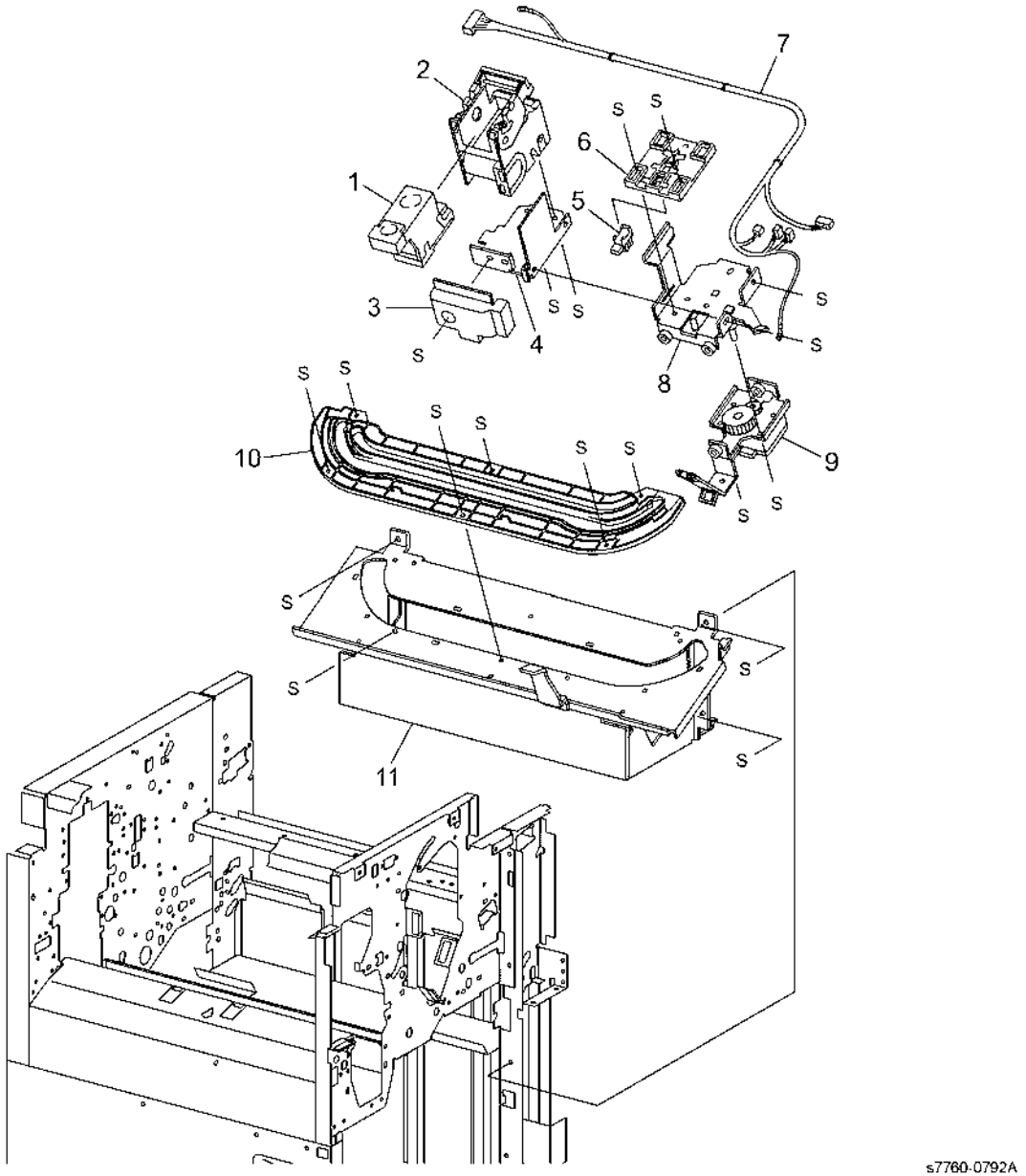
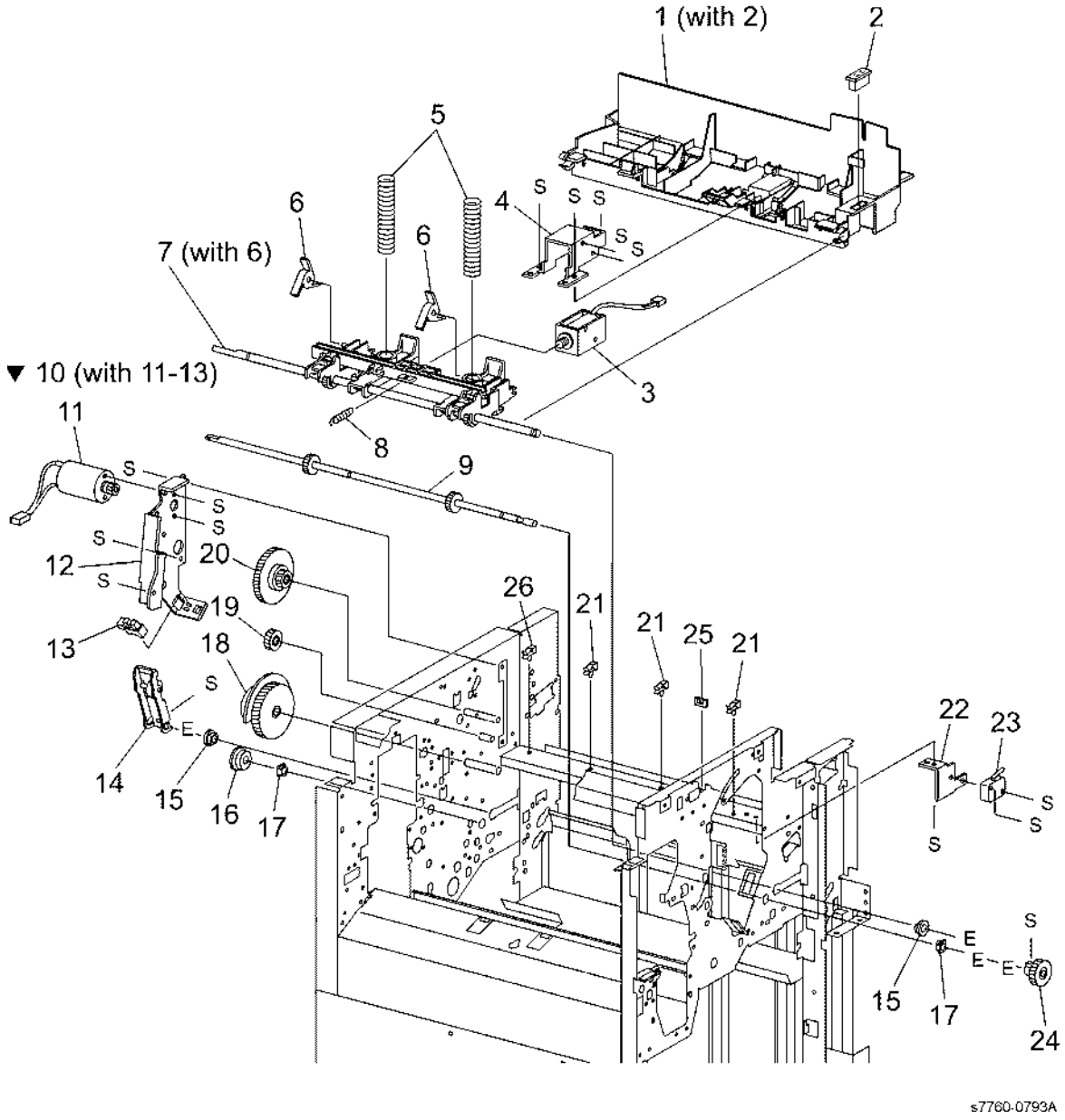
PL 21.6 Finisher Stapler

Item	Part	Description
1	–	Staple Cartridge
2	029K92151	Stapler Assembly (REP 12.53)
3	–	Stapler Cover (Not Spared)
4	–	Stapler Holder (Not Spared)
5	130K88770	Stapler Move Position Sensor
6	–	Stapler Harness Guide (Not Spared)
7	–	Staple Harness (Not Spared)
8	–	Upper Stapler Carriage (Not Spared)
9	041K94750	Stapler Move Motor
10	001E66640	Stapler Rail (REP 12.54)
11	–	Stapler Frame (Not Spared)



PL 21.7 Finisher Eject: 1 of 3

Item	Part	Description
1	–	Eject Chute Assembly (REP 12.67)
2	–	Magnet (Not Spared)
3	121K34620	Sub Paddle Solenoid
4	–	Solenoid Bracket (Not Spared)
5	–	Pinch Spring (Not Spared)
6	–	Cyclone Paddle (P/O PL 21.7 Item 7)
7	006K24160	Eject Pinch Shaft Assembly
8	809E56880	Solenoid Spring
9	006K24090	Paddle Shaft
10	015K65860	Eject Clamp Motor Assembly (with 11-13)
11	–	Eject Clamp Motor (P/O PL 21.7 Item 10)
12	–	Eject Clamp Bracket (P/O PL 21.7 Item 10)
13	130K88780	Eject Clamp Home Sensor
14	011K97710	Eject Cam Follower
15	413W77559	Bushing
16	807E04700	Gear (23T)
17	413W11660	Bushing
18	807E04750	Cam Gear (70T)
19	807E08990	Gear (23T)
20	807E04740	Gear (68T/20T)
21	–	Wire Clip (Not Spared)
22	–	Switch Bracket (Not Spared)
23	110E11590	Eject Cover Switch
24	–	Entrance Knob (Not Spared)
25	–	Wire Clamp (Not Spared)
26	–	Wire Clip (Not Spared)



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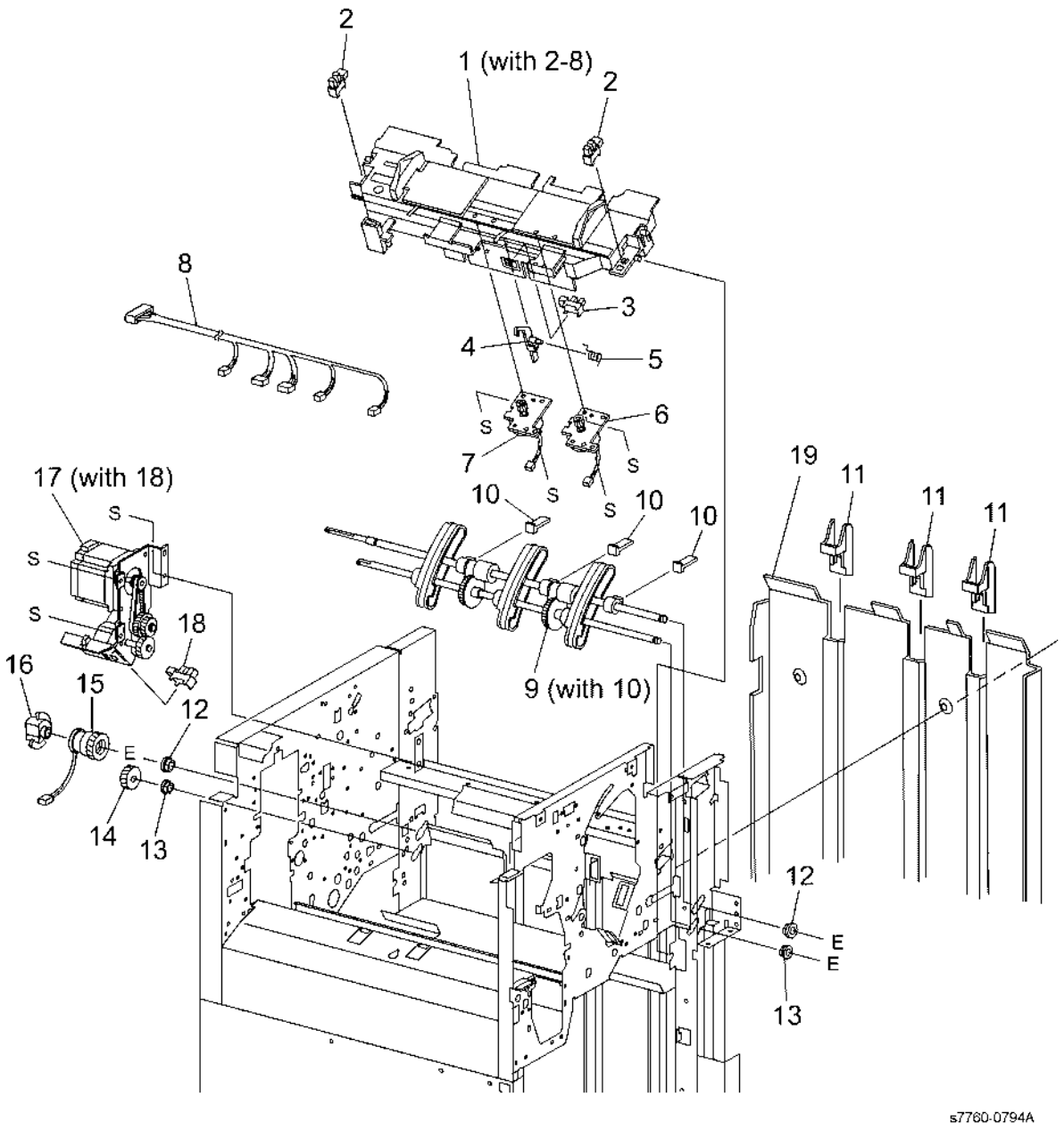
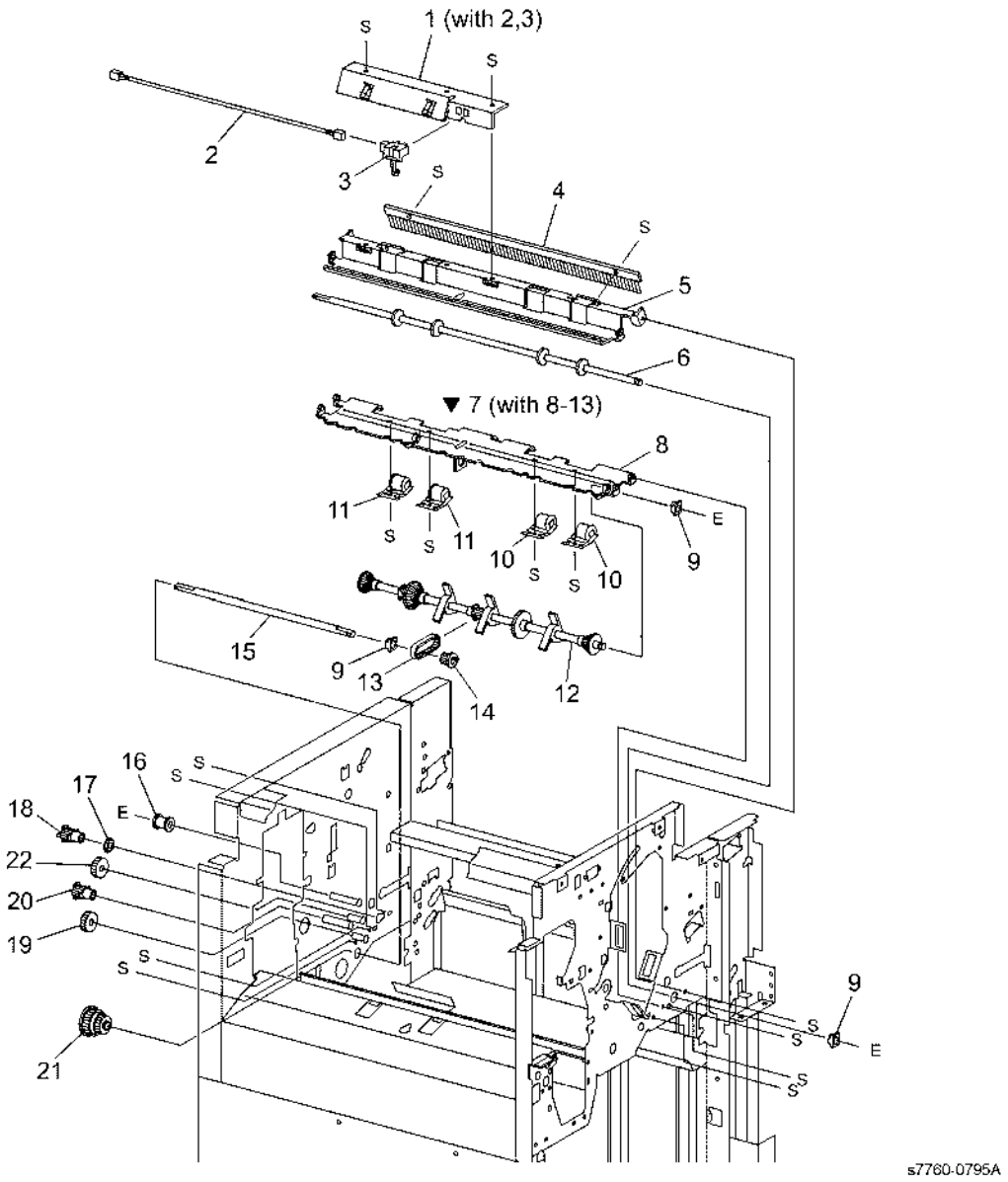
PL 21.8 Finisher Eject: 2 of 3

Item	Part	Description
1	–	Compiler Tray Assembly (REP 12.57)
2	130K88770	Tamper Home Sensor (Front, Rear) (P/O PL 21.8 Item 1)
3	130K88780	Compiler Tray No Paper Sensor (P/O PL 21.8 Item 1)
4	–	Sensor Actuator (P/O PL 21.8 Item 1)
5	–	Torsion Spring (P/O PL 21.8 Item 1)
6	–	Front Tamper Motor (P/O PL 21.8 Item 1)
7	–	Rear Tamper Motor (P/O PL 21.8 Item 1)
8	962K27671	Compiler Harness (P/O PL 21.8 Item 1)
9	–	Eject Roll Shaft Assembly
10	–	Set Clamp Paddle (P/O PL 21.8 Item 9)
11	–	Paddle Guide (Not Spared)
12	–	Bushing (Not Spared)
13	–	Bushing (Not Spared)
14	807E04760	Gear (39T)
15	121K34630	Set Clamp Clutch (34T)
16	120E24310	Set Clamp Actuator
17	015K65850	Eject Motor Assembly
18	–	Set Clamp Home Sensor (P/O PL 21.8 Item 17)
19	–	Inner Cover (Not Spared) (REP 12.48)



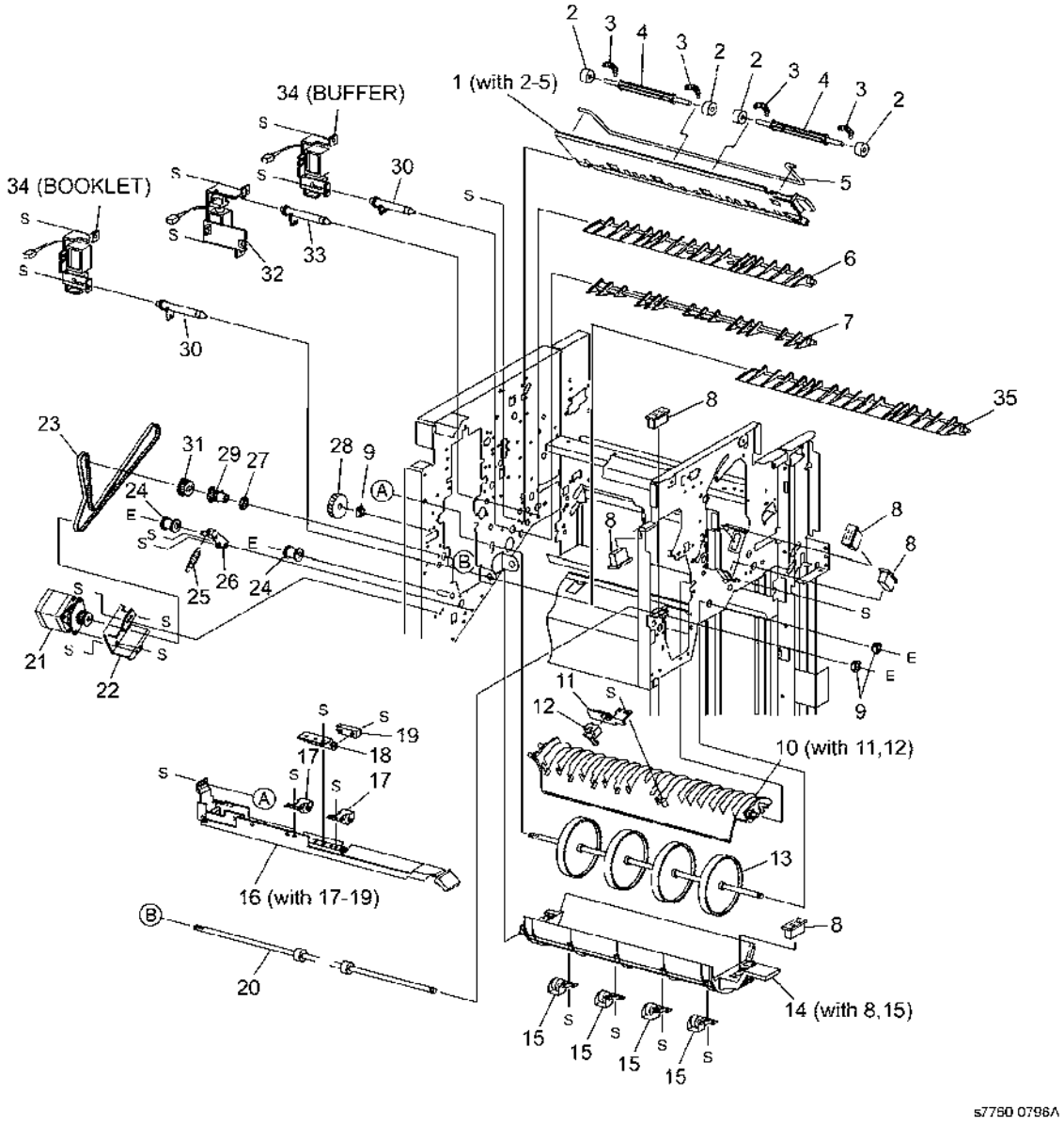
PL 21.9 Finisher Eject: 3 of 3

Item	Part	Description
1	–	Sensor Bracket Assembly
2	–	Complier Sensor Harness (P/O PL 21.9 Item 1)
3	130K88190	Complier Exit Sensor (P/O PL 21.9 Item 1)
4	105E13100	Static Eliminator
5	–	Upper Exit Chute (Not Spared)
6	–	Lower Exit Roll (Not Spared)
7	–	Lower Exit Roll Chute Assembly
8	–	Lower Exit Roll Chute (P/O PL 21.9 Item 7)
9	–	Bushing (P/O PL 21.9 Item 7)
10	022K67870	Exit Pinch Roller 1 (P/O PL 21.9 Item 7)
11	022K67880	Exit Pinch Roller 2 (P/O PL 21.9 Item 7)
12	006K24240	Paddle Shaft (P/O PL 21.9 Item 7) (REP 12.59)
13	423W25554	Synchronous Belt (55T) (P/O PL 21.9 Item 7)
14	–	Pulley (17T) (Not Spared)
15	–	Paddle Drive Shaft (Not Spared)
16	–	Pulley (Not Spared)
17	–	Bearing (Not Spared)
18	020E37690	Pulley (20T)
19	–	Gear (23T) (Not Spared)
20	020E37660	Pulley (20T)
21	020E37670	Pulley (44T/20T)
22	–	Gear (23T) (Not Spared)



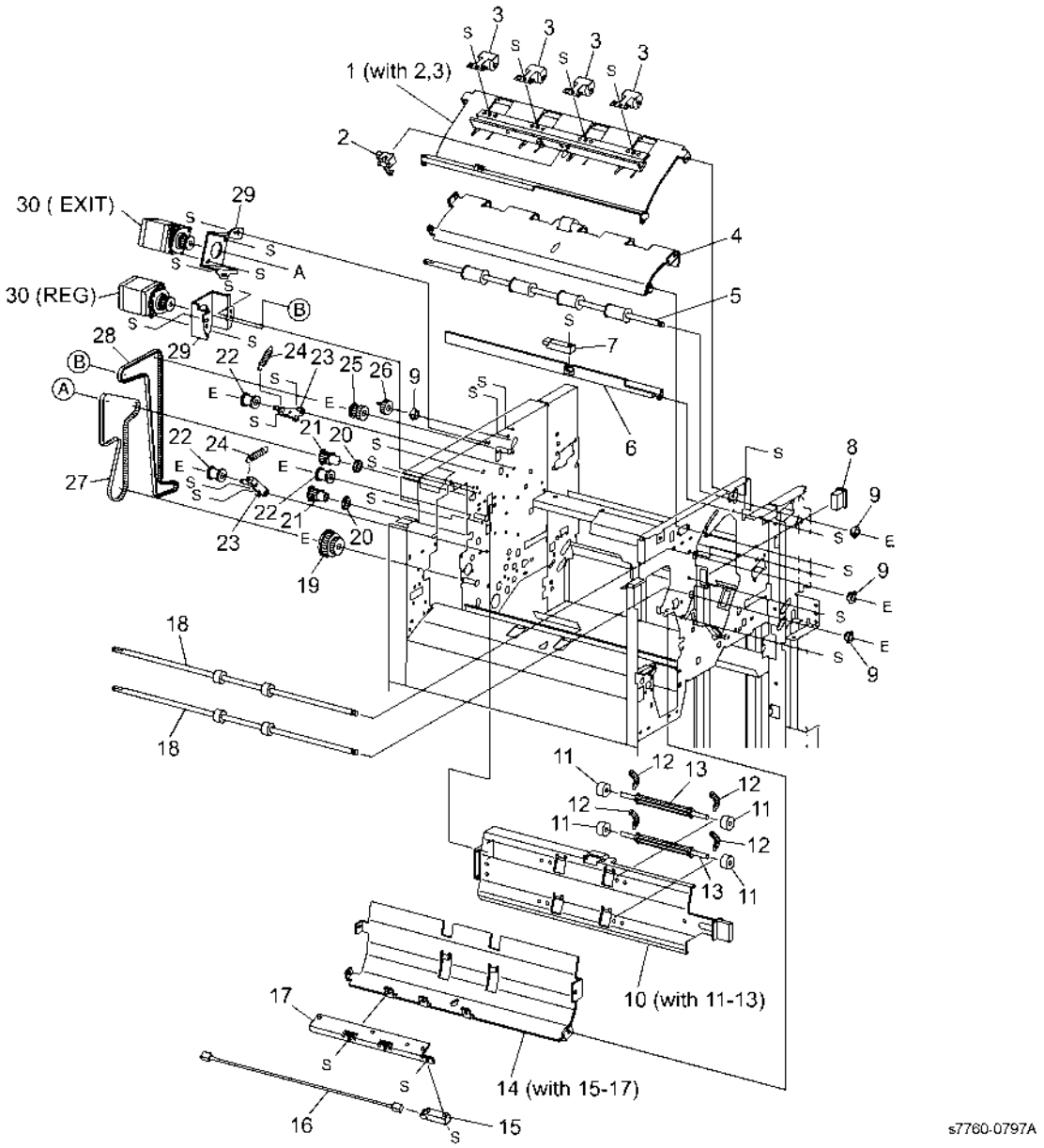
PL 21.10 Finisher Transport: 1 of 2

Item	Part	Description
1	–	Upper Exit Open Chute Assembly
2	–	Pinch Roller (P/O PL 21.10 Item 1)
3	–	Spring (P/O PL 21.10 Item 1)
4	–	Shaft (P/O PL 21.10 Item 1)
5	–	Torsion Spring (P/O PL 21.10 Item 1)
6	–	Transport Gate (Not Spared)
7	–	Buffer Gate (Not Spared)
8	121E92890	Magnet (P/O PL 21.10 Item 14)
9	413W11660	Bushing
10	–	Top Buffer Chute Assembly
11	–	Sensor Bracket (P/O PL 21.10 Item 10)
12	130K88190	Buffer Path Sensor (P/O PL 21.10 Item 10) (REP 12.67)
13	022K71010	Buffer Roll (REP 12.64)
14	054K27160	Bottom Buffer Chute Assembly (REP 12.65)
15	–	Exit Pinch roller (P/O PL 21.10 Item 14)
16	–	Upper Entrance Chute Assembly
17	022K67850	Entrance Pinch Roller (P/O PL 21.10 Item 16)
18	–	Sensor Bracket (P/O PL 21.10 Item 16)
19	130E87370	Transport Entrance Sensor (P/O PL 21.10 Item 16)
20	022K70970	Entrance Roll
21	127K40281	Finisher Transport Motor
22	–	Motor Bracket (Not Spared)
23	423W87054	Finisher Transport Motor Belt
24	–	Pulley (Not Spared)
25	–	Tension Spring (Not Spared)
26	–	Tension Bracket (Not Spared)
27	413W66250	Bearing
28	604K36030	Gear (46T)
29	020E37660	Pulley (20T)
30	012E11991	Buffer Link
31	807E04700	Gear (23T)
32	015K65810	Transport Gate Solenoid
33	012E11980	Transport Link
34	015K65821	Buffer Gate Solenoid, Booklet Gate Solenoid
35	–	Booklet Gate (Not Spared)



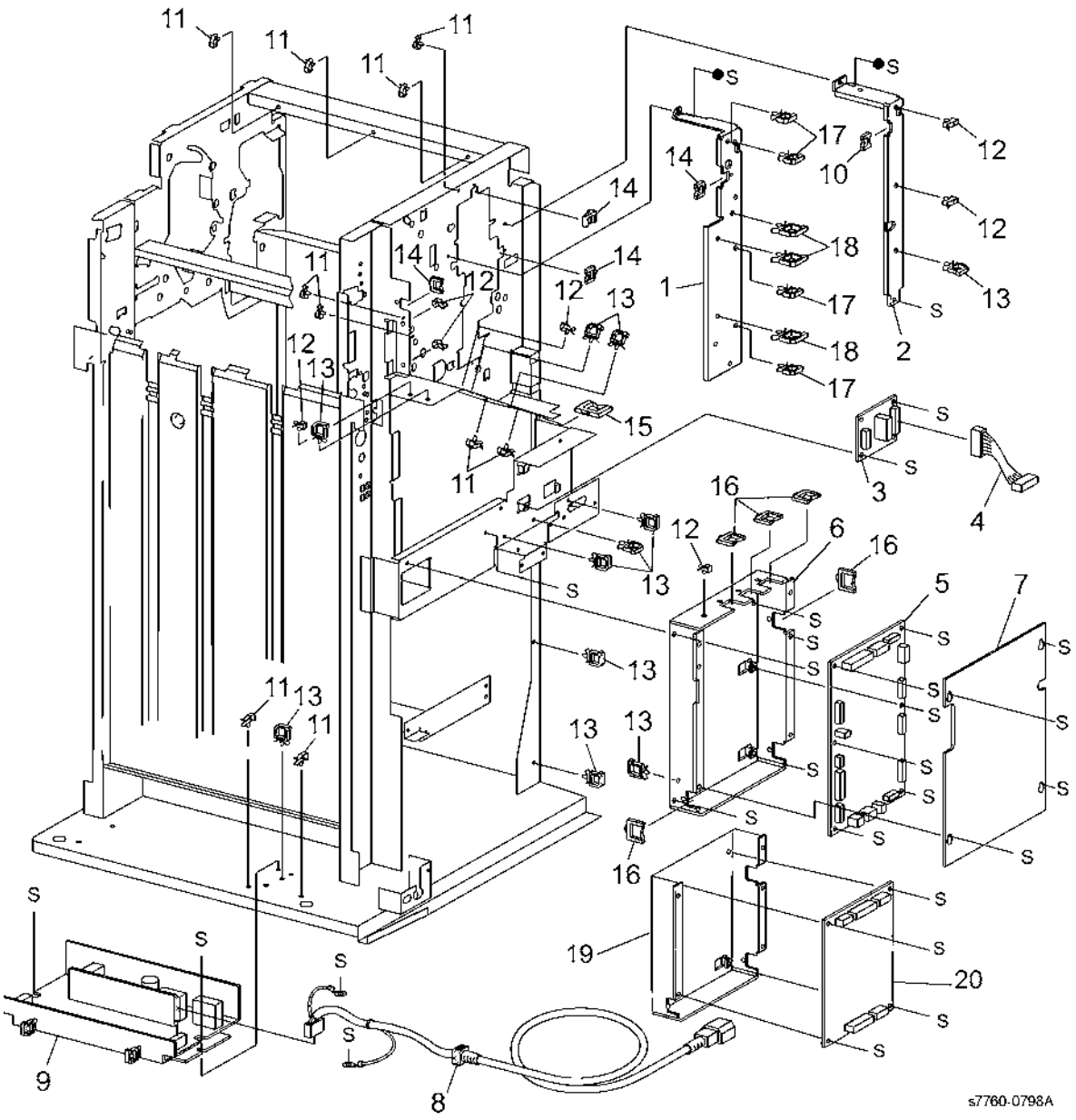
PL 21.11 Finisher Transport: 2 of 2

Item	Part	Description
1	–	Top Tray Exit Baffle Assembly (Not Spared)
2	130K88190	Top Tray Exit Sensor (P/O PL 21.11 Item 1)
3	022K67860	Exit Pinch Roller (P/O PL 21.11 Item 1)
4	–	Top Tray Lower Exit Baffle (Not Spared)
5	022K70990	Exit Drive Shaft
6	–	Sensor Bracket (Not Spared)
7	130E87370	Top Tray Full Sensor (REP 12.47)
8	121E92890	Magnet
9	413W11660	Bushing
10	054K27580	Lower Top Exit Chute Assembly
11	–	Pinch Roller (P/O PL 21.11 Item 10)
12	–	Spring (P/O PL 21.11 Item 10)
13	–	Shaft (P/O PL 21.11 Item 10)
14	–	Upper Top Exit Chute Assembly
15	130E80100	Gate Sensor (P/O PL 21.11 Item 14) (REP 12.62)
16	–	Sensor Harness (P/O PL 21.11 Item 14)
17	–	Sensor Bracket (P/O PL 21.11 Item 14)
18	022K70980	Transport Roll
19	020E37680	Pulley (53T/23T)
20	413W66250	Bearing
21	020E37690	Pulley (20T)
22	–	Pulley (Not Spared)
23	–	Tension Bracket (Not Spared)
24	–	Tension Spring (Not Spared)
25	020E37700	Pulley (20T/20T)
26	807E04720	Gear (20T)
27	423W40054	Registration Motor Drive Belt
28	423W86454	Exit Motor Drive Belt
29	–	Motor Bracket (Not Spared)
30	127K40281	Registration Motor (Reg) and Exit Motor (Exit)



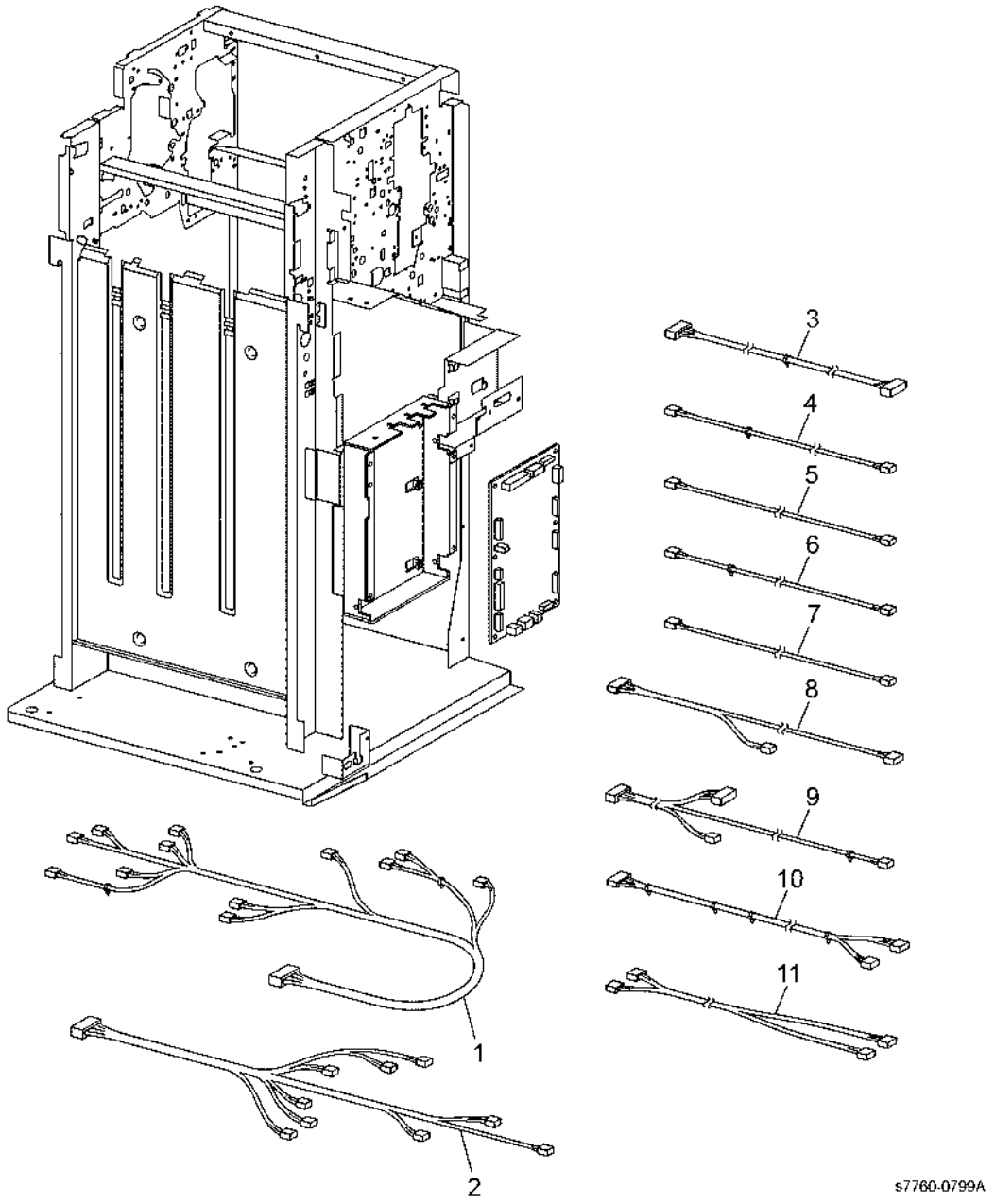
PL 21.12 Finisher Electrical

Item	Part	Description
1	–	Left Harness Bracket (Not Spared)
2	–	Right Harness Bracket (Not Spared)
3	960K04681	H-Transport PWB
4	962K29160	Harness
5	960K25040	Finisher PWB (REP 12.68)
6	–	Finisher PWB Bracket (Not Spared)
7	–	Finisher PWB Cover (Not Spared)
8	962K36610	AC Inlet Harness
9	105K21081	Finisher LVPS
10	–	Wire Clamp (Not Spared)
11	–	Wire Clip (Not Spared)
12	–	Wire Clip (Not Spared)
13	–	Wire Clip (Not Spared)
14	–	Wire Clamp (Not Spared)
15	–	Wire Clamp (Not Spared)
16	–	Wire Clamp (Not Spared)
17	–	Wire Clip (Not Spared)
18	–	Wire Clip (Not Spared)
19	–	Booklet PWB Bracket (Not Spared)
20	960K04671	Booklet PWB



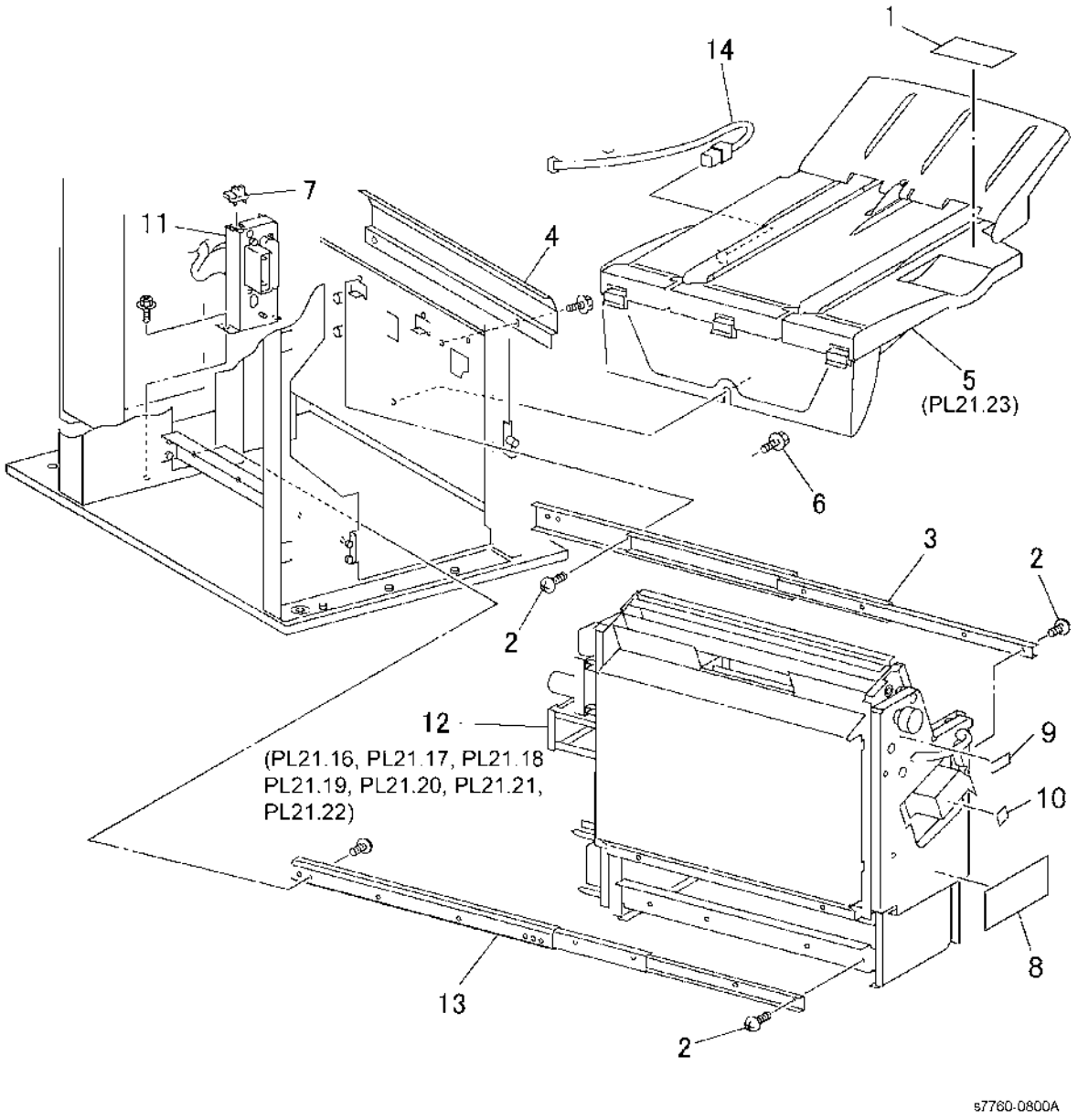
PL 21.13 Finisher Harness

Item	Part	Description
1	–	Main Sensor Harness (Not Spared)
2	–	Main Drive Harness (Not Spared)
3	–	Interface Harness (Not Spared)
4	–	Transport Entrance Sensor Harness (Not Spared)
5	–	Buffer Sensor Harness (Not Spared)
6	–	Top Exit Sensor Harness (Not Spared)
7	–	Top Sensor Harness (Not Spared)
8	–	Punch Drive Harness (Not Spared)
9	–	Punch Sensor Harness (Not Spared)
10	–	LVPS Harness (Not Spared)
11	–	Interlock Harness (Not Spared)



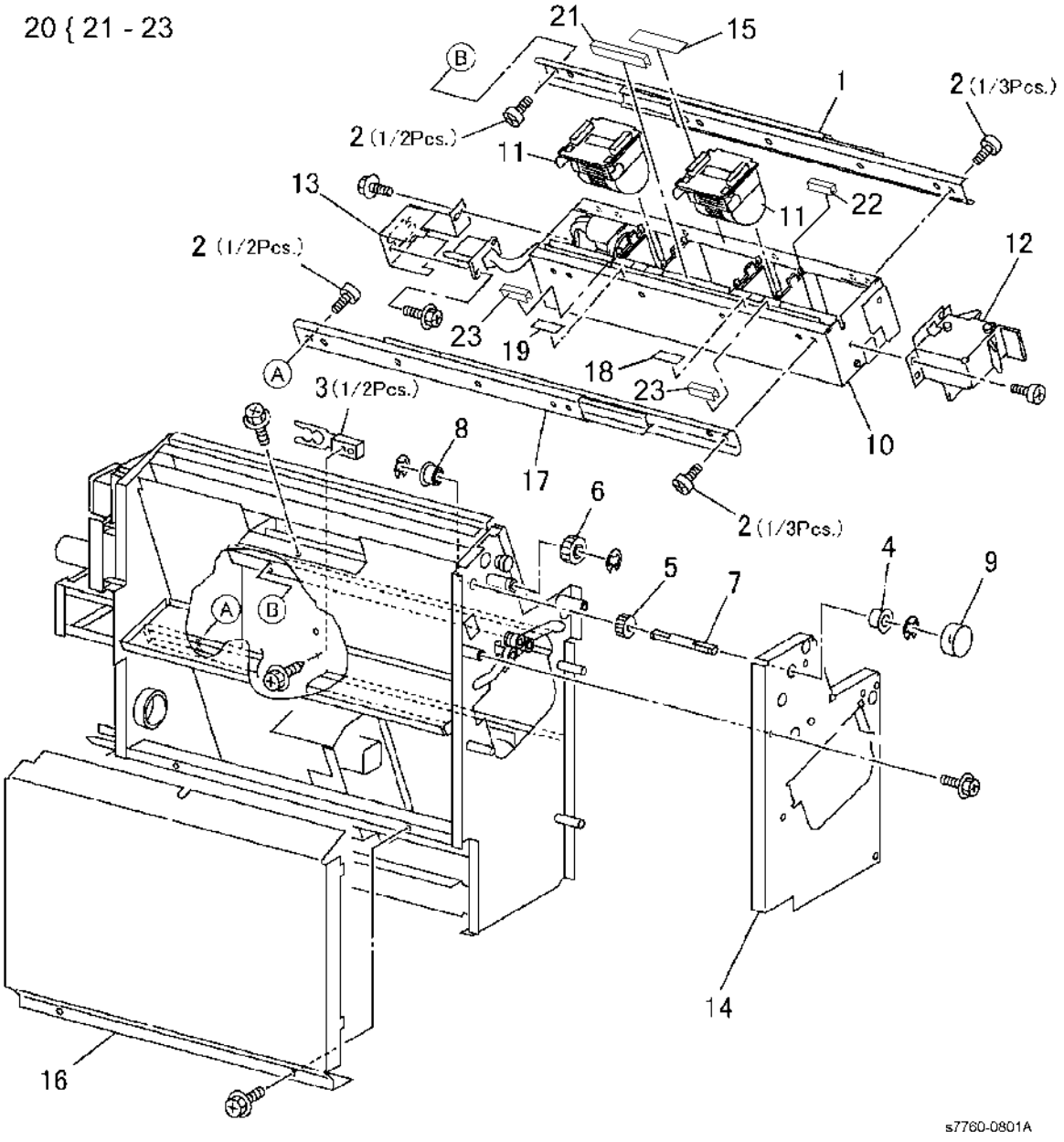
PL 21.15 Booklet Accessory

Item	Part	Description
1	–	Label (Not Spared)
2	–	Screw (Not Spared)
3	801K16560	Right Rail
4	–	Cover (Not Spared)
5	050K49300	Booklet Tray Assembly
6	–	Knob Screw (Not Spared)
7	130K88770	Booklet Drawer Set Sensor
8	–	Label (Not Spared)
9	–	Label (Not Spared)
10	–	Label (Not Spared)
11	–	Connector (Not Spared)
12	801K16551	Booklet Drawer Assembly (REP 12.55, ADJ 12.4, ADJ 12.5, ADJ 12.8, ADJ 12.9)
13	801K16580	Left Rail
14	962K29221	Wire Harness



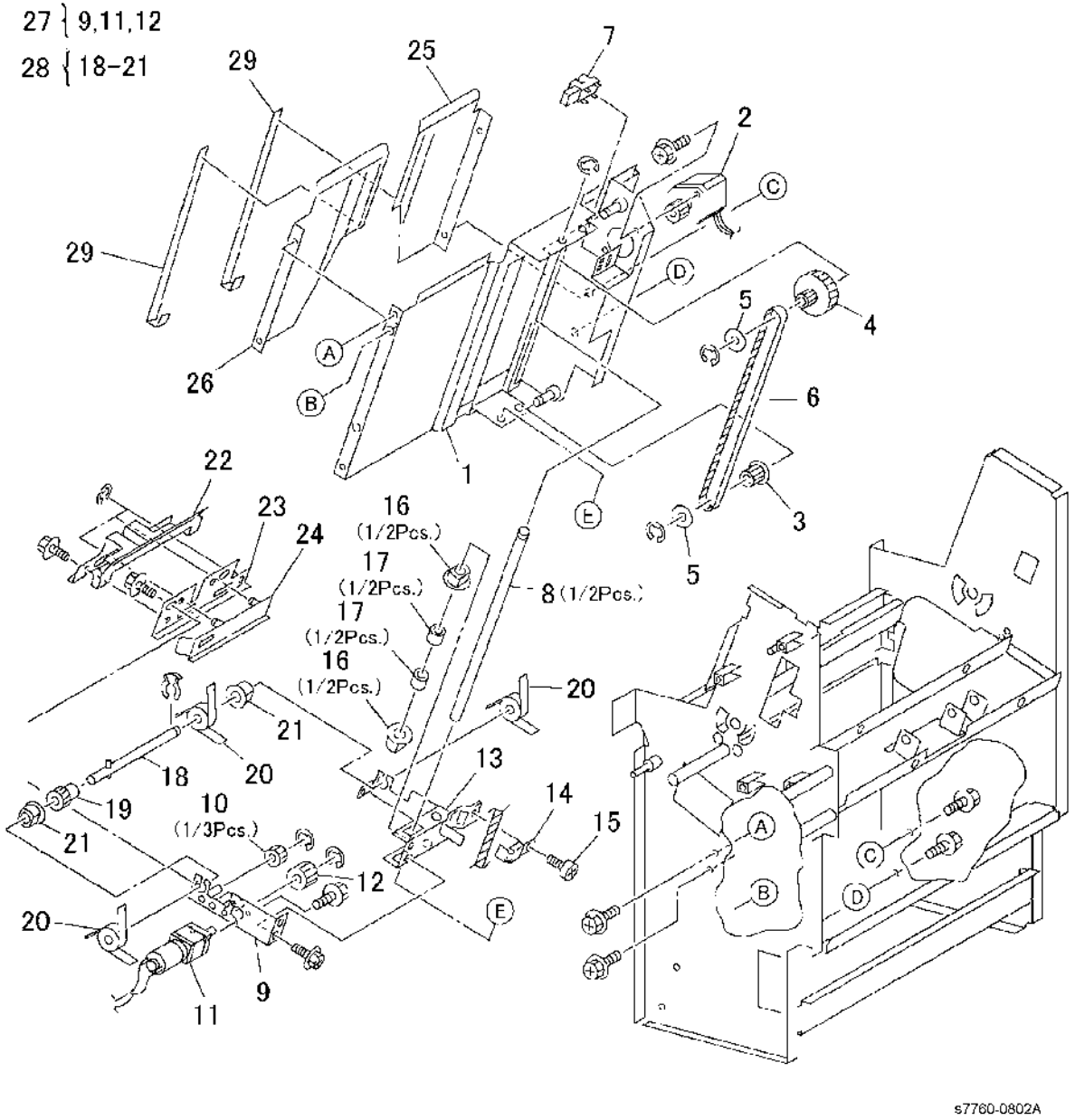
PL 21.16 Booklet Component - 1

Item	Part	Description
1	801K18730	Right Rail
2	–	Screw (Not Spared)
3	003E59690	Stopper
4	–	Bearing (Not Spared)
5	407W07717	Gear (17T)
6	407W07731	Gear (31T)
7	–	Shaft (Not Spared)
8	–	Ball Bearing (Not Spared)
9	003K13680	Knob
10	029K92290	Stapler (REP 12.56, ADJ 12.6, ADJ 12.7, ADJ 12.10)
11	029K92041	Staple
12	015K67280	Latch
13	–	Bracket (Not Spared)
14	–	Front Cover (Not Spared)
15	–	Label (Not Spared)
16	–	Left Cover (Not Spared)
17	801K16581	Left Rail
18	–	Label (Not Spared)
19	–	Label (Not Spared)
20	604K18740	Paper Skew Guide Kit
21	–	Paper Guide (Center) (Not Spared)
22	–	Paper Guide (Front) (Not Spared)
23	–	Paper Guide (Clinch) (Not Spared)



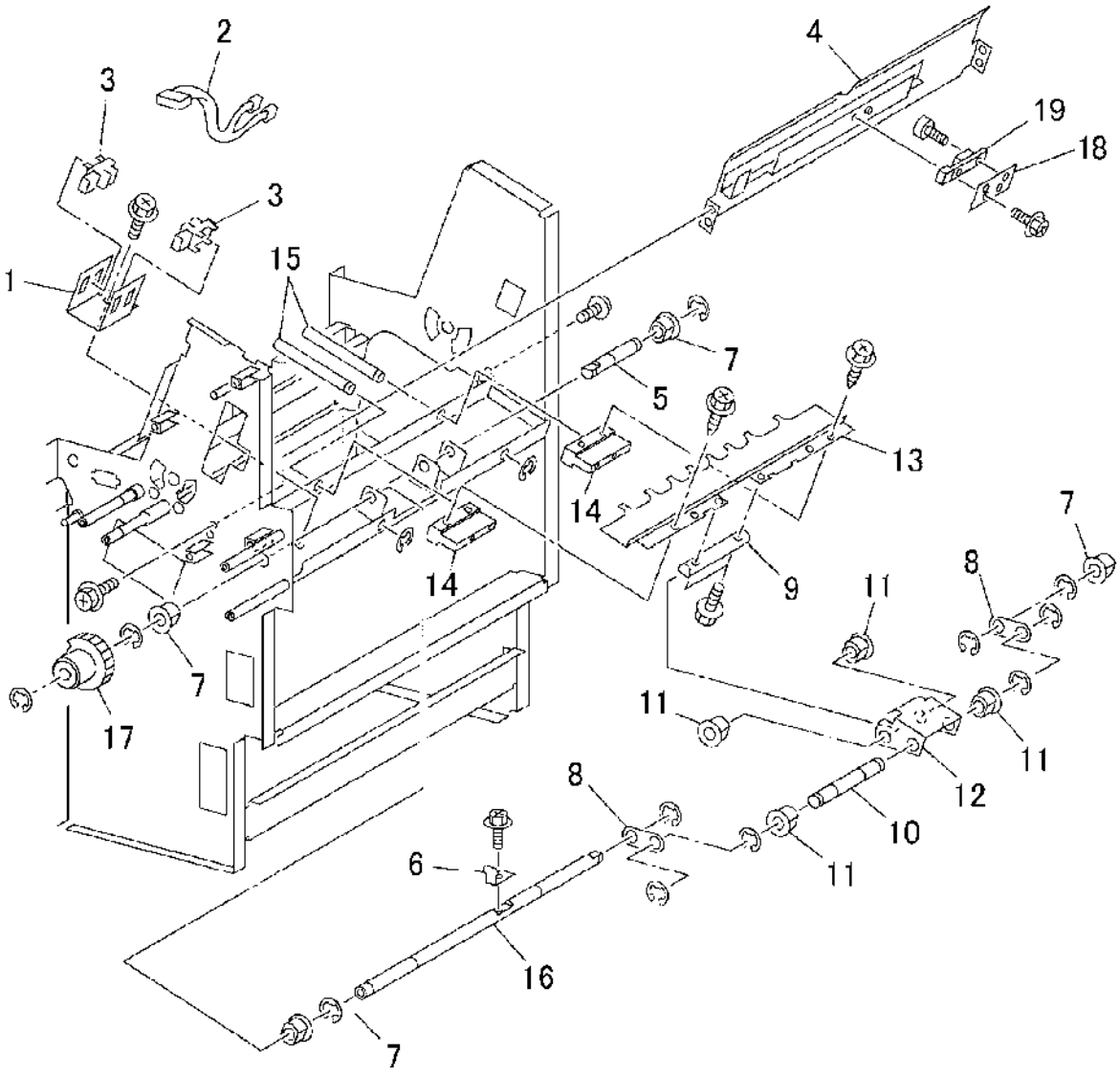
PL 21.17 Booklet Component -2 (End Guide)

Item	Part	Description
1	–	Compile Chute (Not Spared)
2	127K46170	Booklet End Guide Motor
3	020E37210	Pulley
4	807E02050	Gear Pulley (40T/20T)
5	–	Washer (Not Spared)
6	423W86254	Belt
7	130K88780	Booklet End Guide Home Sensor
8	–	Shaft (Not Spared)
9	–	Bracket (P/O PL 21.17 Item 27)
10	807E02070	Gear (14T)
11	–	Booklet Paddle Motor (P/O PL 21.17 Item 27)
12	–	Gear (14T) (P/O PL 21.17 Item 27)
13	–	Bracket (Not Spared)
14	–	Stopper (Not Spared)
15	–	Screw (Not Spared)
16	–	Bearing (Not Spared)
17	–	Roll (Not Spared)
18	–	Shaft (P/O PL 21.17 Item 28)
19	–	Gear (14T) (P/O PL 21.17 Item 28)
20	–	Paddle (P/O PL 21.17 Item 28)
21	–	Bearing (P/O PL 21.17 Item 28)
22	–	End Guide (Not Spared)
23	–	Support Bracket (Not Spared)
24	–	Adjust Bracket (Not Spared) (ADJ 12.4)
25	–	Chute (Front) (Not Spared)
26	–	Chute (Rear) (Not Spared)
27	015K60410	Booklet Paddle Motor Assembly
28	006K22960	Paddle Shaft Assembly
29	–	Paper Guide (Not Spared)



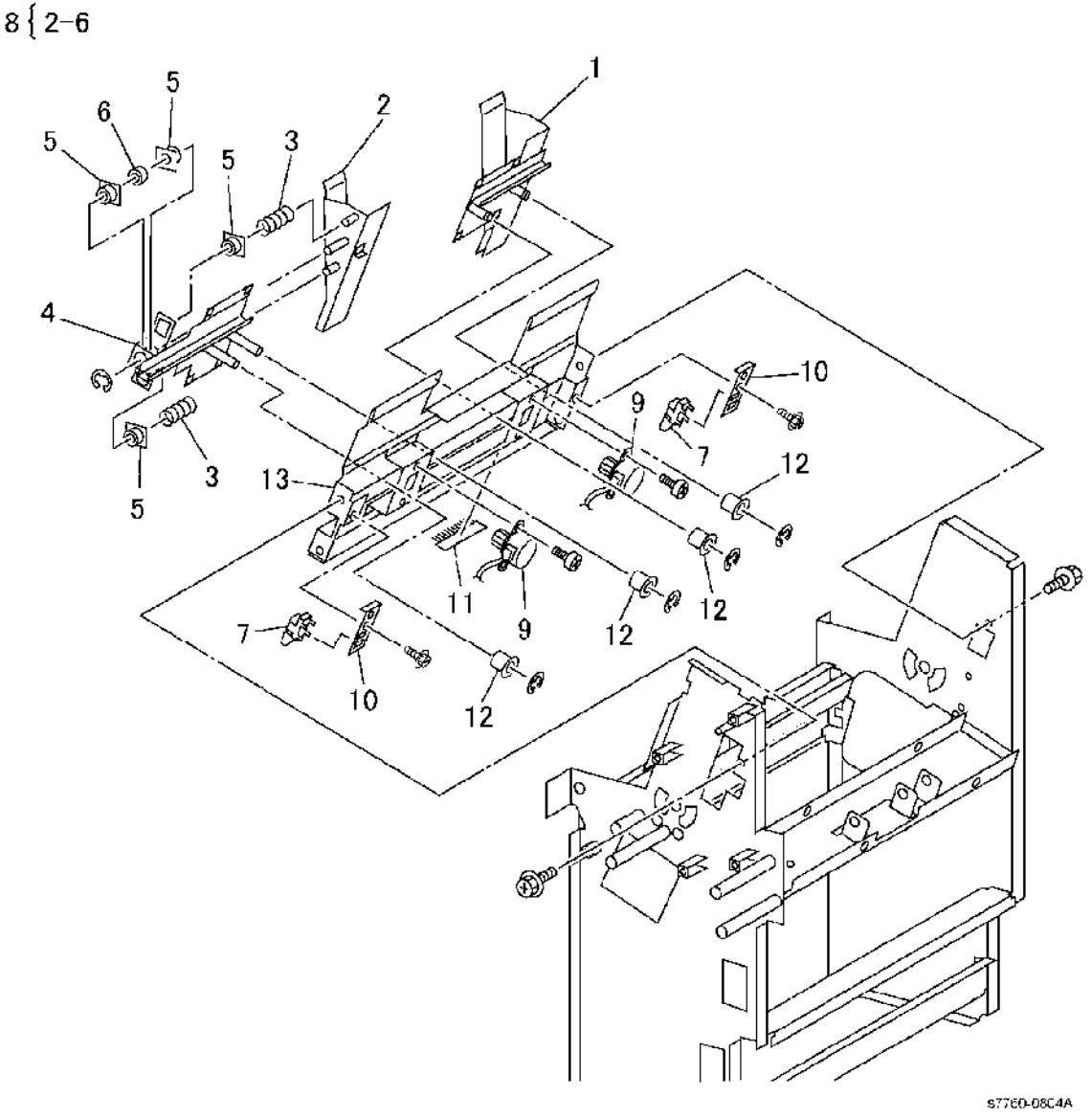
PL 21.18 Booklet Component -3

Item	Part	Description
1	–	Bracket (Not Spared)
2	962K18401	Wire Harness
3	130K88780	Knife Home Sensor, Knife Folder Sensor
4	–	Chute (Not Spared)
5	–	Shaft (Not Spared)
6	–	Actuator (Not Spared)
7	–	Bearing (Not Spared)
8	–	Joint (Not Spared)
9	–	Shaft (Not Spared)
10	–	Shaft (Not Spared)
11	–	Bearing (Not Spared)
12	–	Bracket (Not Spared)
13	015K67271	Bracket Assembly Knife
14	–	Guide (Not Spared)
15	–	Shaft (Not Spared)
16	–	Shaft (Not Spared)
17	807E02060	Gear (42T)
18	–	Bracket (Not Spared)
19	130E87410	Booklet Compile No Paper Sensor



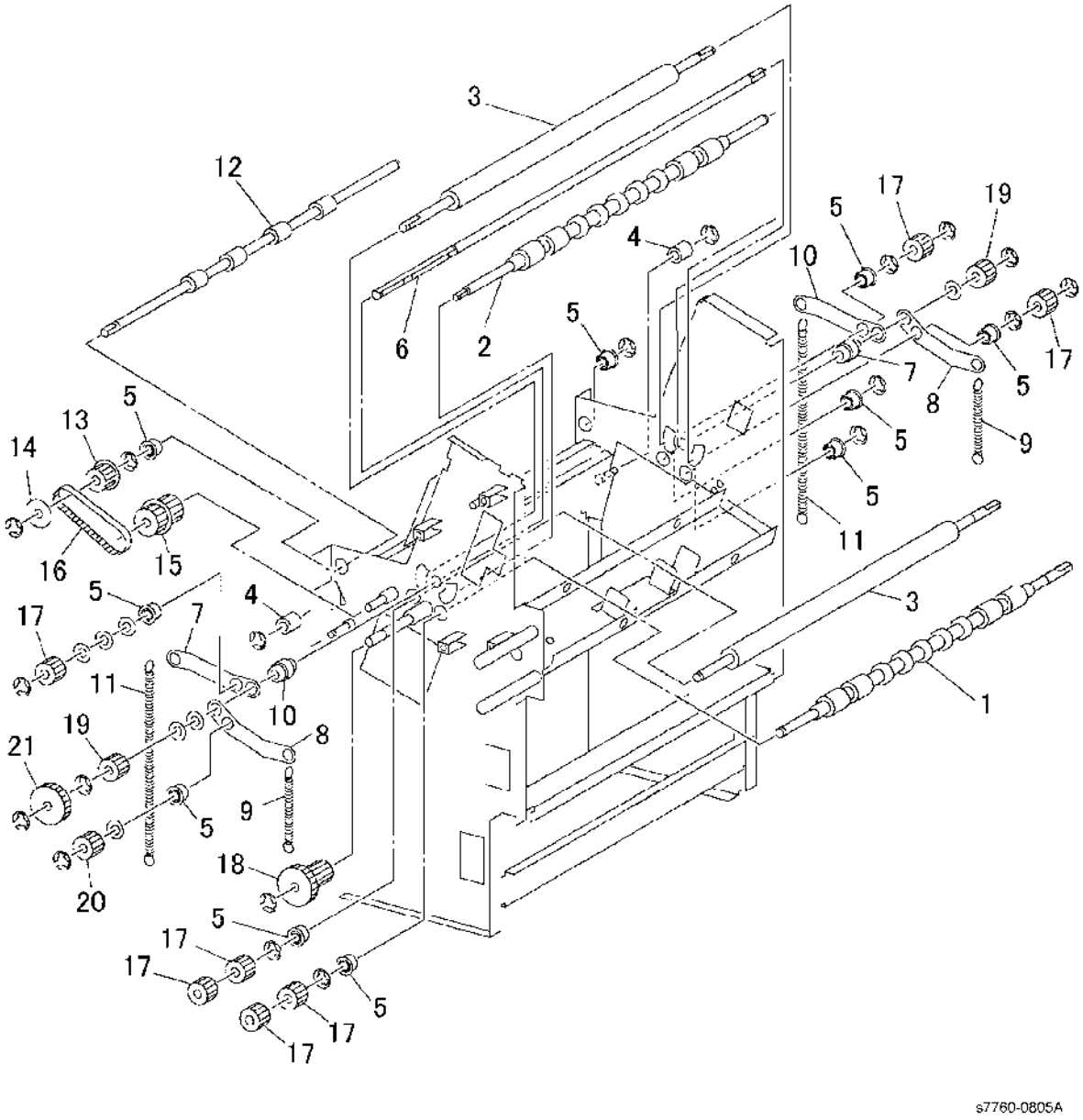
PL 21.19 Booklet Component -4

Item	Part	Description
1	038K87360	Front Tamper Guide
2	–	Rear Tamper Guide (P/O PL 21.19 Item 8)
3	–	Spring (P/O PL 21.19 Item 8)
4	–	Rack (P/O PL 21.19 Item 8)
5	–	Bearing (P/O PL 21.19 Item 8)
6	–	Roll (P/O PL 21.19 Item 8)
7	130K88780	Booklet Tamper Home Sensor (Front and Rear)
8	038K87371	Rear Tamper Assembly
9	127K48210	Booklet Tamper Motor (Front and Rear)
10	–	Bracket (Not Spared) (Not Spared)
11	105E15120	Static Eliminator
12	013E25490	Roll
13	–	Frame (Not Spared)



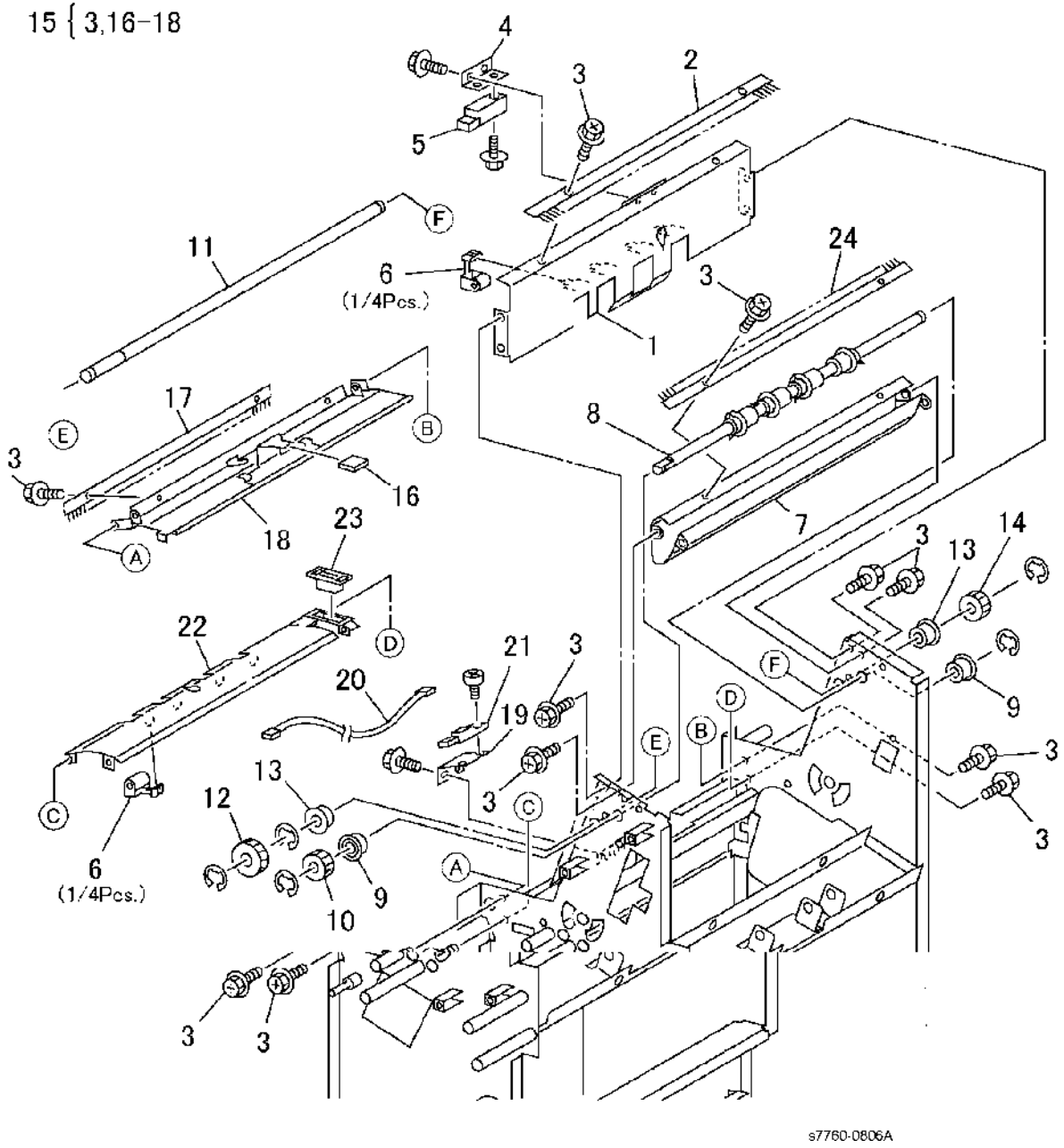
PL 21.20 Booklet Component -5

Item	Part	Description
1	022K71020	Booklet Pre-Folding Roll
2	022K71040	Booklet Pre-Folding Nip Roll
3	022K66870	Booklet Folding Roll
4	022K66880	Booklet Folding Nip Roll
5	–	Ball Bearing (Not Spared)
6	–	Shaft (Not Spared)
7	013E25480	Bearing
8	–	Tension Plate 1 (Not Spared)
9	809E59991	Spring (ADJ 12.7)
10	–	Tension Plate 2 (Not Spared)
11	809E59981	Spring
12	–	Booklet Eject Roll (Not Spared)
13	–	Pulley (16T) (Not Spared)
14	–	Flange (Not Spared)
15	807E02040	Gear Pulley (20T/25T)
16	423W46754	Belt
17	007E89980	Gear (16T)
18	007E89990	Gear (38T/18T)
19	007E89970	Gear (18T)
20	407W07516	Gear (16T)
21	007E77770	Gear (38T)



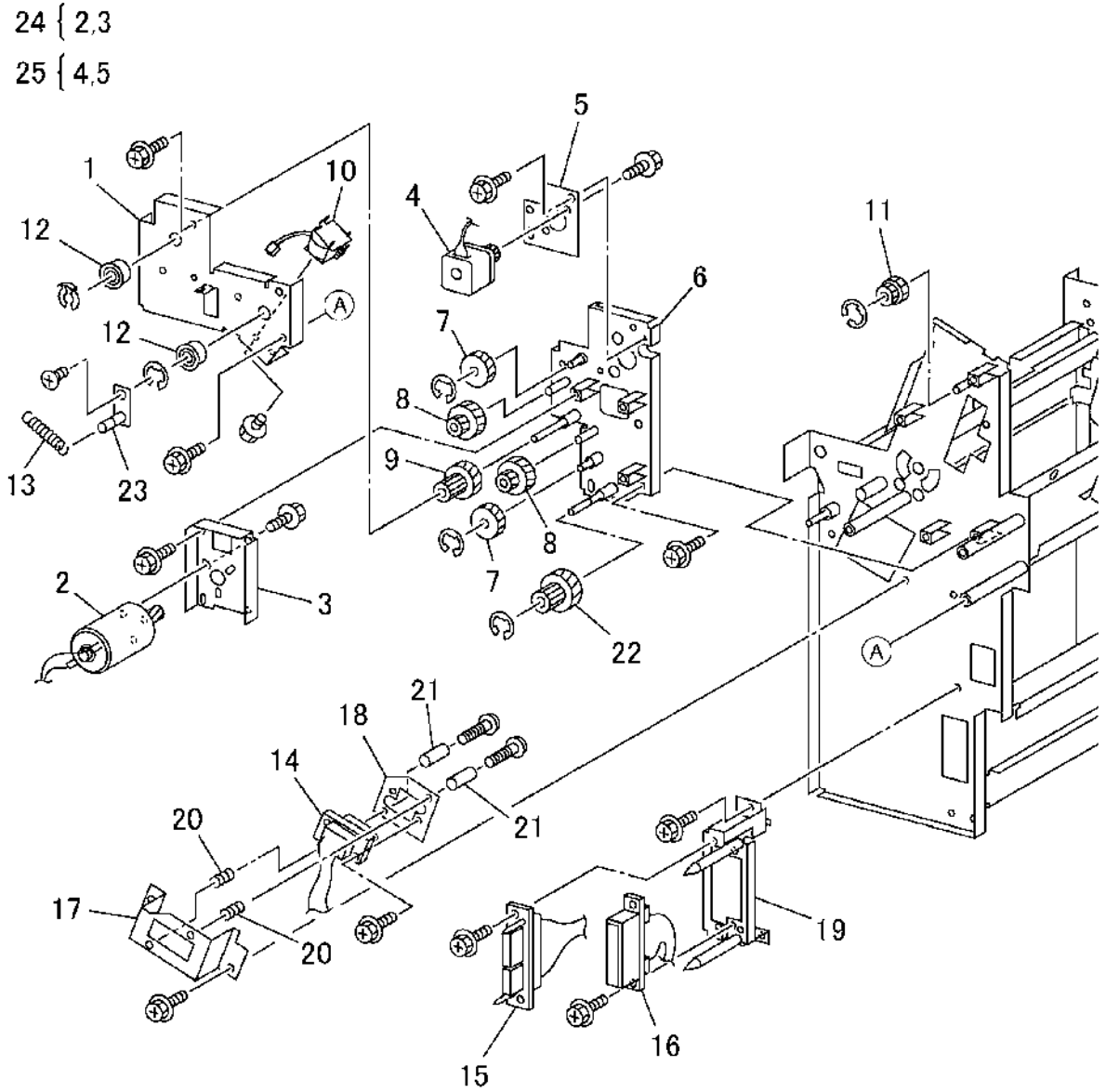
PL 21.21 Booklet Component -6 (Chute)

Item	Part	Description
1	–	Chute (Not Spared)
2	105E15140	Static Eliminator
3	–	Screw (P/O PL 21.21 Item 15)
4	–	Bracket (Not Spared)
5	130E87370	Booklet In Sensor
6	059K00521	Pinch Roll
7	–	Chute (Not Spared)
8	–	Booklet In Roll (Not Spared)
9	–	Ball Bearing (Not Spared)
10	407W07516	Gear (16T)
11	–	Shaft (Not Spared)
12	407W08727	Gear (27T)
13	–	Bearing (Not Spared)
14	–	Gear (17T) (Not Spared)
15	054K28570	Upper Exit Chute Assembly
16	003E63380	Knob
17	105E12170	Static Eliminator
18	–	Upper Exit Chute (P/O PL 21.21 Item 15)
19	–	Bracket (Not Spared)
20	962K18411	Wire Harness
21	130E87410	Booklet Folder Roll Exit Sensor
22	–	Lower Exit Chute (Not Spared)
23	121E92720	Magnet
24	105E12080	Static Eliminator



PL 21.22 Booklet Component -7

Item	Part	Description
1	–	Bracket (Not Spared)
2	–	Booklet Fold Motor (P/O PL 21.22 Item 24)
3	–	Bracket (P/O PL 21.22 Item 24)
4	127K46170	Booklet Paper Path Motor
5	–	Bracket (P/O PL 21.22 Item 25)
6	–	Bracket (Not Spared)
7	007E77620	Gear (45T)
8	007E77610	Gear (43T/14T)
9	007E77600	Gear (44T/16T)
10	121K31360	Knife Solenoid
11	807E01750	Gear (27T/34T)
12	–	Ball Bearing (Not Spared)
13	809E41620	Spring
14	962K18420	Wire Harness
15	962K18431	Wire Harness
16	962K18441	Wire Harness
17	–	Bracket (Not Spared)
18	–	Bracket (Not Spared)
19	–	Bracket (Not Spared)
20	809E41570	Spring
21	–	Spacer (Not Spared)
22	807E02080	Gear (48T/18T)
23	–	Link (Not Spared)
24	015K69650	Booklet Fold Motor Assembly
25	–	Booklet Paper Path Motor Assembly



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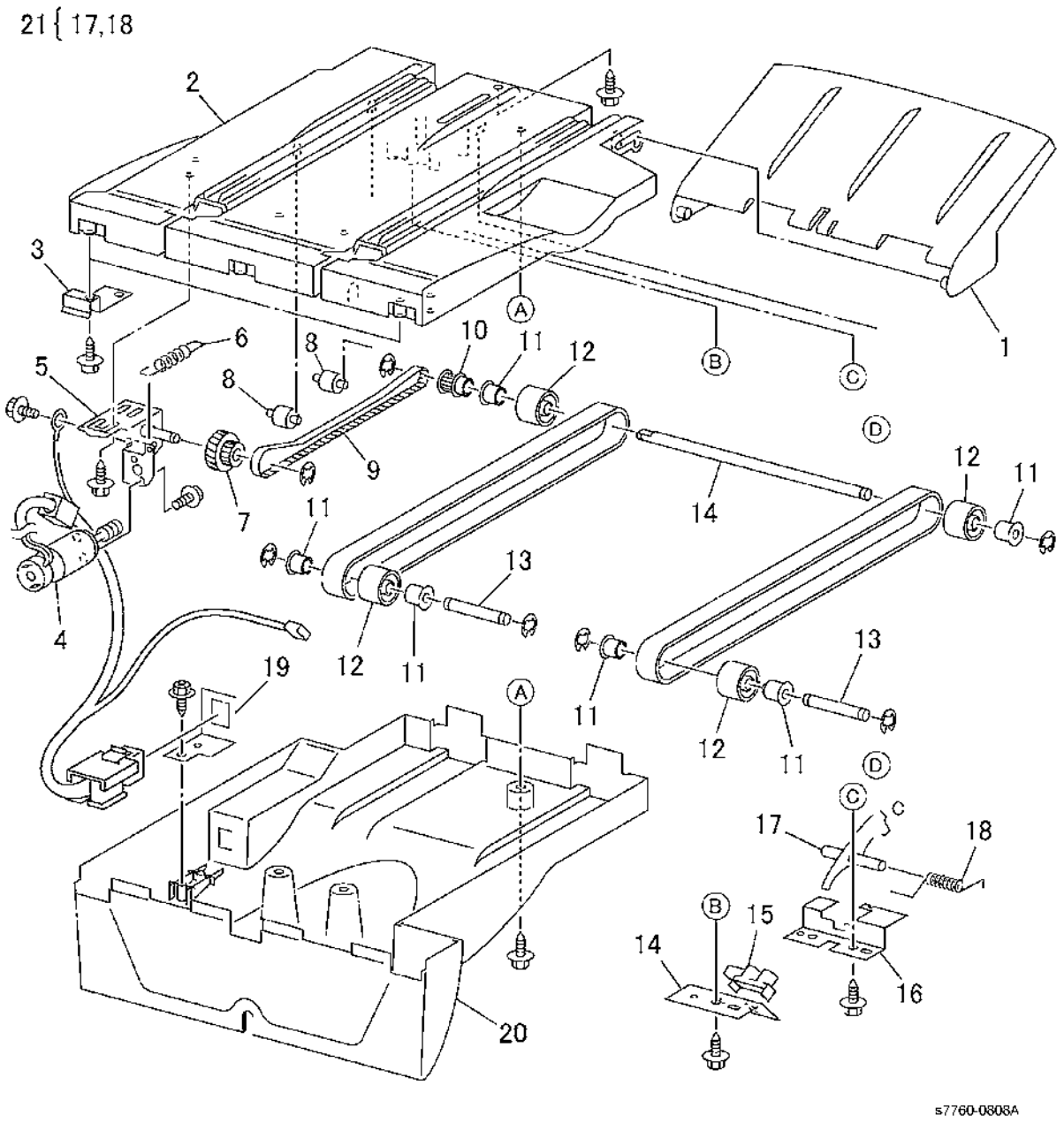
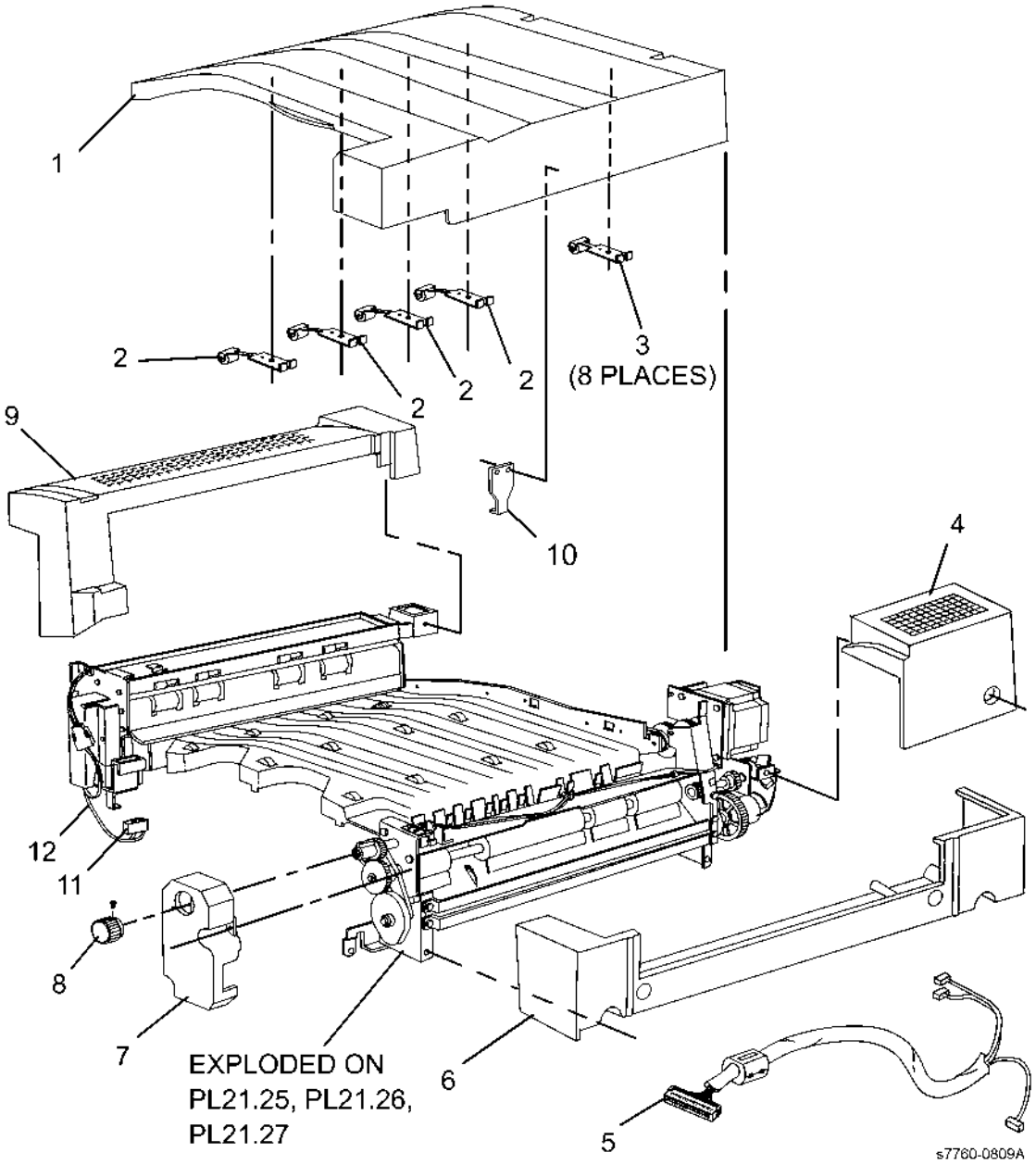
PL 21.23 Booklet Tray Component

Item	Part	Description
1	050E19901	Tray
2	–	Upper Tray (Not Spared)
3	–	Bracket (Not Spared)
4	127K38050	Tray Belt Drive Motor
5	–	Bracket (Not Spared)
6	–	Spring (Not Spared)
7	–	Gear Pulley (Not Spared)
8	–	Roll (Not Spared)
9	–	Belt (Not Spared)
10	–	Pulley (Not Spared)
11	–	Bearing (Not Spared)
12	–	Roll (Not Spared)
13	–	Shaft (Not Spared)
14	–	Shaft (Not Spared)
15	130K64300	Booklet No Paper Sensor
16	–	Bracket (Not Spared)
17	–	Actuator (P/O PL 21.23 Item 21)
18	–	Spring (P/O PL 21.23 Item 21)
19	–	Bracket (Not Spared)
20	–	Lower Tray (Not Spared)
21	604K13840	Actuator Assembly



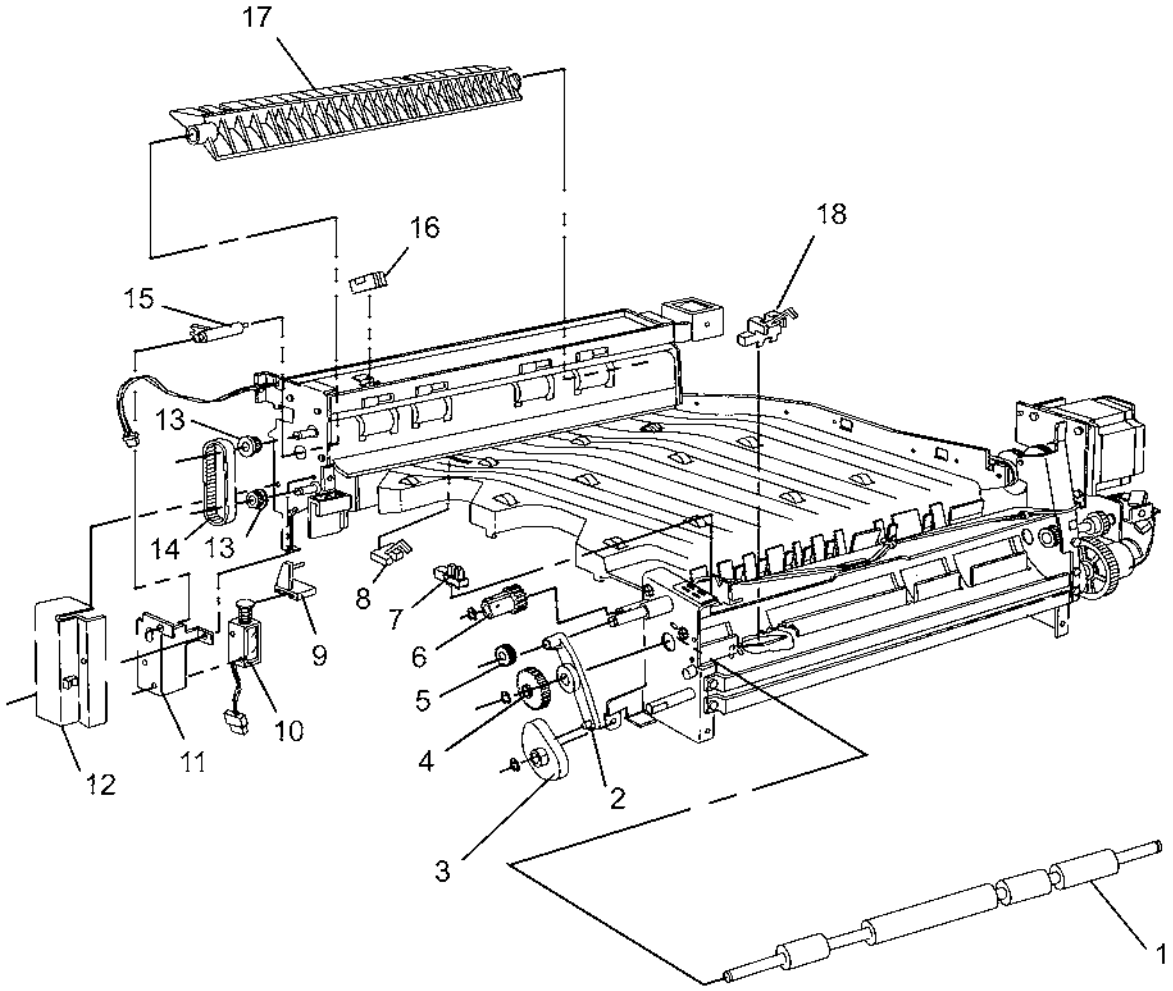
PL 21.24 H-Transport: 1 of 4

Item	Part	Description
1	–	H-Transport Center Tray (Not Spared)
2	022K71111	Pinch Spring Assembly
3	022K71121	Pinch Spring Assembly
4	–	Upper Decurler Cover (Not Spared)
5	–	Harness Assembly (Not Spared)
6	–	Decurler Cover (Not Spared)
7	–	Cover (Not Spared)
8	003E61620	Knob
9	–	Top Exit Cover (Not Spared)
10	–	Latch Bracket (Not Spared)
11	110K12282	Interlock Switch
12	113E20900	Interlock Switch Harness



PL 21.25 H-Transport: 2 of 4

Item	Part	Description
1	022K67641	Decurler Roll
2	031E94651	Decurler Arm
3	008E94070	Decurler Cam
4	007K89451	Gear (20T)
5	807E08980	Gear
6	604K25210	Knob Gear
7	130K88780	H-Transport Interlock Sensor
8	130K88291	H-Transport Entrance Sensor
9	012E12110	Guide
10	121K34421	Gate Solenoid
11	–	Solenoid Bracket (Not Spared)
12	–	Solenoid Cover (Not Spared)
13	020E37490	Pulley (18T)
14	423W26754	Exit Drive Roll Belt (67T)
15	012E12170	Gate Link
16	130E88350	Center Tray Exit Sensor
17	050E89621	Entrance Gate
18	130K87970	H-Transport Exit Sensor



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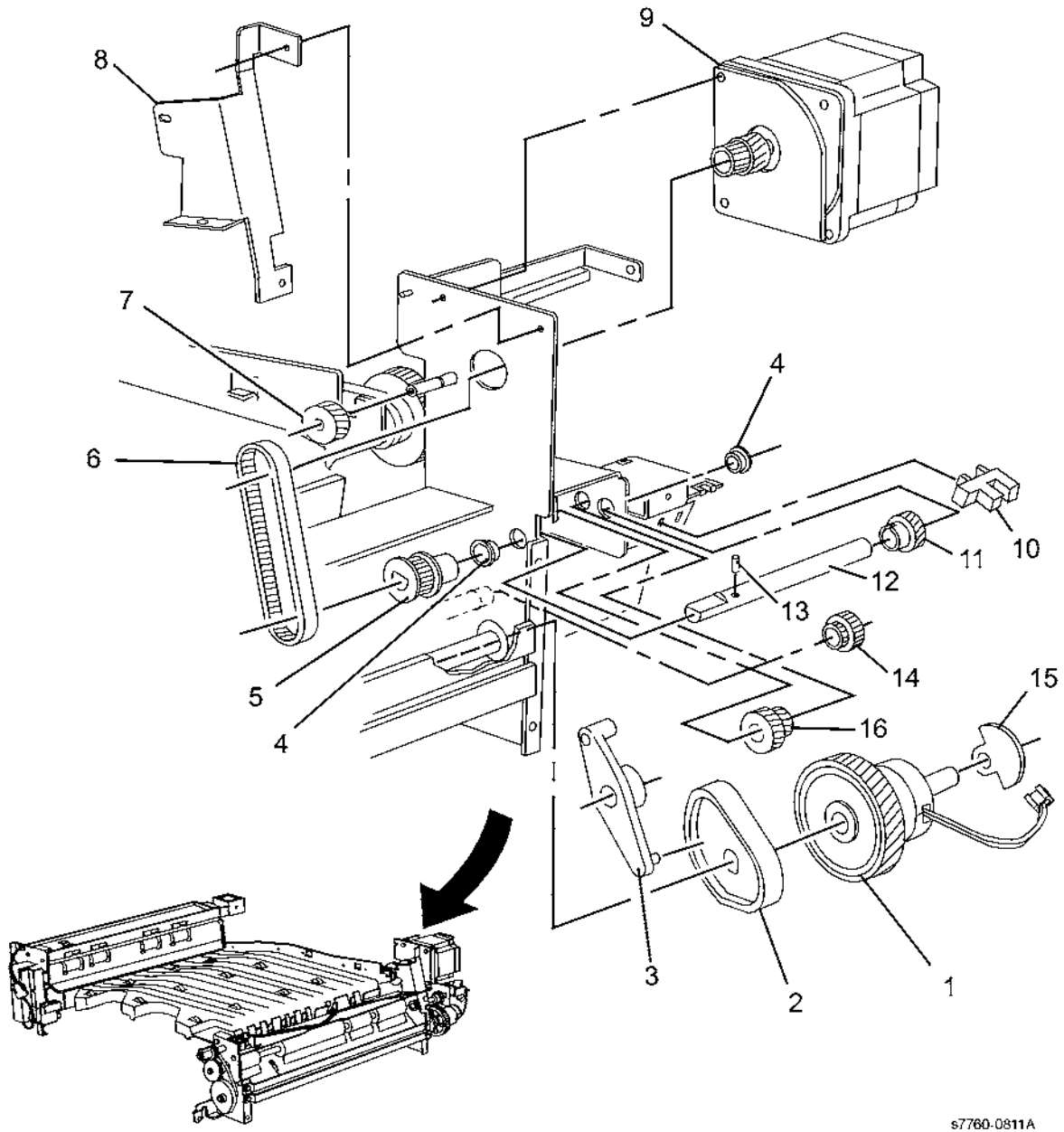
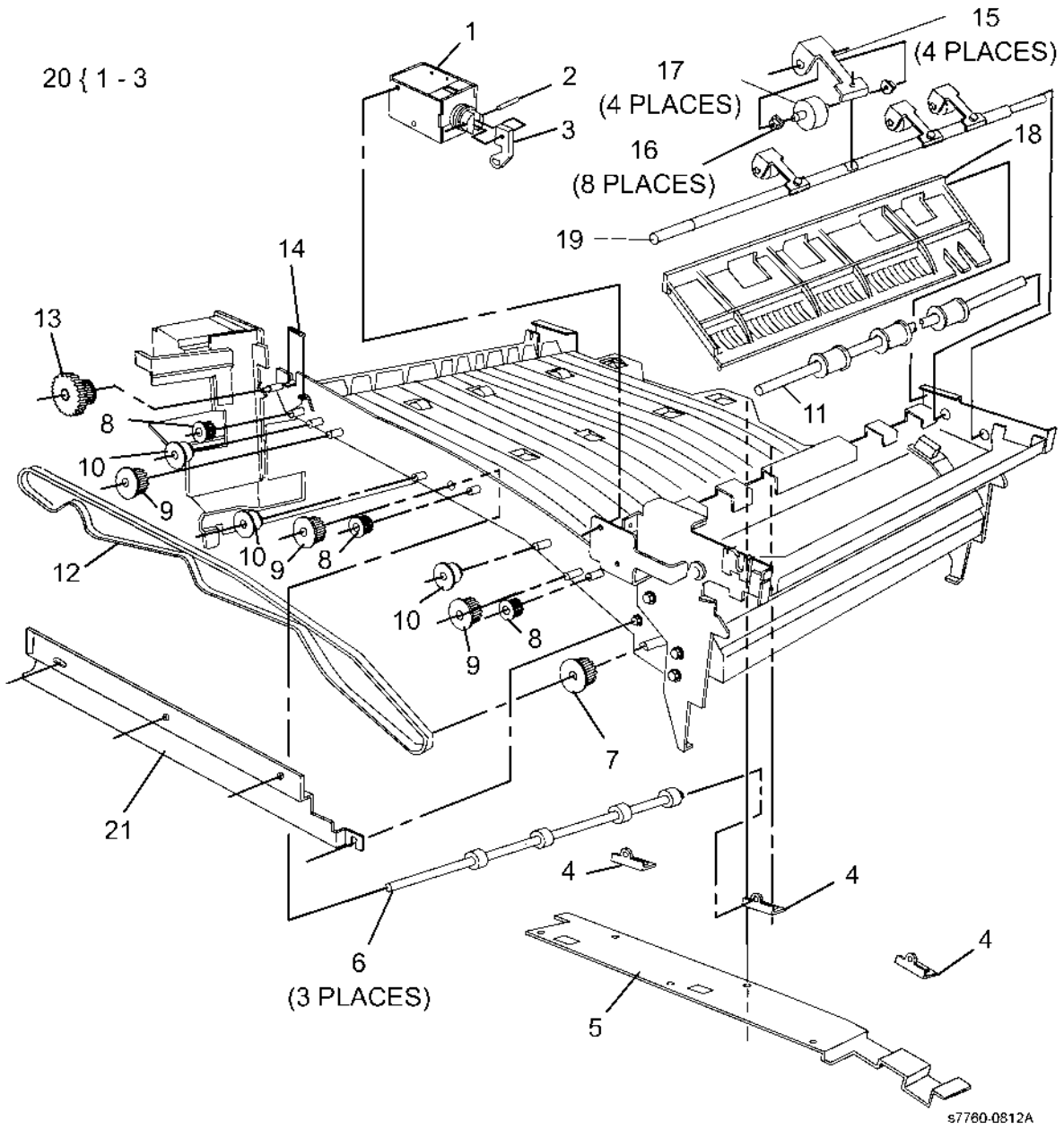
PL 21.26 H-Transport: 3 of 4

Item	Part	Description
1	121K24610	Decurler Cam Clutch
2	008E94070	Decurler Cam
3	–	Decurler Arm (Not Spared)
4	–	Bushing (Not Spared)
5	020E37480	Pulley (20T)
6	423W27854	H-Transport Motor Belt (78T)
7	807E08600	Gear (20T)
8	–	Cover (Not Spared)
9	127K40051	H-Transport Drive Motor
10	130K88780	Decurler Cam Sensor
11	807E04000	Gear (24T)
12	–	Shaft (Not Spared)
13	–	Pin (Not Spared)
14	807E04010	Gear (20T/24T)
15	120E20690	Sensor Flag
16	007K89440	One Way Gear (18T)



PL 21.27 H-Transport: 4 of 4

Item	Part	Description
1	121K35313	Tray Nip Solenoid (P/O PL 21.27 Item 20)
2	–	Pin (P/O PL 21.27 Item 20)
3	–	Tray Nip Link (P/O PL 21.27 Item 20)
4	–	Support Bracket (Not Spared)
5	–	Bracket (Not Spared)
6	022K67631	H-Transport Drive Roll
7	020E37750	Pulley (26T)
8	020E37440	Pulley (18T)
9	020K10760	One Way Pulley
10	022E27700	Idler Roll
11	022K67652	Exit Drive Roll
12	423W88254	H-Transport Drive Belt (450T) (REP 12.66)
13	020E37460	Gear Pulley (40T/26T)
14	–	Spring (Not Spared)
15	809E56092	Pinch Roll Spring
16	013E26740	Bushing
17	022E27750	Exit Pinch Roll
18	054E26112	Upper Exit Chute
19	–	Pinch Roll Shaft (Not Spared)
20	121K35312	Tray Nip Solenoid Assembly
21	–	Bracket (Not Spared)



PL 99 Options Service Part Numbers

Item	Part	Description
1	059K58550	2500 Sheet High Capacity Feeder
2	059K58560	3000 Sheet, 3 Hole Punch, Advanced Office Finisher, Stacker/ Stapler
3	059K58570	1500 Sheet, 3 Hole Punch, Professional Booklet Maker Finisher, Fold/3 Hole Punch, Stacker/Stapler
4	059K58580	3000 Sheet, 4 Hole Punch, Advanced Office Finisher, Stacker/ Stapler
5	059K58590	1500 Sheet, 4 Hole Punch, Professional Booklet Maker Finisher, Fold/4 Hole Punch, Stacker/Stapler
6	050K67570	1500 Sheet Lower Tray Feeder

Common Hardware

Item	Part	Description
A	112W27651	Screw (M3x6)
B	112W27659	Screw (M3x6)
C	112W27851	Screw (M3x8)
D	112W28451	Screw (M3x14)
E	113W20457	Screw (M3x4)
F	113W20651	Screw (M3x6)
G	113W20857	Screw (M3x8)
H	113W21057	Screw (M3x10)
J	113W21657	Screw (M3x16)
K	113W27451	Screw (M3x4)
L	113W27551	Screw (M3x5)
M	113W27651	Screw (M3x6)
N	113W27851	Screw (M3x8)
P	113W28051	Screw (M3x10)
Q	113W28851	Screw (M3x20)
R	153W17655	Thread-forming Screw (M3x6)
S	153W17855	Thread-forming Screw (M3x8)
T	153W18055	Thread-forming Screw (M3x10)
U	153W27855	Thread-forming Screw (M3x8)
V	158W27655	Screw (M3x6)
W	158W27663	Screw (M3x6)
X	158W27855	Screw (M3x8)
Y	158W27863	Screw (M3x8)
Z	158W28255	Screw (M3x12)
AA	158W35855	Screw (M4x8)
AB	220W21250	Flange Nut (M3)
AC	251W24251	Washer (4)
AD	251W24450	Washer (4)
AE	252W24250	Nylon Washer (4)
AF	252W26450	Nylon Washer (5)
AG	252W27350	Nylon Washer (6)
AH	252W27450	Nylon Washer (6)
AJ	252W29450	Nylon Washer (8)
AK	271W16050	Dowel Pin (2x10)
AL	271W28250	Dowel Pin (3x12)
AM	271W28650	Dowel Pin (3x16)
AN	271W28950	Dowel Pin (3x22)
AP	271W36850	Dowel Pin (4x20)
AQ	285W15651	Spring Pin (2x6)
AR	285W15851	Spring Pin (2x8)
AS	285W16251	Spring Pin (2x12)
AT	285W28051	Spring Pin (3x10)
AU	285W28251	Spring Pin (3x12)
AV	285W28651	Spring Pin (3x16)
AW	354W15251	E-Clip (2)
AX	354W19251	E-Clip (2.5)
AY	354W21251	E-Clip (3)
AZ	354W21254	K-Clip (3)
BA	354W24251	E-Clip (4)
BB	354W24254	K-Clip (4)
BC	354W26251	E-Clip (5)
BD	354W27251	E-Clip (6)
BE	354W27254	K-Clip (6)
BF	354W29251	E-Clip (8)
BG	113W20657	Screw (M3x6)
BH	113W16051	Screw (M2x10)
BJ	158W45055	Screw (M5x10)
BK	158W36355	Screw (M4x12)
BL	251W24451	Washer (4)
BM	113W20557	Screw (M3x5)
BN	113W15851	Screw (M2x8)
BP	113W28056	Screw (M3x10)
BQ	113W28251	Screw (M3x12)
BR	113W28256	Screw (M3x12)
BS	153W27650	Thread-forming Screw (M3x6)
BT	153W27850	Thread-forming Screw (M3x8)
BU	252W27250	Nylon Washer (6)
BV	252W29350	Nylon Washer (8)
BW	285W29151	Spring Pin (3x25)
BX	158W35655	Screw (M4x6)
BY	113W36257	Screw (M4x12)
BZ	158W35863	Thread-forming Screw - Deltite Tip (M4x8)
CA	158W36055	Screw (M4x10)
CB	153W71153	Screw (M3x8)
CC	153W71453	Screw (M3x14)
CD	153W42353	Screw (M4x12)

Kit Part Number

Table 1 Kit Part Number

Part Number	Description
604K16631	Sensor Kit
600K87510	Sensor Flag Kit
600K78460	Roller Kit
604K05880	MSI Roller Kit
604K00821	Hardware Kit
604K16731	Internal Repackaging Kit
604K16740	Complete Repackaging Kit

6 General Procedures

Introduction

This chapter covers the general startup, PostScript, and power supply operations of the printer to aid in troubleshooting problems not associated with an error code or Control Panel error message.

For troubleshooting problems associated with an error code or Control Panel error message, refer to the individual Status Indicator RAPs.

Troubleshooting procedures isolates a problem to a specific component or subassembly, in some cases including the wiring harness.

Service Diagnostics are to be executed by a certified service technician only through the Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** >hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.

NOTE: *Ensure to load letter size (LEF) media in Tray 1 (MPT) when working on the printer. This will prevent any printing issues from Tray 1 (MPT).*

Diagnostic Fault History

Diagnostic Fault History is a tool that is used **only within diagnostics** to detect failure events that are then reported in the chain-link format. The diagnostic event counter memory is volatile, so as soon as you exit diagnostics, all counts will be lost.

General Application Information

There are several application possibilities including:

1. Intermittent detection. (Interlock activation may be necessary in some cases)
   a. For diagnosing potential intermittent component or wiring issues, first gain access to the component or wiring harness of concern.
   b. Select **Master Reset** to erase any non-relevant, accumulated information.
   c. Select **All Counts Filter.**
   d. Wiggle component or wiring harness while observing the Control Panel.
2. Learning what chain-links are associated with particular inputs.
   a. Select **Master Reset** to erase current logged information.
   b. Select **All Counts Filter**.
   c. Check the components of interest.
   d. Observe the Control Panel reaction.
3. Signature Capture
   a. This is not recommended for on-customer-site work, but may have value for creating a database of behavior ‘signature’ that can be used to identify the cause of various problems.
      i. Create some condition.
      ii. Capture the chain-link log using the Allow Repeat Events test.
         1. From power-up.
         2. During test print.
      iii. You now have a chain-link sequence history for the condition you have created.

Application

This implementation of fault history should be effective in the following applications:

1. Detection of pre-existing conditions at power-up.
2. Detection of events during test printing.
3. General event detection (interlocks, etc.).
4. Learning which chain-links correspond to a physical input.

Fault History Menu

- Diagnostic Event Counter - to prevent confusion with PS ‘fault history.’
  All Counts Filter
  All Finisher Counts Filter
  Allow Repeats Events
  Master Reset

Diagnostic Event Counter

Maintains chain-link history count **only** while in service diagnostics. History is volatile and is cleared at power cycle or user command.

Events are reported in the following general format:

- XXXX-YYYY: nnn
- XXXX is the chain
- YYYY is the link
- nnn is the current count - limited to 255 for any event.

NOTE: *If there is any unknown chain link that is represented by more than four characters of XXXX and/or YYYY, it will be displayed at its actual length.*

Events are displayed horizontally to minimize scrolling.

Events are not removed from the list unless power-cycled or commanded by the user (see Master Reset below).

Use the Up/Down keys to scroll the list.

All Counts Filter

Displays logged chain-link values with counts greater than zero.

Behavior: The list maintains the order of events are reported by the engine except when an event is repeated. In this case, only the count increments. New events will be appended to the end of the list.

Diagnostic Fault History should be selected when your concern is to only look at what events have occurred after entering Diagnostic Fault History and the number of times those events were seen.

Default Behavior

All Finisher Counts Filter

The display logs finisher chain-link values with counts greater than zero.

Behavior: As explained above.

Allows Repeat Events

Permits repeated chain-link displays. Behavior takes effect after selection.

Behavior: This removes the constraint in the prior description. That is, this behavior will allow repeat chain-link events to be appended to the list in the order received from the engine. Repeat chain-links will be seen as new entries with respective count updates. The same event occurring previously in the list will not be modified.

Select this behavior when the concern is to maintain the order of the events as independent occurrences. The last repeat event will display the accumulated count so it is not necessary to scroll through the whole list and manually count the event.

Master Reset

Clears counts for all chain-links.

This effectively re-arms the list to capture new events.

Attempting to identify intermittent conditions is an example where one might want to clear the event list.

Service Diagnostics Menu

The Phaser 7760 Color Laser Printer has built-in diagnostics that allow access to Sensors, turning ON and OFF Motors, Clutches, Solenoids, built-in test patterns, cleaning maintenance operations, printer status and some NVRAM access. Using these tests, the service technician should be able to diagnose problems quickly and isolate which components or sub-assembly part needs replacement.

Service Diagnostics can be entered one of two ways:

Entering Service Diagnostics by Rebooting the Printer

1. Turn the Printer power **Off**.
2. Hold down the **Back** button and **Help** buttons simultaneously and turn the Printer back **ON**.
3. Continue to hold the buttons until the following message is displayed on the Control Panel: **Service Diagnostics V#.##, Initializing...**, and then release the buttons.
4. The Control Panel displays the Service Diagnostics Menu.
   a. You can print a Service Diagnostics Menu Map by highlighting **Print Service Menu Map** and pressing **OK**.
   b. The Printer will now run through POST and return to **Ready**.
   c. You will need to re-enter the Service Diagnostics menu.

Entering Hidden Service Menu without Rebooting the Printer

1. Scroll to the **Troubleshooting** --> **Service Tools** --> **Printer Status Page** menu.
2. Hold down the **Up** and **Down** buttons simultaneously.

   NOTE: *You can print a Service Diagnostics Menu Map by highlighting* ***Service Diagnostics Menu Map*** *and pressing* ***OK****.*

3. Scroll down the menu to select **Run Service Diagnostics** and press **OK**.
4. The Control Panel displays the Service Diagnostics Menu.

Component Control Within Diagnostics

The purpose of the diagnostics is to display the logic state of input signals and to energize output components.

1. Enter the Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** >hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.

CAUTION

Some components have special machine safety requirements, such as removing the IBT assembly before running the IBT Drive, etc. These caution statements are listed in the Quick-Help window for each code. Be careful to read and fully comply with these messages, in order to avoid machine damage.

2. Select the appropriate diagnostic to perform the test and activate a component.

NOTE: *If the component has a runtime restriction, the component is switched on for that period and automatically switched off.*

3. To exit the test, press **Back** or **Cancel**.

Service Diagnostics Control Panel Button Descriptions

Table 1 Control Panel Button Description

Button	Function
CANCEL	Cancel the current test, print jobs, or INFO display.
BACK	Returns to the prior higher level menu structure, if available. If Help text is displayed on the Control Panel, pressing BACK restores the current menu item and remove the Help text.
HELP	Displays help information such as: Printer Status, Warning Message, Walk-up Features, printer Information, Paper Tray Setup, Printer Setup, and Troubleshooting.
UP	Scrolls up one menu within a menu list.
DOWN	Scrolls down one menu within a menu list.
OK	Accepts the selected setting. Executes the current test item.

Service Diagnostic Menu

NOTE: *When performing Test Prints from in Diagnostics, ensure to have media in Tray 1 (MPT).*

When performing Test Prints from Stacker Tray with Finisher attached, DO NOT select Stacker. Paper will jam with Finisher attached.

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
Print Service Menu Map - When item is selected, the Diagnostic mode is exited and the printer is reset. When the printer fully initializes into PostScript mode, and after the StartPage is printed (if enabled), the Service Menu Map is then printed.		
General Status - This menu provides the general print engine status.		
Engine ROM Version	Engine Version is xxx.x.x Video ASIC Version: x.xx	Displays engine ROM version.
Configuration	Options: {1TM | 3TM | HCF} {+Duplexer} (nnn) Finisher}	Displays all optional components installed.
Ambient Temp/Humidity	Temperature is XX (degC) Humidity is XX (percent)	Displays current Printer temperature and humidity.
Fuser Temperature	Front Temperature is XXX (degC) Rear Temperature is XXX (degC)	Displays current Fuser temperature.
Fault List	No Faults Detected | <nn,nnn> Fault Text	Power UP only - current static condition, not a history log.

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
Front Panel Adjust	Adjust Contrast? • Yes • No <Press **UP/Down** to Adjust> <Press **OK** to latch> Backlight On? • Yes • No	Adjust Value: 1 - 15: 8 Default ***NOTE:*** *In some cases, in order to see backlight, it may be necessary to adjust the contrast and/or shield the Control Panel from ambient light.*
Jam Info	{No Static Jam Detected | Static Jam: area name} <Press **Back** or **Cancel** to exit>	Location of Jam
Diagnostic Event Counter	<nnn> text: mmm	This test records occurrences of engine-generated events called chain-links where different chain-link values represent unique events. The format of displayed data is C1C2C3-L1L2L3: N1N2N3, where • C1C2C3 is the Chain Number • L1L2L3 is the Link Number • N1N2N3 is the Running Count.
	All Counts Filter n-nnn:n	This selection provides a running count of the displayed chain-link event. Event sequence is NOT maintained. This is the default behavior for Diagnostics Event Counter. Use this option when your concern is simply to identify what events have occurred and the number of times each has occurred.
	All Finisher Counts Filter	This operates as described in All Counts Filter, but displays only the events associated with the Finisher.
	Allow Repeat Events Process Complete	This selection maintains the sequence of events reported by the engine. Using the same example as described in **All Counts Filter**, a sequence of E1 E2 E1 is displayed as: E1: 2, E2: 1, E1: 2.

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
	Master Reset Process Complete	This option sets all current counts to zero. This typically used to start a new test when you want to identify the engine response to a specific stimulus. By first erasing the current count, you can isolate the engine response to the specific stimulus applied to the system.
Built-In Test Prints - This menu allows service personnel to print pre-defined images stored in the Engine Firmware for troubleshooting image-quality problems. The prints are used by service personnel to identify, repair, and validate the operability of the printer. ***NOTE:*** *The first test print attempt from power-up will result in a 'dummy' cycle prior to the actual print cycle. The display will show "Dummy Cycle" when this occurs. The printer will automatically restart for the actual print cycle. Allow the dummy cycle to complete normally.*		
	For Laser Check Print only: Select tray, count of/continuous sheets, simplex/duplex, offset, media type/weight, finisher, staple.	
Paper Path Option	Source Tray is Tray {1-5} Select new source tray? • Yes • No	Press **Up**/**Down** to change settings.
	Tray #n <1=MPT> <Press **Up**/**Down** to change value>	
	Current # sheets is n Select new # sheets? • Yes • No Sheets: nnn <**Up** or **Down** to change> <**Info** to shift digits> <Select **OK** to accept changes>	Press **Up**/**Down** to change the number.
	Simplex/Duplex is {Simplex | Duplex} Change Duplex setting? • Yes • No Simplex Duplex <Press **Back** or **Cancel** to abort>	Press **Up**/**Down** to change setting.

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
	Offset is {None | Auto | Front | Rear} Set a new offset? • Yes • No Offset • None • Auto • Front • Rear	Press **Up**/**Down** to change setting.
	Media Type is {Laser | Heavy Laser Paper | Thin Cover/Index | Thick Cover/Index | Transparency} Set a new media type? • Yes • No Media Type • Laser Paper • Heavy Laser Paper • Thin Cover/Index • Thick Cover/Index • Transparency	Press **Up**/**Down** to change setting.
	NOTE: *If Finisher not present, the following two options are not changeable.* Output Destination is: Top Stapling is None Output Destination is {Top | Finisher} Change output setting? • Yes • No Output Destination: • Top • Fin Top • Stacker • Booklet Maker <Press **Back** or **Cancel** to abort> <Select **OK** to accept changes>	Press **Up**/**Down** to change setting.

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
	Stapling is {None | Front Corner | Rear Corner | Dual} Set new stapling options? • Yes • No Stapling option? • None • Front Corner • Rear Corner • Dual	Press **Up**/**Down** to change setting. This option is only available with an optional Finisher installed.
Print Laser Check	Laser Init {Startup | Imaging | Delivering | Finishing} Laser Done	For judgment of whether the laser window glass cleaning is required or not: 20% halftone on the whole area. All four primaries are present on the page. The print should appear grey.
Print Halftones	HalfTones Init {Startup | Imaging | Delivering | Finishing} Halftones Done	For judgment of whether the laser window glass cleaning is required or not: 100% fill on the whole area. Prints 6 pages of 100% solid fill for: Yellow, Magenta, Cyan, Black, Red, and Green.
Print Grid 1-Dot	Grid Init {Startup | Imaging | Delivering | Finishing} Grid Done	For trouble identification. 1-dot wide grid pattern with 512-dot pitch. Print one print: Yellow/Magenta/Cyan/Black. This print displays the four primary color lines in a grid pattern. See “RegiCon Adjustment Procedures.”
Print Fast Scan 8 Tone	Scan Init {Startup | Imaging | Delivering | Finishing} Scan Done	For trouble identification, 8-tone pattern in fast scan direction. This process prints four pages of eight tones for each primary color.

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
Sensor/Switch Tests- Test the functionality of the Sensors and Switches by giving service personnel the ability to input actuation and state changes of all Sensors and Switches. The technician should test the functionality of each sensor by blocking the sensor and watching its state change on the Control Panel Menu. ***NOTE:*** *Several jam sensors only change state if a jam has occurred. All doors (Interlock Switches) must remain closed or defeated to test for a changed state.* ***NOTE:*** *The default state of all sensors are shown under the following conditions:* • *The Printer’s Control Panel displays* ***Ready to Print****.* • *All covers are closed.* • *All routine maintenance items and Toner Cartridges are installed.* • *All trays and Tray 1 (MPT) have paper in them.* • *No paper is in the paper path or Finisher.* • *The Finisher is docked correctly to the Printer.* • *No motor tests have been performed to change the position of any components.* • *The Waste Toner Cartridge is not full.*		
Ambient Temp/Humidity	Temperature is XX (degC) Humidity is XX (percent)	
Fuser Temperature	Front Temperature is XXX (degC) Rear Temperature is XXX (degC)	
Interlocks	Front (or Right) Door is {L} Left Upper Door is {L} Duplex Cover is {L} Left Lower Door is {L} Optional Tray Left Cover is {L}	H = Open L = Closed ***NOTE:*** *Interlocks should be operated individually, one at a time.*
Jam Sensors	Tray Left Cover Area is {L} LH Cover Area is {L} LH Fuser Area is {L} Duplex Cover Area is {L} LH Low Cover Area is {L}	H = Paper present L = Paper not present
POB Sensor	POB Sensor is {H}	POB = Paper On Belt L = Paper present H = Paper not present
Registration Sensor	Registration Sensor is {H}	L = Paper present H = Paper not present
OHP Sensor	Left OHP is {L} Right OHP is {L}	OHP = OverHead Projection Media L = Paper or OHP present H = Paper or OHP not present
Duplex Sensor	Duplex is {L}	H = Paper present L = Paper not present

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
Tray Feed Sensors	Feed Out #2 is {L} Feed Out #3 is {L} Feed Out #4 is {L} Feed Out #5 is {L}	H = Paper present L = Paper not present
Stack Full Sensor	Stack Full is {H}	H = Output Stack not full L = Output Stack full
Fuser Exit Sensor	Fuser Exit is {L}	H = Paper present L = Paper not present
1st BTR Retract Sensor	1st BTR Retract is {L}	1st BTR = First Bias Transfer Roller H = In contact L = Retracted
2nd BTR Retract Sensor	2nd BTR Retract is {H}	H = In contact L = Retracted
Fuser Present	Fuser is {present} {Change Soon | Change}	Need to cycle power to get the results to change when installing a new Fuser.
Read Fuser Fuses	Fuse 1 is {Shorted} Fuse 2 is {Shorted} Fuse 3 is {Shorted}	100 page fuse 50% Life 99% Life Open indicates Fuse is blown.
Accum MOB Sensor	MOB Sensor is {L}	MOB = Mark On Belt H = Belt Home Mark is sensed L = Belt Home Mark not sensed
Belt Edge Sensor	Edge is nnn (current value)	OK or Failed
BTR Sensors	BTR Y is {L} BTR M is {L} BTR C is {L} BTR K is {L} 1st BTR is {L} 2nd BTR is {L}	BTR = Bias Transfer Roller H = Error L = No error
ADC Sensor	ADC is {L}	ADC = Automatic Density Correction Go to ADC Output check under adjustments and calibration.
Toner Waste Cartridge	Waste cartridge presence is {H} Waste cartridge full is {L}	All door switches must be closed. H = Present or Full L = Not present or not full

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
Tray Sensors	Tray 2 Do you want auto paper lift? • Yes • No Tray 2: SW1-4:{HHHL} <media name> Level: {H} Tray 3 - <same as Tray 2> Tray 4 - <no data available if HCF is installed> Do you want auto paper lift? • Yes • No No data available <if 2500 Sheet Feeder attached> or Tray 4:SW1-4:{H | L} {H | L} {H | L} {H | L} <media name> Level: {H | L} Tray 5 - <same as Tray 4>	The Four switch pattern indicates the media size. Refer to the media switch table in the Wring Diagrams. L = Tray not lifted H = Tray lifted H = Paper not present L = Paper present ***NOTE:*** *Level 6 entries for Trays 3-5 follow the same pattern as for Tray 2.*
Tray 1 Sensors	Tray 1 NoPaper is {L} Tray 1 Size is xxx	MPT = Multi-Purpose Tray Range (0 - 1000) i.e. Letter LEF approx. 180 i.e. Letter SEF approx. 460
ATC Sensors	ATC 1 is nnn ATC 2 is nnn ATC 3 is nnn ATC 4 is nnn	ATC = Automatic Toner Calibration Average Value: 10-25; Value range (0 - 1000)
Imaging Unit Sensors	IU Yellow is {H} IU Magenta is {H} IU Cyan is {H} IU Black is {H}	H = Cartridge present L = No cartridge present
Motors/Fans Tests - This menu allows you to test the functionality of Sensors by manually toggling each sensor and watching the sensor state change on the Control Panel.		
CAUTION *To avoid damaging the Accumulator Belt, it must be removed prior to performing the following motor tests:* • Steering Motor • Imaging Unit Motor • Accumulator Belt Motor		
Main Motor	Main Motor is {On} Turn Motor {Off} All Motors {Off}	This test procedures gear hopping noise unless you perform the 2nd Transfer Roller Retract Motor test, prior to this test.

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
Steering Motor	To avoid damage to Accumulator Belt, remove! Do you wish to continue? • Yes • No Motor On Motor Off <after approx. 1 sec. delay> Please cycle power to the Printer now! <Press **Back** or **Cancel** to exit>	**CAUTION** *To avoid damaging the Accumulator Belt, it is recommended that you leave the Belt installed and perform the Belt Edge Learn test instead. Refer to Belt Edge Learn.* Bypass the Right-Hand Door Interlock Switch and observe the Steering Motor as the test is performed.
Imaging Unit Motors	To avoid damage to Accumulator Belt, remove! Do you wish to continue? • Yes • No Motor On Motor Off Please cycle power to the Printer now! <Press **Back** or **Cancel** to exit>	***NOTE:*** *Only run this test once per power cycle to avoid excessive toner being forced inside the Developer and damaging it.*
Accumulator Belt Motor	To avoid damage to Accumulator Belt, disengage! Do you wish to continue? • Yes • No Motor On Motor Off <after approx. 1 sec. Delay> Please cycle power to the Printer now! <Press **Back** or **Cancel** to exit> <Alternate message if test already run once> Motor cannot be moved! Please cycle power to printer to continue.	***NOTE:*** *The Accumulator Belt must be removed prior to running this test.*
1st BTR Motor	1st BTR Motor is {Retract | Contact} <Press **Back** or **Cancel** to abort> 1st BTR Motor is {Retract | Contact} Motor Off	***NOTE:*** *Repeated executions of 1st BTR Motor Test will cause Motor Retract, Motor Contact, Motor Retract, etc.*

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
2nd BTR Motor	2nd BTR Motor is {Retract | Contact} <Press **Back** or **Cancel** to abort> 2nd BTR Motor is {Retract | Contact} Motor Off	2nd BTR = Second Bias Transfer Roller This test toggles between the two values of Retract and Contact. ***NOTE:*** *Repeated executions of 2nd BTR Motor Test will cause Motor Retract, Motor Contact, Motor Retract, etc.*
Duplex Motor	(if Duplex Motor is Off) Duplex Motor is Off • Turn Motor On (Low Speed) • Turn Motor On (High Speed) • All Motors Off (if Duplex Motor is On) Duplex Motor is On {(Low Speed) (High Speed)} • Turn Motor Off • All Motors Off	Press **UP**/**Down** to change setting.
Paper Feed Motors	Feed Motor: 2 3 4 5 <Press **Back** or **Cancel** to abort> Motor is On Motor is Off <after pressing **Back** or **Cancel**>	***NOTE:*** *Running this test causes a static jam. Clear paper path after running this test.*
Paper Lift Motors	Lift Motor: 2 3 4 5 Lift Motor #n <Press **Back** or **Cancel** to abort> Motor is On Motor is Off <after tray has lifted to print position>	Press **Up**/**Down** to change setting.

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
Offset Motor	Direction: • Forward • Backward Direction is {Forward | Backward} <Press **Back** or **Cancel** to abort> Offset On Offset Off <after pressing **Back** or **Cancel**>	Press **Up**/**Down** to change setting.
Developer Motors	Developer Motor is {On} Turn Motor Off All Motors Off	
Dispenser Motors	Disp. Motor: • Yellow • Magenta • Cyan • Black Disp. Motor is {Yellow | Magenta | Cyan | Black} Motor On <after approximately 1 sec.> <only one motor on per color per session> Dips. Motor is {Yellow | Magenta | Cyan | Black} Motor Off Please ensure toner is fully mixed. <Press **Back** or **Cancel** to exit> <Alternate message when same color is request again> Cannot dispense more {Yellow | Magenta | Cyan | Black} until toner fully mixed by making print(s).	***NOTE:*** *Only run this test once per power cycle to avoid excessive toner being forced inside the Developer and destroying it.*
Agitator Motor	<Press **Back** or **Cancel** to abort> Motor On Motor Off <after aprox. 1 sec delay>	Press **OK** to run test.
Fan Motors	Fuser / PwrSup Fan is {Off} Turn Motor {On} All Motors Off	Press **Up/Down** to change setting.

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
Paper Path/No Pick	**NoPaperRun Init** Tray #2 must be non-empty. Please add paper. <Press **Back** or **Cancel** to exit> **NoPaperRun Startup** **NoPaperRun Executing** **NoPaperRun Finishing**	Runs a complete print cycle only. No paper is picked and no toner is dispensed. ***NOTE:*** *A chain-link error 4-354 sometimes occurs with this test. If this is the case, cycle power. The precise meaning of 4-354 is not understood at this time.*
Clutch Tests - This menu allows you to test the functionality of Clutches by initiating one at a time.		
Developer Clutch	<Press **Back** or **Cancel** to abort> <Times out after 1 second> Clutch On Clutch Off	All tests are activated by pressing OK. Listen for the Clutch. Test times out after 1 second.
Registration Clutch	<Press **Back** or **Cancel** to abort> <Times out after 1 second> Clutch On Clutch Off	
Duplex Clutch	Which direction? CCW CW <Press **Back** or **Cancel** to abort> <Times out after 1 second> Clutch On Clutch Off	
Solenoid Tests - This menu allows you to test the functionality of Solenoids by initializing one at a time.		
Shutter Motor	Shutter Open Shutter Close	Press **OK** to run test.
ADC Shutter Open	ADC Shutter Open	ADC = Automatically Density Correction Press **OK** to run test.
ADC Shutter Close	ADC Shutter Close	ADC = Automatically Density Correction Press **OK** to run test.
Tray 1 Feed Solenoid	Solenoid On Solenoid Off	Press **OK** to run test.
Finisher Tests - This menu allows you to test the functionality of Finisher related Motors, Sensors, Clutches, and Solenoids.		

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
Finisher Motors	**Stacker** • Motor Up • Motor Down	***NOTE:*** *Downward motion is normally less than upward motion since there is no limit sensing on the downward travel. This is normal and is intended to reduce the probability that the user will attempt to excessively overdrive the tray beyond the physical lower stop. It is recommended that a user listen or watch for the tray to reach the lower limit. Once the physical limit is reached, the motor should be commanded to move in an upward direction only.* Press **Up**/**Down** to change setting. **CAUTION** *Caution must be used when activating Elevator Motor test. When activating this test in the Down position, there is no limit sensor for downward Stacker travels.* *Downward steps increment (or decrement) in single steps, not 5. When continuing in the Down direction, DO NOT continue after an initial thump sound is heard.* *Further downward movements may cause damage to the Stacker Unit/Finisher.*

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
	Tamper • Rear Tamper Low Front • Rear Tamper Middle Front • Rear Tamper High Front • Rear Tamper Low Rear • Rear Tamper Middle Rear • Rear Tamper High Rear • Front Tamper Low Front • Front Tamper Middle Front • Front Tamper High Front • Front Tamper Low Rear • Front Tamper Middle Rear • Front Tamper High Rear	Press **Up**/**Down** to change setting.
	Stapler • Close • Reverse • Move Front Normal • Move Front Fast • Move Rear Normal • Move Rear Fast	Press **Up**/**Down** to change setting.
	H/IF-Transport • HIF Trans Speed 1 • HIF Trans Speed 2 • HIF Trans Speed 3 • HIF Trans Speed 4	Press **Up**/**Down** to change setting.
	Transport • Transport Speed 1 • Transport Speed 2	
	Registration • Registration 285mm/sec Fwd • Registration 350mm/sec Fwd • Registration 285mm/sec Rev	Press **Up**/**Down** to change setting.

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
	Punch • Punch Front Low • Punch Front Fast • Punch Rear Low • Punch Rear Fast • Punch 2-hole Home • Punch 3-hole Home • Punch 4-hole Home • Punch 2-Holes • Punch 3-Holes • Punch 4-Holes	Press **Up**/**Down** to change setting.
	Exit • Exit 285mm/sec Fwd • Exit 350mm/sec Fwd • Exit 285mm/sec Fwd	Press **Up**/**Down** to change setting.
	Eject • Forward Low • Forward Fast • Reverse Low • Reverse Fast • Clamp Up • Clamp Down	Press **Up**/**Down** to change setting.
	Tray Belt Drive • Move Tray Belt	Press **Up**/**Down** to change setting.
	Booklet Paper Path • Book IN 50mm/sec • Book IN 250mm/sec • Book IN 277mm/sec • Book IN 350mm/sec	Press **Up**/**Down** to change setting.
	Booklet Folder Roll • Folder Roll Forward • Folder Roll Reverse	Press **Up**/**Down** to change setting.
	Booklet End Guide • Book End Guide Down Slow • Book End Guide Down Fast • Book End Guide Up Slow • Book End Guide Up Fast	Press **Up**/**Down** to change setting.
	Booklet Staple Add paper to booklet compiler (media detection is required to staple)	

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
	Booklet Paddle Book Paddle	
	Booklet Front Tamper • Book F Tamper Rear 985pps • Book F Tamper Front 985pps • Book F Tamper Rear 645pps • Book F Tamper Front 645pps • Book F Tamper Rear 465pps • Book F Tamper Front 465pps • Book F Tamper Rear 235pps • Book F Tamper Front 235pps	Press **Up**/**Down** to change setting.
	Booklet Rear Tamper • Book R Tamper Rear 985pps • Book R Tamper Front 985pps • Book R Tamper Rear 645pps • Book R Tamper Front 645pps • Book R Tamper Rear 465pps • Book R Tamper Front 235pps • Book R Tamper Rear 235pps	
Finisher Sensors	**Interlocks** • Horiz. Transport is {L} • Front Door is {L} • Booklet Drawer is {L} • Eject Cover is {L}	Optional - only if Finisher is installed H = Open, actuated or paper present L = Closed, deactuated or no paper present
	Horizontal Transport • Entry is {L} • Exit is {L} • Top Exit is {L}	

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
	Compiler • Tray Exit is {L} • Paper is {L}	
	Stacker • Encoder is {L} • Upper Limit is {L} • Stacker A is {L} • Stacker B is {L}	
	Tamper • Rear Home is {L} • Front Home is {L}	
	Stapler • Head Home is {L} • Low is {L} • Move is {L} • Self Priming is {L}	
	Misc • Finisher Entrance Sensor is {L} • IOT Reg. Clutch is {L} • Eject Home is {L} • Decurler Cam Position is {L} • Exit Signal is {L} • Buffer Path is {L} • Transport Gate is {L} • Top Tray Exit is {L} • Top Tray Full is {L}	
	Punch • Move Home is {L} • At Home is {L} • Front is {L} • Hole Select is {L} • Cam Operation is {L} • Punch Box is {L} • Punch Reg A is {L} • Punch Reg B is {L}	

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
	Booklet • Knife Home is {L} • Compiler is {L} • Folder Roll Exit is {L} • Stapler ready is {L} • Stapler Error is {L} • Low Staple Front is {L} • Low Stapler Rear is {L} • Tray Belt Switch is {L} • Tamper Home Front is {L} • Tamper Home Rear is {L} • IN is {L} • End Guide Home is {L} • No Paper is {L} • Knife Folding is {L} Finisher bookmaker is not installed.	
Finisher Clutches	Decurler Cam Clutch Clutch is {On | Off} Set Clamp Clutch is {On | Off}	

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
Finisher Solenoids	**Misc Solenoids** Sub PaddleCycle • Solenoid is {On | Off} Cycle Tray NIP • Solenoid is {On | Off} Tray NIP Operate • Solenoid is {On | Off} Tray NIP Release • Solenoid is {On | Off} **Gate Solenoids** Top Transport Gate • Solenoid is {On | Off} Stacker Transport Gate • Solenoid is {On | Off} Path Buffer Gate • Solenoid is {On | Off} Sub Gate • Solenoid is {On | Off} Finisher Gate • Solenoid is {On | Off} **Booklet Solenoids** Book Knife Flapper • Solenoid is {On | Off} Switch to Stacker • Solenoid is {On | Off} Switch to Booklet • Solenoid is {On | Off}	Press **OK** to run test.
Adjustments/Calibrations - This menu provides some OEM engine tests that align belts, register CMYK planes, calibrate sensors, etc. In the case of the registration procedures, the video required to do the test is available in the PostScript region. For details on performing the RegiCon procedures, refer to RegiCon Adjustment Procedures (ADJ 9.10).		
Belt Edge Learn	<Press Back or Cancel to abort> Running <flashes during test> Belt Edge Learn Result: {OK | NG} Belt Edge Learn {Mode | Walk Control | Not Executed} <Press **Back** or **Cancel** to abort>	

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
ATC Sensor Setup	YMCK #s: 0nn,0nn,0nn,0nn What color? • Yellow • Magenta • Cyan • Black YMCK #s: 0nn, 0nn, 0nn, 0nn, 0nn Enter ID Tag Number: 0nn <Press Back to select tens> <Press INFO to select units> <Press OK to use choice> YMCK #s" 0nn, 0nn, 0nn, 0nn <Press OK to install data> <Any other key to abort>	ATC = Automatic Toner Calibration ***NOTE:*** *When replacing a Developer, enter color and tag number (00-99) from replacement part.* Refer to ADJ 9.2 ATC Sensor Setup.
TCR Adjust	Reading... <0...255: -127 to 127> <Press any key to read data> <Press **Cancel** to abort> • Y:L=nnn M=nnn H=nnn • M:L=nnn M=nnn H=nnn • C:L=nnn M=nnn H=nnn • K:L=nnn M=nnn H=nnn <Press any key to exit>	TRC = Toner Reproduction Curve Displaces toner rendering curve points, not technician adjustable.

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
ADC Output Check	Measuring: • Result = 0 • Stop Status = 0 • ADC Sensor Fail = 0 • ADC Shutter Fail = 0 <Press any key to see more data> • LD Illum Warn=None • ADC Patch Fail=None • VBCR Warn=None • Vbias Warn=None <Press any key to see more data> Y:RADC Target=342 • Ave RADC Trans=342 • Ideal LD Ill=651 • V Bias=887 • V BCR=0 M:RADC Target=346 • Ave RADC Trans=352 • Ideal LD Ill=476 • V Bias=887 • V BCR=0 C:RADC Target=360 • Ave RADC Trans=364 • Ideal LD Ill=470 • V Bias=887 • V BCR=0 K:RADC Target=350 • Ave RADC Trans=337 • Ideal LD Ill=344 • V Bias=887 • V BCR=0	ADC = Automatic Density Correction This tests the Automatic Density Correction Sensor. ***NOTE:*** *If no results, reboot Printer. Diagnostics in Loop.*

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
Tone Up/Down	Measuring: • Result=0 • Status=0 • ATC Sensor Fail=None • ATC Limit Warn=None • ATC Change Warn=None <Press any key to see more data> Y:SensWarns=0 Pages=31 • ATC Control=637 • ATC Corr=639 • Ave ATC=633 • ATC Vol=286 M:SensWarns=0 Pages=32 • ATC Control=612 • ATC Corr=615 • Ave ATC=617 • ATC Vol=292 C:SensWarns=n0 Pages=32 • ATC Control=602 • ATC Corr=604 • Ave ATC=604 • ATC Vol=244 K:SensWarns=n0 Pages=32 • ATC Control=627 • ATC Corr=635 • Ave ATC=639 • ATC Vol=234	This tests the Automatic Toner Calibration Sensor.
Laser Power Check	Y=OK M=OK C=OK K=OK YMCK=OK YMCK(CycUp)=OK <Press any key to exit>	This tests the Laser output.

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
PWM Mapping Data Read	Yellow PWM LUT Data: • 0: 32: 64: 96: 128: 160: 192: 224: 255 <Press any key to see more data> Magenta PWM LUT Data: • 0: 32: 64: 96: 128: 160: 192: 224: 255 <Press any key to see more data> Cyan PWM LUT Data: • 0: 32: 64: 96: 128: 160: 192: 224: 255 <Press any key to see more data> Black PWM LUT Data: • 0: 32: 64: 96: 128: 160: 192: 224: 255 <Press any key to exit>	
Coarse RegiCon Init	Reading NVRAM Set Factory Defaults? • Yes • No	In rare cases, manual initialization of NVRAM data is needed to achieve RegiCon=Registration Control. Refer to Coarse RegiCon Initialization (ADJ 9.8).
	Reset Mag/Bal Values? • Yes • No	Initializes NVRAM to center values. Usually adequate for DC685-4 to register automatically.
	Do you want to adjust NVRAM? • Yes • No	Resets RegiCon Magnification and Mag-Balance NVRAM values.
	Set Skew Error Threshold? • Yes • No	In rare cases, manual initialization of NVRAM data is needed to achieve registration.
	Threshold (nn) • 30 • 60	The error threshold can be increased to 60 if the DC685 tests repeatedly fail. Always be sure to reset back to 30 when set to 60.
	Which scan direction? • Slow • Fast	Slow scan (vertical) or Fast scan (horizontal) direction. This is the imaging (not media) orientation.

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
	Which {Slow | Fast} Plane? • Y • M • C • K • None	The color that needs coarse adjustment.
	How many mms? • 1 • 2 • 3 • 4 • 5	Distance (mm) adjustment.
	Adjustment Direction? • {Up | Left} • {Down | Right} Adjust {Y | M | C | K} by {1 | 2 | 3 | 4 | 5} mm? • Yes • No	L/R for Fast scan U/D for Slow scan
Finisher Fold Position	Selective Defaults Set All Defaults	Allows the engine NVRAM to be modified appropriately to align the Finisher Booklet fold and stapling. It is not expected that this will be a frequent adjustment requirement. The adjustment can only be performed on a Printer with a Booklet Maker.
	• ADJ 12.5 • ADJ 12.6 • ADJ 12.7 • ADJ 12.9 • ADJ 12.10	***NOTE:*** *Perform all printing/stapling in normal customer mode before attempting to make adjustments here.* *These are the same steps found in the Service Documentation. These adjustments allow you to modify the correct NVRAM locations in the engine.*
	Selective Defaults Set All Defaults	Sets the NVRAM locations to the product default values for specific parameters that you specify when selecting this option. Sets all fold position adjustment parameters to their corresponding default values.

