



Service Manual

Lexmark™ W820 Options

4025-XXX

- ***Table of Contents***
- ***Start Diagnostics***
- ***Safety and Notices***
- ***Trademarks***
- ***Index***

LEXMARK™

Lexmark and Lexmark with diamond design are trademarks of Lexmark International, Inc., registered in the United States and/or other countries.

Edition: May 2001

The following paragraph does not apply to any country where such provisions are inconsistent with local law:
LEXMARK INTERNATIONAL, INC. PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions; therefore, this statement may not apply to you.

This publication could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in later editions. Improvements or changes in the products or the programs described may be made at any time.

Comments may be addressed to Lexmark International, Inc., Department D22A/032-2, 740 West New Circle Road, Lexington, Kentucky 40550, U.S.A or e-mail at ServiceInfoAndTraining@Lexmark.com. Lexmark may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you. You can purchase additional copies of publications related to this product by calling 1-800-553-9727. In other countries, contact your point of purchase.

Lexmark and Lexmark with diamond design are trademarks of Lexmark International, Inc., registered in the United States and/or other countries.

PostScript is a registered trademark of Adobe Systems Incorporated.

Other trademarks are the property of their respective owners.

**© Copyright Lexmark International, Inc. 2001.
All rights reserved.**

UNITED STATES GOVERNMENT RESTRICTED RIGHTS

This software and documentation are provided with RESTRICTED RIGHTS. Use, duplication or disclosure by the Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 and in applicable FAR provisions: Lexmark International, Inc., Lexington, KY U.S.A. P/N 12G3782

Contents

Preface	ix
Safety Information	x
General Information	1-1
Maintenance Approach	1-1
Tools Required For Service	1-1
Symbols Used in this Manual	1-1
Safety Details	1-1
Printer Power Supply and Electrical Components	1-2
Mechanical Components	1-2
Printer Laser Components	1-2
Printer Fuser Components	1-3
Safety Components	1-3
Caution Labels	1-3
Envelope Feeder	1-4
Envelope Feeder Overview	1-4
Schematic Diagram of the Envelope Feeder Operation	1-5
Envelope Feeder Power and Control	1-6
Envelope Feeder Drive Generation and Distribution	1-6
Envelope Feeder Power	1-6
Envelope Feeder Control	1-7
Envelope Feeder Control Components	1-8
Mechanical Drive	1-8
Envelope Feeder Paper Path	1-10
Envelope Feeder Paper Path Components	1-10
Envelope Feeder General Specifications	1-11
Duplex	1-12
Duplex Overview	1-12
Schematic Diagram of the Duplex Operation	1-13
Duplex Power and Control	1-13
Duplex Drive Generation and Distribution	1-13
Duplex Power	1-14
Duplex Control	1-14
Duplex Control Components	1-15
Mechanical Drive	1-15
Duplex Drive Components	1-16
Duplex Paper Path	1-17
Duplex Paper Path Components	1-20

4025 Options

Duplex General Specifications	1-21
Mailbox	1-22
Mailbox Overview	1-22
Schematic Diagram of the Mailbox Operation	1-23
Mailbox Power and Control	1-24
Mailbox Drive Generation and Distribution	1-24
Mailbox Power	1-24
Mailbox Control	1-24
Mailbox Control Components	1-26
Mechanical Drive	1-27
Drive for the Mailbox	1-28
Mailbox Mechanical Drive Components	1-29
Mailbox Paper Path	1-30
Paper Path 1: Bypass the Mailbox and Feed Paper to the Output Tray	1-30
Paper Path 1 Components	1-31
Paper Path 2: Feed Paper to Bin 10	1-32
Paper Path 2 Components	1-33
Paper Path 3: Feed Paper to Bins 2 through 10	1-35
Paper Path 3 Components	1-36
Mailbox Modes	1-37
Paper Size Recommendations	1-38
Print Speeds While Using the Mailbox	1-38
Mailbox General Specifications	1-39
High Capacity Feeder	1-40
High Capacity Feeder Overview	1-40
Schematic Diagram of the High Capacity Feeder Operation	1-41
High Capacity Feeder Power and Control	1-42
High Capacity Feeder Drive Generation and Distribution	1-42
High Capacity Feeder Power	1-42
High Capacity Feeder Control	1-43
High Capacity Feeder Control Components	1-44
Mechanical Drive	1-45
Drive for High Capacity Feeder	1-45
Drive for Tray 3	1-46
Mechanical Drive Tray 3 Components	1-47
Drive for Tray 4	1-49
Lift Motor Operation for Tray 4	1-50
Mechanical Drive Tray 4 Components	1-50
Drive for Tray 5	1-52
Lift Motor Operation for Tray 5	1-53
Mechanical Drive Tray 5 Components	1-54
High Capacity Feeder Paper Path	1-55

4025 Options

Feed from Tray 3	1-56
Tray 3 Paper Path Components	1-57
Feed from Tray 4	1-57
Tray 4 Paper Path Components	1-59
Feed from Tray 5	1-61
Tray 5 Paper Path Components	1-62
High Capacity Feeder General Specifications	1-64
Glossary of Terms, Acronyms, and Abbreviations	1-65
Diagnostic Information	2-1
Start	2-1
Envelope Feeder	2-2
Envelope Feeder Error Code Table	2-2
Envelope Feeder Symptom Table	2-2
Envelope Feeder Error Code Service Checks	2-3
Envelope Feeder Symptom Service Checks	2-7
Duplex	2-8
Duplex Error Code Table	2-8
Duplex Symptom Table	2-9
Duplex Error Code Service Checks	2-9
Error Code 997	2-17
Duplex Symptom Service Checks	2-18
Mailbox	2-19
Mailbox Error Code Table	2-19
Mailbox Symptom Table	2-20
Mailbox Error Code Service Checks	2-20
Error Code 996	2-29
Mailbox Symptom Service Checks	2-30
High Capacity Feeder	2-32
High Capacity Feeder Error Code Table	2-32
High Capacity Feeder Symptom Table	2-33
High Capacity Feeder Error Code Service Checks	2-33
Error Code 993 and 994	2-51
High Capacity Feeder Symptom Service Checks	2-52
Diagnostic Aids	3-1
Envelope Feeder Tests	3-1
Feed Test	3-1
Sensor Test	3-1

4025 Options

Duplex Tests	3-2
Feed Test	3-2
Sensor Test	3-2
Mailbox Tests	3-3
Feed Test	3-3
Feed All Bins Test	3-3
Sensor Test	3-4
High Capacity Feeder Tests	3-5
Feed Test	3-5
Sensor Test	3-6
Repair Information	4-1
Preparation	4-1
Work Notes	4-1
Removal and Replacement Procedures	4-2
Envelope Feeder	4-2
Duplex Unit Assembly	4-3
Duplex Cover	4-4
Duplex Rear Cover	4-5
Duplex Front Cover	4-6
Duplex PWB and Bracket	4-7
Duplex Wait Clutch	4-8
Duplex Drive Assembly	4-9
Duplex Exit Sensor	4-10
Duplex Exit Gate Solenoid	4-11
Exit Roll	4-12
Duplex Wait Sensor	4-14
Duplex Interlock Switch	4-15
Exit Roll Belt	4-16
Duplex Pinch Roll	4-17
Inner Chute Assembly	4-18
Mailbox	4-19
Mailbox Left Cover Assembly	4-21
Mailbox Front Cover	4-22
Mailbox Rear Cover	4-24
Mailbox Top Cover	4-25
Actuator Cover Assembly	4-27
Bin 10 Jam Sensor	4-29
BIN 10 Tray Assembly	4-30
Mailbox Drive Belt	4-32
BIN Trays 1 - 9 Assemblies	4-34
Gate Solenoids 1 - 9	4-36

4025 Options

Mailbox Exit Roll and Bin Gate	4-38
Mailbox Entrance Sensor	4-39
IN Gate Solenoid	4-40
Vertical LED/Sensor	4-42
Mailbox Control PWB	4-44
Mailbox Drive Motor	4-46
Full Stack Actuator	4-48
Rear Lower Cover	4-49
IN Gate	4-50
Lower Chute	4-52
Mailbox Interlock Switch	4-53
Transport Guide Assembly	4-54
High Capacity Feeder	4-55
HCF Rear Cover	4-57
HCF Left Cover	4-58
Left Cover Assembly	4-59
Right Cover	4-60
Front Cover BTM	4-61
HCF Feed Motor	4-62
HCF Drive Belt	4-64
HCF PWB	4-66
Lift Motor	4-67
Tray 3 Paper Size Sensor PWB	4-68
Tray 4 and Tray 5 Paper Size Sensor PWBs	4-69
Trays 3, 4, and 5 Feed Clutches	4-70
Trays 3, 4, and 5 No Paper Actuators	4-71
Trays 3, 4, and 5 No Paper Sensors	4-73
Trays 3, 4, and 5 Paper Level Sensors	4-75
Left Cover Interlock Switch	4-77
Tray 3 Take Away Sensor	4-78
Tray 3 Feeder Assembly	4-79
Tray 3 Retard Assembly	4-81
Tray 3 Nudger, Feeder, and Retard Rolls	4-84
HCF Tray 4	4-86
Tray 4 Front Cover	4-87
Tray 4 Take Away Sensor	4-88
Tray 4 Take Away Roll	4-89
Tray 4 Feeder Assembly	4-92
Tray 4 Retard Assembly	4-94
Tray 4 Feed, Nudger, and Retard Rolls	4-96
HCF Tray 5	4-98
Tray 5 Front Cover	4-99
Tray 5 Feeder Assembly	4-100

4025 Options

Tray 5 Retard Assembly	4-102
Tray 5 Feed, Nudger, and Retard Rolls	4-104
Connector Locations	5-1
Envelope Feeder	5-1
Envelope Feeder P/J Location Table	5-1
Envelope Feeder P/J Location Map 1	5-2
Envelope Feeder Wiring Diagrams	5-2
Duplex	5-6
Duplex P/J Location Table	5-6
Duplex P/J Location Map 1	5-7
Duplex Wiring Diagrams	5-8
Mailbox	5-11
Mailbox P/J Location Table	5-11
Mailbox P/J Location Map 1	5-12
Mailbox Wiring Diagrams	5-13
High Capacity Feeder	5-17
High Capacity Feeder P/J Location Table	5-17
High Capacity Feeder P/J Location Map 1	5-19
High Capacity Feeder P/J Location Map 2	5-20
High Capacity Feeder Wiring Diagrams	5-21
Preventative Maintenance	6-1
Parts Catalog	7-1
How to Use the Parts Catalog	7-1
Assembly 1: Envelope Feeder	7-2
Assembly 2: Duplex	7-4
Assembly 3: Mailbox	7-14
Assembly 4: High Capacity Feeder	7-30
Index	I-1

Preface

This manual describes the options for the Lexmark™ W820 printer: Envelope Feeder, Duplex Unit, Mailbox, and High Capacity Feeder. It contains maintenance procedures for service personnel only and is divided into the following chapters:

- 1. General Information** contains a general description of the printer options and the maintenance approach used to repair them. Special tools and test equipment are listed, as well as general environmental and safety instructions.
- 2. Diagnostic Information** contains an error indicator table, symptom tables, and service checks used to isolate failing field replaceable units (FRUs).
- 3. Diagnostic Aids** contains tests and checks used to locate or repeat symptoms of printer option problems.
- 4. Repair Information** provides instructions for removing and installing FRUs.
- 5. Connector Locations** uses illustrations to identify the connector locations and test points on the options.
- 6. Preventive Maintenance** contains the lubrication specifications and recommendations to prevent problems.
- 7. Parts Catalog** contains illustrations and part numbers for individual FRUs.

Safety Information

- This product is designed, tested and approved to meet strict global safety standards with the use of specific Lexmark components. The safety features of some parts may not always be obvious. Lexmark is not responsible for the use of other replacement parts.
- The maintenance information for this product has been prepared for use by a professional service person and is not intended to be used by others.
- There may be an increased risk of electric shock and personal injury during disassembly and servicing of this product. Professional service personnel should understand this and take necessary precautions.

Consignes de Sécurité

- Ce produit a été conçu, testé et approuvé pour respecter les normes strictes de sécurité globale lors de l'utilisation de composants Lexmark spécifiques. Les caractéristiques de sécurité de certains éléments ne sont pas toujours évidentes. Lexmark ne peut être tenu responsable de l'utilisation d'autres pièces de rechange.
- Les consignes d'entretien et de réparation de ce produit s'adressent uniquement à un personnel de maintenance qualifié.
- Le démontage et l'entretien de ce produit pouvant présenter certains risques électriques, le personnel d'entretien qualifié devra prendre toutes les précautions nécessaires.

Norme di sicurezza

- Il prodotto è stato progettato, testato e approvato in conformità a severi standard di sicurezza e per l'utilizzo con componenti Lexmark specifici. Le caratteristiche di sicurezza di alcune parti non sempre sono di immediata comprensione. Lexmark non è responsabile per l'utilizzo di parti di ricambio di altri produttori.
- Le informazioni riguardanti la manutenzione di questo prodotto sono indirizzate soltanto al personale di assistenza autorizzato.
- Durante lo smontaggio e la manutenzione di questo prodotto, il rischio di subire scosse elettriche e danni alla persona è più elevato. Il personale di assistenza autorizzato, deve, quindi, adottare le precauzioni necessarie.

Sicherheitshinweise

- Dieses Produkt und die zugehörigen Komponenten wurden entworfen und getestet, um beim Einsatz die weltweit gültigen Sicherheitsanforderungen zu erfüllen. Die sicherheitsrelevanten Funktionen der Bauteile und Optionen sind nicht immer offensichtlich. Sofern Teile eingesetzt werden, die nicht von Lexmark sind, wird von Lexmark keinerlei Verantwortung oder Haftung für dieses Produkt übernommen.
- Die Wartungsinformationen für dieses Produkt sind ausschließlich für die Verwendung durch einen Wartungsfachmann bestimmt.
- Während des Auseinandernehmens und der Wartung des Geräts besteht ein zusätzliches Risiko eines elektrischen Schlags und körperlicher Verletzung. Das zuständige Fachpersonal sollte entsprechende Vorsichtsmaßnahmen treffen.

Pautas de Seguridad

- Este producto se ha diseñado, verificado y aprobado para cumplir los más estrictos estándares de seguridad global usando los componentes específicos de Lexmark. Puede que las características de seguridad de algunas piezas no sean siempre evidentes. Lexmark no se hace responsable del uso de otras piezas de recambio.
- La información sobre el mantenimiento de este producto está dirigida exclusivamente al personal cualificado de mantenimiento.
- Existe mayor riesgo de descarga eléctrica y de daños personales durante el desmontaje y la reparación de la máquina. El personal cualificado debe ser consciente de este peligro y tomar las precauciones necesarias.

Informações de Segurança

- Este produto foi concebido, testado e aprovado para satisfazer os padrões globais de segurança na utilização de componentes específicos da Lexmark. As funções de segurança de alguns dos componentes podem não ser sempre óbvias. A Lexmark não é responsável pela utilização de outros componentes de substituição.
- As informações de segurança relativas a este produto destinam-se a profissionais destes serviços e não devem ser utilizadas por outras pessoas.
- Risco de choques eléctricos e ferimentos graves durante a desmontagem e manutenção deste produto. Os profissionais destes serviços devem estar avisados deste facto e tomar os cuidados necessários.

Informació de Seguretat

- Aquest producte està dissenyat, comprovat i aprovat per tal d'acomplir les estrictes normes de seguretat globals amb la utilització de components específics de Lexmark. Les característiques de seguretat d'algunes peces pot ser que no sempre siguin òbvies. Lexmark no es responsabilitza de l'ús d'altres peces de recanvi.
- La informació pel manteniment d'aquest producte està orientada exclusivament a professionals i no està destinada a ningú que no ho sigui.
- El risc de xoc elèctric i de danys personals pot augmentar durant el procés de desmuntatge i de servei d'aquest producte. El personal professional ha d'estar-ne assabentat i prendre les mesures convenients.

안전 사항

- 본 제품에 관한 유지 보수 설명서는 전문 서비스 기술자 용으로 작성된 것이므로 비 전문가가 사용할 수 없습니다.
- 본제품을 해체하거나 정비할 경우 전기적인 충격을 받거나 상처를 입을 위험이 커집니다. 전문 서비스 기술자는 이 사실을 숙지하고 필요한 예방 조치를 취하도록 하십시오.
- 일부 부품의 안전성은 항상 보장되지 않습니다. 따라서, 교체 부품은 원래 부품과 같거나 동등한 특성을 가진 제품을 사용하여야 합니다.

安全资讯

- 本产品的维护资讯仅供专业服务人员使用，而非针对一般使用者。
- 本产品在拆卸、维修的时候，遭受电击或人员受伤的危险性会增高，专业服务人员对这点必须有所了解，并采取必要的预防措施。
- 有些零件的安全功能可能不明显。因此，所替换零件的性能一定要与原有的零件一致。

1. General Information

Maintenance Approach

The diagnostic information in this manual leads you to the correct field replaceable unit (FRU) or part for the Envelope Feeder, Duplex, Mailbox, and High Capacity Feeder options. Use the appropriate error code table, symptom table, error code service checks and symptom service checks to determine the corrective action necessary to repair the failing option. After you complete the repair, perform tests as needed to verify the repair.

Tools Required For Service

The removal and replacement procedures described in this manual require the following tools and equipment:

- Magnetic tip Phillips screwdrivers, large and small
- Flat-blade screwdrivers
- Analog volt ohmmeter (a digital volt ohmmeter may also be used)

Symbols Used in this Manual

Various symbols are used throughout this manual to either provide additional information on a specific topic or to warn of possible danger that might be present during a procedure or action. Be aware of all symbols when they are used, and always read NOTE, CAUTION, and WARNING messages.

Note: A NOTE may indicate an operating or maintenance procedure, practice, or condition that is necessary to efficiently accomplish a task. A NOTE may also provide additional information related to a specific subject or add a comment on the results achieved through a previous action.

WARNING: A WARNING indicates an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in damage to, or destruction of, equipment.

CAUTION: A CAUTION indicates an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in injury.

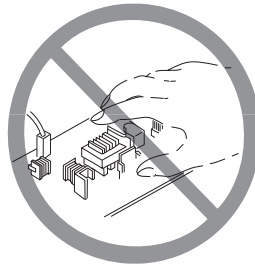
Safety Details

Follow all safety instructions to prevent accidents while servicing the printer and attached options. Always be aware of the potential dangers that are present when you are working with electrical or mechanical equipment.

Printer Power Supply and 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 options with the printer power applied, be aware of the potential for electrical shock.

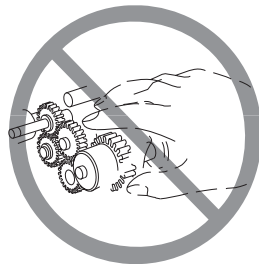
CAUTION: Do not touch any electrical component unless you are instructed to do so by a service procedure.



Mechanical Components

Manually rotate drive assemblies to inspect sprockets and gears.

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



Printer Laser Components

CAUTION: The printer generates a laser beam as part of the printing process. The laser beam is a concentrated narrow beam of light that produces extreme heat at its focal point. The laser beam in this printer is invisible. Although you cannot see the beam, it can still cause severe damage. Direct eye exposure to the laser beam may cause eye injury or blindness.

4025 Options

To avoid permanent eye damage, follow these directions:

- Before starting any service procedure, switch off the printer power and unplug the power cord from the AC wall outlet.
- Do not disassemble the printer Printhead Assembly or any laser component that displays a Laser Warning sticker.
- Use caution when you are working around the printer Printhead Assembly or when you are performing laser related troubleshooting or repair procedures.
- Never place a mirror or a reflective tool or object in the laser beam path.
- Do not disassemble the printer in such a way that the laser beam can exit the print engine during a print cycle.

Printer Fuser Components

CAUTION: This printer uses heat to fuse the toner image to a sheet paper. The printer Fuser Assembly is very hot. Switch off printer power and wait at least 45 minutes for the fuser to cool before you attempt to service the printer Fuser Assembly or adjacent components.

Safety Components

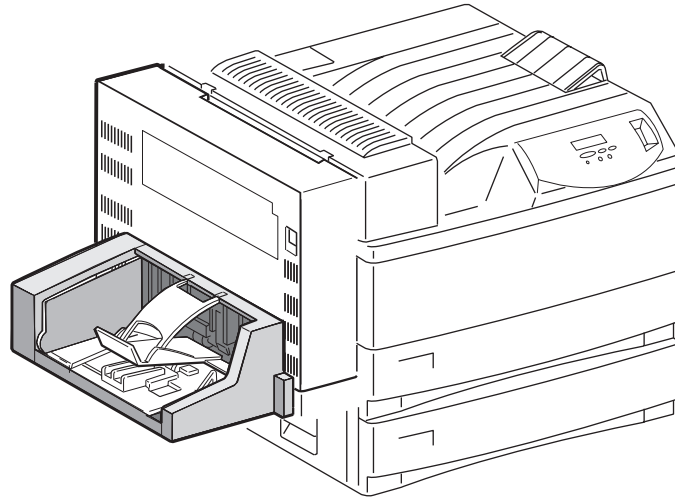
Make sure covers and panel are in place and that all interlock switches are all functioning correctly after you have completed a printer or option service call. If you bypass, or cheat, an interlock switch during a service call, use extreme caution when working on or around the printer or options.

Caution Labels

Throughout the equipment, warning labels are displayed on potentially dangerous components. When you service the printer and options, check to make sure that all caution labels are in place.

Most importantly, read and obey all posted caution labels.

Envelope Feeder

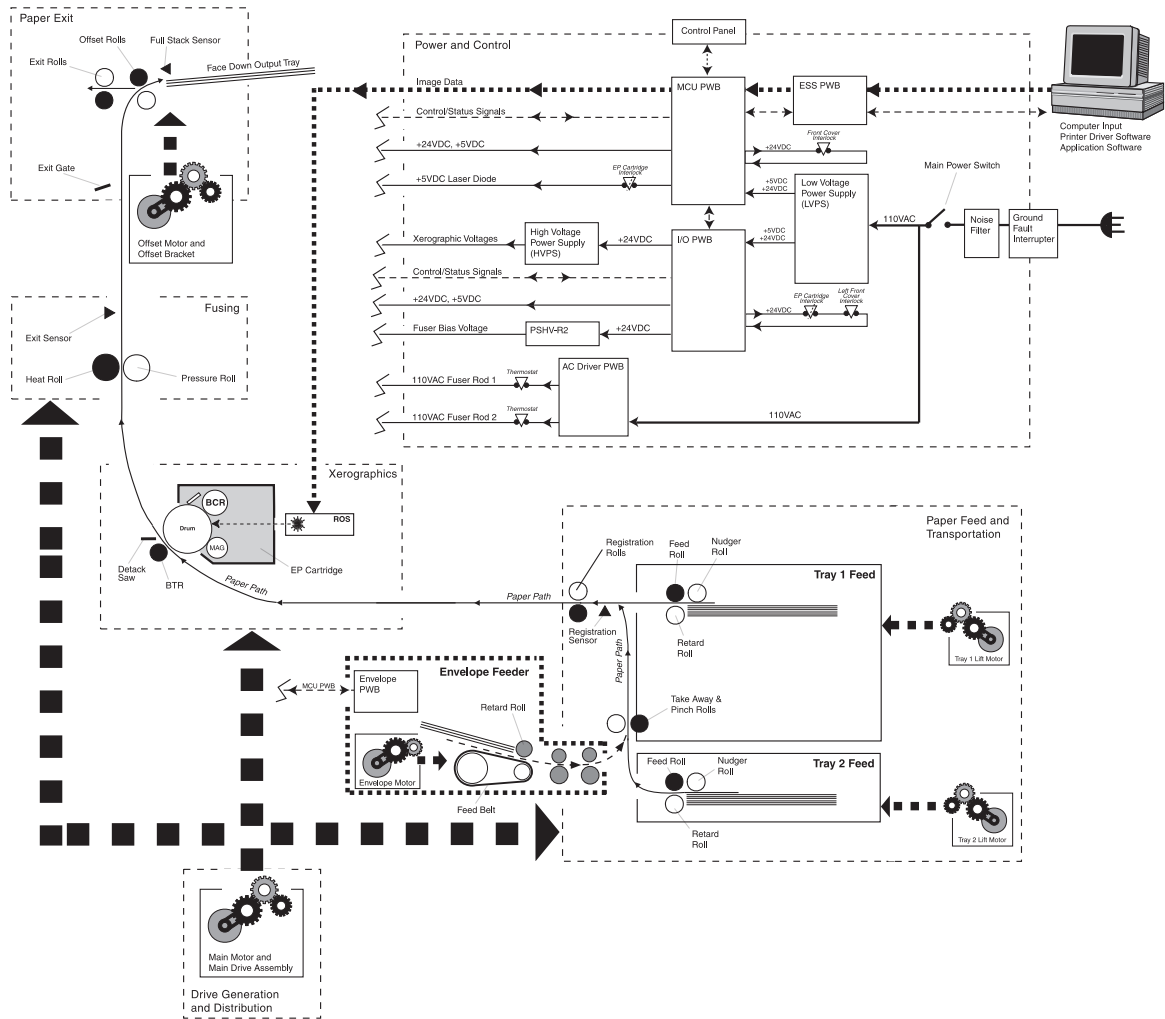


Envelope Feeder Overview

- The Envelope Feeder is a customer installed option that feeds envelopes into the printer.
- The Envelope Feeder is easily installed in place of the printer MP Feeder.
- The printer base engine LVPS provides all of the DC voltages required by the Envelope Feeder.
- One +24VDC motor inside the Envelope Feeder provides all of the mechanical drive required for operation.
- One PWB and three sensors inside the Envelope Feeder provide all of the control and paper path monitoring required for operation.

Schematic Diagram of the Envelope Feeder Operation

The following illustration is a simplified schematic of printer Envelope Feeder components, subsystems, and paper paths.



Envelope Feeder Power and Control

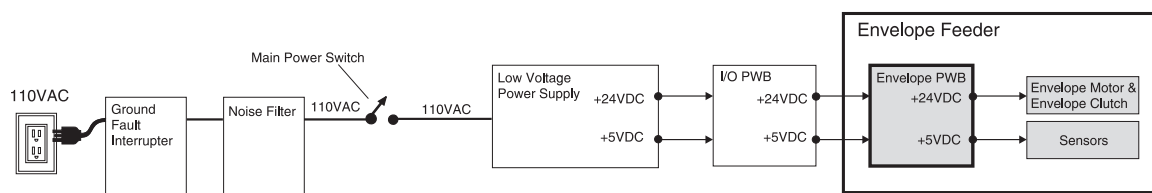
All active components within the Envelope Feeder are electrically connected to the **Envelope PWB**. The Base Engine Low Voltage Power Supply supplies +5VDC and +24VDC to the I/O PWB, and the I/O PWB supplies +5VDC and +24VDC to the Envelope PWB. The MCU PWB provides most of the Envelope Feeder logic, while the Envelope PWB executes the MCU commands.

Envelope Feeder Drive Generation and Distribution

The printer Envelope Feeder has one +24VDC motor, the **Envelope Motor**, that supplies drive to the entire Envelope Feeder. A **Gear Assembly and Feed Clutch** controls and transfers motor drive to Envelope Feeder components.

Envelope Feeder Power

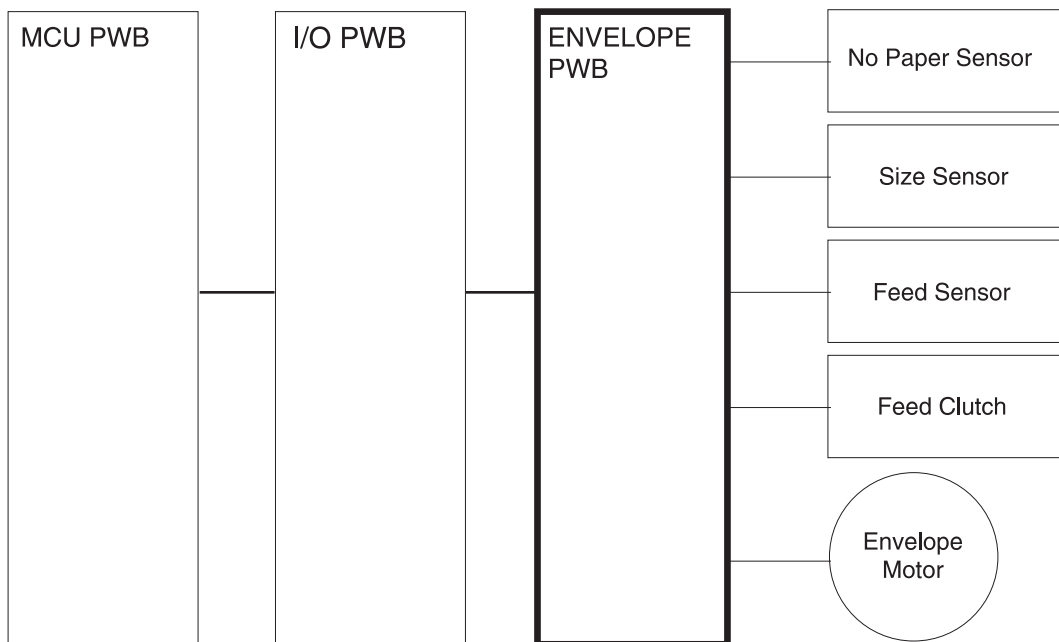
The **Envelope PWB**, located inside the Envelope Feeder, plugs into the I/O PWB. The Base Engine LVPS supplies +5VDC and +24VDC to the I/O PWB. The I/O PWB then supplies +5VDC and +24VDC to the Envelope PWB. The +5VDC powers the Envelope PWB and the Envelope Feeder Sensors, the +24VDC powers the Envelope Motor and the Feed Clutch.



Envelope Feeder Control

Envelope Feeder Control is a broad term used to describe the printer resources that monitor and control the actions and operations of the printer and the Envelope Feeder; from envelope feed to Envelope Feeder error detection.

The center of Envelope Feeder control is the Envelope PWB. The MCU PWB provides the logic and information processing necessary for the printer to function, and the Envelope PWB provides the logic and information processing necessary for the Envelope Feeder to function. Every electrical component within the Envelope Feeder is connected to the Envelope PWB. Sensors in the Envelope Feeder send status information to the Envelope PWB. The Envelope PWB processes that information and shares it with the MCU PWB. Acting on the results of the processing, the Envelope PWB sends commands to the various Envelope Feeder components; switching off the motor or switching on the Feed Clutch.



Envelope Feeder Control Components

Envelope Feeder Control is made up of four major components.

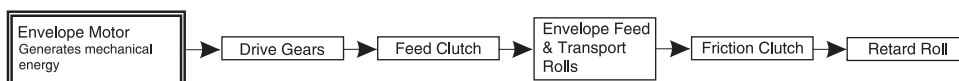
- 1. Envelope Feeder PWB**
The Envelope Feeder PWB controls all Envelope Feeder functions, executes commands sent by the MCU PWB, and sends information back to the MCU PWB.
- 2. No Paper Sensor**
Monitors the envelope level in the Envelope tray.
- 3. Size Sensor**
Monitors the envelope size loaded in the Envelope tray.
- 4. Feed Sensor**
Monitors envelope travel out of the Envelope Feeder.
Monitors paper entering the Envelope Feeder from the printer.

Mechanical Drive

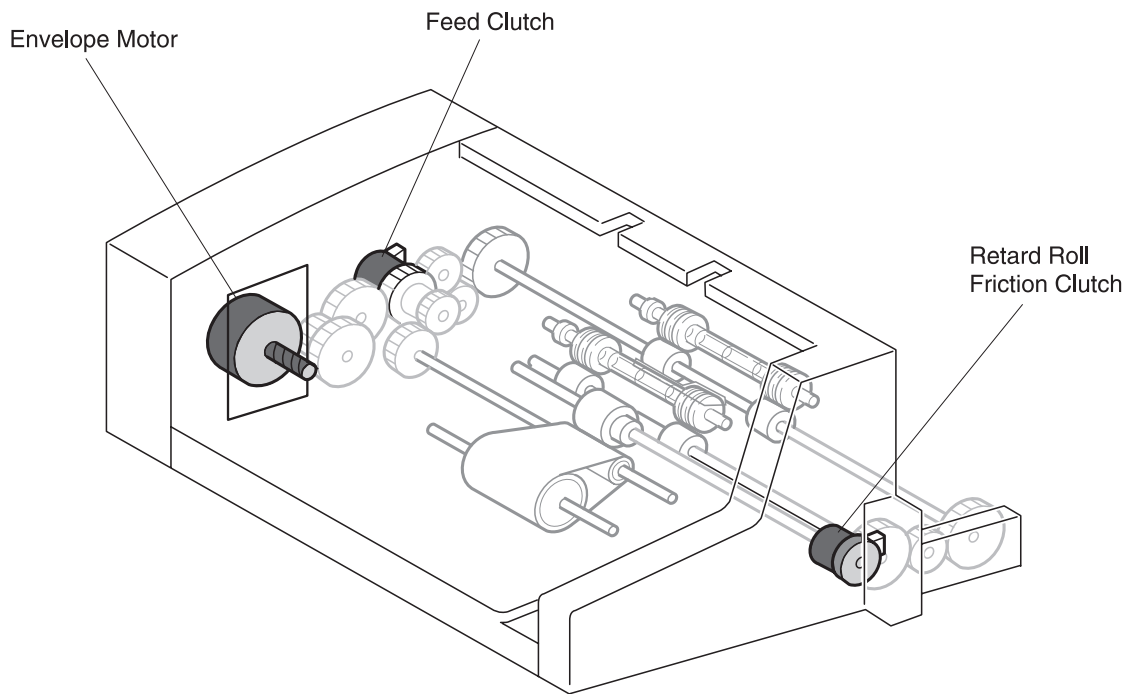
Mechanical Drive is a term used to describe both the rotation of the Envelope Motor and the action of the gears and rollers used to transmit motor rotation to the drive rolls within the Envelope Feeder. The purpose of Mechanical Drive within the Envelope Feeder is to provide the mechanical energy needed to drive an envelope from the Envelope Feeder tray and into the printer base engine.

Drive for the Envelope Feeder

The **Envelope PWB** controls the **Envelope Motor**. The Motor rotates the **Drive Gears**. When the Envelope PWB switches on the Envelope Motor, the Motor rotates the Drive Gears. When the Envelope PWB actuates the **Feed Clutch**, the Clutch transmits drive to the Envelope Feed and Transport Roll. The **Friction Clutch** transmits drive to the Retard Roll.



4025 Options



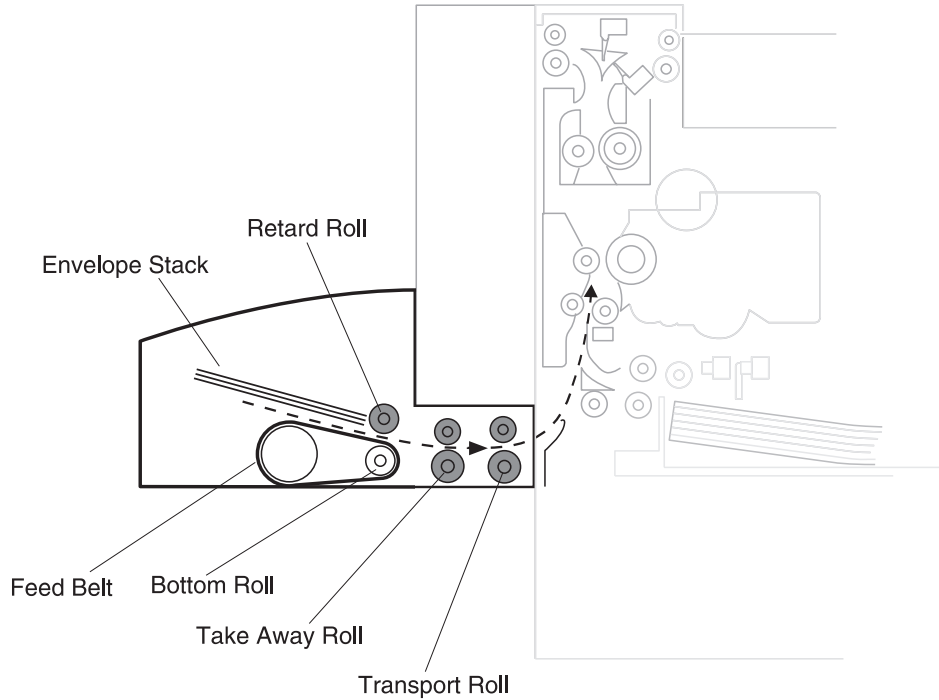
Envelope Feeder Mechanical Drive Components

The Mechanical Drive for the Envelope Feeder is made up of one motor, two clutches, and a number of gears.

- 1. Envelope Motor**
A +24VDC motor that provides the mechanical drive for the Envelope Feeder.
- 2. Feed Clutch**
An electric clutch controlled by the Envelope PWB. When actuated, the Feed Clutch transmits Envelope Motor drive to the Envelope feed and transport assemblies.
- 3. Retard Roll Friction Clutch**
Transmits motor drive to the Retard Roll.

Envelope Feeder Paper Path

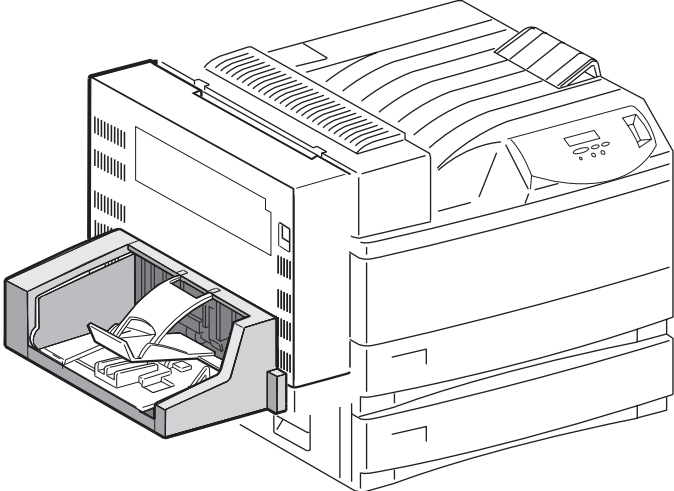
The Envelope Feeder Paper Path is the physical route that an envelope takes through the Envelope Feeder during a print cycle. The Feed Belt and Retard Roll feed a single envelope out of the stack and into the Take Away Roll. The Take Away Roll drives the envelope into the Transport Roll. The Transport Roll drives the envelope out of the Envelope Feeder and into the printer Registration Roll.



Envelope Feeder Paper Path Components

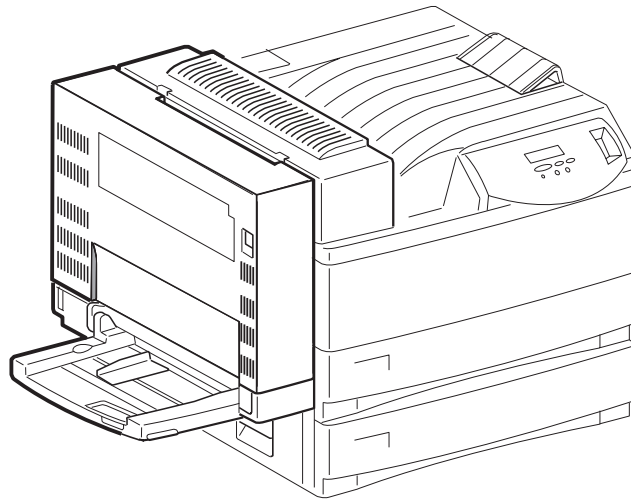
1. Weight Arm
Presses the stack of envelopes against the Feed Belt.
2. Feed Belt
Feeds an envelope off of the stack and into the Take Away Roll.
3. Retard Roll
Prevents multiple envelope feed.
4. Take Away Roll & Pinch Roll
Continues to drive the envelope out of the feed area and into the Transport Roll.
5. Transport Roll & Pinch Roll
Drives the envelope out of the Envelope Feeder and into the printer Registration Roll.

Envelope Feeder General Specifications

Category	Specification
Configuration	<p>Customer installed option. The Envelope Feeder replaces the MP Feeder. The Envelope Feeder attaches to the MP Feeder Support.</p> <p>Paper fed from the Envelope Feeder cannot be duplexed.</p> 
Envelope stack capacity	<p>Maximum 100 envelope. Envelope Feeder is equipped with a No Paper Sensor.</p>
Recommended envelope sizes	<p>Monroe Brand COM #10 - 104.8mm x 241.3mm Monroe Brand Monarch - 98.4mm x 190.5mm C5 - 162mm x 220mm DL - 110mm x 220mm</p>
Power requirements	<p>The printer provides all of the Envelope Feeder power requirements; +5VDC and +24VDC.</p>
Size and weight	<p>Height: 133 mm / 5.2 inches Width: 278 mm / 10.9 inches Depth: 444 mm / 17.4 inches Weight: 3.0kg / 6.6 lbs</p>

Duplex

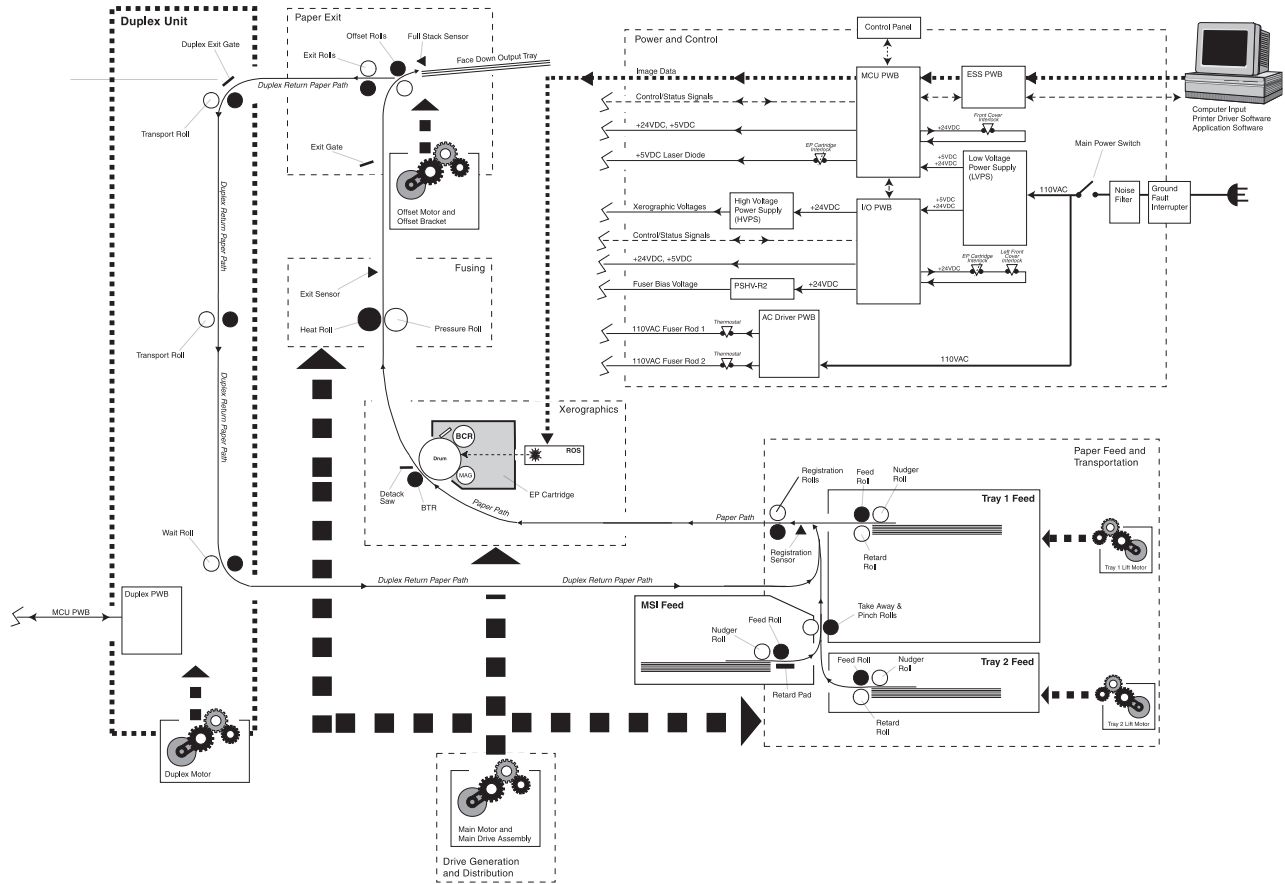
Duplex Overview



- The Duplex Unit is a customer installed option that enables the printer to run duplex, or double-sided, print jobs.
- The Duplex Unit is easily installed on the left side of the printer, just above the MP Feeder.
- The base engine LVPS provides all of the DC voltages required by the Duplex Unit.
- One +24VDC motor inside the Duplex Unit provides all of the mechanical drive required by the Duplex Unit.
- One PWB and two sensors inside the Duplex Unit provide all of the control and paper path monitoring required by the Duplex Unit.

Schematic Diagram of the Duplex Operation

The following illustration is a simplified schematic of the Duplex Unit components, subsystems, and paper paths.



Duplex Power and Control

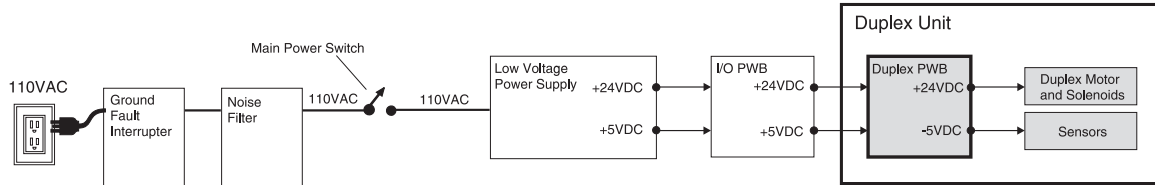
All active components within the Duplex Unit are electrically connected to the **Duplex PWB**. The Base Engine Low Voltage Power Supply supplies +5VDC and +24VDC to the I/O PWB, and the I/O PWB supplies +5VDC and +24VDC to the Duplex PWB. The MCU PWB provides most of the Duplex Unit logic, while the Duplex PWB executes the MCU commands.

Duplex Drive Generation and Distribution

The Duplex Unit has one +24VDC motor, the Duplex **Motor**, that supplies drive to the entire Duplex Unit. A **Gear Assembly and drive belts** transfer motor drive to Duplex components. An electrical Wait Clutch controls drive to the Transport Rolls and the Duplex PWB controls the Duplex Motor and the Wait Clutch.

Duplex Power

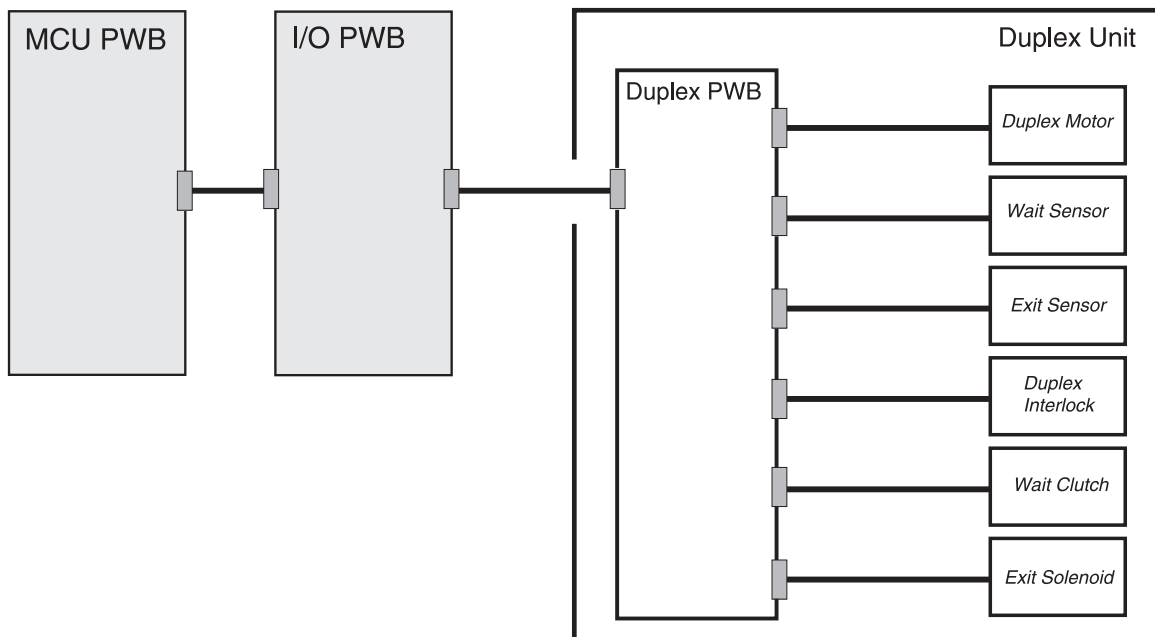
The base engine Low Voltage Power Supply and the I/O PWB provide the +5VDC and +24VDC that the Duplex Unit requires to operate. The **Duplex PWB**, located inside the Duplex Unit, plugs into the I/O PWB. The Base Engine LVPS supplies +5VDC and +24VDC to the I/O PWB. The I/O PWB then supplies +5VDC and +24VDC to the Duplex PWB. The +5VDC powers the Duplex PWB and the Duplex Sensors, the +24VDC powers the Duplex Motor and the Wait Clutch and Exit Solenoid.



Duplex Control

Duplex Unit Control is a broad term used to describe the printer resources that monitor and control the actions and operations of the Duplex Unit.

The center of the Duplex Unit control is the Duplex PWB. The Duplex PWB, along with the MCU PWB, provide the logic and information processing necessary for the Duplex Unit to function. Every electrical component within the Duplex Unit is connected to the Duplex PWB. The Wait Sensor and Exit Sensor in the Duplex Unit send paper status information to the Duplex PWB. The Duplex PWB processes that information and shares it with the MCU PWB. The MCU compares the information to timing tables stored in ROM. Acting on the results of the processing, the MCU PWB sends commands to various base engine components and to the Duplex PWB. The Duplex PWB then switches the Duplex components.



Duplex Control Components

Duplex Control is made up of four major components.

1. Duplex PWB

The Duplex PWB controls all Duplex functions, executes commands sent from the MCU PWB, and sends information back to the MCU PWB.

2. Duplex Interlock Switch

Monitors whether the Duplex Unit is closed (operating position) or open (not operating position).

3. Exit Sensor

Monitors paper travel out of the Duplex Unit.

4. Wait Sensor

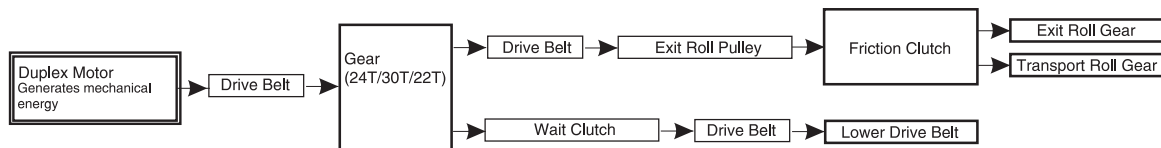
Monitors paper travel to the Wait Rolls.

Mechanical Drive

Mechanical Drive is a term used to describe both the rotation of the Duplex Motor and the action of the gears, clutches, and belts that transmit motor drive to the components throughout the Duplex Unit. The primary purpose of Mechanical Drive within the Duplex Unit is to provide the mechanical energy needed to drive a sheet of paper into the Output Tray, back through the Duplex Unit and into the base engine for a second side printing, and then back out into the Output Tray.

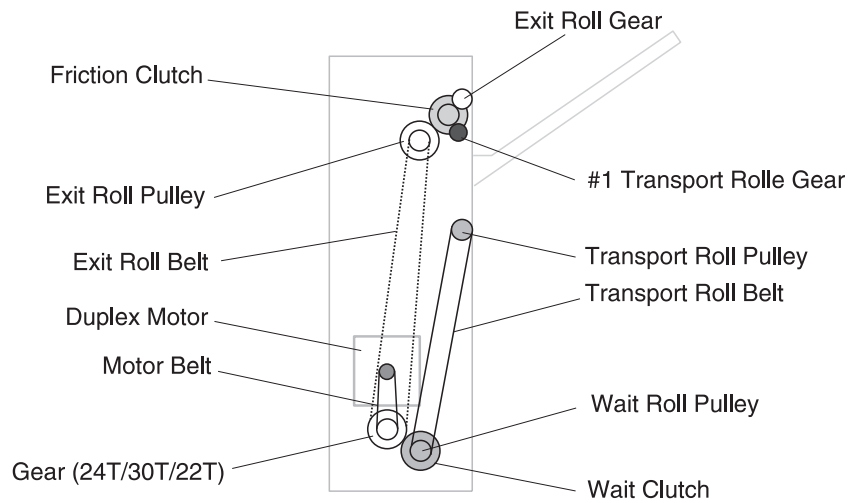
Drive for the Duplex Unit

The **Duplex Motor** generates the mechanical drive for the entire Duplex Unit. One end of the **Duplex Motor Belt** is attached to the Duplex Motor and the other end is attached to **Gear (24T/30T/22T)**. One end of the **Exit Roll Belt** is attached to Gear (24T/30T/22T) and the other end is attached to the **Friction Clutch**. One end of the **Transport Roll Belt** is attached to the **Wait Clutch** and the other end is attached to the **Lower Drive Roll**. The Wait Clutch is always in contact with Gear (24T/30T/22T). When the Duplex PWB switches on the Duplex Motor, Gear (24T/30T/22T) transmits drive, through belts, clutches, and pulleys to the various drive rolls along the duplex paper-path.



Duplex Drive Components

1. Duplex Motor
A +24VDC motor that provides mechanical drive for the Duplex Unit.
2. Wait Clutch
An electric clutch that controls Duplex Motor drive to the Transport Roll.
3. Friction Clutch
A mechanical clutch that transmits Duplex Motor drive to the Exit Roll and #1 Transport Roll.



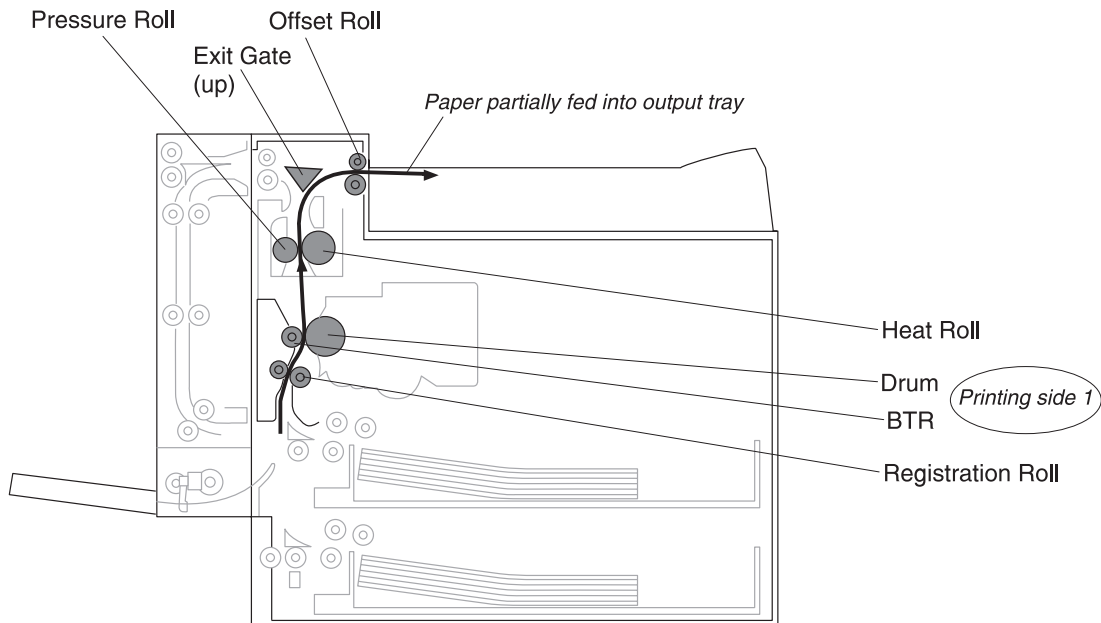
Duplex Paper Path

The Duplex Unit Paper Path is the physical route that a sheet of paper takes through the printer and through the Duplex Unit during a duplex print cycle. Rubber rollers and solenoid activated gates drive and direct the paper along the Paper Path. The primary purpose of the Duplex Unit Paper Path is to accept a printed sheet of paper from the Fuser exit area, drive that sheet down through the Duplex Unit, effectively flipping over the sheet, and feeding the sheet back into the printer registration area so the printer can begin to transfer an image onto the second side.

Note: The Duplex Unit provides duplex printing for paper fed from all available paper trays except the MP Feeder and the Envelope Feeder. Paper fed from either the MP Feeder or the Envelope Feeder cannot be duplexed.

Step 1

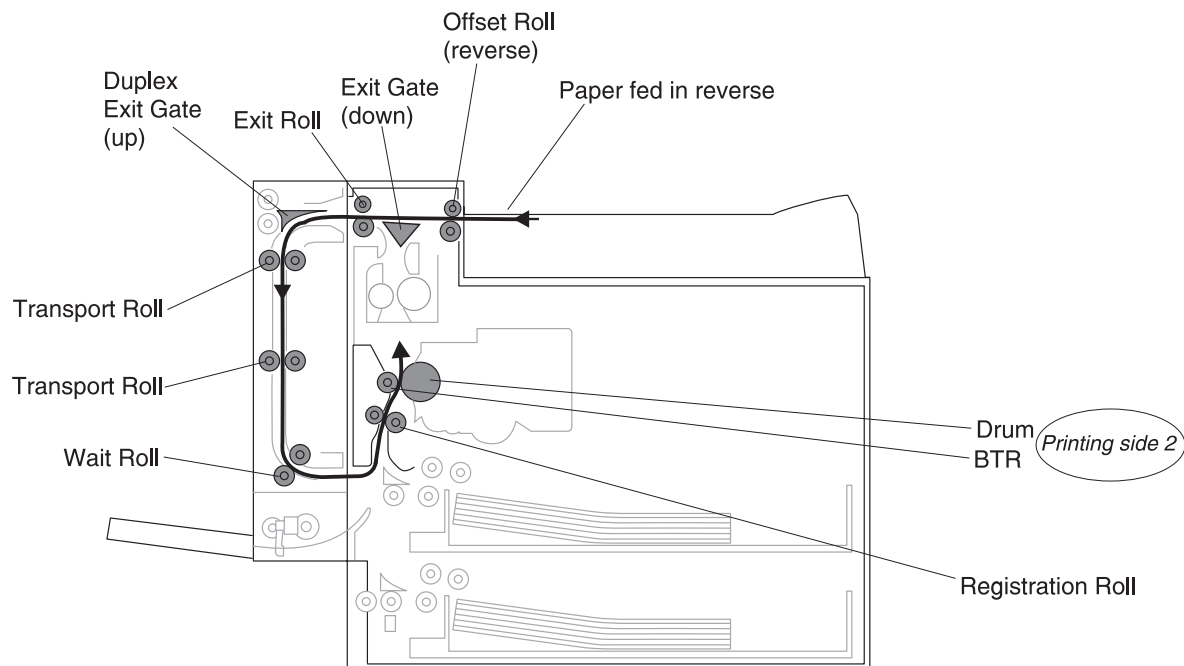
The Drum and BTR place an image on side one of a sheet of paper. The Drum/BTR drive the paper into the Heat and Pressure Rolls. The Heat and Pressure Rolls drive the sheet into the Exit Unit. The Exit Gate Solenoid toggles the Exit Gate so the paper path runs to the Offset Roll. The Offset Roll drives the sheet partially into the Output Tray, then stops.



4025 Options

Step 2

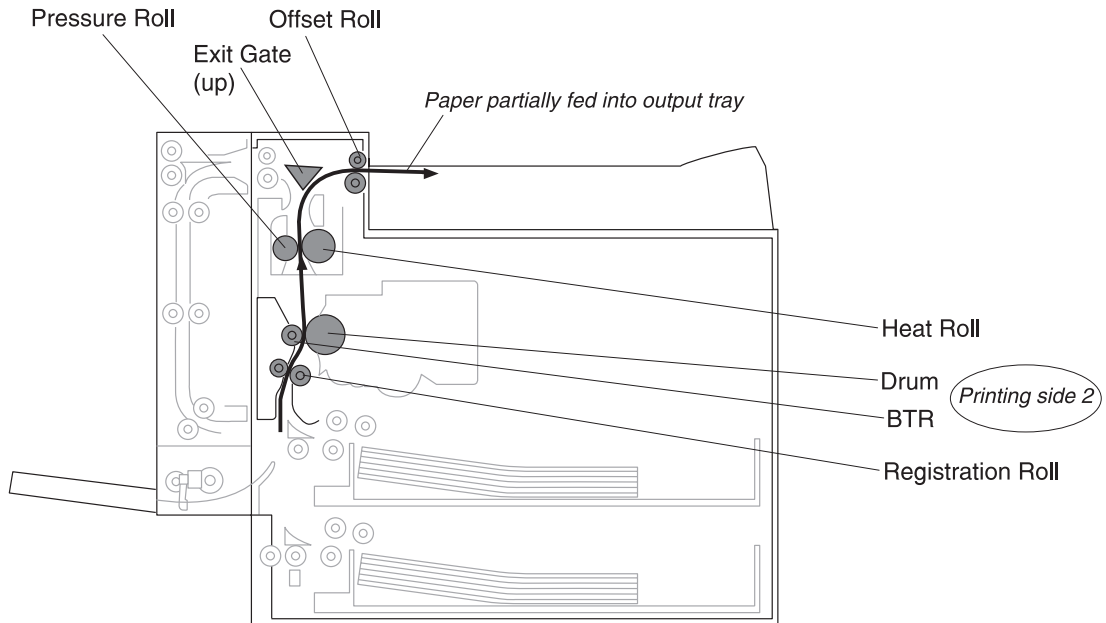
The Inverter CCW Clutch switches on and rotates the Offset Roll backward, driving the sheet of paper back into the Exit Unit. The Exit Gate Solenoid toggles the Exit Gate so the paper path runs to the Exit Roll. The Exit Roll drives the sheet of paper into the Duplex Unit. The Duplex Exit Solenoid toggles the Duplex Exit Gate so the paper path runs to the Duplex Transport Roll. Two sets of Transport Rolls drive the paper down to the Wait Roll. The paper stops momentarily at the Wait Roll. When it is time to send the sheet of paper back into the printer for printing on the second side, the Wait Clutch switches on and the Wait Roll drives the paper out of the Duplex Unit and into the printer Registration Roll. The paper stops at the Registration Roll so the image on the Drum can align with the leading edge of the paper. When registration is complete, the Registration Roll drives the paper into the Drum and BTR where the second side is printed.



4025 Options

Step 3

The Drum and BTR place an image onto the second side of the sheet of paper. The Drum/BTR drive the paper into the Heat and Pressure Rolls. The Heat and Pressure Rolls drive the sheet into the Exit Unit.

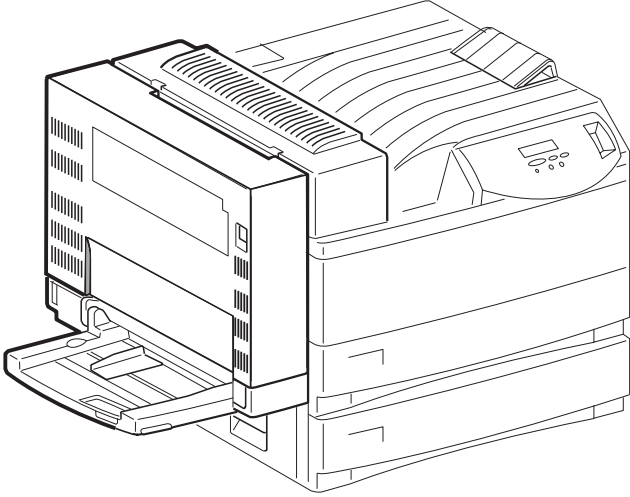


Duplex Paper Path Components

The Duplex Unit Paper Path is made up of a number of transport rolls and paper sensors.

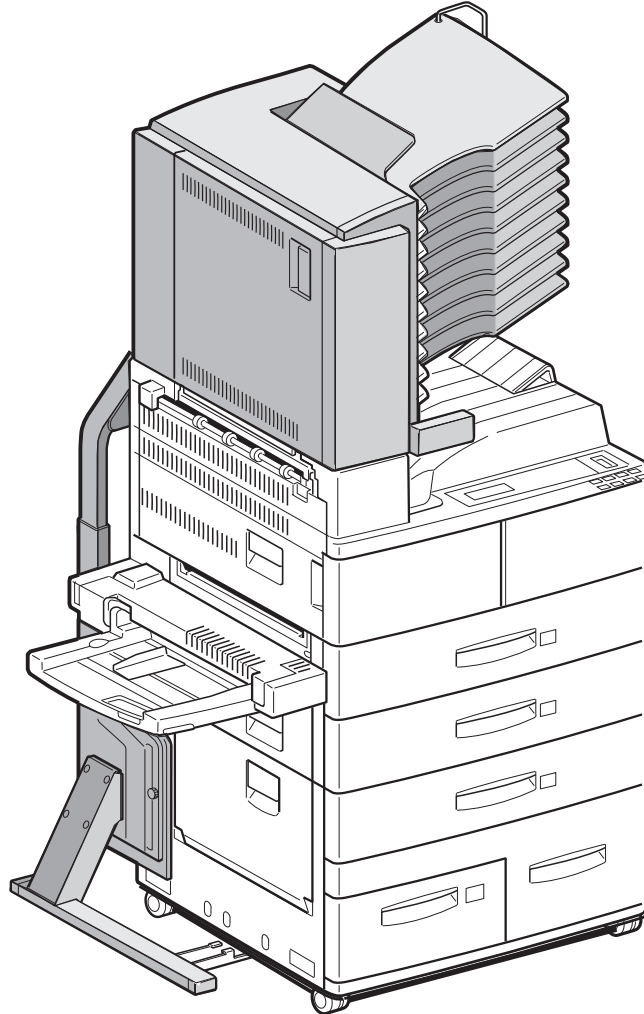
- 1.** Exit Gate and Exit Gate Solenoid
Diverts paper to either the Duplex Transport Roll #1.
- 2.** Transport Roll #1 and Pinch Roll
Drives paper down through the Duplex Unit and into the lower Transport Roll.
- 3.** Transport Roll and Pinch Roll
Drive paper into the Wait Roll area.
- 4.** Wait Sensor
Monitors paper at the Wait Roll. Holds paper there until it is time to feed the sheet into the printer.
- 5.** Wait Roll and Pinch Roll
Note: When it is time to feed the sheet into the printer for the second side printing, the Wait Roll drives the paper out of the Duplex Unit and back into the printer.
- 6.** Exit Roll
Drives paper out of the Duplex Unit.
- 7.** Exit Sensor
Monitors paper travel through the Exit Roll.

Duplex General Specifications

Category	Specification
Configuration	<p>Customer installed option. Attaches to the left side of the printer, above the MP Feeder.</p> 
Paper feed	<p>The Duplex Unit provides duplex printing for paper fed from all available paper trays except the MP Feeder and the Envelope Feeder. Paper fed from the MP Feeder or from the Envelope Feeder cannot be duplexed.</p>
Power requirements	<p>The base printer provides all of the Duplex Unit power requirements; +5VDC and +24VDC</p>
Size and weight	<p>Height: 369 mm / 14.5 inches Width: 92 mm / 3.6 inches Depth: 484 mm / 19.0 inches Weight: 5.5kg / 12.1 pounds</p>

Mailbox

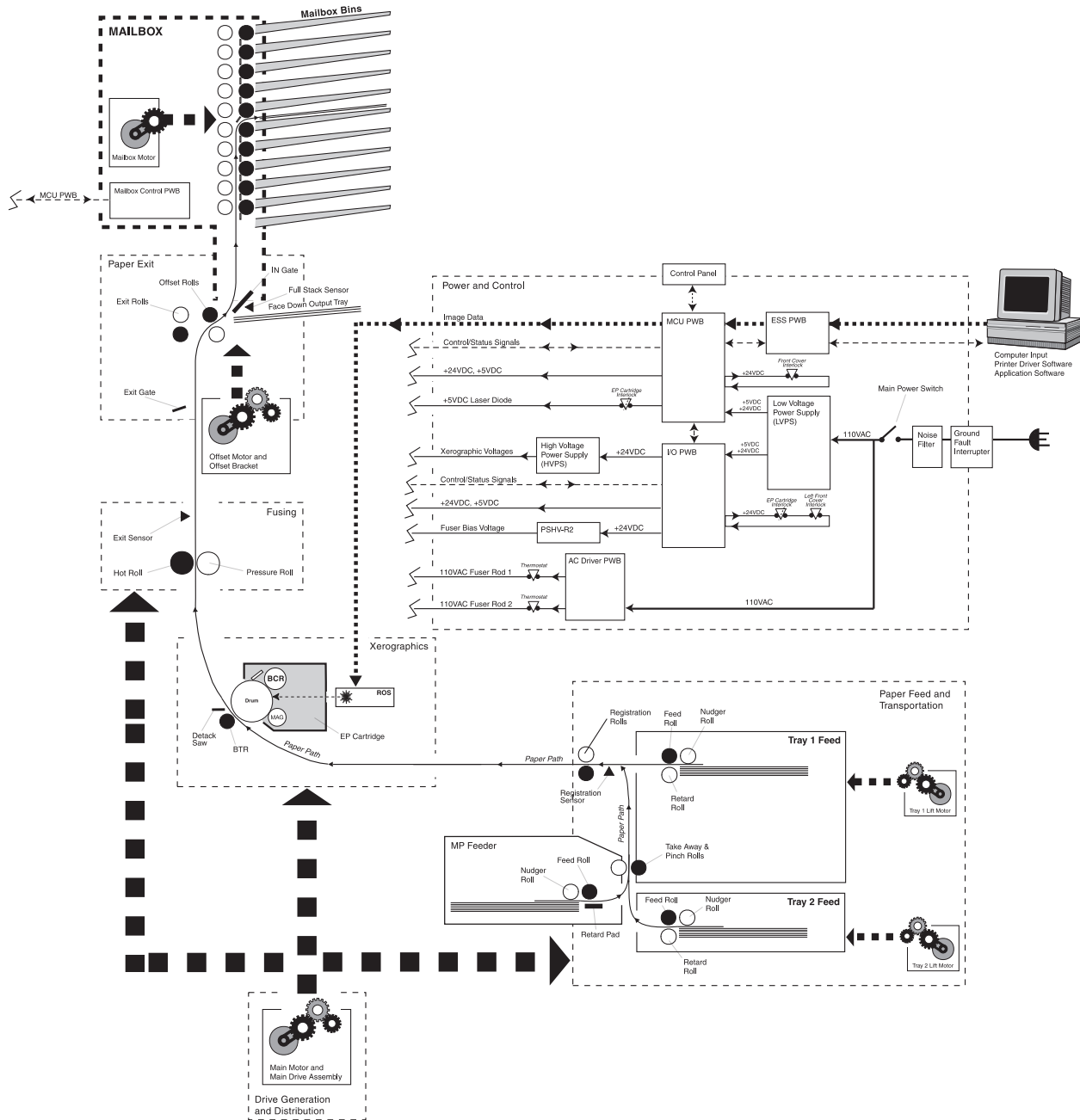
Mailbox Overview



- The Mailbox (or Sorter) is a customer installed option that distributes printed sheets to any one of ten Mailbox bins.
- The Mailbox is easily installed on top of the printer.
- The base engine LVPS provides all of the DC voltages required by the Mailbox.
- One +24VDC motor inside the Mailbox provides all of the mechanical drive required for operation.
- One PWB and thirteen sensors inside the Mailbox provide all of the control and paper path monitoring required for operation.

Schematic Diagram of the Mailbox Operation

The following illustration is a simplified schematic of Mailbox components, subsystems, and paper paths.



Mailbox Power and Control

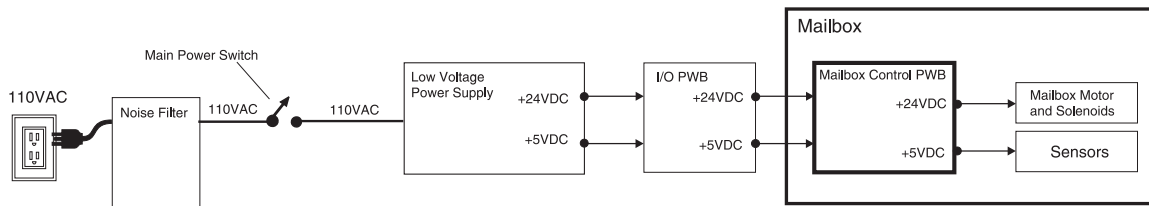
All active components within the Mailbox are electrically connected to the **Mailbox Control PWB**. The Base Engine Low Voltage Power Supply supplies +5VDC and +24VDC to the I/O PWB, and the I/O PWB supplies +5VDC and +24VDC to the Mailbox Control PWB. The MCU PWB provides most of the Mailbox logic, while the Mailbox PWB executes the MCU commands.

Mailbox Drive Generation and Distribution

The Mailbox has one +24VDC motor, the **Mailbox Drive Motor**, that supplies drive to the entire Mailbox. A **Gear Assembly and drive belt** transfers motor drive to Mailbox components.

Mailbox Power

The base engine Low Voltage Power Supply and I/O PWB provide the +5VDC and +24VDC that the Mailbox requires to operate. The **Mailbox Control PWB**, located inside the Mailbox, plugs into the I/O PWB. The Base Engine LVPS supplies +5VDC and +24VDC to the I/O PWB. The I/O PWB then supplies +5VDC and +24VDC to the Mailbox Control PWB. The +5VDC powers the Mailbox Control PWB and the Mailbox Sensors, the +24VDC powers the Mailbox Motor and the Mailbox Solenoids.

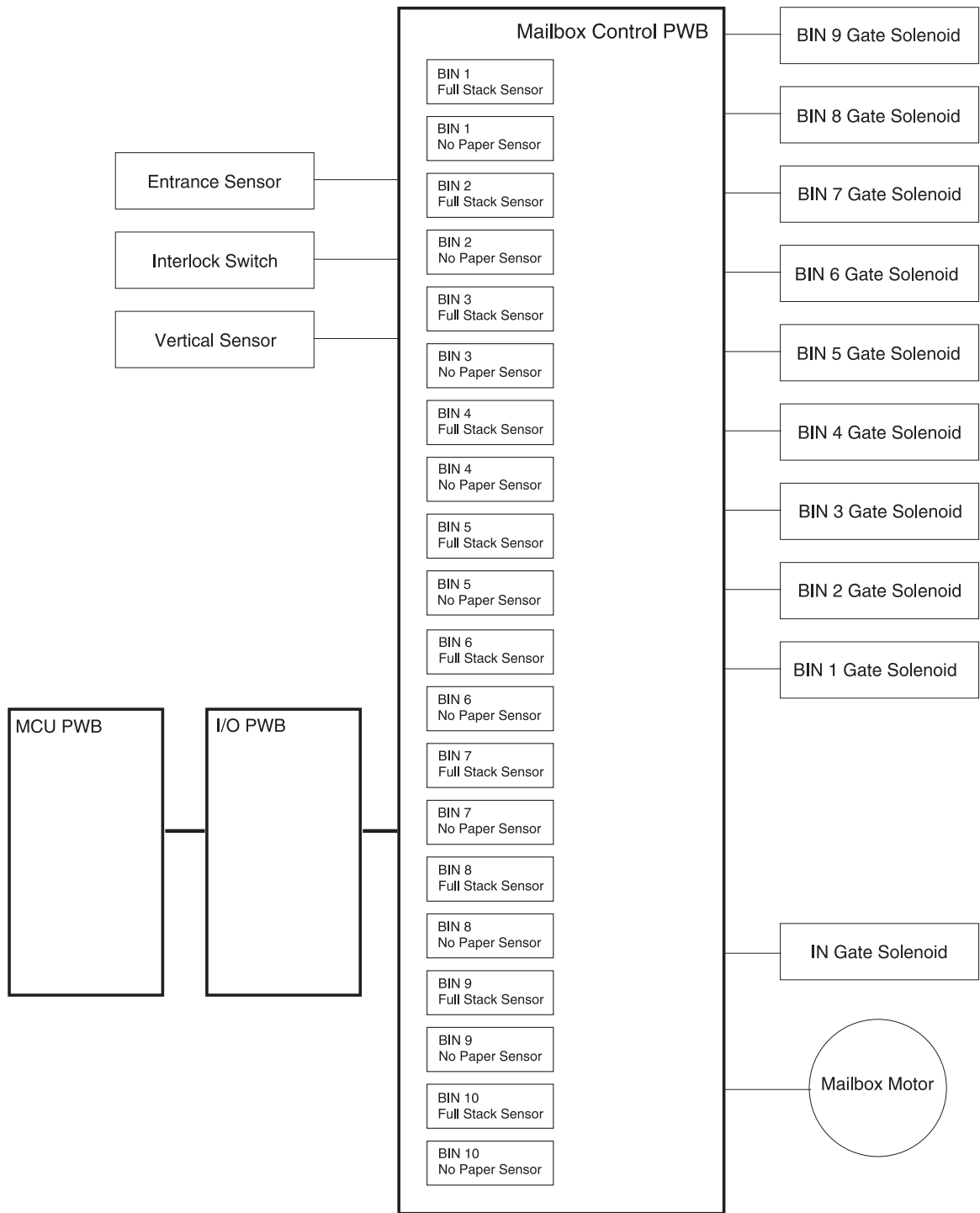


Mailbox Control

Mailbox Control is a broad term used to describe the printer resources that monitor and control the actions and operations of the printer and the Mailbox; from bin output to error detection.

The center of Mailbox control is the Mailbox Control PWB. The MCU PWB provides the logic and information processing necessary for the printer to function, and the Mailbox Control PWB provides the logic and information processing necessary for the Mailbox to function. Every electrical component within the Mailbox is connected to the Mailbox Control PWB. Sensors in the Mailbox send paper travel status information to the Mailbox Control PWB. The Mailbox Control PWB processes that information and shares it with the MCU PWB. Acting on the results of the processing, the Mailbox Control PWB sends commands to the various Mailbox components; switching on the motor or switching off a bin solenoid.

4025 Options



Mailbox Control Components

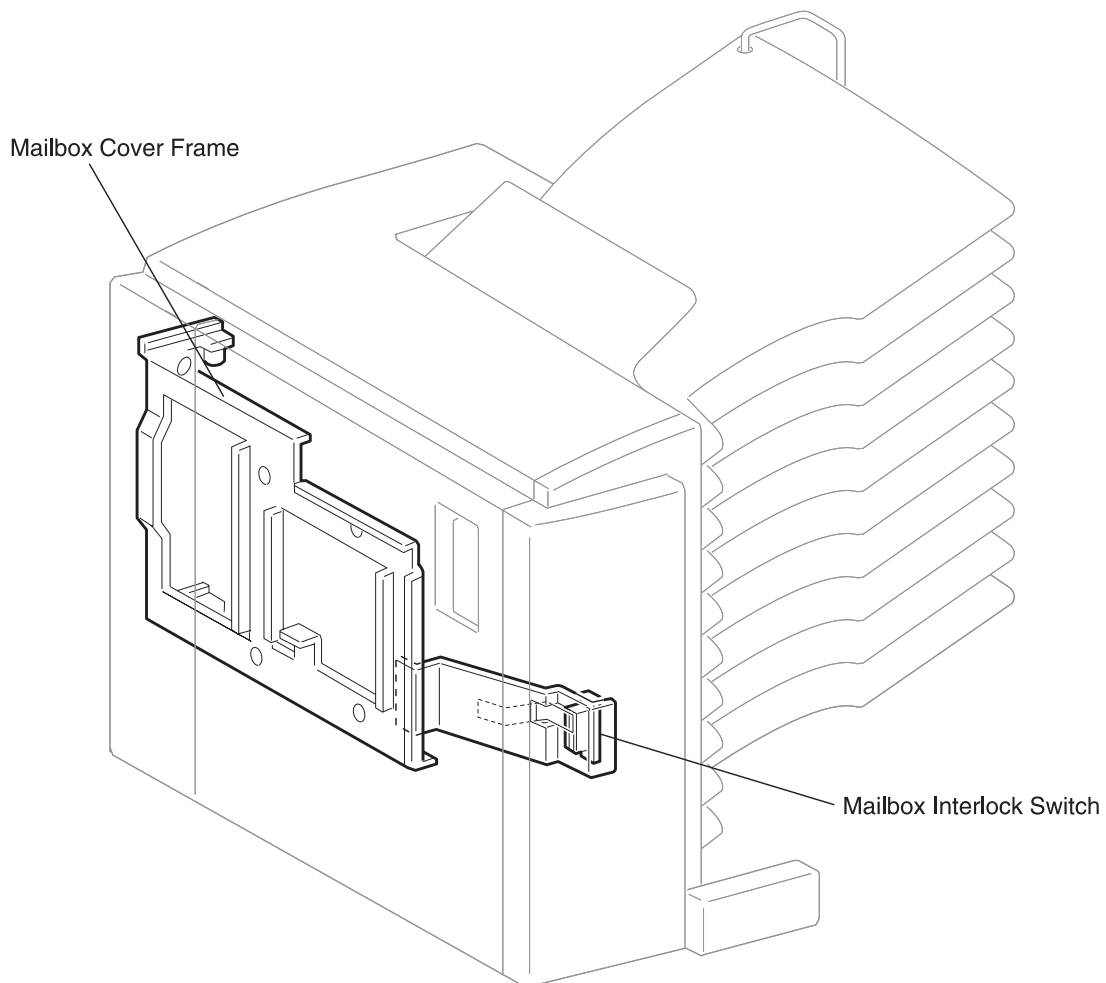
Mailbox Control is made up of the following components:

1. Mailbox Control PWB

The Mailbox Control PWB controls all Mailbox functions, executes commands sent from the MCU PWB, and sends information back to the MCU PWB. All Mailbox components are connected directly to the Mailbox Control PWB.

2. Mailbox Interlock Switch

Monitors the Left Cover position. When the Cover is open, the Mailbox Control PWB cuts power to the Mailbox components.



4025 Options

3. Full Stack Sensor

There are ten Full Stack Sensors within the Mailbox. Each Sensor monitors the paper level of the associated bin. The Full Stack Sensors are mounted on the Mailbox Control PWB.

4. No Paper Sensor

There are ten No Paper Sensors within the Mailbox. Each Sensor monitors the paper presence of the associated bin. The No Paper Sensors are mounted on the Mailbox Control PWB.

5. Mailbox Entrance Sensor

Monitors paper entering the Mailbox from the printer.

6. Mailbox Drive Motor

A 24VDC motor. Provides mechanical drive for the Mailbox.

7. Gate Solenoid

There are nine Gate Solenoids within the Mailbox. Each Solenoid controls the paper path Gate of the associated bin.

8. Vertical LED and Sensor

Monitors paper travel into Bins 2 through 10.

9. Bin 10 Jam Sensor

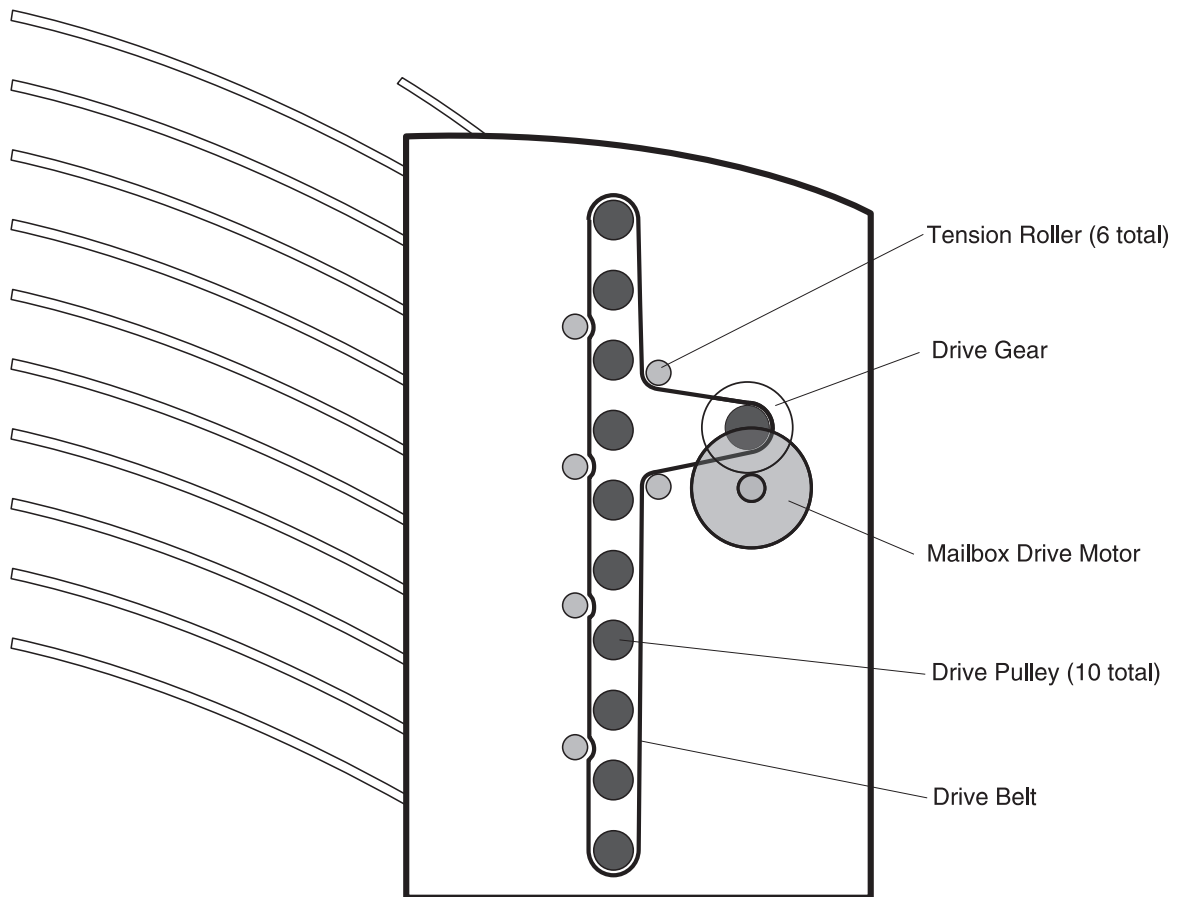
Monitors paper travel to Bin 10.