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
Maintenance - This menu allows you to perform Fuser cleaning.		
Clean Fuser	Fuser Cleaning Sheets {Startup | Imaging | Delivering | Finishing}	Run 5 sheets of paper through the Fuser from the default tray.
NVRAM Access - This menu allows selected NVRAM locations in the engine to be cleared or reset to factory conditions.		
Clear Tech Rep Faults	Clear <4-346> Clear <9-380 thru 9-383> Clear <10-348 & 10-350> (errors 40,41)	<4-346=Belt Home Too Long> <9-380,1,2,3>=ATC-Y,M,C,K Sensor Fail <10-348,350>=Fuser Main,Sub Lamp Temp Too High
Reset CRU Life Counters	<Reads NVRAM Data> Accum. Belt = nnnn 2nd BTR = nnnn Belt Cleaning Assy = nnnn Fuser = nnnnn Laser Filter = 0 <Press **OK** to advance> <Continuation of above data report> Tray 1 Volume = nnn Tray 2 Volume = nnn Tray 3 Volume = nnn Tray 4 Volume = nnn Tray 5 Volume = nnn <Press **OK** to exit>	CRU = Customer Replaceable Units Resets the life on individual routine maintenance items.
	Reset Counters? • Yes • No	
	Reset which counter? • None • Accum. Belt • 2nd BTR • Belt Cleaning Assy. • Fuser • Laser Filter • Tray 1 • Tray 2 • Tray 3 • Tray 4 • Tray 5	
	Resetting CRU Life Counter NVRAM...	

Table 2 Service Diagnostic Tests Table

Test	Control Panel Display	Test Operation Definition
Clear Y Developer Page Count	Reading Developer page counter... Page Count = nnnn Reset Counter? • Yes • No Clearing life counter... Page Count = 0	
Clear M Developer Page Count	Page Count = nnnn Reset Counter? • Yes • No Clearing life counter... Page Count = 0	
Clear C Developer Page Count	Page Count = nnnn Reset Counter? • Yes • No Clearing life counter... Page Count = 0	
Clear K Developer Page Count	Page Count = nnnn Reset Counter? • Yes • No Clearing life counter... Page Count = 0	
Reset Engine NVRAM	This updates Eng NVM data. ** Writes data to Eng NVM ** Are you sure? • Yes • No	This procedure causes PostScript to write stored data from Hard Drive to Engine NVRAM. Refer to Resetting Engine NVRAM (Resetting NVRAM, Section 6).
Store Engine NVRAM	This updates Eng NVM data. ** Writes data to HD** Are you sure? • Yes • No	This procedure causes PostScript to store Engine NVRAM data to Hard Drive. Refer to Store Engine NVRAM (Store Engine NVRAM, Section 6).
Exit - This allows to exit from the Service Diagnostics.		
Exit	Exiting Service Diagnostics	

Control Panel Troubleshooting

The Printer Does Not Come to a "Ready" State

Printer Does Nothing When Power is Switched On

Refer to Troubleshooting AC Power (Section 6).

LVPS, Fuser and ROS Fans On, Control Panel LED Does Not Come On

1. Observe the blinking pattern health LED (refer to Section 6, POST Diagnostic Test Descriptions) and troubleshoot the indicated problem.
2. The problem power supply is most likely the 5 VDC Supply. Refer to Section 6, Troubleshooting the +5 VDC Low-Voltage Power Supplies.
3. Replace the Control Panel (REP 1.15).
4. Replace the Control Panel Cable (REP 1.15).
5. Remove the internal Hard Drive and reboot the Printer (REP 1.17). If the splash screen now appears, replace the Hard Drive.
6. Replace the Image Processor Board (REP 1.12).

LVPS, Fuser, and ROS Fans On, Control Panel LED is RED, No Control Panel Message

1. Observe the blinking pattern on health LED (refer to Section 6, POST Diagnostic Test Descriptions) and troubleshoot the indicated problem.
2. Replace the Control Panel (REP 1.15).
3. Replace the Control Panel Cable (REP 1.15).
4. Replace the internal Hard Drive (REP 1.17).
5. Replace the Image Processor Board (REP 1.12).

Control Panel Continually Displays "Xerox Phaser 7760" Splash Screen

1. Enter Service Diagnostics Menu (**Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** >hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**) and watch the Control Panel during the "initializing" period for messages indicating any printer faults.
2. View the fault list for indications of any printer faults.
3. Replace the Image Processor Board (REP 1.12).
4. Replace the Hard Drive (REP 1.17).
5. Replace the Image Processor Board Chassis (REP 1.3).
6. Replace the Engine Control Board (REP 1.2).

Control Panel Displays "Fatal Fault Encountered" Message

Refer to Controller to Engine Communication Failure, 004-358 (Section 2).

Control Panel Continually Displays "Warming Up"

Check the F1 Fuse on the Interface PWB for an open condition.

Inoperable Printer

False LH Door, RH Door, Front Door Open, or Imaging Units Missing Messages

Refer to Troubleshooting Power Supplies and Interlocks (Section 6).

For the following problems, refer to RAP 007-281, Tray Lift Failure.

- False Load Paper in Tray [2,3,4,5] Message
- False Tray [2,3,4,5 Missing Message
- Tray 2, 3, 4, or 5 will not lift of the printer will not recognize the auxiliary Feeder.

Printer Does Not Recognize the Finisher

The Finisher is connected to the Printer by a complementary pair serial data link. The Finisher also generates its own +5 VDC from +24 supplied by the Printer.

Table 1 Troubleshooting Procedure

Step	Actions and Questions	Yes	No
1	Check that the Finisher is properly docked with and connected to the Printer.	Go to step 2.	Repair the docking problem.
2	From the Control Panel, check the Service Diagnostics Test Table to see if the Finisher is recognized by the Printer.	Reload the driver.	Go to step 3.
3	1. Remove the Rear Cover and Board Cover from the Finisher. 2. Check for presence of +24 VDC between the Finisher Board P844-2 (Section 7, Finisher PWB Plug/Jack Locations - Figure 30) and Finisher Frame Ground.	Go to step 4.	Troubleshooting and repair missing 24 VDC.
4	Turn Off power and check the continuity of the serial data link circuit by verifying continuity between P531B -9 through -16 on the Engine Control Board (Section 7, I/F PWB, Main Motor, LVPS Plug/Jack Locations - Figure 16), and P843-1 through -8 on the Finisher Board (Section 7, Finisher PWB Plug/Jack Locations - Figure 30).	Replace the Finisher Board.	Replace the Engine Control Board.

Power Supplies and Interlocks

AC Power

NOTE: *The GFI Breaker, Noise Filter, and AC Drive Board are all part of the AC Electrical Chassis.*

Table 1 Actions

Step	Task
1	Check the AC input voltage at the outlet.
2	Reconnect the AC power. If the GFI trips immediately with the power switch OFF, disconnect AC power, and remove the Rear Cover.
3	Check for shorts in the AC Circuit from the GFI to the Noise Filter, the AC Driver Board, and up to the Power Switch.
4	Switch the Printer ON. If the GFI trips, unplug the Printer, remove the Fuser, then retest.
5	Remove the Rear Cover. Connect AC Input and switch the Printer ON. Check for AC voltage at: 1. J72 on top of the GFI, if not present, replace the GFI. 2. Between FS76 and FS77 of the Noise Filter, if not present, replace the Noise Filter. 3. Into and out of the Power Switch, if not present, replace the Power Switch. 4. The Connector at the bottom of the 5 VDC and 24 VDC LVPS; if not present, replace the AC Drive Board.

Low-Voltage Power Supplies

5 VDC and 24 VDC voltages are supplied by individual Low-Voltage Power Supply Boards. The 24 VDC LVPS requires the presence of a 5 VDC enabling signal to operate.

NOTE: *Before troubleshooting power supply problem, disconnect the Lower Tray Deck or Finisher, if installed, and restart the Printer. Verify the problem is still present or refer to the appropriate option Troubleshooting section.*

Table 2 Actions

Step	Task
1	Verify the Printer is plugged in and the GFI is not tripped; if it is, refer to Troubleshooting AC Power (Section 6).
2	Remove the Image Processor Board Cover and Metal Plate. Disconnect the Relay Board Power Connector (REP 1.18).
3	Switch the Printer **On**. Check for 5 VDC at J511 -2, -3, and -4, and J511 -3, -6, and -7 (refer to Figure 16 - I/F PWB, Main Motor, LVPS). If 5 VDC is present, check for 24 VDC at J505-1 (refer to Section 7,HVPS, +24V LVPS - Figure 12).
4	If no VDC voltages are present, refer to Troubleshooting AC Power (Section 6).
5	If 5 VDC and 24 VDC are not, refer to Troubleshooting the +5 VDC Low-Voltage Power Supplies (Section 6).
6	If 5 VDC is present, but 24 VDC is not, refer to Troubleshooting 24 VDC LVPS (add cross-reference).

+5 VDC Low-Voltage Power Supplies

NOTE: *Switch OFF power and disconnect the Power Cord.*

Table 3 Actions

Step	Task
1	Remove the Rear Cover.
2	Disconnect the harnesses to connectors P505, P510, P511 and 2nd BTR on the HVPS T10. Remove the 3 screws and the lower the HVPS T10.
3	Connect the AC Power and turn the Printer **On**.
4	Check for proper AC voltage at the connector at the bottom of each LVPS.
5	If not present, refer to Troubleshooting AC Power (Section 6).
6	Check for 5 VDC at the connector at the top of the LVPS.
7	If correct voltage is not present, unplug the top connector and retest. if no voltage is present, replace the LVPS. If the voltage returns, check the wiring, Image Processor Board, Engine Control Board, and Relay Board for shorts.

24 VDC Low-Voltage Power Supplies

NOTE: *Switch OFF power and disconnect the Power Cord. The 24 VDC LVPS requires a 5 VDC enable signal to operate. Ensure operation of the 5 VDC LVPS before proceeding.*

Table 4 Actions

Step	Task
1	Remove the Rear Cover.
2	Connect AC power and turn the Printer **On**.
3	Check for proper AC voltage at the connector at the bottom of the LVPS. If not present, refer to Troubleshooting AC Power (Section 6).
4	Check for the 5 VDC enable signal at P/J505-3 (Section 7, HVPS, +24V LVPS Plug/Jack Locations - Figure 12) (Grey wire).
5	Check the +5 VDC Interlock Circuit (Section 6).
6	If not, check the same signal at the Engine Interface Board P537 -6. If not present, replace the Engine Control Board, then the Engine Interface Board.
7	Check for 24 VDC at any of the orange wires of the connector P502 at the top of the LVPS.
8	Unplug the connector and retest.
9	If still no voltage, replace the LVPS. If the voltage returns, check all 24 VDC circuits for shorts to frame ground in the wiring harness, Engine Control Board, Relay Board, and Interlock Circuit.

+24 VDC Interlock Circuit

The 24 VDC Interlock Circuit runs from the 24 VDC LVPS to the L/H Door Interlock Switch, the R/H Door Interlock Switch, and the Front Door Interlock Switch back to the Engine Control Interface Board, then into the Engine Control Board. Opening this circuit prevents the Laser Unit and the High-Voltage Power Supplies from operating.

1. Check to see if the Front Door Interlock is getting +5 VDC.
2. With all doors closed and Printer power ON, check for +24 VDC between P531 -1 of the Engine Control Board and Frame Ground.
3. If +24 VDC is not present, refer to Troubleshooting 24 VDC Low-Voltage Power Supplies (Section 6) to verify the 24 VDC LVPS is working.
4. If +24 VDC is present, then check the L/H Cover Interlock Switch, the R/H Cover Interlock Switch, and the Front Cover Interlock Switch.

+5 VDC Interlock Circuit

The 5 VDC Interlock Circuit runs from the 5 VDC LVPS to the L/H Door Switch, then to the Engine Control Interface Board, out to the R/H Door Switch, back to the Engine Control Interface Board, out to the Front Door, through the Coil of the LD Power Relay, and back to the 5 VDC LVPS. This circuit helps identify which door has interrupted the 24 VDC circuit.

If the circuit is complete, LD Power Relay activates, and 5 VDC is sent to the Waste Cartridge installed Interlock Switch and through all four Imaging Unit connectors and to the Engine Control Interface Board. This signal merely confirms that all Imaging Units are installed. Individual missing components are identified at power-up or when a door is closed (completing the 24 VDC circuit) and the Engine Control Board interrogates the Imaging Unit NVRAM. If the Imaging Units are present, then the Waste Cartridge is missing by default.

1. With all doors closed and Printer power ON, check for +5 VDC between P536-4 of the Engine Control Interface Board and Frame Ground (refer to Section 7, I/F PWB, MAIN Motor, LVPS T11 Plug/Jack Locations - Figure 16). If not present, check the LD Relay and the L/H Cover Interlock Switch.
2. Check for +5 VDC between P631-3 of the Engine Control Interface Board and Frame Ground (refer to Section 7, Xerographic Plug/Jack Locations - Figure 1). If not present, check the Front Cover Interlock Switch.
3. Check for +5 VDC between J568-5 (top pin) of the LD Power Relay and Frame Ground (refer to Section 7, I/F PWB, MAIN Motor, LVPS T11 Plug/Jack Locations - Figure 16). If not present, check the R/H Cover Interlock Switch.
4. Check for +5 VDC between J400-6 of the Engine Control Interface Board and Frame Ground (refer to Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15). If not present, check the LD Power Relay, and the circuit through the Waste Cartridge Sensor and the four Imaging Unit connectors.
5. If +5 VDC is present, then replace the Engine Control Board.

Media Jams and the Paper Path

Media-Based Problems

- Print the Paper Tips page from the Printer's Control Panel for a list of the supported media types and weights. The customer should be using a quality laser printer paper. The printer may have trouble picking smooth-finish paper. Verify the tray and the printer support the media being used by the customer. Not all supported types can be used from all trays.
- Inspect the paper for bent, torn, or folded corners.
- Only Xerox Digital Color Clear Transparency Film should be used in this printer.
- Ensure that the media type matches the settings at the Control Panel.
- Ensure that the Paper Guides are set correctly.

Multiple-Sheet Pick

1. Ensure that the paper is in good condition and appropriate for a laser printer; quality office laser printer paper works best.
2. Ensure that the printer is within its environmental specifications by using the built-in Service Diagnostics Temperature/Humidity readings.
3. Ensure that the paper is correctly loaded in the tray has not been over filled.
4. Try loading paper from a fresh ream or flip the paper over.
5. Clean the Pick Rollers with a clean, slightly moistened, lint-free wipe.
6. Replace the paper Pick Rollers.
7. Check the tray's Retard Roller for damage.

Mis-Pick

1. Check that the correct type of media is being used.
2. Try loading paper from a fresh ream or flip the paper over.
3. Clean the Pick Rollers with a clean, dry, lint-free wipe.
4. Troubleshoot the Pick Roller Assembly.

Damaged Prints

The printed page exits either wrinkled, creased, or torn. The printer neither jams nor displays an error code.

1. Stop the paper in the paper path to determine where the media becomes damaged.
2. Feed paper through the printer from each of the available trays, including Tray 1/MPT.

   Is the paper damaged when fed out of one tray, but not when fed out of the others?

   If so, inspect the tray for damage. Ensure that the Paper Guides are set correctly and verify that the proper media is being used.
3. Inspect the paper Feeders for debris or broken components.
4. The following components are associated with this specific problem. One or more of these components may have failed partially or completely. If you cannot isolate the problem, replace each component listed below, one at a time, until the problem disappears.
   - Fuser
   - Accumulator Belt (usually appears with toner in creases or wrinkles)

Fuser Jams

1. Is the paper in good conditions and appropriate for a laser printer?
2. Is Xerox Digital Color Clear Transparency Film being used?
3. Is the printer operating within its environmental specifications?
4. Ensure that the loaded media type matches the settings on the Control Panel.
5. Check the Fuser Exit Sensor and the POB Sensor in Service Diagnostics.
6. Are the margins on the page greater than 3 mm?
7. Check the Fuser area for debris.
8. Visually inspect the Fuser Baffle for burrs.
9. Test the paper path switches and sensors in Service Diagnostics.
10. Replace the Fuser.
11. Replace the Engine Control Board.

Exit Jams

1. Is the paper in good condition and appropriate for a laser printer? Is the paper curling?
2. Is the printer printing within its environmental specifications?
3. Ensure that the loaded media type matches the Control Pane settings.
4. Is the jam caused by a heavy, stiff paper being used for two-sided printing? Is such cases, a lighter grade of paper should be used.
5. Clean all the Eject Rollers with a clean, dry, lint-free wipe if debris is visible.
6. Does the Exit Sensor Flag properly actuate its sensor? Test the sensor using Service Diagnostics.
7. Test the POB Sensor in Service Diagnostics.

Operating System and Application Problems

Windows 2000, Windows XP, Windows Server Troubleshooting

NOTE: *For Windows XP, select Classic Look or the Windows XP procedures will not match the following procedures. To select* ***Classic Look****, click* ***Start, Settings****, and then* ***Taskbar and Start Menu****. Select the* ***Start Menu*** *tab, and then select* ***Classic Start Menu****. Click* ***OK****.*

This Troubleshooting section assumes you have completed the following tasks:

- Loaded a Phaser printer PCL or PostScript printer driver.
- Printed and kept a current copy of the Configuration page.

Verifying Settings

To verify settings:

1. Verify the settings on the Configuration page.
   - **IP Address Source** is set to: **DHCP**, **Control Panel**, **BOOTP**, or **Auto IP** (depending on your network configuration).
   - **Current IP Address** is set correctly. (Note this address if it is assigned by Auto IP, DHCP, or BOOTP.)
   - **Subnet Mask** is set correctly (if used).
   - **Default Gateway** is set correctly (if used).
   - **LPR** is enabled. Verify that the LPR and AppSocket settings are set as desired.
   - **Interpreters**: **Auto**, **PCL**, or **PostScript** (depending on your driver).
2. Verify that the client is logged into the network and printing to the correct print queue. The user should also have access to the Phaser printer queue.

Verifying Driver Installation

To verify driver installation:

1. Right-click **My Network Places** on the desktop, and then click **Properties**.
2. Right-click **Local Area Connection**, and then click **Properties**.
3. Select the **General** tab. View the list of installed network protocols to verify that TCP/IP is installed. (For more information, contact your network administrator.)
4. Click **Install** to install any components not listed, and then restart your computer.
5. Click **Start**, click **Settings**, and then click **Printers**.
6. Right-click the printer icon, and then click **Properties**.
7. Select the **Advanced** tab. Verify that the correct printer driver is installed.
8. Select the **Ports** tab. Verify that the IP Address in the **Print to the Following Ports** list is identical to the one on the Configuration page. You may need to click the **Configure Port** button to see the IP address. If necessary, re-select the TCP/IP number used for the printer.

Printing a Test Page

To print a test page:

1. Select the **General** tab.
2. Click **Print Test Page**. If the printer does not print, select **PhaserSMART Technical Support** on the **Troubleshooting** tab of your Windows printer driver to access PhaserSMART Technical Support.

See also: www.xerox.com/office/7760support

Windows 98 SE Troubleshooting

This troubleshooting section assumes you have completed the following tasks:

- Verified that the printer is plugged in, turned on, and connected to an active network.
- Installed a PostScript print driver.
- Verified that the printer is receiving network information by monitoring the LEDs on the back of the device or on the CentreDirect External Print Server. When the printer is connected to a functioning network and receiving traffic, its link LED is green, and its amber traffic LED is flashing rapidly.
- Printed and kept a current copy of the Configuration page.

Verifying Settings

To verify settings:

1. Right-click **Network Neighborhood** on the desktop, and then click **Properties**.
2. Click the **Configuration** tab. A list of installed network components appears for the Client for Microsoft networks.
3. If any of the necessary components are not installed, install them, and then restart the system. When the system is restarted, return to this document.
4. Click **Start**, click **Settings**, and then click **Printers**. The **Printers** window appears.
5. Right-click the printer icon, and then click **Properties**.
6. Select the **Details** tab.
7. Verify the following:
   a. The printer driver name in the **Print Using the Following Driver** list. If necessary, re-select or install a new printer driver.
   b. The **Port** name in the **Print to the Following Port** list. If necessary, re-select the correct name.

NOTE: *Send a print job to the printer. If the printer does not print, select PhaserSMART Technical Support on the Troubleshooting tab of your Windows printer driver to access PhaserSMART Technical Support.*

See also: www.xerox.com/office/7760support

Macintosh Troubleshooting (Mac OS 9.x, Mac OS X, Version 10.2 and Higher)

The following procedure eliminates cabling, communication, and connection problems. Once you complete these steps, print a test page from your software application.

NOTE: *If the job prints, no further system troubleshooting is necessary. If there are print-quality problems, see the User Guide at www.xerox.com/office/7760support.*

Macintosh Troubleshooting OS 9.x Step-by-Step

Perform these steps **only** for Mac OS 9:

1. Open the Chooser, and then click the LaserWriter driver.
2. Perform one of the following steps:
   - If the printer's name appears, your device is communicating through the network. You do not need to perform any additional steps.
   - If the printer's name does not appear, proceed to step 3.
3. Verify that the printer is plugged in, turned **On**, and connected to an active network.
4. Verify the cable connection from the network to the printer.
5. Follow these steps:
   a. From the printer's Control Panel, verify that EtherTalk is enabled. If it is not, enable it in the Control Panel, and then restart the printer.
   b. Print the Configuration page and verify that EtherTalk is enabled.
   c. From the Configuration page, verify the Zone. If you have multiple zones on your network, verify that your printer appears in the desired zone.
6. If you are still unable to print, access **PhaserSMART Technical Support** through CentreWare IS:
   a. Launch your web browser.
   b. Enter the printer's IP address in the browser's Address field (http://xxx.xxx.xxx.xxx).
   c. Select **Support**.
   d. Click the **PhaserSMART Diagnostic Tool** link to access PhaserSMART.

See also: www.xerox.com/office/7760support

Macintosh Troubleshooting OX X, Versions 10.2 and Higher Step-by-Step

Perform these steps **only** for Mac OX X, versions 10.2 and higher:

1. Open the **Network Utility**, and then click the **Ping** tab.
2. Enter the printer's IP address.
3. Click **Ping**. If you do not get a response, confirm that your TCP/IP settings are correct for your printer and computer.
4. For **AppleTalk**, perform the steps below. For **TCP/IP**, proceed to step 5.
   a. From the printer's Control Panel, verify that **EtherTalk** is enabled. If it is not, enable it in the Control Panel, and then reset the printer.
   b. Print the Configuration page and verify that **EtherTalk** is enabled.
   c. From the Configuration page, verify the **Zone**. If you have multiple zones on your network, verify that your printer appears in the desired zone.
5. If you are still unable to print, access **PhaserSMART Technical Support** through CentreWare IS:
   a. Launch your web browser.
   b. Enter the printer's IP address in the browser's Address field (http://xxx.xxx.xxx.xxx).
   c. Select **Support**.
   d. Click the **PhaserSMART Diagnostic Tool** link to access PhaserSMART.

See also: www.xerox.com/office/7760support

Novell

This section include:

- Novell Distributed Print Services (NDPS)
- Xerox NDPS Gateway Software

Novell Distributed Print Services (NDPS)

Novell Distributed Print Services (NDPS) are products built on Novell's printing architecture that enables administrators to take advantage of built-in printer intelligence to manage network printing resources from anywhere on the network, improve network printing performance, and reduce network printing issues for end-users.

The Xerox NDPS Solution enables you to use Novell NDPS with many of the latest Xerox printers. It includes administrative tools that work with NetWare Administrator so that users can easily configure and manage their network printer services.

To access Xerox printers in this environment, Xerox NDPS Gateway software must be installed on a Novell server.

Xerox NDPS Gateway Software

The current release of the Xerox NDPS Solution for Novell NDPS supports IP Protocol. It enables the user to manage Xerox printers in Novell NetWare NDPS environment.

The Xerox NDPS Solution software contains these features:

- Support for IP networking
- Simplified installation, driver download, and configuration of the Xerox printers in a Novell NetWare NDPS network
- Automatic installation, when users connect to a printer, to eliminate individual driver installation
- Status retrieval and remote management of NDPS-supported networked printers using NetWare Administrator
- CentreWare IS access for printer management of networked printer

For more information, see the **Xerox NDPS User Guide** and download the latest version of the Xerox NDPS Gateway software at www.xerox.com/office/7760pmtools.

UNIX (Linux)

This section includes:

- Quick Install Steps
- Additional Resources

Your printer supports connection to a variety of UNIX platforms through the parallel and network interface. The workstations currently supported by CentreWare for UNIX/Linux to a network-connected printer are:

- Sun Solaris
- IBM AIX
- Hewlett-Packard HP-UX
- DEC UNIX
- Linux (i386)
- Linux (PPC)
- SGI IRIX

The following procedures enable you to connect your printer using any of the supported versions of UNIX or Linux listed above.

Your printer supports connection to a variety of UNIX platforms through the network interface. The workstations currently supported by CentreWare for UNIX/Linux to a network-connected printer are:

- Sun Solaris
- IBM AIX
- Hewlett-Packard HP-UX
- DEC UNIX
- Linux (i386)
- Linux (PPC)
- SGI IRIX

The following procedures enable you to connect your printer using any of the supported versions of UNIX or Linux listed above.

Quick Install Steps

Perform the following procedures to set up the printer and install the appropriate drivers.

From the Printer

To set up the printer:

1. Verify that both TCP/IP protocol and the proper connector are enabled.
2. On the Control Panel, select one of these IP address options:
   - Allow the printer to set up a DHCP address.
   - Enter the IP address manually.
3. Print the Configuration page and keep it for reference.

From Your Computer

To install the printer:

1. Go to www.xerox.com/office/drivers.
2. Select your printer, the platform you are running (**UNIX**), and file type (**Drivers**).
3. Click **Go to Downloads**.
4. From the list of files provided, download the **PrinterPackageXPXX** and the file that matches your operating system.
5. Print a test page and verify the print quality of the printed page.
6. Launch your web browser.
7. Enter the printer's IP address in the browser's Address field (http://xxx.xxx.xxxx.xxx).
8. Select **Support.**
9. Click the **PhaserSMART Diagnostic Tool** link to access PhaserSMART.

NOTE: *If print-quality problems exist, or your job did not print, see the* ***User Guide*** *at www.xerox.com/office/7760support or access PhaserSMART Technical Support through CentreWare IS.*

Additional Resources

Access the Xerox web site for the latest CentreWare for UNIX drivers at www.xerox.com/office/drivers. To download printer drivers:

1. Select your printer, the platform you are running (**UNIX**), and the files you would like to download (**Drivers**).
2. Click **Go to Downloads**.
3. Select the appropriate CentreWare printer driver for your platform.
4. Download the **PrinterPackageXPXX**. It provides the printer-specific features of CentreWare for UNIX driver.

Date and Time

Purpose

Allows easy access to change System Date and System Time.

Procedure

1. Enter the **Printer** menu.
2. Select **Printer Setup** and press **OK**.
3. Select **Printer Controls** and press **OK**.
4. Select **Date and Time...** and press **OK**.
5. Make selections from the following categories:
   a. System Date
      - Year (nnnn)
      - Month (1-12)
      - Date (1-31)

   a. System Time
      - Hour (1-23)
      - Minute (1-59)
      - Second (1-59)
      - AM (12 hour clock only)
      - PM (12 hour clock only)

Supplies Usage

Purpose

This function displays the service life (Threshold) and the current value (count) of the periodic replacement parts. Replacement life change, and current value resets are possible.

Procedure

1. Enter the **Printer** menu.
2. Select **Information** and press **OK**.
3. Select **Information Pages** and press **OK**.
4. Select **Supplies Usage Page** and press **OK**.

Consumable Usage

Refer to Introduction Section, Routine Maintenance Items and Consumables.

General Information

Phaser 7760 consumable life ratings are based on certain standard parameters including:

1. 5% coverage of each individual color (CMYK), in an 8” x 10” printed area, on letter or A4 size **plain** paper.
2. 4 prints per job (one **print** is one side of an 81/2” x 11” or A4 sized page)
3. The difference between **Prints** and **Sheets** in usage profile:
   - A Sheet is a physical piece of paper of any size and a Print is an 8” x 10” imaged area on a Sheet. A duplexed letter/A4 sized Sheet will have 2 Prints, 1 on each side. A B sized Sheet (tabloid or A3) or will have the equivalent imaged area of 2 Prints on each side; so a duplexed B sized Sheet will have 4 Prints of equivalent letter/A4 coverage.

Any variation in these parameters will affect the actual yield of all consumables. For example, jobs less than 4 prints can decrease Image Unit life (see Figure 1). Usage Profile can be used as an analysis tool to determine if a customer is achieving the rated life on their individual consumable.

Cause

Internal component tracking algorithms are designed to maximize consumable and maintenance item life, while providing defect free print quality. These algorithms control life ratings on consumables, maintenance items and CRUs' (Customer Replaceable Units) (see Table 1, Table 2, and Figure 1).

Table 1 Fuser Life Rating

Setting	Sizes or Sides	Decrement per Sheet Single Sided	Decrement per Sheet Duplexed
Plain Paper / Letterhead	Letter or A4	1	2
Heavy Plain Paper	Letter or A4	1	2
Thin / Thick Cardstock & Photo Paper	Letter or A4	2	4
Xerox Digital Color Clear Transparency Film	Letter or A4	2	N/A
Any of the types listed	A3 or B Size	2 times Letter or A4 Rate	2 times Letter or A4 Rate

Examining Table 2 (Fuser Life Rating) shows that the absolute minimum Fuser life will occur when duplexing B sized Thin/Thick Cardstock. Printing this type of job will decrement Fuser life by 8 equivalent Letter/A4 Size prints for every print made. Under these circumstances, Fuser life would be 100,000 prints/8 pages per print or 12,500 prints. Swapping Fusers can also severely degrade the reported life of any Fuser because the printer makes an assumption about the amount of life left based on the configuration of the fuses.

Table 2 Imaging Unit Life Rating

Imaging Unit Algorithm	Rotations	Pixels Imaged
Life is determined by a combination of rotations and/or pixels printed. The factor that is dominant during the life of an Imaging Unit, rotations or pixels counted, will control life counting. (refer to Figure 1).	• Imaging Unit rotations are counted on all units during color printing, Black and White printing (when the printer is in Optimize for Speed mode) and when the printer is initializing in preparation for a print job. • When printing more than 10 Black and White pages in a row, in the **Optimize for Economy** mode, the color imaging units are disengaged. In this mode, the Imaging Units rotate and decrement at a fraction of their normal rate. • Jobs over 4 pages minimize the effects of rotations on life. In 4 page or greater jobs life will be controlled by pixel counts.	• Print coverage higher than 5% per color generate higher pixel imaging counts. At higher densities, pixels imaged will be the dominant factor driving life counting. • Rotations are the dominant driving factor with low toner coverage.

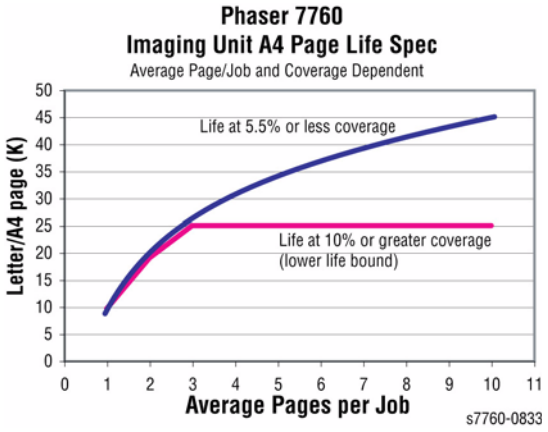


Figure 1 Image Unit Life

Toner Cartridge Life

Toner Cartridge Life is inversely proportional to the coverage rate, as an example, the Cyan cartridge is rated for 22,000 prints, at 5% coverage, in an 8" x 10" area of the page. When coverage is doubled to 10% toner cartridge life is cut in half, to 11,000 prints. You can quickly calculate the life based on the ratio of rated life at 5% compared to the percent coverage the customer is using. For example, at 20% coverage the life will be [5%/20%]*[22,000] or 1/4 of its rated capacity, which is 5,500 prints. So at 20% coverage, the expected life of a Color Toner (Cyan, Magenta, Yellow) cartridge will be approximately 5,500 prints. Refer to Figure 2.

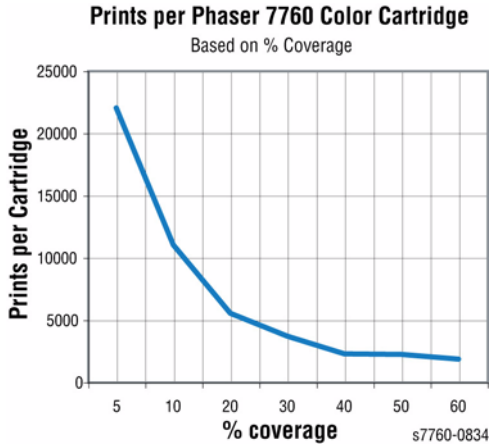


Figure 2 Color Toner Cartridge Yields vs. Percent Coverage (fix text)

From examining the chart in Figure 2, you can see that, as an extreme example, at 50% coverage, a toner cartridge will last approximately 2,200 Letter/A4 sized prints. However, if a customer is making duplex prints on 11" x 17" with 50% coverage, a Toner Cartridge could be consumed in 550 prints.

What To Do

Prior to replacing a consumable for a customer who thinks they are not getting the life they should out of the part, examine the **Service Usage Profile** from the Printer Control Panel menu (**Troubleshooting** > **Service Tools** > **Service Usage Profile**).

Careful examination of the Usage Profile by a knowledgeable reviewer will reveal many clues about a customer's usage pattern and how consumable life is affected. Refer to Table 3 for specific Usage Profile line items and their impact on life rating.

Table 3 Usage Profile Token Secret

Token #	Name	Information
108	Average Coverage %	Average coverage from print #1 to now.
141	1-sided vs. 2-sided sheets	2-sided sheets count for 2 prints.
143 144	MP Tray Media Cassette Tray Media	This information provides how much plain paper, heavy plain paper, letter head, thin/thick cardstock, photo paper, envelopes and transparencies have been through the fuser, which will degrade its life according to the algorithm in Table 1.
162	Jobs by Document Length	This information provides information if a lot of 1-page jobs have been run or if the average job is more than 4 pages. Less than 4 page jobs will put more rotations on the Print Cartridges.
207	Imaging Unit Installation Date	This information provides how may equivalent letter/A4 pages have been printed and the date when the Imaging Unit was installed. The pages printed may not be an accurate representation of the life belt, because life is decremented by rotations or pixels printed, whichever is dominant. Also, the install date will change to the current date if the Imaging Units are swapped between positions.
209	Image Unit Remaining %	This is an accurate representation of the life remaining on the Imaging Unit as it is a reflection of rotations and pixels imaged.
218	Fuser Installation	This token tracks how many letter/A4 equivalent pages have been through the Fuser and tells us when the Fuser was installed. Information about the paper type going through the Fuser or how much life is left are not provided here.
225	Fuser Remaining %	This is an accurate representation of the Fuser life remaining because this percentage has taken into account what paper types and sizes have gone through the Fuser.

Table 3 Usage Profile Token Secret

Token #	Name	Information
232	Supplies Replaced	This is not an accurate representation of how many times an actual consumable has been replaced. This is just a count of the number of times a particular "replace" message has appeared in the Control Panel. Although an accurate minimum representation is the number of Toner Empty or Waste Cartridge Full messages because the customer is forced to replace the consumable at the empty point. But if a customer is replacing a consumable sometime during the multiple times that the Tone-Low or Waste Cartridge-Almost Full message is appearing before it goes to empty, there is no way to correlate the number of consumables used to the number of times the Low message has appeared.
243	Toner Installation Date	This provides information on when a new Toner Cartridge was installed and how many pages have been printed since installation. A CRUM tracks the toner usage.
611	Number of Toner Cartridges Installed	This is an accurate indication of the actual number because the 7760 can detect a new Xerox Toner Cartridge. Used or non-Xerox cartridges cannot be detected as new.
612	Number of Imaging Units Replaced	This is based on CRUM data and is accurate unless the Imaging Units area swapped.
615	Number of Waste Cartridge Installed	This number assumes the Waster Cartridge is replaced at the end of life message. If the Waste Cartridge is replaced when the near end of life message appears, this will not be accurate.
616	Number of Fusers Installed	Whenever the printer sees a Fuser installed with all 3 fuses intact, this number is incremented.

Interpreting Usage Profile

The Usage Profile (customer version) is a report that compiles counts from several categories:

- Total Sheets Printed
- Total Pages Printed
- Black & White Pages
- Color Pages Printed
- Letter / A4 Pages
- Tabloid / A3 Pages
- Other / Custom Pages
- Media Used Sheets

Total Sheets Printed

A sheet is any physical piece of media that has gone through the printer regardless of size. A **Tabloid / A3 sheet** and a **Letter / A4 sheet** both are equal to **one sheet** for UP counting purposes. Simplex and duplex sheets are counted separately.

Total Pages Printed

A summary of equivalent page counts from **Letter / A4 Pages**, **Tabloid / A3** and **Other / Custom Pages**. An equivalent page is referenced to a letter (A4) size page (612x792) (refer to Table 4).

The algorithm is:

- **equivalent pages = max points for page size / max points for letter size**

Examples:

- If you print a #10 envelope, the equivalent page count is ~0.42 pages.
- If you print a letter page, the equivalent page count is 1.00 pages.
- If you print a legal page, the equivalent page count is ~1.27 pages.

(Because toner consumption calculations are based on an 80 sq. in. page on letter-size / A4-size media, a letter page and an A4 page will be an equivalent page of 1.00.)

Custom size page count calculations are made through the algorithm based on imaged area.

Table 4 Equivalent Page Size

Media Size	X (points)	Y (points)	Factor
Letter (&A4)	612 (595)	792 (842)	1.000
Statement	396	612	0.500
Executive	522	756	0.814
US Folio	612	936	1.182
Legal	612	1008	1.273
A3	842	1191	2.069
A5	420	595	0.516
A6	297	420	0.364
ISO B5	499	709	0.730
JIS B4	729	1032	1.552
JIS B5	516	729	0.776
Tabloid	792	1224	2.000
Tabloid Extra	864	1296	2.310
SRA3	907	1296	2.425
Env-#10	297	684	0.419
Env-A7	378	522	0.407
Env-B5	499	709	0.730
Env-C4	649	918	1.229
Env-C5	459	649	0.615
Env-C6	323	459	0.306
Env-DL	312	624	0.402

Black and White Pages

This counter tracks pages printed that use K Toner only! Black and White prints made in Photo Mode contain Cyan, Magenta, and Yellow under-color to enhance B&W Photo mode print quality and therefore are counted as color prints.

Color Pages

This counter tracks prints containing Cyan, Magenta, or Yellow printed in any mode.

Media Used Sheets

The counters for the individual paper sizes listed in this category can be multiplied by the corresponding factor in Table 4 and summed to determined the **Total Pages Printed** count.

Resetting NVRAM

Purpose

The purpose is to set Machine Variable NVRAM objects within a specified service or module to default. Resetting NVRAM returns all the image processor's NVRAM-stored parameters to their factory defaults except the print counts and the Adobe firmware serial number. You can reset both the PostScript and Engine NVRAM using the PostScript Menu or the Service Diagnostics menu.

Retaining PagePack NVRAM Settings

When replacing the Engine Control Board from a PagePack printer, exchange NVRAM devices or use the Save/Restore utilities in Service Diagnostics to preserve the Page Pack NVRAM settings. The Mode and PIN-entered values are not affected by NVRAM reset utilities.

Resetting All Printer Default Settings (NVRAM)

You can reset settings for density and color balance to the factory-default values.

1. Enter the **Printer** menu.
2. Select **Troubleshooting** and press **OK**.
3. Select **Service Tools** and press **OK**.
4. Select **Reset NVRAM** and press **OK**.
5. Select **Reset NVRAM and Reset Printer NOW** and press **OK** to reset NVRAM.
6. **Resetting NVRAM** is displayed and the printer reboots.

Resetting (restoring) Engine NVRAM

Resetting (restoring) the engine NVRAM values resets the RegiCon, color, margin and A4/B5 selection paper settings to default. This is NOT the diagnostics resets.

1. Enter the **Printer** menu.
2. Select **Troubleshooting** and press **OK**.
3. Select **Service Tools** and press **OK**.
4. Select **Reset NVRAM** and press **OK**.
5. Select **Reset NVRAM and Reset Printer Now** and press **OK**.
6. "**Resetting NVRAM**" is displayed and the printer reboots.

Restore Factory Settings (Color)

You can reset settings for density and color balance to the factory-default values.

1. Enter the **Printer** menu.
2. Select **Printer Setup** and press **OK**.
3. Select **Calibration Setup** and press **OK**.
4. Select **Calibrate for Colors** and press **OK**.
5. Select **Restore Factory Settings** and press **OK**.
6. Select **Restore Factory Settings NOW** and press **OK** to reset the color settings to factory defaults.

Restore Previous Settings (Color)

You can return the color settings to the ones that existed before you saved the last color balance adjustments.

1. Enter the **Printer** menu.
2. Select **Printer Setup** and press **OK**.
3. Select **Calibration Setup** and press **OK**.
4. Select **Calibrate Colors** and press **OK**.
5. Select **Restore Previous Settings** and press **OK**.
6. Select **Restore Previous Settings NOW** and press **OK** to restore the previous color settings.

Restore Factory Settings (Margins)

You can restore margin setting to the factory-default values.

CAUTION

Use caution when resetting margins to the factory-default settings. Changing these settings back to factory defaults may not be the last-saved settings if you have previously calibrated your margins.

1. Enter the **Printer** menu.
2. Select **Printer Setup** and press **OK**.
3. Select **Calibration Setup** and press **OK**.
4. Select **Calibrate for Colors** and press **OK**.
5. Select **Calibrate Margins** and press **OK**.
6. Select **Restore Factory Settings** and press **OK** to reset the margin settings.

Resetting Network Setup Values to Default

Resetting the paper handling defaults resets the paper source, paper destination, job offset, stapling options, print-quality mode, 2-sided printing, image smoothing and PhaserColor corrections to their default values.

1. Enter the **Printer** menu.
2. Select **Printer Setup** and press **OK**.
3. Select **Connection Setup** and press **OK**.
4. Select **Reset Connection Setup NOW** and press **OK** to reset the Network setup.

Resetting Belt Cleaner Assembly Life

Resetting the Belt Cleaner life is to be performed only if the Belt Cleaner Assembly is replaced before an end-of-life or near end-of-life message. Do not extend the life of the assembly; doing so may cause premature failure of other internal printer components.

The printer prompts the user to reset the life counts if the assembly is replaced after receiving a Replace Belt Cleaner Assembly or Replace Belt Cleaner Assembly Soon message.

1. Enter the **Printer** menu.
2. Select **Information** and press **OK**.
3. Select **Supplies Info** and press **OK**.
4. Select **Reset Belt Cleaner Assembly Life** and press **OK**.
5. Select **Reset Belt Cleaner Assembly Life NOW** and press **OK** to reset the Accumulator Belt Cleaner life.

Store Engine NVRAM

Purpose

This function reads values from the Engine NVRAM and writes values to the Hard Drive. It overwrites NVRAM values stored on the Hard Drive. The Phaser 7760 printer has a Hard Drive installed in the printer. The Hard Drive boots the PostScript firmware. There is a special file on the Hard Drive that stores specific calibration values for various sensors and for the laser in the printer.

Note the following tasks:

- You must store values to the Hard Drive before replacing the Engine Control Board.
- You must store Engine NVRAM values to the Hard Drive after replacement of the Hard Drive.

Procedure

1. Enter the Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.
2. Select **NVRAM Access** and press **OK**.
3. Select **Store Engine NVRAM** and press **OK**.
4. Select the specified entry desired (**Yes** or **No**) and press **OK**.

Clear Tech Rep Faults

Purpose

The following printer defaults can occur during normal operation, and the normal procedure is to isolate and repair the problem. However, with these particular faults, an additional step is required. A value has been written in the engine NVRAM that requires clearing before the printer can be used. Some faults require three occurrences before the fault is generated.

NOTE: *To clear a Tech Rep Fault, you must disconnect the Finisher option. The following functions generate a Tech Rep Fault:*

Table 1 Error Description and Chain-Link

Error	Chain-Link
Belt Home Too Long	04-346
ATC-YMCK Sensor Fail - Errors: 12, 13, 14, 15	09-380 thru 09-383
ADC Sensor Fail Errors	09-654
Imaging Unit YMCK Type Mismatch	09-910 thru 09-913
Fuser Main/Sub Lamp Temp Too High - Errors: 35, 44	10-348, 10-350

1. Enter the **Printer** menu. Select **Troubleshooting** and press **OK**.
2. Select **Service Tools** and press **OK**.
3. Press the **Up and Down Arrow** buttons simultaneously to enter the **Hidden Service** menu.
4. Select **Run Service Diagnostics** and press **OK**.
5. Select **NVRAM Access** and press **OK**.
6. Select **Clear Tech Rep Faults** and press **OK**.
7. Select the Link Code to be reset and press **OK**.

Printer Status Page

Purpose

Displays the printer status information.

1. General Information displays:
   - Printer Name
   - Page Count
   - Firmware Versions
   - Configuration
   - Current Temperature and Humidity
   - Media Type and Size by Drawer
2. Imaging Unit Life displays:
   - The date and individual Imaging Unit was installed in that position (swapping Image Units will change the date to the date that a particular Imaging Unit is installed for the first time in that position) and estimated pages remaining base on previous usage patterns.
3. Fuser Data
4. Belt Cleaner Data
5. Transfer Roller Data
6. Toner Cartridge Data
   - Estimated range of pages remaining based on the average coverage up to this point.
   - Average coverage since installation
   - Letter / A4 page size equivalent count
7. Waste Cartridge Data
8. Toner Transfer Settings
   - Corresponding to the specific media type
   - These are set during “Calibrate for Paper” by individual paper type.
9. ATC Sensor Setup: these are the Developer tag values that determine offset calculations for individual Developer settings.
10. Individual color and secondary color patches printed in “raw” mode at 100%, 60%, and 20% densities.
11. Color registration crosses of 1mm and 300 dpi in size
12. Fuser temperature settings by mode

Procedure

1. Enter the **Printer** menu.
2. Select **Troubleshooting** and press **OK**.
3. Select **Service Tools** and press **OK**.
4. Select **Printer Status Page** and press **OK**.
5. The printer prints 2 Printer Status pages.

Configuration Page

Purpose

Displays the printer configuration information.

Procedure

1. Enter the **Printer** menu.
2. Select the **Printer Setup** and press **OK**.
3. Select **Configuration Page** and press **OK**.
4. The printer prints 2 Configuration pages.

Printer Configuration

Purpose

Displays the printer configuration.

Procedure

1. Enter the Service Diagnostics Menu: **Printer Menu** > Troubleshooting > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > OK.
2. Select the **General Status** and press **OK**.
3. Select **Configuration** and press **OK**.
4. The following information will be displayed:
   - Options: 3TM + Duplexer (nnn)
5. Press **Back** or **Cancel** to abort.

Engine ROM Version

Purpose

Displays the status of Software Options.

Procedure

1. Enter the Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.
2. Select **General Status** and press **OK**.
3. Select **Engine ROM Version** and press **OK**.
4. Engine ROM info is displayed:
   - Engine Version is n.n.n
   - Video ASIC Version is n.n
5. Press **Back** or **Cancel** to exit.

Test Prints

NOTE: *Ensure to load letter size (LEF) media in Tray 1 (MPT) when working on the printer. This will prevent any printing issues from Tray 1 (MPT).*

Purpose

Prints the test patterns in the machine, to help identify Image Quality problems.

Test Prints can isolate printing problems to the Engine Control Board or Image Processor Board by eliminating image data transfer between the two. Test Prints do not exercise any Image Processor Board circuitry. Test Prints get its image data from ROM. This allows the examination of the Engine Control Board function in isolation.

Some other key features of Test Prints:

- Is the only diagnostic utility to exercise the entire print cycle.
- Isolated from the operating system (PostScript). Runs from firmware.
- Isolates the Image Processor Board from Engine Control Board.
- Helps to isolate events that cause print artifacts or prevents printing.

Note the following:

Prints Only defects:

- If the defect appears on the prints, run a configuration report and test patterns 28-31. If the defect does not appear on these, suspect the print driver or the application
- If the defect appears on the prints, run test patterns 20-24. If the defect does not appear on these, suspect the System Controller PWB, the Network HDD.
- If the defect appears on the prints, suspect the CCM PWB.

Procedure

Test Prints are available in the Control Panel Test Prints and Engine Test Prints Test Pattern throughput is limited to A4, 8.5x11, A3, 11x17.

Control Panel Test Prints (refer to Section 3, Control Panel Test Prints section for how to correct print-quality problems)

1. Enter the Printer menu.
2. Select **Troubleshooting** and press **OK**.
3. Select **Print Quality Problems** and press **OK**.
4. Select the appropriate option to perform Test Prints.
   - Color Test Pages
   - Solid Fill Pages
   - Repeating Defects Page
   - Remove Print Smears
5. Compare the printed output to the page in the Troubleshooting section and take appropriate actions.
6. Continue the process until print-quality problems are corrected.

Engine Test Prints (refer to Section 3, Engine Test Prints section for how to correct print-quality problems)

1. Enter the Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.
2. Select **Built-in Test Prints** and press **OK**.
3. Select the appropriate option to perform Test Prints.
   - Paper Path Options
   - Print Laser Check
   - Print HalfTones
   - Print Grid 1-Dot
   - Print Fast Scan 8 Tone
4. Continue the process until print-quality problems are corrected.

Reflective Sensor Procedure

Sensors consist of a light-emitting diode and a photo transistor. When energized, the light from the LED causes the photo transistor to conduct, drawing current through a pull-up resistor. The voltage drop across the resistor causes the input signal to the control logic to change from a high to a low.

Reflective Sensors operate by light from the LED being reflected off the paper to the photo transistor, causing the output of the Sensor to go to the low (L) state.

Troubleshooting References

Table 1 References

Applicable Parts	Part List	Wiring and Plug/Jack References
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15
Reflective Sensor		

Troubleshooting Procedure

Refer to Figure 1 during this procedure.

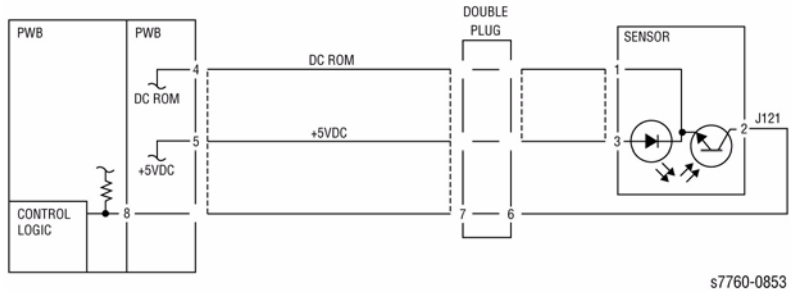


Figure 1 Reflective Sensor Wiring Diagram

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Enter the Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**. Perform the Reflective Sensor test. 2. Does the Sensor change state from L to H when blocked?	Replace the Sensor.	Go to step 2.

Table 2 Procedure

Step	Actions and Questions	Yes	No
2	1. Measure Pin 2 to ground. 2. Is there +5 VDC?	Go to step 4.	Go to step 3.
3	1. Check the wire between Pin 2 and the Engine Control Board Pin 8 and open circuit or poor contact. 2. Is the wiring OK?	Replace the Engine Control Board (MCU PWB).	Repair or replace the wiring harness.
4	Is there +5 VDC between Sensor Pin 1 and Pin 3?	Replace the Sensor.	Go to step 5.
5	Is there +5 VDC between the Engine Control Board Pin 4 and Pin 5?	Go to step 6.	Replace the Engine Control Board (MCU PWB).
6	1. Check the wiring to Pin 4 and sensor Pin 1 and Pin 5 to Sensor Pin 3 for an open or poor circuit. 2. Is the wiring OK?	Replace the Engine Control Board.	Replace the wiring harness.

Transmissive Sensor Procedure

Sensors consist of a light-emitting diode and a photo transistor. When energized, the light from the LED causes the photo transistor to conduct, drawing current through a pull-up resistor. The voltage drop across the resistor causes the input signal to the control logic to change from a high to a low.

Transmissive Sensors have a Flag or Actuator that is pushed into the space between the LED and Transistor, blocking the light beam and causing the output of the Sensor to go to the high (H) state. This actuation may be caused by a sheet of paper striking a pivoting flag, or a rotating actuator on a shaft or roll.

Some sensors have built-in inverters and the outputs will go to the low (L) state when the Sensors are blocked. In other situations, the processing of the signal in control logic may cause the logic level displayed on the UI to be the opposite of the actual voltage output by the sensor. The specific RAP and/or circuit diagram will indicate if this is the case. Figure 1 is an example of a typical sensor circuit for this machine.

Troubleshooting References

Table 1 References

Applicable Parts	Part List	Wiring and Plug/Jack References
Engine Control Board (MCU PWB)	PL 13.1	Section 7, Engine Control Board (MCU PWB) Plug/Jack Locations - Figure 15
Transmissive Sensor		

Troubleshooting Procedure

Refer to Figure 1 during this procedure.

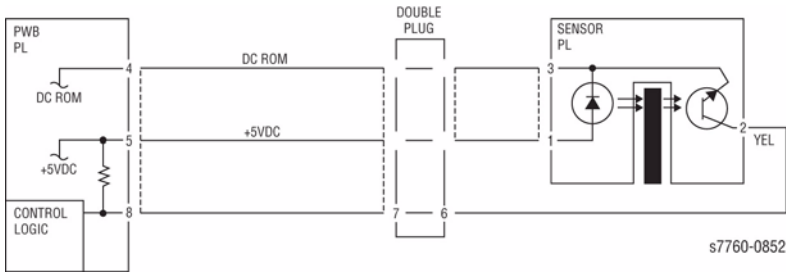


Figure 1 Transmissive Sensor Wiring Diagram

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	1. Enter Service Diagnostics and perform the Transmissive Sensor test. 2. Does the Sensor change state from L to H when blocked?	Replace the Sensor.	Go to step 2.
2	1. Remove the Sensor Connector. 2. Does the Sensor now change the state?	Replace the Sensor	Go to step 3.
3	1. Check for a short between the Sensor Pin 2 and the Engine Control Board Pin 8. 2. Is there a short?	Replace the wiring harness.	Go to step 4.
4	Is there +5 VDC between Sensor Pin 2 and ground?	Go to step 6.	Go to step 5.
5	1. Check the wiring between the Sensor Pin 2 and the Engine Control Board Pin 8 for an open or poor circuit.	Replace the affected board.	Repair or replace the wiring harness.
6	1. Check the wiring to Pin 4 and Sensor Pin 1 and Pin 5 to Sensor Pin 3 for an open or poor circuit. 2. Is the wiring OK?	Replace the affected board.	Replace the wiring harness.

Developer BIAS

WARNING

HIGH VOLTAGE!

Exercise caution when performing the voltage checks in this procedure.

Troubleshooting References

Table 1 References

Applicable Parts	Part List	Wiring and Plug/Jack References
HVPS Control PWB	PL 9.1	Section 7, HVPS, +24V LVPS T10 Plug/Jack Locations - Figure 12

Troubleshooting Procedure

Table 2 Procedure

Step	Actions and Questions	Yes	No
1	Make a copy and check the voltage at P/J580 for affected color(s). There should be approximately 370 VAC and -540 VDC (+/- 10%) present. The voltage are within range.	Go to step 4.	Go to step 2.
2	There is +24 VDC from P/J501 pin 13 to pin P/J501-10 on the DEV/BTR2/DTS T10 HVPS.	Check that the HVPS Control PWB is seated correctly. If the problem continues, replace the DEV/BTR2/DTS T10 HVPS PWB (PL 9.1).	Go to step 3.
3	There is +24 VDC from P/J553 pin 2 to P/J553 pin 4 on the I/F PWB.	Check for an open circuit.	Go to Section 7, +24 VDC Wirenets Figure 1 to troubleshoot the problems.
4	1. Check for an open circuit or a short circuit to ground. Check P/J580 and the HV terminals on the Developer Housing(s) for damage or loose connections. 2. Are the checks good?	Return to previous RAP from which you came.	Replace the DEV/BTR2/DTS T10 HVPS PWB (PL 9.1).

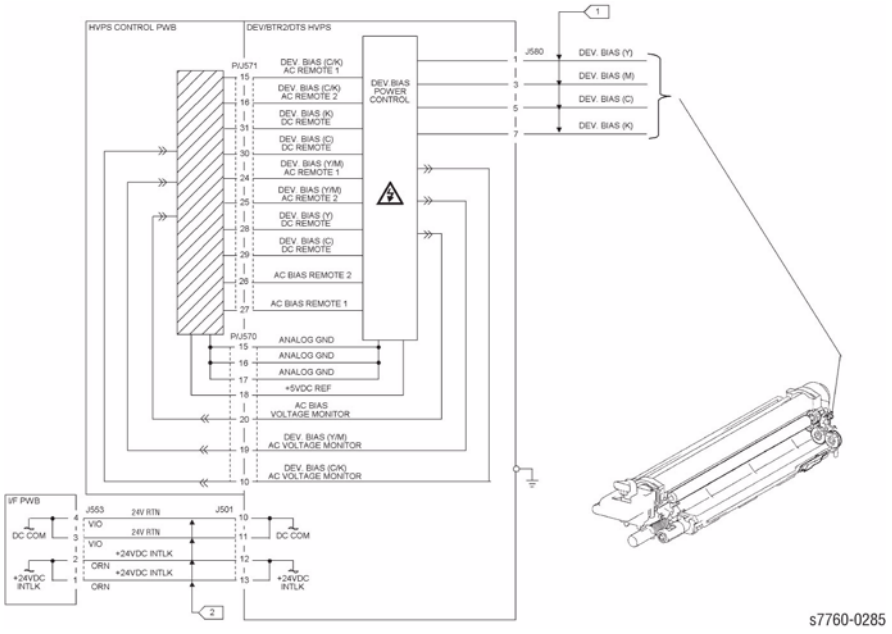


Figure 1 Circuit Diagram

Enable Metered Toner

Purpose

To restore the Metered mode parameters to NVRAM should they become lost or corrupt.

Procedure

1. Enter the Service Diagnostics Menu: **Printer Menu** > **Troubleshooting** > **Service Tools** > **Printer Status Page** > hold the **Up** and **Down** buttons simultaneously > **Run Service Diagnostics** > **OK**.
2. Select **Enable Metered Toner**.
3. Enter numeric password and press **OK**.

System Startup and POST

System Boot Sequence

1. When the main power switch is turned on, the 'health' LED on the Image Processor Board turns on immediately.
2. The boot loader checks for RAM present and functional. If not, it posts a very large **RAM ERROR** on the Control Panel and blinks the LED 1/2 second On/Off continuously.
3. The boot Loader then runs POST diagnostics.
4. POST turns Off the health LED.
5. POST checks the Control Panel.
6. If buttons have been pushed, the Control Panel displays **Processing Input**.
7. The Control Panel LED cycles: Green, Yellow, Red, and then Off.
8. The Control Panel turns On, the LED turns Green, and the POST tests are run.

Power On Self Test (POST)

The following tests are performed when the printer is powered On, after the boot loader runs, and before the operating system is loaded and initialized.

POST Diagnostics are intended to provide a quick means of isolating a defective subsystems associated with the Image Processor Board and SDRAM. POST returns control to the boot loader and the operating system is loaded. The operating system then loads the imaging processing software. If POST detected any soft errors, a message is printed in a red box on the Start page. If POST detects any hard errors, both the Control Panel and 'health' LED blink the error code pattern (refer to Section 6, POST Fault Reporting LED Blink Patterns).

POST Startup Indications

- At power-on, the hardware default turns on the Image Processor Board 'health' LED.
- The Image Processor Board 'health' LED is turned Off.
- The Control Panel display is reset (addressable area becomes 'gray').
- The Green LED turns On for 1/3 second.
- The Yellow LED turns On for 1/3 second.
- The Red LED turns On for 1/3 second.
- The Control Panel LED is turned Off.
- The backlight is turned On (high intensity), with nominal contrast display.
- The Control Panel display area is turned On, dark black for 1 second.
- The Control Panel display is cleared.
- The backlight is turned On with nominal intensity.
- The POST vn.nn message appears, and tests are quickly executed.
- If any tests fail, the Control Panel screen freezes with the name of the test displayed and the line posted is **Call Customer Service**.
- After the POST tests have finished running, the Xerox 'splash screen is posted to the Control Panel and PostScript begins initialization.

POST Faults

There are two kinds of faults: Soft and Hard.

A Soft fault is any fault that is discovered by POST, but does not prevent the operating system from initializing and becoming available as a tool for troubleshooting. These POST faults do not stop execution and are reported on the Start Page in a red box after the system is running.

A Hard fault is any fault discovered by POST that prevents the operating system from initializing successfully. A Hard fault prevents the system from further execution and is halted with blinking LEDs (Control Panel and health LED). The test name of the test that failed is displayed on the Control Panel.

Hard Fault Reporting Devices

- The health LED flashes according to the Fault Code.
- A Vx Works text string is printed out the serial port.
- The Control Panel LED flashes in unison with the health LED.
- The last fault message posted to the Control Panel is present.

POST Fault Reporting LED Blink Patterns

For faults identified as Hard faults, the POST firmware causes the PS 'health' LED and Control Panel LED to blink in a particular pattern to identify the fault. There are short and long blinks. A long blink is worth 5 and a short blink is worth 1. If a fault blink pattern is flashed as long, long, short, short, this is fault code 5+5+1+1=12, which indicates a failure in the CPU interrupt test.

The exception to the above pattern is a RAM test error. The RAM tests have a special blink pattern and the Control Panel displays **RAM ERROR**. During power up, the Control Panel LED is On. If the RAM tests fail, the Image Processor Board 'health' LED is turned Off, and the Control Panel LED is red. At 1/2 second intervals, the 'health' LED and the Control Panel LED toggle continuously.

POST Diagnostic Test Descriptions

Table 1 POST Test Descriptions

Test	Fault Type	Fault Code	Description
DDR2RAM	Hard	1	This test fails if the boot loader finds no RAM present or faulty RAM. Boot loader posts the message RAM ERROR to the Control Panel and blinks the Control Panel LED and Image Processor Board health LED.
Local Bus/Control Panel	Hard	2	Performed during the POST firmware initialization phase. If the Control Panel is unplugged, a Hard fault is indicated by the health LED.
I/O ASIC	Hard	3	This test determines if the I/O chip is functioning properly.
MEM	Hard	4	This test determines if the memory access function works at selected addresses.
Configuration Chip	Hard	5	This test checks to see if the configuration chip is present. If no chip is present, the test fails and the Control Panel message **Please install configuration chip** displays.
EEPROM	Hard	10	This test checks addressing of the EEPROM.
Ethernet	Hard	11	This test checks the ethernet core.
CPU Interrupts	Hard	12	This test checks that each interrupt source to the CPU functioning.
USB	Hard	13	This test checks that the USB core is functioning properly.
Real Time Clock	Soft	14	The real time clock is tested.
RAM DIMM Presence	Soft	15	This test examines bad or incompatible RAM DIMMs.
Min RAM Limits	Soft	16	Checks that there is at least 512 MB
Max RAM Limits	Soft	17	Checks to ensure no more than 1 GB of RAM installed.
IDE Disk	Soft	20	Checks the disk controller core, and runs a Diagnose command on the Hard Drive.
CPU Fan	Hard	24	Checks hardware to see if a failure of the CPU cooling fan has occurred.
Cage Fan	Hard	25	Checks hardware to see if a failure of the electronics cooling fan has occurred.

Network Diagnostics

Purpose

This function runs a test on the TCP/IP connection (Ethernet Port) and displays the results. If no errors are detected, the message Network diagnostics completed, No problem detected displays, along with options for Help or printing either the Connection Setup Page or Configuration Page.

The Connection Setup and Configuration Page list the current network parameters stored in the printer's NVRAM. If Network Diagnostics detects an error, the error message displays with menu with options to assist in correcting the error.

Procedure

1. Enter the **Printer** menu.
2. Select **Troubleshooting** and press **OK**.
3. Select **Network Problems** and press **OK**.
4. Select **Network Diagnostics** and press **OK**.
5. The printer begins running diagnostics process. If no errors are detected, a menu with the following options appears:
   - Help
   - Connection Setup Page
   - Configuration Page
6. Select the appropriate choice and press **OK** to retrieve the information.

Intermittent Problem

Purpose

The purpose of this RAP is to provide guidance for resolving an intermittent problem. This is not an exact procedure, but a set of recommended actions that use the resources of the service manual to help locate the cause of an intermittent problem.

Procedure

1. Check the **Engine Error History** and **Jam History**. Recent service actions may provide information about the problem. For example, a component that was recently replaced to correct another problem may be the cause of the new intermittent problem.
2. Run the machine in a mode that vigorously exercises the function that is suspected. The machine may fail more frequently or may fail completely under these conditions. Look for signs of failure or abnormal operation.

   An intermittent problem can usually be associated with a RAP, since when it does fail, it results in a fault code, a jam code, or some other observable symptom.
3. Using the RAP that is associated with the symptom of the intermittent problem, examine all of the components that are referenced in the RAP. Look for:
   - contamination, such as a feed roller that has a build up of dirt or toner
   - wear, such as gear teeth that are rounded or have excessive backlash
   - HFSI, even if they are not near or have not exceeded the SPEC LIFE or COPY COUNT value
   - wires chafing against components of the machine, especially against moving components
   - misaligned, misadjusted, or incorrectly installed components
   - slow or slipping clutches; slow or binding solenoids
   - damaged components
   - excessive heat, or symptoms of excessive heat, such as the discoloration of a component
   - loose cables or wires
   - Packing materials not removed
4. Using the RAP that is associated with the symptom of the intermittent problem, perform all of the adjustments for the components or functions that are referenced in the RAP. Check to ensure that the adjustment can be made and that there is an adequate range of adjustment, and that it can be set to or near the nominal value. Any abnormality that is observed may be an indication of the cause of the problem. For example, a component can be adjusted to the nominal value, but it is at the limit of the adjustment range. This is not normal and may be an indication of the cause of the problem.
5. Operate all of the components in the appropriate RAP that is associated with the symptom of the intermittent problem with in Diagnostics. Observe the components for any symptoms of abnormal operation, such as a hesitation, or an unusual sound.
6. Check that the AC and DC power are within specification.
7. Get technical advice or assistance when it is appropriate. This will depend upon the situation and the established local procedures.
8. Examine the components that are not in the RAP, but are associated with the function that is failing. Refer to the BSDs. Look for:
   - contamination, such as a feed roller that has a build up of dirt or toner
   - wear, such as gear teeth that are rounded or have excessive backlash
   - HFSI, even if they are not near or have not exceeded the SPEC LIFE or COPY COUNT value
   - wires chafing against components of the machine, especially against moving components
   - misaligned, misadjusted, or incorrectly installed components
   - slow or slipping clutches; slow or binding solenoids
   - damaged components
   - excessive heat, or symptoms of excessive heat, such as the discoloration of a component
   - loose cables or wires
9. Perform the adjustments for the components that are not in the RAP, but are associated with the function that is failing. Refer to the BSDs. Check to ensure that the adjustment CAN BE MADE and that there is an adequate range of adjustment, and that it can be set to or near the nominal value. Any abnormality that is observed may be an indication of the cause of the problem. For example, a component can be adjusted to the nominal value, but it is at the limit of the adjustment range. This is not normal and may be an indication of the cause of the problem
10. Operate all of the components that are not in the RAP, but are associated with the function that is failing with in Diagnostics Refer to the BSDs. Observe the components for any symptoms of abnormal operation, such as a hesitation, or an unusual sound.
11. Replace any components or consumables that are known to be a frequent cause of the problem. When doing this, consider the cost and time required. If the suspected item is inexpensive, can be installed quickly, and has a high probability of resolving the problem, then it is reasonable to replace it.
12. Leave an accurate and detailed record of your actions in the service log. Describe what you have observed, what actions you took, and the recommended next steps.

Jam History

Purpose

Jam History in the Printer Control Panel provides the last 30 jams in the format of Jam Code (XX,) Print Count (XXXXX;). Refer to Table 1 for description of identified Jam by a Jam Code Number.

Table 1 Jam History Code

Jam Code	Jam Location
1	Jam at Tray 1 (MPT)
2	Jam at Tray 2
3	Jam at Tray 3
4	Jam at Tray 4
5	Jam at Tray 5
6	Jam at Tray 5B (Transport)
7	Jam at Fuser
8	Jam at Left Door A
9	Jam at Left Door B
10	Jam at Left Door C
11	Jam at Duplex Unit
12	Jam at Finisher Entrance (F)
13	Jam at Finisher Bypass (G)
14	Jam at Finisher (H)

What To Do

Refer to Table 1 to identify the Location and Frequency of the Jams.

Back Channel Traces

Purpose

Enter text here.

Applicable Tools

1. A Computer or Laptop with a serial cable port and Windows OS
2. Null Modem Serial Cable (available from Xerox PN 012-1535-00)
3. Serial Cable Adapter for Diagnostics (available from Xerox PN 012-1543-00)
4. A 31/2 inch IDE Hard Drive Jumper or Alligator Clipped Test Leads

Procedure

1. Power the printer **Off**. Power the computer or laptop **Off**.
2. Back Channel Traces may be performed on the Phaser 7760 Controller through the **5 Pin Service Port** on the Image Processor Board.

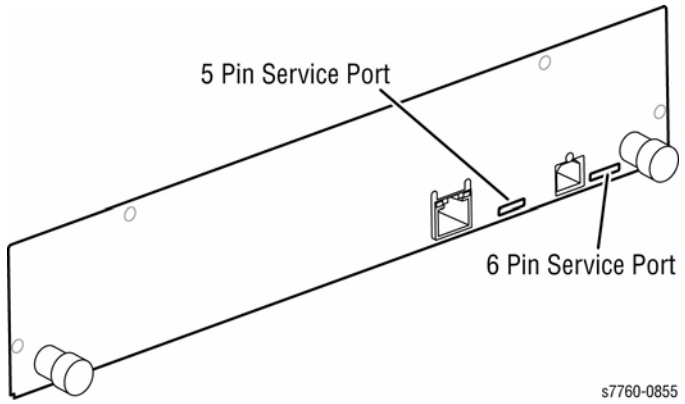


Figure 1 Image Processor Board

3. Perform the following procedure for the Phaser 7760 - shunt pin 3 and/or 4 to Frame Ground using an alligator test lead.
4. Connect the Service Cable to the 5-pin port on the back of the printer noting the This Side Up orientation. This Side Up refers to the components side of the PCB, not the orientation of how the board is mounted in the printer (Figure 2).

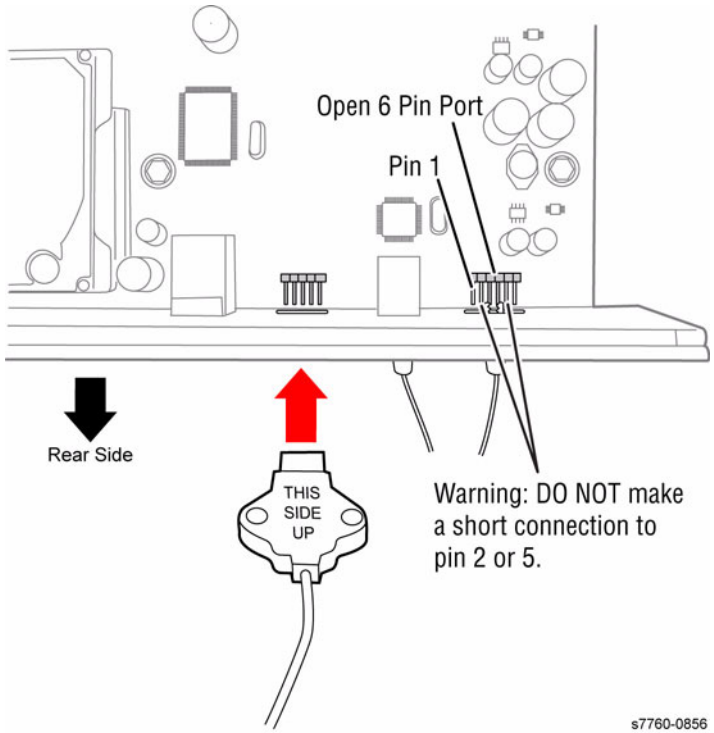


Figure 2 Orientation and Pin Location

5. Connect the null Modem Serial Cable to the PC or Laptop (Figure 3).

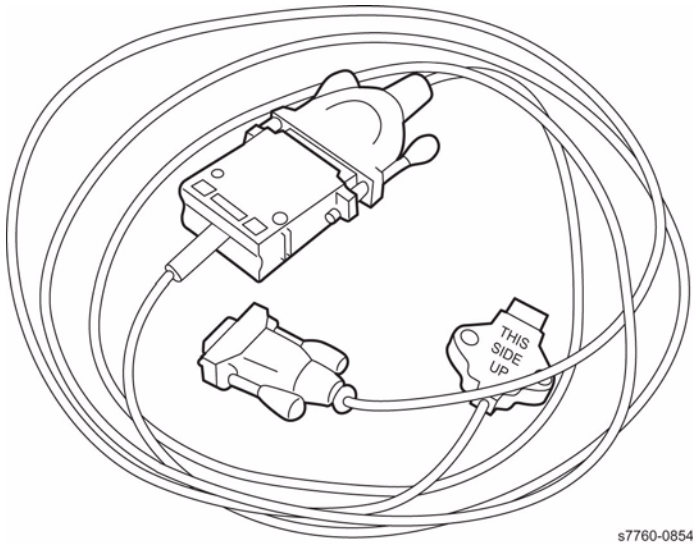


Figure 3 Modem Serial Cable

6. Boot the PC or Laptop. Launch a session of HyperTerminal (generally located in the Start > Programs > Accessories > Communications folder).
7. Give your connection a generic name. Then click **OK** or press **Enter (Figure 4)**.

Figure 4 Naming Connection

8. Another window appears asking to connect using a device. Select the Comm port that your diagnostic and null modem cable is connected to. Then click **OK** or press **Enter (Figure 5)**. Refer to your PC or Laptop Owners Guide for information.

Figure 5 Comm Port Information

9. The next window requests the appropriate communication settings for that comm. port. Then click **OK** or press **Enter** (Figure 6).
   19,200 BPS
   8 Data Bits
   No Parity
   1 Stop Bit
   Hardware Flow Control

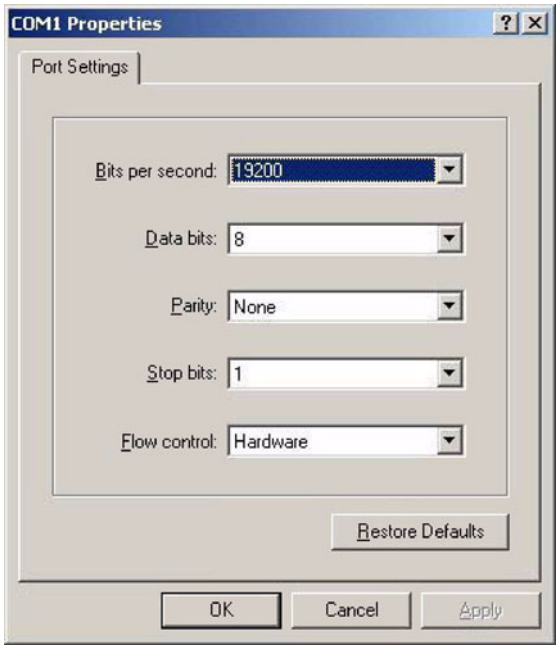


Figure 6 Communication Settings

10. From the Command Menu, select **Transfer** > **Capture Text** (Figure 7). These terms may vary from version of the Windows OS that is being used.

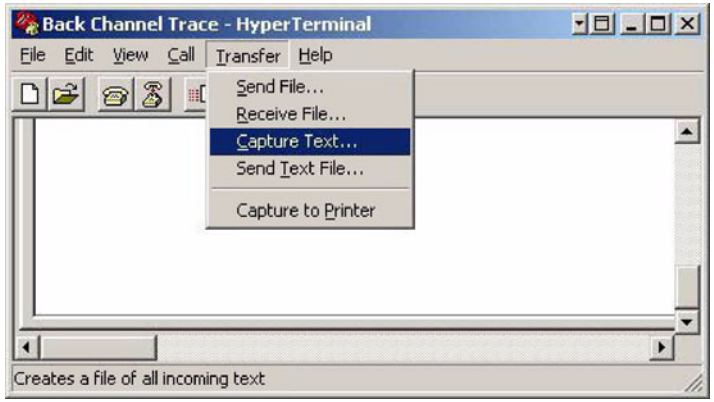


Figure 7 Command Menu

11. Give the Back Channel Trace a file name (Figure 8). It is recommended that you use the Request ID from Escalated Support (if you contacted them and were referred to this procedure) or the printer's serial number. Make a note of where the file will be saved so that you can retrieve it later if needed. Then click **Start** or press **Enter**.

Figure 8 File Name

12. Power the printer **On**. Then observe the trace data on the PC or Laptop.

WARNING

Do not attempt to send or initiate communications with the printer using this session. Attempting to do so may cause irreversible damage to the printer's operating system resulting in additional repairs. Xerox will not cover damages resulting from failing to adhere to this warning.

13. When the printer stops operating, power the printer Off. If the printer requires additional functions, perform very minor and basic functions to capture the failure only. Additional data captured is not needed.

14. Complete and save the trace by clicking on Transfer > Capture Text > Stop (Figure 9). The file will be saved to the location you specified in step 11.

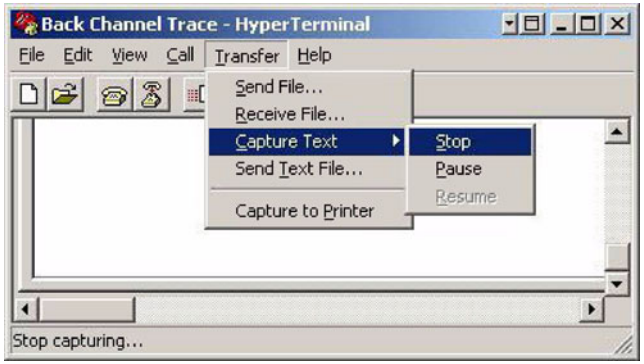


Figure 9 Saving The Trace

15. Close HyperTerminal and use a word processing program such as Notepad or MS Write to open the trace and observe the information. Begin examining the trace information at the end and working your way back up. Look for fault codes or other indications of subsystem failures.
16. Use the **Partners Support Knowledge Base** to look up Fault Codes not listed in the Service Manual or **Service Bulletins/Flashes** and the associated methods for correcting these conditions. The Partners Support Knowledge Base may be located by logging on at www.office.xerox.com/partners using your TCN and password. Then follow the link to Service Providers Reference Materials and then the link at the top, **Support Knowledge Base**.
17. Contact Remote Support Engineering for assistance in diagnosing the trace or if fault codes do not appear in the Service Manual or the Support Knowledge Base. Be prepared with your Request ID (if given) or TCN and also be prepared to email or fax your Back Channel Trace if requested.

Finisher (F) Tags

Includes Advanced and Professional finishers.

TAG: F-001

CLASS: R

MFG SERIAL NUMBERS: ESG/XE Serial Numbers A/P Finishers 342 350501X - 342 350715X non-Bookletmaker 342 360501X - 342 360798X Bookletmaker

NASG/XC Serial Numbers A/P Finishers: TWE 330501-TWE 330711 non-Bookletmaker TWF 340501-TWF 340925 Bookletmaker

NAME: **10-125 A/P Finisher**

PURPOSE: Corrects excessive clearance on some early build Finishers which causes intermittent 10-125 faults when duplexing.

PARTS LIST ON: PL 21.27

NOTE: *A shim can be installed in flat section of D hole to eliminate excess clearance between D hole and D shaft. Replacement parts do not require a shim. Refer to bulletin T5474-10-29.*

7 Wiring Data

Printer Plug/Jack Locations

How to use the Plug/Jack Location List

The Plug/Jack Location List below is provided to locate plugs, jacks, or other terminating devices. Connector numbers are ordered numerically in ascending order. Connectors numbered “FS” and “T” are listed at the end of the “P and J” connectors.

Locate the desired termination device in the first column (Connector Number) of the list. Refer to the second column (Figure Number) to determine the figure number of the electrical termination device. The third column provides the title of the Figure.

Table 1 Plug / Jack Location List

Connector Number	Figure Number	Figure Title
5A	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J2	Figure 12	HVPS, +24V LVPS T10
P/J16	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J39	Figure 18	AC Drive PWB, Noise Filter PWB
P/J40	Figure 18	AC Drive PWB, Noise Filter PWB
P/J41	Figure 18	AC Drive PWB, Noise Filter PWB
P/J42	Figure 18	AC Drive PWB, Noise Filter PWB
P/J43	Figure 18	AC Drive PWB, Noise Filter PWB
P/J45	Figure 18	AC Drive PWB, Noise Filter PWB
P/J47	Figure 18	AC Drive PWB, Noise Filter PWB
P/J46	Figure 18	AC Drive PWB, Noise Filter PWB
P/J48	Figure 18	AC Drive PWB, Noise Filter PWB
P/J50	Figure 18	AC Drive PWB, Noise Filter PWB
P/J72	Figure 12	HVPS, +24V LVPS T10
P74	Figure 18	AC Drive PWB, Noise Filter PWB
P75	Figure 18	AC Drive PWB, Noise Filter PWB
P76	Figure 18	AC Drive PWB, Noise Filter PWB
P77	Figure 18	AC Drive PWB, Noise Filter PWB
P/J103	Figure 8	Tray 1 (MPT)
P/J104	Figure 7	Exit Transport Assembly (OCT)
P/J106	Figure 19	Left Lower Assembly, Tray 2 Feeder
P/J108	Figure 19	Left Lower Assembly, Tray 2 Feeder
P/J109	Figure 5	Registration Transport Assembly
P/J111	Figure 3	Inverter Transport Assembly
P/J113	Figure 3	Inverter Transport Assembly
P/J115	Figure 17	Developer Motor, Tray 2 Size Switch
P/J116	Figure 2	MOB Sensor Assembly
P/J117	Figure 2	MOB Sensor Assembly
P/J119	Figure 11	IBT Belt Assembly
P/J121	Figure 11	IBT Belt Assembly
P/J122	Figure 11	IBT Belt Assembly

Table 1 Plug / Jack Location List

Connector Number	Figure Number	Figure Title
P/J125	Figure 19	Left Lower Assembly, Tray 2 Feeder
P/J129	Figure 1	Xerographic
P/J130	Figure 1	Xerographic
P.J131	Figure 1	Xerographic
P/J132	Figure 1	Xerographic
P/J133	Figure 1	Xerographic
P/J135	Figure 4	Duplex Transport Assembly
P/J136	Figure 4	Duplex Transport Assembly
P/J140	Figure 3	Inverter Transport Assembly
P/J144	Figure 2	MOB Sensor Assembly
P/J150	Figure 19	Left Lower Assembly, Tray 2 Feeder
P/J151	Figure 1	Xerographic
P/J151	Figure 9	Toner Dispense Motor (Y, M, C, K), Main Switch
P/J152	Figure 1	Xerographic
P/J152	Figure 9	Toner Dispense Motor (Y, M, C, K), Main Switch
P.J153	Figure 1	Xerographic
P/J153	Figure 9	Toner Dispense Motor (Y, M, C, K), Main Switch
P/J154	Figure 1	Xerographic
P/J154	Figure 9	Toner Dispense Motor (Y, M, C, K), Main Switch
P/J155	Figure 5	Registration Transport Assembly
P/J163	Figure 9	Toner Dispense Motor, Main Switch
P/J165	Figure 9	Toner Dispense Motor, Main Switch
P/J171	Figure 1	Xerographic
P/J172	Figure 7	Exit Transport Assembly (OCT)
J173	Figure 13	Outlet Panel Assembly
P/J203	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J205	Figure 19	Left Lower Assembly, Tray 2 Feeder
P/J207	Figure 1	Xerographic
P/J208	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J210	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J211	Figure 6	Fuser Assembly
P/J212	Figure 6	Fuser Assembly
P/J214	Figure 12	HVPS, +24V LVPS T10
P/J216	Figure 3	Inverter Transport Assembly
P/J217	Figure 3	Inverter Transport Assembly
P/J218	Figure 3	Inverter Transport Assembly
P/J219	Figure 8	Tray 1 (MPT)
P/J220	Figure 7	Exit Transport Assembly (OCT)
P/J221	Figure 17	Developer Motor, Tray 2 Size Switch
P/J222	Figure 7	Exit Transport Assembly (OCT)

Table 1 Plug / Jack Location List

Connector Number	Figure Number	Figure Title
P/J223	Figure 1	Xerographic
P/J224	Figure 1	Xerographic
P/J225	Figure 1	Xerographic
P/J226	Figure 1	Xerographic
P/J227	Figure 9	Toner Dispense Motor (Y, M, C, K) Main Switch
P/J228	Figure 9	Toner Dispense Motor (Y, M, C, K) Main Switch
P/J229	Figure 9	Toner Dispense Motor (Y, M, C, K) Main Switch
P/J230	Figure 9	Toner Dispense Motor (Y, M, C, K) Main Switch
P/J231	Figure 5	Registration Transport Assembly
P/J232	Figure 17	Developer Motor, Tray 2 Size Switch
P/J233	Figure 1	Xerographic
P/J234	Figure 17	Developer Motor, Tray 2 Size Switch
P/J235	Figure 17	Developer Motor, Tray 2 Size Switch
P/J237	Figure 11	IBT Belt Assembly
P/J240	Figure 5	Registration Transport Assembly
P/J252	Figure 25	TT Module (rear)
P/J252	Figure 26	3T Module (rear)
P/J255	Figure 2	MOB Sensor Assembly
P/J260	Figure 6	Fuser Assembly
P/J261	Figure 6	Fuser Assembly
P/J262	Figure 6	Fuser Assembly
P/J263	Figure 6	Fuser Assembly
P/J264	Figure 6	Fuser Assembly
P/J265	Figure 8	Tray 1 (MPT)
P/J288	Figure 9	Toner Dispense Motor (Y, M, C, K) Main Switch
P/J335	Figure 14	Translator/Bridge PWB's
P/J460	Figure 14	Translator/Bridge PWBs
P/J400	Figure 15	Engine Control Board (MCU PWB)
P/J401	Figure 15	Engine Control Board (MCU PWB)
P/J402	Figure 15	Engine Control Board (MCU PWB)
P/J403	Figure 15	Engine Control Board (MCU PWB)
P/J403	Figure 9	Toner Dispense Motor (Y, M, C, K) Main Switch
P/J404	Figure 15	Engine Control Board (MCU PWB)
P/J405	Figure 15	Engine Control Board (MCU PWB)
P/J406	Figure 15	Engine Control Board (MCU PWB)
P/J407	Figure 15	Engine Control Board (MCU PWB)
P/J407	Figure 9	Toner Dispense Motor (Y, M, C, K) Main Switch
P/J408	Figure 15	Engine Control Board (MCU PWB)
P/J409	Figure 15	Engine Control Board (MCU PWB)
P/J409	Figure 9	Toner Dispense Motor (Y, M, C, K) Main Switch

Table 1 Plug / Jack Location List

Connector Number	Figure Number	Figure Title
P/J410	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J410	Figure 15	Engine Control Board (MCU PWB)
P/J411	Figure 15	Engine Control Board (MCU PWB)
P/J412	Figure 15	Engine Control Board (MCU PWB)
P/J413	Figure 15	Engine Control Board (MCU PWB)
P/J414	Figure 15	Engine Control Board (MCU PWB)
P/J460	Figure 14	Translator/Bridge PWB's
P460	Figure 15	Engine Control Board (MCU PWB)
J496	Figure 15	Engine Control Board (MCU PWB)
P/J497	Figure 15	Engine Control Board (MCU PWB)
P/J498	Figure 15	Engine Control Board (MCU PWB)
P/J501	Figure 12	HVPS, +24 LVPS T10
P/J502	Figure 12	HVPS, +24V LVPS T10
P/J505	Figure 12	HVPS, +24V LVPS T10
P/J510	Figure 12	HVPS, +24V LVPS T10
P/J511	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J514	Figure 10	ROS Assembly
P/J515	Figure 10	ROS Assembly
P/J516	Figure 10	ROS Assembly
P/J517	Figure 10	ROS Assembly
P/J518	Figure 10	ROS Assembly
P/J526	Figure 10	ROS Assembly
P/J527	Figure 10	ROS Assembly
P/J528	Figure 10	ROS Assembly
P/J529	Figure 10	ROS Assembly
P/J530	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J531	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J532	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J533	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J534	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J535	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J536	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J537	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J538	Figure 4	Duplex Transport Assembly
P/J539	Figure 4	Duplex Transport Assembly
P/J539	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J540	Figure 4	Duplex Transport Assembly
P/J540	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J540	Figure 17	Developer Motor, Tray 2 Size Switch
P/J541	Figure 16	I/F PWB, MAIN Motor, LVPS T11

Table 1 Plug / Jack Location List

Connector Number	Figure Number	Figure Title
P/J542	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J542	Figure 25	TT Module (rear)
P/J542	Figure 26	3T Module (rear)
P/J543	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J546	Figure 25	TT Module (rear)
P/J546	Figure 26	3T Module (rear)
P/J547	Figure 25	TT Module (rear)
P/J547	Figure 26	3T Module (rear)
P/J548	Figure 25	TT Module (rear)
P/J548	Figure 26	3T Module (rear)
P/J549	Figure 25	TT Module (rear)
P/J549	Figure 26	3T Module (rear)
P/J551	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J552	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J553	Figure 25	TT Module (rear)
P/J554	Figure 25	TT Module (rear)
P/J554	Figure 26	3T Module (rear)
P/J557	Figure 25	TT Module (rear)
P/J557	Figure 26	3T Module (rear)
P/J551	Figure 25	TT Module (rear)
P/J561	Figure 25	TT Module (TTM) (rear)
P/J564	Figure 14	Translator/Bridge PWB's
P/J564	Figure 25	TT Module (rear)
P/J568	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J570	Figure 12	HVPS, +24V LVPS T10
P/J571	Figure 12	HVPS, +24V LVPS T10
P/J572	Figure 12	HVPS, +24V LVPS T10
P/J573	Figure 12	HVPS, +24V LVPS T10
P/J574	Figure 12	HVPS, +24V LVPS T10
P/J575	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J576	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J580	Figure 12	HVPS, +24V LVPS T10
P/J581	Figure 12	HVPS, +24V LVPS T10
P/J583	Figure 14	Translator/Bridge PWB's
P/J586	Figure 14	Translator/Bridge PWBs
P/J590	Figure 18	AC Drive PWB, Noise Filter PWB
P/J592	Figure 18	AC Drive PWB, Noise Filter PWB
J600	Figure 5	Registration Transport Assembly
P600	Figure 6	Fuser Assembly
P/J602	Figure 1	Xerographic

Table 1 Plug / Jack Location List

Connector Number	Figure Number	Figure Title
P/J605	Figure 11	IBT Belt Assembly
P/J608	Figure 1	Xerographic
J610	Figure 8	Tray 1 (MPT)
P/J611	Figure 7	Exit Transport Assembly (OCT)
J612	Figure 3	Inverter Transport Assembly
P612	Figure 17	Developer Motor, Tray 2 Size Switch
J613	Figure 3	Inverter Transport Assembly
P613	Figure 3	Inverter Transport Assembly
P613	Figure 17	Developer Motor, Tray 2 Size Switch
P/J614	Figure 1	Xerographic
P/J617	Figure 19	Left Lower Assembly, Tray 2 Feeder
P/J619	Figure 1	Xerographic
P/J620	Figure 5	Registration Transport Assembly
P/J622	Figure 1	Xerographic
P/J623	Figure 19	Left Lower Assembly, Tray 2 Feeder
P/J624	Figure 1	Xerographic
P626	Figure 3	Inverter Transport Assembly
J626	Figure 4	Duplex Transport Assembly
P/J631	Figure 1	Xerographic
P/J639	Figure 16	I/F PWB, Main Motor, LVPS T11
J640	Figure 3	Inverter Transport Assembly
P640	Figure 17	Developer Motor, Tray 2 Size Switch
P/J641	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J646	Figure 17	Developer Motor, Tray 2 Size Switch
P/J668	Figure 25	TT Module (rear)
P/J668	Figure 26	3 T Module (rear)
P/J669	Figure 25	TT Module (rear)
P/J669	Figure 26	3T Module (rear)
P/J670	Figure 12	HVPS, +24 LVPS T10
P/J670	Figure 20	TT Module (Tray 3, 4 Feeder)
P/J670	Figure 21	3T Module (Tray 3, 4, 5 Feeder)
P/J672	Figure 20	TT Module (Tray 3, 4 Feeder)
P/J672	Figure 21	3T Module (Tray 3, 4, 5 Feeder)
P/J674	Figure 21	3T Module (Tray 3, 4, 5 Feeder)
P/J674	Figure 25	TT Module (rear)
J800	Figure 29	Finisher (rear) (1 of 2)
P800	Figure 16	I/F PWB, Main Motor, LVPS T11
P/J801	Figure 12	HVPS, +24V LVPS T10
P/J814	Figure 20	TT Module (Tray 2, 3 Feeder)
P/J814	Figure 21	3T Module (Tray 2, 3, 4 Feeder)

Table 1 Plug / Jack Location List

Connector Number	Figure Number	Figure Title
P/J815	Figure 20	TT Module (Tray 3, 4 Feeder)
P/J815	Figure 21	3T Module (Tray 3, 4, 5 Feeder)
P/J816	Figure 23	3T Module (Tray 3, 4, 5 Paper Size Switches)
P/J816	Figure 24	3T Module (Tray 3, 4, 5 Paper Size Switches)
P/J818	Figure 20	TT Module (Tray 3, 4 Feeder)
P/J818	Figure 21	3T Module (Tray 3, 4, 5 Feeder)
P/J819	Figure 20	TT Module (Tray 3, 4 Feeder)
P/J819	Figure 21	3T Module (Tray 3, 4, 5 Feeder)
P/J820	Figure 23	TT Module (Tray 3, 4, 5 Paper Size Switches)
P/J820	Figure 24	3T Module (Tray 3, 4, 5 Paper Size Switches)
P/J821	Figure 20	TT Module (Tray 3, 4 Feeder)
P/J821	Figure 21	3T Module (Tray 3, 4, 5 Feeder)
P/J822	Figure 21	3T Module (Tray 3, 4, 5 Feeder)
P/J822	Figure 22	TT Module (Tray 3, 4 Feeder)
P/J823	Figure 21	3T Module (Tray 3, 4, 5 Feeder)
P/J823	Figure 22	TT Module (Tray 3, 4 Feeder)
P/J824	Figure 23	TT Module (Tray 3, 4, 5 Paper Size Switches)
P/J824	Figure 24	3T Module (Tray 3, 4, 5 Paper Size Switches)
P/J825	Figure 21	3T Module (Tray 3, 4, 5 Feeder)
P/J825	Figure 22	TT Module (Tray 3, 4 Feeder)
P/J827	Figure 20	TT Module (Tray 3, 4 Feeder)
P/J827	Figure 21	3T Module (Tray 3, 4, 5 Feeder)
P/J828	Figure 20	TT Module (Tray 3, 4 Feeder)
P/J828	Figure 21	3T Module (Tray 3, 4, 5 Feeder)
P/J829	Figure 21	3T Module (Tray 3, 4, 5 Feeder)
P/J829	Figure 22	TT Module (Tray 3, 4 Feeder)
P/J830	Figure 20	TT Module (Tray 3, 4 Feeder)
P/J830	Figure 21	3T Module (Tray 3, 4, 5 Feeder)
P/J840	Figure 20	TT Module (Tray 3, 4, 5 Feeder)
P/J840	Figure 21	3T Module (Tray 3, 4, 5 Feeder)
P/J841	Figure 20	TT Module (Tray 3, 4 Feeder)
P/J841	Figure 21	3T Module (Tray 3, 4, 5 Feeder)
P/J842	Figure 21	3T Module (Tray 3, 4, 5 Feeder)
P/J842	Figure 25	TT Module (rear)
P/J843	Figure 30	Finisher PWB
P/J844	Figure 30	Finisher PWB
P/J845	Figure 30	Finisher PWB
P/J846	Figure 30	Finisher PWB
P/J847	Figure 30	Finisher PWB
P/J848	Figure 30	Finisher PWB

Table 1 Plug / Jack Location List

Connector Number	Figure Number	Figure Title
P/J849	Figure 30	Finisher PWB
P/J850	Figure 30	Finisher PWB
P/J851	Figure 30	Finisher PWB
P/J852	Figure 30	Finisher PWB
P/J853	Figure 27	Horizontal Transport Assembly
P/J854	Figure 27	Horizontal Transport Assembly
P/J855	Figure 27	Horizontal Transport Assembly
P/J856	Figure 27	Horizontal Transport Assembly
P/J858	Figure 27	Horizontal Transport Assembly
P/J859	Figure 27	Horizontal Transport Assembly
P/J860	Figure 27	Horizontal Transport Assembly
P/J861	Figure 27	Horizontal Transport Assembly
P/J862	Figure 28	Tamper Unit, Staple Unit
P/J863	Figure 28	Tamper Unit, Staple Unit
P/J864	Figure 28	Tamper Unit, Staple Unit
P/J865	Figure 28	Tamper Unit, Staple Unit
P/J866	Figure 29	Finisher (rear) (1 of 2)
P/J867	Figure 29	Finisher (rear) (1 of 2)
P/J868	Figure 29	Finisher (rear) (1 of 2)
P/J869	Figure 29	Finisher (rear) (1 of 2)
P/J870	Figure 28	Tamper Unit, Staple Unit
P/J871	Figure 28	Tamper Unit, Staple Unit
P/J873	Figure 29	Finisher (rear) (1 of 2)
P/J874	Figure 28	Tamper Unit, Staple Unit
P/J875	Figure 28	Tamper Unit, Staple Unit
P/J876	Figure 28	Tamper Unit, Staple Unit
P/J877	Figure 28	Tamper Unit, Staple Unit
P/J878	Figure 28	Tamper Unit, Staple Unit
P/J879	Figure 29	Finisher (rear) (1 of 2)
P/J880	Figure 29	Finisher (rear) (1 of 2)
P/J881	Figure 29	Finisher (rear) (1 of 2)
P/J882	Figure 29	Finisher (rear) (1 of 2)
P/J883	Figure 29	Finisher (rear) (1 of 2)
P/J884	Figure 29	Finisher (rear) (1 of 2)
P/J885	Figure 28	Tamper Unit, Staple Unit
P/J886	Figure 28	Tamper Unit, Staple Unit
P/J887	Figure 28	Tamper Unit, Staple Unit
P/J888	Figure 28	Tamper Unit, Staple Unit
P/J889	Figure 30	Finisher PWB
P/J890	Figure 28	Tamper Unit, Staple Unit

Table 1 Plug / Jack Location List

Connector Number	Figure Number	Figure Title
P/J891	Figure 28	Tamper Unit, Staple Unit
P/J892	Figure 30	Finisher PWB
J903	Figure 12	HVPS, +24V LVPS T10
J925	Figure 12	HVPS, +24V LVPS T10
FS37	Figure 6	Fuser Assembly
FS38	Figure 6	Fuser Assembly
FS39	Figure 6	Fuser Assembly
FS51	Figure 12	HVPS, +24V LVPS T10
FS56	Figure 9	Toner Dispense Motor (Y, M, C, K), Main Switch
FS57	Figure 9	Toner Dispense Motor (Y, M, C, K), Main Switch
FS68	Figure 9	Toner Dispense Motor (Y, M, C, K), Main Switch
FS69	Figure 9	Toner Dispense Motor (Y, M, C, K), Main Switch
FS78	Figure 13	Outlet Panel Assembly
FS79	Figure 13	Outlet Panel Assembly
FS80	Figure 13	Outlet Panel Assembly
FS84	Figure 13	Outlet Panel Assembly
FS85	Figure 13	Outlet Panel Assembly
FS86	Figure 13	Outlet Panel Assembly
FS134	Figure 1	Xerographic
FS135	Figure 1	Xerographic
FS812	Figure 20	TT Module (Tray 3,4 Feeder)
FS812	Figure 21	3T Module (Tray 3, 4, 5 Feeder)
FS813	Figure 20	TT Module (Tray 3, 4 Feeder)
FS813	Figure 21	3T Module (Tray 3, 4, 5 Feeder)
T10AH	Figure 12	HVPS, +24 LVPS T10
T205	Figure 12	HVPS, +24 LVPS T10

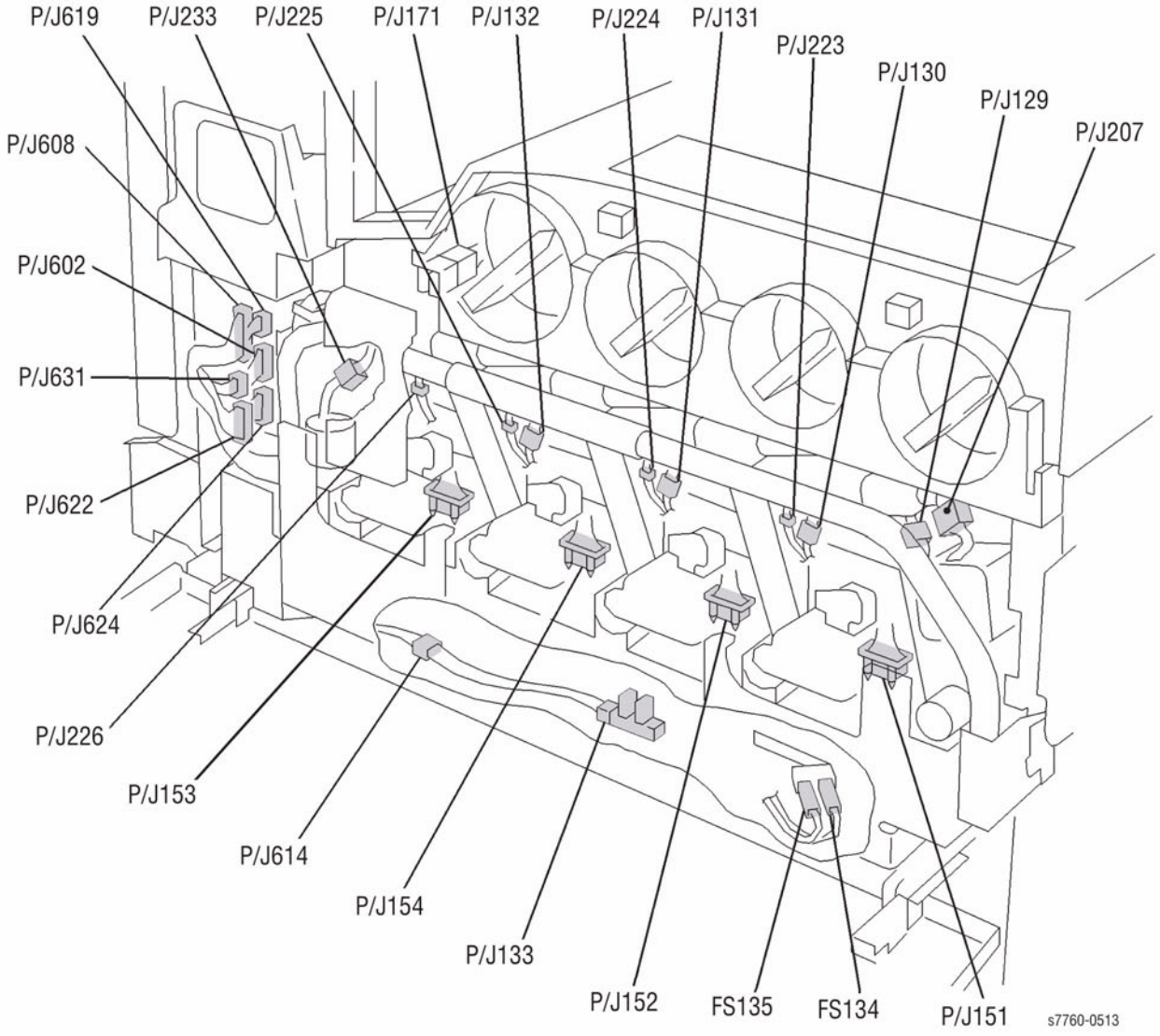


Figure 1 Xerographics

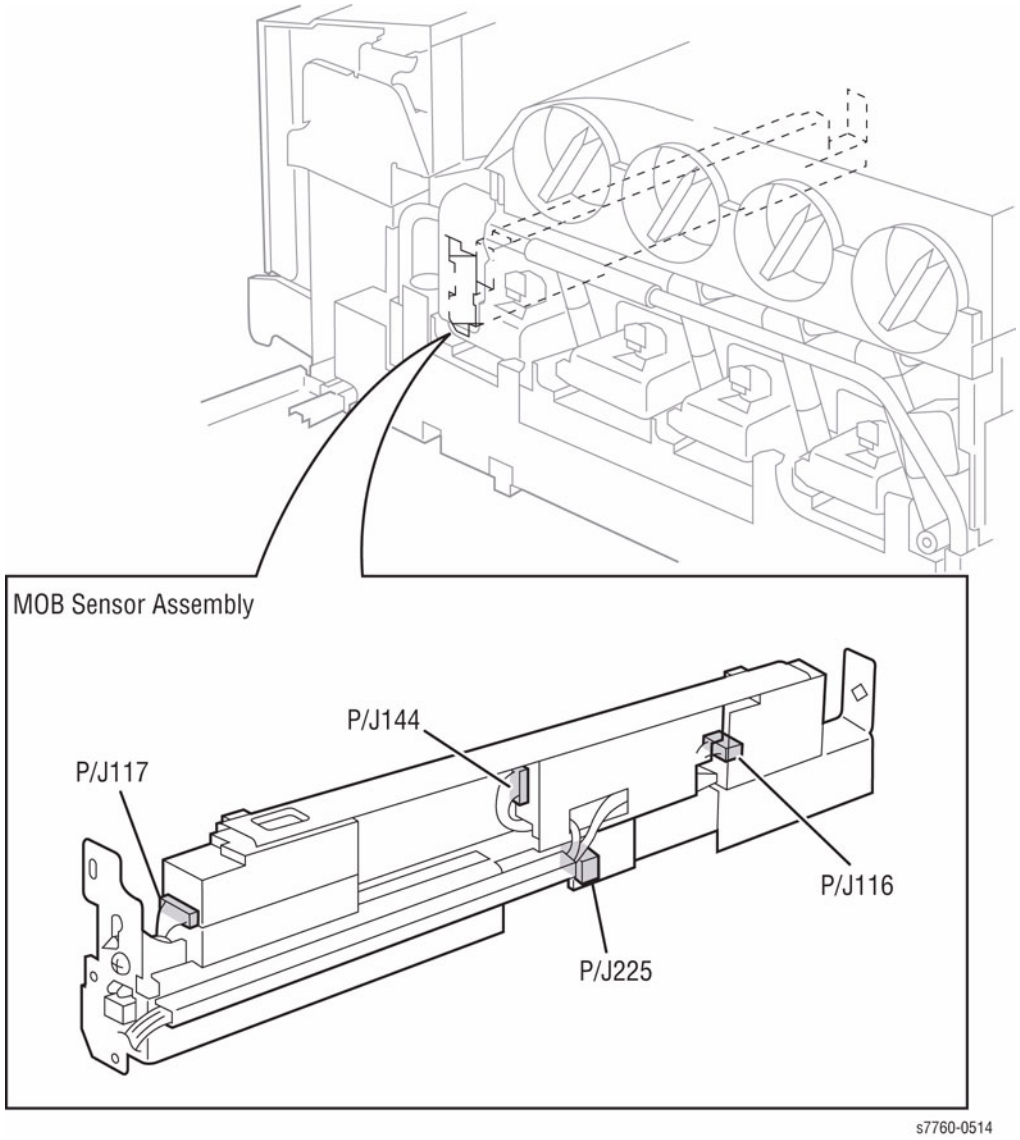


Figure 2 MOB Sensor Assembly

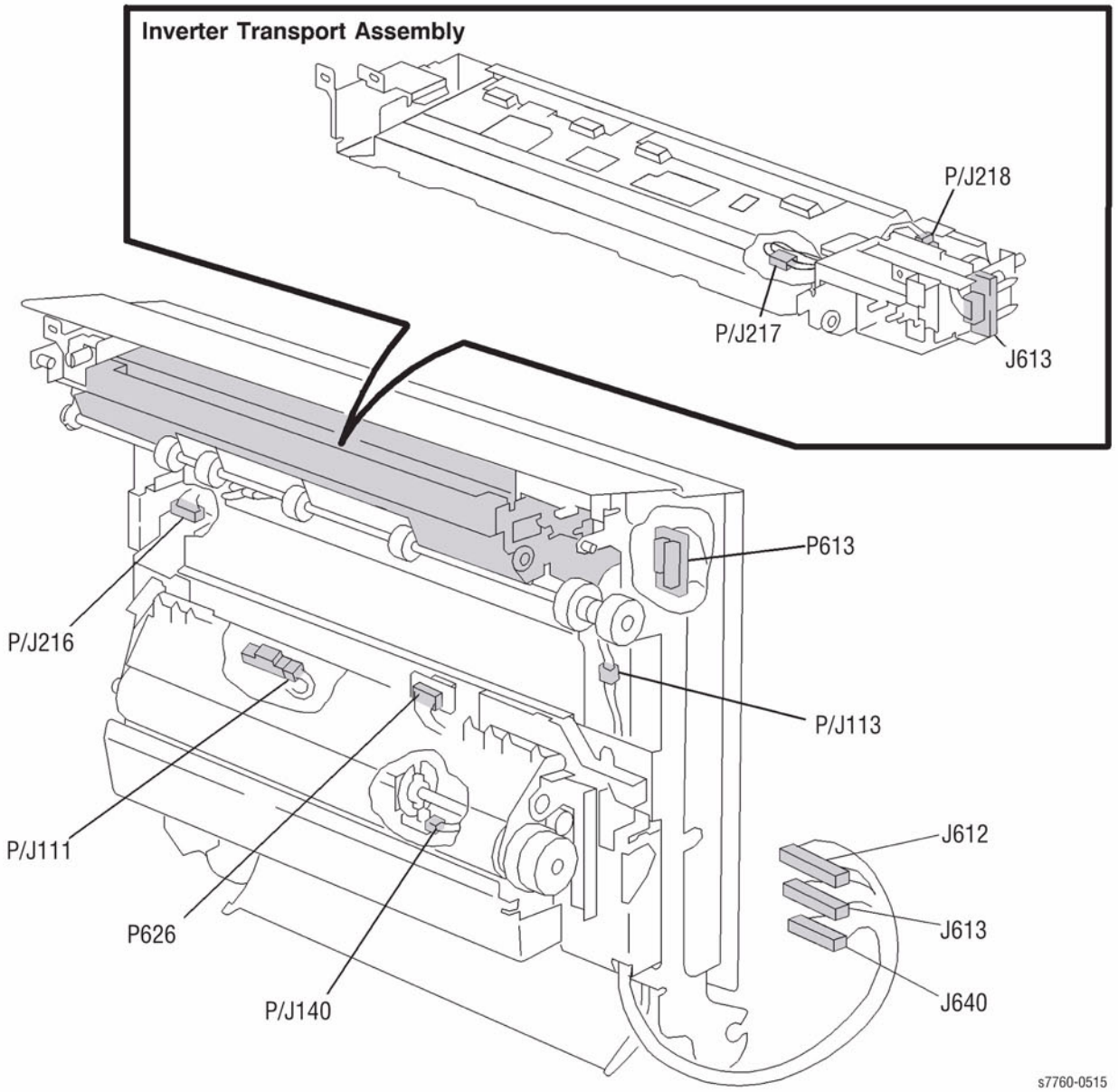


Figure 3 Inverter Transport Assembly

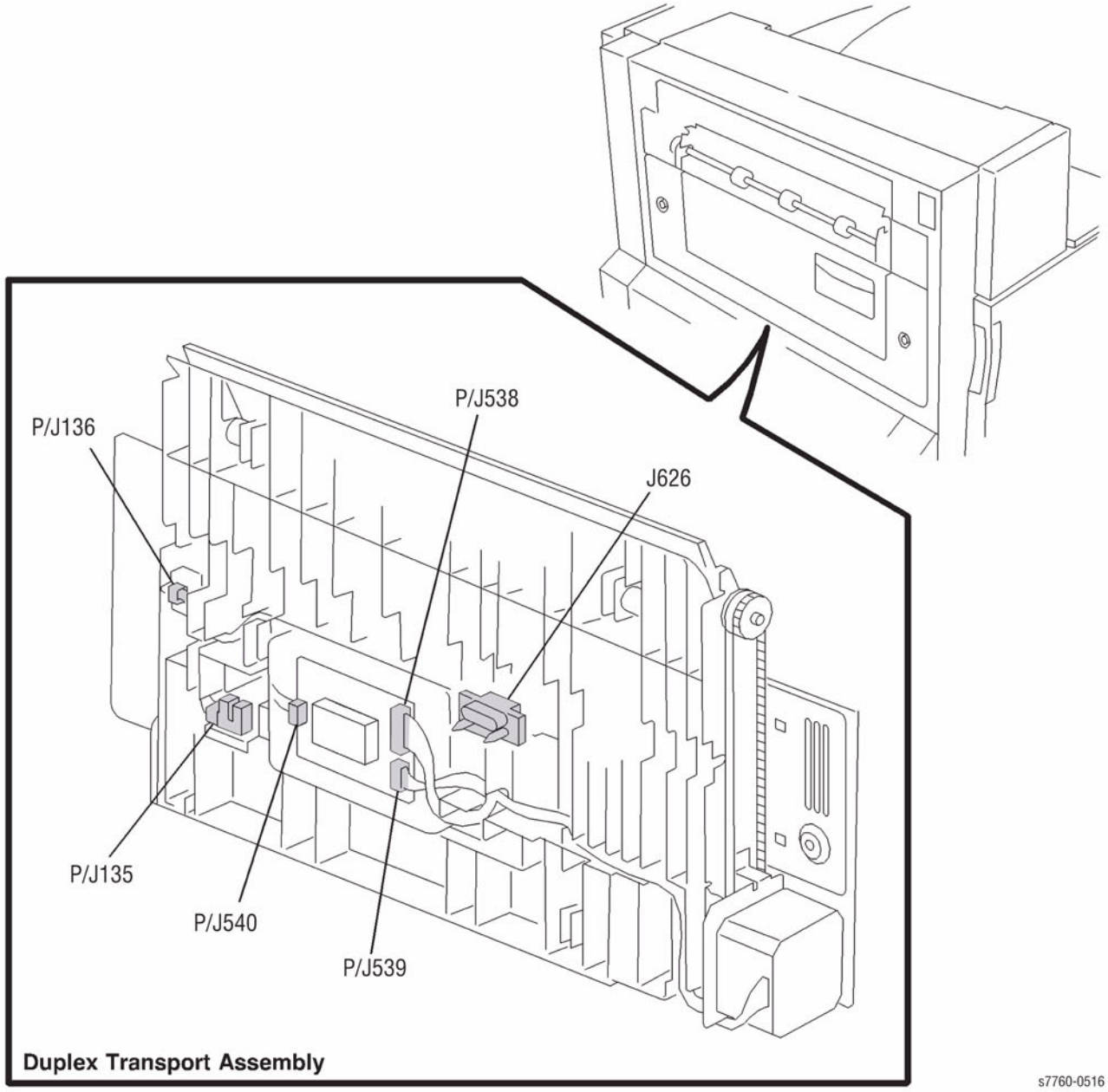


Figure 4 Duplex Transport Assembly

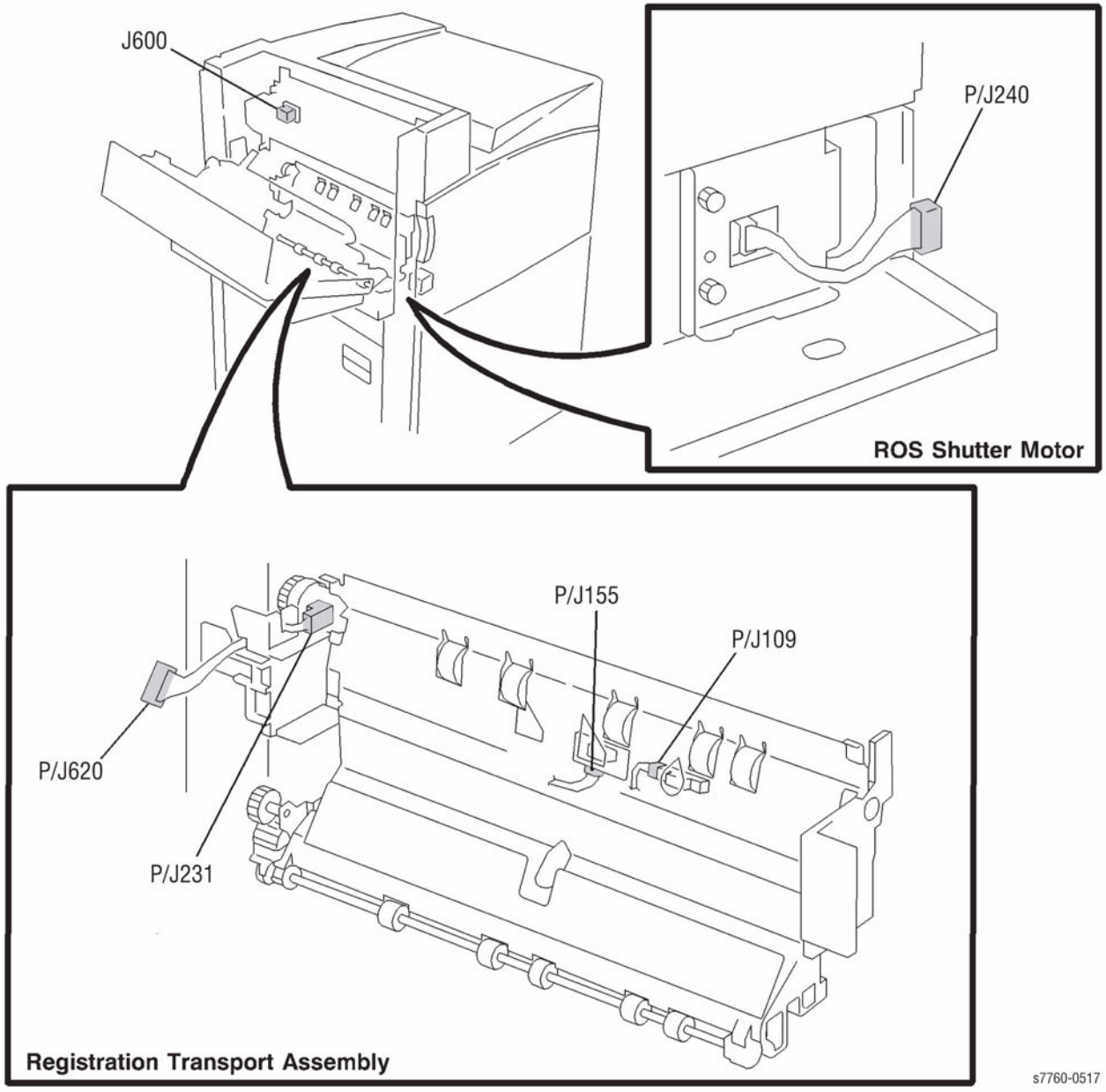


Figure 5 Registration Transport Assembly

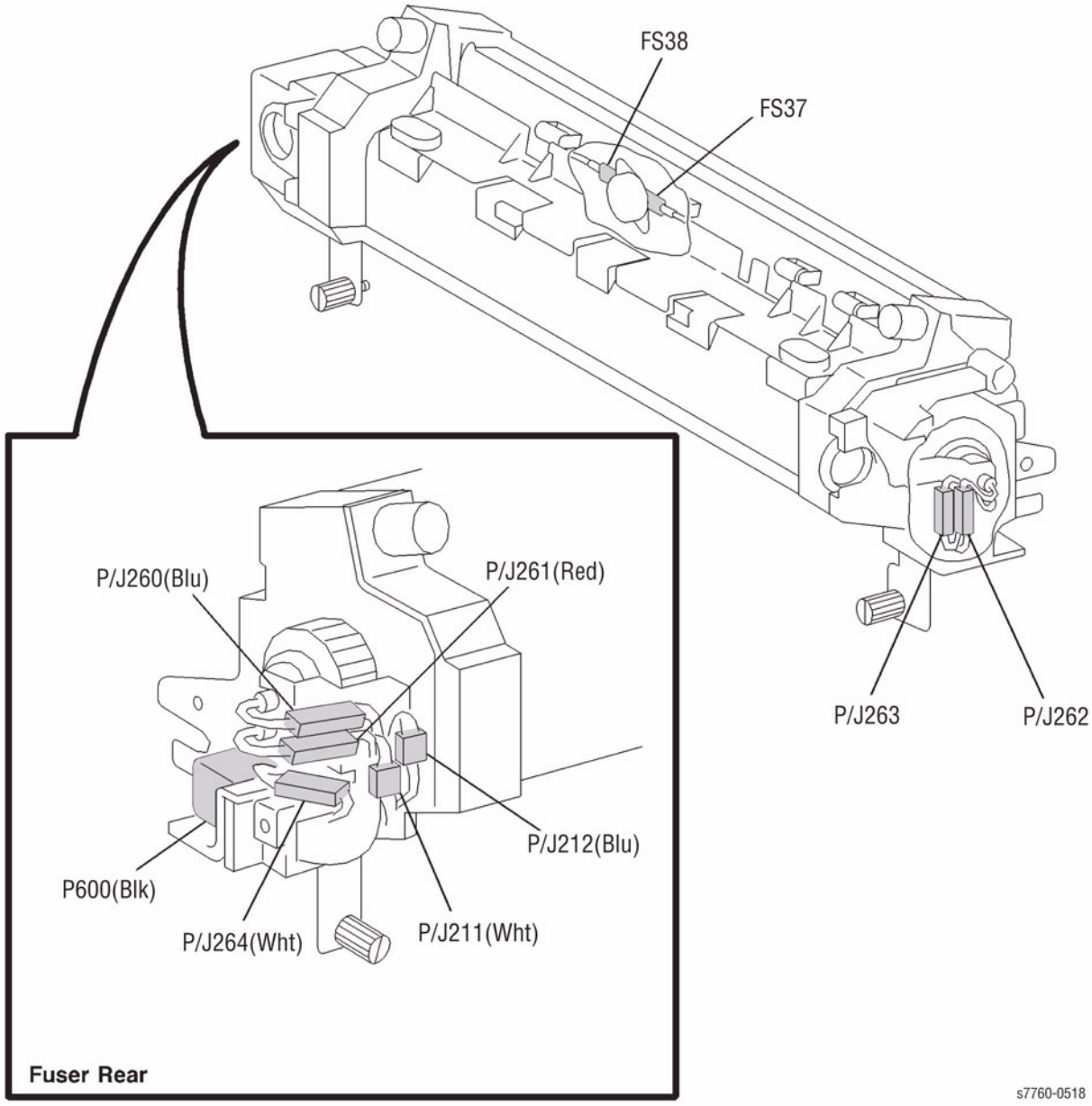


Figure 6 Fuser Assembly

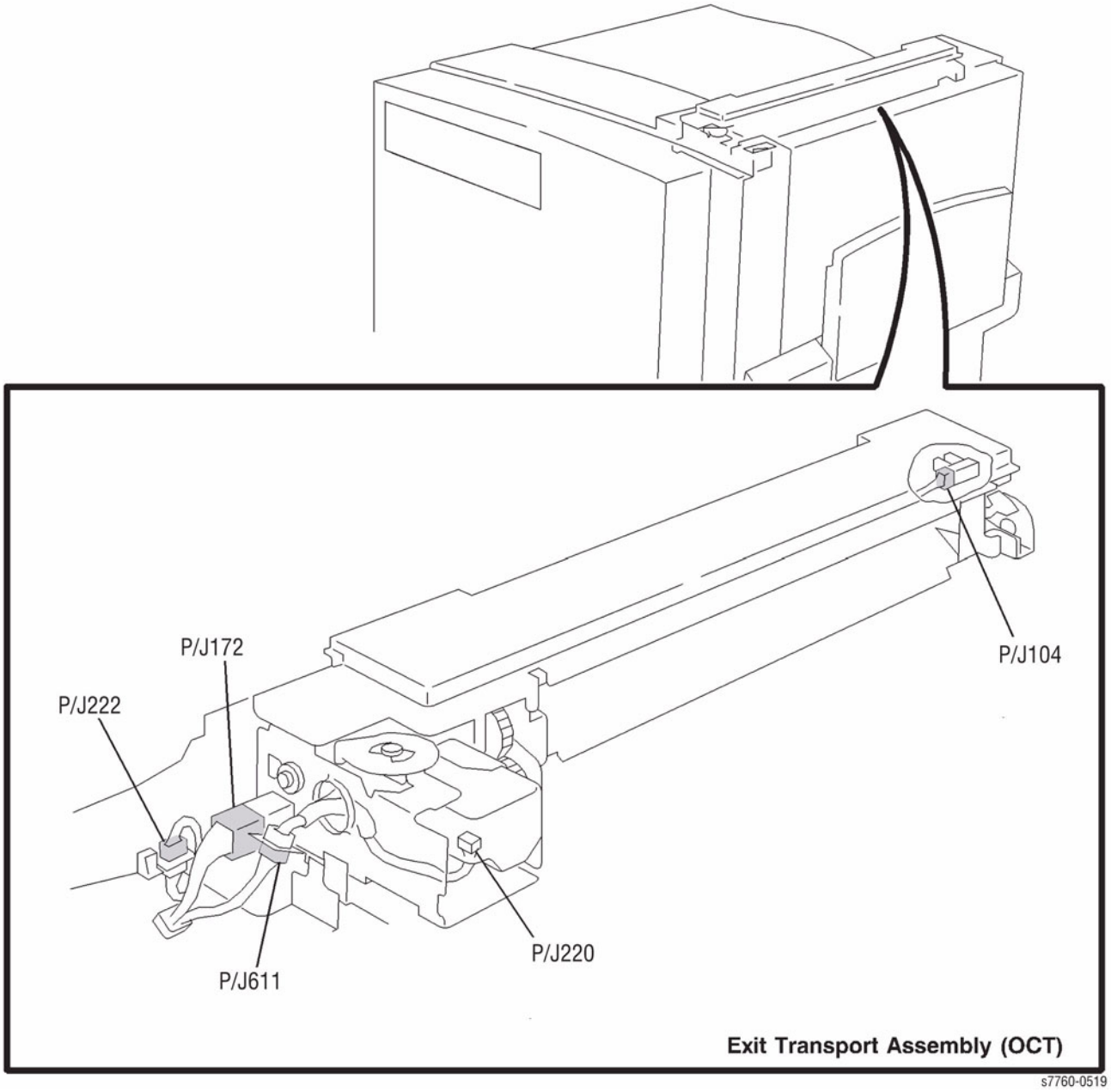


Figure 7 Exit Transport Assembly (OCT)

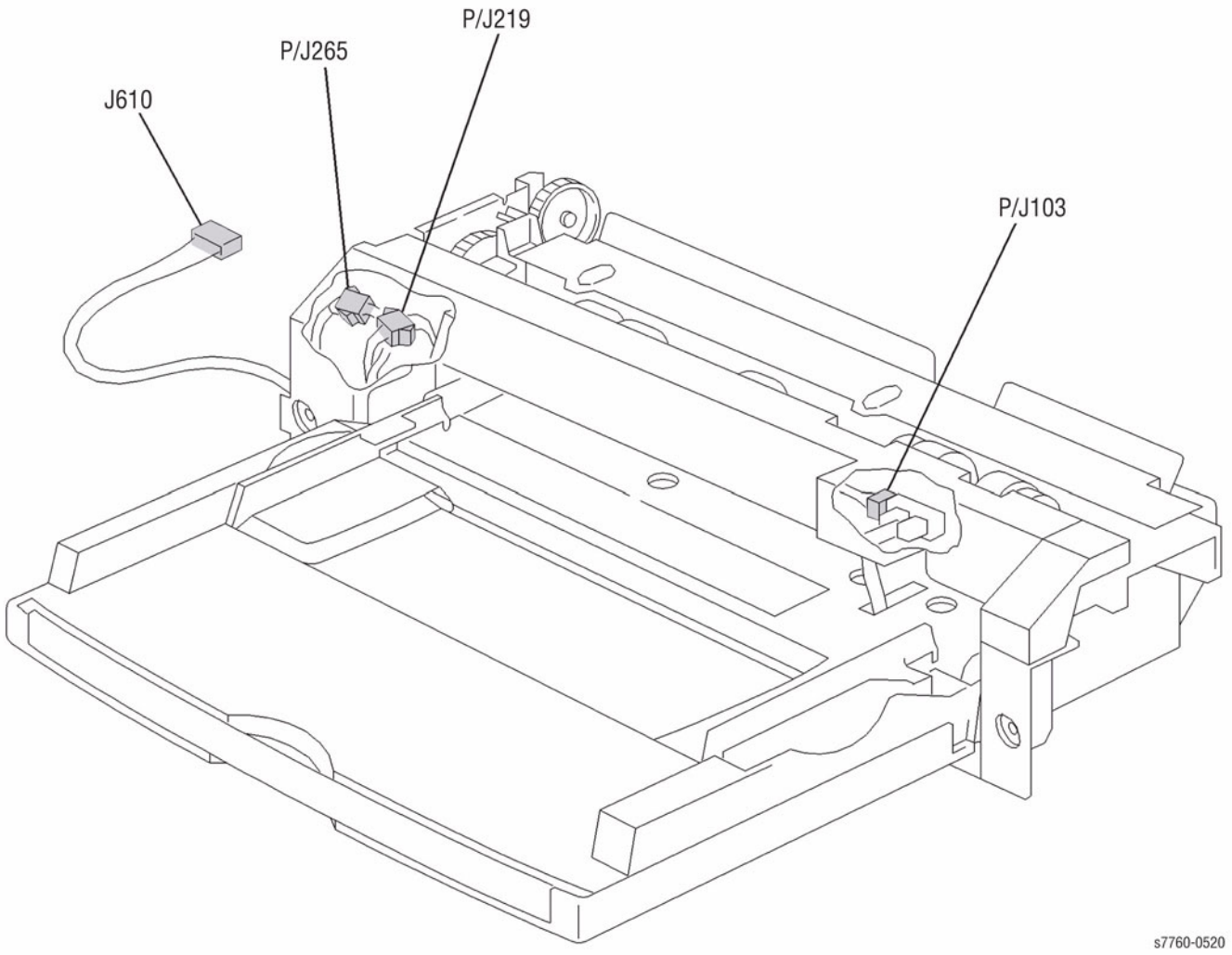


Figure 8 Tray 1 (MPT)