Mechanical Drive

Mechanical Drive is a term used to describe both the rotation of the Mailbox Drive Motor and the action of the gear, belt, pulleys, and rollers used to transmit motor rotation to the ten Mailbox Rolls within the Mailbox. The purpose of Mechanical Drive within the Mailbox is to provide the mechanical energy needed to drive a sheet from the printer paper exit and into a Mailbox bin.

Drive for the Mailbox

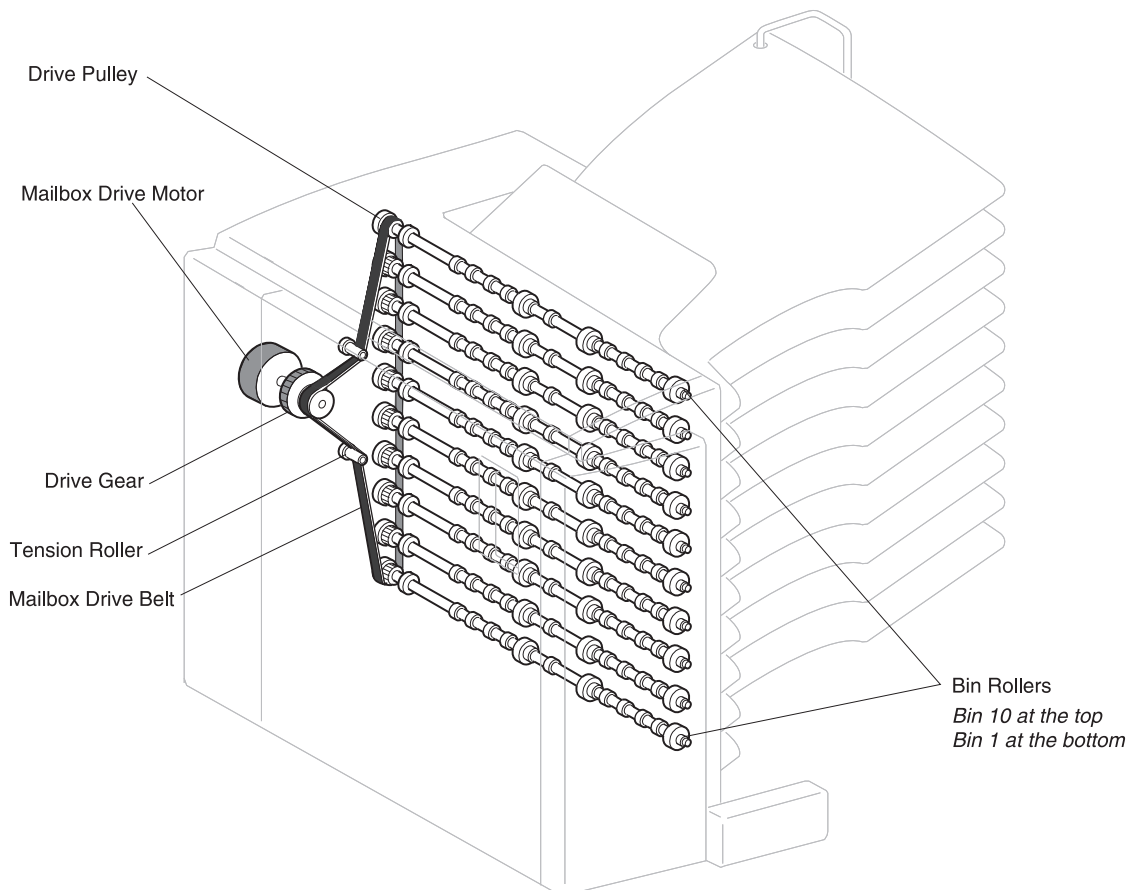
The **Mailbox Control PWB** controls the **Mailbox Motor**. The Motor rotates the **Drive Gear**. The **Drive Belt** wraps around the Drive Gear and the ten **Drive Pulleys**. Six Tension Rollers along the path press the Drive Belt against the Drive Pulleys. When the Mailbox Control PWB switches on the Mailbox Motor, the Motor rotates the Drive Gear, the Drive Gear drives the Belt which in turn rotates the ten Drive Pulleys. The ten Drive Pulleys rotate the ten Mailbox Exit Rolls.



Mailbox Mechanical Drive Components

The Mechanical Drive for the Mailbox is made up of one motor, a drive belt, and a number of pulleys.

- 1. Mailbox Drive Motor**
Provides the mechanical drive for the Mailbox.
- 2. Drive Gear**
A two part gear. One side of the gear rides on the Motor gear. The other side of the gear drives the Mailbox Drive Belt.
- 3. Mailbox Drive Belt**
Transmits Mailbox Motor drive to the ten Drive Pulleys.
- 4. Drive Pulleys**
Ten pulleys.
- 5. Tension Rollers**
Six rollers that press the Drive Belt against the Drive Pulleys.

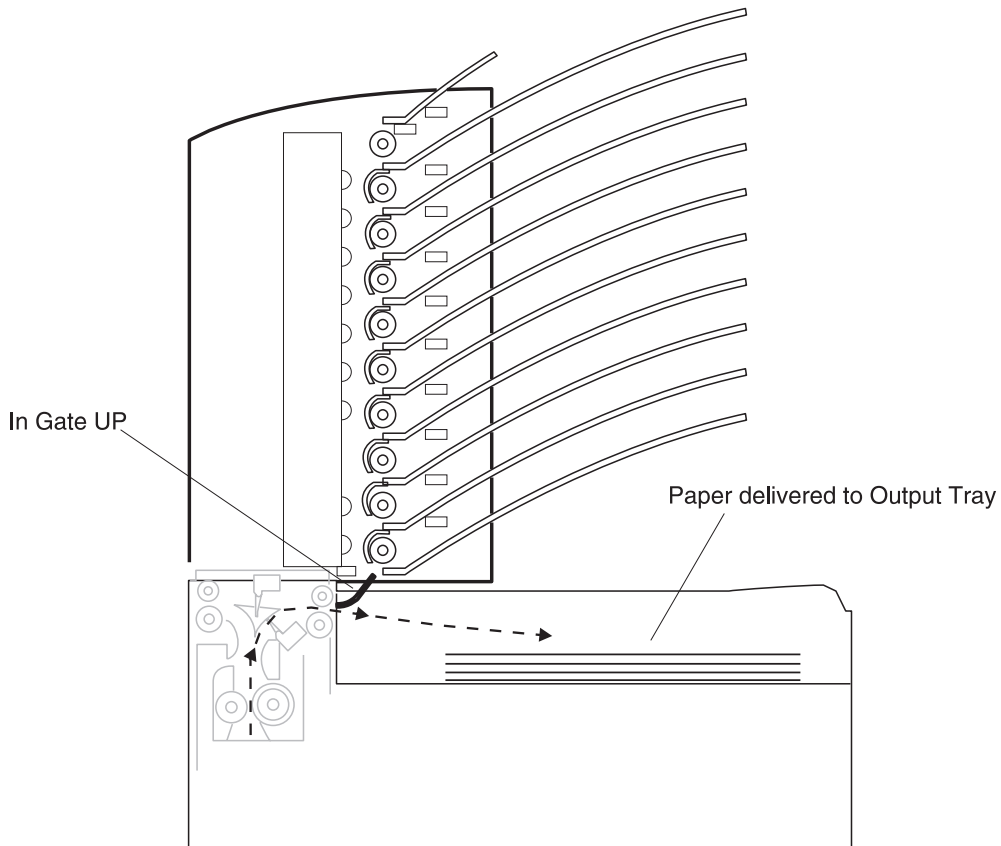


Mailbox Paper Path

The Mailbox Paper Path is the physical route that a sheet of paper takes from the printer exit area to a specific Mailbox bin. Rubber rollers drive the paper along the Paper Path.

Paper Path 1: Bypass the Mailbox and Feed Paper to the Output Tray

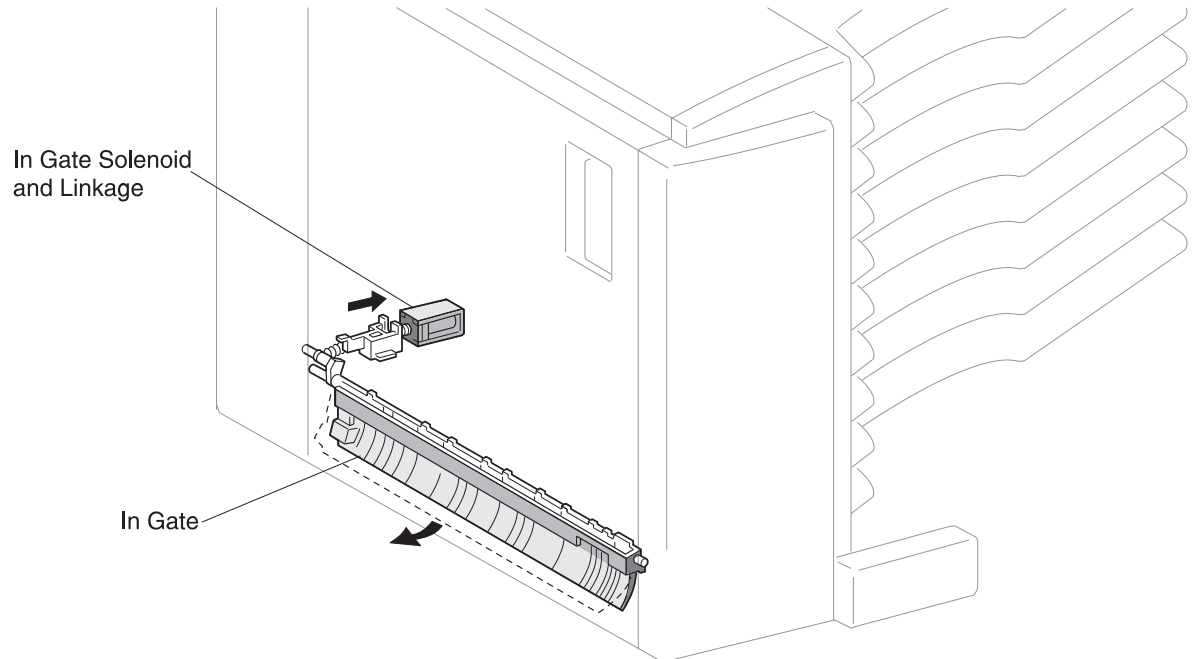
If the Controller signals the MCU PWB not to use Mailbox mode, the MCU PWB does not actuate the In Gate Solenoid, the Solenoid does not drop the In Gate, and the paper path continues into the printer Face Down Output Tray.



Paper Path 1 Components

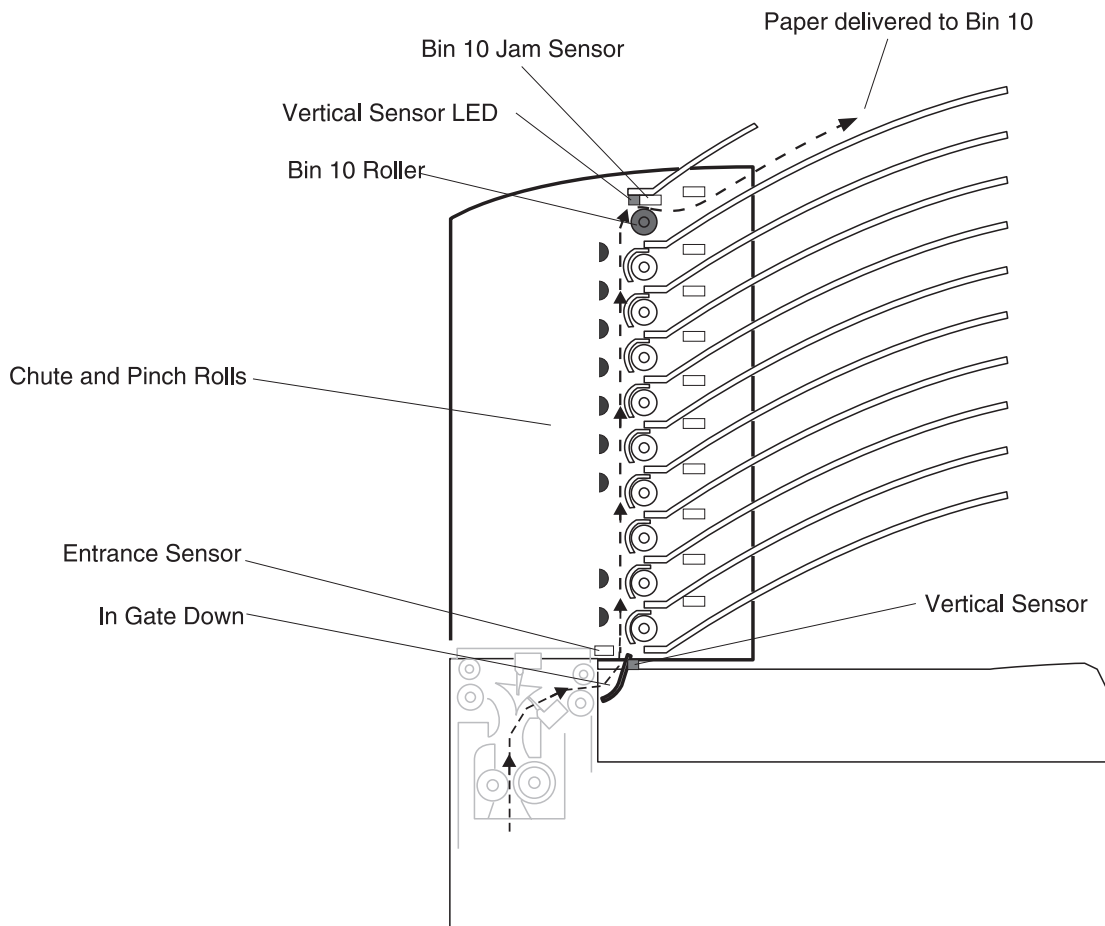
The Mailbox paper path when the Mailbox is bypassed is made up of two components.

- 1. In Gate Solenoid**
Toggles the In Gate. In this case, the Gate Solenoid does not actuate.
- 2. In Gate**
Switches the paper path from the Output Tray to the Mailbox. In this case, the In Gate remains up, and the paper is delivered to the printer Output Tray.



Paper Path 2: Feed Paper to Bin 10

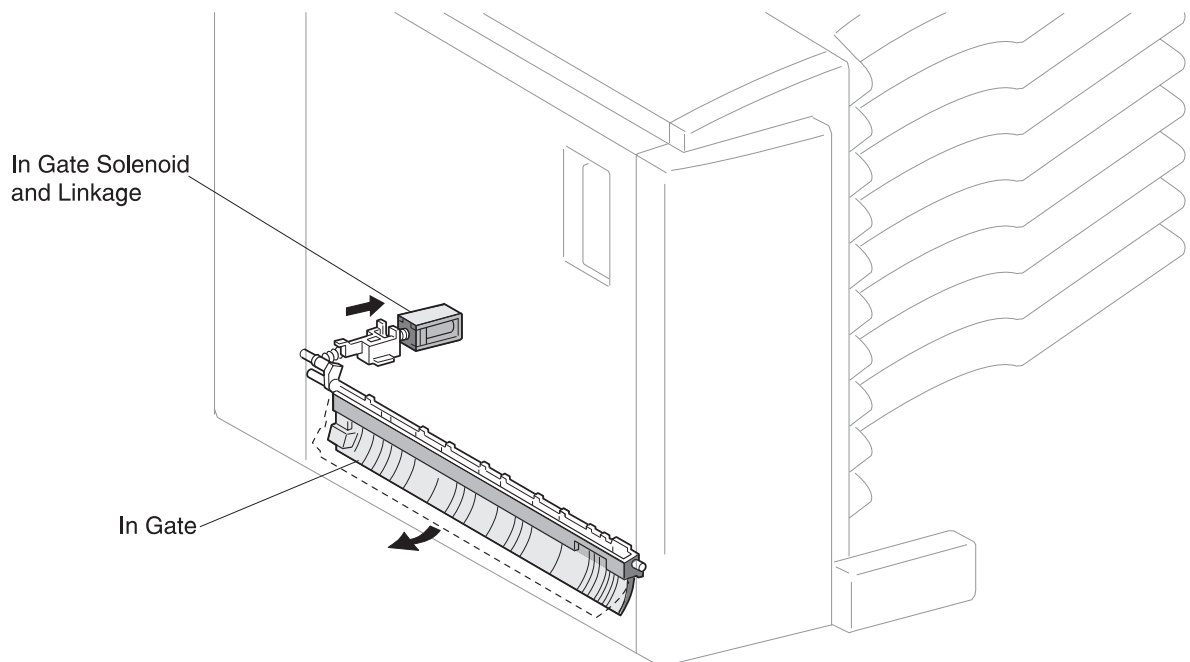
If the Controller signals the MCU PWB to send the output to Bin 10, the Mailbox Control PWB actuates the In Gate Solenoid, the Solenoid drops the In Gate, and the paper path switches to the Mailbox. The Entrance Sensor monitors paper arrival at the Mailbox entrance. The Exit and Pinch Rolls drive the sheet of paper to the top of the Mailbox. All of the Bin Gates remain closed, so the paper path moves past Bin 1 through 9. Bin 10, located at the top of the Mailbox, is unique. Bin 10 has neither a Bin Gate Solenoid nor a Bin Gate. There is a jam sensor in Bin 10 that detects when a sheet of paper arrives at Bin 10.



Paper Path 2 Components

The Mailbox paper path when the paper destination is Bin 10 is made up of a number of components.

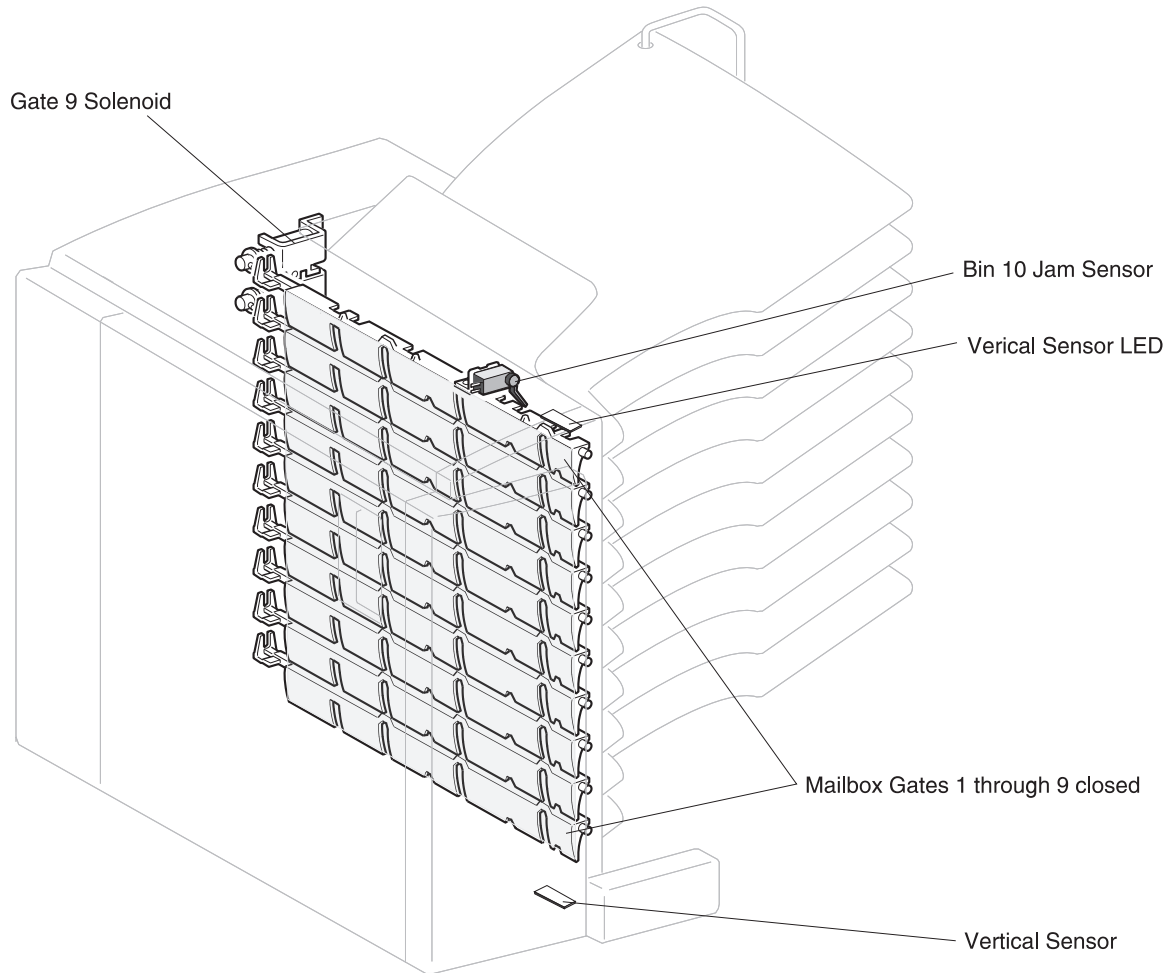
- 1. In Gate Solenoid**
Toggles the In Gate.
- 2. In Gate**
Switches the paper path from the Output Tray to the Mailbox.
- 3. Entrance Sensor**
Monitors paper arriving at the Mailbox.



- 4. Bin Rolls and Pinch Rolls**
Drives the sheet of paper up the Mailbox paper path.
- 5. Bin Gates 1 through 9**
When closed, the paper moves over the top of the Gates. When open, the paper is diverted into the Bin that the specific Gate controls. In this case, all of the Bin Gates are closed. Bin 10 does not have a Bin Gate.
- 6. Bin 10 Jam Sensor**
Monitors paper arriving at Bin 10.

4025 Options

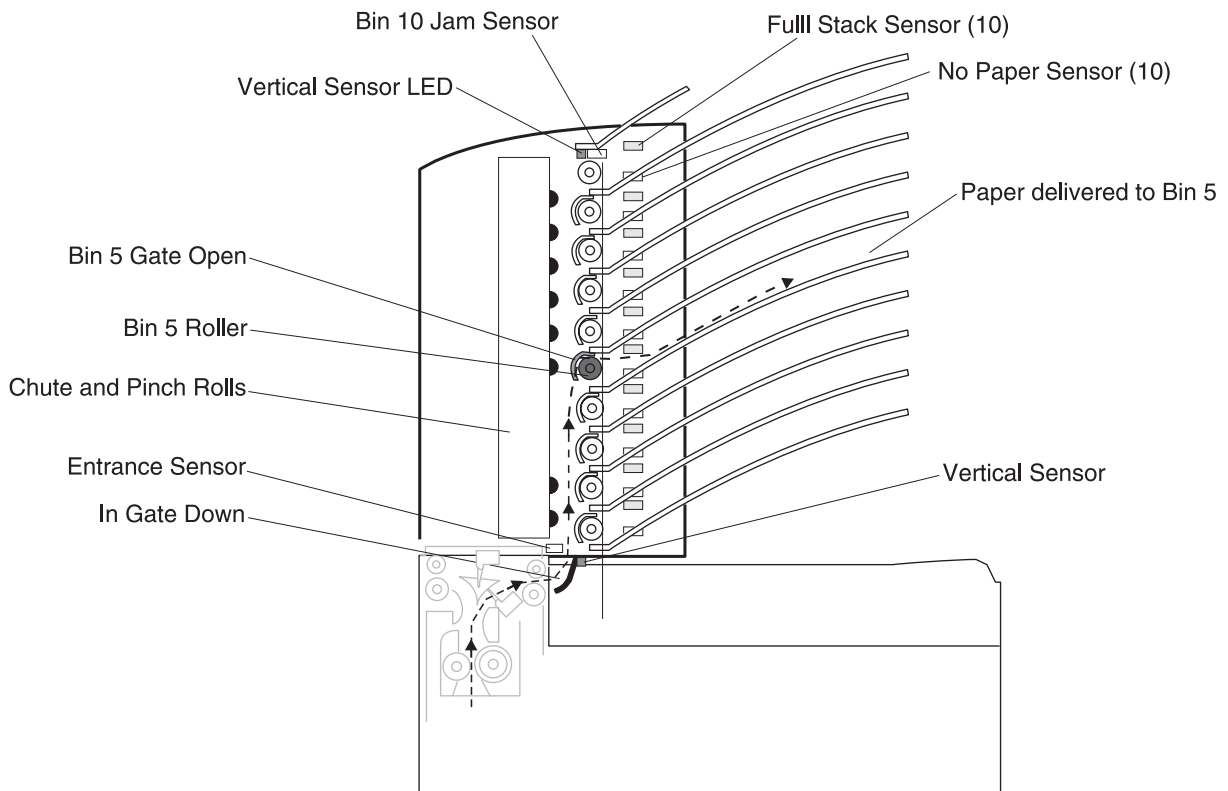
- 7. Bin 10 Full Stack Sensor**
Monitors the paper level in Bin 10.
- 8. Bin 10 No Paper Sensor**
Monitors the presence of paper in Bin 10.
- 9. Vertical LED and Sensor**
Monitors paper travel into Bins 1 through 9.



Paper Path 3: Feed Paper to Bins 2 through 10

If the Controller signals the MCU PWB to send the output to any Mailbox Bin between 1 through 9, the MCU PWB actuates the In Gate Solenoid, the Solenoid drops the In Gate and the paper path continues into the Mailbox. The Entrance Sensor, located at the input of the Mailbox paper path, monitors paper arrival into the Mailbox. The Exit Rolls and the Pinch Rolls drive the sheet of paper to the top of the Mailbox. Along the way, all of the Bin Gates remain closed except the Bin Gate of the designated Bin. (In the following example, the output is destined for Bin 5.)

The paper path moves past Bins 1 through 4. Bin 5 Gate Solenoid opens Bin 5 Gate and Bin 5 Roller drives the paper into Bin 5. The Vertical Sensor monitors paper travel into Bins 1 through 9. An LED located at the top of the Bin Gates shines light down through cutouts in each Gate and onto the Vertical Sensor located at the bottom of the Bin Gates. When a sheet of paper enters any Bin, 1 through 9, the sheet breaks the light beam and the Sensor signals the Mailbox Control PWB that a sheet of paper has entered a Bin. All Bins have a Full Stack Sensor. The Full Stack Sensors monitor the paper level in each Bin and signal the Mailbox Control PWB when a Bin is full. The No Paper Sensors monitor the presence of paper in each Bin and signal the Mailbox PWB when paper is present in a Bin.

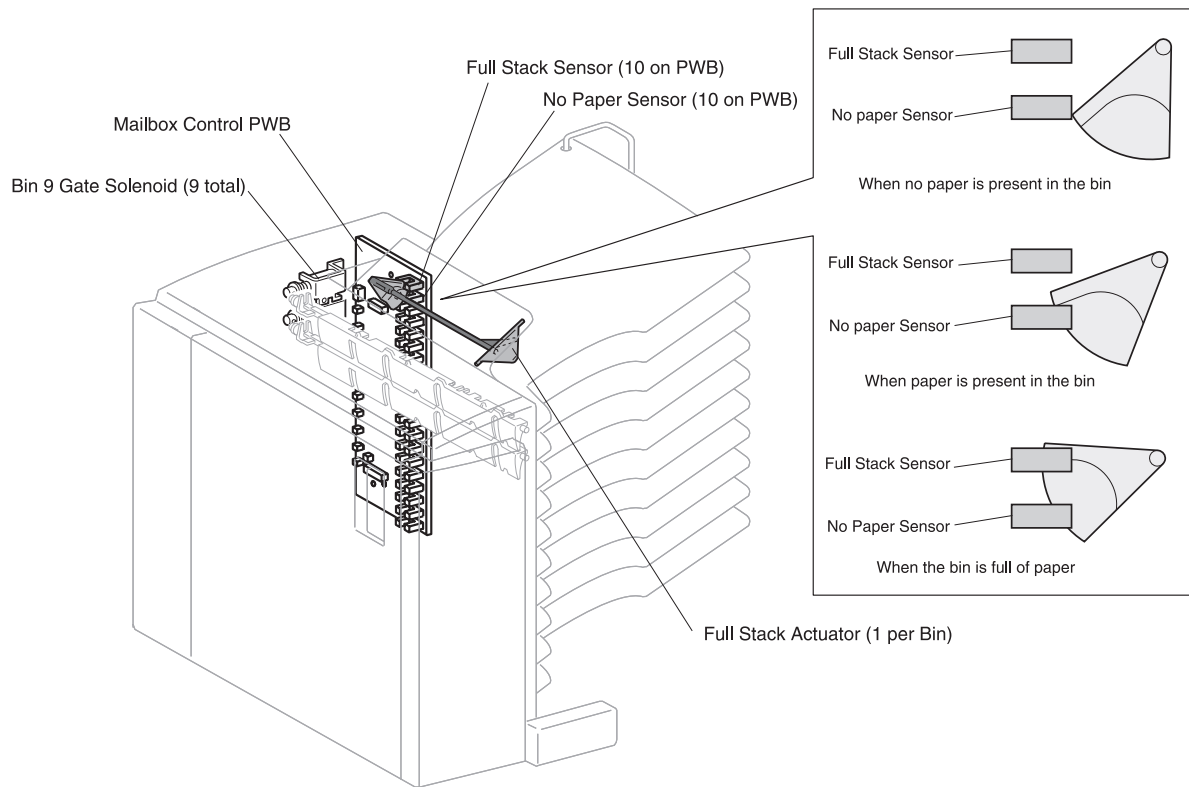


Paper Path 3 Components

The Mailbox paper path when the paper destination is Bin 1 through Bin 9 is made up of a number of components.

- 1. In Gate Solenoid**
Toggles the In Gate.
- 2. In Gate**
Switches the paper path from the Output Tray to the Mailbox.
- 3. Entrance Sensor**
Monitors paper arriving at the Mailbox.
- 4. Bin Rolls and Pinch Rolls**
Drives the sheet of paper up the Mailbox paper path.
- 5. Bin Gates 1 through 9**
When closed, the paper moves over the top of the Gates. When open, the paper is diverted into the Bin that the Gate controls. In this example, Bin 5 is open.
- 6. Bin Gate Solenoids 1 through 9**
Toggles the corresponding Bin Gate open and closed. Bin 10 does not have a Bin Gate Solenoid.
- 7. Bin 10 Full Stack Sensor**
Monitors the paper level in Bin 10.
- 8. Bin 10 No Paper Sensor**
Monitors the presence of paper in Bin 10.
- 9. Vertical LED and Sensor**
Monitors paper travel into Bins 1 through 9.

4025 Options



Mailbox Modes

Mode	Specification
Sort	A maximum of 10 sets of 100 sheets per set, with one set delivered to each of the ten bins. Delivered face down in Simplex Mode. Delivered first sheet on the bottom and first printed side face down in Duplex Mode.
Stack	A maximum of 100 sheets delivered to a designated bin. Delivered face down in Simplex Mode. Delivered first printed side face down in Duplex Mode.

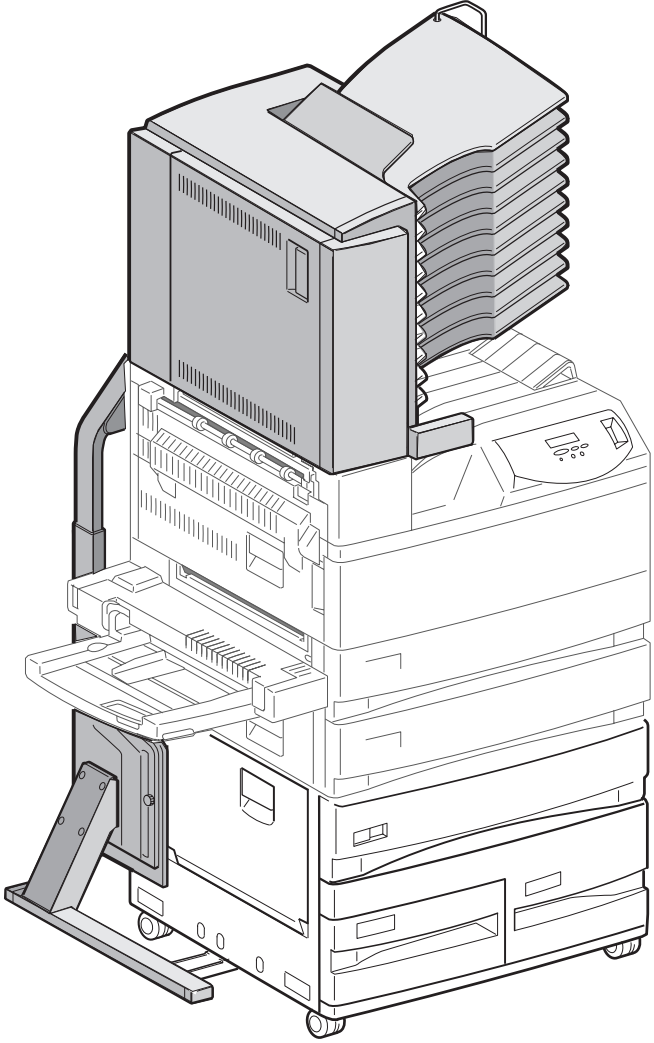
Paper Size Recommendations

Paper Type	Use with Simplex	Use with one sheet batch Duplex
Ledger (SEF)	Y	Y
A3 (SEF)	Y	Y
B4 (SEF)	Y	Y
Legal 14" (SEF)	Y	Y
Legal 13" (SEF)	Y	Y
A4 (SEF)	Y	Y
Letter (SEF)	Y	Y
B5 (SEF)	Y	Y
Letter (LEF)	Y	Y
A4 (LEF)	Y	Y
B5 (LEF)	Y	Y
A5 (SEF)	Y	N

Print Speeds While Using the Mailbox

Paper Type	Trays 1 & 2 (prints per minute)	Tray 3 (prints per minute)	Trays 4 & 5 (prints per minute)	MP Feeder (prints per minute)
A4 LEF	Simplex = 32 Duplex = 31	Simplex = 32 Duplex = 28	Simplex = 32 Duplex = 23	Simplex = 26 Duplex = 19
LETTER LEF	Simplex = 32 Duplex = 31	Simplex = 32 Duplex = 28	Simplex = 32 Duplex = 23	Simplex = 26 Duplex = 19

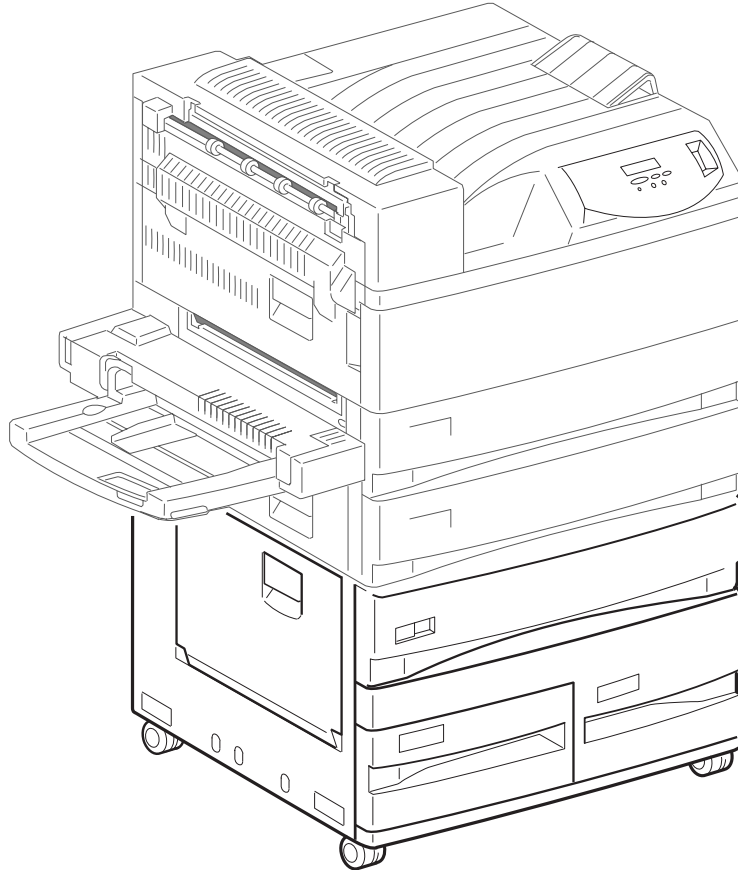
Mailbox General Specifications

Category	Specification
Configuration	<p>Customer installed option. Attaches on top of the base printer. The basic Mailbox sorts printer output into 10 individual bins, with a maximum capacity of 100 sheets of standard 20 lb paper per bin.</p> 
Duty cycle	Maximum 150,000 sheets of paper per month, with an average of 25,000 sheets of paper per month.
Mailbox noise levels	Maximum of 64dB while running
Power requirements	The printer provides all of the Mailbox power requirements; +5VDC and +24VDC.

4025 Options

Category	Specification
Size and weight	Height: 465mm / 18.3 inches Width: 539mm / 21.2 inches Depth: 590mm / 23.2 inches Weight: 16kg / 35.2 lbs

High Capacity Feeder

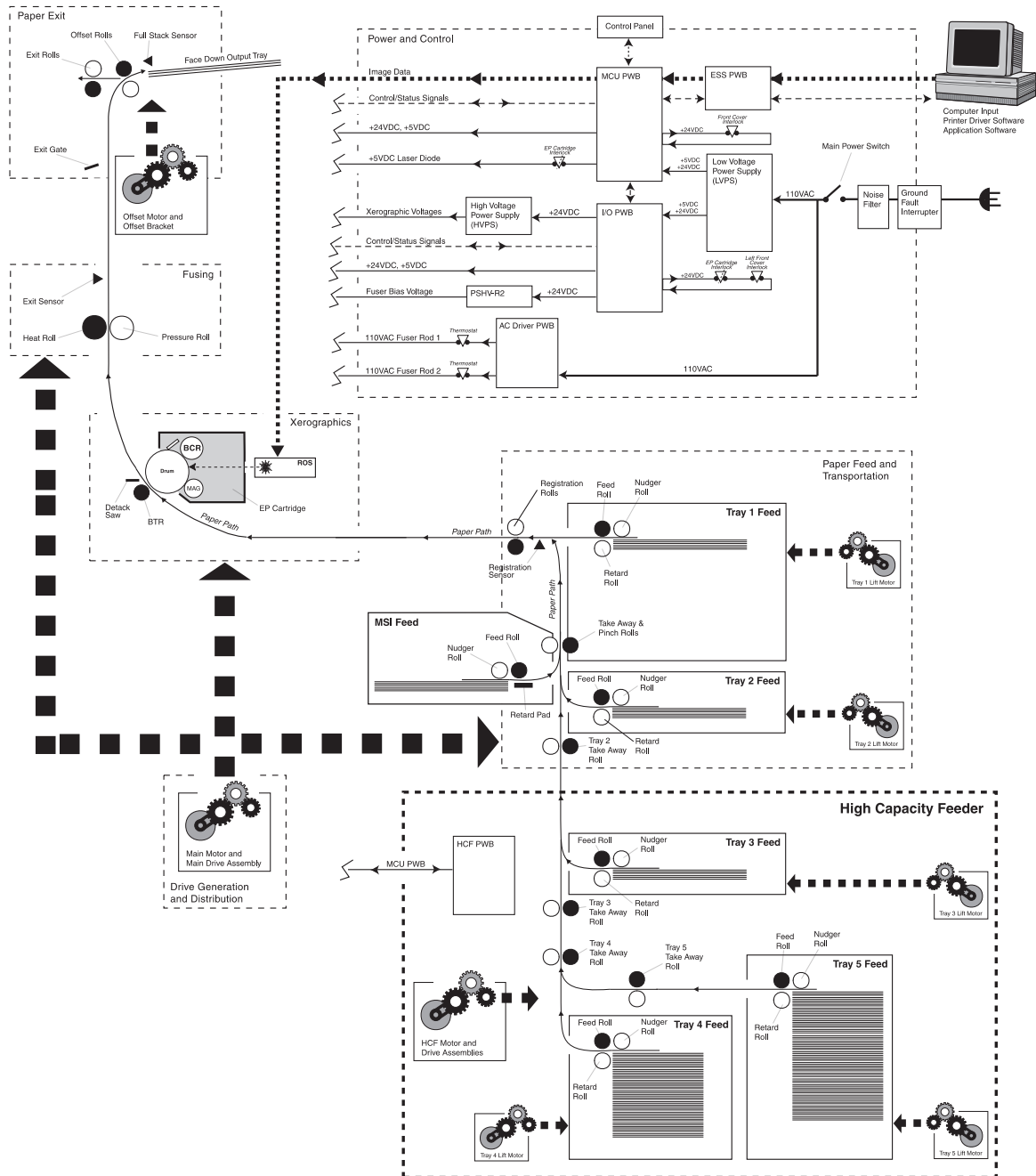


High Capacity Feeder Overview

- The High Capacity Feeder is a customer installed option that adds three additional paper feeders to the existing two paper feeders that are standard with the print engine.
- The print engine sits on top of the High Capacity Feeder.
- The base engine LVPS provides all of the DC voltages required by the High Capacity Feeder.
- Four +24VDC motors inside the High Capacity Feeder provide all of the mechanical drive required for operation. Three electrical clutches control Feed Motor drive.
- One PWB, two sensors, and one interlock switch inside the High Capacity Feeder provide all of the control and paper path monitoring required for operation.

Schematic Diagram of the High Capacity Feeder Operation

The following illustration is a simplified schematic of High Capacity Feeder components, subsystems, and paper paths.



High Capacity Feeder Power and Control

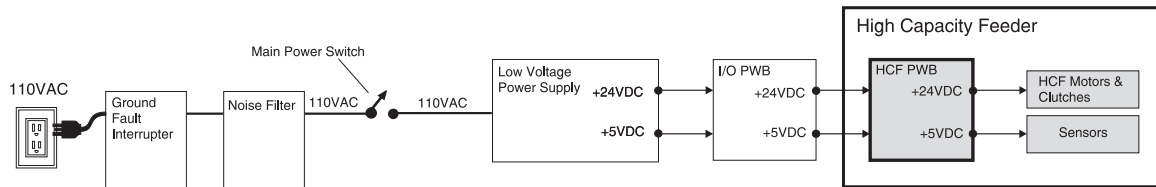
All active components within the High Capacity Feeder are electrically connected to the **HCF PWB**. The Base Engine Low Voltage Power Supply supplies +5VDC and +24VDC to the I/O PWB, and the I/O PWB supplies +5VDC and +24VDC to the HCF PWB. The MCU PWB provides most of the High Capacity Feeder logic, while the HCF PWB executes the MCU commands.

High Capacity Feeder Drive Generation and Distribution

The High Capacity Feeder has one +24VDC motor, the **HCF Motor**, that supplies drive to the entire High Capacity Feeder. A succession of gear assemblies and feed clutches control and transfers motor drive to High Capacity Feeder components. The HCF also contains three tray **Lift Motors** that raise each HCF Tray bottom plate so the paper stack contains the Feed Rolls.

High Capacity Feeder Power

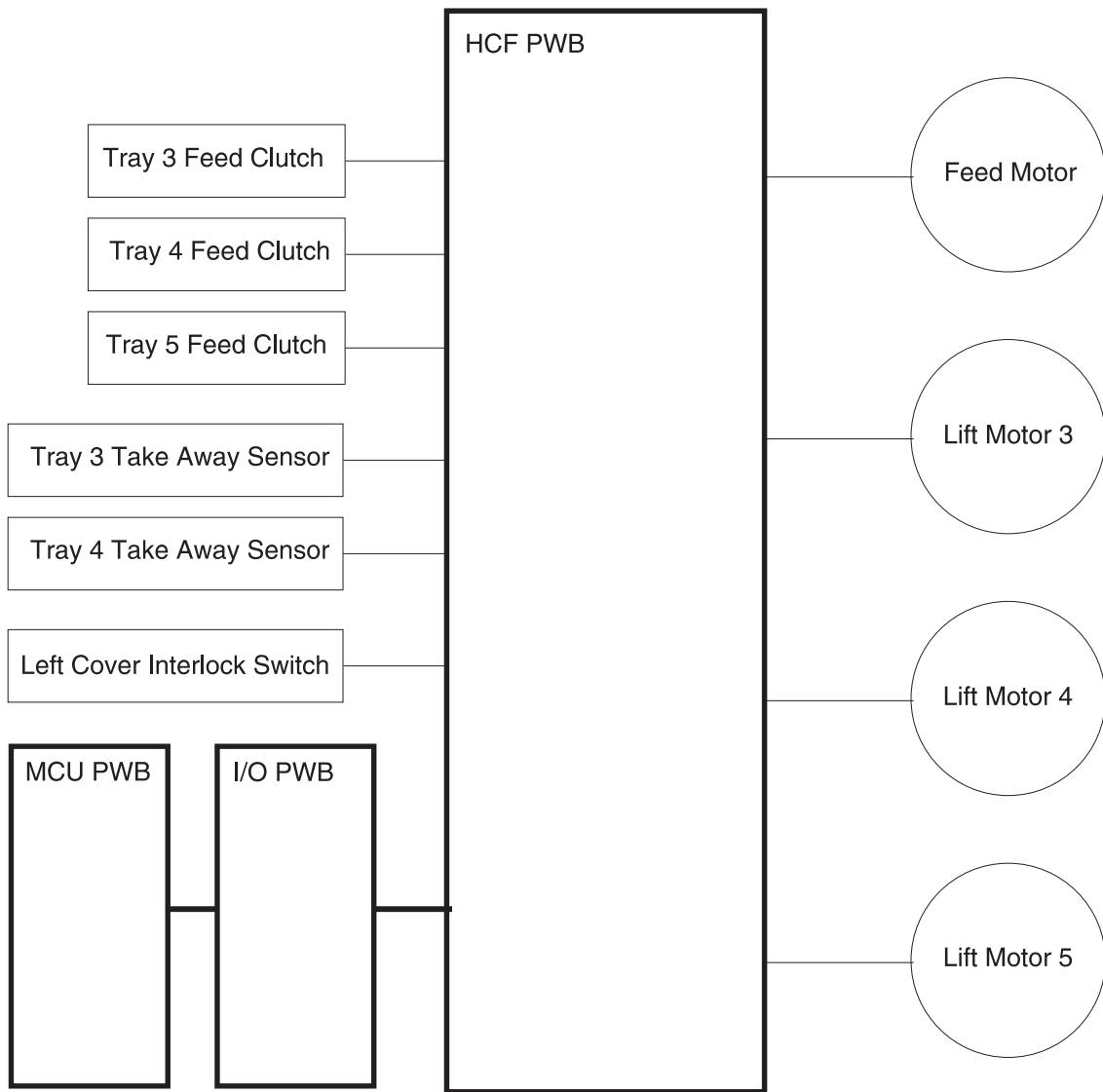
The **HCF PWB**, located inside the High Capacity Feeder, plugs into the I/O PWB. The Base Engine LVPS supplies +5VDC and +24VDC to the I/O PWB. The I/O PWB then supplies +5VDC and +24VDC to the HCF PWB. The +5VDC powers the HCF PWB and the High Capacity Feeder Sensors. The +24VDC powers the HCF Feed Motor, the Lift Motors, and the Feed Clutches.



High Capacity Feeder Control

High Capacity Feeder Control is a broad term used to describe the printer resources that monitor and control the actions and operations of the printer and the HCF; from paper feed to error detection.

The center of HCF control is the HCF PWB. The MCU PWB provides the logic and information processing necessary for the printer to function, and the HCF PWB provides the logic and information processing necessary for the HCF to function. Every electrical component within the HCF is connected to the HCF PWB. Sensors in the HCF send paper feed status information to the HCF PWB. The HCF PWB processes that information, shares it with the MCU PWB, and compares it to timing tables stored in ROM. Acting on the results of the processing, the HCF PWB sends commands to the various HCF components; switching on a motor or switching off a feed clutch.



High Capacity Feeder Control Components

The HCF Control is made up of one several major components.

1. HCF PWB

The HCF PWB controls all HCF functions, executes commands sent from the MCU PWB, and sends information back to the MCU PWB. All HCF components are connected directly to the HCF PWB.

2. L/H Interlock Switch

Monitors the Left Cover position.

3. Feed Motor

Provides most of the mechanical drive for the HCF.

4. Lift Motor 3

Raises the paper tray in Feeder 3.

5. Lift Motor 4

Raises the paper tray in Feeder 4.

6. Lift Motor 5

Raises the paper tray in Feeder 5.

7. Feed Clutch 3

Transmits Feed Motor drive to Tray 3 Feed Rolls.

8. Feed Clutch 4

Transmits Feed Motor drive to Tray 4 Feed Rolls.

9. Feed Clutch 5

Transmits Feed Motor drive to Tray 5 Feed Rolls.

10. Tray 3 Take Away Sensor

Monitors paper travel arriving at the Take Away Rolls in Feeder 3.

11. Tray 4 Take Away Sensor

Monitors paper travel arriving at the Take Away Rolls in Feeder 4.

12. Size Sensors 3, 4, and 5

Monitors the size of the paper loaded in a Feeder. The Actuator Assembly located at the rear of the Paper Tray has series of cams that face the Size Sensor PWB. Pushing the Paper Guide against the paper stack slides the Actuator Assembly along a track. When the Tray is inserted into the Feeder, the cams on the Actuator press the switches on the Size Sensor PWB in a pattern unique to the position of the Paper Guide. The MCU PWB interprets this pattern as a specific paper size.

13. No Paper Sensors 3, 4, and 5

Monitors the paper level in a Feeder. When the Lift Motor raises the Bottom Plate, the Plate raises the paper stack, the stack pushes the No Paper Actuator up and away from the No Paper Sensor. The Sensor sends a *paper present* signal to the MCU PWB. When the last sheet of paper is fed out of the Paper Tray, the No Paper Actuator drops through a cutout in the Bottom Plate. The Actuator then blocks the Sensor, and the Sensor sends a no paper signal to the MCU PWB.

14. Paper Level Sensors 3, 4, and 5

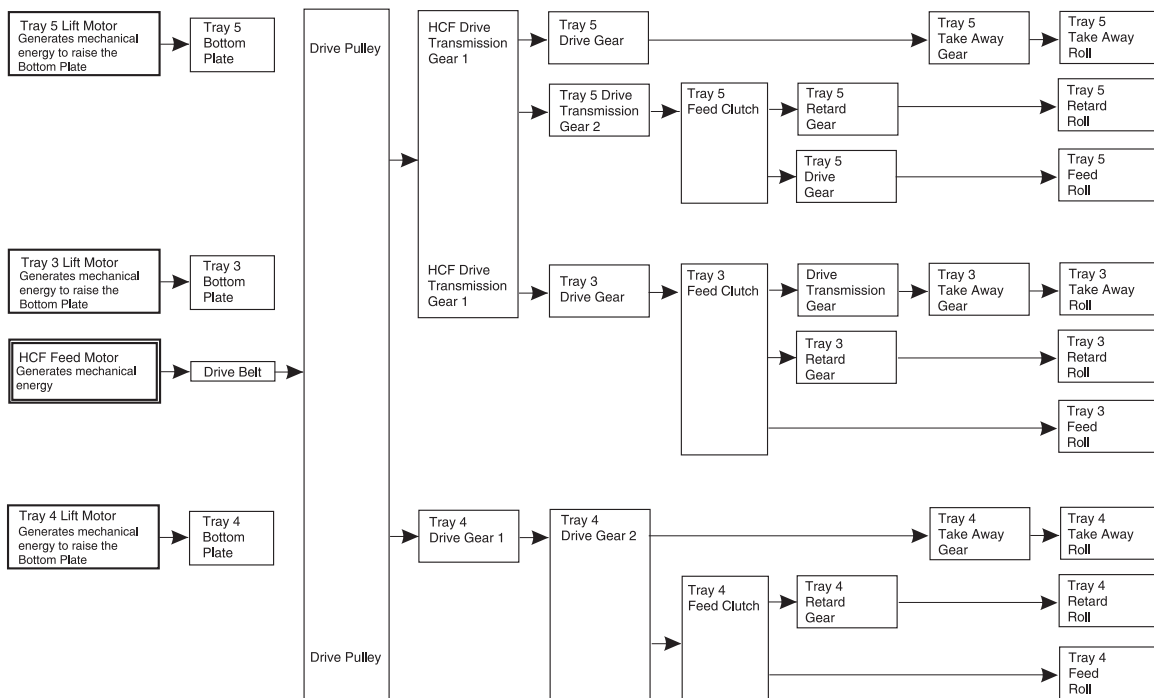
Monitors whether or not a Paper Tray is installed. Installing the Tray pushes the Link Stopper out, which in turn lowers the Feed Roll and moves the Level Sensor Actuator tab away from the Sensor window.

Mechanical Drive

Mechanical Drive is a term used to describe both the rotation of the HCF Feed Motor and the action of the gears and rollers used to transmit motor rotation to the drive rolls within the High Capacity Feeder. The purpose of Mechanical Drive within the High Capacity Feeder is to provide the mechanical energy needed to drive a sheet of paper from a High Capacity Feeder tray and into the registration area of the base engine. The three Lift Motors provide a secondary mechanical drive for the HCF. Each Lift Motor raises the Bottom Plate of the associated paper tray so the paper contains the Feed Rolls.

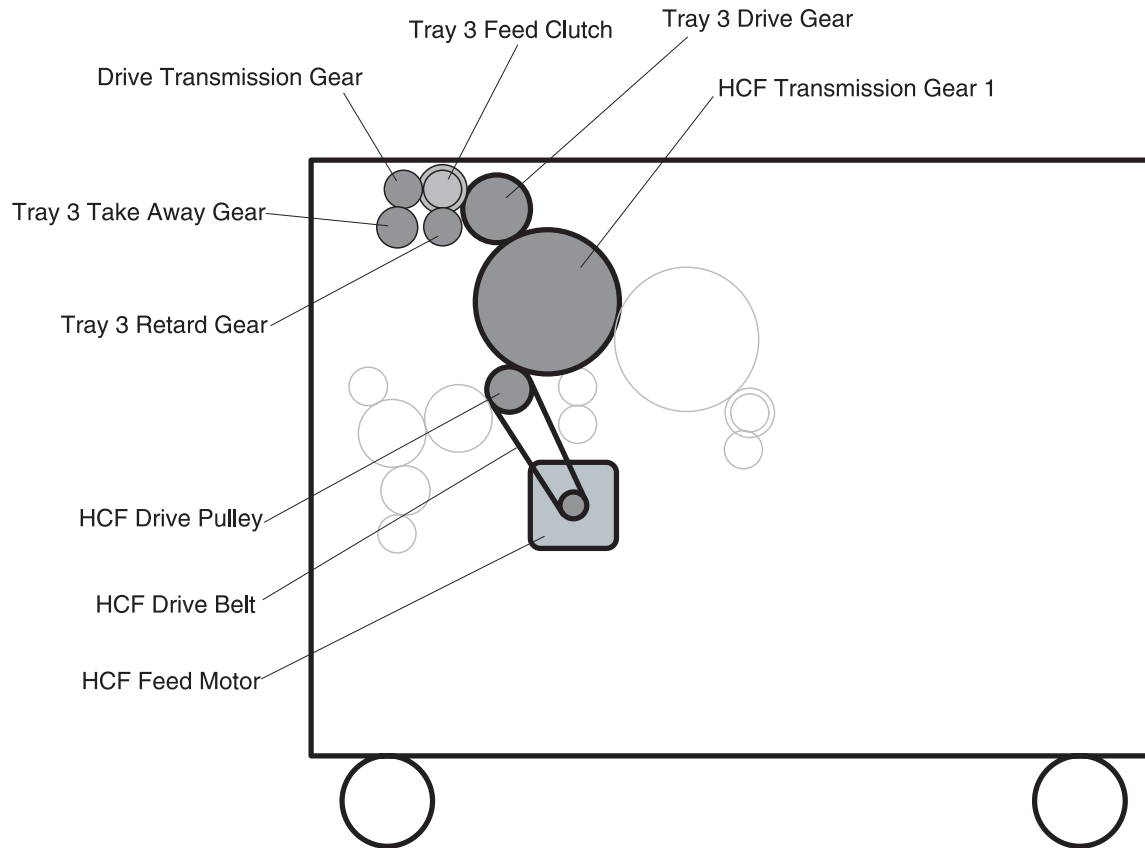
Drive for High Capacity Feeder

The **HCF PWB** controls the **HCF Feed Motor**. The **Drive Belt** connects the Motor to the **Drive Pulley**. The Drive Pulley transmits HCF Feed Motor drive to the three HCF feeder assemblies. Each feeder assembly has a unique drive path, with the same end goal of driving a sheet of paper out of a paper tray.



Drive for Tray 3

The HCF PWB switches on the Feed Motor. The HCF Drive Belt transmits drive from the Feed Motor to HCF Drive Transmission Gear 1. Gear 1 transmits drive to Tray 3 Drive Gear, which in turn transmits drive to Tray 3 Feed Clutch. When the HCF PWB actuates Tray 3 Feed Clutch, the Clutch transmits drive to the Tray 3 Feed Rolls, to the Retard Rolls, and to the Tray 3 Take Away Rolls.

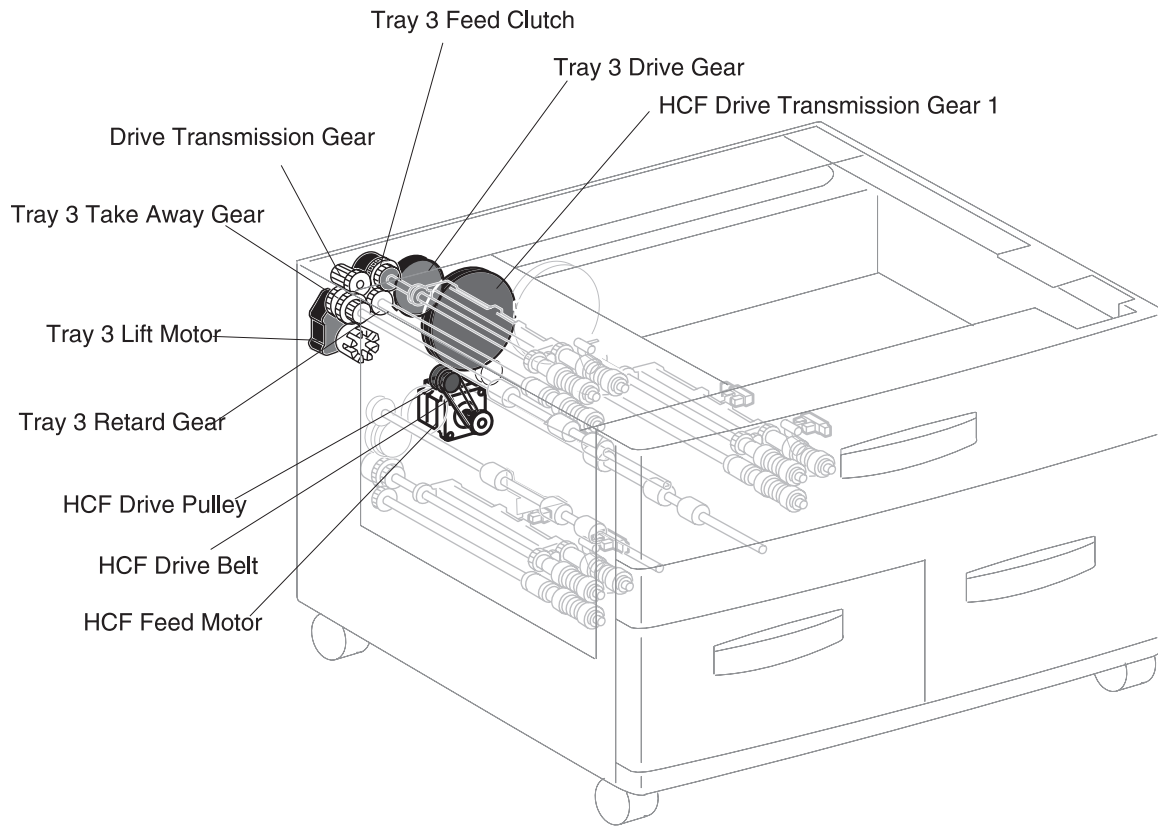


Mechanical Drive Tray 3 Components

The Mechanical Drive for Tray 3 of the HCF is made up of two motors along with associated gears that transmit the drive to the various Tray 3 paper transport rolls.

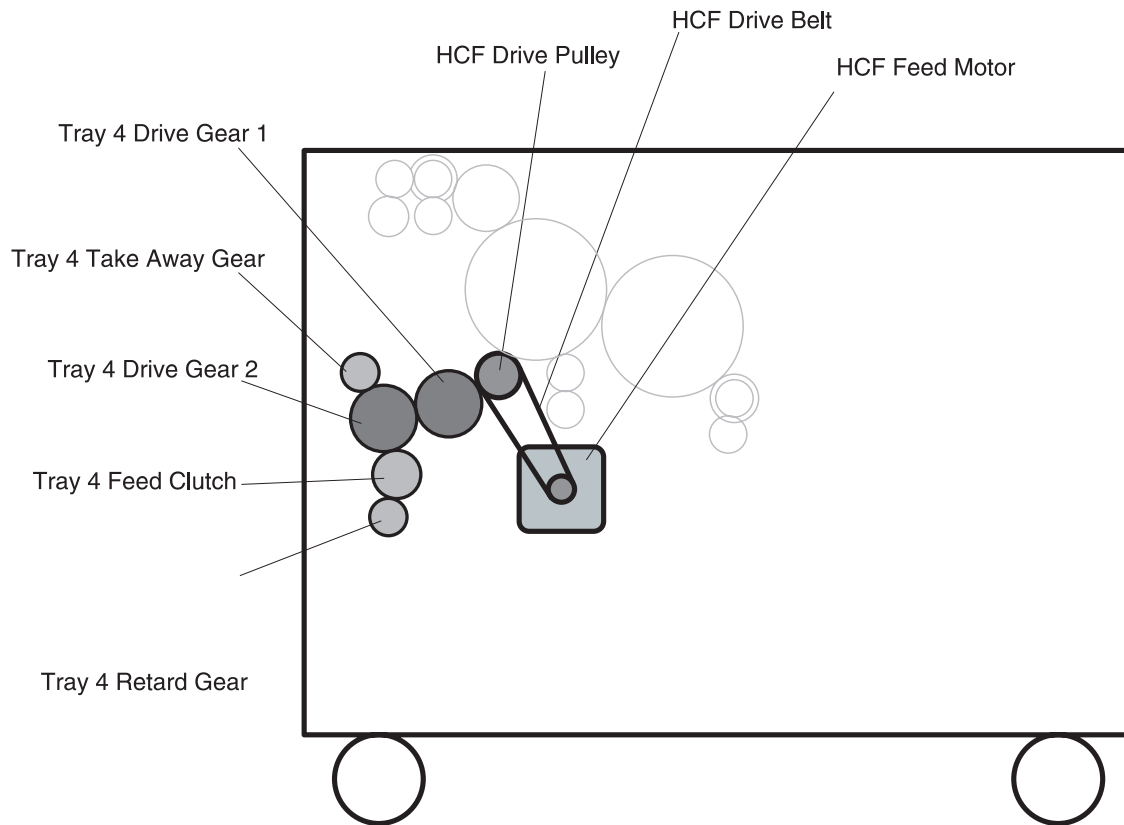
- 1. Feed Motor**
Provides the mechanical drive for Tray 3 paper feed.
- 2. HCF Drive Belt**
Transmits Feed Motor drive to the HCF Drive Pulley.
- 3. HCF Drive Pulley**
Transmits Feed Motor drive to the HCF Drive Gear 1.
- 4. HCF Drive Gear 1**
Transmits Feed Motor drive to Tray 3 Drive Gear.
- 5. Tray 3 Feed Clutch**
When actuated by the HCF PWB, the Clutch transmits drive to the Tray 3 Feed Roll, to the Tray 3 Retard Gear, and to the Drive Transmission Gear.
- 6. Tray 3 Retard Gear**
Rotates Tray 3 Retard Roll.
- 7. Drive Transmission Gear**
Transmits drive to the Tray 3 Take Away Gear.
- 8. Tray 3 Take Away Gear**
Rotates Tray 3 Take Away Roll.
- 9. Lift Motor 3**
Raises the paper tray in Feeder 3.

4025 Options



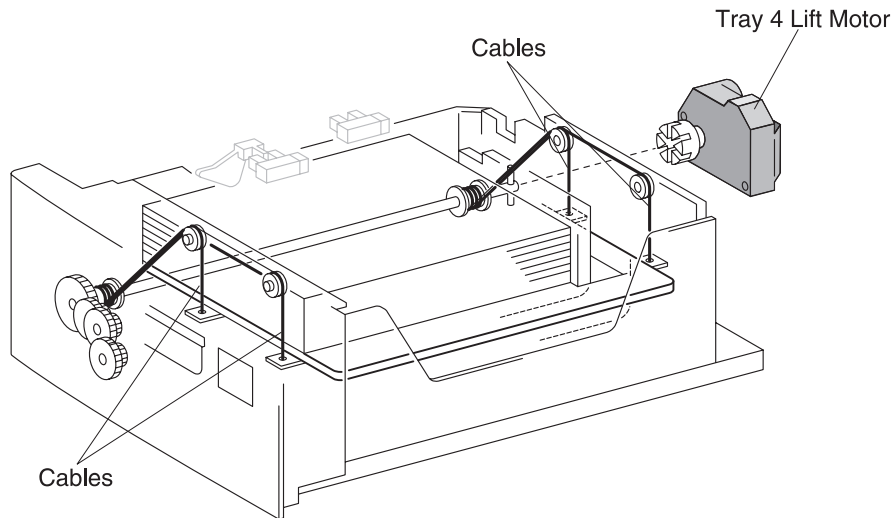
Drive for Tray 4

The HCF PWB switches on the Feed Motor. The HCF Drive Belt transmits drive from the Feed Motor to Tray 4 Drive Gear 1. Gear 1 transmits drive to Tray 4 Drive Gear 2, which in turn transmits drive to Tray 4 Take Away Gear and Tray 4 Feed Clutch. When the HCF PWB actuates Tray 4 Feed Clutch, the Clutch transmits drive to the Tray 4 Feed Roll and to the Retard Roll.



Lift Motor Operation for Tray 4

The Tray 4 Lift Motor rotates the Bottom Plate Lift Pulley. Two cables are attached to each end of the Pulley. The other ends of the cables are attached to the four corners of the bottom plate. When the Motor rotates the Pulley, the cables wrap around the Pulley and raise the bottom plate.



Mechanical Drive Tray 4 Components

The Mechanical Drive for Tray 4 of the HCF is made up of two motors along with associated gears that transmit the motor drive to the various Tray 4 paper transport rolls.

1. Feed Motor

Provides the mechanical drive for Tray 4 paper feed.

2. HCF Drive Belt

Transmits Feed Motor drive to the HCF Drive Pulley.

3. HCF Drive Pulley

Transmits Feed Motor drive to the Tray 4 Drive Gear 1.

4. Tray 4 Drive Gear 1

Transmits Feed Motor drive to the Tray 4 Drive Gear 2.

5. Tray 4 Drive Gear 2

Transmits Feed Motor drive to the Tray 4 Take Away Gear and to the Tray 4 Feed Clutch.

4025 Options

6. Tray 4 Feed Clutch

When actuated by the HCF PWB, the Clutch transmits drive to the Tray 4 Feed Roll and to the Tray 4 Retard Gear.

7. Tray 4 Retard Gear

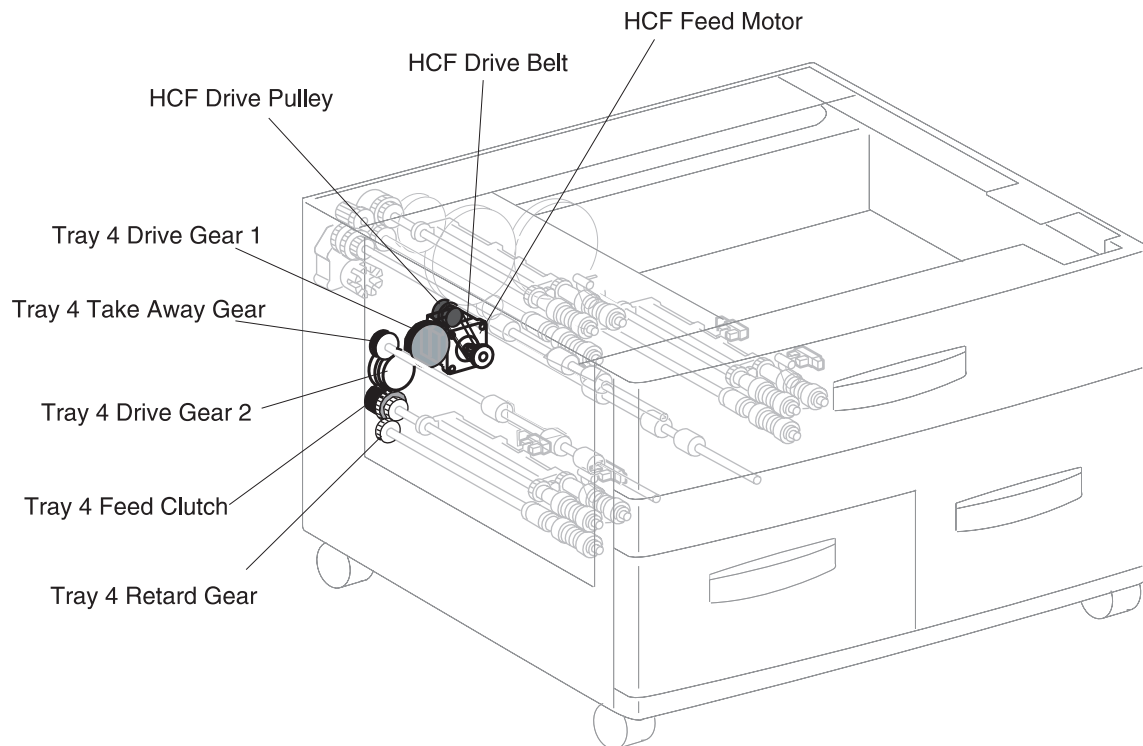
Rotates Tray 4 Retard Roll.

8. Tray 4 Take Away Gear

Rotates Tray 4 Take Away Roll.

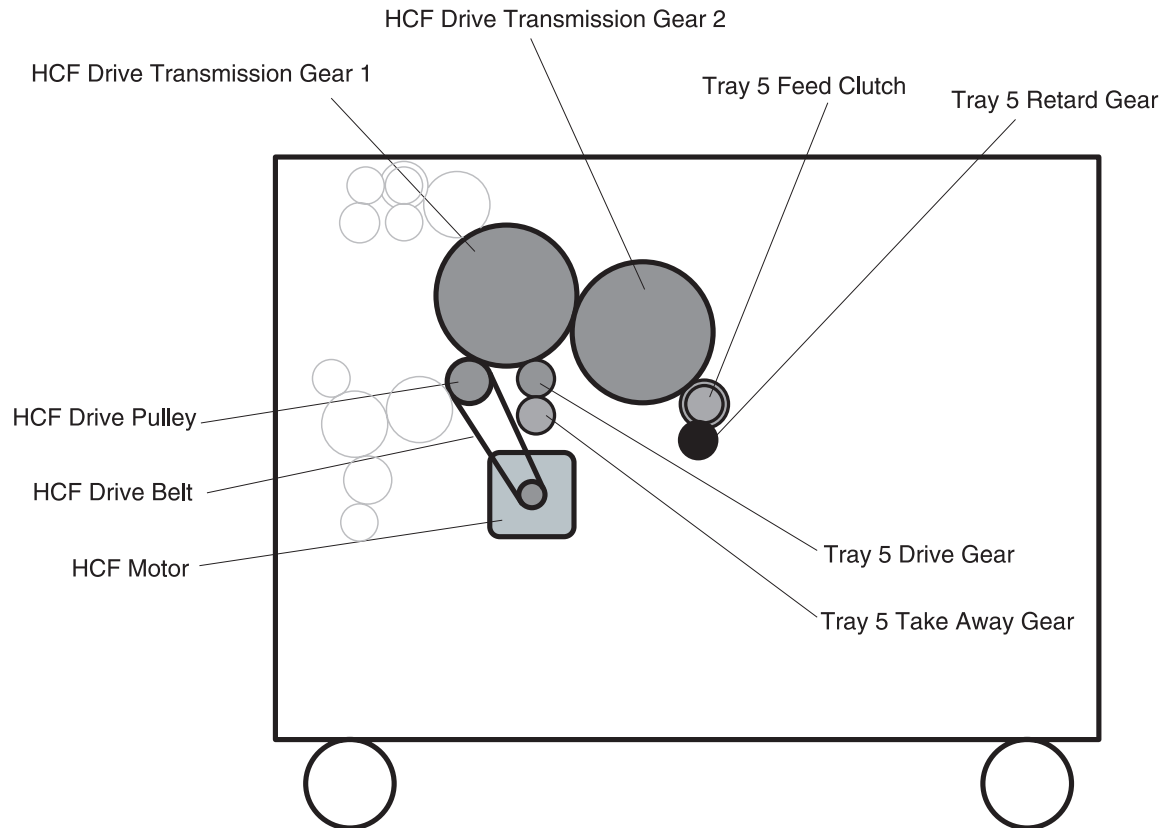
9. Lift Motor 4

Raises the paper tray in Feeder 4.



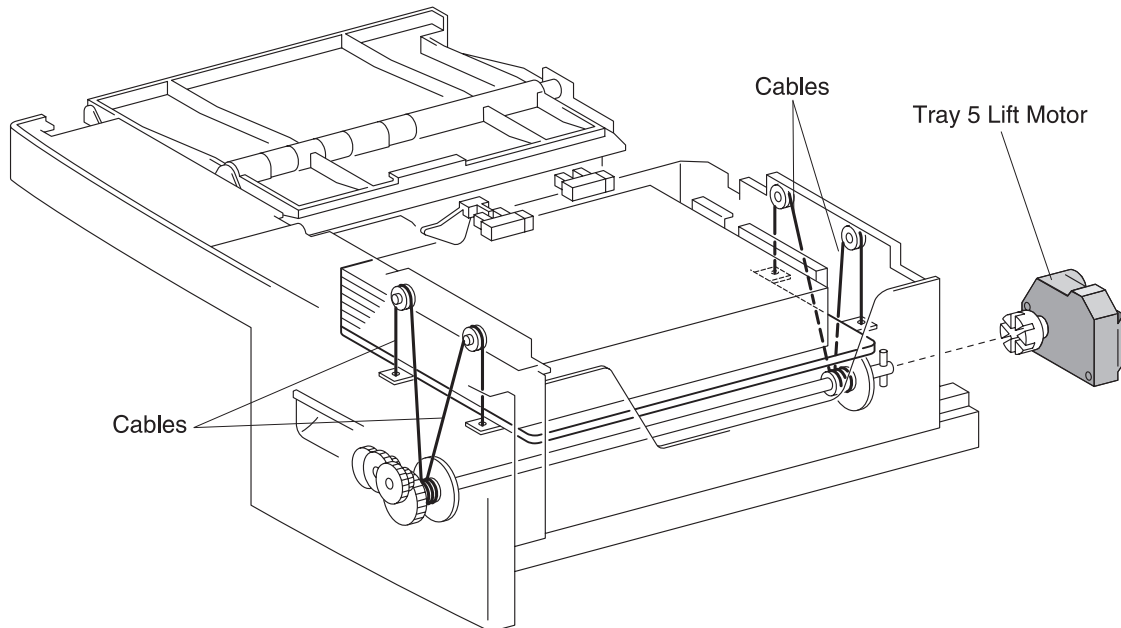
Drive for Tray 5

The HCF PWB switches on the Feed Motor. The HCF Drive Belt transmits drive from the Feed Motor to HCF Drive Transmission Gear 1. Gear 1 transmits drive to HCF Drive Transmission Gear 2. HCF Drive Transmission Gear 1 also transmits drive to Tray 5 Drive Gear, which transmits drive to Tray 5 Take Away Gear. HCF Drive Transmission Gear 2 transmits drive to Tray 5 Feed Clutch. When the HCF PWB actuates Tray 5 Feed Clutch, the Clutch transmits drive to the Tray 5 Feed Roll and to the Retard Roll.



Lift Motor Operation for Tray 5

The Tray 5 Lift Motor rotates the Bottom Plate Lift Pulley. Two cables are attached to each end of the Pulley. The other ends of the cables are attached to the four corners of the bottom plate. When the Motor rotates the Pulley, the cables wrap around the Pulley and raise the bottom plate.

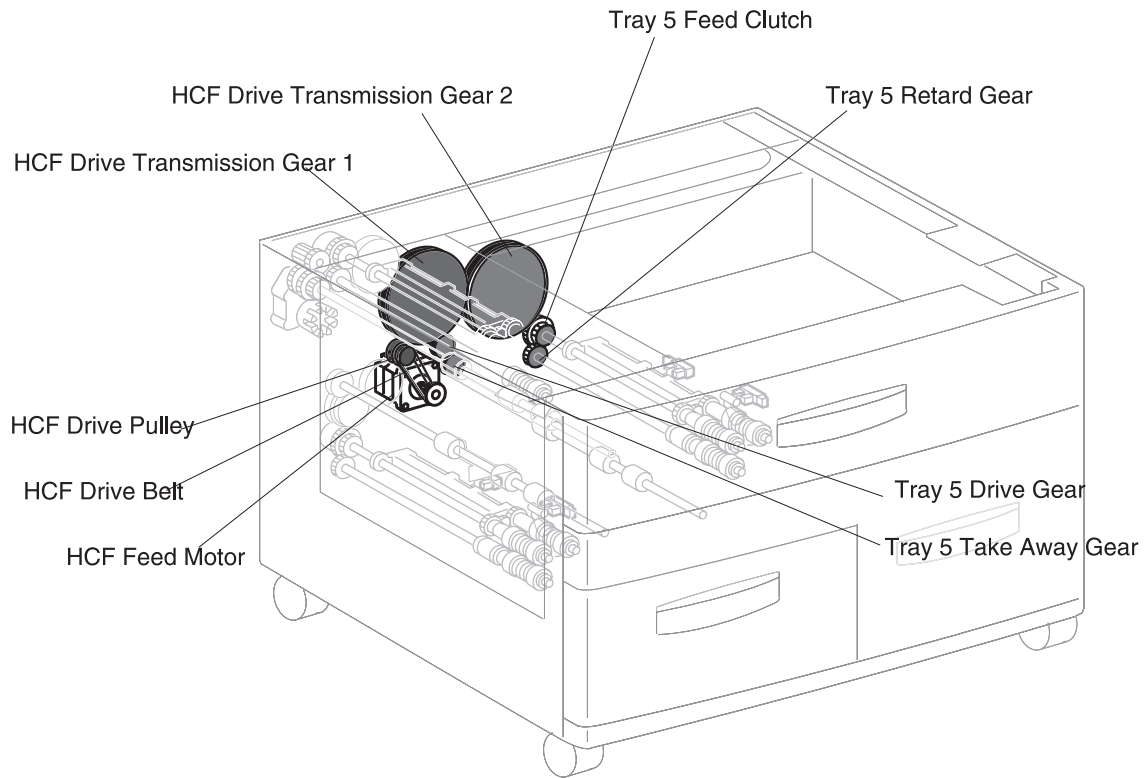


Mechanical Drive Tray 5 Components

The Mechanical Drive for Tray 5 of the HCF is made up of two motors along with associated gears that transmit the motor drive to the various Tray 5 paper transport rolls.

- 1. Feed Motor**
Provides the mechanical drive for Tray 5 paper feed.
- 2. HCF Drive Belt**
Transmits Feed Motor drive to the HCF Drive Pulley.
- 3. HCF Drive Pulley**
Transmits Feed Motor drive to the HCF Drive Transmission Gear 1.
- 4. HCF Drive Transmission Gear 1**
Transmits Feed Motor drive to the HCF Drive Transmission Gear 2 and to the Tray 5 Drive Gear.
- 5. Tray 5 Drive Gear**
Transmits Feed Motor drive to the Tray 5 Take Away Gear.
- 6. HCF Drive Transmission Gear 2**
Transmits Feed Motor drive to the Tray 5 Feed Clutch.
- 7. Tray 5 Feed Clutch**
When actuated by the HCF PWB, the Clutch transmits drive to the Tray 5 Feed Roll and to the Tray 5 Retard Gear.
- 8. Tray 5 Retard Gear**
Rotates Tray 5 Retard Roll.
- 9. Tray 5 Take Away Gear**
Rotates Tray 5 Take Away Roll.
- 10. Lift Motor 5**
Raises the paper tray in Feeder 5.

4025 Options

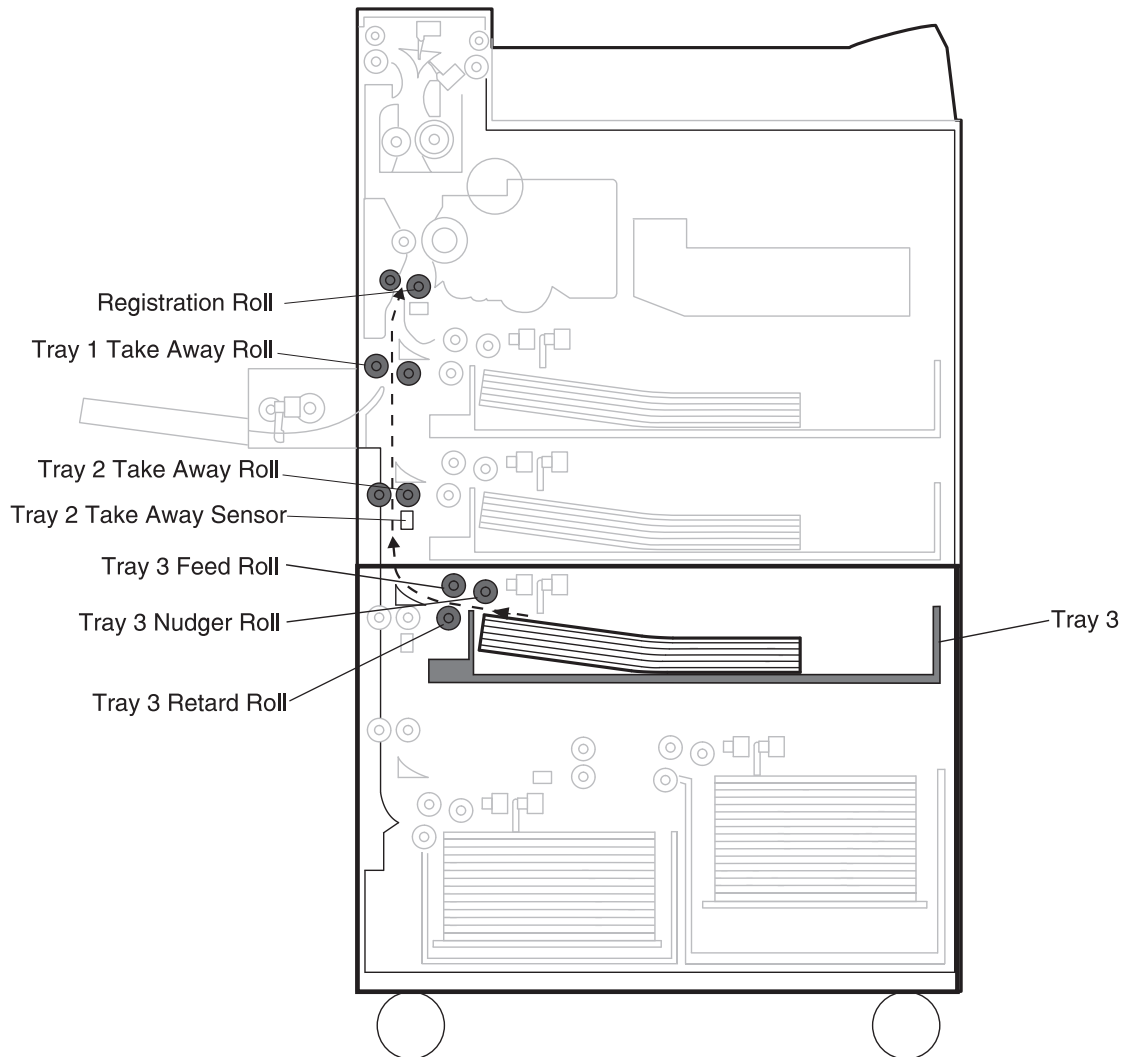


High Capacity Feeder Paper Path

The High Capacity Feeder Paper Path is the physical route that a sheet of paper takes from an HCF paper tray to the printer during a single print cycle. Rubber rollers drive the paper along the Paper Path.

Feed from Tray 3

At the start of a print cycle the Tray 3 Nudger Roll moves a sheet of paper into Tray 3 Feed Roll. The Feed Roll moves a single sheet of paper out of Tray 3 and toward the Tray 2 Take Away Roll in the base engine. The Tray 3 Retard Roll makes sure that only one sheet of paper is fed. As the sheet of paper is driven to the Tray 2 Take Away Roll it actuates the Tray 2 Take Away Sensor, notifying the MCU PWB logic that the paper has arrived. The Tray 2 Take Away Roll drives the sheet into Tray 1 Take Away Rolls. Tray 1 Take Away Rolls drive the sheet of paper into the Registration Roll. After that, the sheet continues along the printer paper path until the sheet of paper, complete with fused image, is driven into an output tray.



Tray 3 Paper Path Components

The HCF Tray 3 Paper Path is made up of a number of transport rolls and paper sensors.

1. Tray 3 Assembly

Holds plain paper of various sizes. Slides into the top feeder, Feeder 3, of the High Capacity Feeder.

2. Tray 3 Lift Motor

Raises the tray bottom plate so the paper contacts the Feed Roll.

3. Tray 3 No Paper Sensor

Monitors the level of paper in Tray 3.

4. Tray 3 Paper Size Sensor

Monitors the size of paper loaded into Tray 3.

5. Tray 3 Feed Clutch

Transmits HCF Motor drive to the Tray 3 Feed Roll and Nudger Roll.

6. Tray 3 Nudger Roll

Drives the top sheet of paper into the Feed Roll.

7. Tray 3 Feed Roll

Drives the top sheet of paper out of Tray 3 and into the Tray 2 Take Away Roll area of the base engine.

8. Tray 2 Take Away Sensor

Monitors paper travel from the HCF into the base engine.

9. Tray 2 Take Away Roll

Drives the sheet of paper into the base engine Tray 1 Take Away Rolls.

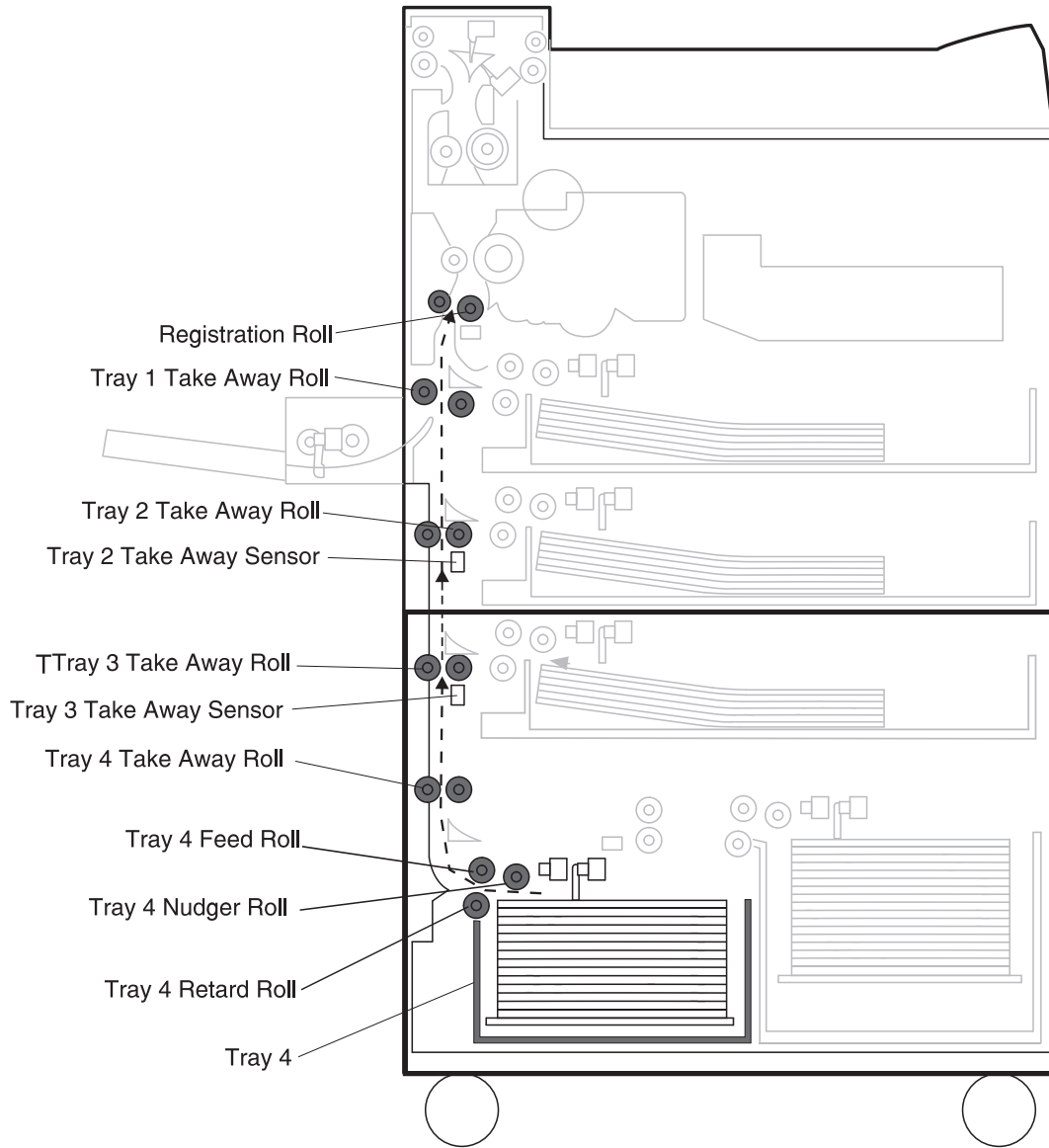
10. Tray 1 Take Away Roll

Part of the base engine. Drives the sheet of paper into the printer Registration Rolls.

Feed from Tray 4

At the start of a print cycle the Tray 4 Nudger Roll moves a sheet of paper into Tray 4 Feed Roll. The Feed Roll moves a single sheet of paper out of Tray 4 and toward the Tray 4 Take Away Roll. The Tray 4 Retard Roll makes sure that only one sheet of paper is fed. Tray 4 Take Away Roll drives the paper into Tray 3 Take Away Roll. As the sheet of paper is driven to the Tray 3 Take Away Roll it actuates the Tray 3 Take Away Sensor, notifying the MCU PWB logic that the paper has arrived. The Tray 3 Take Away Roll drives the sheet of paper to the Tray 2 Take Away Roll. As the sheet of paper is driven into the Take 2 Take Away Roll it actuates the Tray 2 Take Away Sensor, notifying the MCU PWB logic that the paper has arrived. The Tray 2 Take Away Roll drives the sheet into Tray 1 Take Away Rolls. Tray 1 Take Away Rolls drive the sheet of paper into the Registration Roll. After that, the sheet continues along the printer paper path until the sheet of paper, complete with fused image, is driven into an output tray.

4025 Options

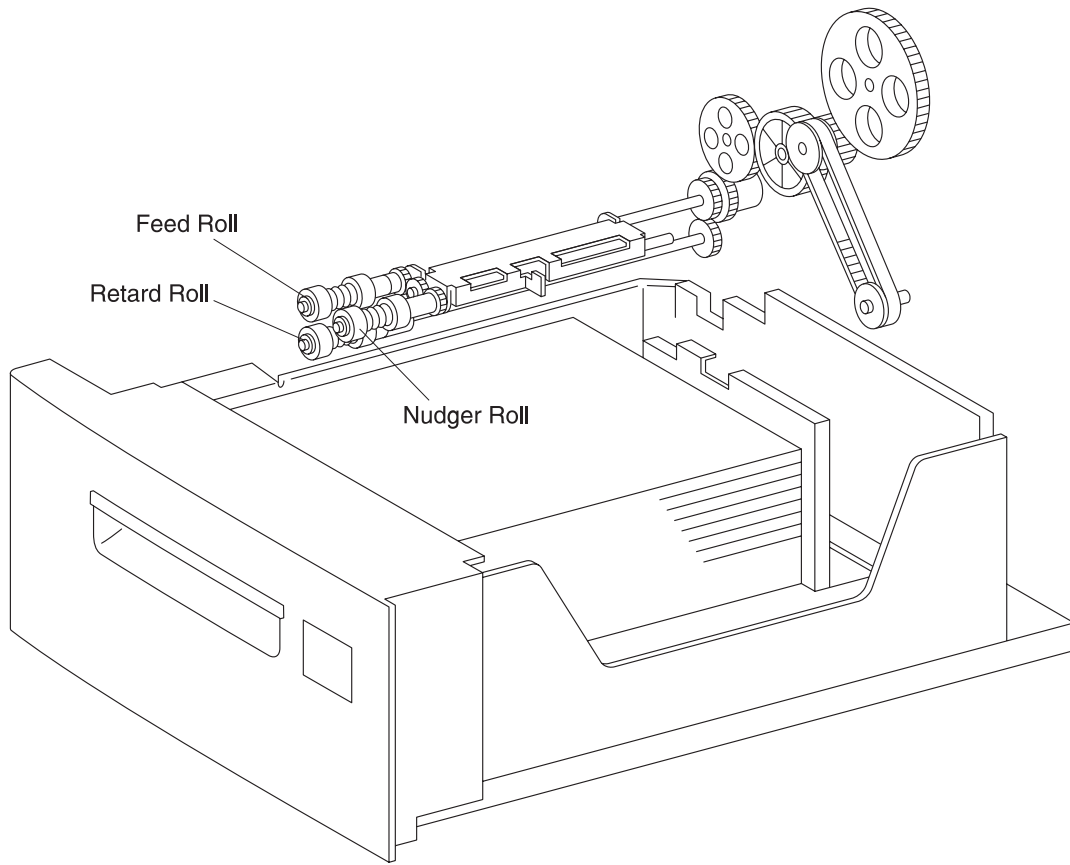


Tray 4 Paper Path Components

The HCF Tray 4 Paper Path is made up of a number of transport rolls and paper sensors.

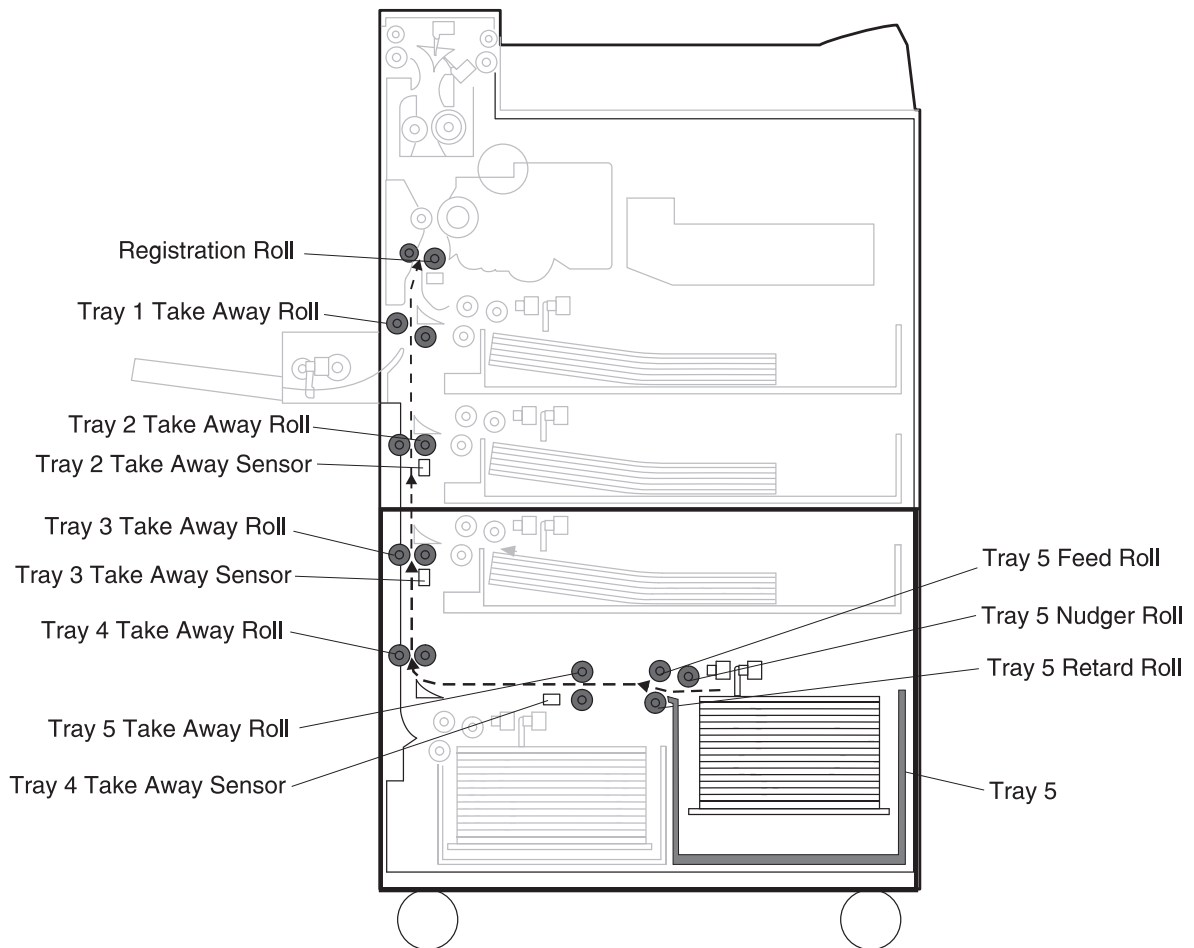
- 1. Tray 4 Assembly**
Holds plain paper of various sizes. Slides into the bottom left feeder, Feeder 4, of the High Capacity Feeder.
- 2. Tray 4 Lift Motor**
Raises the tray bottom plate so the paper contacts the Feed Roll.
- 3. Tray 4 No Paper Sensor**
Monitors the level of paper in Tray 4.
- 4. Tray 4 Paper Size Sensor**
Monitors the size of paper loaded into Tray 4.
- 5. Tray 4 Feed Clutch**
Transmits HCF Motor drive to the Tray 4 Feed Roll and Nudger Roll.
- 6. Tray 4 Nudger Roll**
Drives the top sheet of paper into the Feed Roll.
- 7. Tray 4 Feed Roll**
Drives the top sheet of paper out of Tray 4 and into the Tray 4 Take Away Roll.
- 8. Tray 4 Take Away Roll**
Drives the sheet of paper out of Feeder 4 and into Tray 3 Take Away Roll.
- 9. Tray 3 Take Away Sensor**
Monitors paper travel from the Tray 4 to Tray 3 Take Away Roll.
- 10. Tray 3 Take Away Roll**
Drives the sheet of paper into the Tray 2 Take Away Roll area of the base engine.
- 11. Tray 2 Take Away Sensor**
Monitors paper travel from the HCF into the base engine.
- 12. Tray 2 Take Away Roll**
Drives the sheet of paper into the printer Registration Rolls.
- 13. Tray 1 Take Away Roll**
Part of the base engine. Drives the sheet of paper into the printer Registration Rolls.

4025 Options



Feed from Tray 5

At the start of a print cycle the Tray 5 Nudger Roll moves a sheet of paper into Tray 5 Feed Roll. The Feed Roll moves a single sheet of paper out of Tray 5 and toward the Tray 5 Retard Roll. The Tray 5 Retard Roll makes sure that only one sheet of paper is fed. Tray 5 Take Away Roll drives the paper into Tray 4 Take Away Roll. As the sheet of paper is driven to the Tray 4 Take Away Roll it actuates the Tray 4 Take Away Sensor, notifying the MCU PWB logic that the paper has left Take Away Roll 5. Tray 4 Take Away Roll drives the paper into Tray 3 Take Away Roll. As the sheet of paper is driven to the Tray 3 Take Away Roll it actuates the Tray 3 Take Away Sensor, notifying the MCU PWB logic that the paper has arrived. The Tray 3 Take Away Roll drives the sheet of paper to the Tray 2 Take Away Roll. As the sheet of paper is driven into the Take 2 Take Away Roll it actuates the Tray 2 Take Away Sensor, notifying the MCU PWB logic that the paper has arrived. The Tray 2 Take Away Roll drives the sheet into Tray 1 Take Away Rolls. Tray 1 Take Away Rolls drive the sheet of paper into the Registration Roll. After that, the sheet continues along the printer paper path until the sheet of paper, complete with fused image, is driven into an output tray.



Tray 5 Paper Path Components

The HCF Tray 5 Paper Path is made up of a number of transport rolls and paper sensors.

- 1. Tray 5 Assembly**
Holds plain paper of various sizes. Slides into the bottom right feeder, Feeder 5, of the High Capacity Feeder.
- 2. Tray 5 Lift Motor**
Raises the tray bottom plate so the paper contacts the Feed Roll.
- 3. Tray 5 No Paper Sensor**
Monitors the level of paper in Tray 5.
- 4. Tray 5 Paper Size Sensor**
Monitors the size of paper loaded into Tray 5.
- 5. Tray 5 Feed Clutch**
Transmits HCF Motor drive to the Tray 5 Feed Roll and Nudger Roll.
- 6. Tray 5 Nudger Roll**
Drives the top sheet of paper into the Feed Roll.
- 7. Tray 5 Feed Roll**
Drives the top sheet of paper out of Tray 5 and into the Tray 5 Take Away Roll.
- 8. Tray 4 Take Away Sensor**
Monitors paper travel from the Tray 5 Take Away Roll to Tray 3 Take Away Roll.
- 9. Tray 4 Take Away Roll**
Drives the sheet of paper out of Feeder 4 and into Tray 3 Take Away Roll.
- 10. Tray 3 Take Away Sensor**
Monitors paper travel from the Tray 4 Take Away Roll to Tray 3 Take Away Roll.
- 11. Tray 3 Take Away Roll**
Drives the sheet of paper into the Tray 2 Take Away Roll area of the base engine.

4025 Options

12. Tray 2 Take Away Sensor

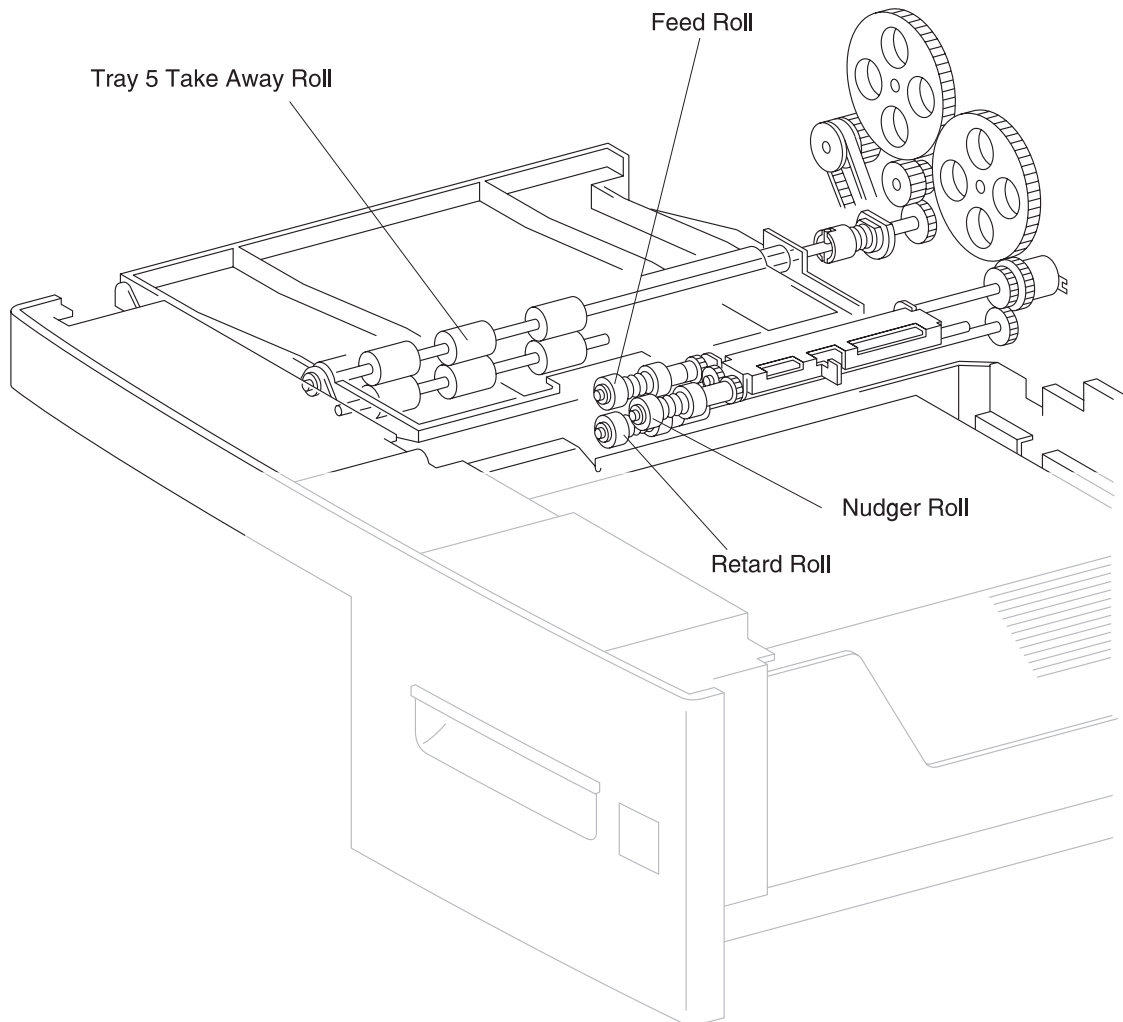
Monitors paper travel from the HCF into the base engine.

13. Tray 2 Take Away Roll

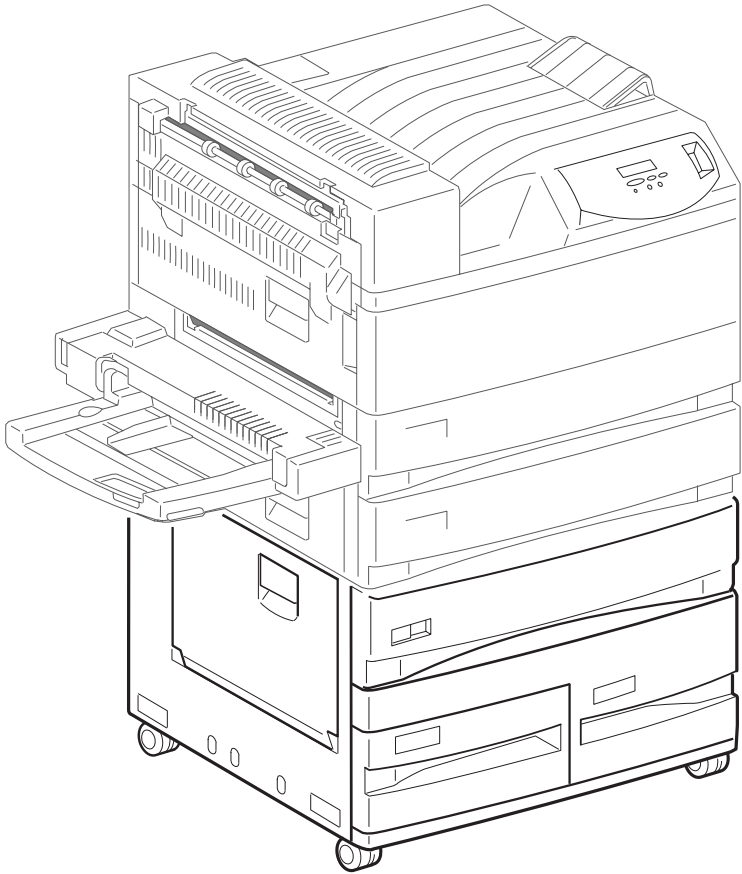
Drives the sheet of paper into the printer Registration Rolls.

14. Tray 1 Take Away Roll

Part of the base engine. Drives the sheet of paper into the printer Registration Rolls.



High Capacity Feeder General Specifications

Category	Specification
Configuration	<p>Customer installed option. The base engine sits on top of the High Capacity Feeder. The HCF has three paper trays:</p> <p>Tray 3 - upper tray. Tray 4 - lower left tray. Tray 5 - lower right tray</p> 
Paper feed	The HCF feeds Letter (LEF), A4 (LEF), Executive (LEF), and B5 (LEF)
Power requirements	The printer provides all of the High Capacity Feeder power requirements; +5VDC and +24VDC.
HCF noise level	Standby, with all trays closed: 58db Printing: 70dB
Size and weight	Height: 426 mm / 16.7 inches Width: 520 mm / 20.4 inches Depth: 490 mm / 19.2 inches Weight: 35kg / 77 lbs

Glossary of Terms, Acronyms, and Abbreviations

A-

AC	Alternating Current
AC Line Voltage	The AC voltage level at the AC wall outlet, such as 110VAC or 220VAC
Actuated	A device, such as a switch or motor, that is switched on
Actuator	Mechanical device used to toggle a switch or a sensor
Aux	Auxiliary

B-

Base Engine	The IOT without options or Controller PWB installed
BCR	Bias Charge Roll
BTR	Bias Transfer Roll

C-

°C	Degrees Celsius. °C = 0.55 (°F - 32)
CCW	Counterclockwise
Charge	The negative voltage that the High Voltage Power Supply applies to the surface of the drum
Continuity	A resistance reading of approximately 0 ohms
Controller PWB	The electrical interface between the printer MCU and the host computer. See ESS and Controller Board.
Controller Board	Synonym for Controller PWB, ESS, and ESS PWB
CL	Close
CRU	Customer Replaceable Unit, such as an EP Cartridge
CW	Clockwise

D-

DC	Direct Current
DB	Signal name for the Developer Bias voltage
Deactuated	A device, such as a switch or a motor, that is switched off
Develop	The part of the print cycle where toner adheres to the latent image on the drum
Developed image	The visible image on the drum after going through development
Diagnostics	The mode of operation that lets you check various components, such as sensors, solenoids, and motors
DPI	Dots Per Inch. The measure of image resolution
DRAM	Dynamic Random Access Memory
Drum	The Xerographic photoreceptor
DTS	Signal name for the Detack Saw voltage
Duplex	Printing on both sides of a single sheet of paper

4025 Options

E-

Earth	Electrical ground
Earth Plate	Electrical ground plate or ground strap
Engine Board	The board that controls the operation of the printer, synonym for MCU and MCU PWB
EP Cartridge	A sealed assembly that houses the xerographic drum, major xerographic components, and a finite supply of dry ink. The EP Cartridge is a CRU.
Error Code	A unique set of letters and numbers that the printer control system displays to indicate that a problem exists in a specific area of the printer
ESS	Electronic Subsystem. Synonym for the Controller PWB and Controller Board
Exposure	The action of the laser beam striking and discharging select areas of the electrically charged surface of the drum

F-

°F	Degrees Fahrenheit. °F = (°C x 1.8) + 32
Face Down Tray	Standard output tray for the printer. Delivers paper face down.
Factory default	An operational value or parameter that is set at the time of equipment manufacture
FG	Frame Ground
FRU	Field Replaceable Unit
Fuser	The printer subsystem that uses heat and pressure to permanently adhere, or fuse, a transferred toner image to a sheet of paper

G-

Ground	Electrical ground
--------	-------------------

H-

Harness	A bundle of wires that form a single unit and generally terminated with connectors at both ends
HCF	High Capacity Feeder
High (<i>signal</i>)	A signal voltage that is equal to or almost equal to the base voltage; such as +5VDC or +24VDC.
HS	High Speed
HVPS	High Voltage Power Supply

I-

Image density	The relative darkness of the toner image on a sheet of paper
Image development	Toner turning the latent image into a visible image.
Image fusing	Using heat and pressure to permanently adhere the toner image to a sheet of paper
Image transfer	Moving the developed image from the surface of the drum to the surface of a sheet of paper
Input test	Diagnostic routine that is used to test switches and sensors

4025 Options

Interlock	Interlock switch or circuit. Used as a safety measure to remove voltage from circuits whenever the printer covers are open or printer assemblies are not in position
IOT	Image Output Terminal. Acronym that is sometimes used in schematic diagrams to describe the base print engine
J-	
J	Jack. A female electrical connector
L-	
Laser	Refers to either the Laser Diode Assembly or to the laser beam
Laser beam path	The path the laser beam takes, through lenses and mirrors, from the Laser Diode to the surface of the drum
Laser Diode	Semiconductor device that generates the laser beam used in the Printhead
Latent image	The invisible, electrical image remaining on the surface of the drum after exposure
LD	Laser Diode
LCD	Liquid Crystal Display
LED	Light Emitting Diode
L/H	Left Hand
Low (<i>signal</i>)	A signal voltage that is significantly lower than the base voltage
LS	Low Speed
LVPS	Low Voltage Power Supply
M-	
MCU	Machine Control Unit. The board that controls the operation of the printer, synonym for Engine Board and MCU PWB
MBX	Mailbox
MOT	Motor
N-	
NC	No Connection
NVRAM	Non-Volatile Random Access Memory
O-	
OHP	Transparency print media
OP	Open
Output test	Diagnostic routine used to switch on motors, solenoids, and clutches
P-	
P	Plug. A male electrical connector

4025 Options

Paper jam	A sheet of paper stops at a point along the paper path
Paper path	The path a sheet of paper takes from the paper feeder to the output tray
P/H	Paper Handling
P/J	Plug and Jack. Electrical connectors as a unit
PL	Parts List
PPM	Pages Per Minute or Prints Per Minute
Pre-Reg	Pre-Registration
Print cycle	The printer creating and delivering one finished print
Print surface	The side of a sheet of paper that receives the printed image
PS	Power Supply
PWB	Printed Wiring Board (sometimes referred to as PCB or Printed Circuit Board)

R

R	Right
Reg or Regi	Registration
R/H	Right Hand
ROM	Read Only Memory
RTN	Return

S

Sensor	A device used to monitor a function or operation, such as paper travel along the paper path
SG	Signal Ground
Signal name	A name assigned to a wire, indicating the purpose of the wire and/or the voltage carried by that wire
SNR	Sensor
SOL	Solenoid
SOS	Start Of Scan
STA	Status
STS	Soft Touch Sensor
SW	Switch

T

Temp	Temperature
Test Print	A grid pattern print that is generated by the MCU
Test Print Mode	The mode of operation that lets you generate a test print
Toggle	To switch between two states, such as on and off or up and down
Toner	The dry ink that is used to create the visible image. Toner is stored in the EP Cartridge
Transfer	Moving the toner image from the surface of the drum to the surface of a sheet of paper

V-

V	Volts
VAC	Volts - Alternating Current

4025 Options

VDC

Volts - Direct Current

W-

Warm-up

The time it takes the printer to go from main power ON to Ready to Print

Wire Harness

A bundle of wires that form a single unit and are generally terminated with connectors at both ends

4025 Options

2. Diagnostic Information

Start

CAUTION: Remove the power cord from the printer and option or wall outlet before you connect or disconnect any cable or electronic board or assembly for personal safety and to prevent damage to the printer or option. Make sure your fingers are not under the printer when you lift or set the printer down.

Use the appropriate error code table, symptom table, error code service checks and symptom service checks in the following table to determine the corrective action necessary to repair the failing option.

Option	Tables and Service Checks
Envelope Feeder	“Envelope Feeder Error Code Table” on page 2-2
	“Envelope Feeder Symptom Table” on page 2-2
	“Envelope Feeder Error Code Service Checks” on page 2-3
	“Envelope Feeder Symptom Service Checks” on page 2-7
Duplex	“Duplex Error Code Table” on page 2-8
	“Duplex Symptom Table” on page 2-9
	“Duplex Error Code Service Checks” on page 2-9
	“Duplex Symptom Service Checks” on page 2-18
Mailbox	“Mailbox Error Code Table” on page 2-19
	“Mailbox Symptom Table” on page 2-20
	“Mailbox Error Code Service Checks” on page 2-20
	“Mailbox Symptom Service Checks” on page 2-30
High Capacity Feeder	“High Capacity Feeder Error Code Table” on page 2-32
	“High Capacity Feeder Symptom Table” on page 2-33
	“High Capacity Feeder Error Code Service Checks” on page 2-33
	“High Capacity Feeder Symptom Service Checks” on page 2-52

Envelope Feeder

Envelope Feeder Error Code Table

This table lists all of the Envelope Unit related Error Codes that are generated by the printer Engine Board (MCU PWB).

Note: Depending on the level of firmware on your printer Engine Board (MCU PWB) some codes listed may be invalid, some codes generated by the MCU may not appear in this table, and Error and Message Code text presented may differ slightly from the Error and Message Code text that is actually generated by your MCU.

Error Code	Description
271	Logic Control on the MCU PWB sensed that the Envelope Feed Sensor did not actuate within the specified time after the Envelope Feed Clutch was actuated. Go to “Error Code 271” on page 2-3.
272	Logic Control on the MCU PWB sensed the Envelope Feed Sensor was actuated while the printer was in standby. Go to “Error Code 272” on page 2-4.
273	Logic Control on the MCU PWB sensed that the Tray 2 Take Away Sensor did not actuate within the specified time after the Envelope Feed Clutch was actuated. Go to “Error Code 273” on page 2-4.
255	Logic Control on the MCU PWB sensed that the Registration Sensor did not actuate within the specified time after the Envelope Feed Clutch was actuated. Go to “Error Code 255” on page 2-6.

Envelope Feeder Symptom Table

Symptom	Action
Inoperative Envelope Feeder	Go to “Inoperative Envelope Feeder” on page 2-7.

Envelope Feeder Error Code Service Checks

Error Code 271

There is a paper jam between the Envelope Tray and the Envelope Feed Sensor.

Logic Control on the MCU PWB sensed that the Envelope Feed Sensor did not actuate within the specified time after the Envelope Feed Clutch was actuated.

Step	Actions and Questions	Yes	No
1	<p>PAPER PATH INSPECTION Inspect the paper path for paper scraps that may cause a paper jam. Is the paper path free of paper scraps?</p>	Go to step 2	Clean the paper path
2	<p>PAPER INSPECTION Inspect the envelopes that are loaded in the Envelope Tray. Are the envelopes that are loaded in the Envelope Tray wrinkled or damaged?</p>	Replace the envelopes with new envelopes	Go to step 3
3	<p>ENVELOPE FEED TEST Enter Diagnostic Mode, Input Tray Test, Envelope. Load envelopes and select "Single." A single envelope should feed and exit into the standard bin. Did a single envelope feed?</p>	Problem solved	Go to step 4
4	<p>+24VDC CHECK Measure the voltage between P/J700-7 and P/J700-12 on the Envelope PWB. Is there +24VDC between P/J700-7 and P/J700-12?</p>	Replace the Envelope Feeder Option	Use the Block Diagrams in the printer service manual to troubleshoot a loss of +24VDC from the MCU PWB
5	<p>The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. Replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> • Envelope Feeder Option - Go to "Envelope Feeder" on page 2-2. • Printer MCU PWB - Go to the Printer Service Manual for the Removal and Replacement Procedure. • Wiring and connectors linking the FRUs 		

Error Code 272

There is a problem with the Envelope Feed Sensor.

Logic Control on the MCU PWB sensed the Envelope Feed Sensor was actuated while the printer was in standby.

Step	Actions and Questions	Yes	No
1	ENVELOPE FEED SENSOR INSPECTION Inspect the Envelope Feed Sensor for paper scraps that may be actuating the sensor. Is the Sensor free of paper scraps?	Go to step 2	Remove the paper scraps
2	ENVELOPE FEED TEST Enter Diagnostic Mode, Input Tray Test, Envelope. Load envelopes and select "Single." A single envelope should feed and exit into the standard bin. Did a single envelope feed?	Go to step 3	Replace the Envelope Feeder Option
3	The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. Replace each FRU or troubleshoot each area listed, one at a time, until you isolate and solve the problem. <ul style="list-style-type: none"> • Envelope Feeder Option - Go to "Envelope Feeder" on page 4-2. • Printer MCU PWB - Go to the Printer Service Manual for the Removal and Replacement Procedure. • Wiring and connectors linking the FRUs 		

Error Code 273

There is a paper jam between the Envelope Feeder and the Tray 2 Take Away Sensor.

Logic Control on the MCU PWB sensed that the Tray 2 Take Away Sensor did not actuate within the specified time after the Envelope Feed Clutch was actuated.

Step	Actions and Questions	Yes	No
1	PAPER PATH INSPECTION Inspect the paper path for paper scraps that may cause a paper jam. Is the paper path free of paper scraps?	Go to step 2	Clean the paper path

4025 Options

Step	Actions and Questions	Yes	No
2	PAPER INSPECTION Inspect the envelopes that are loaded in the Envelope Tray. Are the envelopes that are loaded in the Envelope Tray wrinkled or damaged?	Replace the envelopes with new envelopes	Go to step 3
3	ENVELOPE FEED TEST Enter Diagnostic Mode, Input Tray Test, Envelope. Load envelopes and select "Single." A single envelope should feed and exit into the standard bin. Did a single envelope feed?	Problem solved	Go to step 4
4	+24VDC CHECK Measure the voltage between P/J700-7 and P/J700-12 on the Envelope PWB. Is there +24VDC between P/J700-7 and P/J700-12?	Go to step 5	Use the Block Diagrams in the printer service manual to troubleshoot a loss of +24VDC from the MCU PWB.
5	The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem. <ul style="list-style-type: none"> • Wiring and connectors linking the FRUs • Envelope Feeder Option - Go to "Envelope Feeder" on page 2-2. • MCU PWB - Go to the Printer Service Manual for the Removal and Replacement Procedure. • I/O PWB - Go to the Printer Service Manual for the Removal and Replacement Procedure. 		

Error Code 255

There is a paper jam between the Envelope Feeder and the Registration Sensor.

Logic Control on the MCU PWB sensed that the Registration Sensor did not actuate within the specified time after the Envelope Feed Clutch was actuated.

Step	Actions and Questions	Yes	No
1	<p>PAPER PATH INSPECTION Inspect the paper path for paper scraps that may cause a paper jam. Is the paper path free of paper scraps?</p>	Go to step 2	Clean the paper path
2	<p>PAPER INSPECTION Inspect the envelopes that are loaded in the Envelope Tray. Are the envelopes that are loaded in the Envelope Tray wrinkled or damaged?</p>	Replace the envelopes with new envelopes	Go to step 3
3	<p>REGISTRATION SENSOR TEST Enter Diagnostic Mode and select Sensor Test- Registration Sensor. Open the Left Upper Cover and insert, then remove, a sheet of paper into the Registration Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?</p>	Go to step 4	Replace the Envelope Feeder Option
4	<p>TRAY 2 TAKE AWAY SENSOR TEST 1. Enter Diagnostic Mode. 2. Insert, then remove, a sheet of paper into the Tray 2 Take Away Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?</p>	Go to step 5	Replace the Tray 2 Take Away Sensor. Go to the Printer Service Manual for the Removal and Replacement Procedure.
5	<p>+24VDC CHECK Measure the voltage between P/J700-7 and P/J700-12 on the Envelope PWB. Is there +24VDC between P/J700-7 and P/J700-12?</p>	Go to step 6	Use the Block Diagrams in the printer service Manual to troubleshoot a loss of +24VDC from the MCU PWB

4025 Options

Step	Actions and Questions	Yes	No
6	<p>The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this chart, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> • Wiring and connectors linking the FRUs • Envelope Feeder Option - Go to “Envelope Feeder” on page 2-2. • MCU PWB - Go to the Printer Service Manual for the Removal and Replacement Procedure. • I/O PWB - Go to the Printer Service Manual for the Removal and Replacement Procedure. 		

Envelope Feeder Symptom Service Checks

Inoperative Envelope Feeder

The Envelope Feeder does not function, the Envelope Motor does not switch on, and the problem is not identified by a displayed Error Code.

Step	Actions and Questions	Yes	No
1	<p>ENVELOPE FEEDER CONNECTION INSPECTION Remove the Envelope Feeder from the Base Engine. Inspect the P/J that connects the Feeder to the Base Engine. Is the P/J free of damage, loose wires, and damaged or missing pins?</p>	Go to step 2	Replace or repair the connector
2	<p>ENVELOPE FEED TEST Enter Diagnostic Mode, Input Tray Test, Envelope. Load envelopes and select “Single.” A single envelope should feed and exit into the standard bin. Did a single envelope feed?</p>	Problem solved	Go to step 3
3	<p>+24VDC CHECK Measure the voltage between P/J700-7 and P/J700-12 on the Envelope PWB. Is there +24VDC between P/J700-7 and P/J700-12?</p>	Replace the Envelope Feeder Option	Use the Block Diagrams in the printer service Manual to troubleshoot a loss of +24VDC from the MCU PWB

4025 Options

Step	Actions and Questions	Yes	No
4	<p>The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this chart, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> • Wiring and connectors linking the FRUs 		

Duplex

Duplex Error Code Table

This table lists all of the Duplex Unit related Error Codes that are generated by the printer Engine Board (MCU PWB).

Note: Depending on the level of firmware on your printer Engine Board (MCU PWB) some codes listed may be invalid, some codes generated by the MCU may not appear in this table, and Error and Message Code text presented may differ slightly from the Error and Message Code text that is actually generated by your MCU.

Error Code	Description
207	Logic control on the MCU PWB sensed that the Duplex Exit Sensor did not actuate within the specified time after the Face Up Exit Sensor was actuated. Go to “Error Code 207” on page 2-9.
231	Logic control on the MCU PWB sensed that the Duplex Exit Sensor did not actuate within the specified time after the Face Up Exit Sensor was actuated. Go to “Error Code 231” on page 2-12.
232	Logic control on the MCU PWB sensed that the Duplex Wait Sensor did not actuate within the specified time after the Face Up Exit Sensor was actuated. Go to “Error Code 232” on page 2-13.
233	Logic control on the MCU PWB sensed that the Duplex Exit Sensor was on while the printer was in standby. Go to “Error Code 233” on page 2-14.
234	Logic control on the MCU PWB sensed that the Duplex Exit Sensor was on while the printer was in standby. Go to “Error Code 234” on page 2-15.
260	Logic control on the MCU PWB sensed that the Registration Sensor did not actuate within the specified time after the Duplex Wait Clutch was actuated. Go to “Error Code 260” on page 2-16.
997	Logic control sensed that the installed Duplex is not compatible with the printer. Go to “Error Code 997” on page 2-17.

Duplex Symptom Table

Symptom	Action
Inoperative Duplex Unit	Go to “Inoperative Duplex Unit” on page 2-18

Duplex Printing Modes

Mode	Specification
One Sheet Batch Page2 - Page1	1. The printer prints on one side of a sheet of paper. 2. The Duplex Unit returns the printed sheet to the printer. 3. The printer prints on the other side of the sheet of paper. 4. The printer transports the duplex printed sheet to the output tray.
Two Sheet Batch Page2 - Page4- Page1- Page3	5. The printer prints on one side of a sheet of paper. 6. The Duplex Unit holds that sheet, while the printer prints on one side of a second sheet of paper. 7. The Duplex Unit returns the first sheet to the printer. 8. The printer prints on the second side of the first sheet. 9. The Duplex Unit then returns the second sheet to the printer. 10. The printer transports the duplex printed first sheet to the output tray. 11. The printer prints on the second side of the second sheet. 12. The printer transports the duplex printed second sheet to the output tray. 13. This process repeats for additional prints.
Three Sheet Batch Page 2 - Page 4- Page 1- Page 6- Page 3- Page 5	14. The printer prints on one side of a sheet of paper. 15. The Duplex Unit holds that sheet, while the printer prints on one side of a second sheet of paper. 16. The Duplex Unit returns the first sheet to the printer. 17. The printer prints on the second side of the first sheet. 18. The printer prints on the second side of a third sheet. 19. The Duplex Unit holds the third sheet. 20. The Duplex Unit returns the second sheet to the printer. 21. The printer prints on the second side of the second sheet. 22. The Duplex Unit returns the third sheet to the printer. 23. The printer prints on the second side of the third sheet.

Duplex Error Code Service Checks

Error Code 207

There is a paper jam at the Duplex Exit Sensor.

Logic Control on the MCU PWB sensed that the Duplex Exit Sensor did not actuate within the specified time after the Face Up Exit Sensor was actuated.

4025 Options

Step	Actions and Questions	Yes	No
1	<p>PAPER INSPECTION Inspect the paper that is loaded in the paper cassette. Is the paper that is loaded in the cassette wrinkled or damaged?</p>	Replace the paper with new paper	Go to step 2
2	<p>PAPER PATH INSPECTION Open the Duplex Unit and inspect the paper path between the Fuser and the Duplex for paper scraps or foreign objects that could cause a paper jam. Is the paper path clear?</p>	Go to step 3	Clear the paper path
3	<p>FACE UP EXIT SENSOR TEST Enter Diagnostic Mode and select Face Up Exit Sensor. Insert, then remove, a sheet of paper into the Face Up Exit Sensor Does the Control Panel LCD change between OP and CL as you insert then remove the paper?</p>	Go to step 4	Replace the Face Up Exit Sensor. Go to the printer service manual for the Removal and Replacement Procedure.
4	<p>DUPLEX UNIT EXIT SENSOR TEST Enter Diagnostic Mode, select Duplex Exit Sensor. Insert, then remove, a sheet of paper into the Duplex Exit Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?</p>	Go to step 5	Replace the “Duplex Exit Sensor” on page 4-10)
5	<p>INVERTER CLUTCH TEST Enter Diagnostic Mode, select Duplex Quick Test. You can see and hear the clutch “pick” (energize). The Exit Roll shaft rotates when the clutch engages. Does the Wait Clutch actuate and does the Exit Roll rotate during the Quick Test?</p>	Go to step 6	Replace the Exit Drive Assembly. Go to the printer service manual for the Removal and Replacement Procedure.
6	<p>DUPLEX EXIT GATE SOLENOID TEST Enter Diagnostic Mode, select Duplex Quick Test. With the Duplex top cover removed, you can see the Exit Gate solenoid “pick” (energize) during the Quick Test. Does the Exit Gate Solenoid toggle the Exit Gate during the Quick Test?</p>	Go to step 7	Replace the “Duplex Exit Gate Solenoid” on page 4-11

4025 Options

Step	Actions and Questions	Yes	No
7	<p>DUPLEX EXIT GATE INSPECTION</p> <p>1. Open the Inner Chute. 2. Check the Duplex Exit Gate and Gate Spring.</p> <p>Is the Duplex Exit Gate in place on the Inner Chute, is the Gate unbroken, does it pivot freely on the Inner Chute, and does it have a spring-action return?</p>	Go to step 8	Reinstall the Exit Gate and Spring or replace the Exit Gate and Spring. Go to the printer service manual for the Removal and Replacement Procedure.
8	<p>DUPLEX PWB REPLACEMENT</p> <p>Replace the “Duplex PWB and Bracket” on page 4-7.</p> <p>Does the error code appear?</p>	Go to step 9	Problem solved
9	<p>MCU PWB REPLACEMENT</p> <p>Replace the printer Engine Board (MCU PWB). Go to the Printer Service Manual for Removal and Replacement Procedures</p> <p>Does the error code appear?</p>	Go to step 10	Problem solved
10	<p>I/O PWB REPLACEMENT</p> <p>Replace the I/O PWB. Go to the printer service manual for the Removal and Replacement Procedure.</p> <p>Does the error code appear?</p>	Go to step 11	Problem solved
11	<p>The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> • Wiring and connectors linking the FRUs • Fuser Drive Assembly - Go to the printer service manual for the Removal and Replacement Procedure. • Fuser Assembly - Go to the printer service manual for the Removal and Replacement Procedure. 		

Error Code 231

There is a paper jam at the Duplex Exit Sensor.

Logic Control on the MCU PWB sensed that the Duplex Exit Sensor did not actuate within the specified time after the Face Up Exit Sensor was actuated.

Step	Actions and Questions	Yes	No
1	PAPER INSPECTION Inspect the paper that is loaded in the paper cassette. Is the paper that is loaded in the cassette wrinkled or damaged?	Replace the paper with new paper	Go to step 2
2	PAPER PATH INSPECTION Observe the location of the last sheet of paper out of the Duplex Unit. Did the paper exit the Duplex Unit?	Go to step 3	Go to step 4
3	DUPLEX UNIT EXIT SENSOR TEST Enter Diagnostic Mode, select Duplex Exit Sensor. Insert, then remove, a sheet of paper into the Duplex Exit Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?	Replace the “Duplex PWB and Bracket” on page 4-7	Replace the “Duplex Exit Sensor” on page 4-10
4	DUPLEX MOTOR TEST Enter Diagnostic Mode, select Duplex Quick Test. Does the Duplex Drive Motor run and do the gears of the Drive Assembly rotate?	Go to step 5	Replace the “Duplex Drive Assembly” on page 4-9
5	EXIT ROLL AND TRANSPORT ROLL CHECK While running Diagnostic Mode - Duplex Quick Test observe the Exit and Transport Rolls. Do the Exit Roll and Transport Roll rotate?	Replace the “Exit Roll Belt” on page 4-16	Go to step 6
6	EXIT ROLL BELT REPLACEMENT Replace the “Exit Roll Belt” on page 4-16. Does the error code appear?	Go to step 7	Problem solved
7	The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem. <ul style="list-style-type: none"> • Wiring and connectors linking the FRUs • MCU PWB - Go to the Printer Service Manual for the Removal and Replacement Procedure. • I/O PWB - Go to the Printer Service Manual for the Removal and Replacement Procedure. 		

Error Code 232

There is a paper jam between the Face Up Exit Sensor and the Duplex Wait Sensor.

Logic Control on the MCU PWB sensed that the Duplex Wait Sensor did not actuate within the specified time after the Face Up Exit Sensor was actuated.

Step	Actions and Questions	Yes	No
1	PAPER INSPECTION Inspect the paper that is loaded in the paper cassette. Is the paper that is loaded in the cassette wrinkled or damaged?	Replace the paper with new paper	Go to step 2
2	PAPER PATH INSPECTION Open the Inner Chute and observe the location of the jammed sheet of paper. Did the paper actuate the Wait Sensor?	Go to step 3	Go to step 4
3	DUPLEX WAIT SENSOR TEST Enter Diagnostic Mode, select Duplex Wait Sensor. Insert, then remove, a sheet of paper into the Duplex Wait Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?	Replace the “Duplex PWB and Bracket” on page 4-7	Replace the “Duplex Wait Sensor” on page 4-14
4	DUPLEX WAIT CLUTCH TEST Enter Diagnostic Mode, select Duplex Quick Test. You can hear and see the clutch “pick” (energize) and the Exit Roll shaft rotate when the clutch engages. Does the Wait Clutch actuate and does the Exit Roll rotate during the Quick Test?	Go to step 5	Replace the “Duplex Wait Clutch” on page 4-8
5	EXIT ROLL OBSERVATION When performing step 4, does the Exit Roll drive the sheet of paper into the Wait Sensor actuator?	Go to step 6	Replace the “Exit Roll” on page 4-12
6	MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure. Does the error code appear?	Go to step 7	Problem solved
7	The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem. <ul style="list-style-type: none"> • Wiring and connectors linking the FRUs • I/O PWB - Go to the Printer Service Manual for the Removal and Replacement Procedure. 		

Error Code 233

There is a problem with the Duplex Exit Sensor.

Logic Control on the MCU PWB sensed that the Duplex Exit Sensor was on while the printer was in standby.

Step	Actions and Questions	Yes	No
1	<p>DUPLEX EXIT SENSOR INSPECTION Inspect the Duplex Exit Sensor for contamination or paper scraps that may be actuating the sensor. Is the Duplex Exit Sensor clean and free of paper scraps?</p>	Go to step 2	Clean or clear paper scraps from the Sensor
2	<p>DUPLEX EXIT SENSOR INSPECTION Inspect the Duplex Exit Sensor for damage, such as a broken spring or actuator, that may have locked the Sensor in the on position. Is the sensor undamaged?</p>	Go to step 3	Replace the “Duplex Exit Sensor” on page 4-10
3	<p>DUPLEX UNIT EXIT SENSOR TEST Enter Diagnostic Mode, select Duplex Exit Sensor. Insert, then remove, a sheet of paper into the Duplex Exit Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?</p>	Go to step 4	Replace the “Duplex Exit Sensor” on page 4-10
4	<p>DUPLEX PWB REPLACEMENT Replace the “Duplex PWB and Bracket” on page 4-7. Does the error code appear?</p>	Go to step 5	Problem solved
5	<p>MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure. Does the error code appear?</p>	Go to step 6	Problem solved
6	<p>I/O PWB REPLACEMENT Replace the I/O PWB. Go to the printer service manual for the Removal and Replacement Procedure. Does the error code appear?</p>	Go to step 7	Problem solved
7	<p>The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem.</p> <p>Wiring and connectors linking the FRUs</p>		

Error Code 234

There is a paper jam between the Duplex Wait Sensor and the Registration Sensor.

Logic Control on the MCU PWB sensed that the Registration Sensor did not actuate within the specified time after the Duplex Wait Clutch was actuated.

Step	Actions and Questions	Yes	No
1	<p>PAPER INSPECTION Inspect the paper that is loaded in the paper cassette. Is the paper that is loaded in the cassette wrinkled or damaged?</p>	Replace the paper with new paper	Go to step 2
2	<p>PAPER PATH INSPECTION Open the Duplex Unit and observe the location of the jammed sheet of paper. Is the paper sticking a few inches out of the bottom of the Duplex Unit?</p>	Go to step 3	Go to step 4
3	<p>REGISTRATION SENSOR TEST Enter Diagnostic Mode and select Sensor Test- Registration Sensor. Open the Left Upper Cover and insert, then remove, a sheet of paper into the Registration Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?</p>	Go to step 4	Replace the Registration Sensor. Go to the printer service manual for the Removal and Replacement Procedure.
4	<p>DUPLEX WAIT CLUTCH TEST Enter Diagnostic Mode, select Duplex Quick Test. You can hear and see the clutch "pick" (energize) and the Exit Roll shaft rotate when the clutch engages. Does the Wait Clutch actuate and does the Exit Roll rotate during the Quick Test?</p>	Go to step 5	Replace the "Duplex PWB and Bracket" on page 4-7
5	<p>EXIT ROLL OBSERVATION When performing step 4, does the Exit Roll drive the sheet of paper into the Wait Sensor actuator?</p>	Go to step 6	Replace the "Exit Roll" on page 4-12
6	<p>MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure. Does the error code appear?</p>	Go to step 7	Problem solved

4025 Options

Step	Actions and Questions	Yes	No
7	<p>The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem.</p> <p>Wiring and connectors linking the FRUs</p>		

Error Code 260

There is a paper jam at the Duplex Exit Sensor.

Logic Control on the MCU PWB sensed that the Duplex Exit Sensor did not actuate within the specified time after the Face Up Exit Sensor was actuated.

Step	Actions and Questions	Yes	No
1	<p>DUPLEX WAIT SENSOR INSPECTION Inspect the Duplex Wait Sensor for contamination or paper scraps that may be actuating the sensor. Is the Duplex Wait Sensor clean and free of paper scraps?</p>	Go to step 2	Clean or clear paper scraps from the Sensor
2	<p>DUPLEX WAIT SENSOR INSPECTION Inspect the Duplex Wait Sensor for damage, such as a broken spring or actuator, that may have locked the Sensor in the on position. Is the sensor undamaged?</p>	Go to step 3	Replace the “Duplex Wait Sensor” on page 4-14
3	<p>DUPLEX WAIT SENSOR TEST Enter Diagnostic Mode, select Duplex Wait Sensor. Insert, then remove, a sheet of paper into the Duplex Wait Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?</p>	Go to step 4	Replace the “Duplex Wait Sensor” on page 4-14
4	<p>DUPLEX PWB REPLACEMENT Replace the “Duplex PWB and Bracket” on page 4-7. Does the error code appear?</p>	Go to step 5	Problem solved
5	<p>MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure. Does the error code appear?</p>	Go to step 6	Problem solved

4025 Options

Step	Actions and Questions	Yes	No
6	<p>I/O PWB REPLACEMENT Replace the I/O PWB. Go to the printer service manual for the Removal and Replacement Procedure. Does the error code appear?</p>	Go to step 7	Problem solved
7	<p>The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> • Wiring and connectors linking the FRUs 		

Error Code 997

Logic control sensed that the installed Duplex is not compatible with the printer.

Step	Actions and Questions	Yes	No
1	<p>DUPLEX INSPECTION Inspect the Duplex Unit to make sure it is the correct manufacture and model for the printer. Is the Duplex Unit the correct manufacture and model for this printer?</p>	Go to step 2	Replace the Duplex Unit with a correct one
2	<p>RESET Turn off the printer. Wait one minute, then turn on the printer. Is the error code gone?</p>	Problem solved	Go to step 3
3	<p>RESEAT Disconnect then reconnect the Duplex from the printer. Is the error code gone?</p>	Problem solved	Go to step 4
4	<p>DUPLEX PWB Replace the “Duplex PWB and Bracket” on page 4-7. Is the error code gone?</p>	Problem solved	Go to step 5
5	<p>MCU BOARD Replace the printer Engine Board (MCU PWB). Go to the Printer Service Manual for the Removal and Replacement Procedure. Is the error code gone?</p>	Problem solved	Go to step 6

4025 Options

Step	Actions and Questions	Yes	No
6	<p>The following Duplex FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem these steps, replace each FRU or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> • Wiring and connectors linking the FRUs. 		

Duplex Symptom Service Checks

Inoperative Duplex Unit

The Duplex Unit does not function, the Duplex Motor does not switch on, and the problem is not identified by a displayed Error Code.

Step	Actions and Questions	Yes	No
1	<p>INTERFACE CABLE INSPECTION Check the Duplex Interface Cable. Is the cable firmly connected to the P/J at the rear of the printer?</p>	Go to step 2	Reconnect the Duplex Interface Cable
2	<p>DUPLEX MODE TEST PRINT Enter Diagnostic Mode, select Duplex Quick Test. With the Duplex top cover removed, observe the paper feed process. Does the duplex unit process the duplex test print?</p>	Problem solved	Go to step 3
3	<p>DUPLEX UNIT VOLTAGE CHECK 1. Remove the “Duplex Cover” on page 4-4 and reinstall the coverless duplex unit onto the printer. 2. Reconnect the Duplex Interface Cable to the P/J at the rear of the printer. 3. Switch on the printer power. 4. Measure the voltage between J473-13 and FG (frame ground), and the voltage between J473-2 and FG on the Duplex PWB. Is there +5VDC between J473-13 and FG, and is there +24VDC between J473-2 and FG?</p>	Replace the “Duplex Drive Assembly” on page 4-9	Go to step 4
4	<p>MCU PWB POWER OUT CHECK 1. Remove the printer Rear Cover. 2. Measure the voltage between J404-6 and FG, and the voltage between J404-24 and FG on the MCU PWB. Is there +5VDC between J404-6 and FG, and is there +24VDC between J404-24 and FG?</p>	Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure.	Use the Block Diagrams in the printer service manual to troubleshoot a loss of DC voltage from the MCU PWB

4025 Options

Step	Actions and Questions	Yes	No
5	<p>DRIVE BELT INSPECTION</p> <ol style="list-style-type: none"> 1. Remove the Duplex Cover and reinstall the coverless Unit onto the printer. 2. Reconnect the Duplex Interface Cable to the P/J at the rear of the printer. 3. Enter Diagnostic Mode - Duplex Quick Test to run the Duplex Motor. 4. Inspect the various belts and gears driven by the Duplex Motor. <p>Are any of the drive belts slipping or any of the drive gears not rotating?</p>	Replace the problem belt or gear	Go to step 6
6	<p>DUPLEX PWB REPLACEMENT</p> <p>Replace the “Duplex PWB and Bracket” on page 4-7.</p> <p>Does the Duplex Unit function normally?</p>	Problem solved	Go to step 7
7	<p>The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> • Wiring and connectors linking the FRUs • I/O PWB - Go to the Printer Service Manual for the Removal and Replacement Procedure. 		

Mailbox

Mailbox Error Code Table

This table lists all of the Mailbox related Error Codes that are generated by the printer Engine Board (MCU PWB).

Depending on the level of firmware on your printer Engine Board (MCU PWB) some codes listed may be invalid, some codes generated by the MCU may not appear in this table, and Error and Message Code text presented may differ slightly from the Error and Message Code text that is actually generated by your MCU.

Error Code	Description
280	Logic Control on the MCU PWB sensed that the Mailbox Entrance Sensor did not actuate within the specified time after the Fuser Exit Sensor was actuated. Go to “Error Code 280” on page 2-20.
281	Logic Control on the MCU PWB sensed that the Mailbox Entrance Sensor did not deactivate within the specified time after the sensor was actuated. Go to “Error Code 281” on page 2-22.

4025 Options

Error Code	Description
282	Logic Control on the MCU PWB sensed that the Mailbox Entrance Sensor was actuated when the printer was not in Mailbox mode. Go to “Error Code 282” on page 2-24.
284	Logic Control on the MCU PWB sensed that either the Mailbox Vertical Sensor did not actuate within the specified time after the Mailbox Entrance Sensor was actuated, or that BIN 1 Jam Sensor did not deactivate within the specified time after the Mailbox Entrance Sensor was actuated. Go to “Error Code 284” on page 2-25.
285	Logic Control on the MCU PWB sensed that either the Mailbox Vertical Sensor did not deactivate within the specified time after the Mailbox Entrance Sensor was actuated, or that BIN 1 Jam Sensor did not deactivate within the specified time after it was actuated. Go to “Error Code 285” on page 2-27.
996	Logic control sensed that the installed Mailbox is not compatible with the printer. Go to “Error Code 996” on page 2-29.

Mailbox Symptom Table

Symptom	Action
Inoperative Mailbox	Go to “Inoperative Mailbox” on page 2-30.

Mailbox Error Code Service Checks

Error Code 280

There is a paper jam between the Fuser Exit Sensor and the Mailbox Entrance Sensor.

Logic Control on the MCU PWB sensed that the Mailbox Entrance Sensor did not actuate within the specified time after the Fuser Exit Sensor was actuated.

Step	Actions and Questions	Yes	No
1	PAPER INSPECTION Inspect the paper that is loaded in the paper cassette. Is the paper that is loaded in the cassette wrinkled or damaged?	Replace the paper with new paper	Go to step 2
2	PAPER PATH INSPECTION Open the Mailbox Left Cover and the location of the jammed sheet of paper. Did the paper reach the Entrance Sensor actuator?	Go to step 3	Go to step 5

4025 Options

Step	Actions and Questions	Yes	No
3	<p>MAILBOX INPUT SENSOR TEST Enter Diagnostic Mode - MBX Input Sensor Insert, then remove, a sheet of paper into the Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?</p>	Go to step 4	Replace the “Mailbox Entrance Sensor” on page 4-39
4	<p>MAILBOX CONTROL PWB REPLACEMENT Replace the “Mailbox Control PWB” on page 4-44. Does the error code appear?</p>	Replace the MCU PWB Go to the printer service manual for the Removal and Replacement Procedure.	Problem solved
5	<p>IN GATE OBSERVATION When performing step 2, did the paper travel under the IN Gate and never enter the Mailbox?</p>	Go to step 6	Go to step 8
6	<p>IN GATE SOLENOID TEST Enter Diagnostic Mode - Output Bin Feed Test. Select single bin to feed one sheet of paper to one bin. Does the In Gate open to guide paper into the Mailbox?</p>	Go to step 7	Replace the “IN Gate Solenoid” on page 4-40 or reset the IN Gate Solenoid plunger in the IN Gate Link
7	<p>MAILBOX CONTROL PWB REPLACEMENT Replace the “Mailbox Control PWB” on page 4-44. Does the error code appear?</p>	Go to step 8	Problem solved
8	<p>MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure. Does the error code appear?</p>	Go to step 9	Reinstall the Exit Gate and Spring or replace the Exit Gate and Spring. Go to the printer service manual for the Removal and Replacement Procedure.

4025 Options

Step	Actions and Questions	Yes	No
9	OFFSET EXIT ASSEMBLY TEST Enter Diagnostics - Output Bin Tests, Single. The MCU PWB actuates the CW Clutch which drives the Exit Roll and the Offset Roll. Does the Offset Roll rotate?	Clean the Offset Roll and troubleshoot the printer Fuser and Offset Units for stalling, slipping, and broken parts	Go to step 10
10	OFFSET UNIT ASSEMBLY REPLACEMENT Replace the Offset Unit Assembly. Go to the printer service manual for the Removal and Replacement Procedure. Does the error code appear?	Go to step 11	Problem solved
11	The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem. • Wiring and connectors linking the FRUs		

Error Code 281

There is a paper jam at the Mailbox Entrance Sensor.

Logic Control on the MCU PWB sensed that the Mailbox Entrance Sensor did not deactuate within the specified time after the sensor was actuated.

Step	Actions and Questions	Yes	No
1	PAPER INSPECTION Inspect the paper that is loaded in the paper cassette. Is the paper that is loaded in the cassette wrinkled or damaged?	Replace the paper with new paper	Go to step 2
2	PAPER PATH INSPECTION Open the Mailbox Left Cover and observe the location of the jammed sheet of paper. Did the paper pass the Entrance Sensor actuator?	Go to step 3	Go to step 5
3	MAILBOX ENTRANCE SENSOR TEST Enter Diagnostic Mode - MBX Input Sensor Insert, then remove, a sheet of paper into the Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?	Go to step 4	Replace the “Mailbox Entrance Sensor” on page 4-39

4025 Options

Step	Actions and Questions	Yes	No
4	<p>MAILBOX CONTROL PWB REPLACEMENT Replace the “Mailbox Control PWB” on page 4-44. Does the error code appear?</p>	Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure.	Problem solved
5	<p>MAILBOX MOTOR TEST Enter Diagnostic Mode - Output Bin Feed Test. Select single bin to feed one sheet of paper to one bin. Does the Mailbox Motor run?</p>	Go to step 6	Replace the “Mailbox Drive Motor” on page 4-46
6	<p>DRIVE BELT INSPECTION While the Drive Motor is running, inspect the Drive Belt. Does the Drive Belt run smoothly, without stalling or slipping?</p>	Go to step 7	Replace the “Mailbox Drive Belt” on page 4-32
7	<p>MAILBOX EXIT ROLL INSPECTION While the Drive Motor is running, inspect the Mailbox Exit Rolls. Do the Exit Rolls run smoothly, without stalling or slipping, and are they clean and free from wear?</p>	Go to step 8	Replace the problem “Mailbox Exit Roll and Bin Gate” on page 4-38
8	<p>PINCH ROLL INSPECTION Open the Transport Guide Assembly and inspect, rotate, push down and release each individual Pinch Roll. Are the Pinch Rolls clean and free from wear, do they rotate freely, and do they have a spring-action return?</p>	Go to step 9	Replace the “Transport Guide Assembly” on page 4-54
9	<p>BIN GATE INSPECTION Open the Transport Guide Assembly and inspect each Bin Gate; checking to make sure they are laying flat and that none are broken or chipped. Are the Bin Gates undamaged and all laying flat?</p>	Go to step 10	Replace the problem Bin Gate. Go to “BIN Trays 1 - 9 Assemblies” on page 4-34.

4025 Options

Step	Actions and Questions	Yes	No
10	<p>BIN GATE SOLENOID TEST Enter Diagnostic Mode - Output Bin Feed Test. Select Feed to all bins. Paper should feed into each Mailbox Bin. Does paper feed into each Mailbox bin?</p>	Replace the “Mailbox Control PWB” on page 4-44. If the problem persists, replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure.	Go to step 11
11	<p>BIN SOLENOID REPLACEMENT Replace the problem Bin Solenoid. Go to “Gate Solenoids 1 - 9” on page 4-36. Does the error code appear?</p>	Go to step 12	Problem solved
12	<p>The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> • Wiring and connectors linking the FRUs 		

Error Code 282

There is a problem with the Mailbox Entrance Sensor logic.

Logic Control on the MCU PWB sensed that the Mailbox Entrance Sensor was actuated when the printer was not in Mailbox mode.

Step	Actions and Questions	Yes	No
1	<p>PAPER PATH INSPECTION Open the Mailbox Left Cover and observe if there is a sheet of paper at the Entrance Sensor. Is there a sheet of paper at the Entrance Sensor actuator?</p>	Remove the paper and go to step 2	Go to step 2

4025 Options

Step	Actions and Questions	Yes	No
2	MAILBOX ENTRANCE SENSOR TEST Enter Diagnostic Mode - MBX Input Sensor. Insert, then remove, a sheet of paper into the Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?	Go to step 3	Replace the “Mailbox Entrance Sensor” on page 4-39
3	IN GATE TEST Enter Diagnostic Mode - Output Bin Feed Test. Select single bin to feed one sheet of paper to one bin. Does In Gate open to guide paper into the Mailbox?	Go to step 4	Replace the “IN Gate Solenoid” on page 4-40
4	MAILBOX CONTROL PWB REPLACEMENT Replace the “Mailbox Control PWB” on page 4-44. Does the error code appear?	Go to step 5	Problem solved
5	MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure. Does the error code appear?	Go to step 6	Problem solved
6	The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem. • Wiring and connectors linking the FRUs		

Error Code 284

There is a paper jam between the Mailbox Entrance Sensor and the Mailbox Vertical Sensor, or between the Mailbox Entrance Sensor and the BIN 10 Jam Sensor.

Logic Control on the MCU PWB sensed that either the Mailbox Vertical Sensor did not actuate within the specified time after the Mailbox Entrance Sensor was actuated, or that BIN 10 Jam Sensor did not deactivate within the specified time after the Mailbox Entrance Sensor was actuated.

Step	Actions and Questions	Yes	No
1	PAPER PATH INSPECTION Open the Mailbox Left Cover and observe if a sheet of paper entered or started to enter a Bin. Is there a sheet of paper inside a Bin or at the entrance to a Bin?	Go to step 2	Go to step 4

4025 Options

Step	Actions and Questions	Yes	No
2	<p>VERTICAL SENSOR TEST Enter Diagnostic Mode - Output Bin, Sensor Test. Select Vertical Sensor. Insert, then remove, a sheet of paper into the Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?</p>	Go to step 3	Replace the “Vertical LED/Sensor” on page 4-42
3	<p>BIN 10 JAM SENSOR TEST Enter Diagnostic Mode - Output Bin, Sensor Test. Select Bin 10 Jam Sensor. Insert, then remove, a sheet of paper into the Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?</p>	Go to step 9	Replace the “Bin 10 Jam Sensor” on page 4-29
4	<p>MAILBOX MOTOR TEST Enter Diagnostic Mode - Output Bin Feed Test. Select single bin to feed one sheet of paper to one bin. Does the Mailbox Motor run?</p>	Go to step 5	Go to step 9
5	<p>DRIVE BELT INSPECTION While the Drive Motor is running, inspect the Drive Belt. Does the Drive Belt run smoothly, without stalling or slipping?</p>	Go to step 6	Replace the “Mailbox Drive Belt” on page 4-32
6	<p>MAILBOX EXIT ROLL INSPECTION While the Drive Motor is running, inspect the Mailbox Exit Rolls. Do the Exit Rolls run smoothly, without stalling or slipping, and are they clean and free from wear?</p>	Go to step 7	Replace the problem “Mailbox Exit Roll and Bin Gate” on page 4-38
7	<p>PINCH ROLL INSPECTION Open the Transport Guide Assembly and inspect, rotate, push down and release each individual Pinch Roll. Are the Pinch Rolls clean and free from wear, do they rotate freely, and do they have a spring action return?</p>	Go to step 8	Replace the “Transport Guide Assembly” on page 4-54
8	<p>BIN GATE SOLENOID TEST Enter Diagnostic Mode - Output Bin, Feed to all Bins. Paper should feed into each Mailbox bin Does paper feed into each Mailbox bin?</p>	Go to step 9	Replace the problem Bin Solenoid. Go to “Gate Solenoids 1 - 9” on page 4-36.
9	<p>MAILBOX CONTROL PWB REPLACEMENT Replace the “Mailbox Control PWB” on page 4-44. Does the error code appear?</p>	Go to step 10	Problem solved

4025 Options

Step	Actions and Questions	Yes	No
10	<p>MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure.</p> <p>Does the error code appear?</p>	Go to step 11	Problem solved
11	<p>The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> • Wiring and connectors linking the FRUs 		

Error Code 285

There is a paper jam between the Mailbox Entrance Sensor and the Mailbox Vertical Sensor, or at BIN 10 Jam Sensor.

Logic Control on the MCU PWB sensed that either the Mailbox Vertical Sensor did not deactivate within the specified time after the Mailbox Entrance Sensor was actuated, or that BIN 10 Jam Sensor did not deactivate within the specified time after it was actuated.

Step	Actions and Questions	Yes	No
1	<p>PAPER PATH INSPECTION Open the Mailbox Left Cover and observe if a sheet of paper entered or started to enter a Bin.</p> <p>Is there a sheet of paper inside a Bin or at the entrance to a Bin?</p>	Go to step 2	Go to step 4
2	<p>VERTICAL SENSOR TEST Enter Diagnostic Mode - Output Bin, Sensor Test. Select Vertical Sensor. Insert, then remove, a sheet of paper into the Sensor.</p> <p>Does the Control Panel LCD change between OP and CL as you insert then remove the paper?</p>	Go to step 3	Replace the “Vertical LED/Sensor” on page 4-42
3	<p>BIN 10 JAM SENSOR TEST Enter Diagnostic Mode - Output Bin, Sensor Test. Select Bin 10 Jam Sensor. Insert, then remove, a sheet of paper into the Sensor.</p> <p>Does the Control Panel LCD change between OP and CL as you insert then remove the paper?</p>	Go to step 9	Replace the “Bin 10 Jam Sensor” on page 4-29

4025 Options

Step	Actions and Questions	Yes	No
4	MAILBOX MOTOR TEST Enter Diagnostic Mode - Output Bin Feed Test. Select single bin to feed one sheet of paper to one bin. Does the Mailbox Motor run?	Go to step 5	Go to step 9
5	DRIVE BELT INSPECTION While the Drive Motor is running, inspect the Drive Belt. Does the Drive Belt run smoothly, without stalling or slipping?	Go to step 6	Replace the “Mailbox Drive Belt” on page 4-32
6	MAILBOX EXIT ROLL INSPECTION While the Drive Motor is running, inspect the Mailbox Exit Rolls. Do the Exit Rolls run smoothly, without stalling or slipping, and are they clean and free from wear?	Go to step 7	Replace the problem “Mailbox Exit Roll and Bin Gate” on page 4-38
7	PINCH ROLL INSPECTION Open the Transport Guide Assembly and inspect, rotate, push down and release each individual Pinch Roll. Are the Pinch Rolls clean and free from wear, do they rotate freely, and do they have a spring-action return?	Go to step 8	Replace the “Transport Guide Assembly” on page 4-54
8	BIN GATE SOLENOID TEST Enter Diagnostic Mode - Output Bin, Feed to all Bins. Paper should feed into each Mailbox bin Does paper feed into each Mailbox bin and does the Bin Gate lay flat?	Go to step 9	Replace the problem Bin Solenoid. Go to “Gate Solenoids 1 - 9” on page 4-36.
9	MAILBOX CONTROL PWB REPLACEMENT Replace the “Mailbox Control PWB” on page 4-44. Does the error code appear?	Go to step 10	Problem solved
10	MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure. Does the error code appear?	Go to step 11	Problem solved
11	The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem. • Wiring and connectors linking the FRUs		

Error Code 996

Logic control sensed that the installed Mailbox is not compatible with the printer.

Step	Actions and Questions	Yes	No
1	<p>MAILBOX INSPECTION Inspect the Mailbox to make sure it is the correct manufacture and model for the printer. Is the Mailbox Unit the correct manufacture and model for this printer?</p>	Go to step 2	Replace the Mailbox with a correct one
2	<p>RESET Turn off the printer. Wait one minute, then turn on the printer. Is the error code gone?</p>	Problem solved	Go to step 3
3	<p>RESEAT Disconnect then reconnect the Mailbox from the printer. Is the error code gone?</p>	Problem solved	Go to step 4
4	<p>MAILBOX PWB Replace the “Mailbox Control PWB” on page 4-44. Is the error code gone?</p>	Problem solved	Go to step 5
5	<p>MCU BOARD Replace the printer Engine Board (MCU PWB). Go to the Printer Service Manual for the Removal and Replacement Procedure. Is the error code gone?</p>	Problem solved	Go to step 6
6	<p>The following Mailbox FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem these steps, replace each FRU or troubleshoot each area listed below, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> • Wiring and connectors linking the FRUs. 		

Mailbox Symptom Service Checks

Inoperative Mailbox

The Mailbox does not function, the Mailbox Drive Motor does not switch on, and the problem is not identified by a displayed Error Code.

Step	Actions and Questions	Yes	No
1	INTERFACE CABLE INSPECTION Check the Mailbox Interface Cable. Is the cable firmly connected to the P/J at the rear of the printer?	Go to step 2	Reconnect the Mailbox Interface Cable
2	MAILBOX MOTOR TEST Enter Diagnostic Mode - Output Bin Feed Test. Select single bin to feed one sheet of paper to one bin. Does the Mailbox Motor run?	Go to step 3	Go to step 6
3	MAILBOX ENTRANCE SENSOR TEST Enter Diagnostic Mode - MBX Input Sensor. Insert, then remove, a sheet of paper into the Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?	Go to step 4	Go to step 6
4	COMPUTER/PRINTER CONNECTION CHECK Run a simplex print job from the host computer, with output to the Face Down Output Tray. Does the printer process the simplex print job?	Go to step 5	Reconnect or replace the computer/ printer interface cable or check for a possible computer hardware problem
5	DRIVER SOFTWARE RELOAD Reload the printer driver software. Run a Mailbox print job from the host computer. Does the printer process the Mailbox print job?	Problem solved	Replace the Controller Board (ESS PWB). Go to the service manual for the Removal and Replacement Procedure.

4025 Options

Step	Actions and Questions	Yes	No
6	<p>MAILBOX VOLTAGE CHECK Remove the Rear Cover. Switch on the printer power. Measure the voltage between J800-8 and FG (frame ground), the voltage between J800-10 and FG, and the voltage between J800-12 and FG on the Mailbox Control PWB. Is there +24VDC between J800-8 and FG, +5VDC between J800-10 and FG, and +5VDC between J800-12 and FG on the Mailbox Control PWB?</p>	Replace the “Mailbox Control PWB” on page 4-44	Go to step 7
7	<p>MCU PWB POWER OUT CHECK Remove the printer Rear Cover. Measure the voltage between J404-6 and FG, and the voltage between J404-12 and FG on the MCU PWB. Is there +5VDC between J404-6 and FG, and is there +24VDC between J404-12 and FG?</p>	Go to step 8	Use the Block Diagrams in the printer service manual to troubleshoot a loss of DC voltage
8	<p>MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure. Does the Mailbox function normally?</p>	Problem solved	Go to step 9
9	<p>The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> • Wiring and connectors linking the FRUs 		

High Capacity Feeder

High Capacity Feeder Error Code Table

This table lists all of the High Capacity Feeder Error Codes that are generated by the printer Engine Board (MCU PWB).

Depending on the level of firmware on your printer Engine Board (MCU PWB) some codes listed may be invalid, some codes generated by the MCU may not appear in this table, and Error and Message Code text presented may differ slightly from the Error and Message Code text that is actually generated by your MCU.

Error Code	Description
245	Logic Control on the MCU PWB sensed that the Tray 2 Take Away Sensor did not actuate within the specified time after the Tray 3 Feed Clutch was actuated. Go to “Error Code 245” on page 2-33 .
246	Logic Control on the MCU PWB sensed that when paper was fed from Tray 3, the Registration Sensor did not actuate within the specified time after the Tray 2 Take Away Sensor actuated. Go to “Error Code 246” on page 2-35 .
248	Logic Control on the MCU PWB sensed that when paper was fed from Tray 4, the Tray 3 Take Away Sensor did not actuate within the specified time after the Tray 4 Feed Clutch was actuated. Go to “Error Code 248” on page 2-36 .
249	Logic Control on the MCU PWB sensed that when paper was fed from Tray 4, the Tray 2 Take Away Sensor did not actuate within the specified time after the Tray 3 Take Away Sensor was actuated. Go to “Error Code 249” on page 2-38 .
250	Logic Control on the MCU PWB sensed that when paper was fed from Tray 4, the Registration Sensor did not actuate within the specified time after the Tray 2 Take Away Sensor was actuated. Go to “Error Code 250” on page 2-39 .
251	Logic Control on the MCU PWB sensed that when paper was fed from Tray 5, the Tray 4 Take Away Sensor did not actuate within the specified time after the Tray 5 Feed Clutch was actuated. Go to “Error Code 251” on page 2-41 .
252	Logic Control on the MCU PWB sensed that when paper was fed from Tray 5, the Tray 3 Take Away Sensor did not actuate within the specified time after the Tray 4 Take Away Sensor was actuated. Go to “Error Code 252” on page 2-42 .
261	Logic Control on the MCU PWB sensed that when paper was fed from Tray 5, the Tray 2 Take Away Sensor signal did not actuate within the specified time after the Tray 3 Take Away Sensor was actuated. Go to “Error Code 261” on page 2-47 .
253	Logic Control on the MCU PWB sensed that when paper was fed from Tray 5, the Registration Sensor did not actuate within the specified time after the Tray 2 Take Away Sensor was actuated. Go to “Error Code 253” on page 2-44 .

4025 Options

Error Code	Description
257	Logic Control on the MCU PWB sensed the Tray 3 Take Away Sensor was on while the printer was in standby. Go to “Error Code 257” on page 2-45
258	Logic Control on the MCU PWB sensed the Tray 4 Take Away Sensor was on while the printer was in standby. Go to “Error Code 258” on page 2-46 .
943	Logic Control on the MCU PWB sensed that the Tray 3 Paper Level Sensor did not actuate within the specified time after the Tray 3 Lift Motor was actuated. Go to “Error Code 943” on page 2-48 .
944	Logic Control on the MCU PWB sensed that the Tray 4 Paper Level Sensor did not actuate within the specified time after the Tray 4 Lift Motor was actuated. Go to “Error Code 944” on page 2-49 .
945	Logic Control on the MCU PWB sensed that the Tray 5 Paper Level Sensor did not actuate within the specified time after the Tray 5 Lift Motor was actuated. Go to “Error Code 945” on page 2-50 .
993	Logic control sensed that the installed High Capacity Feeder is not compatible with the printer. Go to “Error Code 993 and 994” on page 2-51 .
994	Logic control sensed that the installed High Capacity Feeder is not compatible with the printer. Go to “Error Code 993 and 994” on page 2-51 .

High Capacity Feeder Symptom Table

Symptom	Action
Inoperative High Capacity Feeder	Go to “Inoperative High Capacity Feeder” on page 2-52 .

High Capacity Feeder Error Code Service Checks

Error Code 245

There is a paper jam between Tray 3 and Tray 2 Take Away Sensor.

Logic Control on the MCU PWB sensed that the Tray 2 Take Away Sensor did not actuate within the specified time after the Tray 3 Feed Clutch was actuated.

Step	Actions and Questions	Yes	No
1	Are all the feed rolls correctly installed? Go to “Tray 3 Nudger, Feeder, and Retard Rolls” on page 4-84 , “Tray 4 Feed, Nudger, and Retard Rolls” on page 4-96 , and “Tray 5 Feed, Nudger, and Retard Rolls” on page 4-104 .	Go to step 2	Install correctly or replace as necessary
2	PAPER INSPECTION Inspect the paper that is loaded in the paper cassette. Is the paper loaded in the cassette wrinkled or damaged?	Replace the paper with new paper	Go to step 3

4025 Options

Step	Actions and Questions	Yes	No
3	PAPER PATH INSPECTION Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. Is the paper path clear?	Go to step 4	Clear the paper path
4	TRAY 3 LIFT MOTOR QUICK TEST With printer power on, pull paper drawer 3 out to drop paper table. Push drawer 3 closed. The paper tray motor should run. Does Tray 3 lift motor run?	Go to step 5	Replace the “Lift Motor” on page 4-67
5	TRAY 3 FEED CLUTCH TEST Enter Diagnostic Mode - Input Tray Tests to start the HCF Motor, and to check the Tray 3 Feed Clutch function. Select Tray 3 Single (feed on sheet). Does the Tray 3 Feed Clutch actuate and the Feed Roll shaft rotate?	Go to step 6	Replace the “Trays 3, 4, and 5 Feed Clutches” on page 4-70
6	FEED, NUDGER, AND RETARD ROLL CHECK After performing step 4, open the Left Upper Cover of the HCF. Was a sheet of paper fed out of the tray?	Go to step 7	Replace the “Tray 3 Feeder Assembly” on page 4-79
7	TRAY 2 TAKE AWAY SENSOR TEST Enter Diagnostic Mode, Base Sensors - Take Away 2 Sensor Insert, then remove, a sheet of paper into the Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?	Go to step 8	Replace the Tray 2 Take Away Sensor. Go to the printer service manual for the Removal and Replacement Procedure.
8	HCF PWB REPLACEMENT Replace the “HCF PWB” on page 4-66. Does the error code appear?	Go to step 9	Problem solved
9	I/O PWB REPLACEMENT Replace the I/O PWB. Go to the printer service manual for the Removal and Replacement Procedure. Does the error code appear?	Go to step 10	Problem solved
10	MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure. Does the error code appear?	Go to step 11	Problem solved

4025 Options

Step	Actions and Questions	Yes	No
11	<p>The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> • Wiring and connectors linking the FRUs 		

Error Code 246

There is a paper jam between Paper Tray 3 and the Registration Sensor.