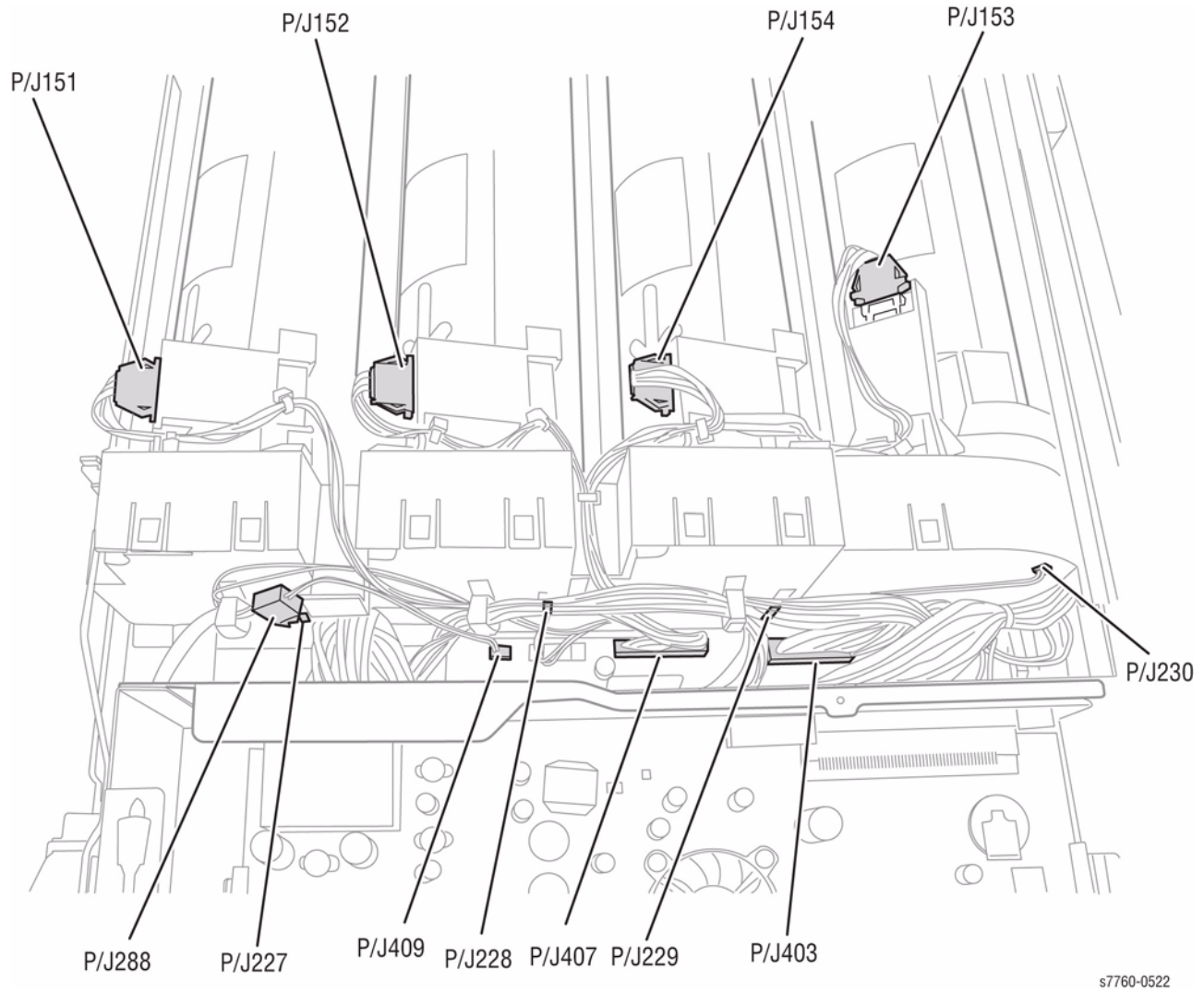


Figure 9 Toner Dispense Motor (Y, M, C, K) Main Switch

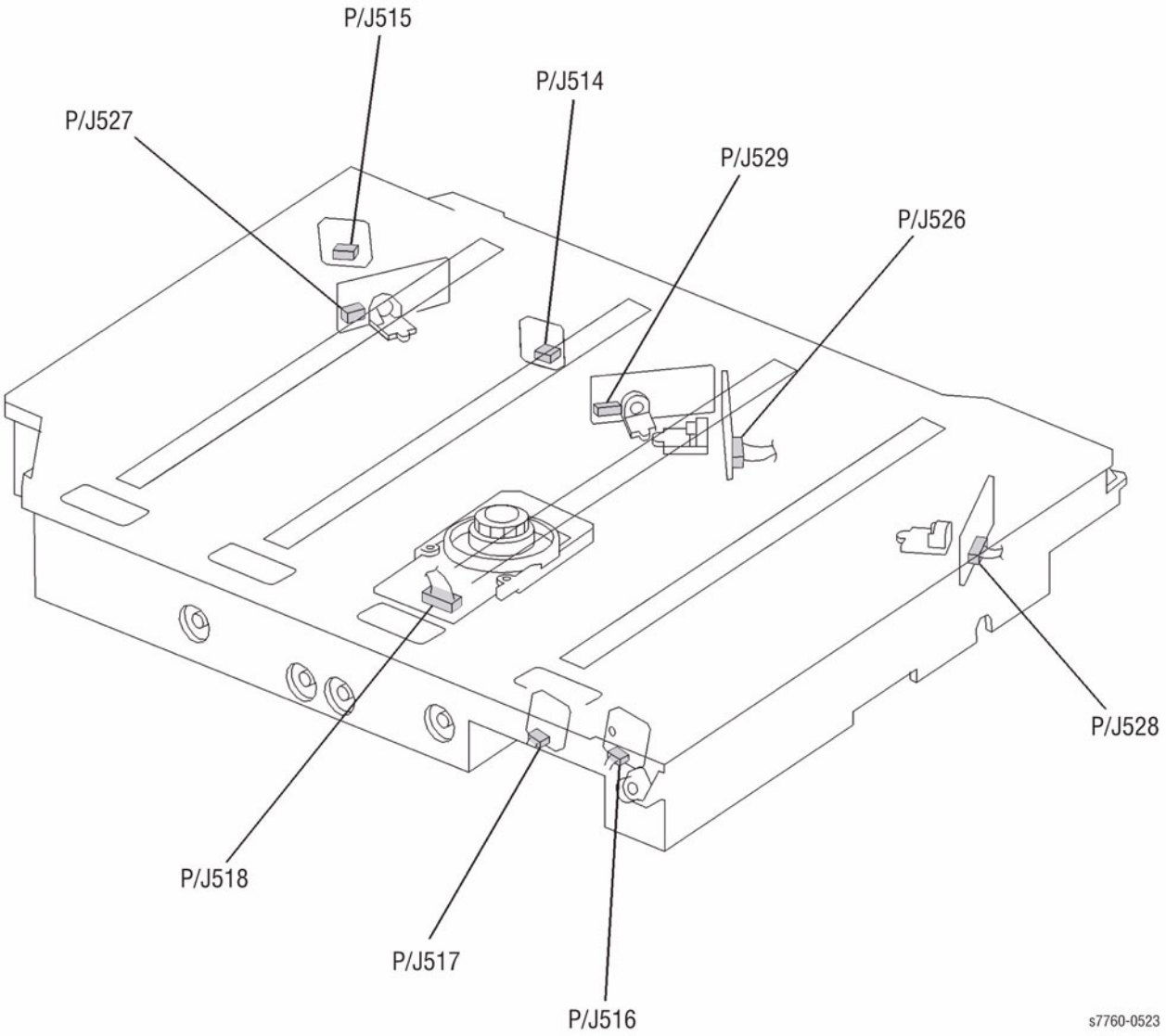


Figure 10 ROS Assembly

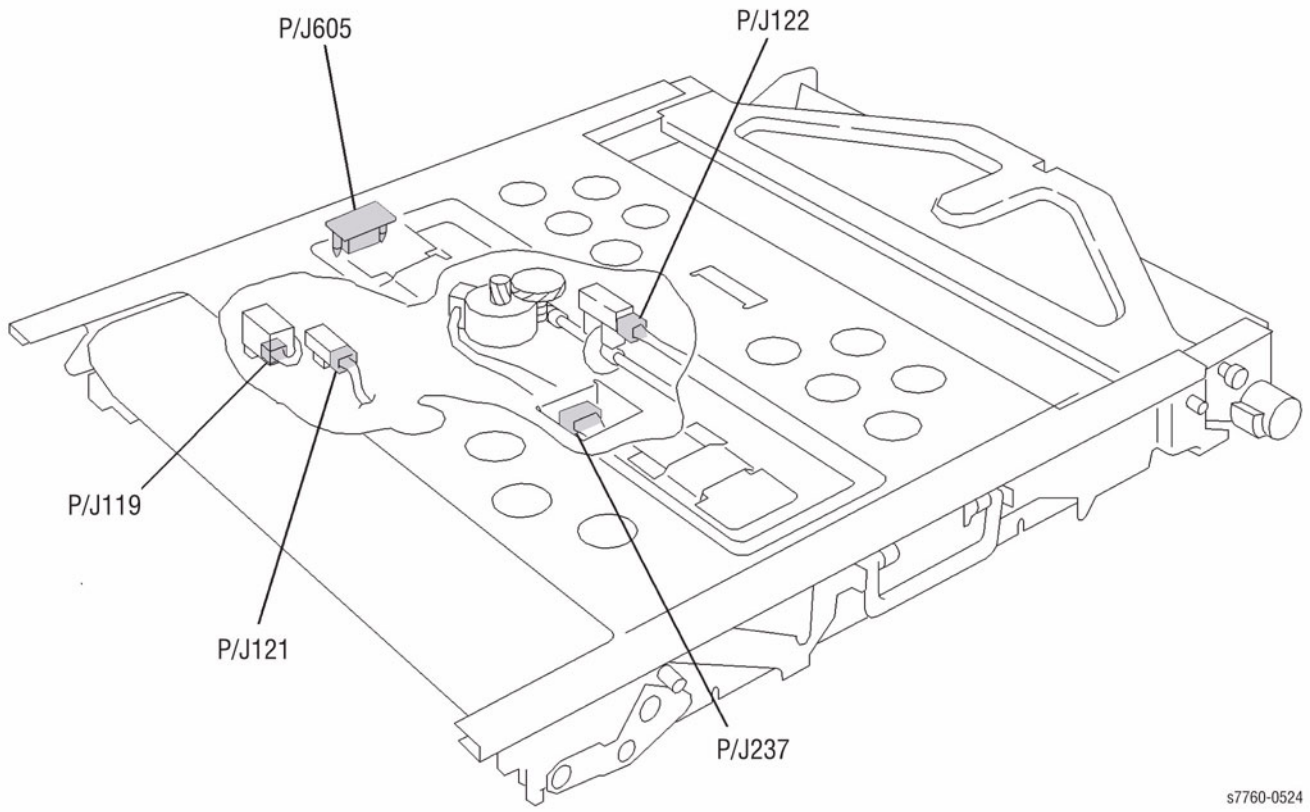


Figure 11 IBT Belt Assembly

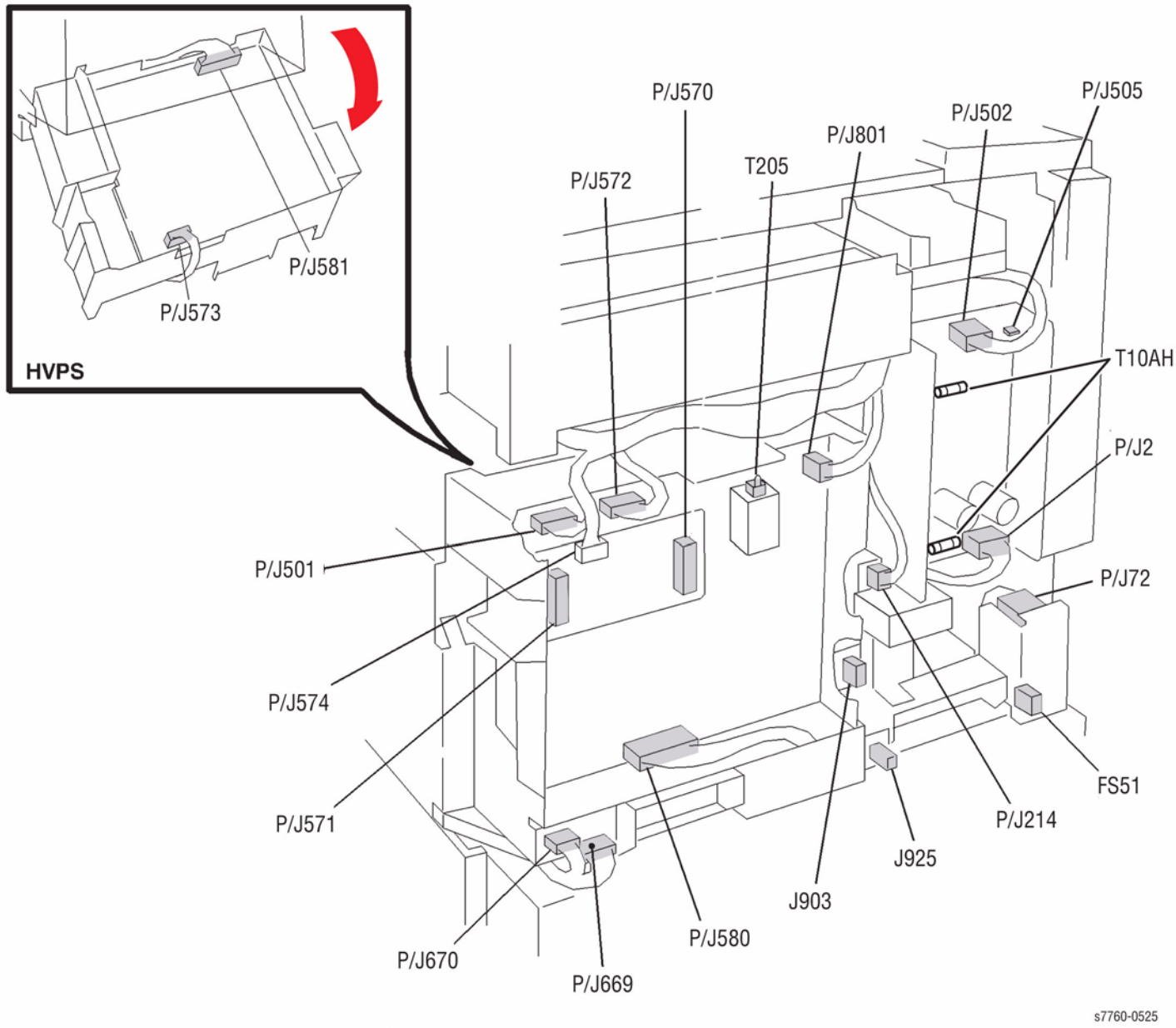


Figure 12 HVPS, +24V LVPS T10

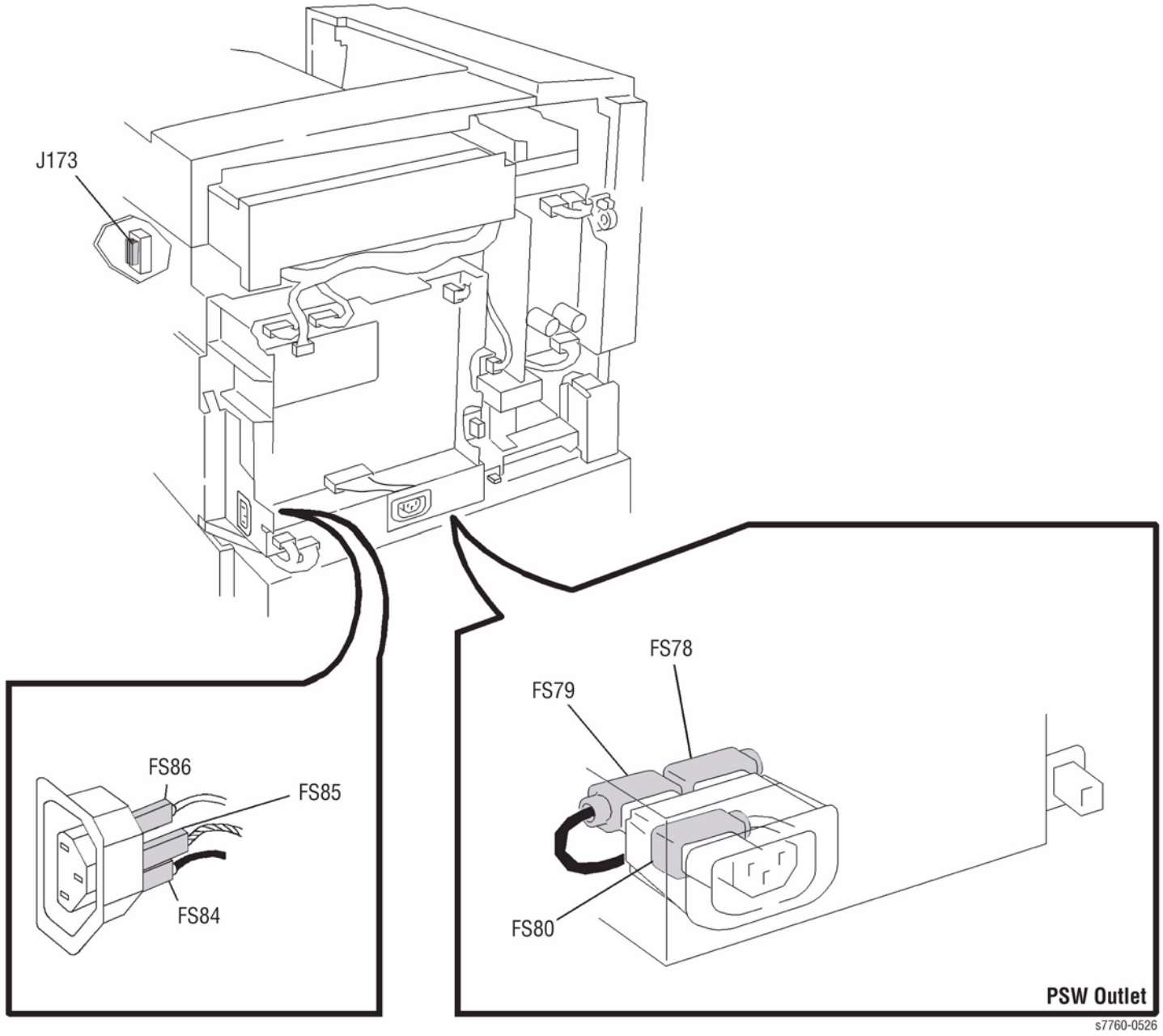


Figure 13 Outlet Panel Assembly

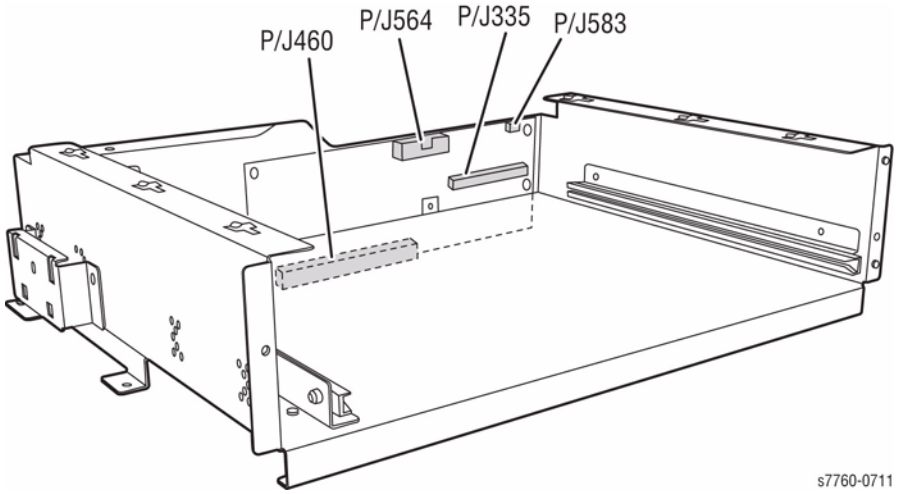


Figure 14 Translator/Bridge PWB's

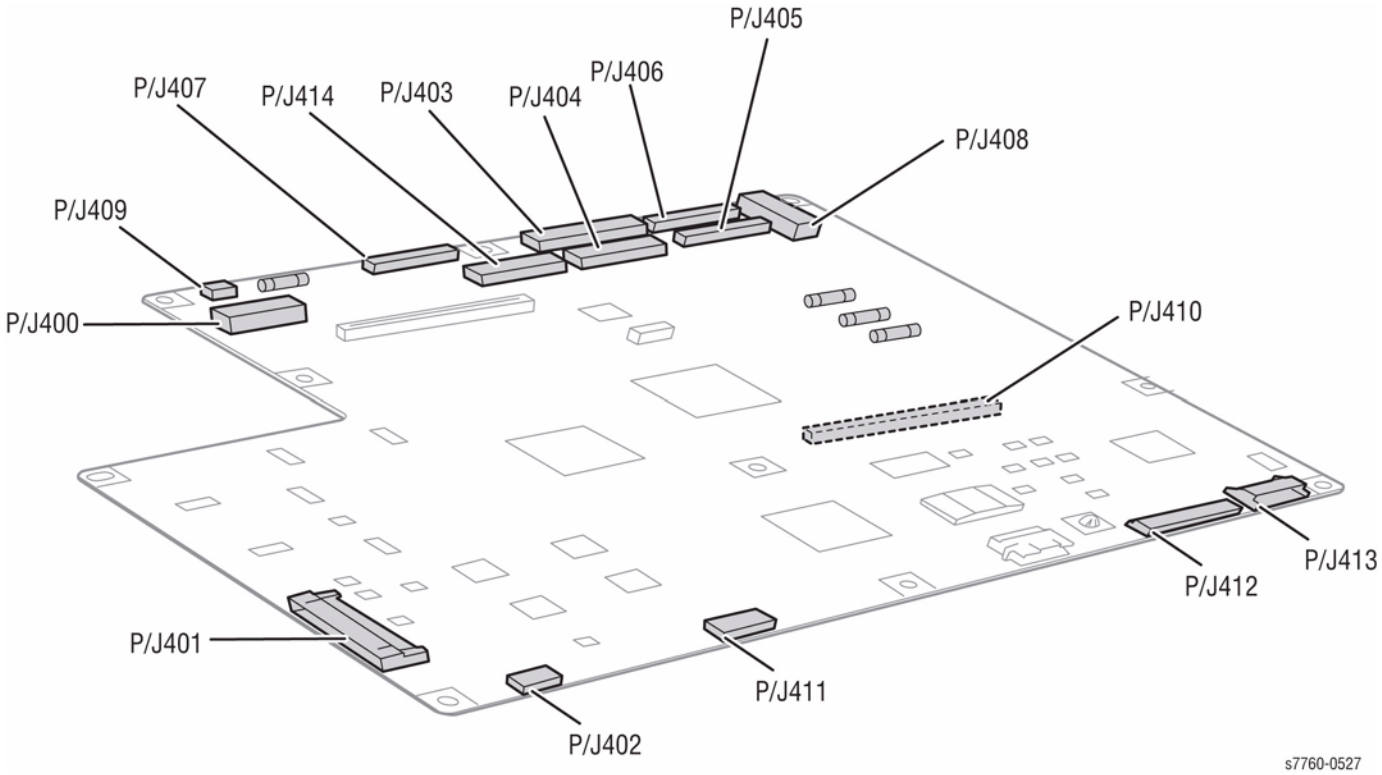


Figure 15 Engine Control Board (MCU PWB)

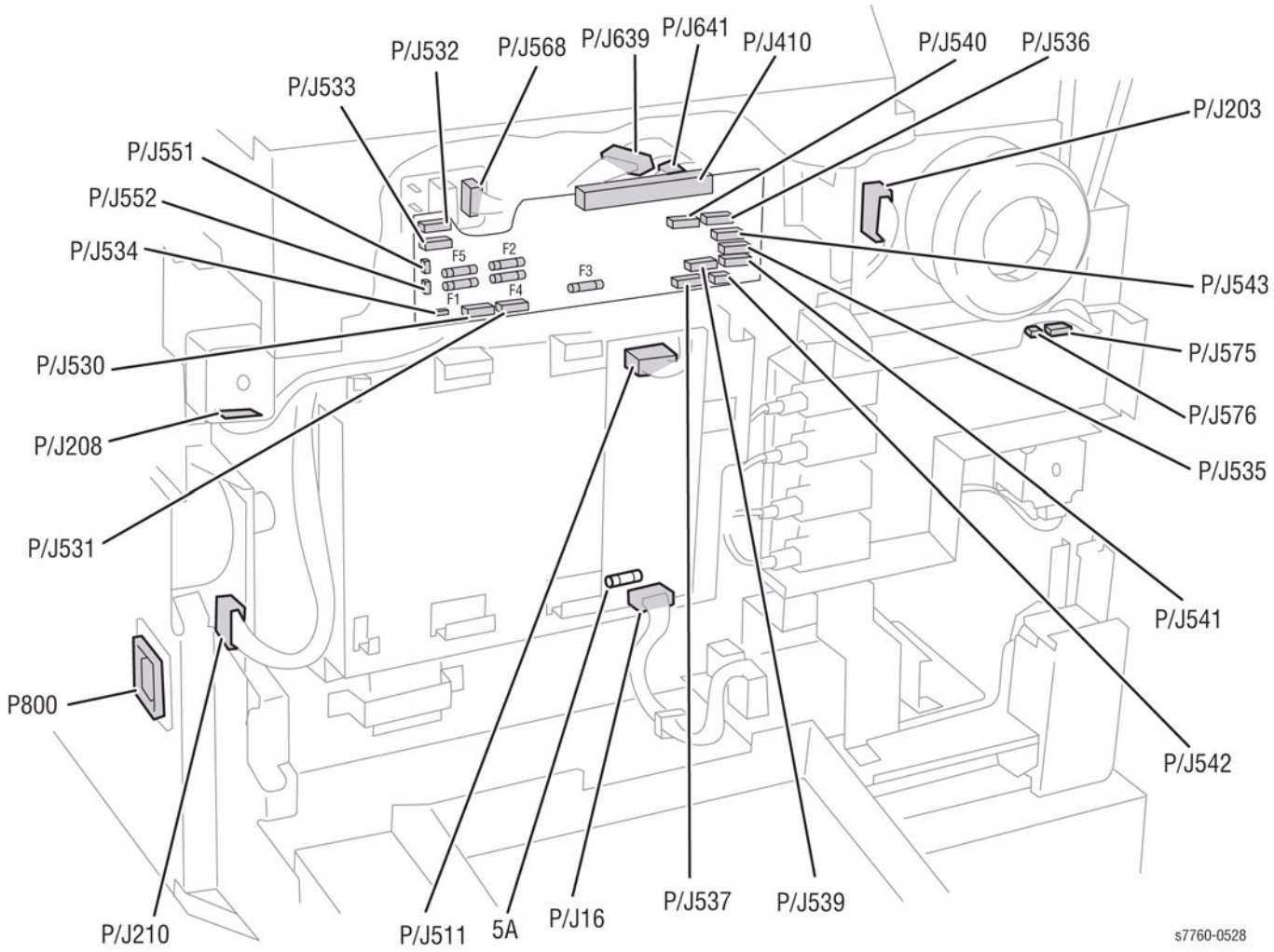


Figure 16 Interface Bridge PWB, Main Motor, LVPS T11

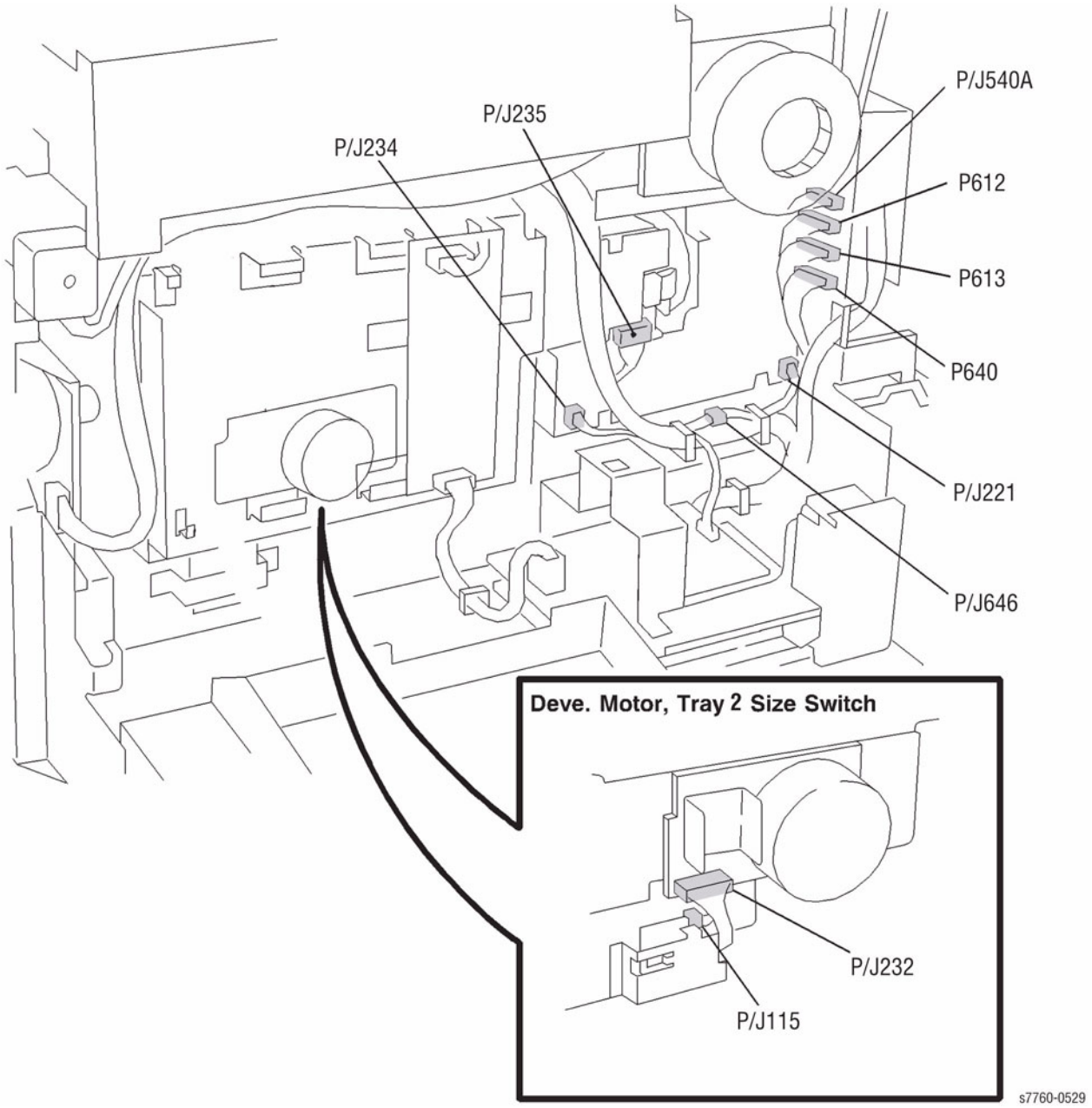


Figure 17 Developer Motor, Tray 2 Size Switch

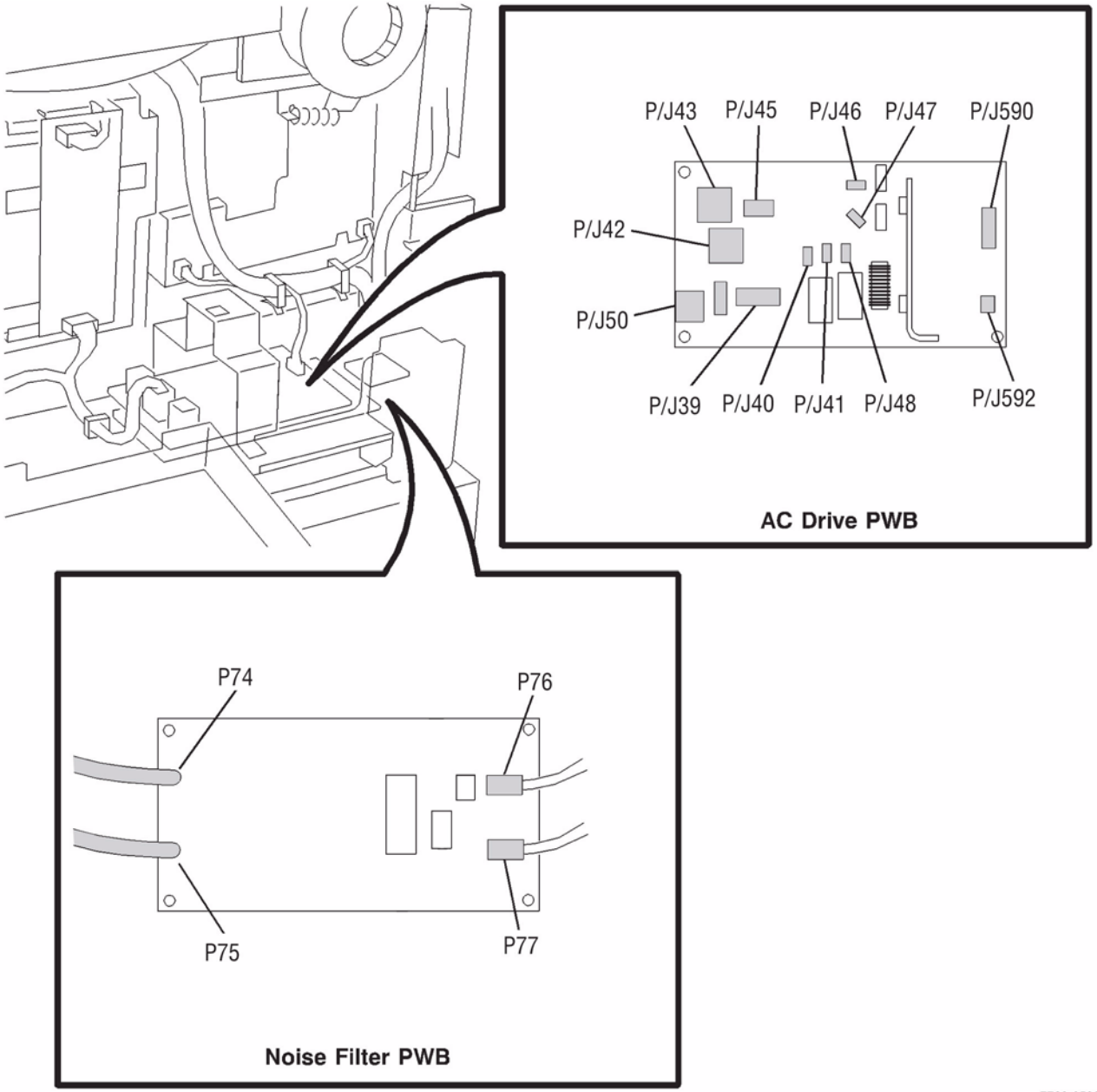


Figure 18 AC Drive PWB, Noise Filter PWB

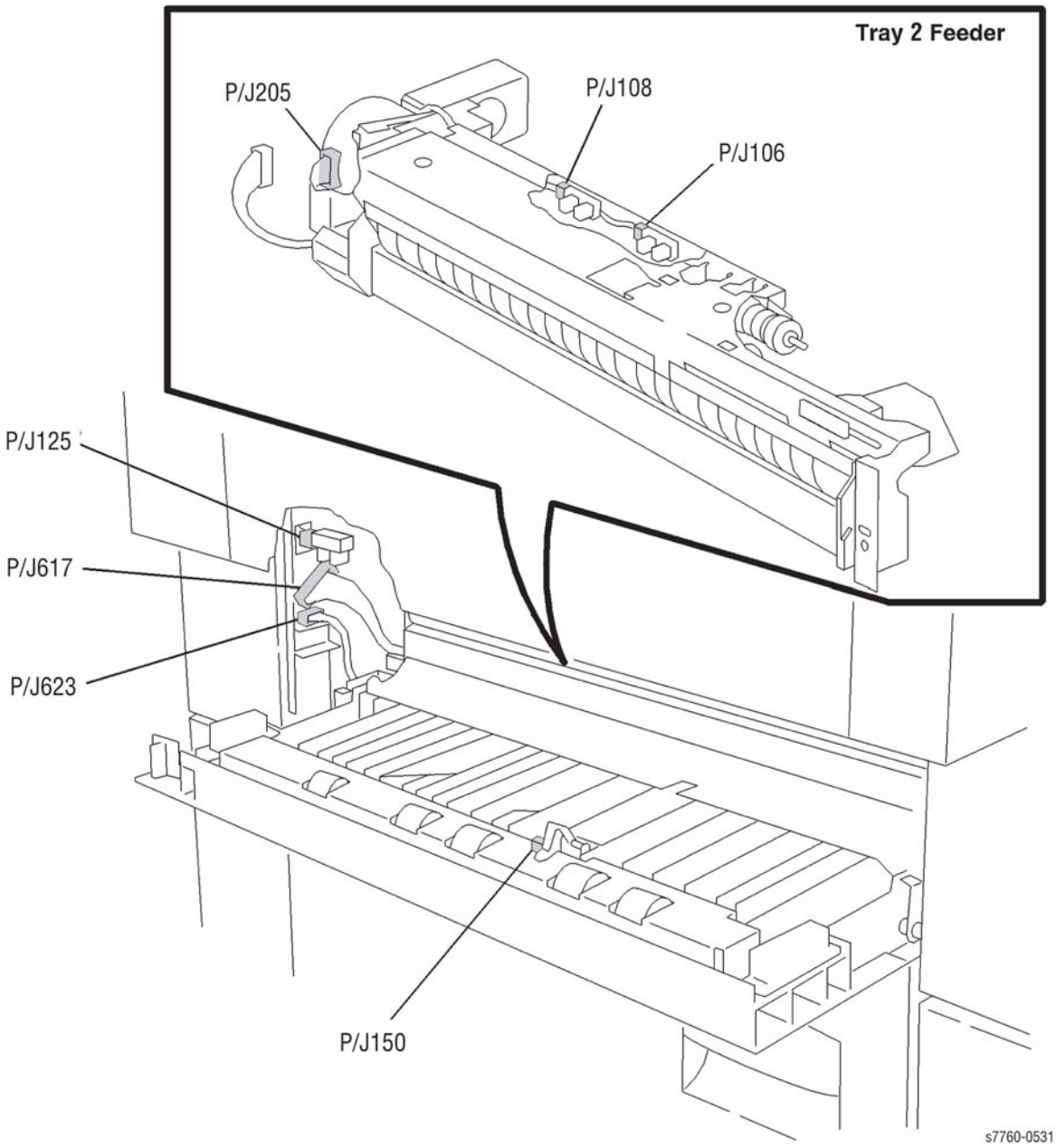


Figure 19 Left Lower Assembly, Tray 2 Feeder

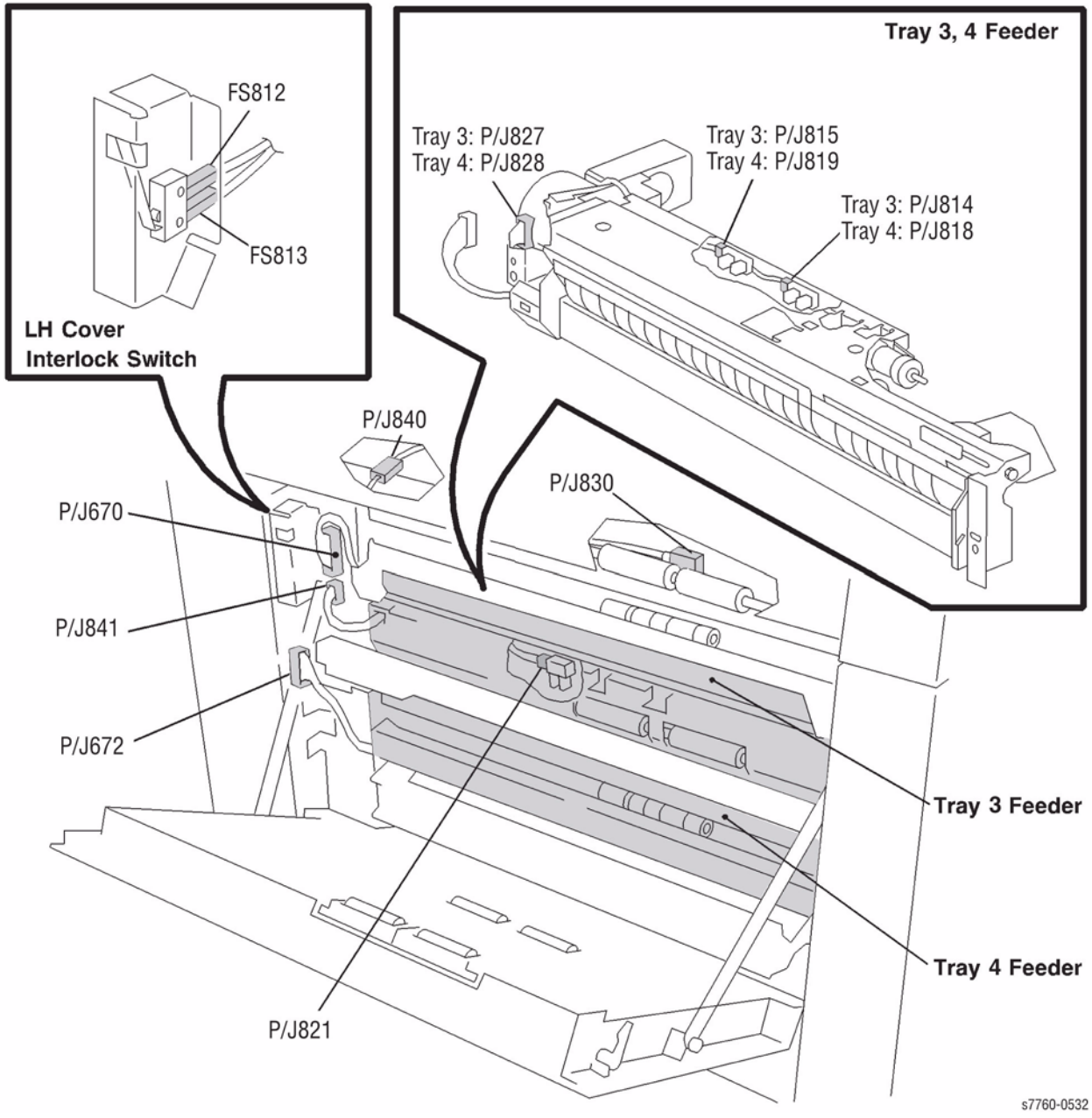


Figure 20 TT Module (Tray 3, 4 Feeder)

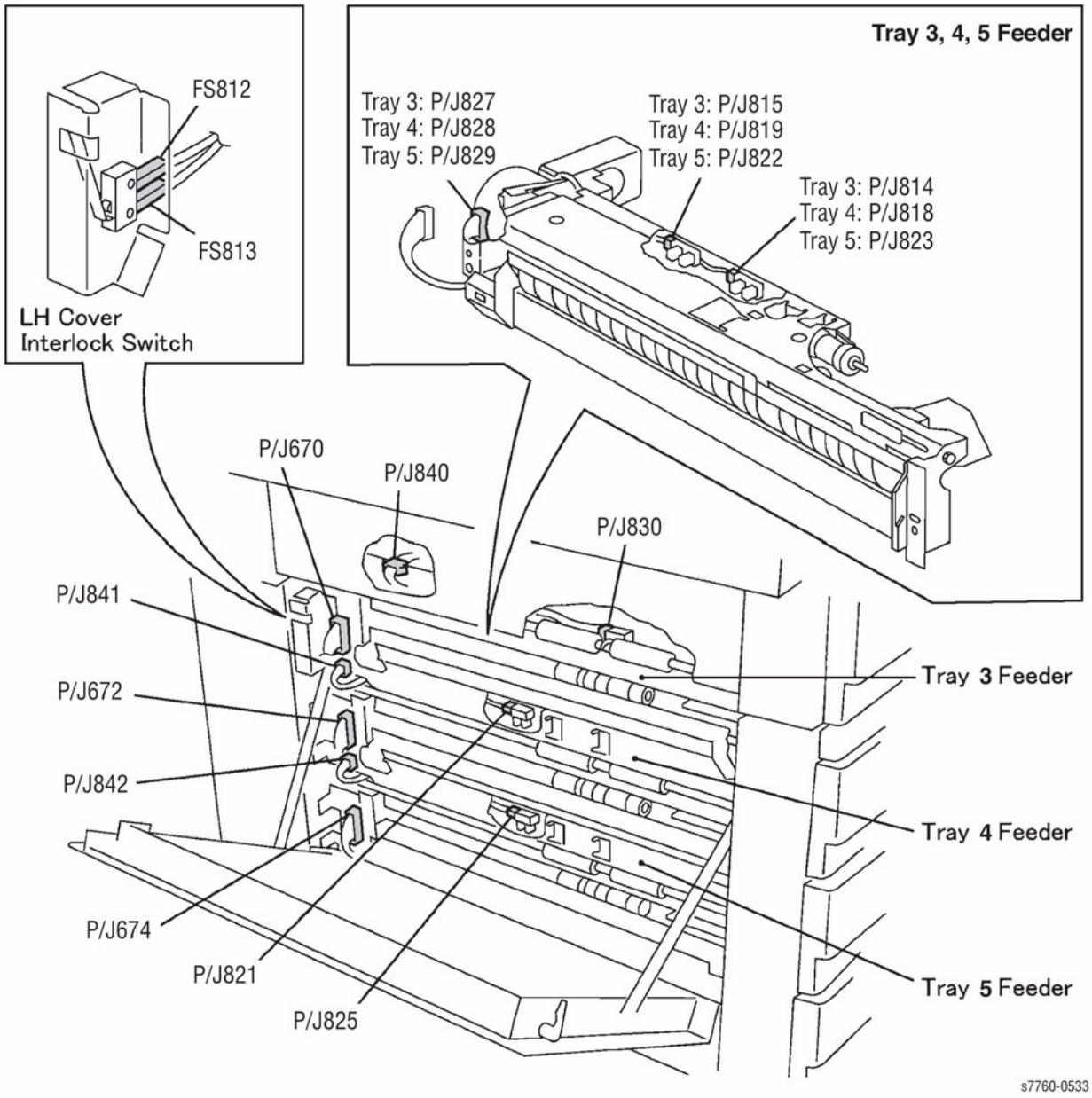


Figure 21 3T Module (Tray 3, 4, 5 Feeder)

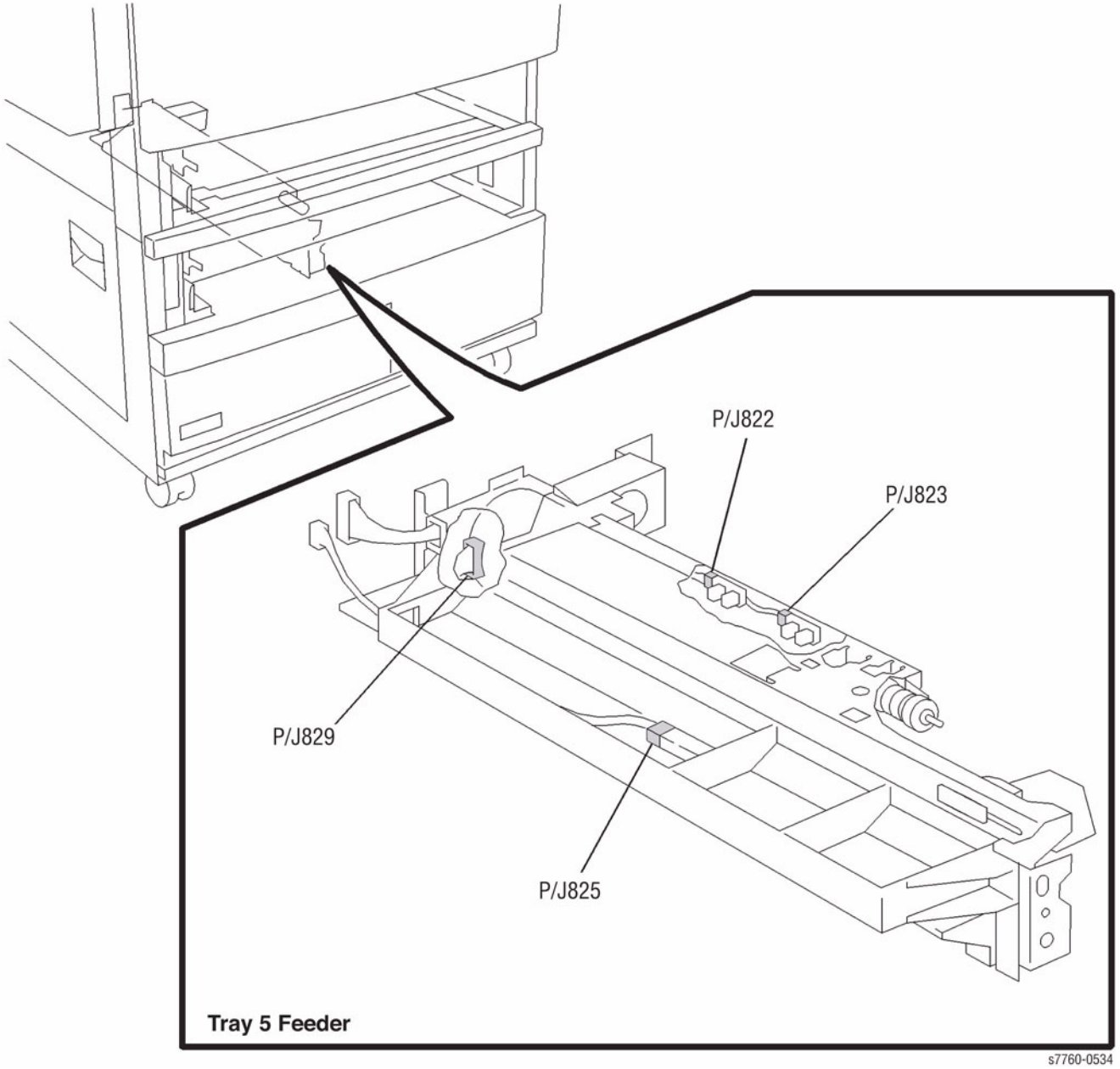


Figure 22 TT Module (Tray 5 Feeder)

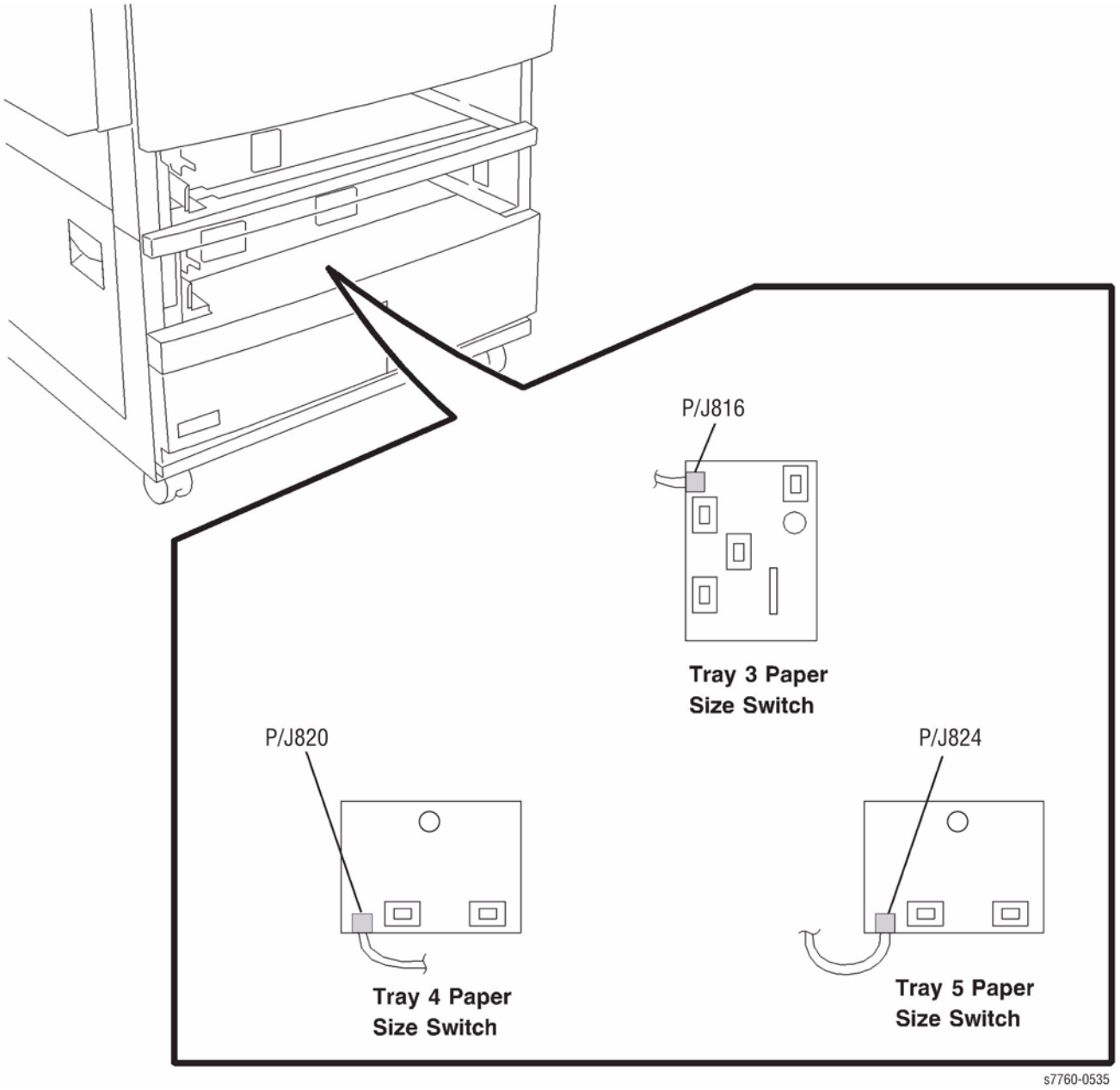


Figure 23 TT Module (Tray 3, 4, 5 Paper Size Switches)

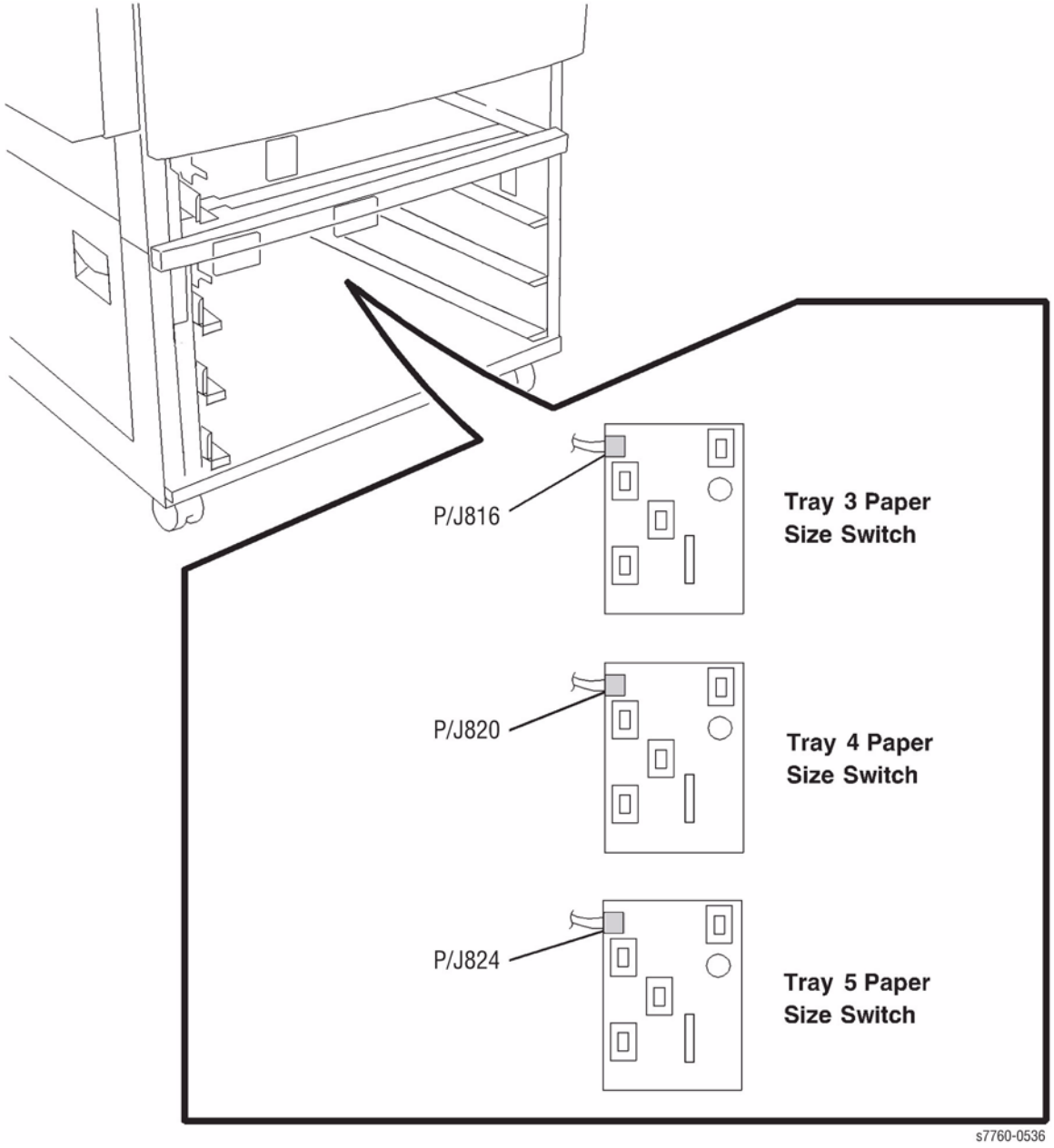


Figure 24 3T Module (Tray 3, 4, 5 Paper Size Switches)

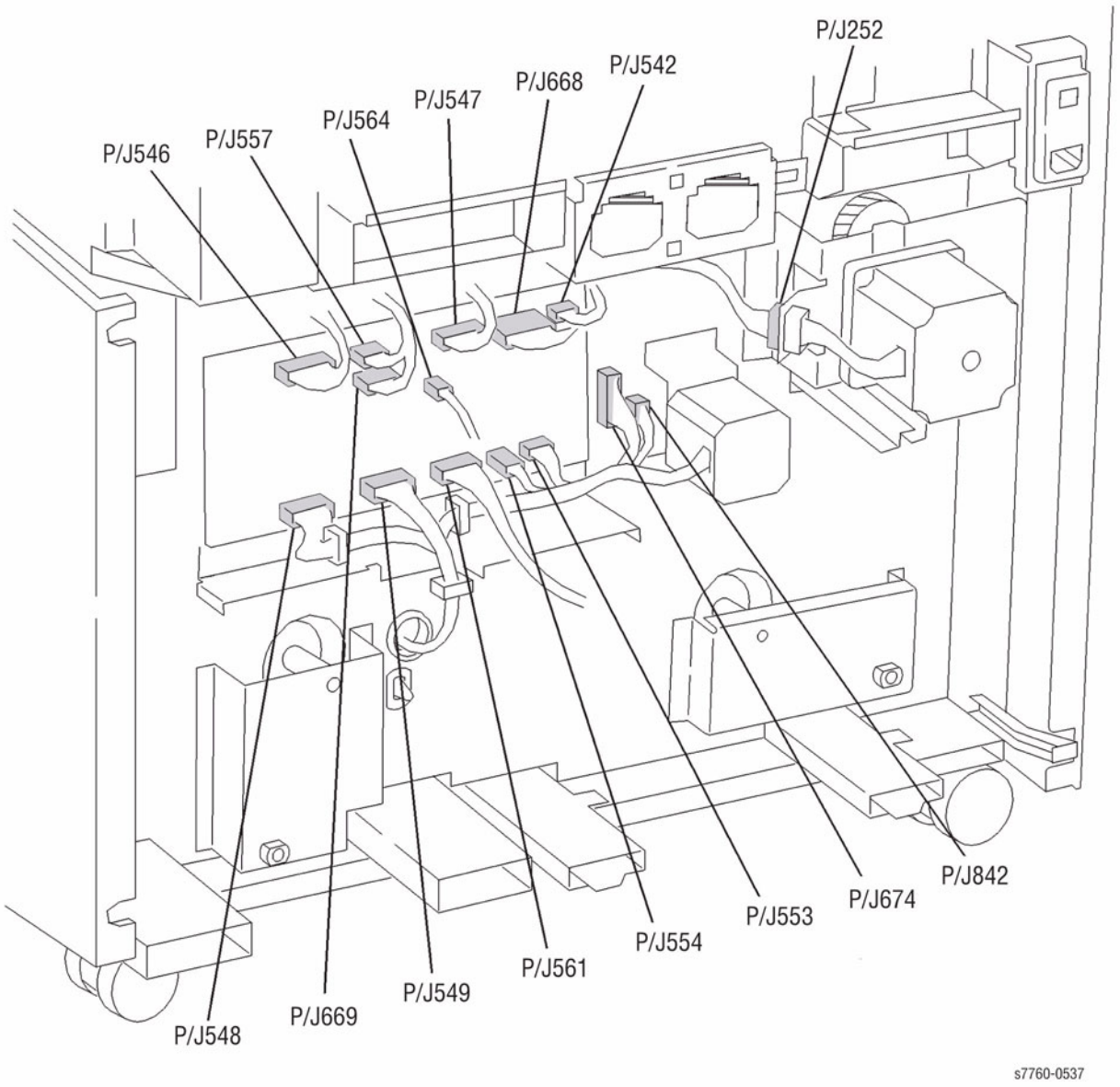


Figure 25 TT Module (TTM) (Rear)

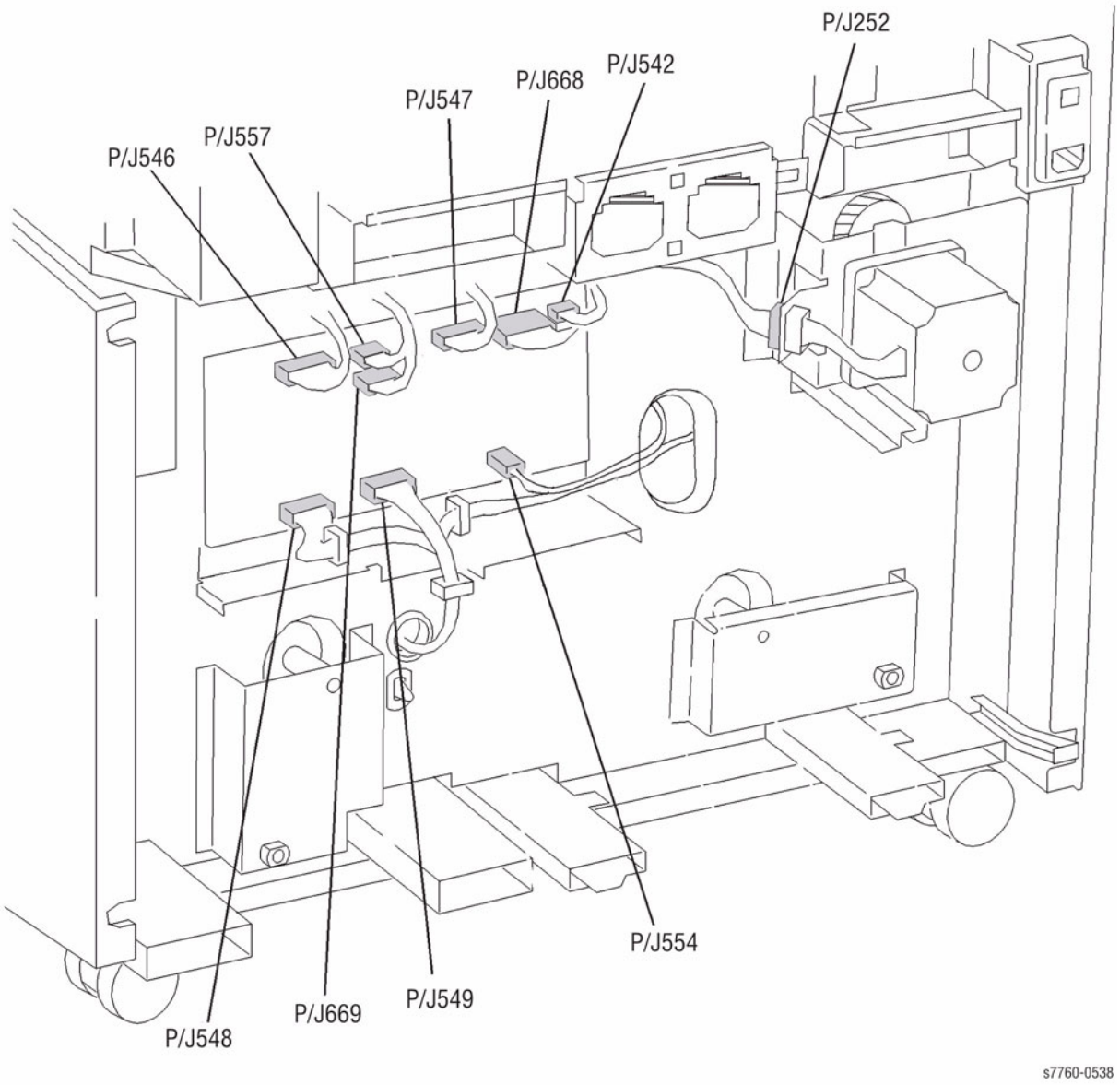


Figure 26 3T Module (Rear)

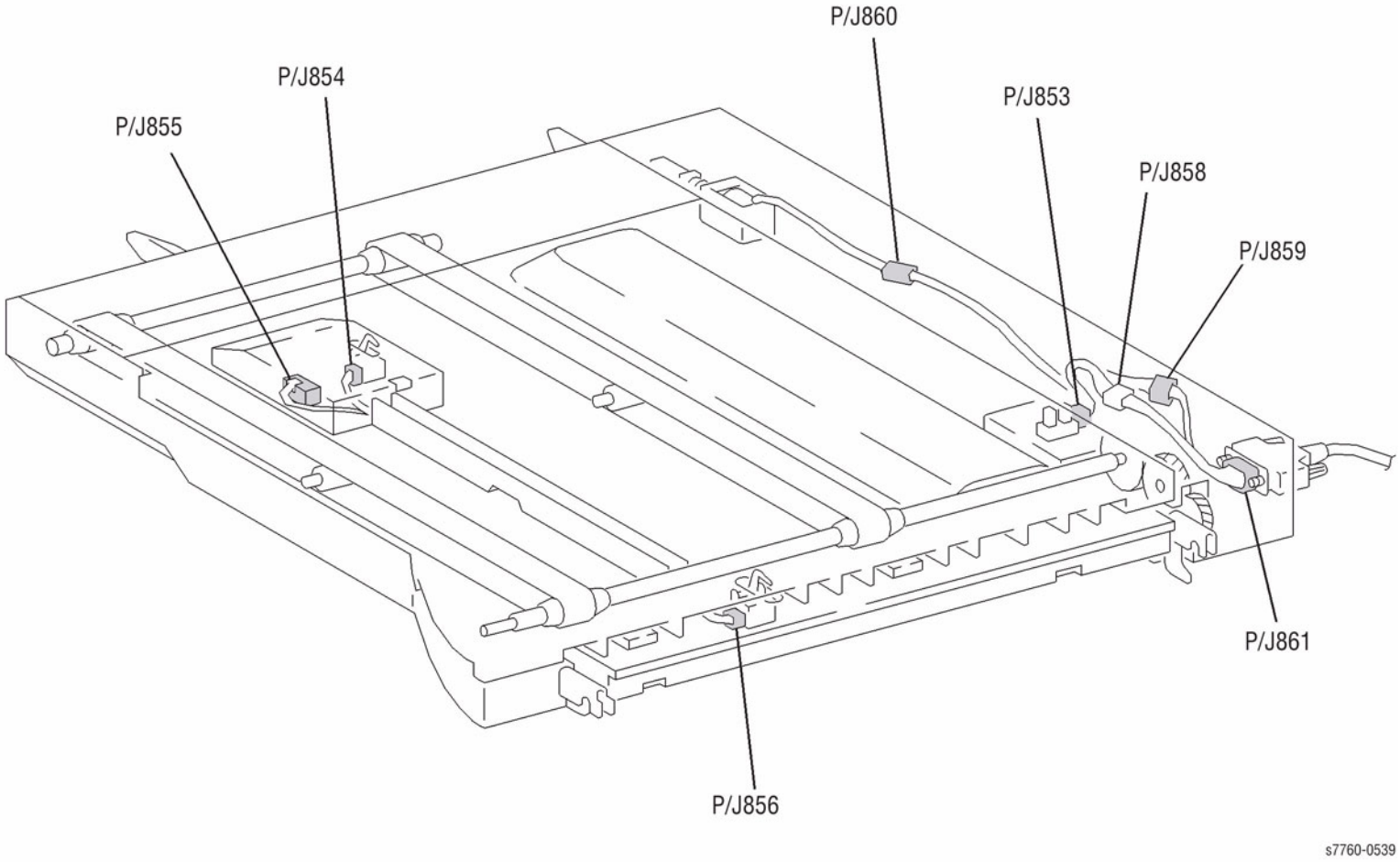


Figure 27 Horizontal Transport Assembly

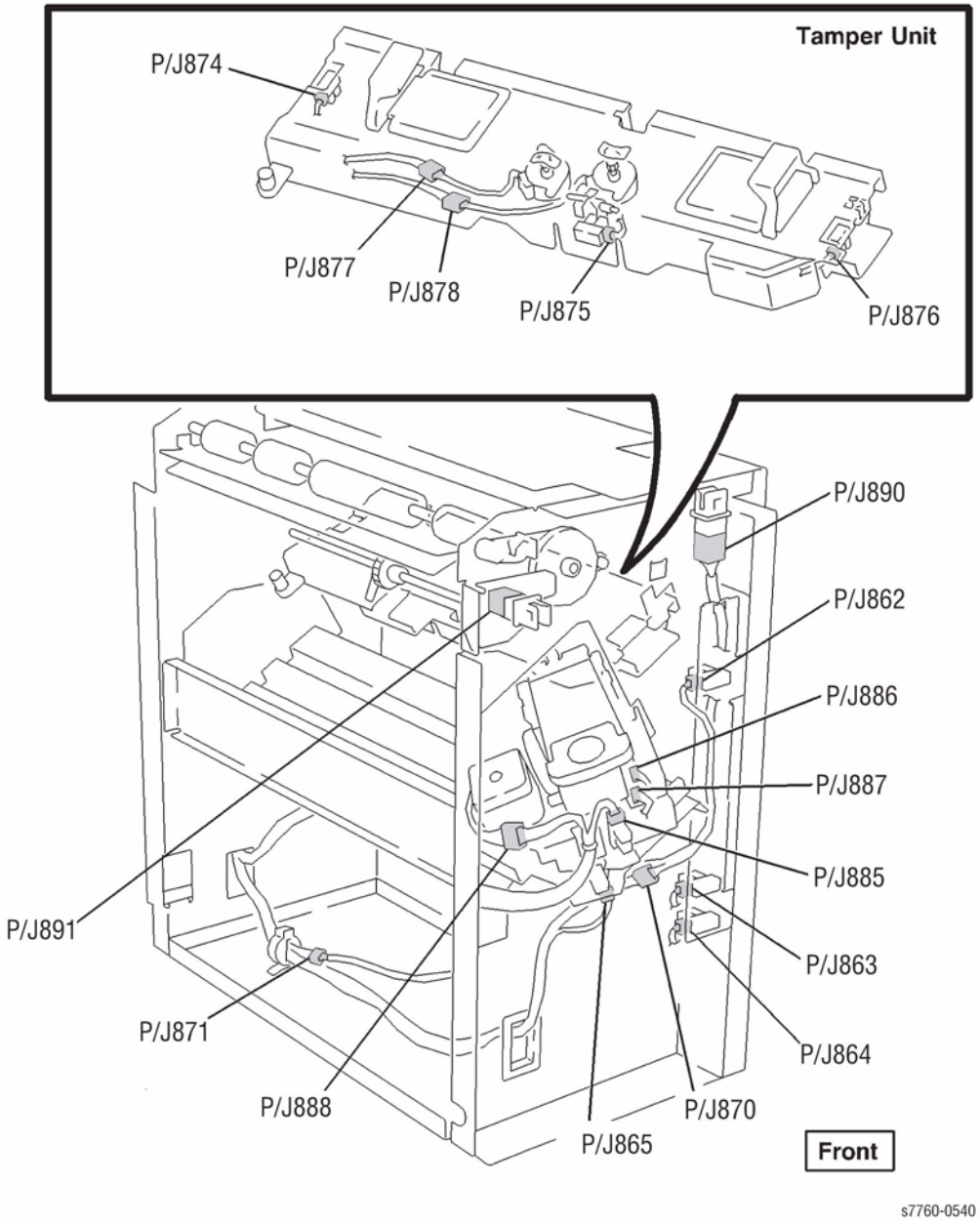


Figure 28 Tamper Unit, Staple Unit

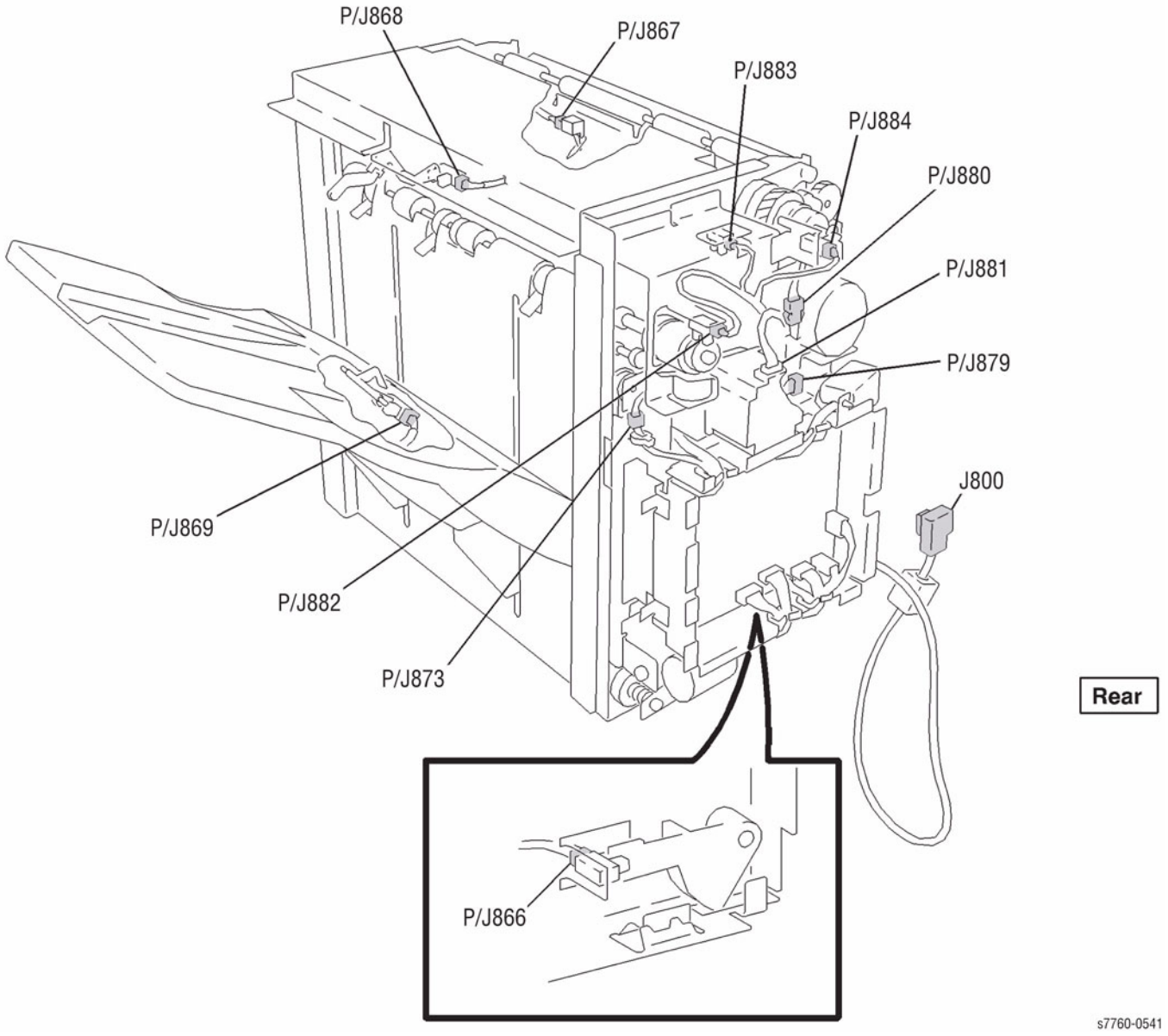


Figure 29 Finisher (Rear) (1 of 2)

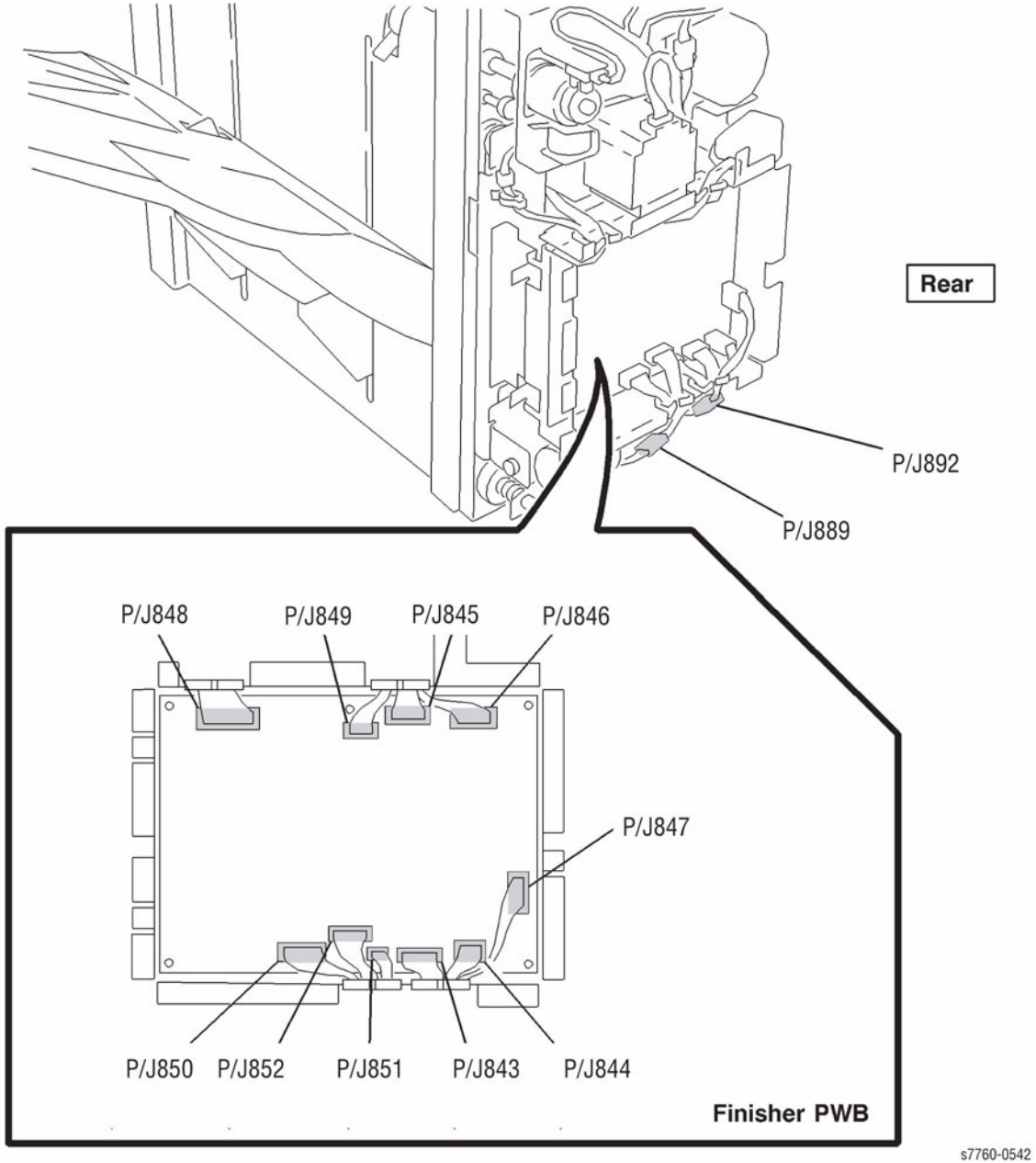


Figure 30 Finisher PWB

Finisher Plug/Jack Locations

How to use the Finisher Plug/Jack Location List

The Plug/Jack Location List below is provided to locate plugs, jacks, or other terminating devices. Locate the desired termination device in the first column (Connector Number) of the list. Refer to the second column (Figure Number) to determine the figure number of the electrical termination device. The third column provides the title of the Figure.

NOTE: Connectors numbered “CN” is listed at the end of the “P and J” connectors.

Table 1 Plug / Jack Location List - Finisher

Connector Number	Figure Number	Figure Title
J2	FNS Figure 5	Finisher Power Supply
J502	FNS Figure 5	Finisher Power Supply
J505	FNS Figure 5	Finisher Power Supply
J800	FNS Figure 7	Finisher/Printer Communication
J8175	FNS Figure 8	Booklet Maker Front View
J8176	FNS Figure 8	Booklet Maker Front View
J8177	FNS Figure 8	Booklet Maker Front View
J8178	FNS Figure 8	Booklet Maker Front View
J8179	FNS Figure 8	Booklet Maker Front View
J8180	FNS Figure 8	Booklet Maker Front View
J8181	FNS Figure 8	Booklet Maker Front View
J8182	FNS Figure 8	Booklet Maker Front View
J8183	FNS Figure 8	Booklet Maker Front View
J8185	FNS Figure 8	Booklet Maker Front View
J8186	FNS Figure 8	Booklet Maker Front View
J8187	FNS Figure 8	Booklet Maker Front View
J8188	FNS Figure 8	Booklet Maker Front View
P/J8189	FNS Figure 8	Booklet Maker Front View
J8190	FNS Figure 8	Booklet Maker Front View
J8192	FNS Figure 8	Booklet Maker Front View
J8196	FNS Figure 8	Booklet Maker Front View
J8197	FNS Figure 8	Booklet Maker Front View
J8201	FNS Figure 8	Booklet Maker Front View
P8202	FNS Figure 8	Booklet Maker Front View
J8202	FNS Figure 7	Booklet Maker PWB
P8203	FNS Figure 8	Booklet Maker Front View
J8203	FNS Figure 7	Booklet Maker PWB
P/J8217	FNS Figure 11	Booklet Maker Output Tray
P/J8218	FNS Figure 11	Booklet Maker Output Tray
P/J8300	FNS Figure 1	Finisher PWB
P/J8302	FNS Figure 1	Finisher PWB

Table 1 Plug / Jack Location List - Finisher

Connector Number	Figure Number	Figure Title
P/J8303	FNS Figure 12	Punch Rear View
P/J8304	FNS Figure 1	Finisher PWB
P/J8305	FNS Figure 1	Finisher PWB
P/J8306	FNS Figure 1	Finisher PWB
P/J8307	FNS Figure 1	Finisher PWB
P/J8308	FNS Figure 1	Finisher PWB
P/J8309	FNS Figure 1	Finisher PWB
P/J8310	FNS Figure 1	Finisher PWB
P/J8310	FNS Figure 3	H-Transport PWB
P8311	FNS Figure 1	Finisher PWB
P/J8312	FNS Figure 12	Punch Rear View
P/J8313	FSN Figure 1	Finisher PWB
P/J8314	FNS Figure 1	Finisher PWB
P/J8315	FSN Figure 1	Finisher PWB
P8316	FSN Figure 1	Finisher PWB
P8317	FSN Figure 1	Finisher PWB
P/J8318	FSN Figure 2	Finisher Rear View
J8319	FSN Figure 10	Finisher Front View
J8321	FNS Figure 4	Finisher Top Rear View
J8322	FSN Figure 4	Finisher Top Rear View
J8324	FSN Figure 2	Finisher Rear View
J8325		
J8326		
J8327		
J8328	FSN Figure 2	Finisher Rear View
J8330	FSN Figure 4	Finisher Top Rear View
J8331	FSN Figure 2	Finisher Rear View
P/J8332	FSN Figure 2	Finisher Rear View
P/J8333	FSN Figure 2	Finisher Rear View
J8334	FSN Figure 2	Finisher Rear View
J8335	FSN Figure 2	Finisher Rear View
J8336	FSN Figure 2	Finisher Rear View
J8338	FSN Figure 2	Finisher Rear View
P/J8339	FSN Figure 2	Finisher Rear View
P/J8340	FSN Figure 2	Finisher Rear View
J8340	FNS Figure 4	Finisher Top Rear View
P/J8341	FSN Figure 2	Finisher Rear View
J8342	FSN Figure 2	Finisher Rear View
P/J8343	FSN Figure 2	Finisher Rear View
J8344	FSN Figure 4	Finisher Top Rear View

Table 1 Plug / Jack Location List - Finisher

Connector Number	Figure Number	Figure Title
J8345	FSN Figure 12	Punch Rear View
J8346	FSN Figure 12	Punch Rear View
J8347	FSN Figure 12	Punch Rear View
J8348	FNS Figure 12	Punch Rear View
J8349	FNS Figure 12	Punch Rear View
J8350	FNS Figure 10	Finisher Front View
J8351	FNS Figure 10	Finisher Front View
J8352		
J8353		
J8354		
P/J8355	FNS Figure 2	Finisher Rear View
J8356	FNS Figure 10	Finisher Front View
J8357	FNS Figure 10	Finisher Front View
J8358		
J8359	FNS Figure 6	Compiler Bottom View
J8360	FNS Figure 6	Compiler Bottom View
J8361	FNS Figure 6	Compiler Bottom View
J8362	FNS Figure 6	Compiler Bottom View
J8363	FNS Figure 6	Compiler Bottom View
J8364	FNS Figure 4	Finisher Top Rear View
J8365	FNS Figure 10	Finisher Front View
P/J8373	FNS Figure 3	H-Transport PWB
P/J8376	FNS Figure 1	Finisher PWB
P/J8377	FNS Figure 7	Booklet Maker PWB
P/J8378	FNS Figure 7	Booklet Maker PWB
J8383	FNS Figure 4	Finisher Top Rear View
J8384	FNS Figure 4	Finisher Top Rear View
P/J8389	FNS Figure 1	Finisher PWB
P/J8391	FNS Figure 2	Finisher Rear View
P/J8393	FNS Figure 2	Finisher Rear View
P/J8394	FNS Figure 2	Finisher Rear View
P/J8396	FNS Figure 3	H-Transport PWB
P/J8405	FNS Figure 7	Booklet Maker PWB
P/J8406	FNS Figure 7	Booklet Maker PWB
P/J8407	FNS Figure 7	Booklet Maker PWB
P/J8408	FNS Figure 7	Booklet Maker PWB
P/J8409	FNS Figure 12	Punch Rear View
P/J8411	FNS Figure 7	Booklet Maker PWB/Finisher/Printer Communication
P/J8429		
J8432	FNS Figure 10	Finisher Front View

Table 1 Plug / Jack Location List - Finisher

Connector Number	Figure Number	Figure Title
P/J8434	FNS Figure 1	Finisher PWB
P/J8440		
P/J8441		
P8444	FNS Figure 3	H-Transport PWB
J8444	FNS Figure 9	H-Transport Top View
J8445	FNS Figure 9	H-Transport Top View
J8446	FNS Figure 9	H-Transport Top View
J8447	FNS Figure 9	H-Transport Top View
J8448	FNS Figure 9	H-Transport Top View
J8449	FNS Figure 9	H-Transport Top View
J8450	FNS Figure 9	H-Transport Top View
J8451	FNS Figure 9	H-Transport Top View
J8452	FNS Figure 9	H-Transport Top View
J8453	FNS Figure 9	H-Transport Top View
J8454	FNS Figure 9	H-Transport Top View
J8460	FNS Figure 11	Booklet Maker Output Tray
P8461	FNS Figure 6	Compiler Bottom View
CN1	FNS Figure 7	Booklet Maker PWB/Finisher/Printer Communication

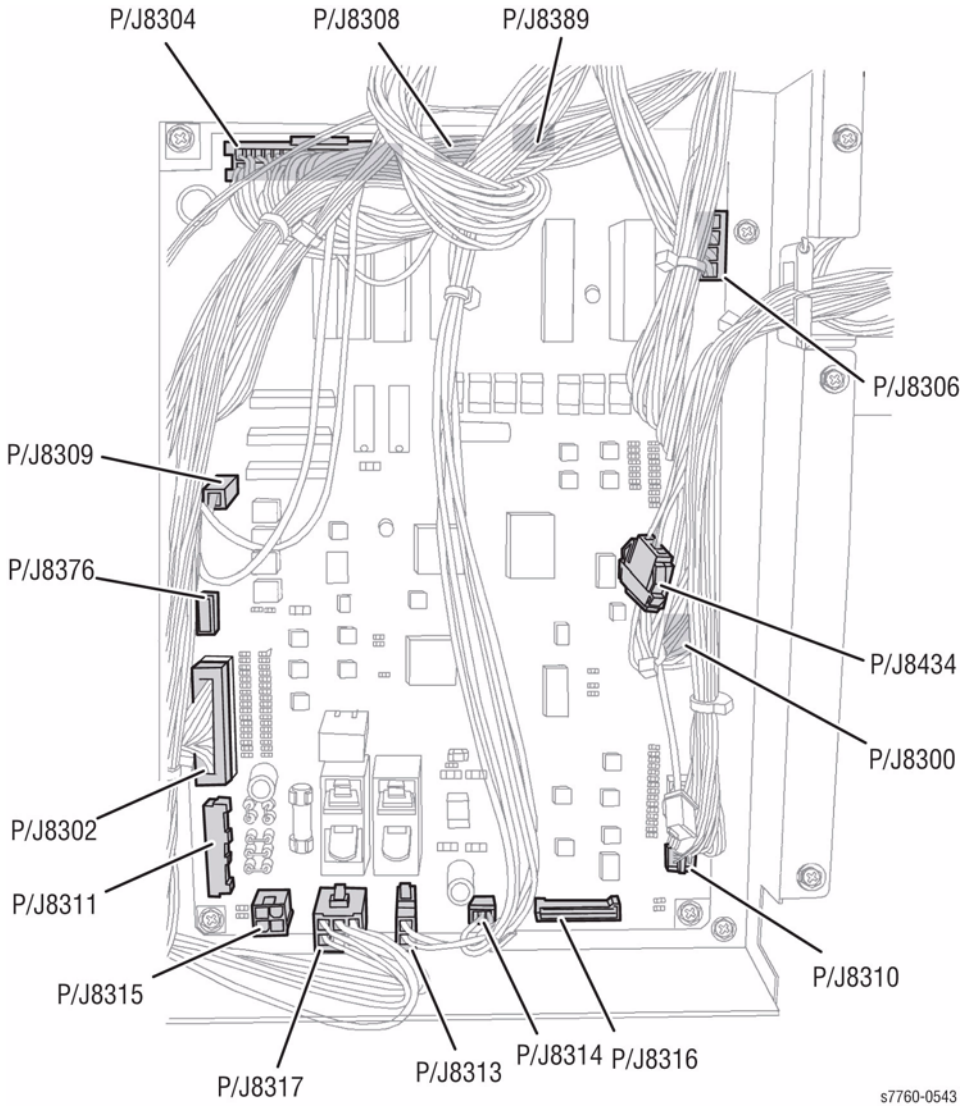


Figure 1 Finisher PWB

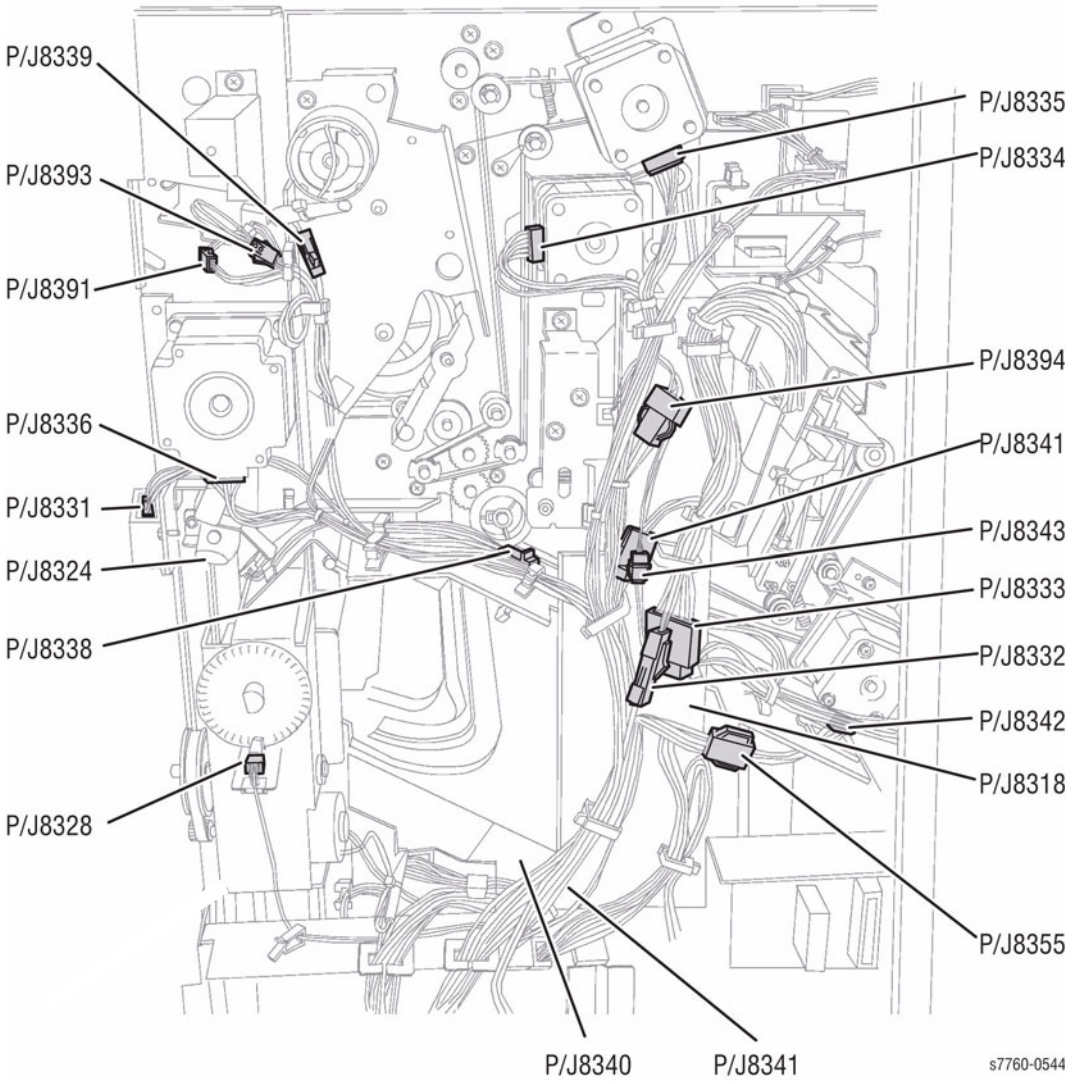


Figure 2 Finisher Rear View

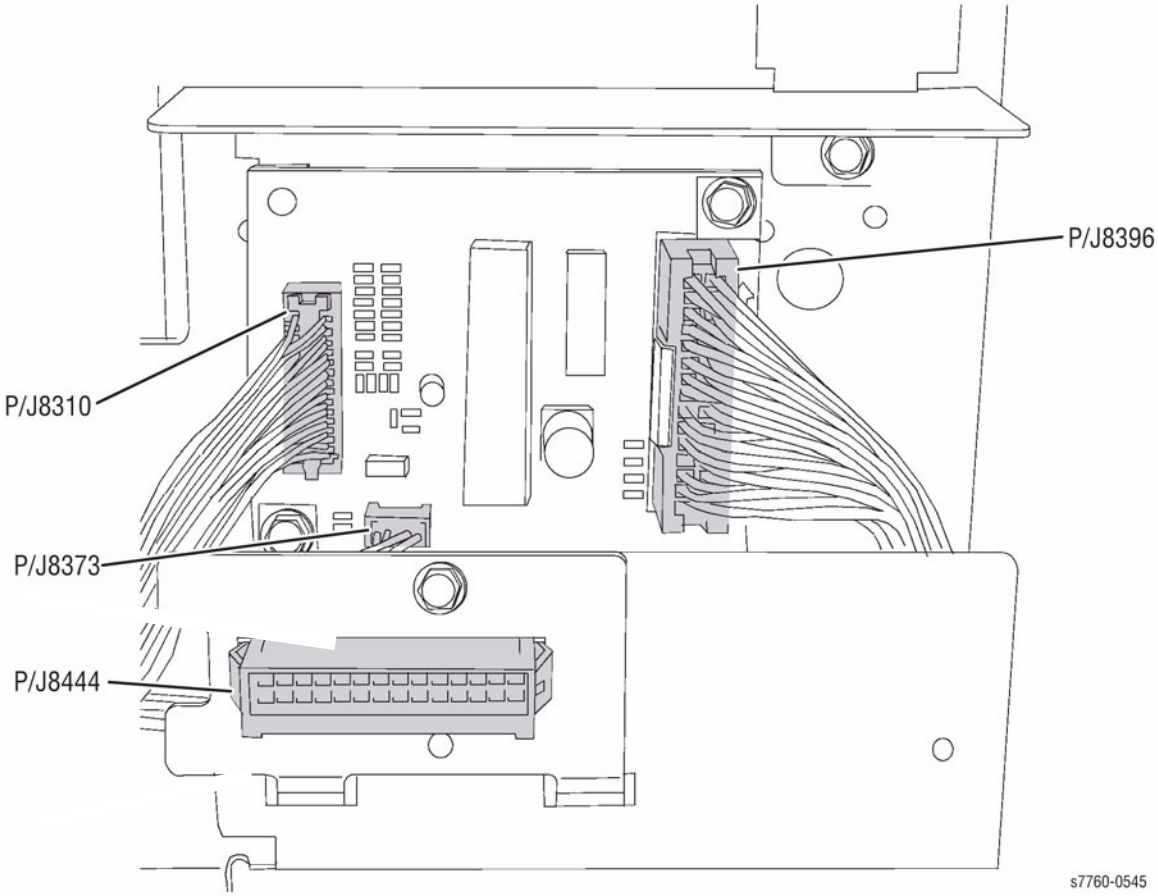


Figure 3 H-Transport PWB

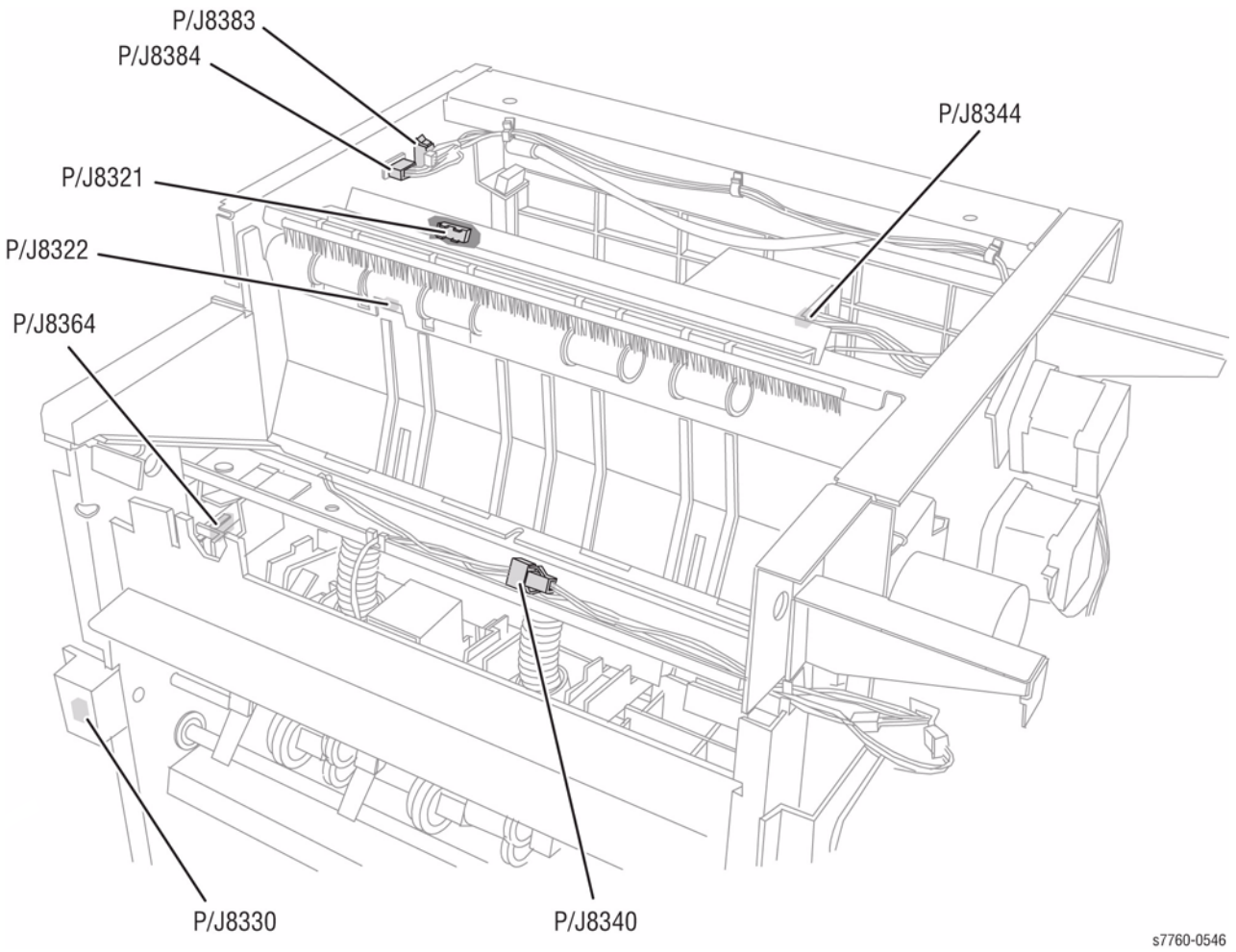


Figure 4 Finisher Top Rear View

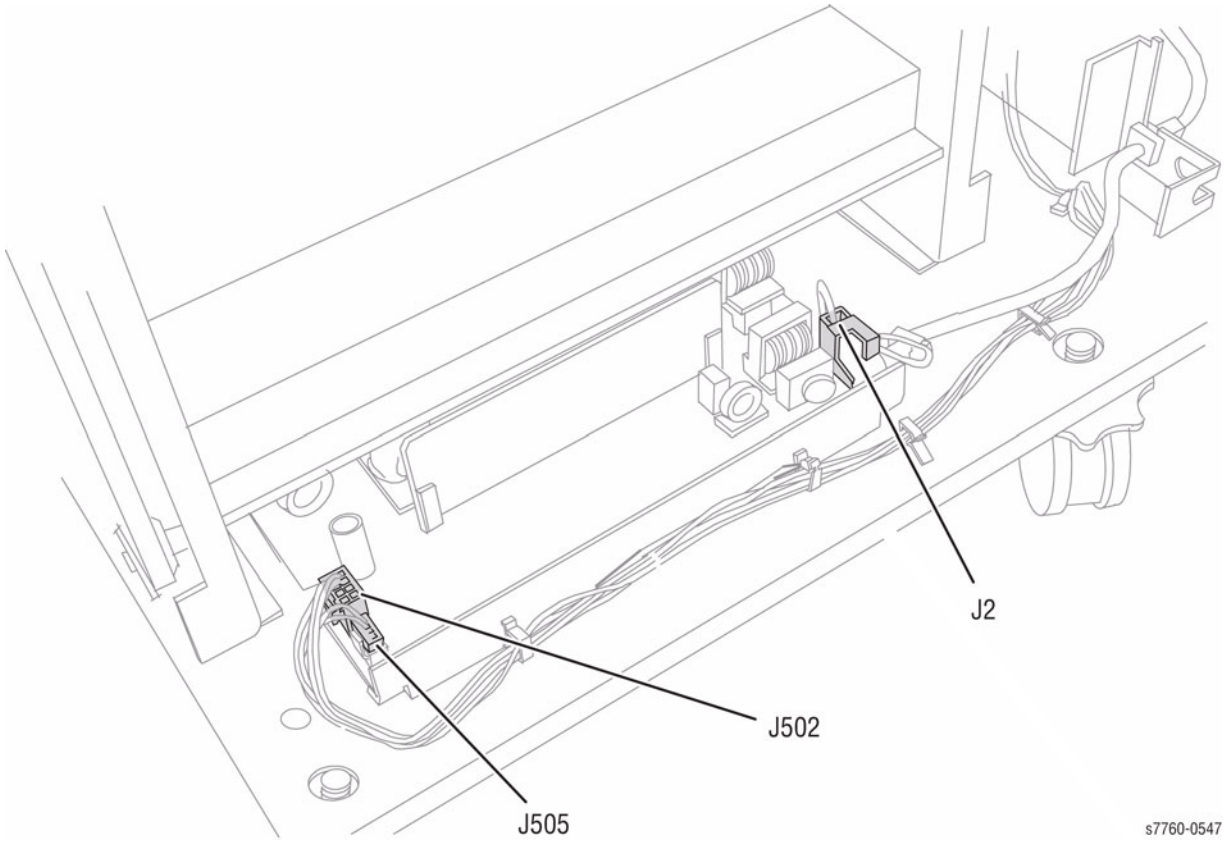


Figure 5 Finisher Power Supply

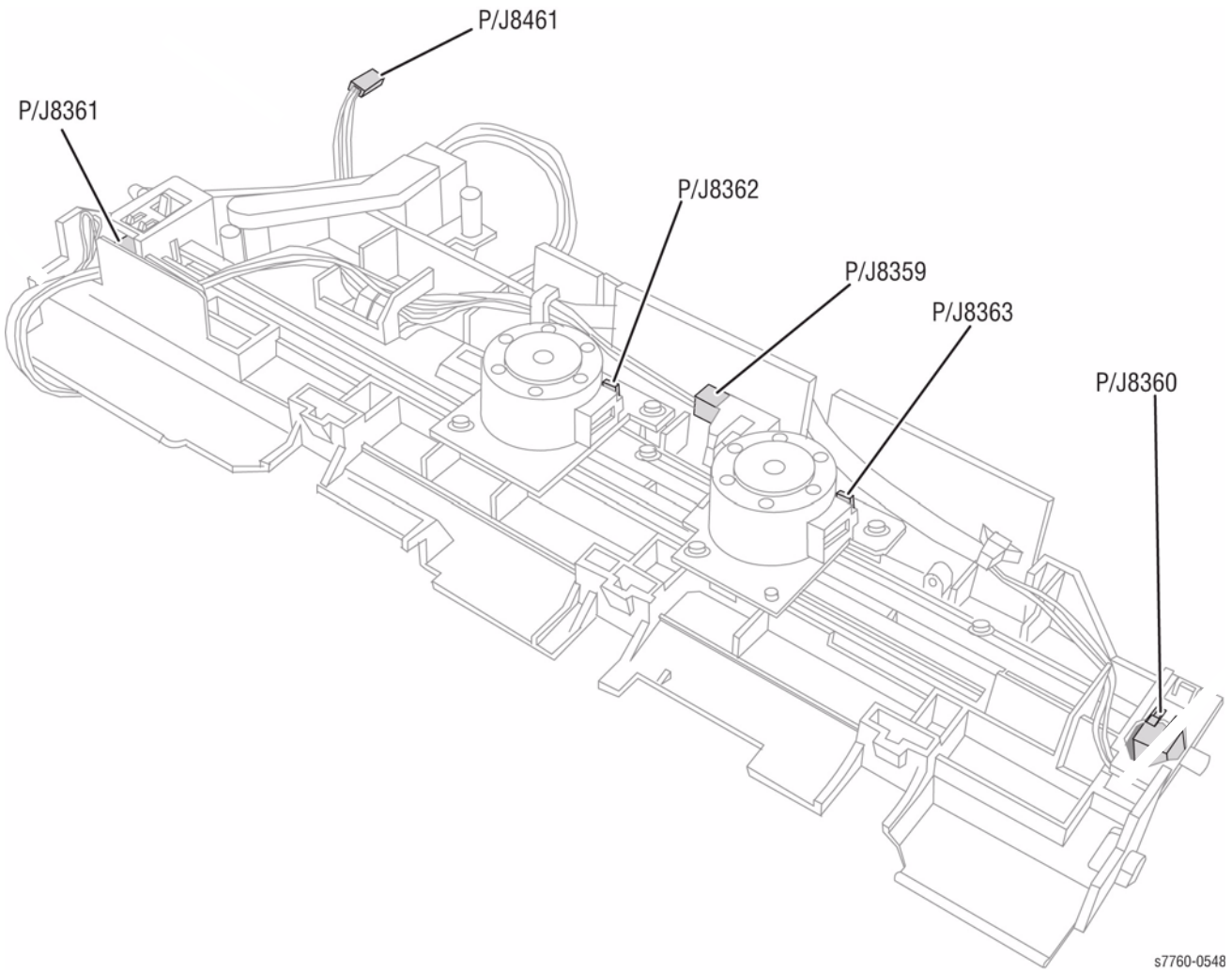


Figure 6 Compiler Bottom View

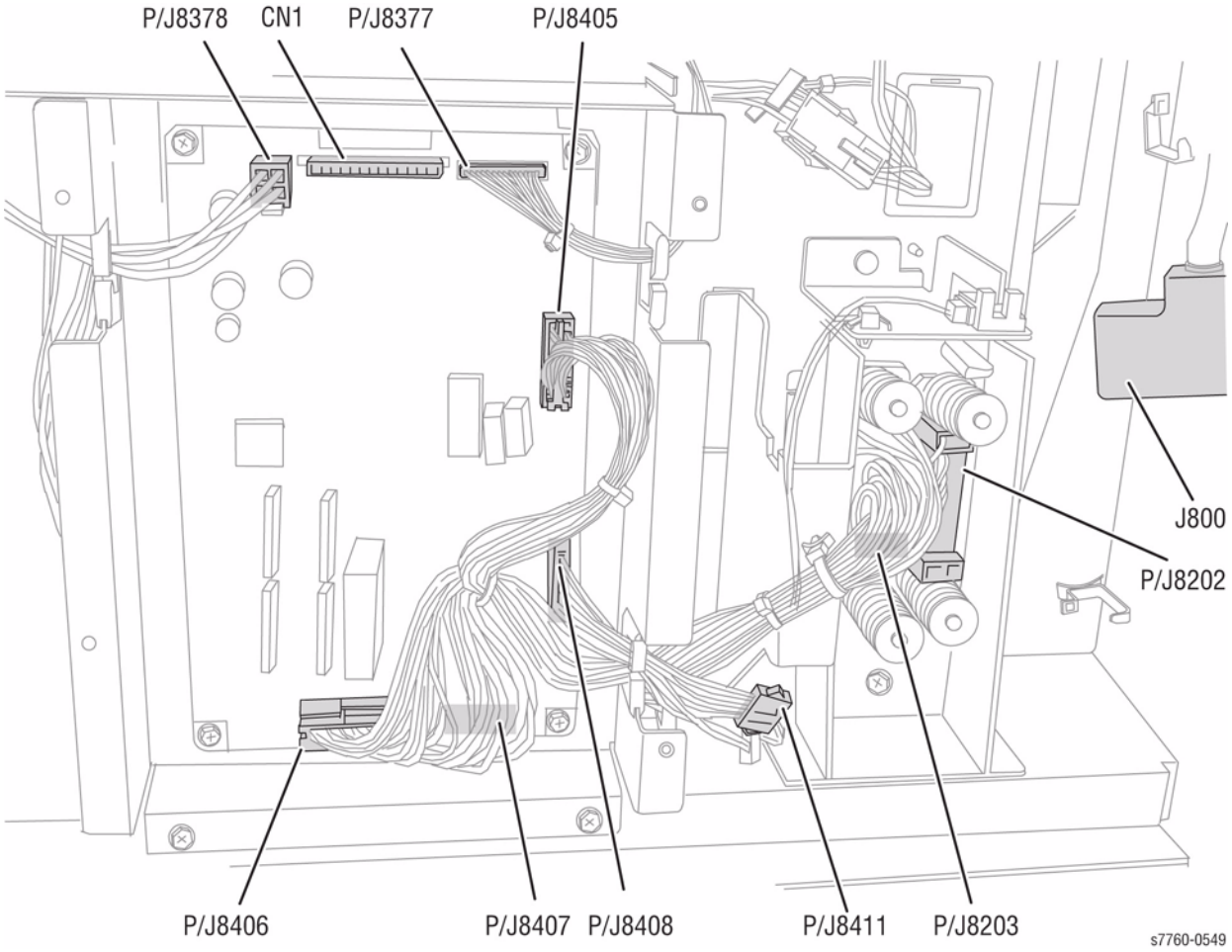


Figure 7 Booklet Maker PWB/Finisher/Printer Communication

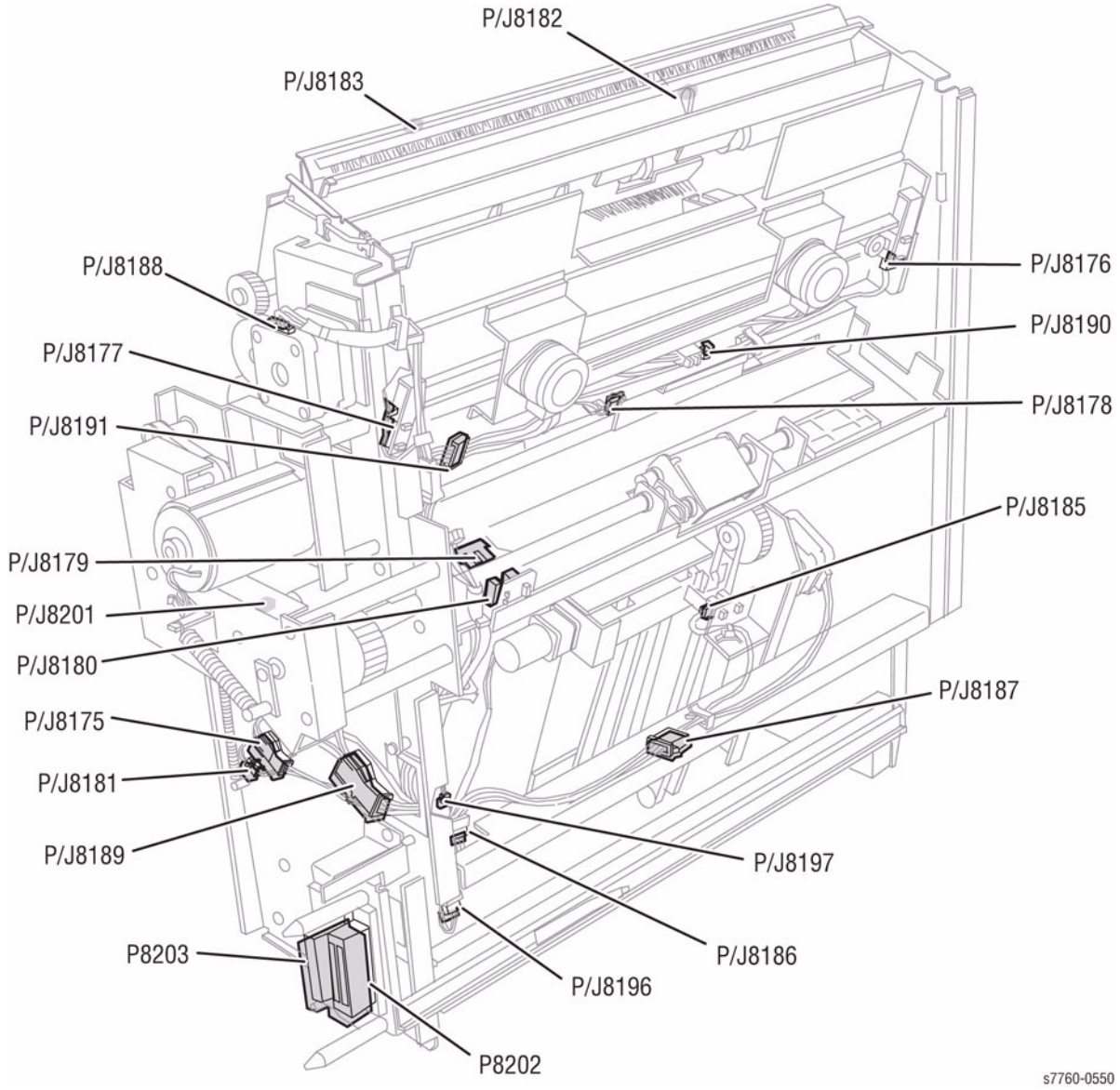


Figure 8 Booklet Maker - Right Rear View

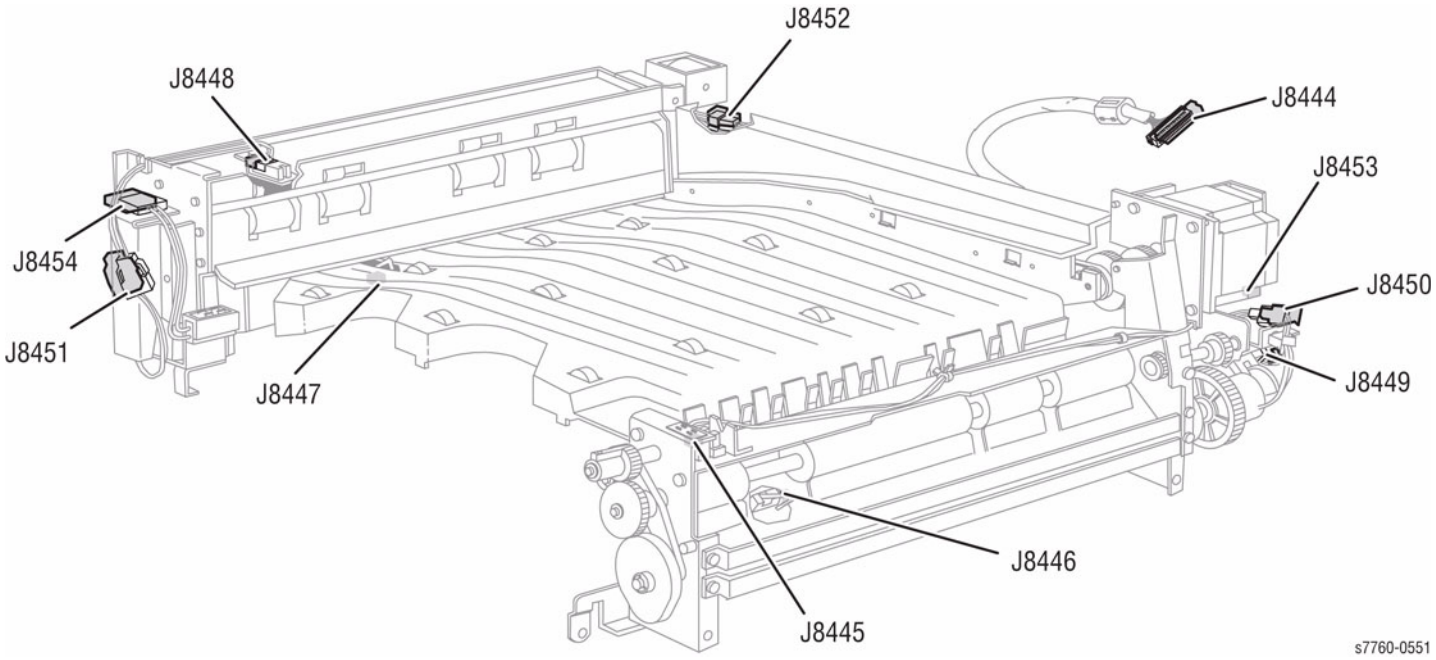


Figure 9 H-Transport - Front Left View

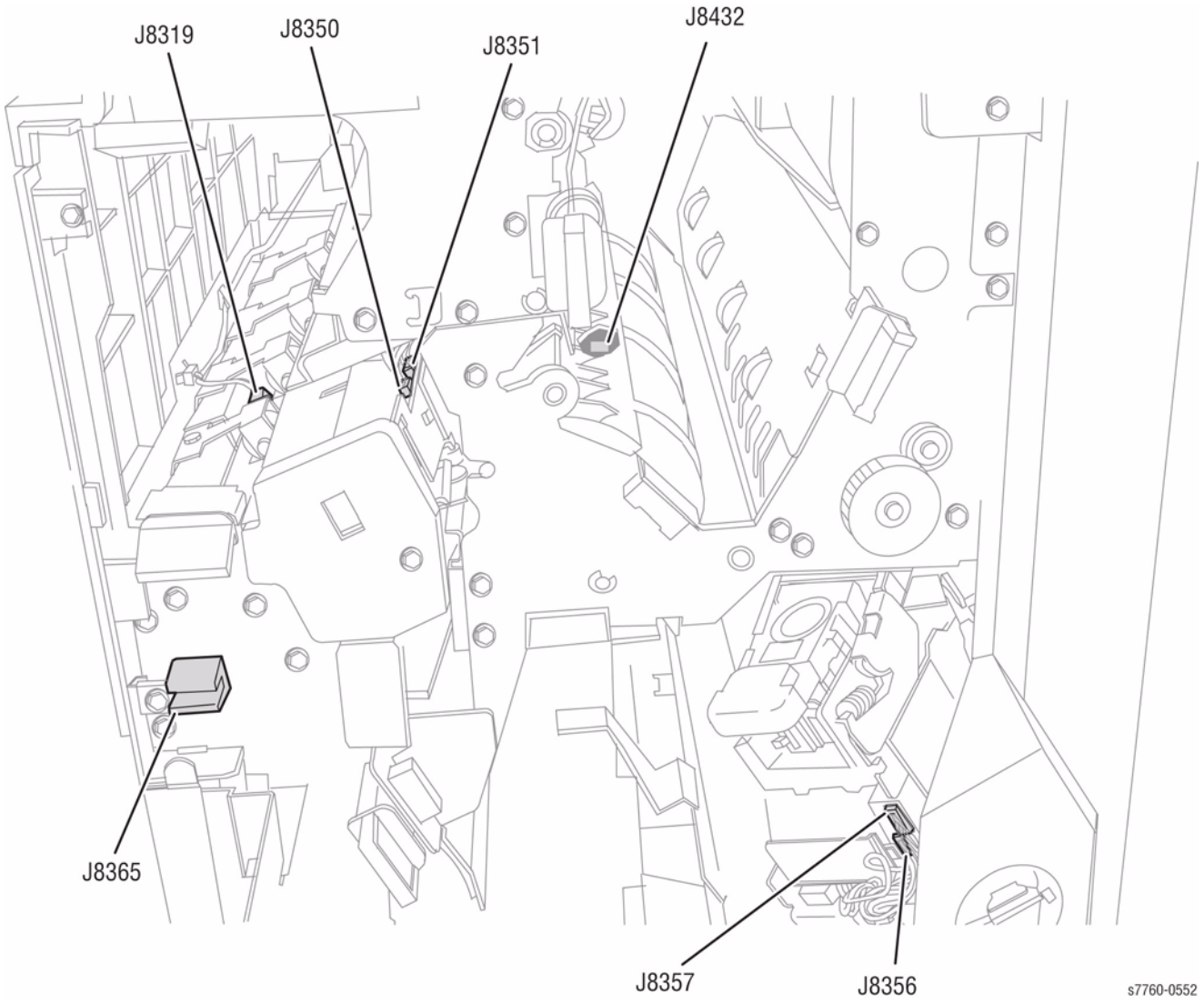


Figure 10 Finisher Front View

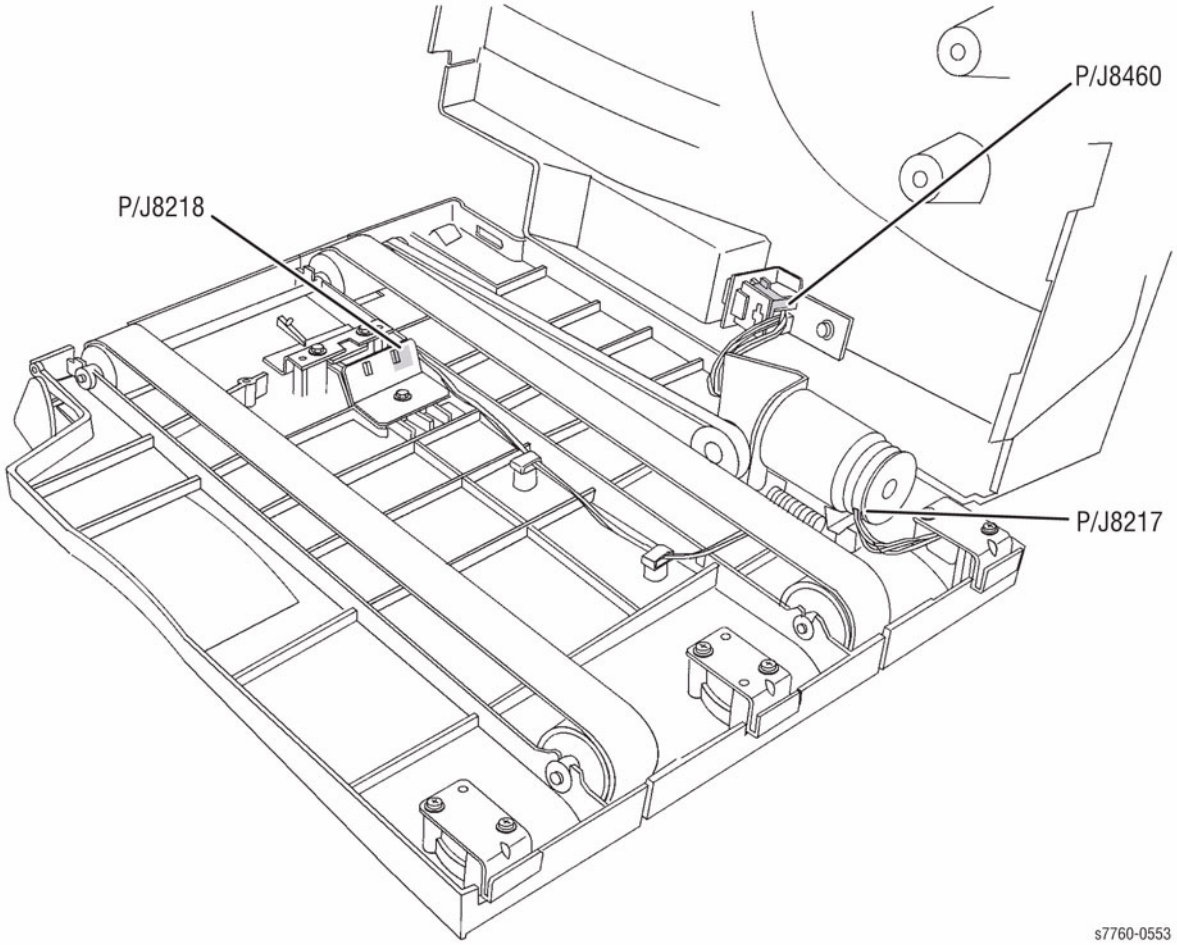


Figure 11 Booklet Maker Output Tray

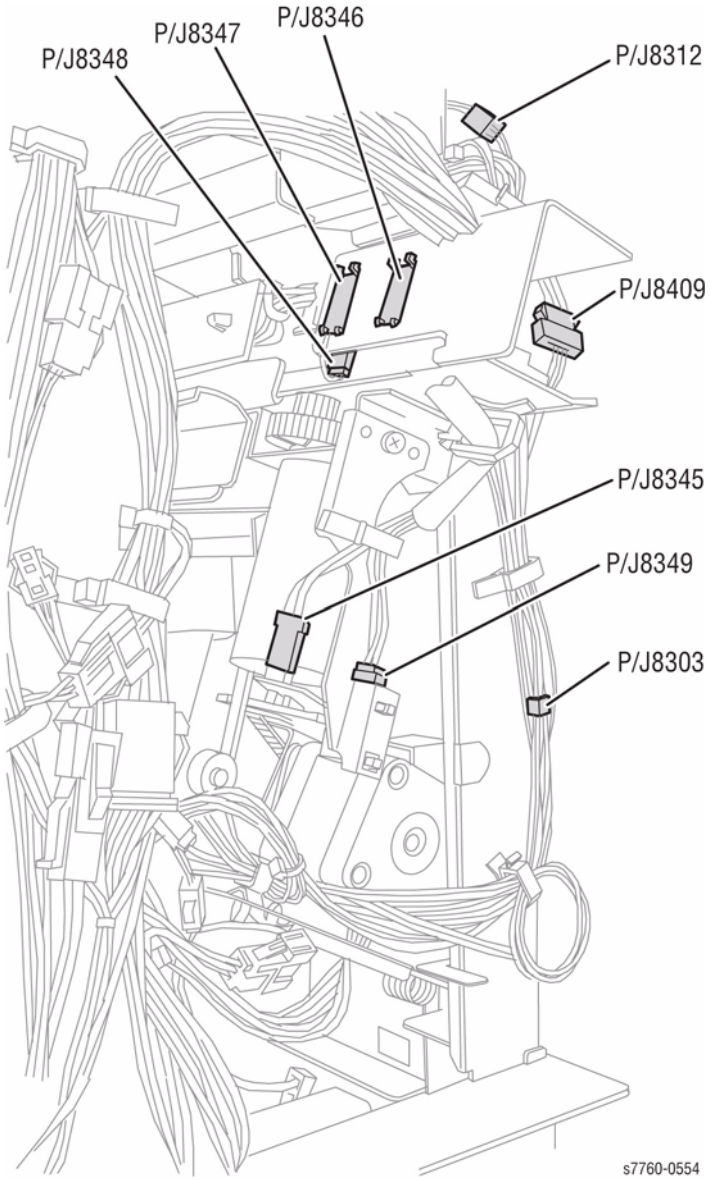


Figure 12 Puncher Rear View

ACH

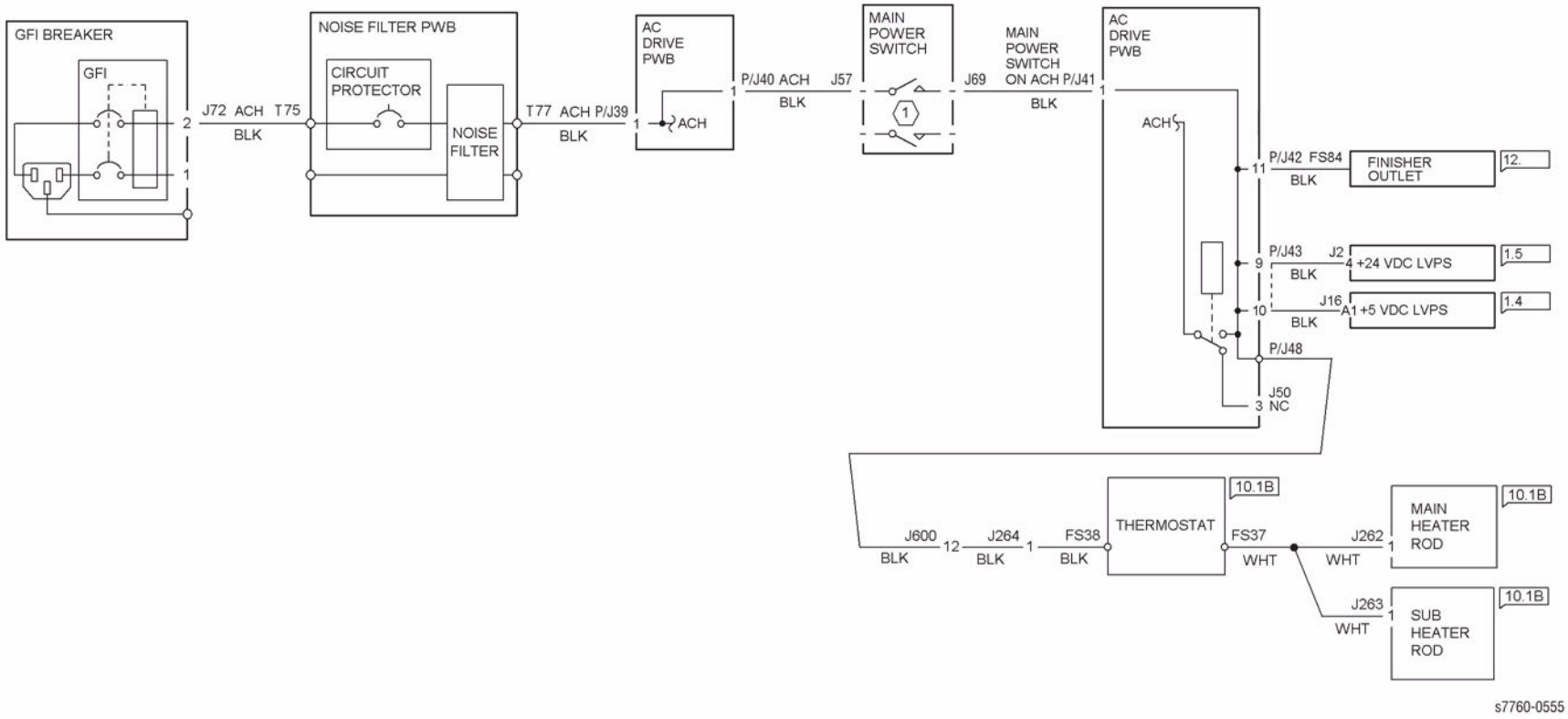


Figure 1 ACH Wirenet

ACN

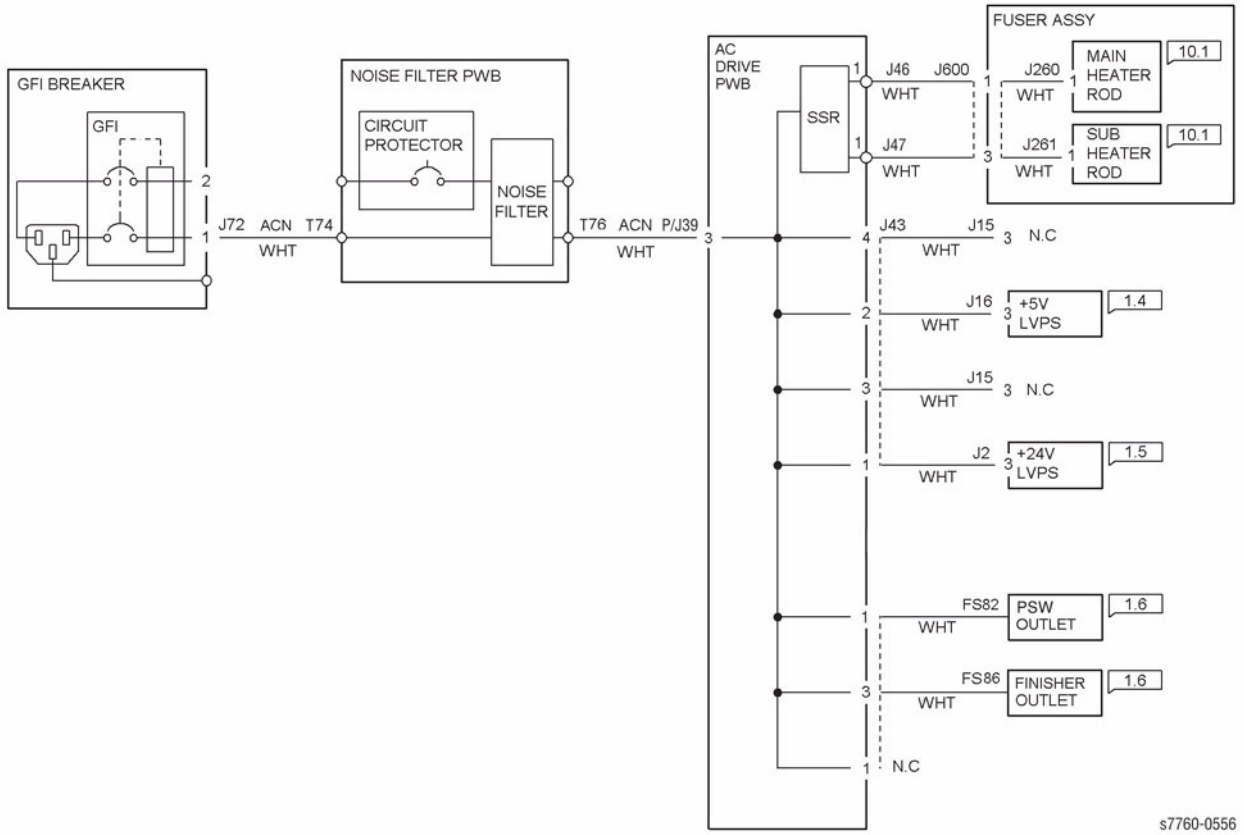


Figure 2 ACN Wirenet

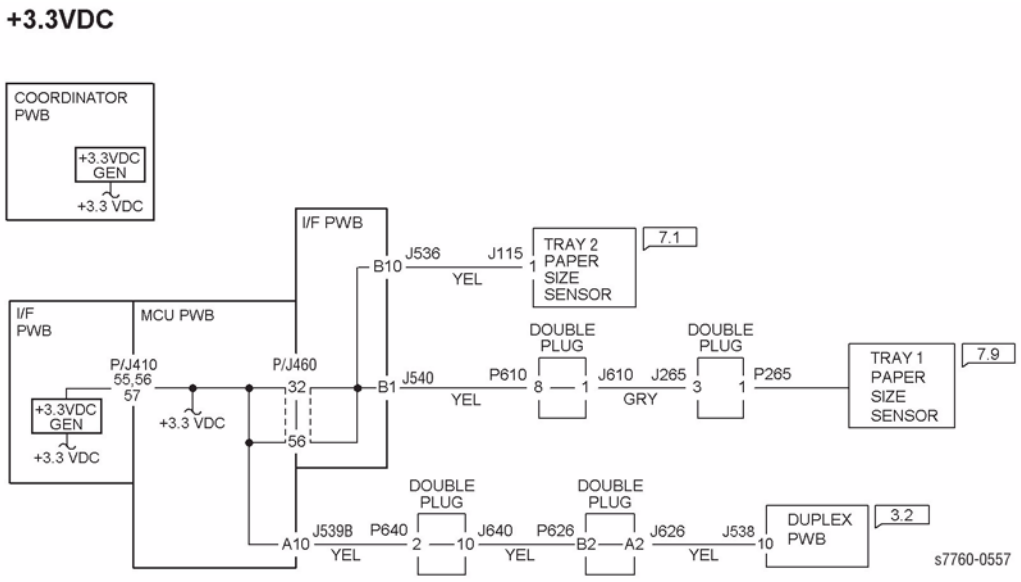


Figure 1 +3.3 VDC Wirenet

3.3V RTN

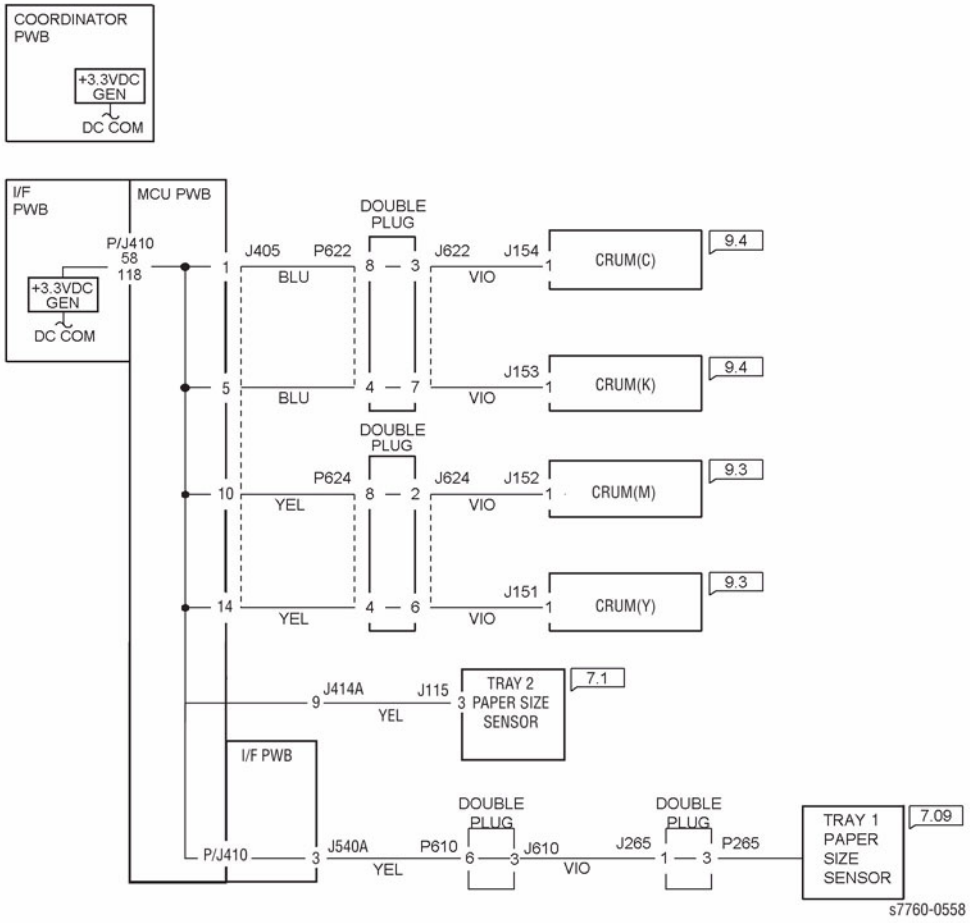


Figure 2 +3.3V RTN Wirenet

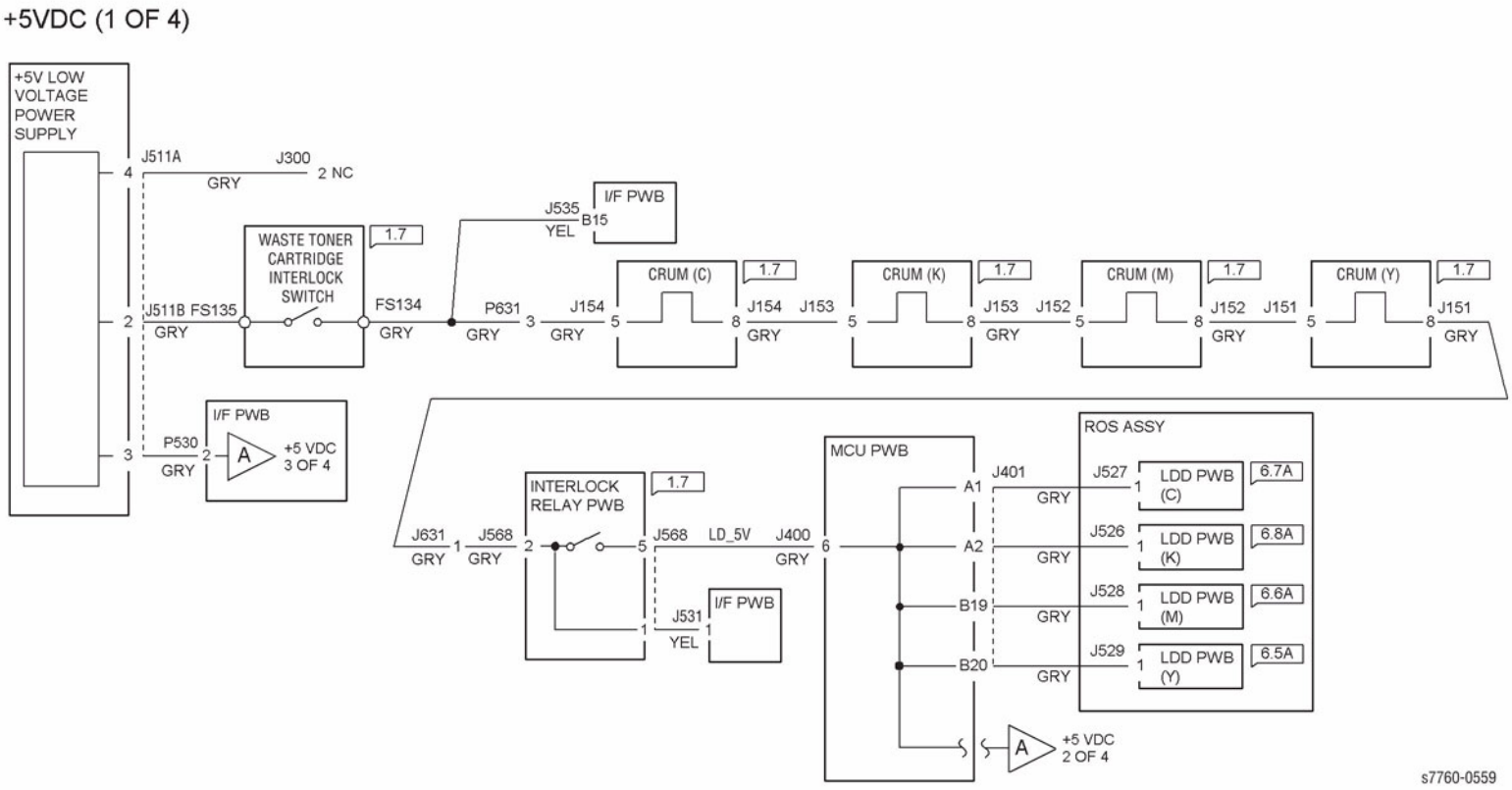


Figure 1 +5.5 VDC (1 of 4) Wirenet

+5VDC (2 OF 4)

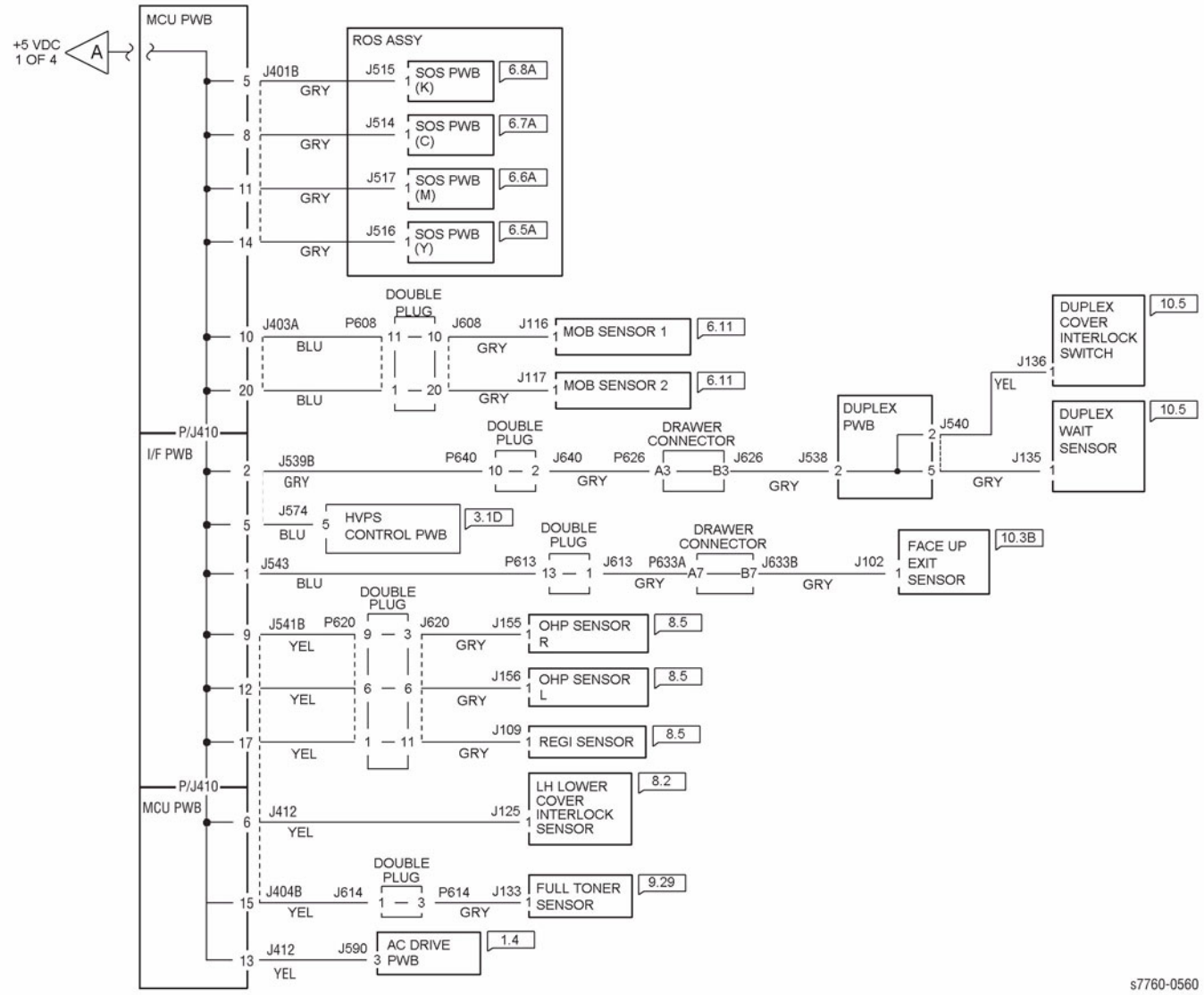


Figure 2 +5.5 VDC (2 of 4) Wirenet

+5VDC (3 of 4)