Logic Control on the MCU PWB sensed that when paper was fed from Tray 3, the Registration Sensor did not actuate within the specified time after the Tray 2 Take Away Sensor actuated.

Step	Actions and Questions	Yes	No
1	<p>PAPER INSPECTION Inspect the paper that is loaded in the paper cassette. Is the paper loaded in the cassette wrinkled or damaged?</p>	Replace the paper with new paper	Go to step 2
2	<p>PAPER PATH INSPECTION Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. Is the paper path clear?</p>	Go to step 3	Clear the paper path
3	<p>REGISTRATION SENSOR TEST Enter Diagnostic Mode and select Sensor Test- Registration Sensor. Open the Left Upper Cover and insert, then remove, a sheet of paper into the Registration Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?</p>	Go to step 4	Replace the Registration Sensor. Go to the printer service manual for the Removal and Replacement Procedure.
4	<p>TRAY 2 TAKE AWAY ROLL CHECK 1. Enter Diagnostic Mode - Input Tray Test. 2. Select Tray 2, Single Does the Take Away rotate when the Main Motor runs?</p>	Go to step 5	Replace Tray 2 Feeder. Go to the printer service manual for the Removal and Replacement Procedure.

4025 Options

Step	Actions and Questions	Yes	No
5	TRAY 2 TAKE AWAY SENSOR TEST Enter Diagnostic Mode, Base Sensors - Tray 2 Take Away Sensor. Insert, then remove, a sheet of paper into the Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?	Go to step 6	Replace the Tray 2 Take Away Sensor. Go to the printer service manual for the Removal and Replacement Procedure.
6	HCF PWB REPLACEMENT Replace the "HCF PWB" on page 4-66. Does the error code appear?	Go to step 7	Problem solved
7	I/O PWB REPLACEMENT Replace the I/O PWB. Go to the printer service manual for the Removal and Replacement Procedure. Does the error code appear?	Go to step 8	Problem solved
8	MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure. Does the error code appear?	Go to step 9	Problem solved
9	The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem. • Wiring and connectors linking the FRUs		

Error Code 248

There is a paper jam between Paper Tray 4 and the Tray 3 Take Away Sensor.

Logic Control on the MCU PWB sensed that when paper was fed from Tray 4, the Tray 3 Take Away Sensor did not actuate within the specified time after the Tray 4 Feed Clutch was actuated.

Step	Actions and Questions	Yes	No
1	Are all the feed rolls correctly installed? Go to "Tray 3 Nudger, Feeder, and Retard Rolls" on page 4-84, "Tray 4 Feed, Nudger, and Retard Rolls" on page 4-96, and "Tray 5 Feed, Nudger, and Retard Rolls" on page 4-104.	Go to step 2	Install correctly or replace as necessary

4025 Options

Step	Actions and Questions	Yes	No
2	PAPER INSPECTION Inspect the paper that is loaded in the paper cassette. Is the paper loaded in the cassette wrinkled or damaged?	Replace the paper with new paper	Go to step 3
3	PAPER PATH INSPECTION Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. Is the paper path clear?	Go to step 4	Clear the paper path
4	TRAY 4 LIFT MOTOR QUICK TEST With printer power on, pull paper drawer 3 out to drop paper table. Push drawer 4 closed. The paper tray motor should run. Does Tray 4 lift motor run?	Go to step 5	Replace the "Lift Motor" on page 4-67
5	TRAY 4 FEED CLUTCH TEST Enter Diagnostic Mode - Input Tray Tests to start the HCF Motor, and to check the Tray 4 Feed Clutch function. Select Tray 4 Single (feed on sheet). Does the Tray 4 Feed Clutch actuate and the Feed Roll shaft rotate?	Go to step 6	Replace the "Trays 3, 4, and 5 Feed Clutches" on page 4-70
6	FEED, NUDGER, AND RETARD ROLL CHECK After performing step 4, open the Left Upper Cover of the HCF. Was a sheet of paper fed out of the tray?	Go to step 7	Replace the "Tray 4 Feeder Assembly" on page 4-92
7	TRAY 3 TAKE AWAY SENSOR TEST Enter Diagnostic Mode, Base Sensors - Tray 3 Take Away Sensor. Insert, then remove, a sheet of paper into the Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?	Go to step 8	Replace the "Tray 3 Take Away Sensor" on page 4-78
8	HCF PWB REPLACEMENT Replace the "HCF PWB" on page 4-66. Does the error code appear?	Go to step 9	Problem solved
9	I/O PWB REPLACEMENT Replace the I/O PWB. Does the error code appear?	Go to step 10	Problem solved
10	MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure. Does the error code appear?	Go to step 11	Problem solved

4025 Options

Step	Actions and Questions	Yes	No
11	<p>The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in the service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> • Wiring and connectors linking the FRUs 		

Error Code 249

There is a paper jam between Tray 2 Take Away Sensor and Tray 3 Take Away Sensor.

Logic Control on the MCU PWB sensed that when paper was fed from Tray 4, the Tray 2 Take Away Sensor did not actuate within the specified time after the Tray 3 Take Away Sensor was actuated.

Step	Actions and Questions	Yes	No
1	<p>Are all the feed rolls correctly installed? Go to “Tray 3 Nudger, Feeder, and Retard Rolls” on page 4-84, “Tray 4 Feed, Nudger, and Retard Rolls” on page 4-96, and “Tray 5 Feed, Nudger, and Retard Rolls” on page 4-104.</p>	Go to step 2	Install correctly or replace as necessary
2	<p>PAPER INSPECTION Inspect the paper that is loaded in the paper cassette. Is the paper loaded in the cassette wrinkled or damaged?</p>	Replace the paper with new paper	Go to step 3
3	<p>PAPER PATH INSPECTION Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. Is the paper path clear?</p>	Go to step 4	Clear the paper path
4	<p>TRAY 3 TAKE AWAY SENSOR TEST Enter Diagnostic Mode, Base Sensors - Tray 3 Take Away Sensor. Insert, then remove, a sheet of paper into the Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?</p>	Go to step 5	Replace the “Tray 3 Take Away Sensor” on page 4-78
5	<p>TRAY 3 TAKE AWAY ROLL CHECK 1. Enter Diagnostic Mode - Input Tray Test. 2. Select Tray 3, Single Does the Take Away rotate when the HCF Motor runs?</p>	Go to step 6	Troubleshoot the drive transmission from the HCF Motor to the Take Away Gear

4025 Options

Step	Actions and Questions	Yes	No
6	TRAY 2 TAKE AWAY SENSOR TEST Enter Diagnostic Mode, Base Sensors - Tray 2 Take Away Sensor. Insert, then remove, a sheet of paper into the Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?	Go to step 7	Replace the Tray 2 Take Away Sensor. Go to the printer service manual for the Removal and Replacement Procedure.
7	HCF PWB REPLACEMENT Replace the “HCF PWB” on page 4-66. Does the error code appear?	Go to step 8	Problem solved
8	I/O PWB REPLACEMENT Replace the I/O PWB. Does the error code appear?	Go to step 9	Problem solved
9	MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure. Does the error code appear?	Go to step 10	Problem solved
10	The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem. • Wiring and connectors linking the FRUs		

Error Code 250

There is a paper jam between Paper Tray 4 and the Registration Sensor.

Logic Control on the MCU PWB sensed that when paper was fed from Tray 4, the Registration Sensor did not actuate within the specified time after the Tray 2 Take Away Sensor was actuated.

Step	Actions and Questions	Yes	No
1	Are all the feed rolls correctly installed? Go to “Tray 3 Nudger, Feeder, and Retard Rolls” on page 4-84, “Tray 4 Feed, Nudger, and Retard Rolls” on page 4-96, and “Tray 5 Feed, Nudger, and Retard Rolls” on page 4-104.	Go to step 2	Install correctly or replace as necessary

4025 Options

Step	Actions and Questions	Yes	No
2	PAPER INSPECTION Inspect the paper that is loaded in the paper cassette. Is the paper loaded in the cassette wrinkled or damaged?	Replace the paper with new paper	Go to step 3
3	PAPER PATH INSPECTION Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. Is the paper path clear?	Go to step 4	Clear the paper path
4	Enter Diagnostic Mode, Base Sensors - Tray 2 Take Away Sensor. Insert, then remove, a sheet of paper into the Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?	Go to step 5	Replace the Tray 2 Take Away Sensor. Go to the printer service manual for the Removal and Replacement Procedure.
5	REGISTRATION SENSOR TEST Enter Diagnostic Mode and select Sensor Test- Registration Sensor. Open the Left Upper Cover and insert, then remove, a sheet of paper into the Registration Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?	Go to step 6	Replace the Registration Sensor.
6	TRAY 2 TAKE AWAY ROLL CHECK 1. Enter Diagnostic Mode - Input Tray Test 2. Select Tray 2, Single Does the Take Away rotate when the HCF Motor runs?	Go to step 7	Replace Tray 2 Feeder. Go to the printer service manual for the Removal and Replacement Procedure.
7	HCF PWB REPLACEMENT Replace the "HCF PWB" on page 4-66. Does the error code appear?	Go to step 8	Problem solved
8	I/O PWB REPLACEMENT Replace the I/O PWB. Does the error code appear?	Go to step 9	Problem solved
9	MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure. Does the error code appear?	Go to step 10	Problem solved

4025 Options

Step	Actions and Questions	Yes	No
10	<p>The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> • Wiring and connectors linking the FRUs 		

Error Code 251

There is a paper jam between Paper Tray 5 and the Tray 4 Take Away Sensor.

Logic Control on the MCU PWB sensed that when paper was fed from Tray 5, the Tray 4 Take Away Sensor did not actuate within the specified time after the Tray 5 Feed Clutch was actuated.

Step	Actions and Questions	Yes	No
1	<p>Are all the feed rolls correctly installed? Go to “Tray 3 Nudger, Feeder, and Retard Rolls” on page 4-84, “Tray 4 Feed, Nudger, and Retard Rolls” on page 4-96, and “Tray 5 Feed, Nudger, and Retard Rolls” on page 4-104.</p>	Go to step 2	Install correctly or replace as necessary
2	<p>PAPER INSPECTION Inspect the paper that is loaded in the paper cassette. Is the paper loaded in the cassette wrinkled or damaged?</p>	Replace the paper with new paper	Go to step 3
3	<p>PAPER PATH INSPECTION Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. Is the paper path clear?</p>	Go to step 4	Clear the paper path
4	<p>TRAY 5 LIFT MOTOR QUICK TEST With printer power on, pull paper drawer 3 out to drop paper table. Push drawer 5 closed. The paper tray motor should run. Does Tray 5 lift motor run?</p>	Go to step 5	Replace the “Lift Motor” on page 4-67
5	<p>TRAY 5 FEED CLUTCH TEST Enter Diagnostic Mode - Input Tray Tests to start the HCF Motor, and to check the Tray 5 Feed Clutch function. Select Tray 5 Single (feed on sheet). Does the Tray 5 Feed Clutch actuate and the Feed Roll shaft rotate?</p>	Go to step 6	Replace the “Trays 3, 4, and 5 Feed Clutches” on page 4-70

4025 Options

Step	Actions and Questions	Yes	No
6	FEED, NUDGER, AND RETARD ROLL CHECK After performing step 4, carefully open tray 5. Was a sheet of paper fed out of Tray 5?	Go to step 7	Replace the “Tray 5 Feeder Assembly” on page 4-100
7	TRAY 4 TAKE AWAY SENSOR TEST Enter Diagnostic Mode, Base Sensors - Take Away 4 Sensor Insert, then remove, a sheet of paper into the Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?	Go to step 8	Replace the “Tray 4 Take Away Sensor” on page 4-88
8	HCF PWB REPLACEMENT Replace the “HCF PWB” on page 4-66. Does the error code appear?	Go to step 9	Problem solved
9	I/O PWB REPLACEMENT Replace the I/O PWB. Does the error code appear?	Go to step 10	Problem solved
10	MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure. Does the error code appear?	Go to step 11	Problem solved
11	The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem. • Wiring and connectors linking the FRUs		

Error Code 252

There is a paper jam between Paper Tray 5 and the Tray 3 Take Away Sensor.

Logic Control on the MCU PWB sensed that when paper was fed from Tray 5, the Tray 3 Take Away Sensor did not actuate within the specified time after the Tray 4 Take Away Sensor was actuated.

Step	Actions and Questions	Yes	No
1	Are all the feed rolls correctly installed? Go to “Tray 3 Nudger, Feeder, and Retard Rolls” on page 4-84, “Tray 4 Feed, Nudger, and Retard Rolls” on page 4-96, and “Tray 5 Feed, Nudger, and Retard Rolls” on page 4-104.	Go to step 2	Install correctly or replace as necessary

4025 Options

Step	Actions and Questions	Yes	No
2	PAPER INSPECTION Inspect the paper that is loaded in the paper cassette. Is the paper loaded in the cassette wrinkled or damaged?	Replace the paper with new paper	Go to step 3
3	PAPER PATH INSPECTION Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. Is the paper path clear?	Go to step 4	Clear the paper path
4	TRAY 3 TAKE AWAY SENSOR TEST Enter Diagnostic Mode, Base Sensors - Tray 3 Take Away Sensor. Insert, then remove, a sheet of paper into the Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?	Go to step 5	Replace the “Tray 3 Take Away Sensor” on page 4-78
5	TRAY 4 TAKE AWAY SENSOR TEST Enter Diagnostic Mode, Base Sensors - Tray 4 Take Away Sensor. Insert, then remove, a sheet of paper into the Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?	Go to step 6	Replace the “Tray 4 Take Away Sensor” on page 4-88
6	TRAY 5 TAKE AWAY ROLL CHECK 1. Enter Diagnostic Mode - Input Tray Test. 2. Select Tray 5, Single Does the Take Away rotate when the HCF Motor runs?	Go to step 7	Troubleshoot the drive transmission, from the HCF Motor to the Tray 5 Take Away Gear
7	HCF PWB REPLACEMENT Replace the “HCF PWB” on page 4-66. Does the error code appear?	Go to step 8	Problem solved
8	I/O PWB REPLACEMENT Replace the I/O PWB. Does the error code appear?	Go to step 9	Problem solved
9	MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure Does the error code appear?	Go to step 10	Problem solved
10	The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem. • Wiring and connectors linking the FRUs		

Error Code 253

There is a paper jam between Paper Tray 5 and the Registration Sensor.

Logic Control on the MCU PWB sensed that when paper was fed from Tray 5, the Registration Sensor did not actuate within the specified time after the Tray 2 Take Away Sensor was actuated.

Step	Actions and Questions	Yes	No
1	Are all the feed rolls correctly installed? Go to “Tray 3 Nudger, Feeder, and Retard Rolls” on page 4-84, “Tray 4 Feed, Nudger, and Retard Rolls” on page 4-96, and “Tray 5 Feed, Nudger, and Retard Rolls” on page 4-104.	Go to step 2	Install correctly or replace as necessary
2	PAPER INSPECTION Inspect the paper that is loaded in the paper cassette. Is the paper loaded in the cassette wrinkled or damaged?	Replace the paper with new paper	Go to step 3
3	PAPER PATH INSPECTION Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. Is the paper path clear?	Go to step 4	Clear the paper path
4	REGISTRATION SENSOR TEST Enter Diagnostic Mode and select Sensor Test- Registration Sensor. Open the Left Upper Cover and insert, then remove, a sheet of paper into the Registration Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?	Go to step 5	Replace the Registration Sensor.
5	TRAY 2 TAKE AWAY ROLL CHECK 1. Enter Diagnostic Mode - Input Tray Test 2. Select Tray 2, Single Does the Take Away rotate when the Main Motor runs?	Go to step 6	Replace Tray 2 Feeder. Go to the printer service manual for the Removal and Replacement Procedure.
6	TRAY 2 TAKE AWAY SENSOR TEST Enter Diagnostic Mode, Base Sensors - Tray 2 Take Away Sensor. Insert, then remove, a sheet of paper into the Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?	Go to step 7	Replace the Tray 2 Take Away Sensor. Go to the printer service manual for the Removal and Replacement Procedure.
7	HCF PWB REPLACEMENT Replace the “HCF PWB” on page 4-66. Does the error code appear?	Go to step 8	Problem solved

4025 Options

Step	Actions and Questions	Yes	No
8	I/O PWB REPLACEMENT Replace the I/O PWB. Does the error code appear?	Go to step 9	Problem solved
9	MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure Does the error code appear?	Go to step 10	Problem solved
10	The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem. • Wiring and connectors linking the FRUs		

Error Code 257

There is a problem with the Tray 3 Take Away Sensor.

Logic Control on the MCU PWB sensed the Tray 3 Take Away Sensor was on while the printer was in standby.

Step	Actions and Questions	Yes	No
1	TRAY 3 TAKE AWAY SENSOR INSPECTION Remove Tray 3 and inspect the Tray 3 Take Away Sensor for paper scraps that may be actuating the sensor. Is the Sensor free of paper scraps?	Go to step 2	Remove the paper scraps
2	TRAY 3 TAKE AWAY SENSOR TEST Enter Diagnostic Mode, Base Sensors - Take Away 3 Sensor Insert, then remove, a sheet of paper into the Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?	Go to step 3	Replace the “Tray 3 Take Away Sensor” on page 4-78)
3	HCF PWB REPLACEMENT Replace the “HCF PWB” on page 4-66. Does the error code appear?	Go to step 4	Problem solved
4	I/O PWB REPLACEMENT Replace the I/O PWB. Does the error code appear?	Go to step 5	Problem solved

4025 Options

Step	Actions and Questions	Yes	No
5	<p>MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure. Does the error code appear?</p>	Go to step 6	Problem solved
6	<p>The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> • Wiring and connectors linking the FRUs 		

Error Code 258

There is problem with the Tray 4 Take Away Sensor.

Logic Control on the MCU PWB sensed the Tray 4 Take Away Sensor was on while the printer was in standby.

Step	Actions and Questions	Yes	No
1	<p>TRAY 4 TAKE AWAY SENSOR INSPECTION Open the HCF Left Cover and inspect the Tray 4 Take Away Sensor for paper scraps that may be actuating the sensor. Is the Sensor free of paper scraps?</p>	Go to step 2	Remove the paper scraps
2	<p>TRAY 4 TAKE AWAY SENSOR TEST Enter Diagnostic Mode, Base Sensors - Tray 4 Take Away Sensor. Insert, then remove, a sheet of paper into the Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?</p>	Go to step 3	Replace the “Tray 4 Take Away Sensor” on page 4-88
3	<p>HCF PWB REPLACEMENT Replace the “HCF PWB” on page 4-66. Does the error code appear?</p>	Go to step 4	Problem solved
4	<p>I/O PWB REPLACEMENT Replace the I/O PWB. Does the error code appear?</p>	Go to step 5	Problem solved
5	<p>MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure Does the error code appear?</p>	Go to step 6	Problem solved

4025 Options

Step	Actions and Questions	Yes	No
6	<p>The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> • Wiring and connectors linking the FRUs 		

Error Code 261

There is a paper jam between Tray 2 Take Away Sensor and Tray 3 Take Away Sensor.

Logic Control on the MCU PWB sensed that when paper was fed from Tray 5, the Tray 2 Take Away Sensor signal did not actuate within the specified time after the Tray 3 Take Away Sensor was actuated.

Step	Actions and Questions	Yes	No
1	<p>Are all the feed rolls correctly installed? Go to “Tray 3 Nudger, Feeder, and Retard Rolls” on page 4-84, “Tray 4 Feed, Nudger, and Retard Rolls” on page 4-96, and “Tray 5 Feed, Nudger, and Retard Rolls” on page 4-104.</p>	Go to step 2	Install correctly or replace as necessary
2	<p>PAPER INSPECTION Inspect the paper that is loaded in the paper cassette. Is the paper loaded in the cassette wrinkled or damaged?</p>	Replace the paper with new paper	Go to step 3
3	<p>PAPER PATH INSPECTION Inspect the paper path for paper scraps or foreign objects that could cause a paper jam. Is the paper path clear?</p>	Go to step 4	Clear the paper path
4	<p>TRAY 2 TAKE AWAY SENSOR TEST Enter Diagnostic Mode, Base Sensors - Tray 2 Take Away Sensor. Insert, then remove, a sheet of paper into the Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?</p>	Go to step 5	Replace the Tray 2 Take Away Sensor. Go to the printer service manual for the Removal and Replacement Procedure.
5	<p>TRAY 3 TAKE AWAY SENSOR TEST Enter Diagnostic Mode, Base Sensors - Tray 3 Take Away Sensor. Insert, then remove, a sheet of paper into the Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?</p>	Go to step 6	Replace the “Tray 3 Take Away Sensor” on page 4-78

4025 Options

Step	Actions and Questions	Yes	No
6	TRAY 3 TAKE AWAY ROLL CHECK 1. Enter Diagnostic Mode - Input Tray Test 2. Select Tray 3, Single Does the Take Away rotate when the HCF Motor runs?	Go to step 7	Troubleshoot the drive transmission, from the HCF Motor to the Take Away Gear
7	HCF PWB REPLACEMENT Replace the "HCF PWB" on page 4-66. Does the error code appear?	Go to step 8	Problem solved
8	I/O PWB REPLACEMENT Replace the I/O PWB. Does the error code appear?	Go to step 9	Problem solved
9	MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure Does the error code appear?	Go to step 10	Problem solved
10	The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem. <ul style="list-style-type: none"> • Wiring and connectors linking the FRUs 		

Error Code 943

There is a problem with Tray 3.

Logic Control on the MCU PWB sensed that the Tray 3 Paper Level Sensor did not actuate within the specified time after the Tray 3 Lift Motor was actuated.

Step	Actions and Questions	Yes	No
1	TRAY 3 LIFT MOTOR QUICK TEST With printer power on, pull paper drawer 3 out to drop paper table. Push drawer 3 closed. The paper tray motor should run. Does Tray 3 lift motor run?	Go to step 2	Replace the "Lift Motor" on page 4-67
2	TRAY 3 CHECK Slowly slide Tray 3 out of Feeder 3. Can you hear the Tray 3 bottom plate drop as you slide the Tray out of the Feeder?	Go to step 3	Replace Tray 3

4025 Options

Step	Actions and Questions	Yes	No
3	TRAY 3 NO PAPER SENSOR TEST Enter Diagnostic Mode, Base Sensors - Tray 3 Take Away Sensor. Insert, then remove, a sheet of paper into the Sensor. Does the Control Panel LCD change between OP and CL as you insert then remove the paper?	Go to step 4	Replace the “Trays 3, 4, and 5 No Paper Sensors” on page 4-73
4	HCF PWB REPLACEMENT Replace the “HCF PWB” on page 4-66. Does the error code appear?	Go to step 5	Problem solved
5	I/O PWB REPLACEMENT Replace the I/O PWB. Does the error code appear?	Go to step 6	Problem solved
6	MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure. Does the error code appear?	Go to step 7	Problem solved
7	The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem. • Wiring and connectors linking the FRUs		

Error Code 944

There is a problem with Tray 4.

Logic Control on the MCU PWB sensed that the Tray 4 Paper Level Sensor did not actuate within the specified time after the Tray 4 Lift Motor was actuated.

Step	Actions and Questions	Yes	No
1	TRAY 4 LIFT MOTOR TEST With printer power on, pull paper drawer 4 out to drop the paper table. Push drawer 4 closed. The paper tray motor should run. Does Tray 4 lift motor run?	Go to step 2	Replace Tray 4 Lift Motor. Go to “Lift Motor” on page 4-67
2	TRAY 4 CHECK Slowly slide Tray 4 out of Feeder 4. Does the Tray 4 bottom plate drop as you slide the Tray out of the Feeder?	Go to step 3	Replace “HCF Tray 4” on page 4-86

4025 Options

Step	Actions and Questions	Yes	No
3	TRAY 4 NO PAPER SENSOR TEST Enter Diagnostic Mode, Base Sensors - Tray 4 Empty. Push the sensor flag up and then release. Does the Control Panel LCD change between OP and CL as you move the sensor flag?	Go to step 4	Replace "Trays 3, 4, and 5 No Paper Sensors" on page 4-73
4	HCF PWB REPLACEMENT Replace the "HCF PWB" on page 4-66. Does the error code appear?	Go to step 5	Problem solved
5	I/O PWB REPLACEMENT Replace the I/O PWB. Does the error code appear?	Go to step 6	Problem solved
6	MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure Does the error code appear?	Go to step 7	Problem solved
7	The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem. • Wiring and connectors linking the FRUs		

Error Code 945

There is a problem with Tray 5.

Logic Control on the MCU PWB sensed that the Tray 5 Paper Level Sensor did not actuate within the specified after the Tray 5 Lift Motor was actuated.

Step	Actions and Questions	Yes	No
1	TRAY 5 LIFT MOTOR TEST With printer power on, pull paper drawer 5 out to drop the paper table. Push drawer 5 closed. The paper tray motor should run. Does Tray 5 lift motor run?	Go to step 2	Replace Tray 5 Lift Motor. Go to "Lift Motor" on page 4-67
2	TRAY 5 CHECK Slowly slide Tray 5 out of Feeder 5. Does the Tray 5 bottom plate drop as you slide the Tray out of the Feeder?	Go to step 3	Replace Tray 5

4025 Options

Step	Actions and Questions	Yes	No
3	<p>TRAY 5 NO PAPER SENSOR TEST Enter Diagnostic Mode, Base Sensors - Tray 5 Empty. Push the sensor flag up and then release. Does the Control Panel LCD change between OP and CL as you move the sensor flag?</p>	Go to step 4	Replace the Tray 5 No Paper Sensor. Go to “Trays 3, 4, and 5 No Paper Sensors” on page 4-73
4	<p>HCF PWB REPLACEMENT Replace the “HCF PWB” on page 4-66. Does the error code appear?</p>	Go to step 5	Problem solved
5	<p>I/O PWB REPLACEMENT Replace the I/O PWB. Does the error code appear?</p>	Go to step 6	Problem solved
6	<p>MCU PWB REPLACEMENT Replace the printer Engine Board (MCU PWB). Go to the printer service manual for the Removal and Replacement Procedure Does the error code appear?</p>	Go to step 7	Problem solved
7	<p>The following printer FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem using the steps in this service check, replace each FRU or troubleshoot each area, one at a time, until you isolate and solve the problem.</p> <ul style="list-style-type: none"> • Wiring and connectors linking the FRUs 		

Error Code 993 and 994

Logic control sensed that the installed High Capacity Feeder is not compatible with the printer.

Step	Actions and Questions	Yes	No
1	<p>HIGH CAPACITY FEEDER INSPECTION Inspect the High Capacity Feeder to make sure it is the correct manufacture and model for the printer. Is the High Capacity Feeder the correct manufacture and model for this printer?</p>	Go to step 2	Replace the High Capacity Feeder with a correct one
2	<p>RESET Turn off the printer. Wait one minute, then turn on the printer. Is the error code gone?</p>	Problem solved	Go to step 3

4025 Options

Step	Actions and Questions	Yes	No
3	RESEAT Disconnect then reconnect the High Capacity Feeder from the printer. Is the error code gone?	Problem solved	Go to step 4
4	HIGH CAPACITY FEEDER PWB Replace the “HCF PWB” on page 4-66. Is the error code gone?	Problem solved	Go to step 5
5	MCU BOARD Replace the printer Engine Board (MCU PWB). Go to the Printer Service Manual for the Removal and Replacement Procedure. Is the error code gone?	Problem solved	Go to step 6
6	The following High Capacity Feeder FRUs and areas are associated with this specific problem. One or more of these FRUs or areas may have failed partially or completely. If you cannot isolate this problem these steps, replace each FRU or troubleshoot each area listed below, one at a time, until you isolate and solve the problem. • Wiring and connectors linking the FRUs.		

High Capacity Feeder Symptom Service Checks

Inoperative High Capacity Feeder

When you switch on the printer the Lift Motors do not raise the HCF trays into place, none of the HCF feeders respond to feed commands from the printer, and the problem is not identified by a displayed Error Code.

Step	Actions and Questions	Yes	No
1	HCF OPERATION CHECK Generate a printer test print from Tray 3, Tray 4, and Tray 5. Does the printer generate a test print from Tray 3, Tray 4, and Tray 5?	Go to step 4	Go to step 2
2	PRINTER OPERATION CHECK Generate a printer test print fed from Tray 1 and Tray 2. Does the printer generate a test print fed from both Tray 1 and Tray 2?	Go to step 3	Go to the printer service manual and troubleshoot an inoperative printer

4025 Options

Step	Actions and Questions	Yes	No
3	<p>HCF INTERFACE CABLE INSPECTION Check the HCF to printer interface cable. Is the cable firmly connected to the P/J at the rear of the printer?</p>	Go to step 4	Reconnect the interface cable
4	<p>APPLICATION SOFTWARE If possible, run a Tray 3, Tray 4, and Tray 5 print job from a different application. Does the printer process the print request?</p>	Reload application software	Go to step 5
5	<p>DRIVER SOFTWARE RELOAD 1. Reload the printer driver software. 2. Run a Tray 3, Tray 4, and Tray 5 print job from the host computer. Does the printer process the print request?</p>	Problem solved	Go to step 6
6	<p>HCF +5VDC VOLTAGE CHECK 1. Remove the HCF Rear Cover. 2. Measure the voltage between J480-1 and FG (frame ground), between J480-2 and FG, and between J480-5 and FG on the HCF PWB. Is there +5VDC between J480-1 and FG, between J480-2 and FG, and between J480-5 and FG?</p>	Go to step 7	Go to the printer service manual and troubleshoot for a loss of +5VDC from the MCU PWB
7	<p>HCF +24VDC VOLTAGE CHECK Measure the voltage between J480-7 and FG (frame ground) and between J480-8 and FG on the HCF PWB. Is there +24VDC between J480-7 and FG and between J480-8 and FG?</p>	Go to step 8	Go to the printer service manual and troubleshoot for a loss of +24VDC from the MCU PWB

4025 Options

3. Diagnostic Aids

Envelope Feeder Tests

Feed Test

The *Feed Test* operation within the INPUT TRAY TESTS menu determines whether or not the sensors and switches are working correctly. No information is printed on the feed test pages since the laser isn't engaged during this test.

Note: The feed test can be run using any of the paper and envelope sizes supported by the printer.

The pages are placed in the default output bin. However, the Feed Tests menu lets you select the input source. Each of the installed sources is listed as an option within this menu. For each source, the user has two choices:

- Single (feed one sheet of media),
- Continuous (continue feeding media until **Return** or **Stop** is pressed).

From the Input Feed Test, press **Menu** to show:

- Envelope Feeder

Press **Select** to test the Envelope Feed. Select **Single**. One envelope feeds from the envelope feeder and exits into the standard bin.

To exit the Envelope Feed test, press **Return**.

Sensor Test

Use this test to determine whether or not the sensors and switches are working correctly. From the Base Sensor Test, press **Menu** to display:

- SMH/ENV Empty
- Env Feed Out

To select one of the sensors, press **Menu** until the sensor you want displays. Press **Select** on the sensor you want to check.

To exit the Envelope Sensor test, press **Return**.

Duplex Tests

Feed Test

Use the Duplex Quick Test to feed paper and to verify that the duplex Top Margin is set correctly. This test prints a duplexed version of the Quick Test page that can be used to adjust the Top Margin for the backside of the page. You have the option of printing one duplexed page (*Single*) or continuously printing duplexed pages until **Return** or **Stop** is pressed (*Continuous*).

Note: The duplex quick test page should be printed on Letter or A4 paper.

While the page is printing the following message is displayed. The Power indicator also blinks while the page is printing.

```
Quick Test
Printing... <media width>
```

The single Duplex Quick Test cannot be cancelled. When the continuous test is cancelled, the following message is displayed until pages are done printing.

```
Quick Test
Cancelling...
```

The printer attempts to print the Quick Test page(s) from the default paper source. However, if the default source only supports envelopes, then the page(s) are printed from Tray 1. The page(s) consists of alignment diamonds, horizontal lines used for skew adjustment, the page count setting, printer serial number, code levels, and print registration settings.

Sensor Test

Use this test to determine whether or not the duplex sensors and switches are working correctly. Select the *Sensor Test* operation from the DUPLEX TESTS menu to expose a list of the following sensors.

- DUP Exit Sensor
- DUP Wait Sensor
- DUP Regi Sensor
- DUP Interlock
- DUP Fuser Exit

To select one of these sensors, press **Menu** until the sensor you want is displayed. Press **Select** on the sensor to display a screen such as the following:

```
DUP Exit Sensor
CL
```

4025 Options

Once this screen is displayed, you can manually actuate each of the duplex sensors tests. When the sensor is closed, **CL** is displayed. Likewise, when the sensor is open, **OP** is displayed. If the wrong message is displayed, then the sensor is malfunctioning.

To exit the sensor test, press **Return**.

Mailbox Tests

Feed Test

Use the *Feed Test* operation within the OUTPUT BIN TESTS menu to verify that media can be fed to a specific output bin. No information is printed on the feed test pages since the laser isn't engaged during this test.

Note: The feed test can be run using any of the paper and envelope sizes supported by the printer.

Media is fed from the default input source, and the Feed Tests menu lets a user select the output bin. Each of the installed bins is listed as an option within this menu. For each bin, the user has two choices:

- Single (feed one sheet of media),
- Continuous (continue feeding media until **Return** or **Stop** is pressed).

While the page is being fed, the following message is displayed. The Power indicator blinks while the page is being fed.

```
<output bin>  
Feeding...
```

If Single is selected, no buttons are active during the feed test. However, if Continuous is selected, **Return** or **Stop** can be pressed to cancel the test. While the test is being cancelled, the following message is displayed.

```
<output bin>  
Cancelling...
```

Note: <output bin> represents the output bin selected for the Feed Test. One of the following bins is displayed: Standard Bin, Output Bin 1, Output Bin 2, Output Bin 3,..., Output Bin 10.

Feed All Bins Test

Use The Feed All Bins Test to verify that the printer can feed media to all installed output destinations. No information is printed on the feed test pages since the laser is not engaged during this test.

After this test is selected, media is fed from the User Default Paper Source. The first piece of media is fed to the standard bin. A second piece of media is fed to bin #1, a third to bin #2 and so forth. The bin order is:

4025 Options

Standard Bin, Bin #1, Bin #2, Bin #3, Bin #4, Bin #5, Bin #6, Bin #7, Bin #8, Bin #9, Bin #10, Bin #10, Bin #9, Bin #8, Bin #7, Bin #6, Bin #5, Bin #4, Bin #3, Bin #2, Bin #1, Standard Bin, Standard Bin, Bin #1, Bin #2,...

During execution of this test, the following message is displayed. The Power indicator blinks while pages are being fed through the printer and installed options.

```
All Bin Test
Feeding...
```

This test is only executed as a continuous test. This means to stop execution of the test, the user must explicitly stop the test by pressing **Return** or **Stop**. Once the user stops the test, the following message is displayed until all remaining media currently moving through the paper path is fed to the appropriate output destination.

```
All Bin Test
Cancelling...
```

Sensor Test

Use this test to determine whether or not the output bin sensors are working correctly. To run the test, select the *Sensor Test* operation from the OUTPUT BIN TESTS menu.

The following sensors will be listed in the bottom level menu:

- Output Bin 1
- Output Bin 2
- Output Bin 3
- Output Bin 4
- Output Bin 5
- Output Bin 6
- Output Bin 7
- Output Bin 8
- Output Bin 9
- Output Bin 10
- Vertical Sensor
- Bin 10 Jam Sensor
- MBX In Sensor
- Door Interlock

To select one of the sensor above, Press either **Menu>** or **Menu<** until the sensor you want is displayed. Press **Select** for that sensor.

Once the screen displays, you can manually actuate the sensor. When the sensor is closed, **CL** displays. Likewise, when the sensor is open, **OP** displays. If the wrong message displays, the sensor may be malfunctioning.

To exit the sensor test, press **Return** or **Stop**.

High Capacity Feeder Tests

Feed Test

Use the *Feed Test* operation within the INPUT TRAY TESTS to verify that media can be fed from a specific input source. No information is printed on the feed test pages since the laser isn't engaged during this test.

Note: The feed test can be run using any of the paper sizes supported by the printer.

The pages are placed in the default output bin. However, the Feed Tests menu lets you select the input source. Each of the installed sources is listed as an option within this menu. For each source, the user has two choices:

- Single (feed one sheet of media),
- Continuous (continue feeding media until **Return** or **Stop** is pressed).

While the page is being fed, the following message is displayed. The Power indicator blinks while the page is being fed.

```
<input tray>  
Feeding...
```

If Single is selected, no buttons are active during the feed test. However, if Continuous is selected, **Return** or **Stop** can be pressed to cancel the test. While the test is being cancelled, the following message is displayed.

```
<input tray>  
Cancelling...
```

Note: <input tray> represents the input source selected for the Print Test. One of the following sources is displayed: Tray 1, Tray 2, Tray 3, Tray 4, Tray 5.

Sensor Test

Use this test to determine whether or not the High Capacity sensors and switches are working correctly. To test the High Capacity sensors, select **Base Sensor Tests** from the top level menu in diagnostics. The following High Capacity Sensor test is displayed in the bottom level menu:

- Tray 3 Empty
- Tray 4 Empty
- Tray 5 Empty
- Tray 3 Sensor
- Tray 4 Sensor
- Tray 5 Sensor
- Take Away Roll 3 Sensor
- Take Away Roll 4 Sensor
- Take Away Roll 5 Sensor

To select one of the above sensors, press Menu until the sensor you want is displayed. Press **Select** on the sensor you want to check.

Manually actuate each of the high capacity feeder sensors. When the sensor is closed, **CL** displays. Likewise, when the sensor is open, **OP** displays.

To exit the sensor test, press **Return**.

4. Repair Information

This section contains the removal and replacement procedures for select parts of the printer Envelope Feeder, Duplex Unit, Mailbox, and High Capacity Feeder.

Preparation

Before you begin any Removal and Replacement Procedure:

1. Switch OFF the printer power and disconnect the power cord from the AC wall outlet.
2. Wear an electrostatic discharge wrist strap to help prevent damage to the sensitive electronics of the printer PWBs.
3. Wait at least 30 minutes after you have switched OFF printer power for the Fuser to cool before you work on or around the Fuser.

Work Notes

When working on a service check, ignore any prerequisite service check if you have already performed that removal procedure.

WARNING: Always use the correct type and size screw. Using the wrong screw can damage tapped holes. Do not use excessive force to either remove or install either a screw or a printer part.

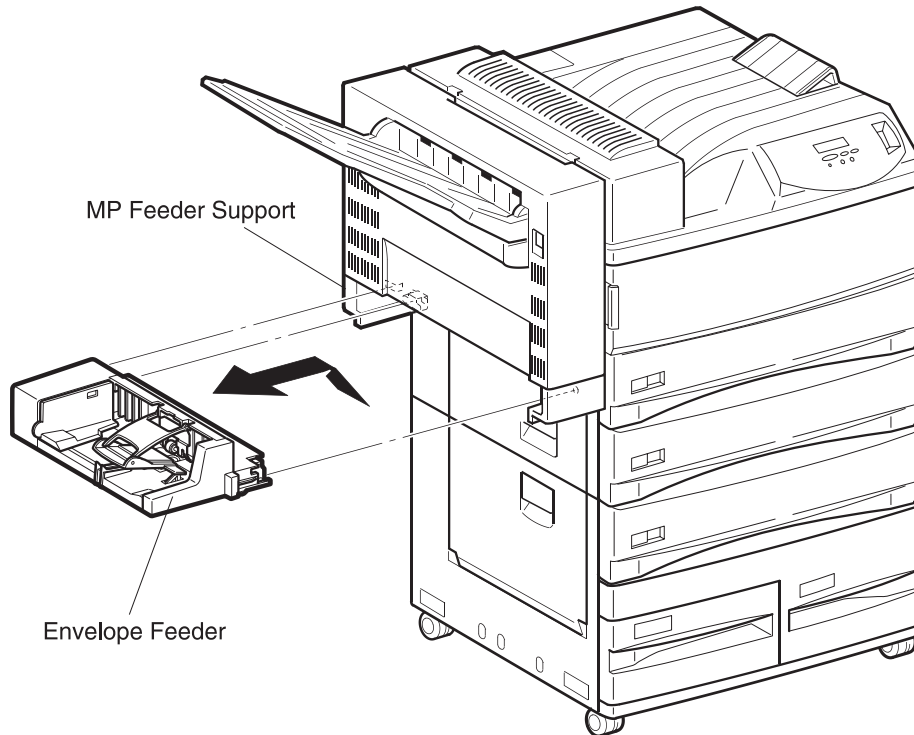
CAUTION: Unplug the AC power cord from the AC wall outlet before removing any printer part.

Notations in the Removal and Replacement text

- Locations, such as R or right, given in the removal and replacements assume you are facing the printer console panel.
- The notation "rear" of a component, in place or removed, refers to the surface of the component that is, when installed, faces the rear of the print engine.
- The notation "front" of a component refers to the surface of the component that is, if installed, faces the front of the print engine.
- The notation "(Figure x)" points to the illustration that corresponds to the Removal and Replacement Procedure you are performing.
- Bold arrows in an illustration show direction of movement when removing or replacing a component.
- Callouts in an illustration point to the specific removal and replacement component and also to associated and adjacent components that are related to the removal and replacement of the specific component.

Removal and Replacement Procedures

Envelope Feeder



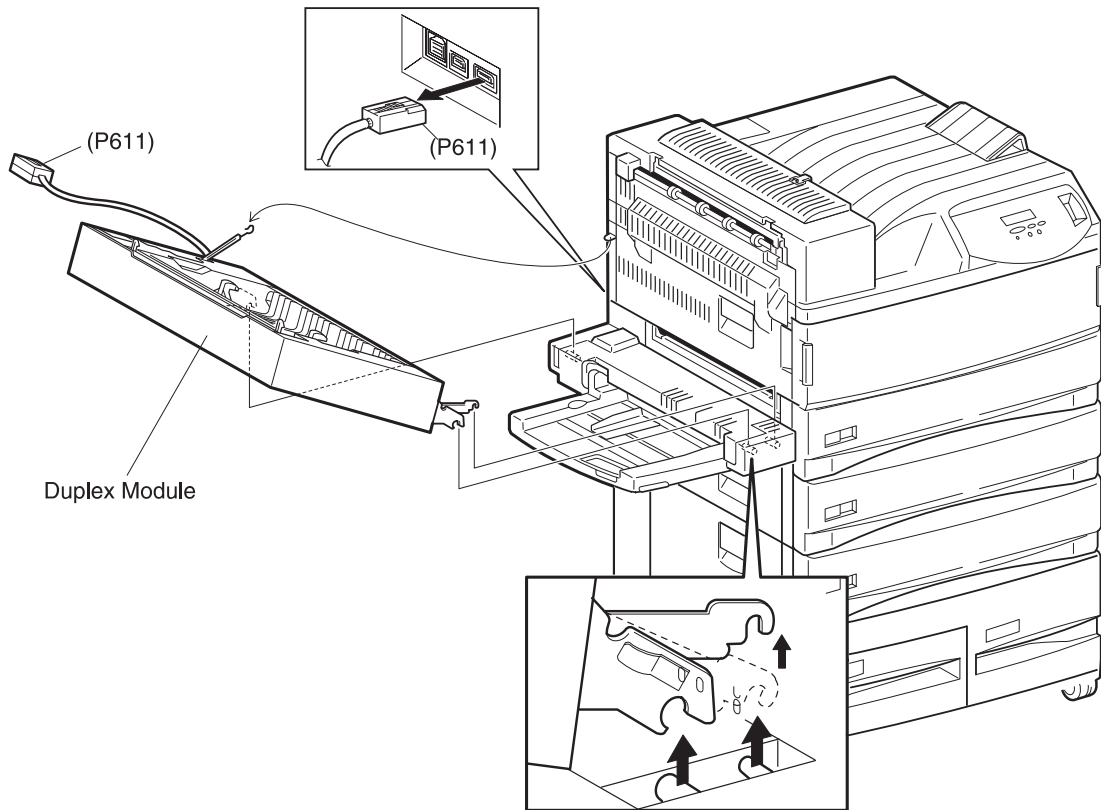
Removal

Pull the Envelope Feeder out and remove it from the MP Feeder Support.

Replacement

1. If the MP Feeder is installed, pull the MP Feeder Assembly out of the MP Feeder Support.
2. Align the two pins on the Envelope Feeder with the corresponding openings in the MP Feeder Support, and slide the Feeder into the Support.
3. Push the Envelope Feeder firmly against the MP Feeder Support to make sure the Feeder is securely in place.

Duplex Unit Assembly



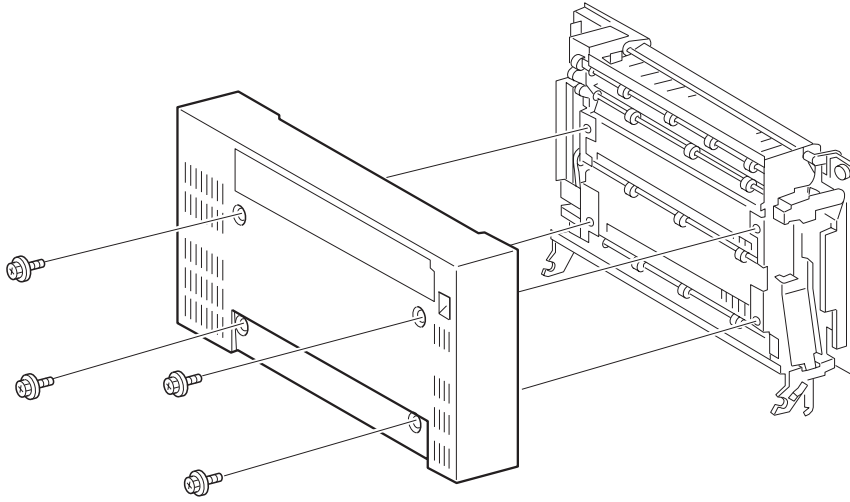
Removal

1. Disconnect the Duplex Unit interface cable from the rear of the printer.
2. Tilt the Duplex Unit back so it is open half way.
3. Unhook the Support Cable from the printer frame.
4. Support the Duplex Unit with your left hand.
5. Close the Unit just enough so you can release the metal arm that runs from the Unit to the metal stud on the Front MP Feeder Support (see the inset in the illustration).
6. Open the Duplex Unit all the way and lift it to remove it from the printer.

Replacement

1. Hold the Duplex Unit so the front of the Unit faces down and the metal hinges faces the printer.
2. Slip both the front and rear hinges onto the metal studs on the Front and Rear MP Feeder Supports.
3. Support the Duplex Unit with your left hand.
4. Close the Unit just enough so you can hook the metal arm that runs from the Unit to the metal stud on the Front MP Feeder Support.
5. Hook the Support Cable to the printer frame.
6. Close the Duplex Unit.
7. Reconnect the Duplex Unit interface cable to the rear of the printer.

Duplex Cover



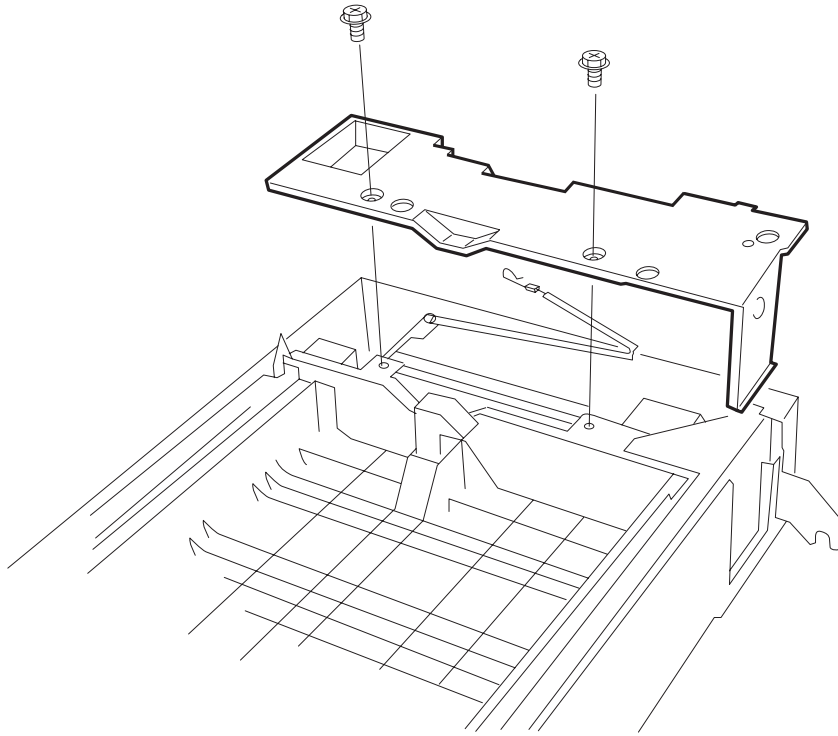
Removal

1. Remove the Duplex Unit Assembly and place it on a flat and stable surface.
2. Remove the four screws securing the Duplex Cover to the Assembly, and remove the Cover.

Replacement

1. Place the Assembly, feed wheels up, on a flat and stable surface.
2. Reinstall the Duplex Cover over the Duplex Assembly using four screws to fasten it to the Assembly.
3. Reinstall the Duplex Unit onto the printer.

Duplex Rear Cover



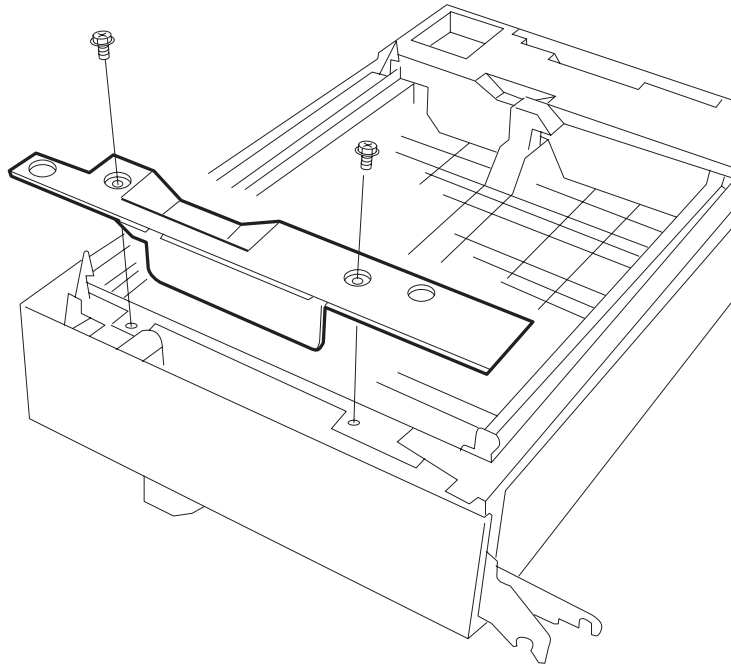
Removal

1. Remove the Duplex Cover.
2. Position the Duplex Assembly so the Inner Chute faces up.
3. Remove the two screws, shown in the figure, securing the Rear Cover to the Duplex Assembly, and remove the Cover.

Replacement

1. Position the Rear Cover over the Duplex Assembly.
2. Route the Support Cable through the cutout in the side of the Rear Cover.
3. Seat the Cover on the Duplex Assembly, and use two screws to secure the Cover.
4. Reinstall the Duplex Cover.

Duplex Front Cover



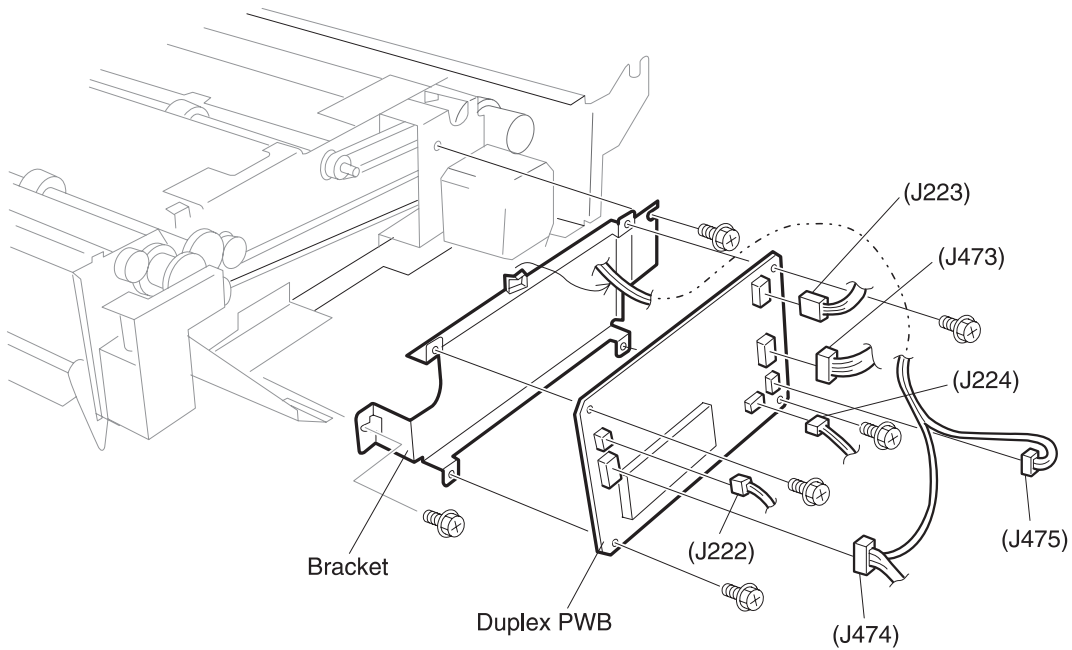
Removal

1. Remove the Duplex Cover.
2. Position the Duplex Assembly so the Inner Chute faces up.
3. Remove the two screws, shown in the figure, securing the Front Cover to the Duplex Assembly, and remove the Cover.

Replacement

1. Seat the Front Cover on the Duplex Assembly, and use two screws to secure the Cover.
2. Reinstall the Duplex Cover.

Duplex PWB and Bracket



Removal

1. Remove the Duplex Rear Cover.
2. Disconnect the six P/Js connected to the Duplex PWB.
3. Remove the four screws securing the Duplex PWB to the Duplex PWB Bracket, and remove the PWB.

WARNING: Wear an electrostatic wrist strap and use caution when working with the Duplex PWB. Static electricity can damage the sensitive electronics of the PWB.

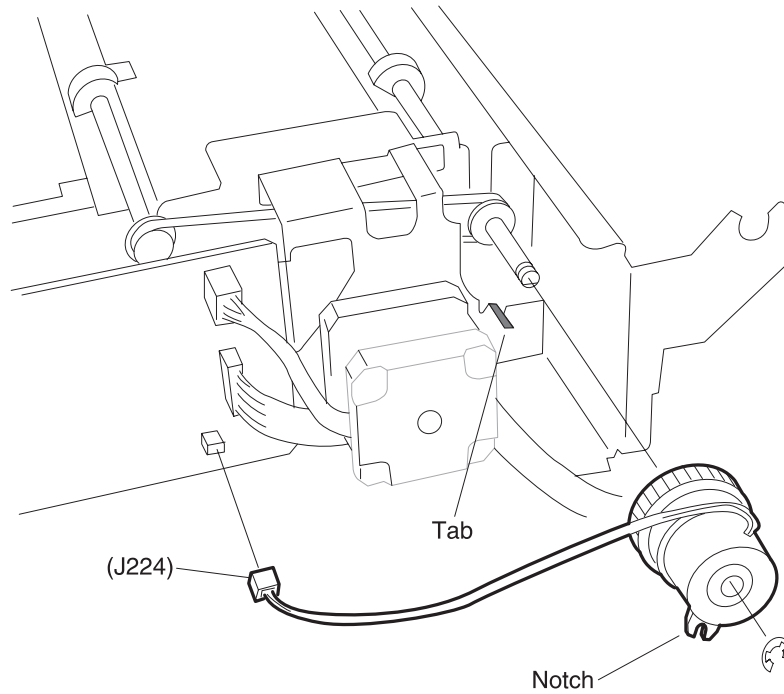
Handle the Duplex PWB by the edges of the PWB. Never touch any of the ICs that are mounted on the PWB.

4. Remove the two screws securing the Bracket to the frame, and remove the Bracket.

Replacement

1. Remove the Duplex Rear Cover.
2. Reinstall the PWB Bracket onto the frame, and use two screws to secure it.
3. Reinstall the Duplex PWB onto the PWB Bracket.
4. Position the PWB so P223 is near the Duplex Motor.
5. Use four screws to secure the PWB to the Bracket.
6. Reconnect the six P/Js to the Duplex PWB.
7. Reinstall the Duplex Rear Cover.

Duplex Wait Clutch



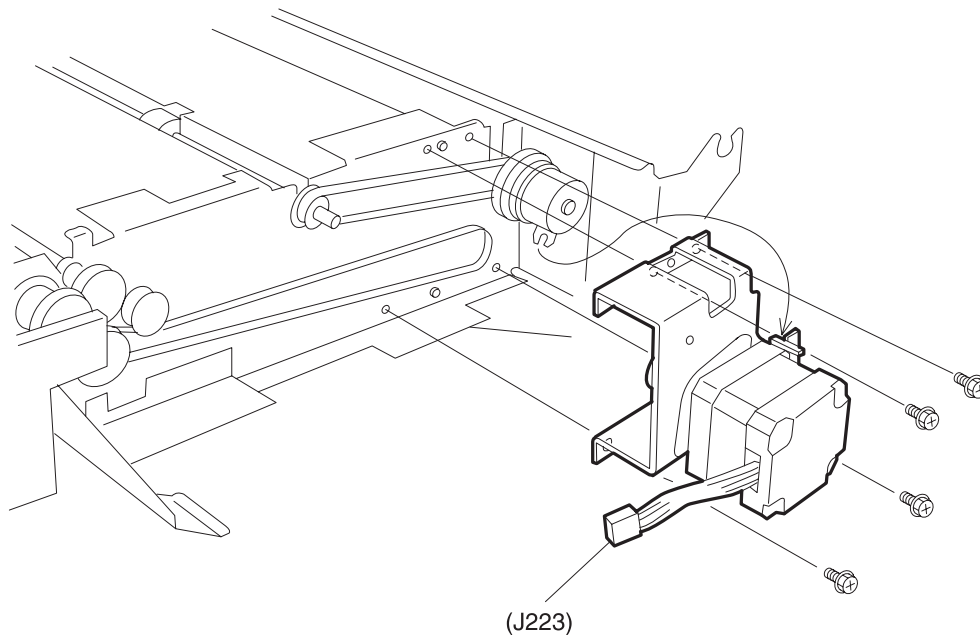
Removal

1. Remove the Duplex Rear Cover.
2. Disconnect P/J224 (Wait Clutch) from the Duplex PWB.
3. Remove the E-ring from the end of the Wait Clutch shaft.
4. Push up on the shaft latch as you slide the Clutch off of the shaft.

Replacement

1. Position the Wait Clutch so the notch in the Clutch lines up with the tab on the Duplex frame.
2. Slide the Clutch onto the shaft. The shaft latch snaps the Clutch into place on the shaft.
3. Use an E-ring to secure the Clutch to the shaft.
4. Reconnect P/J224 to the Duplex PWB.
5. Reinstall the Duplex Rear Cover.

Duplex Drive Assembly



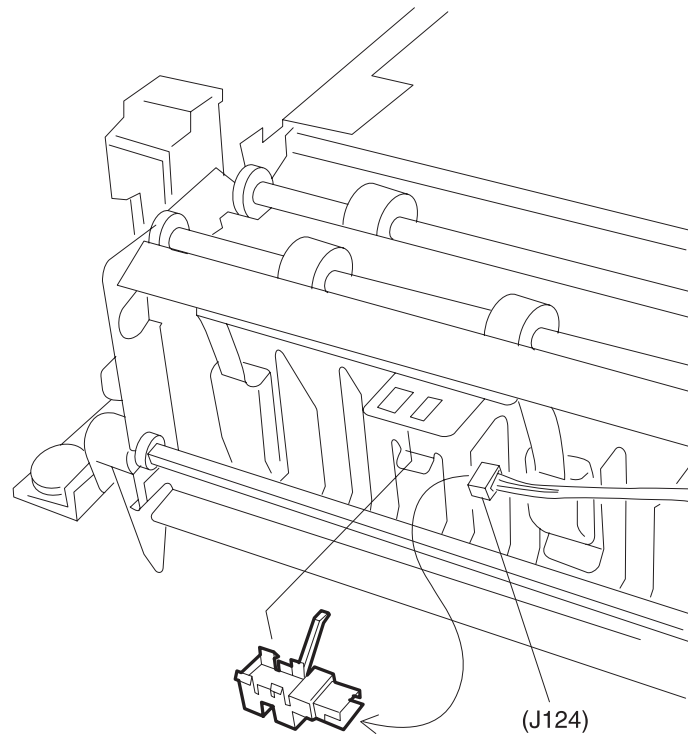
Removal

1. Remove the Duplex Rear Cover.
2. Remove the Duplex PWB and Bracket.
3. Remove the four screws securing the Duplex Drive Assembly to the Duplex frame, and remove the Assembly.

Replacement

1. Reinstall the Drive Assembly onto the Duplex frame.
2. Slip the Drive Belt onto the Motor Gear.
3. Align the four screw holes in the Duplex Drive Assembly with the four screw holes in the frame. Make sure you align the Notch on the Wait Clutch with the Tab on the Drive Assembly.
4. Use four screws to secure the Drive Assembly to the Duplex frame.
5. Reinstall the Duplex PWB and Bracket.
6. Reinstall the Duplex Rear Cover.

Duplex Exit Sensor



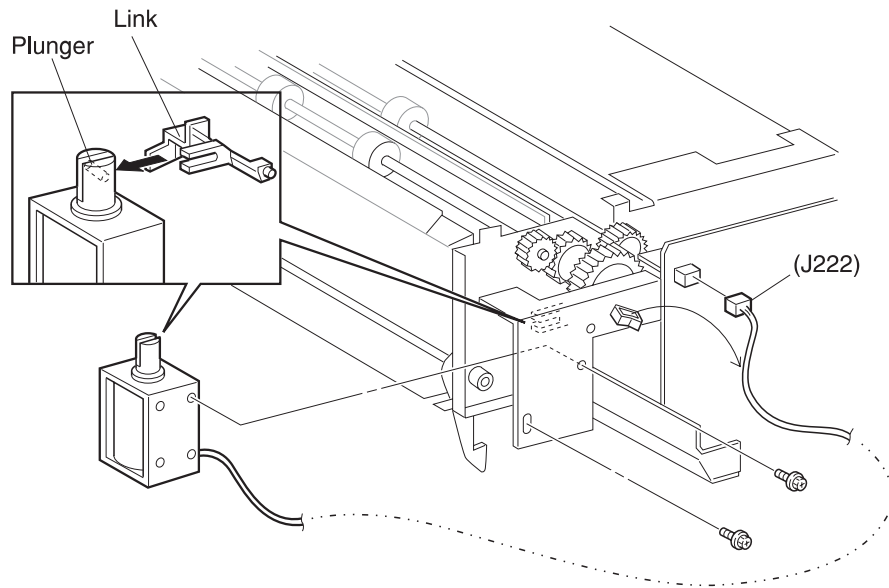
Removal

1. Remove the Duplex Cover.
2. Squeeze the four latches securing the Sensor to the bracket on the Upper Chute and remove the Duplex Exit Sensor.
3. Disconnect P/J 124 from the Sensor.

Replacement

1. Remove the Duplex Cover.
2. Position the Duplex Exit Sensor so the P/J faces the wire harness.
3. Insert the Sensor actuator through the opening in the Upper Chute.
4. Press the four latches on the bottom of the Sensor into the four openings in the bracket on the Upper Chute. The Sensor snaps into place.
5. Reconnect P/J 124 to the Sensor.
6. Reinstall the Duplex Cover.

Duplex Exit Gate Solenoid



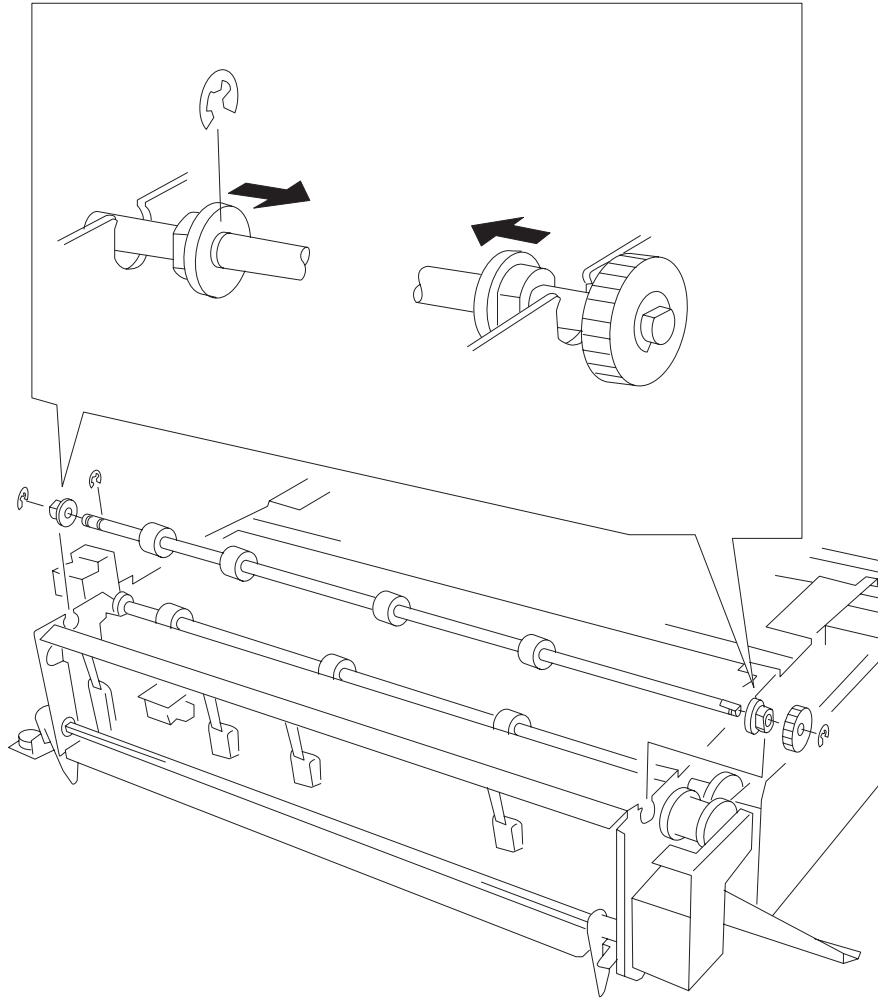
Removal

1. Remove the Duplex Cover.
2. Remove the Duplex Rear Cover.
3. Disconnect P/J 222 from the Duplex PWB.
4. Remove the wire harnesses from the wire clip that is mounted on the Solenoid Bracket.
5. Remove the two screws securing the Duplex Exit Gate Solenoid Bracket to the Duplex frame, and remove the Bracket and attached Solenoid.
6. Remove the two screws securing the Duplex Exit Gate Solenoid from the Bracket, and remove the Solenoid.

Replacement

1. Reinstall the Duplex Exit Gate Solenoid onto the Bracket.
2. Line up the two screw holes in the Bracket with the two screw holes in the Solenoid, and use two short screws to secure the Solenoid to the Bracket.
3. Make sure the Exit Gate Link is in place.
4. Rotate the Solenoid plunger so the fork in the Link slips through the slot in the plunger.
5. Press the Solenoid Bracket against the Duplex frame.
6. Use two screws to secure the Bracket to the frame.
7. Lift and release the Solenoid plunger to make sure it opens the Link correctly.
8. Reconnect P/J 222 to the Duplex PWB.
9. Reroute the wire harness through the wire clip located on the Solenoid Bracket.
10. Reinstall the Duplex Rear Cover.
11. Reinstall the Duplex Cover.

Exit Roll



4025 Options

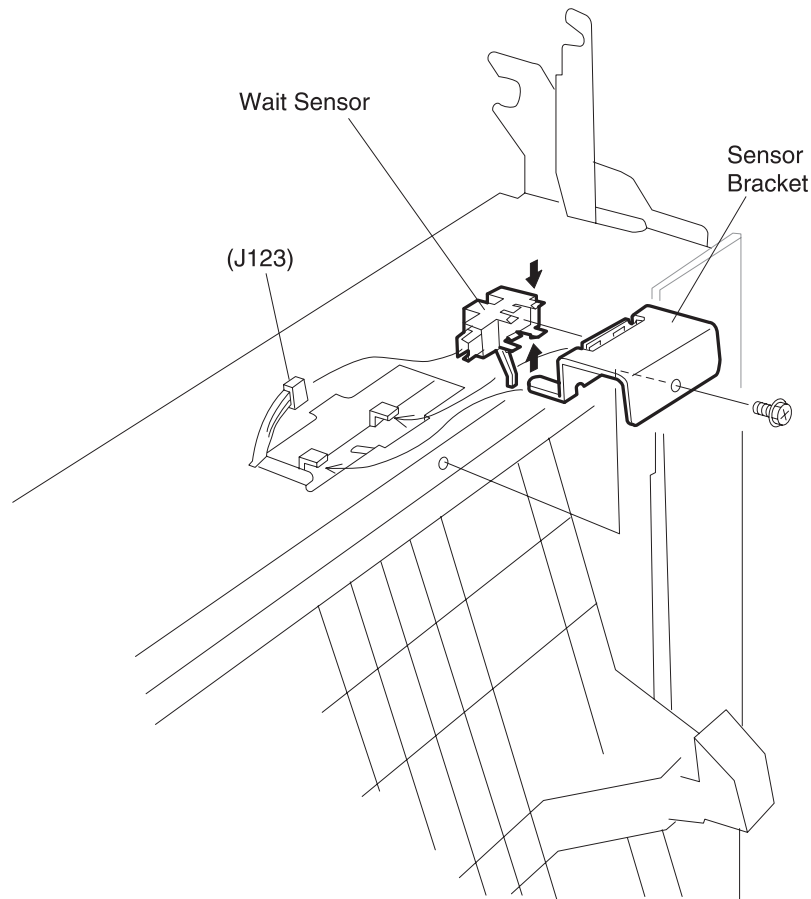
Removal

1. Remove the Duplex Cover.
2. Remove the E-ring securing the Rear end of the Exit Roll shaft to the Duplex frame.
3. Remove the E-ring securing the Front end of the Exit Roll shaft to the Duplex frame.
4. Slide both bearings toward the center of the shaft, and lift the Exit Roll shaft out of the Duplex frame.
5. Remove the E-ring securing the Exit Roll Gear to the shaft, and remove the Gear.
6. Remove the two bearings from the shaft.

Replacement

1. Slide the two bearings, lip facing to the center of the shaft, onto the Exit Roll shaft.
2. Reinstall the Exit Roll Gear to the end of the shaft, and use an E-ring to secure it.
3. Reinstall the Exit Roll shaft, the Gear at the Rear of the Duplex Assembly, into the slot in the Duplex frame.
4. Slide the shaft so the rubber rollers drop into the cutouts in the Duplex Assembly.
5. Slide the bearings along the shaft and into the cutouts in the Assembly.
6. Rotate the bearings so they fit into the cutouts.
7. Use E-rings at the Front and Rear ends of the Exit Roll shaft to secure the bearings.
8. Reinstall the Duplex Cover.

Duplex Wait Sensor



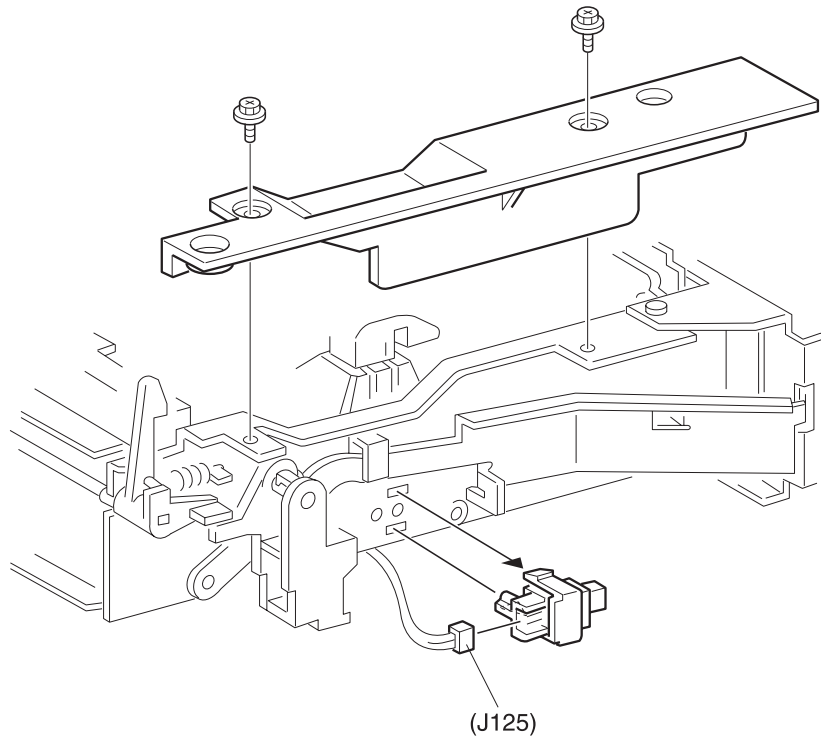
Removal

1. Remove the Duplex Cover.
2. Remove the screw securing the Wait Sensor Bracket to the Duplex frame.
3. Remove the Bracket and the attached Wait Sensor.
4. Disconnect P/J 123 from the Sensor.
5. Squeeze the four latches securing the Sensor to the bracket and remove the Sensor.

Replacement

1. Position the Sensor on the Bracket so the Sensor latches match the openings in the Bracket.
2. Press the four latches on the bottom of the Sensor into the four openings in the Bracket. The Sensor snaps into place.
3. Reconnect P/J 123 to the Sensor.
4. Slide the Sensor actuator through the slot in the Duplex Unit, and slide the two arms of the Sensor Bracket under the two tabs next to the actuator slot.
5. Use one screw to secure the Bracket to the Duplex Unit.
6. Reinstall the Duplex Cover.

Duplex Interlock Switch



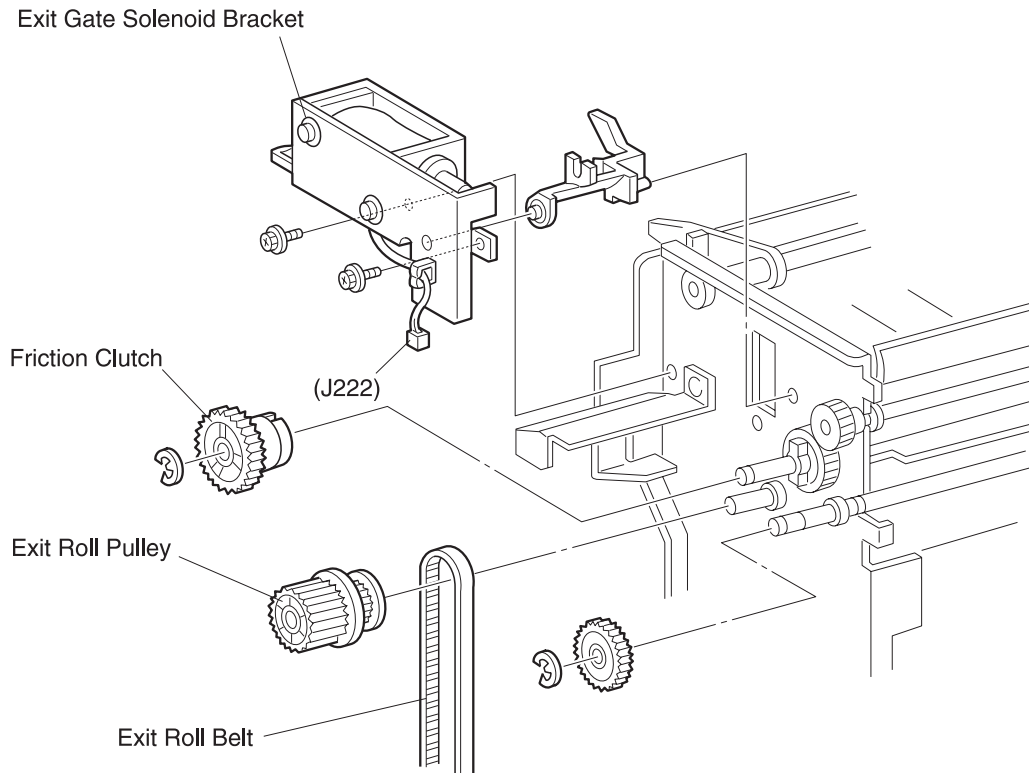
Removal

1. Remove the Duplex Cover.
2. Remove the Duplex Front Cover.
3. Disconnect P/J 125 from the Interlock Switch.
4. Squeeze the sides of the Switch together to release the two latches securing the Duplex Interlock Switch to the Duplex frame, and remove the Switch.

Replacement

1. Position the Interlock Switch as shown.
2. Insert the two locating tabs of the Switch into the two corresponding holes in the Duplex frame.
3. Press the Switch into the frame. The Switch snaps into place.
4. Reconnect P/J 125 to the Interlock Switch.
5. Reinstall the Duplex Front Cover.
6. Reinstall the Duplex Cover.

Exit Roll Belt



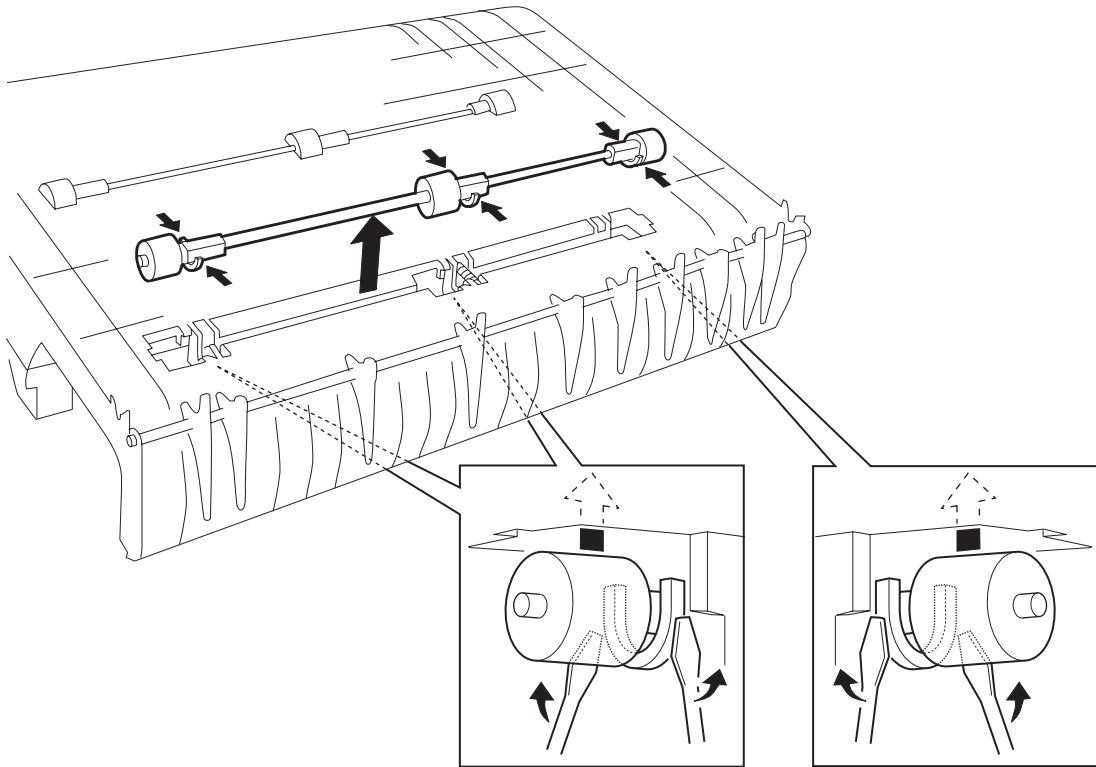
Removal

1. Remove the Duplex PWB Bracket.
2. Remove the Duplex Drive Assembly.
3. Remove the two screws securing the Exit Gate Solenoid Bracket to the frame and remove the Bracket and Solenoid.
4. Remove the E-ring from the #1 Transport Roll Drive Gear, and slide the Gear off of the shaft.
5. Remove the E-ring from the Friction Clutch, and slide the Clutch off of the shaft.
6. Slide the Exit Roll Pulley off of the shaft and remove the Exit Roll Belt.

Replacement

1. Reinstall one end of the Exit Roll Belt over the small end of the Exit Roll Pulley.
2. Slide the Exit Roll Pulley onto the Exit Roll shaft.
3. Slide the Friction Clutch onto the shaft and use an E-ring to secure it to the shaft.
4. Slide the #1 Transport Roll Drive Gear onto the Transport Roll shaft and use an E-ring to secure it to the shaft.
5. Reinstall the Exit Gate Solenoid Assembly and Bracket onto the frame, and use two screws to secure the Bracket.
6. Reinstall the Duplex Drive Assembly.
7. Reinstall the Duplex PWB Bracket.

Duplex Pinch Roll



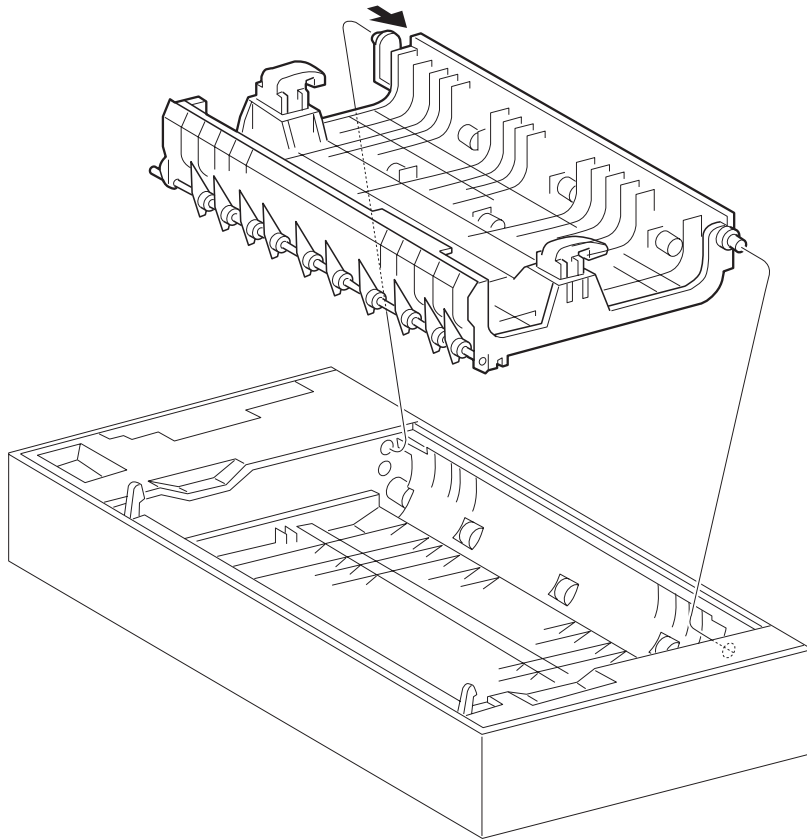
Removal

1. Remove the Duplex Unit Assembly.
2. Open the Inner Chute.
3. Working from the front of the Chute, use the flat blade of a screwdriver to carefully free the arms of the roll latch from the Inner Chute (see the figure), while pressing out on the rubber roll.
4. Repeat step 3 for each of the remaining two rubber rolls on shaft.
5. Remove the Pinch Roll from the Inner Chute.
6. Repeat steps 3 through 5 and remove the other two Pinch Rolls attached to the Inner Chute.

Replacement

1. Open the Inner Chute.
2. Reinstall the Pinch Roll.
3. Rotate the three roll latches on each Pinch Roll shaft so the bow of the latches face down and the arms of the latches face up.
4. Press each latch into the Inner Chute until they snap into place.
5. Rotate the Pinch Roll to make sure it rotates smoothly.
6. Press and release the Pinch Roll to make sure it has a spring-action return.
7. Repeat steps 2 through 6 for each of the other two Pinch Rolls.
8. Close the Inner Chute.
9. Reinstall the Duplex Unit Assembly.

Inner Chute Assembly



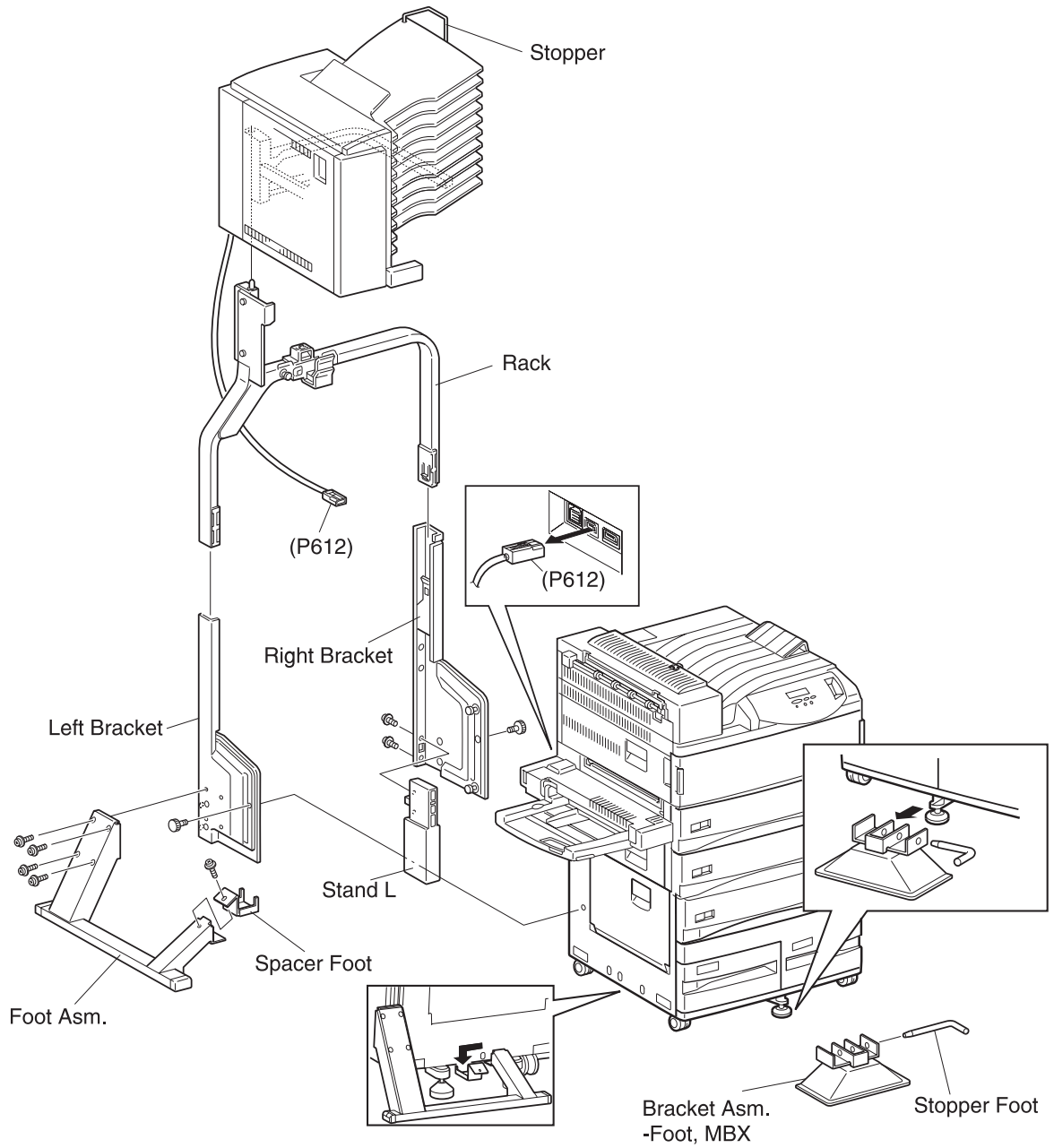
Removal

1. Remove the Duplex Unit Assembly.
2. Open the Inner Chute.
3. Use the flat blade of a screwdriver to pry (arrow in the figure) the rear hinge of the Inner Chute out of the hole in the Duplex frame.
4. Remove the Inner Chute.

Replacement

1. Position the Inner Chute as shown.
2. Insert the front hinge of the Chute into the hole in the Duplex frame.
3. Push in on the rear hinge and insert it into the hole in the frame.
4. Open and close the Chute to make sure it moves freely.
5. Reinstall the Duplex Unit Assembly.

Mailbox



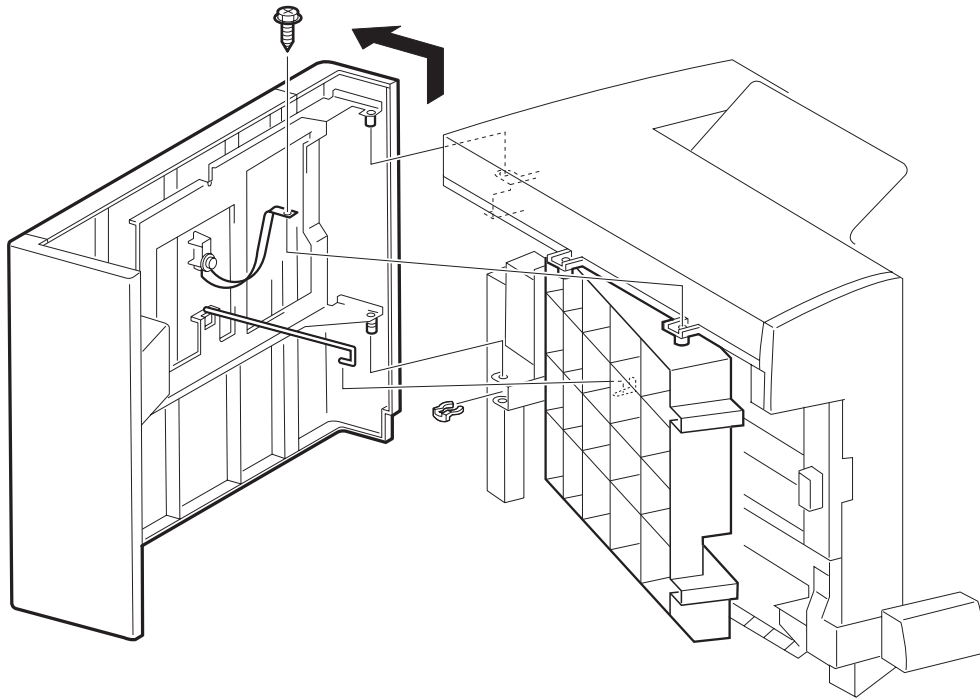
Removal

1. Disconnect P612 from the jack that is located at the rear of the printer.
2. Unhook and remove the Stopper.
3. Lift the Mailbox off of the Rack, and place the Mailbox on a level and stable surface.
4. Press in on the latches securing the Rack to the Left and Right Brackets and lift the Rack up and off of the Brackets.
5. Remove the thumbscrew securing the Right Bracket to the printer, lift the Bracket up to release the tabs, and remove the Bracket.
6. Remove the thumbscrew securing the Left Bracket to the printer, lift the Bracket up to release the tabs, and remove the Bracket.
7. Remove the four screws securing the Foot Assembly to the Left Bracket and remove the Foot Assembly.
8. Remove the screw securing the Spacer Foot to the Foot Assembly and remove the Spacer Foot.
9. Remove the two screws securing Stand L to the Right Bracket and remove Stand L.
10. Remove the Stopper Foot from the Bracket Assembly - Foot.
11. Remove the Bracket Assembly - Foot from the base engine.
12. Rotate and lower the Foot Assembly Adjuster.

Replacement

1. Rotate and raise the Foot Assembly Adjuster so you can slide the Bracket Assembly - Foot under the base engine.
2. Once the Bracket Assembly - Foot is in position under the base engine, secure the Bracket Assembly by sliding the Stopper Foot into the holes in the Bracket Assembly.
3. Reinstall the Spacer Foot to the Foot Assembly and use one screw to secure the Foot to the Assembly.
4. Reinstall the Foot Assembly to the Left Bracket and use four screws to secure the Assembly to the Bracket.
5. Attach the Left Bracket to the left side of printer by first inserting the two metal tabs on the back of the Bracket into the two holes in the left side of the printer.
6. Slide the Left Bracket down to lock the tabs in place.
7. Use a thumbscrew to secure the Left Bracket to the printer.
8. Attach Stand L to the Right Bracket, and use two screws to secure Stand L.
9. Attach the Right Bracket to the right side of the printer by first inserting the two metal tabs on the back of the Bracket into the two holes in the right side of the printer.
10. Slide the Right Bracket down to lock the tabs in place.
11. Use a thumbscrew to secure the Right Bracket to the printer.
12. Slide the legs of the Rack into the tops of the Left and Right Brackets.
13. Push down on the Rack until it locks into place.
14. Reinstall the Mailbox by carefully lowering the opening in the Mailbox support arm, onto the pin at the top of the Rack.
15. Position the Stopper so when it is installed it blocks paper from exiting the right side of the Mailbox bins.
16. Hook one end of the Stopper through the hole at the tip of Tray 1, and hook the other end of the Stopper through the hole at the tip of Tray 10.
17. Plug P612 into the jack that is located at the rear of the printer.

Mailbox Left Cover Assembly



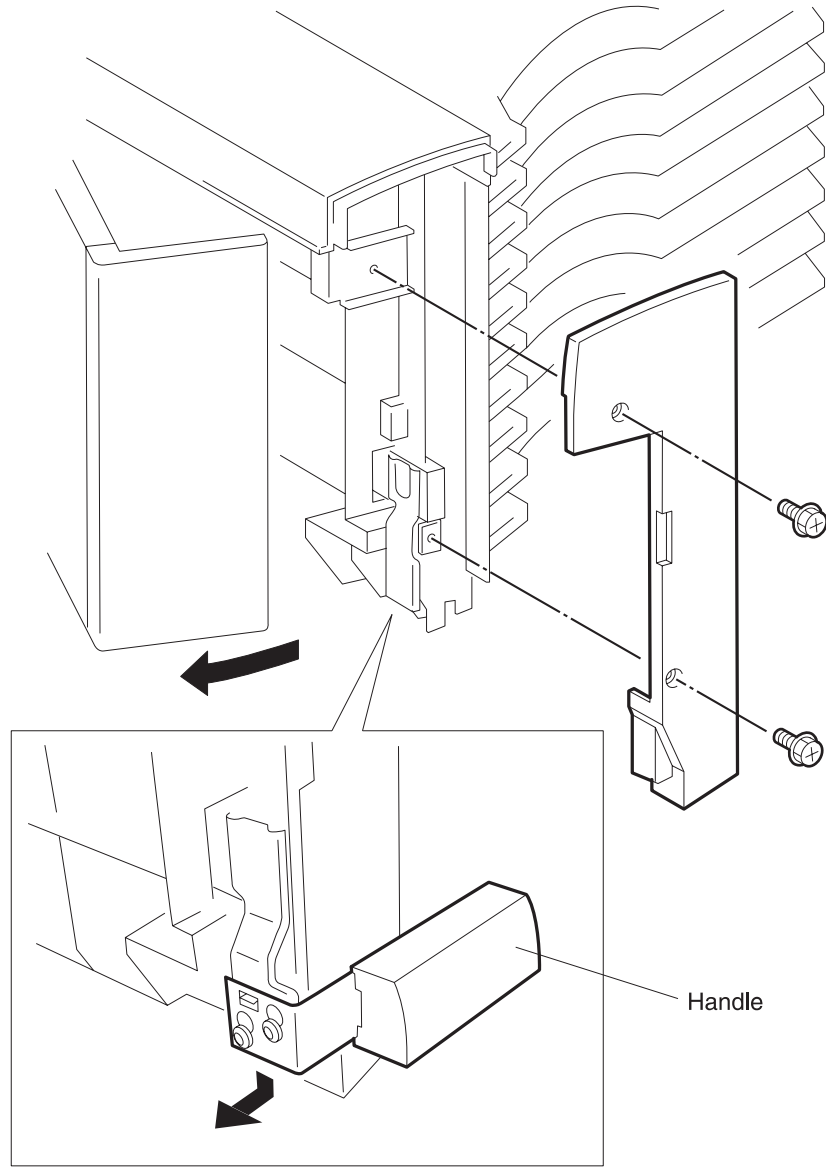
Removal

1. Remove the screw securing the Left Cover Strap to the Mailbox Top Cover.
2. Unhook the Left Cover Hook from the Mailbox Frame Assembly.
3. Remove the KL clip from the Mailbox Left Cover Assembly.
4. Lift the Cover up and off of the Mailbox.

Replacement

1. Position the Left Cover Assembly approximately half way open, and reinstall it onto the Mailbox.
2. Use a KL clip to secure the Left Cover to the Mailbox.
3. Hook the Left Cover Hook onto the Mailbox Frame Assembly.
4. Reinstall the Left Cover Strap to the Mailbox Top Cover, and use one screw to secure the Strap.

Mailbox Front Cover



4025 Options

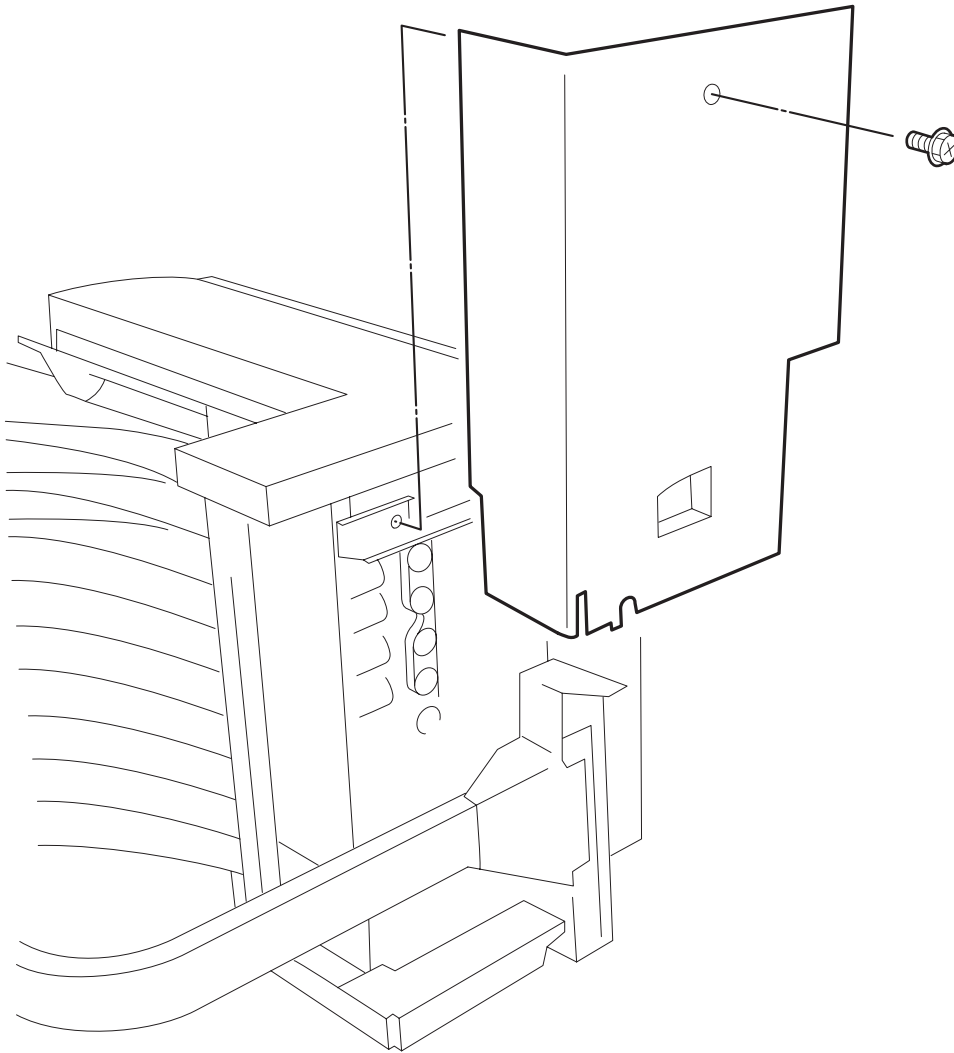
Removal

1. Open the Mailbox Left Cover Assembly.
2. Push down on the Handle and remove it from the Mailbox frame.
3. Remove the two screws securing the Mailbox Front Cover to the Mailbox, and remove the Front Cover.

Replacement

1. Reinstall the Front Cover onto the Mailbox frame.
2. Use two screws to secure the Front Cover to the frame.
3. Reinstall the Handle.
4. Close the Mailbox Left Cover Assembly.

Mailbox Rear Cover



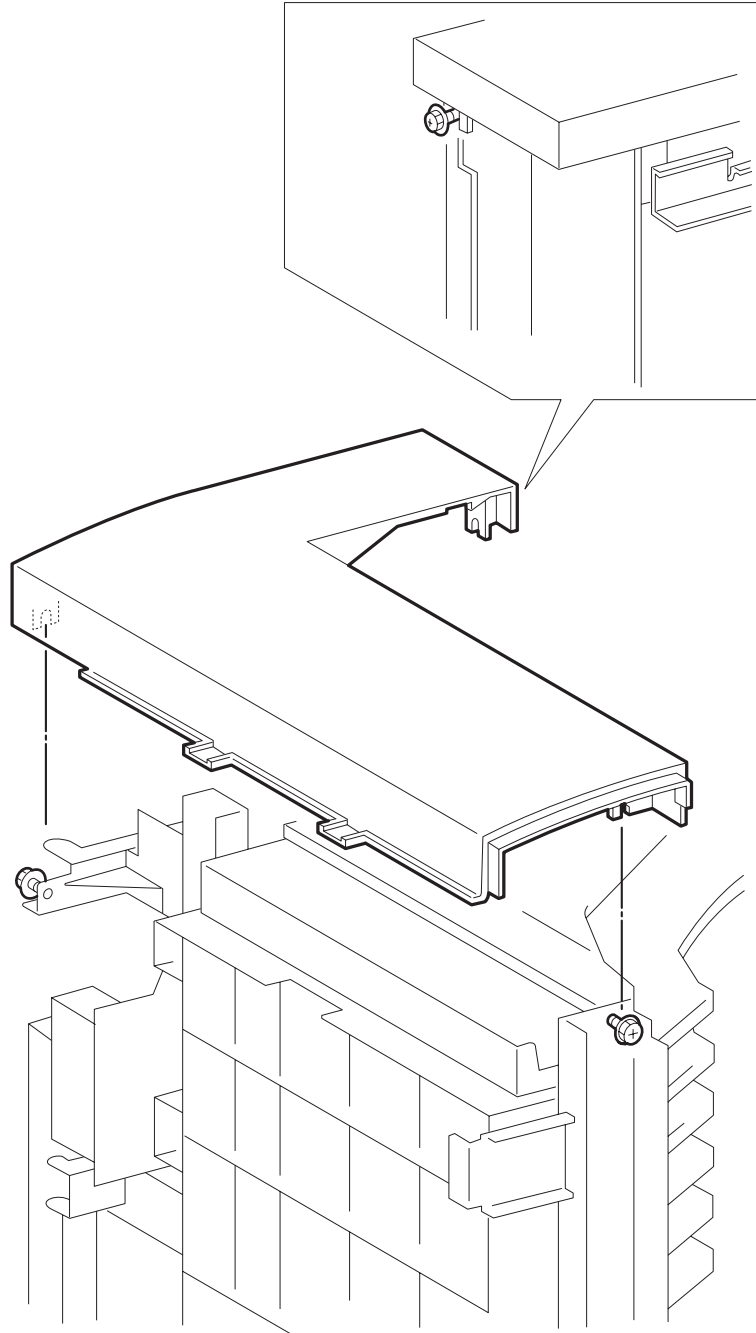
Removal

1. Remove the screw securing the Rear Cover to the Mailbox frame.
2. Remove the Rear Cover from the Mailbox frame.

Replacement

1. Reinstall the Rear Cover onto the Mailbox frame.
2. Use one screw to secure the Rear Cover to the Mailbox frame.

Mailbox Top Cover



4025 Options

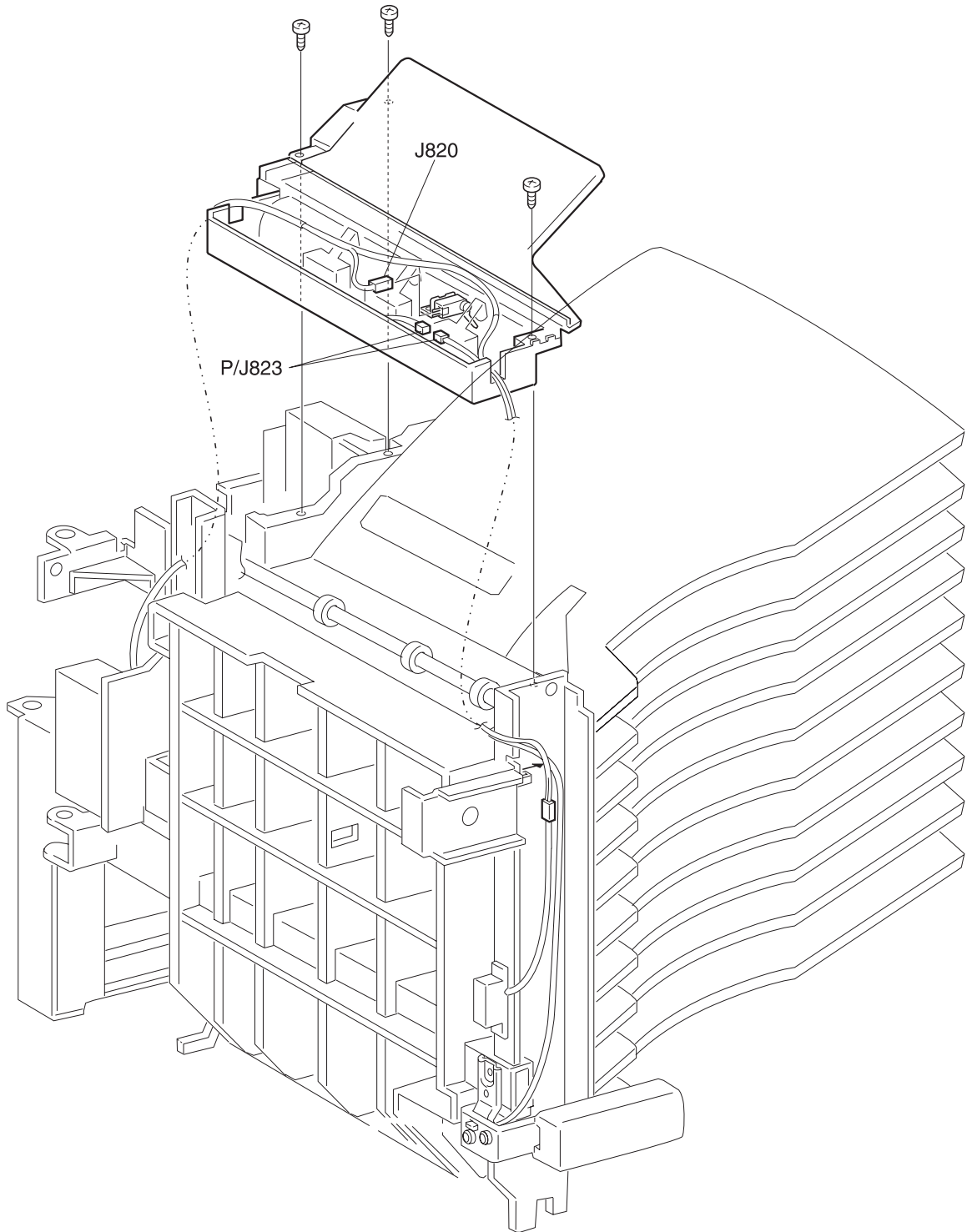
Removal

1. Remove Mailbox Left Cover Assembly.
2. Remove the Mailbox Front Cover Assembly.
3. Remove the Mailbox Rear Cover Assembly.
4. Loosen the three screws securing the Top Cover to the Mailbox frame, and remove the Top Cover.

Replacement

1. Reinstall the Mailbox Top Cover to the Mailbox frame, making sure you line up the slots in the Cover with the screws in the frame.
2. Tighten the three screws to secure the Top Cover to the frame.
3. Reinstall the Mailbox Rear Cover Assembly.
4. Reinstall the Mailbox Front Cover Assembly.
5. Reinstall the Mailbox Left Cover Assembly.

Actuator Cover Assembly



4025 Options

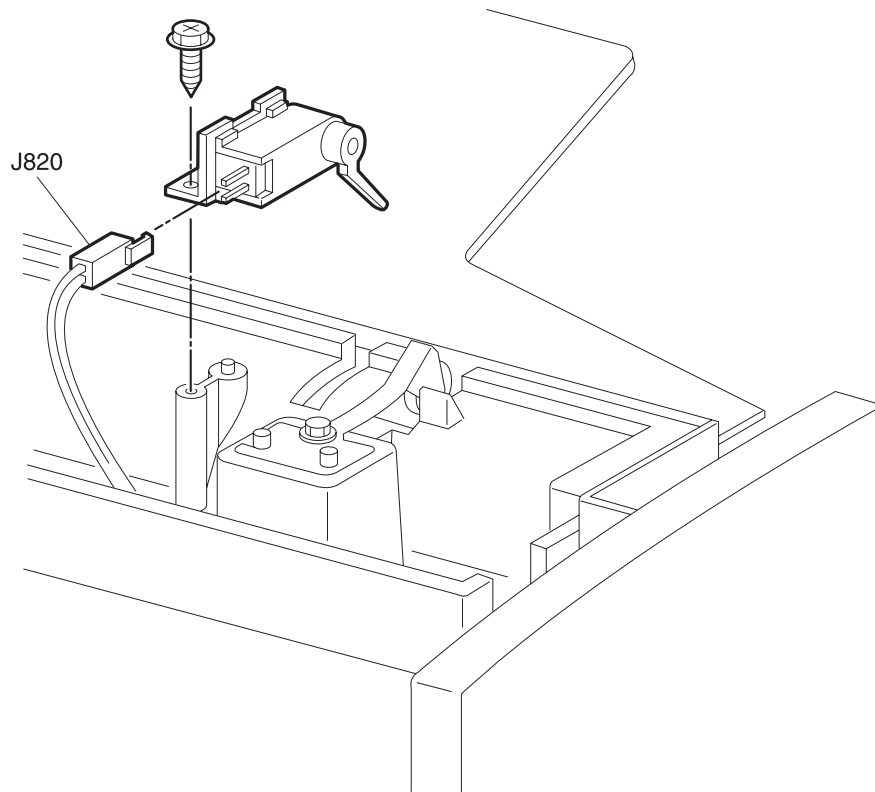
Removal

1. Remove the Mailbox Top Cover Assembly.
2. Disconnect P/J 820 from the Bin 10 Jam Sensor.
3. Disconnect P/J 823 running to the Vertical Sensor.
4. Pull all of the wires free of the wire clips at the top of the Actuator cover.
5. Remove the three screws securing the Actuator Cover Assembly to the frame, lift the Cover free of the wire harness and remove it from the Mailbox.

Replacement

1. Position the Actuator Cover Assembly over the top of the Mailbox.
2. Reach under the Actuator Cover and pull the Full Stack Actuator 2 up and out of the way.
3. Reinstall The Actuator Cover Assembly onto the Mailbox.
4. Use three screws to secure the Actuator Cover to the Mailbox.
5. Reinstall the wire harness under the wire clips located on the side of the Actuator Cover and reconnect the Bin 10 Jam Sensor P/J.
6. Reinstall the Mailbox Top Cover Assembly.

Bin 10 Jam Sensor



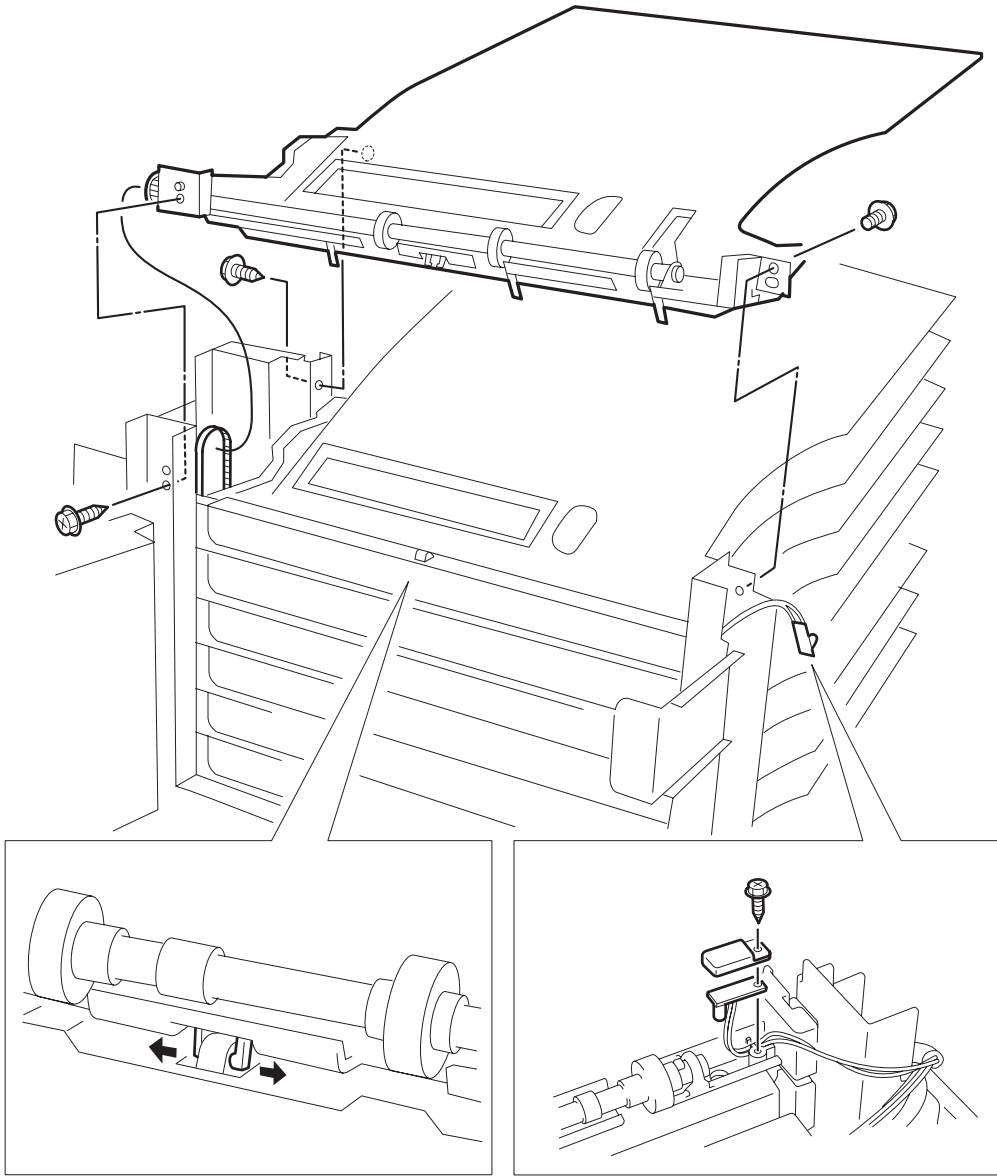
Removal

1. Remove the Mailbox Top Cover Assembly.
2. Disconnect P/J 820 from the Bin 10 Jam Sensor.
3. Remove the screw securing the Bin 10 Jam Sensor to the Actuator Cover.
4. Remove Bin 10 Jam Sensor from the Actuator Cover.

Replacement

1. Reinstall Bin 10 Jam Sensor to the Actuator Cover. Make sure you insert the Sensor actuator through the rectangular slot in the Cover.
2. Use one screw to secure the Sensor to the Cover.
3. Reconnect P/J 820 to the Bin 10 Jam Sensor.
4. Reinstall the Mailbox Top Cover Assembly.

BIN 10 Tray Assembly



Inset 2

Inset 1

4025 Options

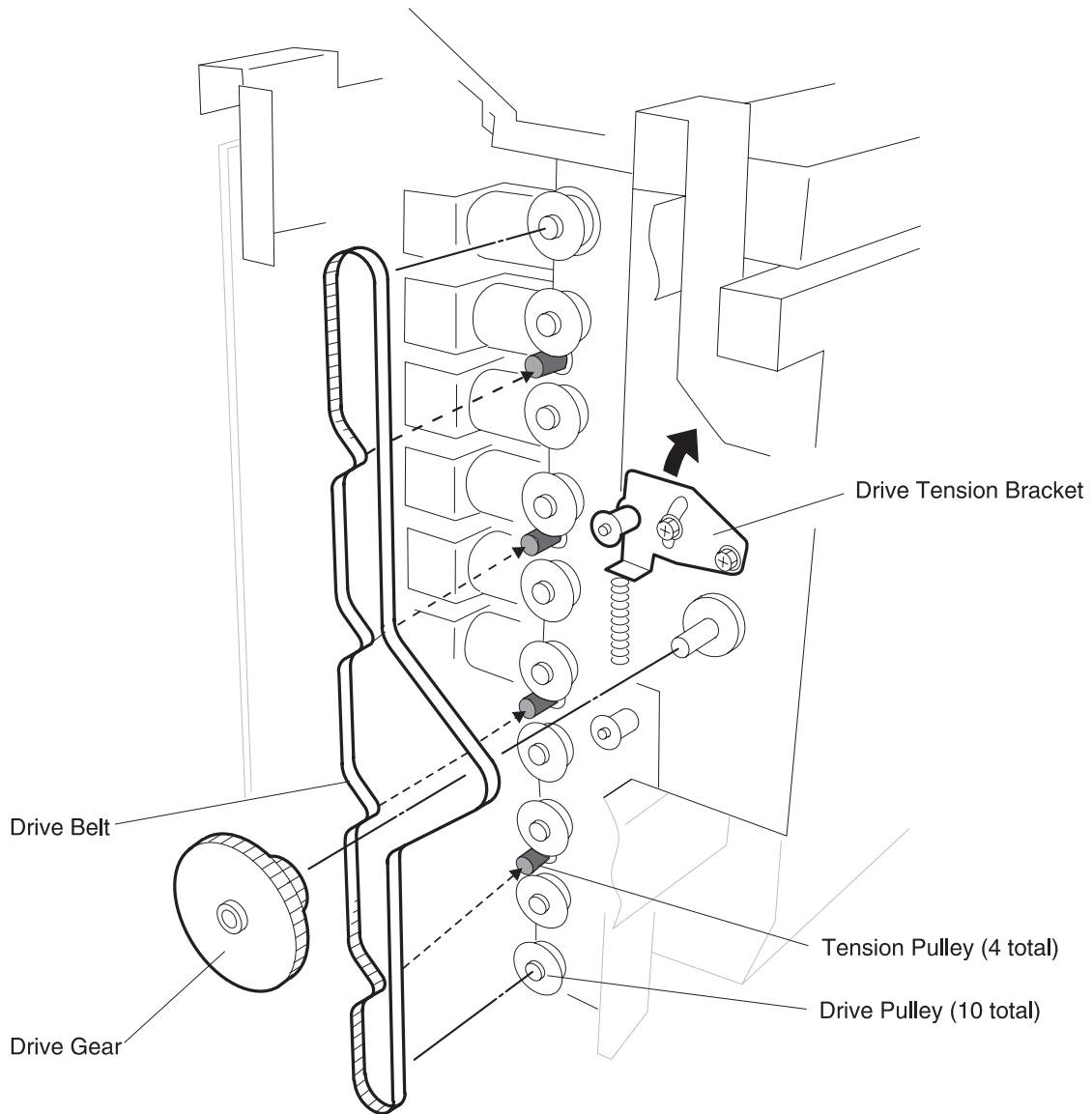
Removal

1. Remove the Paper Stopper.
2. Remove the Actuator Cover Assembly.
3. Remove the screw securing the LED and the LED Cover to the BIN 10 Tray Assembly, and remove the LED and LED Cover (Inset 1).
4. Slip the Drive Belt off of BIN 10 Drive Pulley.
5. Remove the three screws securing BIN 10 Tray to the Mailbox frame.
6. Pull out on latch arms to release the latch that is securing BIN 10 Tray Assembly to BIN 9 Gate (Inset 2) and remove BIN 10 Tray Assembly.

Replacement

1. Reinstall BIN 10 Tray onto the Mailbox frame. Make sure the tabs on the Tray line up with the slots in the frame.
2. Open the Mailbox Chute so you can access BIN 9 Gate.
3. Hold on to BIN 9 Gate while you press down on the Tray Assembly so the latch arms on the Tray Assembly latch onto BIN 9 Gate.
4. Use three screws to secure BIN 10 Tray to the Mailbox frame.
5. Slip the Drive Belt onto BIN 10 Drive Pulley.
6. Reinstall the LED and the LED Cover, and use one screw to secure them to the BIN 10 Tray Assembly.
7. Reinstall the Actuator Cover Assembly.
8. Reinstall the Paper Stopper.

Mailbox Drive Belt



4025 Options

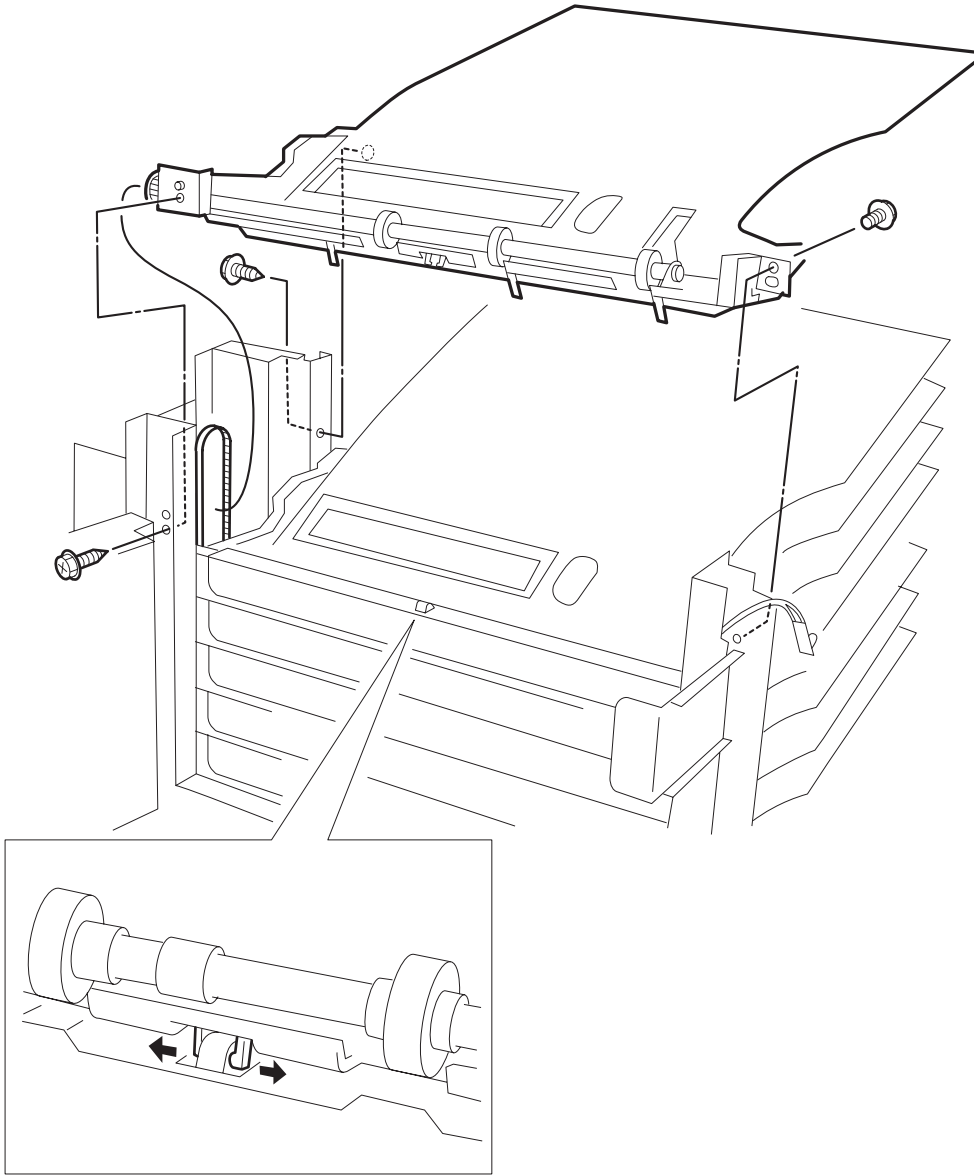
Removal

1. Remove Mailbox Left Cover Assembly.
2. Remove the Mailbox Rear Cover Assembly.
3. Remove the Mailbox Drive Motor Assembly.
4. Slide the Mailbox Drive Gear off of the shaft.
5. Slip the Mailbox Drive Belt off of the Drive Pulleys.

Replacement

1. Position the Mailbox Belt as shown, and reinstall the Belt onto the Drive Pulleys. Make sure you reinstall the Belt over the four Tension Pulleys, as shown by the arrows in the illustration.
2. Reinstall the Mailbox Drive Gear.
3. Push up on the Mailbox Drive Tension Bracket while you reinstall the Belt onto the Mailbox Drive Gear.
4. Reinstall the Mailbox Drive Motor Assembly.
5. Reinstall the Mailbox Rear Cover Assembly.
6. Reinstall the Mailbox Left Cover Assembly.

BIN TRAYS 1 - 9 Assemblies



4025 Options

Note: This Removal and Replacement procedure describes the removal and replacement of a single BIN Tray, from BIN 9 through BIN 1. When removing a BIN Tray start by removing BIN Tray 10, then remove BIN Tray 9. Remove the BIN Trays sequentially, 9 through 1, by repeating the steps in this procedure for each remaining Tray.

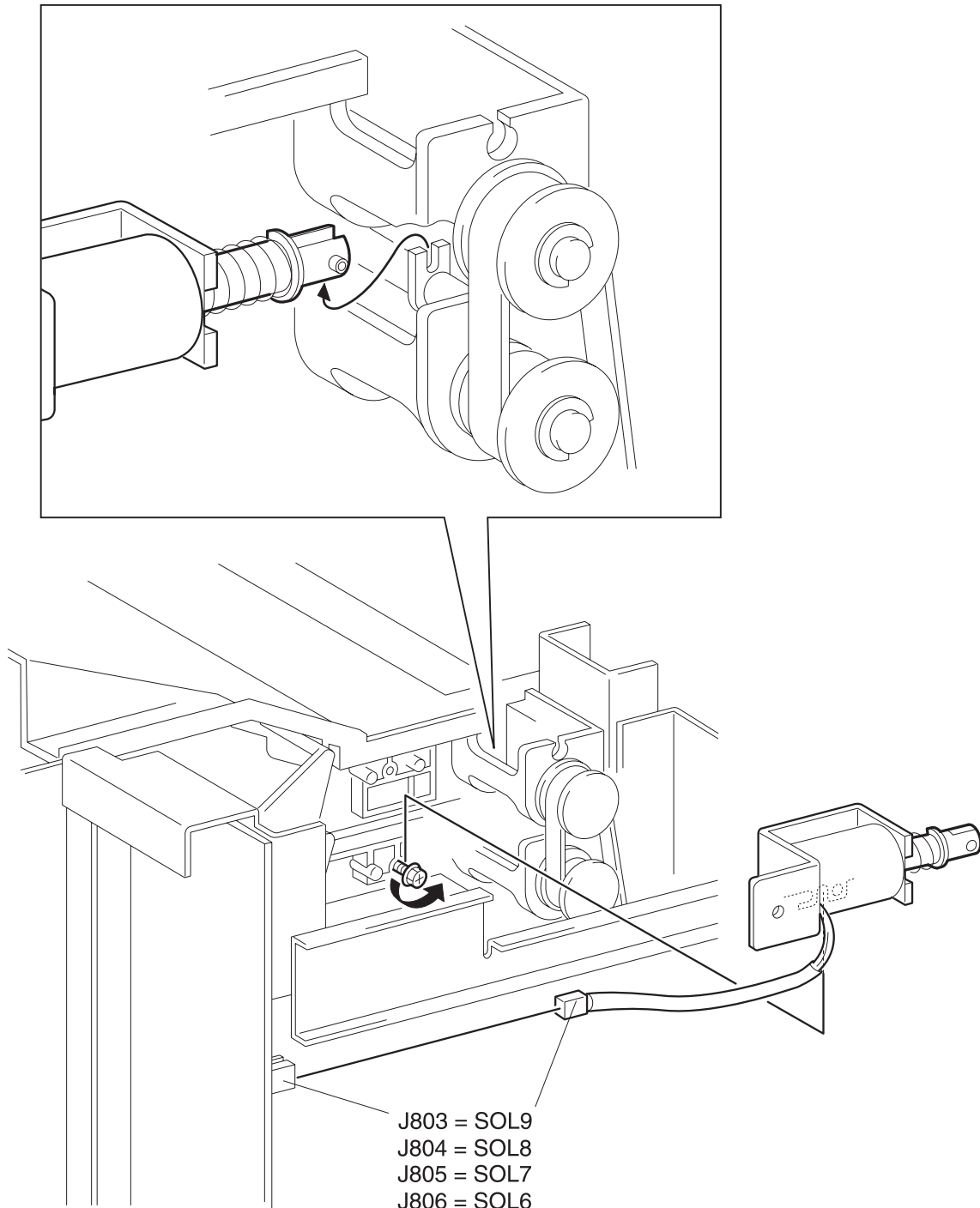
Removal

1. Remove the wire Paper Stopper attached to Bins 1 and 10.
2. Remove the Actuator Cover Assembly.
3. Remove BIN 10 Tray Assembly.
4. Remove Gate 9 Solenoid.
5. Remove the three screws securing BIN 9 Tray to the Mailbox frame.
6. Pull out on latch arms to release the latch that is securing BIN 9 Tray Assembly to BIN 8 Gate and remove Bin 9 Tray Assembly.
7. Slide Bin 9 Drive Pulley out of the Drive Belt and remove BIN 9 Tray Assembly.

Replacement

1. Reinstall BIN 9 Tray onto the Mailbox frame. Make sure the tabs on the Tray line up with the slots in the frame.
2. Open the Mailbox Chute so you can access BIN 8 Gate.
3. Hold on to BIN 8 Gate while you press down on the Tray Assembly so the latch arms on the Tray Assembly latch onto BIN 8 Gate.
4. Use three screws to secure BIN 9 Tray to the Mailbox frame.
5. Slip the Drive Belt onto BIN 9 Drive Pulley.
6. Reinstall Gate 9 Solenoid.
7. Reinstall BIN 10 Tray Assembly.
8. Reinstall the Actuator Cover Assembly.
9. Reinstall the wire Paper Stopper to Bins 1 and 10.

Gate Solenoids 1 - 9



- J803 = SOL9
- J804 = SOL8
- J805 = SOL7
- J806 = SOL6
- J807 = SOL5
- J808 = SOL4
- J809 = SOL3
- J810 = SOL2
- J811 = SOL1

4025 Options

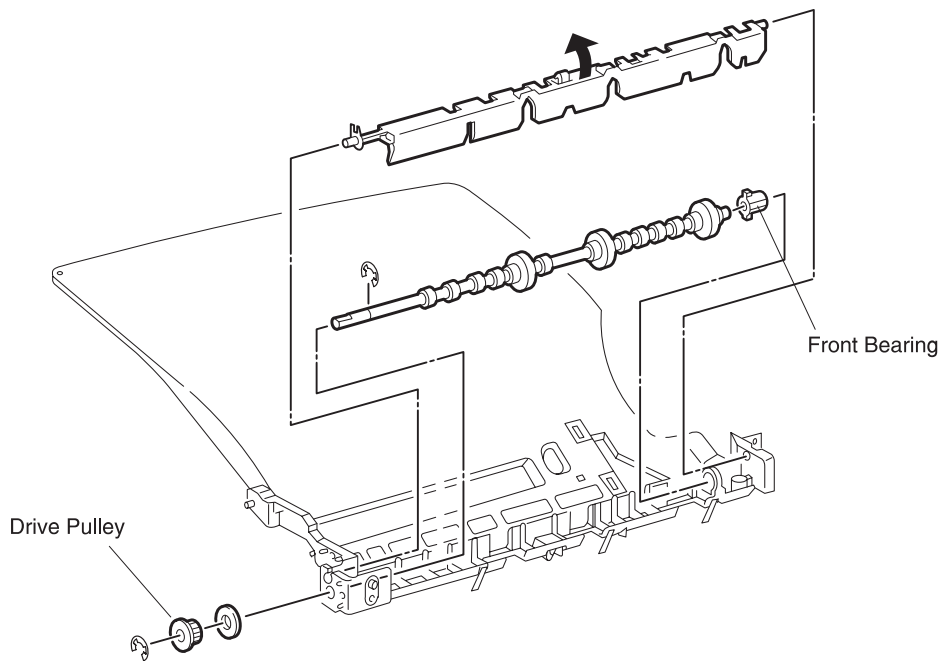
Removal

1. Remove the Paper Stopper.
2. Remove the Mailbox Top Cover Assembly.
3. Remove BIN Tray 10.
4. Disconnect P/J 803 (Solenoid 9) from the Mailbox PWB.
5. Loosen, do not remove, the screw securing Solenoid 9 to the Mailbox frame.
6. Release the Solenoid plunger from the end of Gate 9, and remove Solenoid 9.
7. Remove BIN Tray 9.
8. Disconnect P/J 804 (Solenoid 8) from the Mailbox PWB.
9. Loosen, do not remove, the screw securing Solenoid 8 to the Mailbox frame.
10. Release the Solenoid plunger from the end of Gate 8, and remove Solenoid 8.
11. Repeat steps 7 through 10 to access and remove the other Gate Solenoids.

Replacement

1. Reinstall the lowest Solenoid number first (1 - 9) onto the Mailbox frame, making sure you line up the positioning holes in the Solenoid bracket with the positioning tabs on the frame.
2. Insert the Solenoid plunger into the end of the Gate (see the insert in figure).
3. Tighten the screw to secure the Solenoid to the frame.
4. Reconnect the Solenoid P/J to the Mailbox Control PWB.
5. Reinstall the BIN Tray you removed in order to reach the specific Solenoid.
6. Repeat steps 1 through 5 to reinstall the remaining Solenoid(s) and BIN Tray(s).
7. Reinstall the Mailbox Top Cover Assembly.
8. Reinstall the Paper Stopper.

Mailbox Exit Roll and Bin Gate



Note: This procedure covers the removal and replacement of a BIN 1 Gate and Exit Roll. Start with BIN 10 and move sequentially to BIN 1. Remove Exit Rolls 9 through 1 by repeating the steps in this procedure for each Roll in the Mailbox.

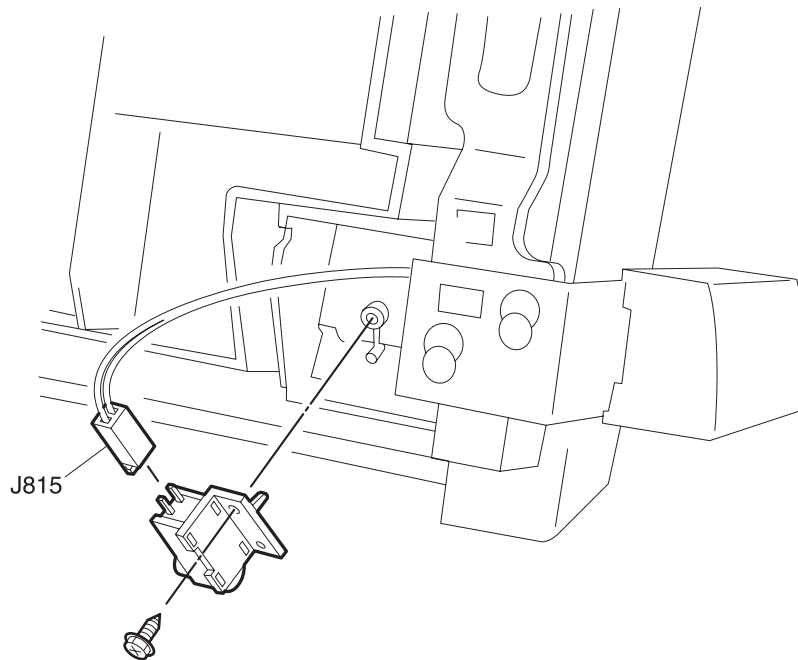
Removal

1. Remove the Actuator Cover Assembly.
2. Remove the Bin Tray Assembly of the Exit Roll you want to remove.
3. Rotate the Gate 90° and remove it from the Bin Tray Assembly.
4. Remove the two E-rings from the Pulley end of the Mailbox Exit Roll.
5. Slide the Drive Pulley and Collar off of the Roll.
6. Slide the Roll out of the holes in the Bin Tray, and remove the Roll.

Replacement

1. Slide the Front Bearing onto the Roll.
2. Align the Mailbox Exit Roll so the keyed end of the Roll is positioned on the drive side of the Bin Tray.
3. Slide the ends of the Exit Roll into the holes in the Tray.
4. Rotate the Rear Bearing until it slides into the hole in the Tray.
5. Use an E-ring, behind the Rear Bearing, to secure the Roll to the Tray.
6. Slide the Collar and Drive Pulley onto the end of the Roll.
7. Use an E-ring to secure the Pulley to the Roll.
8. Reinstall the Gate onto the Bin Tray Assembly.
9. Reinstall the Bin Tray Assembly.
10. Reinstall the Actuator Cover Assembly.

Mailbox Entrance Sensor



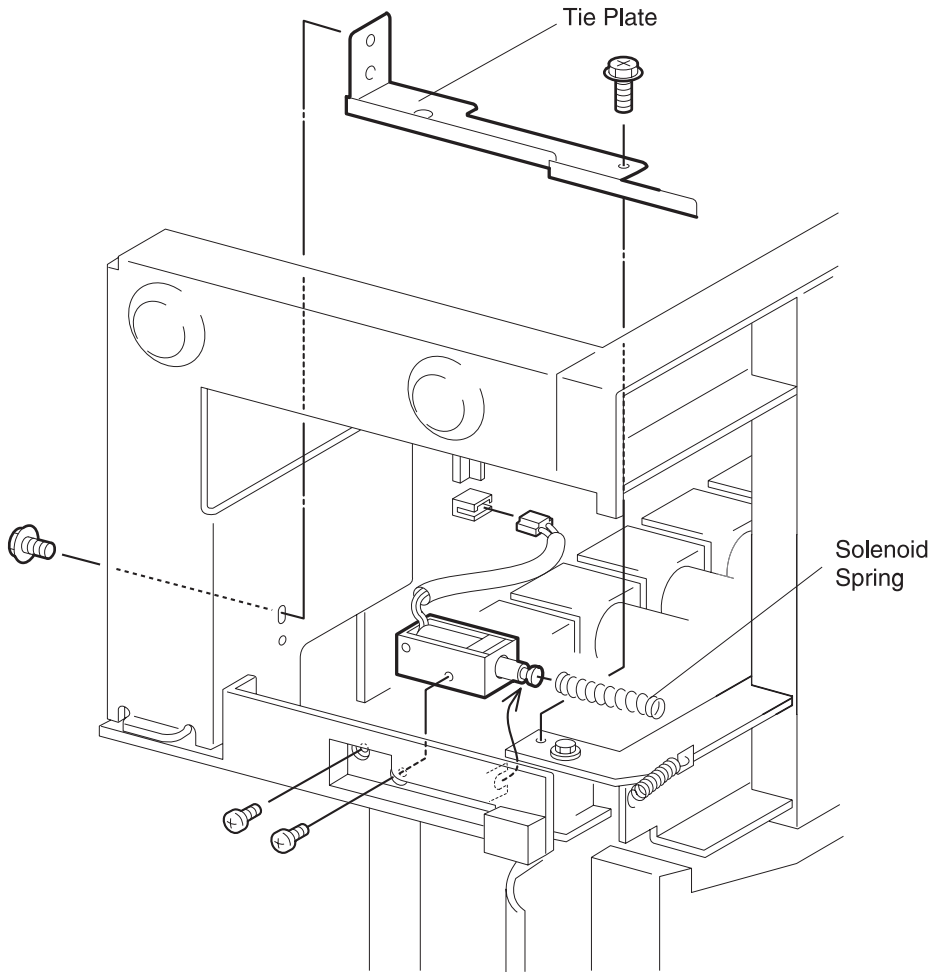
Removal

1. Open the Left Cover Assembly.
2. Remove the screw securing the Mailbox Entrance Sensor to the Mailbox frame, and remove the Sensor.
3. Disconnect the P/J from the Mailbox Entrance Sensor.

Replacement

1. Reconnect the Mailbox Entrance Sensor P/J.
2. Reinstall the Mailbox Entrance Sensor, and use one screw to secure it to the Mailbox frame. Make sure you insert the Sensor actuator through the rectangular slot.
3. Close the Left Cover Assembly.

IN Gate Solenoid



4025 Options

Removal

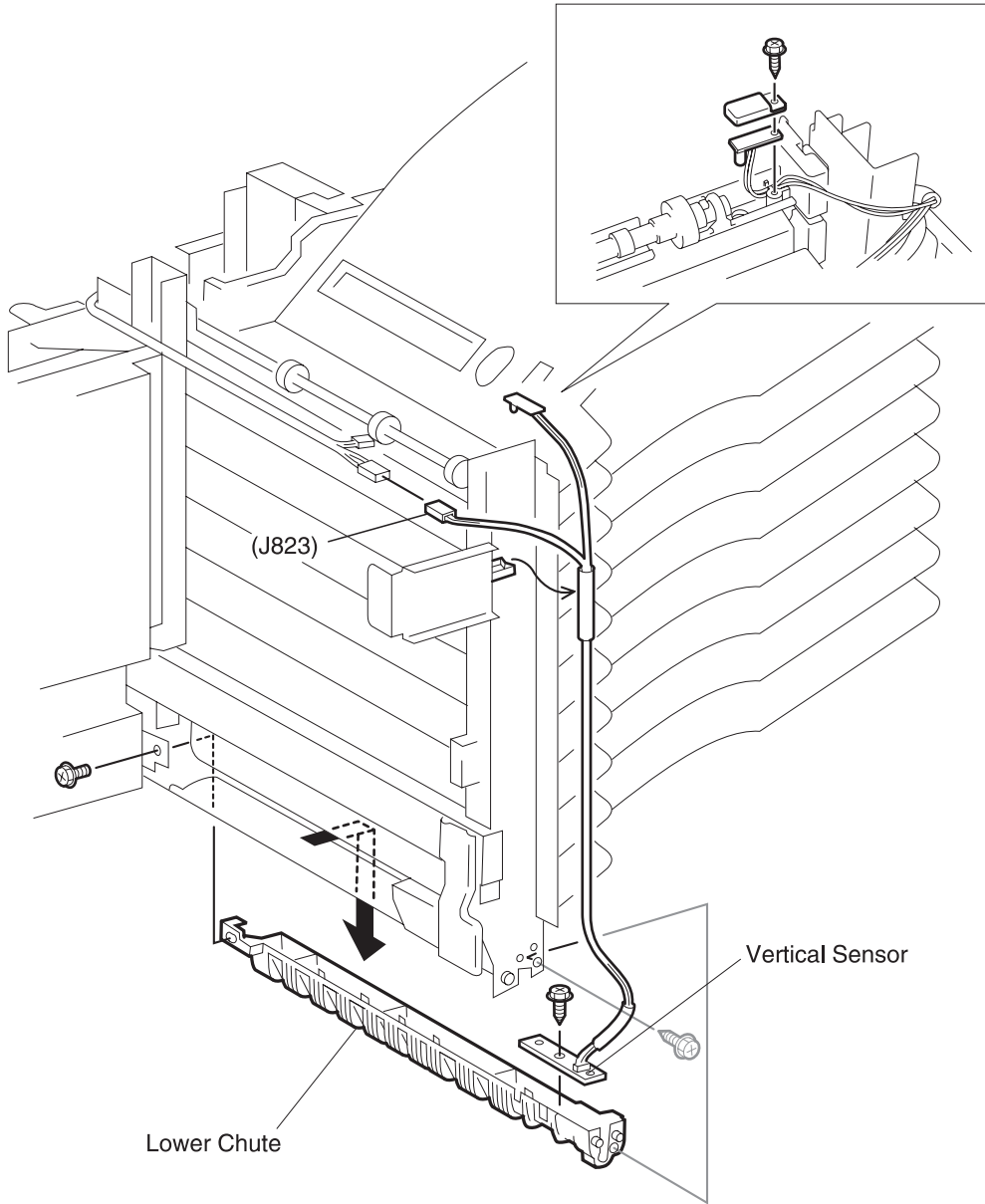
1. Remove the Mailbox Rear Cover.
2. Lift the Mailbox off of the printer and set it down on the Front Cover.
3. Disconnect P/J 812 (In Solenoid) from the Mailbox Control PWB.
4. Remove the two screws securing the Tie Plate to the frame, and remove the Tie Plate.
5. Remove the two small brass screws securing the IN Gate Solenoid to the Rear Lower Cover.
6. Slide the Solenoid plunger out of the IN Gate Link and remove the IN Gate Solenoid from the Mailbox frame.

Note: Do not lose the IN Gate Solenoid Spring or the two small brass screws.

Replacement

1. Reinstall the IN Gate Solenoid Spring onto the Solenoid plunger.
2. Slide the end of the Solenoid plunger into the slot in the IN Gate Link.
3. Reinstall the Solenoid and attached IN Gate Link onto the frame, making sure the tab on the Link fits into the slot in the frame.
4. Use two small brass screws to secure the Solenoid to the frame.
5. Reinstall the Tie Plate to the frame, and use two screws to secure the Tie Plate.
6. Reconnect P/J 812 to the Mailbox Control PWB.
7. Reinstall the Mailbox onto the printer.
8. Reinstall the Mailbox Rear Cover.

Vertical LED/Sensor



4025 Options

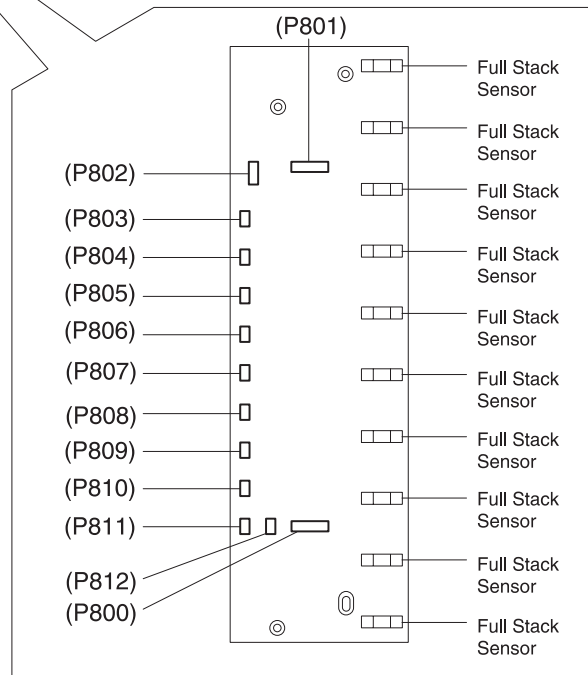
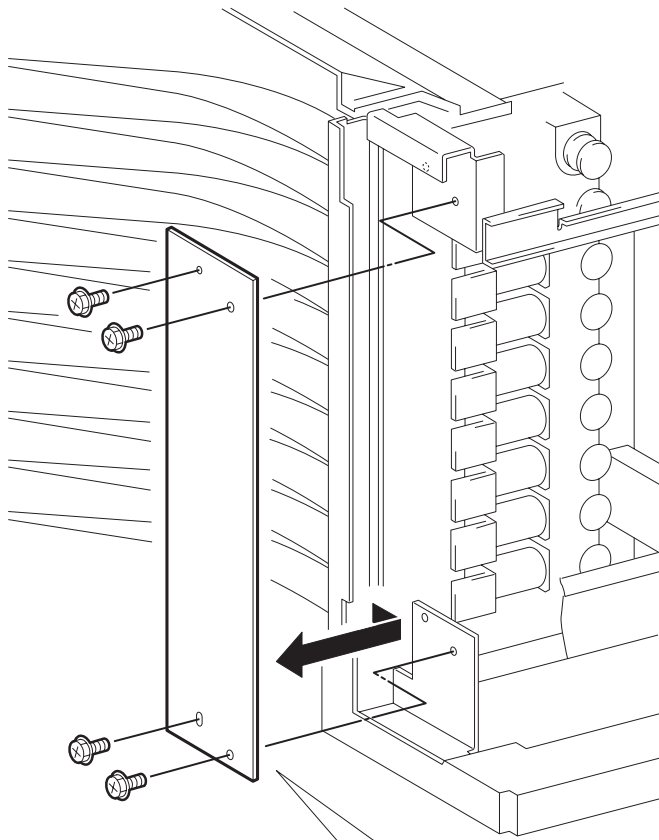
Removal

1. Remove the Actuator Cover Assembly.
2. Disconnect P/J 823.
3. Remove the screw securing the LED Cover and LED to the Bin 10 Tray Assembly, and remove the LED Cover and LED (inset in illustration).
4. Remove the Lower Chute.
5. Remove the screw securing the Vertical Sensor to the Lower Chute and remove the Sensor, the wire harness, and the LED.

Replacement

1. Reinstall the Vertical Sensor to the Lower Chute, and use one screw to secure it to the Chute.
2. Reinstall the Lower Chute.
3. Reroute the wire harness up the front of the Mailbox frame.
4. Reinstall the LED Cover and LED to the Bin 10 Tray Assembly, and use one screw to secure it to the Assembly.
5. Reconnect P/J 823.
6. Reinstall the Actuator Cover Assembly.

Mailbox Control PWB



4025 Options

Removal

1. Remove Mailbox Left Cover Assembly.
2. Remove the Mailbox Rear Cover.
3. Disconnect the thirteen P/J's from the Mailbox Control PWB.
4. Remove the four screws securing the Mailbox Control PWB to the Mailbox frame, and remove the PWB.

WARNING: Wear a grounded, electrostatic wrist strap and use caution when working with the Mailbox Control PWB. Static electricity can damage the sensitive electronics of the PWB. Handle the PWB by the edges. Never touch any of the ICs that are mounted on the PWB.

Replacement

1. Reinstall the Mailbox Control PWB to the Mailbox frame, and use four screws to secure it to the frame.
2. Make sure all of the Full Stack Actuators move freely between the arms of the Full Stack Sensors.
3. Reconnect the thirteen P/J's (P/J 800 ~ P/J 812) to the Mailbox Control PWB.
4. Reinstall the Mailbox Rear Cover.
5. Reinstall the Mailbox Left Cover Assembly.

Mailbox Drive Motor

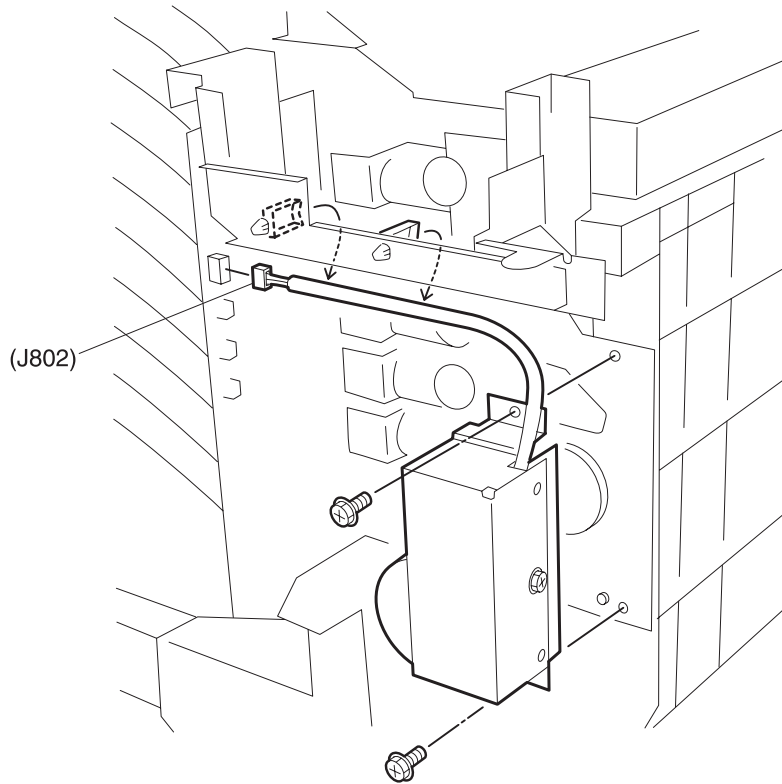


Figure 1

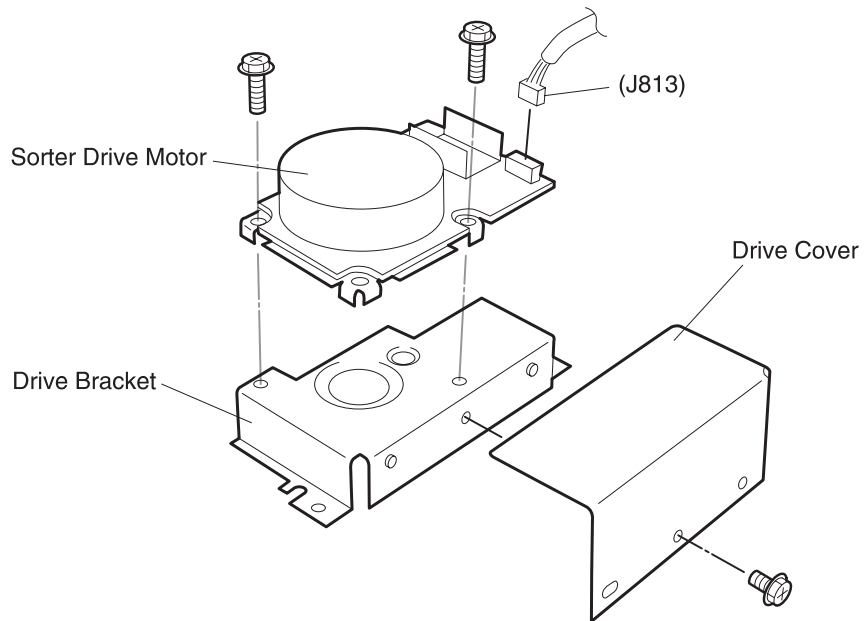


Figure 2

4025 Options

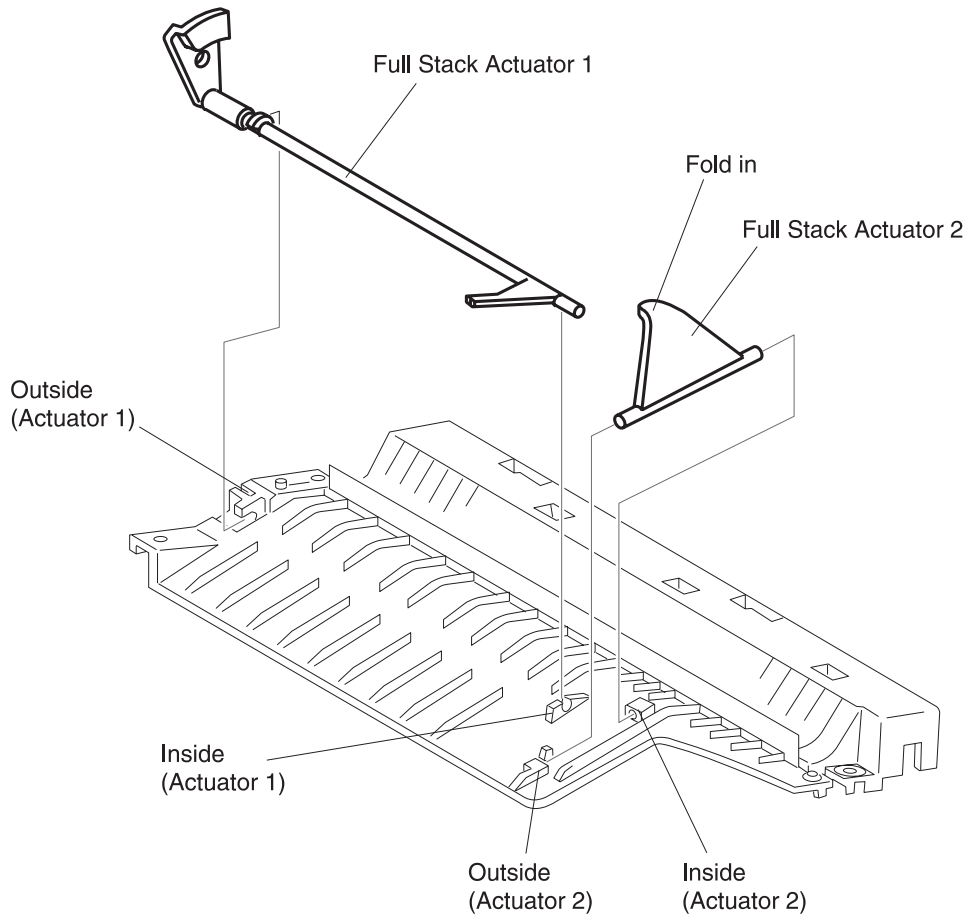
Removal

1. Remove Mailbox Left Cover Assembly.
2. Remove the Mailbox Rear Cover.
3. Disconnect P/J 802 (Drive Motor) from the Mailbox Control PWB.
4. Remove the two screws securing the Mailbox Drive Motor Assembly to the frame, and remove the Motor Assembly (Figure 1).
5. Remove the screw securing the Mailbox Drive Cover to the Mailbox Drive Bracket, and remove the Cover (Figure 2).
6. Disconnect P/J 813 from the Drive Motor PWB.
7. Remove the two screws securing the Mailbox Drive Motor to the Mailbox Drive Bracket, and remove the Motor (Figure 2).

Replacement

1. Reinstall the Mailbox Drive Motor to the Mailbox Drive Bracket, and use two screws to secure the Motor to the Bracket (Figure 2).
2. Reconnect P/J 813 to the Drive Motor PWB.
3. Reinstall the Mailbox Drive Cover to the Mailbox Drive Bracket, and use one screw to secure the Cover to the Bracket.
4. Reinstall the Mailbox Drive Motor Assembly to the frame, and use two screws to secure the Assembly to the frame (Figure 1).
5. Reconnect P/J 802 to the Mailbox Control PWB.
6. Reinstall the Mailbox Rear Cover.
7. Reinstall the Mailbox Left Cover Assembly.

Full Stack Actuator



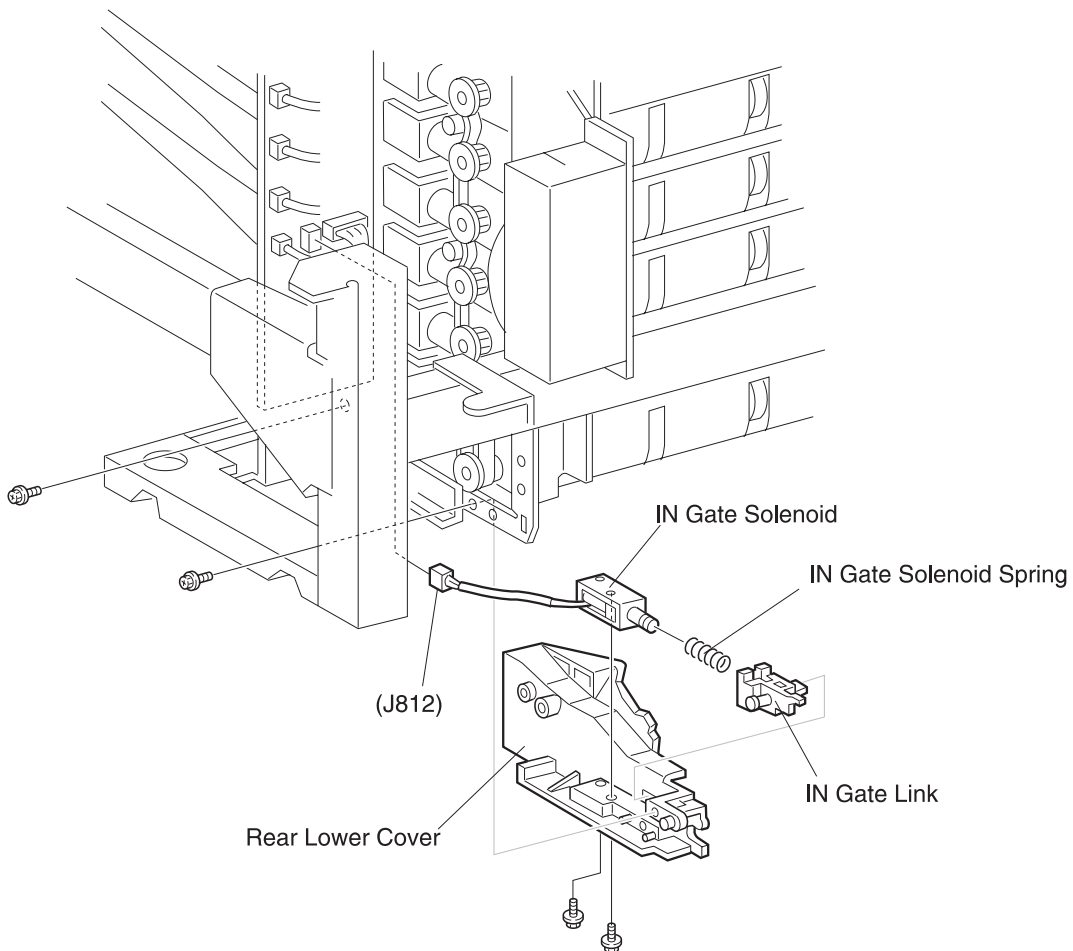
Removal

1. Remove the Actuator Cover Assembly.
2. Turn the Actuator Cover upside down.
3. Hold the center of Full Stack Actuator 2 between your fingers and bow the Actuator just enough to free one end of it from the Actuator Cover, and remove the Actuator.
4. Pull the outside end of Full Stack Actuator 1 free of the Actuator Cover, and remove the Actuator.

Replacement

1. Position Full Stack Actuator 1 as shown.
2. Reinstall Full Stack Actuator 1 by first sliding the inside end of the Actuator into the inside slot in the Actuator Cover, and then pressing the outside end of the Actuator into the slot near the edge of the Cover.
3. Position Full Stack Actuator 2 as shown.
4. Reinstall Full Stack Actuator 2 by first sliding the inside end of the Actuator into the inside slot in the Actuator Cover, and then pressing the outside end of the Actuator into the slot near the edge of the Cover.
5. Reinstall the Actuator Cover Assembly.

Rear Lower Cover



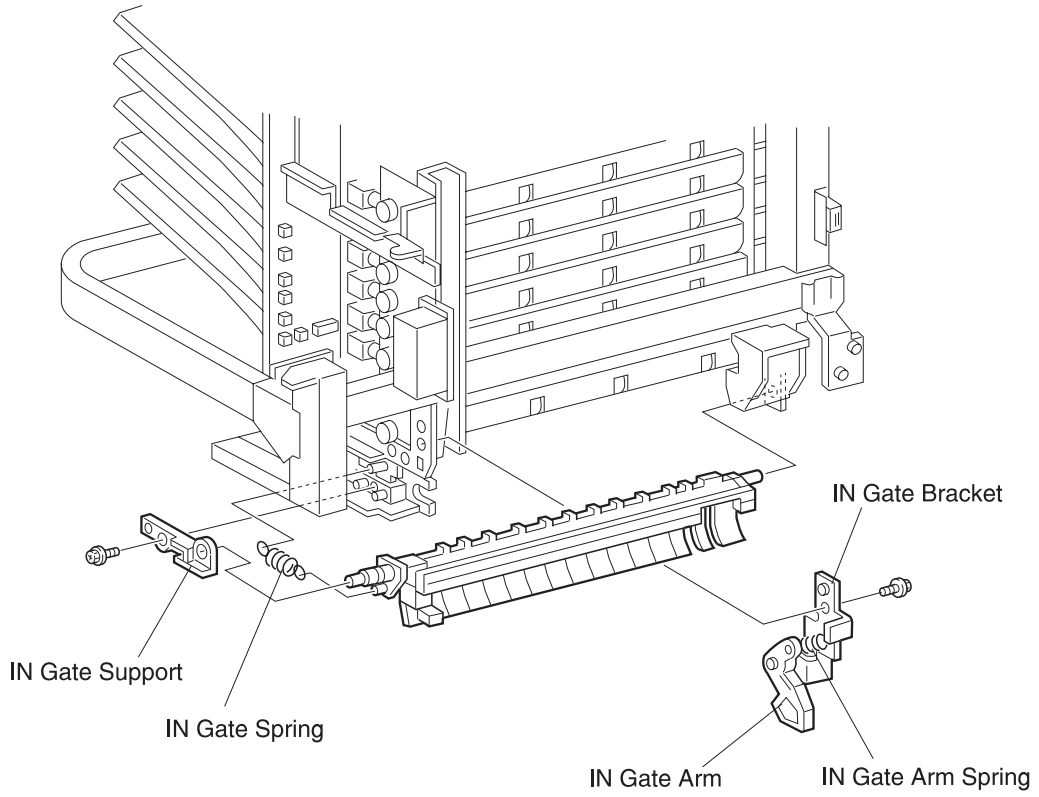
Removal

1. Remove the IN Gate.
2. Disconnect P/J 812 (IN Gate Solenoid) from the Mailbox Control PWB.
3. Remove the two screws securing the Rear Lower Cover to the Mailbox frame, and remove the Rear Lower Cover, along with the attached IN Gate Solenoid.
4. Remove the two brass screws securing the IN Gate Solenoid to the Rear Lower Cover, and remove the Solenoid along with the Solenoid Spring and Link.

Replacement

1. Reinstall the IN Gate Link onto the Rear Lower Cover.
2. Reinstall the Solenoid Spring onto the IN Gate Solenoid.
3. Use two brass screws to secure the IN Gate Solenoid to the Rear Lower Cover, making sure the Solenoid plunger hooks into the slot in the Link.
4. Reinstall the Rear Lower cover onto the Mailbox frame.
5. Use two screws to secure the Cover to the frame.
6. Reconnect P/J 812 (IN Gate Solenoid) to the Mailbox Control PWB.
7. Reinstall the IN Gate.

IN Gate



4025 Options

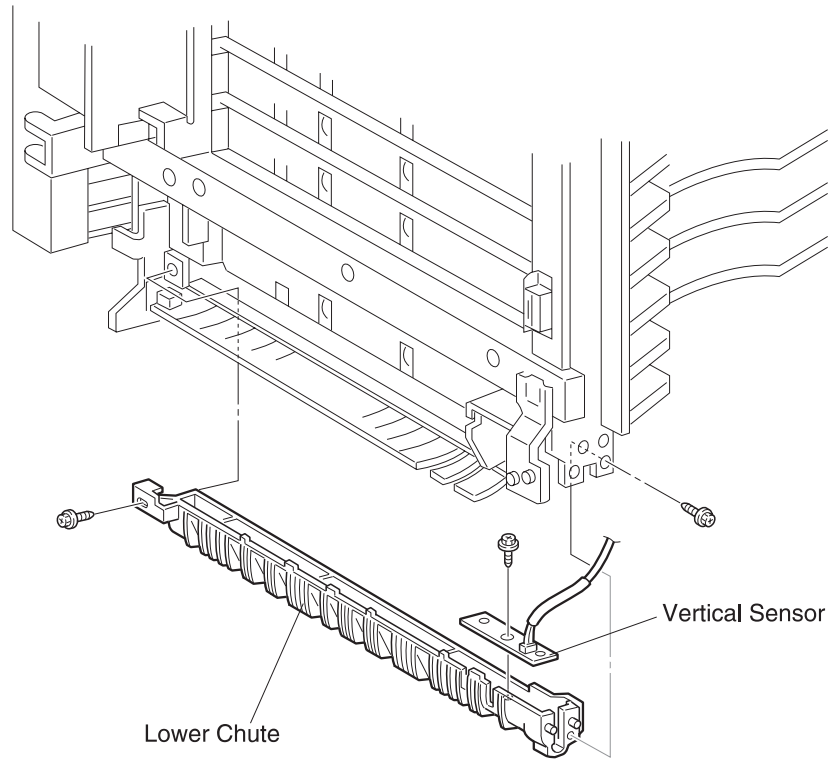
Removal

1. Remove the Lower Chute.
2. Remove the Mailbox Rear Cover Assembly.
3. Lift the Mailbox off of the printer and set it down on the front frame.
4. Remove the screw securing the Gate IN Arm Bracket to the Mailbox frame, and remove the Bracket along with the attached IN Gate Arm and Arm Spring.
5. Unhook the IN Gate Spring from the IN Gate.
6. Remove the screw securing the IN Gate Support to the frame, and remove the Support.
7. Remove the IN Gate.