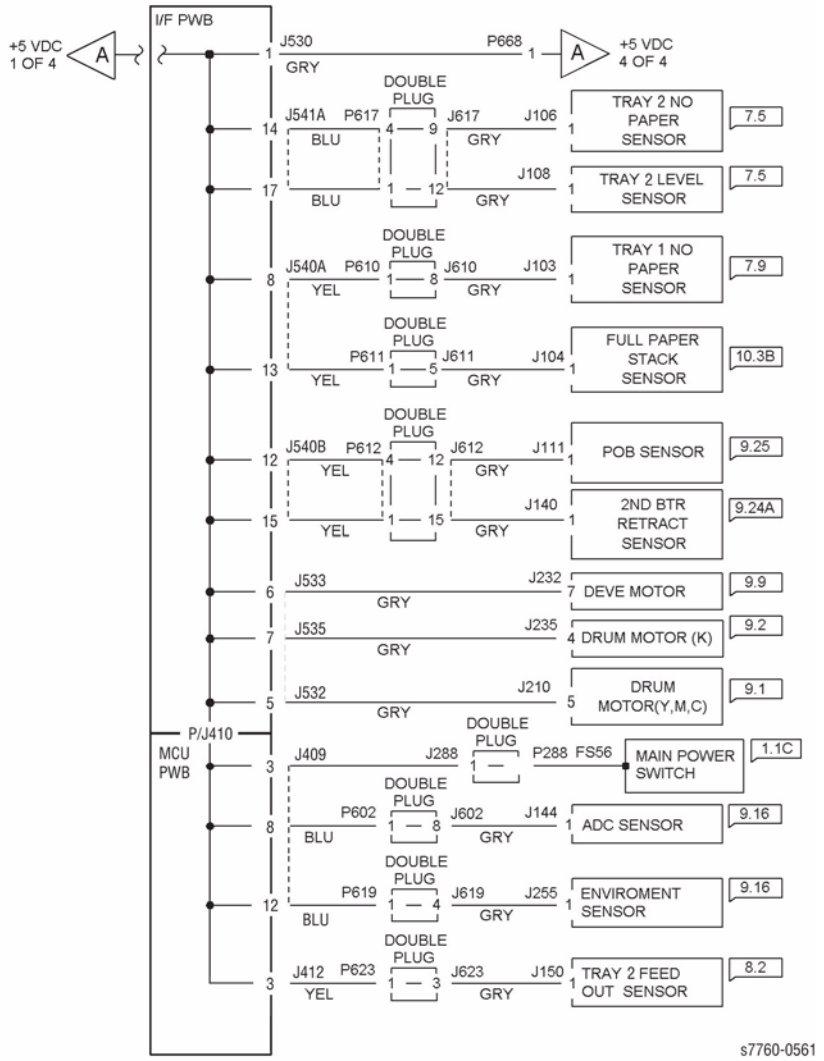


Figure 3 +5.5 VDC (3 of 4) Wirenet

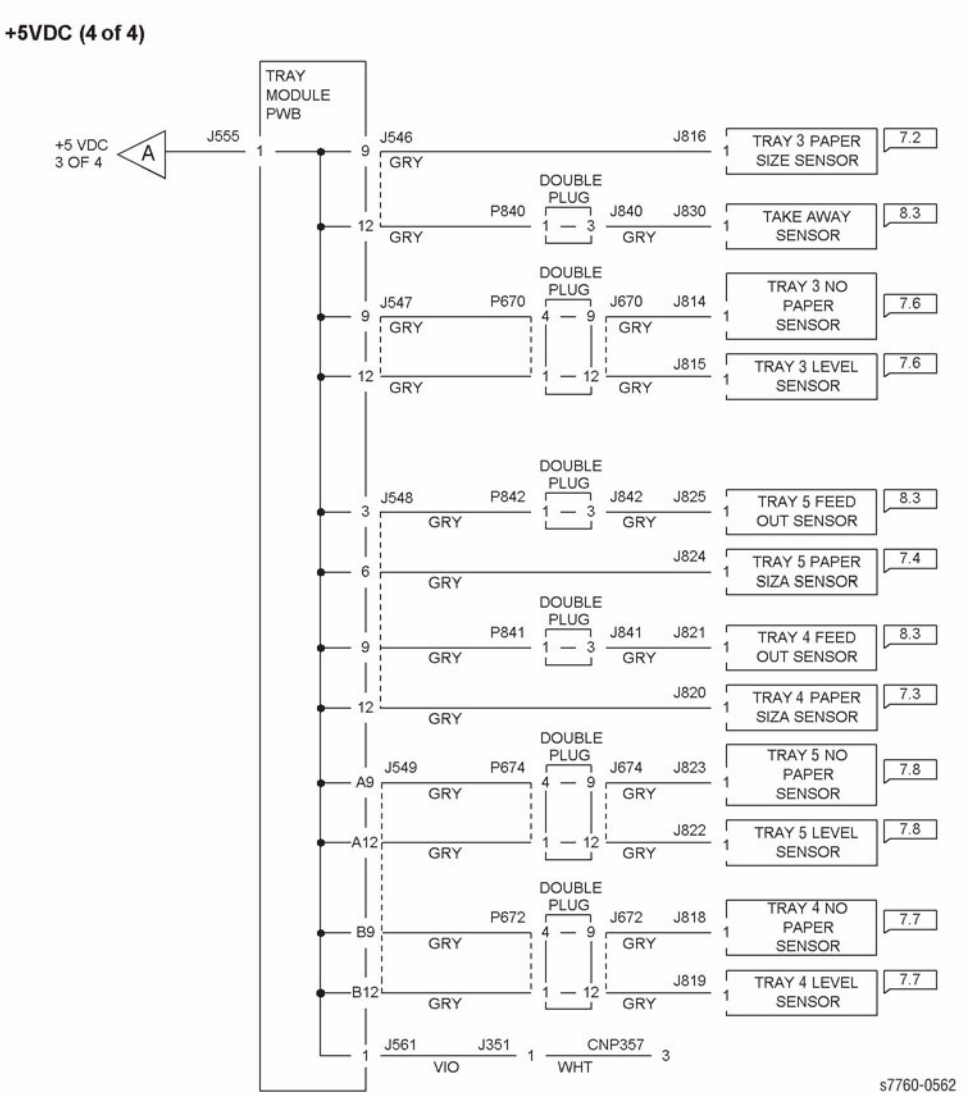


Figure 4 +5.5 VDC (4 of 4) Wirenet

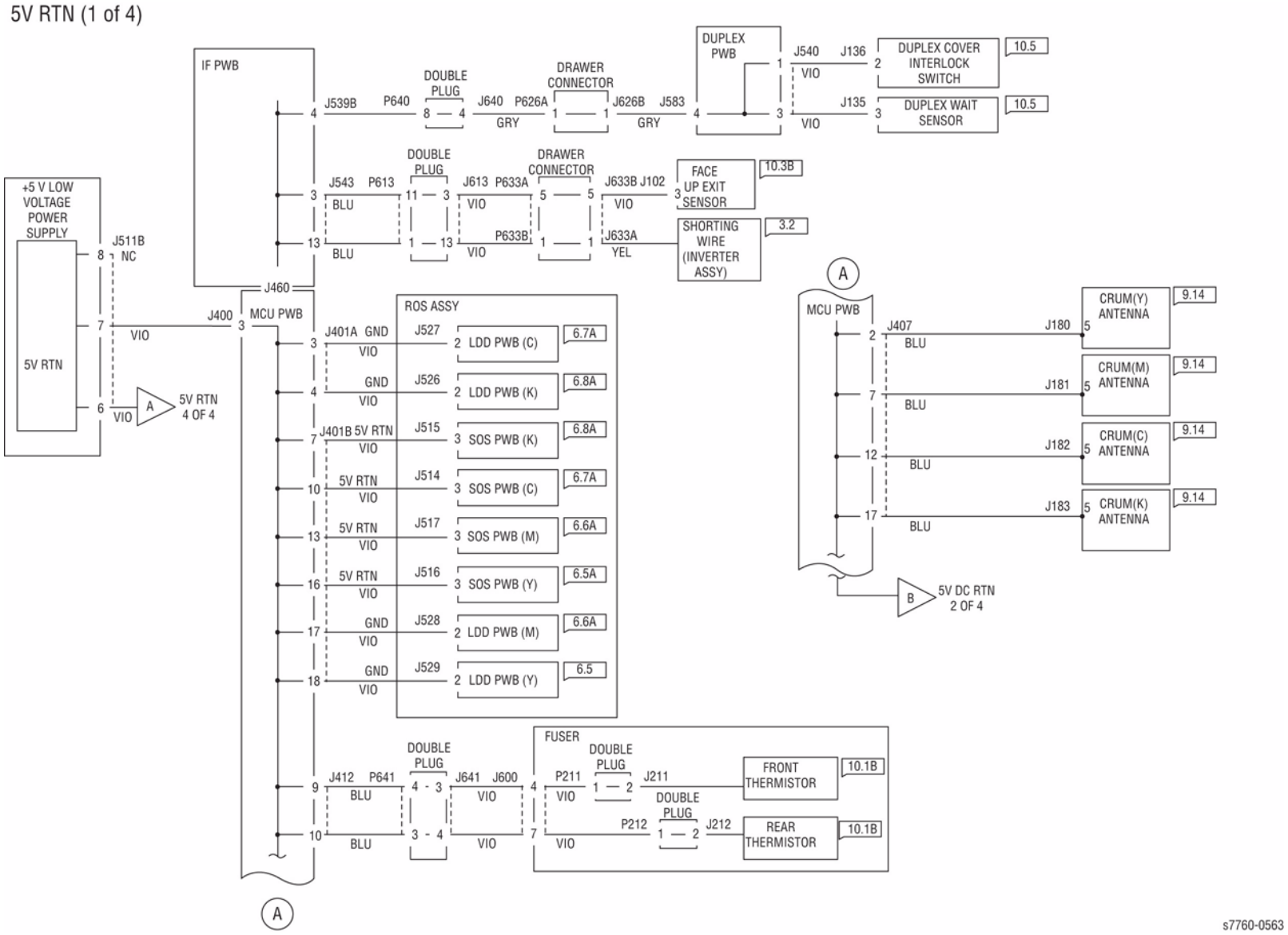


Figure 1 +5V RTN (1 of 4) Wirenet

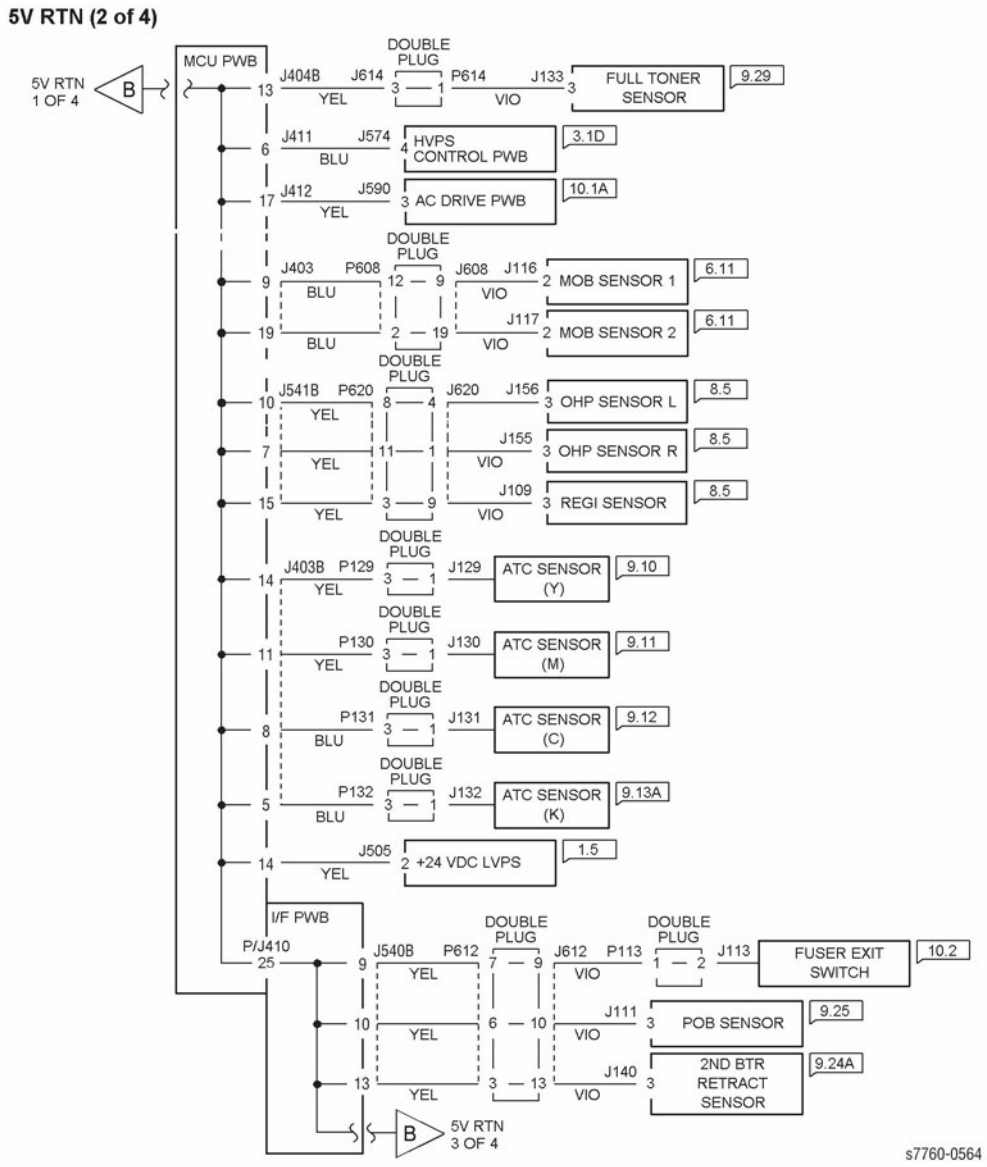


Figure 2 +5V RTN (2 of 4) Wirenet

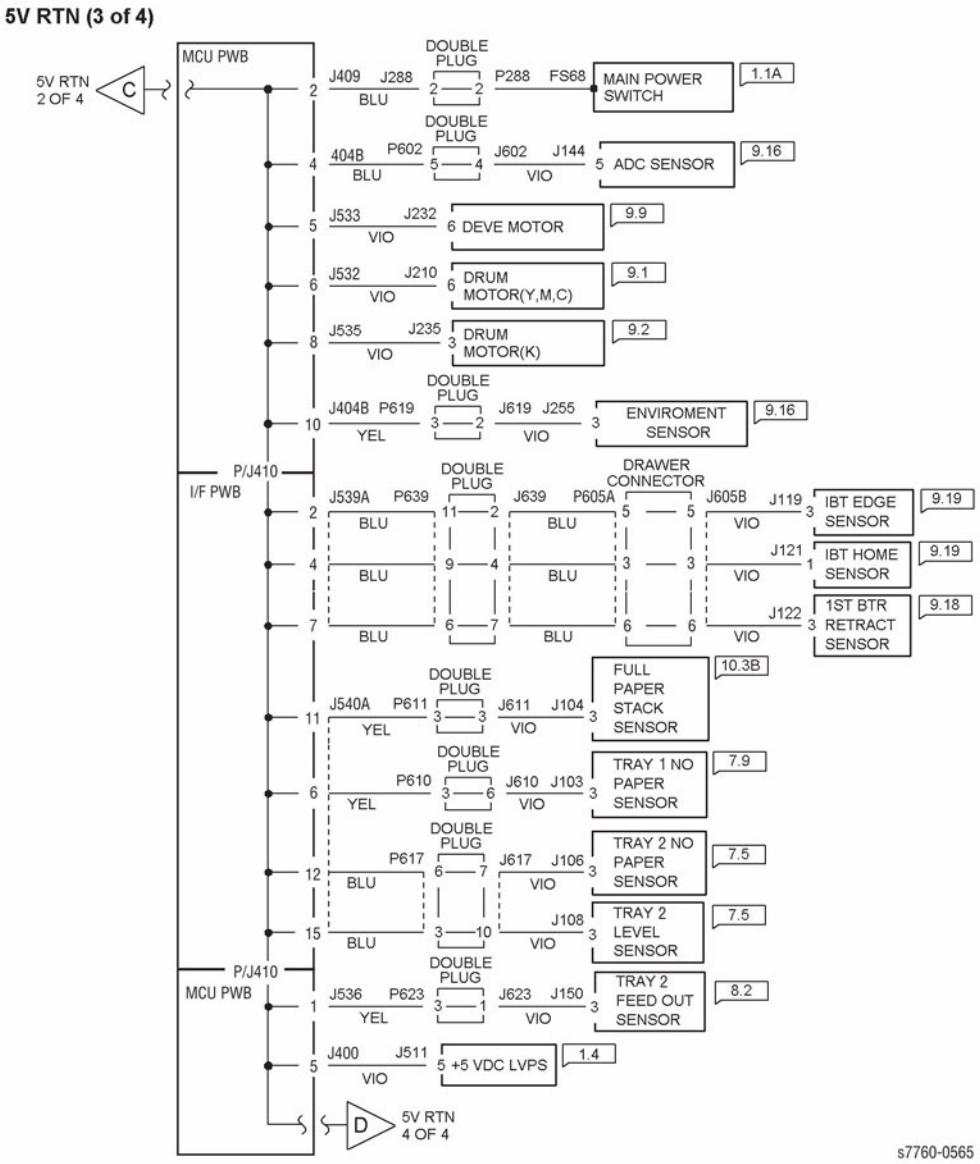


Figure 3 +5V RTN (3 of 4) Wirenet

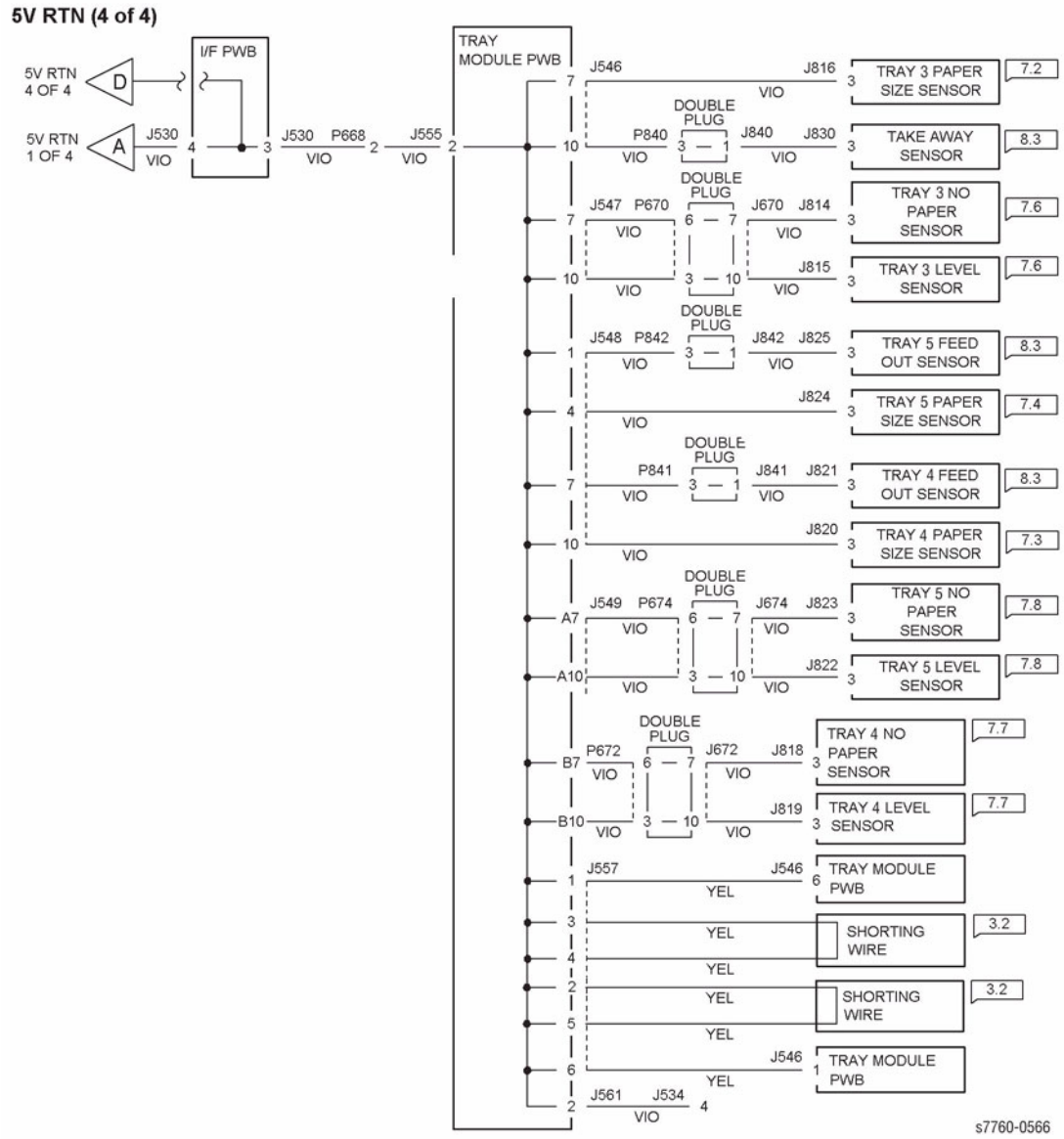


Figure 4 5V RTN (4 of 4) Wirenet

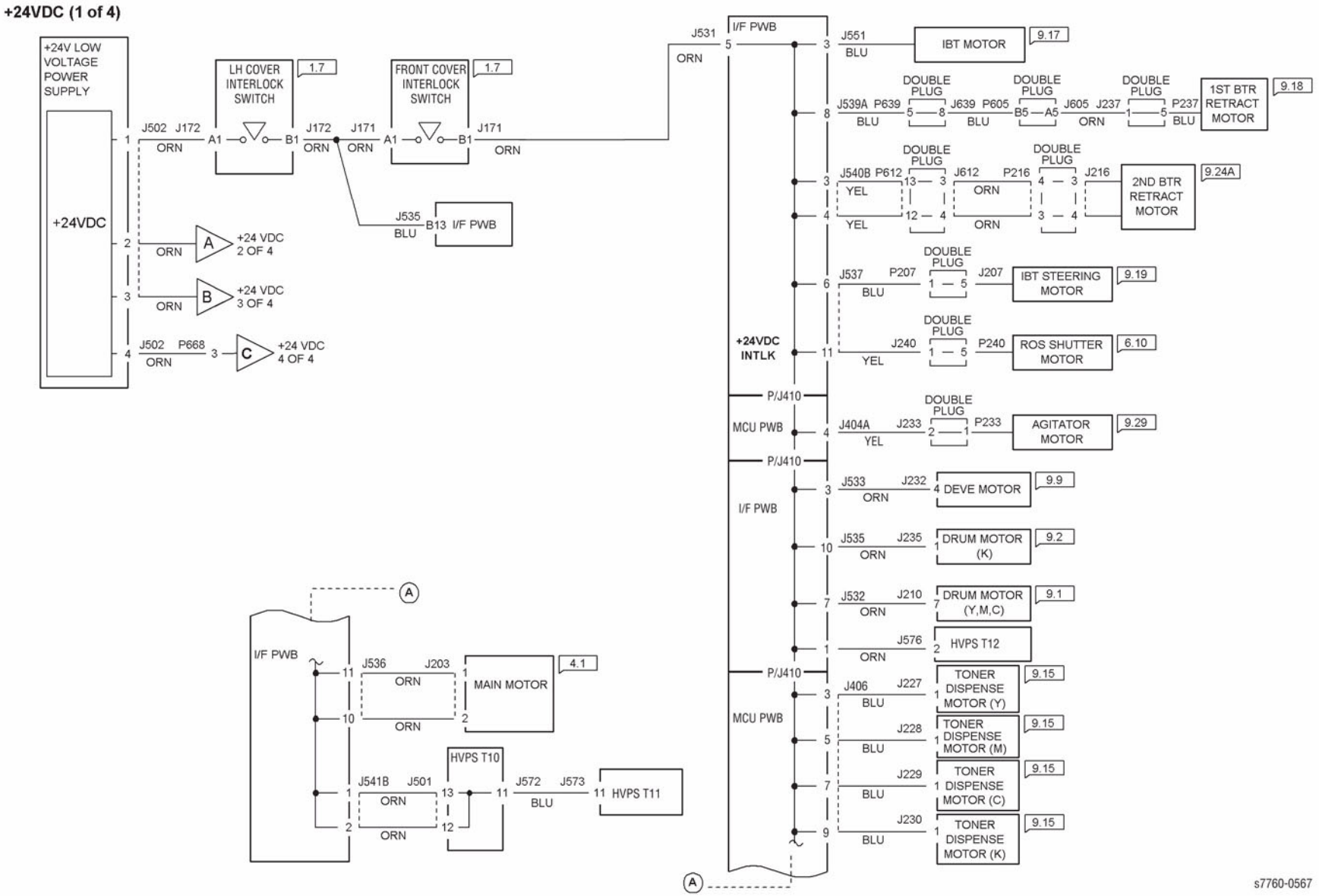


Figure 1 +24 VDC (1 of 4)

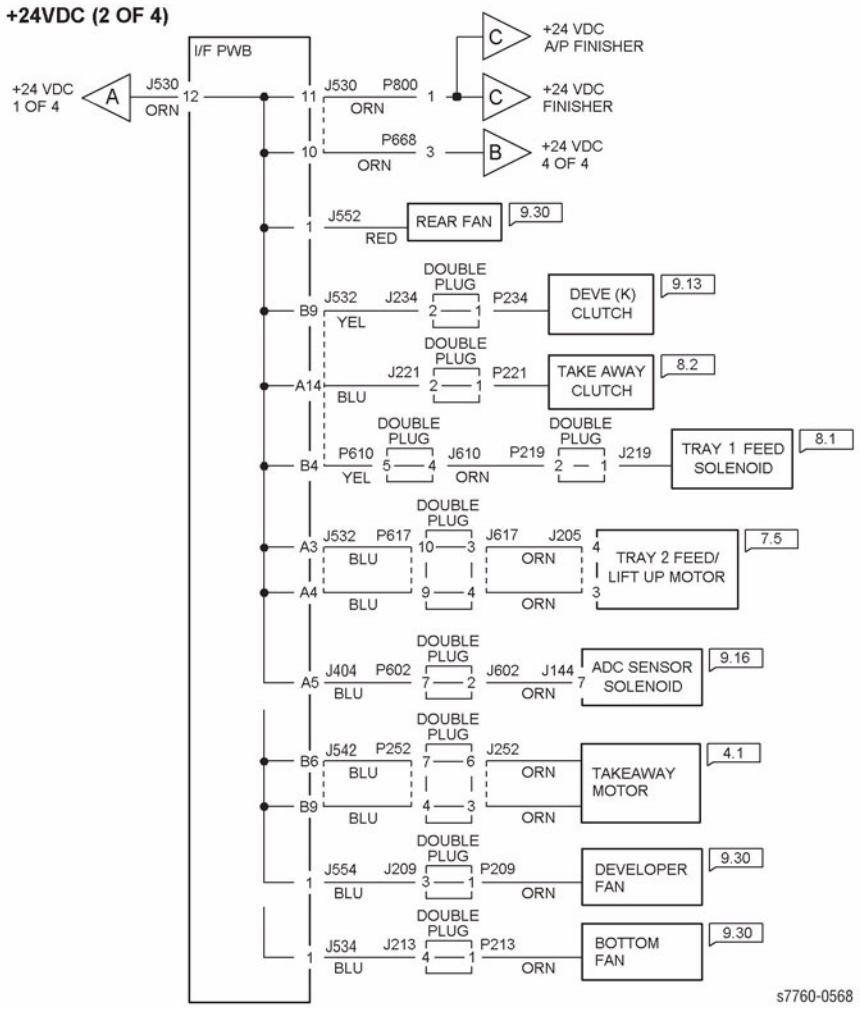


Figure 2 +24 VDC (2 of 4)

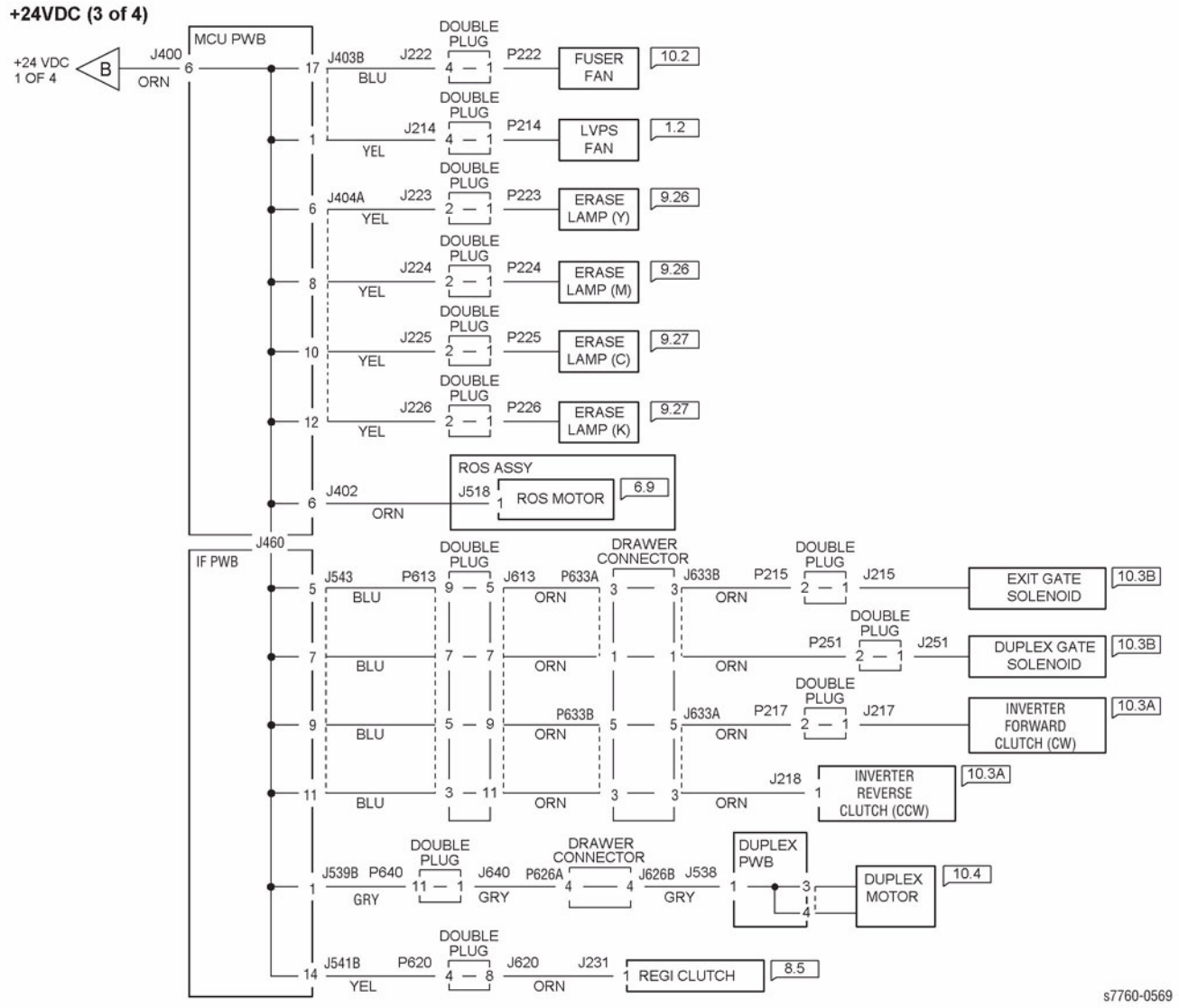


Figure 3 +24 VDC (3 of 4)

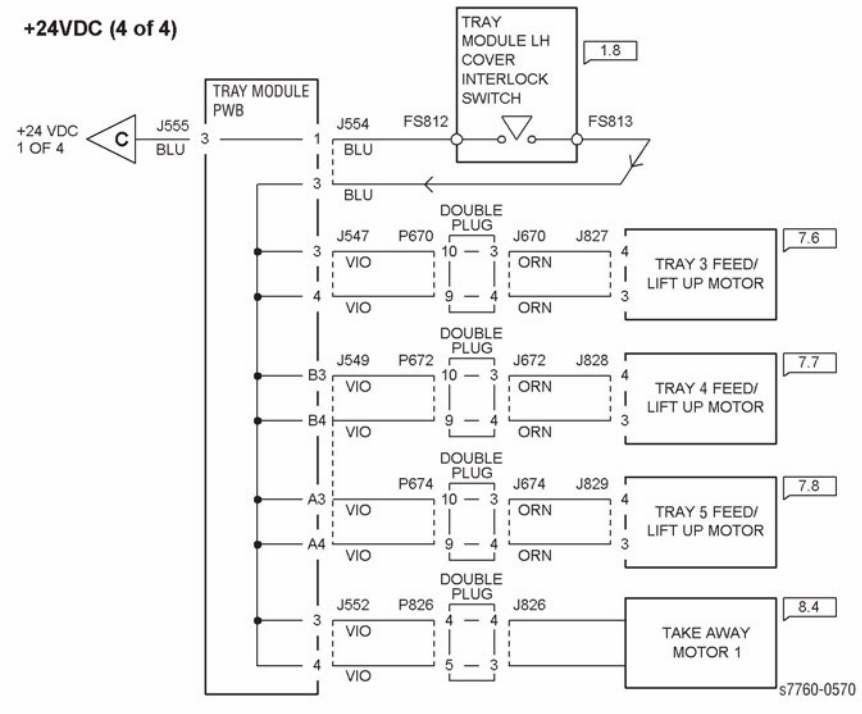


Figure 4 +24 VDC (4 of 4)

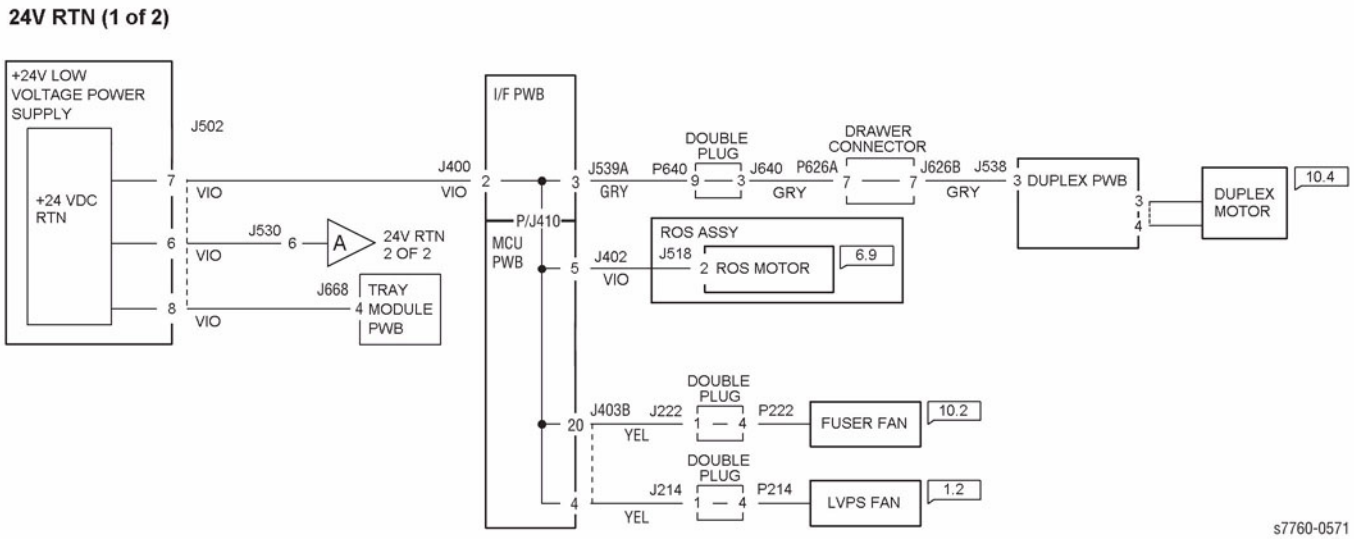


Figure 1 +24 VDC RTN (1 of 2)

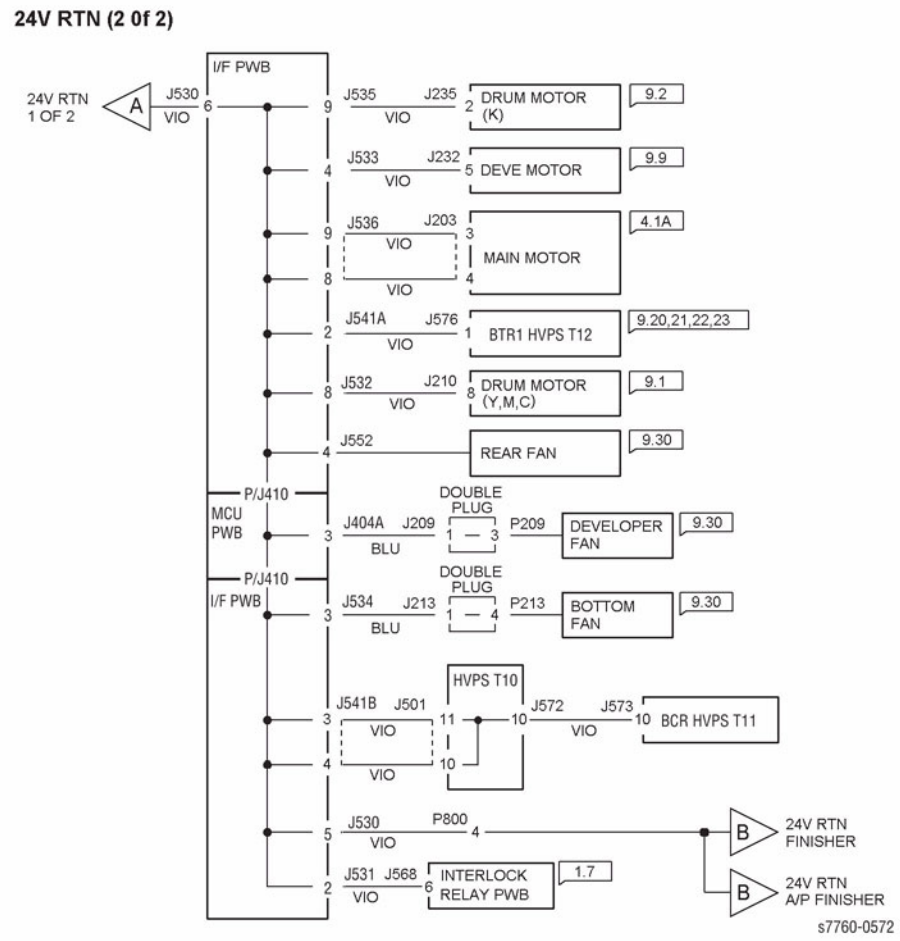


Figure 2 +24 VDC RTN (2 of 2)

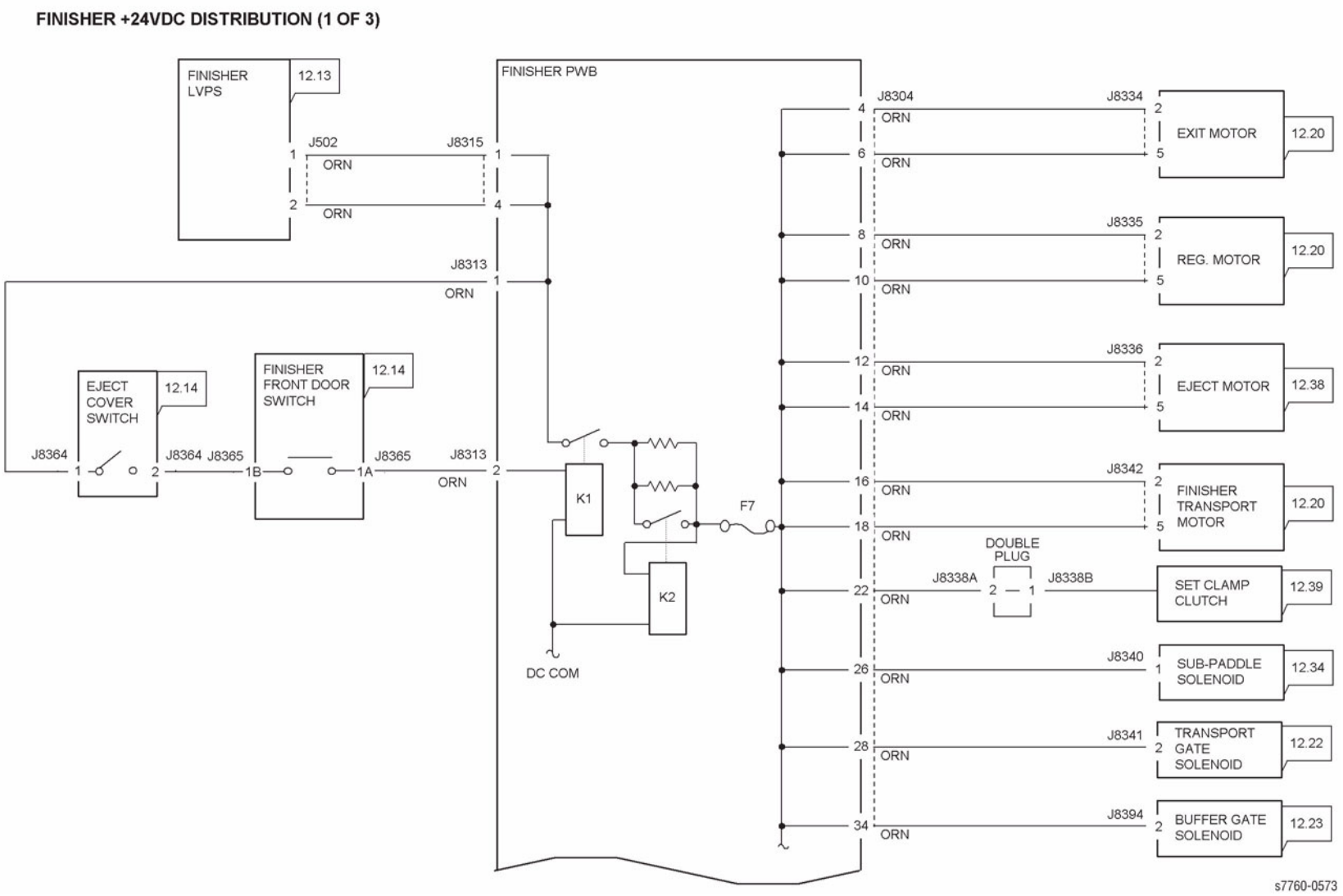


Figure 1 Finisher +24 VDC Wirenet (1 of 3)

FINISHER +24 VDC DISTRIBUTION (2 OF 3)

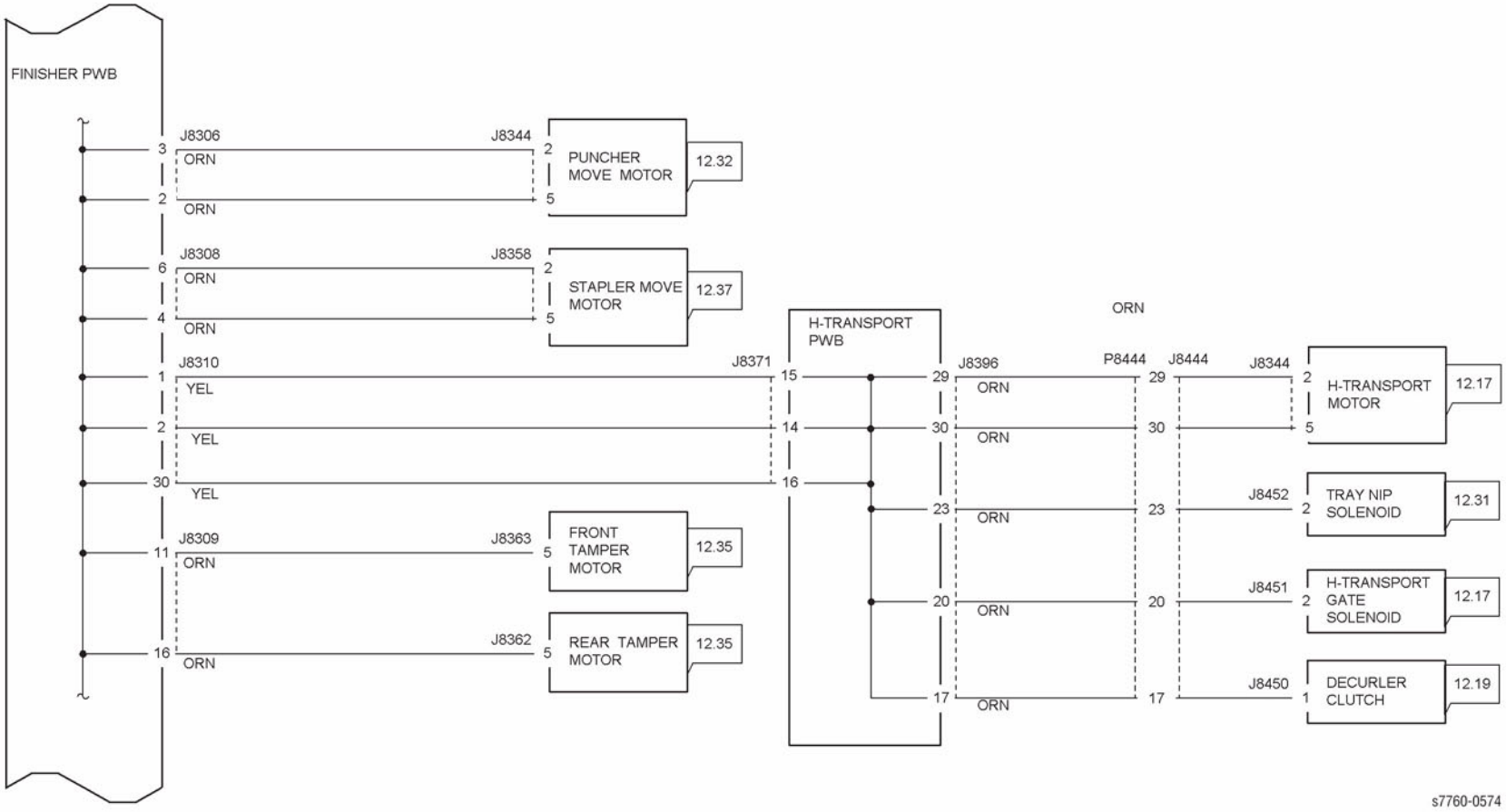


Figure 2 Finisher +24 VDC Wirenet (2 of 3)

FINISHER +24VDC DISTRIBUTION (3 OF 3)

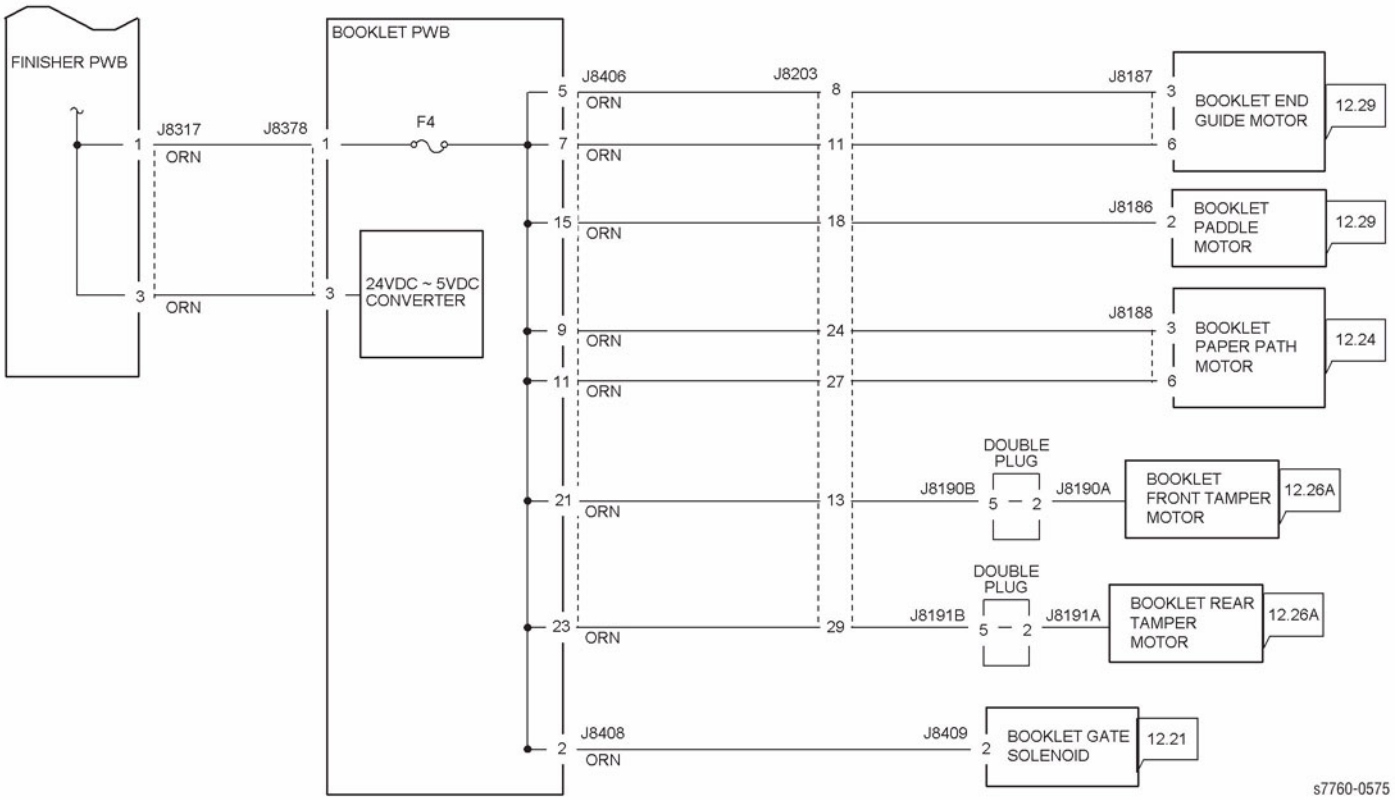


Figure 3 Finisher +24 VDC Wirenet (3 of 3)

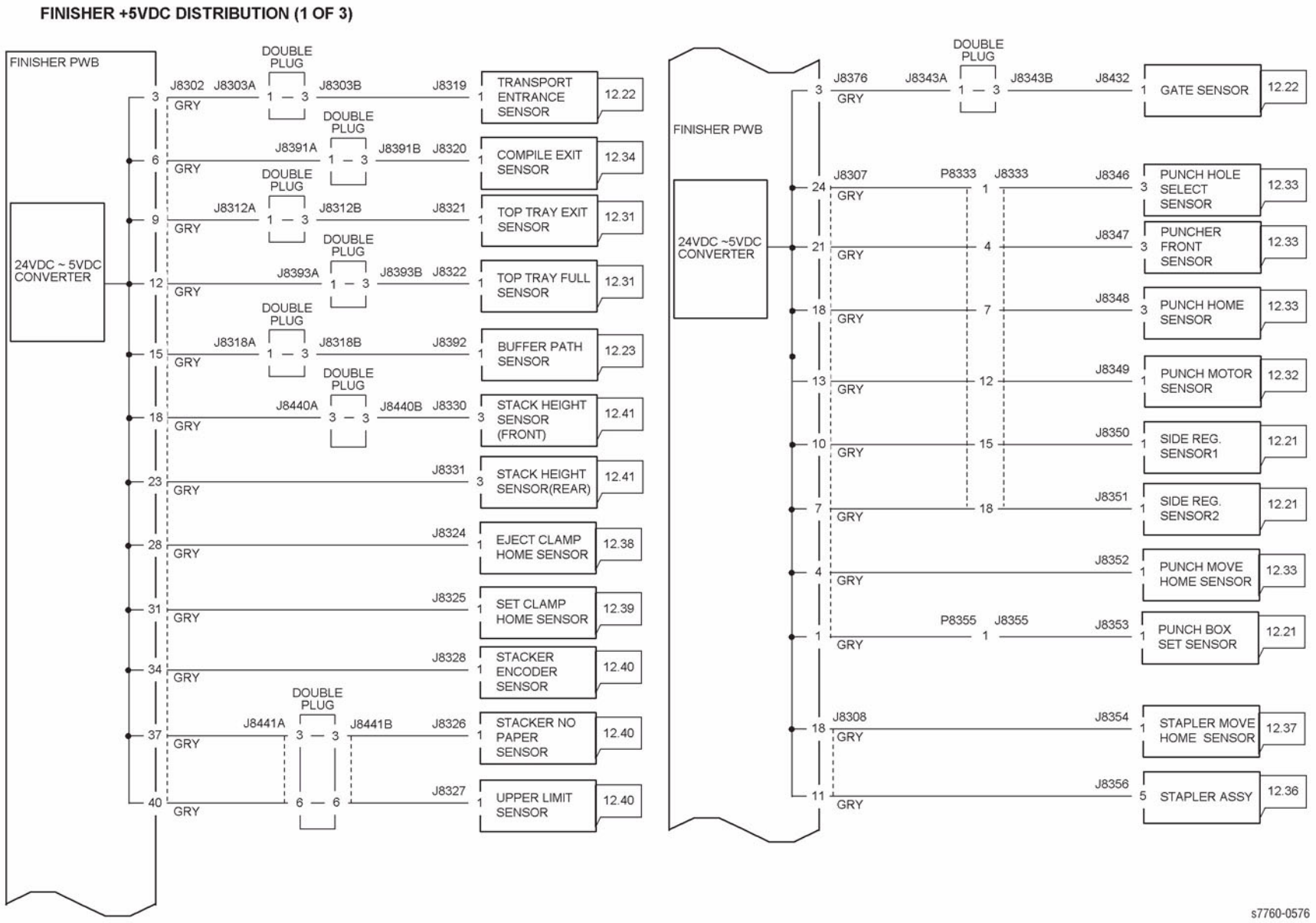


Figure 4 Finisher +5 VDC Wirenet (1 of 3)

FINISHER +5 VDC DISTRIBUTION (2 OF 3)

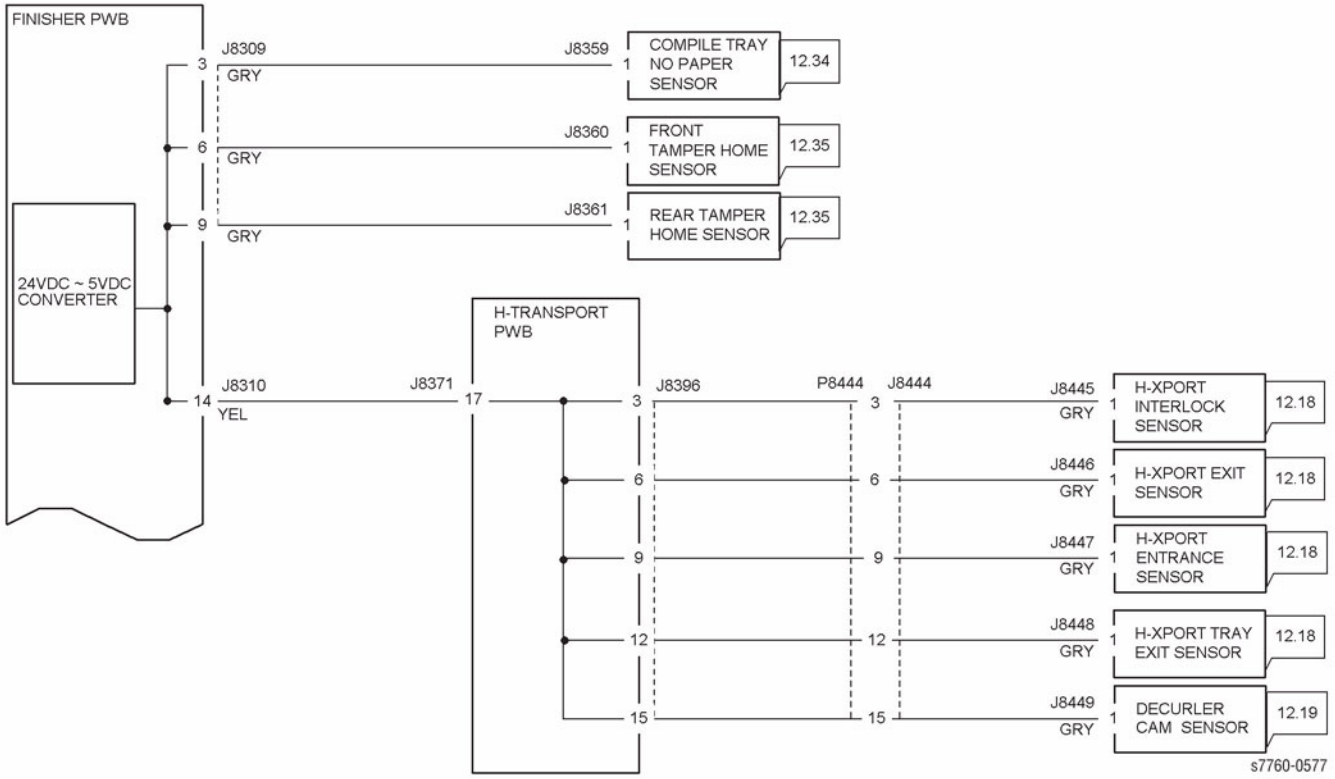


Figure 5 Finisher +5 VDC Wirenet (2 of 3)

FINISHER +5 VDC DISTRIBUTION (3 OF 3) (BOOKLET MAKER OPTION)

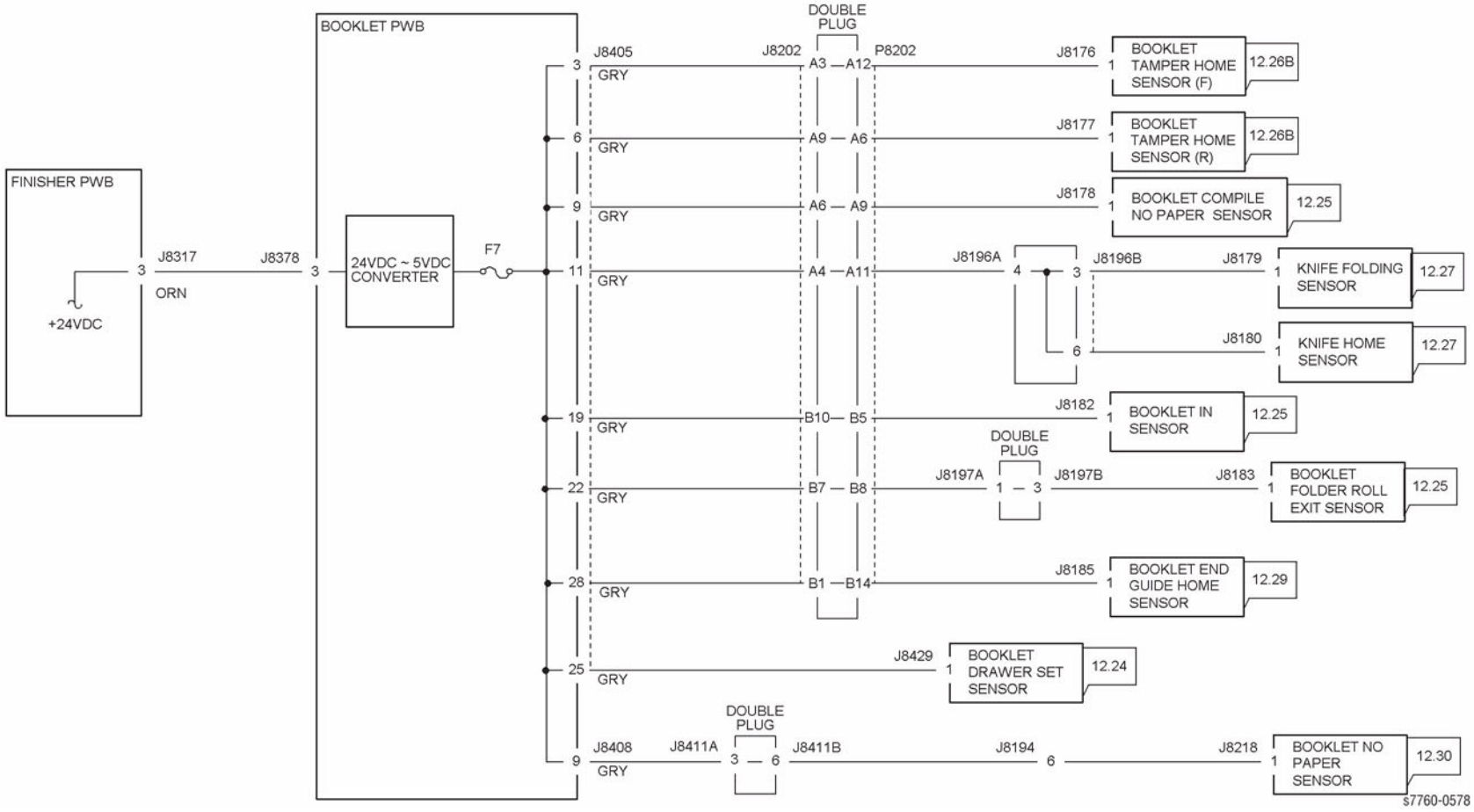


Figure 6 Finisher +5 VDC Wirenet (3 of 3)

FINISHER DC COM DISTRIBUTION (1 OF 4)

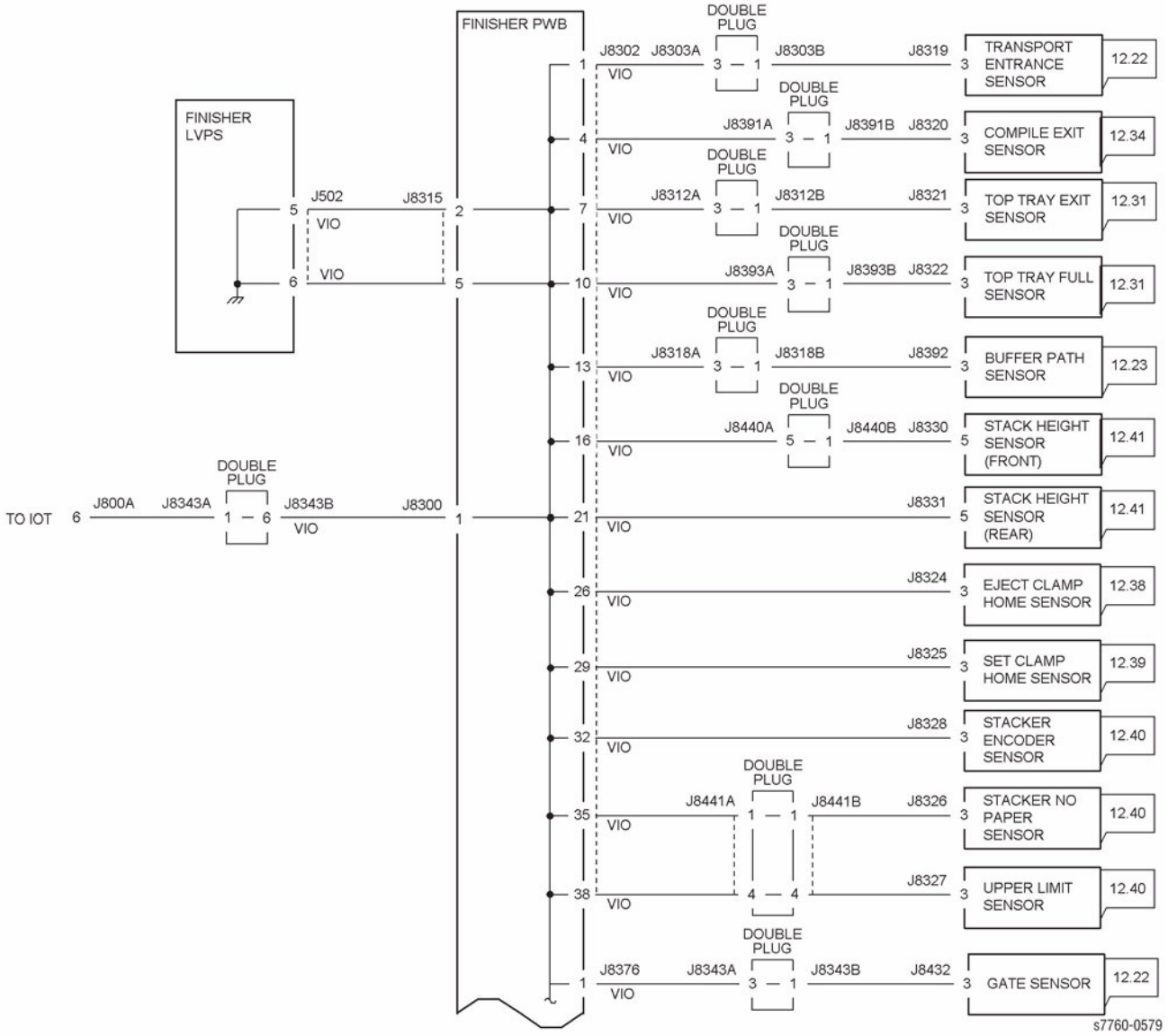


Figure 7 Finisher DC COM Wirenet (1 of 4)

FINISHER DC COM DISTRIBUTION (2 OF 4)

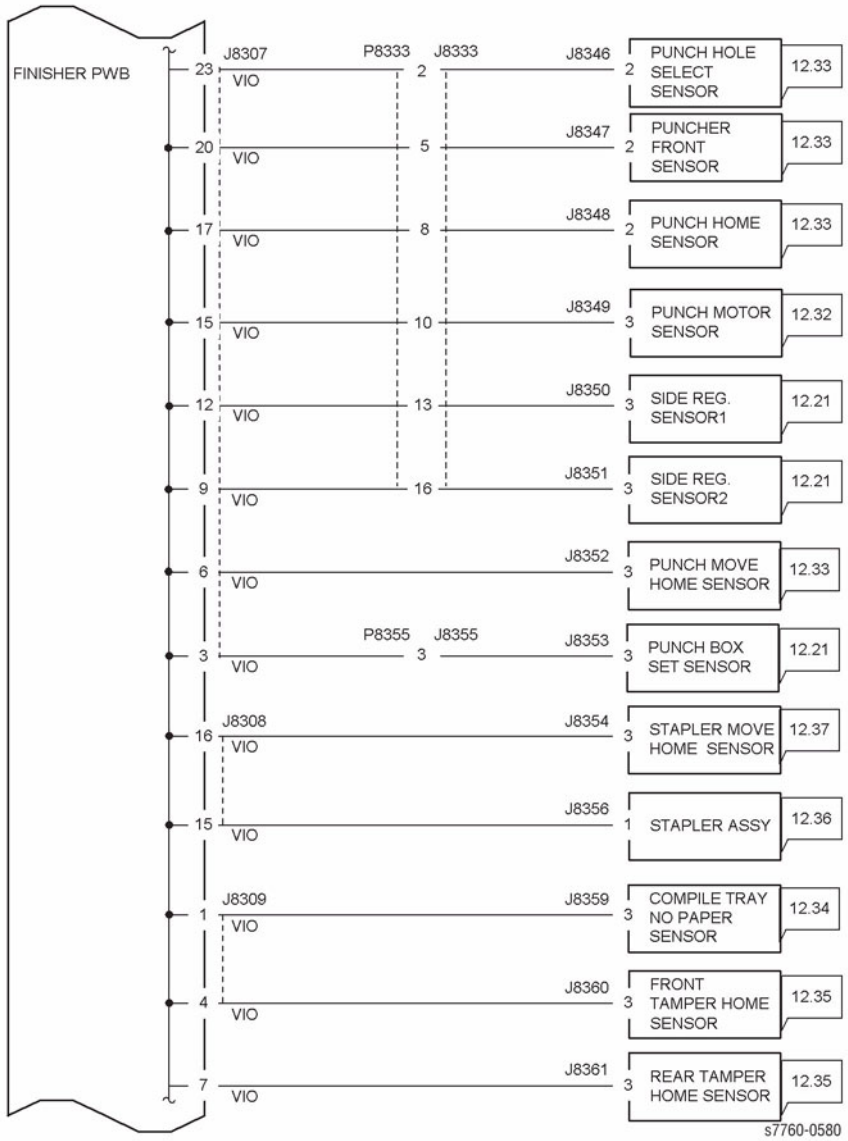


Figure 8 Finisher DC COM Wirenet (2 of 4)

FINISHER DC COM DISTRIBUTION (3 OF 4)

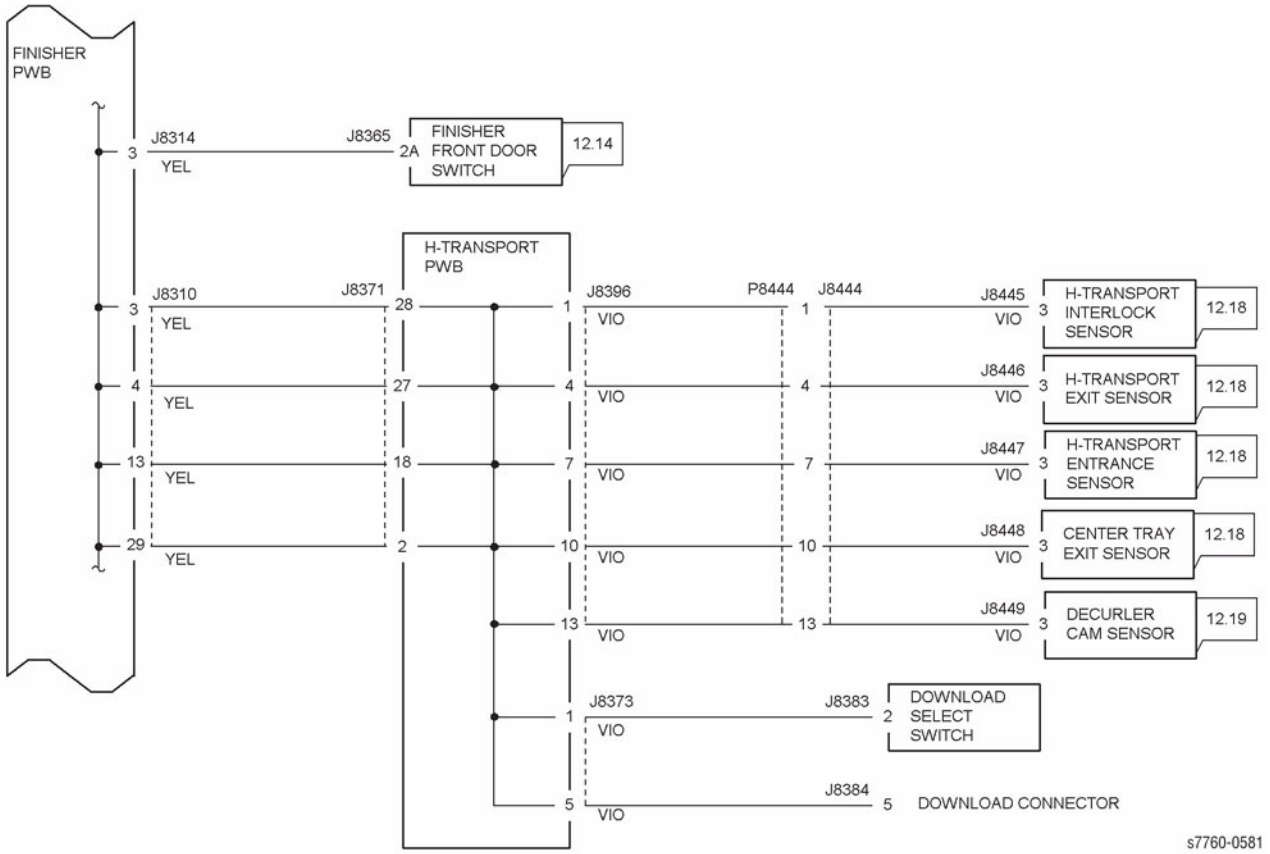


Figure 9 Finisher DC COM Wirenet (3 of 4)

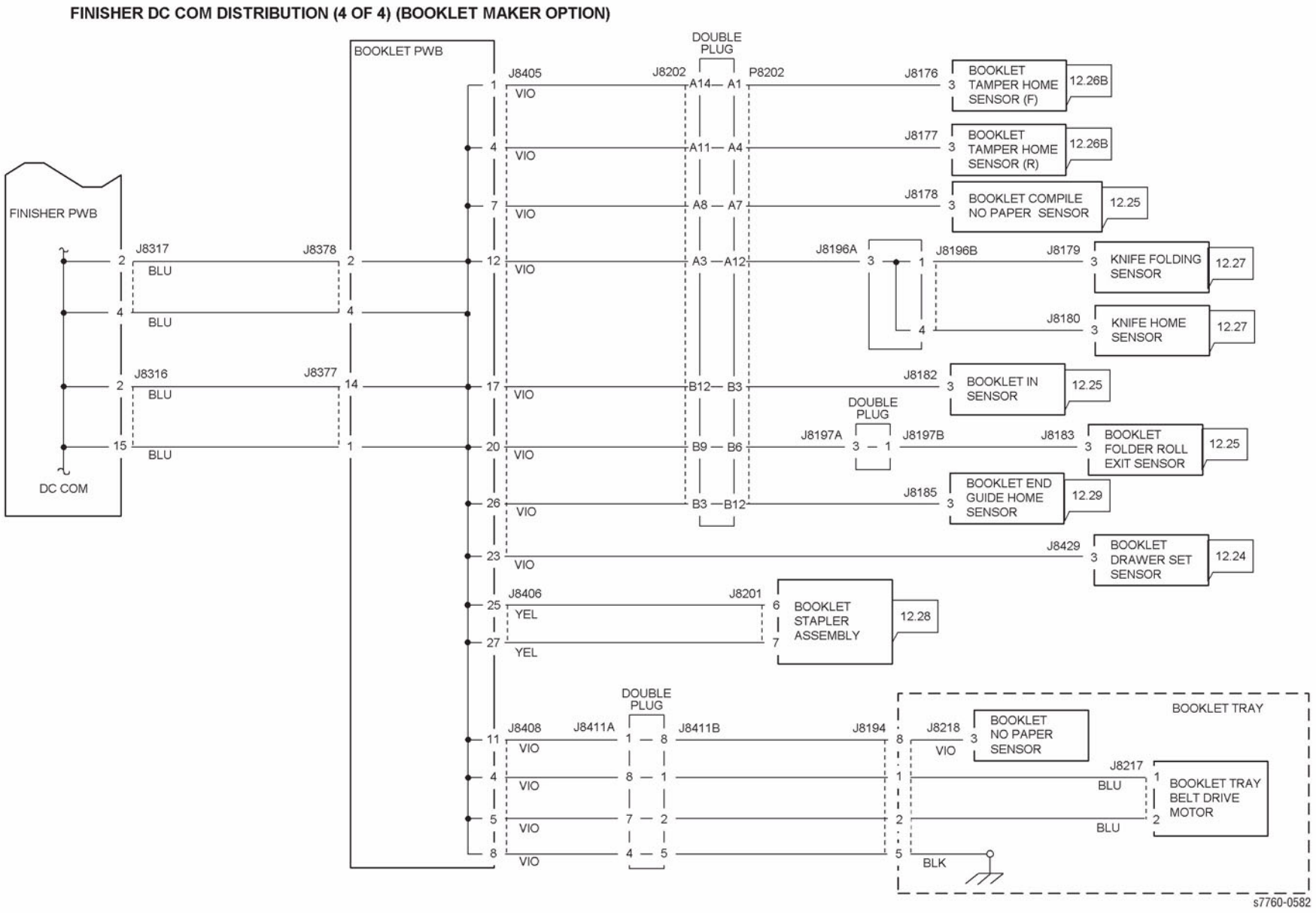


Figure 10 Finisher DC COM Wirenet (4 of 4)

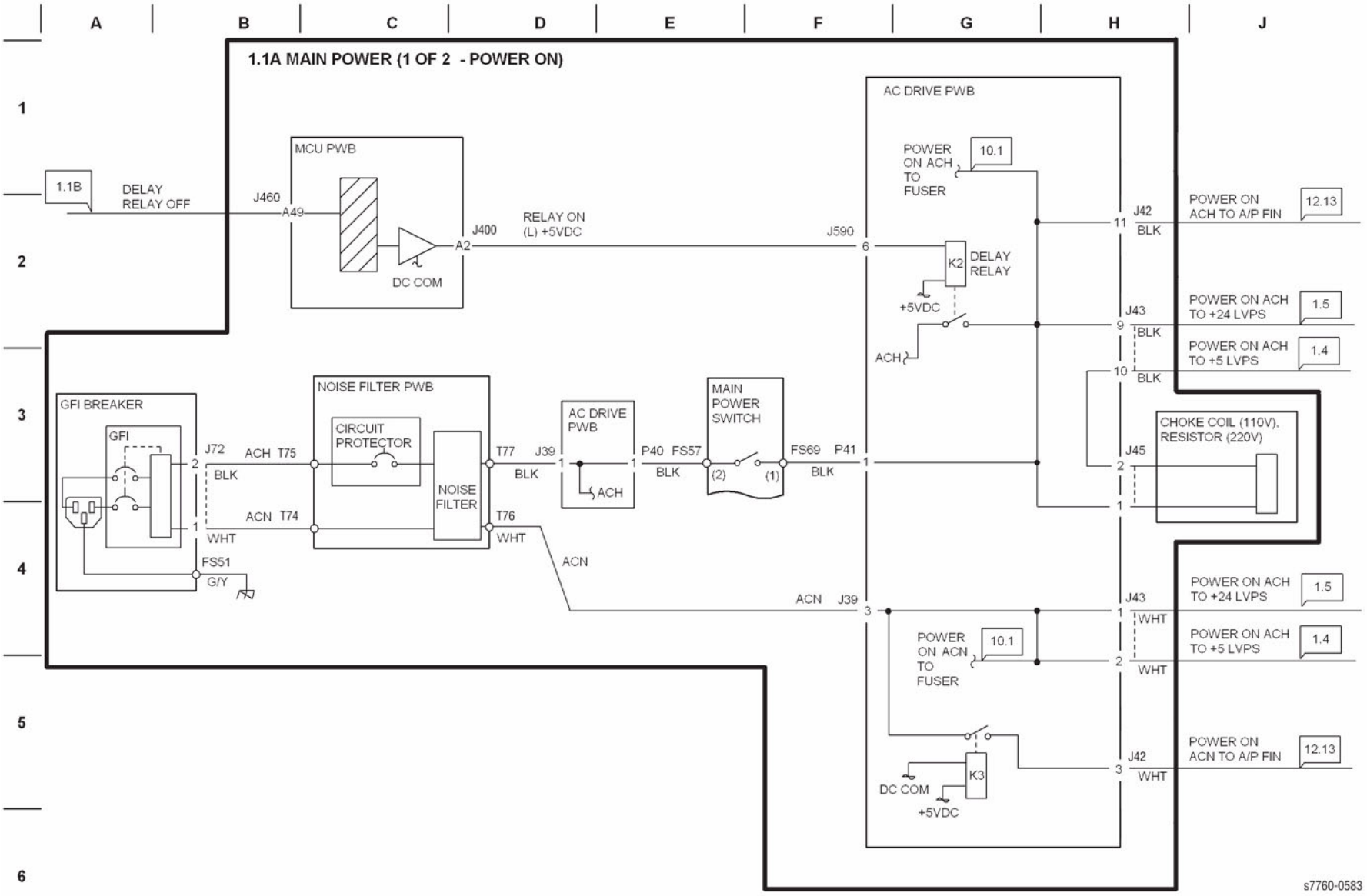


Figure 1 BSD 1.1A Main Power (1 of 2 - Power On)

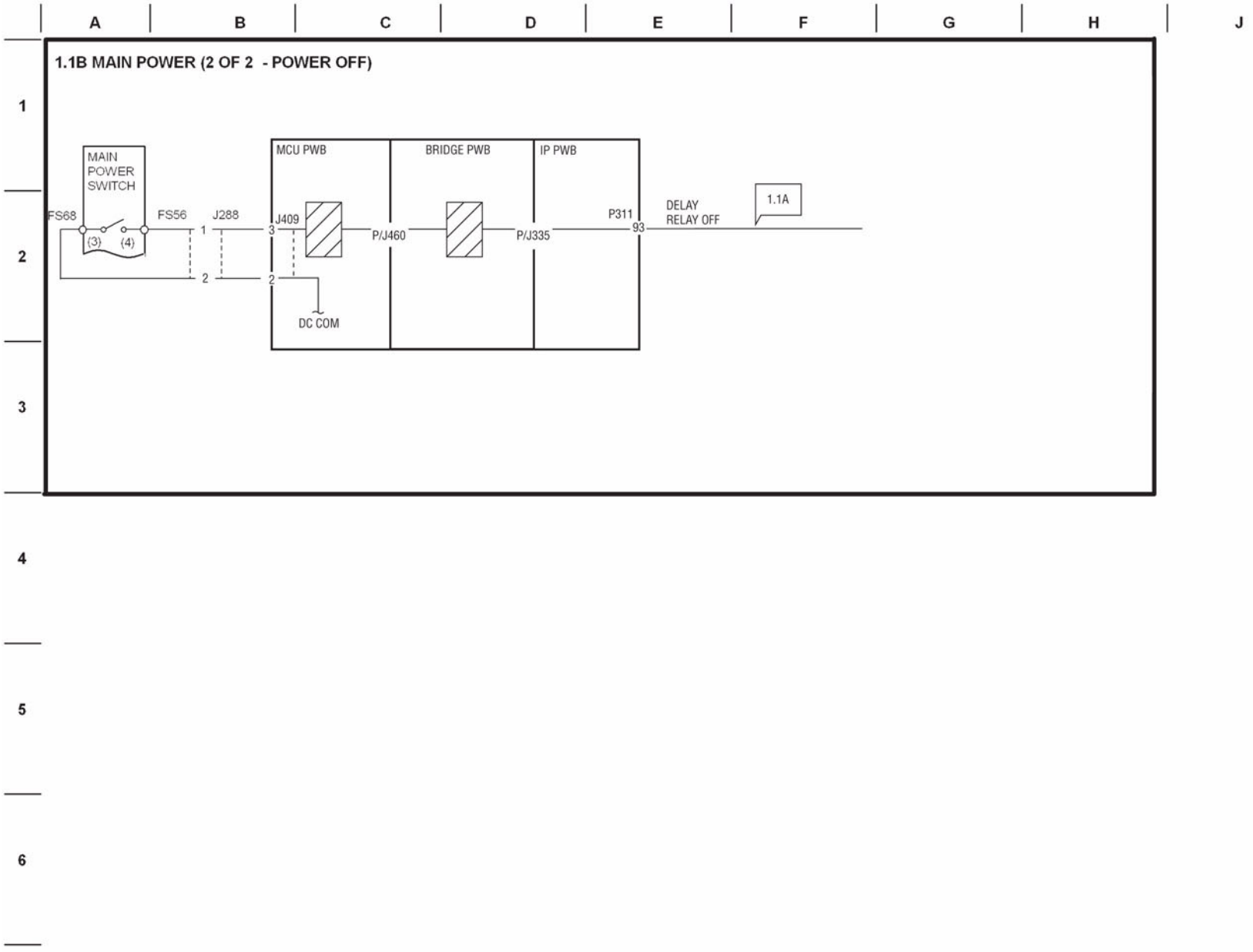


Figure 2 BSD 1.1B Main Power (2 of 2 - Power Off)

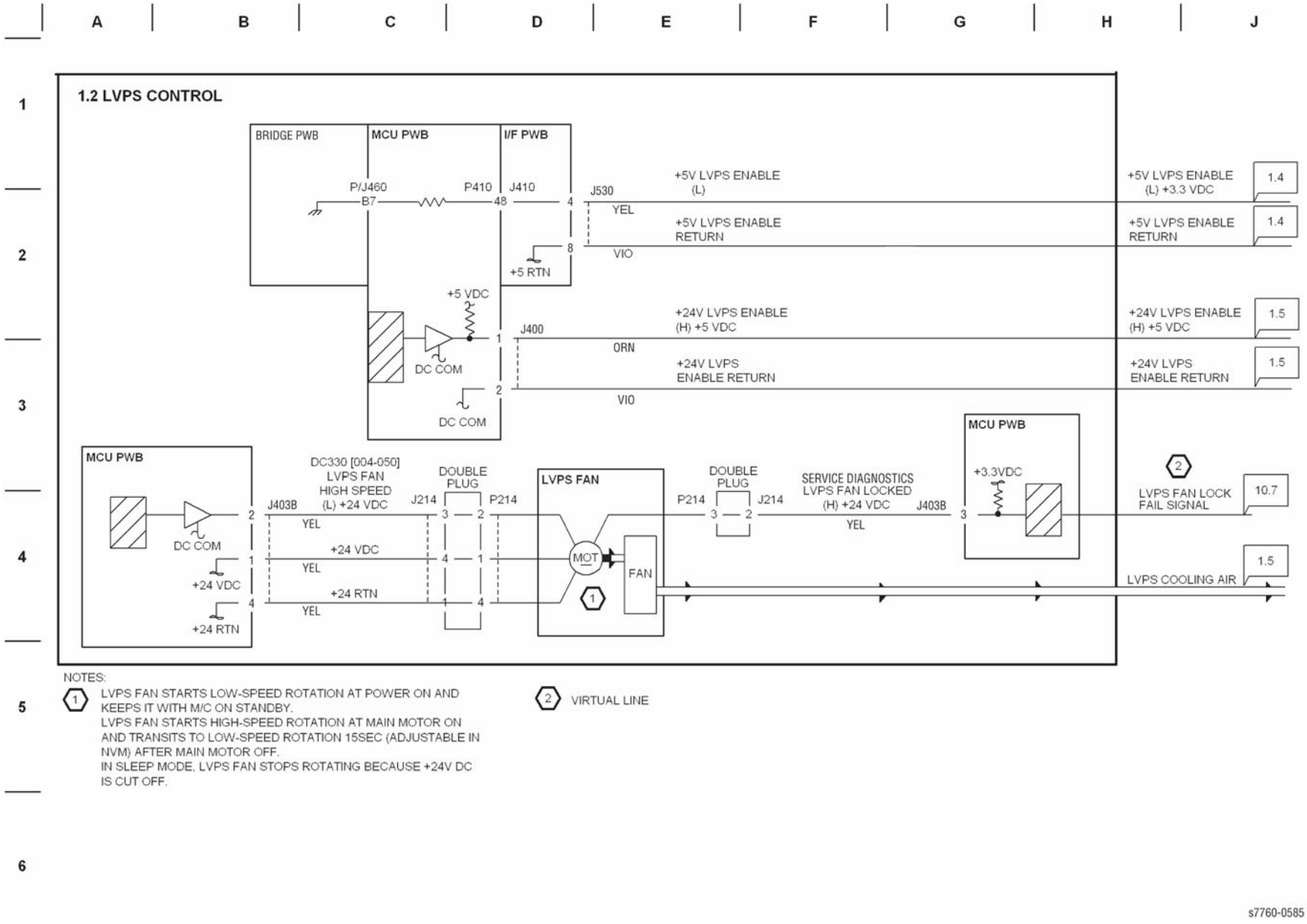


Figure 3 BSD 1.2 LVPS Control

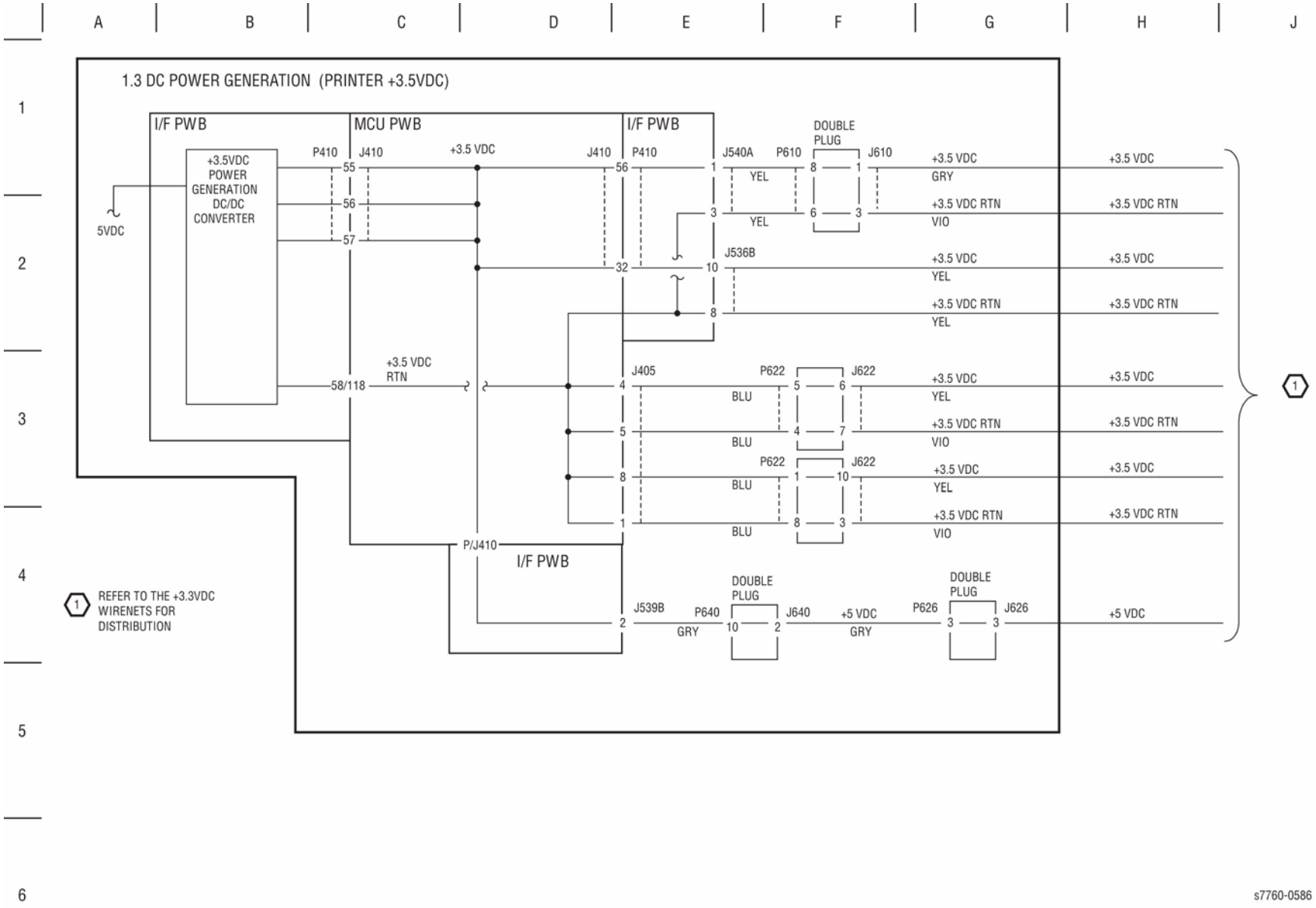


Figure 4 BSD 1.3 DC Power Generation (Printer +3.5 VDC)

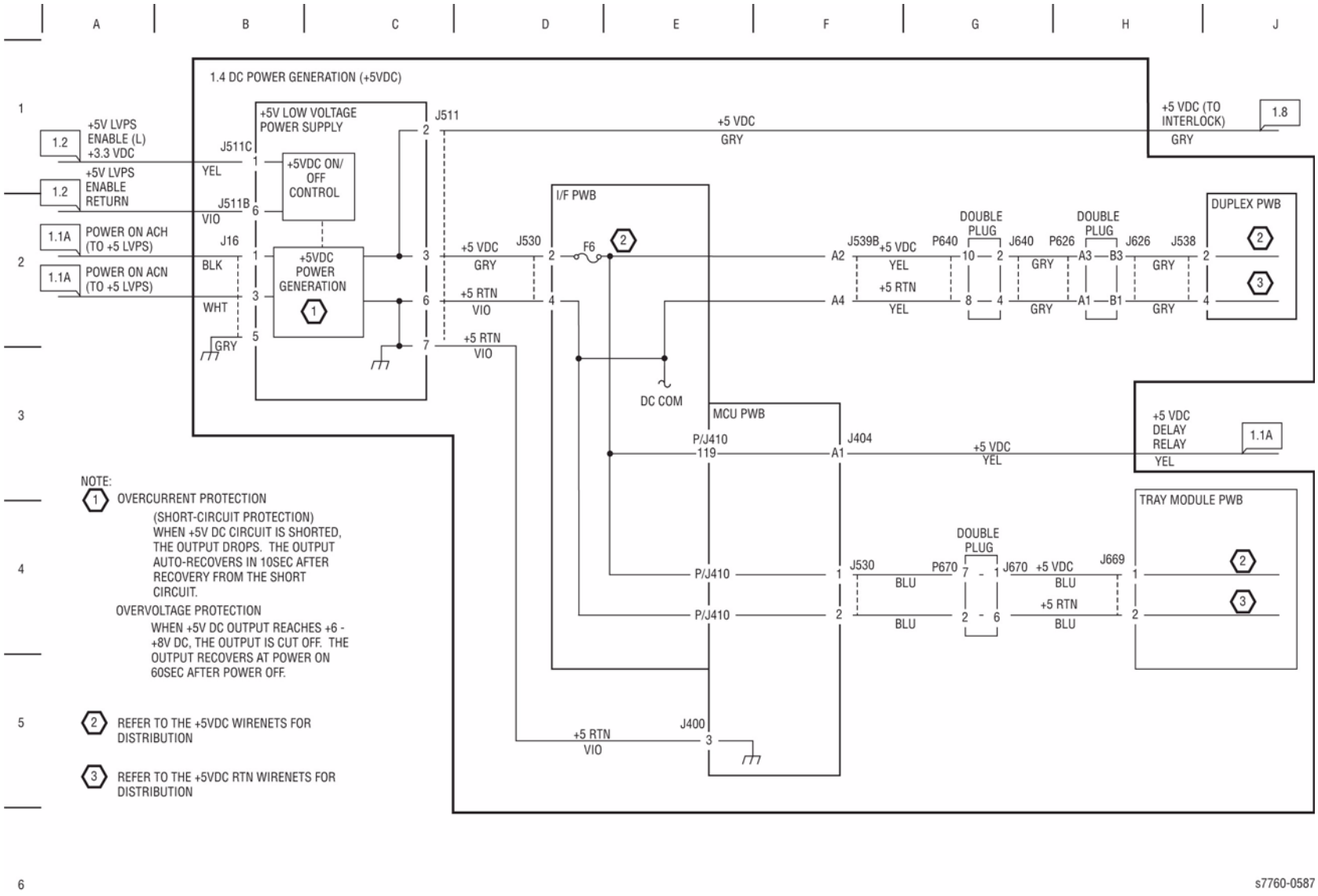


Figure 5 BSD 1.4 DC Power Generation (+5 VDC)

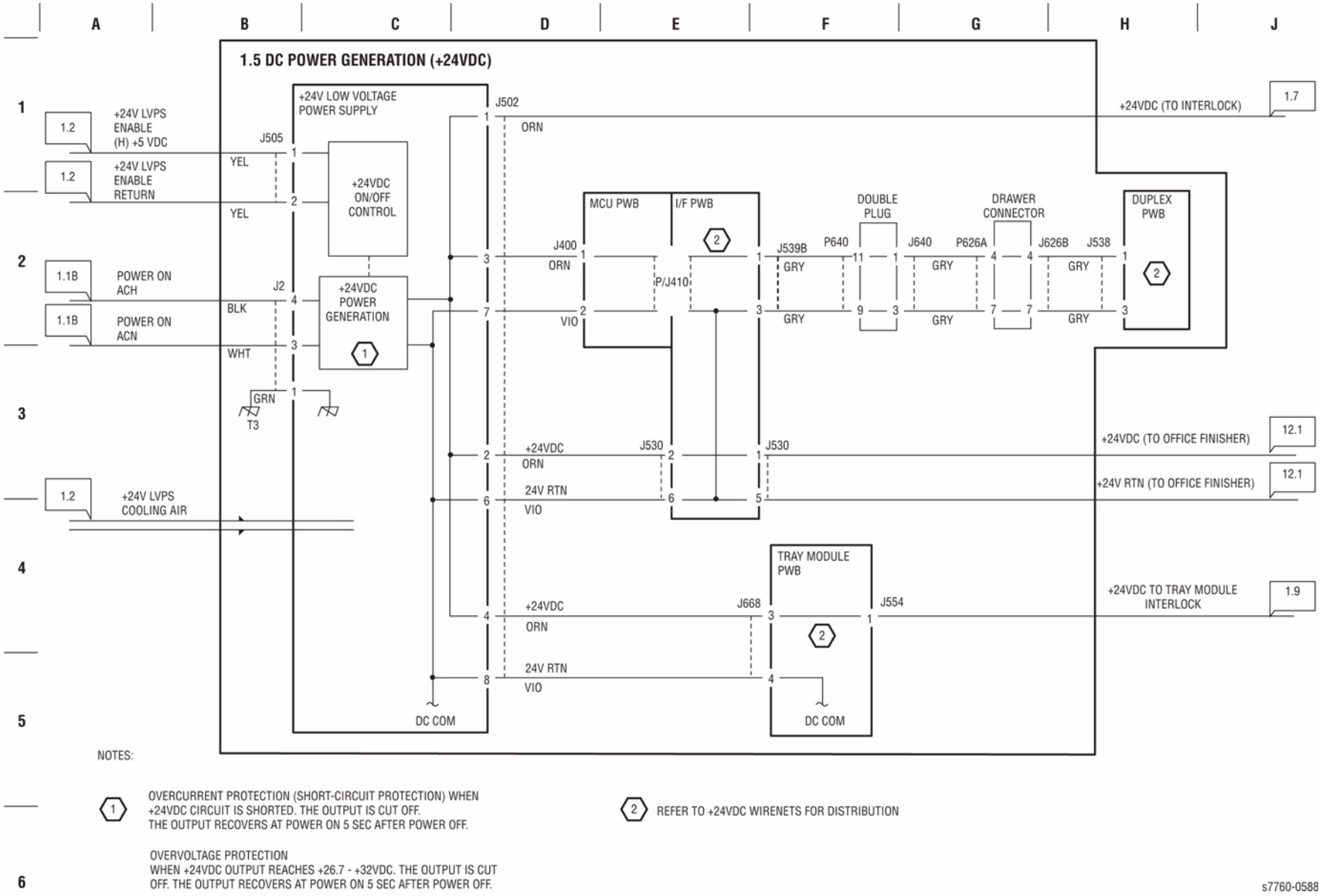


Figure 6 BSD 1.5 DC Power Generation (Printer +24 VDC)

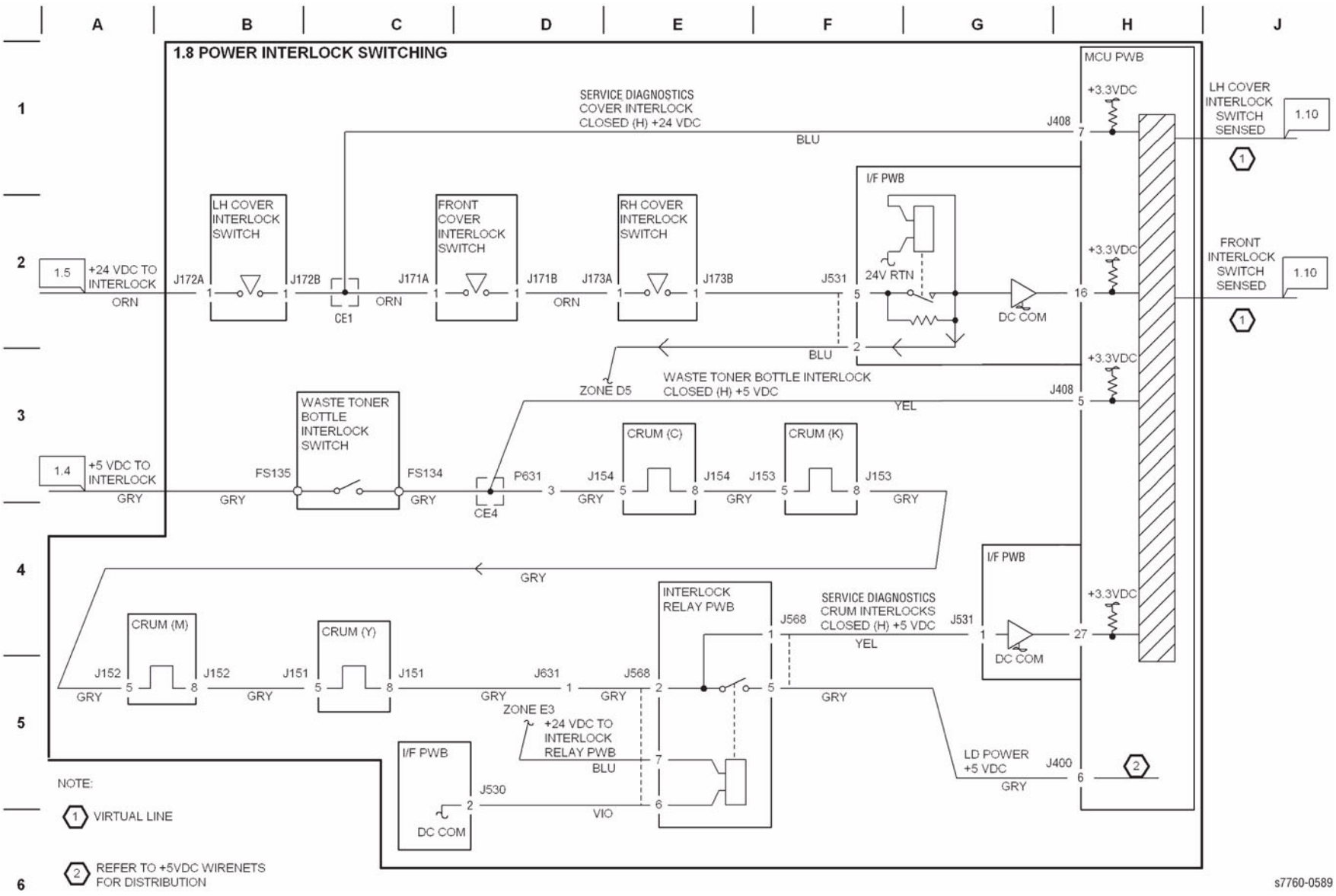


Figure 7 BSD 1.8 Power Interlock Switching

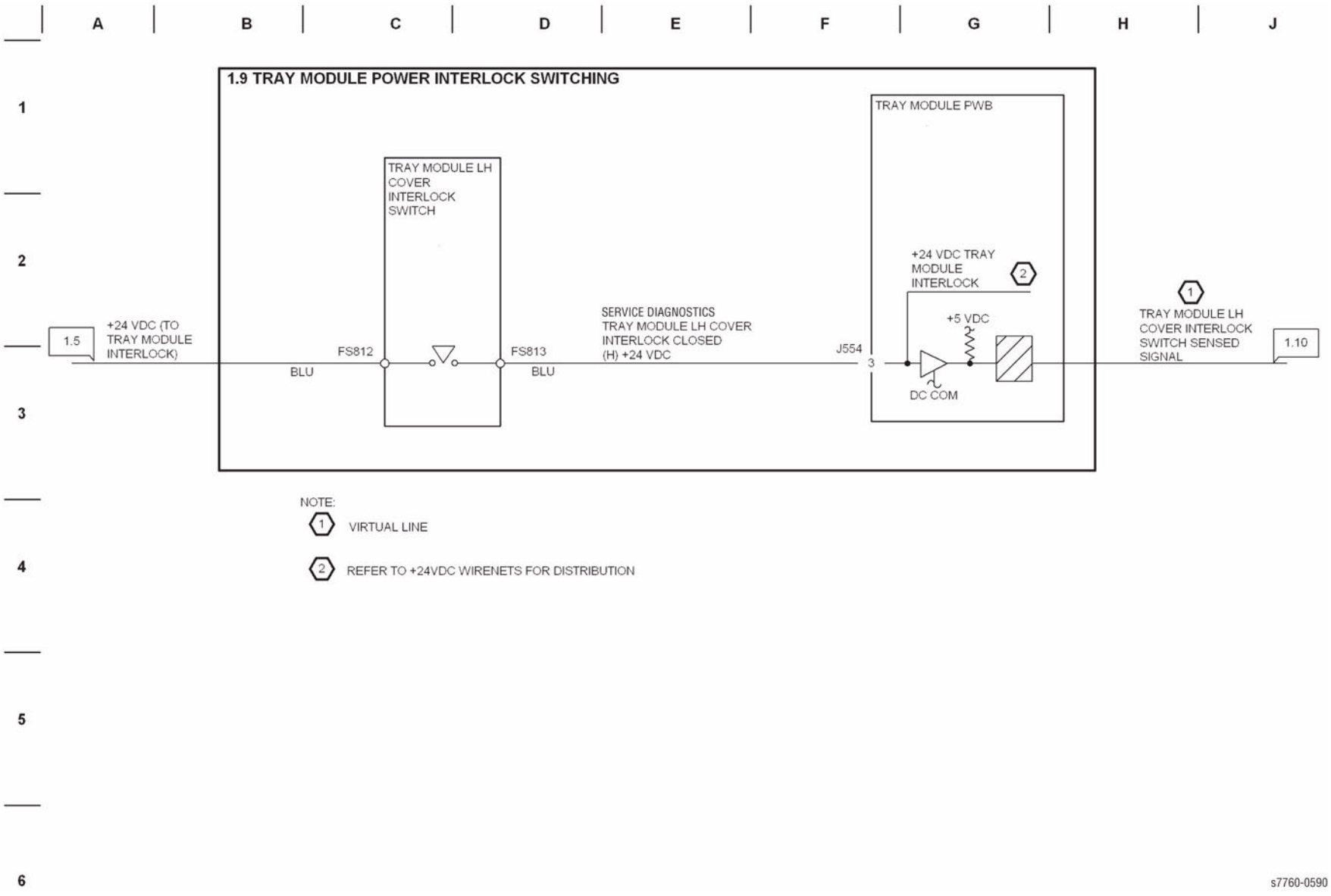


Figure 8 BSD 1.9 Tray Module Power Interlock Switching

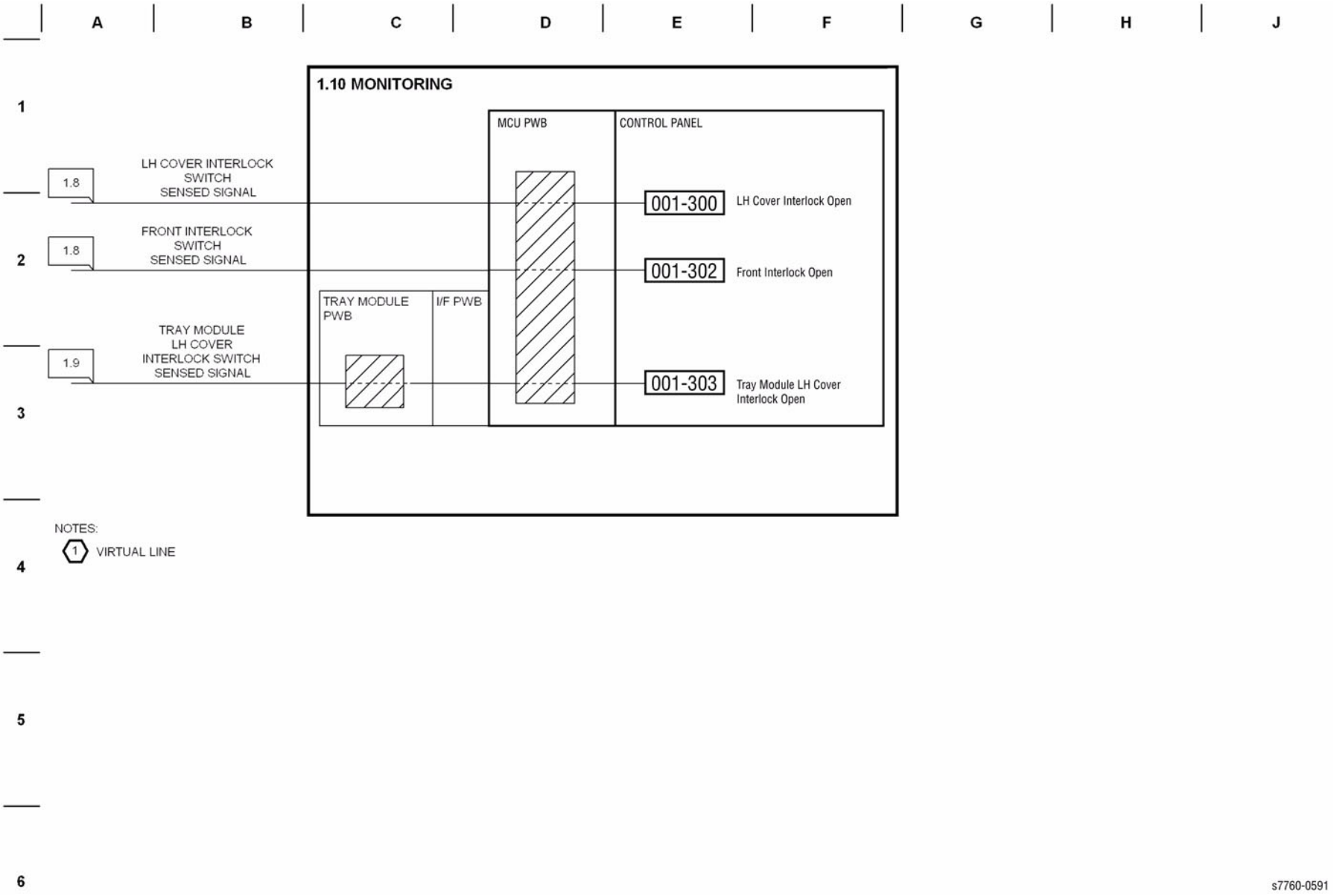


Figure 9 BSD 1.10 Monitoring

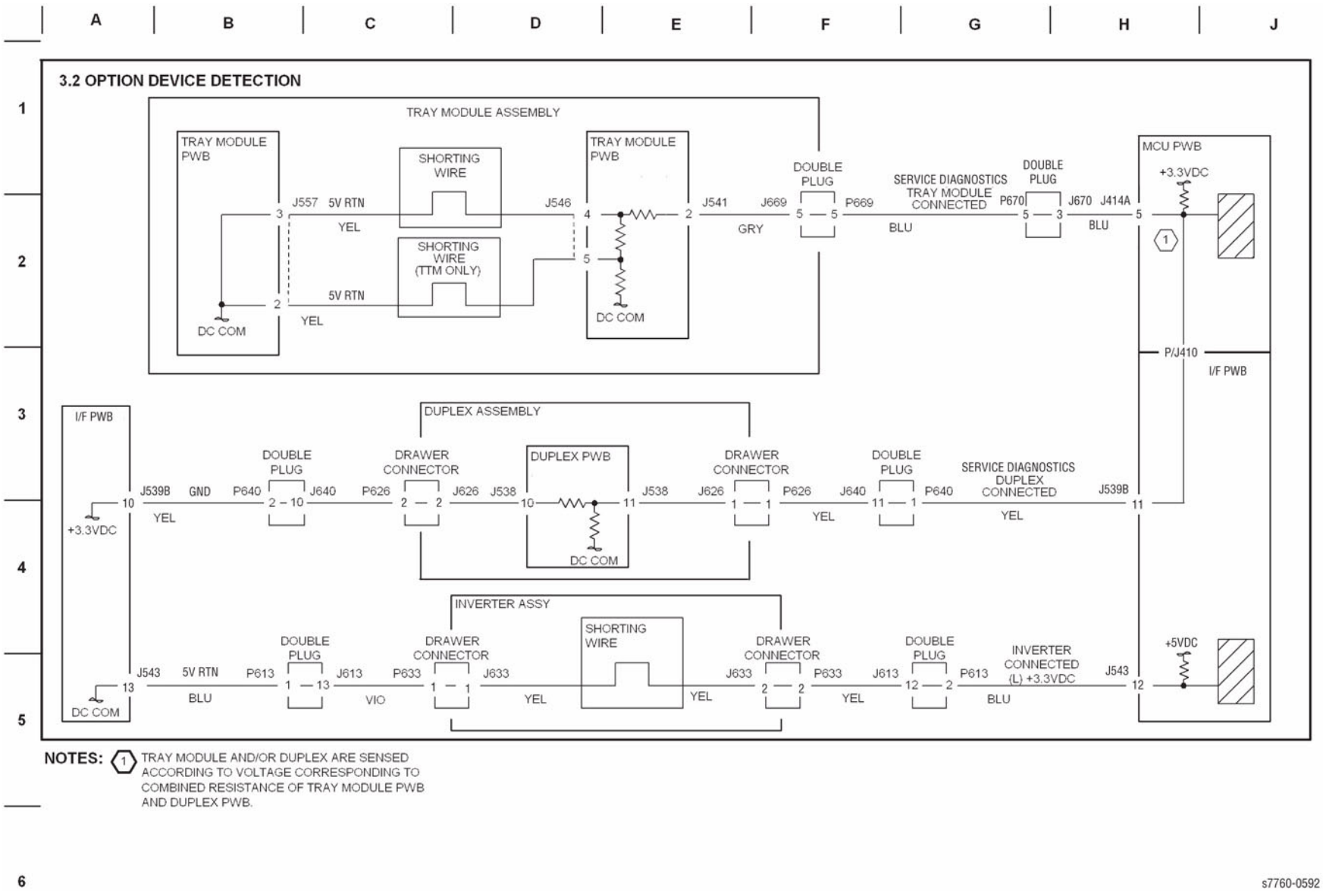


Figure 1 BSD 3.2 Option Device Detection

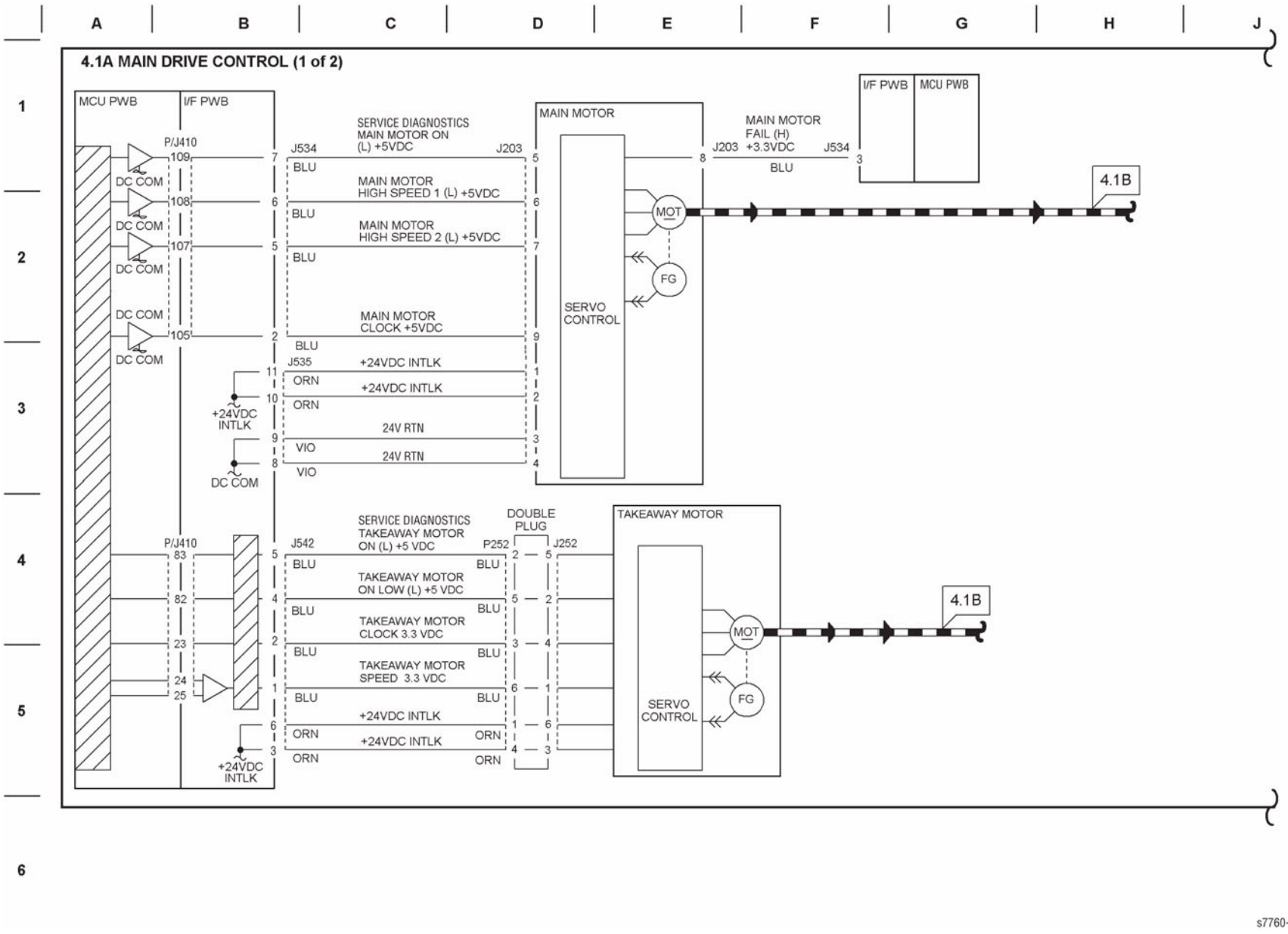


Figure 1 BSD 4.1A Main Drive Control (1 of 2)

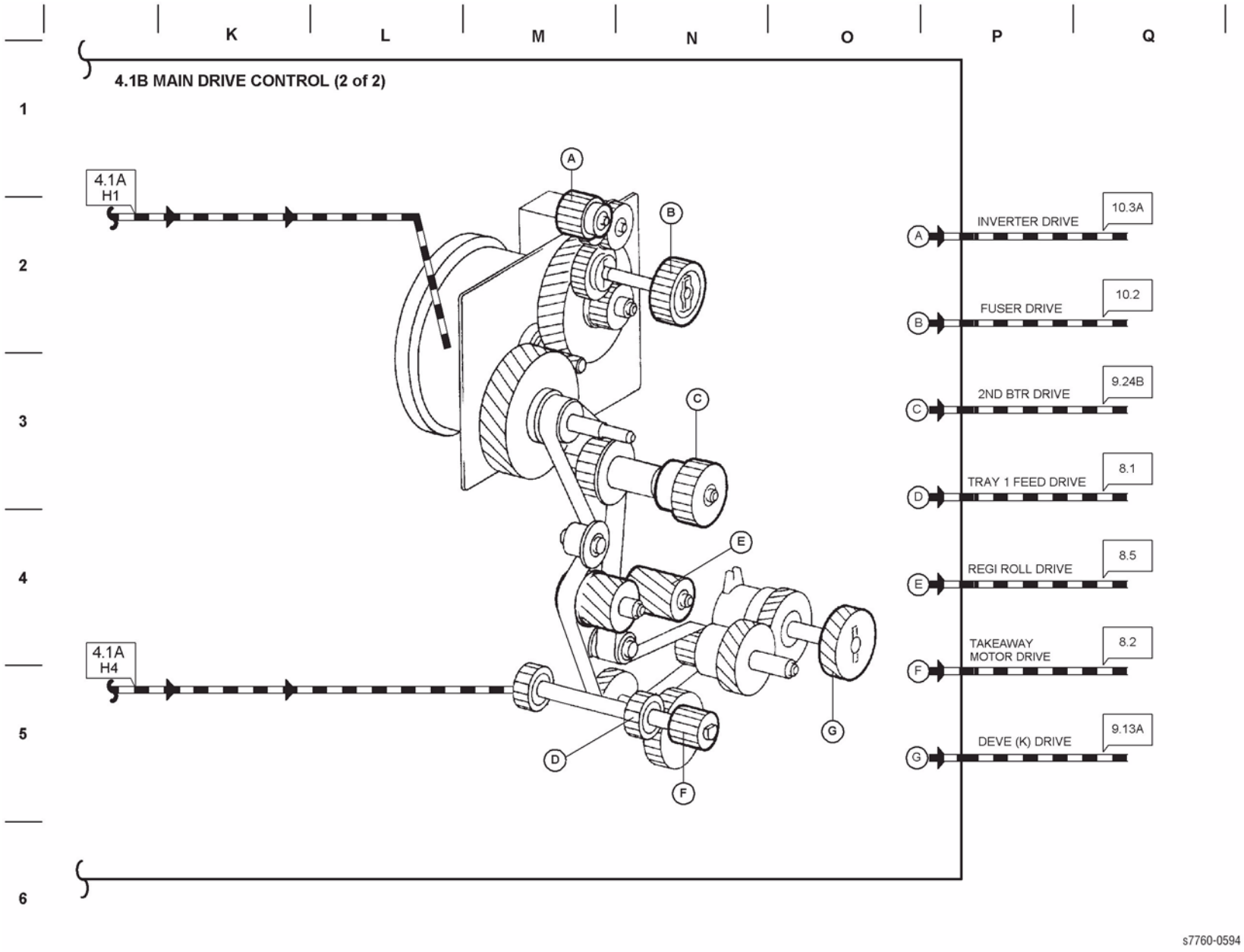


Figure 2 BSD 4.1B Main Drive Control (2 of 2)

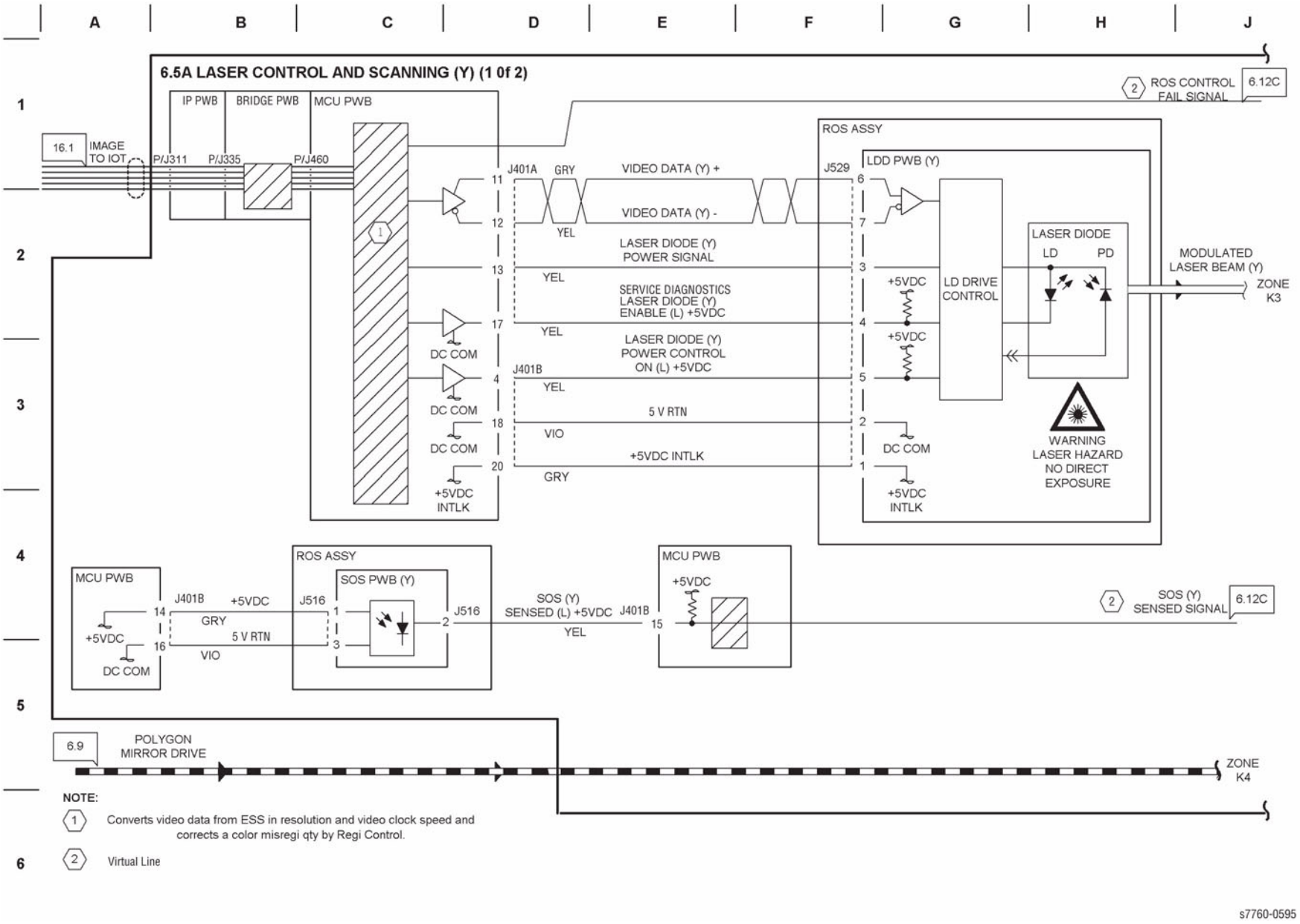


Figure 1 BSD 6.5A Laser Control and Scanning (Y) (1 of 2)

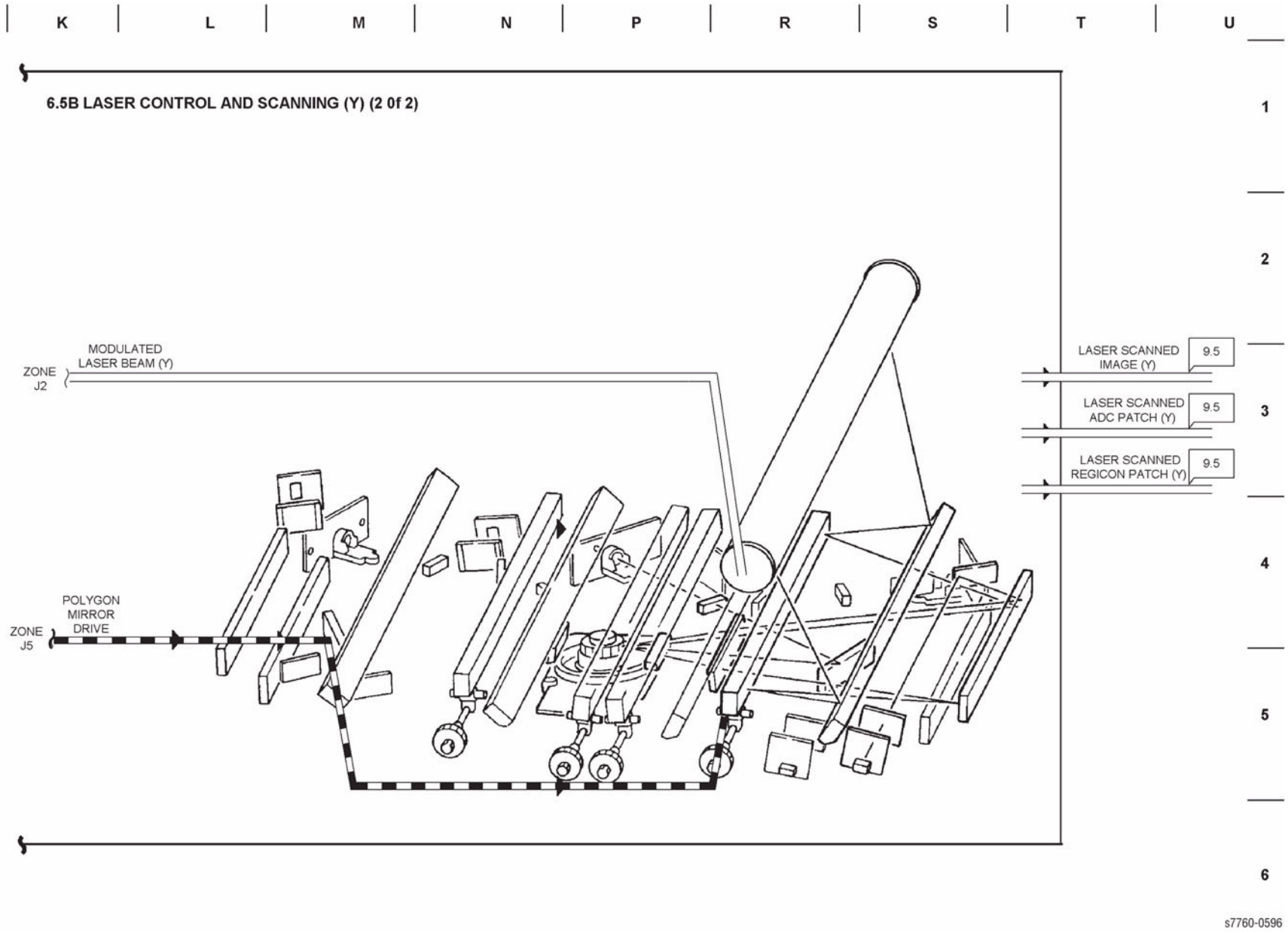


Figure 2 BSD 6.5B Laser Control and Scanning (Y) (2 of 2)

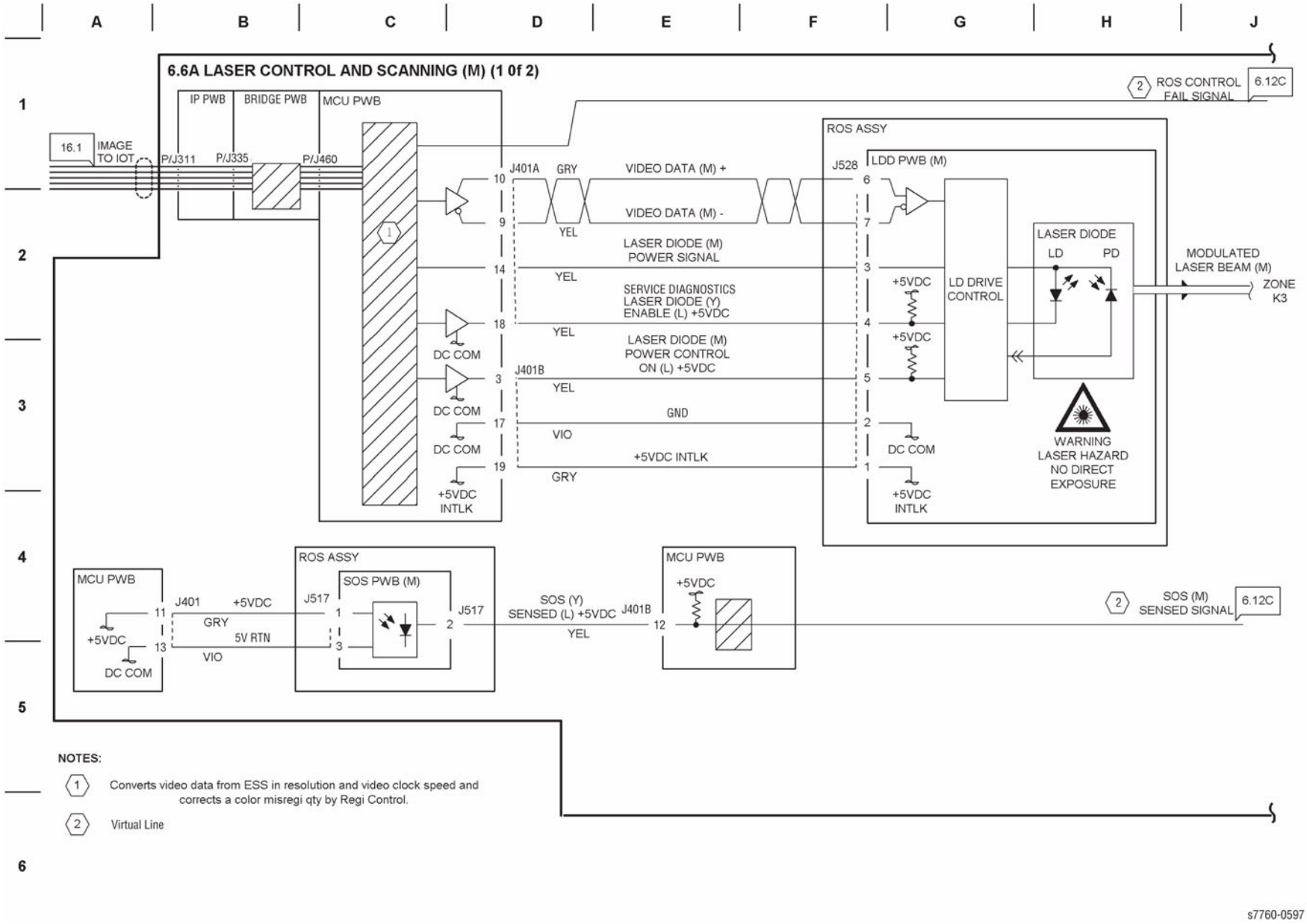


Figure 3 BSD 6.6A Laser Control and Scanning (M) (1 of 2)

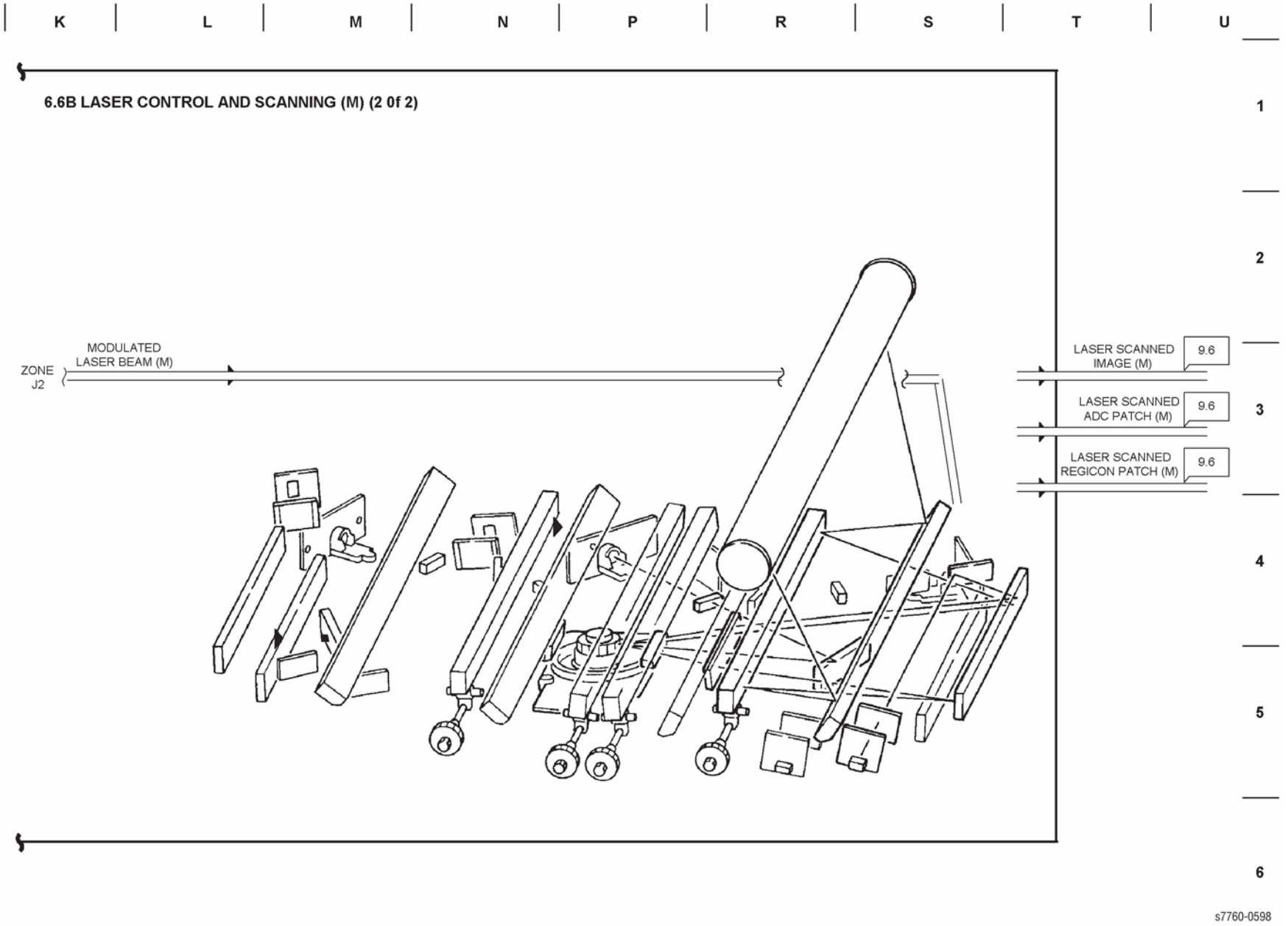


Figure 4 BSD 6.6B Laser Control and Scanning (M) (2 of 2)

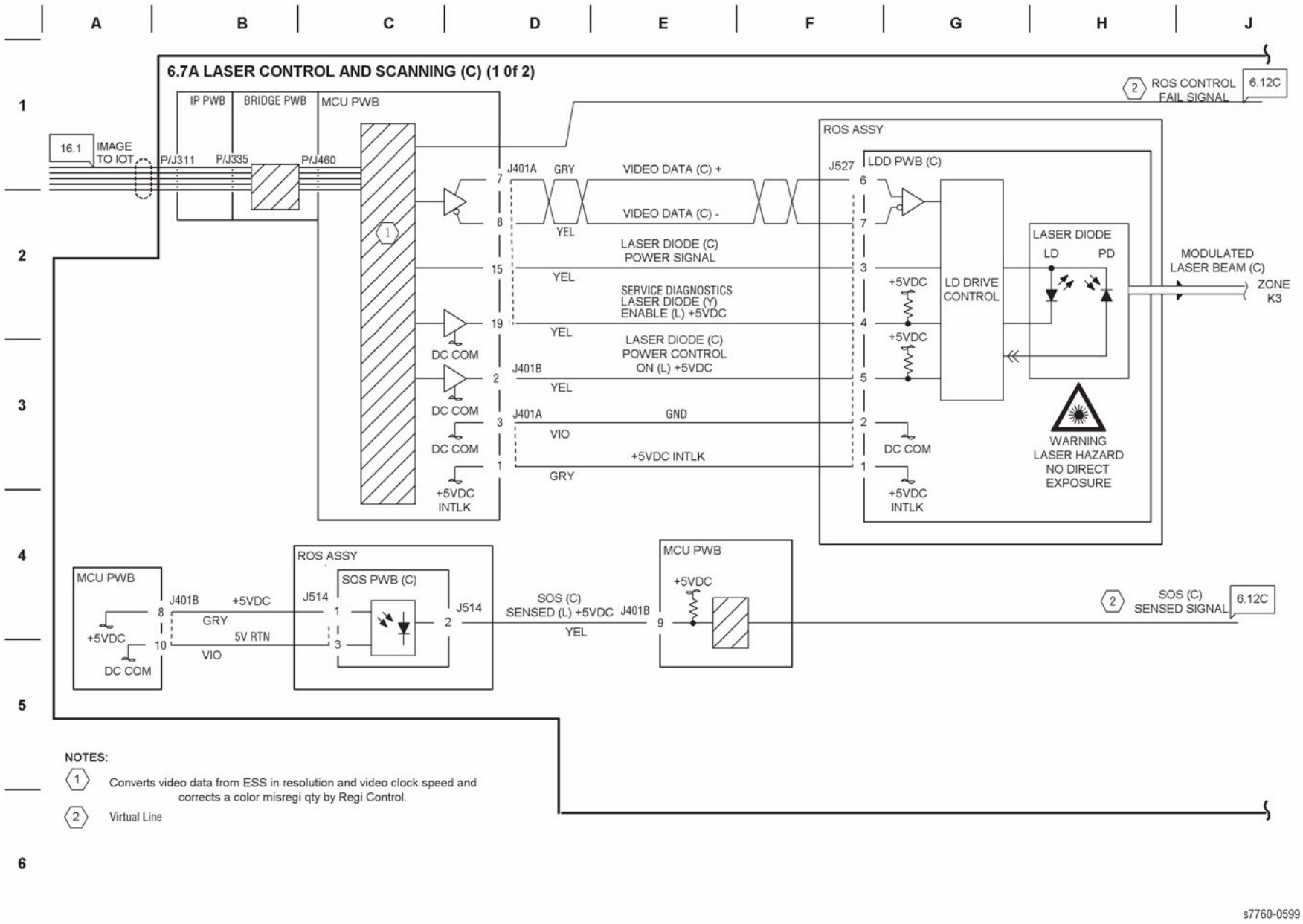


Figure 5 BSD 6.7A Laser Control and Scanning (C) (1 of 2)