Replacement

1. Reinstall the IN Gate.
2. Reinstall the IN Gate Support onto the frame, making sure you slide the hole at the end of the Support through the arm of the IN Gate.
3. Use one screw to secure the IN Gate Support to the frame.
4. Hook the IN Gate Spring onto the tab on the end of the IN Gate.
5. Move the IN Gate back and forth to make sure it moves freely and has a spring-action return.
6. Reinstall the Gate IN Arm Bracket, along with the attached IN Gate Arm and Arm Spring.
7. Make sure the small tab on the Arm is behind, not in front of, the IN Gate tab.
8. Use one screw to secure the Bracket to the frame.
9. Reinstall the Mailbox onto the printer.
10. Reinstall the Mailbox Rear Cover.
11. Reinstall the Lower Chute.

Lower Chute



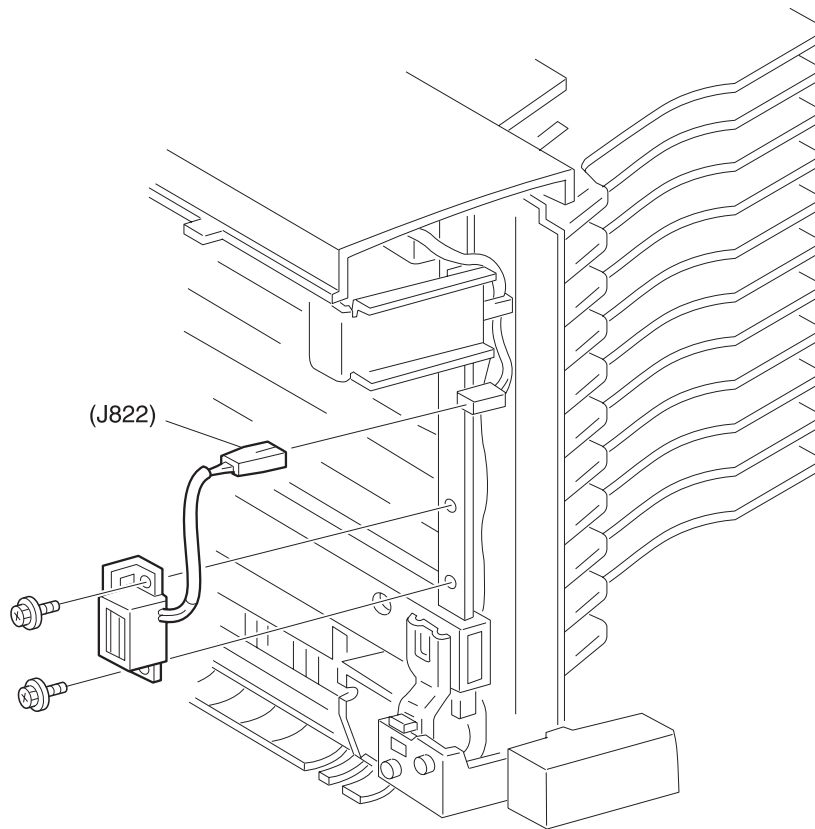
Removal

1. Remove the Mailbox Left Cover Assembly.
2. Remove the Mailbox Front Cover.
3. Remove the two screws securing the Lower Chute to the Mailbox frame.
4. Push the Lower Chute out through the front of the Mailbox.
5. Remove the screw securing the Vertical Sensor PWB to the Lower Chute and remove the PWB.
6. Remove the Lower Chute.

Replacement

1. Reinstall the Vertical Sensor PWB to the Lower Chute, and use one screw to secure the PWB.
2. Reinstall the Lower Chute by sliding it into position from the front of the Mailbox.
3. Reroute the Vertical Sensor wire harness through the slot in the side of the Mailbox frame.
4. Align the two positioning holes in the end of the Chute with the two positioning tabs on the frame.
5. Make sure the Chute is not caught on nor interferes with the IN Gate.
6. Use two screws to secure the Chute to the frame.
7. Reinstall the Mailbox Front Cover.
8. Reinstall the Mailbox Left Cover Assembly.

Mailbox Interlock Switch



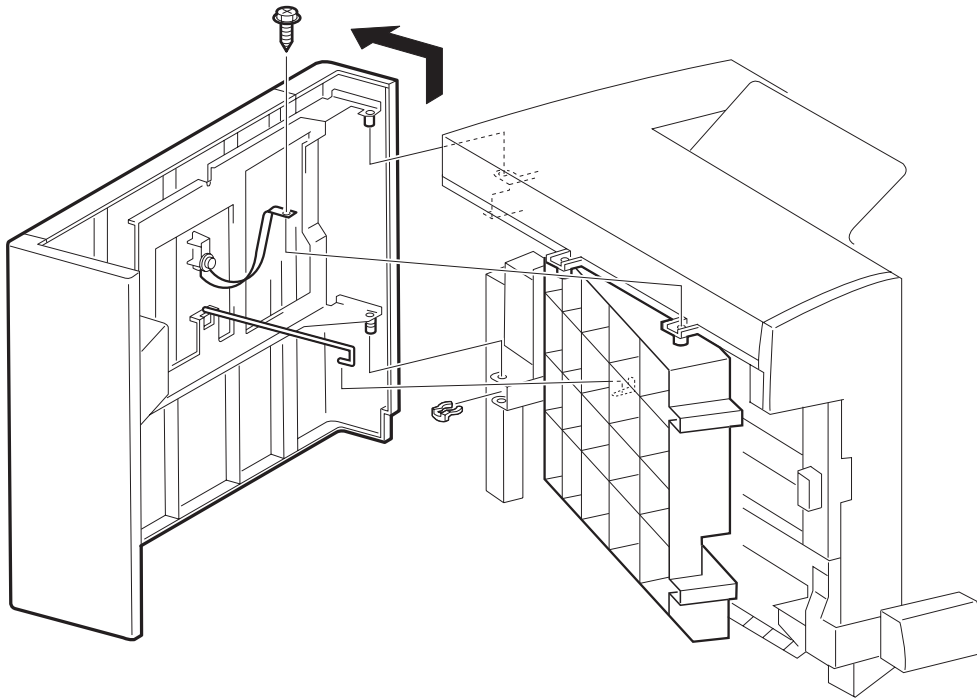
Removal

1. Remove the Mailbox Front Cover.
2. Open the Left Cover.
3. Disconnect P/J 822.
4. Remove the two screws securing the Mailbox Interlock Switch to the Mailbox frame, and remove the Switch.

Replacement

1. Position the Mailbox Interlock Switch as shown, and reinstall the Switch onto the Mailbox frame.
2. Use two screws to secure the Switch to the frame.
3. Reconnect P/J 822.
4. Reinstall the Mailbox Front Cover.

Transport Guide Assembly



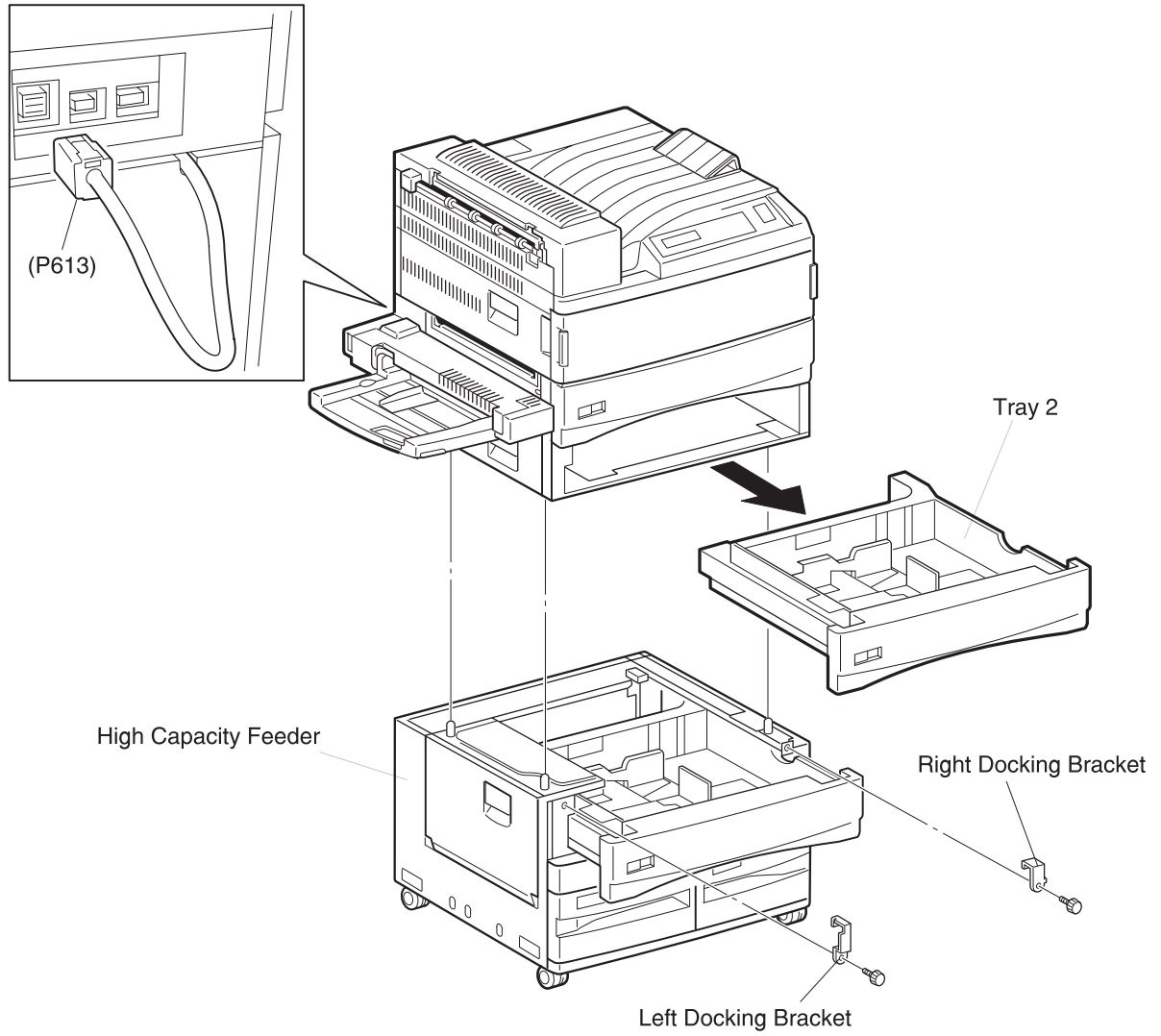
Removal

1. Remove the screw securing the left cover strap to the mailbox top cover
2. Lift the transport guide assembly up and away from the two hinges.
3. Rotate the transport guide assembly enough to unhook the KL clip.

Replacement

1. Rotate the transport guide assembly to hook the KL clip to the transport assembly.
2. Insert the transport guide assembly into the two hinges.
3. Reconnect the left cover strap to the mailbox top cover.

High Capacity Feeder



4025 Options

Removal

1. Lock the two front HCF casters.
2. Disconnect the HCF interface cable from P613 located at the rear of the base printer.
3. Remove Tray 2 from the base printer.
4. Open Tray 3 and remove the two screws securing the Left and Right Docking Brackets to the HCF frame, and remove the Brackets.

CAUTION: The following step requires the printer to be lifted. The printer is very heavy and requires two people to lift it. Do not attempt to lift the printer by yourself.

5. Lift the printer off of the HCF.
6. Set the printer on a level and stable surface.

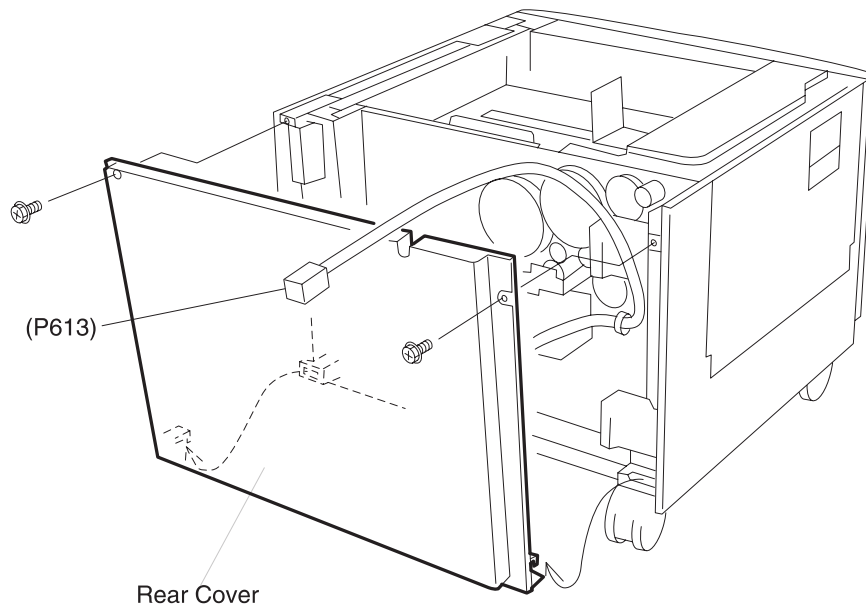
Replacement

1. Position the HCF and lock the two front casters.
2. Remove Tray 2 from the base printer.

CAUTION: The following step requires the printer to be lifted. The printer is very heavy and requires two people to lift it. Do not attempt to lift the printer by yourself.

3. Lift the printer and position it a few inches above the base printer.
4. Align the three positioning holes in the bottom of the base printer with the three metal position rods in the top of the HCF.
5. Slowly lower the printer onto the HCF.
6. Open Tray 3.
7. Reinstall the Left Docking Bracket between the HCF and the printer (as shown in the figure).
8. Use one screw to secure the Left Docking Bracket.
9. Reinstall the Right Docking Bracket between the HCF and the printer (as shown in the figure).
10. Use one screw to secure the Right Docking Bracket.
11. Close Tray 3.
12. Reinstall Tray 2.
13. Reconnect the HCF interface cable to P613 located at the rear of the base printer.

HCF Rear Cover



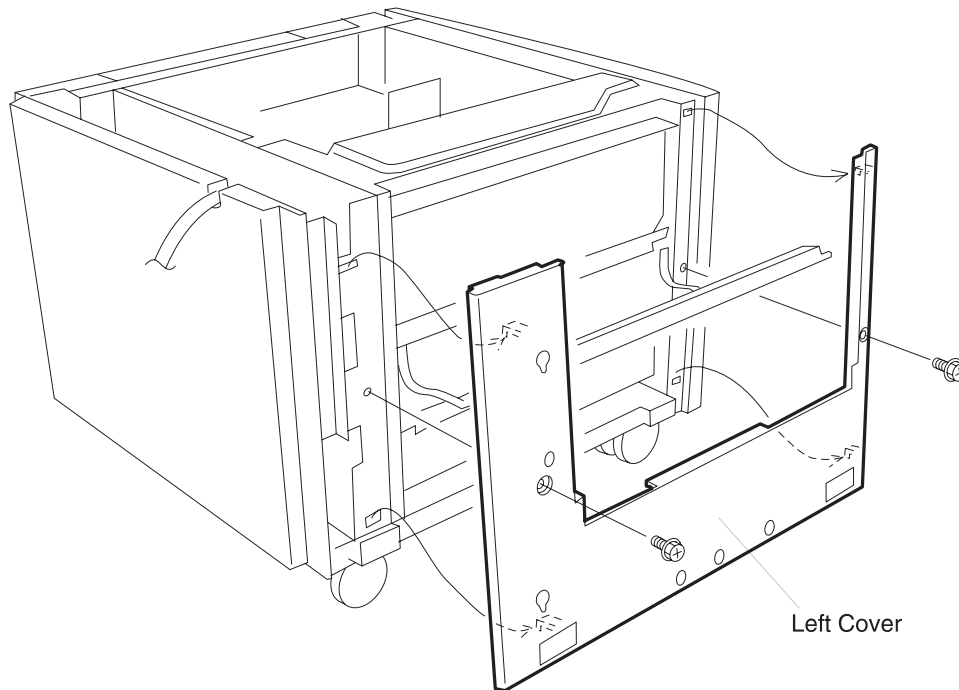
Removal

1. Remove the two screws securing the Rear Cover to the HCF frame.
2. Pull up on the Rear cover and remove it from the frame.

Replacement

1. Slip the two tabs that are located at the bottom of the Rear Cover into the openings at the bottom of the HCF frame.
2. Slide the edges the Rear Cover into the grooves in the Left and Right Covers.
3. Use two screws to secure the Rear Cover to the HCF frame.

HCF Left Cover



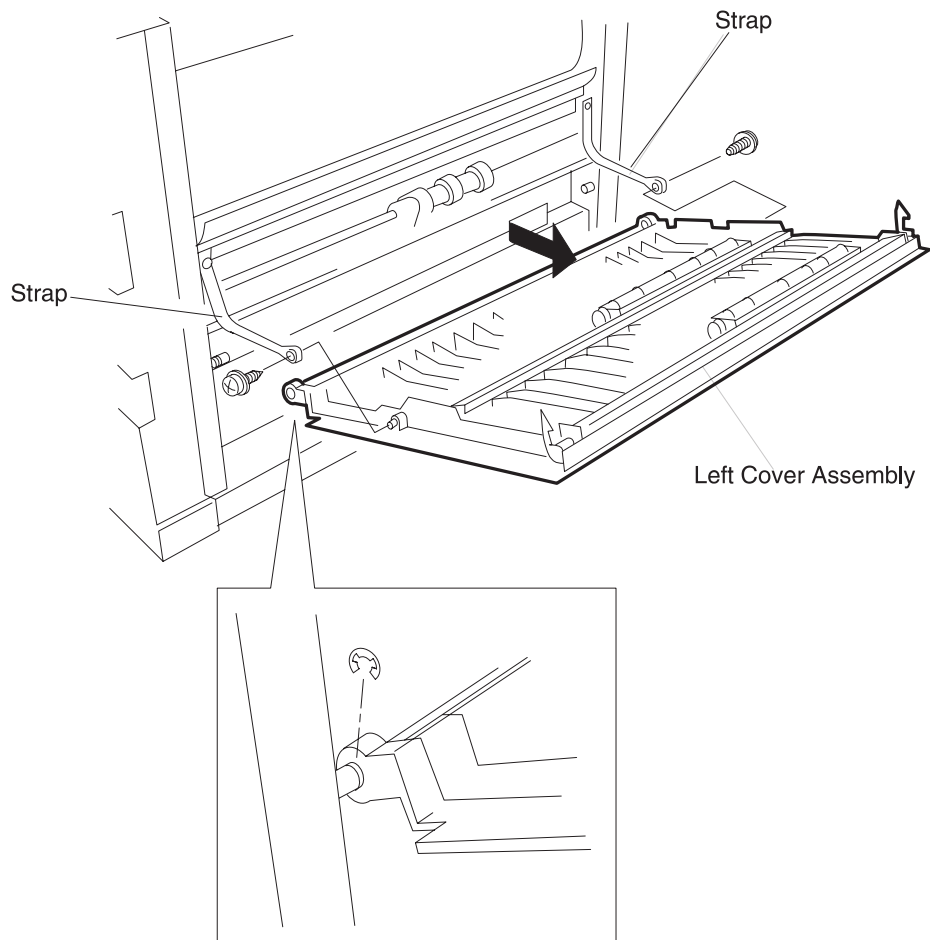
Removal

1. Slide Trays 3 and 4 a few inches out of the HCF.
2. Open the Left Cover door.
3. Remove two screws securing the Left Cover to the HCF frame.
4. Lift up the Left Cover to free the four latching tabs from the HCF frame, and remove the Cover.

Replacement

1. Slide Trays 3, 4, and 5 a few inches out of the HCF.
2. Open the Left Cover door.
3. Align the Left Cover so the four latching tabs on the back of the Cover are opposite the four openings in the HCF Frame.
4. Press the Cover into the frame, and then push down on the Cover to lock the tabs in place.
5. Use two screws to secure the Left Cover to the HCF frame.

Left Cover Assembly



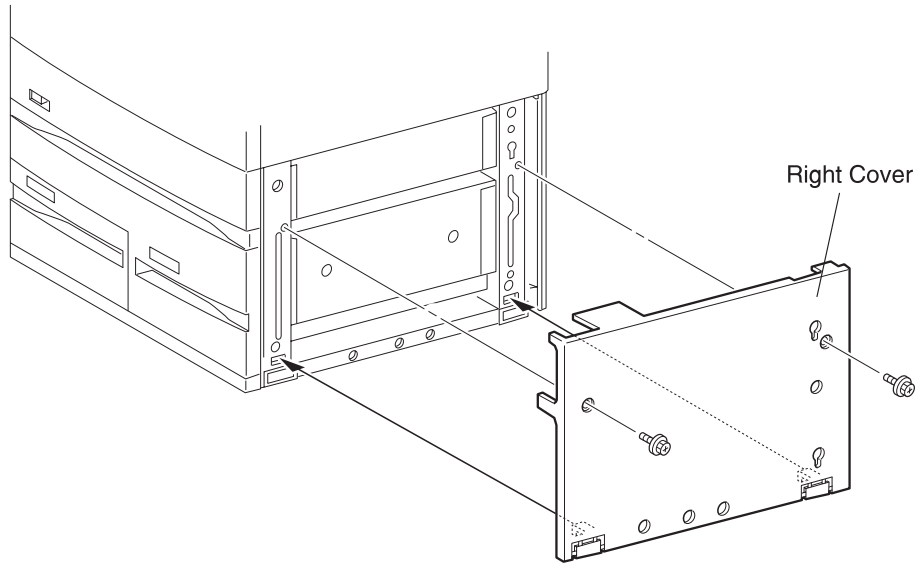
Removal

1. Remove the HCF Left Cover.
2. Open the Left Cover Assembly.
3. Remove the two screws securing the Left Cover Assembly to the Left Cover.
4. Remove the ends of the two Straps from the Left Cover Assembly.
5. Remove the E-ring from the rear of the Cover Assembly shaft.
6. Slide the Left Cover Assembly to the rear until the front of the Assembly clears the front shaft, and remove the Assembly.

Replacement

1. Slide the front of the Assembly onto the front shaft.
2. Slide the rear of the Assembly onto the rear shaft.
3. Use one E-ring to secure the rear of the Assembly to the rear shaft.
4. Reinstall the ends of the two Straps to the Left Cover Assembly.
5. Use two screws to secure the Straps to the Assembly.
6. Reinstall the HCF Left Cover.

Right Cover



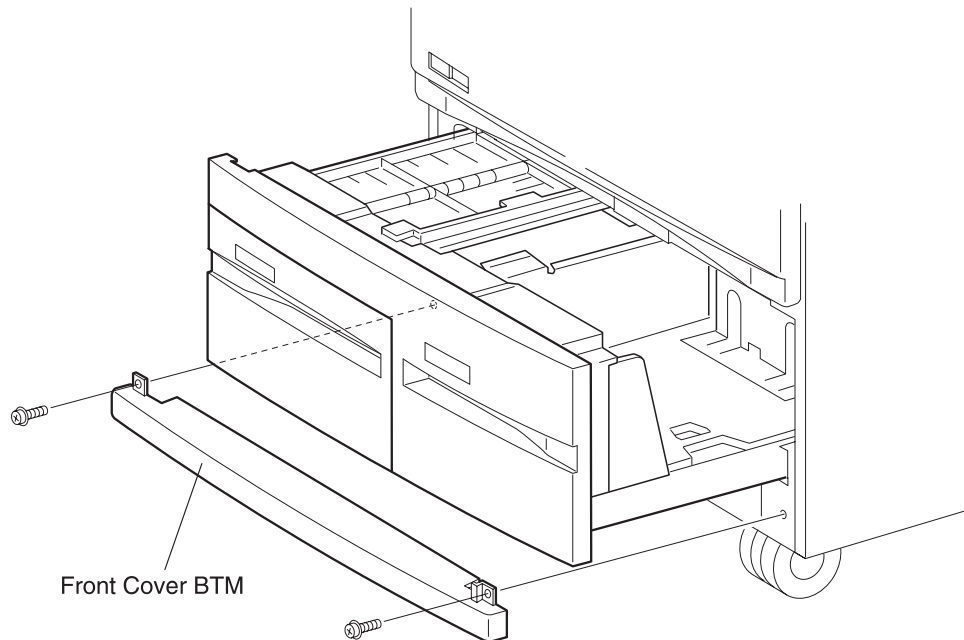
Removal

1. Remove the two screws securing the Right Cover to the HCF frame.
2. Lift up the Right Cover to free the two latching tabs from the HCF frame, and remove the Cover.

Replacement

1. Hook the two latching tabs that are located at the bottom edge of the Right Cover into the openings at the bottom of the HCF frame.
2. Press the Right Cover against the frame.
3. Use two screws to secure the Right Cover to the HCF.

Front Cover BTM



Removal

1. Slide Trays 4 and 5 out of the HCF far enough so you can access the two screws securing the Front Cover BTM to the HCF frame.
2. Remove the two screws securing the Front Cover BTM to the HCF frame, and remove the Cover.

Replacement

1. Slide Trays 4 and 5 out of the HCF far enough so you can access the two screw holes located on both ends of the Front Cover BTM.
2. Reinstall the Front Cover BTM onto the HCF frame.
3. Use two screws to secure the Cover to the frame.
4. Close Trays 4 and 5.

HCF Feed Motor

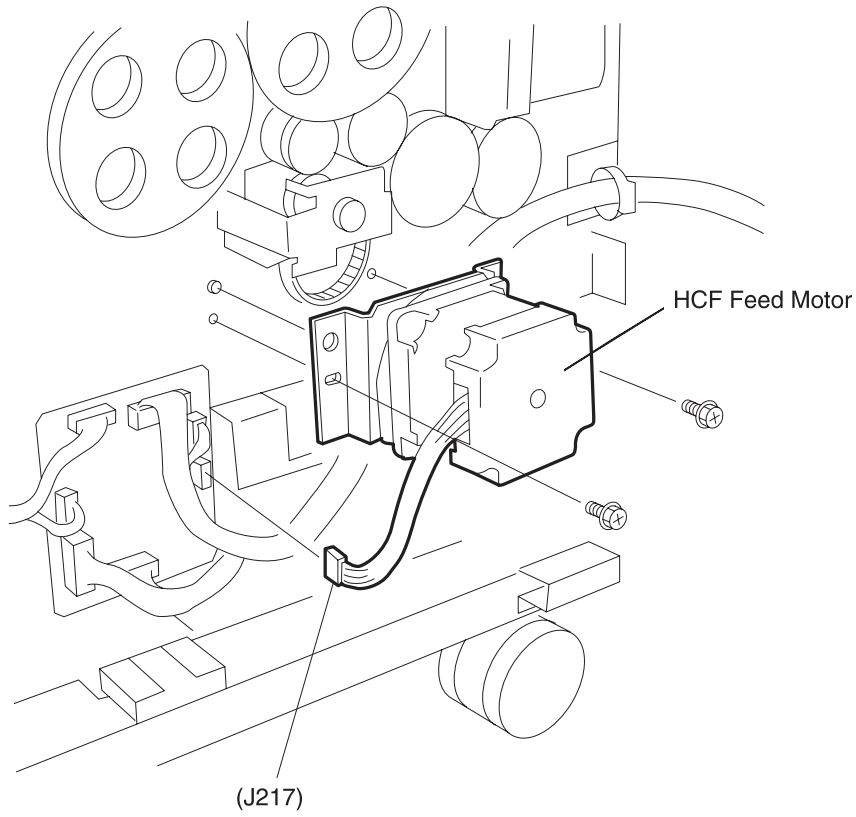


Figure 1

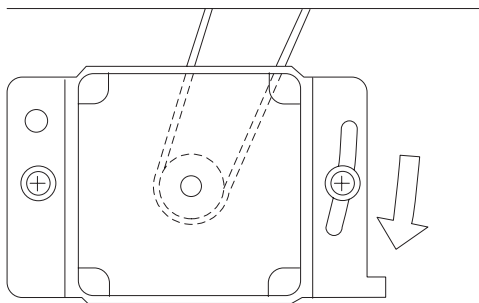


Figure 2

4025 Options

Removal

1. Remove the HCF Rear Cover.
2. Disconnect P/J217 from the HCF PWB.
3. Hold on to the rear of the Feed Motor while you remove the two screws securing the Motor Bracket to the frame (Figure 1).
4. Slide the Feed Motor out of the HCF Drive Belt and remove the Motor from the frame.

Replacement

1. Position the Feed Motor so the wire harness is on the left side of the Motor (Figure 1).
2. Reinstall the Motor and slip the Drive Belt over the Feed Motor Gear.
3. Align the Motor Bracket with the frame positioning tabs.
4. Use two screws to secure the Motor Bracket to the frame, but do not tighten fully.
5. Tighten the Drive Belt tension by pushing the Motor Bracket in the direction of the arrow (Figure 2) and fully tightening the two screws securing the Bracket to the frame.
6. Reconnect P/J217 to the HCF PWB.
7. Reinstall the Rear Cover.

HCF Drive Belt

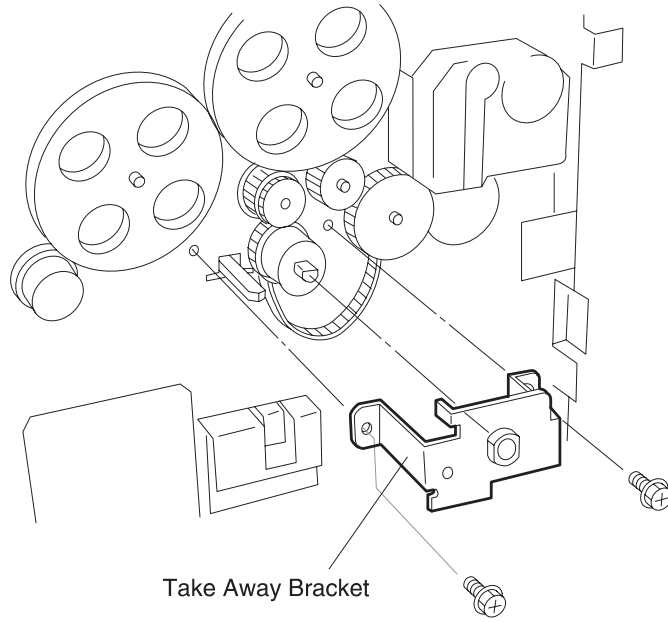


Figure 1

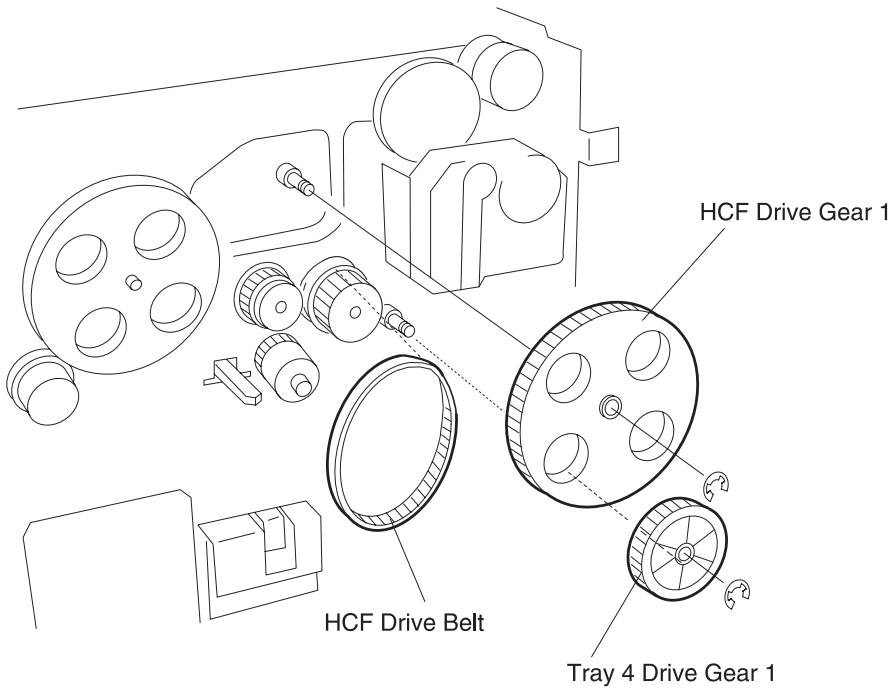


Figure 2

4025 Options

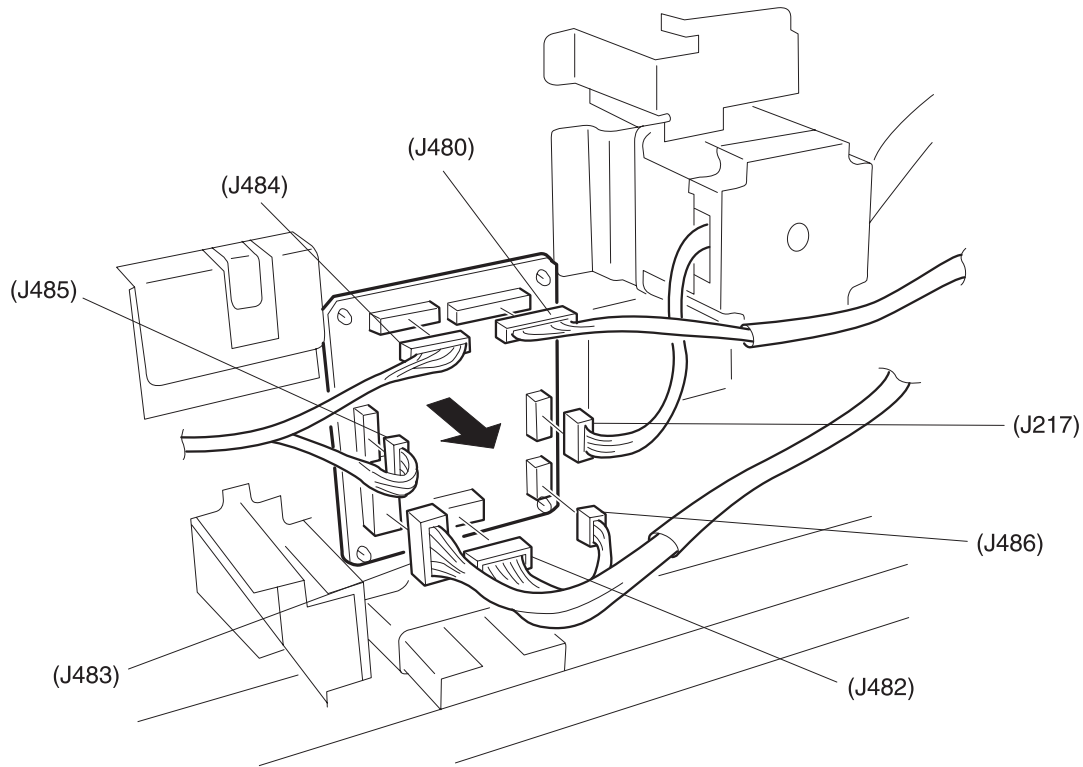
Removal

1. Remove the HCF Rear Cover.
2. Remove the HCF Feed Motor.
3. Remove two screws securing the Take Away Bracket to the frame and remove the Bracket (Figure 1).
4. Remove the E-ring securing HCF Drive Gear 1 and the E-ring securing Tray 4 Drive Gear 1 and slide both Gears off of the shafts (Figure 2).
5. Remove the Drive Belt from the HCF Drive Pulley.

Replacement

1. Reinstall the Drive Belt over the HCF Drive Pulley.
2. Reinstall the HCF Drive Gear 1 and the Tray 4 Drive Gear 1 onto the respective shafts, and use one E-ring to secure each gear (Figure 2).
3. Reinstall the Take Away Bracket to the frame, making sure the bearing is still in place on the end of the Feed Clutch, and use two screws to secure the Bracket (Figure 1).
4. Reinstall the HCF Feed Motor.
5. Reinstall the Rear Cover.

HCF PWB



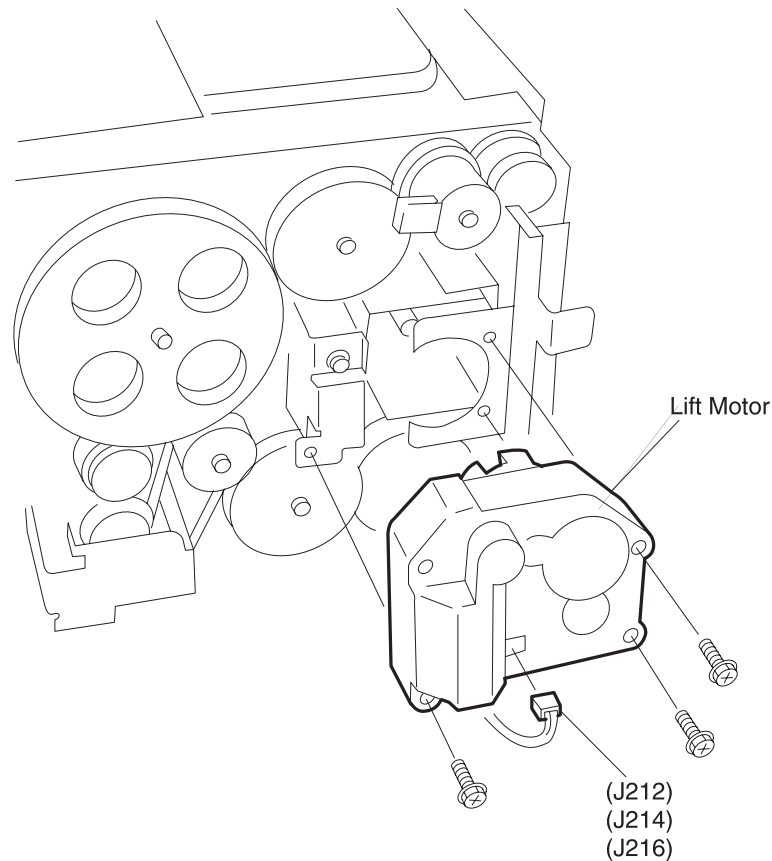
Removal

1. Remove the HCF Rear Cover.
2. Disconnect all seven P/Js from the HCF PWB.
3. Press in and release the latches on the four plastic standoffs securing the PWB to the HCF frame, and remove the PWB.

Replacement

1. Position the HCF PWB so P/Js 484 and 480 are at the top.
2. Reinstall the HCF PWB onto the HCF frame, and align the four holes in the PWB with the four standoffs on the frame.
3. Press the PWB onto the four standoffs until they latch into place.
4. Reconnect the seven P/Js to the HCF PWB.
5. Reinstall the HCF Rear Cover.

Lift Motor



Note: Use this procedure for removal of Tray 3, Tray 4, and Tray 5 Lift Motors.

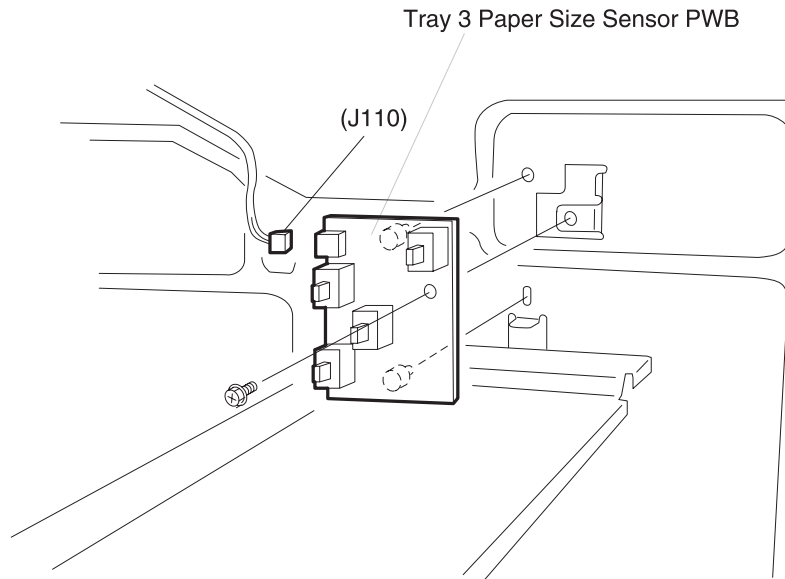
Removal

1. Remove the Paper Tray (3 ~ 5) from the Paper Feeder (3 ~ 5).
2. Remove the HCF Rear Cover.
3. Disconnect the P/J that is attached to the Lift Motor.
4. Remove the three long screws securing the Motor to the HCF frame.
5. Slide the Motor out to remove it.

Replacement

1. Remove the Paper Tray (3 ~ 5) from the Paper Feeder (3 ~ 5).
2. Remove the HCF Rear Cover.
3. Reinstall the Lift Motor onto the printer frame. Be careful not to trap any wires between the Motor and the frame.
4. Use three long screws to secure the Motor to the frame. Use one screw on the lower left and two screws on the right side of the Motor.
5. Reconnect the P/J to the rear of the Motor.
6. Reinstall the HCF Rear Cover.
7. Reinstall the Paper Tray.

Tray 3 Paper Size Sensor PWB



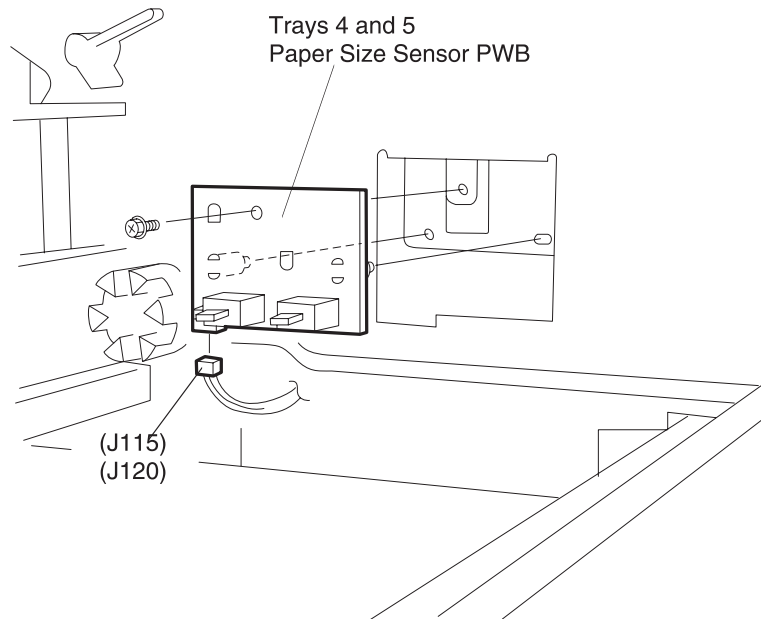
Removal

1. Slide Paper Tray 3 out of the HCF.
2. Disconnect the P/J 110 from the Size Sensor PWB.
3. Remove the screw securing the Tray 3 Paper Size Sensor PWB to the HCF frame and remove the Sensor.

Replacement

1. Slide Paper Tray 3 out of the HCF.
2. Reinstall the Tray 3 Paper Size Sensor PWB onto the HCF frame. Align the two positioning tabs on the PWB with two holes in the frame.
3. Use one screw to secure the PWB to the frame.
4. Reconnect the P/J 110 to the Size Sensor PWB.
5. Reinstall Paper Tray 3.

Tray 4 and Tray 5 Paper Size Sensor PWBs



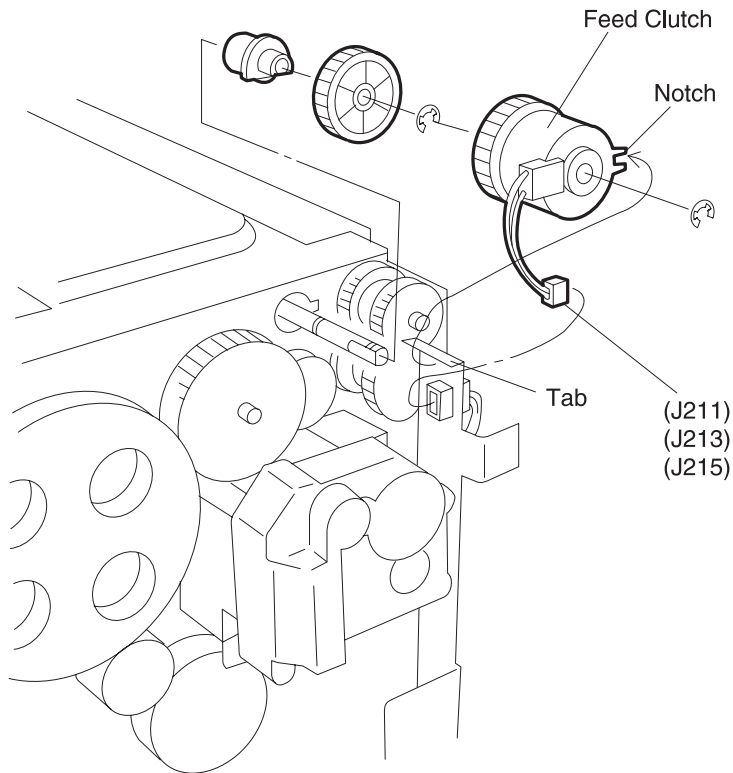
Removal

1. Remove Tray 4 and Paper Tray 5 from the HCF.
2. Disconnect the P/J from the Size Sensor PWB.
3. Remove the screw securing the Size Sensor PWB to the HCF frame, pull the PWB straight out and remove it from the frame.

Replacement

1. Remove Paper Tray 4 and Paper Tray 5.
2. Reinstall the Paper Size Sensor PWB onto the HCF frame. Align the positioning tabs and screw holes.
3. Reconnect the P/J to the Size Sensor PWB.
4. Use one screw to secure the PWB to the frame.
5. Reinstall Paper Tray 4 and Paper Tray 5.

Trays 3, 4, and 5 Feed Clutches



Note: Removal and replacement of the three Feed Clutches are almost identical.

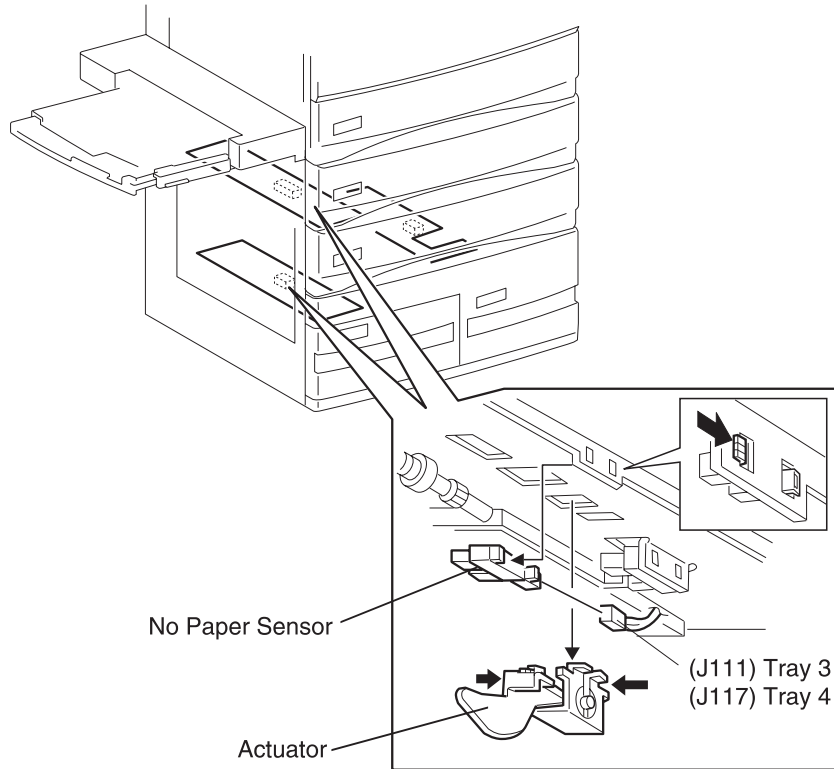
Removal

1. Remove the Rear Cover.
2. Remove the Paper Tray associated with the Feed Clutch you are going to remove.
3. Disconnect the P/J from the Feed Clutch.
4. Remove the E-ring securing the Feed Clutch to the Feed Shaft and slide the Clutch off of the Shaft.

Replacement

1. Position the Feed Clutch on the Feed Shaft so the notch on the Clutch lines up with the tab on the frame.
2. Slide the Feed Clutch onto the Feed Shaft and use an E-ring to secure Clutch to the Shaft.
3. Reconnect the Feed Clutch P/J.
4. Reinstall the Paper Tray.
5. Reinstall the HCF Rear Cover.

Trays 3, 4, and 5 No Paper Actuators



4025 Options

Note: Use this procedure for removing and replacing the No Paper Actuator for Trays 3, 4, and 5.

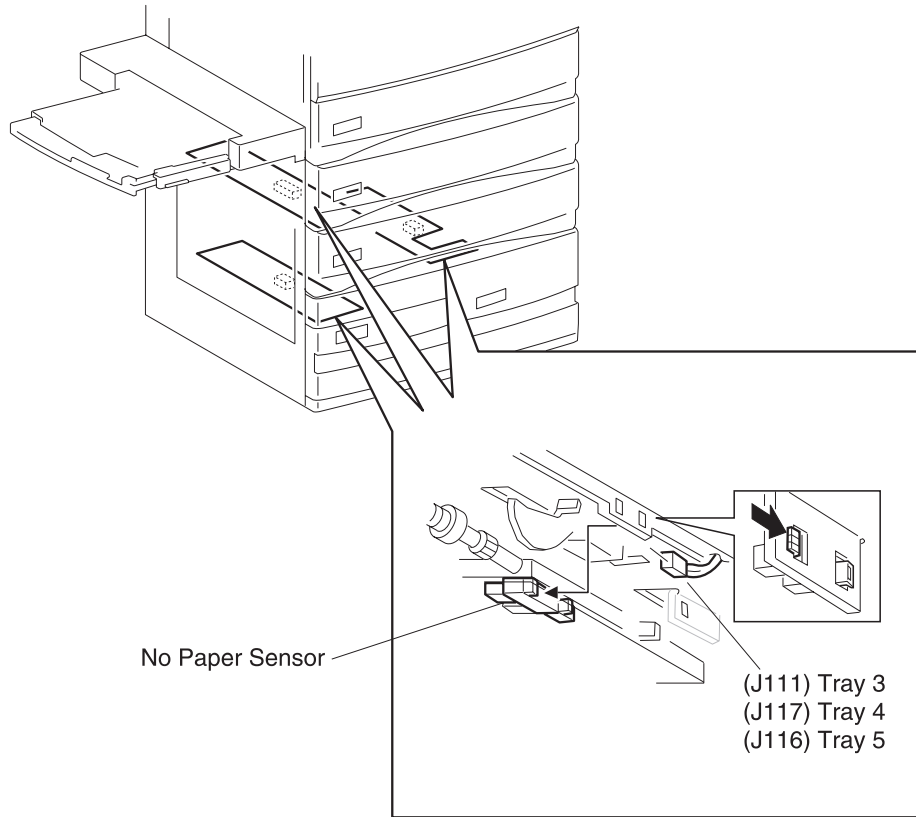
Removal

1. Remove the Paper Tray associated with the No Paper Actuator you are going to remove.
2. Remove the No Paper Sensor associated with the No Paper Actuator you are going to remove.
3. Squeeze together the sides of the Actuator Bracket and remove the Actuator Bracket from the HCF frame.
4. Press the Actuator out of the Bracket.

Replacement

1. Press the legs of the Actuator into the slots on the Bracket. The Actuator snaps into place.
2. Reinstall the Bracket into the opening in the HCF frame by positioning the Bracket so the Actuator paddle faces the front of the printer.
3. Insert the left side of the Bracket into the opening, then squeeze together the sides of the Bracket while inserting the right side into the opening.
4. Release the Bracket and it should snap into place and secure the Bracket to the frame.
5. Reinstall the No Paper Sensor.
6. Reinstall the Paper Tray.

Trays 3, 4, and 5 No Paper Sensors



4025 Options

Note: Use this procedure for removing and replacing the No Paper Sensors for Trays 3, 4, and 5.

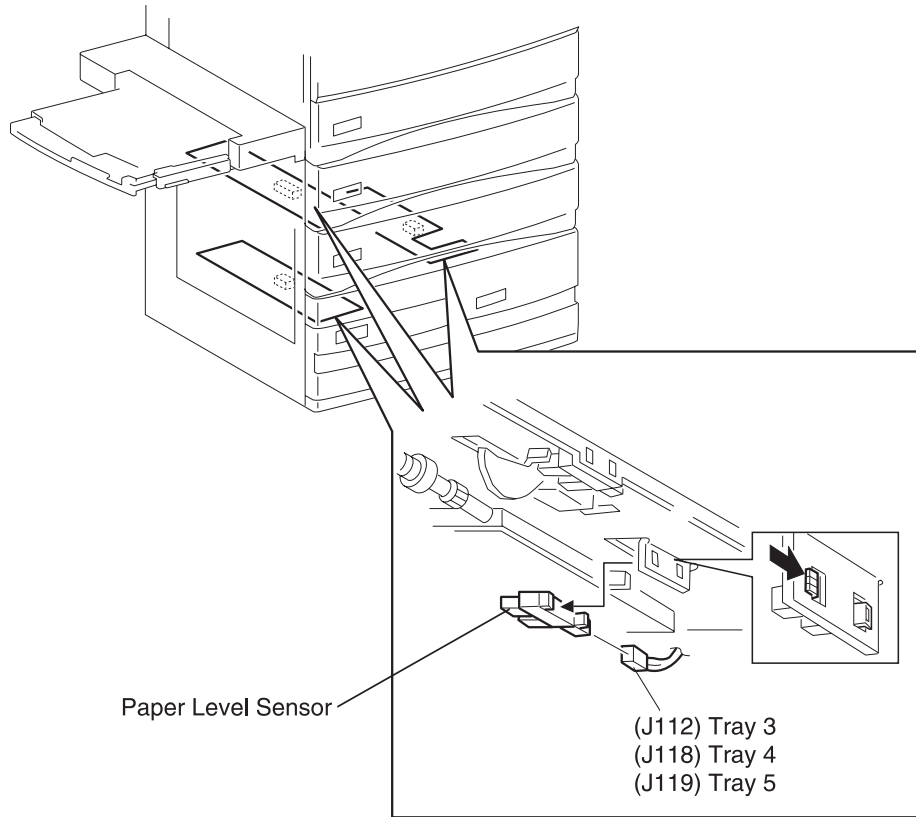
Removal

1. Remove the Paper Tray associated with the No Paper Sensor you are going to remove.
2. Squeeze the Sensor latches and remove the No Paper Sensor from the frame.
3. Disconnect the P/J from the Sensor.

Replacement

1. Reconnect the P/J to the Sensor.
2. Push the No Paper Actuator up and out of the way.
3. Position the Sensor with the arms of the Sensor facing the Actuator.
4. Reinstall the No Paper Sensor into the slot in the frame by first inserting the front latch of the Sensor through the front opening in the frame.
5. Press in on the rear latch and insert it into the rear opening.
6. Release the rear latch and the Sensor snaps into place.
7. Release the Actuator and make sure it moves freely between the arms of the Sensor.
8. Reconnect the P/J to the Sensor.
9. Reinstall the Paper Tray.

Trays 3, 4, and 5 Paper Level Sensors



4025 Options

Note: Use this procedure for removing and replacing the Paper Level Sensors for Trays 3, 4, and 5.

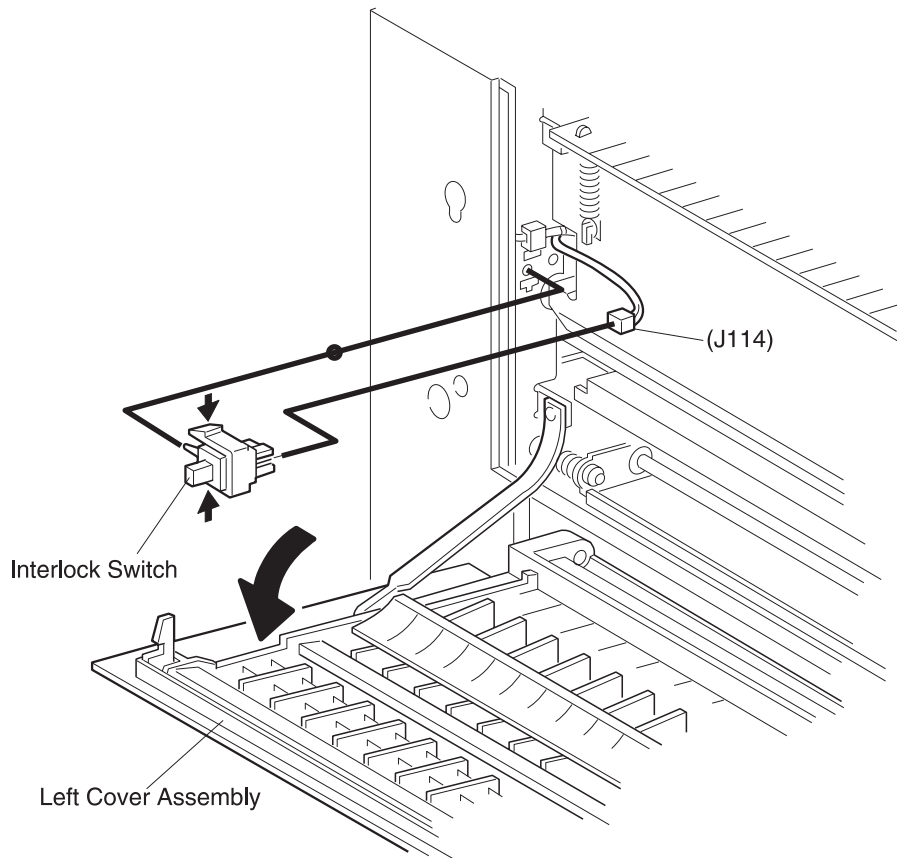
Removal

1. Remove the Paper Tray associated with the Paper Level Sensor you are going to remove.
2. Squeeze the Sensor latches and remove the Paper Level Sensor from the frame.
3. Disconnect the P/J from the Sensor.

Replacement

1. Reconnect the P/J to the Sensor.
2. Position the Sensor with the arms of the Sensor facing the Feed Assembly Actuator.
3. Reinstall the Paper Level Sensor into the slot in the frame by first inserting the front latch of the Sensor through the front opening in the frame.
4. Press in on the rear latch and insert it into the rear opening.
5. Release the rear latch and the Sensor snaps into place.
6. Release the Actuator and make sure it moves freely between the arms of the Sensor.
7. Reconnect the P/J to the Sensor.
8. Reinstall the Paper Tray.

Left Cover Interlock Switch



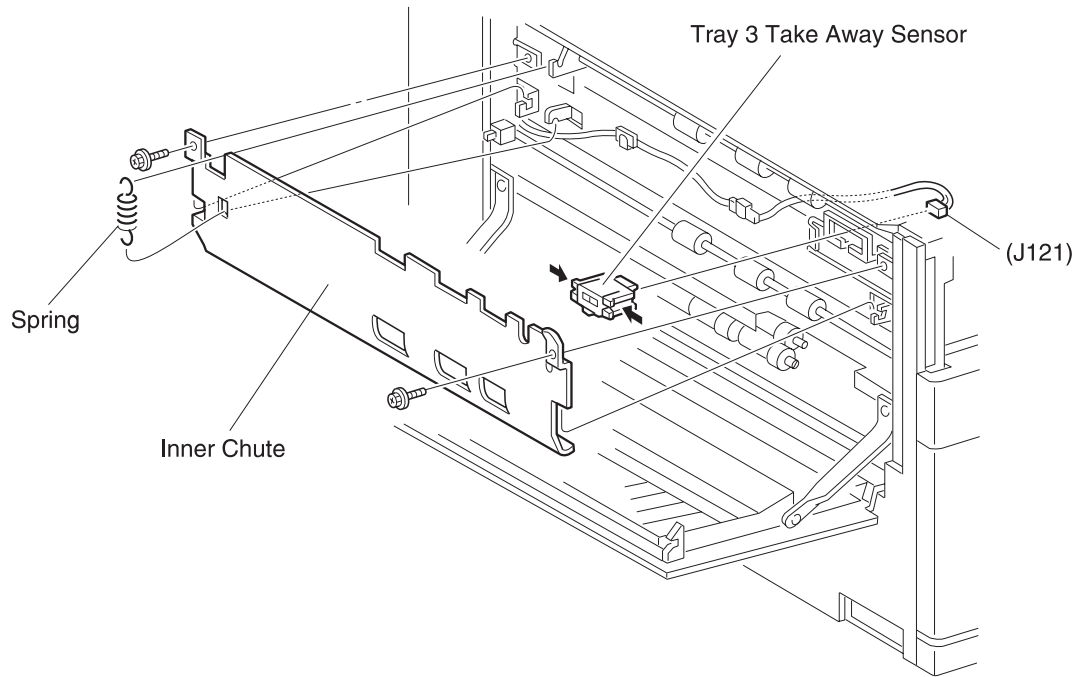
Removal

1. Open the Left Cover Assembly.
2. Squeeze together the top and bottom of the Interlock Switch to release the Switch latches, and pull the Switch away from the HCF frame.
3. Disconnect P/J 114 from the Switch.

Replacement

1. Reconnect P/J 114 to the Left Cover Interlock Switch.
2. Squeeze together the top and bottom of the Switch while inserting the bottom of the Switch into the opening in the frame.
3. Insert the top of the Switch into the opening. The Switch snaps into place.
4. Close the Left Cover Assembly.

Tray 3 Take Away Sensor



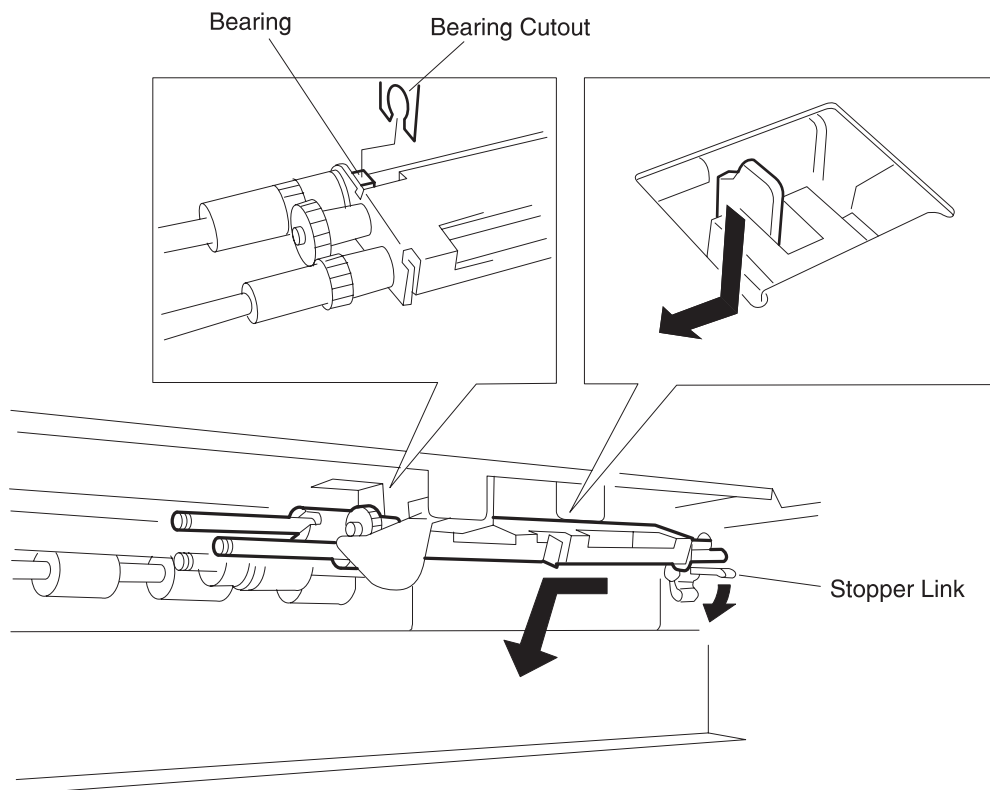
Removal

1. Open the Left Cover Assembly.
2. Remove the Spring that is located on the left side of the Inner Chute.
3. Remove the two screws securing the Inner Chute to the HCF frame, and remove the Inner Chute.
4. Squeeze the four latches that are located at the four corners of the Sensor, while pulling the Sensor forward.
5. Remove the Sensor from the HCF frame.
6. Disconnect P/J 121 from the Sensor.

Replacement

1. Reconnect P/J 121 to the Sensor.
2. Position the Sensor with the positioning tab facing down.
3. Insert the Sensor into the opening in the HCF frame.
4. Press the Sensor into the opening until it snaps into place.
5. Reinstall the Inner Chute onto the HCF frame.
6. Use two screws to secure the Inner Chute.
7. Reinstall the Spring to the left side of the Inner Chute.
8. Close the Left Cover Assembly.

Tray 3 Feeder Assembly



WARNING: Take care not to break or dislodge the No Paper Actuator when removing or replacing the Tray 3 Feeder Assembly.

Removal

1. Remove Tray 3 from the HCF.
2. Remove the Rear Cover.
3. Open the Left Cover Assembly.
4. Remove the Spring that is located on the left side of the Inner Chute.
5. Remove the two screws securing the Inner Chute to the HCF frame, and remove the Inner Chute.
6. Remove the screw securing the Feed In Chute to the HCF frame.
7. Lift the Retard Shaft up and out of the way while you slide the Feed In Chute to the front of the HCF. Slide the Feed In Chute to the front to unhook the Chute from the HCF frame.
8. Push the Chute back and remove it from the frame.
9. Remove Tray 3 Feed Clutch.
10. Remove the E-ring that secures the Feed Gear (located behind the Feed Clutch) to the shaft, and remove the Feed Gear and Bearing.
11. Hold down the Stopper Link while you pull the Feeder Assembly to the front of the HCF frame.
12. Remove the Feeder Assembly from Feeder 3.

Replacement

1. Hold down the Stopper Link while you insert the end of the Feed Shaft into the opening in the rear of the HCF frame.
2. Slide the Bearing into the Bearing cutout (refer to the figure).
3. When both the Bearing is in place and the end of the Feed Shaft is through the opening in the rear of the frame, release the Stopper Link. The Nudger Shaft should rest on top of the Stopper Link, and the Link should secure the Feeder Assembly in place on the frame.
4. Make sure the Paper Level Actuator tab on the Feeder is positioned in the center of the arms of the Paper Level Sensor.
5. Slide the Feed Bearing onto the Feed Shaft and press the Bearing into the cutout in the frame.
6. Reinstall the Feed Gear onto the Feed Shaft, and use an E-ring to secure it to the Shaft.
7. Reinstall Tray 3 Feed Clutch.
8. Lift the Retard Shaft up and out of the way while you slide the Feed In Chute under the Retard Assembly and against the HCF frame.
9. Slide the Chute to the rear of the HCF so the rear of the Chute hooks on to the frame, and the screw hole at the front of the Chute aligns with the screw hole in the HCF frame.
10. Use one screw to secure the Feed In Chute to the HCF frame.
11. Reinstall the Inner Chute onto the HCF frame.
12. Use two screws to secure the Inner Chute.
13. Reinstall the Spring to the left side of the Inner Chute.
14. Reinstall the Rear Cover.
15. Reinstall Tray 3.

Tray 3 Retard Assembly

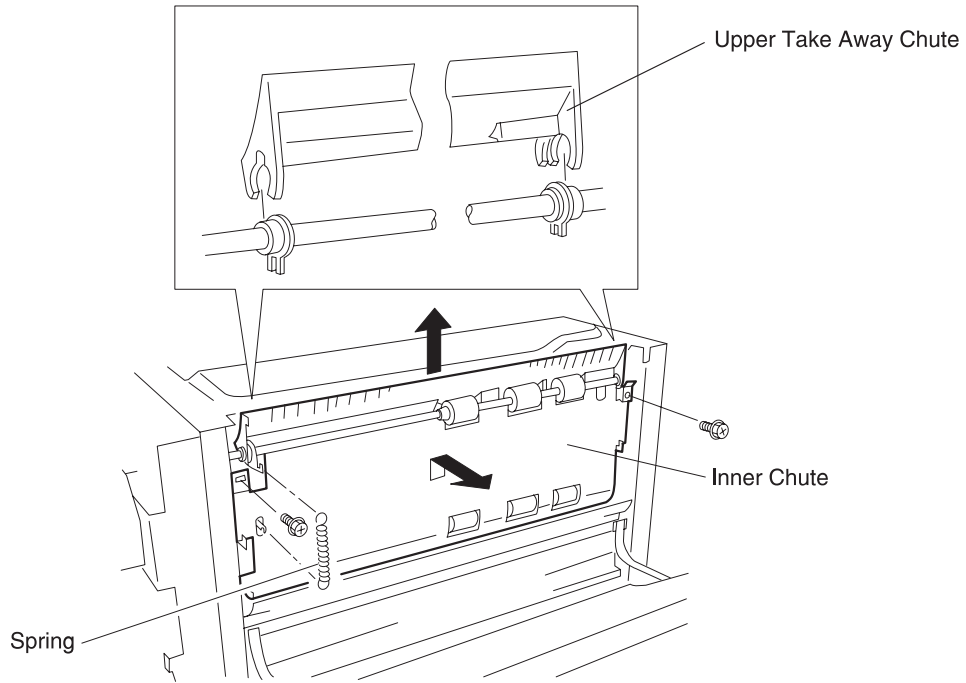


Figure 1

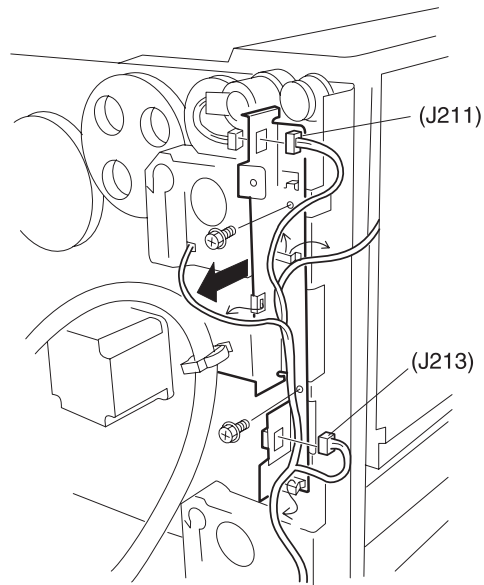
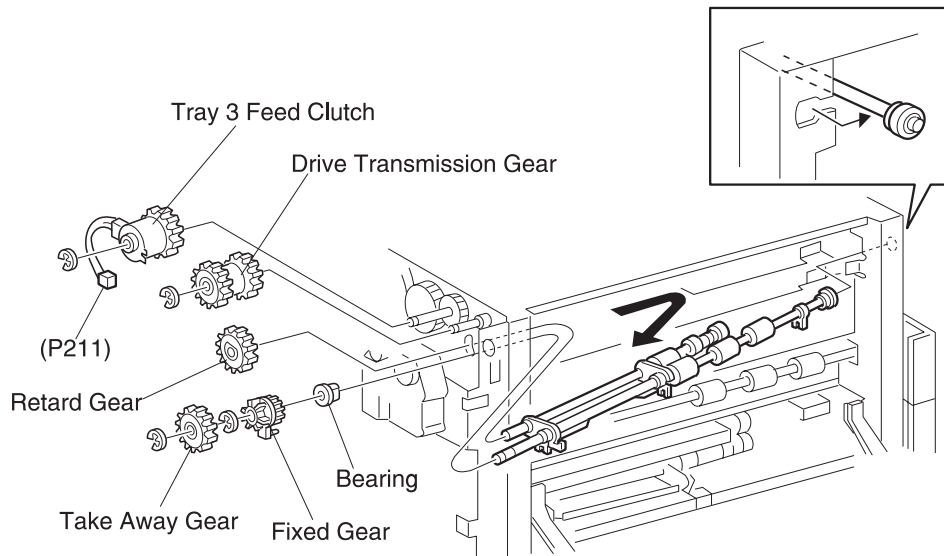


Figure 2

Removal

1. Remove Tray 3 from the HCF.
2. Remove the Rear Cover.
3. Remove the HCF Left Cover.
4. Open the Left Cover Assembly.
5. Remove the Spring that is located on the left side of the Inner Chute (Figure 1).
6. Remove the two screws securing the Inner Chute to the HCF frame, and remove the Inner Chute.
7. Pull the plastic Upper Take Away Chute off of the Bearings, and remove the Chute.
8. Remove the screw securing the Feed In Chute to the HCF frame.
9. Lift the Retard Shaft up and out of the way while you slide the Feed In Chute to the front of the HCF. Sliding the Feed In Chute to the front unhooks the Chute from the HCF frame.
10. Push the Chute back and remove it from the frame.
11. Disconnect P/J 211 from Tray 3 Feed Clutch.
12. Disconnect J211 and J213 from the Bracket (Figure 2), and free the wire harness from the harness clips.
13. Remove the two screws securing the Bracket to the HCF frame, and remove the Bracket.
14. Remove Tray 3 Feed Clutch.
15. Remove the E-ring securing the Drive Transmission Gear to the shaft and remove the Gear.
16. Remove the E-ring securing the Take Away Gear to the shaft and remove the Gear.
17. Remove the E-ring securing the Fixed Gear to the shaft and remove the Gear.
18. Slide the Retard Gear off of the shaft.
19. Slide the Take Away Bearing off of the shaft.
20. Slide the Retard Assembly to the front of the HCF, and then swing the rear of the Assembly out of the HCF.

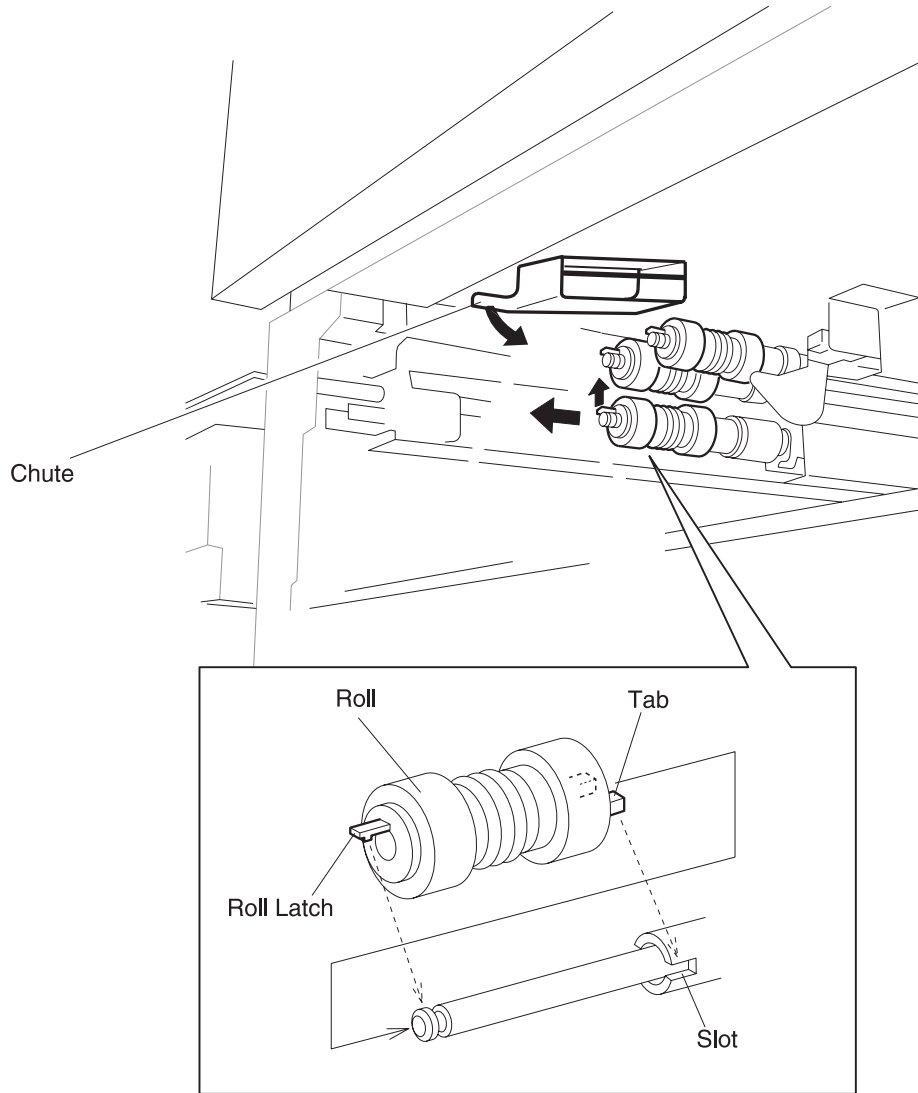


4025 Options

Replacement

1. Insert the Retard Assembly into the HCF as shown.
2. Insert the bearing end of the Shaft into the bearing cutout at the front of the HCF frame.
3. Slide the Shaft far enough to the front so you can insert the rear of the Shaft into the cutout at the rear of the HCF frame.
4. Slide the Shaft to the rear, and seat the Bearing at the front of the shaft into the bearing cutout at the front of the HCF frame.
5. Slide the Take Away Bearing onto the shaft.
6. Reinstall the Retard Gear.
7. Reinstall the Fixed Gear and use an E-ring to secure it to the shaft.
8. Reinstall the Take Away Gear and use an E-ring to secure it to the shaft.
9. Reinstall the Drive Transmission Gear and use an E-ring to secure it to the shaft.
10. Reinstall the Bracket to the HCF frame, and use two screws to secure it.
11. Reinstall the Tray 3 Feed Clutch.
12. Reconnect J211 and J213 to the Bracket, and route the wire harness through the harness clips.
13. Lift the Retard Shaft up and out of the way while you slide the Feed In Chute under the Retard Assembly and against the HCF frame.
14. Slide the Chute to the rear of the HCF so the rear of the Chute hooks on to the frame, and the screw hole at the front of the Chute aligns with the screw hole in the HCF frame.
15. Use one screw to secure the Feed In Chute to the HCF frame.
16. Reinstall the plastic Upper Take Away Chute onto the three bearings on the Take Away Roll (Figure 1).
17. Reinstall the Inner Chute onto the HCF frame.
18. Use two screws to secure the Inner Chute.
19. Reinstall the Spring to the left side of the Inner Chute.
20. Reinstall the HCF Left Cover.
21. Reinstall the Rear Cover.
22. Reinstall Tray 3.

Tray 3 Nudger, Feeder, and Retard Rolls



4025 Options

Note: Replace the Feeder, Nudger, and Retard Rolls as a unit.

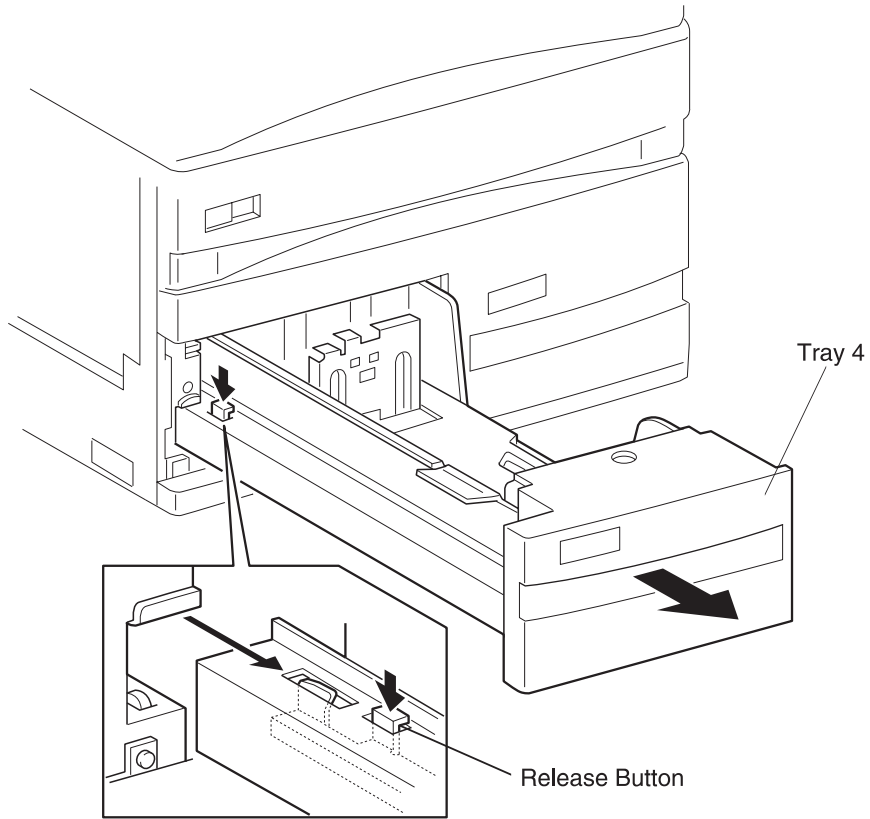
Removal

1. Remove the Tray 3.
2. Swing the Chute down so it clears the Rolls.
3. Pull out on the Retard Roll latch and slide the Retard Roll off of the shaft.
4. Repeat step 3 for the Nudger and Feeder Rolls.

Replacement

1. Swing the Chute down so it clears the Rolls.
2. Position the Roll with the latch end facing out, and slide the Roll onto the Feed shaft.
3. Rotate the Roll so the end tabs line up with the slots on the shaft One Way Clutch and push the Roll down the shaft until the latch locks the Roll into place.
4. Repeat steps 2 and 3 for the Nudger and Retard Rolls.
5. Reinstall Tray 3.
6. Reset the Maintenance Count Value.
 - a. Go into the Configuration Menu.
 - b. Select Maintenance Count Value
 - c. Reset the Maintenance Count Value to zero.
 - d. Exit the Configuration Menu.

HCF Tray 4



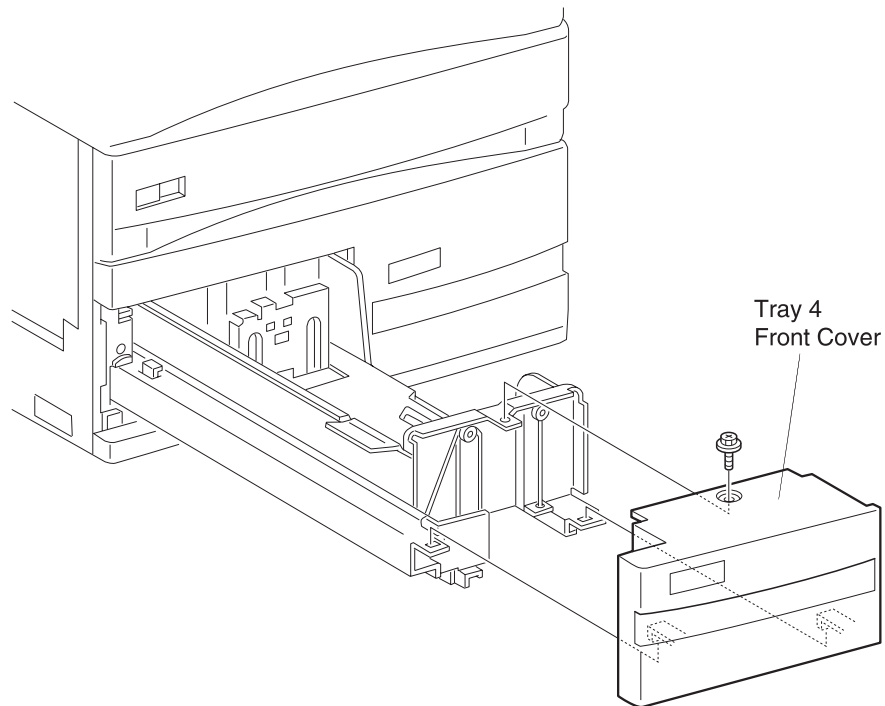
Removal

1. Pull Tray 4 out until it stops.
2. Press and hold the tray release button while you slide Tray 4 out of the HCF.

Replacement

1. Align the guide rails on both sides of Tray 4 with the guide rails on the HCF frame.
2. Push Tray 4 all the way into the HCF.

Tray 4 Front Cover



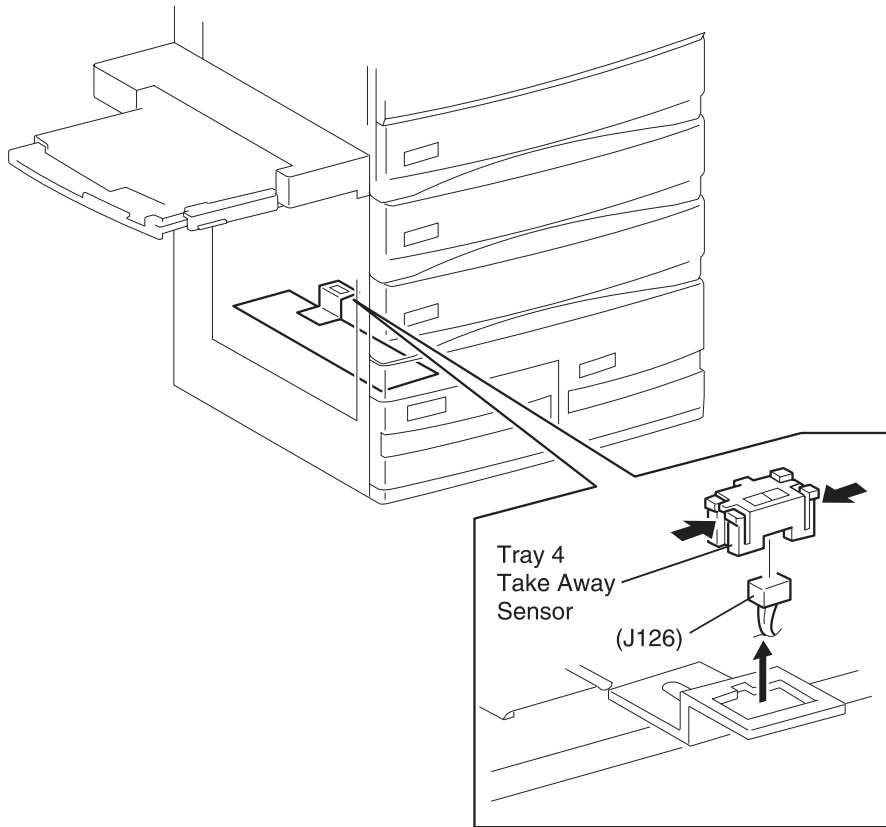
Removal

1. Slide Tray 4 a few inches out of the HCF.
2. Remove the screw securing the Tray 4 Front Cover to the Tray frame.
3. Lift up and out to remove the Front Cover.