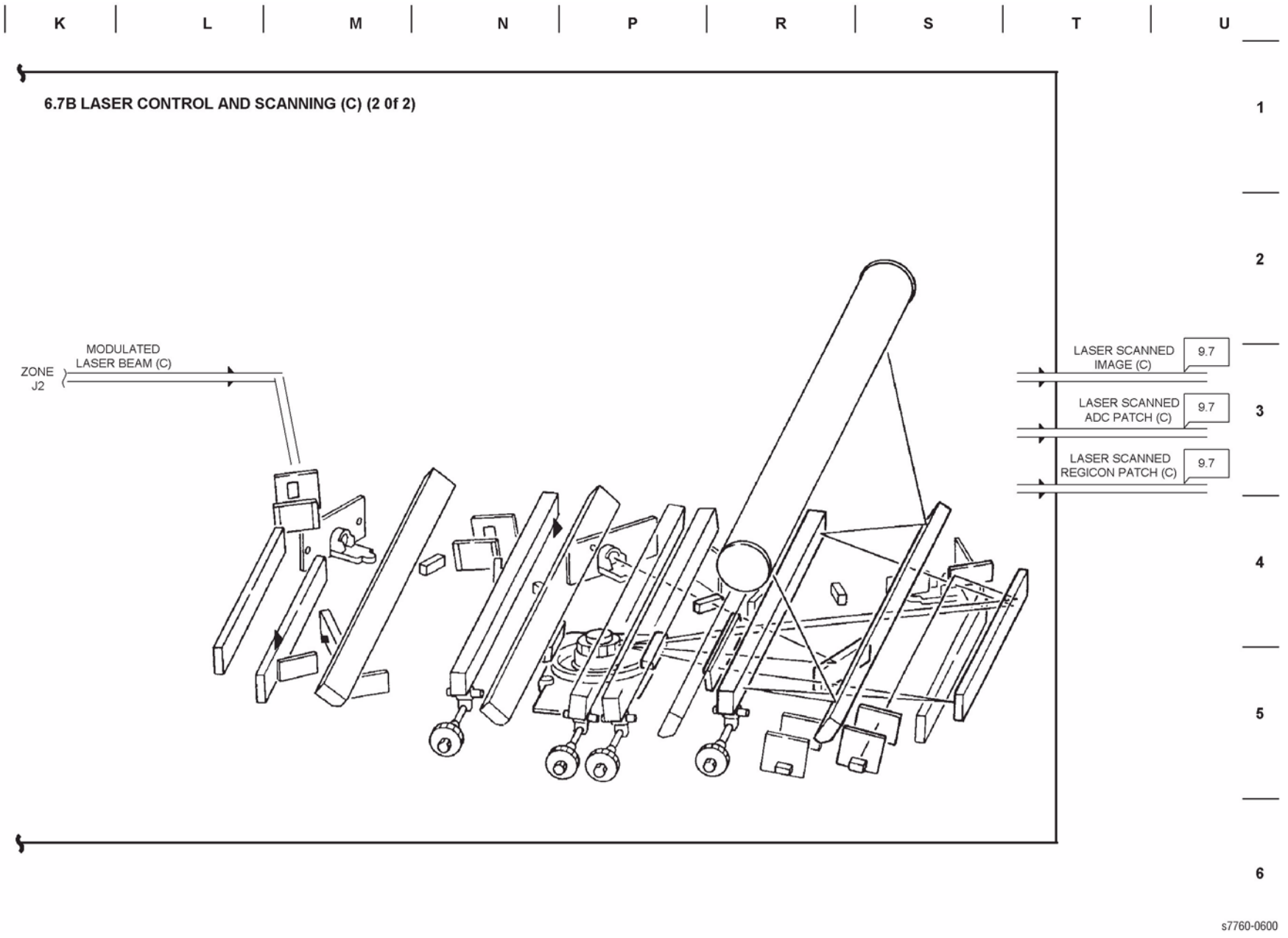


Figure 6 BSD 6.7B Laser Control and Scanning (C) (2 of 2)

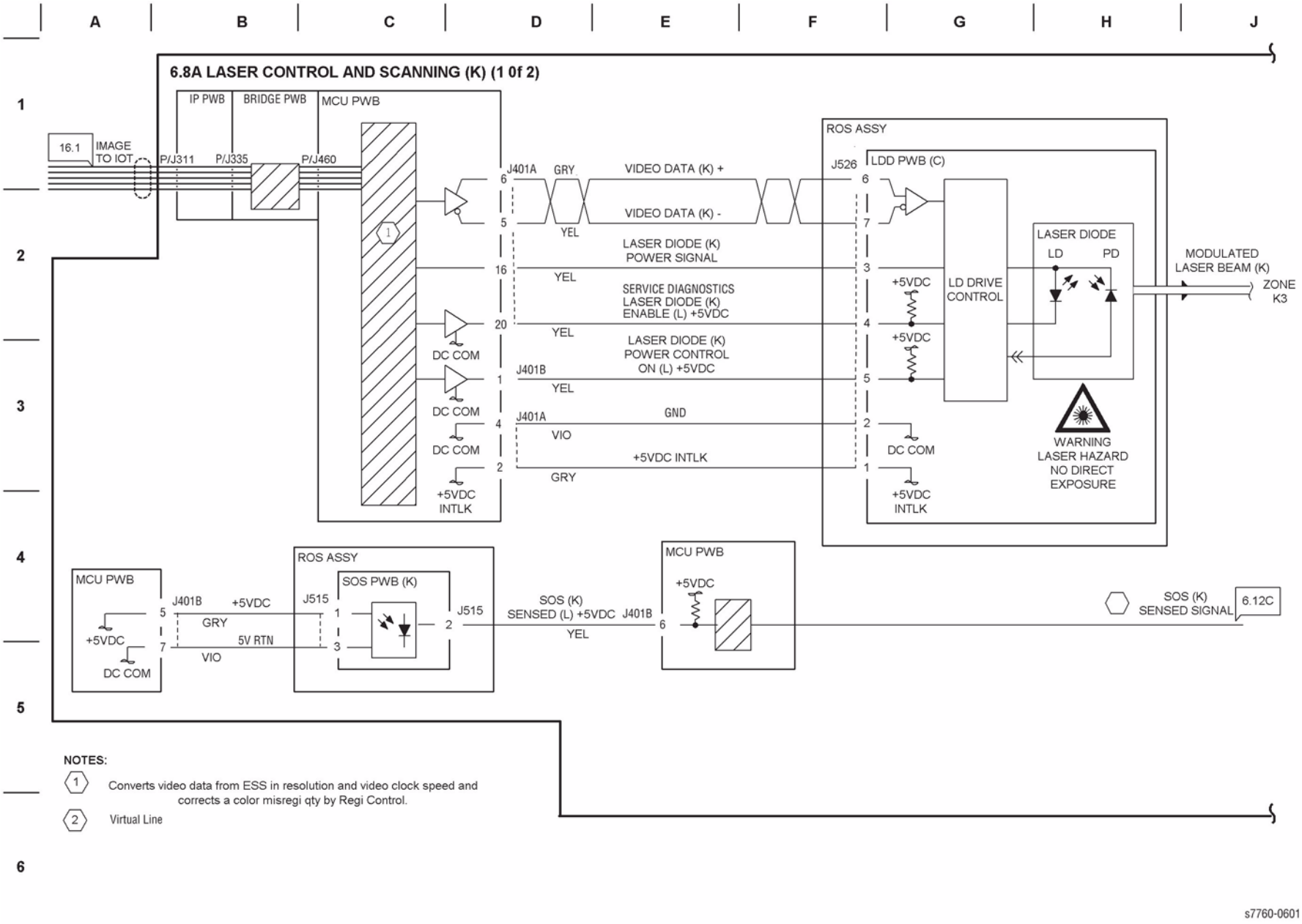


Figure 7 BSD 6.8A Laser Control and Scanning (K) (1 of 2)

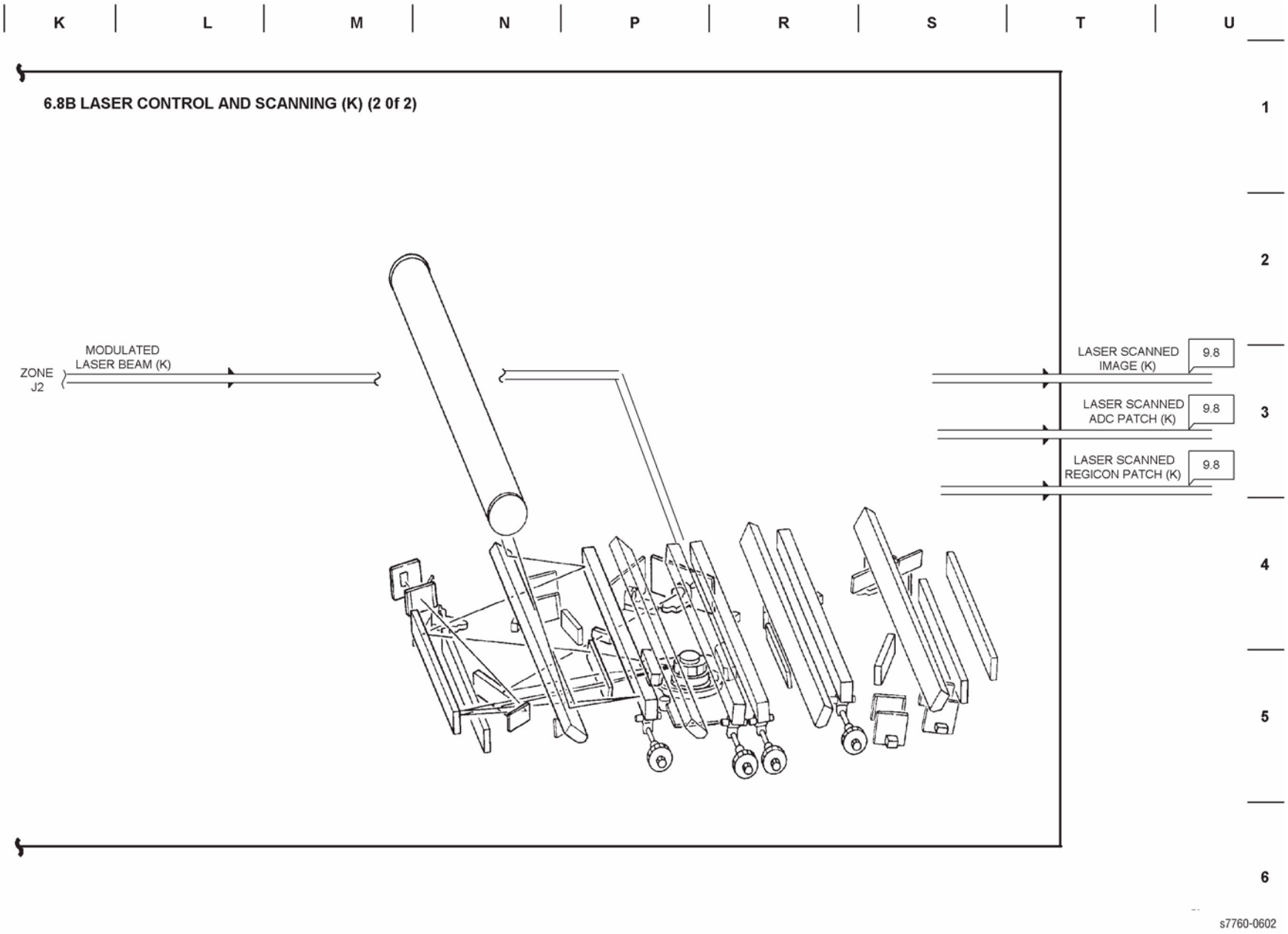


Figure 8 BSD 6.8B Laser Control and Scanning (K) (2 of 2)

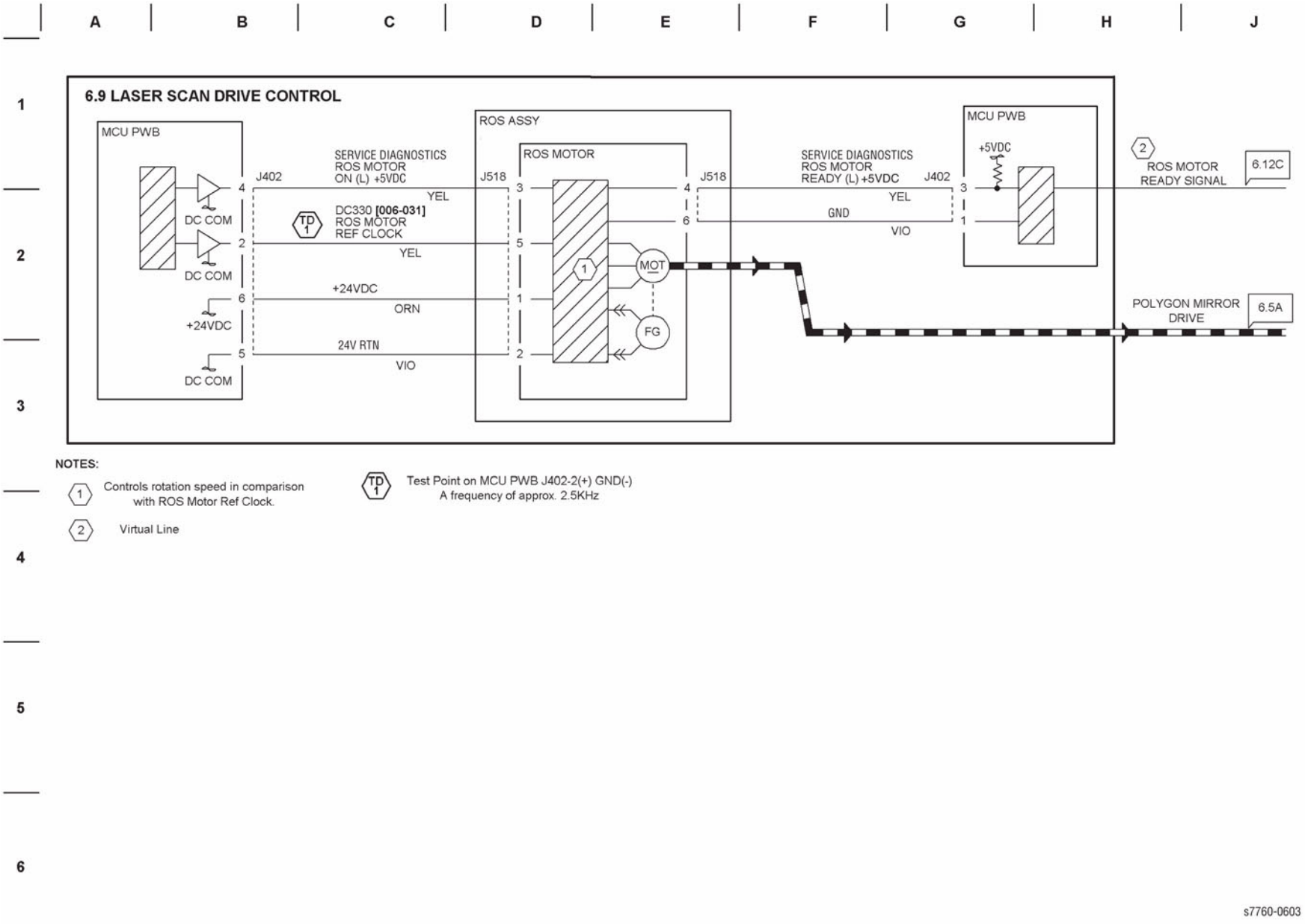


Figure 9 BSD 6.9 Laser Scan Drive Control

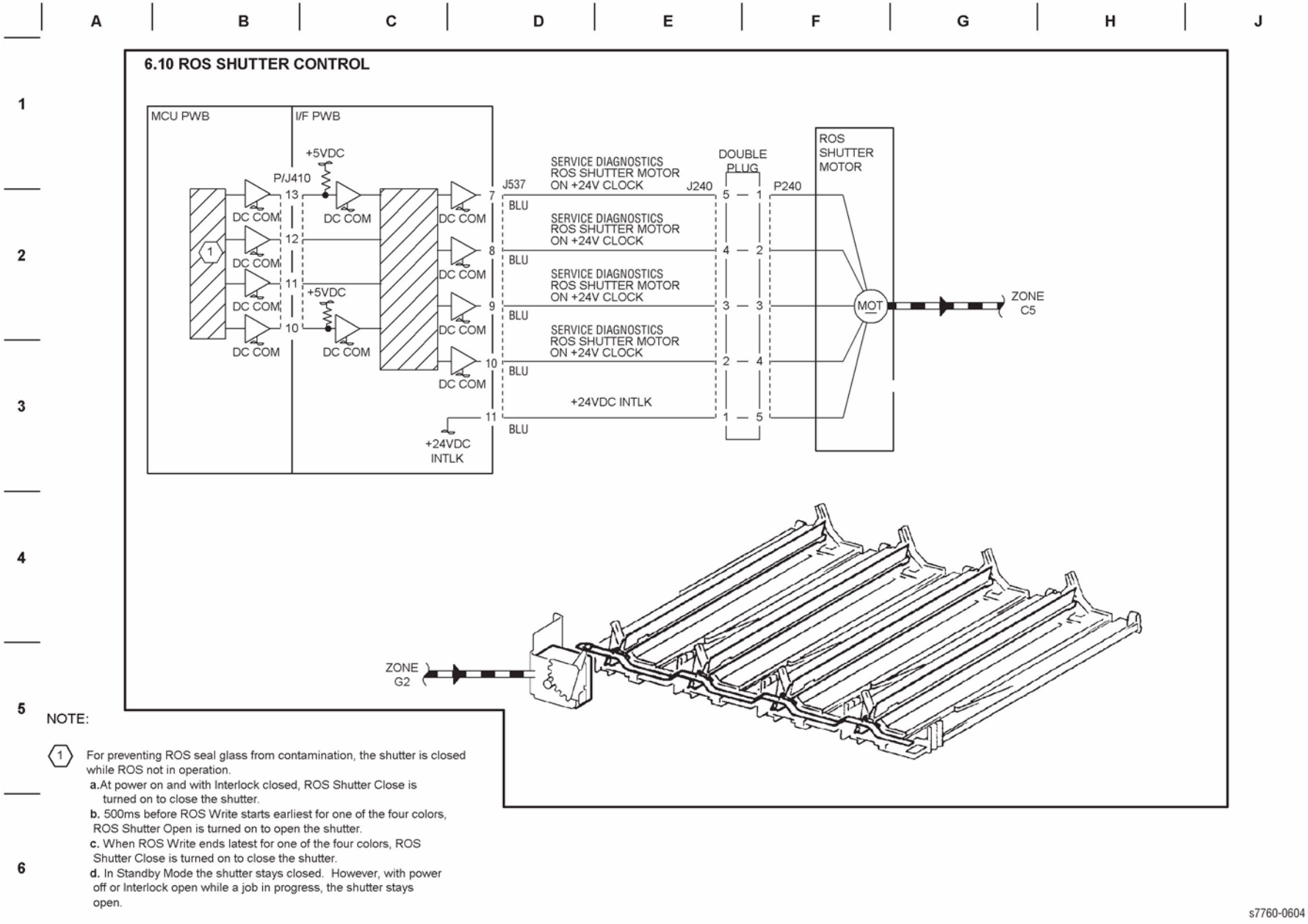


Figure 10 BSD 6.10 ROS Shutter Control

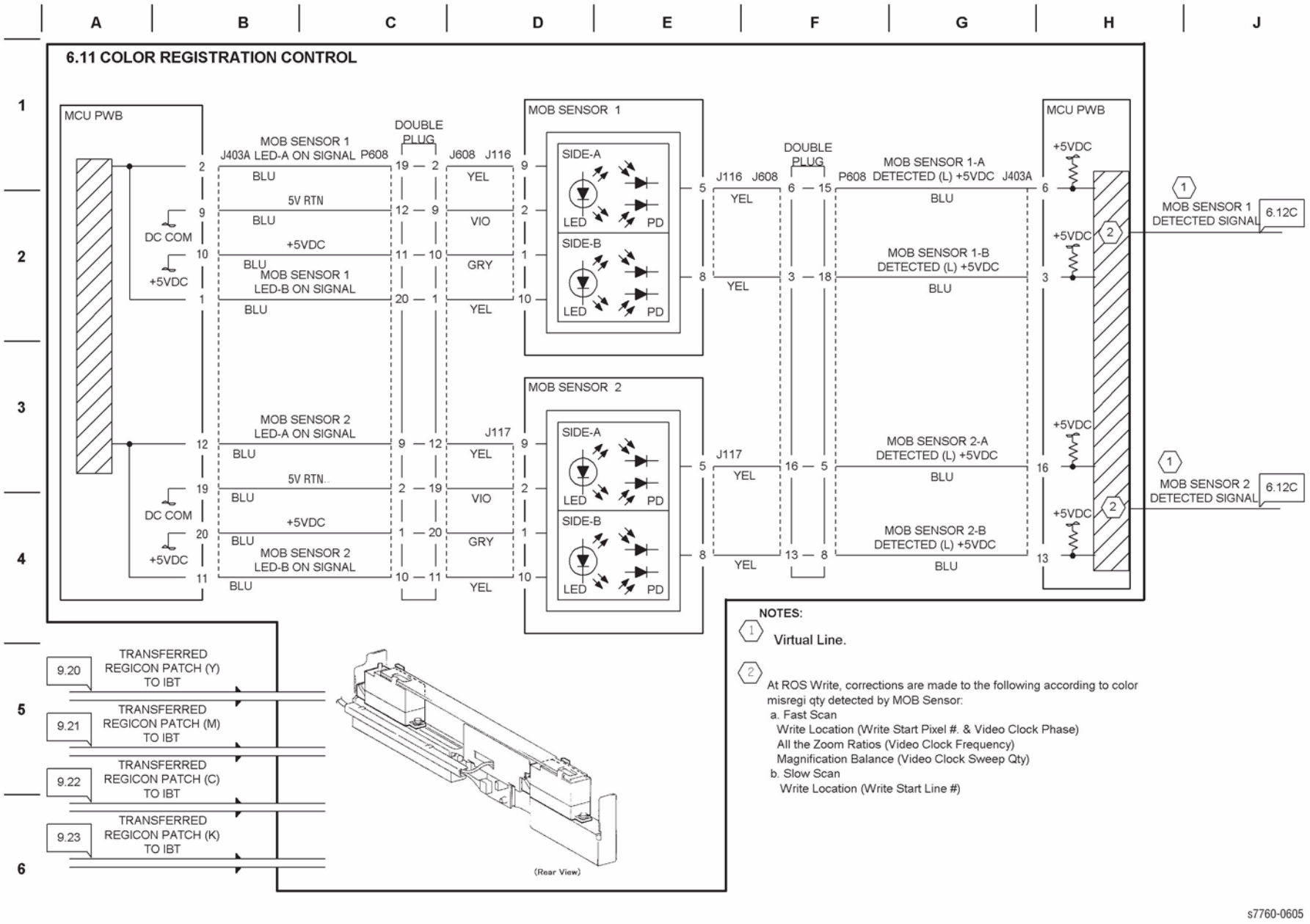
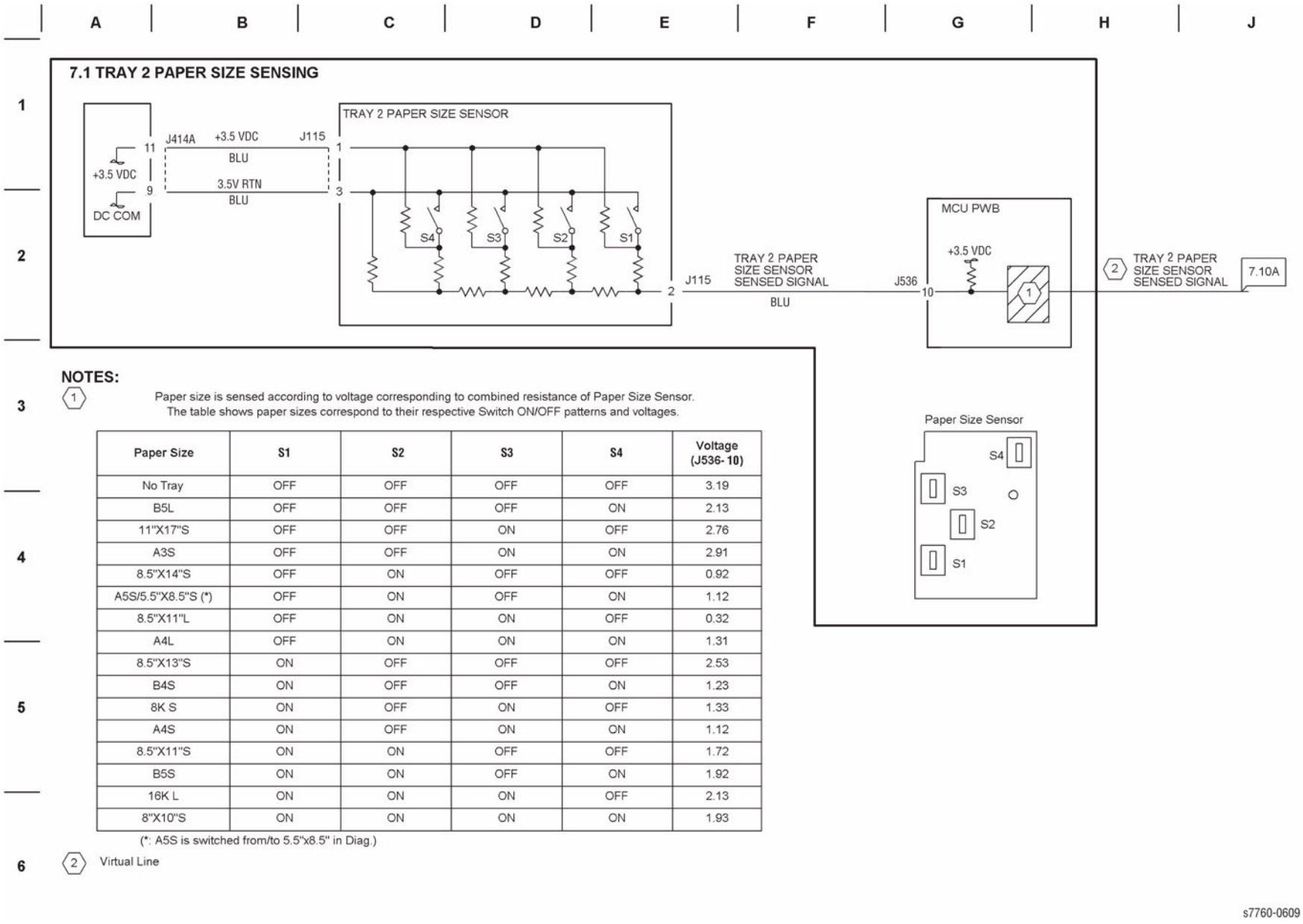
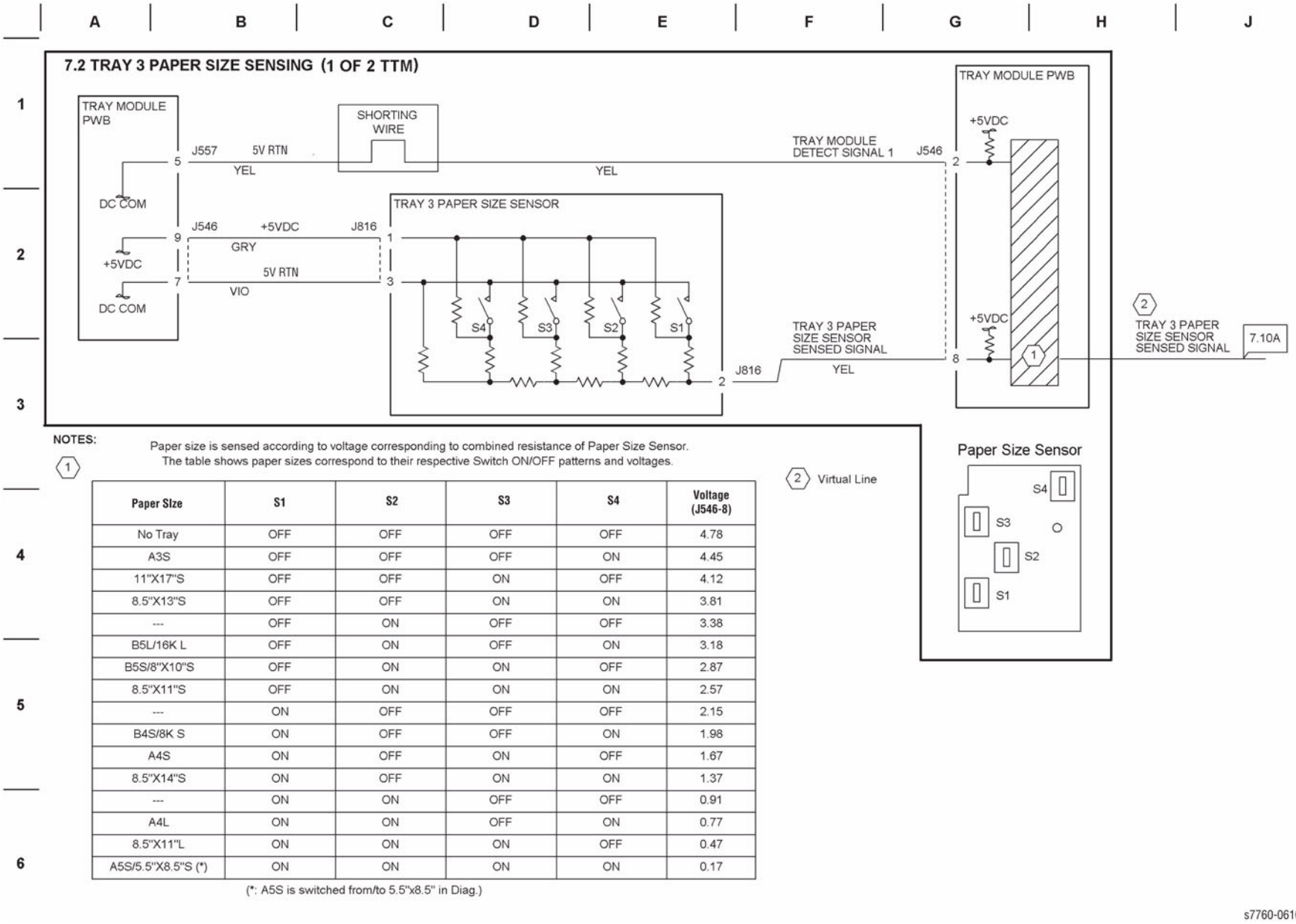


Figure 11 BSD 6.11 Color Registration Control



Paper Size	S1	S2	S3	S4	Voltage (J536-10)
No Tray	OFF	OFF	OFF	OFF	3.19
B5L	OFF	OFF	OFF	ON	2.13
11"X17"S	OFF	OFF	ON	OFF	2.76
A3S	OFF	OFF	ON	ON	2.91
8.5"X14"S	OFF	ON	OFF	OFF	0.92
A5S/5.5"X8.5"S (*)	OFF	ON	OFF	ON	1.12
8.5"X11"L	OFF	ON	ON	OFF	0.32
A4L	OFF	ON	ON	ON	1.31
8.5"X13"S	ON	OFF	OFF	OFF	2.53
B4S	ON	OFF	OFF	ON	1.23
8K S	ON	OFF	ON	OFF	1.33
A4S	ON	OFF	ON	ON	1.12
8.5"X11"S	ON	ON	OFF	OFF	1.72
B5S	ON	ON	OFF	ON	1.92
16K L	ON	ON	ON	OFF	2.13
8"X10"S	ON	ON	ON	ON	1.93

Figure 1 BSD 7.1 Tray 2 Paper Size Sensing



Paper SIze	S1	S2	S3	S4	Voltage (J546-8)
No Tray	OFF	OFF	OFF	OFF	4.78
A3S	OFF	OFF	OFF	ON	4.45
11"X17"S	OFF	OFF	ON	OFF	4.12
8.5"X13"S	OFF	OFF	ON	ON	3.81
---	OFF	ON	OFF	OFF	3.38
B5L/16K L	OFF	ON	OFF	ON	3.18
B5S/8"X10"S	OFF	ON	ON	OFF	2.87
8.5"X11"S	OFF	ON	ON	ON	2.57
---	ON	OFF	OFF	OFF	2.15
B4S/8K S	ON	OFF	OFF	ON	1.98
A4S	ON	OFF	ON	OFF	1.67
8.5"X14"S	ON	OFF	ON	ON	1.37
---	ON	ON	OFF	OFF	0.91
A4L	ON	ON	OFF	ON	0.77
8.5"X11"L	ON	ON	ON	OFF	0.47
A5S/5.5"X8.5"S (*)	ON	ON	ON	ON	0.17

(*: A5S is switched from/to 5.5"x8.5" in Diag.)

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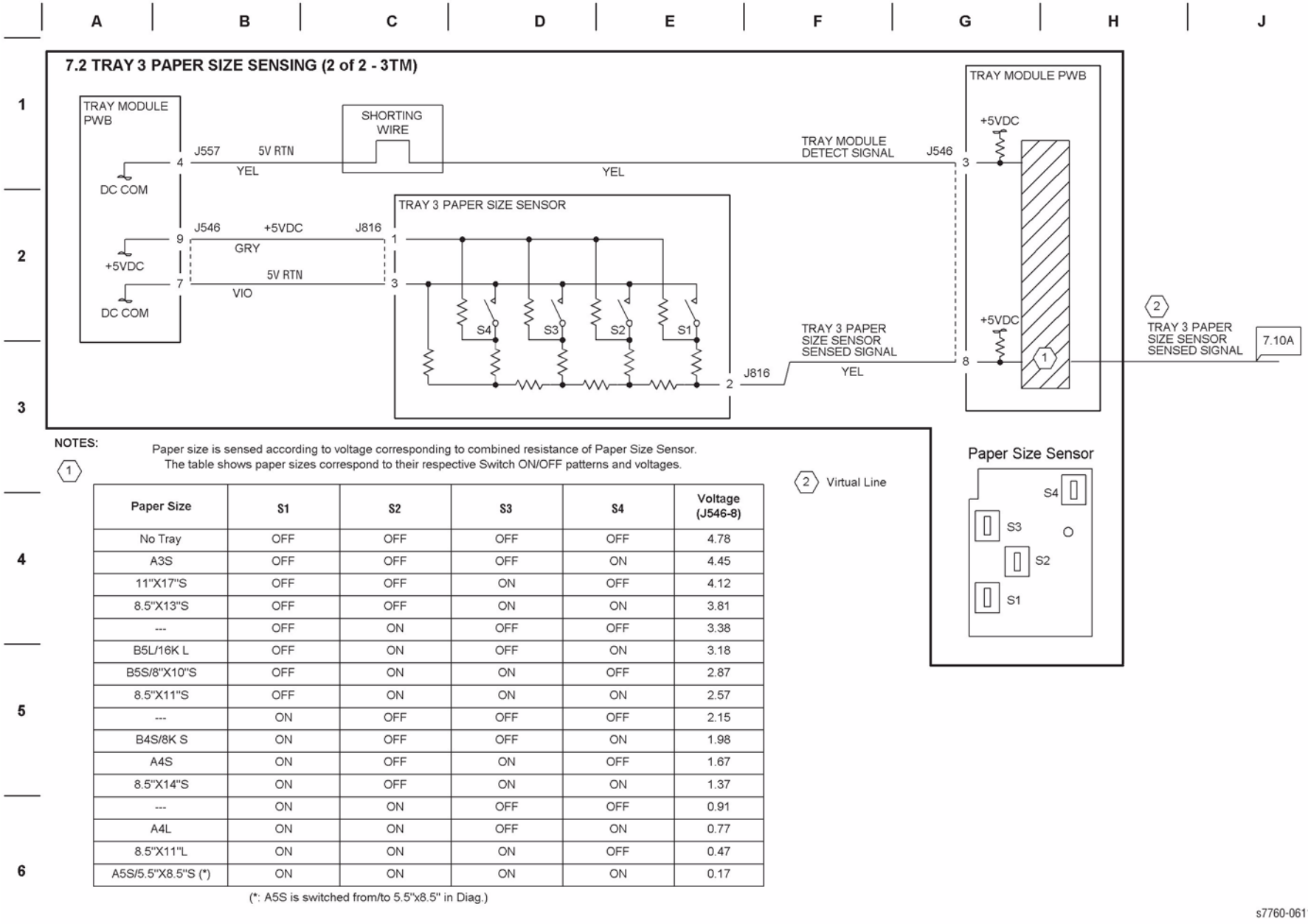
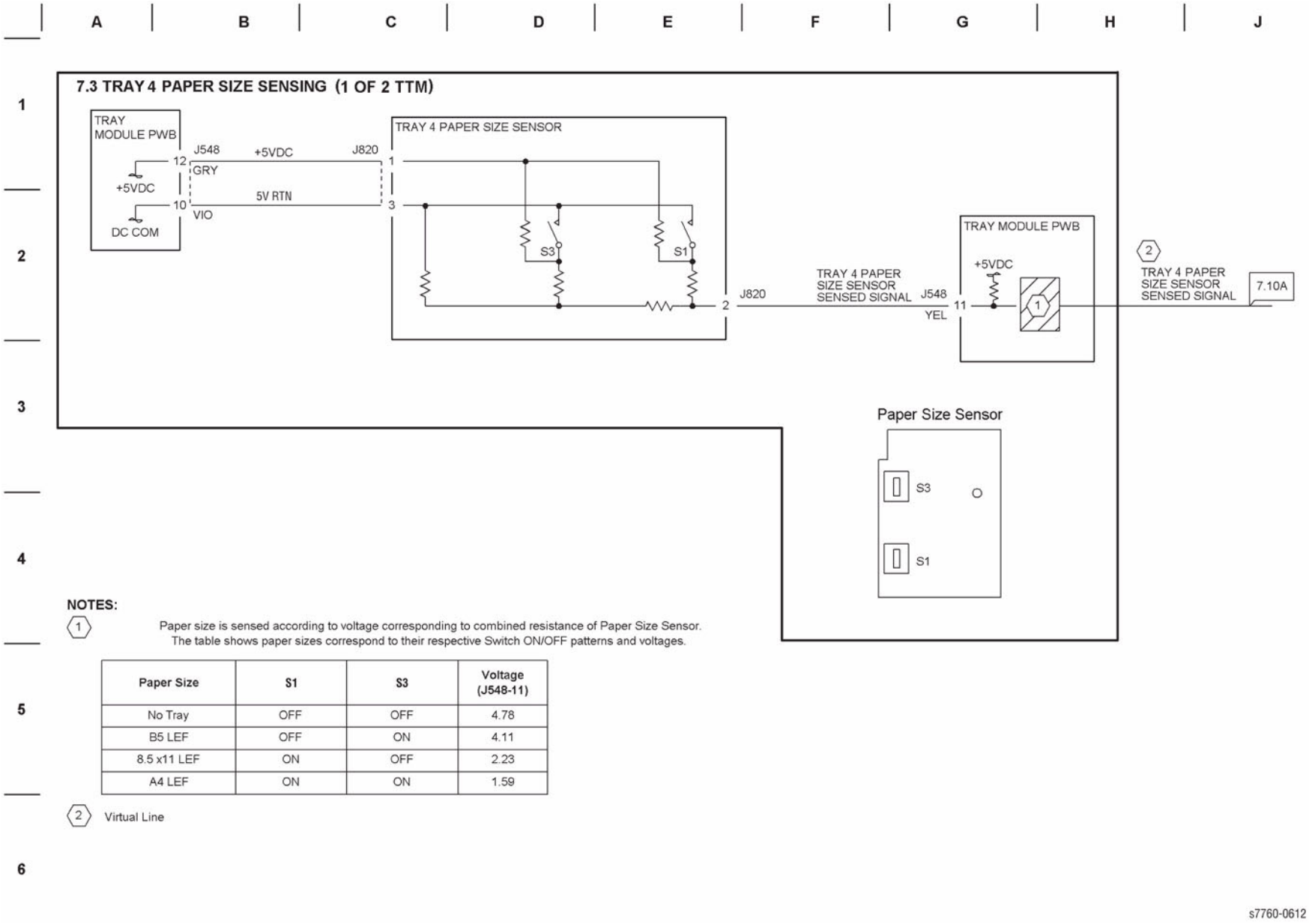
Figure 2 BSD 7.2 Tray 3 Paper Size Sensing TTM (1 of 2)



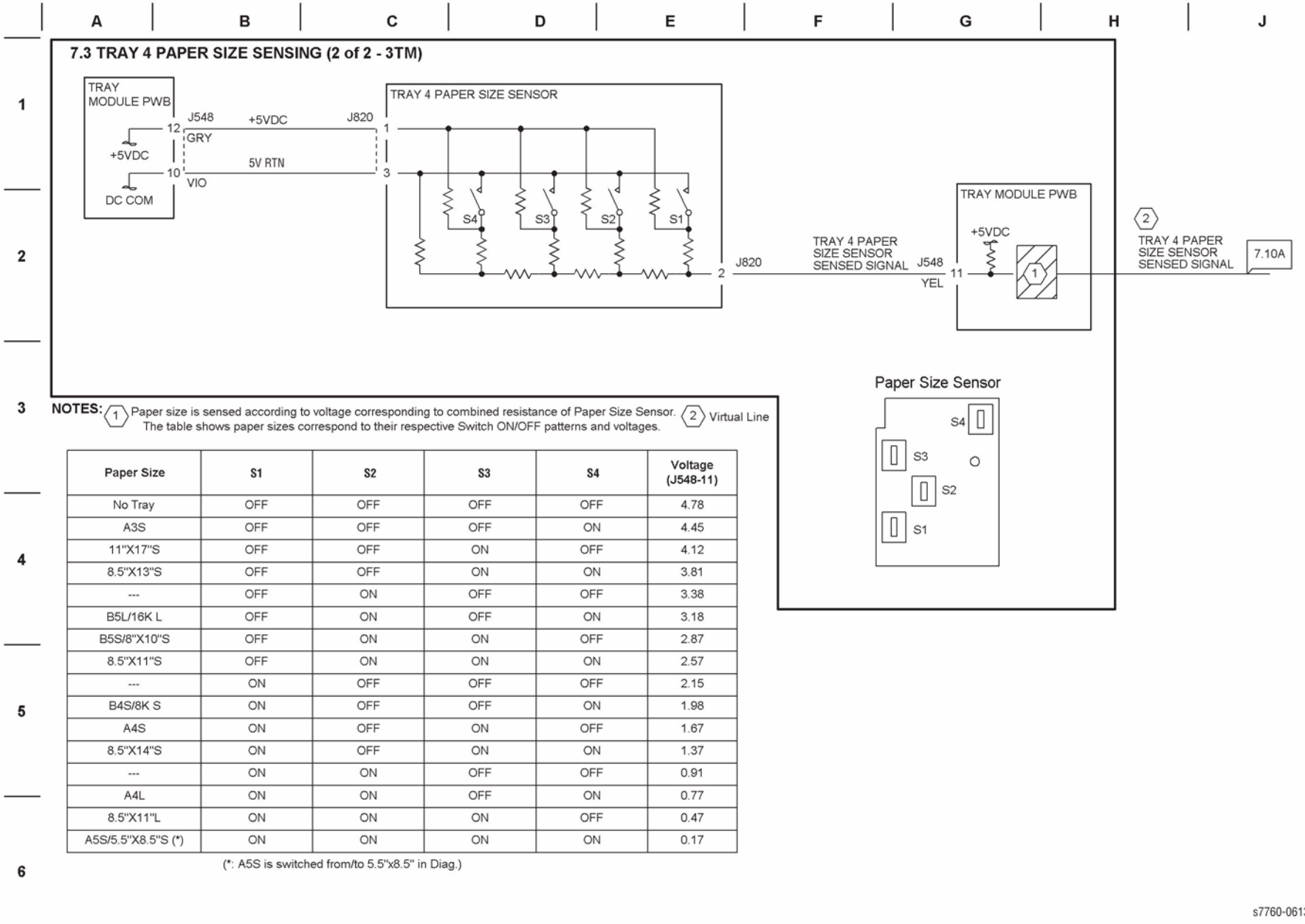
Paper Size	S1	S2	S3	S4	Voltage (J546-8)
No Tray	OFF	OFF	OFF	OFF	4.78
A3S	OFF	OFF	OFF	ON	4.45
11"X17"S	OFF	OFF	ON	OFF	4.12
8.5"X13"S	OFF	OFF	ON	ON	3.81
---	OFF	ON	OFF	OFF	3.38
B5L/16K L	OFF	ON	OFF	ON	3.18
B5S/8"X10"S	OFF	ON	ON	OFF	2.87
8.5"X11"S	OFF	ON	ON	ON	2.57
---	ON	OFF	OFF	OFF	2.15
B4S/8K S	ON	OFF	OFF	ON	1.98
A4S	ON	OFF	ON	OFF	1.67
8.5"X14"S	ON	OFF	ON	ON	1.37
---	ON	ON	OFF	OFF	0.91
A4L	ON	ON	OFF	ON	0.77
8.5"X11"L	ON	ON	ON	OFF	0.47
A5S/5.5"X8.5"S (*)	ON	ON	ON	ON	0.17

Figure 3 BSD 7.2 Tray 3 Paper Size Sensing 3TM (2 of 2)



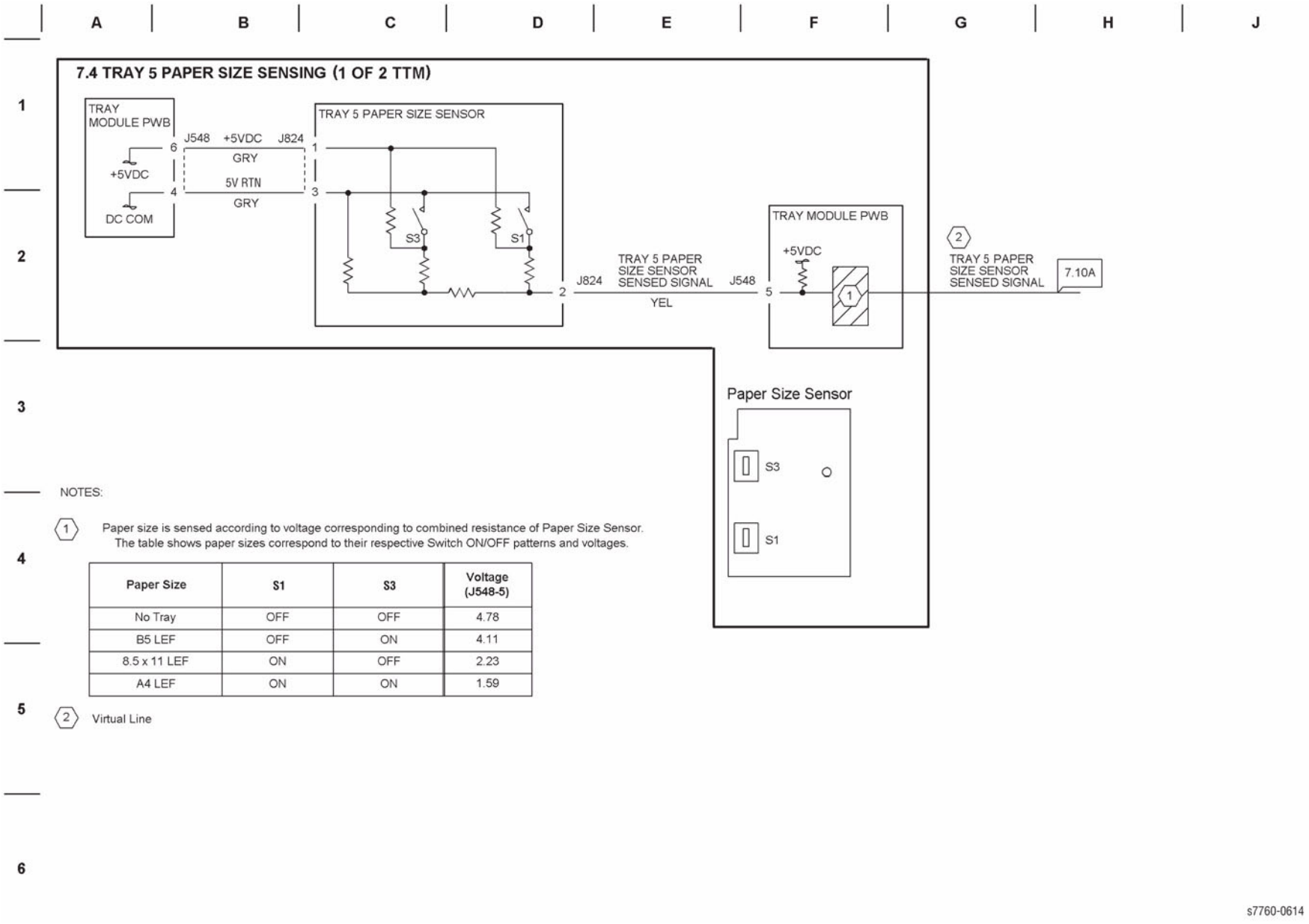
Paper Size	S1	S3	Voltage (J548-11)
No Tray	OFF	OFF	4.78
B5 LEF	OFF	ON	4.11
8.5 x11 LEF	ON	OFF	2.23
A4 LEF	ON	ON	1.59

Figure 4 BSD 7.3 Tray 4 Paper Size Sensing TTM (1 of 2)



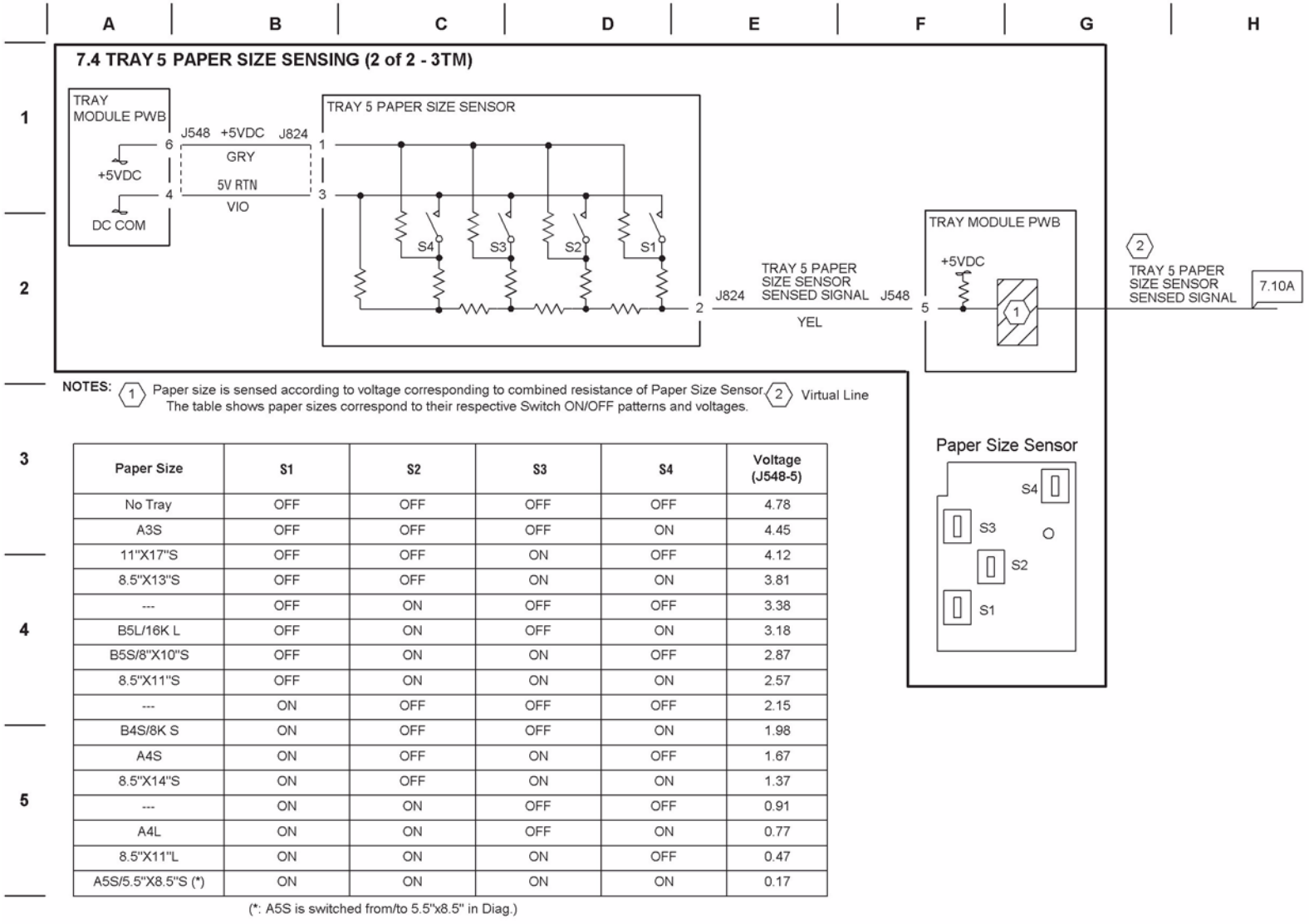
Paper Size	S1	S2	S3	S4	Voltage (J548-11)
No Tray	OFF	OFF	OFF	OFF	4.78
A3S	OFF	OFF	OFF	ON	4.45
11"X17"S	OFF	OFF	ON	OFF	4.12
8.5"X13"S	OFF	OFF	ON	ON	3.81
---	OFF	ON	OFF	OFF	3.38
B5L/16K L	OFF	ON	OFF	ON	3.18
B5S/8"X10"S	OFF	ON	ON	OFF	2.87
8.5"X11"S	OFF	ON	ON	ON	2.57
---	ON	OFF	OFF	OFF	2.15
B4S/8K S	ON	OFF	OFF	ON	1.98
A4S	ON	OFF	ON	OFF	1.67
8.5"X14"S	ON	OFF	ON	ON	1.37
---	ON	ON	OFF	OFF	0.91
A4L	ON	ON	OFF	ON	0.77
8.5"X11"L	ON	ON	ON	OFF	0.47
A5S/5.5"X8.5"S (*)	ON	ON	ON	ON	0.17

Figure 5 BSD 7.3 Tray 4 Paper Size Sensing 3TM (2 of 2)



Paper Size	S1	S3	Voltage (J548-5)
No Tray	OFF	OFF	4.78
B5 LEF	OFF	ON	4.11
8.5 x 11 LEF	ON	OFF	2.23
A4 LEF	ON	ON	1.59

Figure 6 BSD 7.4 Tray 5 Paper Size Sensing TTM (1 of 2)



Paper Size	S1	S2	S3	S4	Voltage (J548-5)
No Tray	OFF	OFF	OFF	OFF	4.78
A3S	OFF	OFF	OFF	ON	4.45
11"X17"S	OFF	OFF	ON	OFF	4.12
8.5"X13"S	OFF	OFF	ON	ON	3.81
---	OFF	ON	OFF	OFF	3.38
B5L/16K L	OFF	ON	OFF	ON	3.18
B5S/8"X10"S	OFF	ON	ON	OFF	2.87
8.5"X11"S	OFF	ON	ON	ON	2.57
---	ON	OFF	OFF	OFF	2.15
B4S/8K S	ON	OFF	OFF	ON	1.98
A4S	ON	OFF	ON	OFF	1.67
8.5"X14"S	ON	OFF	ON	ON	1.37
---	ON	ON	OFF	OFF	0.91
A4L	ON	ON	OFF	ON	0.77
8.5"X11"L	ON	ON	ON	OFF	0.47
A5S/5.5"X8.5"S (*)	ON	ON	ON	ON	0.17

(*: A5S is switched from/to 5.5"x8.5" in Diag.)

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Figure 7 BSD 7.4 Tray 5 Paper Size Sensing 3TM (2 of 2)

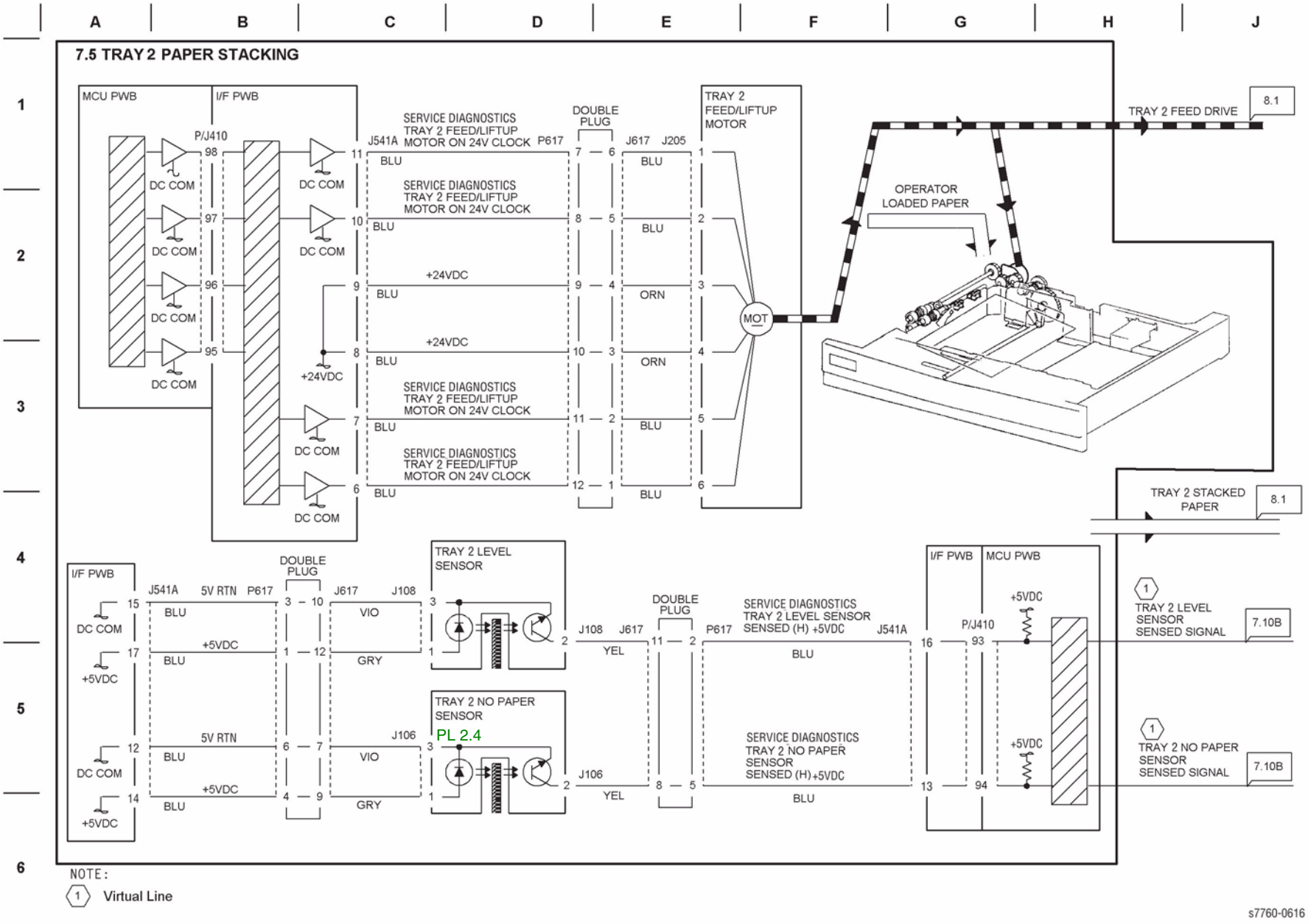


Figure 8 BSD 7.5 Tray 2 Paper Stacking

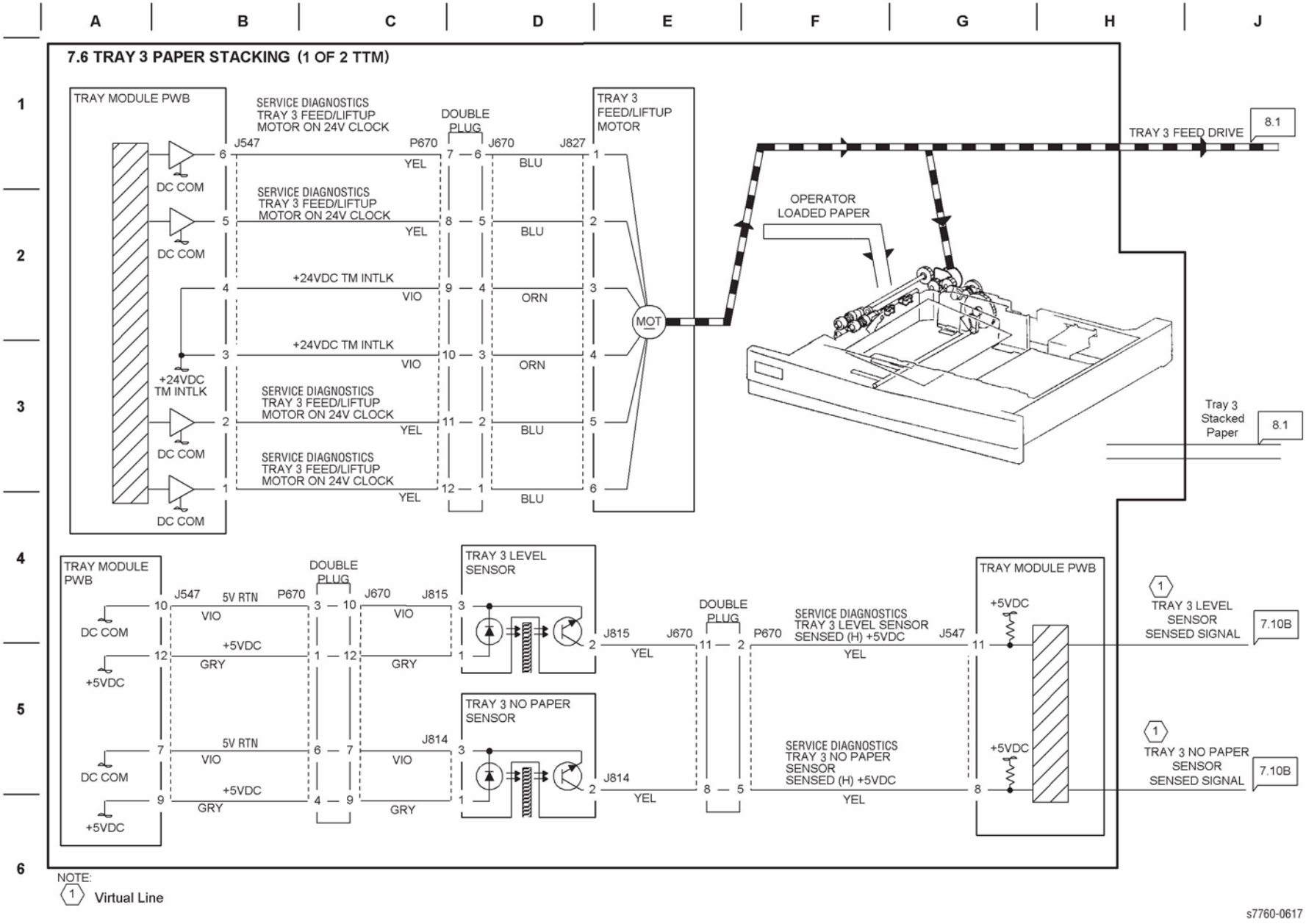


Figure 9 BSD 7.6 Tray 3 Paper Stacking TTM (1 of 2)

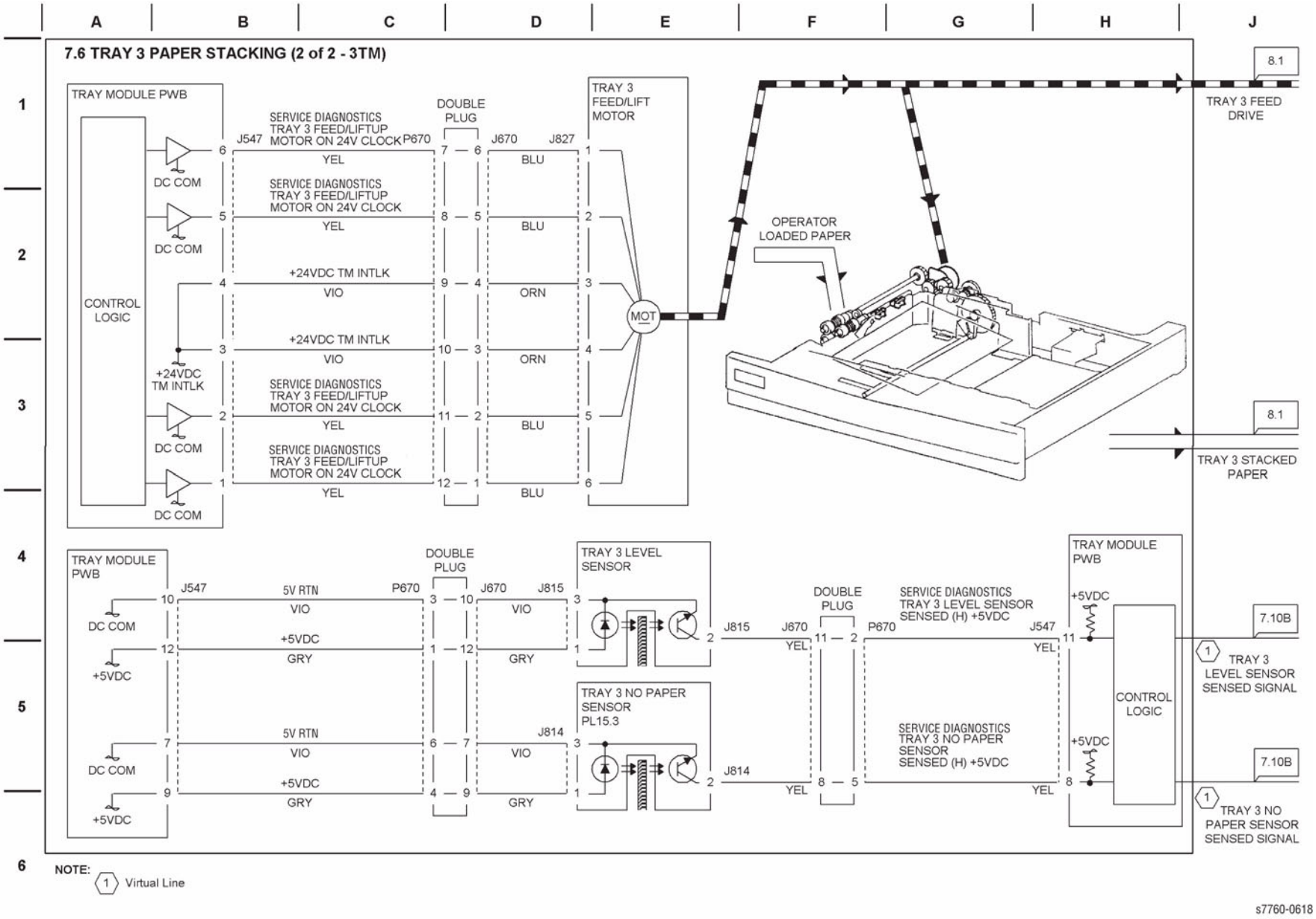


Figure 10 BSD 7.6 Tray 3 Paper Stacking 3TM (2 of 2)

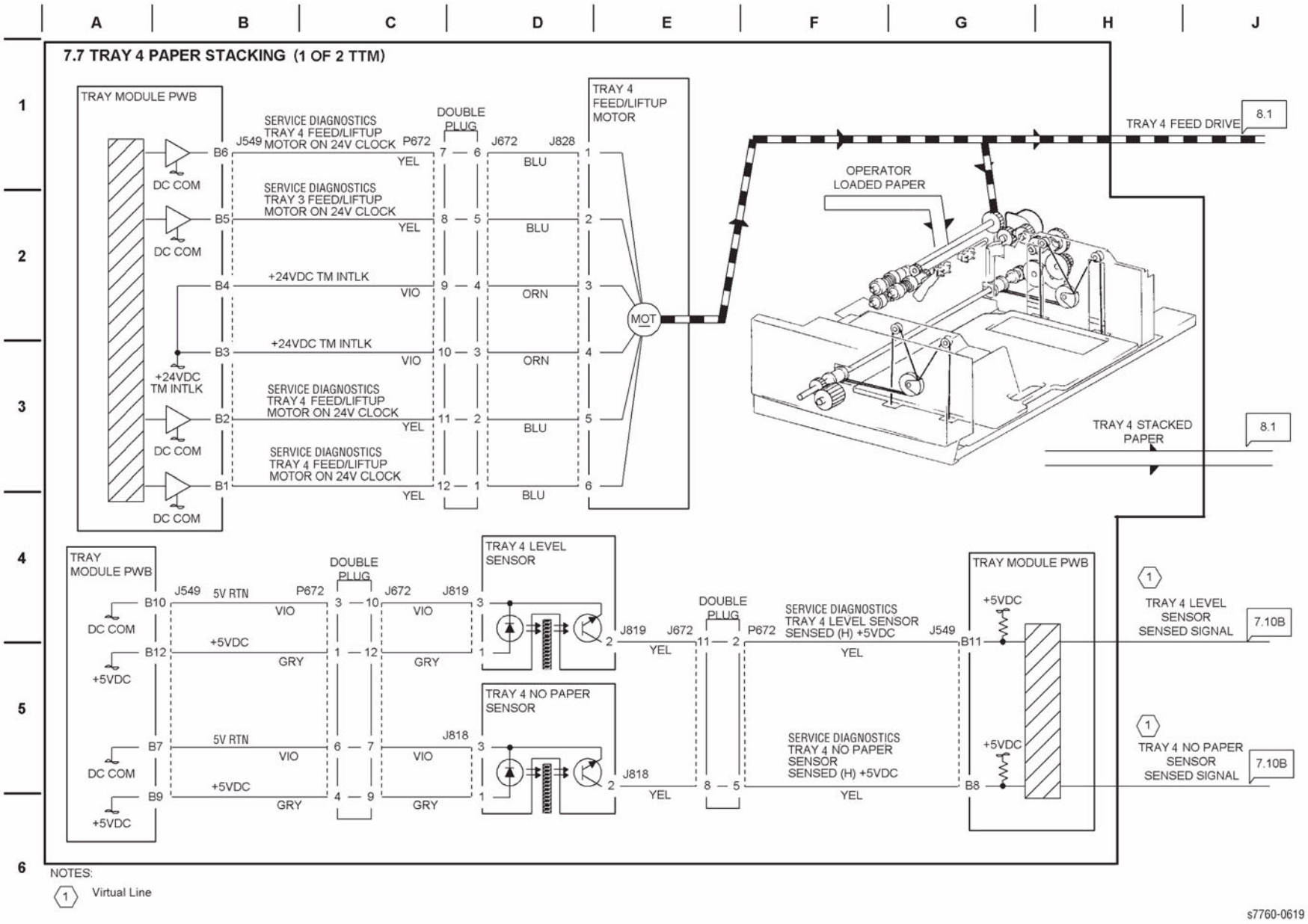


Figure 11 BSD 7.7 Tray 4 Paper Stacking TTM (1 of 2)

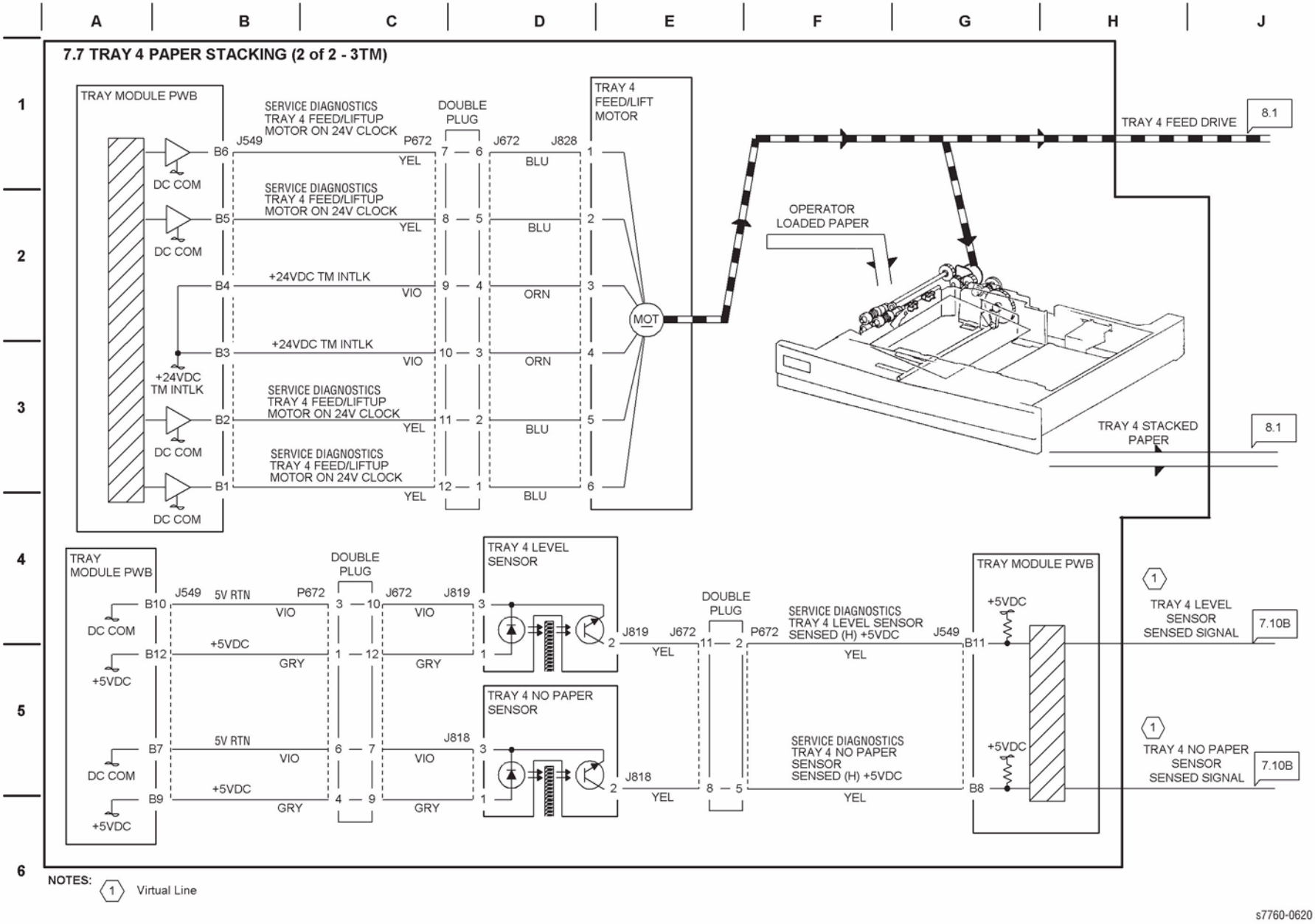


Figure 12 BSD 7.7 Tray 4 Paper Stacking 3TM (2 of 2)

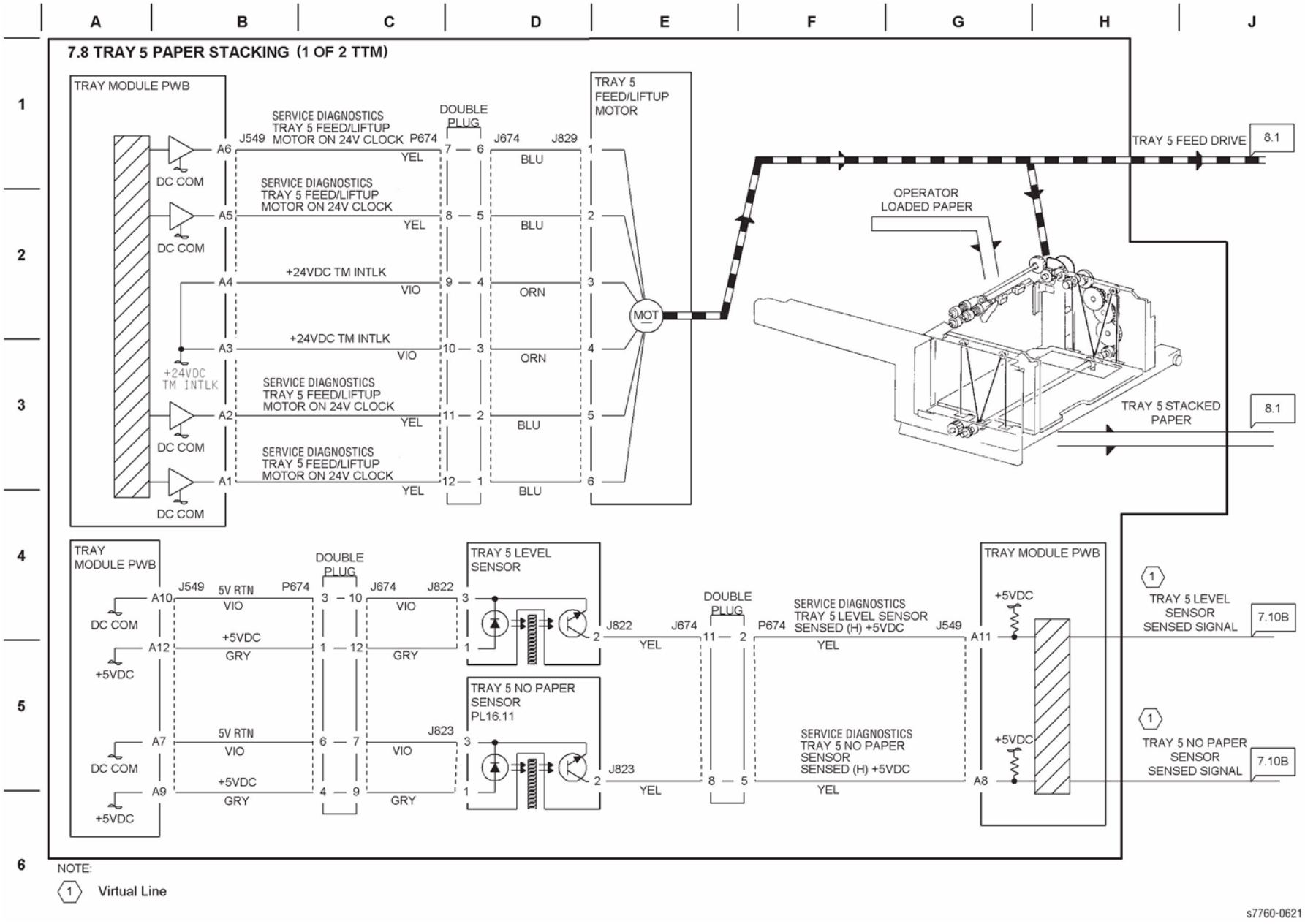


Figure 13 BSD 7.8 Tray 5 Paper Stacking TTM (1 of 2)

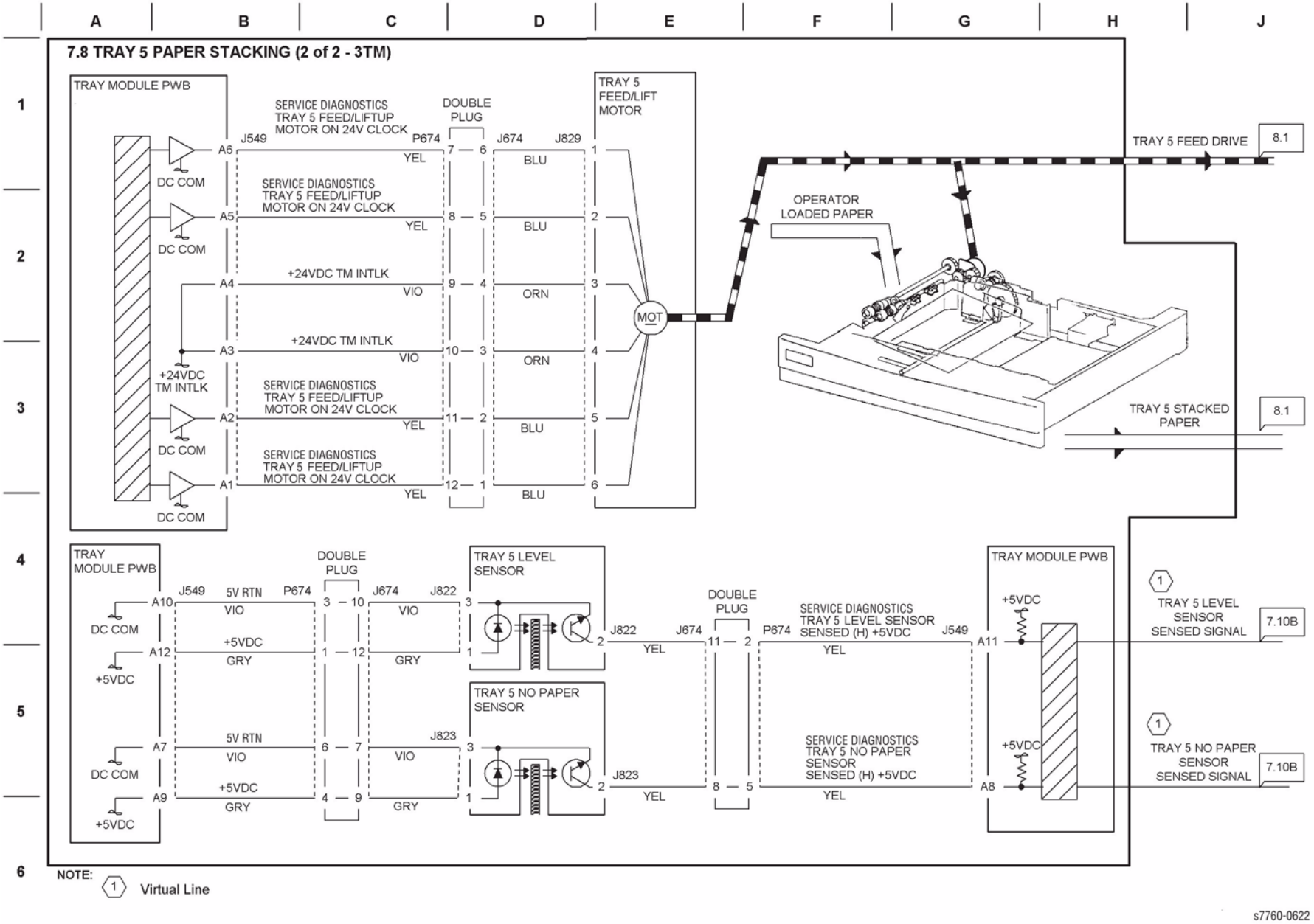
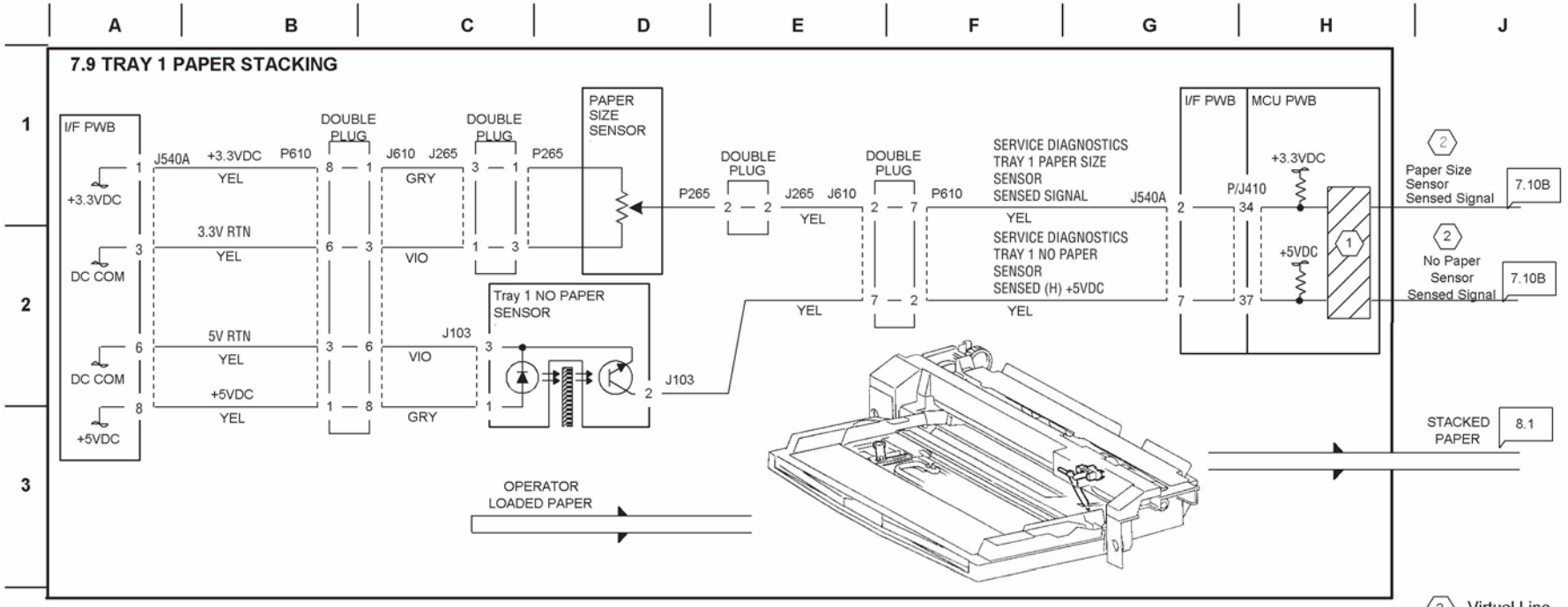


Figure 14 BSD 7.8 Tray 5 Paper Stacking 3TM (2 of 2)



NOTE:

(1) Paper width (size in Fast Scan direction) is sensed according to voltage corresponding to resistance of TRAY 1 PAPER SIZE Sensor. The table shows paper sizes (widths) correspond to their respective voltages.

Paper Size	Voltage (J540A-1)	AD Value
Post Card S	3.315	971
A6S	3.064	949
B6S	2.736	848
5.5"X8.5"S	2.569	796
A5S	2.451	759
B5S	1.967	609
A5L	1.568	486
A4S		
8.5"X11"S	1.484	460
8.5"X12.4"S		
8.5"X13"S		
8.5"X14"S		

Paper Size	Voltage (J540A-1)	AD Value
8"X10"L	0.941	291
B5L	0.899	278
B4S		
16K L	0.756	234
8K S		
8.5"X11"L	0.580	189
11"X17"S		
A4L	0.329	101
A3S		
12"X18"S	0.273	84
12.6"X18"S	0.165	51

Ref Paper length (size in Slow Scan direction) is sensed according to time from Regi Clutch ON to the time paper passes Regi Sensor. The table shows paper sizes (lengths) correspond to their respective times.

Paper Size	Duration (ms)
Post Card S	1278.8
A6S	
B6S	1605.8
5.5"X8.5"S	1931.7
A5S	1875.0
B5S	2326.9
A5L	1278.8
A4S	2711.5
8.5"X11"S	2542.3
8.5"X12.4"S	2884.6
8.5"X13"S	3030.8
8.5"X14"S	3275.0

Paper Size	Duration(ms)
8"X10"L	1809.6
B5L	1605.8
B4S	3355.8
16K L	1721.2
8K S	3596.2
8.5"X11"L	1931.7
11"X17"S	4007.7
A4L	1875.0
A3S	3894.2
12"X18"S	4251.9
12.6"X18"S	

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Figure 15 BSD 7.9 Tray 1 Paper Stacking

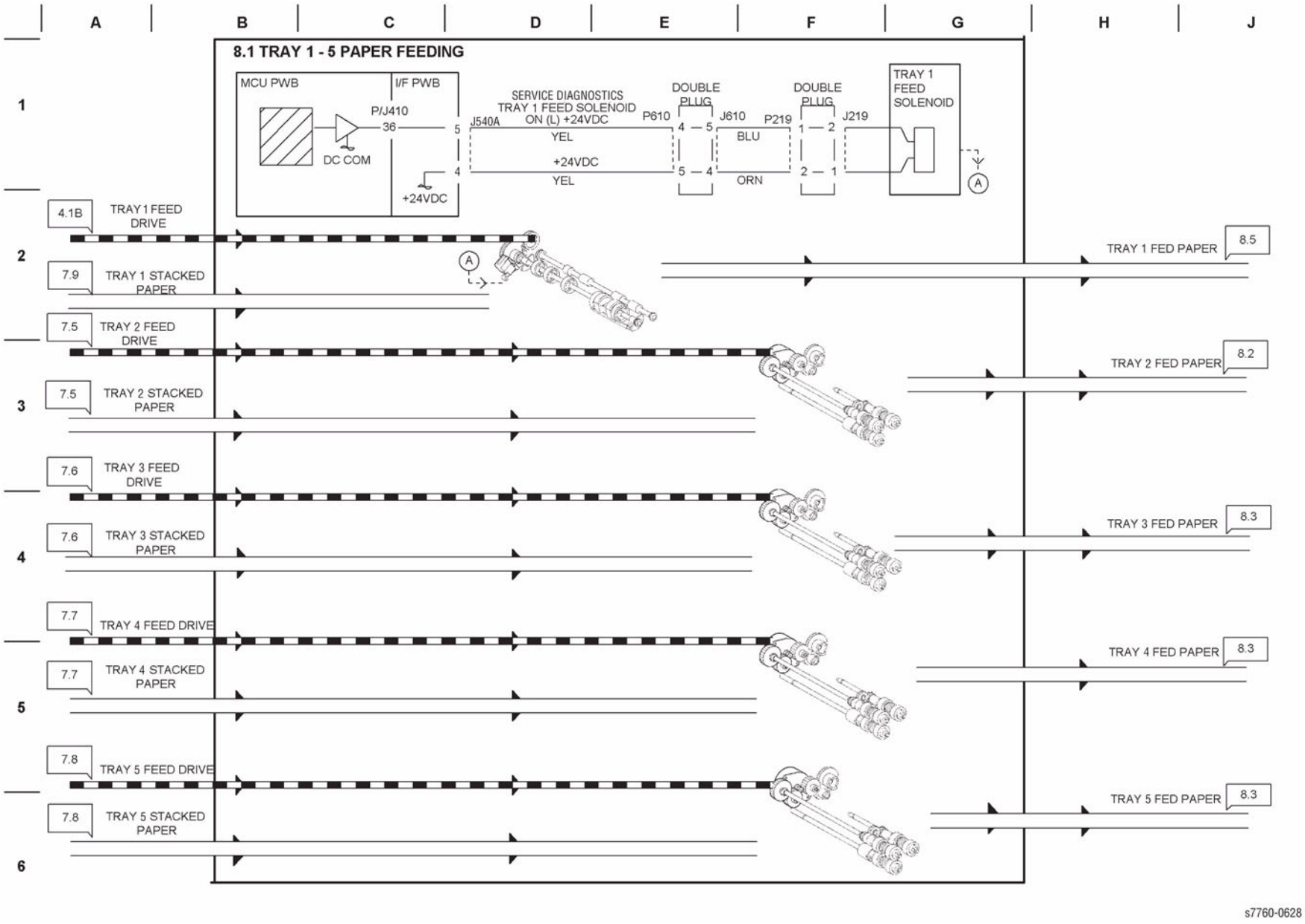


Figure 1 BSD 8.1 Tray 1~5 Paper Feeding

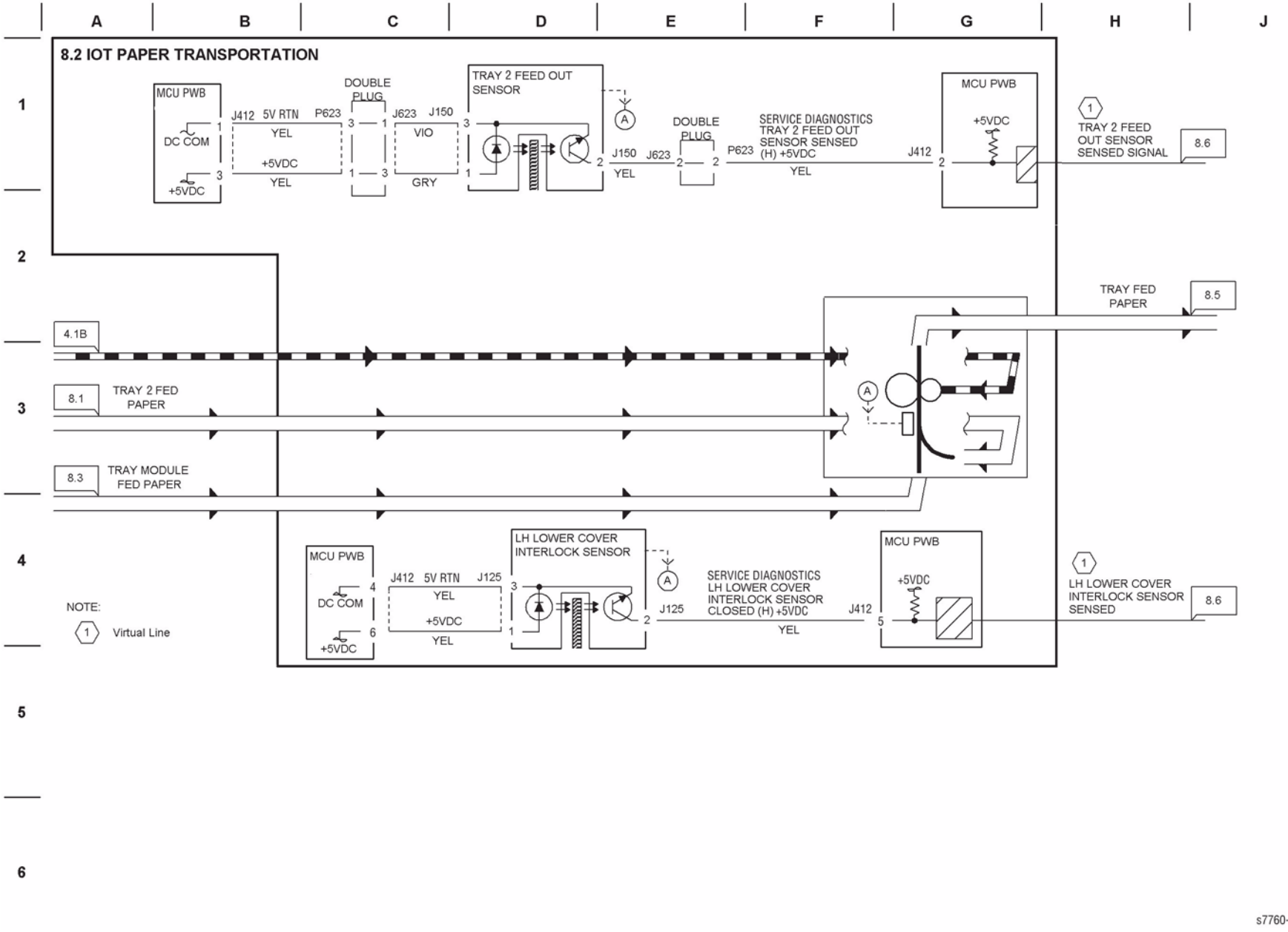


Figure 2 BSD 8.2 Paper Transportation

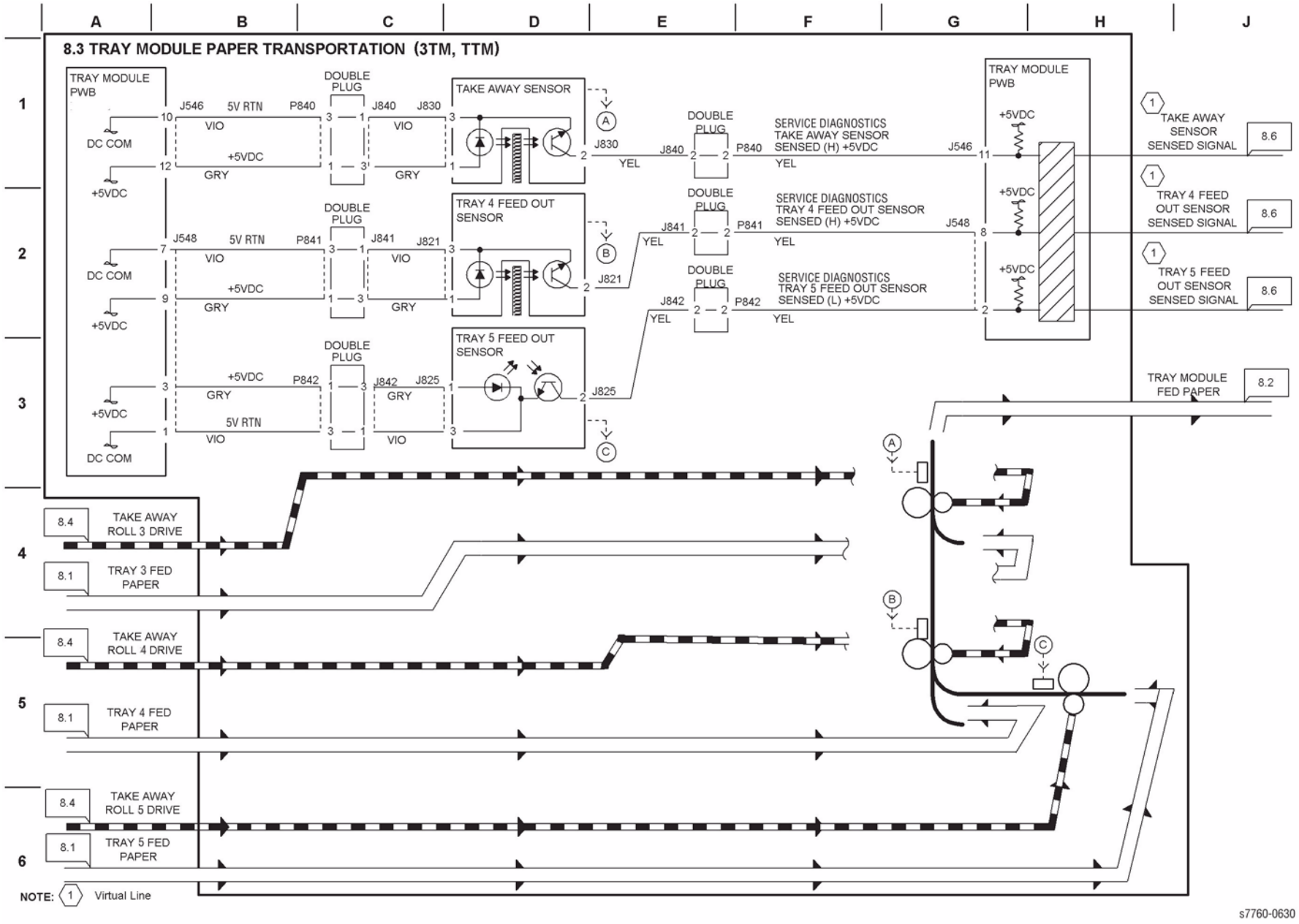


Figure 3 BSD 8.3 Tray Module Paper Transportation 3TM, TTM

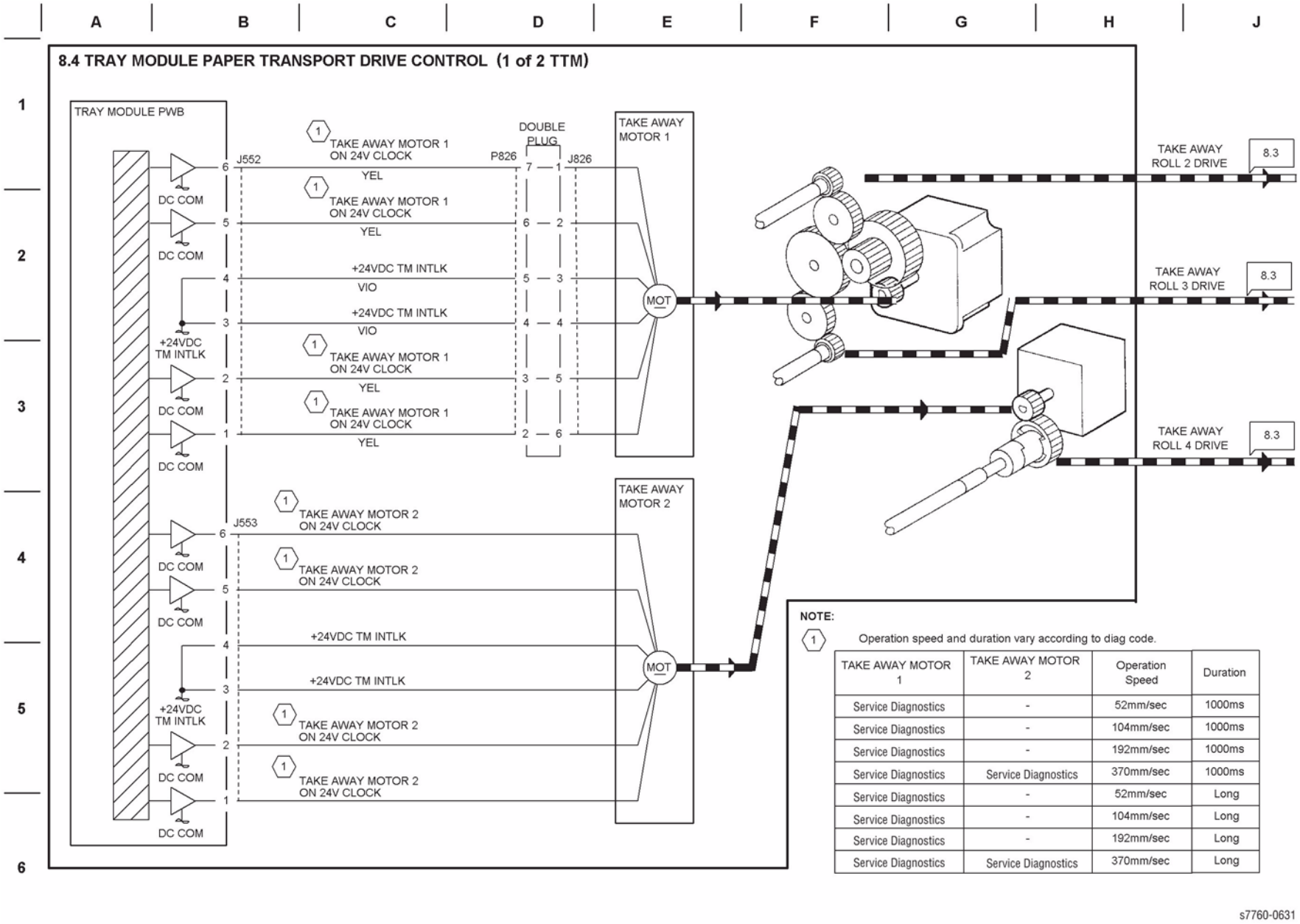
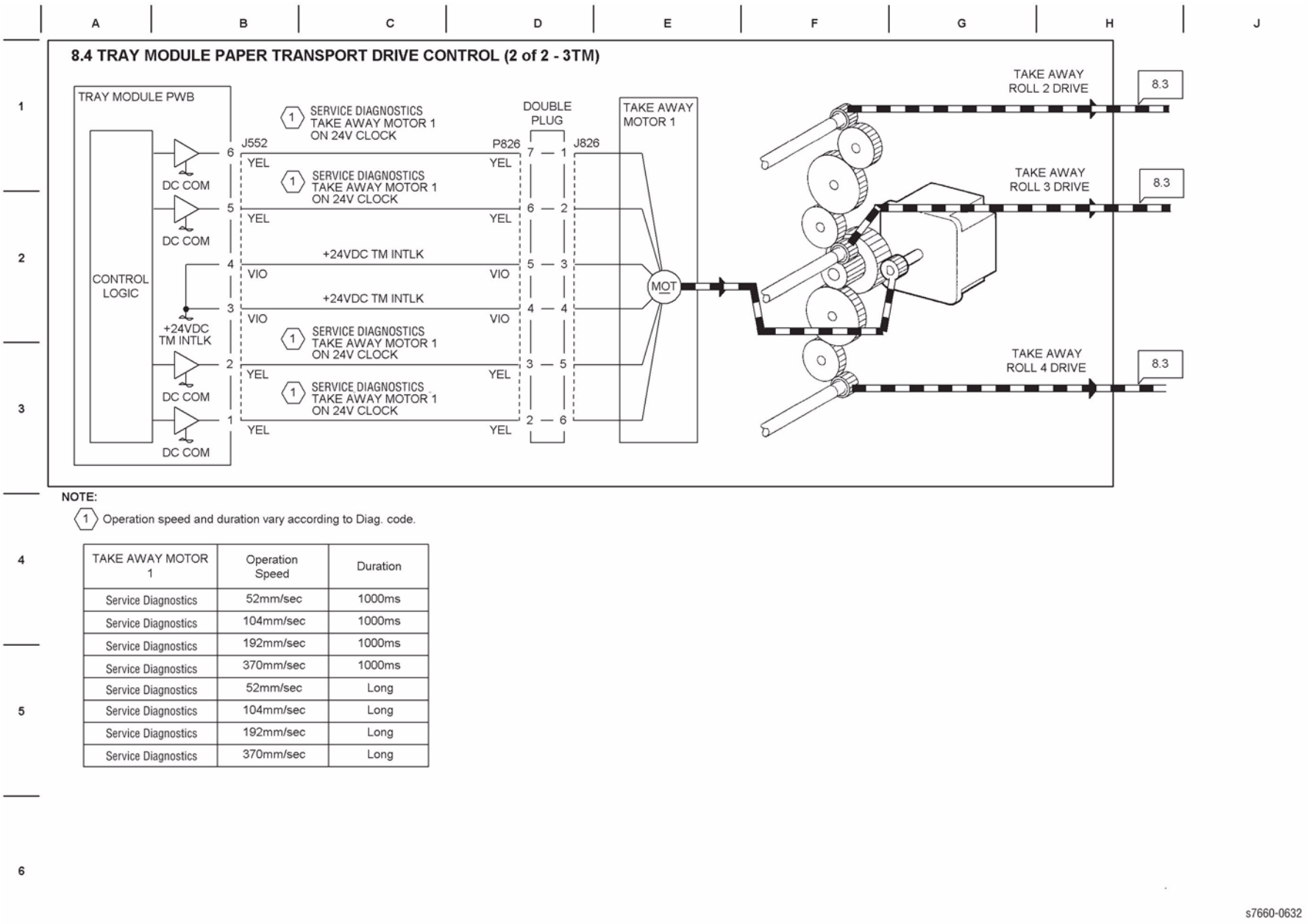


Figure 4 BSD 8.4 Tray Module Paper Transportation Drive Control TTM (1 of 2)



NOTE:

(1) Operation speed and duration vary according to Diag. code.

TAKE AWAY MOTOR 1	Operation Speed	Duration
Service Diagnostics	52mm/sec	1000ms
Service Diagnostics	104mm/sec	1000ms
Service Diagnostics	192mm/sec	1000ms
Service Diagnostics	370mm/sec	1000ms
Service Diagnostics	52mm/sec	Long
Service Diagnostics	104mm/sec	Long
Service Diagnostics	192mm/sec	Long
Service Diagnostics	370mm/sec	Long

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Figure 5 BSD 8.4 Tray Module Paper Transportation Drive Control 3TM (2 of 2)

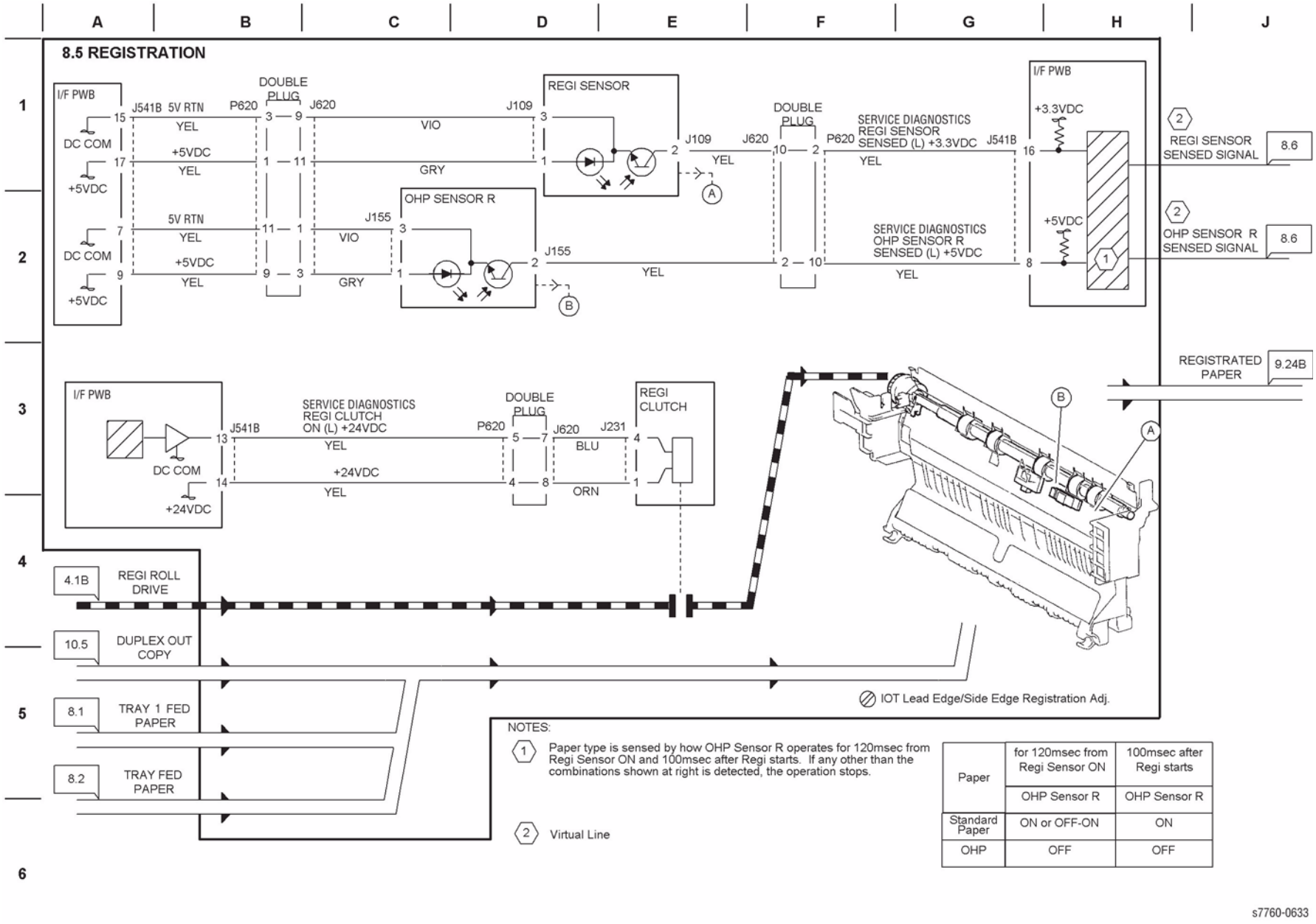


Figure 6 BSD 8.5 Registration

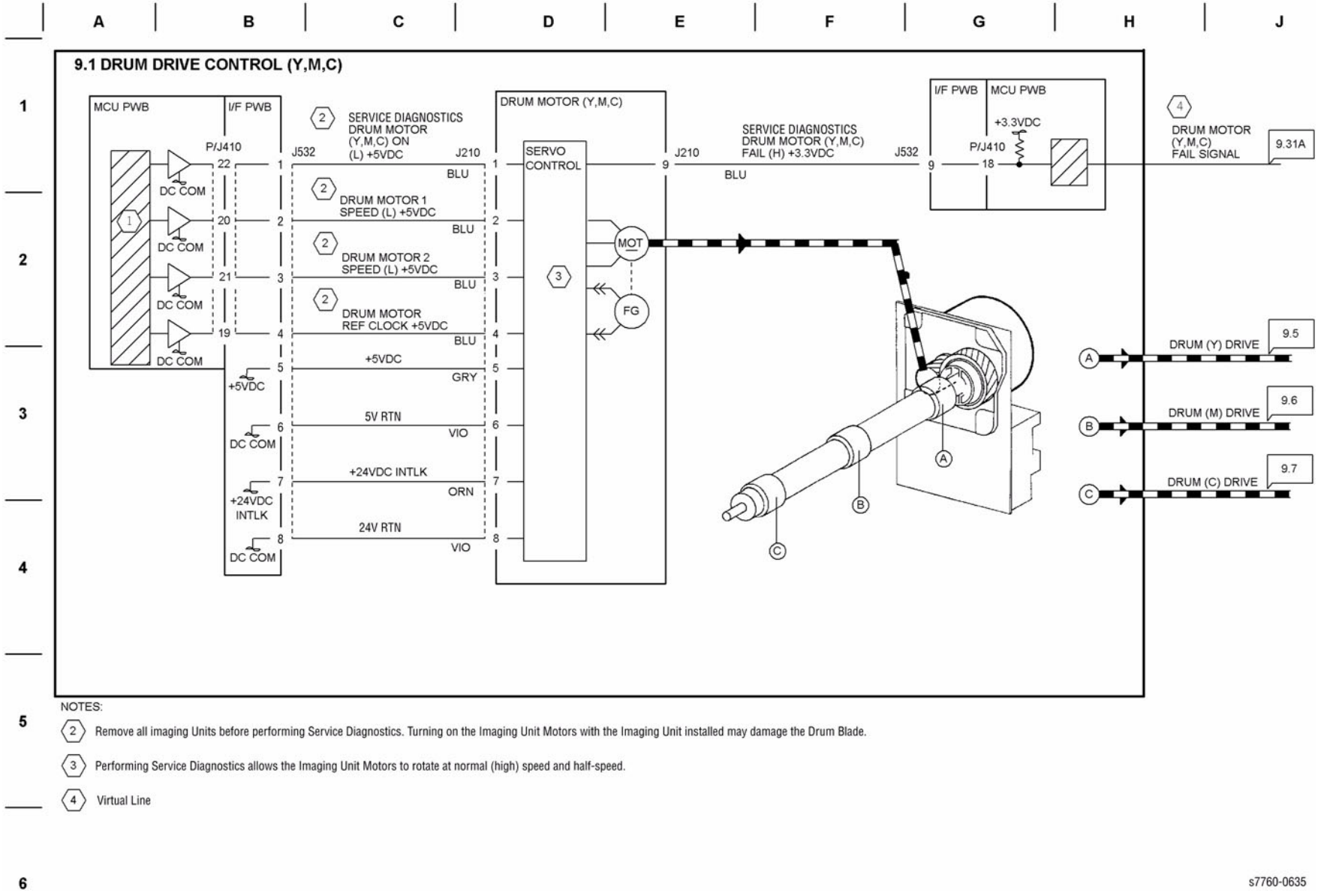


Figure 1 BSD 9.1 Imaging Unit Drive Control (Y, M, C)

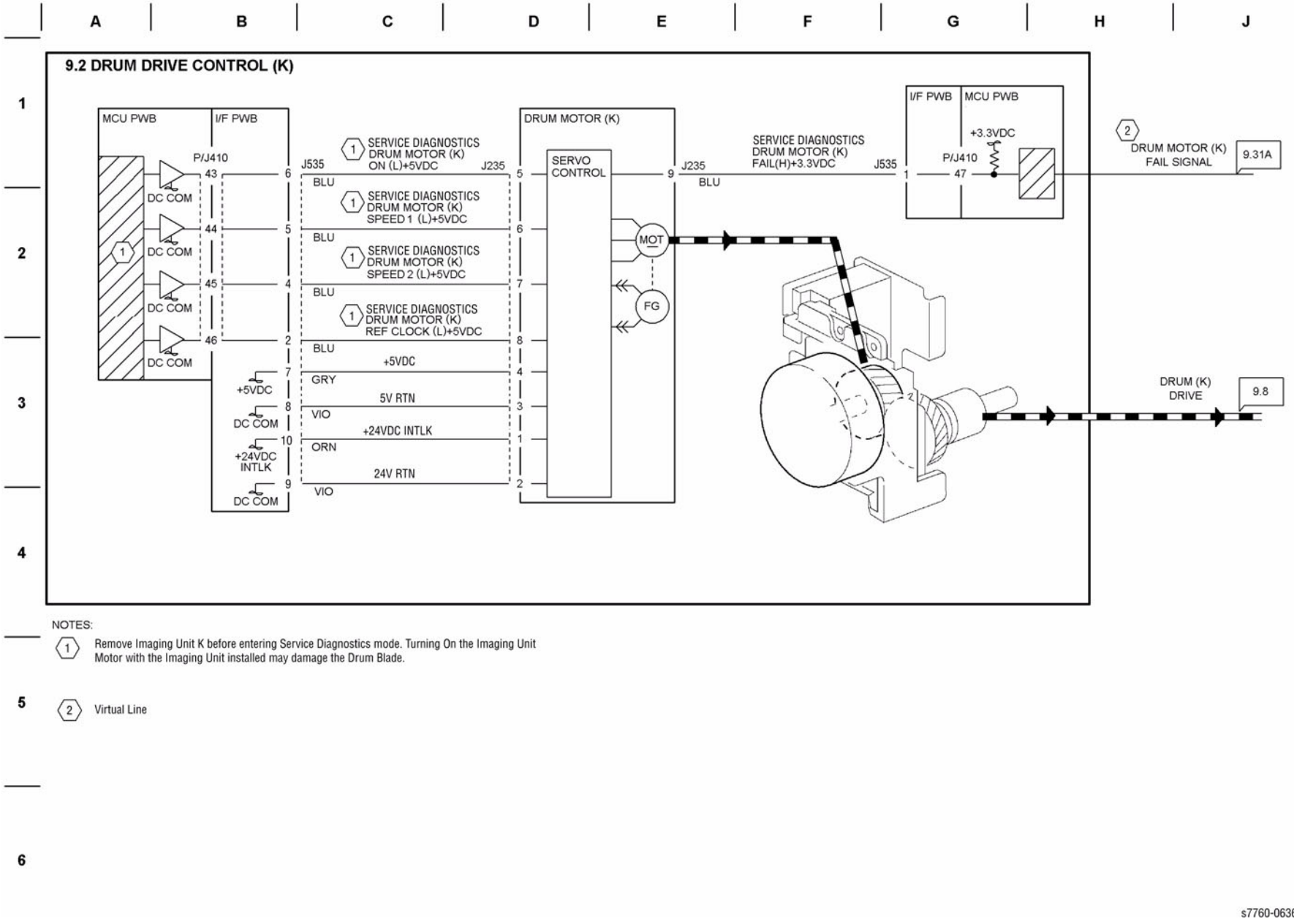
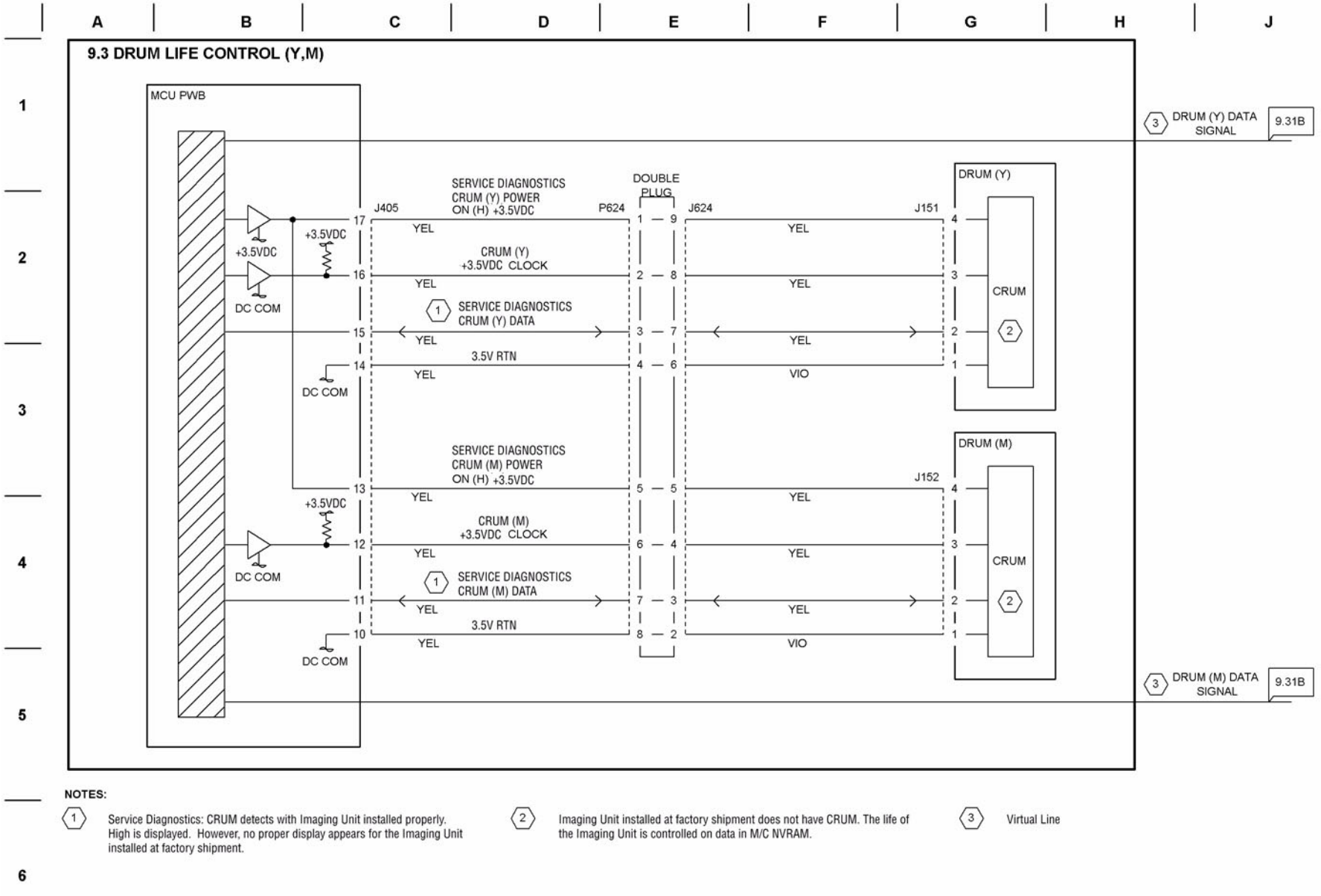


Figure 2 BSD 9.2 Imaging Unit Drive Control (K)



NOTES:

1. Service Diagnostics: CRUM detects with Imaging Unit installed properly. High is displayed. However, no proper display appears for the Imaging Unit installed at factory shipment.
2. Imaging Unit installed at factory shipment does not have CRUM. The life of the Imaging Unit is controlled on data in M/C NVRAM.
3. Virtual Line

s7760-0637

Figure 3 BSD 9.3 Imaging Unit Life Control (Y,M)

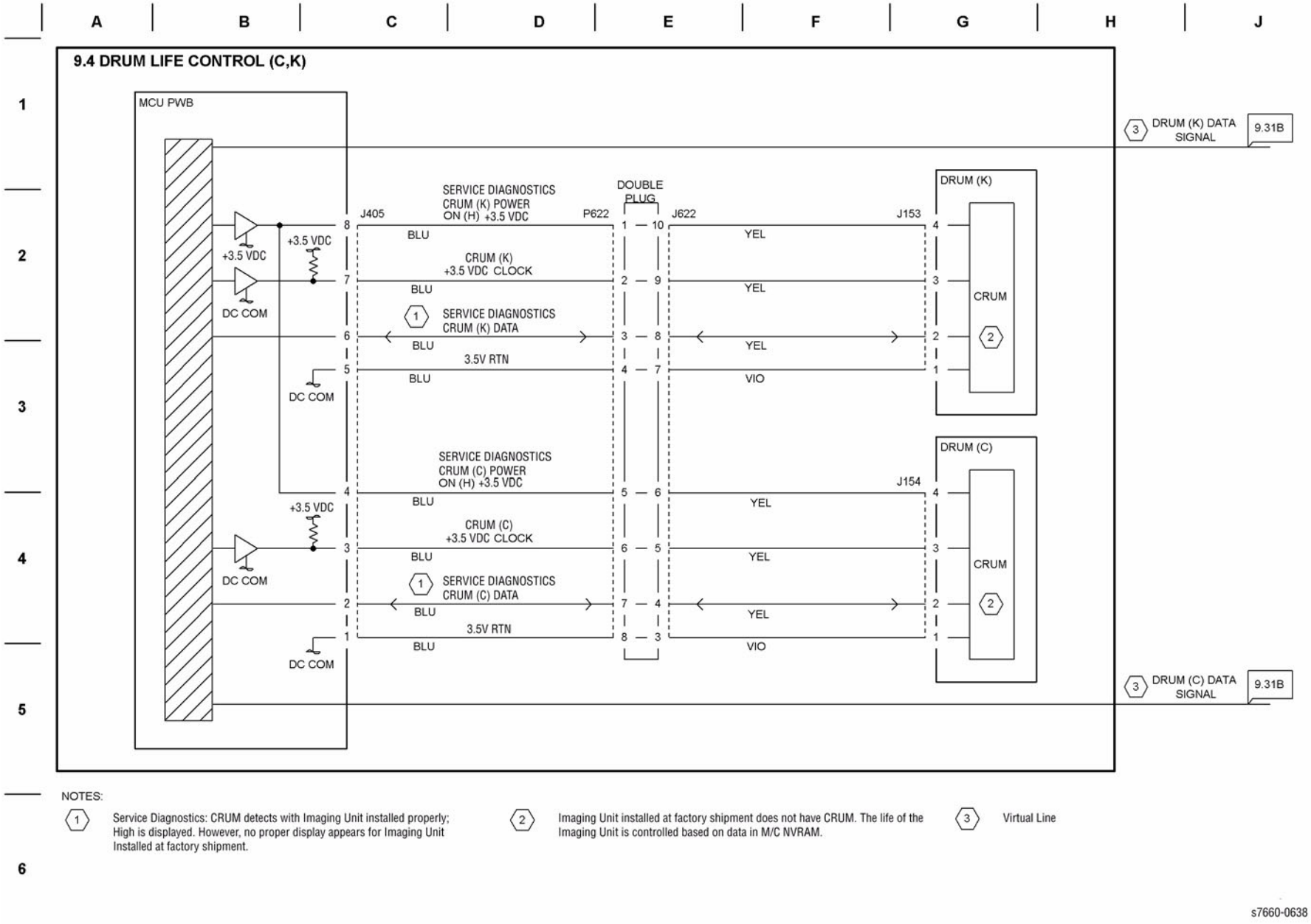


Figure 4 BSD 9.4 Imaging Unit Life Control (C,K)

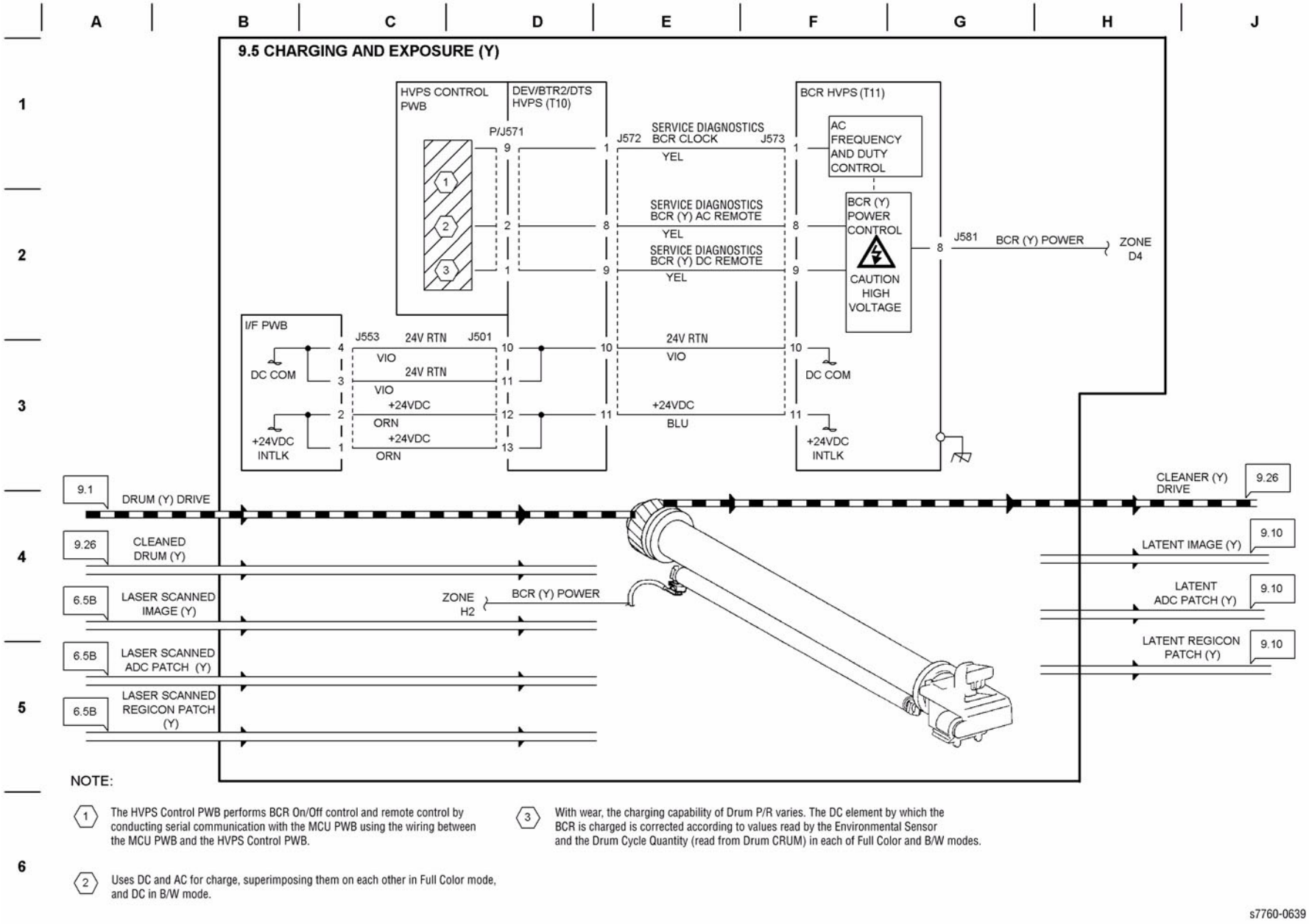


Figure 5 BSD 9.5 Charging and Exposure (Y)

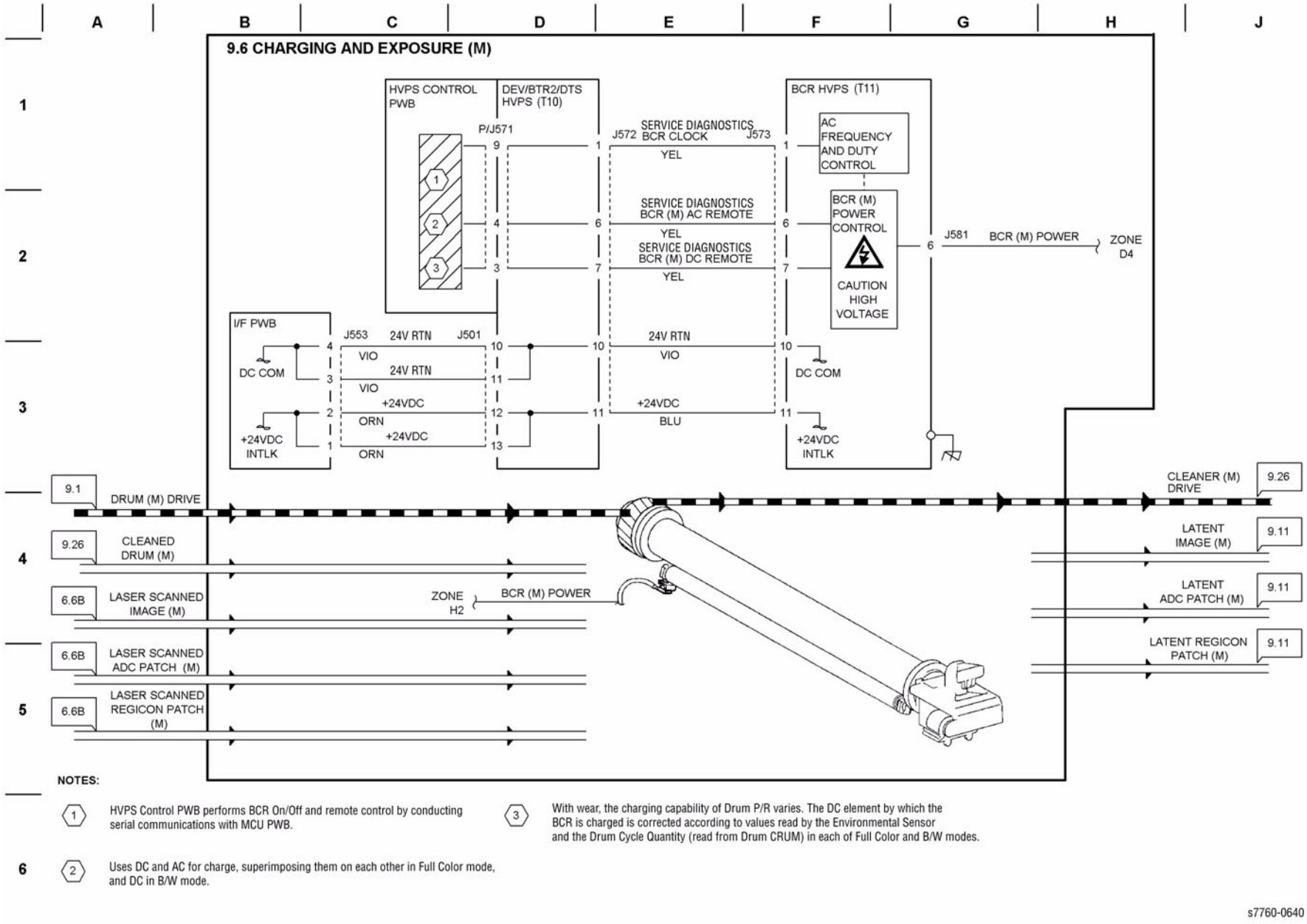


Figure 6 BSD 9.6 Charging and Exposure (M)

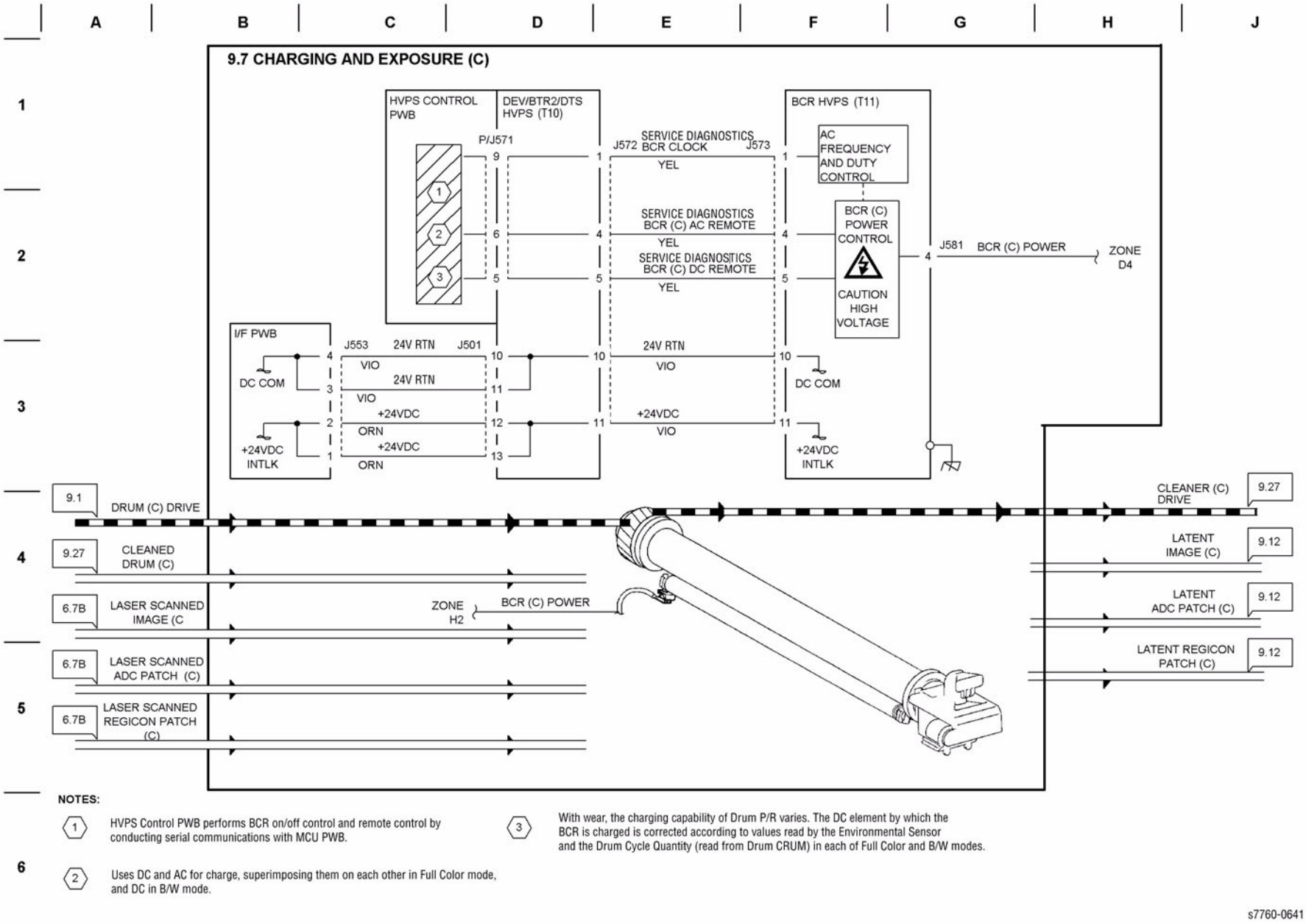


Figure 7 BSD 9.7 Charging and Exposure (C)

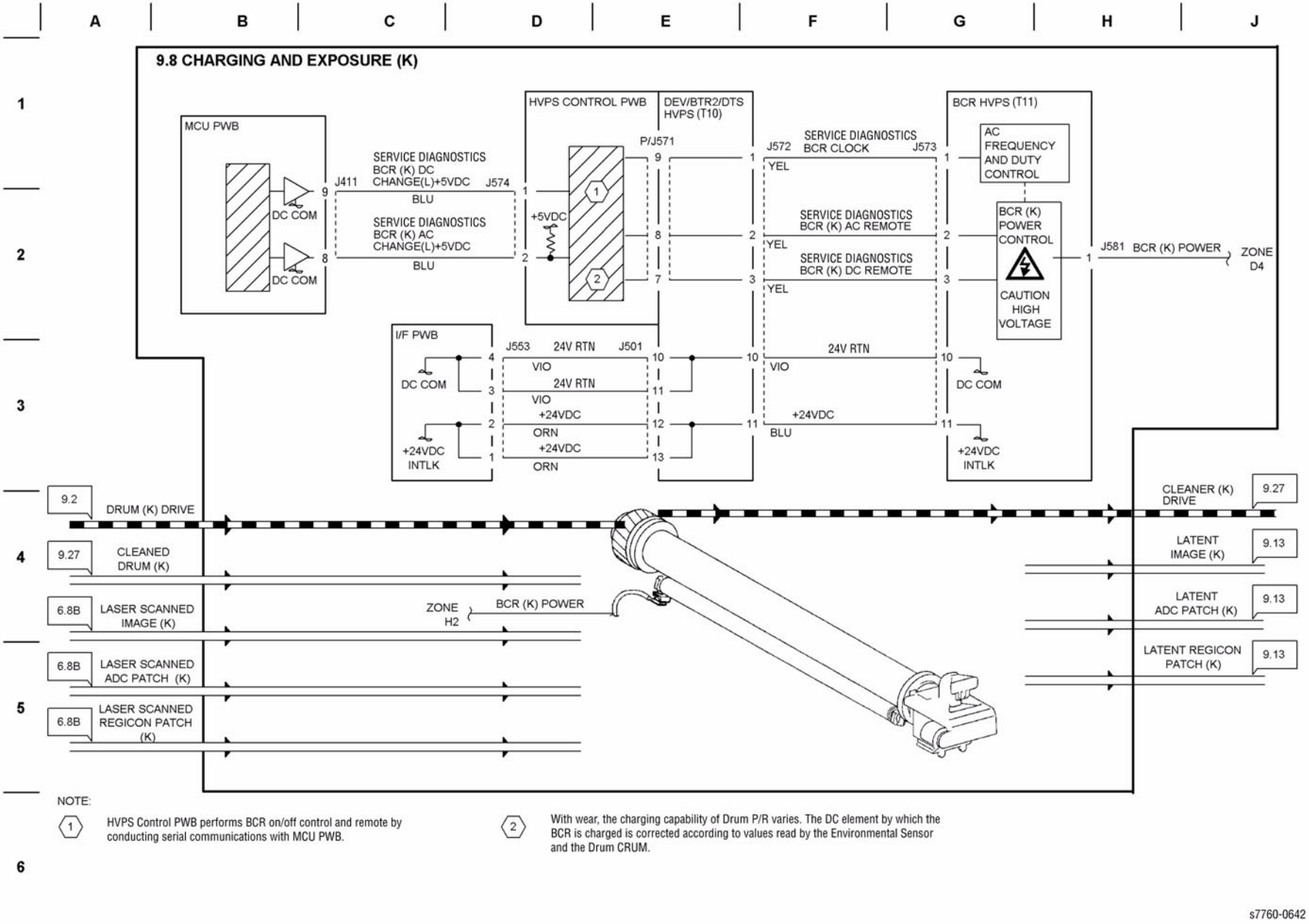


Figure 8 BSD 9.8 Charging and Exposure (K)