Replacement

1. Insert the two latches located on the inside of the Front Cover into the two slots in the Tray frame.
2. Press the Cover against the frame.
3. Use one screw to secure the Cover to the frame.
4. Slide Tray 4 back into the HCF.

Tray 4 Take Away Sensor



Removal

1. Remove Tray 3, Tray 4, and Tray 5 from the HCF.
2. Squeeze together the four latches that are located at the four corners of the Tray 4 Take Away Sensor, while pulling the Sensor up and out of the cutout in the HCF frame.
3. Disconnect P/J 126 from the Sensor.

Replacement

1. Position the Sensor above the cutout in the HCF frame, and with the P/J facing down.
2. Insert the Sensor into the cutout, and press down on the Sensor to snap it into place.
3. Reconnect P/J 126 to the Sensor.
4. Reinstall Tray 5, Tray 4, and Tray 3.

Tray 4 Take Away Roll

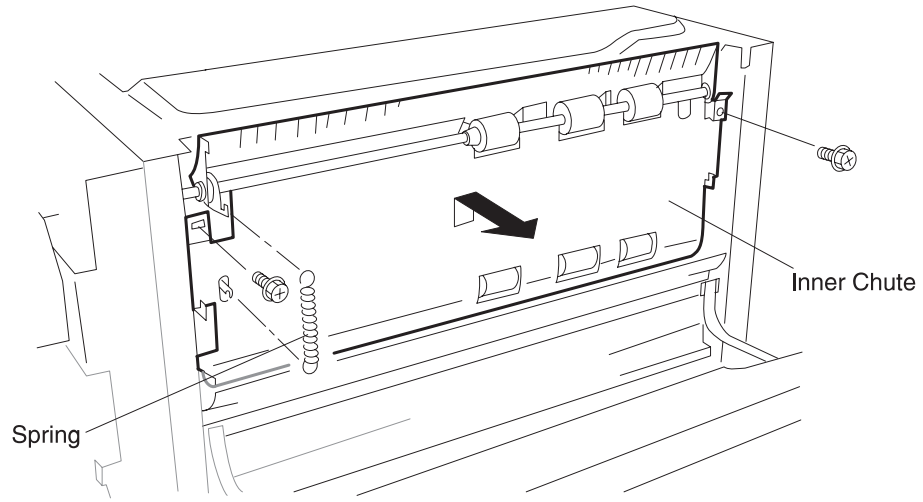


Figure 1

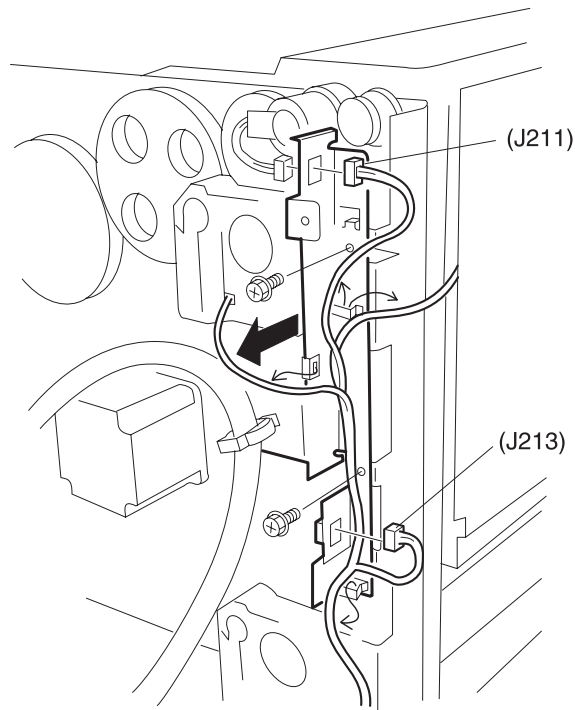


Figure 2

Removal

1. Slide out Tray 5.
2. Remove the Rear Cover.
3. Remove the HCF Left Cover.
4. Open the Left Cover Assembly.
5. Remove the Spring that is located on the left side of the Inner Chute (Figure 1).
6. Remove the two screws securing the Inner Chute to the HCF frame, and remove the Inner Chute.
7. Disconnect P/J 211 from Tray 3 Feed Clutch.
8. Disconnect J211 and J213 from the Bracket (Figure 2), and free the wire harness from the harness clips.
9. Remove the two screws securing the Bracket to the HCF frame, and remove the Bracket.
10. Remove the E-ring securing Gear 22 to the Take Away Roll shaft (Figure 3).
11. Hold on to Gear 22 as you slide Tray 4 Take Away Roll toward the front of the HCF.
12. Remove Gear 22 and the Bearing.
13. Remove Tray 4 Take Away Roll.

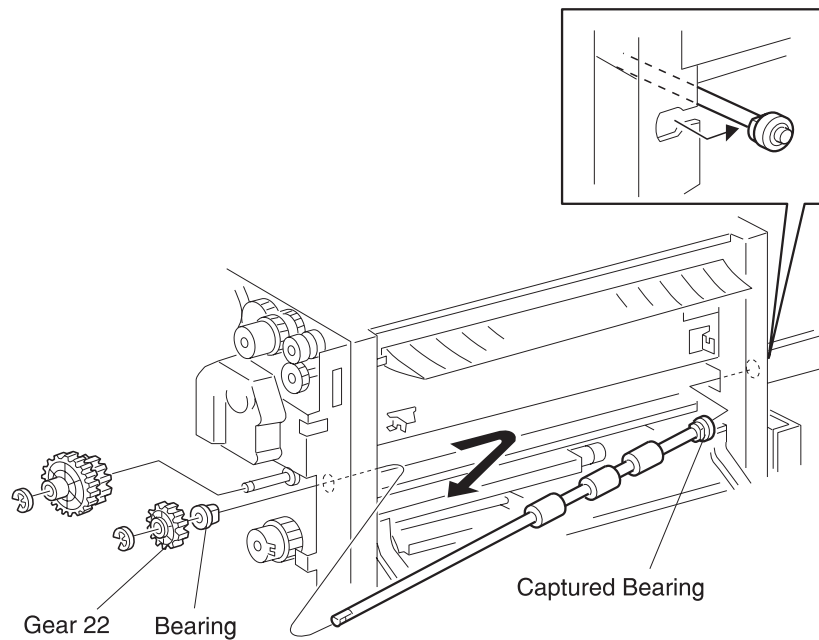


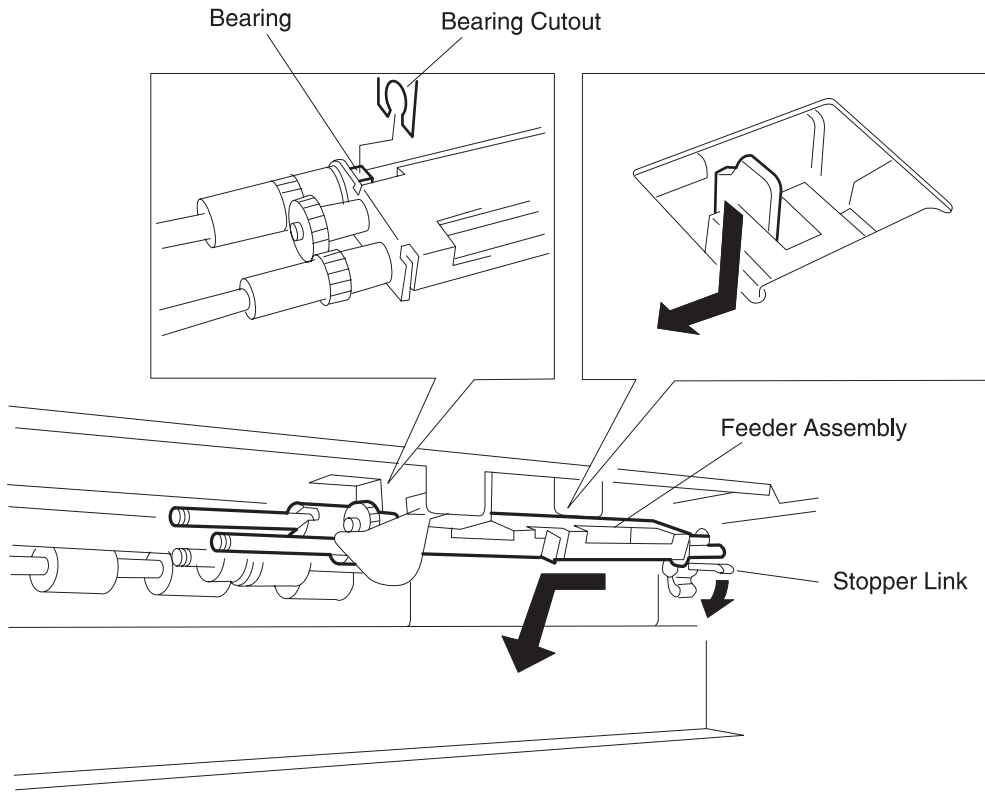
Figure 3

4025 Options

Replacement

1. Slide the captured bearing end of the Take Away Roll shaft into the bearing hole at the front of the HCF frame (Figure 3).
2. Reinstall the Bearing into the bearing hole at the rear of the HCF.
3. Place Gear 22 over the Bearing and hold it there while you reinstall the Take Away Roll shaft.
4. Slide the rear of the Take Away Roll shaft through the bearing and Gear 22.
5. Reposition the shaft so the captured bearing at the front end of the shaft rests in the bearing hole at the front of the HCF.
6. Use an E-ring to secure Gear 22 to the Take Away Roll shaft.
7. Reinstall the Bracket to the HCF frame, and use two screws to secure it frame.
8. Reconnect J211 and J213 to the Bracket, and route the wire harness through the harness clips.
9. Reconnect P/J211 to Tray 3 Feed Clutch.
10. Reinstall the Inner Chute to the HCF frame, and use two screws to secure it to the frame.
11. Reinstall the Spring to the left side of the Inner Chute.
12. Reinstall the HCF Left Cover.
13. Reinstall the Rear Cover.
14. Slide Tray 5 back into the HCF.

Tray 4 Feeder Assembly



4025 Options

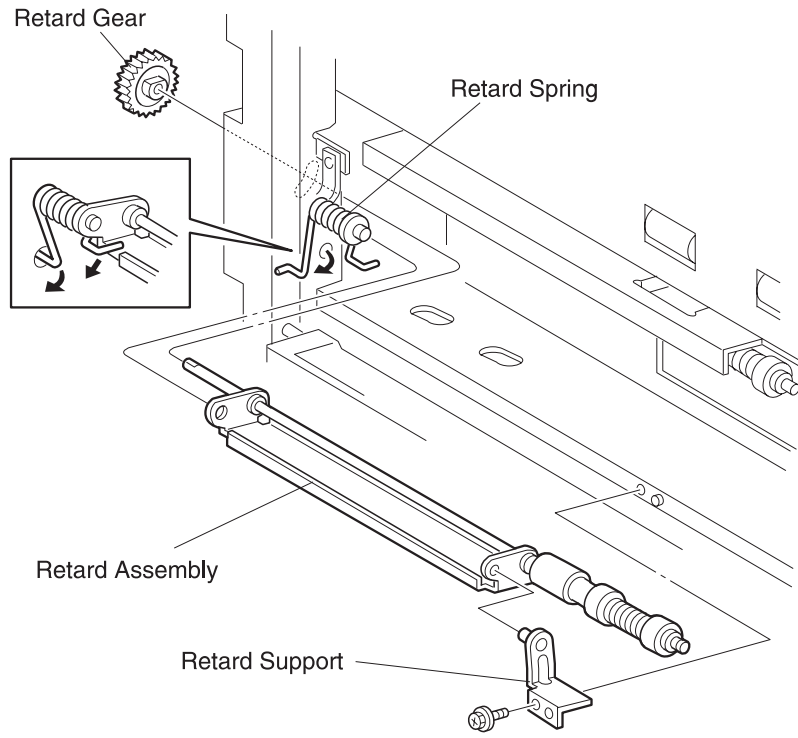
Removal

1. Remove Tray 4 from the HCF.
2. Remove the HCF Rear Cover.
3. Open the Left Cover Assembly.
4. Remove Tray 4 Feed Clutch.
5. Remove the E-ring securing the Feed Shaft Bearing to the HCF frame, and slide the Bearing off of the shaft.
6. Hold down the Stopper Link while you pull the Feeder Assembly to the front of the HCF frame.
7. Remove the Feeder Assembly from Feeder 4.

Replacement

1. Hold down the Stopper Link while you insert the end of the Feed Shaft into the opening in the rear of the HCF frame.
2. Slide the Bearing into the Bearing cutout (see the figure).
3. When both the Bearing is in place and the end of the Feed Shaft is through the opening in the rear of the frame, release the Stopper Link. The Nudger Shaft should rest on top of the Stopper Link, and the Link should secure the Feeder Assembly in place on the frame.
4. Make sure the Paper Level Actuator tab on the Feeder is positioned in the center of the arms of the Paper Level Sensor.
5. Slide the Feed Shaft Bearing onto the Feed Shaft and press the Bearing into the cutout in the frame.
6. Use an E-ring to secure the Bearing to the shaft.
7. Reinstall Tray 4 Feed Clutch.
8. Reinstall the Rear Cover.
9. Reinstall Tray 4.

Tray 4 Retard Assembly



4025 Options

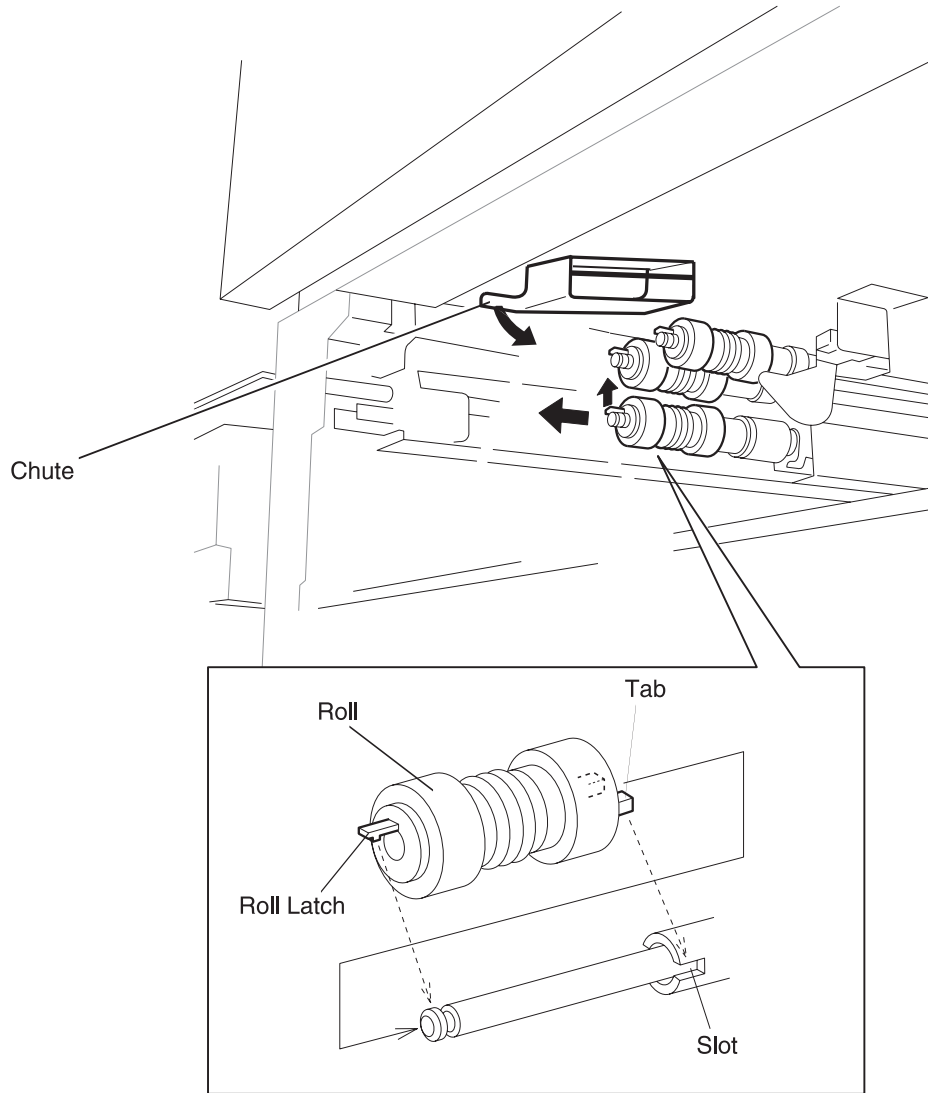
Removal

1. Remove Tray 4 from the HCF.
2. Remove the HCF Rear Cover.
3. Open the Left Cover Assembly.
4. Remove the screw securing the Left Cover Left Strap to the HCF frame, and move the Strap out of the way.
5. Unhook one arm of the Retard Spring from the hole in the HCF frame, and release the Spring.
6. Unhook the other arm of the Retard Spring from the Retard Assembly.
7. Remove the screw securing the Retard Support to the HCF frame, and remove the Support.
8. Hold on to the Retard Gear while you slide the Assembly off of the Spring shaft and out of the HCF.

Replacement

1. Position the Retard Assembly so the opening in the Assembly lines up with the Spring shaft.
2. Hold the Retard Gear in place against the frame while you slide the Retard Assembly to the rear of the HCF, making sure the Assembly shaft slides through the center of the Retard Gear and the Spring shaft slides through the opening in the Assembly (see the figure).
3. Insert the shaft of the Retard Support through the opening in the front of the Retard Assembly.
4. Reinstall the Retard Support onto the HCF frame, and use one screw to secure it to the frame.
5. Reinstall the Left Cover Left Strap to the HCF frame, and use one screw to secure it to the frame.
6. Reinstall the HCF Rear Cover.
7. Reinstall Tray 4 into the HCF.

Tray 4 Feed, Nudger, and Retard Rolls



4025 Options

Removal

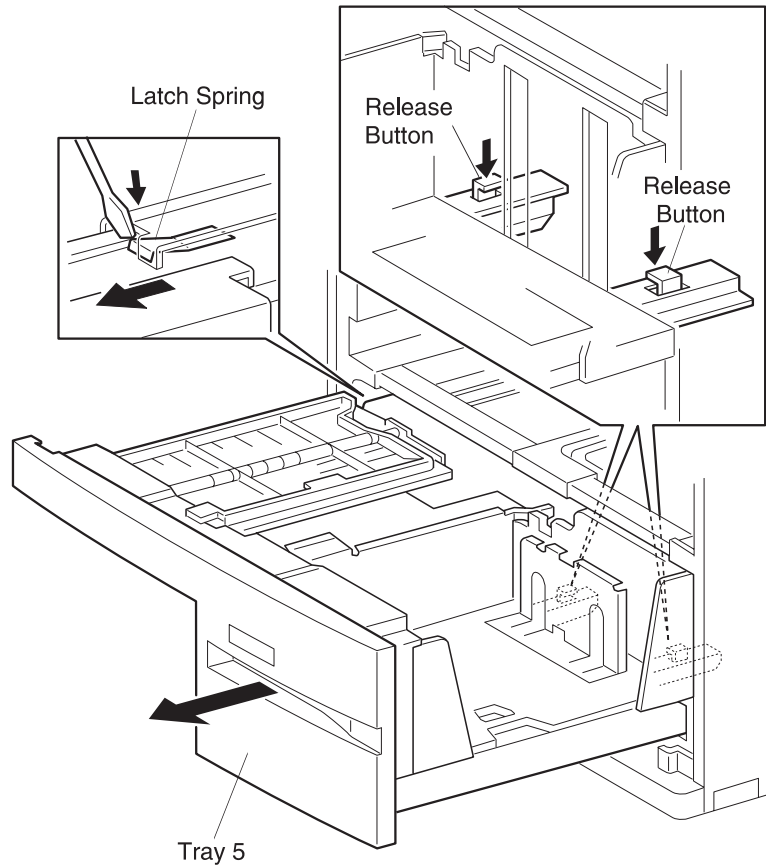
Note: Replace the Feeder, Nudger, and Retard Rolls as a unit.

1. Remove the Tray 4.
2. Swing the Chute down so it clears the Rolls.
3. Pull out on the Retard Roll latch and slide the Retard Roll off of the shaft.
4. Repeat step 3 for the Nudger and Feeder Rolls.

Replacement

1. Swing the Chute down so it clears the Rolls.
2. Position the Roll with the latch end facing out, and slide the Roll onto the Feed shaft.
3. Rotate the Roll so the end tabs line up with the slots on the shaft One Way Clutch and push the Roll down the shaft until the latch locks the Roll into place.
4. Repeat steps 2 and 3 for the Nudger and Retard Rolls.
5. Reinstall Tray 4.
6. Reset the Maintenance Count Value.
 - a. Go into the Configuration Menu.
 - b. Select Maintenance Count Value
 - c. Reset the Maintenance Count Value to zero.
 - d. Exit the Configuration Menu.

HCF Tray 5



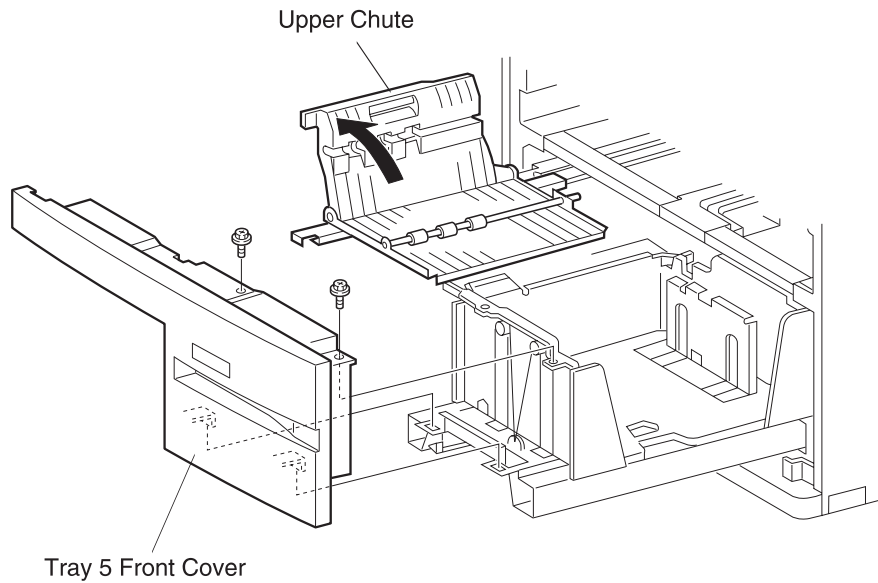
Removal

1. Remove Tray 3.
2. Slide Tray 5 out until it stops.
3. Use a flat screwdriver blade to press down on the latch spring that is located on the left Tray 5 guide rail, while you slide free the left side of the Tray.
4. Press and hold the two release buttons, that are located behind Tray 5, while you slide Tray 5 out of the HCF.

Replacement

1. Align the guide rails on both sides of Tray 5 with the guide rails on the HCF frame.
2. Push Tray 5 all the way into the HCF.
3. Reinstall Tray 3.

Tray 5 Front Cover



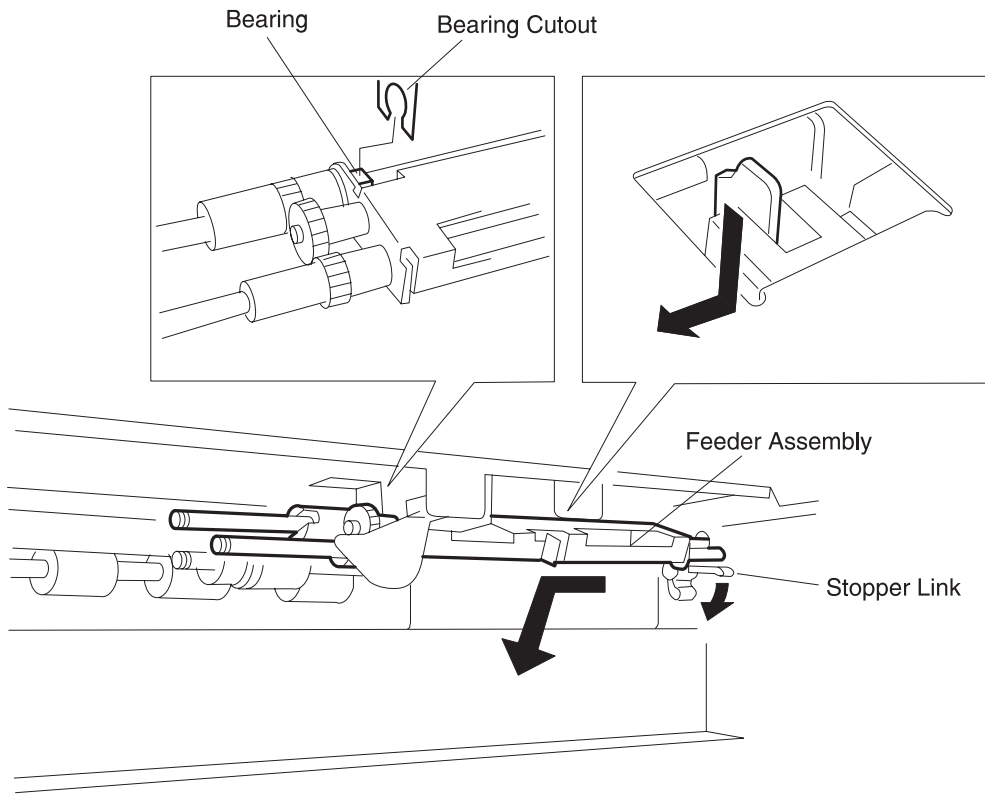
Removal

1. Slide Tray 5 out unit it stops.
2. Open Tray 5 Upper Chute.
3. Remove the two screws securing the Tray 5 Front Cover to the Tray frame.
4. Lift up and out to remove the Front Cover.

Replacement

1. Insert the two latches located on the inside bottom of the Front Cover into the two slots in the Tray frame.
2. Press the Cover against the frame.
3. Use two screws to secure the Cover to the frame.
4. Close Tray 5 Upper Chute.
5. Slide Tray 5 back into the HCF.

Tray 5 Feeder Assembly



4025 Options

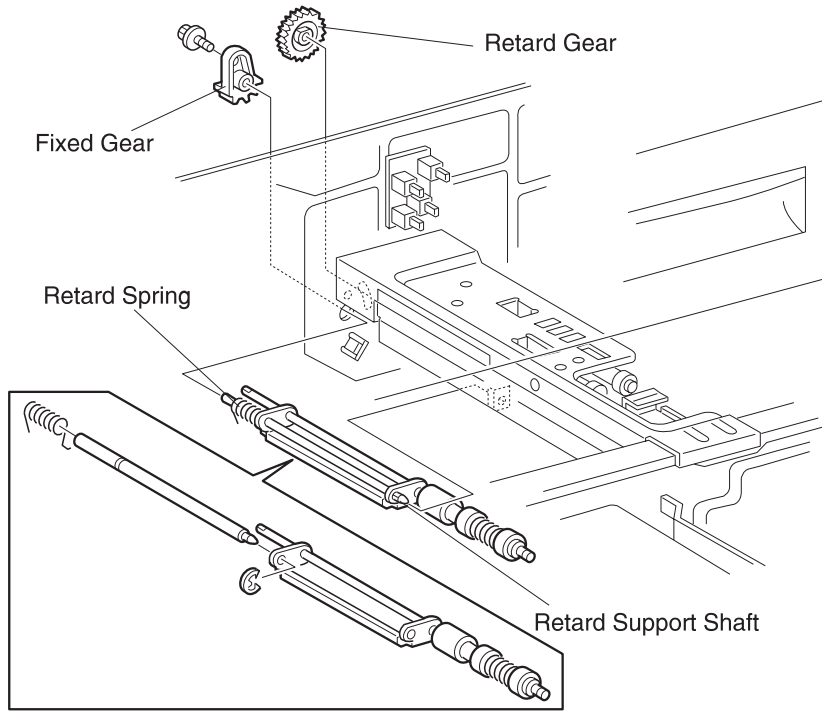
Removal

1. Remove Tray 3 from the HCF.
2. Remove Tray 5 from the HCF.
3. Remove the HCF Rear Cover.
4. Remove Tray 5 Feed Clutch.
5. Remove the E-ring securing the Feed Shaft Bearing to the HCF frame, and slide the Bearing off of the shaft.
6. Hold down the Stopper Link while you pull the Feeder Assembly to the front of the HCF frame.
7. Remove the Feeder Assembly from Feeder 5.

Replacement

1. Hold down the Stopper Link while you insert the end of the Feed Shaft into the opening in the rear of the HCF frame.
2. Slide the Bearing into the Bearing cutout (see the figure).
3. When both the Bearing is in place and the end of the Feed Shaft is through the opening in the rear of the frame, release the Stopper Link. The Nudger Shaft should rest on top of the Stopper Link, and the Link should secure the Feeder Assembly in place on the frame.
4. Make sure the Paper Level Actuator tab on the Feeder is positioned in the center of the arms of the Paper Level Sensor.
5. Slide the Feed Shaft Bearing onto the Feed Shaft and press the Bearing into the cutout in the frame.
6. Use an E-ring to secure the Bearing to the shaft.
7. Reinstall Tray 5 Feed Clutch.
8. Reinstall the Rear Cover.
9. Reinstall Tray 5.
10. Reinstall Tray 3.

Tray 5 Retard Assembly



4025 Options

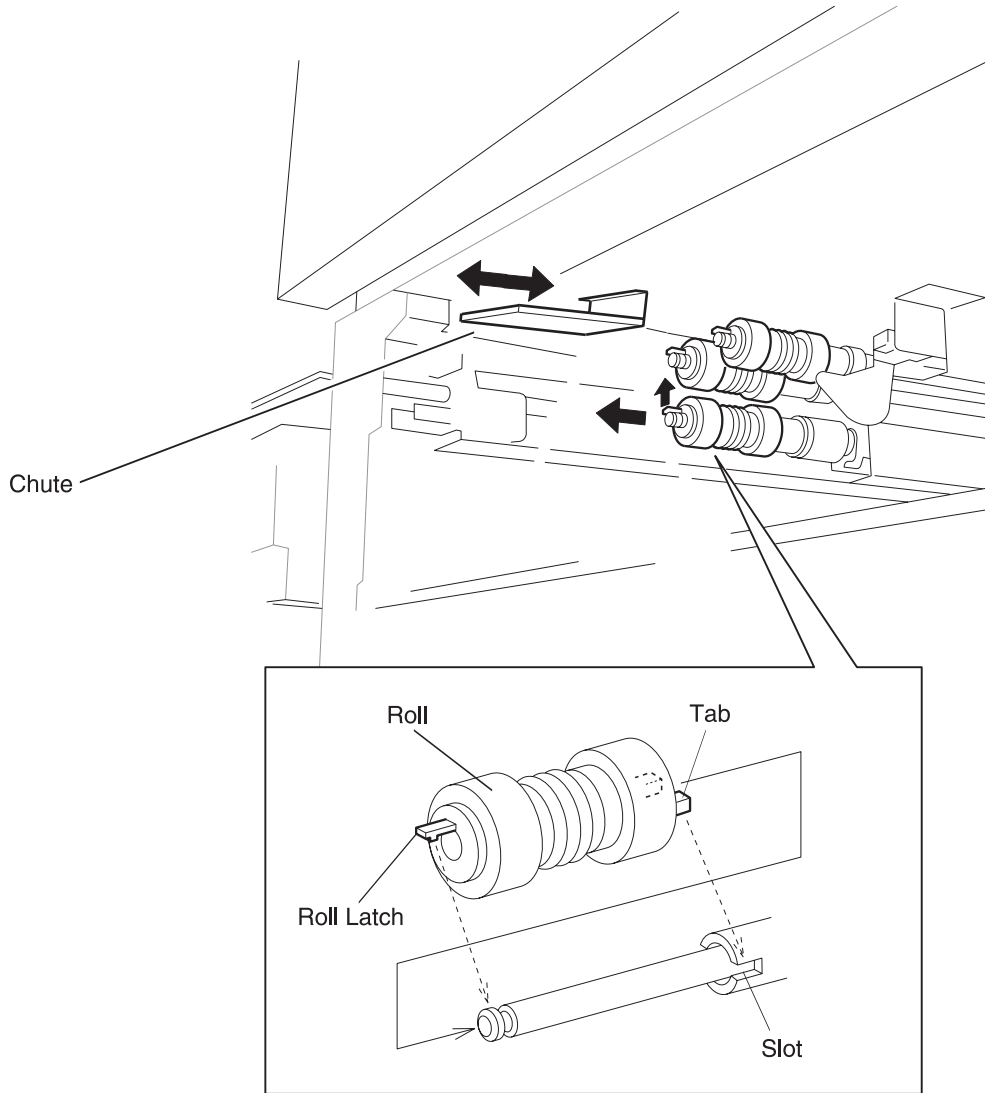
Removal

1. Remove Tray 3 from the HCF.
2. Remove Tray 5 from the HCF.
3. Remove the HCF Rear Cover.
4. Remove the screw securing the Fixed Gear to the HCF frame, and remove the Gear.
5. Slide the Retard Gear off of the Retard Shaft.
6. Slide the Retard Assembly to the rear of the HCF to release the front of the Retard Support Shaft from the cutout in the HCF frame.
7. Slide the Retard Assembly to the front of the HCF, and remove the Assembly.

Replacement

1. Position the rear of the Retard Assembly near the opening in the rear of the HCF frame.
2. Press and hold the arm of the Retard Spring against the shaft.
3. Slide the rear of the Retard Shaft and Retard Support Shaft through the two openings in the rear of the HCF frame.
4. Slide the Retard Assembly to the front and insert the front of the Retard Support Shaft into the cutout in the HCF frame.
5. Release the arm of the Retard Spring, and make sure it rests against the metal tab sticking out from the HCF frame.
6. Slide the Retard Gear onto the Retard Shaft.
7. Reinstall the Fixed Gear over the Retard Support Shaft, and use one screw to secure Gear to the frame.
8. Reinstall the HCF Rear Cover.
9. Reinstall Tray 5.
10. Reinstall Tray 3.

Tray 5 Feed, Nudger, and Retard Rolls



4025 Options

Note: Replace the Feeder, Nudger, and Retard Rolls as a unit.

Removal

1. Remove Tray 4 and slide out Tray 5.
2. Slide the Chute forward so it clears the Rolls.
3. Pull out on the Retard Roll latch and slide the Retard Roll off of the shaft.
4. Repeat step 3 for the Nudger and Feeder Rolls.

Replacement

1. Position the Roll with the latch end facing out, and slide the Roll onto the Feed shaft.
2. Rotate the Roll so the end tabs line up with the slots on the shaft One Way Clutch and push the Roll down the shaft until the latch locks the Roll into place.
3. Repeat steps 1 and 2 for the Nudger and Retard Rolls.
4. Slide the Chute back into position.
5. Reinstall Tray 4.
6. Reset the Maintenance Count Value.
 - a. Go into the Configuration Menu.
 - b. Select Maintenance Count Value
 - c. Reset the Maintenance Count Value to zero.
 - d. Exit the Configuration Menu.

4025 Options

5. Connector Locations

Use the tables and maps in this section to locate specific P/J connectors within the Envelope Feeder, Duplex Unit, Mailbox, and High Capacity Feeder.

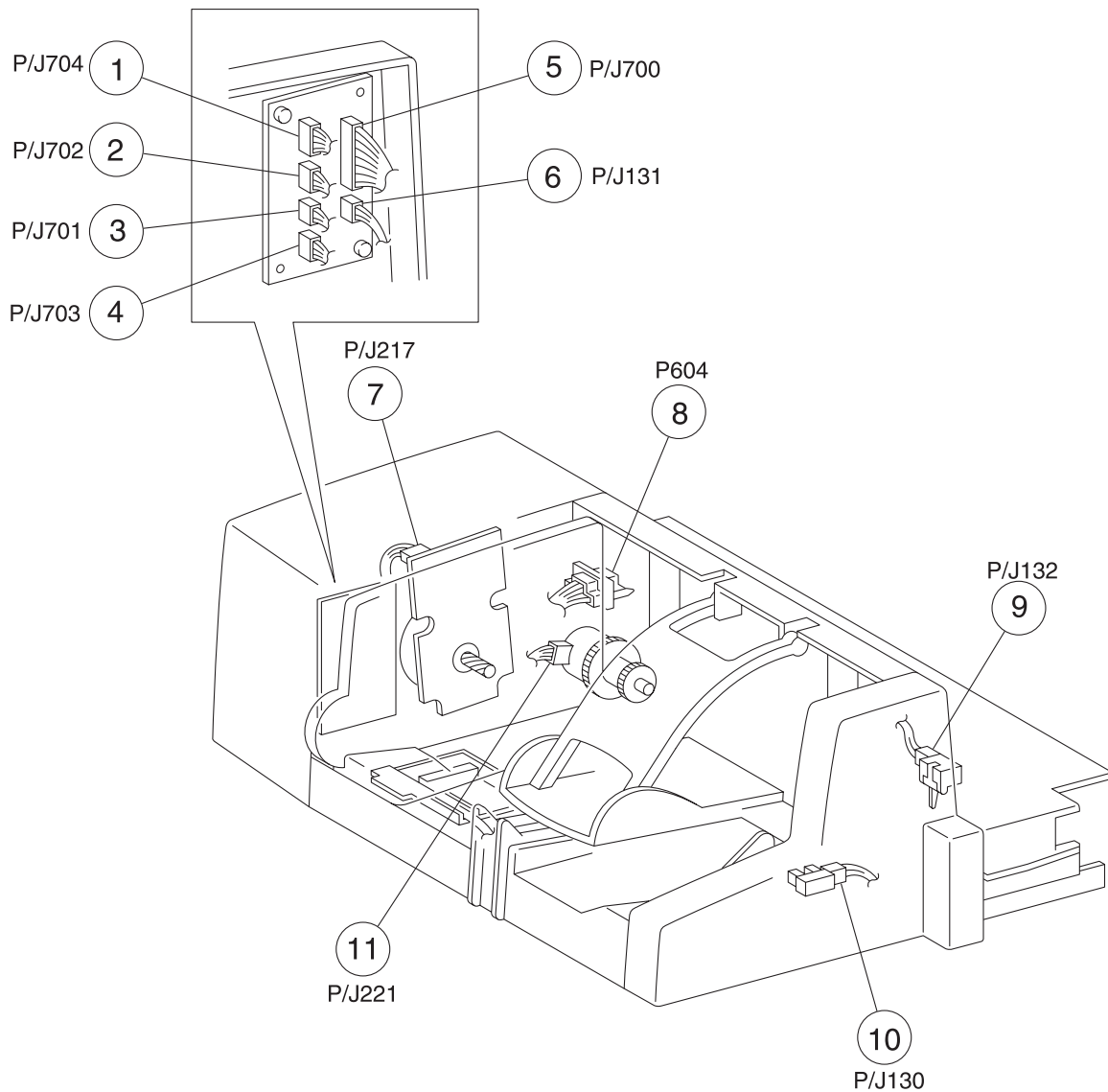
1. Locate the P/J connector number in the first column of the table.
2. Locate the corresponding map and location number, such as M1-5, in the second column.
3. With this information, go to the appropriate map (in this case map M1) and locate the item number (in this case 5).

Envelope Feeder

Envelope Feeder P/J Location Table

P/J	Map & Number	Connected to...	Other end connected to...
130	M1-10	No Paper Sensor	P/J701 Envelope Feeder PWB
131	M1-6	Envelope Feeder PWB	Size Sensor
132	M1-9	Feed Sensor	P/J702 Envelope Feeder PWB
217	M1-7	Envelope Motor	P/J704 Envelope Feeder PWB
221	M1-11	Feed Clutch	P/J703 Envelope Feeder PWB
604	M1-8	I/O PWB	P/J700 Envelope Feeder PWB
700	M1-5	Envelope Feeder PWB	P604 I/O PWB
701	M1-3	Envelope Feeder PWB	P/J130 No Paper Sensor
702	M1-2	Envelope Feeder PWB	P/J132 Feed Sensor
703	M1-4	Envelope Feeder PWB	P/J221 Feed Clutch
704	M1-1	Envelope Feeder PWB	P/J217 Envelope Motor

Envelope Feeder P/J Location Map 1

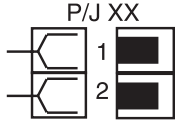






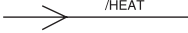




Envelope Feeder Wiring Diagrams

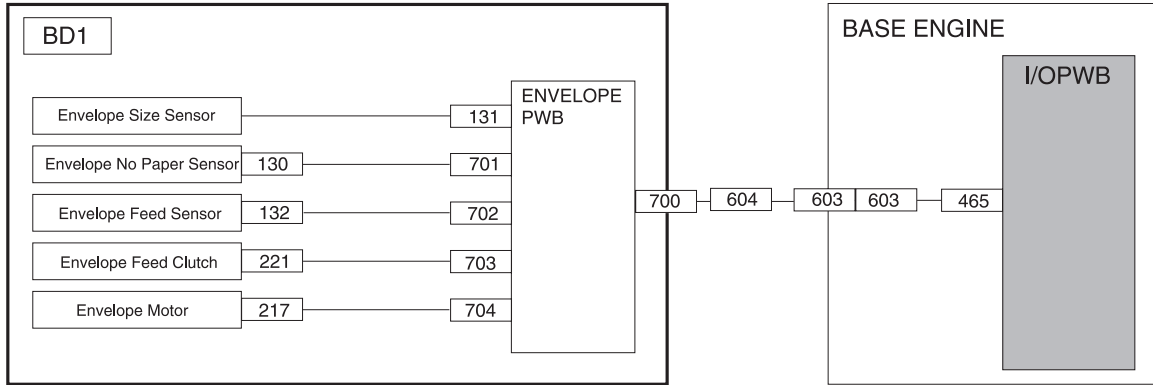
This section contains a Master Wiring Diagram for the printer Envelope Feeder option. The Master Wiring Diagram shows the interconnections of the major subsystems within the Envelope Feeder. The remainder of this section presents an individual block diagram (BD) to better illustrate the electrical relationships between components and assemblies within the Envelope Feeder. Each wire in the diagrams is tagged with a signal name and each wire is terminated at both ends with a pin number.

The wiring diagrams use the following circuit notations to describe components and signal paths within the Envelope Feeder.

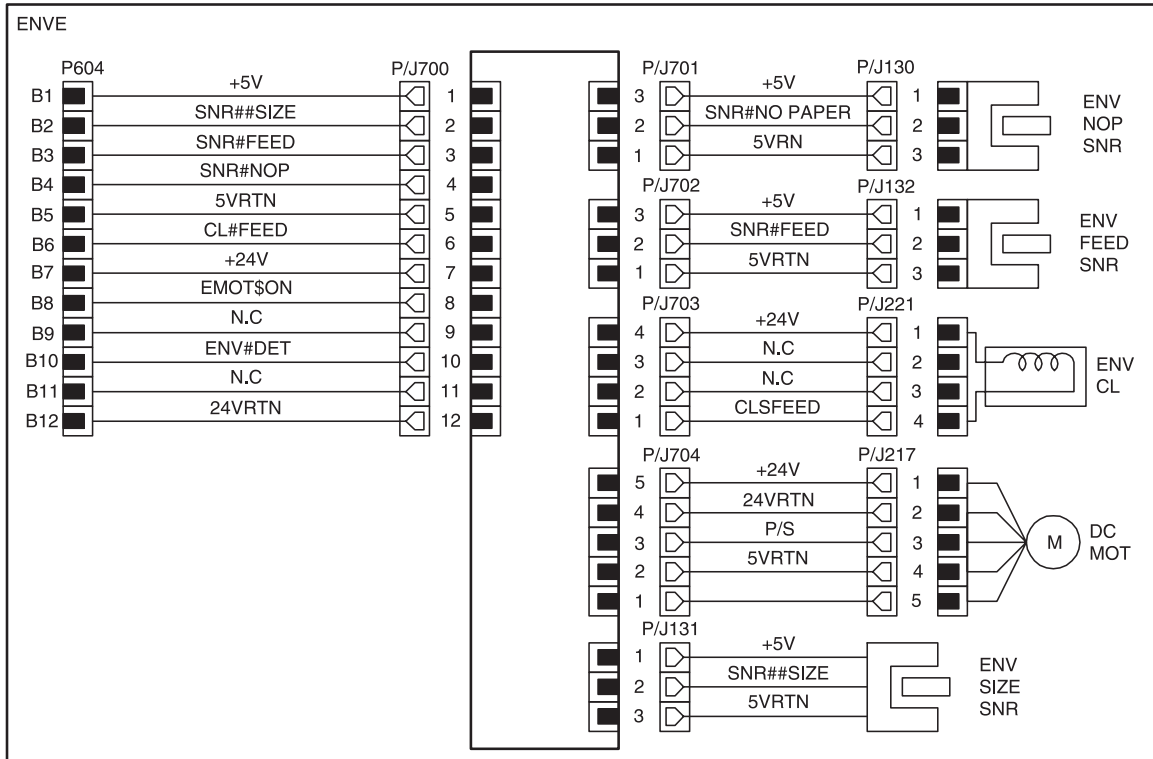
4025 Options

	<p>Plug/Jack XX</p>  is a male connector (plug) of P/J xx  is a female connector (jack) of P/J xx
	<p>Component name</p>
	<p>Component or sub-assembly within a larger assembly</p>
	<p>Wire connection</p>
	<p>Frame ground wire fastened with a screw to the printer frame</p>
	<p>Wire with signal name and direction of signal flow. In some cases, such as a signal name of 5VDC, the signal is a steady flow of approximately 5VDC. In other cases, such as a signal name /HEAT, the signal is near 5VDC when off and near 0VDC when on. Or in the case of the signal name HEAT, the signal is near 5VDC when on and near 0VDC when off.</p>
<p>FG or </p>	<p>Frame ground</p>
<p>SG</p>	<p>Signal ground</p>
<p>RTN</p>	<p>Signal return</p>
	<p>Diagram simplification; connector, component, or PWB is continued on the indicated Block Diagrams</p>

Envelope Feeder Master Wiring Diagram



BD1 MCU PWB ↔ Envelope PWB ↔ Envelope Feeder Components



4025 Options

BD1 MCU PWB↔Envelope PWB↔Envelope Feeder Components

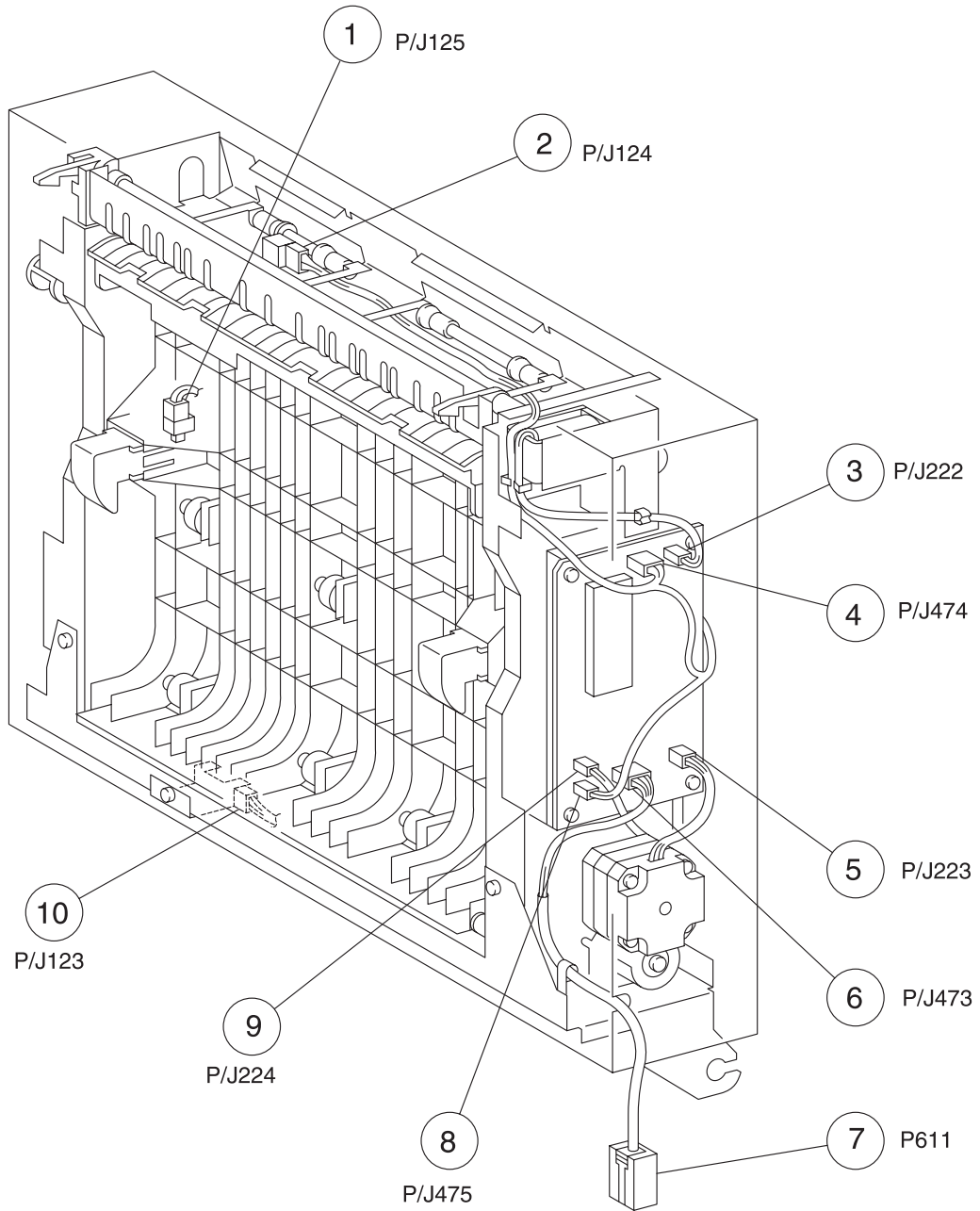
The following table shows the signal names for this BD:

Signal Name	Description
SNR#SIZE	Analog signal from the Envelope Size Sensor. Voltage levels 0VDC~5VDC
SNR#FEED	Monitors paper between Envelope Feeder and base engine. High=Paper present. Low=No paper present
SNR#NOP	Signal from No Paper Sensor
CLS#FEED	Switches Envelope Feed Clutch. High=No Feed. Low=Feed
EMOT\$ON	Switches Envelope Feed Motor. High=Off. Low=On
ENV#DET	Monitors presence of Envelope Feeder. High=Envelope Feeder not present. Low=Envelope Feeder present
SNR#NO PAPER	Monitors level of paper in the Envelope Feeder. High=No paper present. Low=Paper present
P/S	Switches the Envelope Motor

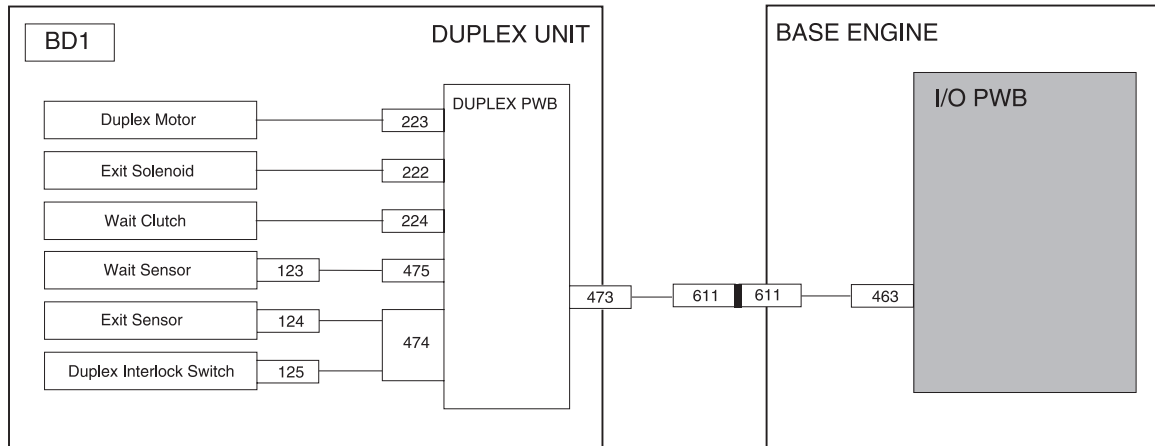
Duplex
Duplex P/J Location Table

P/J	Map & Number	Connected to...	Other end connected to...
123	M1-10	Wait Sensor	P475 Duplex PWB
124	M1-2	Exit Sensor	P474 Duplex PWB
125	M1-1	Duplex Interlock Switch	P474 Duplex PWB
222	M1-3	Duplex PWB	Exit Sensor
223	M1-5	Duplex PWB	Duplex Motor
224	M1-9	Duplex PWB	Wait Clutch
473	M1-6	Duplex PWB	P611 Duplex Interface Cable then to P463 I/O PWB
474	M1-4	Duplex PWB	J125 Duplex Interlock Switch and J124 Exit Sensor
475	M1-8	Duplex PWB	J123 Wait Sensor
611	M1-7	Duplex Interface Cable	P473 Duplex PWB

Duplex P/J Location Map 1

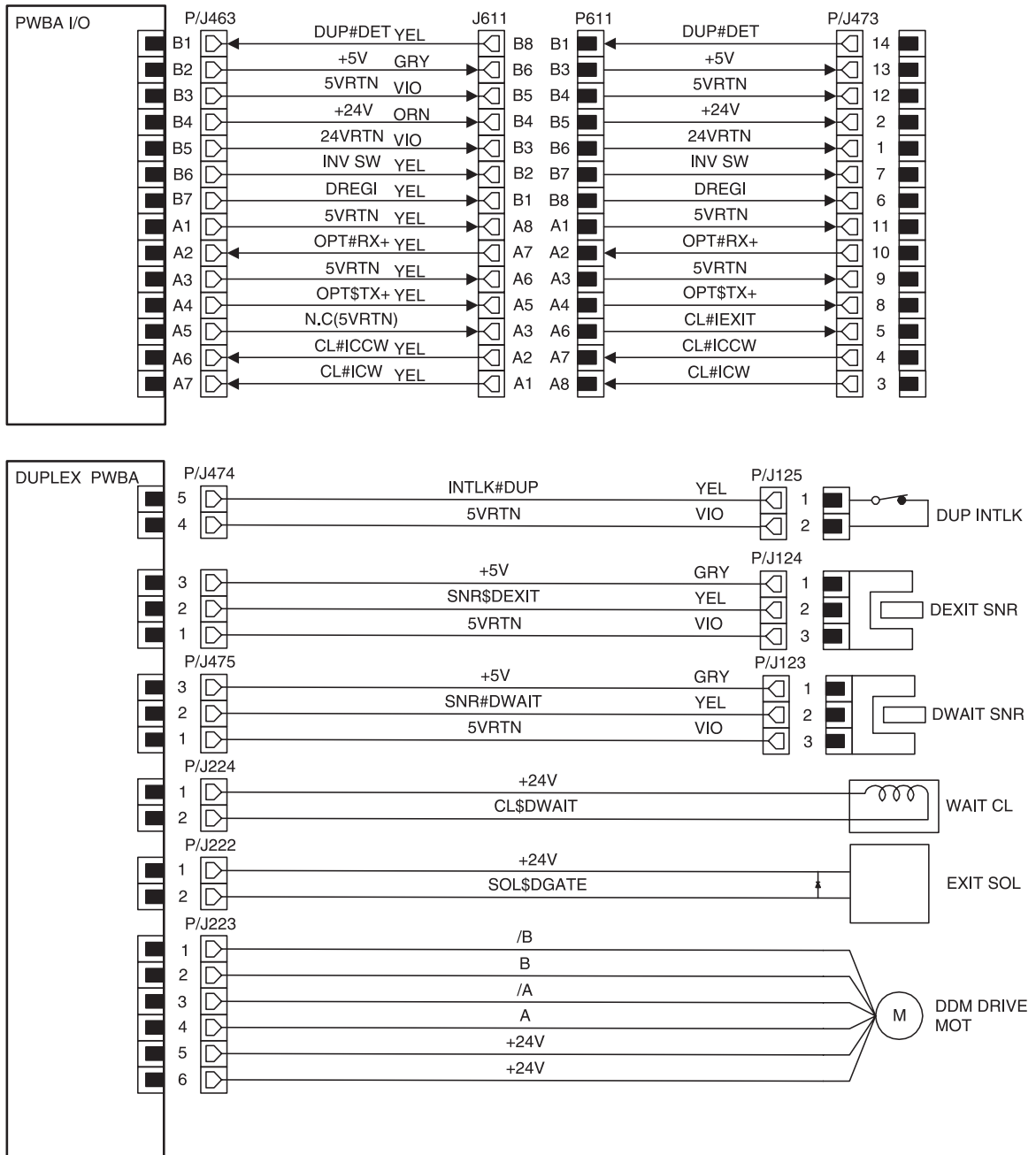


Duplex Wiring Diagrams



4025 Options

BD1 I/O PWB ↔ DUPLEX PWB ↔ DUPLEX COMPONENTS



4025 Options

BD1 I/O PWB ↔ DUPLEX PWB ↔ DUPLEX COMPONENTS

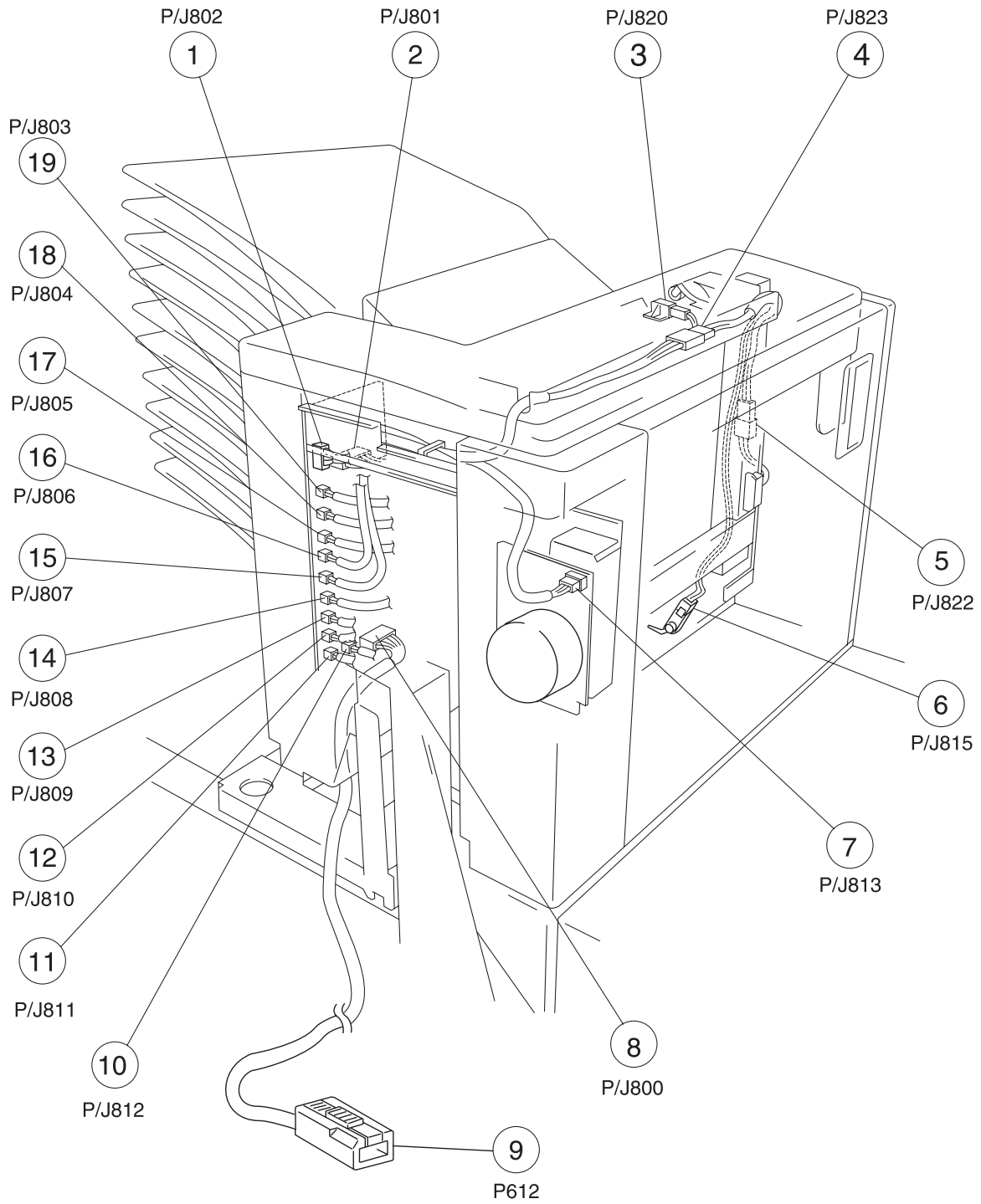
The following table shows the signal names for this BD:

Signal Name	Description
OPT\$TX+	Status of Duplex Unit sent to MCU. High=Mark. Low=No mark
OPT#RX+	Status of MCU sent to the Duplex Unit. High=Mark. Low=No mark
DUP#DET	Monitors presence of a Duplex Unit. High=Duplex Unit not installed. Low=Duplex Unit installed
DREGI	Monitors paper at the Registration Sensor. High=Paper present. Low=Paper not present
INV SW	Monitors paper at the Fuser Exit Sensor. High=Actuated. Low=No actuated
CL#ICW	Switches the Inverter CW Clutch. High=Off. Low=On
CL#ICCW	Switches the Inverter CCW Clutch. High=Off. Low=On
INTLK#DUP	Monitors the Duplex Cover Interlock Switch. High=Cover Open. Low=Cover closed
SNR\$DEXIT	Monitors paper at the Duplex Exit Sensor. High=Not actuated. Low=Actuated
SNR\$DWAIT	Monitors paper at the Duplex Wait Sensor. High=Not actuated. Low=Actuated
CL\$DWAIT	Switches the Wait Roll. High=On. Low=Off
SOL\$DGATE	Switches the Duplex Exit Gate Solenoid. High=Off. Low=On
/A, A, /B, B	Pulse signals sent by the Duplex PWB to rotate the Duplex Motor

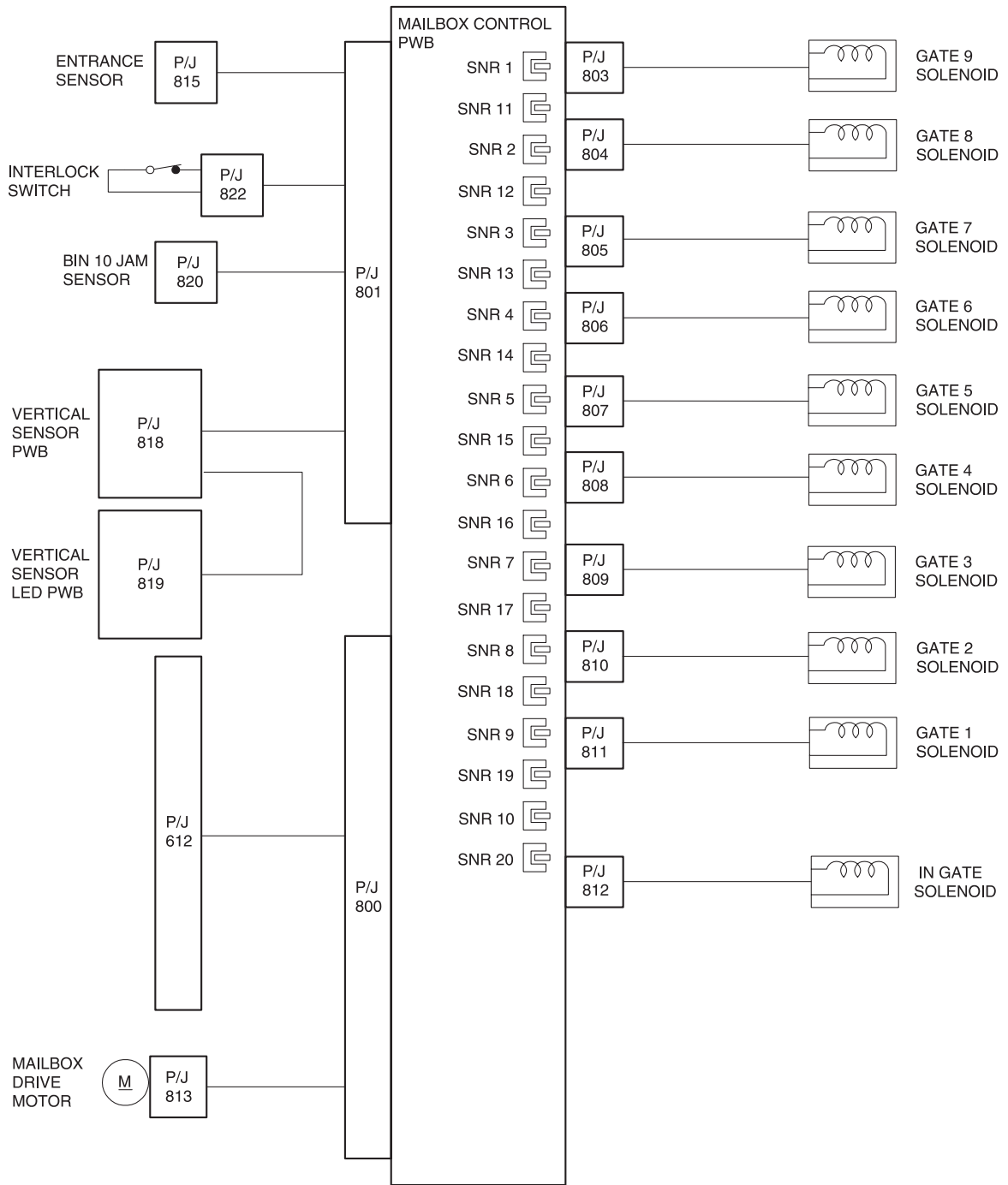
Mailbox**Mailbox P/J Location Table**

P/J	Map & Number	Connected to...	Other end connected to...
612	M1-9	P/J405 MCU PWB	P/J800 Mailbox Control PWB
800	M1-8	Mailbox Control PWB	P405 MCU PWB
801	M1-2	Mailbox Control PWB	P/J815 Entrance Sensor P/J818 Vertical Jam Sensor P/J820 Bin 10 Jam Sensor P/J822 Interlock Switch
802	M1-1	Mailbox Control PWB	P/J813 Mailbox Drive Motor
803	M1-19	Mailbox Control PWB	BIN 9 Gate Solenoid
804	M1-18	Mailbox Control PWB	BIN 8 Gate Solenoid
805	M1-17	Mailbox Control PWB	BIN 7 Gate Solenoid
806	M1-16	Mailbox Control PWB	BIN 6 Gate Solenoid
807	M1-15	Mailbox Control PWB	BIN 5 Gate Solenoid
808	M1-14	Mailbox Control PWB	BIN 4 Gate Solenoid
809	M1-13	Mailbox Control PWB	BIN 3 Gate Solenoid
810	M1-12	Mailbox Control PWB	BIN 2 Gate Solenoid
811	M1-11	Mailbox Control PWB	BIN 1 Gate Solenoid
812	M1-10	Mailbox Control PWB	IN Gate Solenoid
813	M1-7	Mailbox Drive Motor	P/J802 Mailbox Control PWB
815	M1-6	Entrance Sensor	P/J801 Mailbox Control PWB
820	M1-3	Bin 10 Jam Sensor	P/J801 Mailbox Control PWB
822	M1-5	Interlock Switch	P/J801 Mailbox Control PWB
823	M1-4	P/J818 Vertical Sensor PWB	P/J801 Mailbox Control PWB

Mailbox P/J Location Map 1

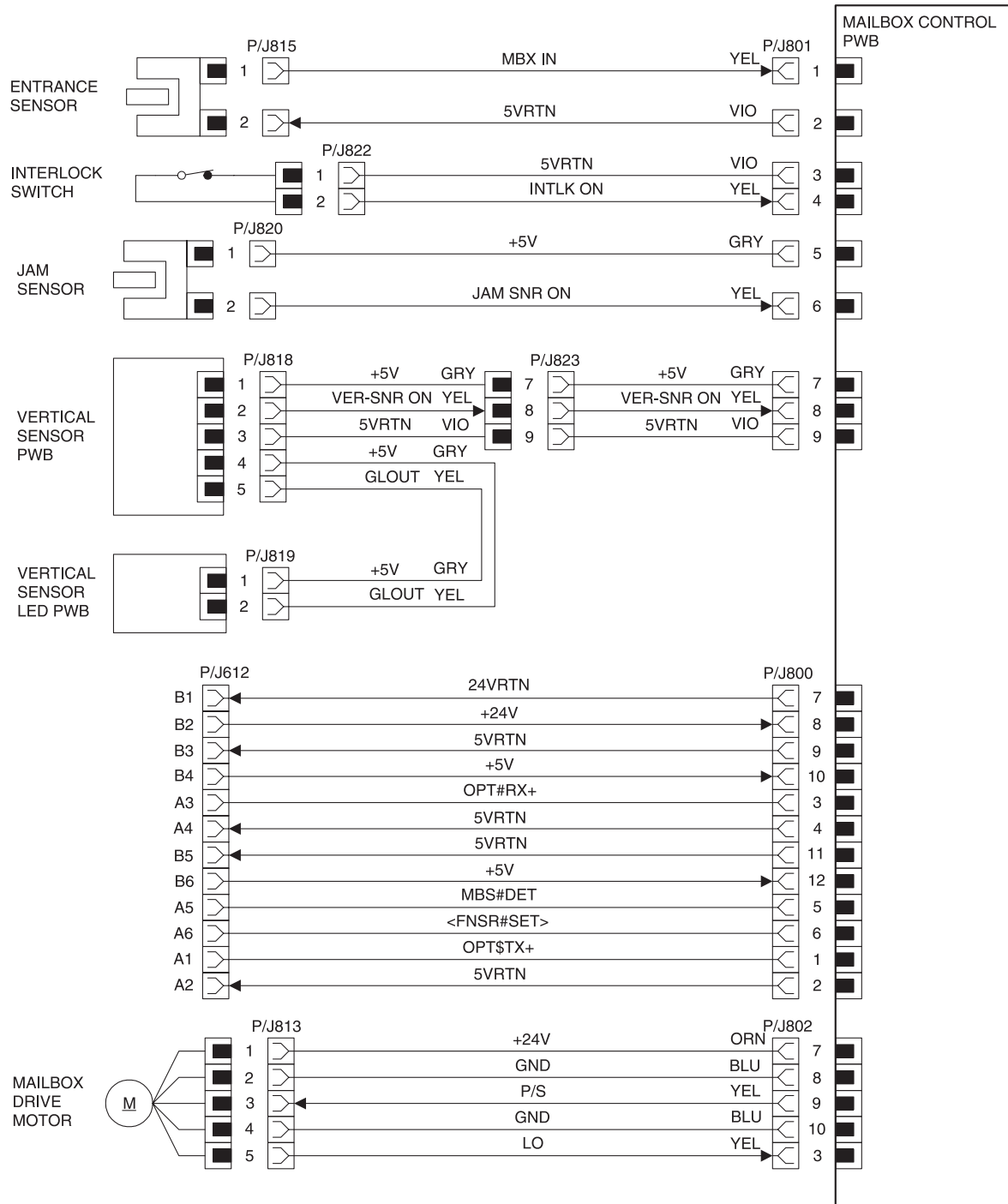


Mailbox Wiring Diagrams



4025 Options

BD1 MCU PWB ↔ Mailbox Control PWB ↔ Mailbox Components



4025 Options

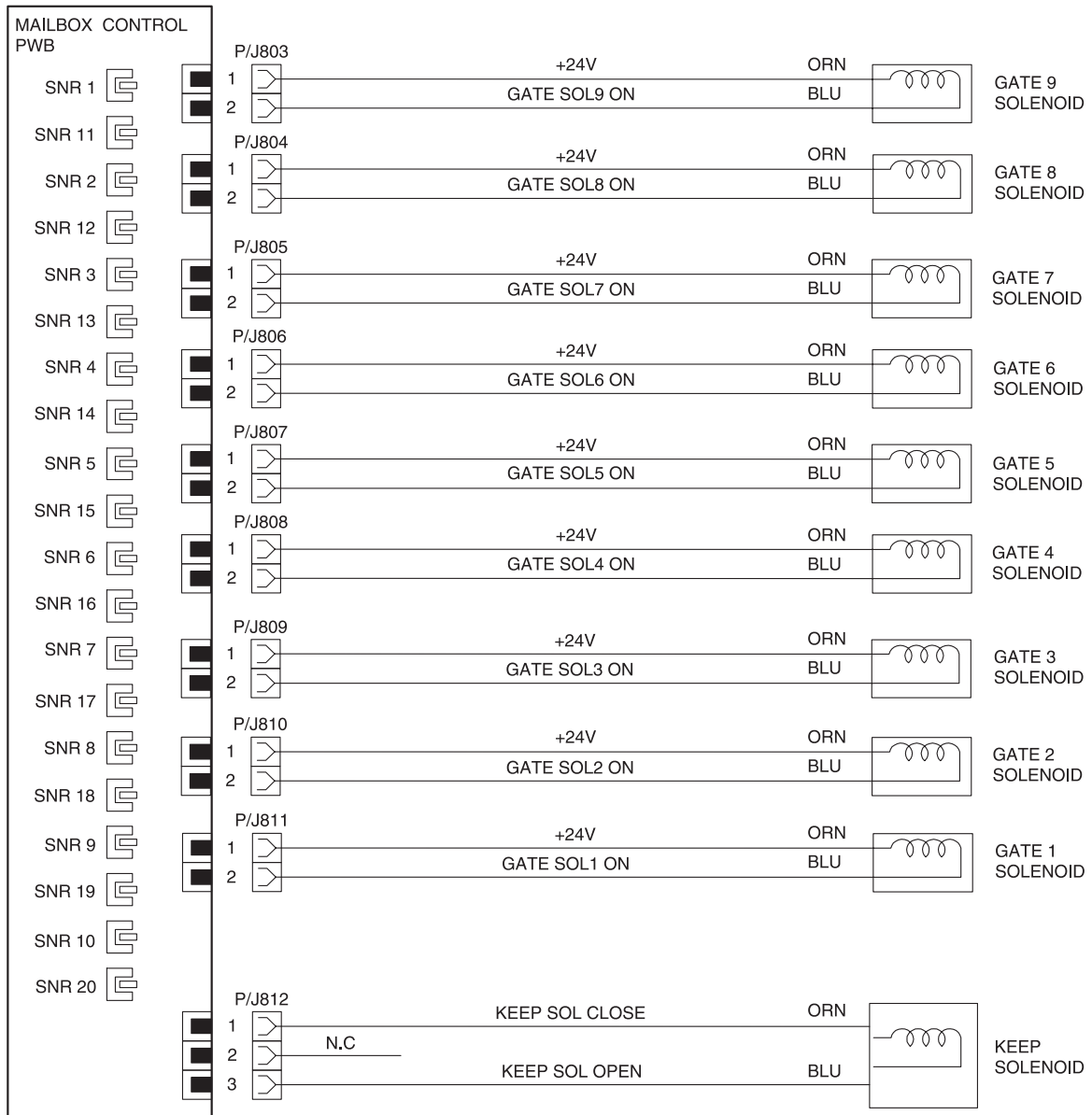
BD1 MCU PWB↔Mailbox Control PWB↔Mailbox/Mailbox Components

The following table shows the signal names for this BD:

Signal Name	Description
MBX IN	Monitors the presence of paper at the Entrance Sensor. High=No paper present. Low=Paper paper present
INTLK ON	Monitors the condition of the Mailbox Left Cover. High=Cover open. Low=Cover closed
JAM SNR ON	Monitors the presence of paper at the Bin 10 Jam Sensor. High=No paper present. Low=Paper present
VER-SNR ON	Monitors the presence of paper at Bins 1 through 9. High=Paper present. Low=No paper present
P/S	Switches the Mailbox Drive Motor. High=Off. Low=On
LO	Monitors the speed of the Mailbox Drive Motor. High=Within specified range. Low=Outside specified range (greater than $\pm 6.5\%$)
GLOUT	Powers the Vertical Sensor LED

4025 Options

BD2 Mailbox Control PWB ↔ Solenoids



BD2 Mailbox Control PWB↔Solenoids

The following table shows the signal names for this BD:

Signal Name	Description
GATE SOL9 ON	Controls Bin 9 Gate Solenoid. High=On. Low=Off
GATE SOL8 ON	Controls Bin 8 Gate Solenoid. High=On. Low=Off
GATE SOL7 ON	Controls Bin 7 Gate Solenoid. High=On. Low=Off
GATE SOL6 ON	Controls Bin 6 Gate Solenoid. High=On. Low=Off
GATE SOL5 ON	Controls Bin 5 Gate Solenoid. High=On. Low=Off
GATE SOL4 ON	Controls Bin 4 Gate Solenoid. High=On. Low=Off
GATE SOL3 ON	Controls Bin 3 Gate Solenoid. High=On. Low=Off
GATE SOL2 ON	Controls Bin 2 Gate Solenoid. High=On. Low=Off
GATE SOL1 ON	Controls Bin 1 Gate Solenoid. High=On. Low=Off
KEEP SOL CLOSE	Controls the IN Gate Solenoid which opens and closes the IN Gate. P/J812-1 High & P/J812-3 Low= Close IN Gate
KEEP SOL OPEN	Controls the IN Gate Solenoid which opens and closes the IN Gate. P/J812-1 Low & P/J812-3 High= Open IN Gate

High Capacity Feeder

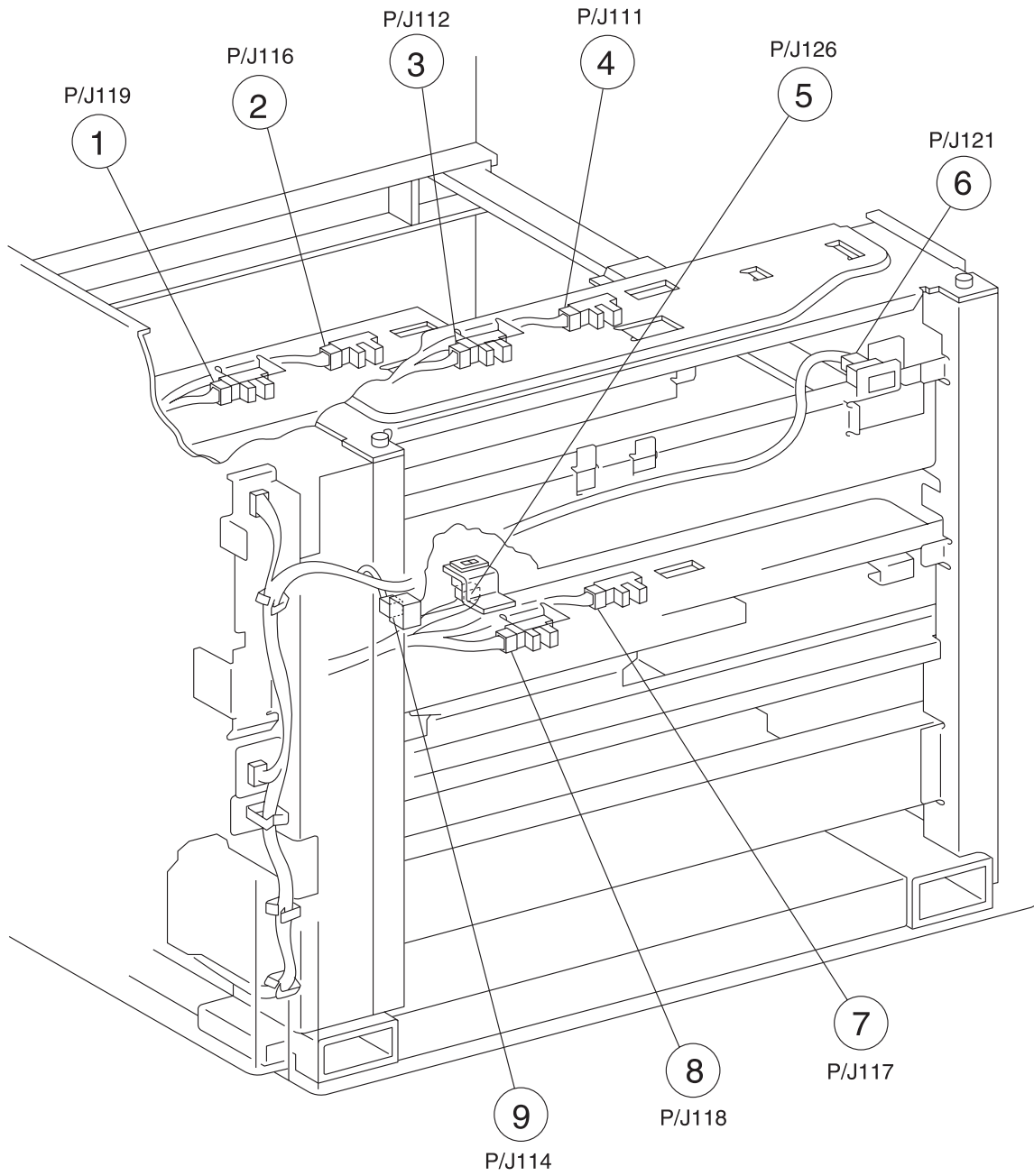
High Capacity Feeder P/J Location Table

P/J	Map & Number	Connected to...	Other end connected to...
110	M2-2	Tray 3 Size Sensor	P483 HCF PWB
111	M1-4	Tray 3 No Paper Sensor	P483 HCF PWB
112	M1-3	Tray 3 Level Sensor	P483 HCF PWB
114	M1-9	Interlock Switch	P482 HCF PWB
115	M2-9	Tray 4 Size Sensor	P483 HCF PWB
116	M1-2	Tray 5 No Paper Sensor	P484 HCF PWB
117	M1-7	Tray 4 No Paper Sensor	P483 HCF PWB
118	M1-8	Tray 4 Level Sensor	P483 HCF PWB
119	M1-1	Tray 5 Level Sensor	P484 HCF PWB
120	M2-15	Tray 5 Size Sensor	P484 HCF PWB

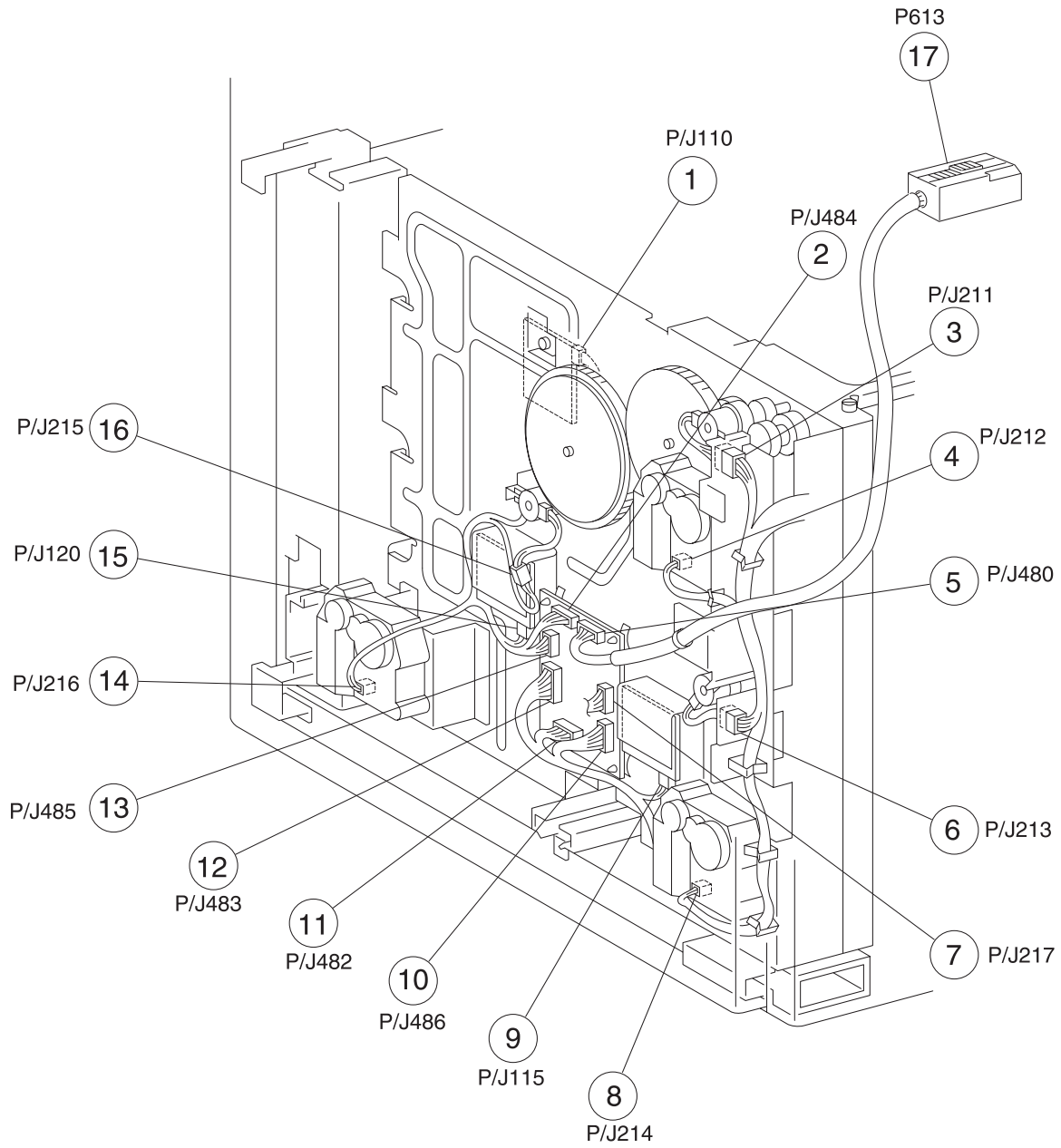
4025 Options

P/J	Map & Number	Connected to...	Other end connected to...
121	M1-6	Tray 3 Take Away Sensor	P482 HCF PWB
126	M1-5	Tray 4 Take Away Sensor	P486 HCF PWB
211	M2-3	Tray 3 Feed Clutch	P482 HCF PWB
212	M2-4	Tray 3 Lift Motor	P482 HCF PWB
213	M2-6	Tray 4 Feed Clutch	P482 HCF PWB
214	M2-8	Tray 4 Lift Motor	P482 HCF PWB
215	M2-16	Tray 5 Feed Clutch	P485 HCF PWB
216	M2-14	Tray 5 Lift Motor	P485 HCF PWB
217	M2-7	Feed Motor	P217 HCF PWB
480	M2-5	HCF PWB	P406 I/O PWB
482	M2-11	HCF PWB	P114 Interlock Switch P121 Tray 3 Take Away Sensor P211 Tray 3 Feed Clutch P212 Tray 3 Lift Motor P213 Tray 4 Feed Clutch P214 Tray 4 Lift Motor
483	M2-12	HCF PWB	P110 Tray 3 Size Sensor P111 Tray 3 No Paper Sensor P112 Tray 3 Level Sensor P115 Tray 4 Size Sensor P117 Tray 4 No Paper Sensor P118 Tray 4 Level Sensor
484	M2-2	HCF PWB	P116 Tray 5 No Paper Sensor P119 Tray 5 Level Sensor P120 Tray 5 Size Sensor
485	M2-13	HCF PWB	P215 Tray 5 Feed Clutch P216 Tray 5 Lift Motor
486	M2-10	HCF PWB	P126 Tray 4 Take Away Sensor
613	M2-17	P/J480 HCF PWB	P/J466 I/O PWB

High Capacity Feeder P/J Location Map 1



High Capacity Feeder P/J Location Map 2

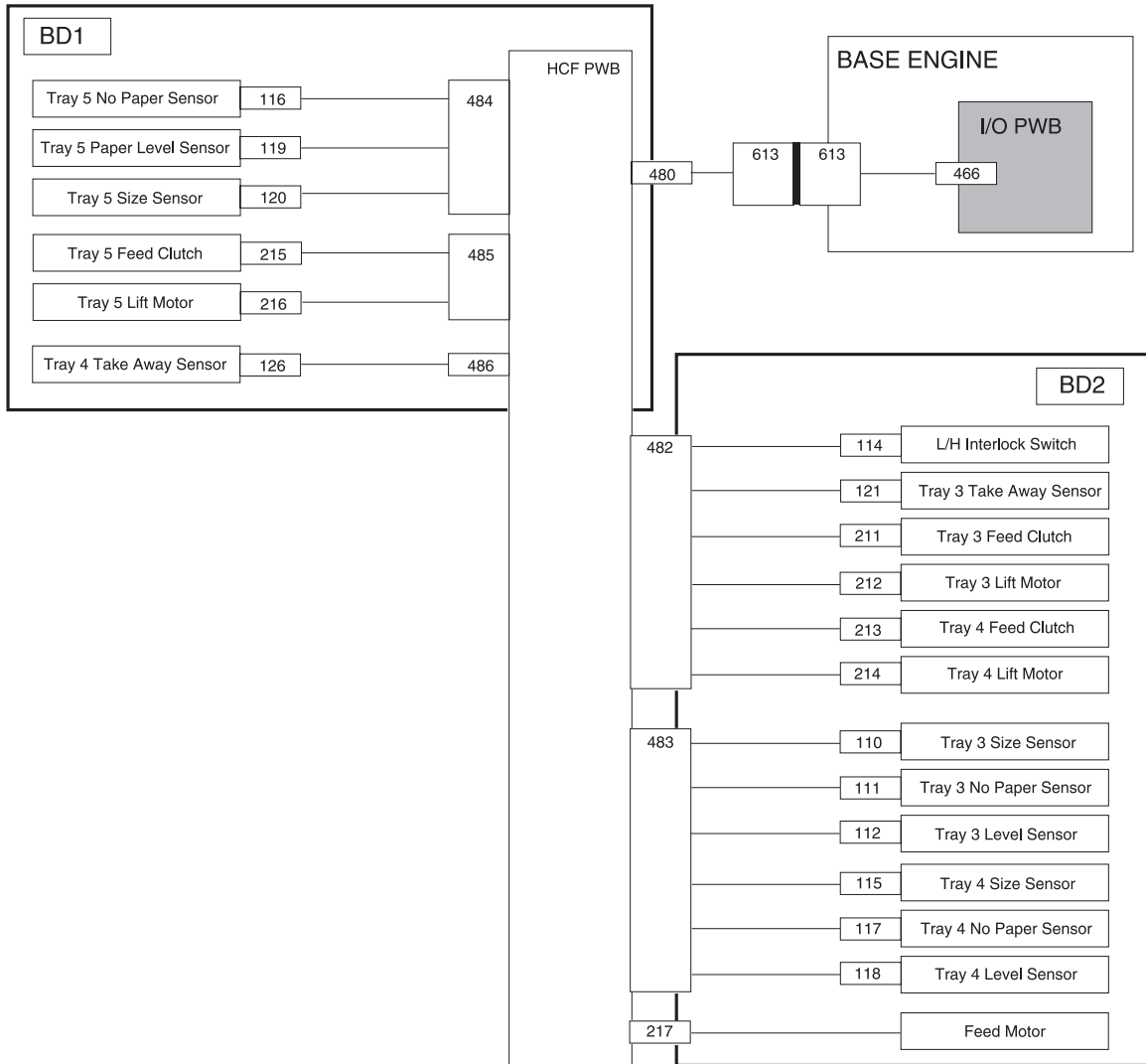


High Capacity Feeder Wiring Diagrams

This section of the manual contains a Master Wiring Diagram for the High Capacity Feeder option. The Master Wiring Diagram shows the interconnections of the major subsystems within the High Capacity Feeder. The remainder of this section presents individual block diagrams (BD) to better illustrate the electrical relationships between components and assemblies within the High Capacity Feeder. Each wire in the diagrams is tagged with a signal name and each wire is terminated at both ends with a pin number.