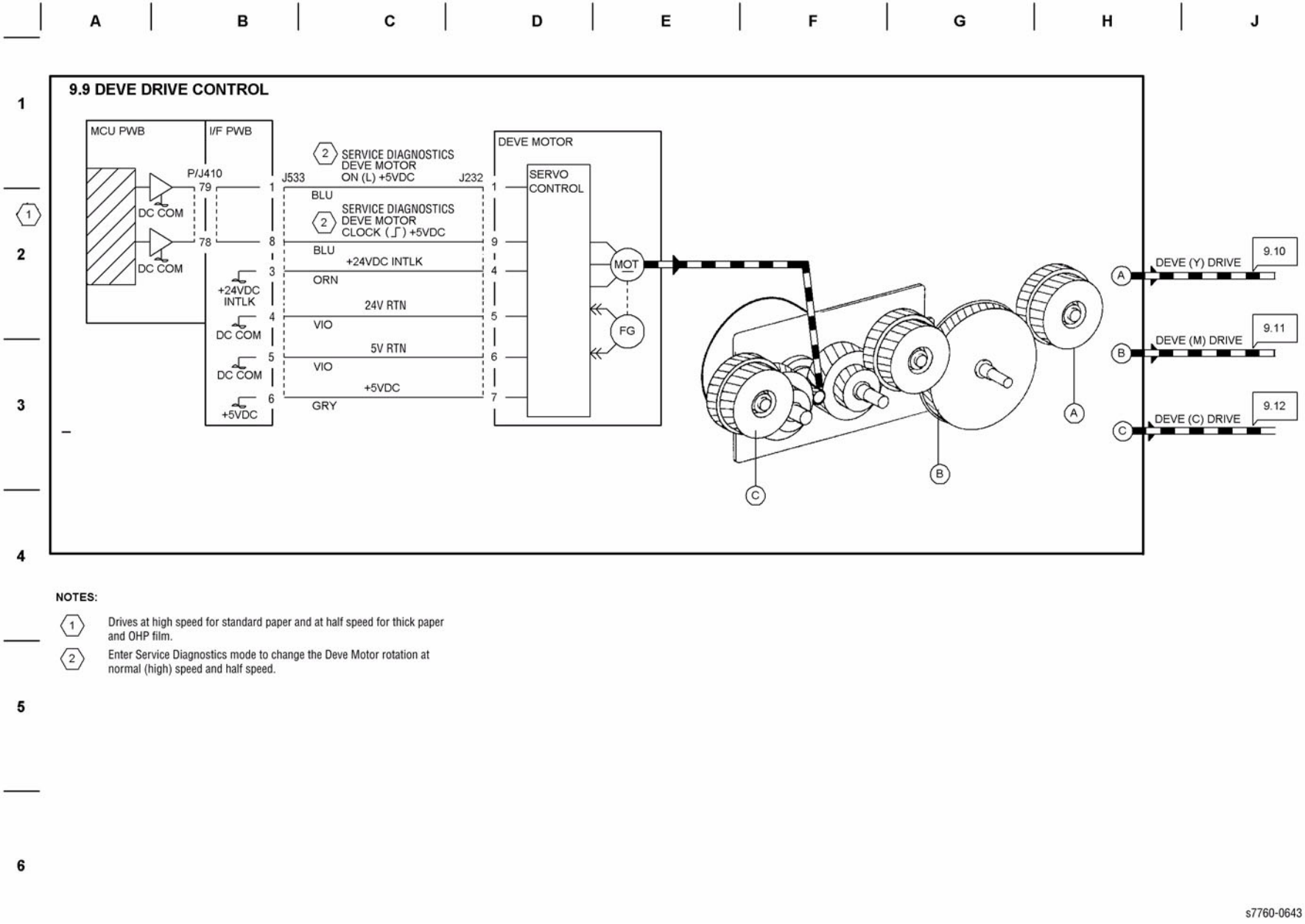


Figure 9 BSD 9.9 Developer Drive Control

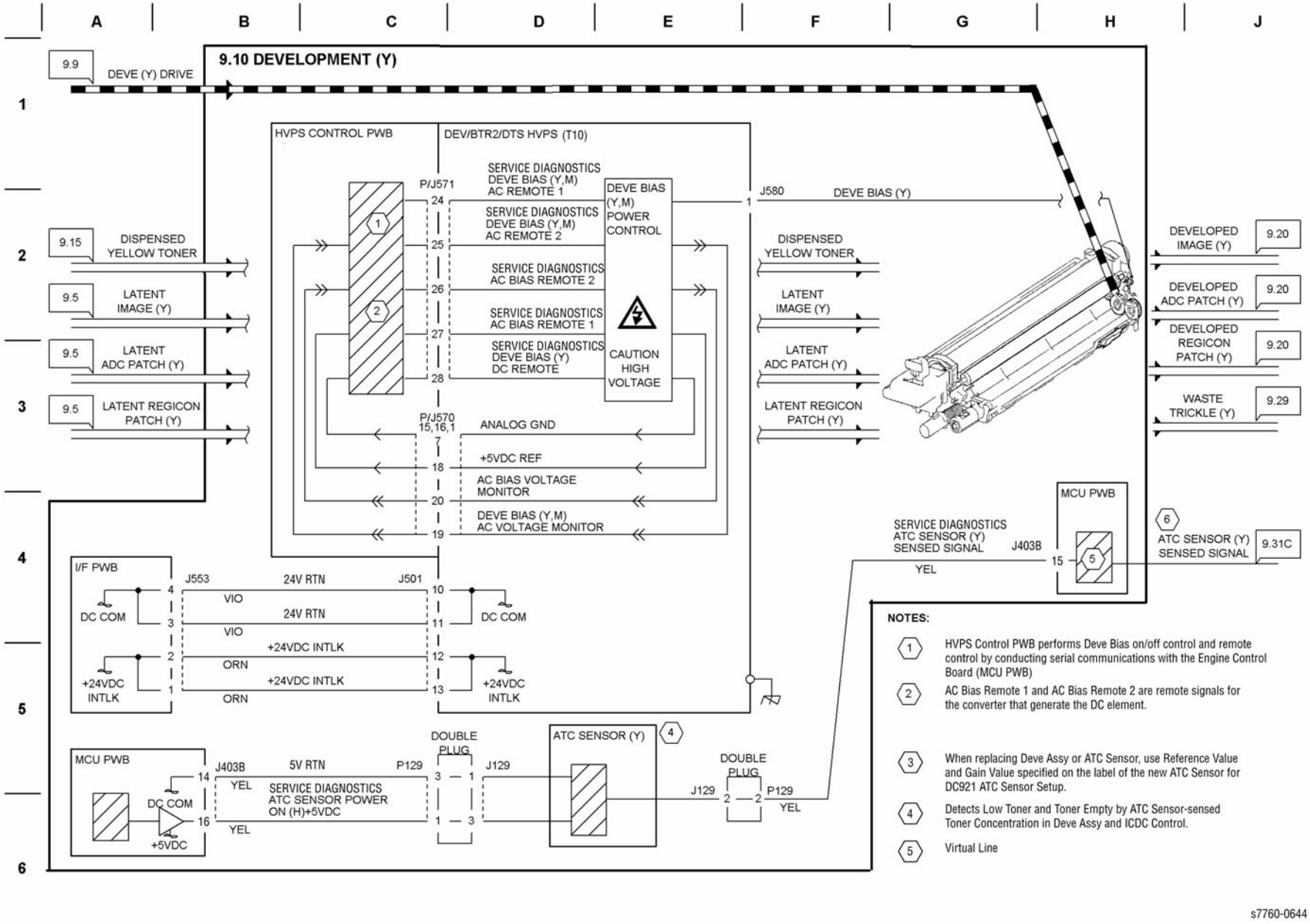


Figure 10 BSD 9.10 Development (Y)

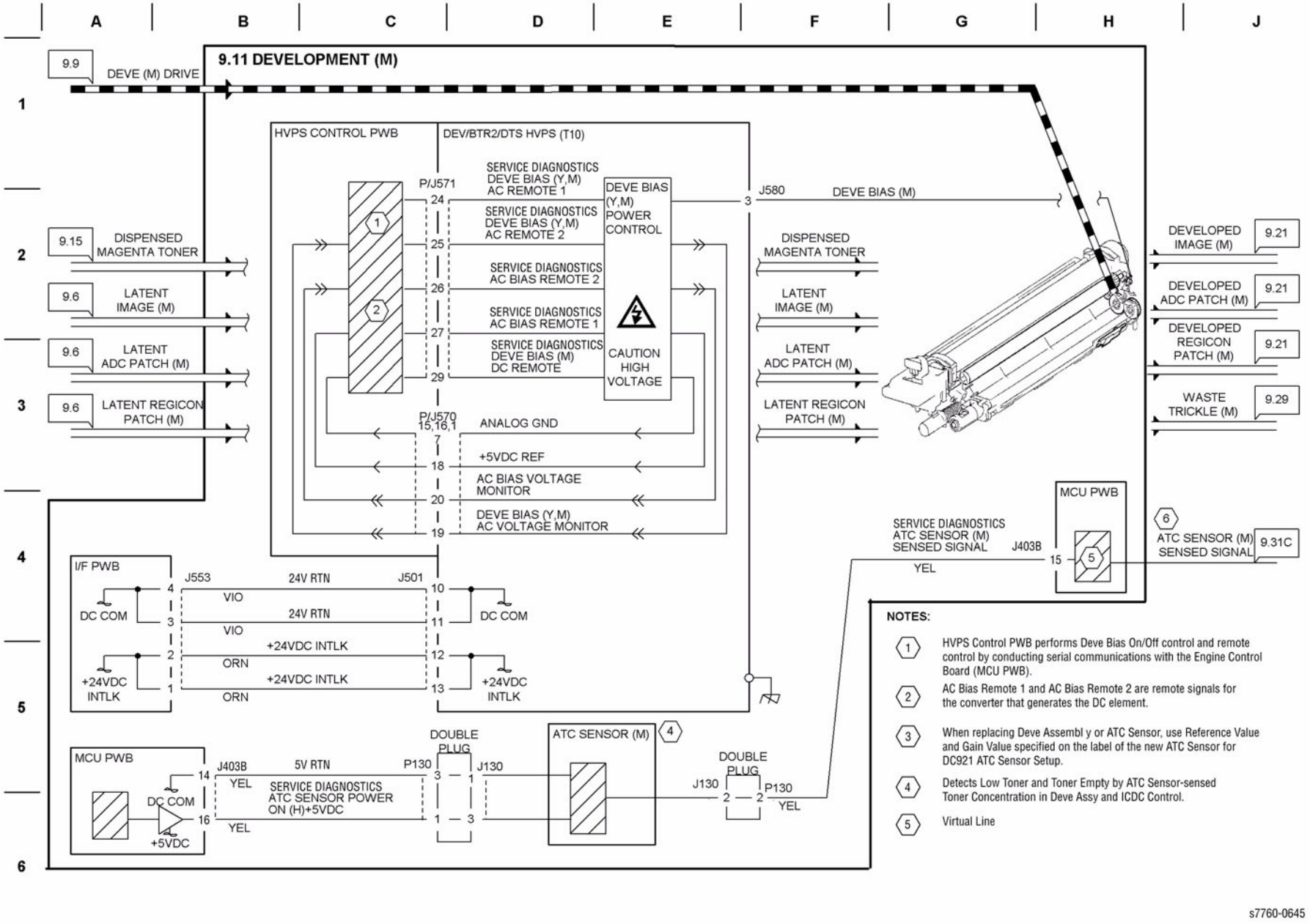


Figure 11 BSD 9.11 Development (M)

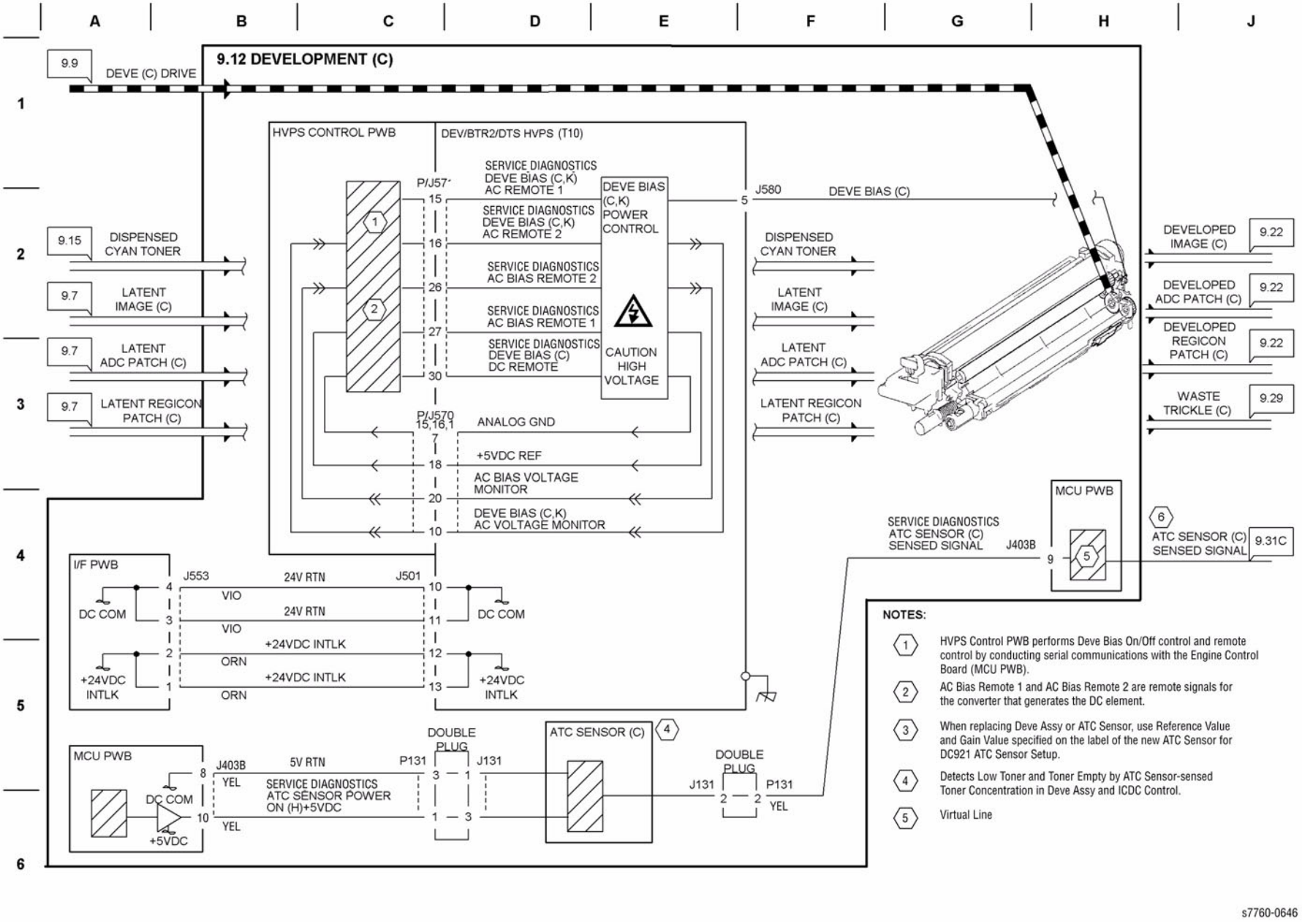


Figure 12 BSD 9.12 Development (C)

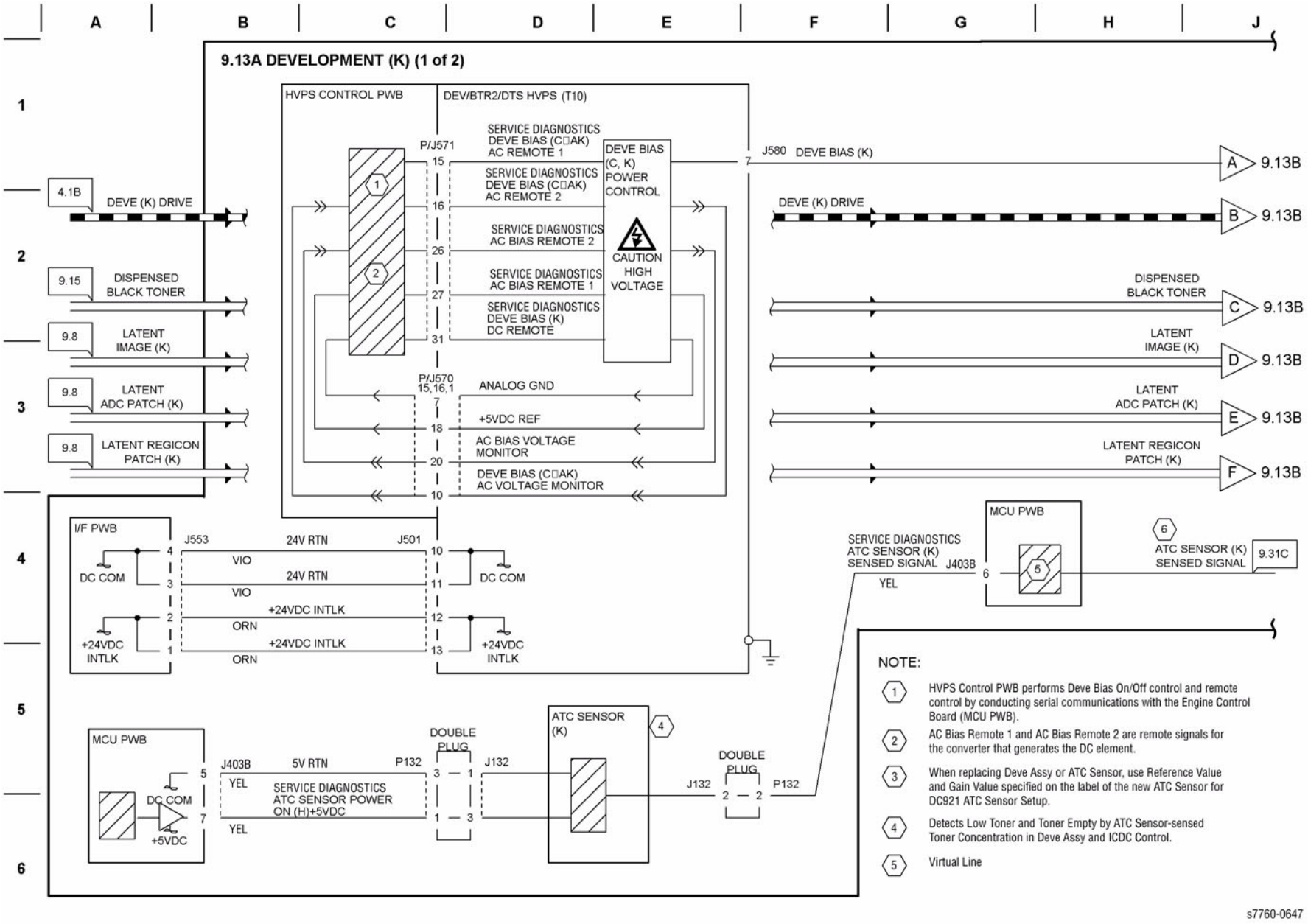


Figure 13 BSD 9.13A Development (K) (1 of 2)

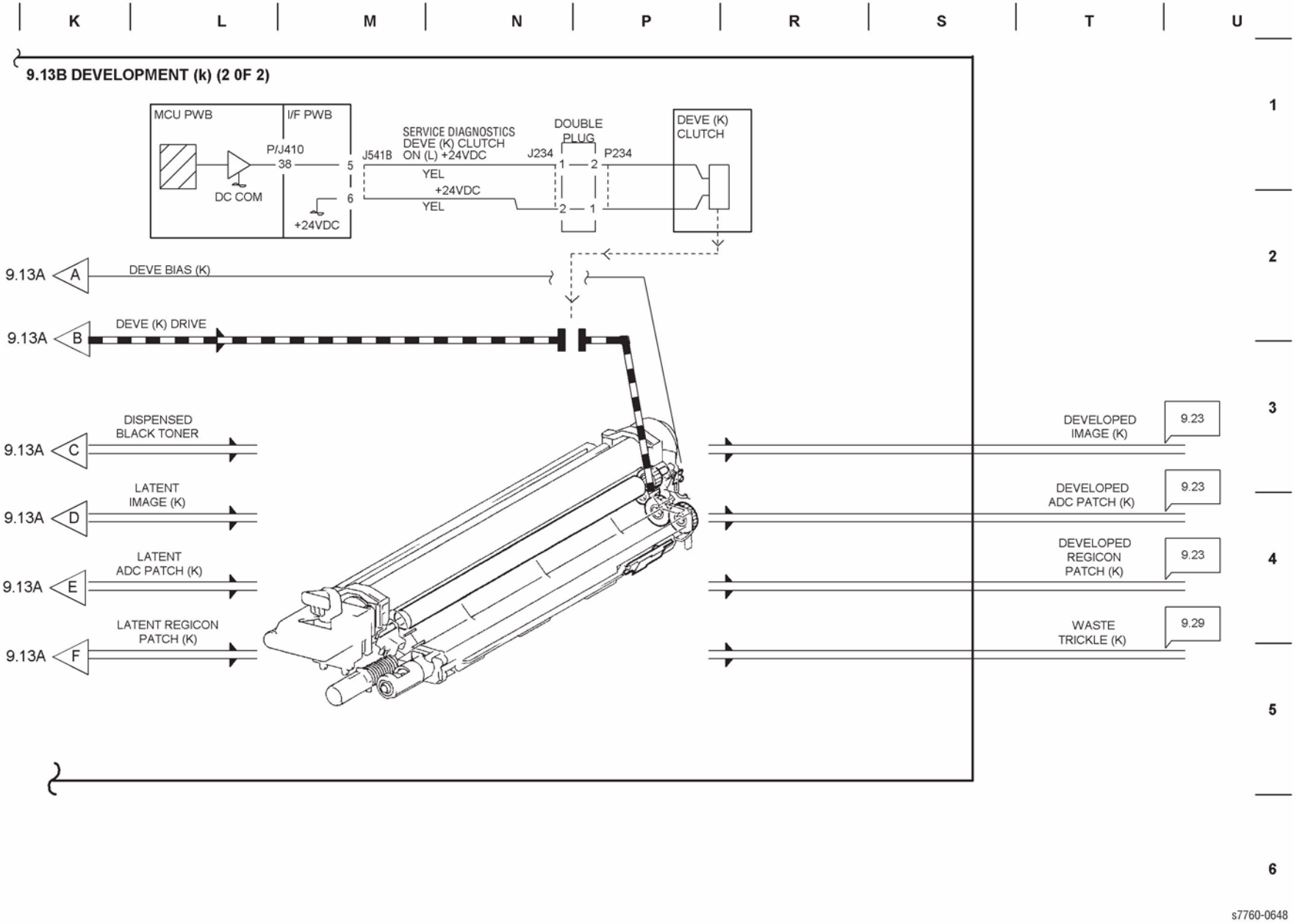


Figure 14 BSD 9.13B Development (K) (2 of 2)

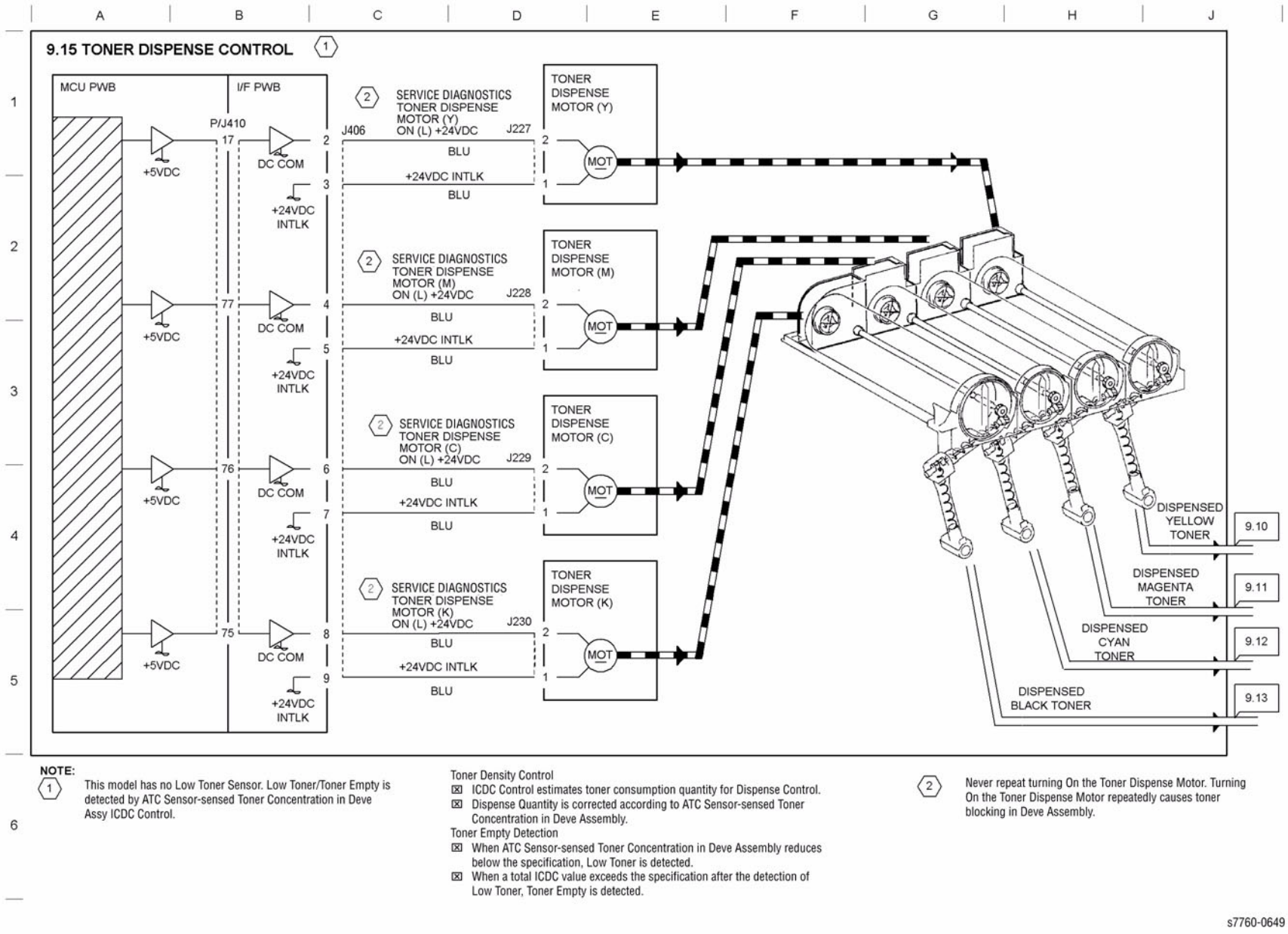


Figure 15 BSD 9.15 Toner Dispense Control

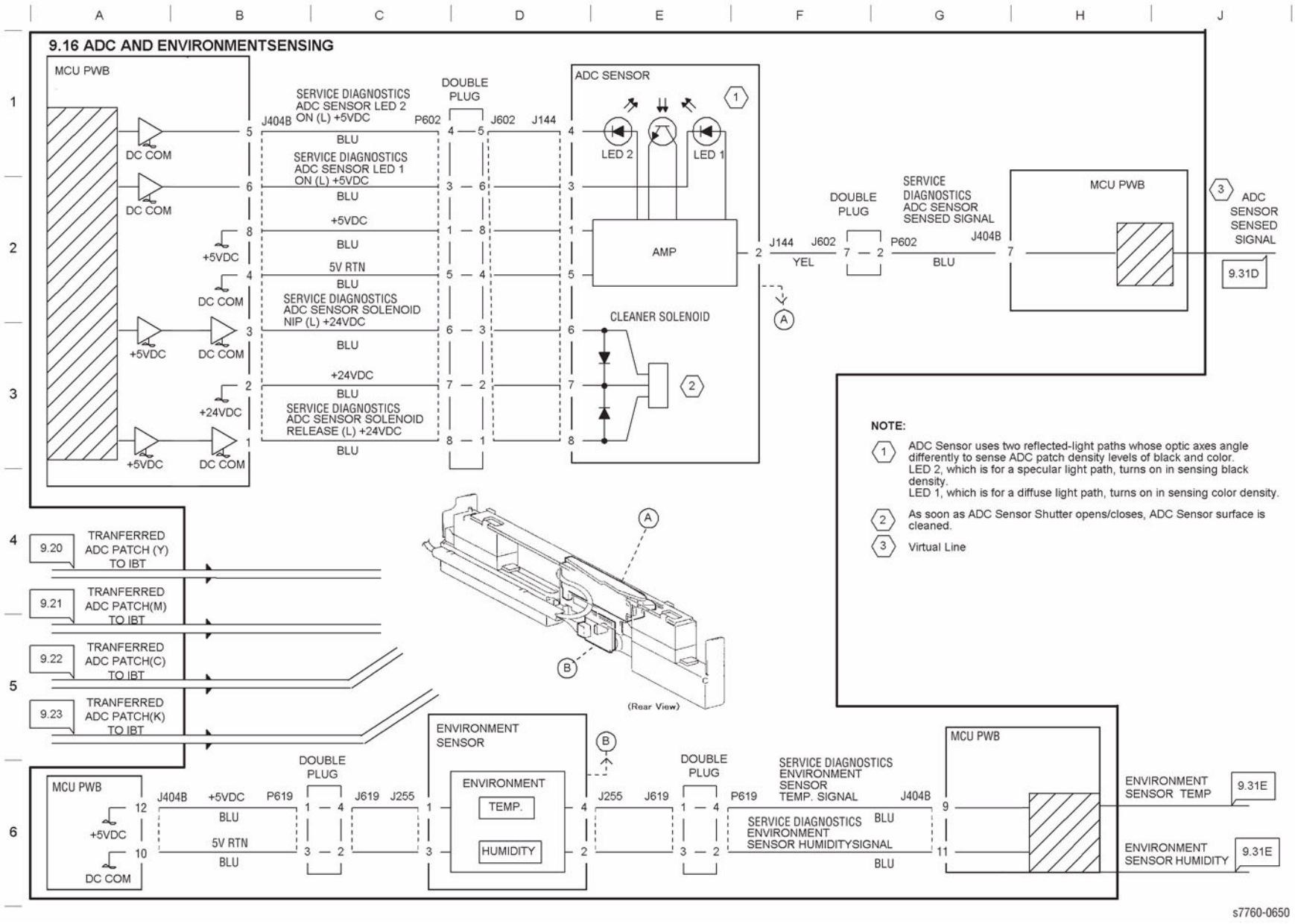


Figure 16 BSD 9.16 ADC and Environmental Sensing

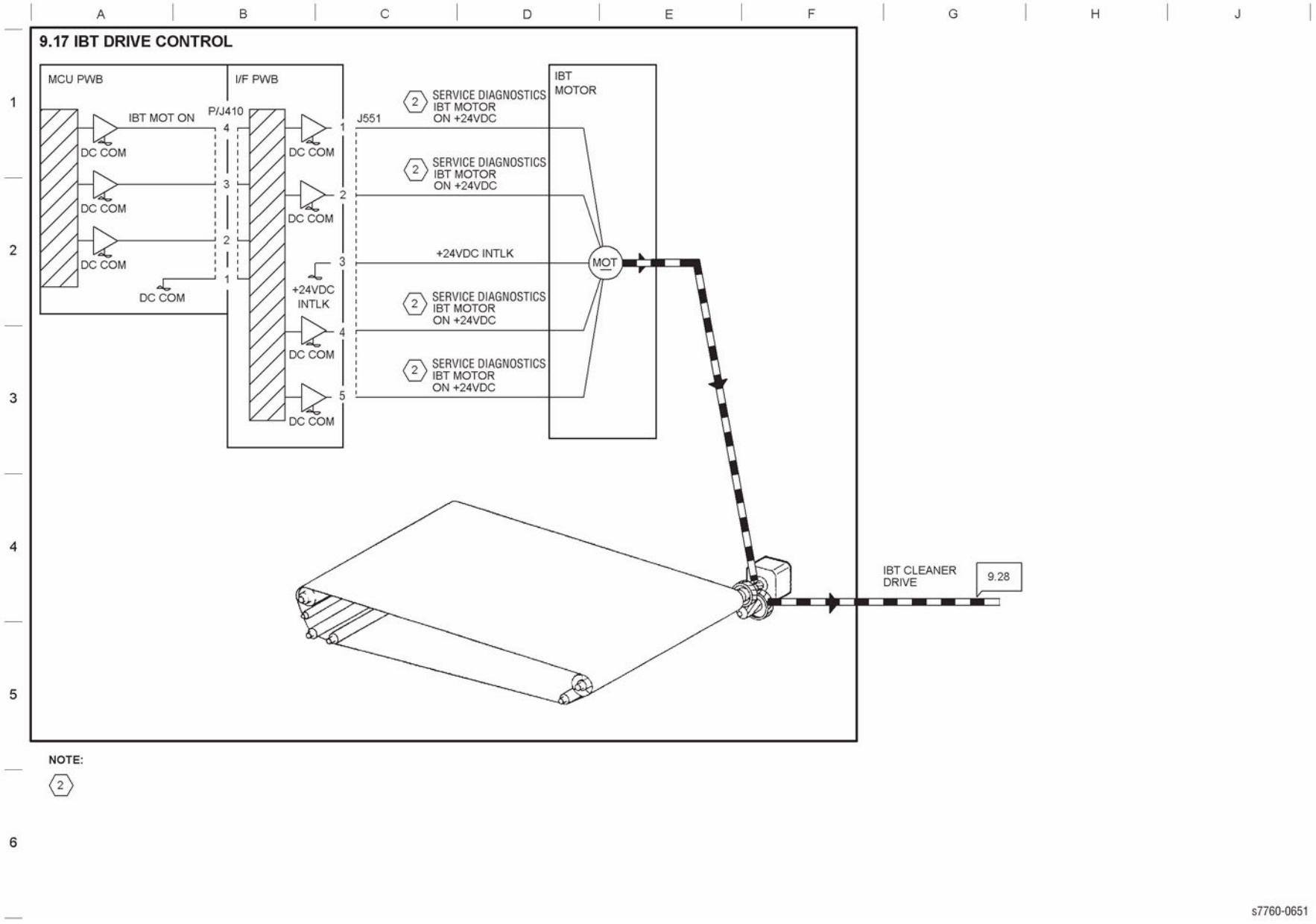


Figure 17 BSD 9.17 IBT Drive Control

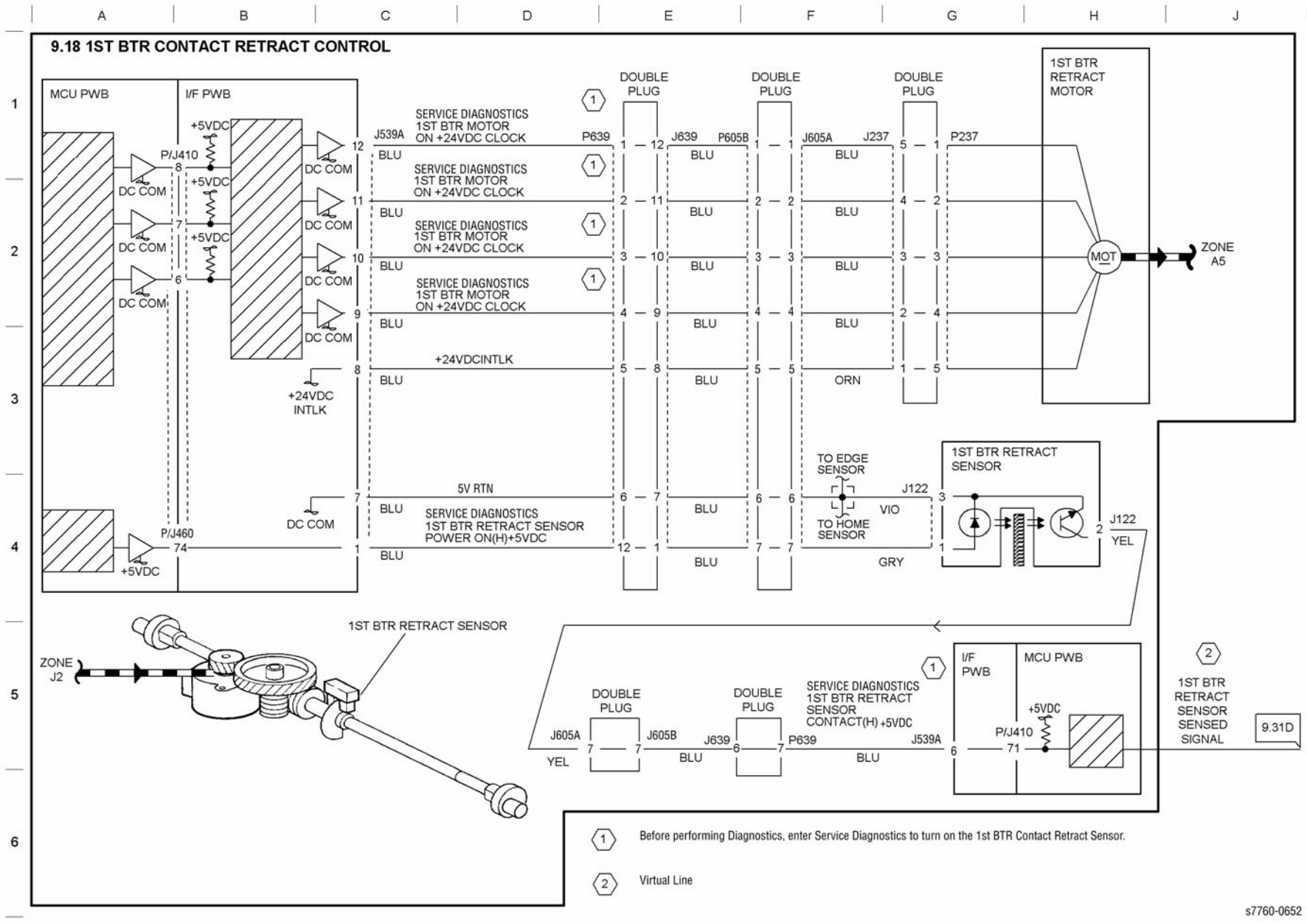
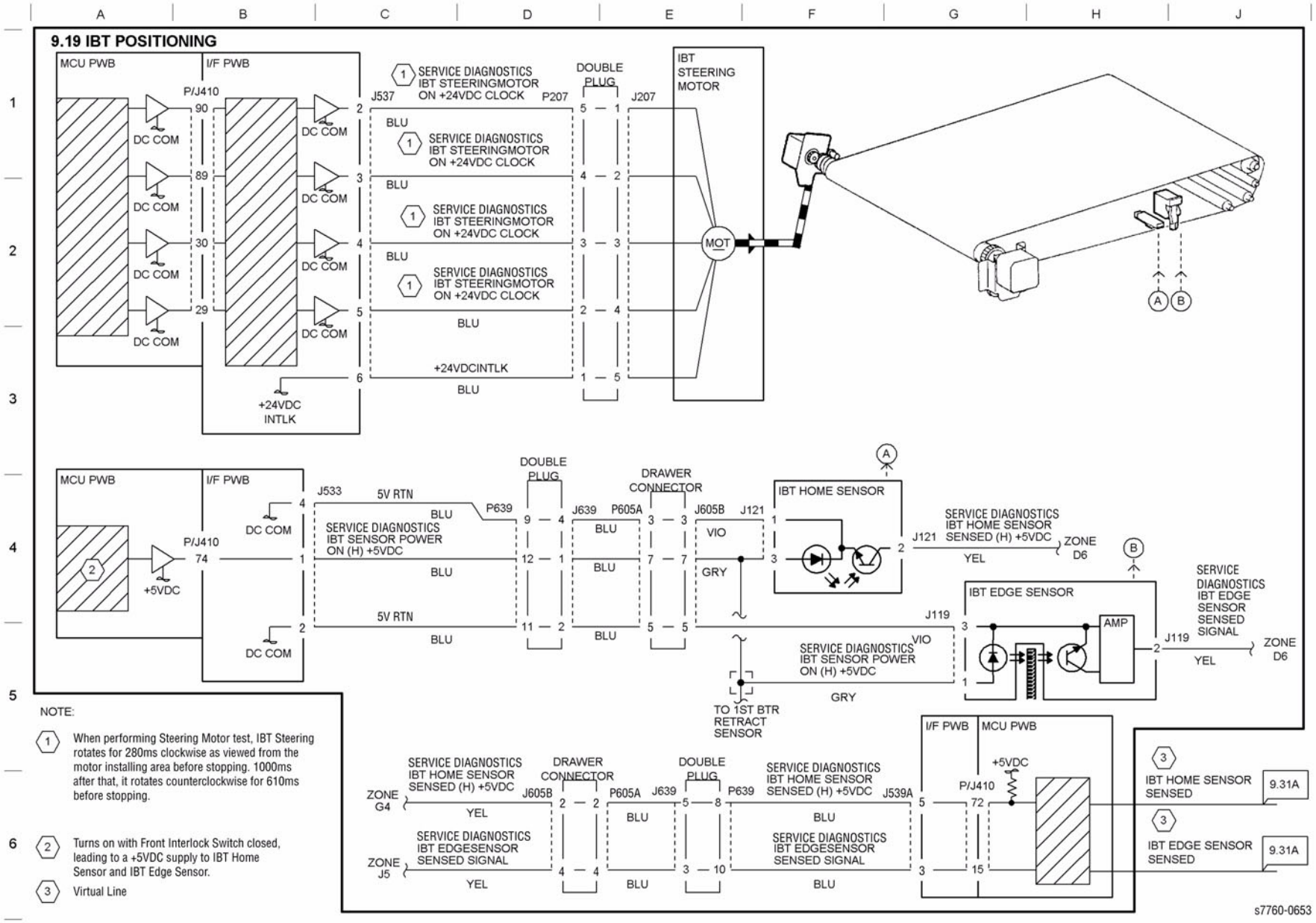


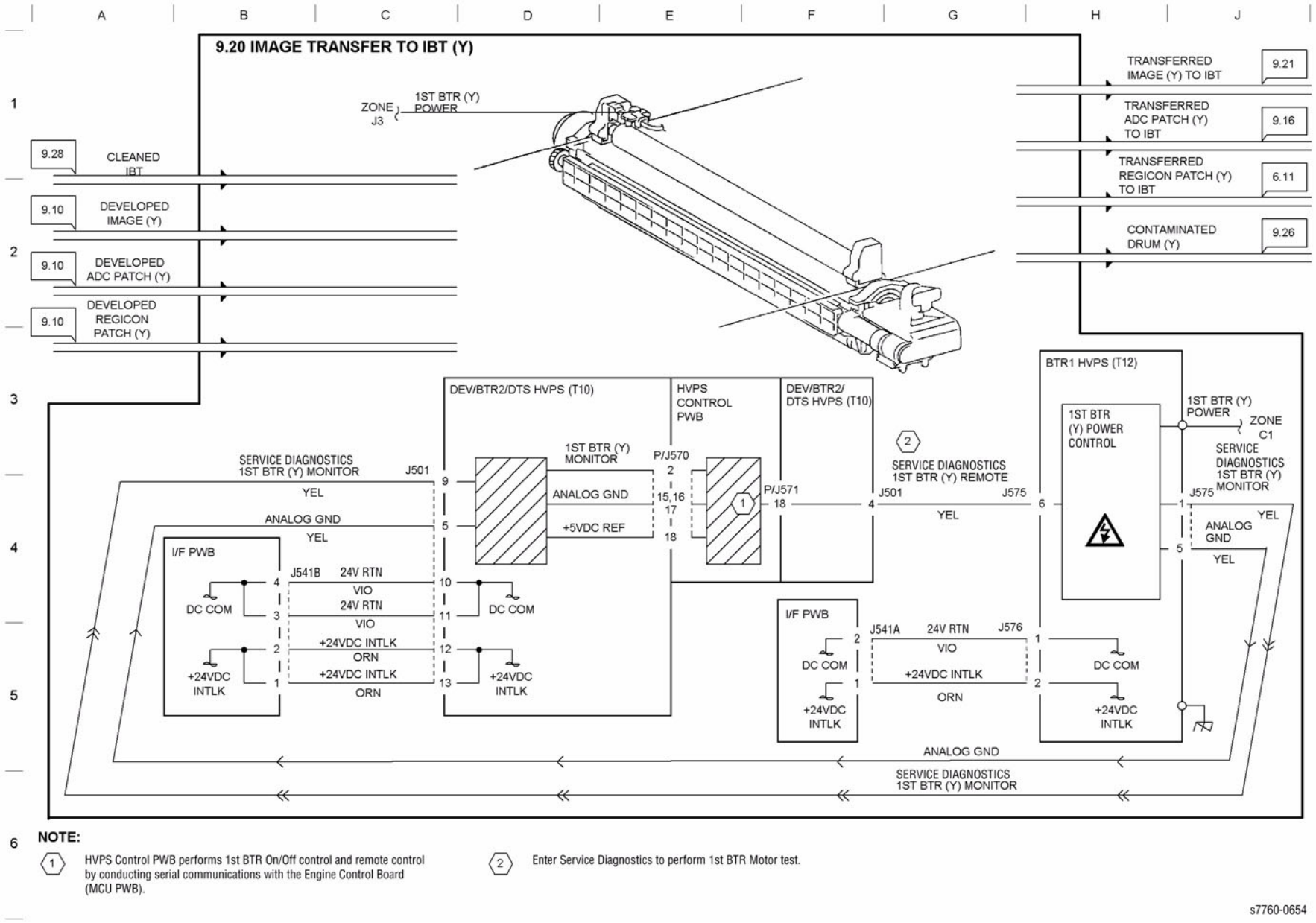
Figure 18 BSD 9.16 1ST BTR Contact Retract Control



NOTE:

1. When performing Steering Motor test, IBT Steering rotates for 280ms clockwise as viewed from the motor installing area before stopping. 1000ms after that, it rotates counterclockwise for 610ms before stopping.
2. Turns on with Front Interlock Switch closed, leading to a +5VDC supply to IBT Home Sensor and IBT Edge Sensor.
3. Virtual Line

Figure 19 BSD 9.19 IBT Positioning



NOTE:

1. HVPS Control PWB performs 1st BTR On/Off control and remote control by conducting serial communications with the Engine Control Board (MCU PWB).
2. Enter Service Diagnostics to perform 1st BTR Motor test.

Figure 20 BSD 9.20 Image Transfer To IBT (Y)

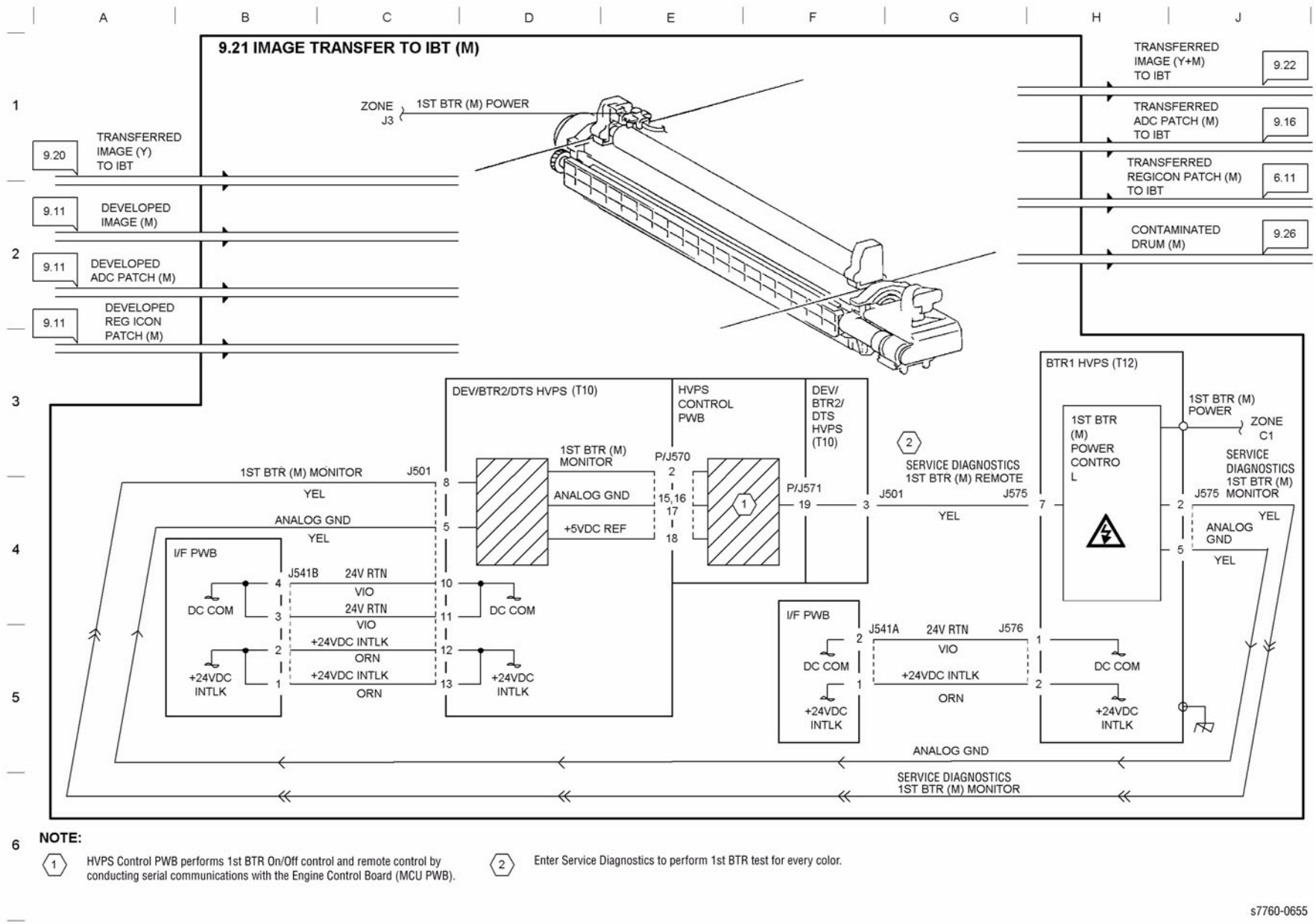


Figure 21 BSD 9.21 Image Transfer To IBT (M)

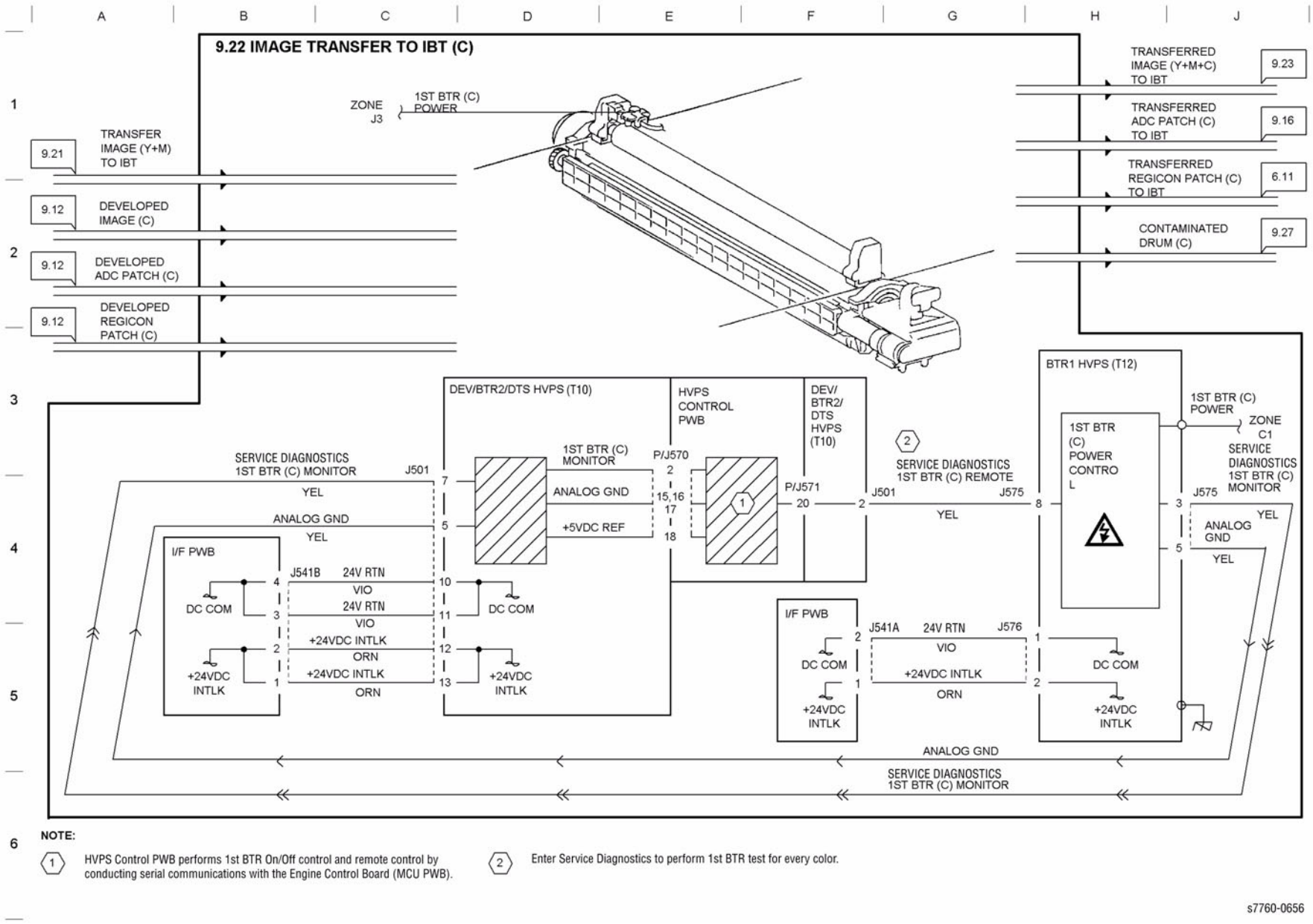


Figure 22 BSD 9.22 Image Transfer To IBT (C)

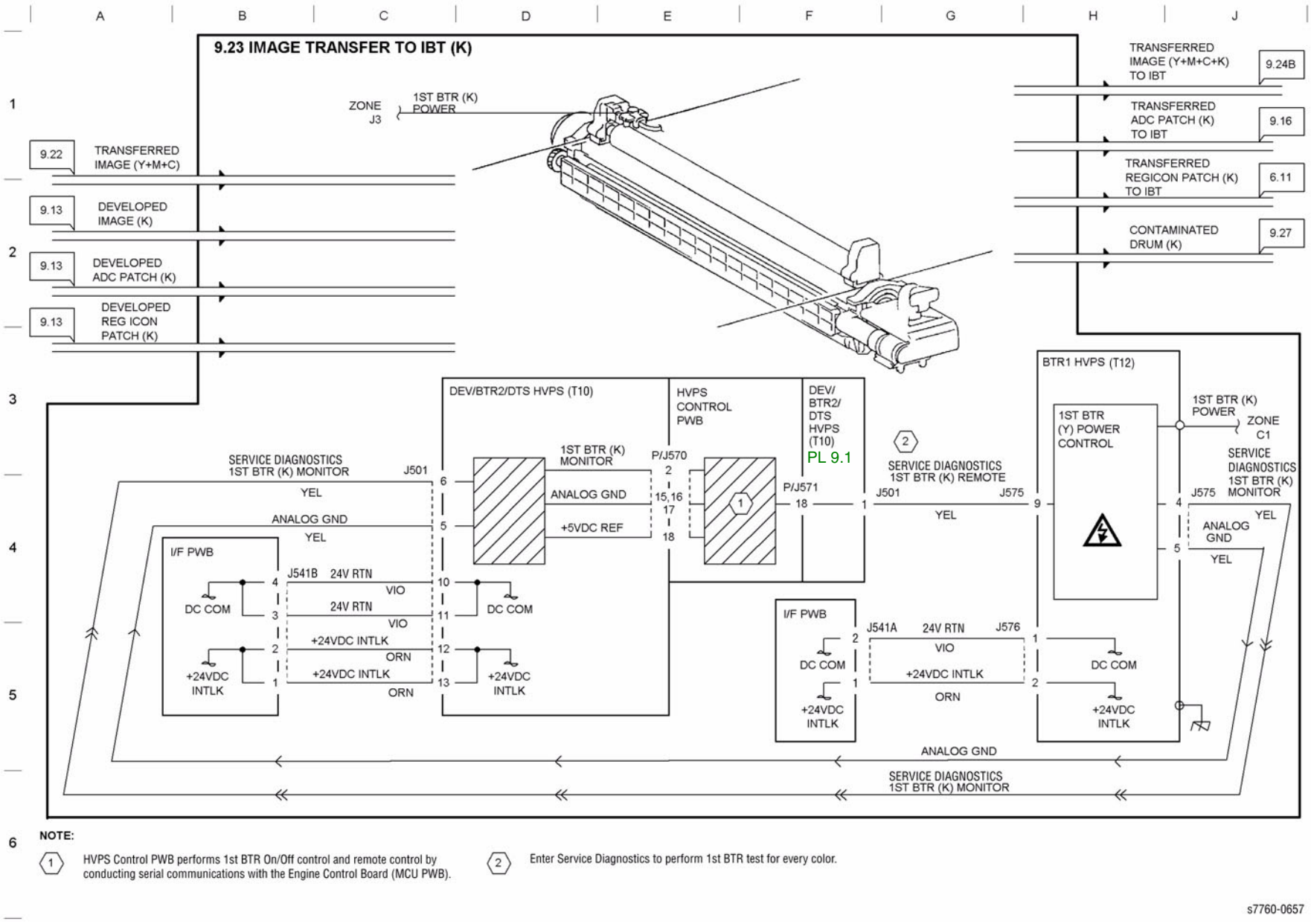


Figure 23 BSD 9.23 Image Transfer To IBT (K)

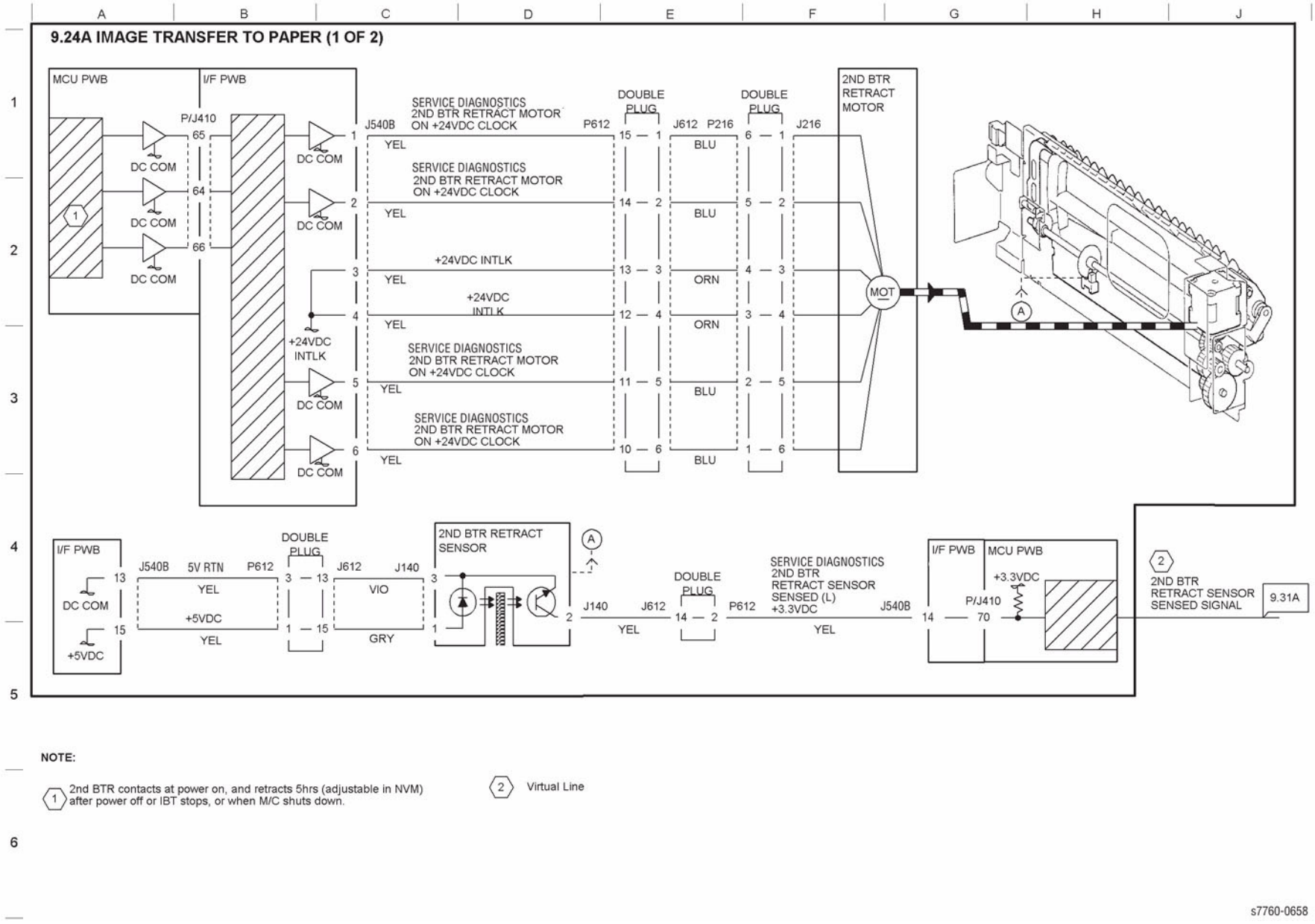


Figure 24 BSD 9.24A Image Transfer To Paper (1 of 2)

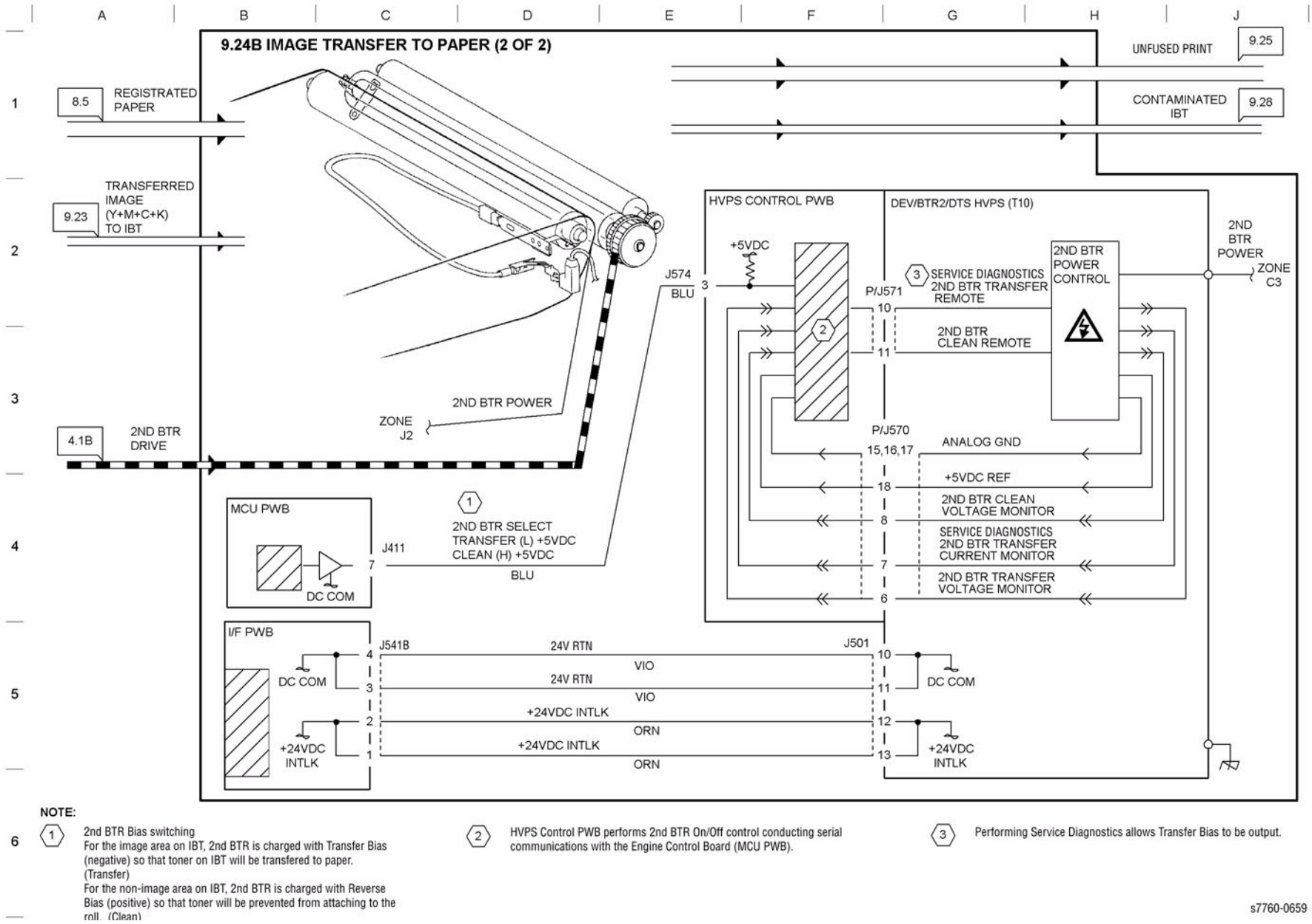


Figure 25 BSD 9.24B Image Transfer To Paper (2 of 2)

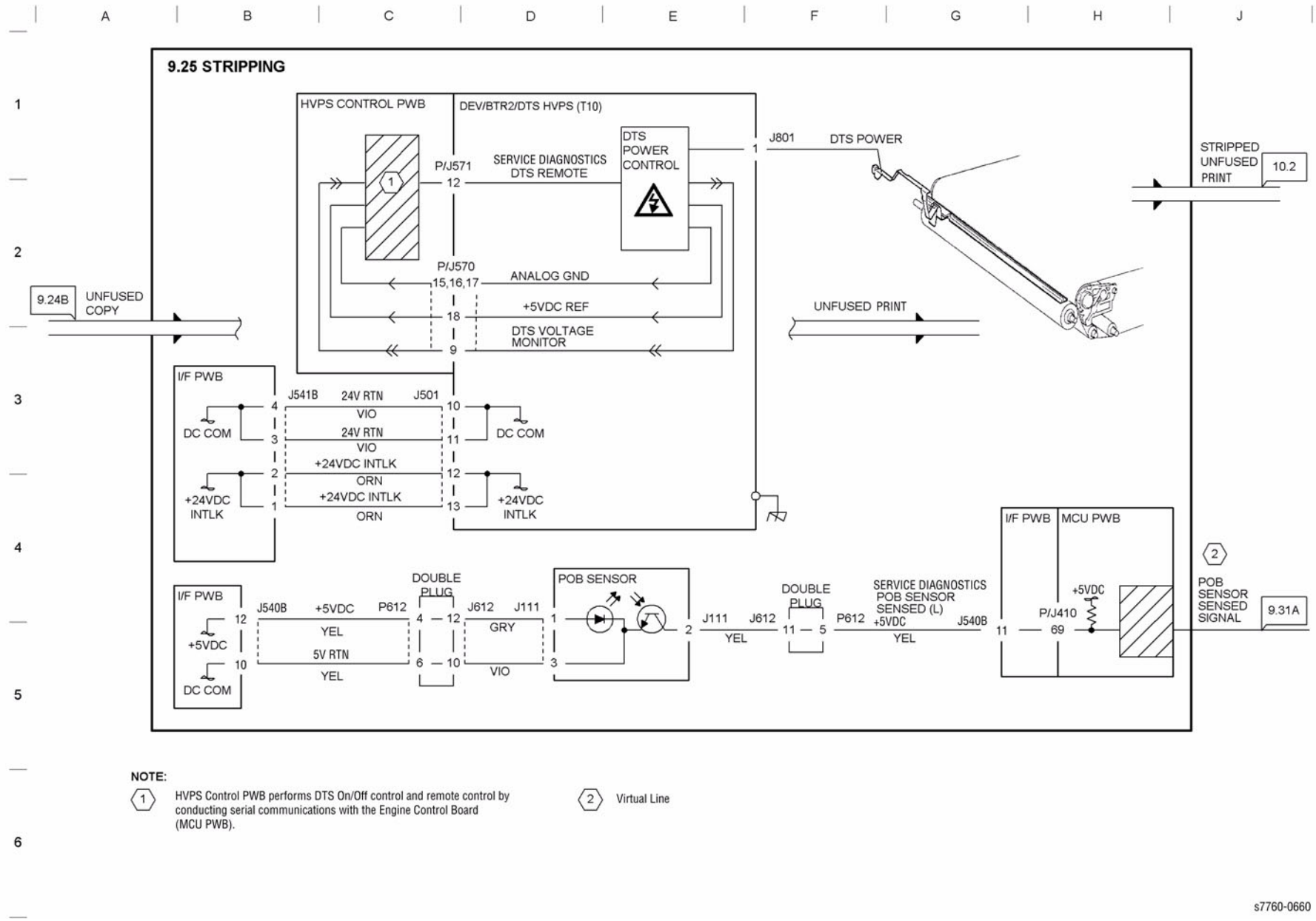


Figure 26 BSD 9.26 Stripping

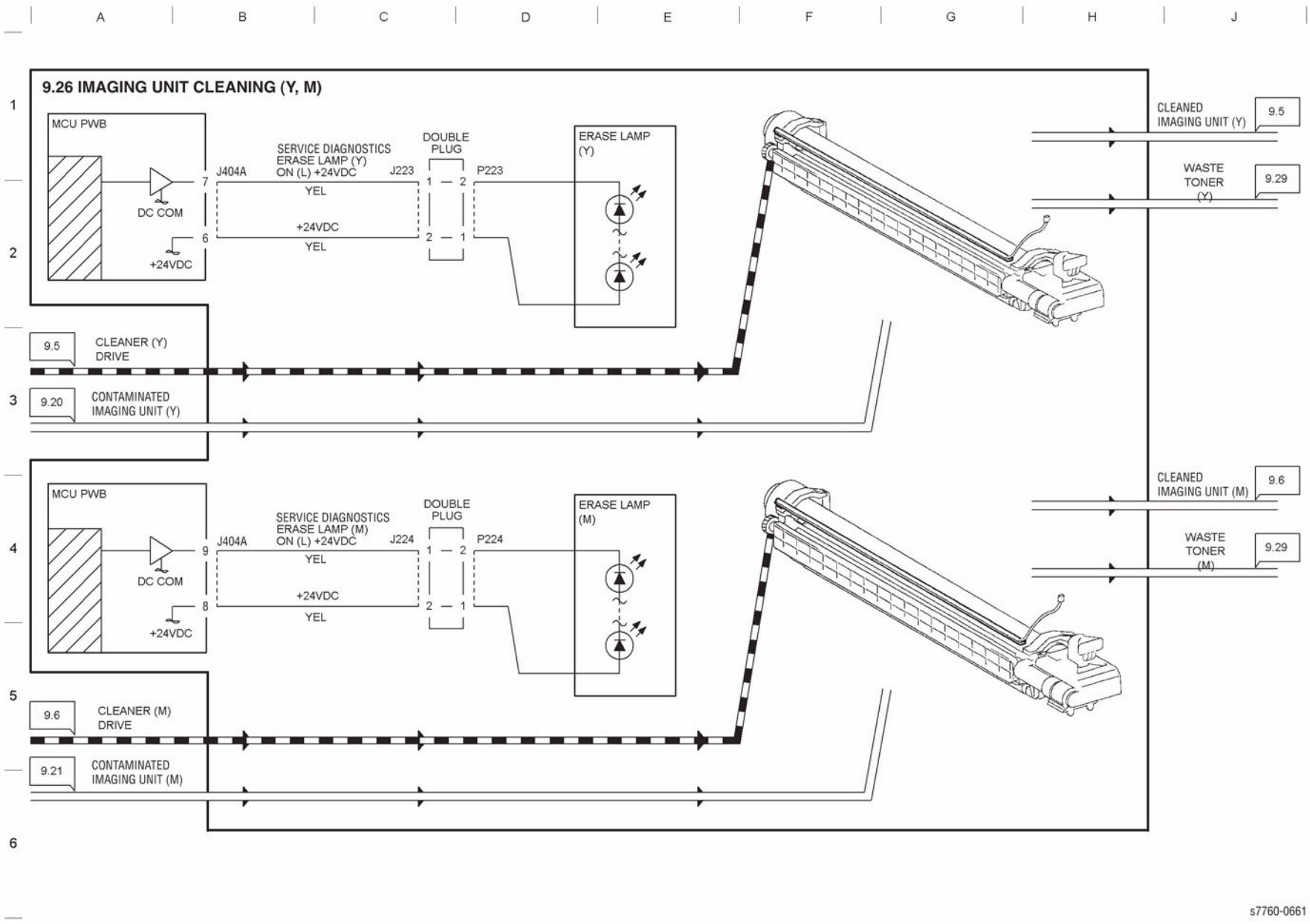


Figure 27 BSD 9.26 Imaging Unit Cleaning (Y, M)

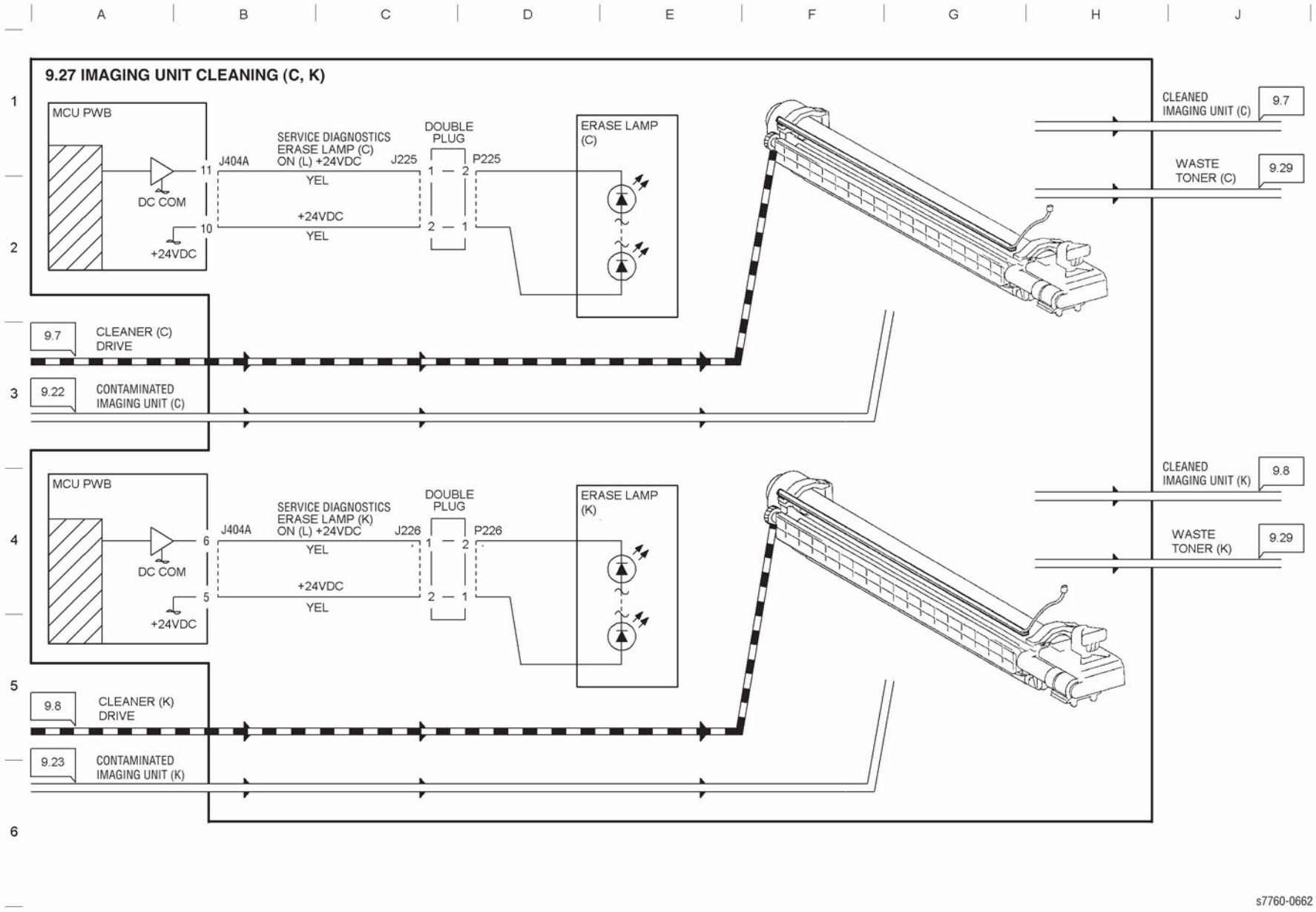


Figure 28 BSD 9.27 Imaging Unit Cleaning (C, K)

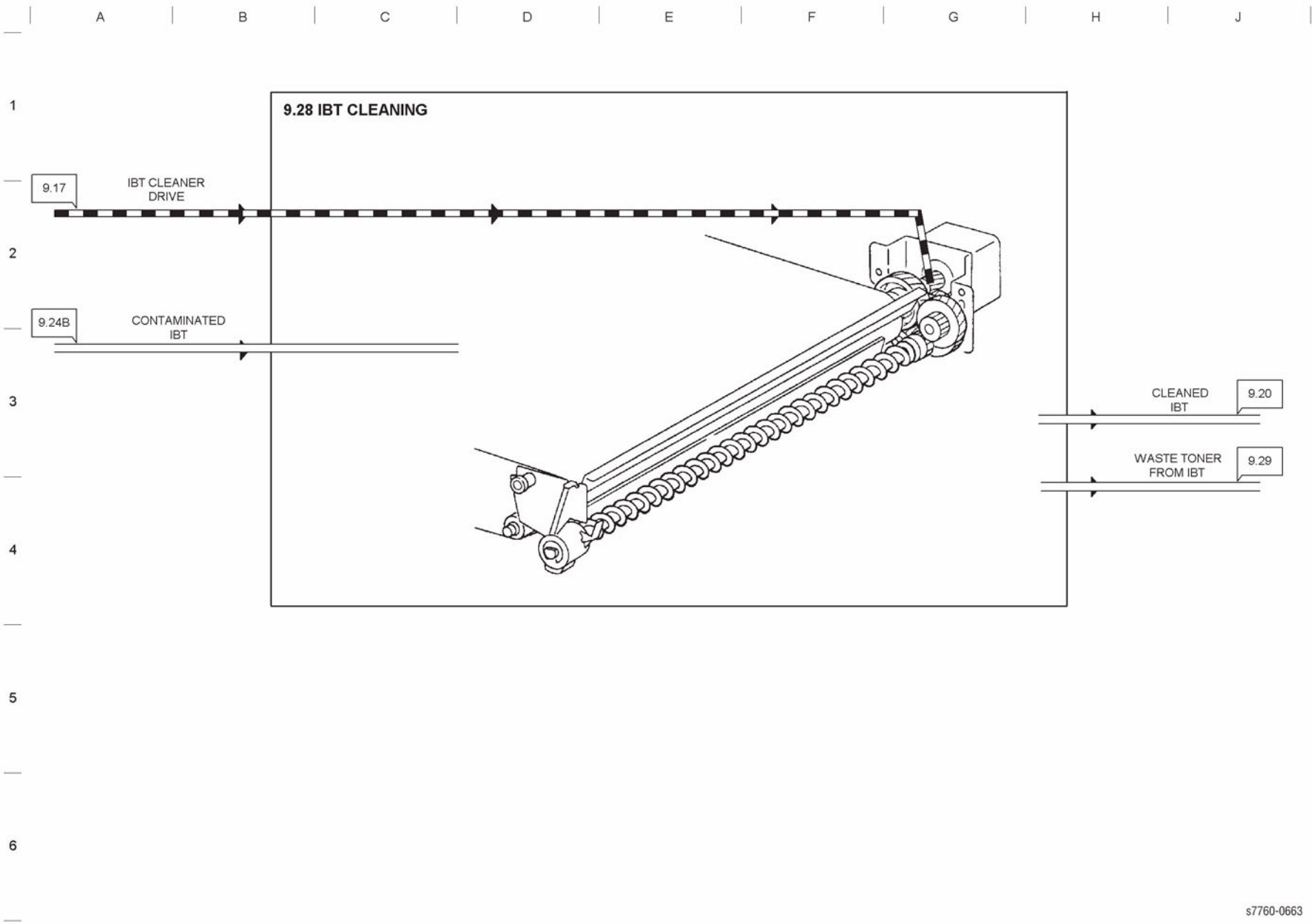


Figure 29 BSD 9.28 IBT Cleaning

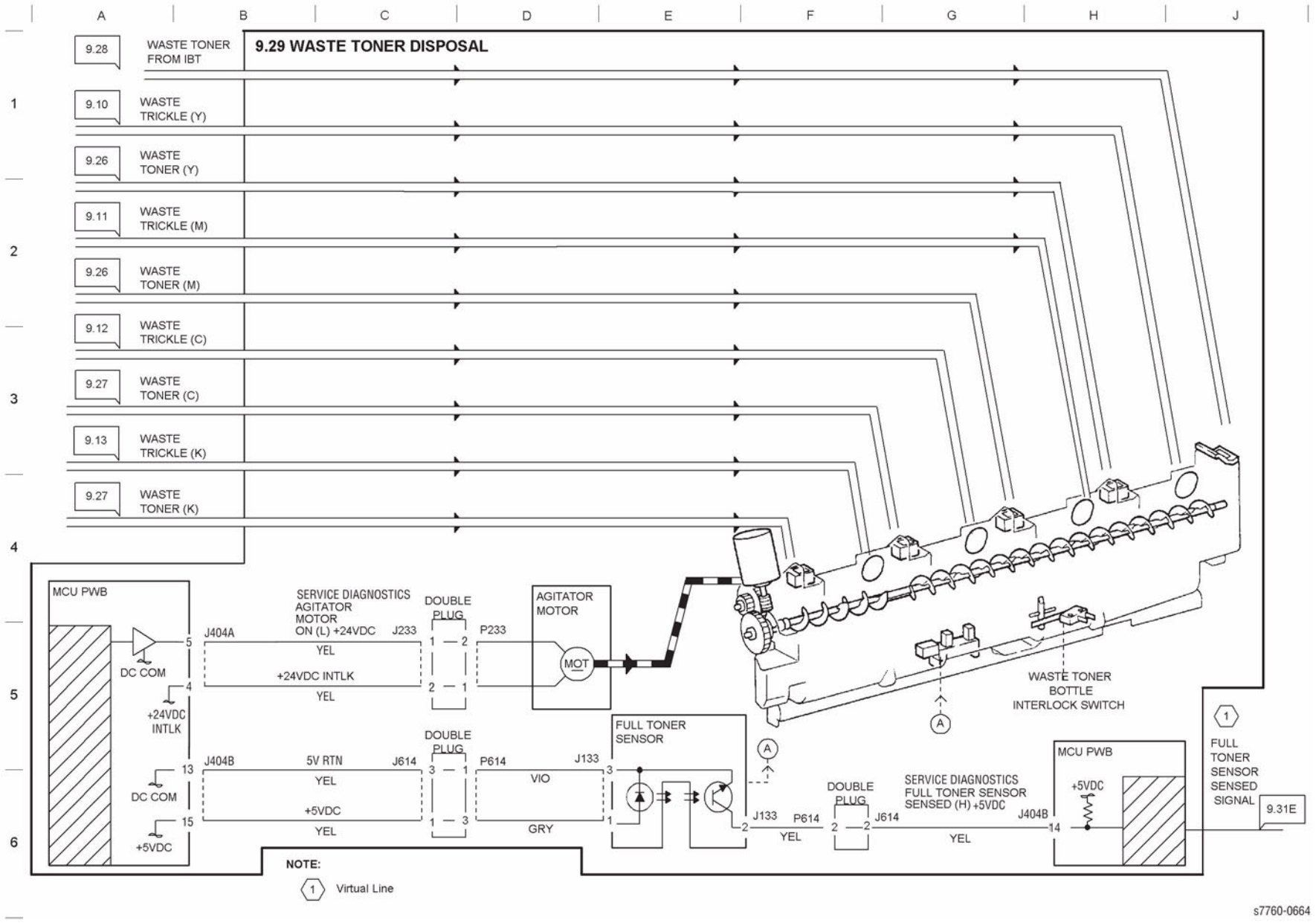


Figure 30 BSD 9.29 Waste Toner Disposal

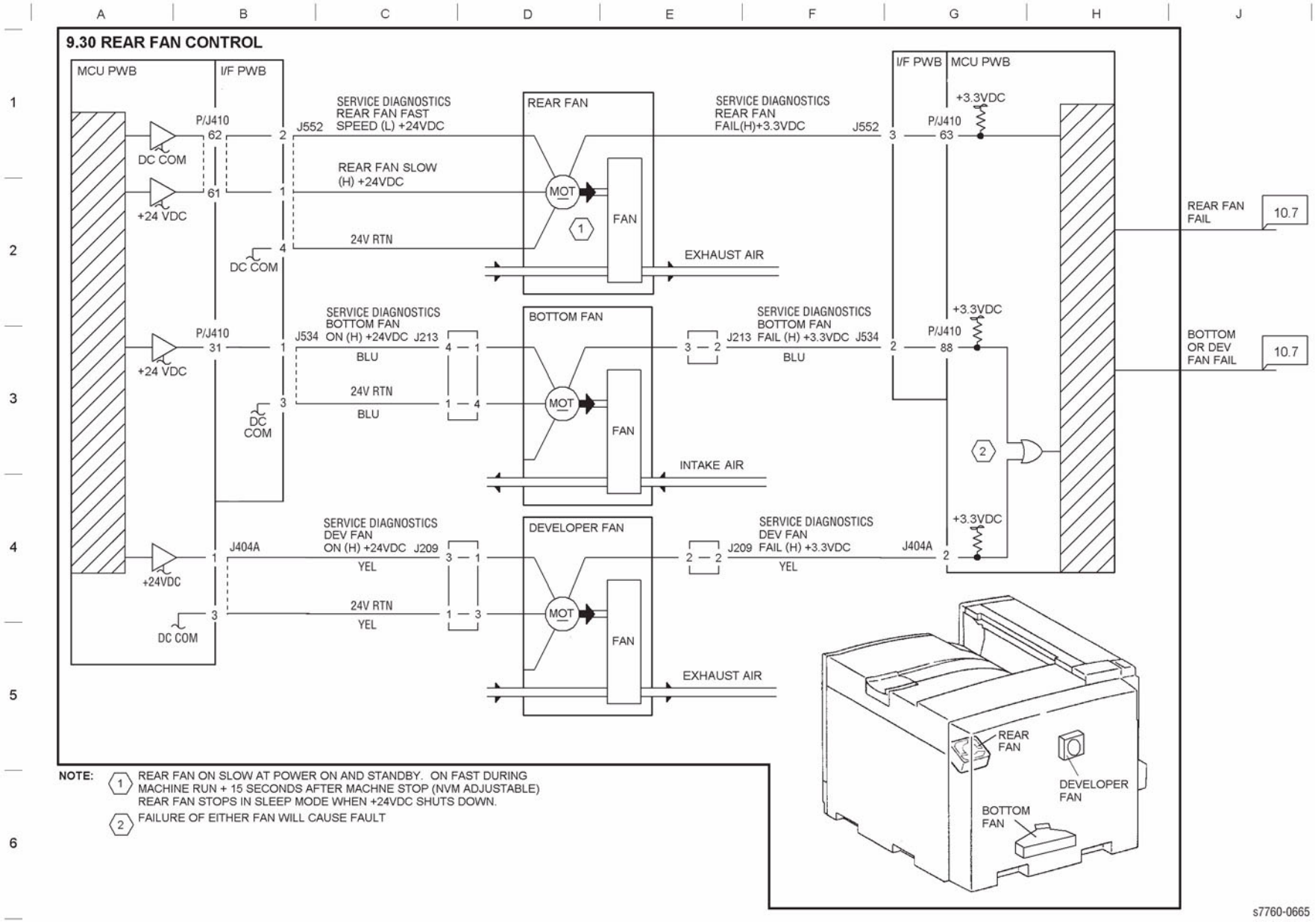


Figure 31 BSD 9.30 Rear Fan Control

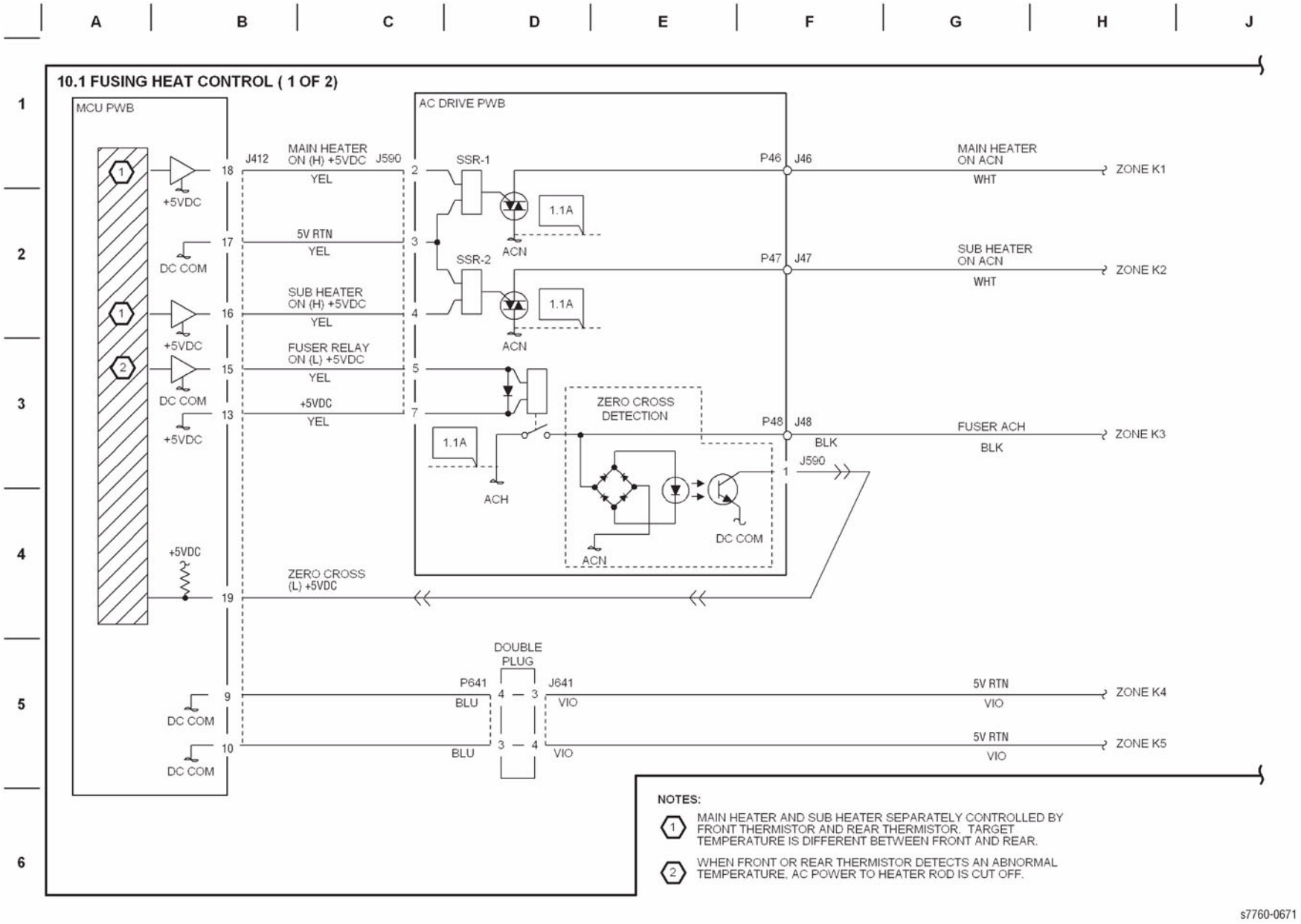


Figure 1 BSD 10.1 Fusing Heat Control (1 of 2)

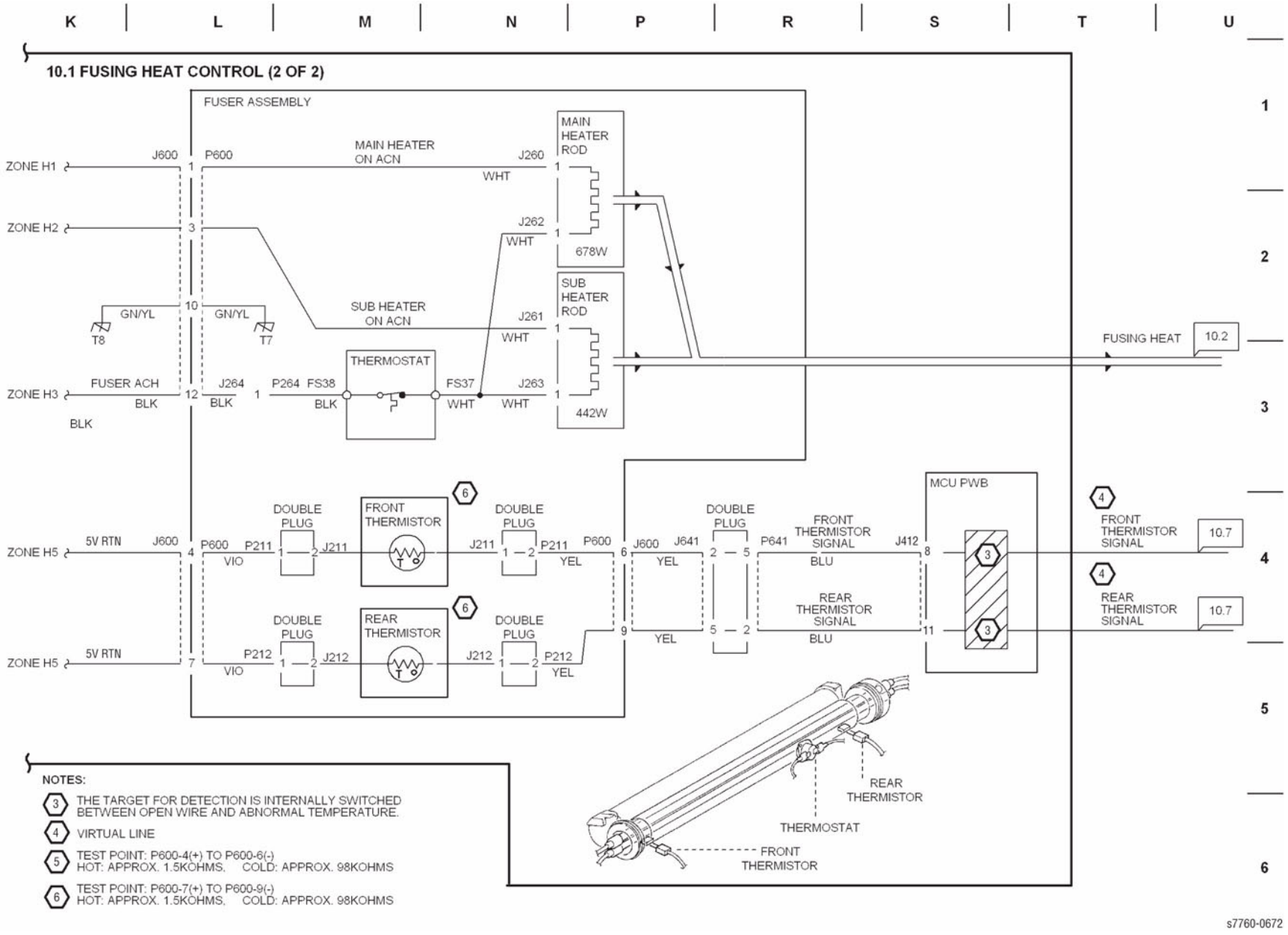


Figure 2 BSD 10.1 Fusing Heat Control (2 of 2)

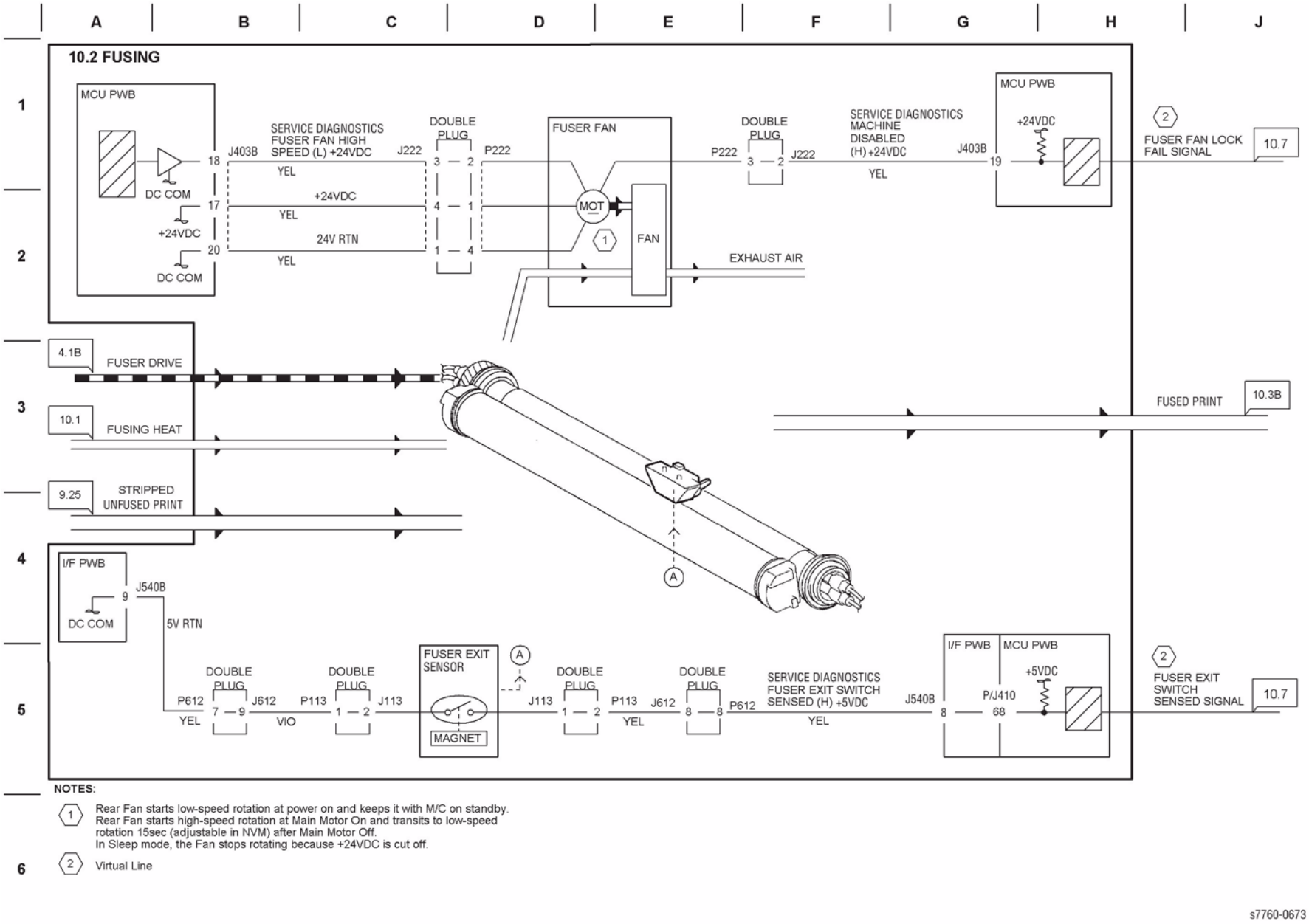


Figure 3 BSD 10.2 Fusing

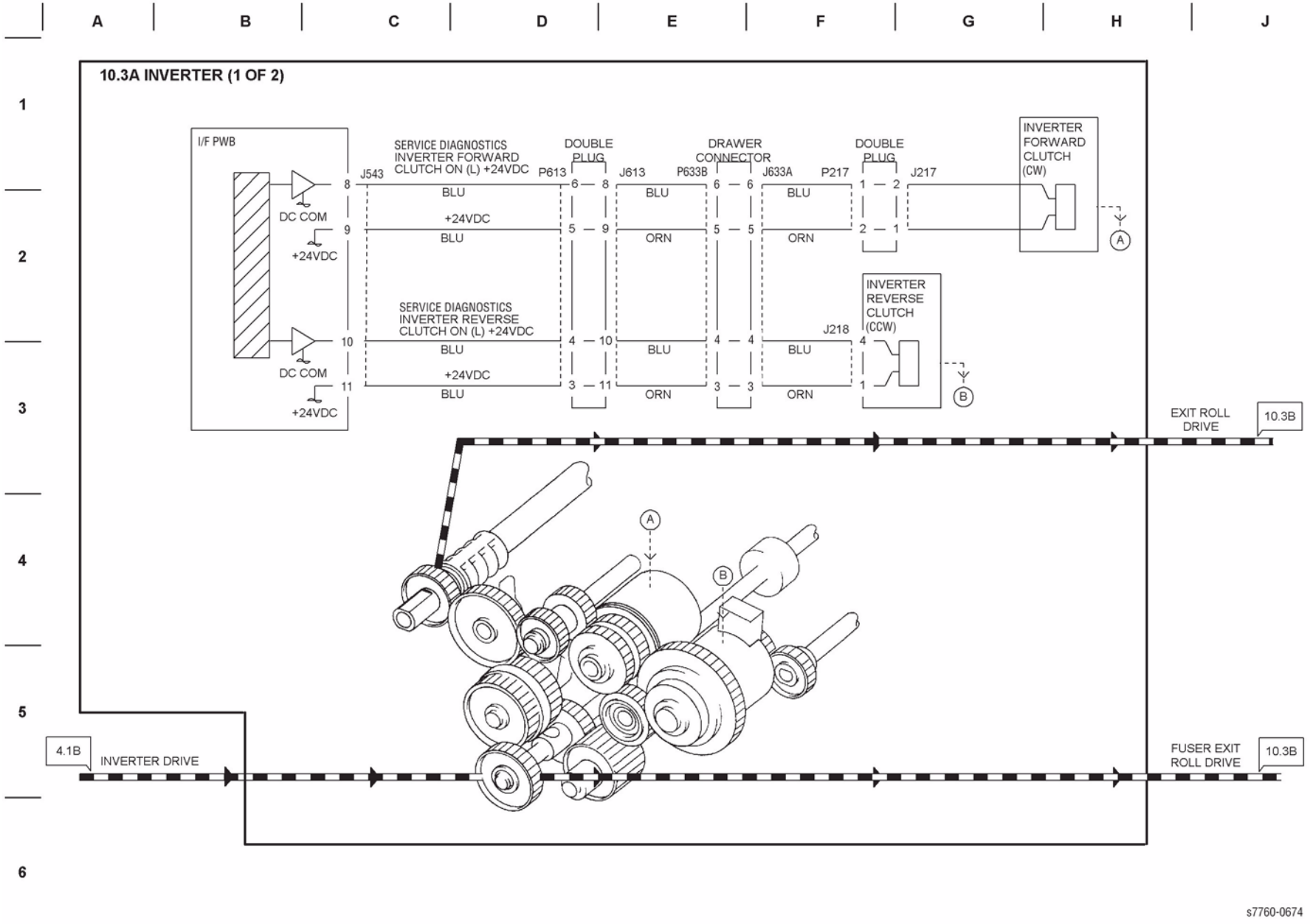


Figure 4 BSD 10.3A Inverter (1 of 2)

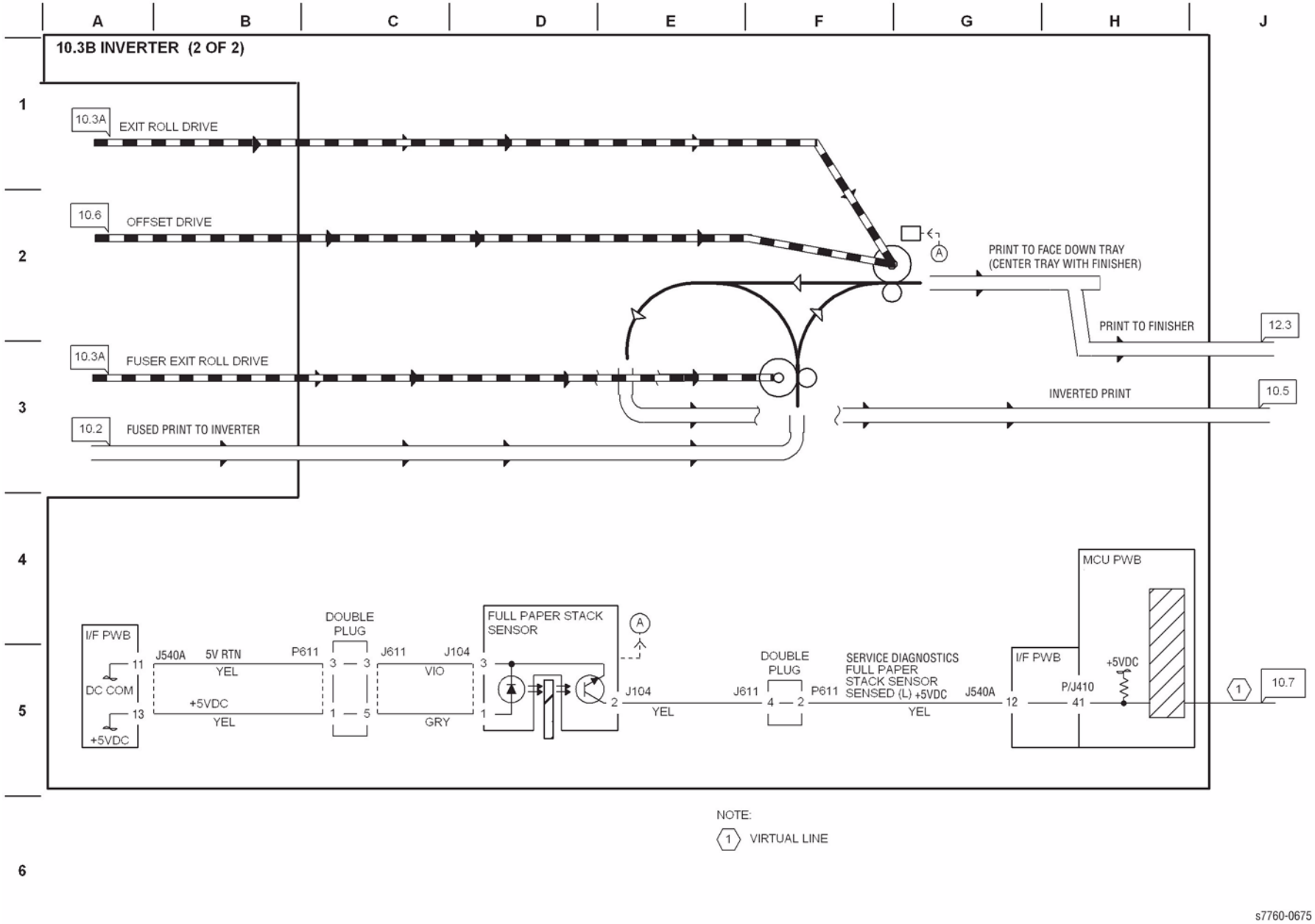
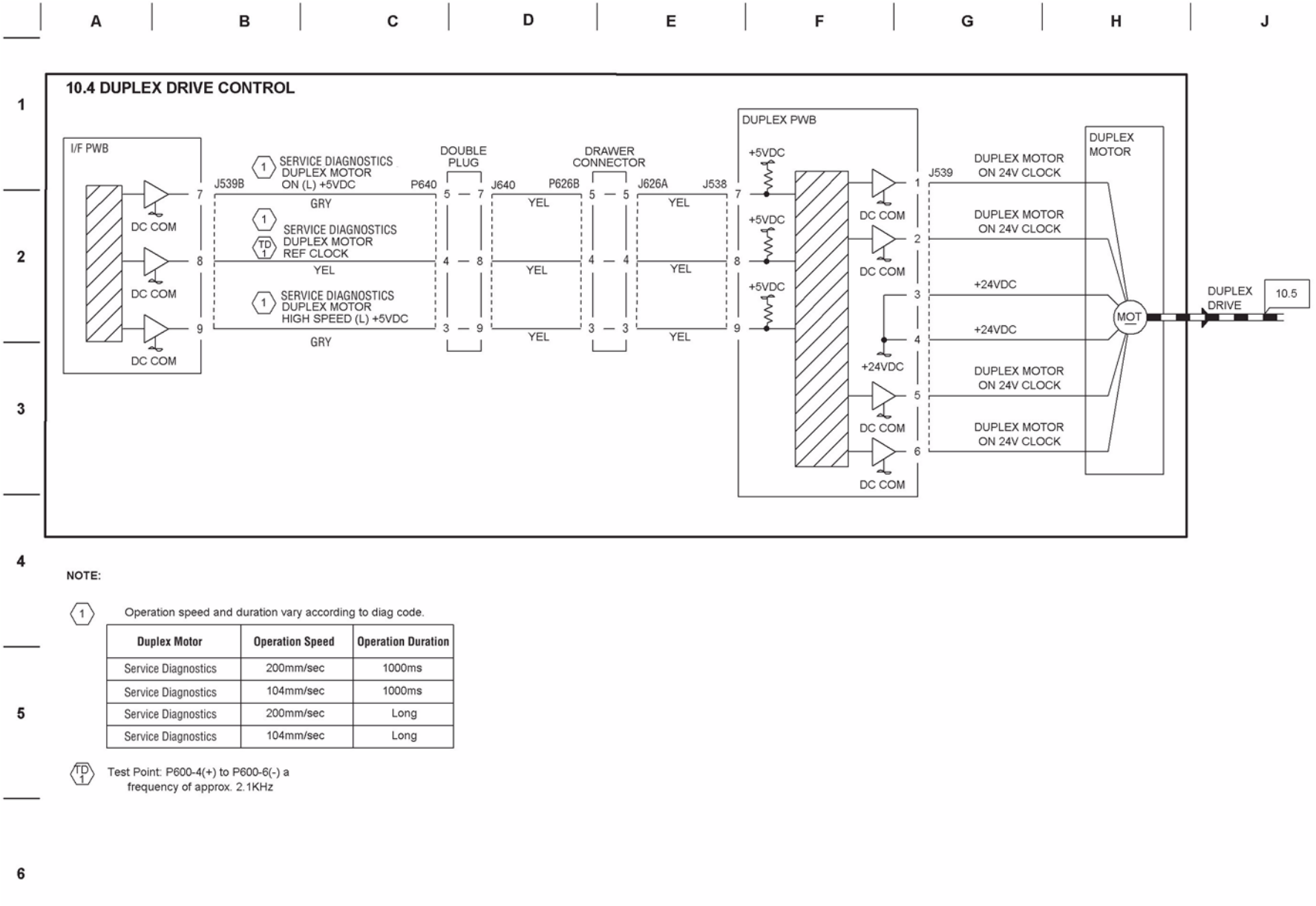


Figure 5 BSD 10.3B Inverter (2 of 2)



NOTE:

(1) Operation speed and duration vary according to diag code.

Duplex Motor	Operation Speed	Operation Duration
Service Diagnostics	200mm/sec	1000ms
Service Diagnostics	104mm/sec	1000ms
Service Diagnostics	200mm/sec	Long
Service Diagnostics	104mm/sec	Long

(TD 1) Test Point: P600-4(+) to P600-6(-) a frequency of approx. 2.1KHz

Figure 6 BSD 10.4 Duplex Drive Control

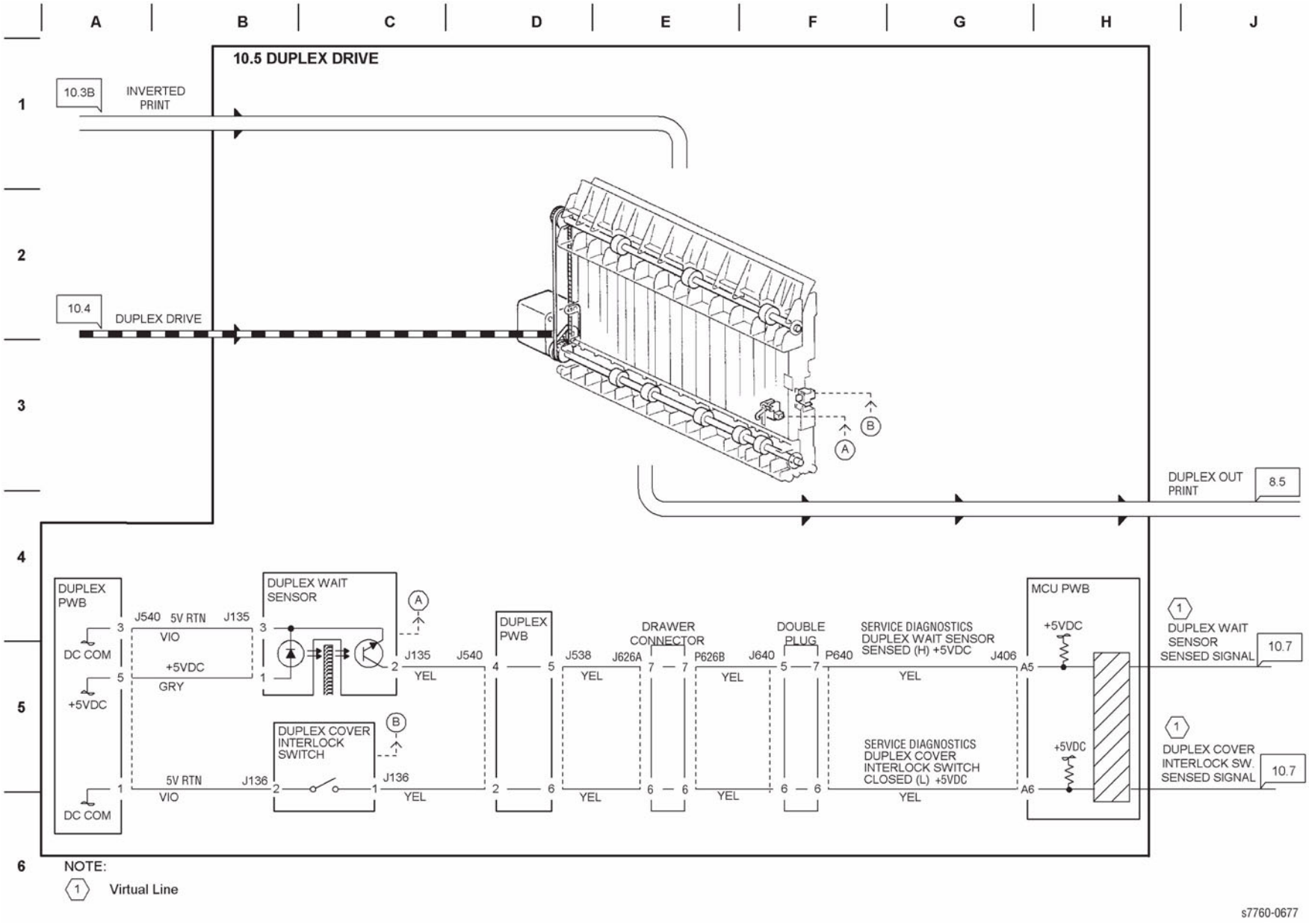


Figure 7 BSD 10.6 Duplex Drive

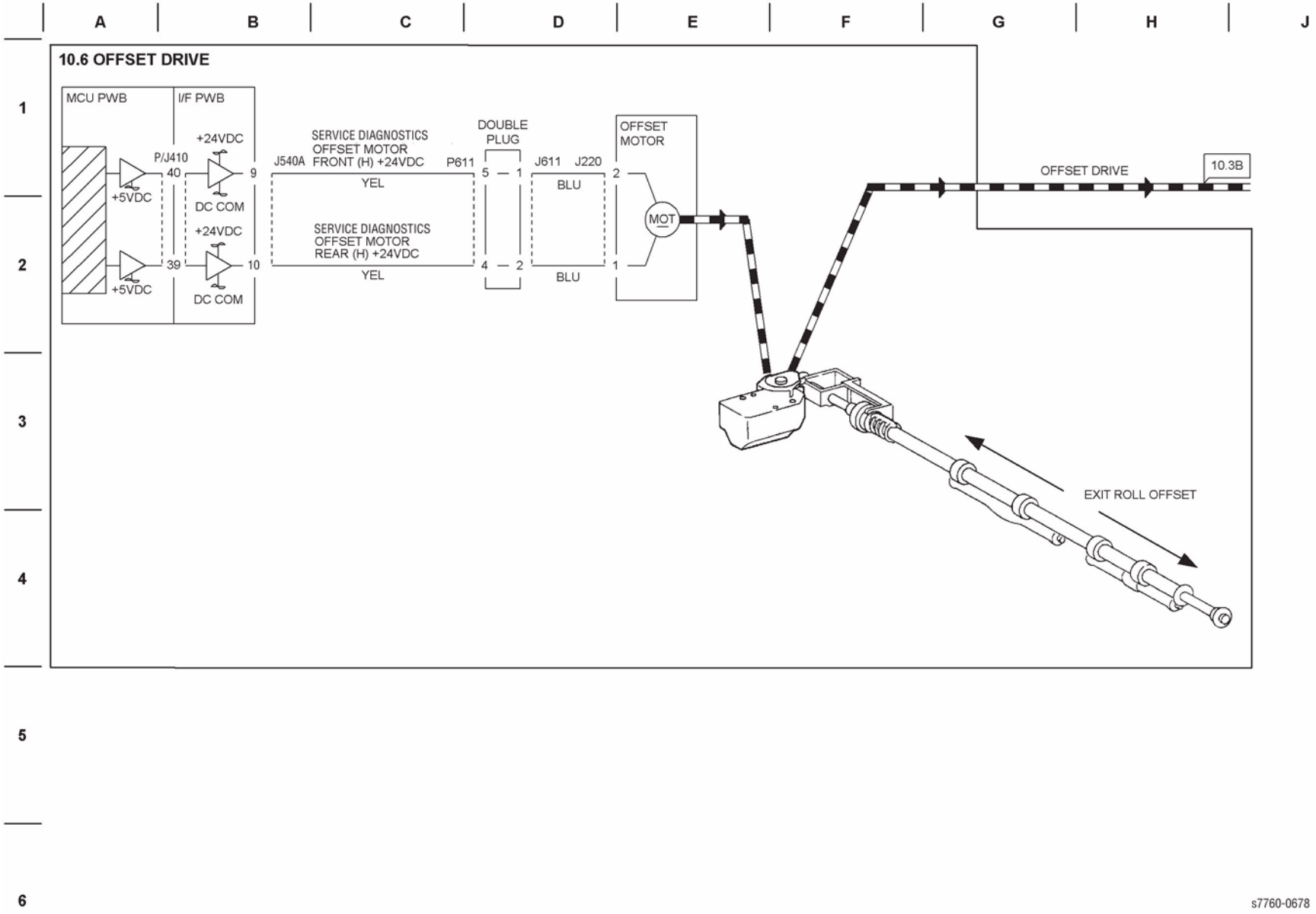


Figure 8 BSD 10.6 Offset Drive

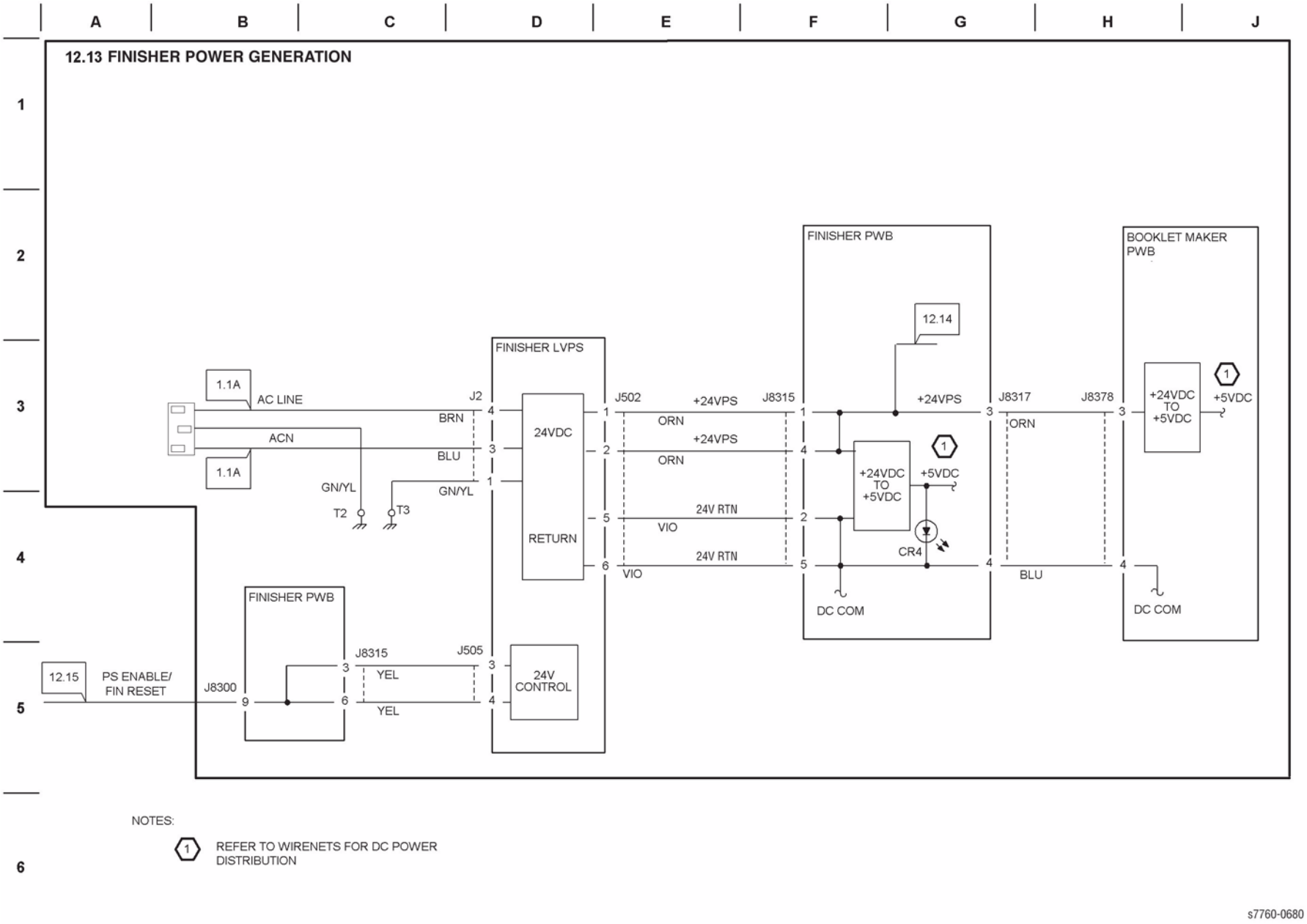


Figure 1 BSD 12.13 Finisher Power Generation

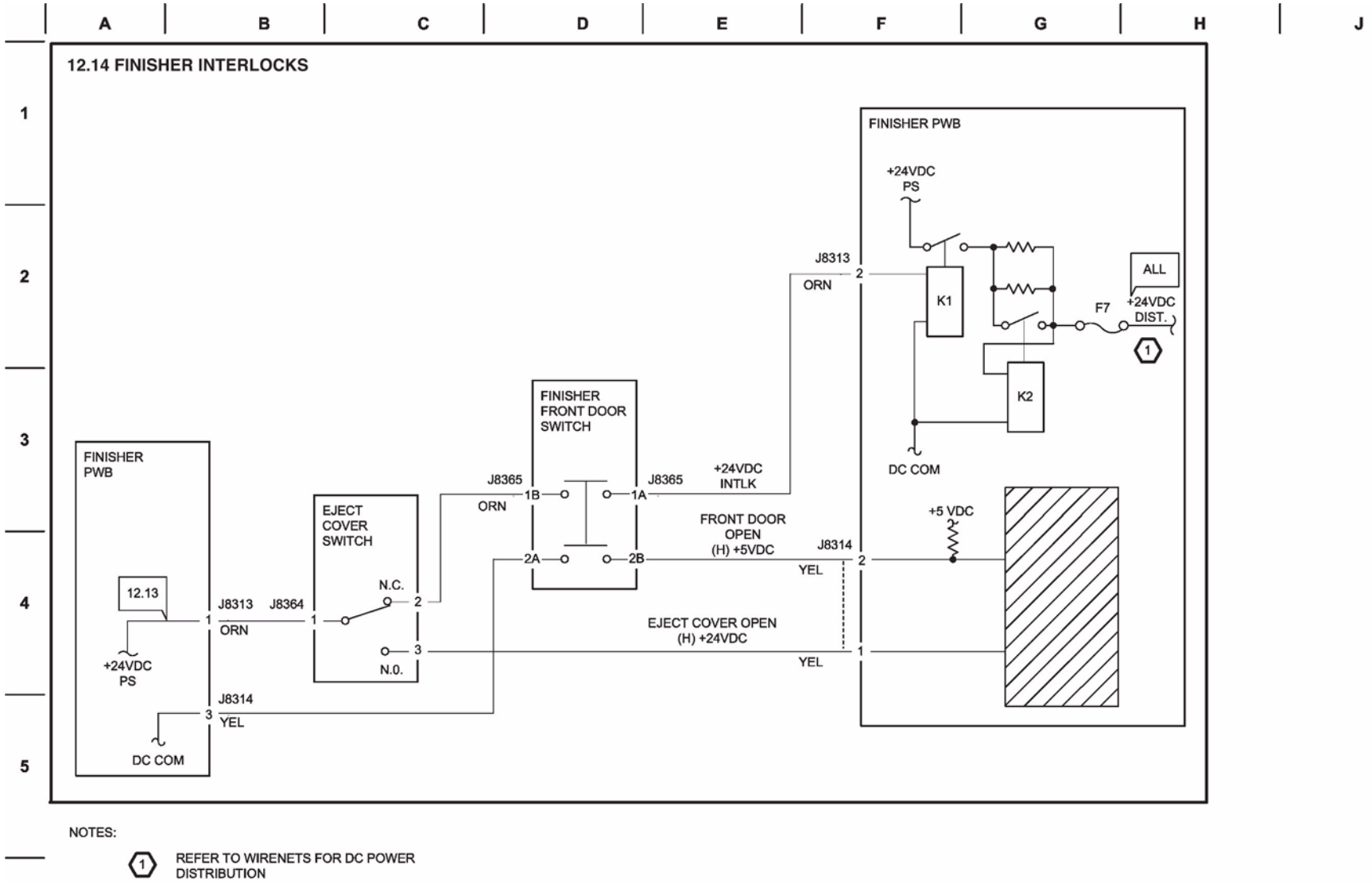


Figure 2 BSD 12.14 Finisher Interlocks

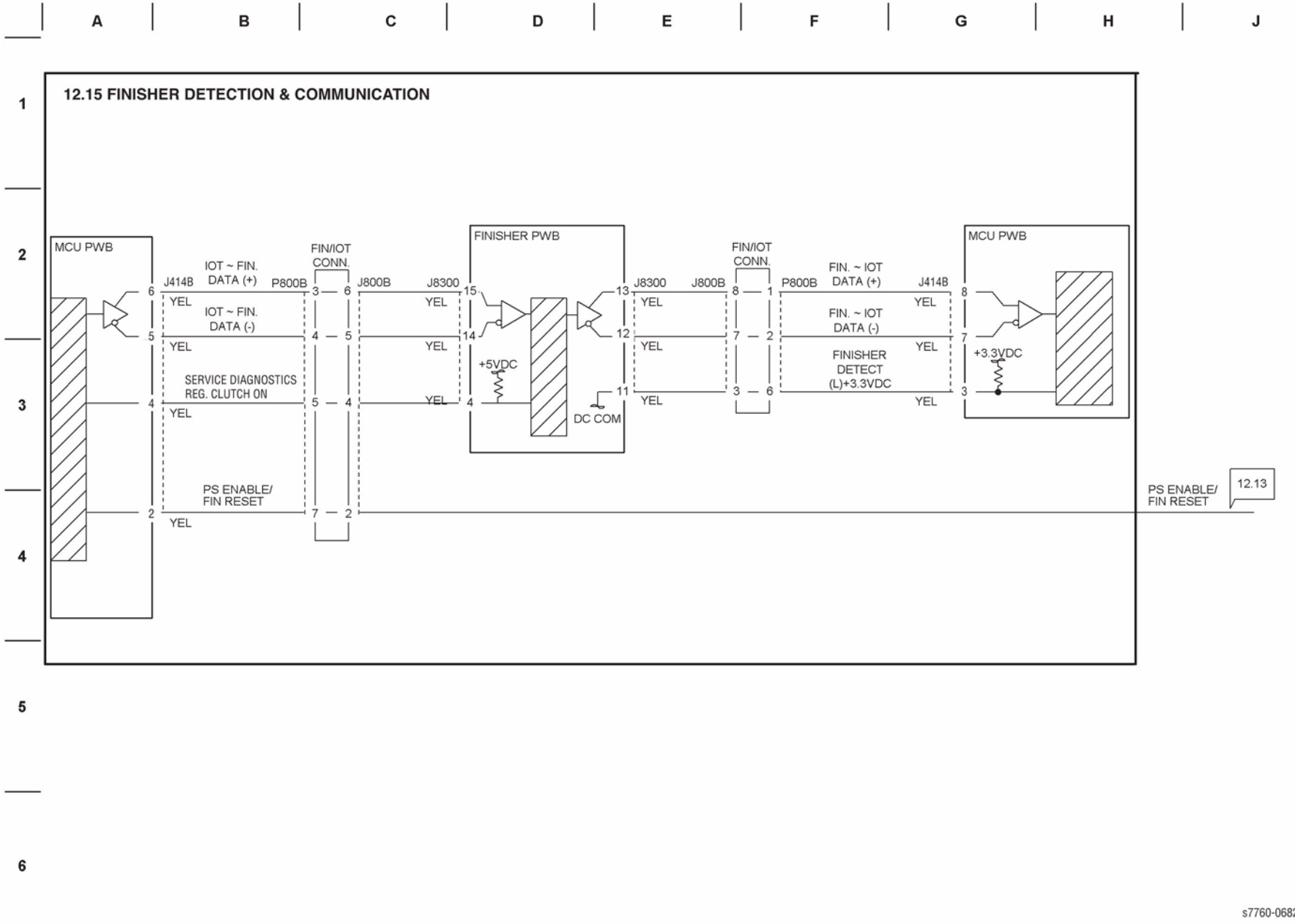


Figure 3 BSD 12.15 Finisher Detection & Communication

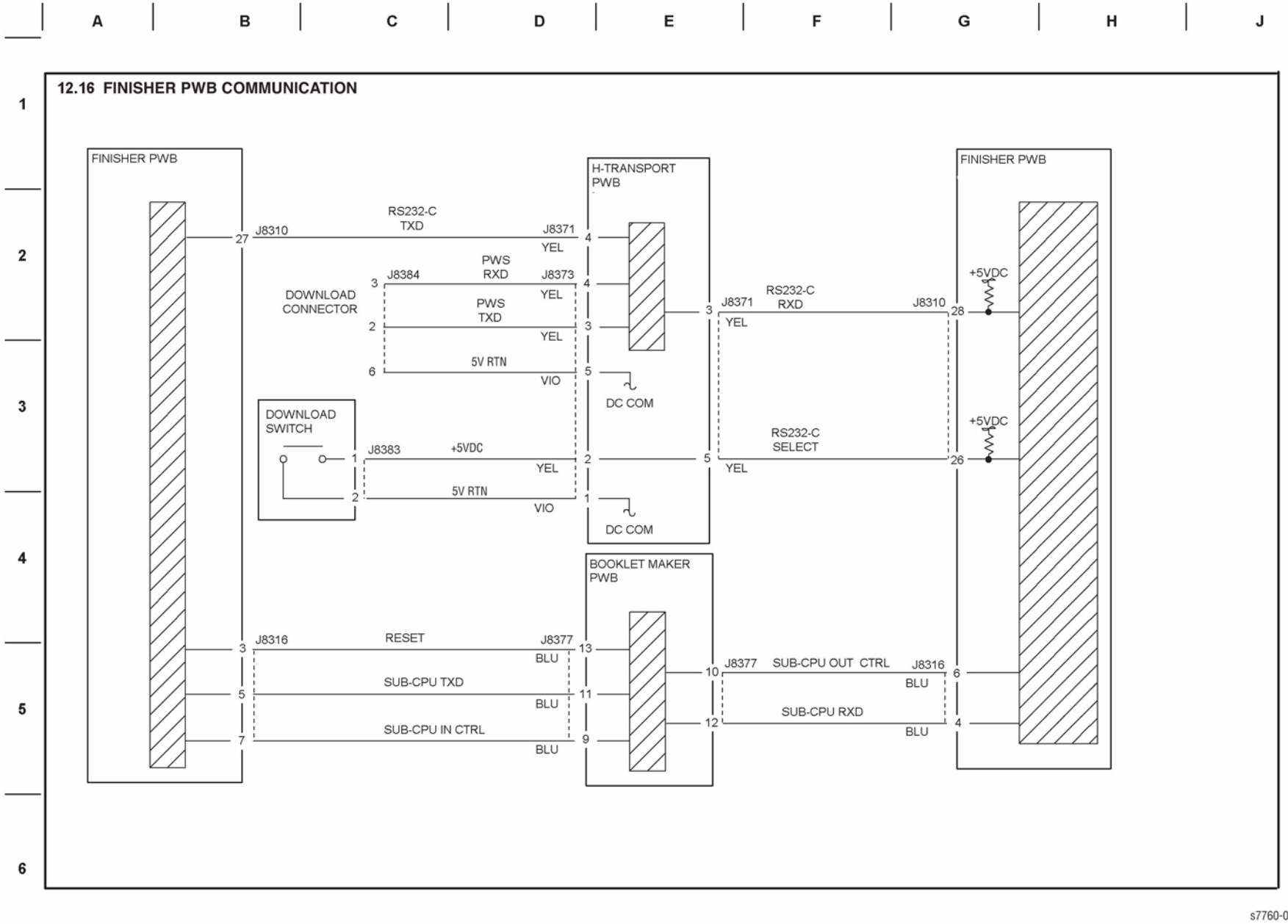


Figure 4 BSD 12.16 Finisher PWB Communication

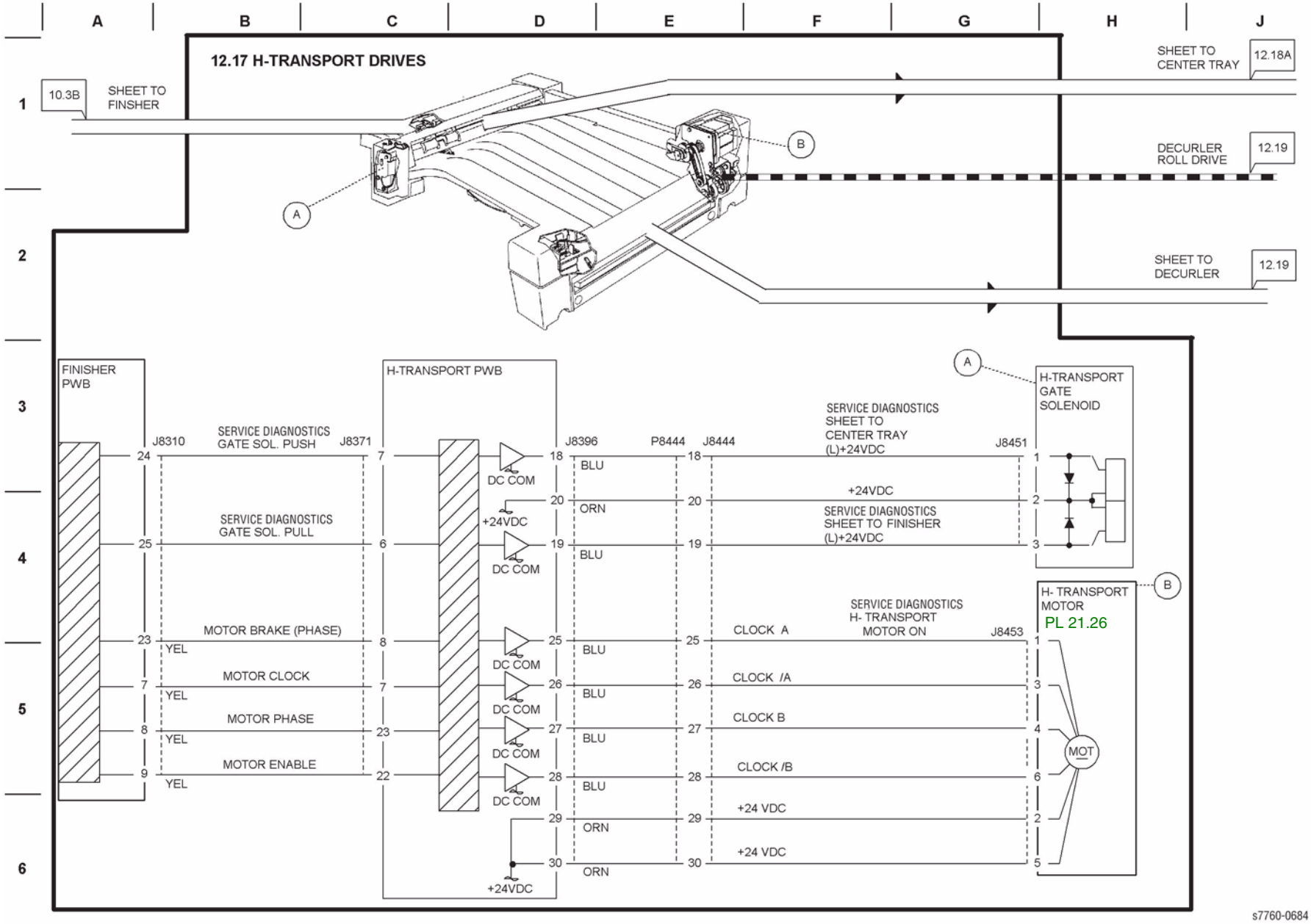


Figure 5 BSD 12.17 Finisher H-Transport Drives

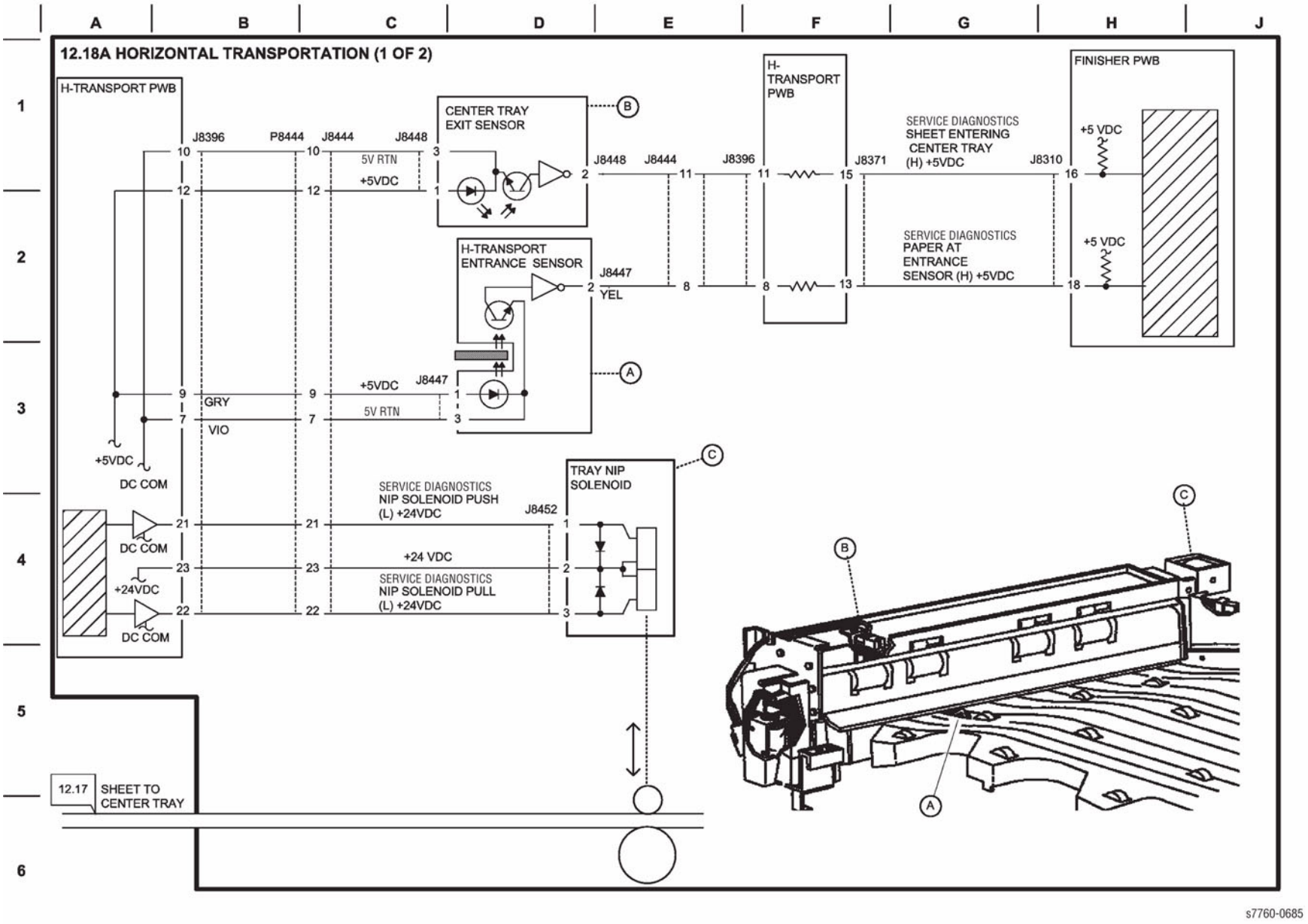


Figure 6 BSD 12.18A Finisher Horizontal Transportation (1 of 2)

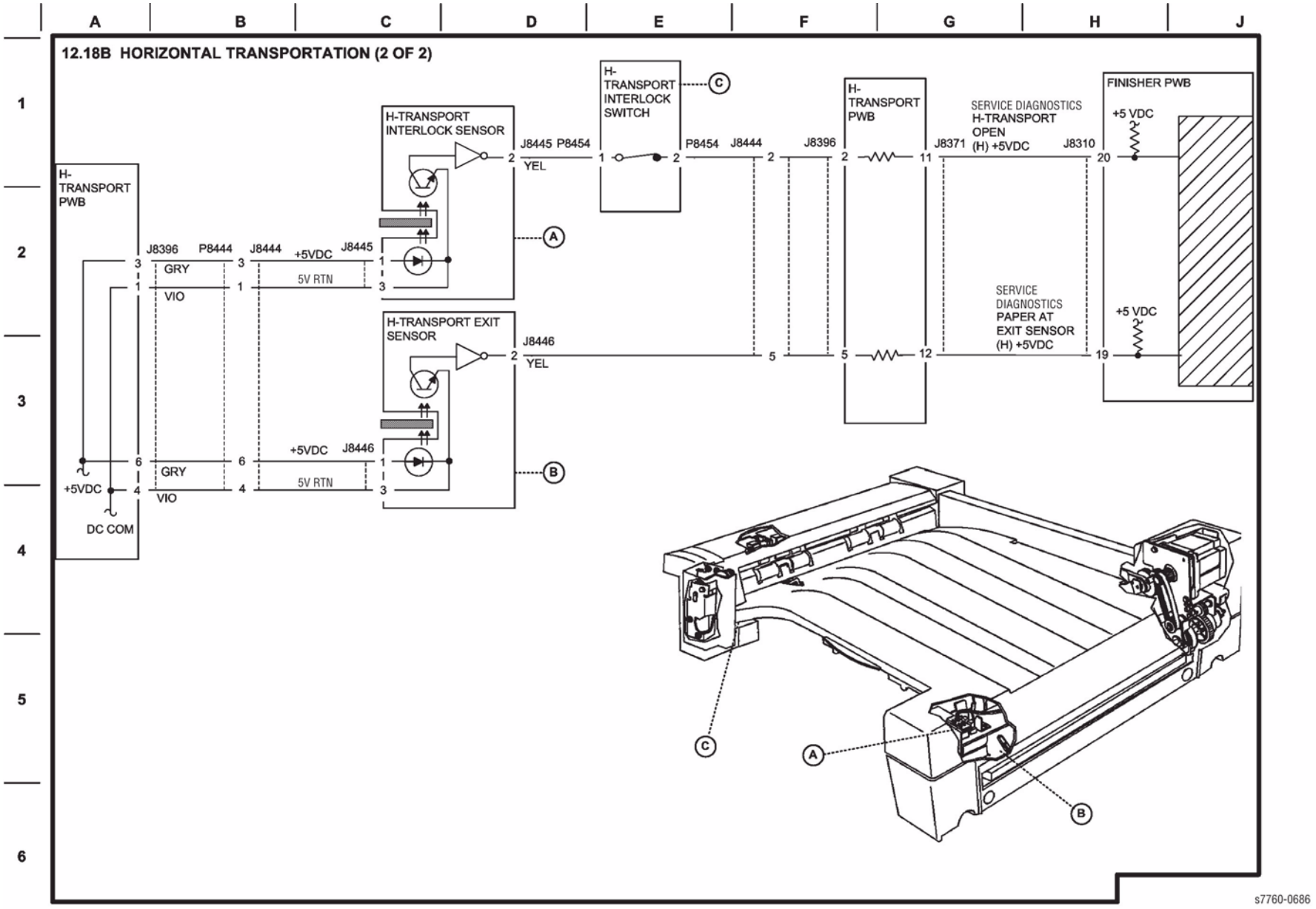


Figure 7 BSD 12.18B Finisher Horizontal Transportation (2 of 2)

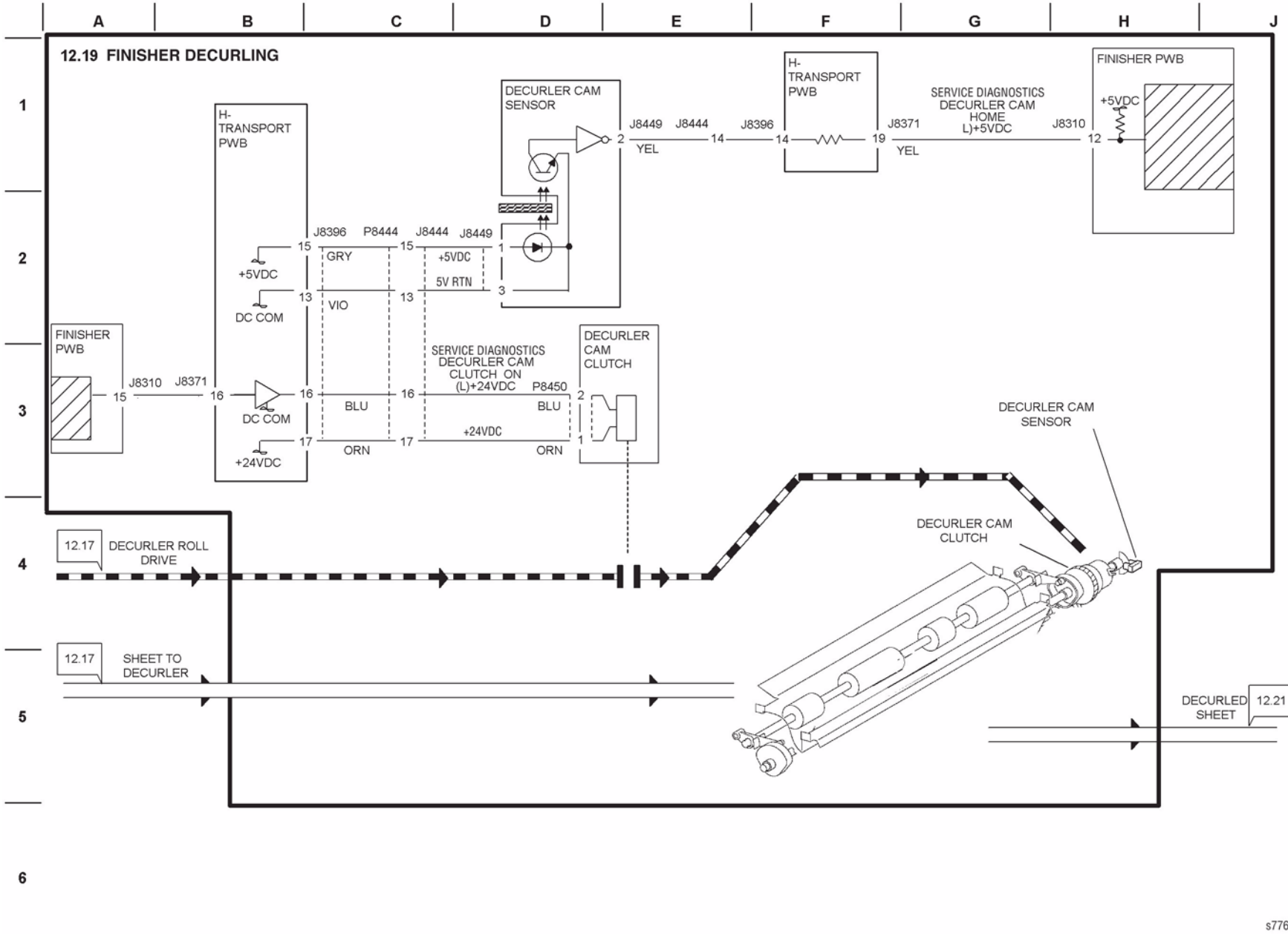


Figure 8 BSD 12.19 Finisher Decurling

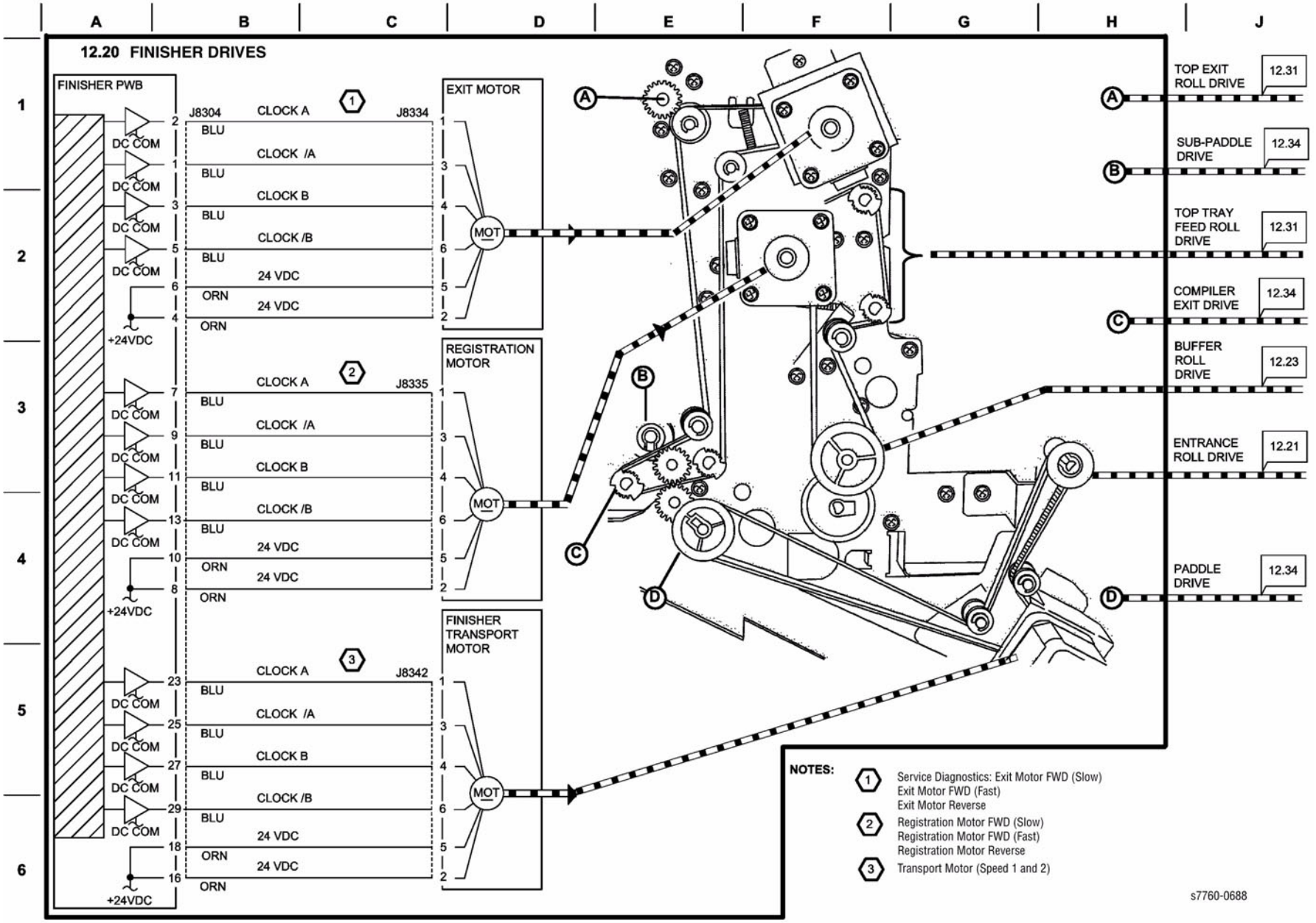


Figure 9 BSD 12.20 Finisher Drives

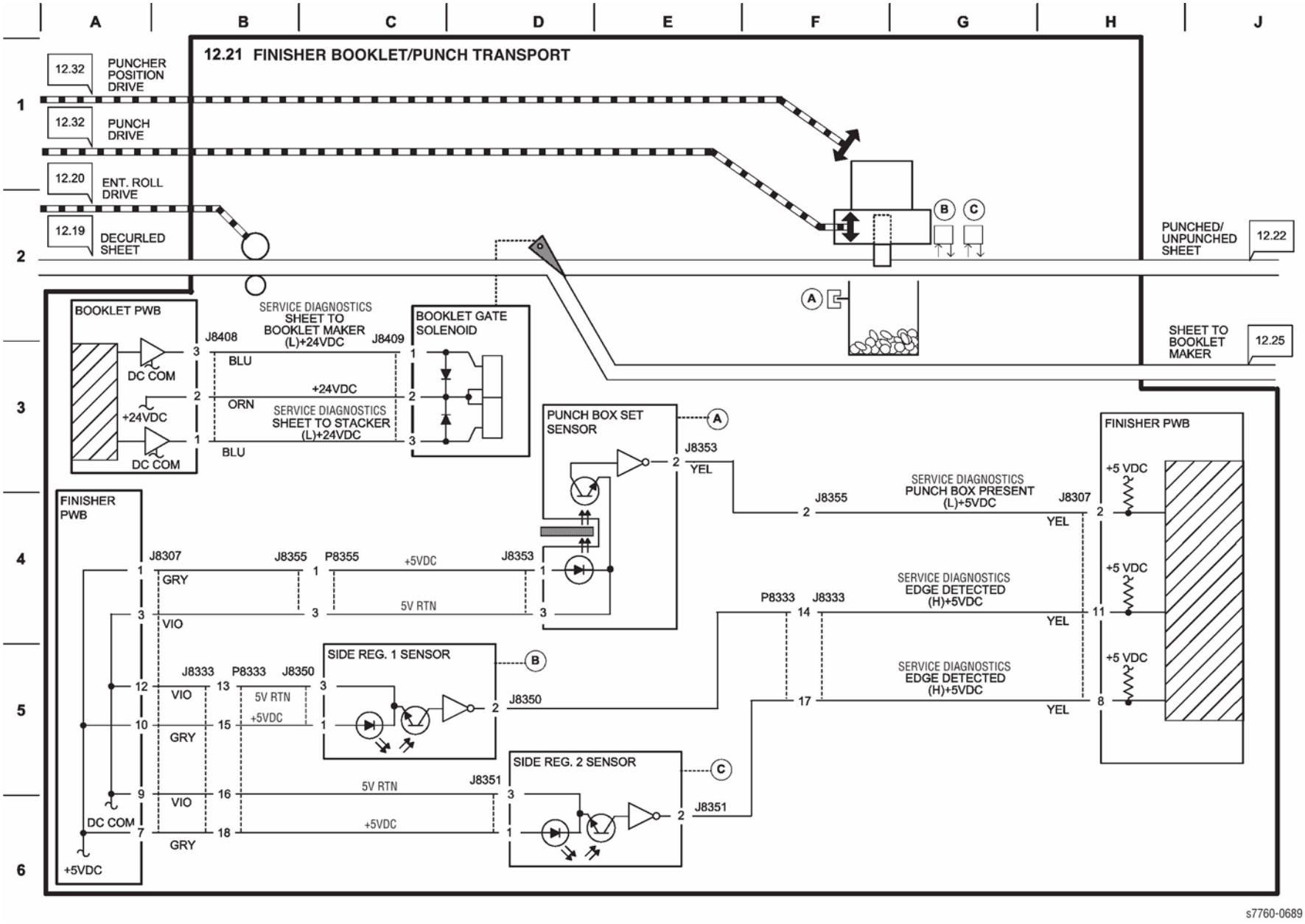
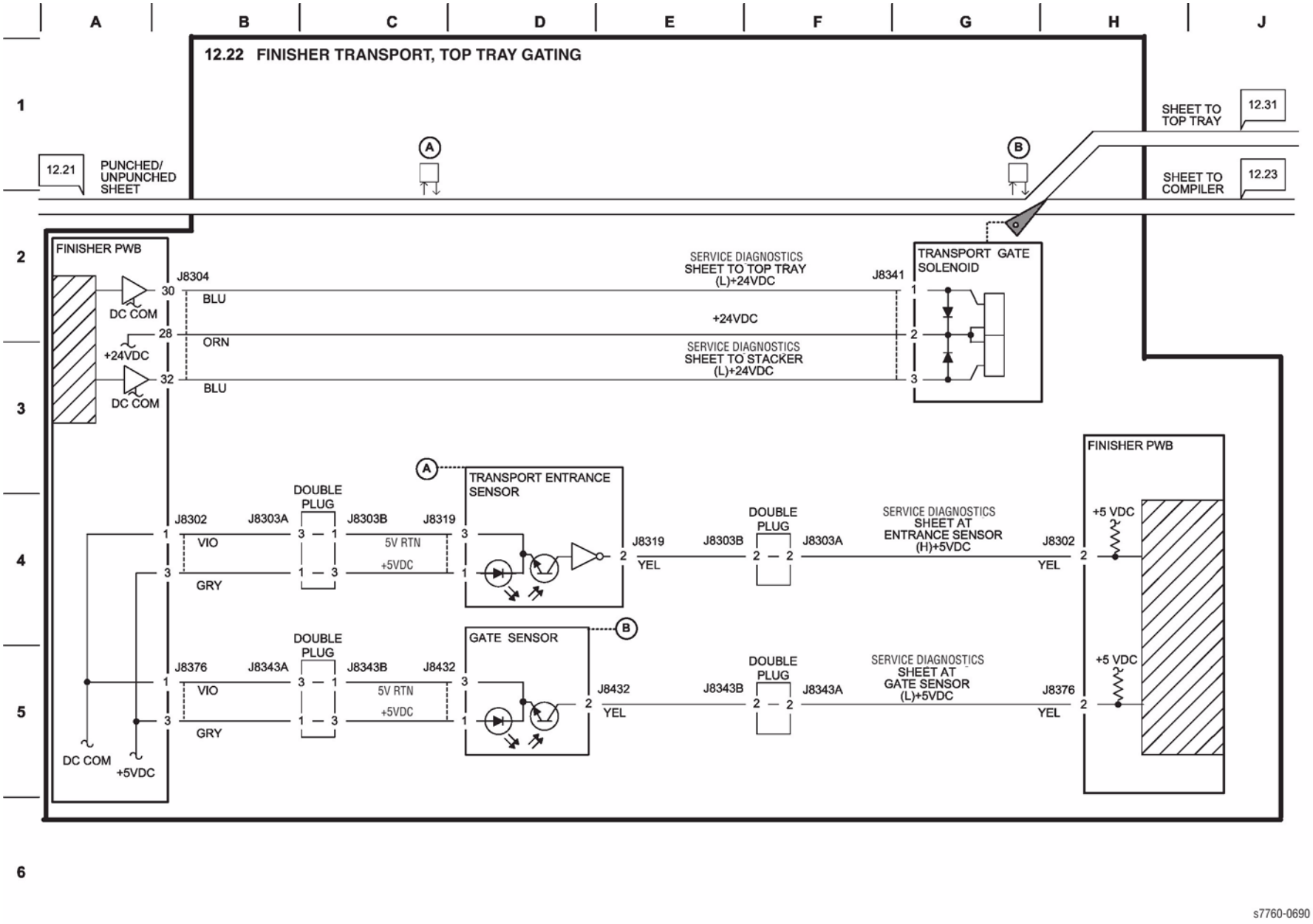
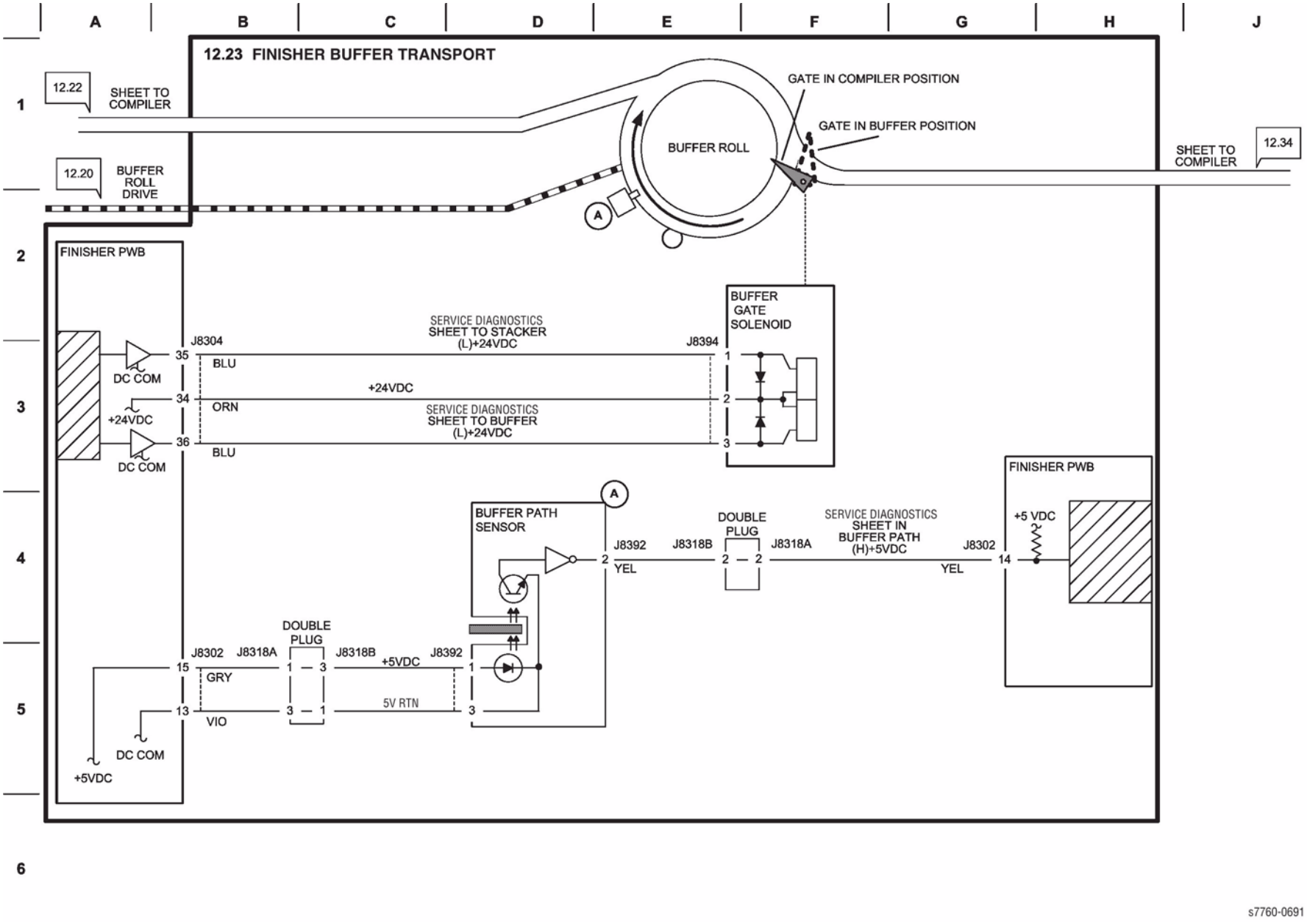


Figure 10 BSD 12.21 Finisher Booklet/Punch Transport



s7760-0690

Figure 11 BSD 12.22 Finisher Transport/Top Tray Gating



s7760-0691

Figure 12 BSD 12.23 Finisher Buffer Transport

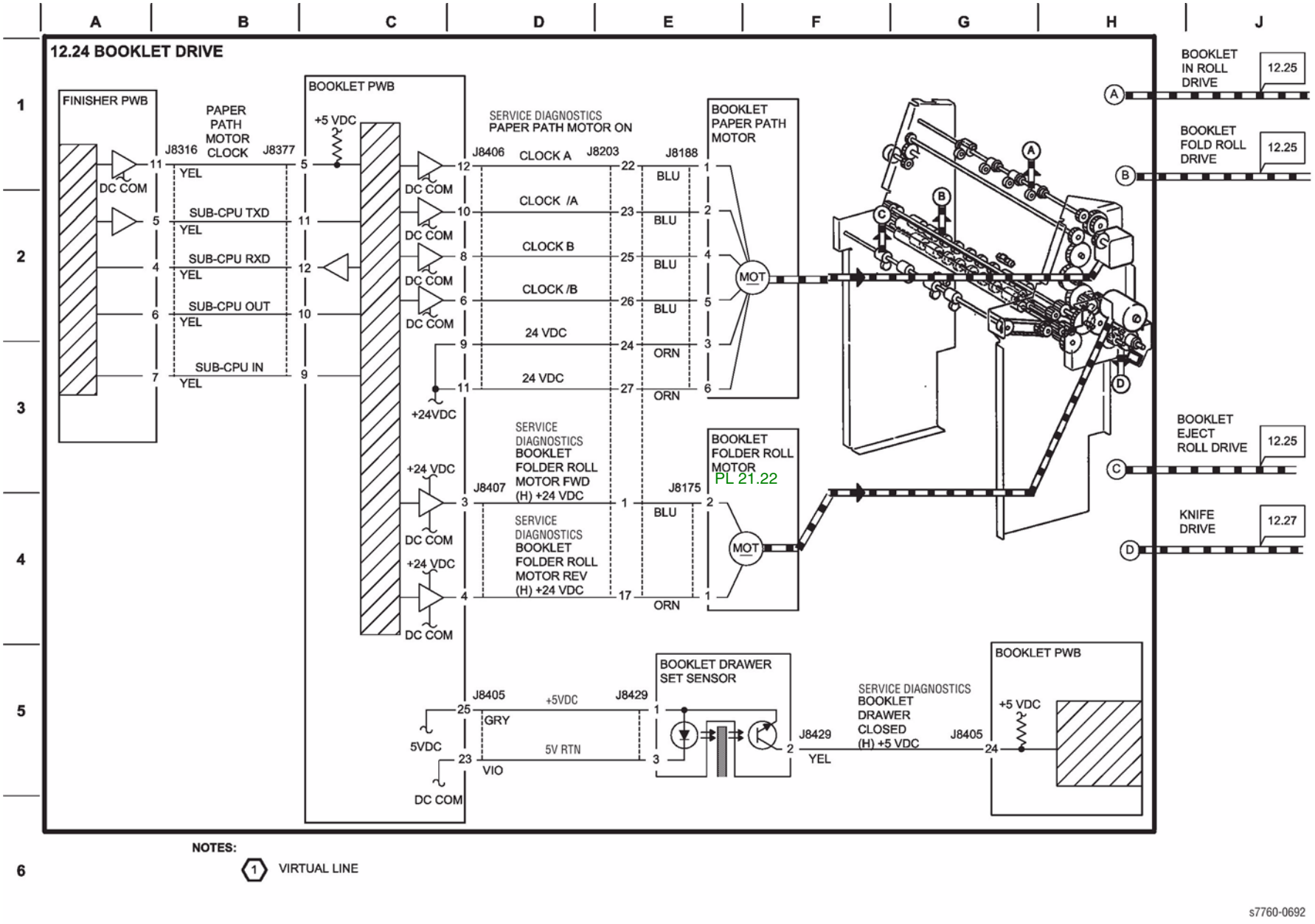


Figure 13 BSD 12.24 Finisher Booklet Drive

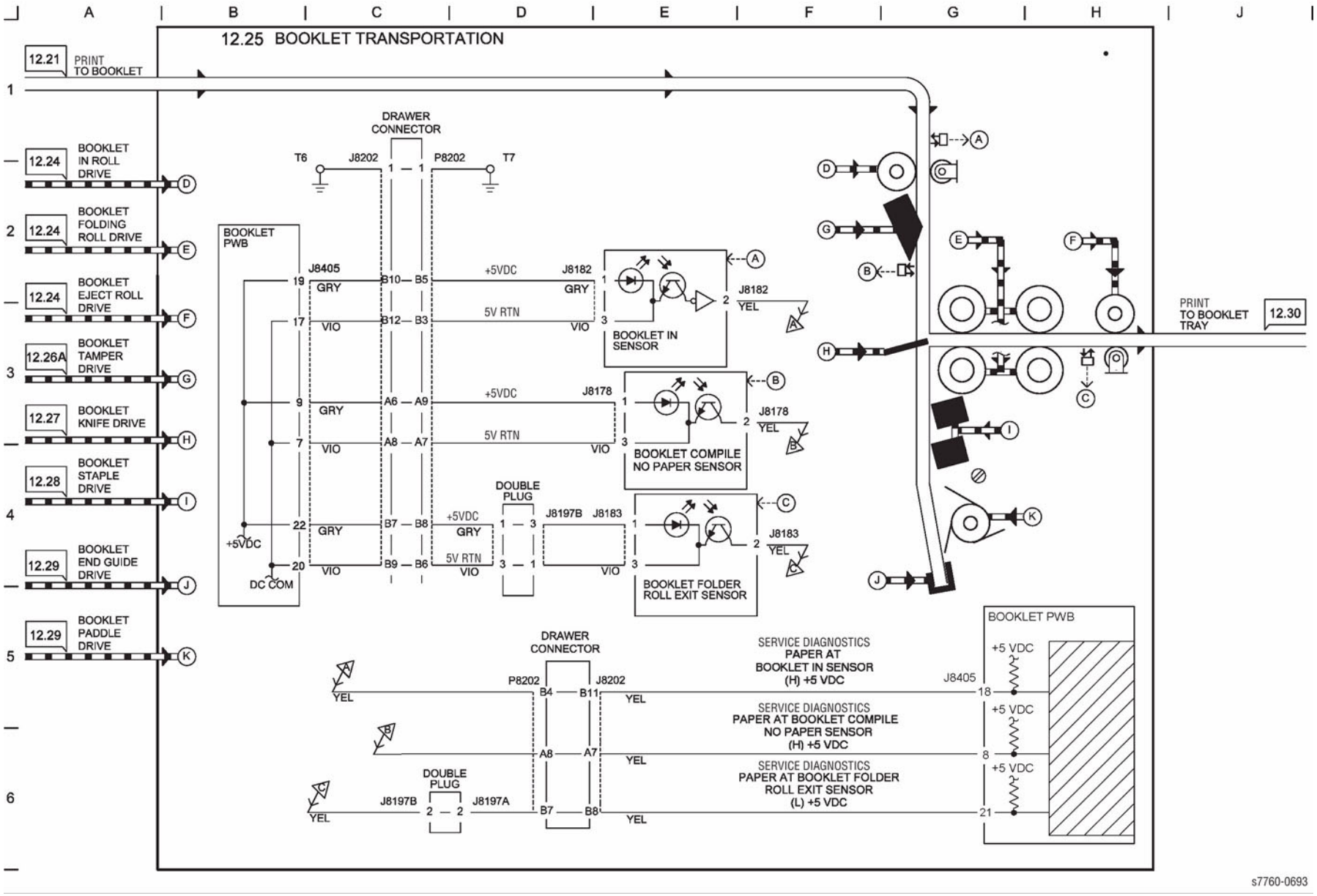


Figure 14 BSD 12.25 Finisher Booklet Transportation

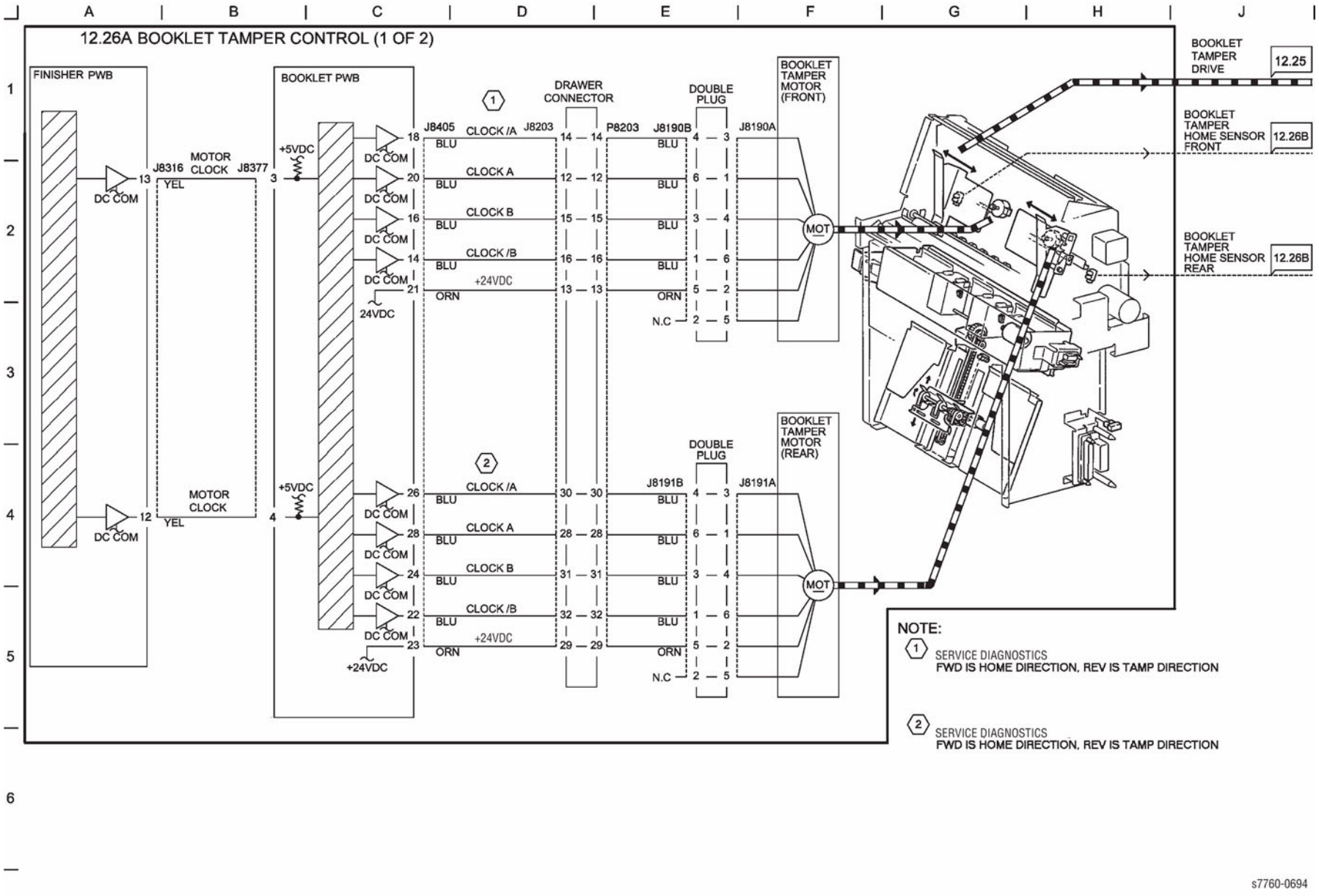


Figure 15 BSD 12.26A Finisher Booklet Tamper Control (1 of 2)

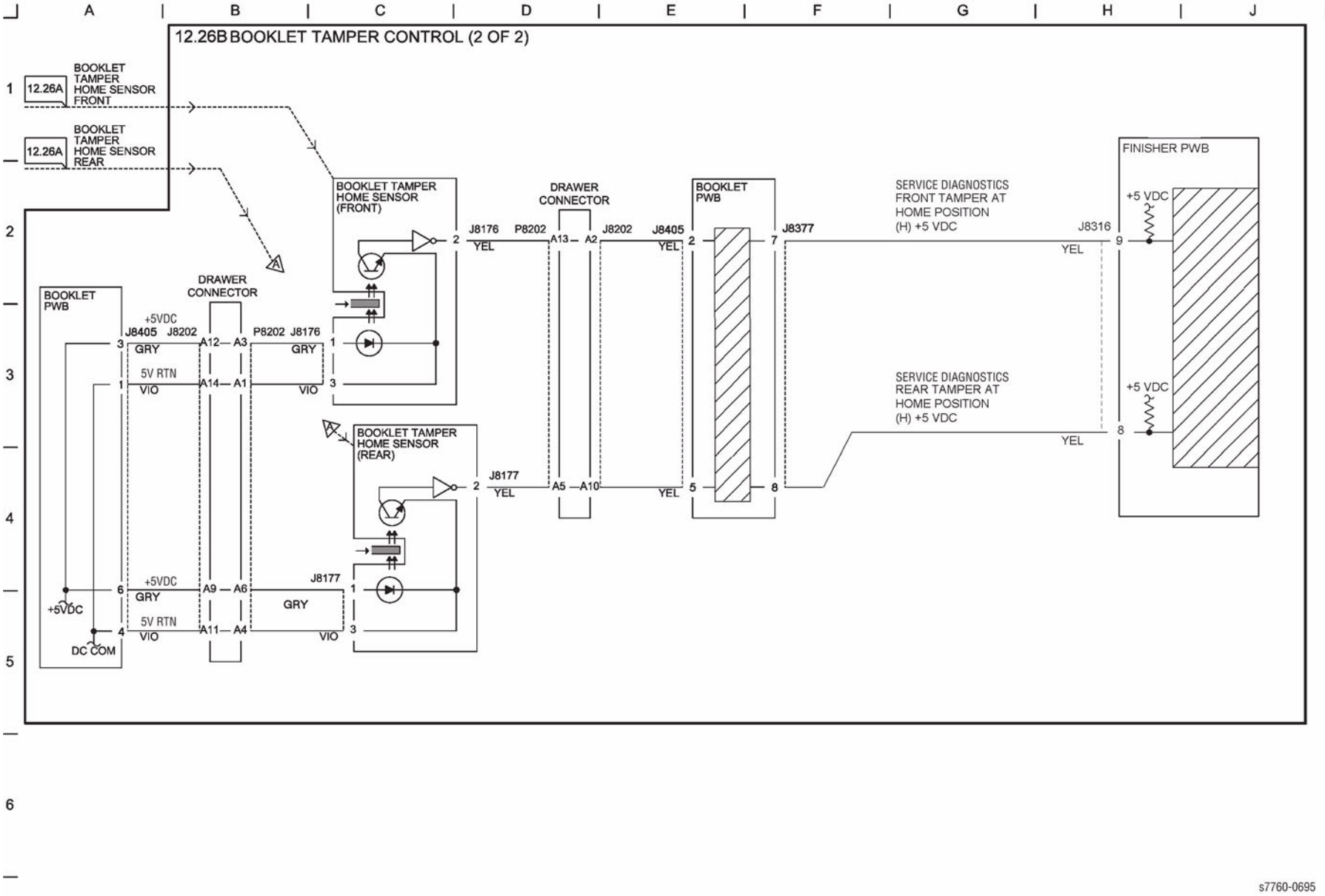


Figure 16 BSD 12.26B Finisher Booklet Tamper Control (2 of 2)

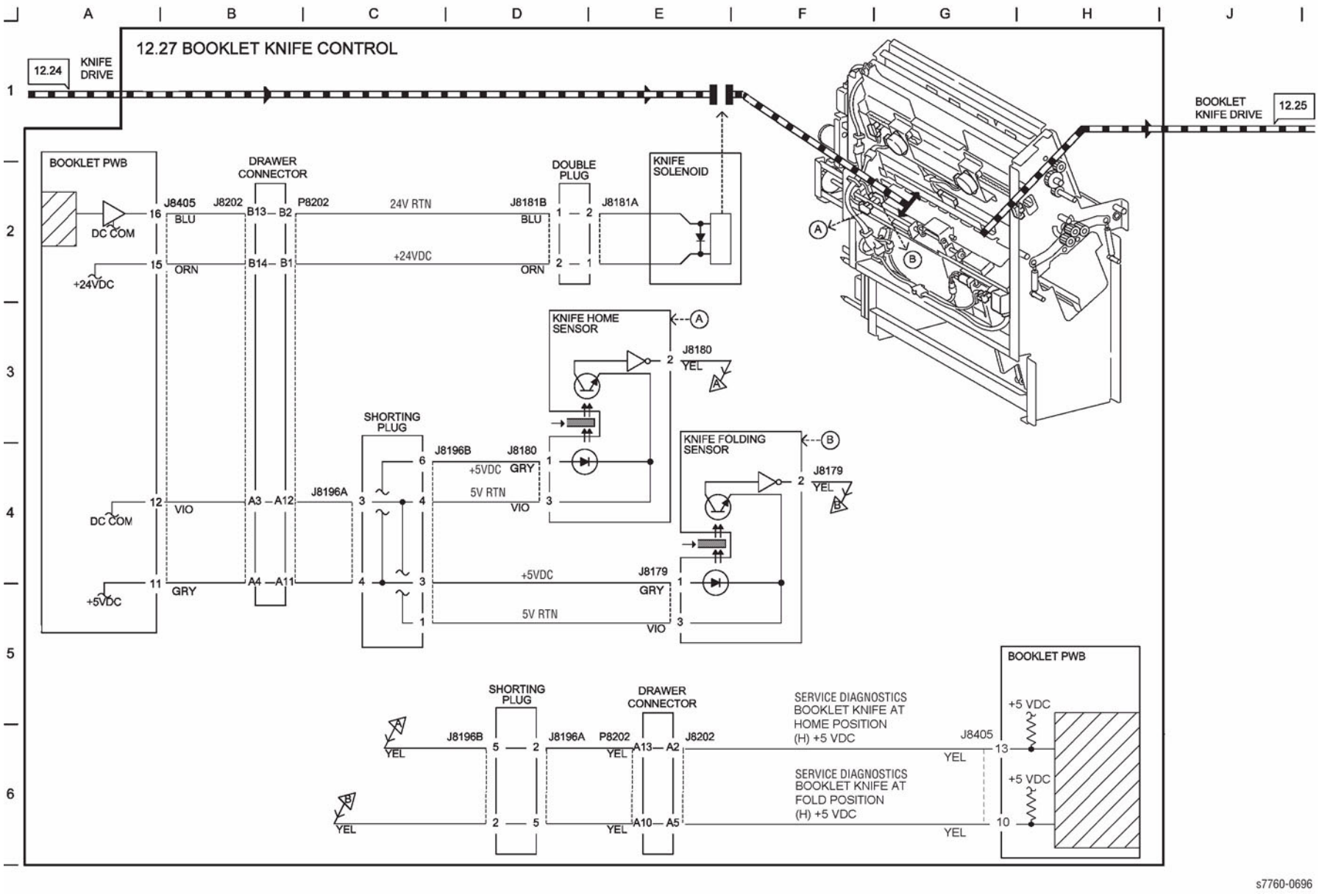


Figure 17 BSD 12.27 Finisher Booklet Knife Control

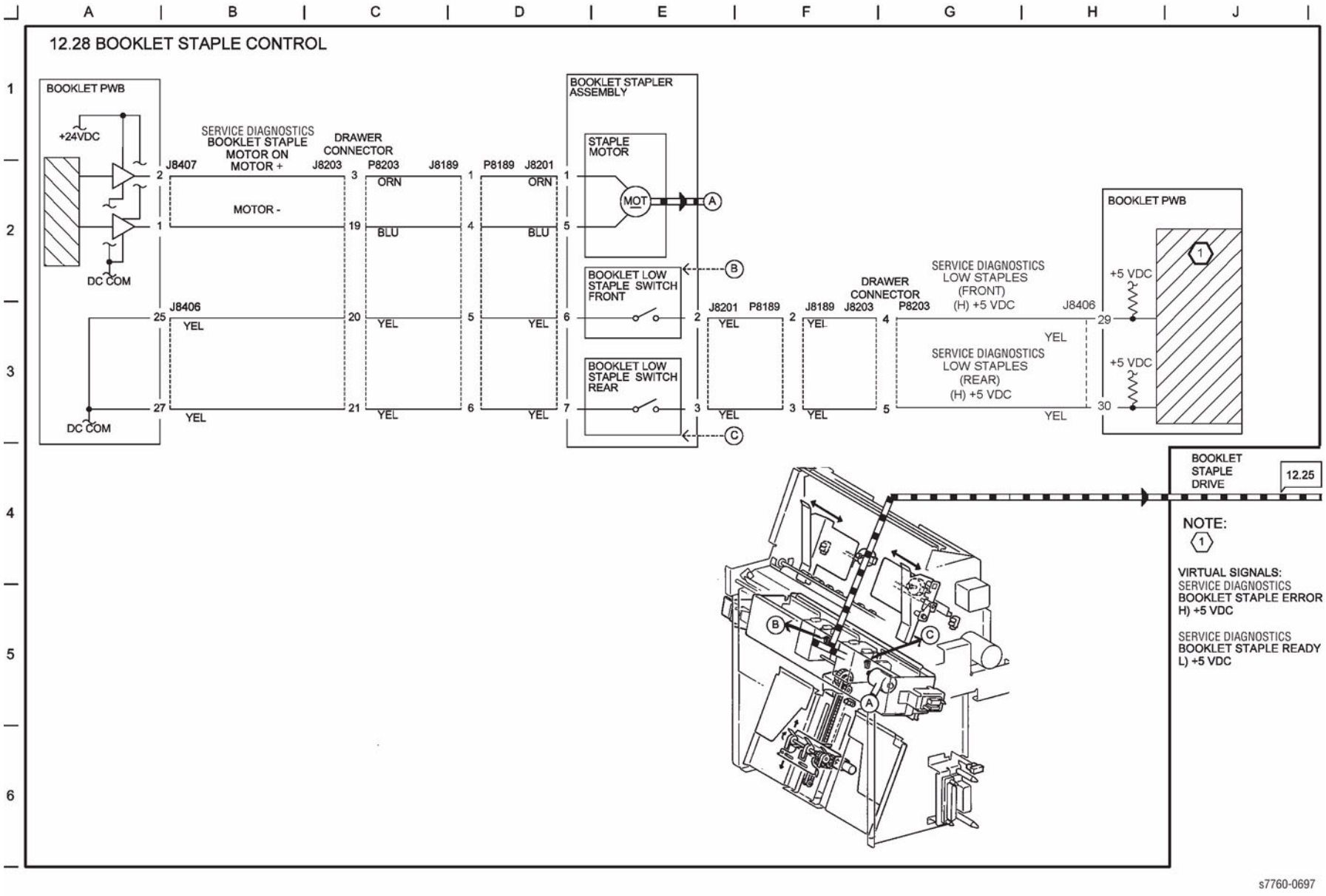


Figure 18 BSD 12.28 Finisher Booklet Staple Control

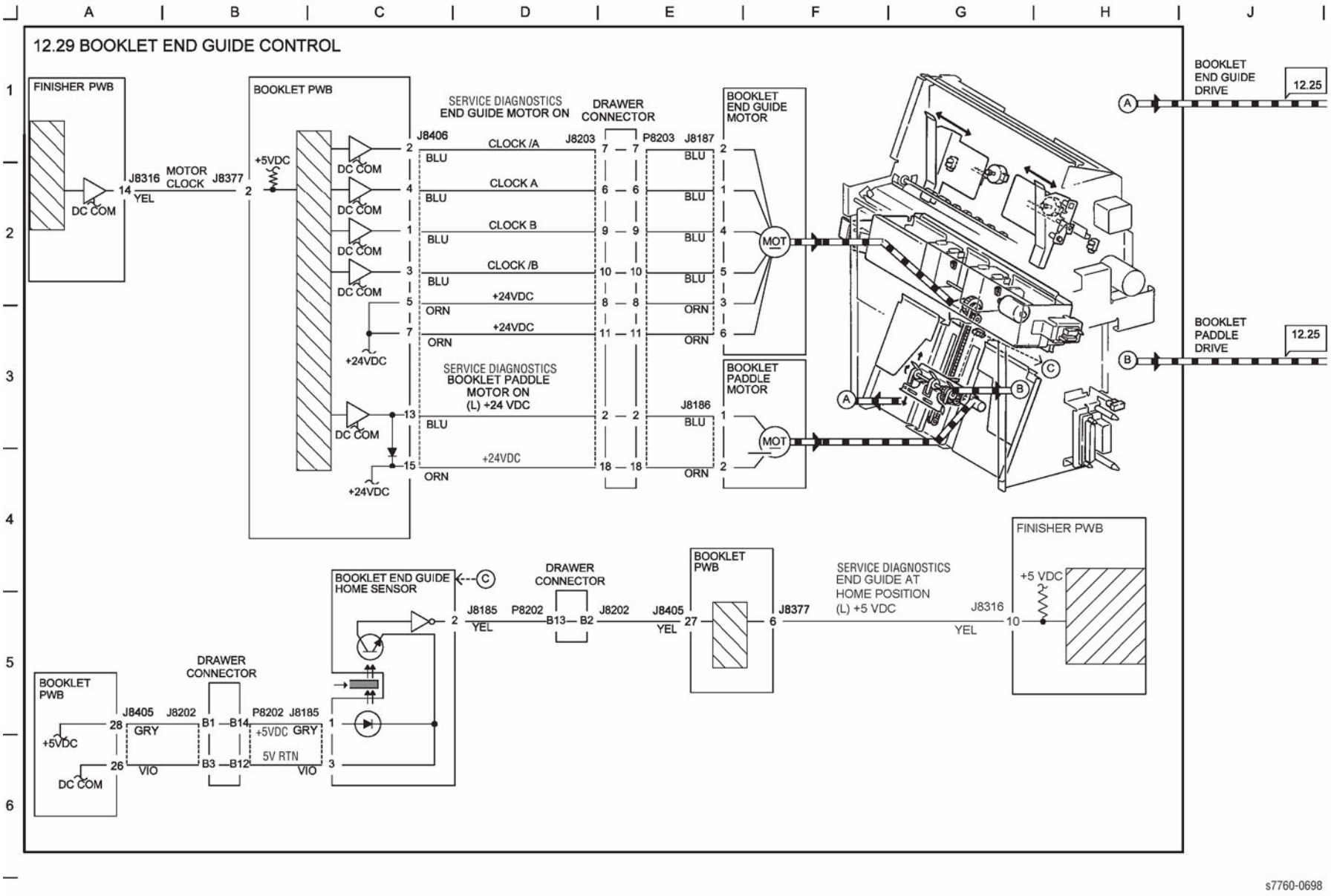


Figure 19 BSD 12.29 Finisher Booklet End Guide Control

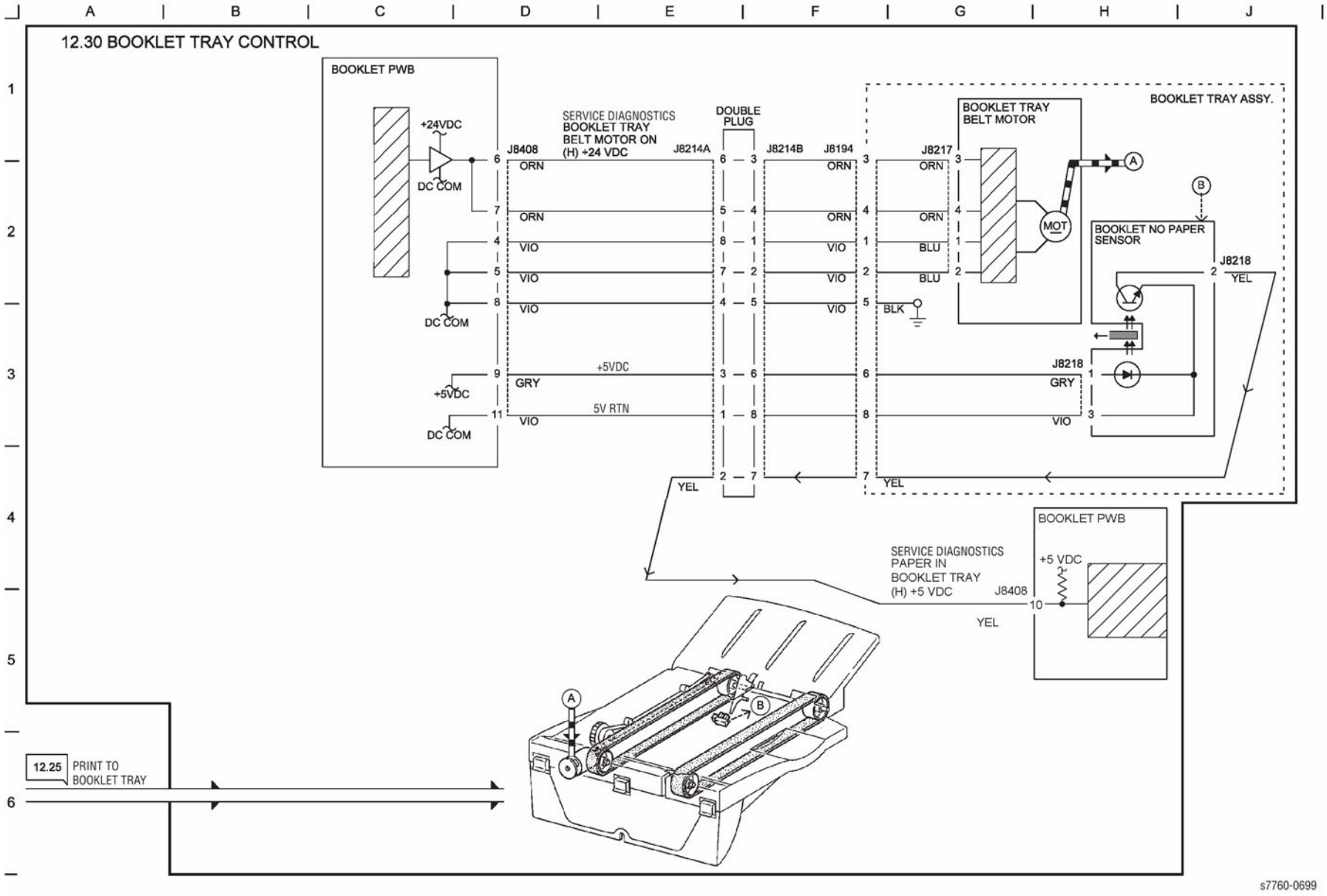


Figure 20 BSD 12.30 Finisher Booklet Tray Control

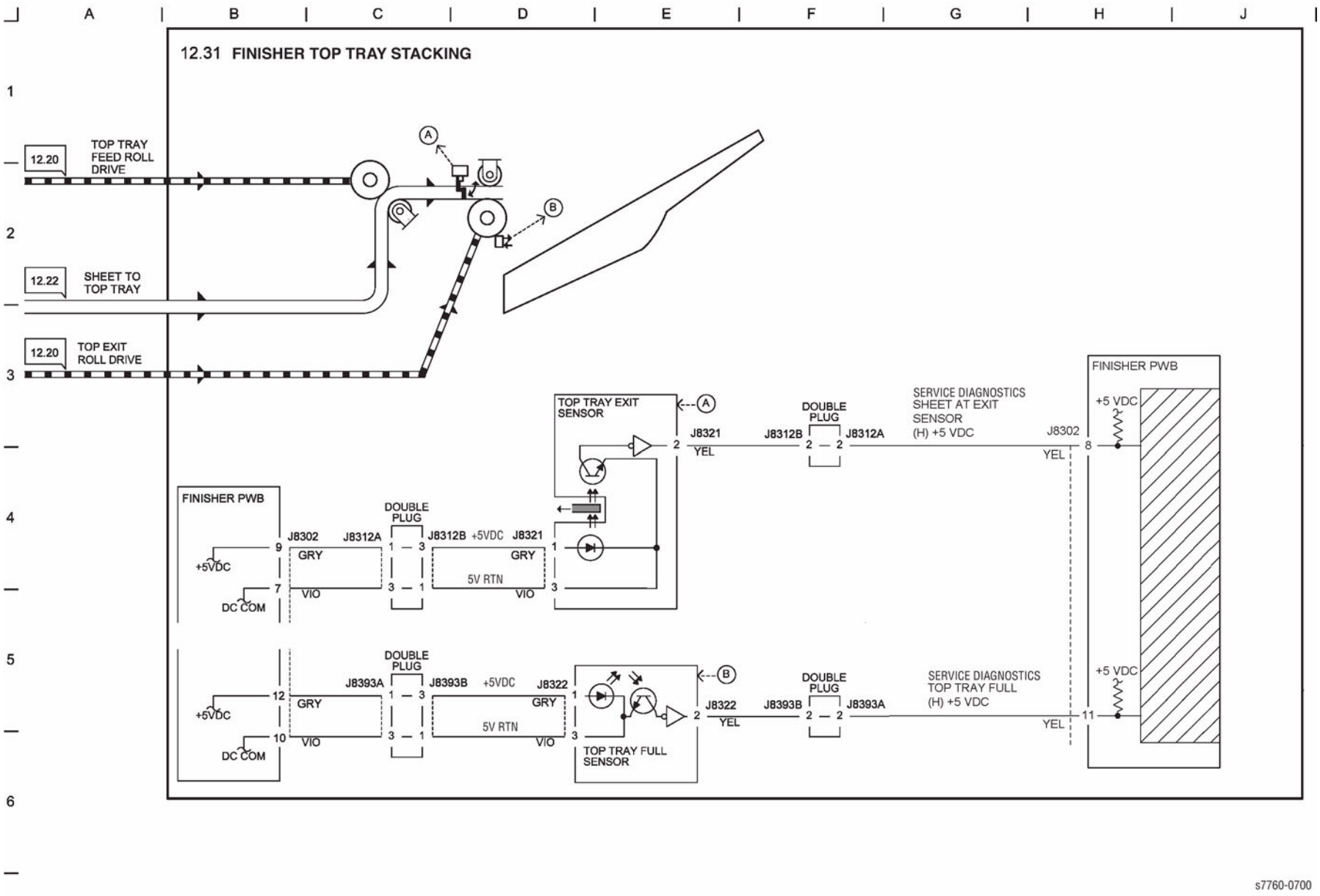


Figure 21 BSD 12.31 Finisher Top Tray Stacking

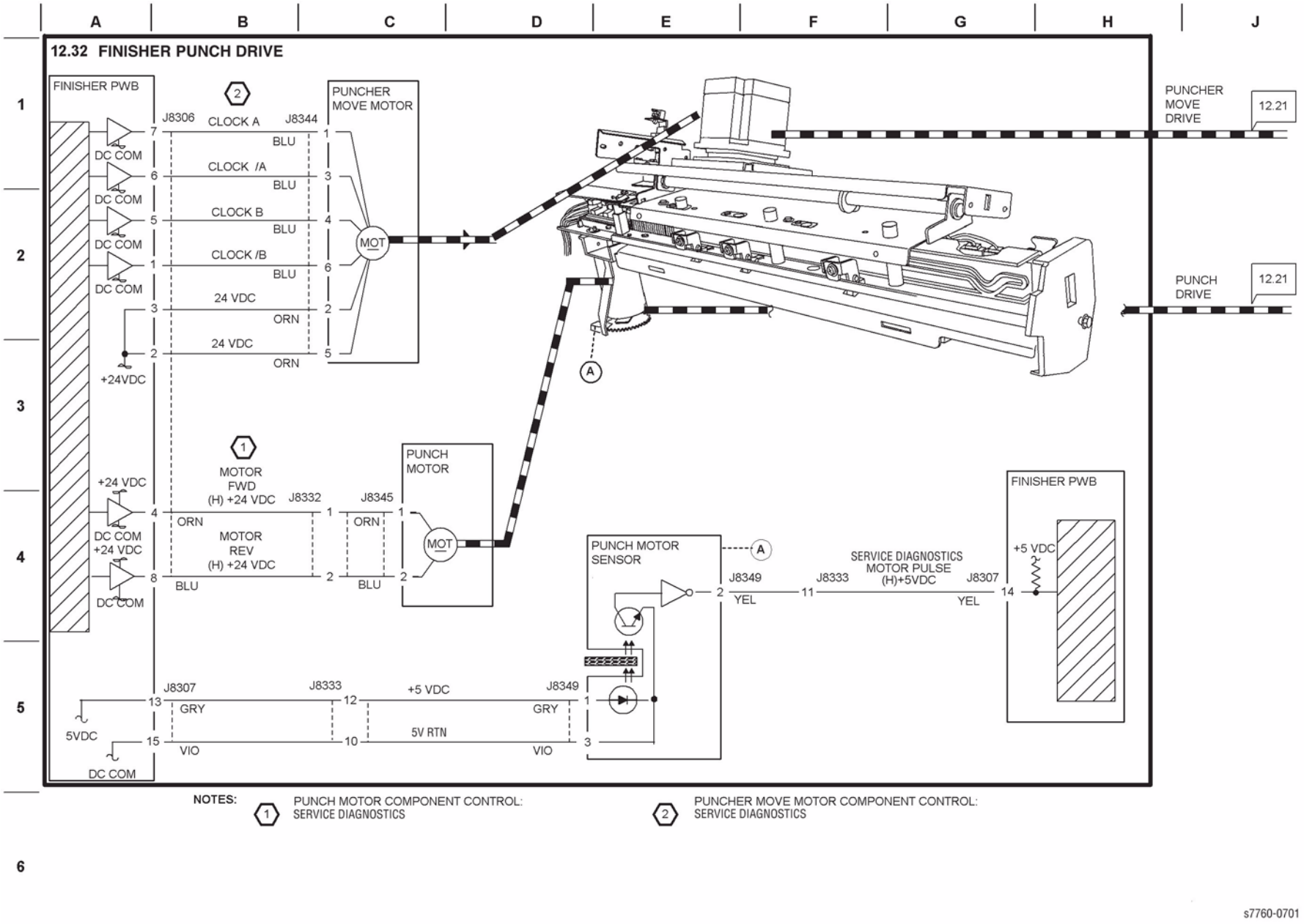


Figure 22 BSD 12.32 Finisher Punch Drive

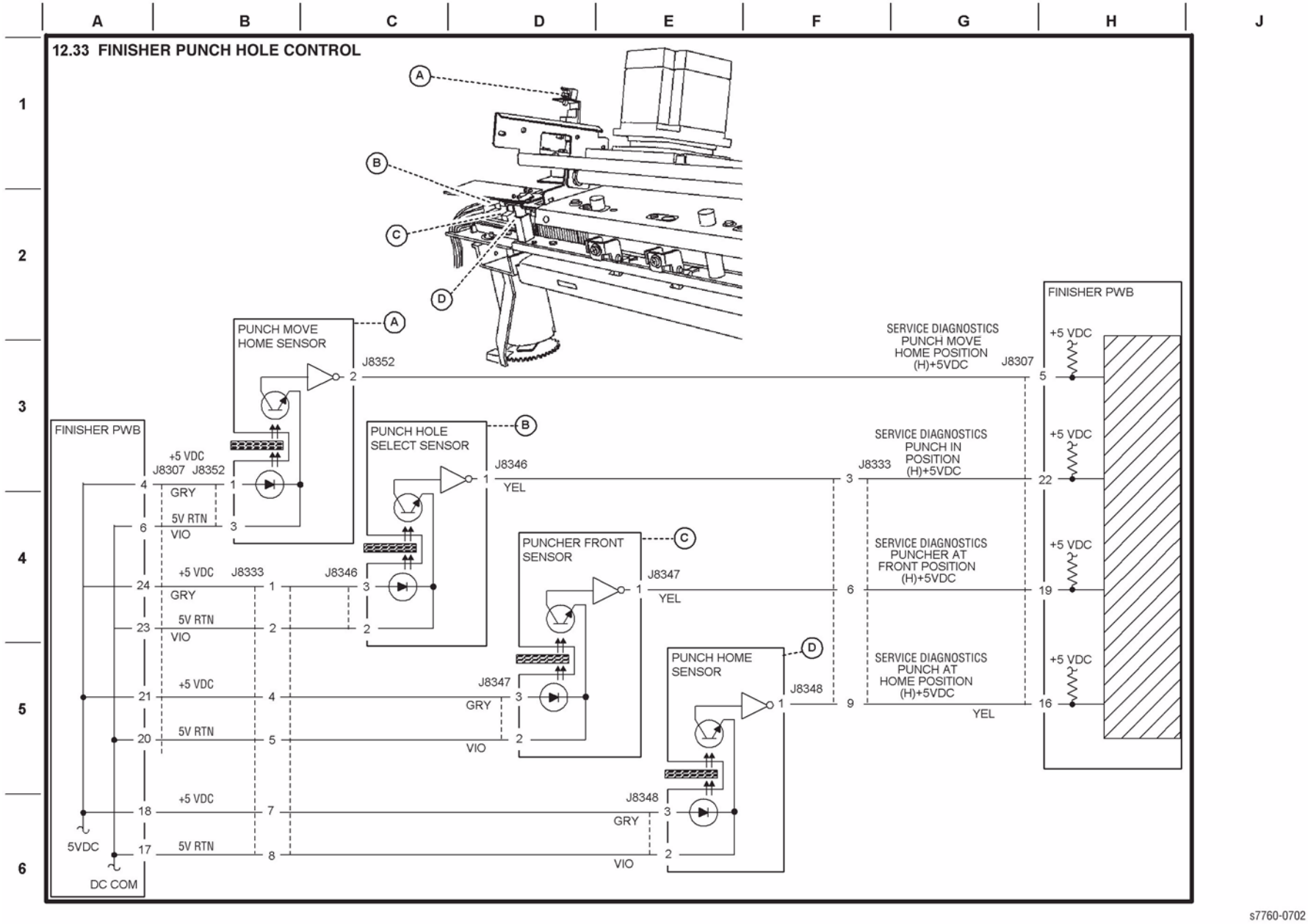


Figure 23 BSD 12.33 Finisher Punch Hole Control

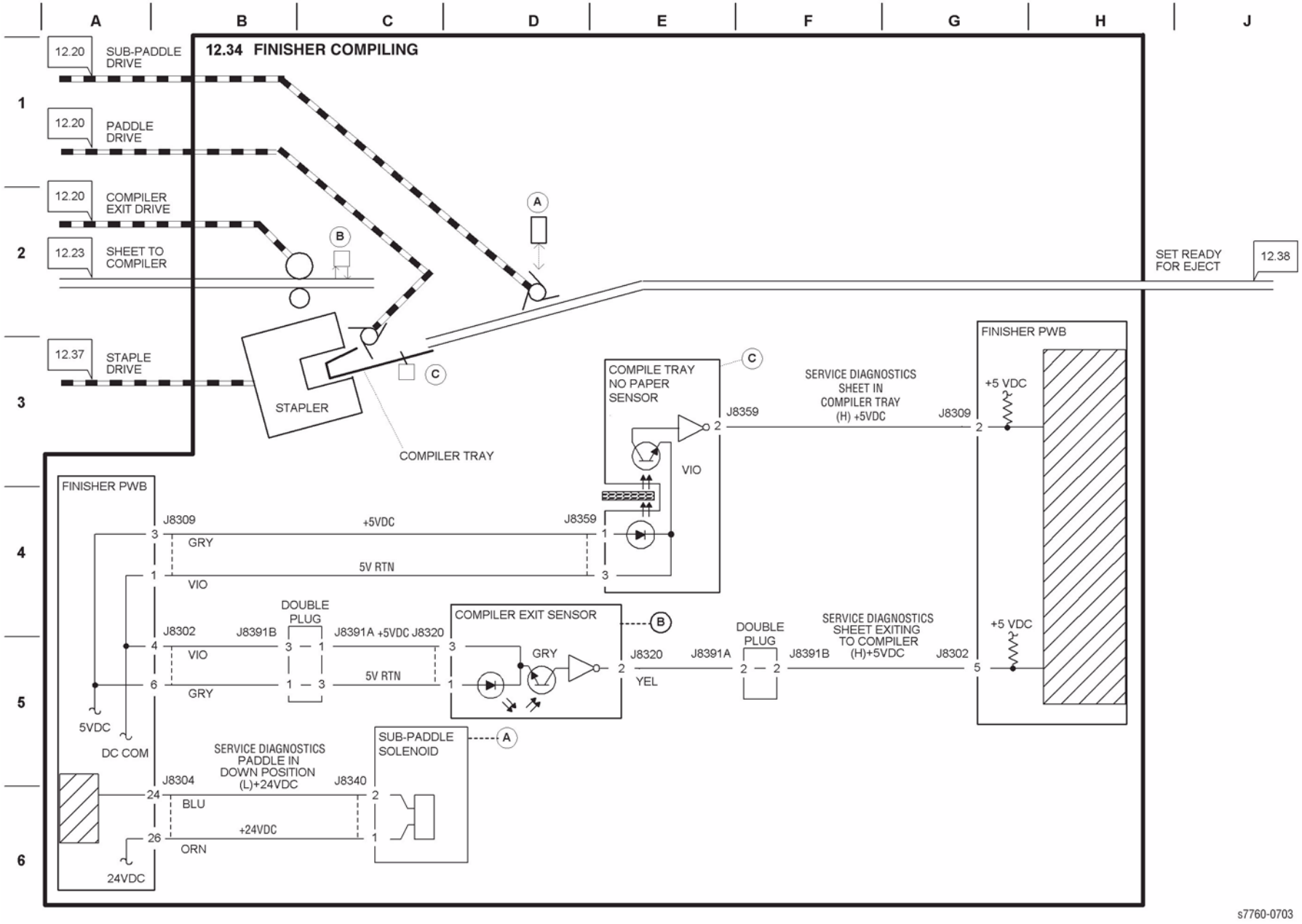


Figure 24 BSD 12.34 Finisher Compiling

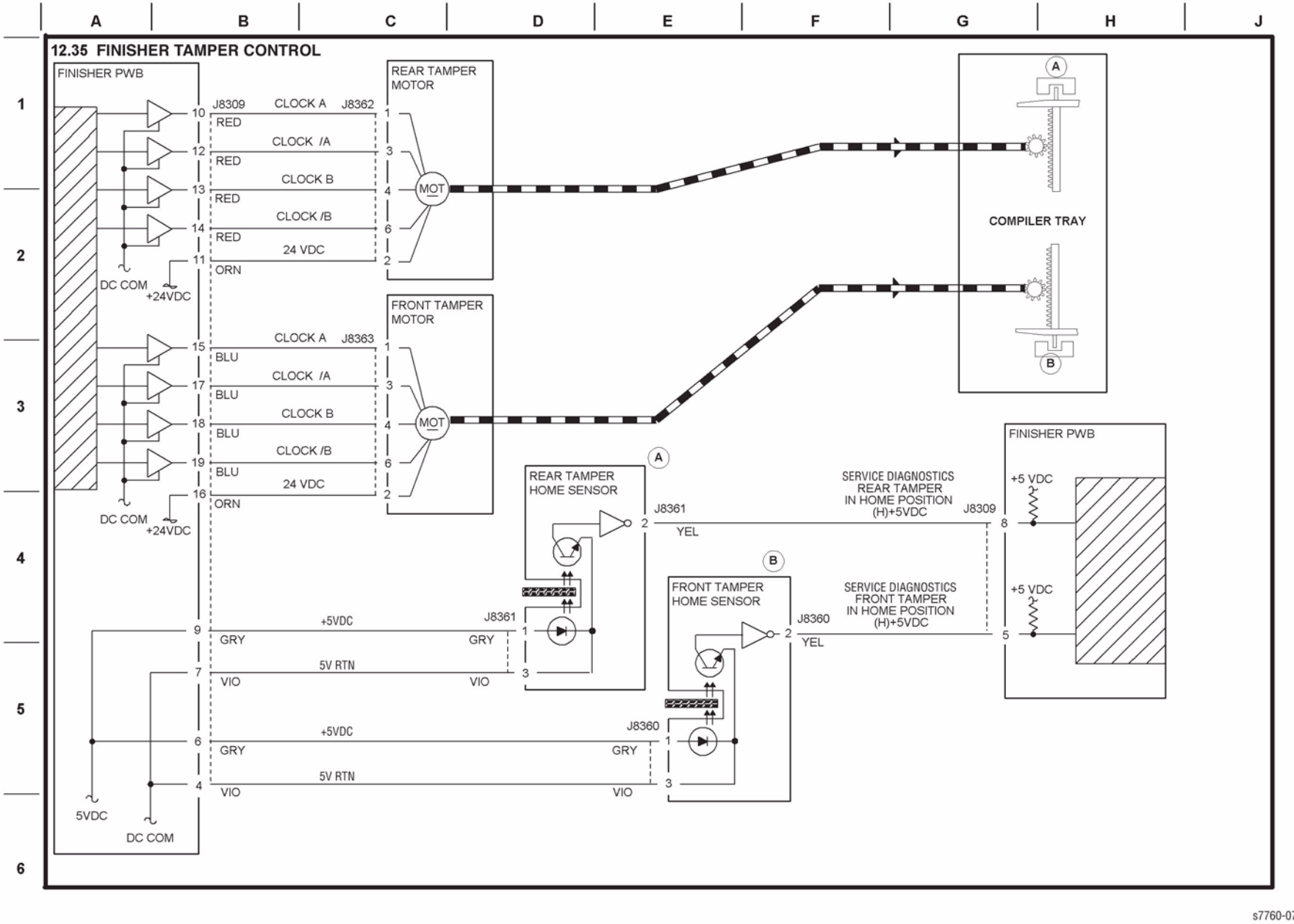


Figure 25 BSD 12.35 Finisher Tamper Control

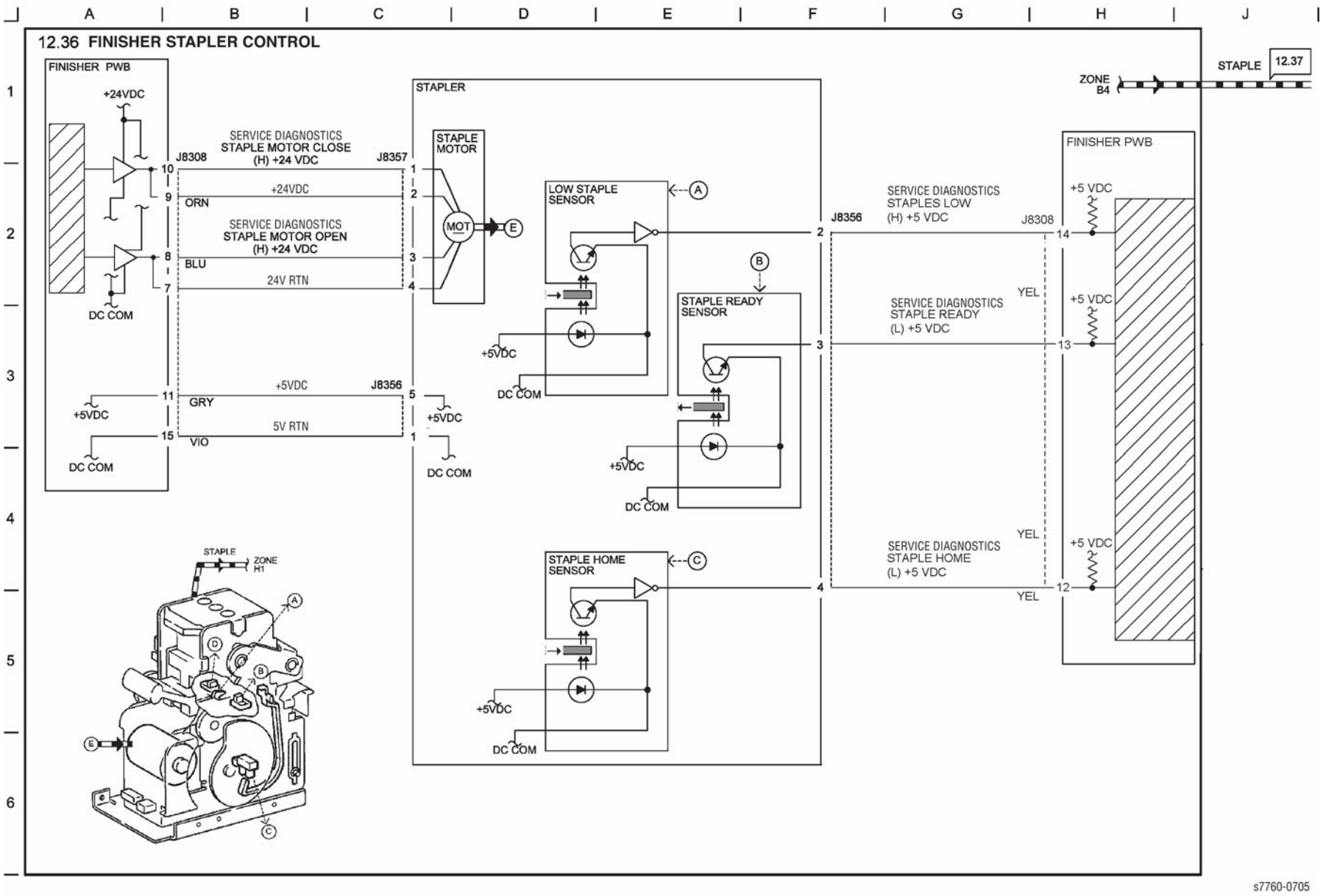


Figure 26 BSD 12.36 Finisher Stapler Control

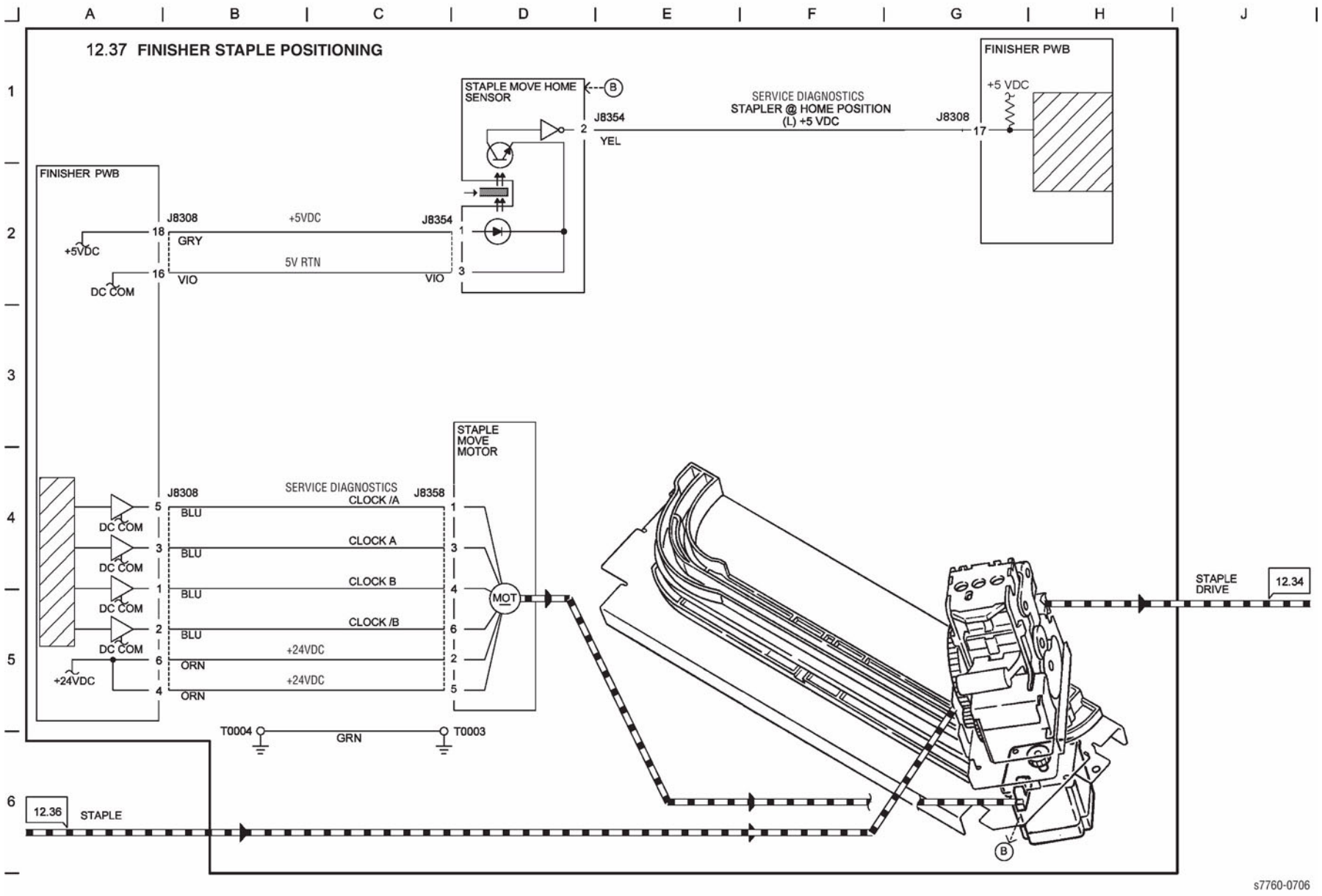


Figure 27 BSD 12.37 Finisher Staple Positioning

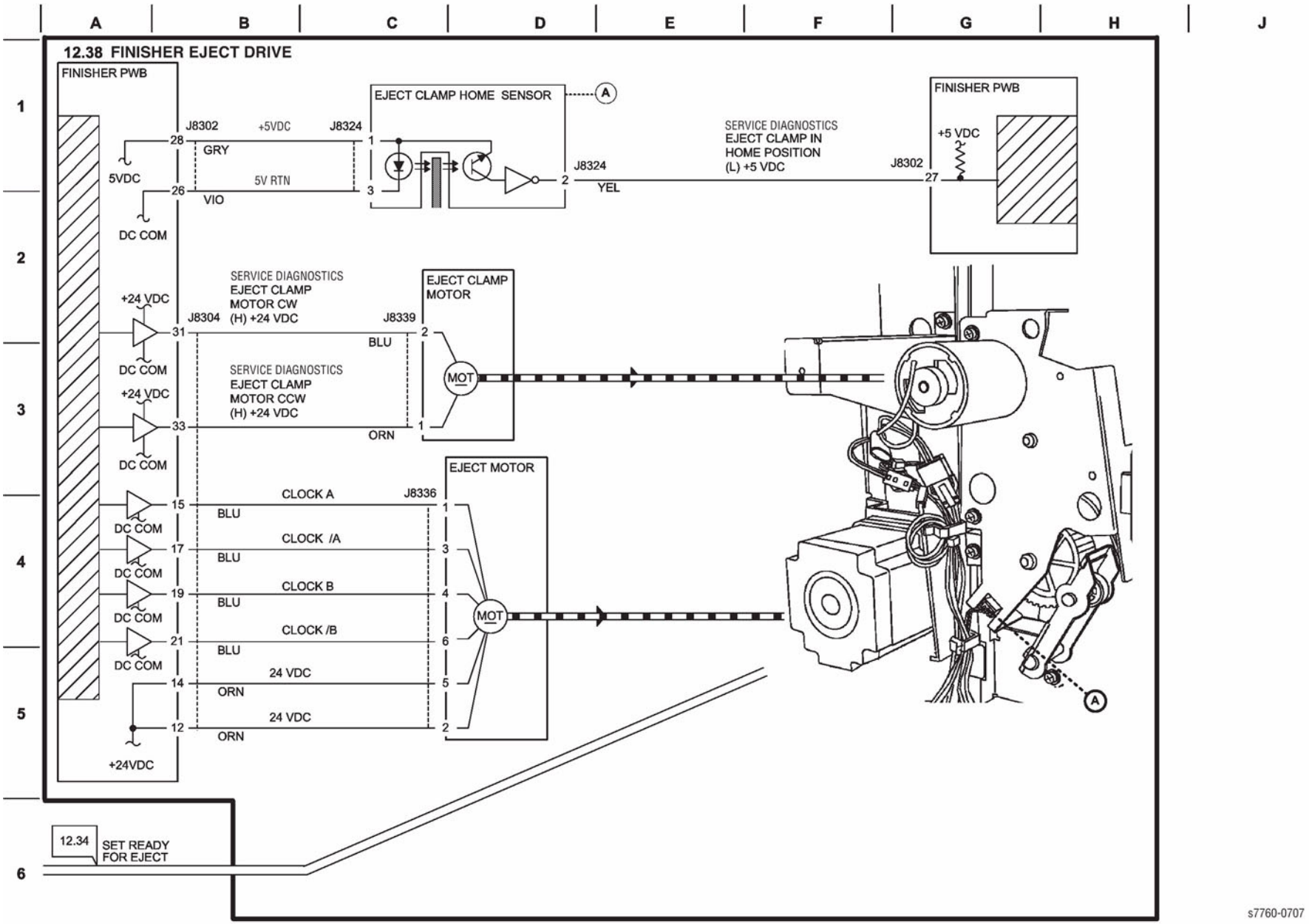


Figure 28 BSD 12.38 Finisher Eject Drive

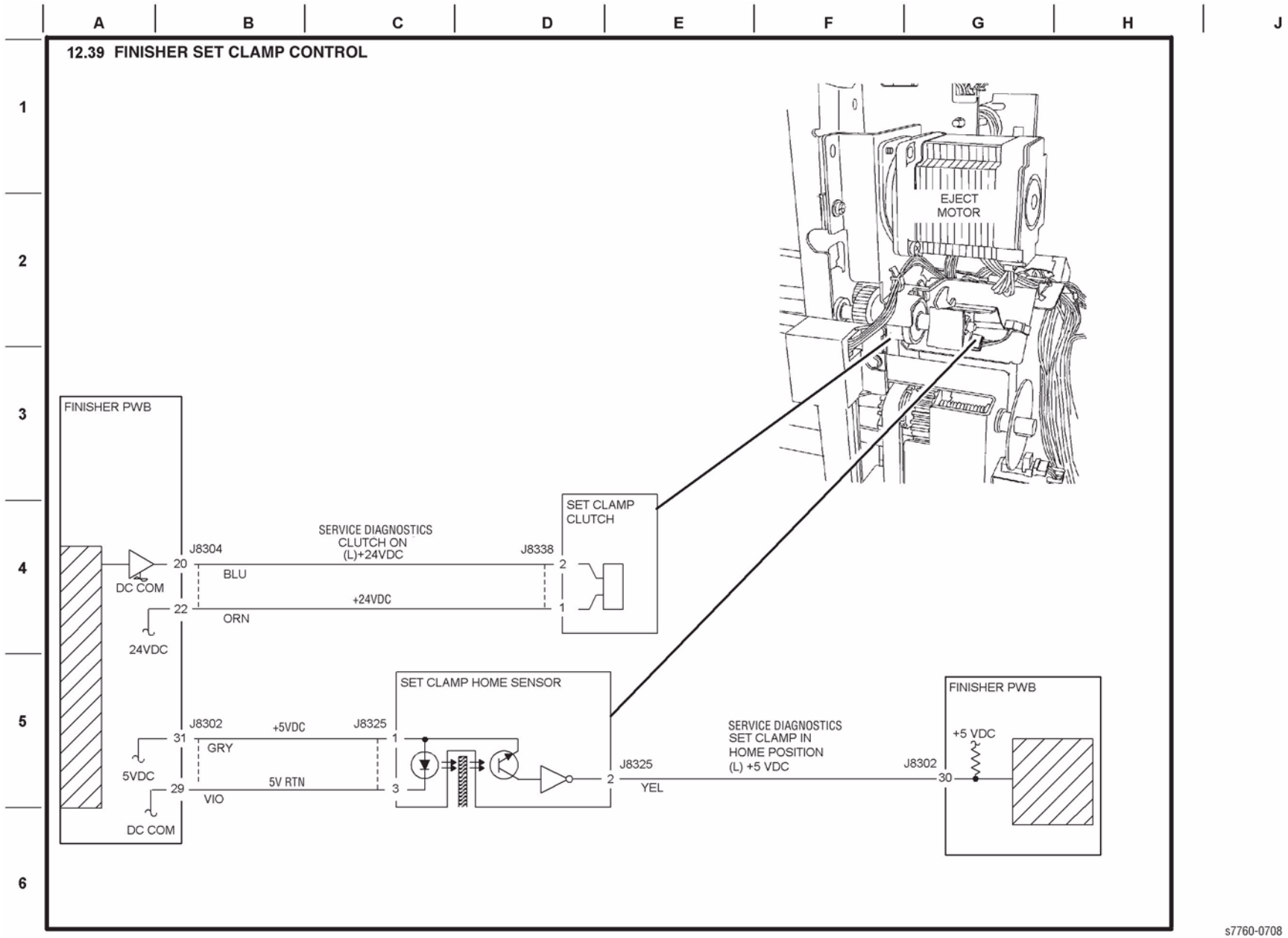


Figure 29 BSD 12.39 Finisher Set Clamp Control

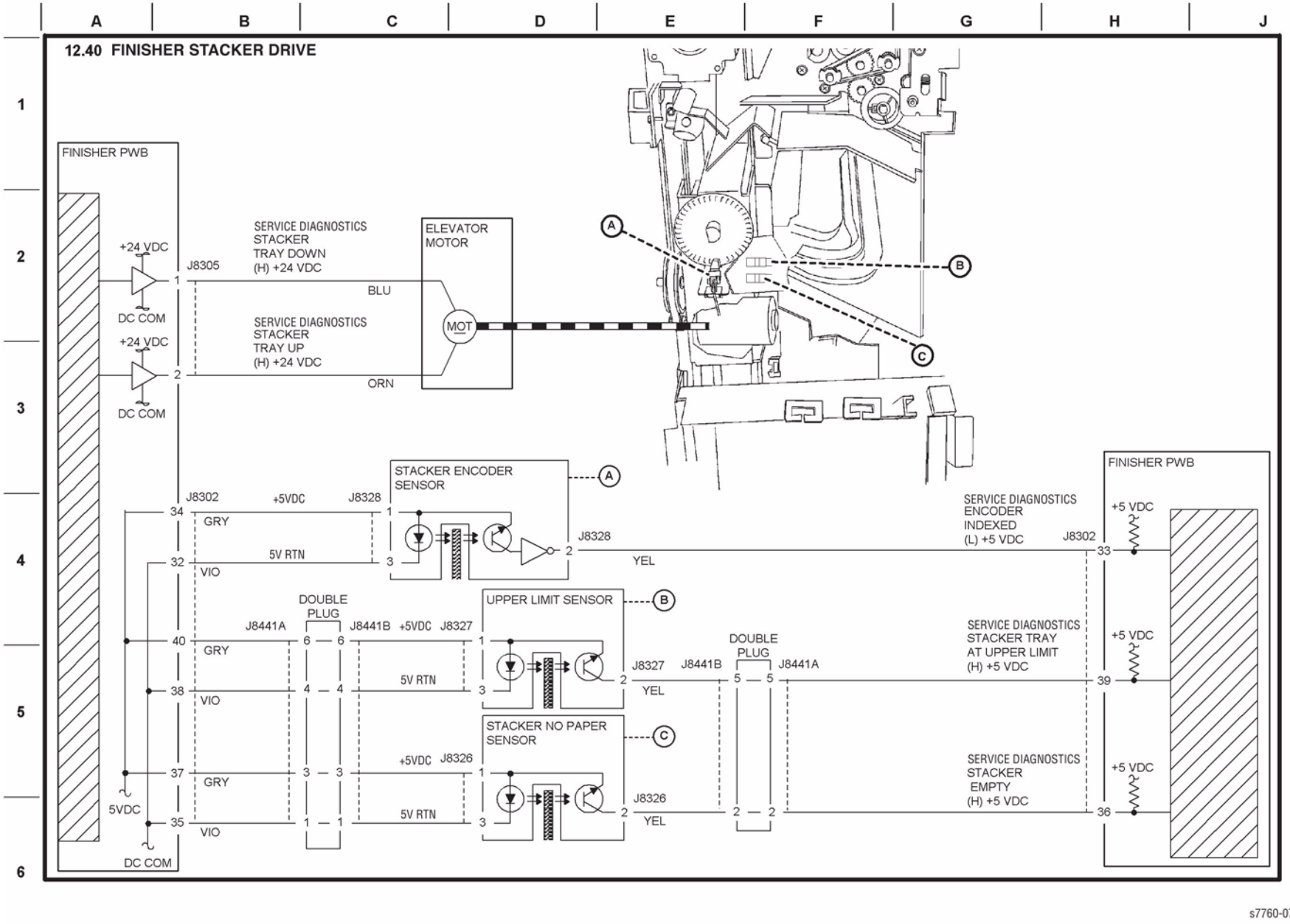


Figure 30 BSD 12.40 Finisher Stacker Drive

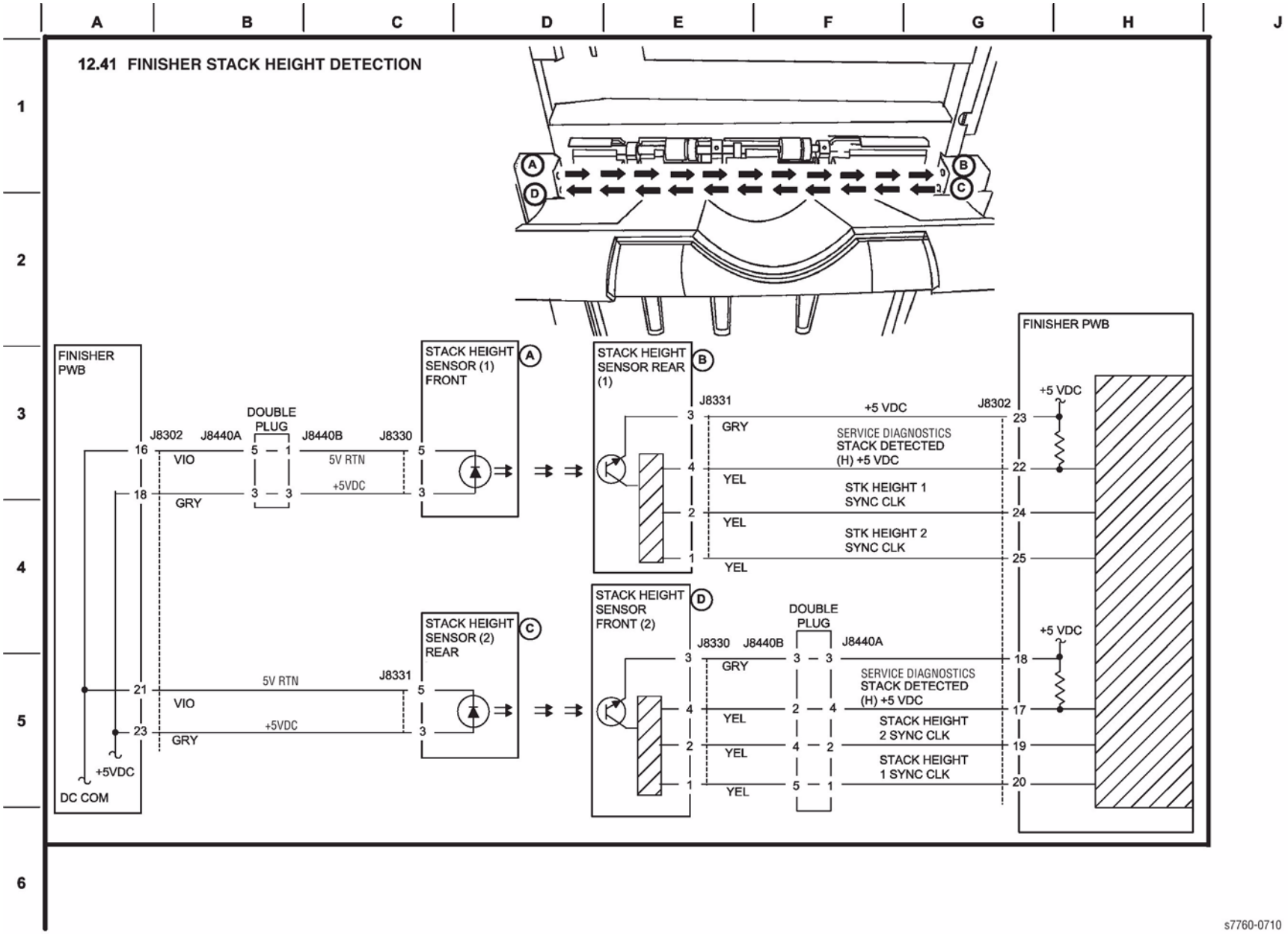


Figure 31 BSD 12.41 Finisher Stack Height Detection

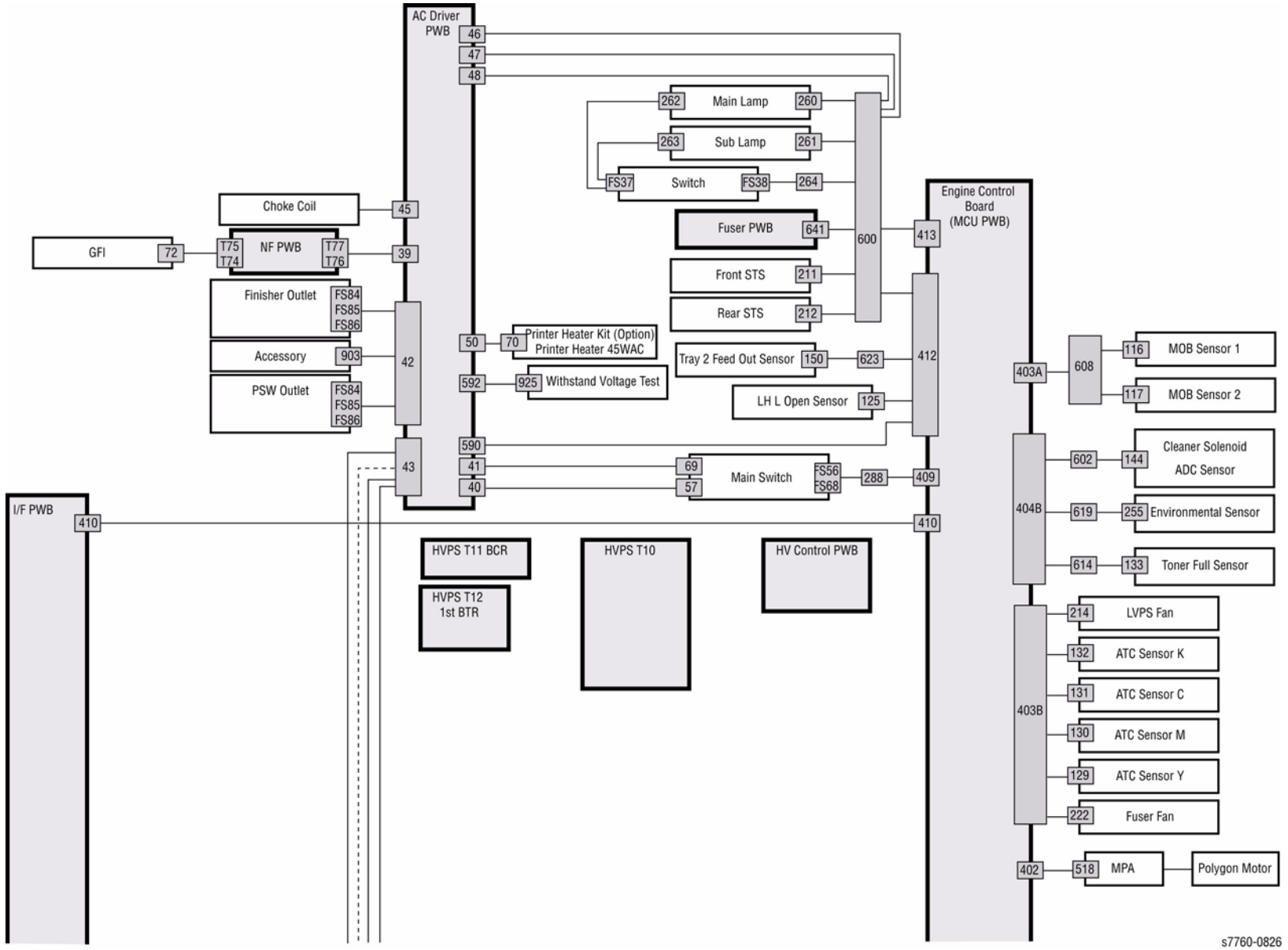


Figure 1 Block Diagram (part 1 of 3)

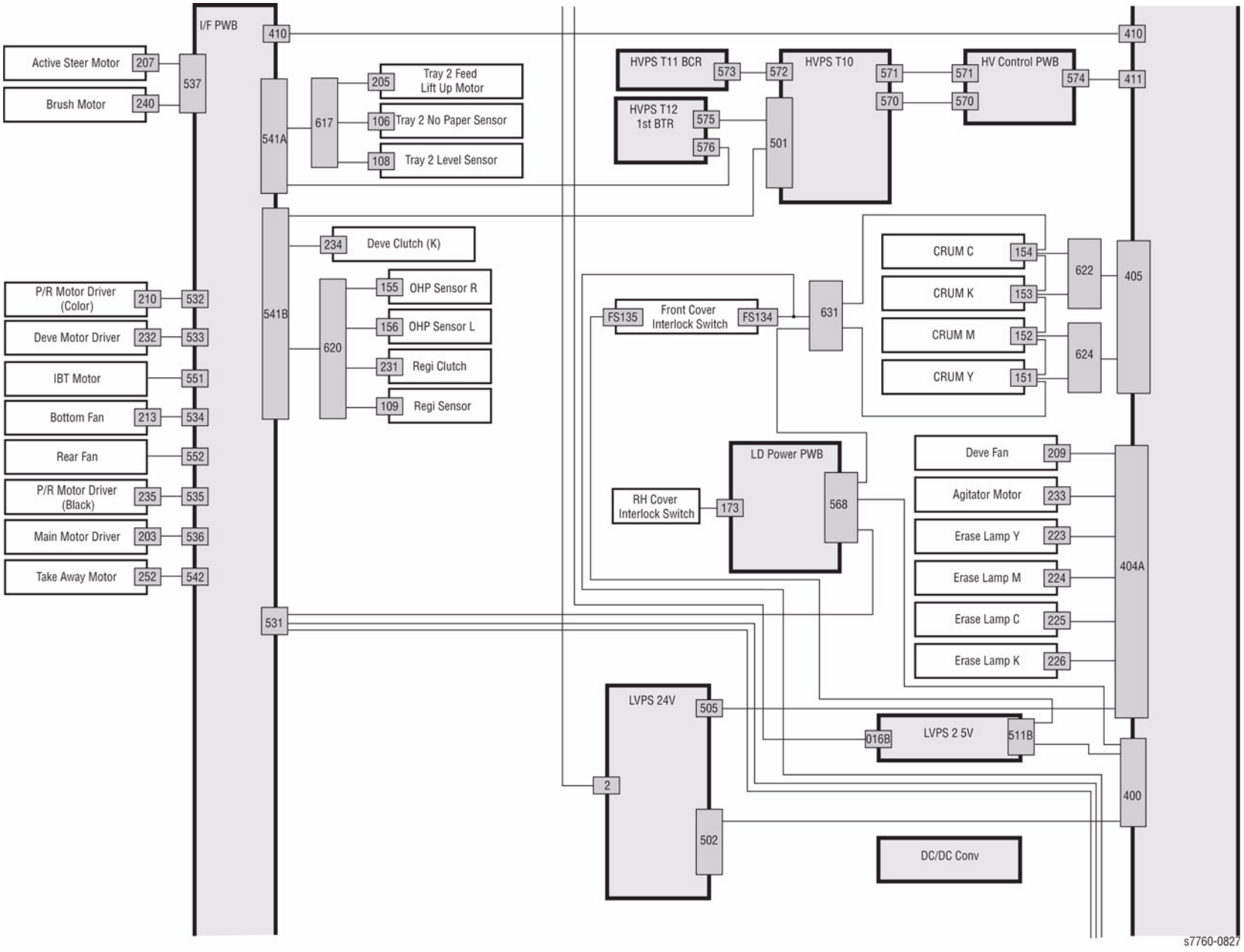


Figure 2 Block Diagram (part 2 of 3)

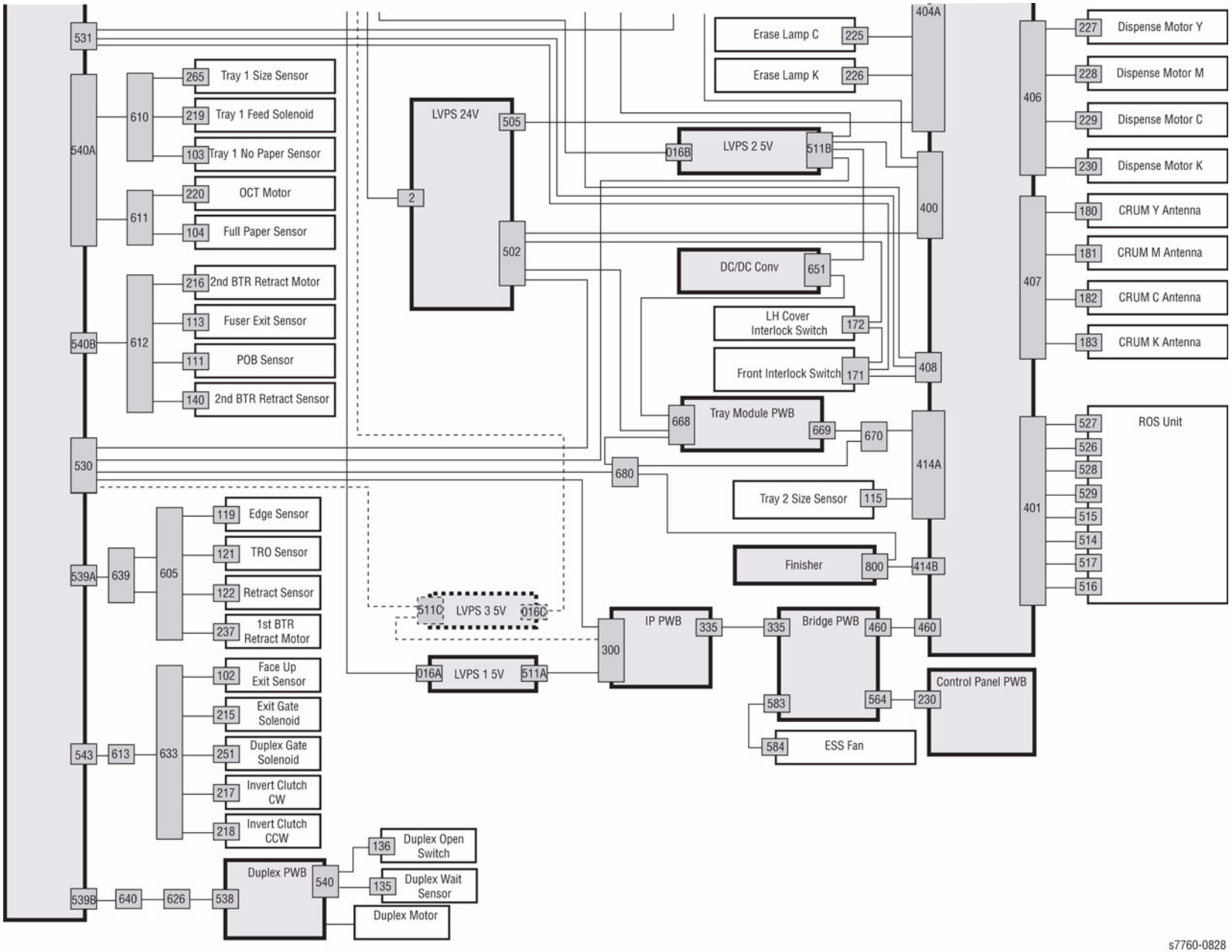


Figure 3 Block Diagram (part 3 of 3)

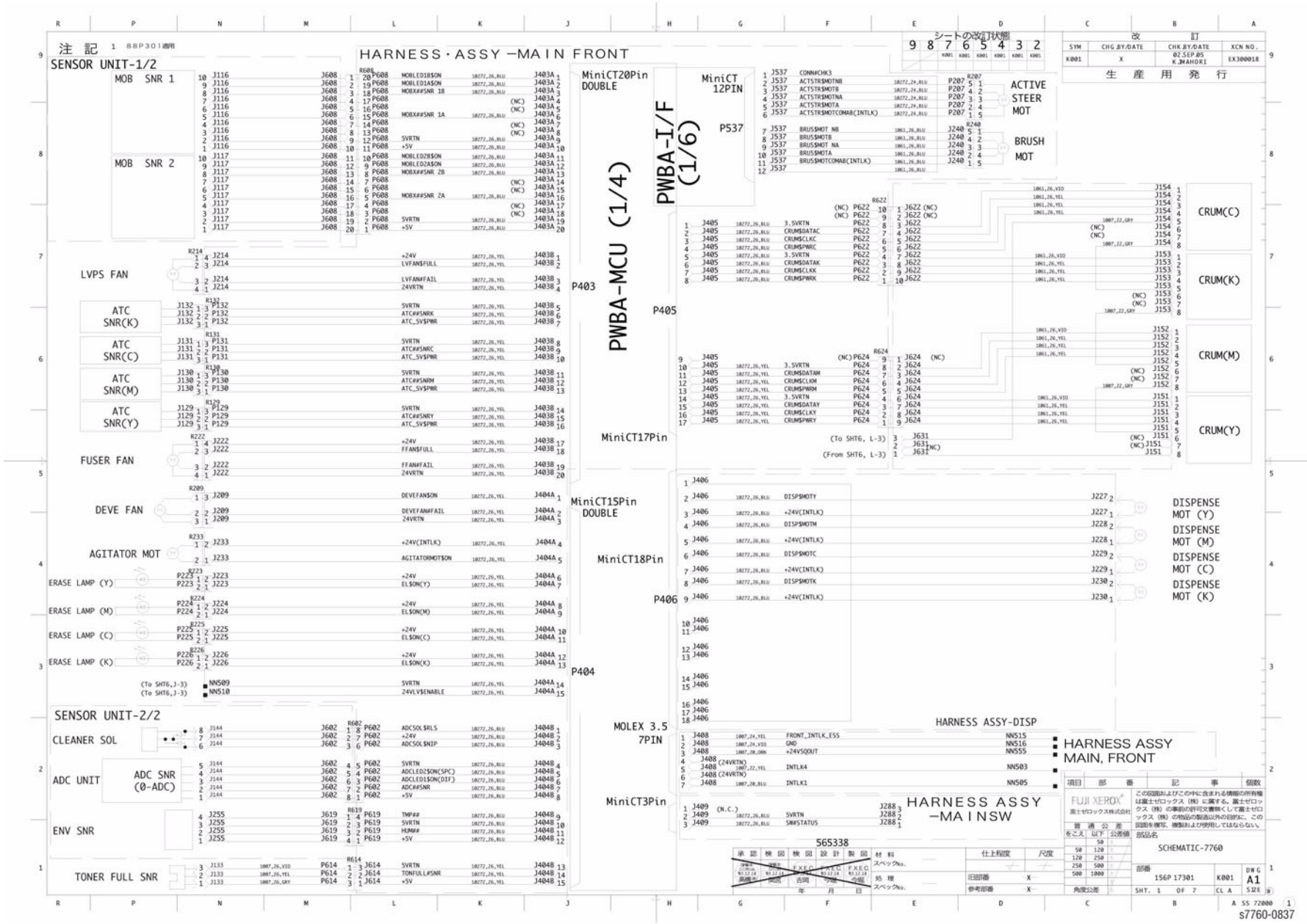


Figure 4 Wiring Schematic (sheet 1 of 7)

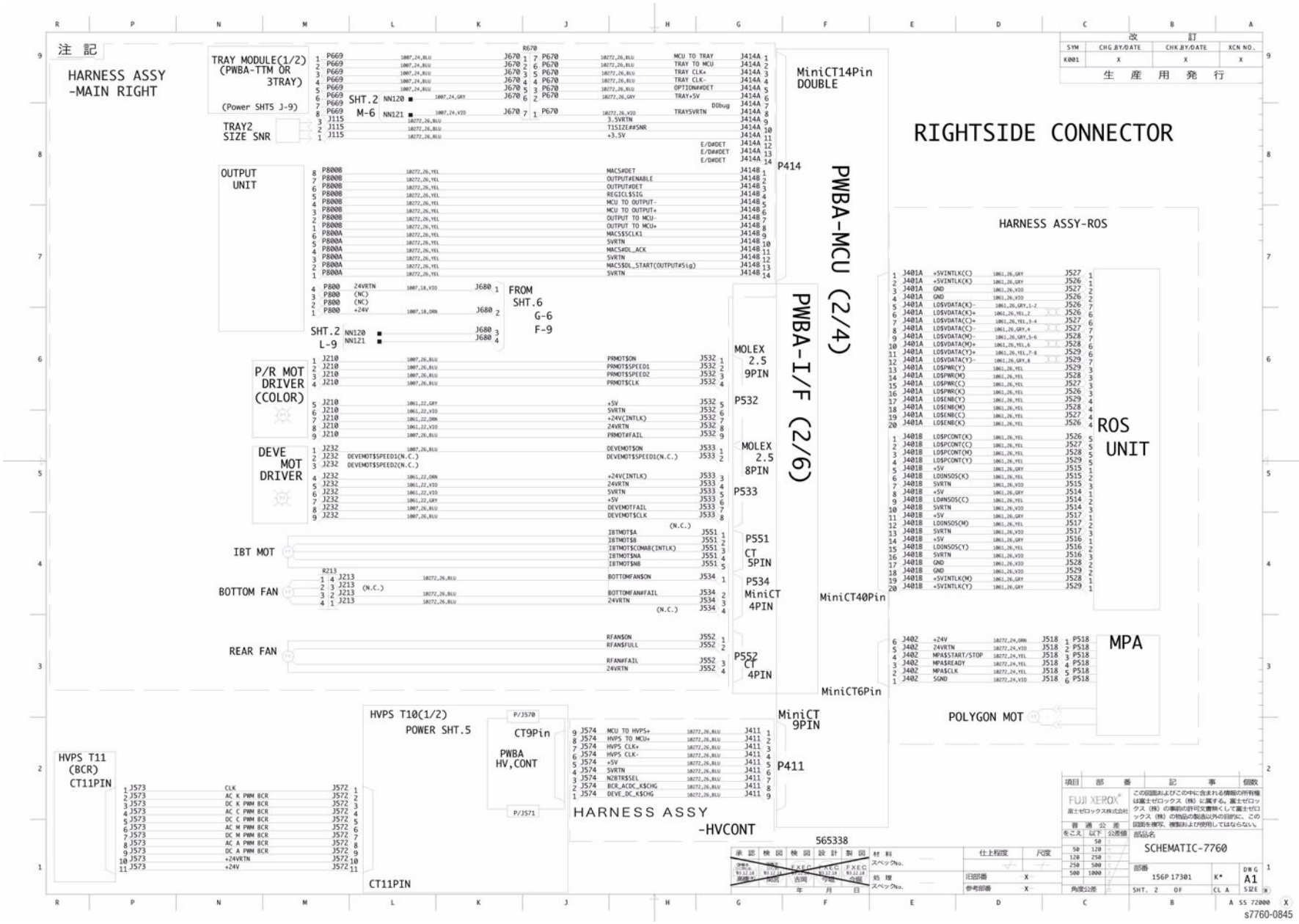


Figure 5 Wiring Schematic (sheet 2 of 7)

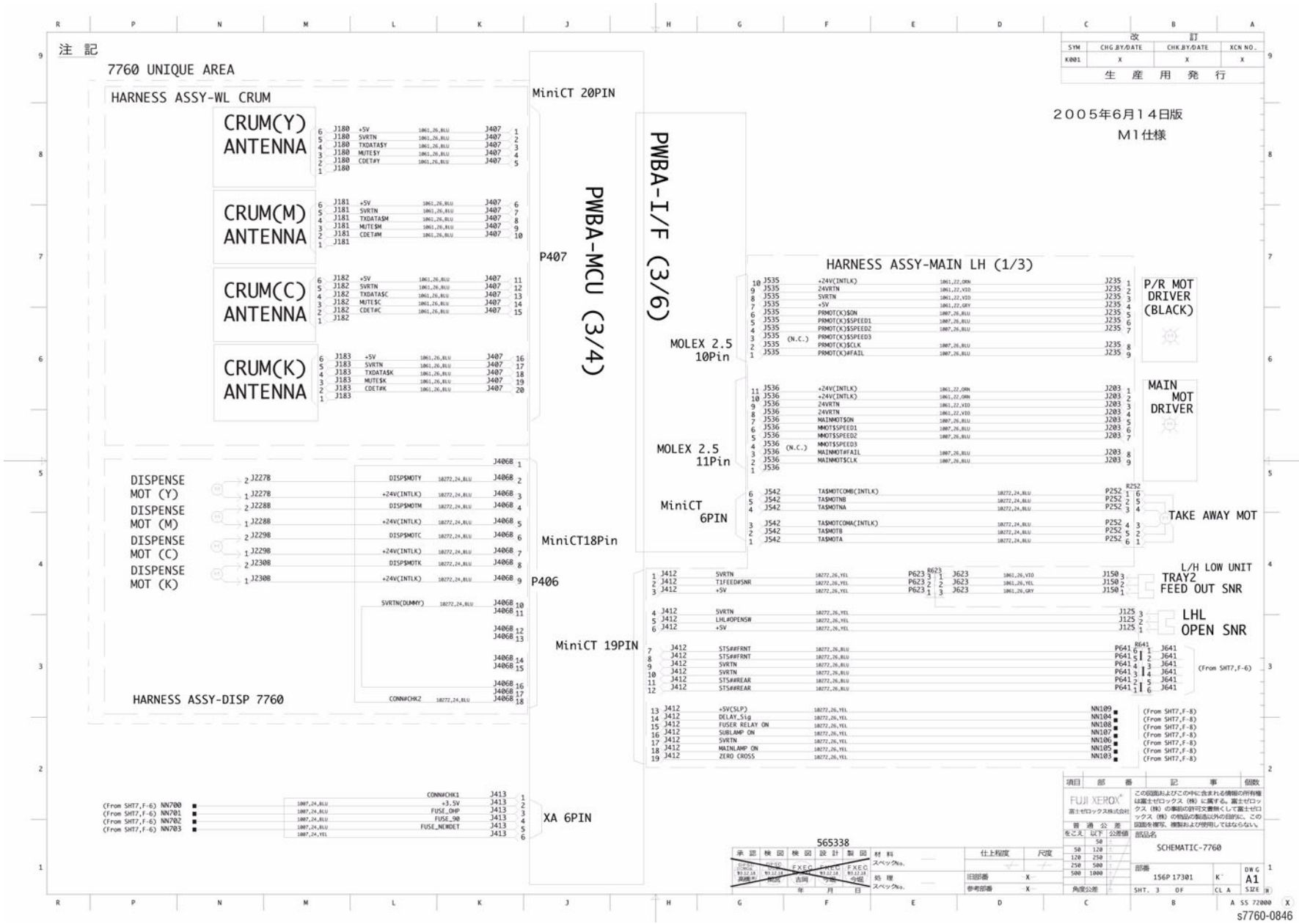


Figure 6 Wiring Schematic (sheet 3 of 7)

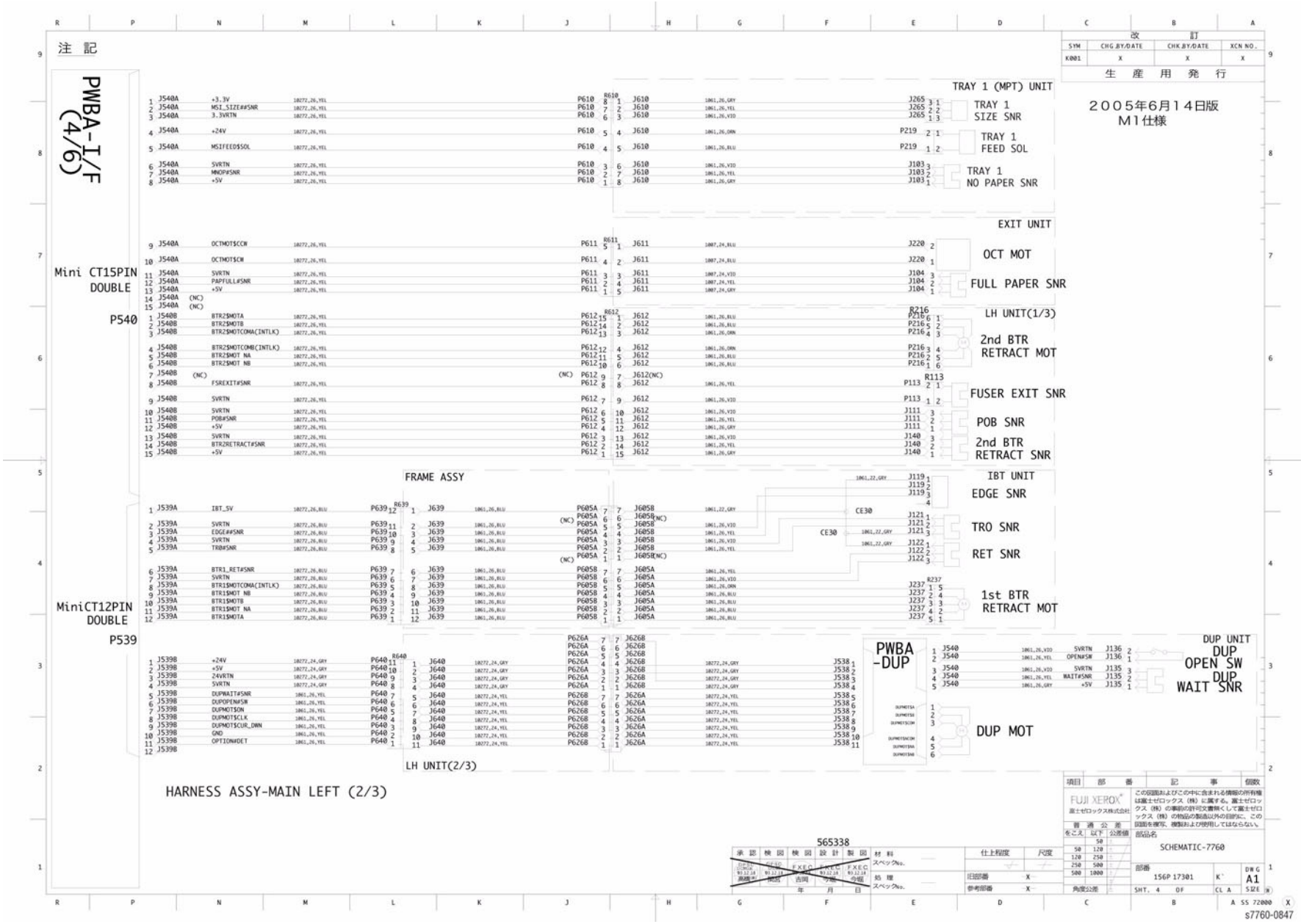


Figure 7 Wiring Schematic (sheet 4 of 7)

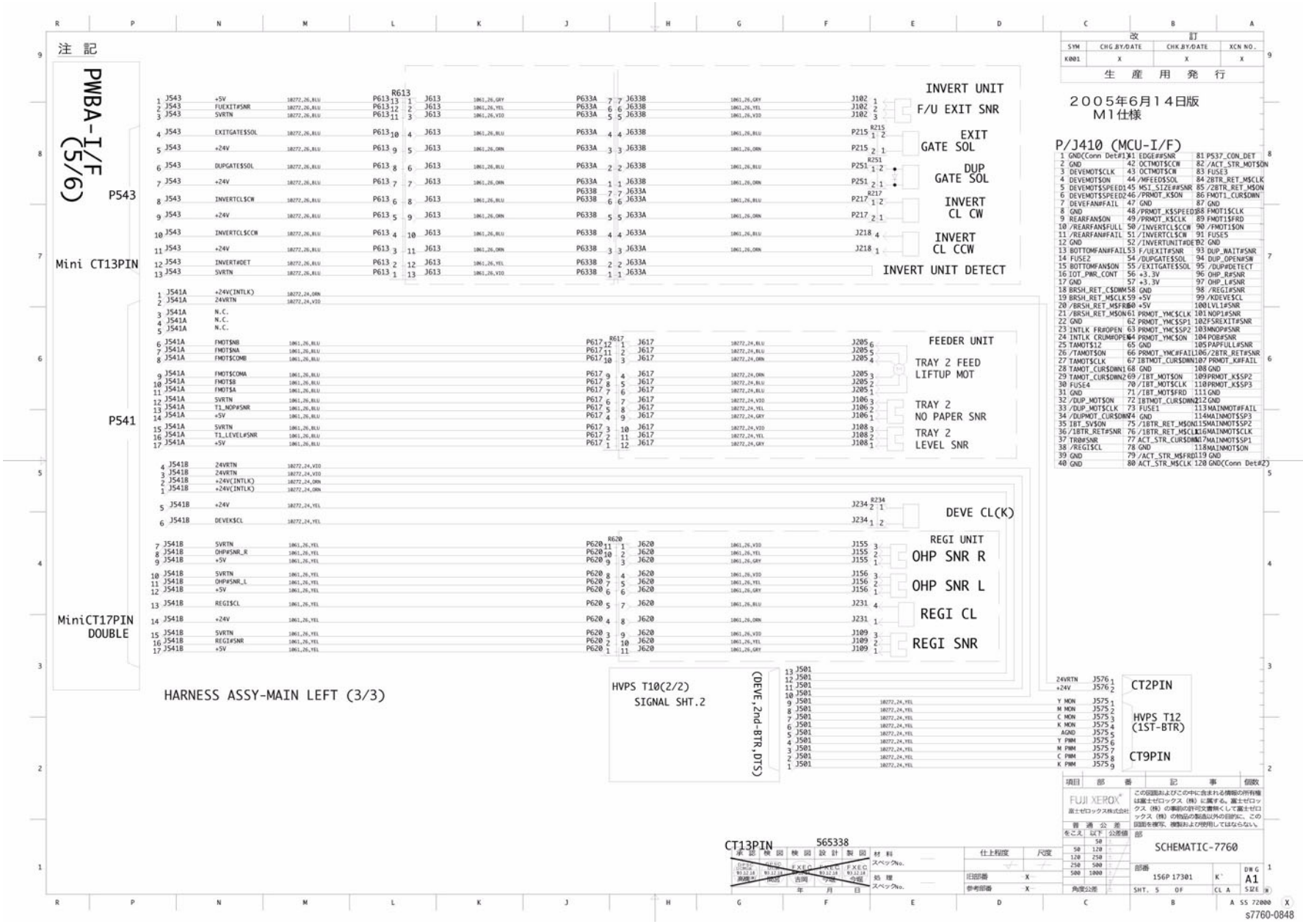


Figure 8 Wiring Schematic (sheet 5 of 7)

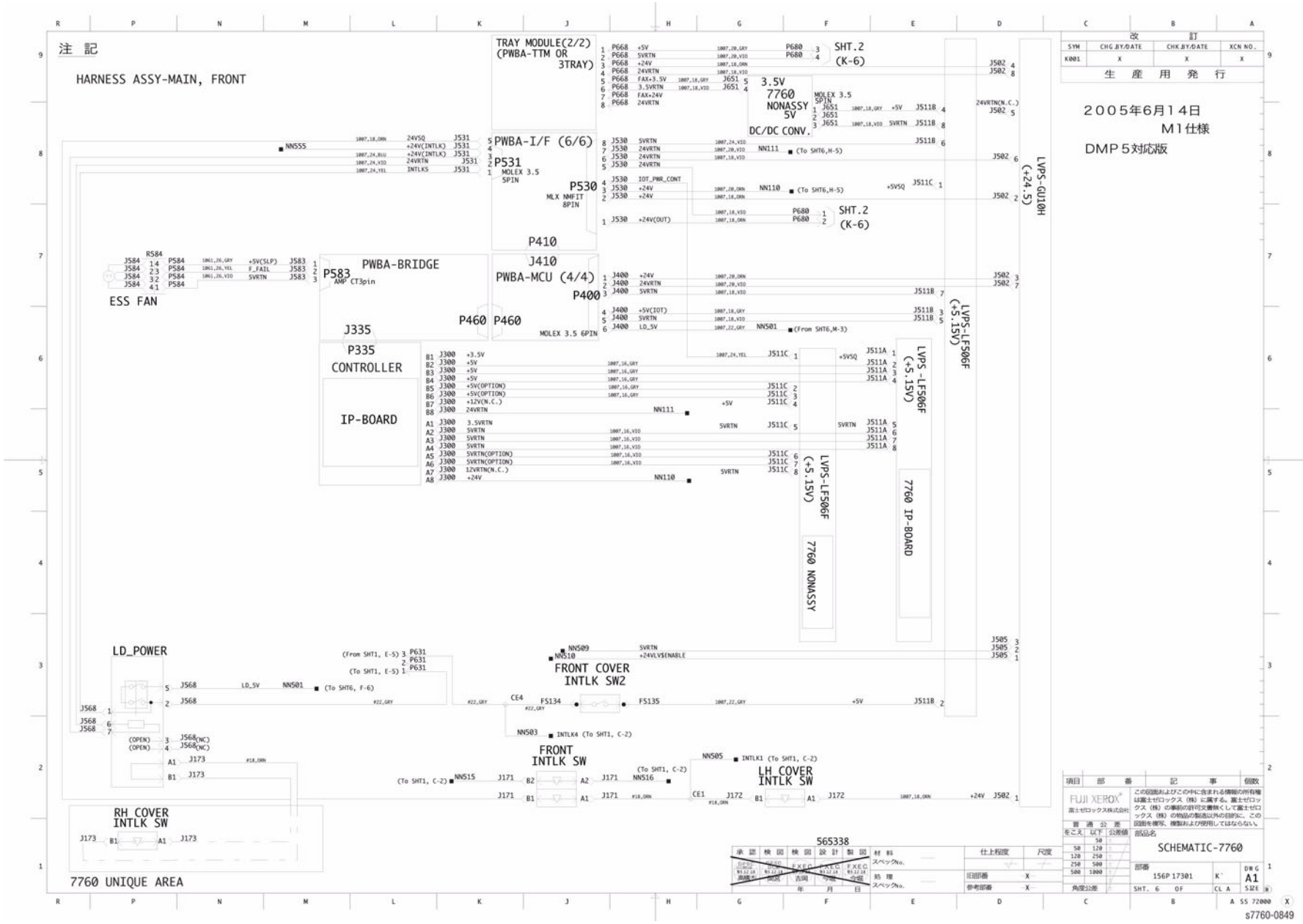


Figure 9 Wiring Schematic (sheet 6 of 7)

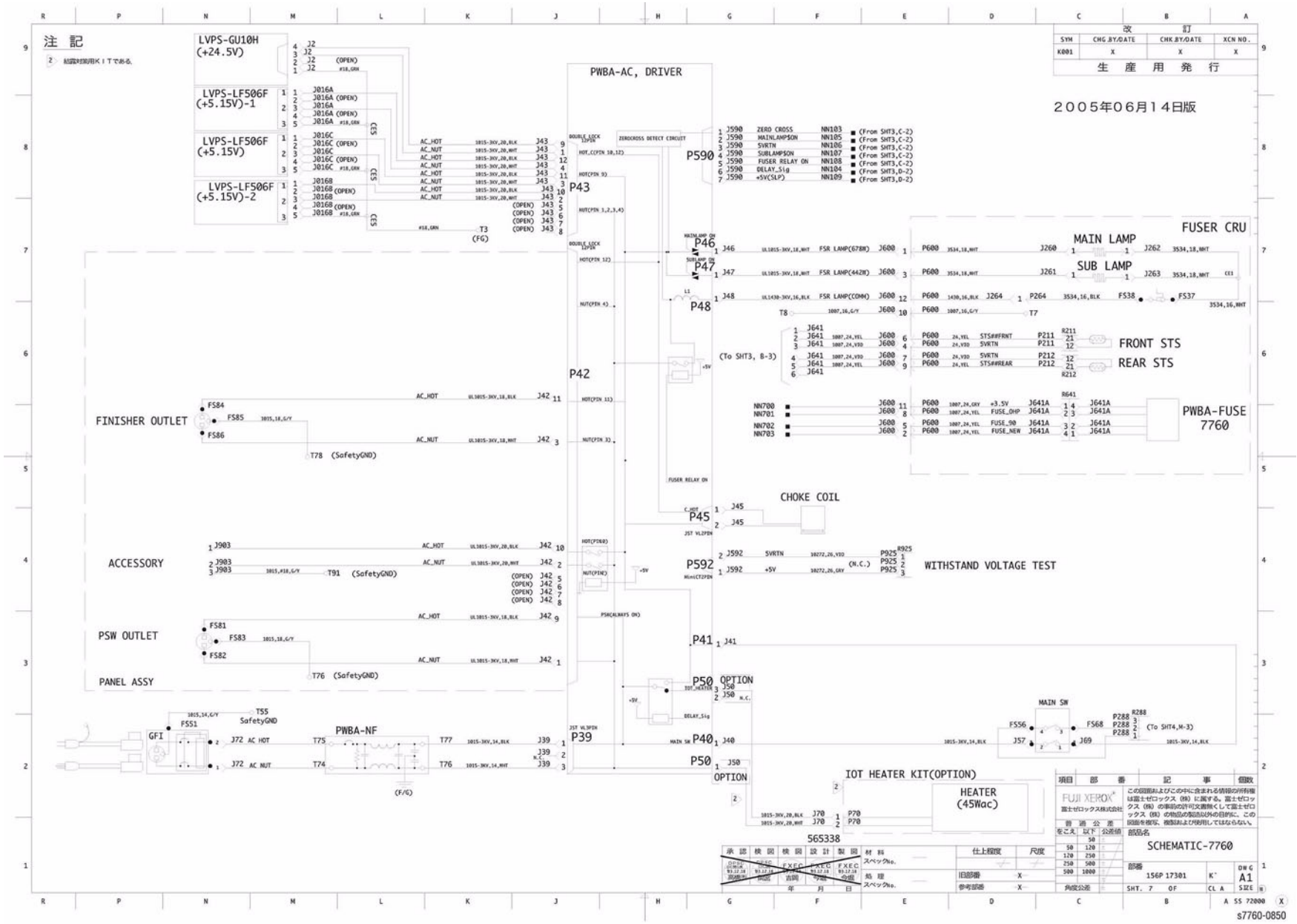


Figure 10 Wiring Schematic (sheet 7 of 7)

8 Theory of Operation

Phaser 7760 Print Process

The Phaser 7760 Color Laser Printer is a full-color laser printer that uses Raster Output Scanner (ROS) lasers with an electrophotographic four-color (YMCK). The system contains a drum and developing unit for each color Yellow, Magenta, Cyan, and Black (YMCK), and places the toner image of each color onto print media via an intermediate transfer belt, producing full-color prints.

Printing Process

The printing process is transferred as follows:

1. Charge an Organic Photo Conductor (OPC) drum with a rotating Charge Roller in a Print Unit. The printer contains four Imaging Units.
2. Discharge the image area with ROS laser beam.
3. Develop the discharged areas with a dual component development unit. There are four Developer Units.
4. Sequentially transfer the image from each Imaging Unit to the Accumulator Belt then to paper through a 2nd transfer step.
5. Remove any residual toner from the OPC with cleaning blade/brush.
6. Clean the Transfer Belt with a cleaner blade.
7. Fuse the image to the paper.

Charging

The image unit charge roller is negatively charged by the High-Voltage Power Supply (HVPS) and is kept in contact with the drum surface to provide a uniform negative charge on the drum as it rotates at a constant speed. This occurs simultaneously for YMCK.

Exposure

The laser unit emits laser beams modulated by image data from the Image Processor board. The laser beams are directed onto the drum surface through a system of mirrors and lenses. A rotating polygonal mirror causes the laser beams to scan the drum surface from end to end (axially) as it rotates. The beams are turned on to print a pixel and off when no printing is required. The negative charge on the drum surface is reduced at each point where the energized laser beam strikes, to form an electrostatic latent image on the drum surface. This process is performed simultaneously for YMCK.

Development

Toner is electrostatically attracted to the invisible latent image on the drum surface to form the visible image on the drum. Toner is fed into the developer using the Agitator and Auger. The toner and the carrier in the developer form a layer on the magnet roller in the developer. The magnet roller turns against the surface of the drum and is kept at a constant negative potential. At areas on the drum surface where the negative charge has not been reduced by the laser light, potential between the drum and the toner particles is lower than between the magnet roller and the toner particles. At areas where the drum charge has been reduced, the potential between the particles and drum is higher than between the magnet roller and toner particles are attracted to the drum. A thin semiconductive sleeve on the magnet roller is charged by an AC voltage to encourage migration of the toner particles to the drum. When the toner particles attach to the drum, the negative charge of the particles reduces drum potential at that point, thus reducing the attraction of additional toner particles. This process is performed simultaneously for YMCK.

Primary Transfer (Drum --> Accumulator Belt)

All four toner images, formed on the individual drum surfaces, are transferred to the accumulator belt sequentially to create a complete, 4-color toner image. The accumulator belt is conductive and receives a high positive charge from the HVPS. The negatively charged toner image on each drum surface is attracted by the high positive potential and transfers to the accumulator belt. During this transfer, the remaining negative charge on the drum is neutralized by the high positive charge on the belt.

Cleaning the Drum

The Drum Cleaner consists of a blade and a brush in contact with the drum after the point where the toner is transferred to the Accumulator Belt. The cleaner brush receives a high positive voltage from the HVPS allowing it to electrically attract any toner particles remaining on the drum. Toner remaining on the Accumulator Belt after the image transfer to the print media is removed by the belt cleaner assembly and transferred to the Waste Toner Cartridge.

Secondary Transfer

The image on the Accumulator Belt is transferred onto the print media using the voltage supplied by the Transfer Roller. The conductive transfer roller receives a high positive voltage from the HVPS that puts it at a higher potential than the Accumulator Belt. Since the transferred roller is located behind the print media, the 4-color toner image is attracted to the lower potential and transfers to the surface of the print media. The Accumulator Belt also gets voltage from the HVPS.

Cleaning the Accumulator Belt

The Accumulator Belt Cleaner consists of a cleaner blade in contact with the Accumulator Belt surface after the point where the toner is transferred to the print media. Toner remaining on the Accumulator Belt after the image transfer to the print media is stored in the Waste Toner Cartridge.

Fusing

The finished toner image is unstable and easily smeared. To fuse the image, the print media goes through the fuser assembly where it passes between a pressure belt and the Heat Roller. The toner is fused onto the print media by the combination of heat and pressure.

Operational Overview

This section describes the Paper Path, Sensors, major system assemblies, and operational characteristics for each Phaser 7760 option.

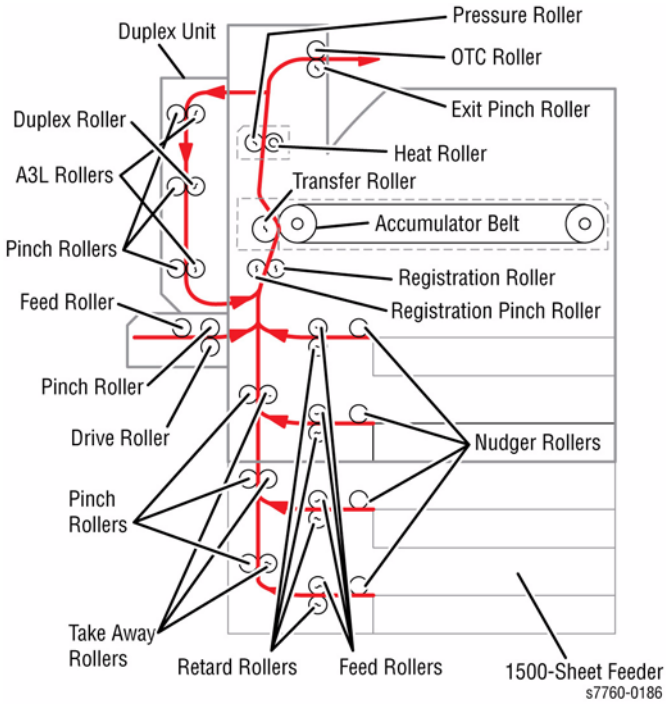


Figure 1 Printer Overview

Paper Path

The Phaser 7760 printer has a C-shaped paper-handling path (Figure 2). The design helps it achieve high production outputs. The paper paths available for the paper exiting the Fuser are:

- Straight to the Output Tray in the Top Cover (facedown).
- Straight to the Advanced/Professional Finisher.
- Paper can be inverted for manual 2-sided printing.

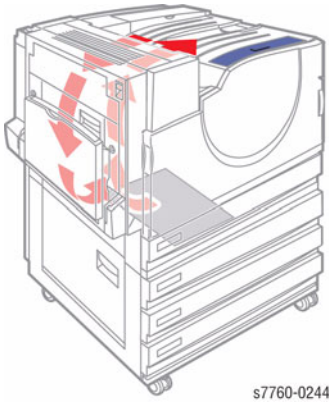


Figure 2 Printer Paper Path

The Phaser 7760 paper paths for paper exiting the Fuser are:

- Direct through Exit 1 to the Standard Output Tray (facedown) (without the Finisher).
- Direct through Exit 1, the Horizontal Transport to the Finisher.
- Direct through Exit 2 to the Standard Output Tray on the Horizontal Transport Cover (facedown).

Figure 3 illustrates the paper path for the Standard Output Tray, the Horizontal Transport, and the Finisher/Stacker.

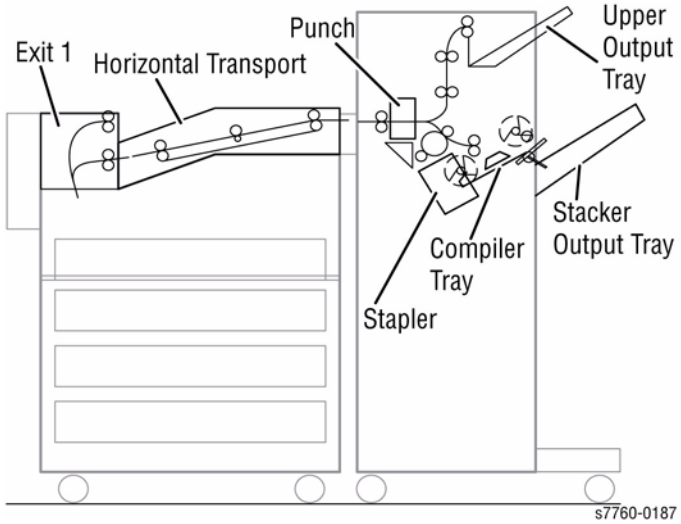


Figure 3 Paper Path

Paper Size Sensing

Trays 2 through 5 automatically sense standard size media loaded in the printer by using the paper size sensors mounted on the back inside of the printer. When paper is loaded in the tray and the paper guides are adjusted, the levers on the bottom of the trays change the size sensor actuator locations.

Actuating different combinations of the paper size sensors produces different combinations of high and low signals, which tell the printer logic what size of paper to display on the Control Panel, once the tray has been re-inserted into the printer.

Tray presence is also detected by the paper size sensor. Any actuation of the paper size sensor signals the tray is present.

Tray 1 senses width based on the paper guide. It senses length by detecting the leading and trailing edge with the Registration Sensor.

Paper Feeding and Sensing

NOTE: *The Tray Feed / Lift Motor is a dual purpose motor, providing both the paper feed and tray lift drive functions.*

When the control logic calls for paper feed, the pick roller moves a sheet of paper to the nip of the Feed Roller and Retard Roller. The Feed Rollers move the paper to the Take Away Rollers, which move it to the Registration Roller.

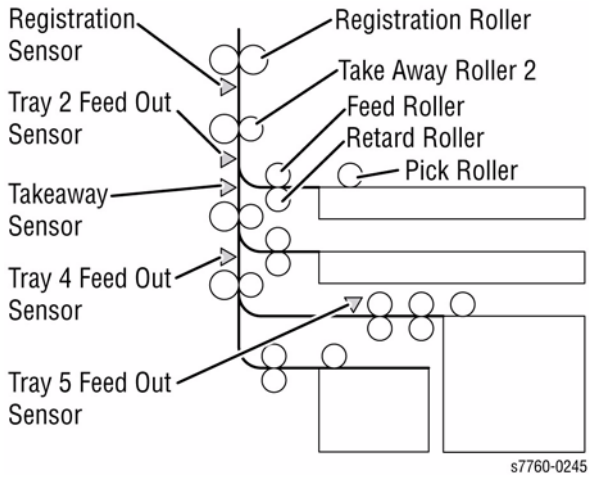


Figure 4 Trays 2-5 Paper Path

Stack Height Sensing

The pick roller feeds the paper to the paper path. As paper continues to feed, the stack height drops. When it reaches a certain level, an actuator unblocks the stack height sensor. The control logic then stops paper feed and raises the paper tray. This causes the actuator flag to block the stack height sensor again which signals the control logic to resume feeding paper. The stack height sensing operates the same way for trays 2, 3, 4, and 5.

Paper Present Sensing

When the last sheet is fed from any of the four main trays, the No-Paper Sensor actuator drops into an opening in the paper tray and unblocks the No-Paper Sensor.

Tray 1 (MPT) Loading and Feeding (Figure 5)

When media is placed in Tray 1, the lead edge deactuates the Tray 1 No-Paper Sensor. The sensor signals the control logic that paper is present. When the last sheet of paper is fed from the tray, the Actuator drops through the opening of the tray and activates the sensor.

When the user prints from Tray 1, the control logic supplies mechanical drive to the Feed Roller and Nudger. When the control logic calls for paper feed, it sends a feed signal to momentarily energize the Tray 1 Solenoid causing the Feed Roller to pivot down. When the Pick Roller contacts the paper, a sheet is fed into the nip between the Feed Roll and the TakeAway Roll.

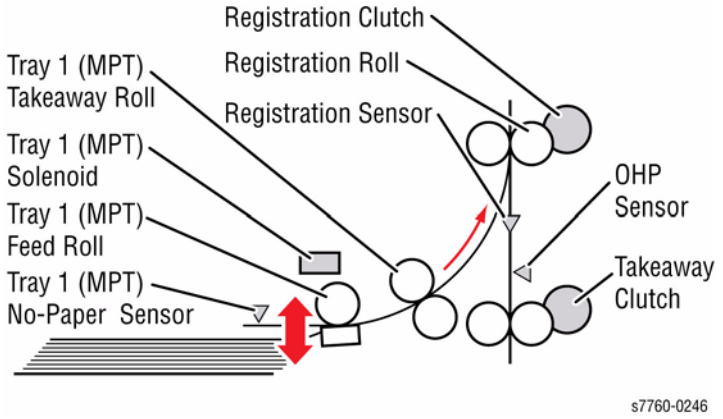


Figure 5 Tray 1 (MPT) Loading and Feeding

2-Sided (Duplex) Printing (Figure 6)

Paper leaving the Fuser can be directed to the Top Output Tray or the Finisher. If 2-sided printing has been selected, paper can be directed through the Inverter Transport and into the Duplex Transport. The duplex paper path reverses the direction of paper travel and the duplex gates direct the paper through the Inverter and into the Duplex Transport. An image can then be placed on the second side of the media.

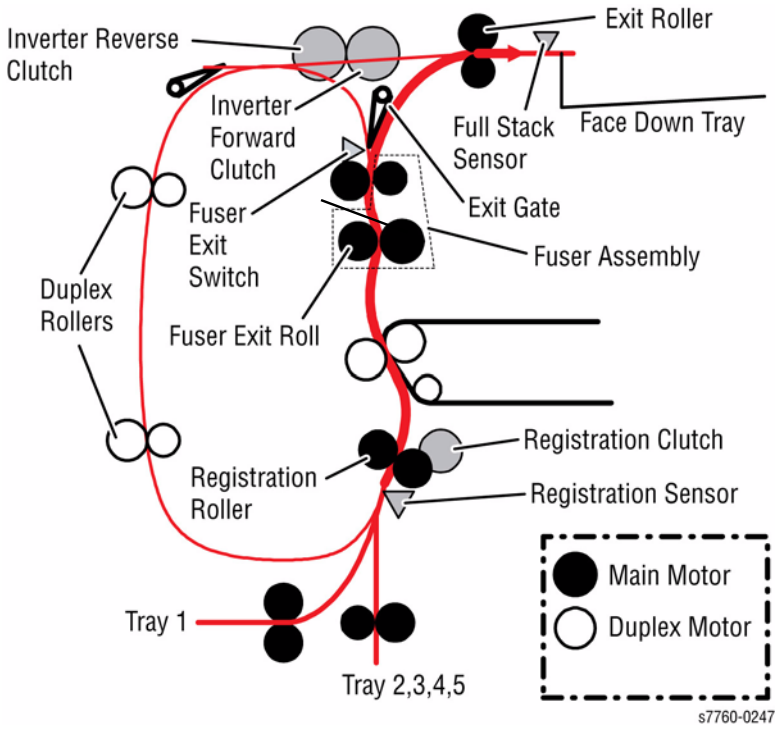


Figure 6 2-Sided Printing

1500-Sheet Feeder Paper Path Components

Figure 7 illustrates a cross-section of the printer and the Optional 1500-Sheet Feeder, showing the main components directly associated with the paper path and transport.

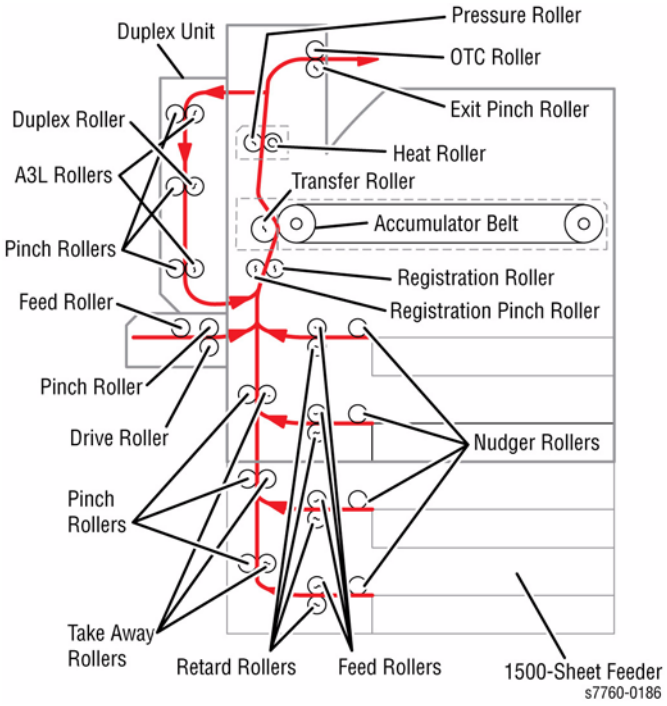


Figure 7 1500-Sheet Feeder Paper Path

When the optional 1500-Sheet Feeder is installed under the printer, three additional 500-sheet universal trays are available. These two trays are identical to the 500-sheet tray standard with the printer. The Feeder Assemblies are also identical to those used in the printer.

Upper and Lower Take Away Rollers

- The Take Away Roller feeds paper from the feeders into the printer paper path.

  NOTE: *Ensure to have set the Guides correctly as these Guides move the Actuators, which press on size switches which send media size information to the Image Processor Board.*

Upper and Lower Pinch Rollers

- Upper and Lower Pinch Rollers apply pressure to the paper as it's driven along the paper path.

  NOTE: *The Take Away Sensor for a tray is physically located on the Paper Feeder for the Tray above it. For example, the Take Away Sensor for Tray 3 is mounted on Tray 2.*

Trays

The paper trays consist of four main trays and one Multi-Purpose Tray (MPT). Tray 1 (MPT) is located on the left side of the machine and allows feeding of specialty media stock, envelopes, and custom size paper. On the GX configuration, trays 2, 3, 4, and 5 are identical and can be interchanged. On the DX configuration, trays 2 and 3 are identical and can be interchanged. Trays 4 and 5 are the high-capacity feeder paper trays.

Paper size is set using the Size Guides in each tray. Adjust the Front, Rear, and End Guides to match the paper size. The Bottom Plate is used to raise the level of the paper stack for feeding.

Front, Rear, and End Side Guides (Figure 8): The Front, Rear, and End Side Guides adjust to different paper sizes by moving them to contact the paper edges and hold it in position.

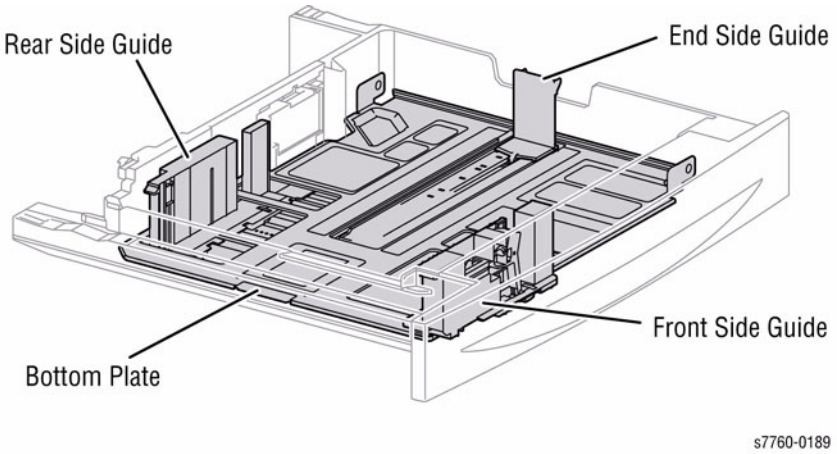


Figure 8 Paper Tray Guides

- **Bottom Plate:** The Feeder's Feed/Lift Motor through the Gear (13T/60T) and Sector Gear (60T) turn the Lift-Up Shaft raising the Bottom Plate which causes the supplied paper to contact the Nudger Roller (Figure 9).

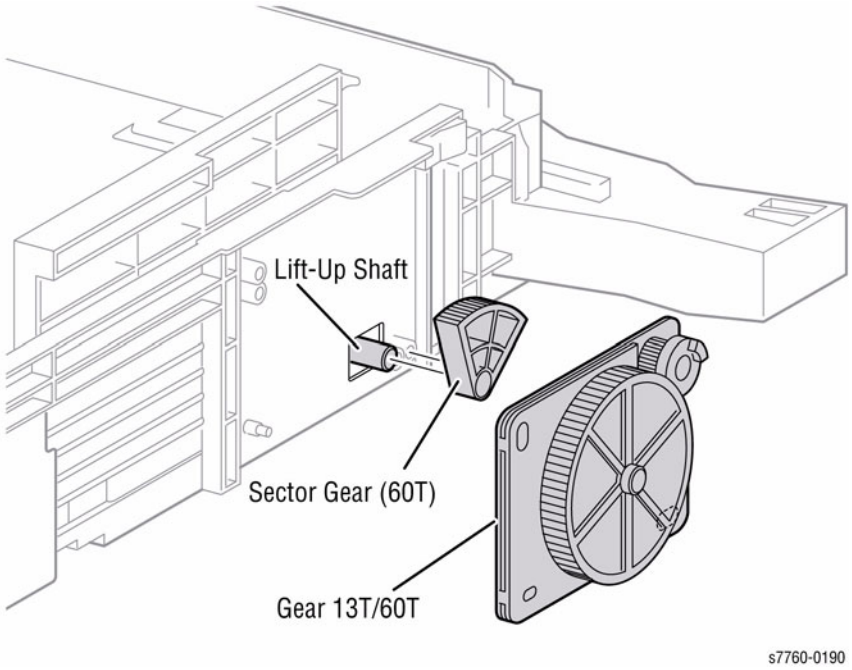


Figure 9 Bottom Plate

1500-Sheet Feeder Sensors

- **Tray 4 Paper Size Switch:** The Tray 4 Paper Size Switch reports the position of the Front, Rear, and End-Side Guides to the Engine Control Board.

Tray 5 Paper Size Switch (Figure 10): The Tray 5 Paper Size Switch reports the position of the Front and Rear Side Guide and End Guide to the Engine Control Board.

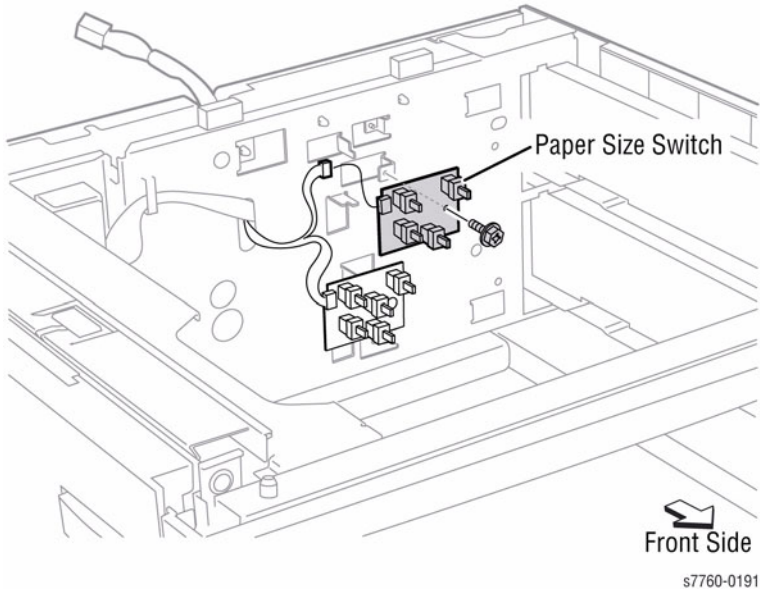


Figure 10 Paper Size Switch

Feeders

Trays 3, 4, and 5 are functionally equivalent in terms of the Feeder mechanism that moves paper from the tray into the printer. The driving force from each Feeder's Feed/Lift Motor is transmitted via a Gear Assembly to the Feed and Nudger Rollers, moving paper from the tray into the printer. (Figure 11)

Table 1 1500-Sheet Feeder Pre-Defined Paper Sizes

Paper Size	Paper Size Switch Output				
	SW1	SW2	SW3	SW4	SW5
No Tray	0	0	0	0	0
5.5" x 8.5" / A5 SEF	0	0	1	0	0
B5 SEF	0	0	1	1	1
8.5" x 13" SEF	0	1	0	1	0
8.5" x 14" SEF	0	1	0	1	1
A4 SEF	0	1	1	0	0
8.5" x 11" SEF	0	1	1	0	0
A4 LEF	1	0	1	0	0
A3 SEF	1	0	1	1	0
B5 LEF / Executive LEF	1	1	0	0	1
8K SEF (TFX/GCO)	1	1	0	1	1
B4 SEF	1	1	0	1	1
8.5" x 11" LEF	1	1	1	0	0
16K LEF (TFX/GCO)	1	1	1	0	1
11" x 17" LEF	1	1	1	1	1

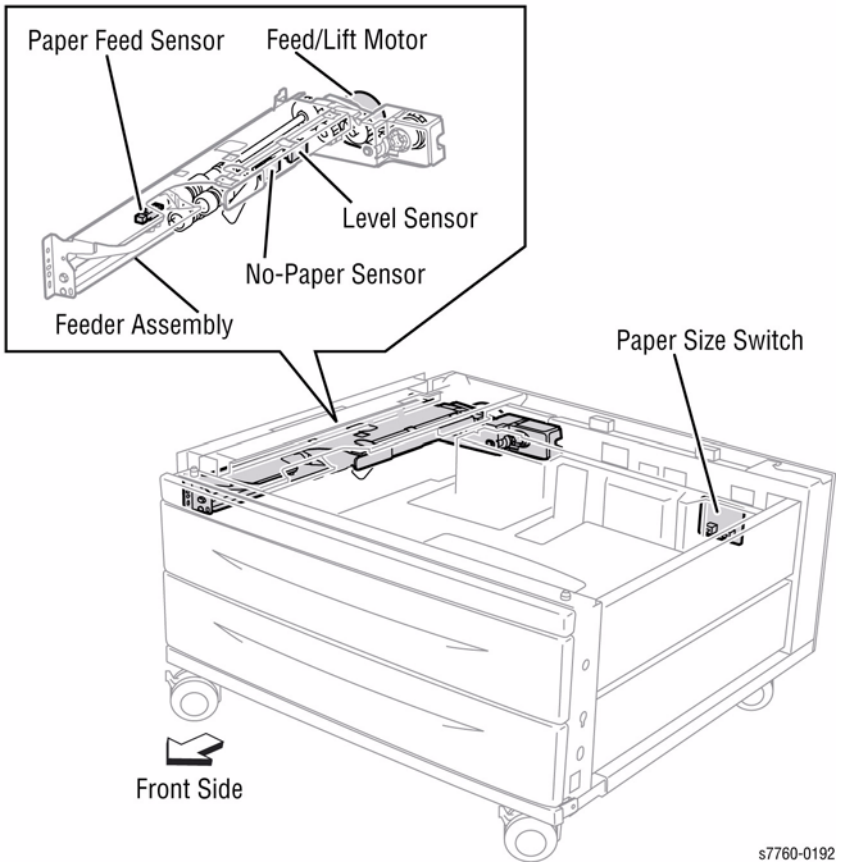


Figure 11 Feeder

The following table provides the Switch states corresponding to the pre-defined paper sizes. The switches are denoted by **SW1**, **SW2**, **SW3**, **SW4** and **SW5**, respectively, when viewed from the front.

- **No-Paper Sensor:** This Sensor, located on the Feeder, uses an Actuator to determine whether the tray is empty. When the Actuator lowers, the Sensor state changes to High and signals the Engine Control Board.
- **Level Sensor:** This Sensor, located on the Feeder, uses an Actuator to determine whether paper in the tray is lifted. When the Flag of the Actuator leaves the sensing area, the Sensor detects that the paper has been lifted.
- **Pre-Feed Sensor:** This Sensor, located on the Feeder, detects a paper jam in the tray by the paper position and sensor transition time.

- **Feed Out Sensor #3:** This Sensor, located on the upper Chute in front of the Tray 3 Feeder, uses an Actuator to determine whether the paper has moved into the printer from the tray.
- **Feed Out Sensor #4:** This Sensor, located on the upper Chute in front of the Tray 4 Feeder, uses an Actuator to determine whether the paper has moved into the printer from the tray (Figure 12).
- **Feed Out Sensor #5:** This Sensor, located on the upper Chute in front of the Tray 5 Feeder, uses an Actuator to determine whether the paper has moved into the printer from the tray (Figure 12).

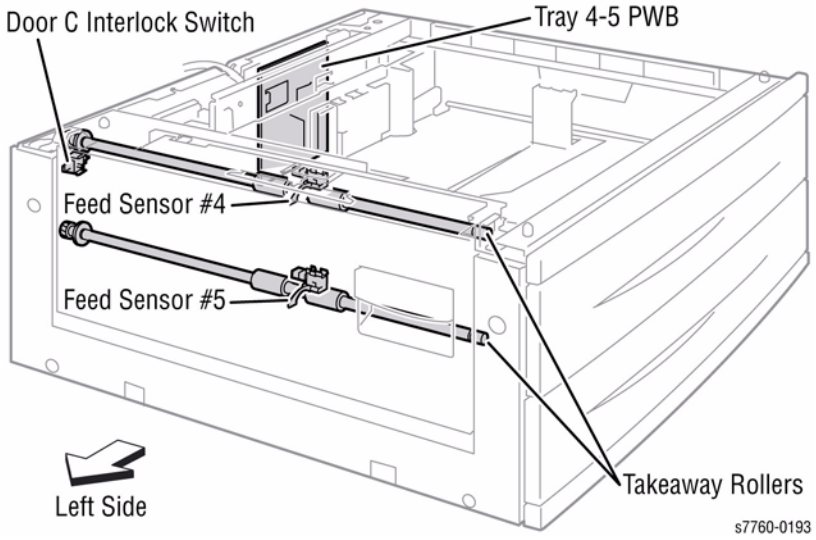


Figure 12 Feedout Sensors

1500-Sheet Feeder Drive and Electrical

- **Feeder Feed/Lift Motor:** This Motor, one on each Feeder, is activated by the Level Sensor to feed paper and to lift the Bottom Plate. When feeding paper, it rotates forward to drive the Nudger Roller. When lifting the Bottom Plate, it rotates in reverse to drive the tray gears to turn the Lift-Up Shaft.
- **Door C Interlock Switch:** The Door C Interlock Switch detects whether Door C is open or closed.
- **Take Away Clutch:** The Take Away Clutch transmits Take Away Motor force to the gear set driving the Take Away Roller.
- **Tray 4-5 PWB:** The Tray 4-5 PWB controls paper feeding on command from the Engine Control Board and reports sensor/switch information.
- **Tray 3, 4-5 Take-Away Motor**: The rotating force of the Tray 3, 4-5 Take-Away Motor is transmitted through the gears to the Take-Away Roller as in Figure 13.

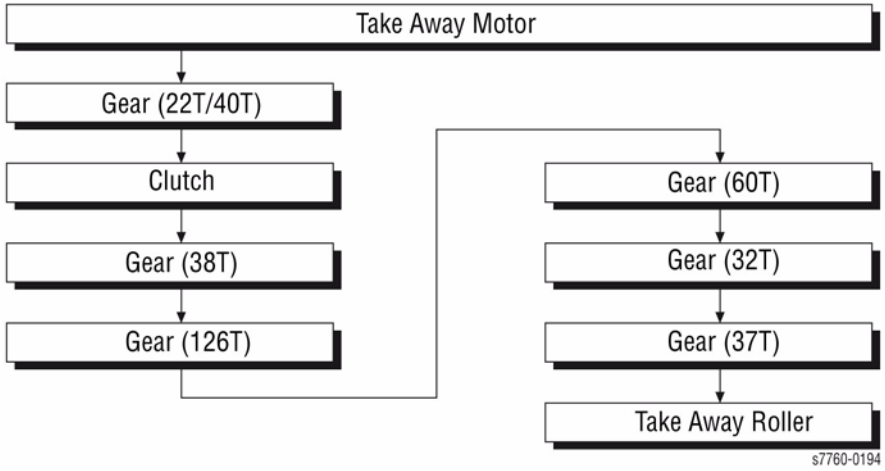


Figure 13 Take Away Motor

Fuser

The Fuser receives its drive from the Main Motor. After the toner images are applied to the paper, the paper is then passed through the Fuser. The Fuser Belt is pressed against the Heat Roller to melt the toner and bond it to the paper. The Fuser does not use line potential AC.

The Fuser Belt is always spring loaded against the Heat Roller, but can be released for jam clearance. The flexibility of the belt (versus a pressure roller) provides a longer contact time and a larger area of contact with the Heat Roller, thereby providing better fusing. Power source for the Heat Roll comes from the AC Drive Printed Wiring Board (PWB).

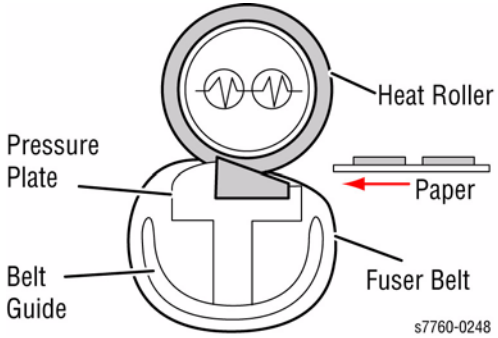


Figure 14 Fusing Process

Fuser Life Expectancy

The life expectancy of the Fuser is 100,000 letter/A4 size pages on plain paper. Several factors can reduce the life of the Fuser:

- Paper use larger than letter size
- Printing on heavy media
- Printing short-edge feed
- Printing on transparencies or specialty media

Three fuses on the fuse board in the Fuser Assembly are used in conjunction with a Post Script algorithm to determine the life used. Fuses are blown in the reverse order as 3, 2, 1 instead of 1, 2, 3. Fuse #3 is blown after 100 prints are made. Fuse #2 is blown at 50% of life and fuse #1 is blown at 99% of life used.

If the Fusers are swapped between printers and do not have the exact same configuration of blown and closed fuses, the printer will make a Fuser life assumption based on which fuses are closed and then set the Fuser life using that assumption after 100 prints are run.

- All fuses closed, new Fuser.
- Fuse 3 open, fuse 2 and 1 closed, life will be set at 25% used.
- Fuse 3 and 2 open, fuse 1 closed, life will be set at 75% used.
- All fuses open, life is set at 99% used.

EAHG Toner

Emulation Aggregate High Gloss (EAHG) toner is a relatively new type of toner with particles that are more spherical and uniform in size. This toner will be used for all Phaser 7760 Printer applications. Figure 1 illustrates the EAHG toner particles. The small bumps are particles of additives that produce some of the characteristics of the new toner.

Figure 1 EAHG Toner Particles

Figure 2 shows some DC12 conventional toner. Like the EAHG toner, the small bumps on the outside of the toner particles are additives that are used to provide specific characteristics.

Figure 2 DC12 Conventional Toner

Technology Overview

Standby Power

There are two types of Standby power in the 7760 Phaser Color Printer: switched AC and switched DC. Switched power requires that both the circuit breaker and the printer's main power switch be in the ON position.

- **Switched AC Power** - This is the control signal whose power off transition is delayed to allow the second bias transfer roller to retract.
- **Switched DC Power** - Switched AC power from the AC Drive Printed Wiring Board (PWB) goes to the low voltage power supplies for the printer. Whenever switched AC power is provided to the three low voltage power supplies, the Interlock Loop must be intact (closed loop), which routes a 5 VDC control signal to the Engine Control Board to activate the other LVPS supplies.

Machine Run Control and NVRAM

Machine control centers on the following (Figure 1):

- **Engine Control Board** - Controls the Motor Clutches, and Fans. The Engine Control Board also drives the ROS and receives status information from the Sensors.
- **Image Processor Board** - Controls processing of the print jobs and storing data on the Hard Drive.

Machine parameters are held by non-volatile memory located in two places:

- **Image Processor NVRAM** - Provides Post Script and Network parameters.
- **Engine NVRAM** - Provides calibration data such as RegiCon values, etc....

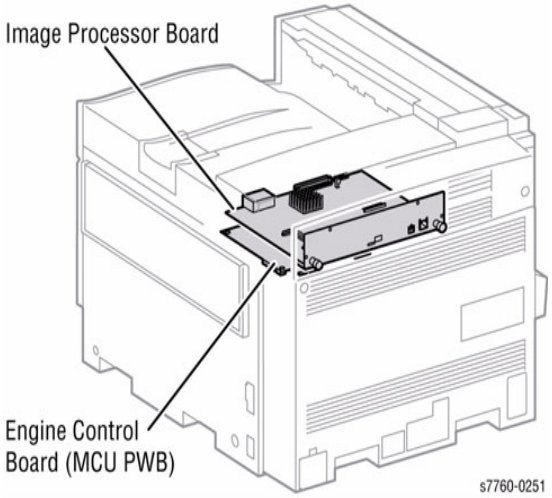


Figure 1 Machine Run Control and NVRAM

Drive Power

The Drive Power subsystem includes five motors and their driven assemblies (Figure 2).

- **Main Motor** - The Main Motor provides the drive for paper feed, black Developer Housing, and the Fuser. The Main Motor gets 24 VDC power from the +24 Volt power supply by way of the Engine Interface Board. The Motor Enable and speed control signals come from the microprocessor on the Engine Control via the Interface board.
- **Accumulator Belt Motor** - The Accumulator Belt Motor turns the Drive Roller for the Accumulator Belt and Accumulator Belt Cleaner Auger.
- **Transfer Roller Motor** - Engages and retracts the Transfer Roller.
- **Developer Motor** - The Developer Motor provides the drive for the C, Y, and M Developers.
- **Imaging Unit Motors** - There are two Imaging Unit Motors providing drive to the four Imaging Units: one drives the Y, M, and C Drums, and the other drives the K (black) Drum. Like the Main Motor, the Drum Motors get 5 and 24 volt DC power from 5 and 24 volt power supplies via the Interface board. The Motors are enabled and speed is controlled by the Engine Control Board.

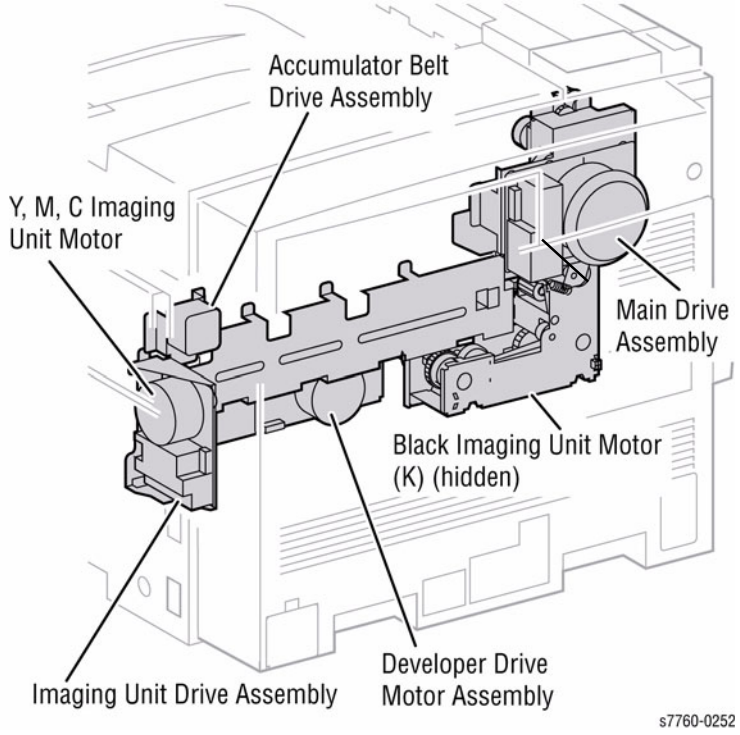


Figure 2 Drive Power

System Power Supplies

The System Power Supplies consist of the following boards:

1. Interface PWB (Engine Control Interface Board)
2. BCR HVPS (High-Voltage Power Supply T12 Board)
3. DEV/BTR2/DTS HVPS (High-Voltage Power Supply T10 Board)
4. BTR1 HVPS (High-Voltage Power Supply T11 Board)
5. GFI Breaker
6. Noise Filter Board
7. AC Drive Board
8. 5 V Low-Voltage Power Supply
9. AC Power Chassis
10. 24 V Low-Voltage Power Supply Fan
11. 24 V Low-Voltage Power Supply

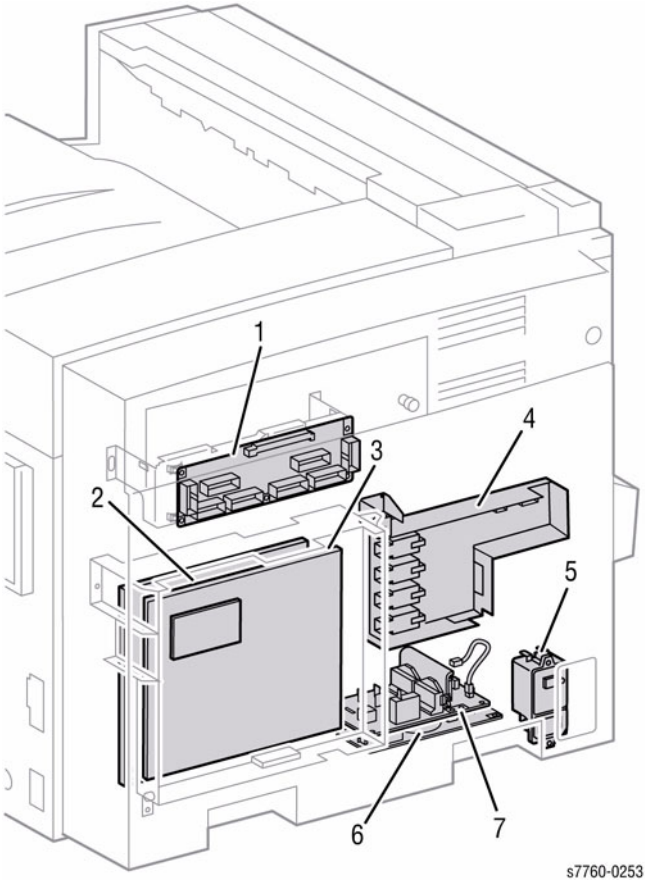


Figure 3 High-Voltage Power Supplies

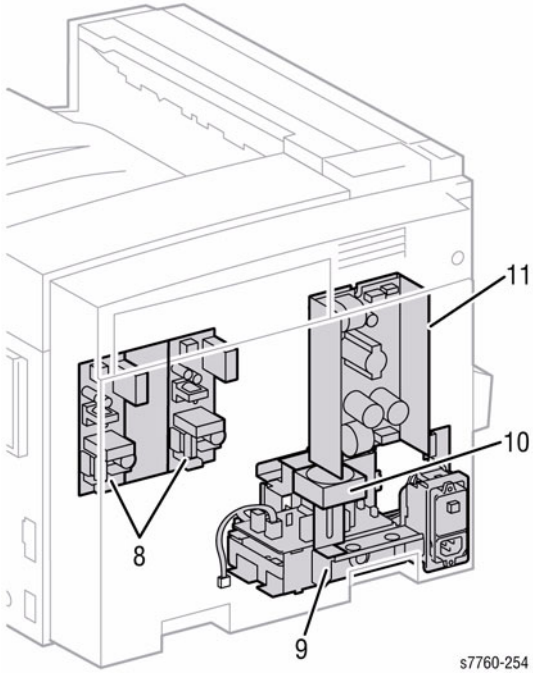


Figure 4 Voltage Power Supplies

ROS and Regicon Technology Overview

Refer to Figure 1 for the locations of the ROS and ROS Shutter Motor.

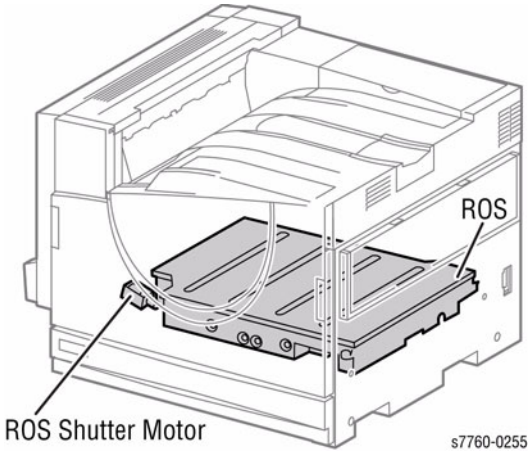


Figure 1 ROS and Regicon Technology

- There are four ROS Shutters (not shown).
- The ROS module is field replaceable and contains four Laser Diodes, one Polygon motor/mirror, and several lenses and mirrors.
- The ROS module **directs** the four laser beams so that they strike the Imaging Unit correctly.
- The ROS module contains four mirrors that can be adjusted for skew using the Registration Control or RegiCon. This adjustment **MUST** be made when the ROS is replaced.
- **NEVER** remove the cover from a ROS module for **ANY** reason - contamination will result.

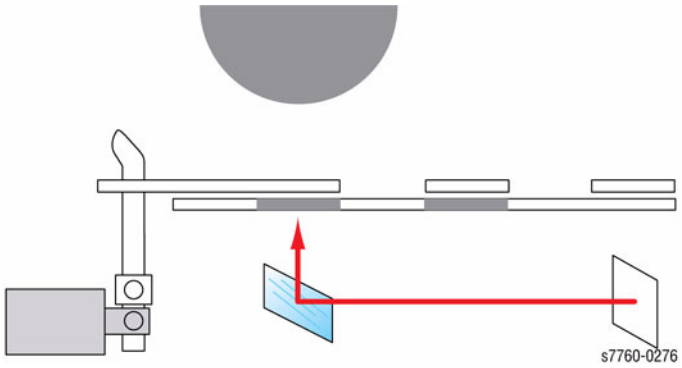


Figure 2 ROS Process

Write Black Process

The Phaser 7760 Printer uses a **Black Writing** process for exposing the Imaging Units.

In the write black process, the image areas are discharged or exposed. Because the image area is normally much smaller than background area, the Write Black approach extends the life of the Laser Diode.

In the Write Black process, the negative toner particles are attracted to the more positive image areas on the Photoreceptor and repelled by the higher negatively charged background areas. A negative developer bias voltage assures good development of the image areas.

In the Write Black process for the Phaser 7760 printer, the four individual images, one in each color, are transferred to the surface of the Accumulator Belt. The second transfer roller puts a positive charge on the paper, then the four-color image is transferred to the sheet of paper in one pass. The positive charge attracts the negative toner particles from the Accumulator Belt to the print.

The image data is processed through the Image Processor board and then is routed to the Engine Control board. On the Image Processor board, the process of screen generation is conducted. In the process, the incoming image data is arranged in a screen pattern before being sent to the ROS (Laser).

The Engine Control board is the ROS Driver board. It is the last location in the imaging path before the image data becomes optical information in the form of modulated laser beams.

For the Phaser 7760 printer, the Engine Control board sequentially passes data that comprises the 4 different color planes to the Laser Diodes in the ROS.

The color planes are digital at this time, that is, they are a stream of 1's and 0's. The digital information is applied to the ROS Control Circuit to turn the Laser Diodes on and off. (A 0 turns the laser on and a 1 turns it off.) Using this technique, the digital levels that make up the image data are modulated onto the laser beams.

As each of the four laser diodes scans the surface of their associated Imaging Unit (in the YMCK sequence), the image data is reflected and collimated within the ROS and is finally reflected out to each imaging unit where the charged Photoreceptor is exposed by the laser. As the laser beam scans across the Photoreceptor, a latent image is created on the surface of the Imaging Unit. As the Imaging Unit turns, it acquires the latent image from the ROS, and toner from the Developer Housing.

RegiCon Overview

The RegiCon procedure is used to ensure that the four lasers in the ROS are correctly aligned to provide correct registration for each color.

The Mark On Belt (MOB) sensors (Figure 1) are used in this procedure to determine the relative position of a CMYK toner pattern in the shape of Chevrons developed onto the Accumulator Belt.

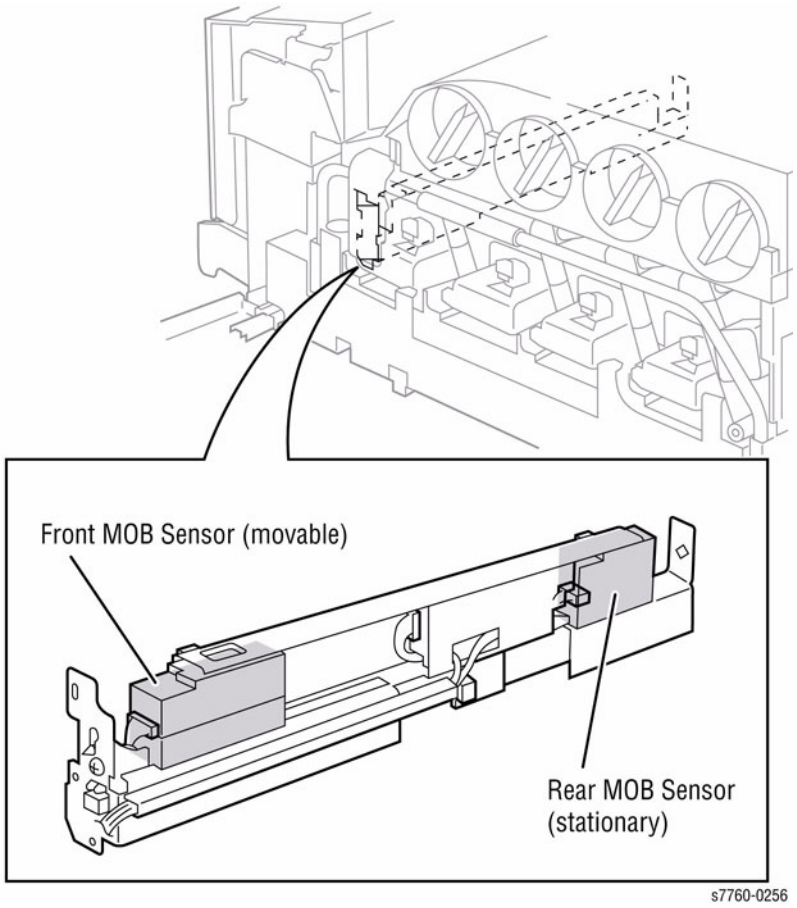


Figure 1 Mark-On-Belt Sensors

The MOB sensors are located below the Accumulator Belt. The RegiCon procedures read Chevrons patterns on the front, rear, and center of the Accumulator Belt.

In the Center Setup procedure, the position of the front MOB sensor is changed to allow it to read the Chevrons developed on the center of the Accumulator Belt (Figure 2).

During RegiCon, there can be no PQ issues or engine errors (except for registration, because the printer will be unable to accurate calibrate if the Chevrons are damaged or missing. Always resolve PQ issues before attempting the RegiCon procedures.

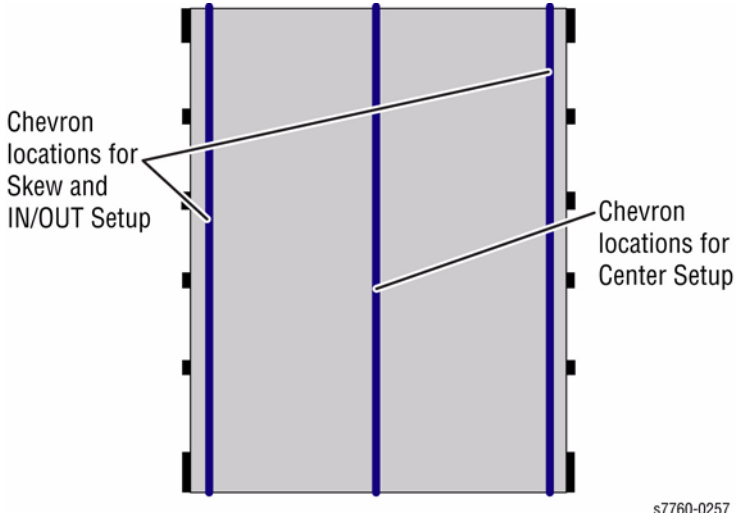


Figure 2 Chevron Patterns Locations (IBT Belt from bottom)

The Chevron patterns used for the RegiCon setup are shown in Figure 3.

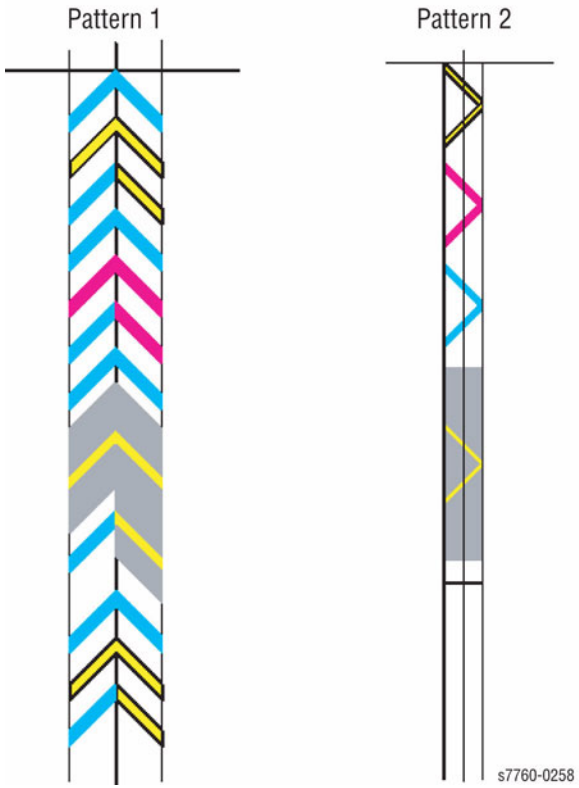


Figure 3 Chevron Pattern

The components of the RegiCon adjustment include:

- Skew (Fine) Setup (Pattern 1)
- IN/OUT Setup (Pattern 1)
- Center Setup (Pattern 1)
- Coarse Skew Setup (Pattern 2)

#1 Skew (Fine) Setup

The Skew (Fine) Setup is performed to ensure that images on the Accumulator Belt are not skewed.

To complete this part of the procedure, a series of Chevron images are developed on the belt, using all four colors. (Pattern 1 in Figure 3 shows the Chevron patterns). The Chevron patterns are developed on the belt on the front and rear edges of the Accumulator Belt. The MOB sensors read them, and the horizontal and vertical position of the marks are calculated. If the marks are found to be skewed, the diagnostic tool indicates the number of clicks and direction that the adjustment screws on the front of the ROS should be turned to correct the skew.

#2 IN/OUT Setup

Like Skew, the IN/OUT Setup procedure uses the Chevrons that are developed on the front and rear edges of the Accumulator Belt. (Pattern 1 in Figure 3 shows the Chevron patterns). During this procedure, logic automatically performs a magnification adjustment so that the scan lines are the same length for all four colors.

#3 Center Setup

The Center Setup procedure determines if the Chevron developed on the center of the Accumulator Belt are in the correct location relative to the front and rear Chevron.

To perform the procedure, the technician must physically position the MOB Sensor to the center of the Accumulator Belt before the Chevrons are developed. (Pattern 1 in Figure 3 shows the Chevron patterns.)

#4 Skew (Rough) Setup

The Skew (Rough) Setup is used only when skew is outside of the measurement parameters of Skew (Fine) Setup. It should be run in situations when the registration is so far out of specification as to be immeasurable by the Skew (Fine) Setup routine. In this routine, Pattern 2 (from Figure 3) is developed and the registration of the images is calculated.

View the RegiCon Patterns

It is possible to see patterns that are developed on the Accumulator Belt for the RegiCon calibration by performing the following steps:

1. If there is a Finisher attached to the Printer, separate the Finisher from the Printer, and slide it to the right so that the Right-Hand Access Door to the Accumulator Belt can be opened and the Interlock can be activated.
2. Power down the Printer.
3. Open the Front Door, release the Latch Assembly, and pull down the Main Lever as shown in Figure 4.

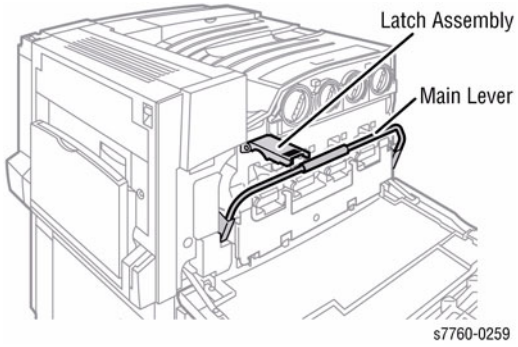


Figure 4 Front Door - Accumulator Belt Assembly

4. Lift the Accumulator Belt Assembly Release and pull the Accumulator Belt Assembly out until the Stand Plate is accessible as shown in Figure 5.
5. Remove the 2 screws securing the Stand Plate on the front and rear of the Accumulator Belt Assembly. Lift the Stand Plate as shown in Figure 5.

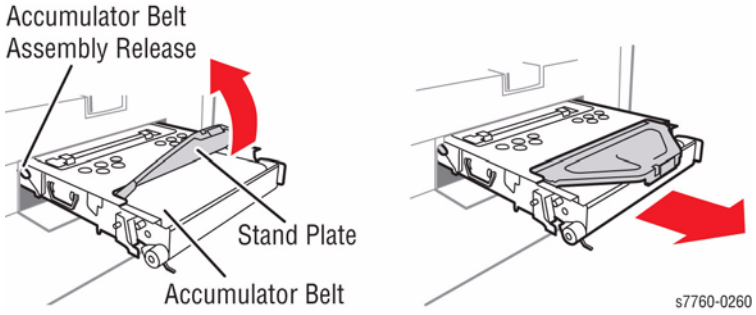


Figure 5 Removing Accumulator Belt Assembly

6. Reinsert the Accumulator Belt Assembly into the Printer without the Stand Plate as shown in Figure 6. The area that was covered by the Stand Plate will be the area in which you see the images on the Accumulator Belt.

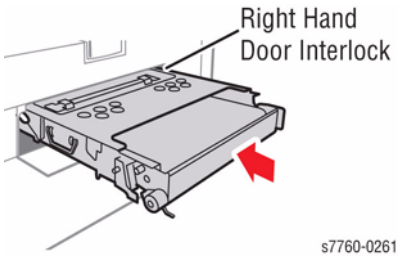


Figure 6 Reinserting Accumulator Belt Assembly

7. Manually activate the Right-Hand Door Interlock and turn the Printer ON.

   NOTE: *For machines with the Finisher, unplug the Finisher from the Printer prior to powering up. It will be necessary to have the Finisher undocked to view the images on the belt.*

8. As soon as the Chevrons are visible, deactivate the Right-Hand Door Interlock.

Sensors

There are two kinds of sensors that play an important role in the control of image quality for the Printer: Automatic Toner Concentration (ATC) and Automatic Density Control (ADC) Sensors.

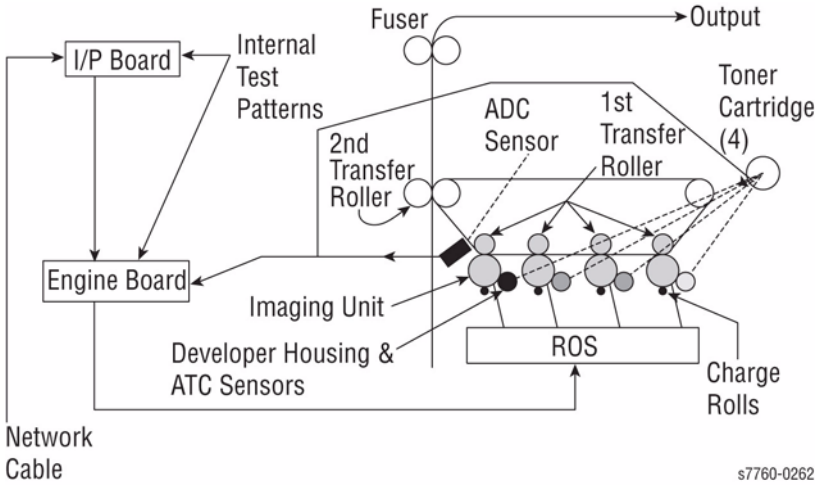


Figure 1 ATC and ADC Sensors

ATC Sensors

The ATC sensor is a part of the Developer Housing (Figure 2). The ATC Sensor provides an indication of the concentration of the toner relative to the carrier beads contained in the Developer Housing.

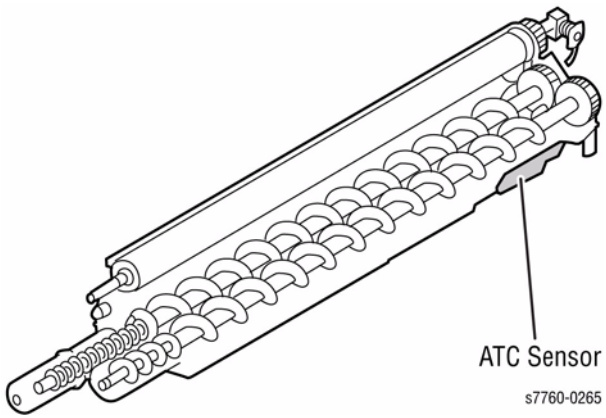


Figure 2 ATC Sensor

Generally speaking, higher concentrations of toner are more easily developed, because they have less bond to the carrier beads. Lower concentrations have a higher attraction to the carrier beads, and therefore require higher charge to develop out.

The ATC Sensor provides its information to the process controls.

The **Tone Up/Down** test in diagnostics compares a corrected target value to the ATC Sensor value on each individual Developer. If the corrected target value is within +/-30 of the sensor value then printer logic assumes toner concentration is correct. If the corrected target value is greater than 30 units above the sensor value, printer logic detects that the toner concentration is lighter than the target value and adds toner to the Developer.

If the test values all equal the results as shown, the test has not detected any problems.

Table 1 Test Values

<Tone Up/Down>
Result = 0 Status = 0
ATC Sensor Fail = None
ATC Limit Warn = None
ATC Change Warn = None

If the ATC Sensor fails, possible causes are:

- The Sensor Connection is bad, try reseating the connector.
- The Sensor is defective.
- 3rd party Toner.
- There is a Developer problem either with the Housing or the amount of beads in the Developer.

Table 2 Tone Up/Down Message

Control Panel Message	Typical Values
[CMYK] Sens Warn	0
Pages = XX	Number of pages since last check
ATC Control = XXX	565
ATC Corr = XXX	604-606
Ave ATC = XXX	593-615
ATC Vol = XXX	320-428

ADC Sensor

ADC Sensor is located on the MOB Sensor Assembly (Figure 3).

To control image quality, this sensor looks at patches that are developed onto the Accumulator Belt at various times.

Two patches per color are printed and ADC control is initiated at:

- Power-on, return from ENERGY STAR, after interlock close.
- End of each job.
- Within a job (every 80 pages at full speed, every 40 pages at half speed).

During normal operation, the ADC Sensor reads the density of patches on the Accumulator Belt to ensure that the machine is providing its best output. Based on the readings of these patches, the concentration of toner in the Developer Housings can be changed or laser power adjusted.

For example, if the customer ran a large number of images that contained a high concentration of yellow, the yellow Developer Housing would become somewhat depleted of yellow toner.

The ADC Sensor would detect the lower density of the Yellow ADC patch. The Print Engine Board would then direct the Yellow Toner Dispense Motor to add more toner to the Yellow Developer. The ADC Test would then be done again to insure the concentration had increased.

In this situation, the machine would automatically tone up, adding more toner to the Developer Housing. The higher concentration of toner in the Housing would then allow more toner to be developed out to the Accumulator Belt, and the patches would then start to become more dense. In this way, the system corrects itself when density becomes too low.

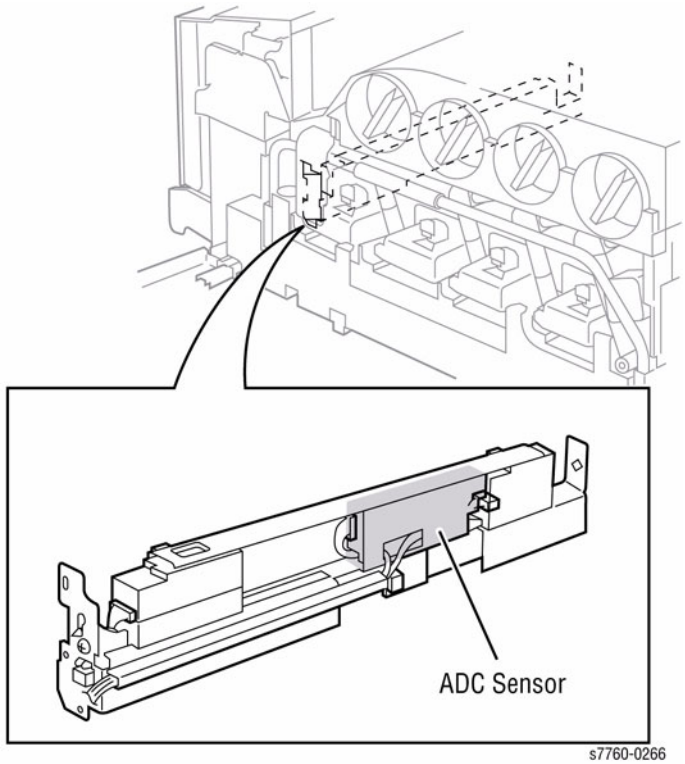


Figure 3 ADC Sensor

Data from the ADC sensor is used to:

- Adjust the intensity of each laser in the ROS.
- Determine amount of toner to add to developer (triggered by ATC Sensor).

ADC Output Check

The ADC Sensor Assembly consists of 3 sensors that read values off the CMYK test patches. The **regular reflection**, **diffusion** and **offset** Sensors provide readings to the printer logic to determine if density is correct.

ADC Output Check, in Diagnostic mode, compares a target value in logic to the value seen by the individual sensors. If the value seen by the sensors is between -20 and +20 of the target value, the print density is correct.

If the test values as shown, displayed on the Control Panel, all equal zero, the test has detected no problems.

- Result = 0
- Stop Status = 0
- ADC Sensor Fail = 0
- ADC Shutter Fail = 0

If the **ADC Sensor Fail Test** detects a problem, check the connector to the sensor. If the connector is OK, replace the sensor.

If the **ADC Shutter Fail Test** detects a problem, check the connector and the shutter for a binding or out of position condition. If these actions do not resolve the problem, replace the MOB Assembly.

If the following values all equal none, the test has detected no problems.

- LD Illum Warn = None
- ADC Patch Fail = None
- VBCR Warn = None
- V Bias Warn = None

If Ave RADC Trans is within +/-20 of RADC Target, then the printer logic assumes the density is correct. Values on the Control Panel are:

Table 3 Control Panel Values

Front Panel Message	Typical Values
[YMCK] RADC Target = [XXX]	[YMC] 375-394 [K] 460
Ave RADC Trans = [within +/-20 of RADC Target]	[YMC] 369-393 [K] 467
Ideal LD III = [XXX]	[YMC] 335-361 [K] 394
V Bias = [XXX]	887
V BCR = 0	0

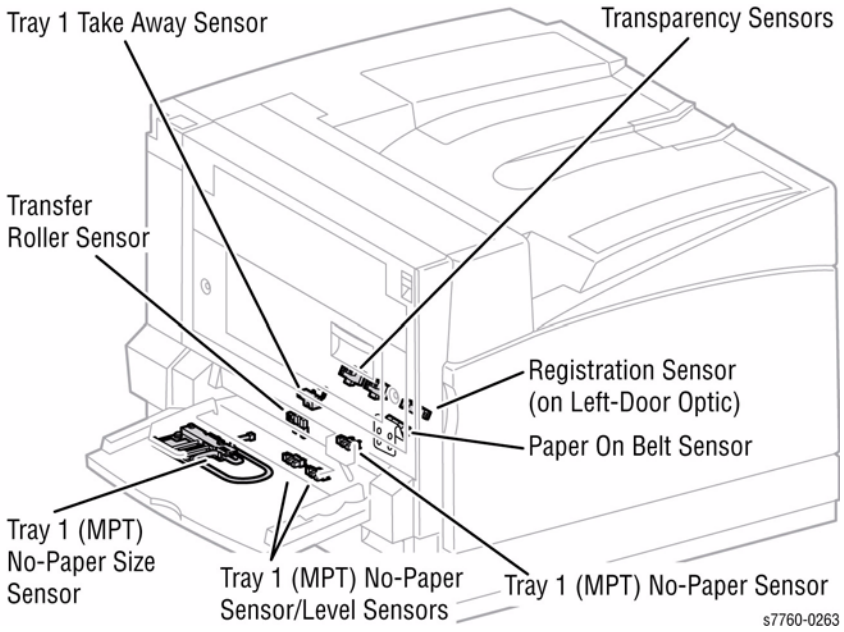


Figure 4 Tray 1 Paper Path Sensors

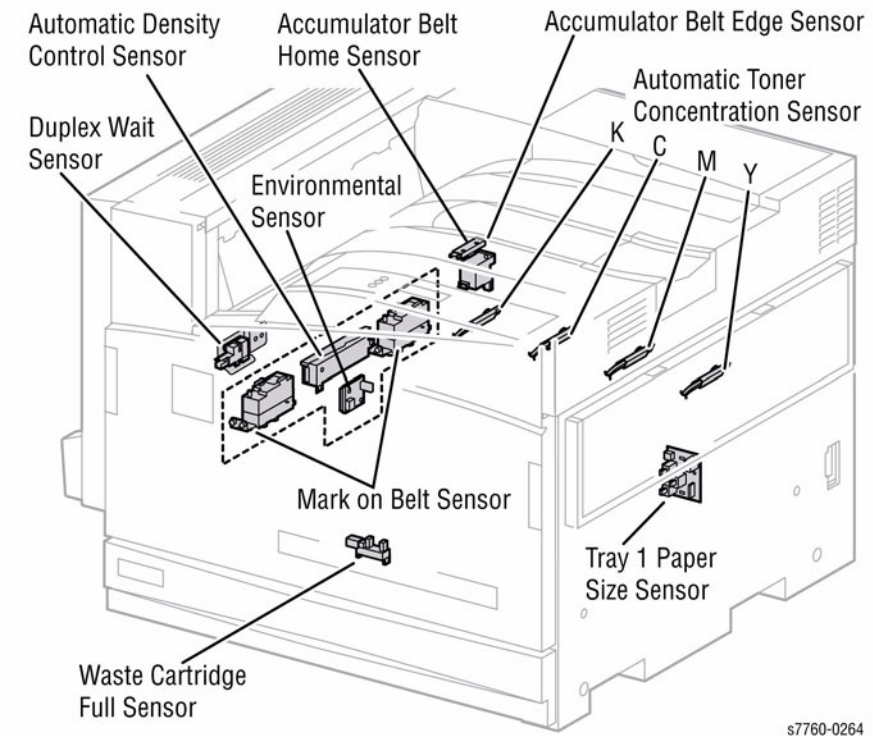


Figure 5 Sensors

Lower Tray Feeders Sensor and Board Locations

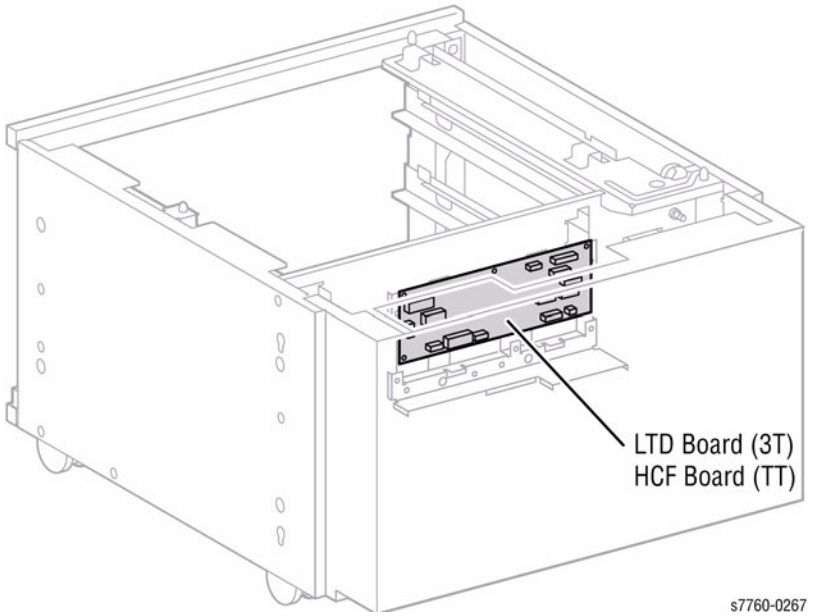


Figure 6 LTD and HCF Boards

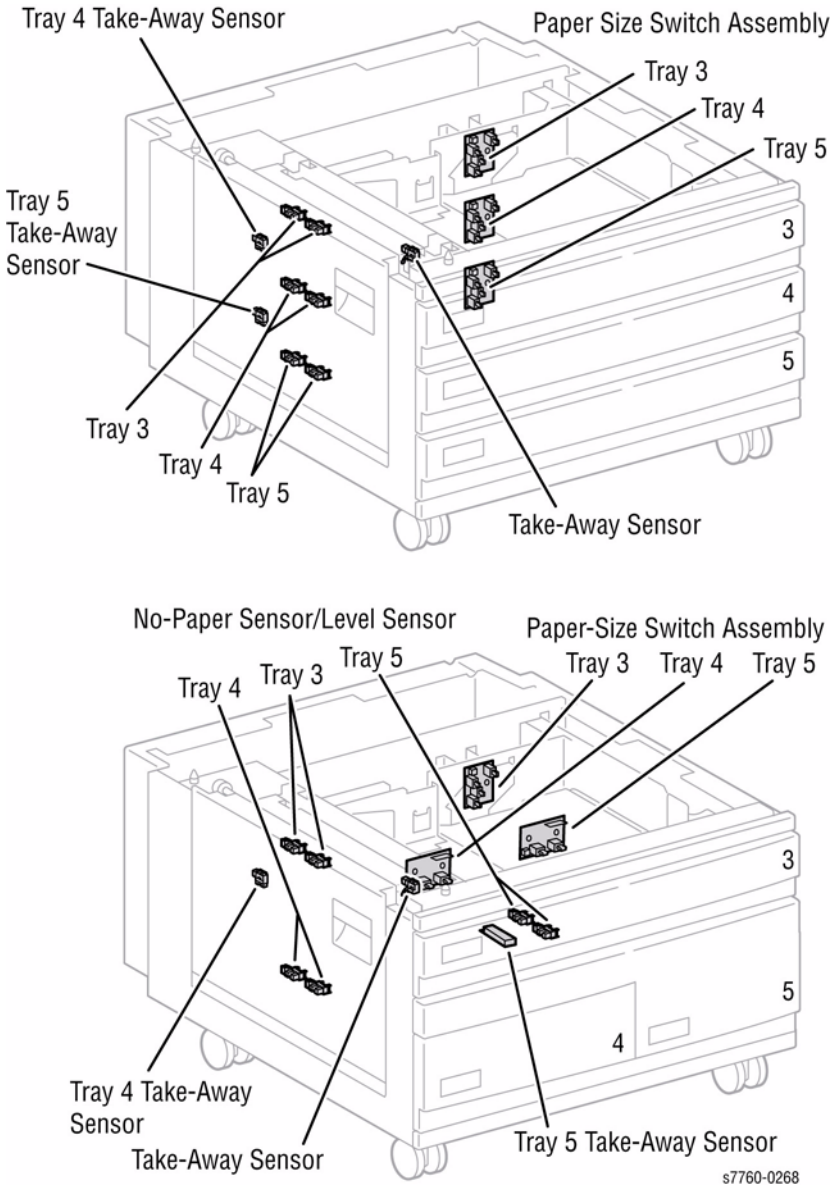


Figure 7 Sensors

Advanced Finisher

Advanced Finisher Capacities

The Advanced Finisher has three output destinations:

- The **Upper Output Tray** holds up to 500 sheets of A4/Letter paper with a weight range of 55-228 gsm
- The **Stacker Output Tray** holds up to 3000 sheets of A4/Letter paper, with a weight range of 64-228 gsm, in sizes from B5 LEF to 12 x 18"SEF

Stapling capabilities are as follows:

- Staple cartridges hold 5000 staples. The User Interface (UI) will indicate when the stapler is empty.
- The Advanced Finisher is capable of stapling multiple positions (Front or Rear corner, Dual Side staple, or Four Position Side staple).
- Maximum set size is 50 sheets (LTR/A4 - 24#/90gsm).

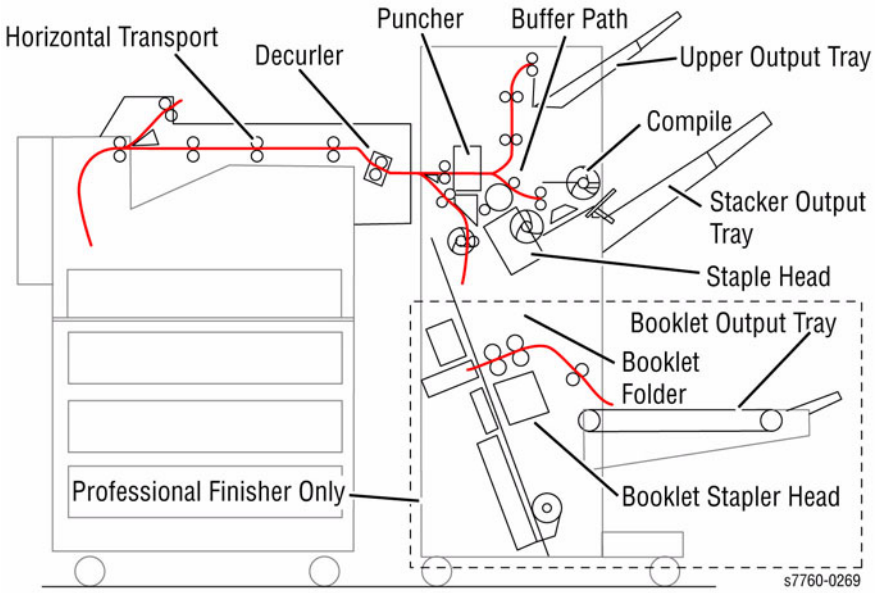


Figure 1 Advanced/Professional Finisher

Finisher Paper Path Components

A brief description of the main sections of the Finisher paper path are described as follows:

- Horizontal Transport transfers paper from the Printer to the Finisher.
- Punch Unit provides 2-/4- or 3-hole punch capability.
- Buffer Path adds a paper path timing delay to maintain throughout speed.
- Compiler Tray's function is to neatly stack the paper by using Cyclone Paddles and tampers.
- Exit section delivers or transfers paper to and from the Compiler Tray and out to the Finisher Trays.

The Finisher paper path begins at the Printer's Exit 1 (Figure 2).

Paper directed to the Finisher is fed out Exit 1 into the Horizontal Transport. The Horizontal Transport Motor, activated by the printer's registration timing going High, drives the two Transport Belts that move the paper toward the Finisher entrance.

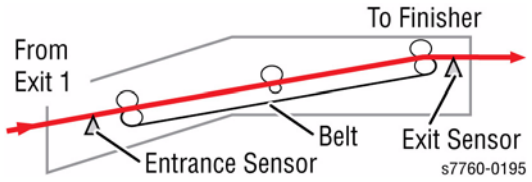


Figure 2 Finisher Paper Path Components

As the paper enters the Finisher, it is detected by the Transport Entrance Sensor activating the Entrance Roller driven by the Finisher Transport Motor. The paper's path inside the Finisher is determined by the Transfer Gate. (Figure 3)

The Transfer Gate switches the paper path between the Stacker Lower Tray below or upwards to the Stacker Upper Tray. Transfer Gate position is under control of the Printer's Engine Control Board and is switched using the Transfer Gate Solenoid. The Transfer Gate Solenoid, when energized, positions the Transfer Gate to direct paper upward.

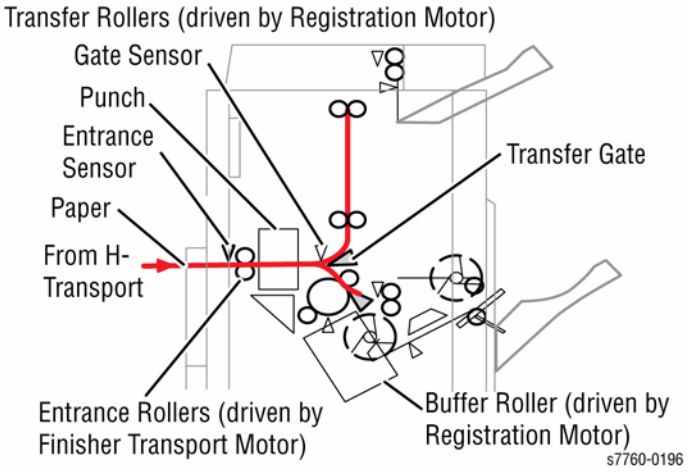


Figure 3 Transfer Gate and Rollers

Depending on the position of the Transfer Gate, the paper is transported into the Finisher by either the Transfer Rollers or the Buffer Roller. The Gate Sensor monitors the arrival of paper to the Transfer Gate. The Transfer Rollers or the Buffer Roller are driven by the Finisher's Registration Motor.

Figure 4 illustrates the Finisher input path from the Front and Left-Hand corner views. The flows arrows indicate the paper entering from below, encountering the Transfer Gate and being directed either up or down. The Motors, Drive Belts, Transfer Gate Solenoid, and Transfer Gate all appear in their actual positions relative to each other.

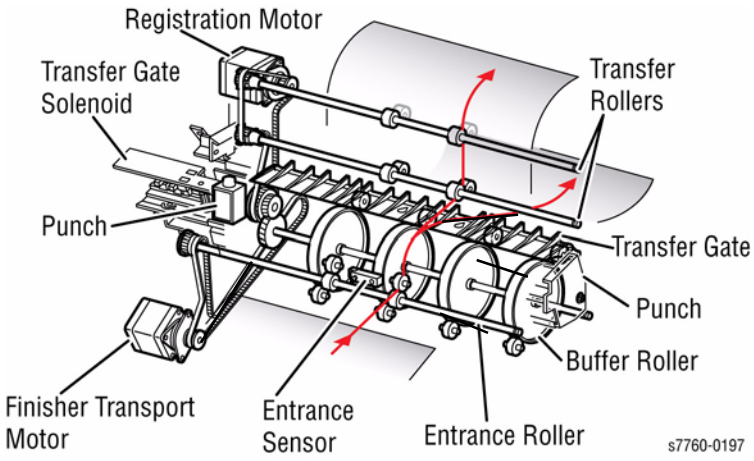


Figure 4 Finisher Input Path - Front and Left-Hand Corner Views

For Punch operation, following the Transport Entrance Sensor signal going High, indicating the presence of paper, a timing delay related to the paper size passes and the Registration Motor reverses rotation to back the sheet of paper into the Punch Guide for hole punching. The Stopper in the Punch Guide drops while the Registration Motor runs in the forward direction letting paper pass through, but raises when the Registration Motor reverses to stop the paper at the punch position.

Having been punched, paper being output to the Stacker Upper Tray is directed by the Transfer Gate upward to the two Transfer Rollers. The Transfer Rollers, driven by the Registration Motor, feed paper to the Top Exit Roller.

The Top Exit Roller is driven by the Finisher's Exit Motor and ejects the paper into the Stacker Paper Upper Tray. The Exit Motor continues to run at all full forward speed until the Upper Tray Exit Sensor signal goes High, indicating the presence of paper, at which point the Exit Motor stops.

Figure 5 illustrates the Finisher output path from the Front and Left-Hand corner views. This time, both the Punch and Buffer Path components have been removed for simplicity. The flow arrows indicate the paper entering from below, encountering the Transfer Gate and being directed upward. The Exit Motor, Exit Drive Belt, Transfer Gate Solenoid, Transfer Gate, Transfer Rollers, and Exit Rollers all appear in their actual positions relative to each other.

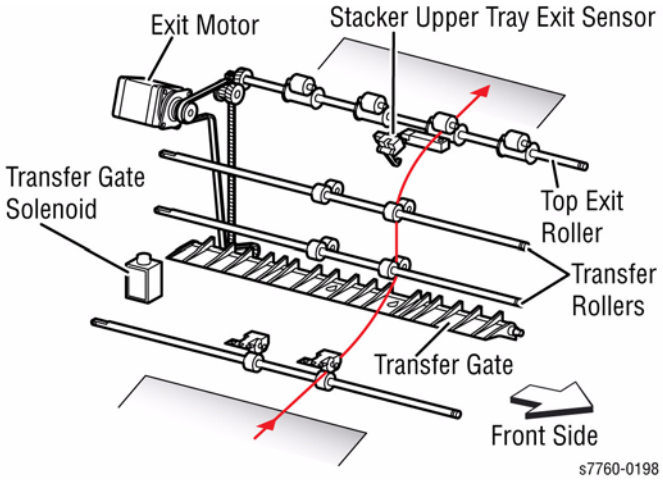


Figure 5 Finisher Output Path - Front and Left-Hand Corner Views

For staple or stacker operations, the paper path changes to include the Buffer Path, Compiler Tray and Eject Clamp. Output is directed to the Stacker Lower Tray. Components included in this lower paper appear in Figure 6.

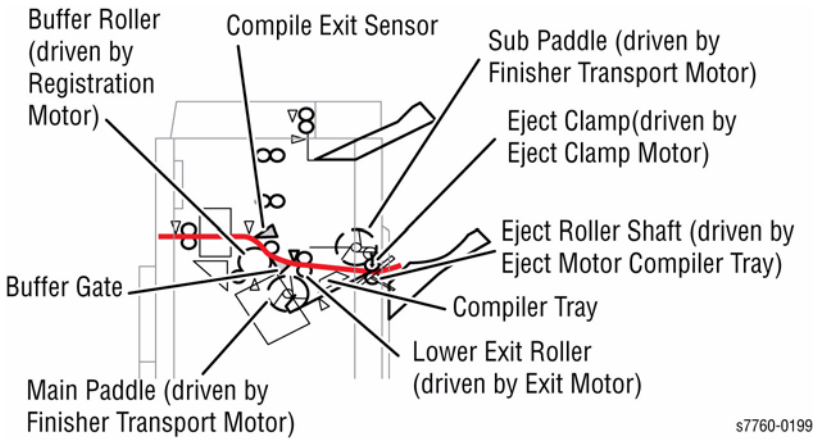


Figure 6 Staple or Stacker Operation

The Buffer Path is a timing mechanism used to compensate for the time required to compile and eject a set to the Stacker Lower Tray and still maintain full-speed processing. The Buffer Path is used when printing multiple sets. As the first set is being compiled and ejected, the first sheet of the next set is redirected to the Buffer Path instead of colliding with the first set in the Compiler Tray.

To accomplish this, the printer's Engine Control Board activates the Buffer Gate Solenoid moving the Buffer Gate to direct the paper to the Buffer Roller. The paper then travels the circumference of the Buffer Roller and pauses temporarily while the second sheet of the set enters the Finisher.

The Transport Entrance Sensor signals the Engine Control Board that the second sheet has entered the Finisher and the Buffer Gate Solenoid is deactivated allowing the second sheet to pass over the Buffer Roller. At this point, the first sheet, in the Buffer path, is aligned with the second and both are driven to the Compiler Tray. Subsequent sheets of the same set are fed directly to the Compiler Tray. This process repeats for each set. The ability to store a sheet in line and move two sheets to the Compiler Tray compensates for the time required to compile and eject the set.

Figure 7 provides the lower output path components from the Front and Left-Hand corner views. With the Punch, Transfer Gate, and Buffer Chutes removed for simplicity, the Buffer Path, Compiler Tray, and Eject Clamp are easily seen. The flow arrow shows the paper entering from below, encountering the Buffer Gate and being directed to the Compiler Tray. If the Buffer Gate Solenoid is energized, the sheet would travel downward at the Buffer Roller and would wrap around the Roller and meet the next incoming sheet.

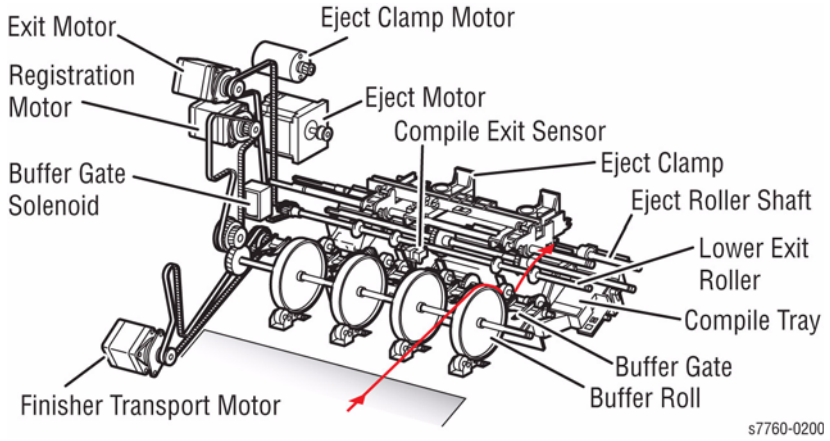


Figure 7 Lower Output Path - Front and Left-Hand Views

Paper enters the Compiler Tray driven by the Buffer and Lower Exit Rollers. The Buffer Roller is driven by the Registration Motor, while the Lower Exit Roller is driven by the Exit Motor. As the first sheet passes over the Compiler Tray, the Eject Clamp Motor is activated to lower the Eject Clamp to clamp the paper against the Eject Rollers holding it in the Eject Chute at the Finisher exit. As the end of the sheet passes through the Compile Exit Sensor, the Eject Motor reverses direction raising the Eject Clamp and energizing the Sub Paddle Solenoid that engages the Paddles that feed the paper into the Compiler Tray. Paper is aligned against the back of the Compiler Tray by the rotation of the Cyclone Paddles driven by the Finisher Transport Motor.

Figure 8 identifies the components associated with the Compiler Tray and Eject Clamp.

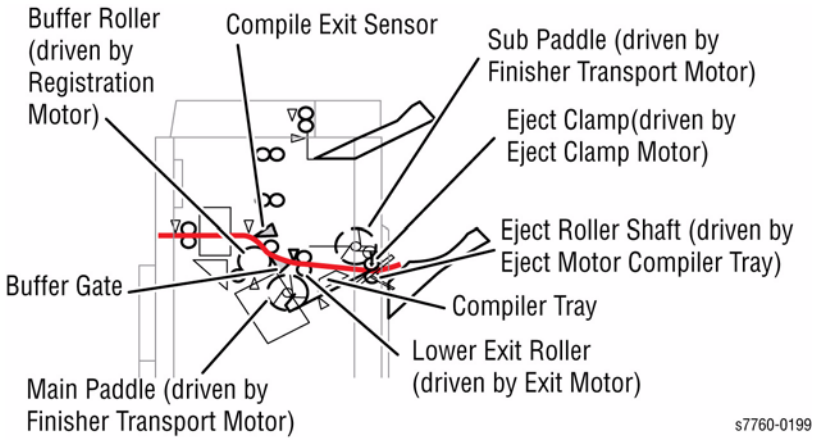


Figure 8 Compiler Tray Components

Stapled or aligned sets on the Compile Tray are held between the Eject Clamp and the Eject Roller Shaft. The Clamp Paddles attached to the Eject Roller Shaft, driven by the Eject Motor, transfer the compiled sets from the Compiler Tray to the Stacker Lower Tray.

Finisher Paper Path Sensors

Punch, Staple, Stacker, and Compile Tray sensors are listed separately with each component description.

- **Horizontal Transport Entrance Sensor** - A photo-interrupter to detect whether paper is fed from the Printer to the Horizontal Transport. The Horizontal Transport Entrance Sensor signal goes High when paper enters the Horizontal Transport.
- **Horizontal Transport Exit Sensor** - A photo-interrupter to detect whether paper passes through the Horizontal Transport. The Horizontal Transport Exit Sensor goes High when paper reaches this sensor, and goes Low when exits the Horizontal Transport.
- **Transport Entrance Sensor** - Senses the arrival of paper from the Horizontal Transport.
- **Gate Sensor** - A reflective photo-sensor to detect the front end of paper as it arrives at the Transfer Gate. The Gate Sensor signal goes Low when paper reaches the sensing area.
- **Buffer Path Sensor** - A photo-interrupter to detect whether paper is fed toward the Buffer Roller. While paper is present, the Actuator is outside the sensing area, and the Buffer Path Sensor signal goes High.
- **Compile Exit Sensor** - A photo-interrupter to detect whether paper passes through the Compile Exit Sensor. The Compile Exit Sensor signal goes High when the Actuator is driven out of the sensing area by the paper. When the Compiler Exit Sensor signal goes High, the Front and Rear Tamper Motors on the Compiler Tray are activated.
- **Compiler Tray No Paper Sensor** - A photo-interrupter to detect whether paper is present in the Compiler Tray. While paper is present, the Actuator is outside the sensing area, and the Compiler Tray No Paper Sensor signal goes High.
- **Upper Tray Exit Sensor** - A photo-interrupter to detect whether paper is fed to the Top Exit Roller at the exit side of the Upper Tray. When paper is fed, the Actuator leaves from the sensing area, and the Top Tray Exit Sensor signal goes High.
- **Upper Tray Full Sensor** - A reflective photo-sensor to detect the stack volume of paper in the Stacker.

Finisher Interlock

The Finisher is equipped with the following Interlock Switches:

- **Door G Interlock Switch** - Turns Off when Door G opens, shutting off the +24 VDC line in the Finisher.
- **Door H Interlock Switch** - Turns Off when Door H opens (Eject Cover), shutting off the 24 VDC line in the Finisher.
- **Door F Interlock Sensor** - Turns Off when Door F, Horizontal Transport Top Cover, is opened.

Major Components

The Advanced Finisher subsystem consists of the following major areas:

- Drives and Electrical Components
- Horizontal Transport
- Punch Unit
- Top Tray
- Buffer Path
- Compiler
- Stapler
- Stacker

Drives and Electrical Components (Figure 9, Figure 10, Figure 11)

1. Finisher PWB
2. Horizontal Transport PWB
3. Finisher Transport Motor
4. Eject Cam Assembly
5. Registration Motor
6. Exit Motor
7. Eject Clam Motor - Raises/Lowers the Eject Pinch Rolls
8. Eject Motor
9. Elevator Motor

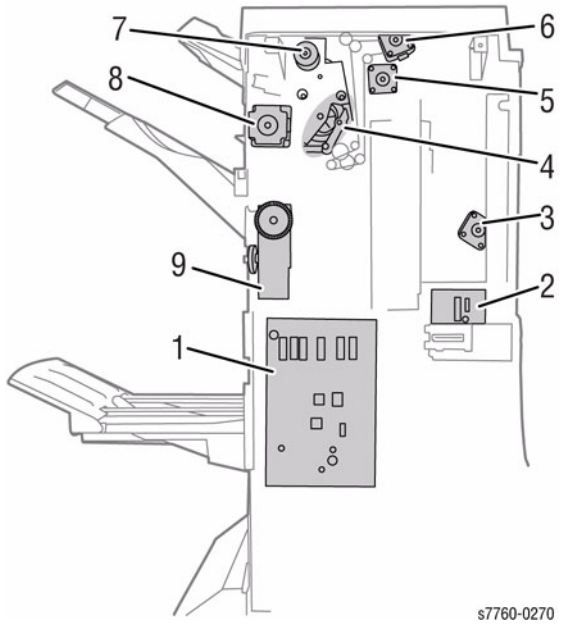


Figure 9 Advanced Finisher Electrical Components

10. Front Door Interlock

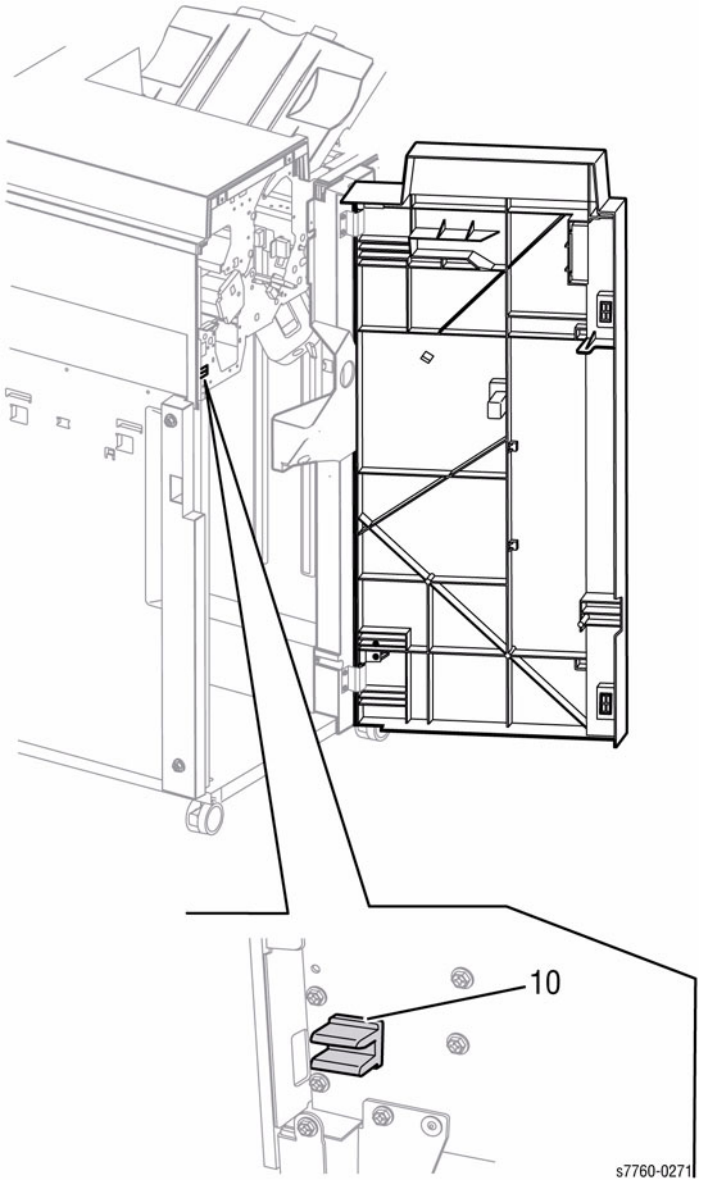


Figure 10 Advanced/Professional Finisher - Front View

11. Eject Cover Switch

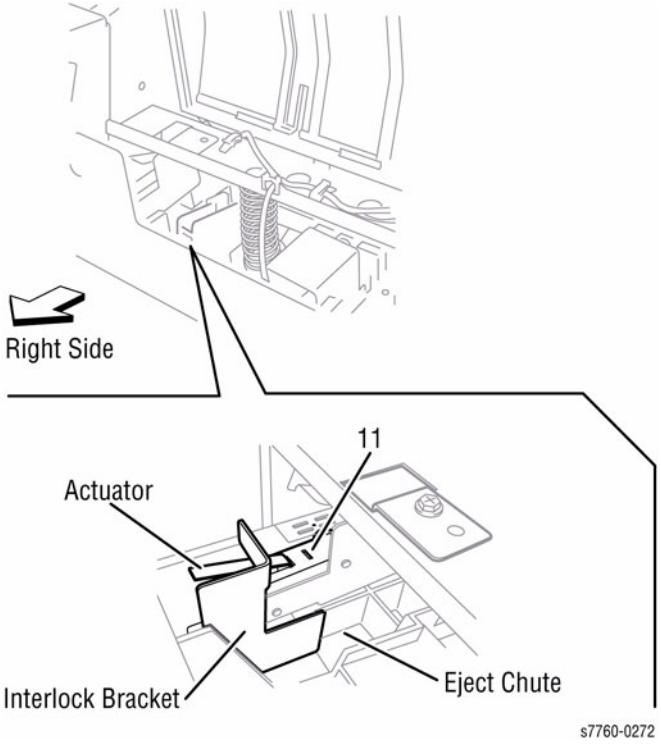


Figure 11 Advanced/Professional Finisher - Top View

Horizontal Transport

The Horizontal Transport (H-Transport) receives sheets from the Printer and routes them either to the Finisher, or to the Stacker Tray, located above the H-Transport.

At the output of the H-Transport, a Decurler mechanism corrects for excessive curl (up-direction only). Control logic determines the amount of correction based on humidity (from the Environmental Sensor) and the relative toner coverage of side 1 vs. side 2.

H-Transport components are found in PL 21.24 through PL 21.27, and REP 12.51 contains the H-Transport Assembly Removal/Replacement procedure.

Major electrical components for the H-Transport Assembly include (Figure 12):

1. Tray Nip Solenoid
2. Gate Solenoid - gates sheets to Center tray or through the Horizontal Transport
3. H-Transport Drive Motor
4. Decurler Clam Clutch

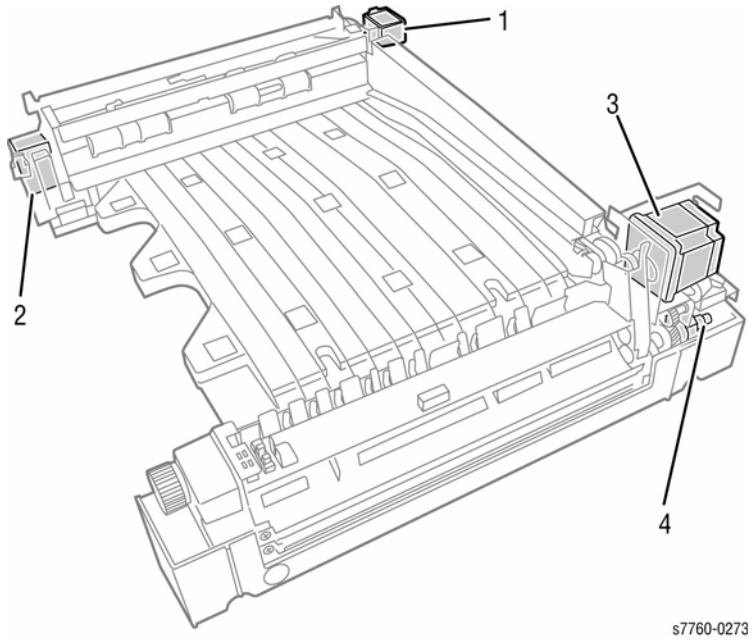


Figure 12 Horizontal Transport Electrical Components

Decurler

The Decurler is located inside the Horizontal Transport. The Decurler consists of a Sponge Roll and a Shaft. The Sponge Roll deflects around the shaft to correct paper curl when the Decurler is turned ON. In case a Stop process occurs due to jam, etc., with Decurler ON, the Finisher stops after turning OFF the Decurler, because it is difficult to remove a jam if paper is in the Decurler.

Punch Unit

Two types of Punch Units are available: 2-/4-hole version and a 3-hole version. Both types have similar construction and operate essential the same. For punch operations, following the Transport Entrance Sensor signal going High, indicating the presence of paper, a timing delay related to the paper size passes and the Registration Motor reverses rotation to back the sheet of paper into the Punch Guide for hole punching. The Stopper in the Punch Guide drops while the Registration Motor runs in the forward direction letting paper pass through, but raises when the Registration Motor reverses to stop the paper at the punch position. This position is a fixed distance from the edge of the paper.

The Hole Punch can punch 2, 3, or 4 (depending on market region) punching holes into each individual sheet as it passes through. The Punch Motor drives the Cam Bar that pushes the punch pins. The holes are fixed in relationship to each other; the Puncher Move Motor moves the entire block of punch pins front or back.

Hole Punch Components include (Figure 13):

1. Punch Unit Move Home Sensor
2. Punch Move Motor
3. Side Registration Sensor 2
4. Side Registration Sensor 1
5. Punch Motor
6. Punch Motor Sensor
7. Punch Unit Home Sensor
8. Punch Hole Select Sensor
9. Punch Front Sensor

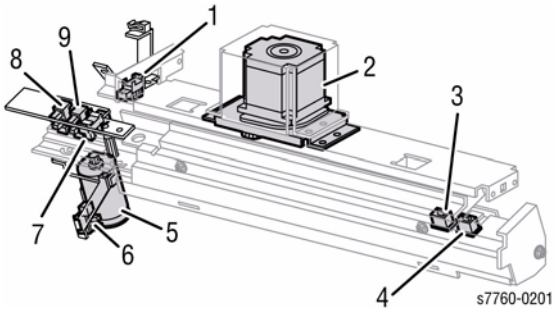


Figure 13 Puncher Components

Punch position in relation to the paper's width is determined for each sheet by the following method:

1. Activate the Punch Move Motor and move the Punch to the front until the Punch Unit Move Home Sensor signal goes Low.
2. Reverse the motor and move the Punch to the rear until the Punch Unit Move Home Sensor signal goes High to determine the home position.
3. Move the Punch forward again until the Side Regi Sensor 1 or Side Regi Sensor 2 detects the paper edge.
4. Activate the Punch Motor to move the Cam Plate. The movement of the Cam Plate lowers the pins along the guide holes to punch the paper. The Cam Plate can lower the pins in either direction of travel.

Figure 14 illustrates the action of the Cam Plate, Pins, and Punch Motor for a 3-hole punch operation.

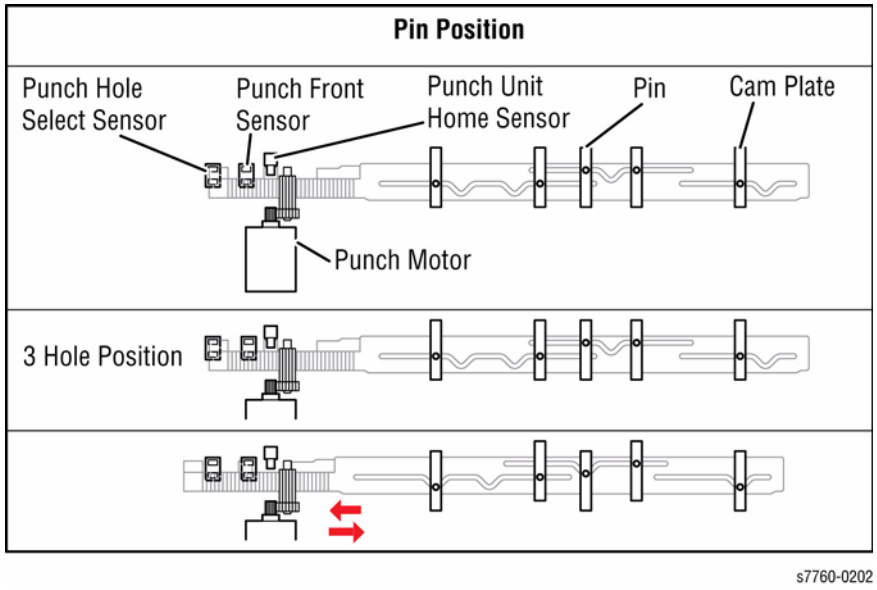


Figure 14 3-Hole Punch Operation

Punch (Waste) Box Full is detected when the count of Punch Waste (number of punch times x number of punch holes reaches the upper limit. The upper limit is defined by Non Volatile Memory (NVM) and can be changed. If no Punch (Waste) Box is detected for 4 seconds, Punch (Waste) Box Counter is reset.

Punch Sensors/Motors

- **Side Registration Sensors 1 and 2** - A pair of reflective photo-sensors to detect the side of the paper. Paper side edge is detected by the state transition of this sensor while shifting the Punch (containing this sensor) in the direction of paper width. The Side Registration Sensor signal remains High while paper is present, and goes Low when the paper's side edge is detected. The Side Registration 1 Sensor detects the edge of large-width paper, while the Side Registration 2 Sensor is used to detect the edge of narrow-width paper.
- **Punch Unit Move Home Sensor** - A photo-interrupter to detect the home position of the moving Punch. The Punch Unit Move Home Sensor signal goes High when the home position is detected.
- **Punch Unit Home Sensor** - A photo-interrupter to detect the home position of the Cam Plate that lowers the punching pins. The Punch Unit Home Sensor signal goes Low when the home position is detected.
- **Punch Hole Select Sensor** - A photo-interrupter to detect the rear position of the Cam Plate. The Punch Hole Select Sensor signal goes Low when the rear position is detected. This sensor also detects the Cam position to switch the number of holes to punch.
- **Punch Front Sensor** - A photo-interrupter to detect the front position of the Cam Plate. The Punch Front Sensor signal goes Low when the front position is detected. This sensor is used to determine to which side (front or rear) of the Cam Plate should be moved.
- **Punch Motor Encoded Sensor** - A photo-interrupter to detect timing pulses generated by the encoder disk attached to the Punch Motor. It counts Punch Motor revolutions, and becomes a trigger to stop the motor (by shutting off the current).
- **Punch Box Set Sensor** - A photo-interrupter to detect whether the Punch Box is installed. When the Punch Box is preset, the Actuator of the box blocks the light transmission of the sensor, causing the Punch Box Set Sensor signal to go Low.

  NOTE: *When the sensor detects that the box is removed for 4 seconds, the Punch Box Full count is reset to zero.*

- **Punch Box Full** - A counter stored in NVRAM used to track the number of punches. At the counter value set, a notification is sent. The counter is reset if the Punch Box Set Sensor signal goes High for 4 seconds.
- **Punch Move Motor** - A stepping motor to move the Punch in the paper width direction.
- **Punch Motor** - A DC motor to move the Cam Plate that lowers the Punching Pins. Forward rotation of the motor moves the Cam Plate to the front, and reverse rotation moves it to the rear.

For components of the Hole Punch, refer to PL 21.5, BSD 12.21, and BSD 12.32. REP 12.52 contains the Finisher Punch Frame Assembly Removal/Replacement procedure.

Top Tray

The Transport Gate directs sheets either to the Top Tray or to the Buffer Path. The Top Tray has a capacity of up to 500 sheets, and can handle sizes from Postcard to 12" x 18" in a weight range from 64 to 228 gsm. This tray has no compiling or offsetting capability.

- For components of the Top Tray, refer to PL 21.10, PL 21.11, and BSD 12.31. REP 12.45 contains the Finisher Top Tray Removal/Replacement procedure.

Buffer Path

In order to allow the printer to run without interruption while the Finisher compiles and stacks sheets, there a is a mechanical delay loop called the Buffer Path. The Buffer Path routes the first sheet of a set around the Buffer Roller. The sheet is timed so that it arrives at the gate at the same time as the second sheet. Both sheets are fed into the Compiler at the same time.

Buffer Path routing is limited to sheets with a feeder direction length of not more than 216 mm, weighing no more than 169 gsm. Buffer operates every 5-6 sheets, and sheets are output from the Compile Tray to the Stacker.

- For components of the Buffer Path, refer to PL 21.10, PL 21.11, and BSD 12.23. REP 12.64 contains the Finisher Buffer Roll Removal/Replacement procedure.

Compiler Tray

The Compiler Tray accumulates positions and aligns the paper edges for stapling (Figure 15). When paper is fed onto the Compiler Tray, a tamping operation is performed to align the paper edge along the paper's width. The Compiler Tray also offsets stapled sets when ejecting to the Stacker Lower Tray.

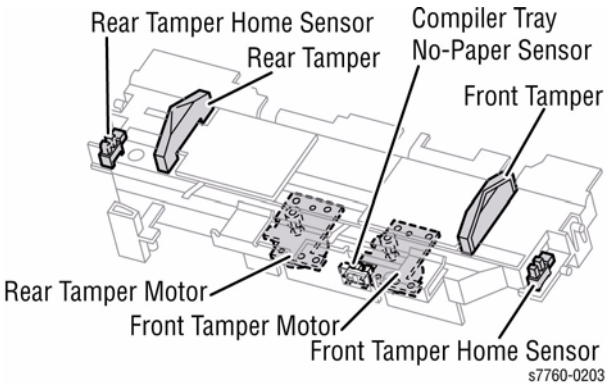


Figure 15 Compiler Tray

Paper capacity depends on whether the paper is being stapled or not, as well as paper size. If the number of sheets of one stapled set exceeds the Compiler Tray limit set in NVRAM, the sheets exceeding this setting are ejected to the Stacker Lower Tray. This avoids damage to the Staple Assembly. The default maximum value is 50 sheets.

When two or more paper sizes are used and their widths are identical, (example: A4L and A3S), all the sheets are compiled and stapled as set on the Compiler Tray, and then ejected to the Stacker Lower Tray. If different widths of paper are used, stapling is stopped and the paper is ejected to the Stacker Lower Tray.

The Compiler registers individual sheets into sets, and positions the sets to enable stapling and/or ejecting to the Stacker.

Paddle wheels are used to register sheets top-to-bottom. Tamper Motors register the sheets side-to-side, as well as providing offsetting.

- For components of the Compiler, refer to PL 21.7 through PL 21.9, and BSD 12.34. REP 12.57 contains the Finisher Compiler Tray Removal/Replacement procedure.

Tamping

Tamping aligns the paper edges using the Front or Rear Tamper by moving them to the edge of paper by their respective motors. Tamping occurs each time a sheet of paper reaches the Compiler Tray. Additional tamping occurs after tamping the last sheet of a set. The Compiler Tray performs three types of tamping:

Front Tamping (Figure 16) - Tampering by the Rear Tamper with the Front Tamper fixed at the home position in either non-staple mode or when executing Front Corner stapling.

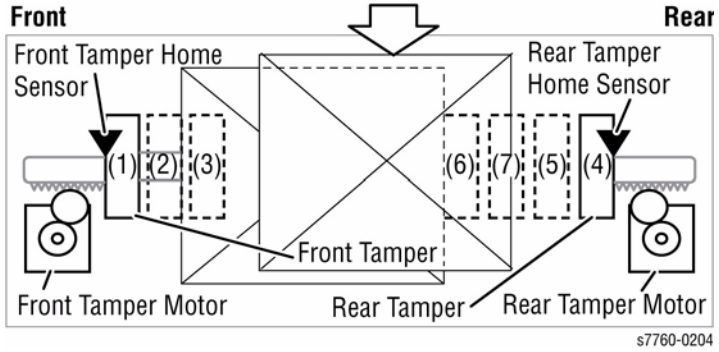


Figure 16 Front Tamping

1. Front Tamper Home Position
2. Front Tamper Size Position
3. Front Tamper Offset Position
4. Rear Tamper Home Position
5. Rear Tamper Standby Position
6. Rear Tamper Tamping Position
7. Rear Tamper Offset Position

Rear Tamping (Figure 17) - Tampering by the Front Tamper with the Rear Tamper fixed at the home position in either rear corner or dual stapling operations.

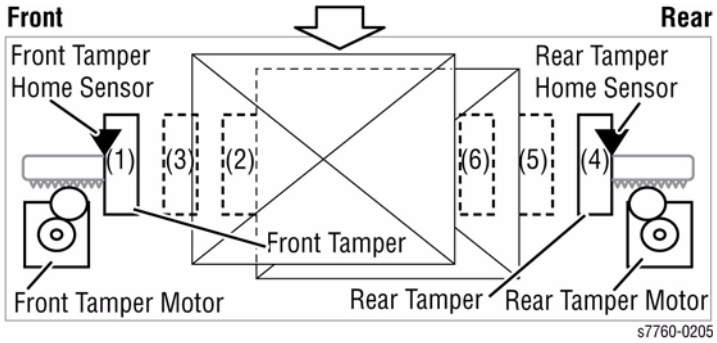


Figure 17 Rear Tamping

1. Front Tamper Home Position
2. Front Tamper Tamping Position
3. Front Tamper Offset Position
4. Rear Tamper Home Position
5. Rear Tamper Size Position
6. Rear Tamper Offset Position

Center Tamping (Figure 18) - Tampering by the Front and Rear Tampers to center the paper in the tray during rear stapling (straight) operations.

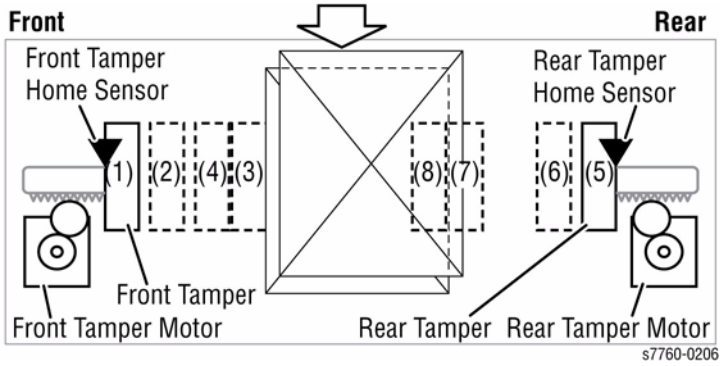


Figure 18 Center Tamping

1. Front Tamper Home Position
2. Front Tamper Standby Position
3. Front Tamper Tamping Position
4. Front Tamper Offset Position
5. Rear Tamper Home Position
6. Rear Tamper Standby Position
7. Rear Tamper Size Position
8. Rear Tamper Offset Position

Tamper (center) home position is determined by the Compile Exit Sensor signal going High and both tamper motors activated and moving. The Front Tamper home position is determined when the Front Tamper enters the Front Tamper Home Sensor sensing area. The Rear Tamper home position is determined when the Rear Tamper enters the Rear Tamper Home Sensor sensing area. Center tamping occurs after a preset time following the Compile Tray No-Paper Sensor signal going High indicating paper on the Compiler Tray.

Offset

Offset shifts the paper position as each set is ejected to the Stacker Lower Tray to avoid ejection jams due to the stacking of multiple stapled sets. Offset occurs for these staple positions.

- **Front Stapling (Corner)** - Shifts stapled sheets using the Front Tamper by .78 inch (20 mm) to the rear side before ejecting them to the tray.
- **Rear Stapling (Corner/Straight)** - For corner-stapled paper with a width of 8.5 inches (216 mm) or ore, the Rear Tamper offsets the set by .78 inch (20 mm) to the front side before ejecting them to the tray.

  For straight-stapled paper with a width of less than 8.5 inches (216 mm), the Front Tamper offsets the set by .35 inch (9 mm) to the rear side before ejecting them to the tray.
- **Dual Stapling** - Dual-stapled sheets are offset by .35 inch (9mm) using the Front Tamper to the rear side before ejecting them to the tray.

Offset is not executed for small paper.

Compiler Tray Sensors/Motors

- **Compiler Tray No-Paper Sensor** - A photo-interrupter to detect whether paper is present or not on the Compile Tray. When paper is detected, the Actuator unblocks the sensor, which turns the Compile Tray No-Paper Sensor signal High.
- **Front Tamper Home Sensor** - A photo-interrupter to detect the Front Tamper home position. When the Front Tamper comes to the home position, it actuates the sensor, which turns the Front Tamper Home Sensor signal High.
- **Rear Tamper Home Sensor** - A photo-interrupter to detect the Rear Tamper home position. When the Rear Tamper comes to the home position, it actuates the sensor, which turns the Rear Tamper Home Sensor signal High.
- **Front Tamper Motor** - A stepping motor to move the Front Tamper. Clockwise rotation of this motor moves the Rear Tamper to the front side. Counterclockwise rotation moves the Tamper to the rear.

Stapler

The Stapler staples a set of edge-aligned paper in the Compiler Tray. When stapling, the Stapler Head moves along rails to the paper staple position. The Stapler Head moves to the front side when the right side of paper is stapled, or to the rear side when the left side of paper is stapled. When the Stapler Head moves, the Stapler Move Position Sensor detects the position of the Stapler Head from the presence of notches on the guide. After the Stapler Head moves to the paper staple position, the bundle of paper is stapled immediately in the Dual Stapling mode, but in the Corner Stapling mode the Stapler Head swings 45 degrees before the bundle of paper is stapled. After the Stapler staples the bundle of paper, the Exit Roller rotates together with the Cyclone Paddles to deliver the stack of paper to the Stacker Lower Tray via the Eject mechanism.

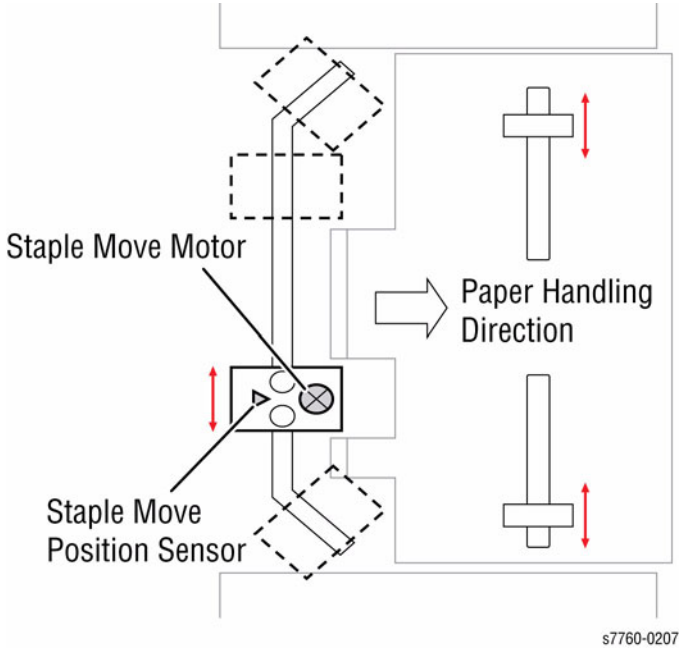


Figure 19 Stapler

When the Stapler runs low (approximately 20 staples or less left), **Low Staple** signal is output, and the Finisher stops. A warning message is displayed when the Staple Cartridge is not installed in the Staple Head. Stapling is inhibited until the cartridge is replaced.

Staple Head

Stapling operation is executed by closing the Staple Head. The Staple Head, containing the Staple Motor, the Staple Head Home Sensor, the Staple Head Self Priming Sensor, and the Low Staple Sensor, is activated by the Staple Motor. Forward (clockwise) rotation of the Staple Motor drives the Staple Head to staple a set of sheets (closed), and returns the Staple Head to the home (open) position. If stapling fails, the Staple Motor rotates in counterclockwise to return the Staple Head to the home position.

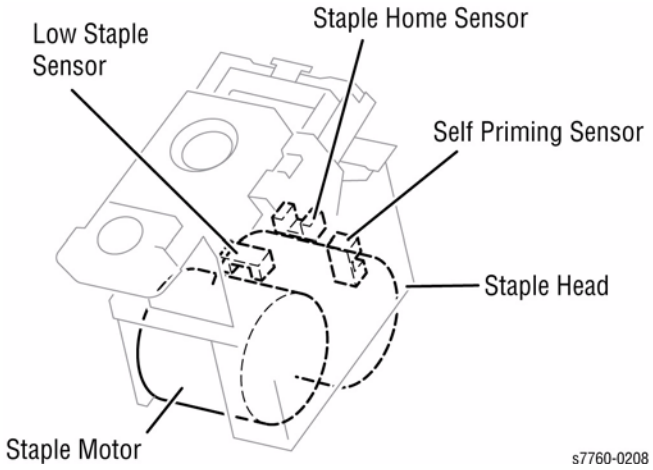


Figure 20 Staple Head

Staple Position

For components of the Stapler, refer to PL 21.6, BSD 12.36, and BSD 12.37. REP 12.53 contains the Finisher Stapler Assembly Removal/Replacement procedure.

Sheets of paper are tamped on the Compile Tray, and then stapled at specified positions. There are five stapling positions: Front Corner Staple, Rear Corner Staple, Rear Straight Staple, Dual Staple, and Four-Position Staple.

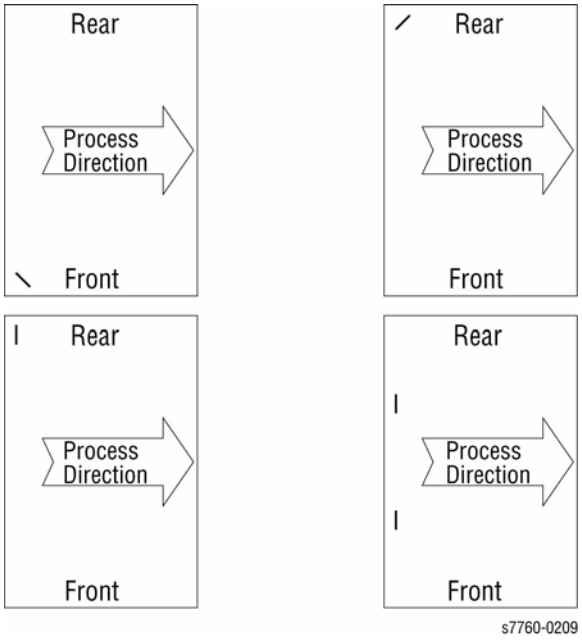


Figure 21 Staple Position

Front Staple Operation

In Front Staple mode, paper is jogged to the Front side with the Rear Tamper; the Staple position is moved to the Front corner and then paper is stapled diagonally at 45 degrees and output to the Stacker. If the next set is ejected to the same position, the staple position overlaps and the stapled corner stacking higher than the rest of the stack, only 50 sets can be stapled and out put to the stacker, so offsetting is required.

- **Front Corner Staple** - This type of stapling is applied for paper with a width of 8.5 inches (216 mm) more. The Staple Head moves to the front corner and staples a set of paper obliquely (45 degrees) after the Front Tamper aligns the paper to the rear side.
- **Rear Corner Staple** - This type of stapling is applied for paper with a width of 8.5 inches (216 mm) more. The Staple Head moves to the rear corner and staples a set of paper obliquely (45 degrees) after the Front Tamper aligns the paper to the rear side.

Rear Staple Operation

In Rear Staple mode, paper is jogged to the Rear side with the Front Tamper, stapled diagonally at 45 degrees and output to the Stacker. When offset, paper is moved 20 mm to the front and output to the Stacker.

- **Rear Straight Staple** - This type of stapling is applied for paper with a width of less than 8.5 inches (216 mm). The Stapler staples a set of paper in parallel with the paper edge after the Front Tamper aligns the paper to the rear side.

Dual Staple Operation

This operation moves papers to designated location with the Front Tamper by paper size, and staples the front and rear. When offset, paper is moved 9 mm to the rear and output to the Stacker. If offset more than 9 mm, the stapled part passes over the Eject Roll and wrinkle will occur.

The Stapler staples a set of paper at fixed positions (front/rear sides) in parallel with the paper edge, after the Front Tamper aligns the paper to the specified position for each paper size.

4-Position Staple Position

When 4-positions Staple is designated, dual-staple is carried out, and dual-staple is carried out again after the whole set is moved for the predefined amount. The set is then output to the Stacker.

The number of sheets to be stapled is limited to prevent damage to the Stapler. If the number of sheets per set exceeds the Compile Tray limit set in NVRAM, the sheets exceeding the limit are ejected to the tray without being stapled. A single sheet is also ejected without being stapled. The upper limit of Compile Tray paper capacity when stapling is set by default to 50 sheets.

When sheets with different sizes and same width (example: A4L and A3S) are present on the Compile Tray, all the sheets are stapled, and then ejected to the Stacker Lower Tray. If sheets with different widths are present on the Compile Tray, stapling is stopped when a different width is detected. These different-width sheets are ejected to the Stacker Lower Tray.

Stapler Sensors/Motors

- **Staple Move Position Sensor** - A photo-interrupter to detect the Stapler home position, Rear Staple (Corner) position, and Rear Staple (Straight) position. The Stapler Move Home Position Sensor signal goes High when the Stapler reaches the home position.
- **Staple Head-Low Staple Sensor** - A photo-interrupter in the Staple Head to detect near end of staples. The Low Staple Sensor signal goes High when the quantity of staples remaining in the cartridge is approximately 20 or less.
- **Staple Head Self Priming Sensor** - A photo-interrupter in the Staple Head to detect that the staples are at the Stapler Head end, and also to detect failures in stapling. The Self Priming Sensor signal goes Low to indicate that the Staple Head is ready to staple.
- **Staple Home Sensor** - A photo-interrupter in the Staple Head to detect the Stapler Head home position and staple failure. This sensor also functions as a trigger to stop the Staple Motor. The Staple Home Sensor signal goes Low while the Stapler Head is at the home position.

- **Staple Motor** - A DC motor in the Staple Head to activate the Staple Head for stapling. Clockwise rotation of this motor staples, while counterclockwise rotation moves the Staple Head.

Stacker

Compiled sets are ejected to the Stacker Tray. Front and Rear Stack Height Sensors trigger the Elevator Motor to lower the Stacker Tray. Control Logic determines **Tray Full** based on whether the sets are stapled, what size sets are sent, etc. Stacker has a capacity of loading paper until either number of stacked sheets or number of stapled sets reaches the maximum.

Stacker Upper Tray

The Stacker Upper Tray is a fixed-position, facedown tray with a 500-sheet capacity. Tray content is monitored by a Stack Full Sensor. Once the sensor detects a full stack, exiting of paper to the Stacker Upper Tray is inhibited until the paper is removed or the sensor is cleared.

Stacker Upper Tray Sensors

- **Stacker Upper Tray Exit Sensor** - A photo-interrupter to detect that paper has come to the top Exit Roller. When paper reaches the top Exit Roller, the Actuator unblocks the sensor and turns the Upper Tray Exit Sensor signal High.
- **Stacker Upper Tray Full Sensor** - A reflective photo-sensor to detect the paper stack volume. The Upper Tray Full Sensor signal goes High when it detects a full stack.

For components of the Stacker, refer to PL 21.7 through PL 21.9, and BSD 12.40 and BSD 12.41. REP 12.57 contains the Finisher Compiler Tray Removal/Replacement procedure.

Stacker Lower Tray

The Stacker Lower Tray adjusts position according the to the state of the two Stack Height Sensors. When paper obscures Stack Height Sensor 1, the sensor's signal goes High. This signal is used to control the Elevator Motor. The Motor is activated to move the Stacker Lower Tray down until the sensor's signal returns to a Low state. If both sensor signals are Low, the Elevator Motor raises the tray to obscure the Stack Height Sensor 2. If Stack Height Sensor 2 signal remains Low, the tray continues to rise until it reaches the No-Paper Sensor. If an obstacle blocks the tray from lowering, the tray stops and a warning is reported. The relationship of Elevator Motor motion and Stack Height Sensor state is shown in Figure 22.

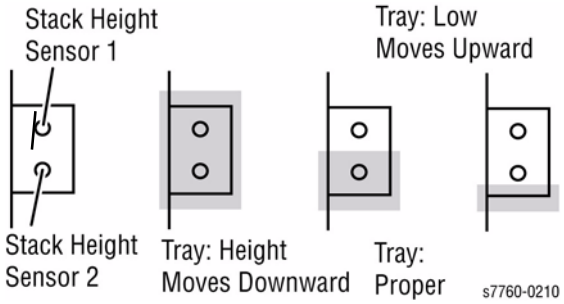


Figure 22 Stacker Lower Tray

The Stacker No-Paper Sensor is switched by an Actuator attached to the right-hand Carriage Assembly. In case the Stacker Lower Tray goes above the Stacker No-Paper Sensor, the Upper Limit Sensor is installed directly above the No-Paper Sensor as a lift cutoff for abnormal operation.

If paper is removed from the Stacker Lower Tray during printing, it is detected by the Stack Height Sensor 2 which stops printing until the tray returns to the Stack Height Sensor 1 sensing area. If paper is removed while printing is stopped, the Elevator Motor will activate in three seconds to move the tray to the Stack Height Sensor 1 sensing area.

Apart from the paper height, paper volume is monitored by the Stacker Encoded Sensor. Paper volume detection is needed to prevent jamming or paper failing on the floor. The Stacker Lower Tray maximum volume is 3000 sheets. Paper volume is detected at every 10% (aprox. 300 sheets). The default setting for number of stapled sets is 50. The Stacker Lower Tray can continue to stack paper until paper volume reaches either of the limits above.

In the **mix stacking** mode, all supported paper sizes are allowed until paper volume reaches approximately 300 sheets. Mix stacking occurs in one of the following cases:

- A larger sheet of paper is stacked on a smaller sheet. An exception to this is when B5 (257 mm x 182 mm) paper is stacked on A4 (297 mm x 210 mm) paper.
- A sheet of paper of less than 11 inches in length is stacked in the Stacker Lower Tray with the staple mode changed. As the stacking position shifts due to staple position, sheets are stacked on the rear side of the tray irrespective of offset in the Rear Staple mode.
- One of more sheets are added when no paper remains in the tray. The size and condition of paper stacked is unknown to the Engine Control Board.
- Paper was present in the Stacker Lower Tray when power was turned On. The size and condition of paper is unknown to the Engine Control Board.
- The post-processing mode has changed.

Figure 23 illustrates the components associated with Stacker operation.

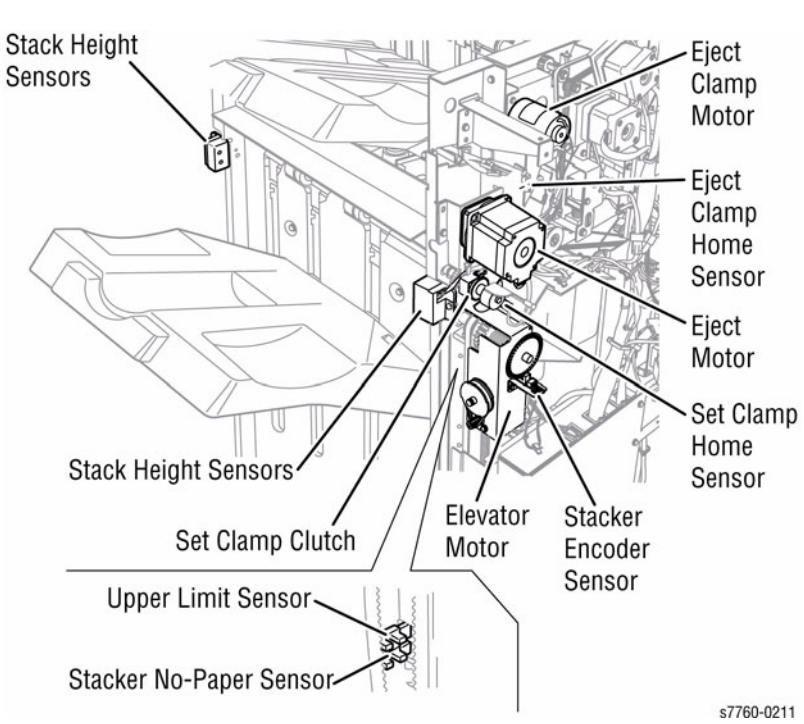


Figure 23 Stacker Operation

Stacker Lower Tray Sensors/Motors

- **Stack Height Sensors 1 and 2** - Detects the height of paper in the Stacker Lower Tray and controls the Elevator Motor. When blocked by paper or the tray, these sensors change state to indicate the tray is above or below the reference level. The High or Low transition point is defined as the reference level.
- **Lower Tray No-Paper Sensor** - A photo-interrupter to detect that the tray is at the highest position, and also to detect no paper. When the Actuator blocks the sensor, switching the Stacker No-Paper Sensor signal to High.
- **Lower Tray Upper Limit Sensor** - A photo-interrupter to limit tray height. When the Actuator blocks the sensor, switching the Upper Limit Sensor signal to High.
- **Stacker Encoder Sensor** - A photo-interrupter to count pulses of the Encoder attached to the Elevator Shaft. The paper volume is based on this count.
- **Set Clamp Home Sensor** - A photo-interrupter to detect the Set Clamp home position. This sensor functions as a trigger to control the Set Clamp Switch.
- **Set Clamp Clutch** - When activated, this Clutch engages the Eject Motor to the Eject Roller.
- **Elevator Motor** - A DC Motor to raise or lower the Stacker Lower Tray. Clockwise rotation raises the tray, counterclockwise rotation lowers the tray.
- **Eject Motor** - A DC Motor to eject paper to the Stacker Lower Tray. Clockwise rotation ejects paper to tray; counterclockwise rotation reverses the Eject Roller to feed paper to the Compiler Tray.
- **Eject Clamp Motor** - A DC Motor to raise or lower the Eject Clamp when feeding paper from the Punch to the Compiler Tray or from the Compiler Tray to the Stacker Lower Tray.

Figure 24 identifies the location of the primary electro-mechanical components inside the Finisher.

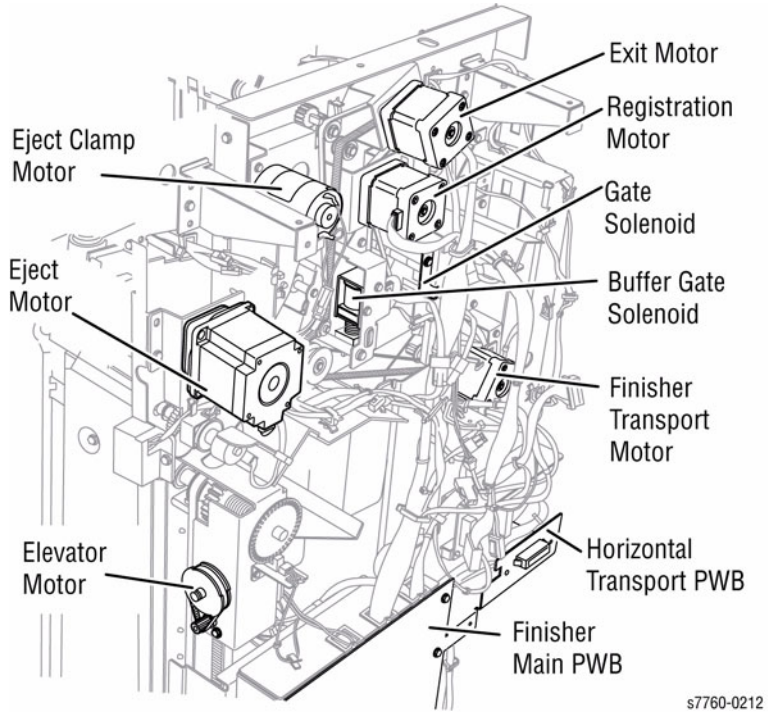


Figure 24 Finisher Electro-Mechanical Components

Professional Finisher Capacities

- The **Stacker Tray** holds up to 1500 sheets of A4/Letter paper, with a weight range of 60 gsm to 228 gsm (16-60 lb.), in sizes from B5 LEF to 12 x 12” SEF.
- The **Booklet Maker** can fold and staple booklets of 15 sheets of 24 lb./90 gsm paper, or 14 sheets of 90 gsm (24 lb.) paper plus 1 sheet of cover stock (up to 228 gsm (60 lb.)).
- All other features and capacities are the same as for the Advanced Finisher.

Booklet Maker Components (Figure 1, Figure 2, Figure 3)

Booklet Maker components include:

1. Booklet In Sensor
2. Folder Roll Exit Sensor

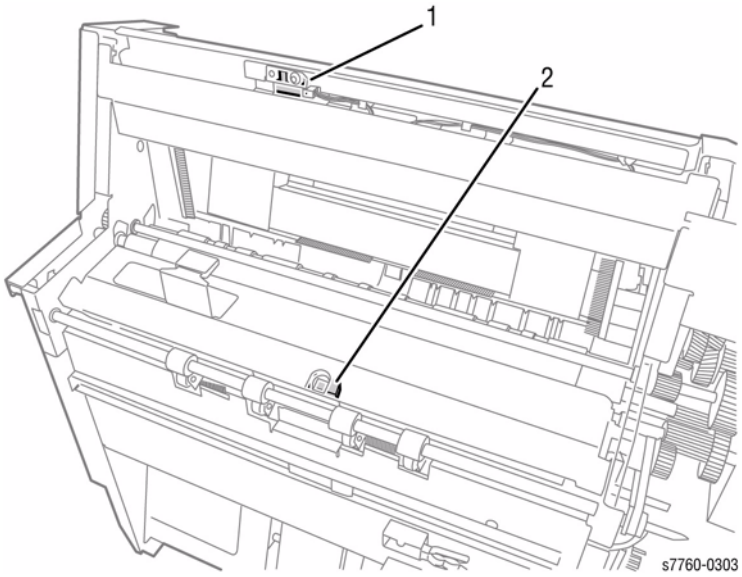


Figure 1 Booklet Maker - Sensors and Guide Assembly

3. End Guide Assembly

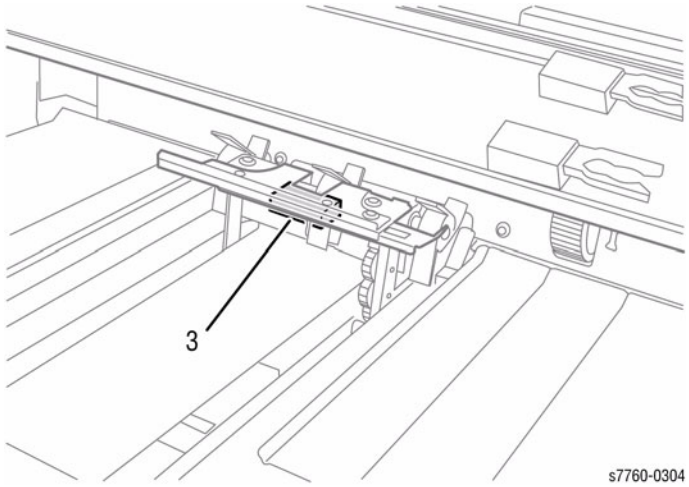


Figure 2 End Guide Assembly

4. Paper Path Motor
5. Rear Tamper Motor
6. Front Tamper Motor
7. End Guide Motor
8. Folding Knife
9. Fold Motor

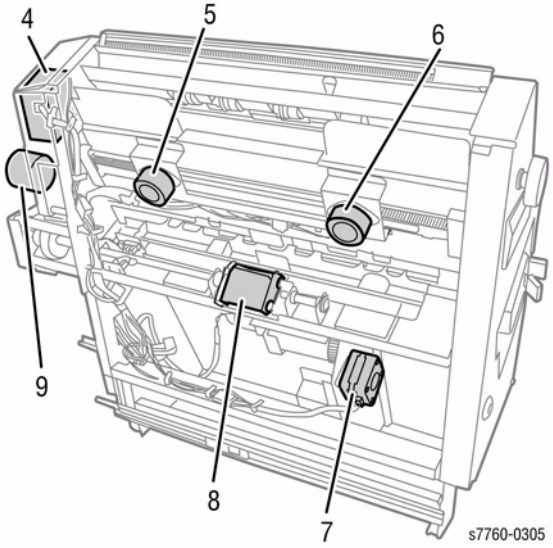


Figure 3 Booklet Maker - Motors

Booklet Maker Operation

The Finisher with Booklet includes Saddle Stitching, Center Fold, and Bi-Fold functions. When Booklet is selected, sheets are stapled in the middle, bi-folded and output to the Booklet Tray. Two points in the center are stapled by Saddle Stitching Staple.

- The sheets are aligned, stapled in the middle, pushed by the Folding Knife, and output to Tray.
- Booklet is output to the Booklet Tray after stapling and folding.

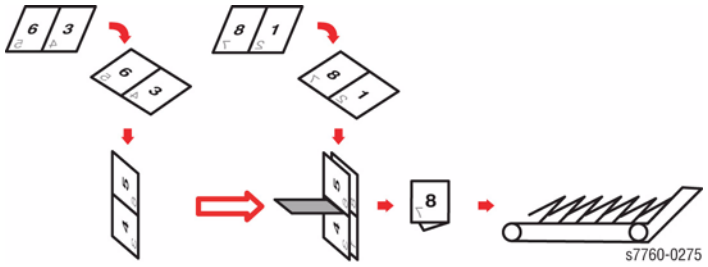


Figure 4 Booklet Maker Process

Staple Operation

When a set has more than 10 sheets, the paper is folded 3 times to minimize the thickness of the folded set; that is, that folding-roll rotates **Normal** --> **Reverse** --> **Normal**. The number of reversed rotation can be changed by NVRAM settings.

- The number of sheets in a set does not exceed the upper limit for stapling/folding. The default is 15 sheets.

No Staple Operation

If a no-staple job with the number of sheets in a set exceeding “Upper Limit of Booklet Set: No-staple” is notified and executed; Finisher folds the sheets and ejects them at the upper limit (forced split output). Then the following sheets are folded and ejected.

- The number of sheets in a set should not exceed the upper limit for folding. The default is 5 sheets.

Adjusting the End Guide Position

At the start of a print job, the End Guide is positioned according to the paper size selected.

Transporting Paper to the Booklet Maker

Paper that has passed through the punch area is directed by Gate S1 into the Booklet Maker. The Booklet Paper Path Motor drives the paper into the End Guide. The Tampers ensure that the paper stacks evenly and the paddles keep the paper against the End Guide.

Raising the Set for Folding

The End Guide raises the set until the center of the sheets lines up with the fold position.

Folding the Set to Make the Booklet

When the set is in the fold position, the Knife Solenoid is energized. This allows one rotation of the Knife gear. The Knife extends to push the set into the Fold Rolls and then retracts to the home position.

Booklet Exit

The folded and stapled booklet is transported to the Booklet Tray. The Booklet Tray belts transport the booklets to the end of the Tray. The end of the Booklet Tray may be dropped to allow the booklets to drop into a receptacle.

PART#: 705P01277