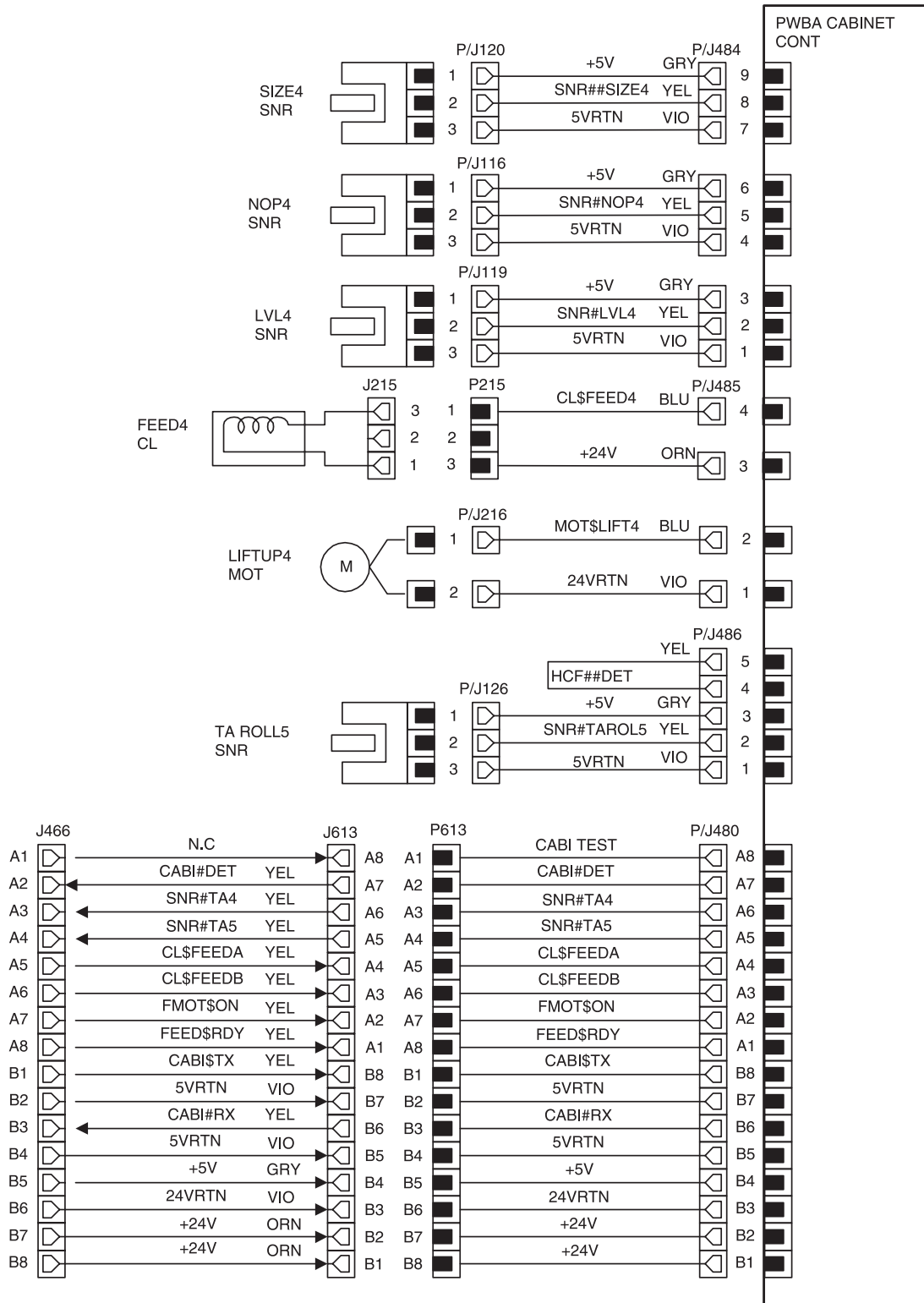
The wiring diagrams use the following circuit notations to describe components and signal paths within the High Capacity Feeder.

High Capacity Feeder Master Wiring Diagram



4025 Options

BD1 HCF PWB ↔ Tray 5 Components



4025 Options

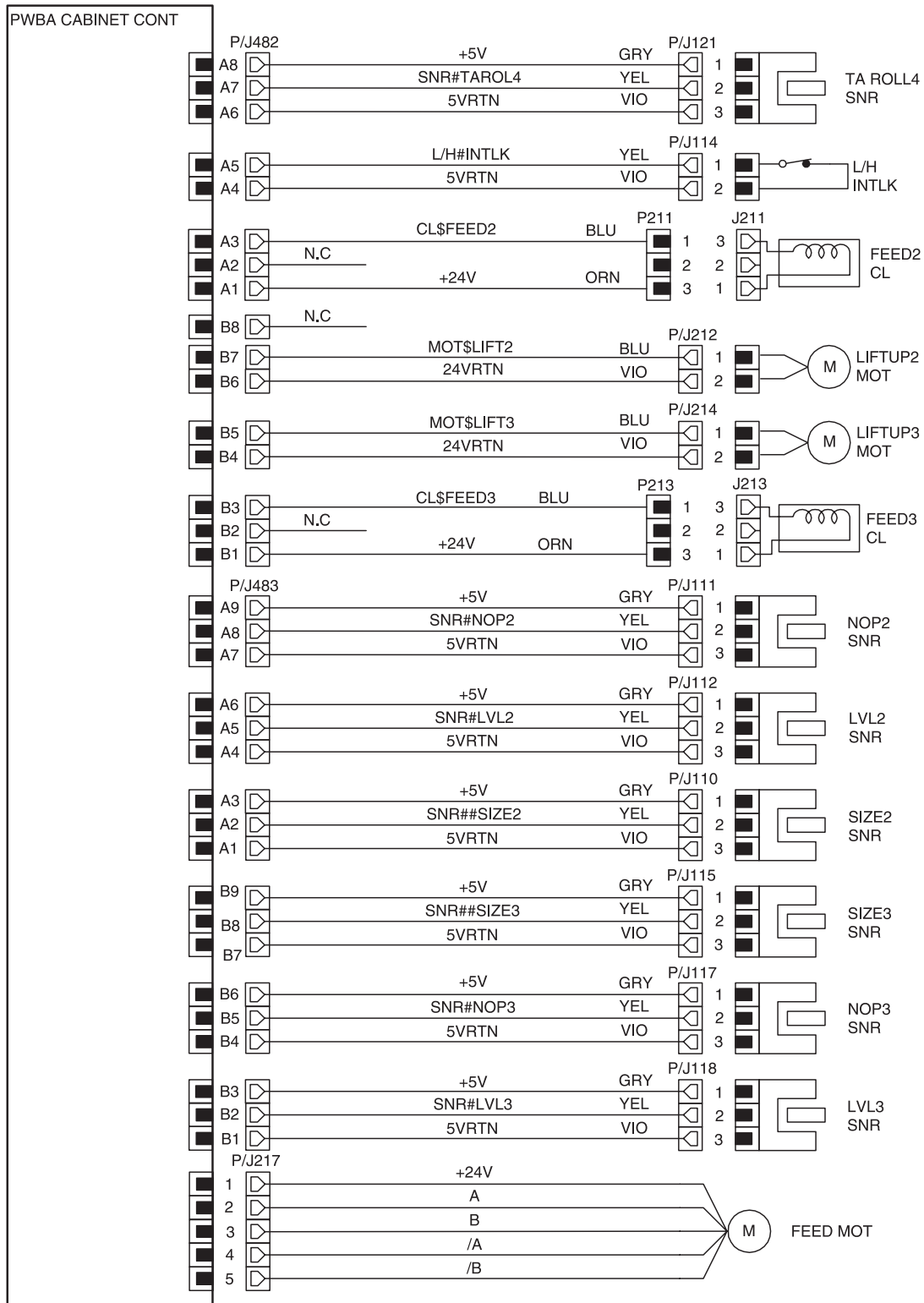
BD1 HCF PWB↔Tray 5 Components

The following table shows the signal names for this BD:

Signal Name	Description
CABI TEST	Test point
CAB#DET	Monitors presence of the HCF. High=Not attached. Low=Attached
SNR#TA4	Monitors paper travel between Tray 4 and Tray 3. High=Paper present. Low=Paper not present
SNR#TA5	Monitors paper travel between Tray 5 and Tray 4. High=Paper present. Low=Paper not present
CL\$FEEDA	Controls Feed Clutch
CL\$FEEDB	Controls Feed Clutch
FMOT\$ON	Switches the HCF Feed Motor. High=Motor off. Low=Motor on
FEED\$RDY	Status signal
CABI\$TX	Data signal
CABI#RX	Data signal
SNR##SIZE4	Analog signal from the Tray 5 Size Sensor
SNR#NOP4	Monitors the level of paper in Tray 5
SNR#LVL4	Monitors the position of Tray 5. High=In position. Low=Not in position
MOT\$LIFT4	Switches Tray 5 Lift Motor. High=On. Low=Off
CL\$FEED4	Controls Tray 5 Feed Clutch. High=Off. Low=On (feed)
SNR#TAROL5	Monitors paper travel between Tray 5 and Tray 4. High=Paper present. Low=Paper not present

4025 Options

BD2 HCF PWB ↔ HCF Trays 3 and 4 Components



4025 Options

BD2 HCF PWB↔HCF Trays 3 and 4 Components

The following table shows the signal names for this BD:

Signal Name	Description
SNR#TAROL4	Monitors paper travel between Tray 4 and Tray 3. High=Paper present. Low=Paper not present
L/H#INTLK	Monitors the HCF Cover Interlock Switch. High=Cover closed. Low=Cover open
CL\$FEED2	Controls Tray 3 Feed Clutch. High=On (feed). Low=Off
MOT\$LIFT2	Switches Tray 3 Lift Motor. High=On. Low=Off
SNR#NOP2	Monitors the level of paper in Tray 3
SNR#LVL2	Monitors the position of Tray 3. High=In position. Low=Not in position
SNR##SIZE2	Analog signal from the Tray 3 Size Sensor
CL\$FEED3	Controls Tray 4 Feed Clutch. High=Off. Low=On (feed)
MOT\$LIFT3	Switches Tray 4 Lift Motor. High=On. Low=Off
SNR#NOP3	Monitors the level of paper in Tray 4
SNR#LVL3	Monitors the position of Tray 4. High=In position. Low=Not in position
SNR##SIZE3	Analog signal from the Tray 4 Size Sensor
A, B, /A, /B	Duplex Motor stepper signals

4025 Options

6. Preventative Maintenance

This chapter describes procedures for printer preventive maintenance. Following these recommendations can help prevent problems and maintain optimum performance.

Safety Inspection Guide

The purpose of this inspection guide is to aid you in identifying unsafe conditions.

If any unsafe conditions exist, find out how serious the hazard could be and if you can continue before you correct the hazard.

Check the following items:

- Damaged, missing, or altered parts, especially in the area of the On/Off switch and the power supply
- Damaged, missing, or altered covers, especially in the area of the top cover and the power supply cover
- Possible safety exposure from any non-Lexmark attachments

Scheduled Maintenance

There is no scheduled maintenance on the Mailbox, Duplex, Envelope Feeder, or High Capacity Feeder.

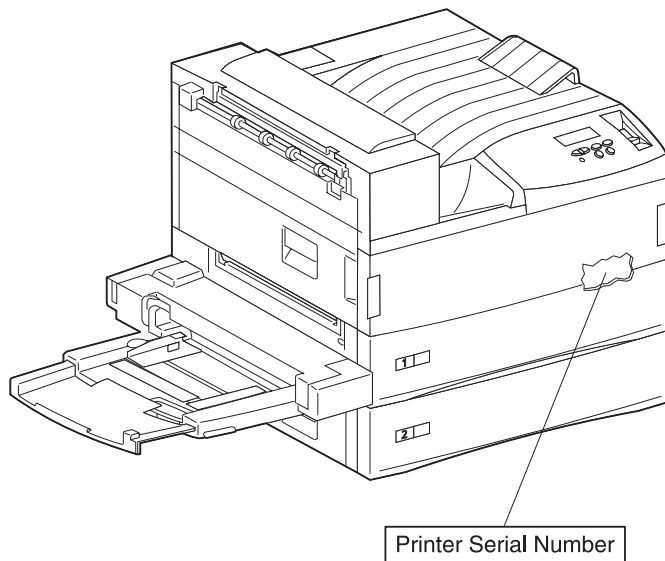
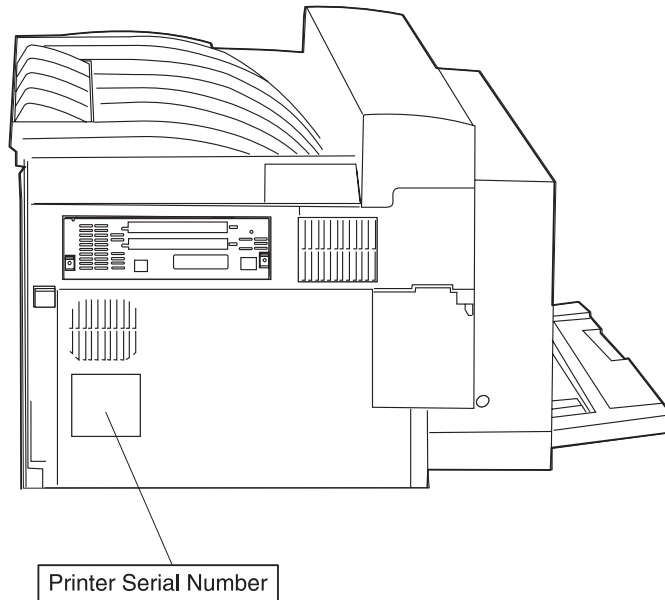
4025 Options

7. Parts Catalog

How to Use the Parts Catalog

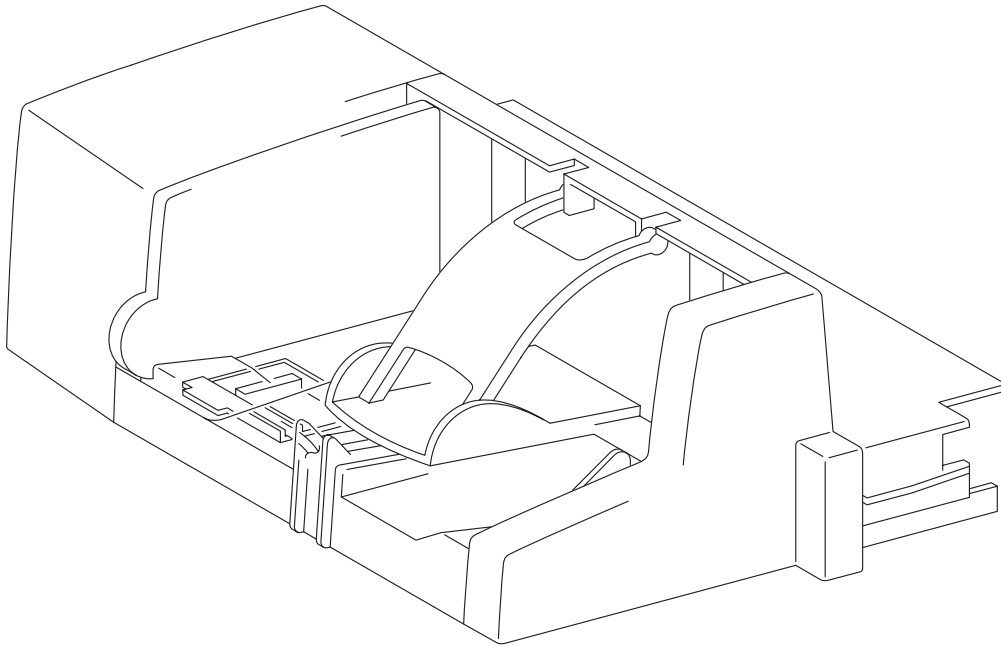
- The callout numbers shown in each parts illustration correspond to the parts list numbers for that illustration.
- The capital letters "C," "E," "KL," and "S" shown in an illustration stand for C-ring, E-ring, Clamp, and Screw, respectively.

Printer serial number labels are on the rear of the printer and inside the front cover.



Assembly 1: Envelope Feeder

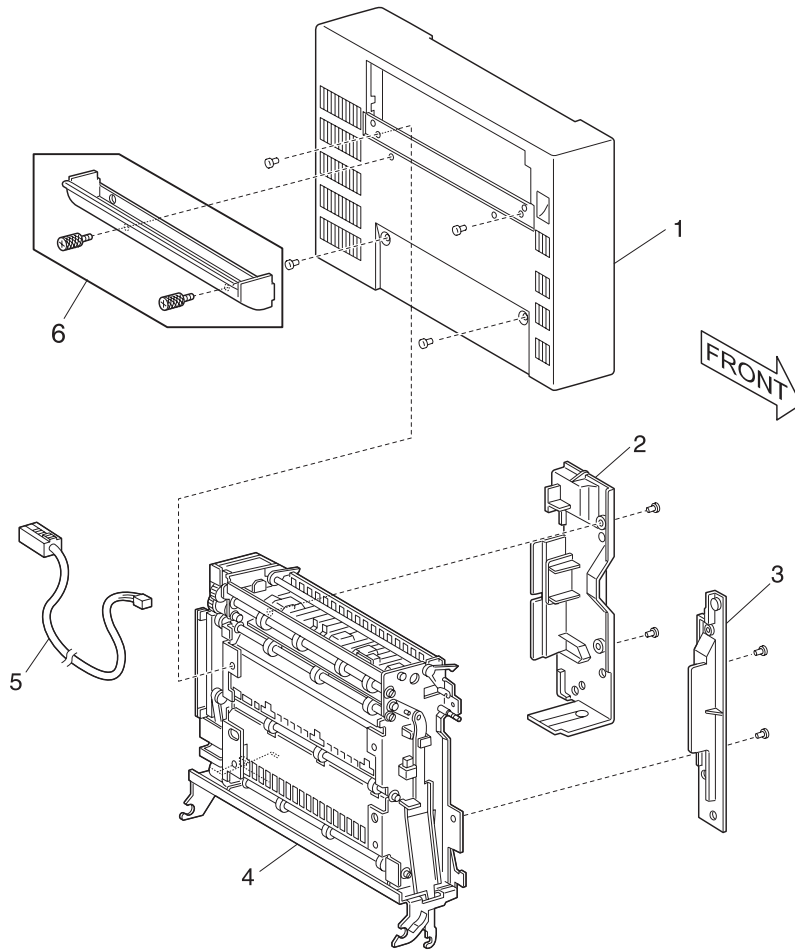
①



Assembly 1: Envelope Feeder

Asm-Index	Part Number	Units	Description
1	12G4181	1	FEEDER ASM, ENVELOPE

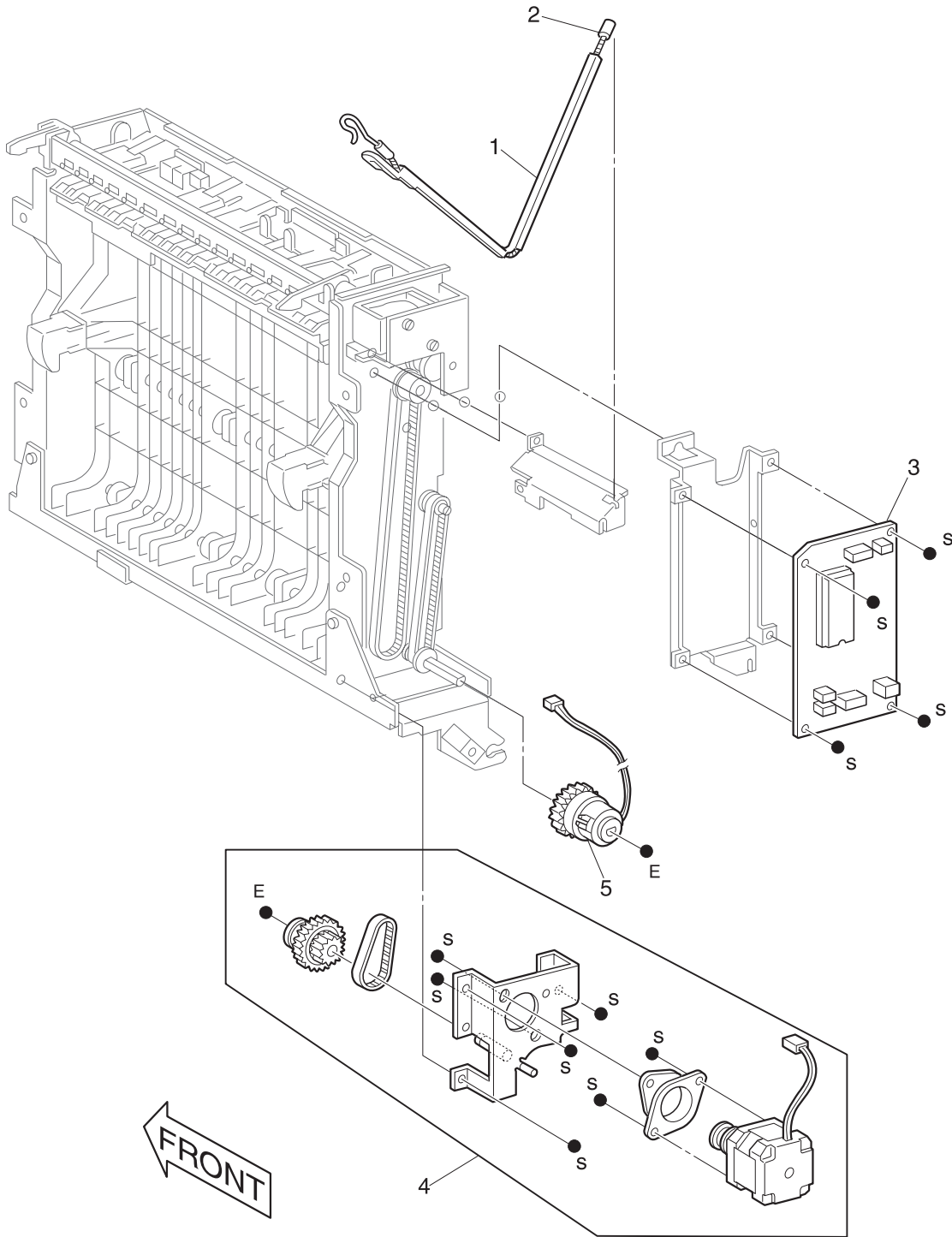
Assembly 2: Duplex



Assembly 2: Duplex

Asm-Index	Part Number	Units	Description
1	12G4152	1	COVER, DUPLEX
2	12G4153	1	COVER, DUPLEX R
3	12G4154	1	COVER, DUPLEX F
4	12G4155	1	TRANSPORT, DUPLEX ASSEMBLY
5	12G4156	1	CABLE ASM, DUPLEX
6	12G4158	1	COVER, DUPLEX TRAY

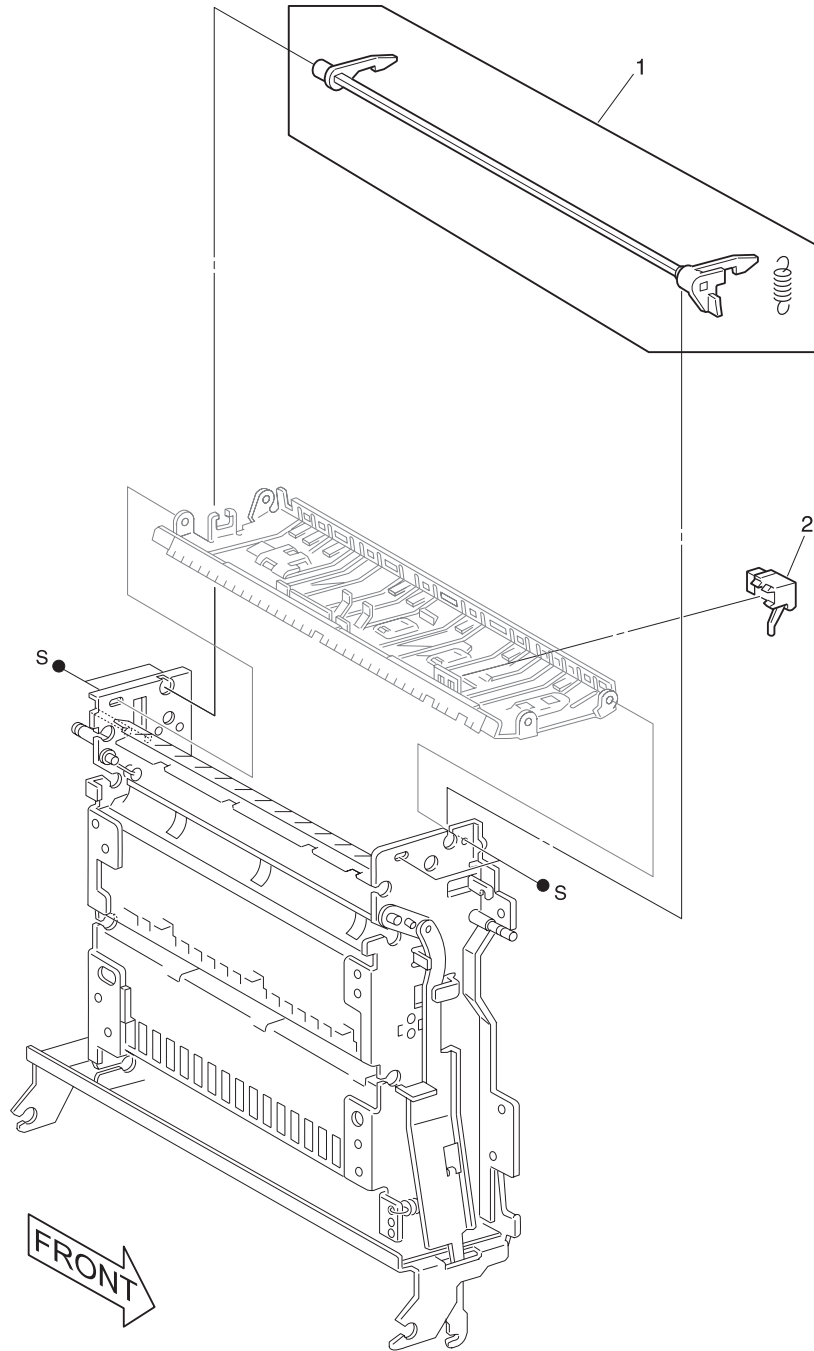
Assembly 2.1: Duplex



Assembly 2.1: Duplex

Asm-Index	Part Number	Units	Description
1	12G4162	1	SUPPORT ASM, DUPLEX
2	12G4163	1	STRAP ASM, SUPPORT
3	12G4159	1	CARD ASM, DUPLEX
4	12G4161	1	MOTOR ASM, DUPLEX
5	12G4160	1	CLUTCH ASM, DUPLEX

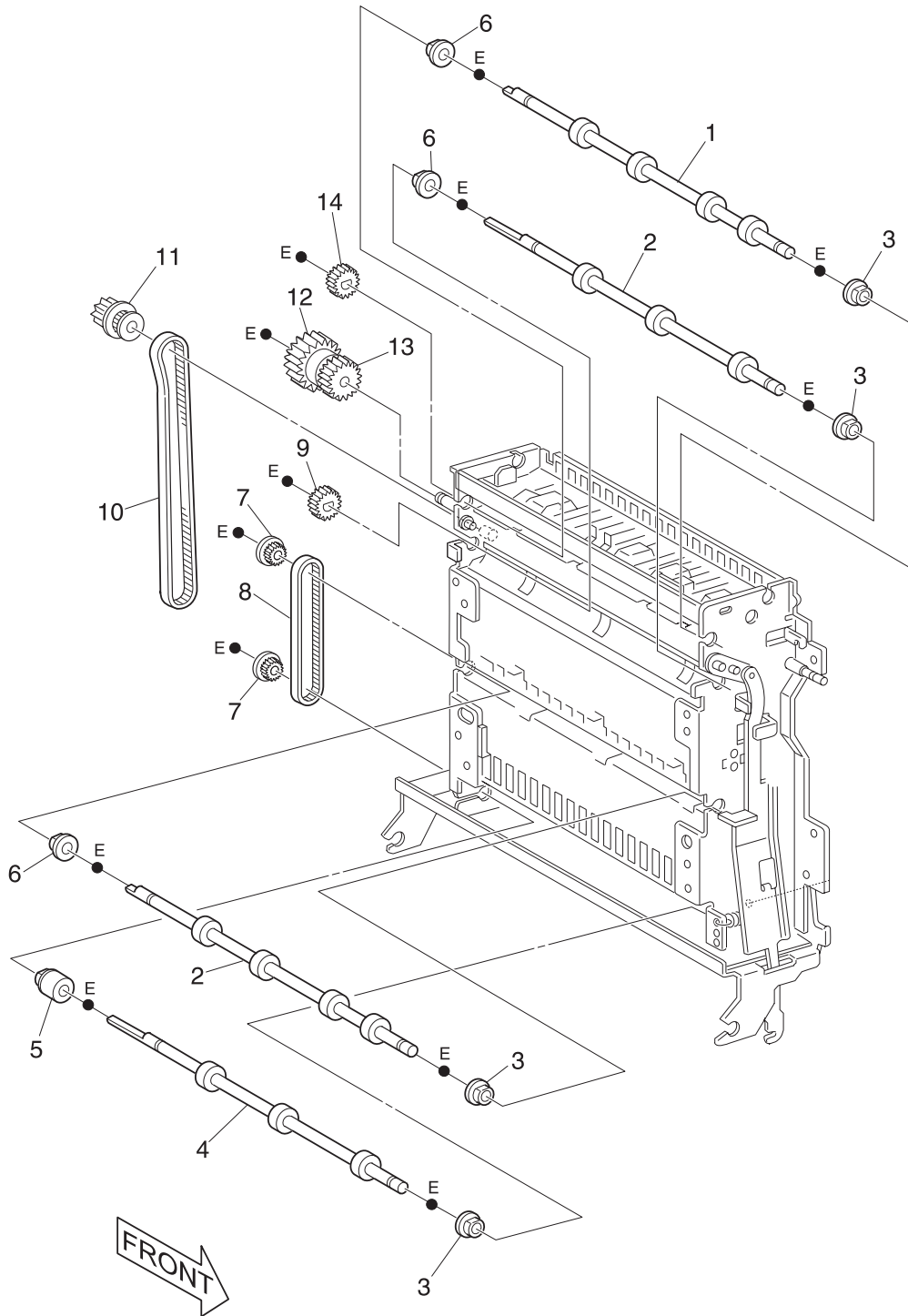
Assembly 2.2: Duplex



Assembly 2.2: Duplex

Asm-Index	Part Number	Units	Description
1	12G4165	1	LATCH ASM, DUPLEX
2	12G4164	1	SENSOR, PHOTO

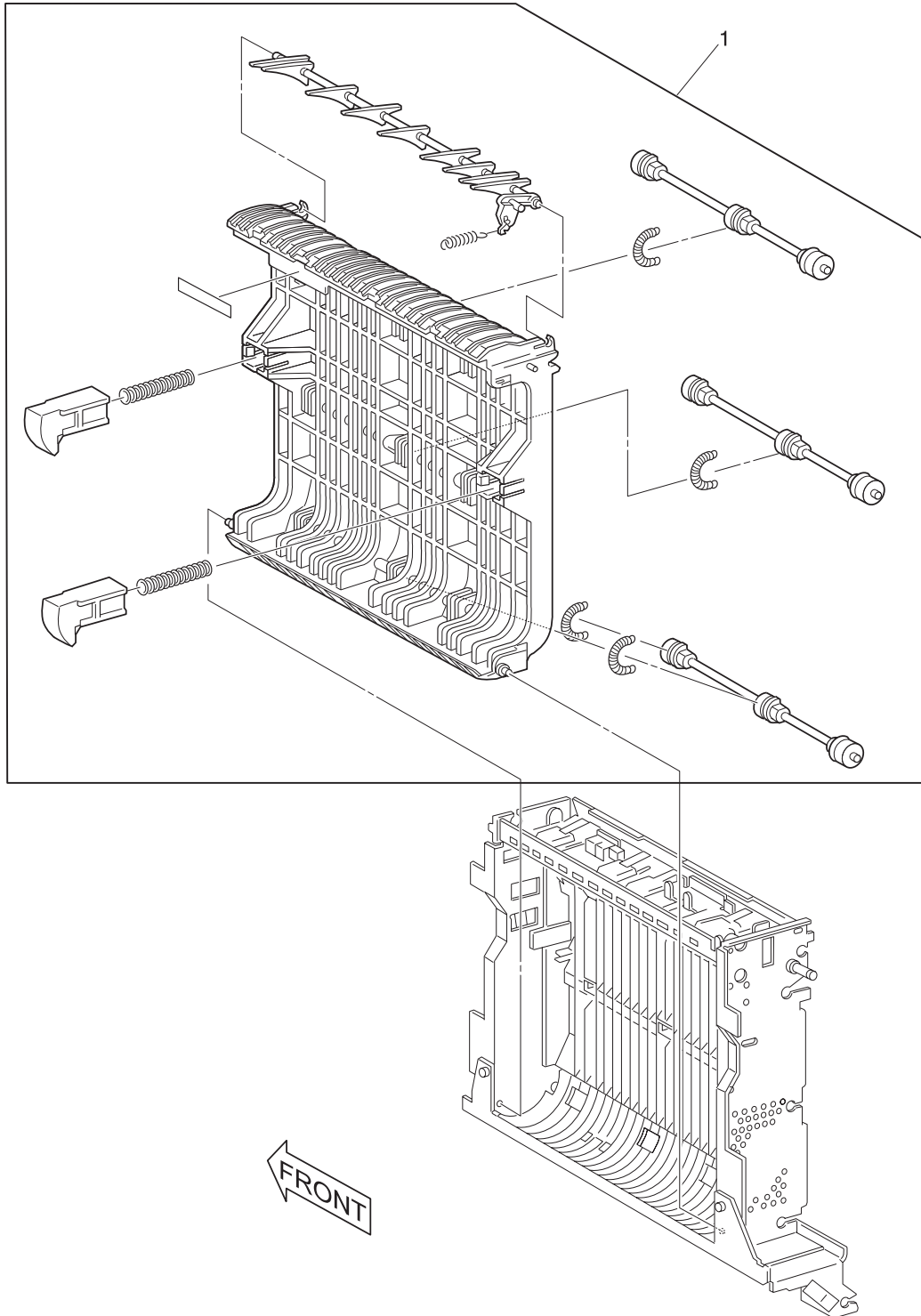
Assembly 2.3: Duplex



Assembly 2.3: Duplex

Asm-Index	Part Number	Units	Description
1	12G4167	1	ROLLER ASM, DUPLEX EXIT
2	12G4172	1	ROLLER ASM, TRANSPORT
3	12G4166	1	BEARING TRANSPORT, EXIT
4	12G4176	1	ROLLER ASM EXIT, TRANSPORT WAIT
5	12G4177	1	CLUTCH DUPLEX, ONE-WAY
6	12G4179	1	BEARING
7	12G4174	1	PULLEY, 20
8	12G4175	1	BELT, SYNCHRONOUS
9	12G4173	1	GEAR, 18
10	12G4171	1	BELT, SYNCHRONOUS
11	12G4170	1	GEAR, 20/25
12	12G4169	1	CLUTCH ASM, FRICTION
13	12G4178	1	GEAR, 21
14	12G4168	1	GEAR, 14

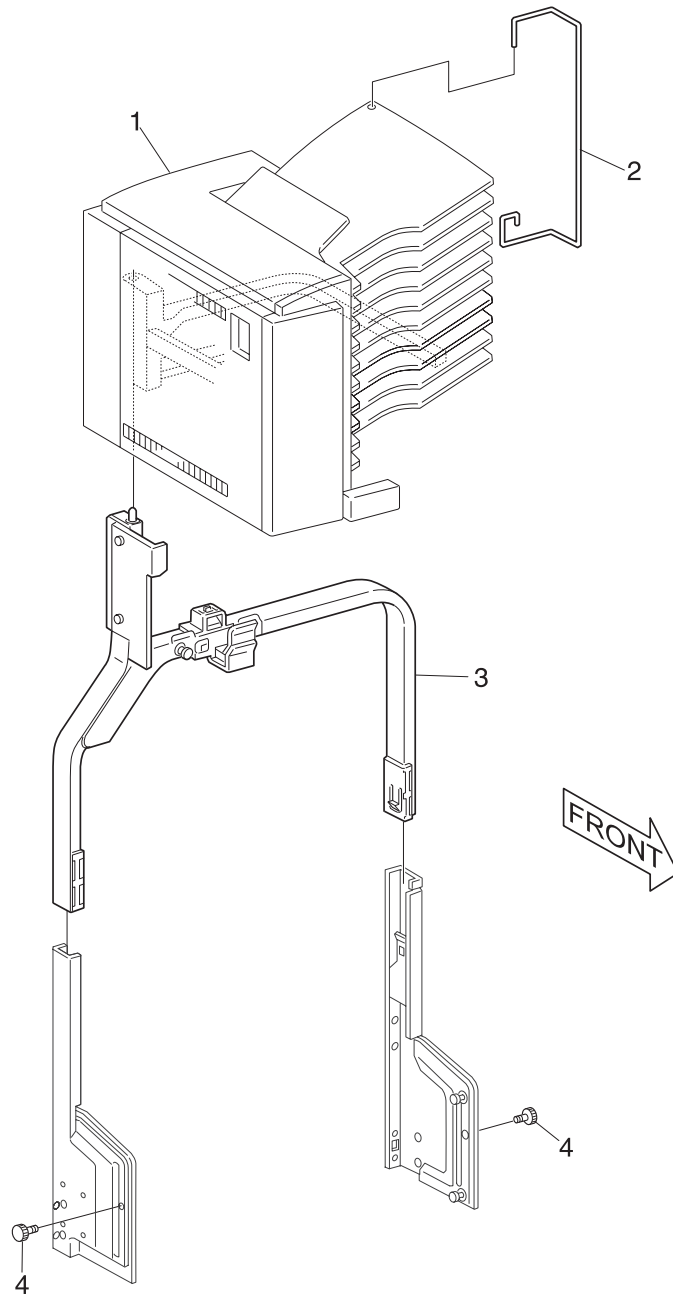
Assembly 2.4: Duplex



Assembly 2.4: Duplex

Asm-Index	Part Number	Units	Description
1	12G4180	1	GUIDE ASM, DUPLEX

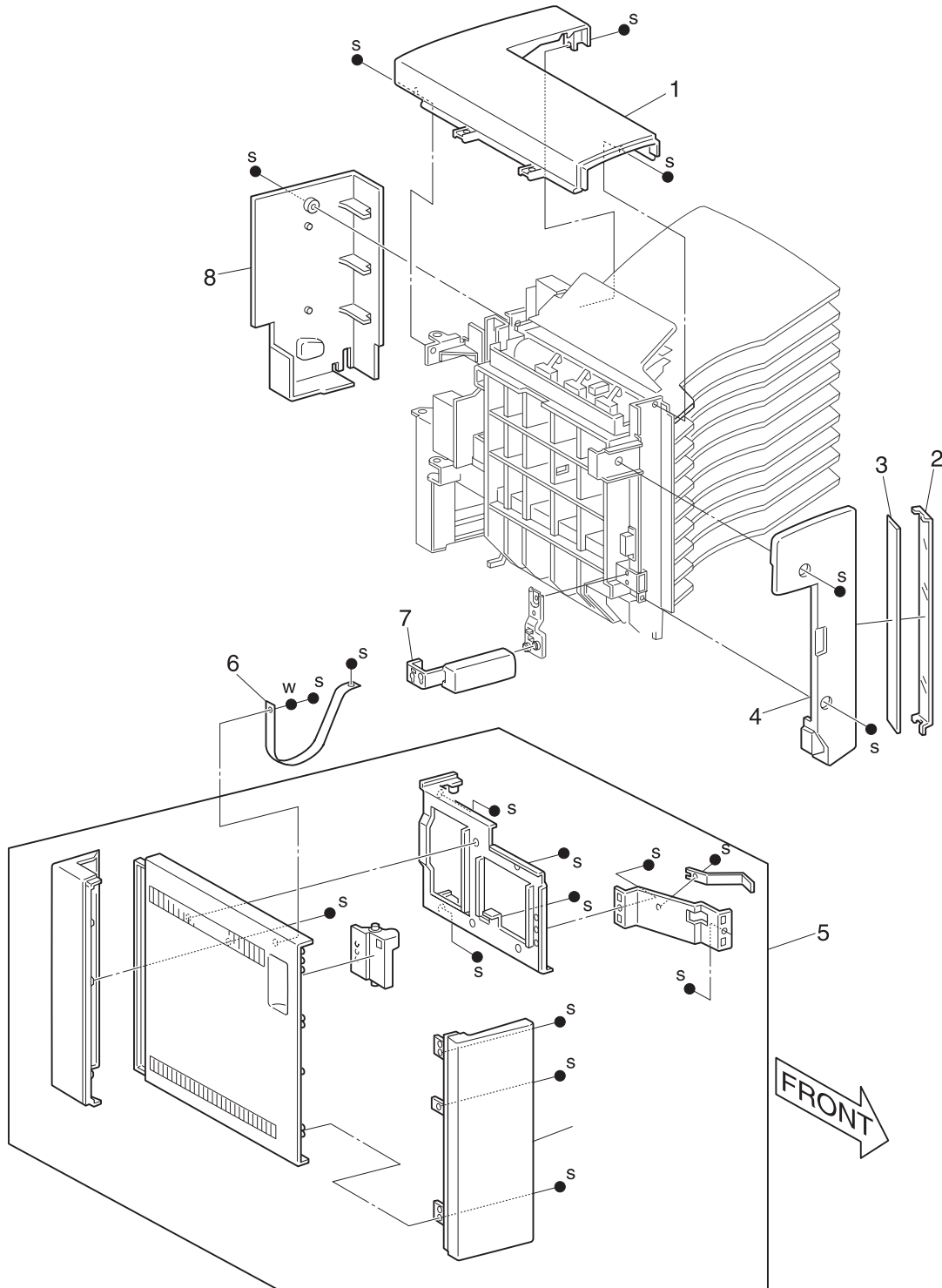
Assembly 3: Mailbox



Assembly 3: Mailbox

Asm-Index	Part Number	Units	Description
1	12G4188	1	ASSEMBLY, MAILBOX
2	12G4189	1	STOP, PAPER
3	12G4190	1	BRACKET, MAILBOX
4	12G4191	1	SCREW

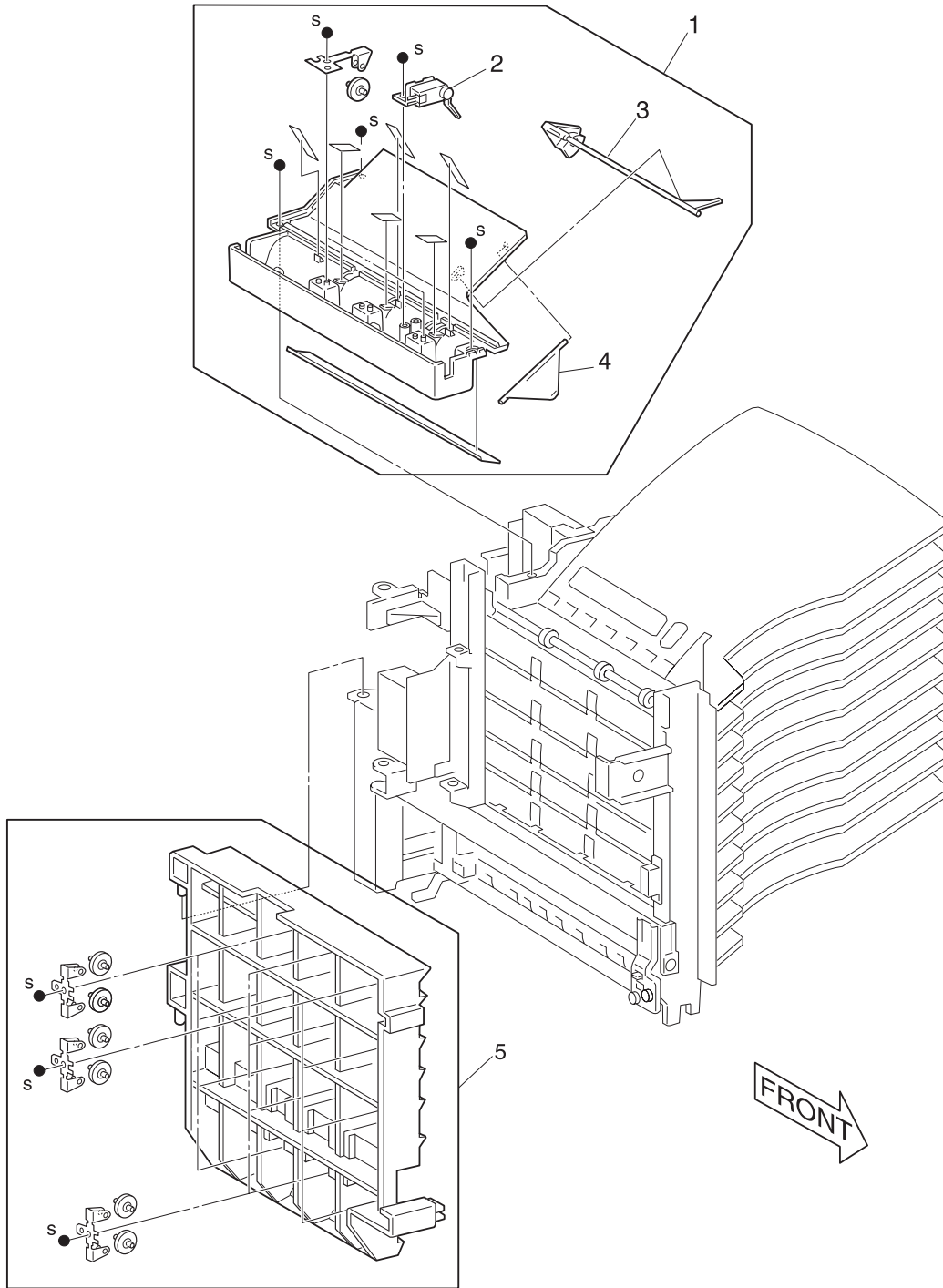
Assembly 3.1: Mailbox



Assembly 3.1: Mailbox

Asm-Index	Part Number	Units	Description
1	12G4195	1	COVER, TOP
2	12G4192	1	PANEL, MAILBOX
3	12G4193	1	LABEL, MAILBOX
4	12G4194	1	COVER, FRONT
5	12G4196	1	COVER, LEFT
6	12G4199	1	STRAP, LEFT COVER
7	12G4198	1	HANDLE, MAILBOX
8	12G4197	1	COVER, REAR

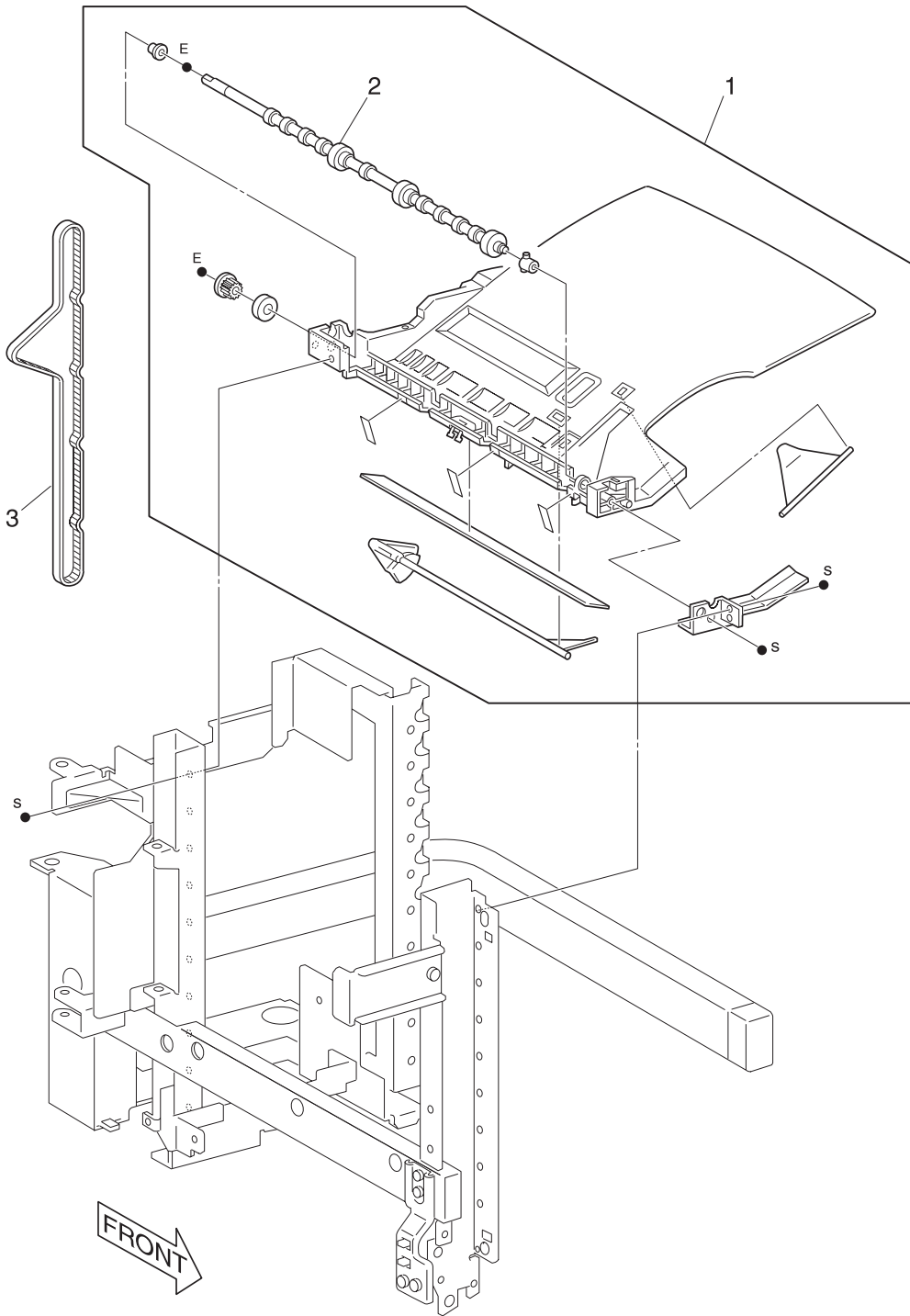
Assembly 3.2: Mailbox



Assembly 3.2: Mailbox

Asm-Index	Part Number	Units	Description
1	12G4200	1	COVER ASM, ACTUATOR
2	12G4201	1	SENSOR JAM, BIN 10
3	12G4202	1	ACTUATOR, 1 FULL STACK
4	12G4203	1	ACTUATOR, 2 FULL STACK
5	12G4204	1	TRANSPORT, GUIDE ASM

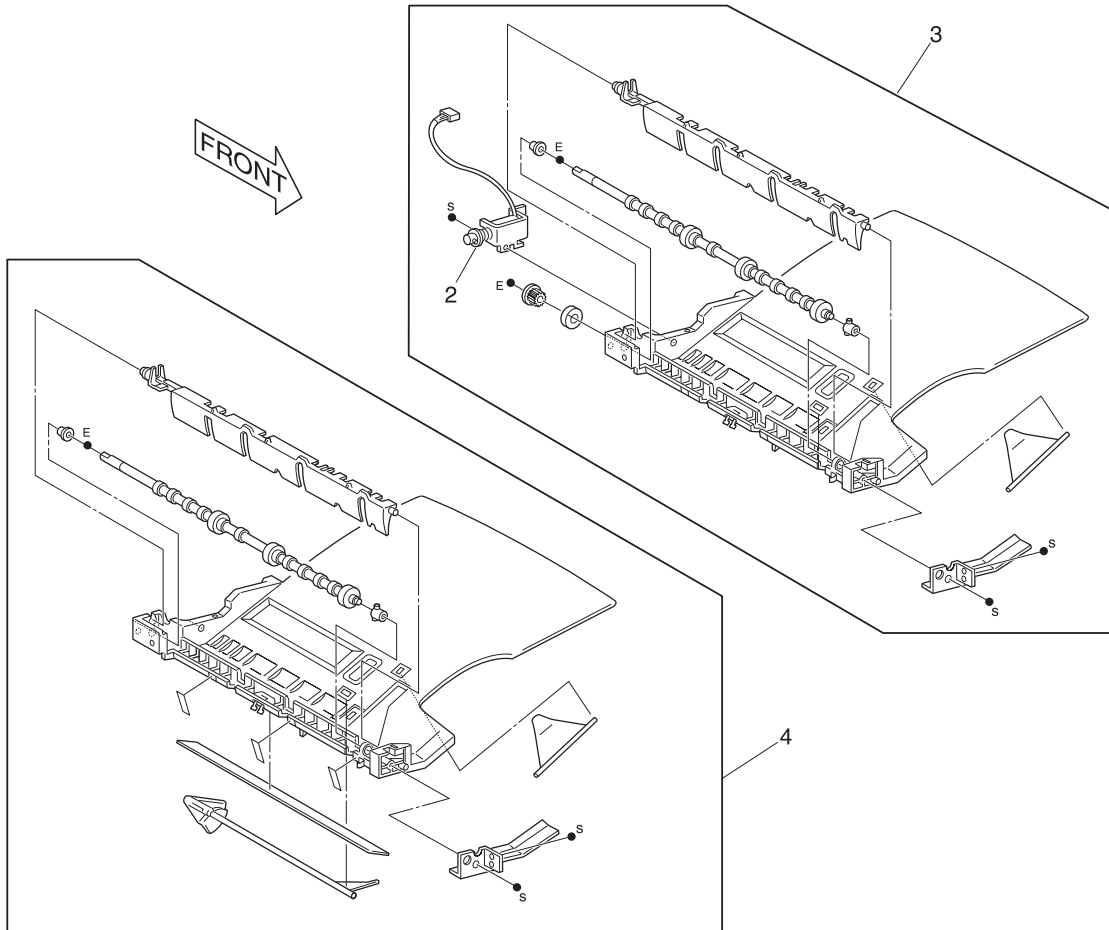
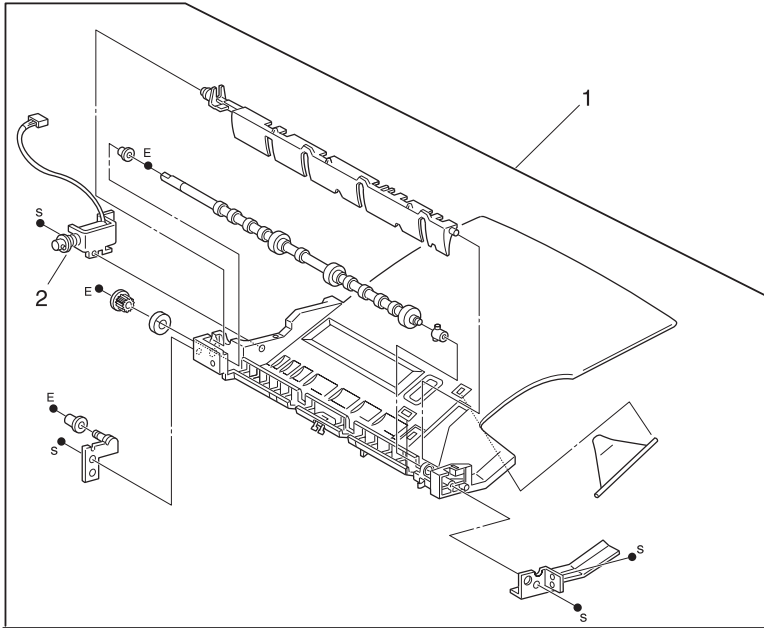
Assembly 3.3: Mailbox



Assembly 3.3: Mailbox

Asm-Index	Part Number	Units	Description
1	12G4205	1	ASSEMBLY, TRAY 1
2	12G4206	1	ROLLER ASM, EXIT 1
3	12G4207	1	BELT, DRIVE

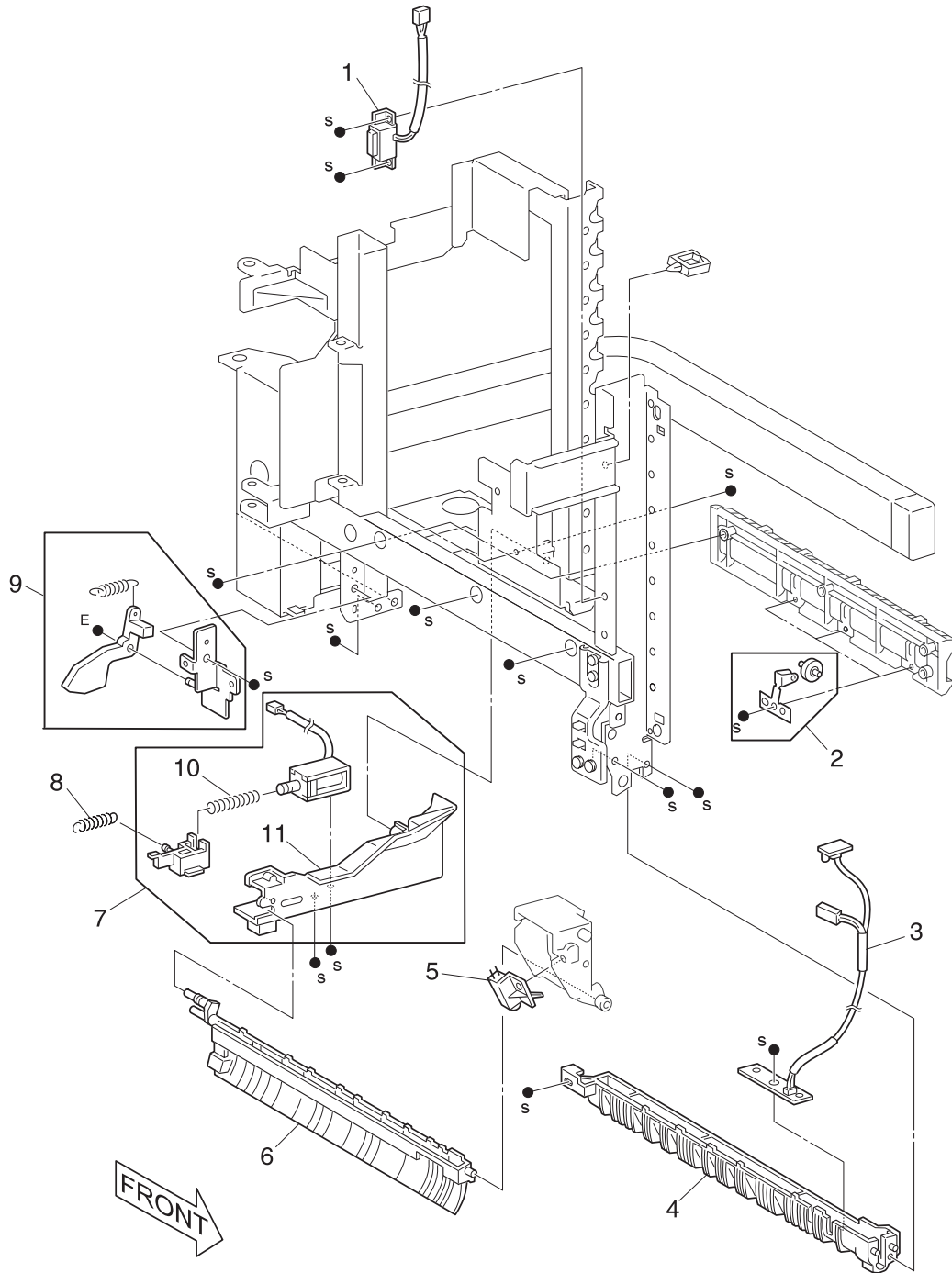
Assembly 3.4: Mailbox



Assembly 3.4: Mailbox

Asm-Index	Part Number	Units	Description
1	12G4210	1	ASSEMBLY, TRAY ODD
2	12G4211	1	SOLENOID, GATE 1-9
3	12G4209	1	ASSEMBLY, TRAY 1
4	12G4208	1	ASSEMBLY, TRAY EVEN

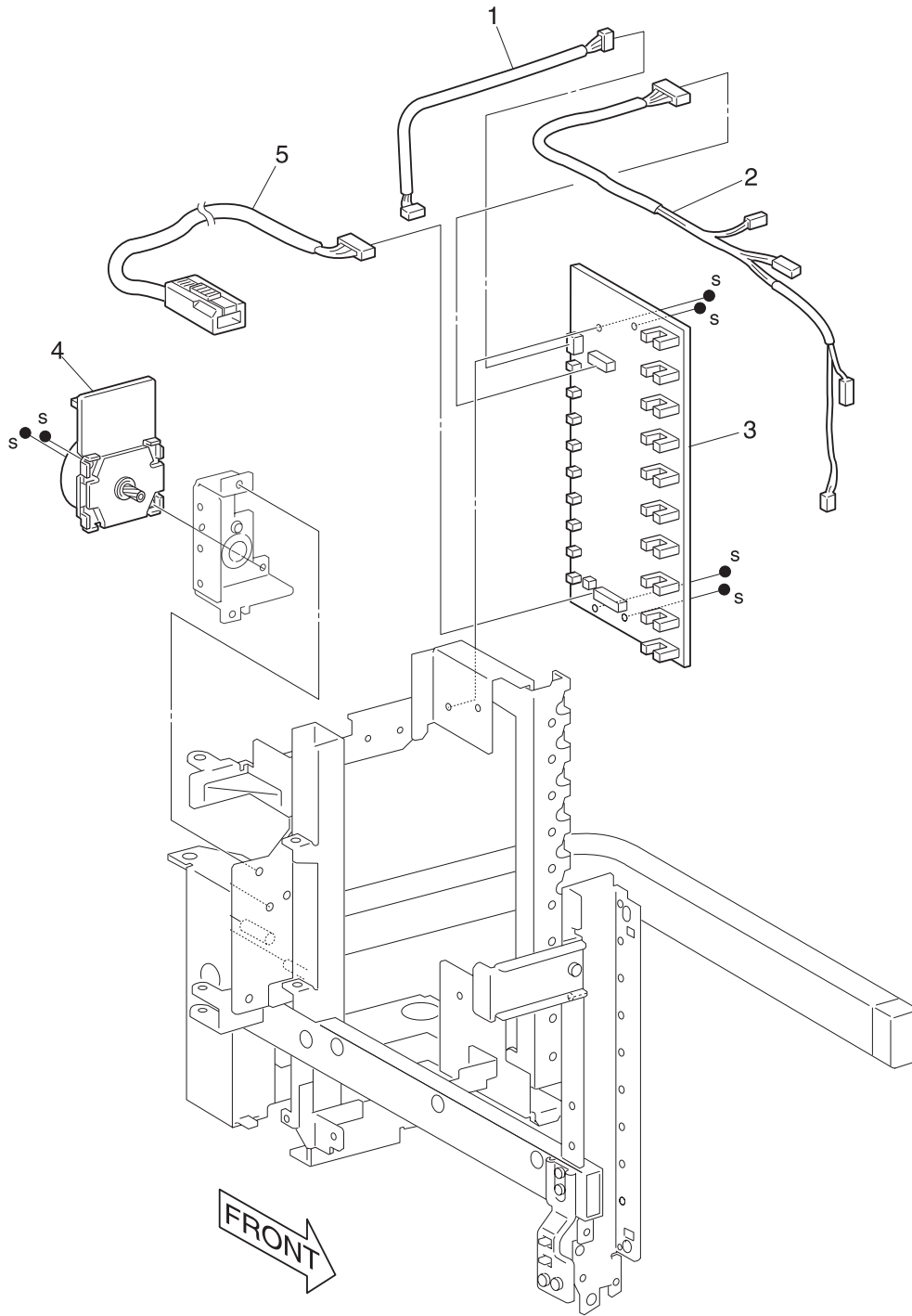
Assembly 3.5: Mailbox



Assembly 3.5: Mailbox

Asm-Index	Part Number	Units	Description
1	12G4219	1	SWITCH ASM, INTERLOCK
2	12G4220	1	PINCH ROLL ASSEMBLY
3	12G4218	1	SENSOR, LED
4	12G4217	1	GUIDE PAPER, LOWER
5	12G4215	1	SENSOR
6	12G4216	1	GUIDE, PAPER
7	12G4222	1	COVER, LOWER
8	12G4214	1	SPRING, GATE IN
9	12G4221	1	ASSEMBLY, BRACKET
10	12G4213	1	SPRING, SOLENOID
11	12G4212	1	COVER, LOWER REAR

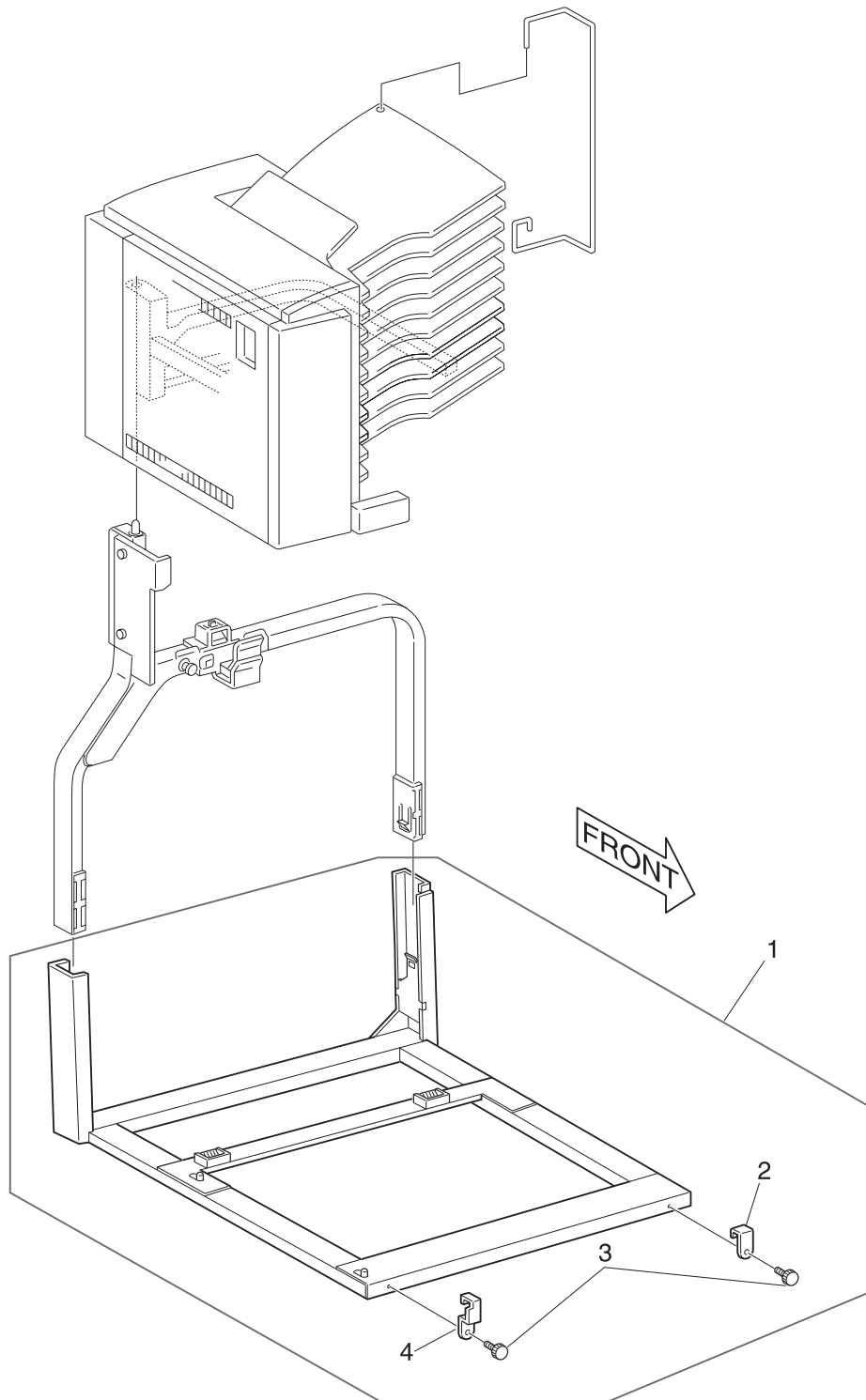
Assembly 3.6: Mailbox



Assembly 3.6: Mailbox

Asm-Index	Part Number	Units	Description
1	12G4226	1	HARNESS, DRIVE MOTOR
2	12G4225	1	HARNESS, SENSOR
3	12G4223	1	CARD ASM, MAILBOX
4	12G4227	1	MOTOR, DRIVE
5	12G4224	1	HARNESS, BASE ENGINE

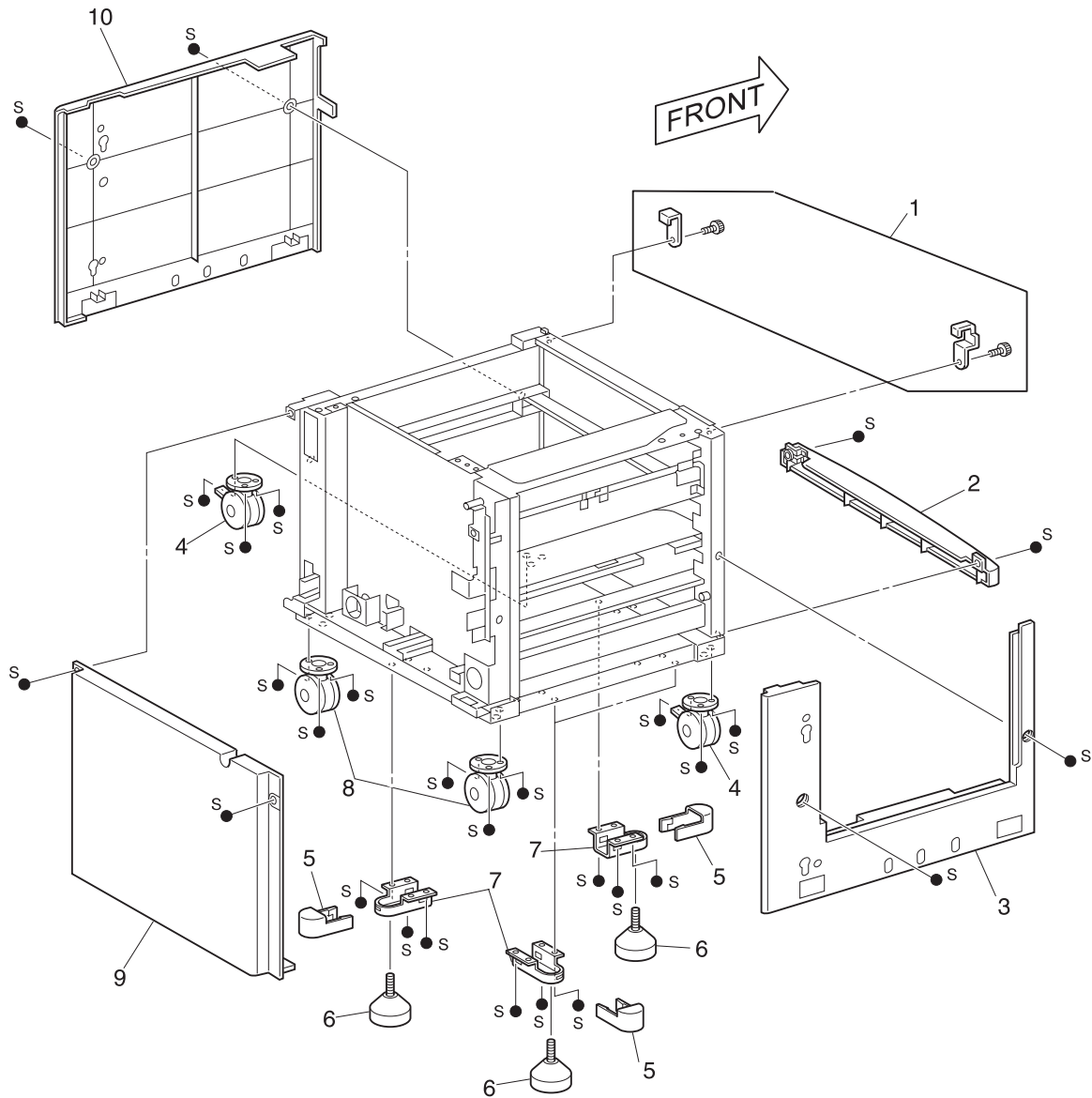
Assembly 3.7: Mailbox



Assembly 3.7: Mailbox

Asm-Index	Part Number	Units	Description
1	12G4228	1	BRACKET, MAILBOX
2	12G4229	1	BRACKET, RIGHT
3	12G4231	1	SCREW, BRACKET
4	12G4230	1	BRACKET, LEFT

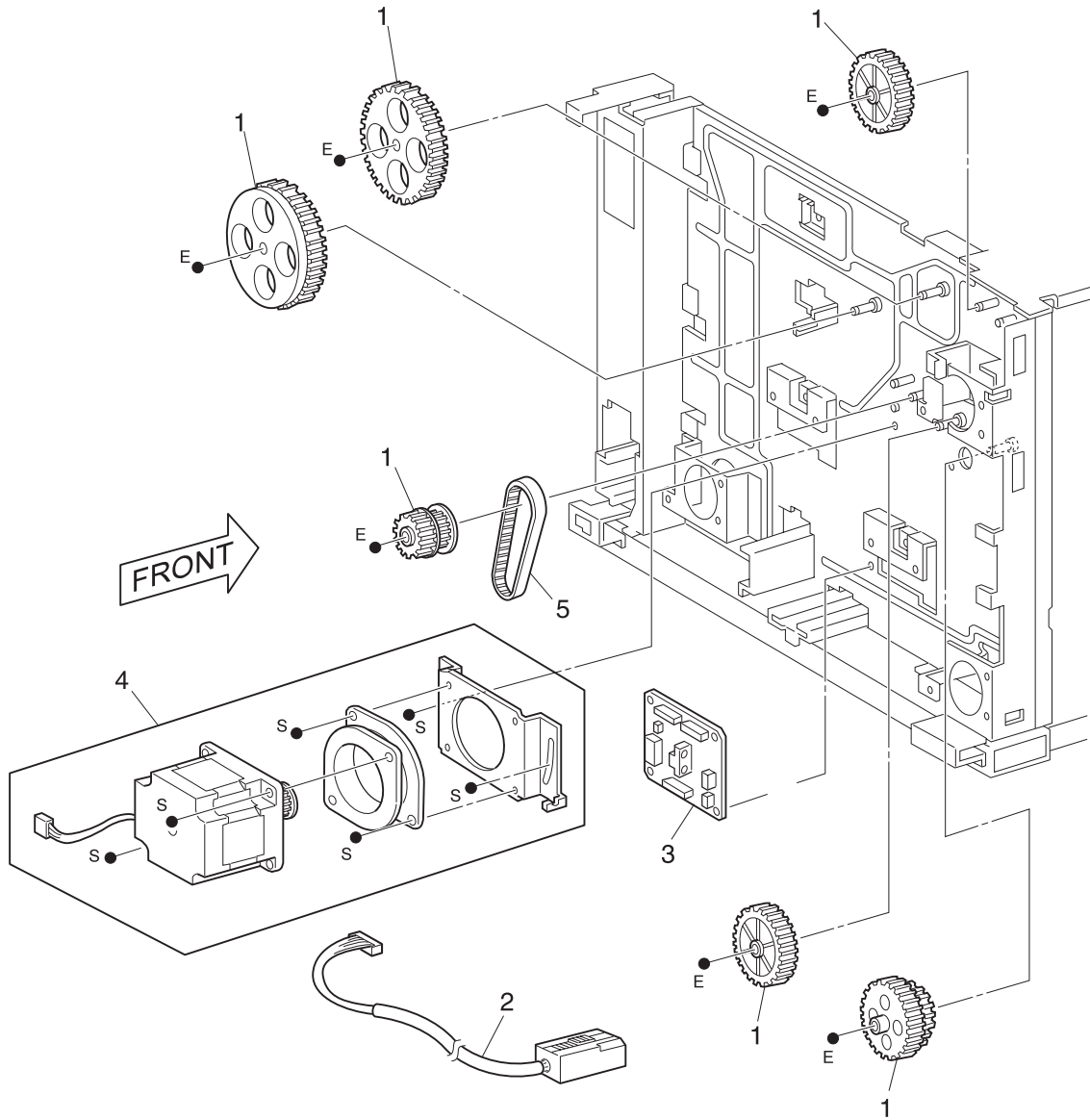
Assembly 4: High Capacity Feeder



Assembly 4: High Capacity Feeder

Asm-Index	Part Number	Units	Description
1	12G4118	1	KIT, HCF MOUNTING
2	12G4110	1	COVER, FRONT BOTTOM
3	12G4109	1	COVER, LEFT HCF
4	12G4113	1	CASTER, S
5	12G4117	1	COVER, FOOT
6	12G4116	1	FOOT ASM, AJUSTER
7	12G4115	1	BRACKET, FOOT
8	12G4114	1	CASTER
9	12G4112	1	COVER, REAR
10	12G4111	1	COVER, RIGHT

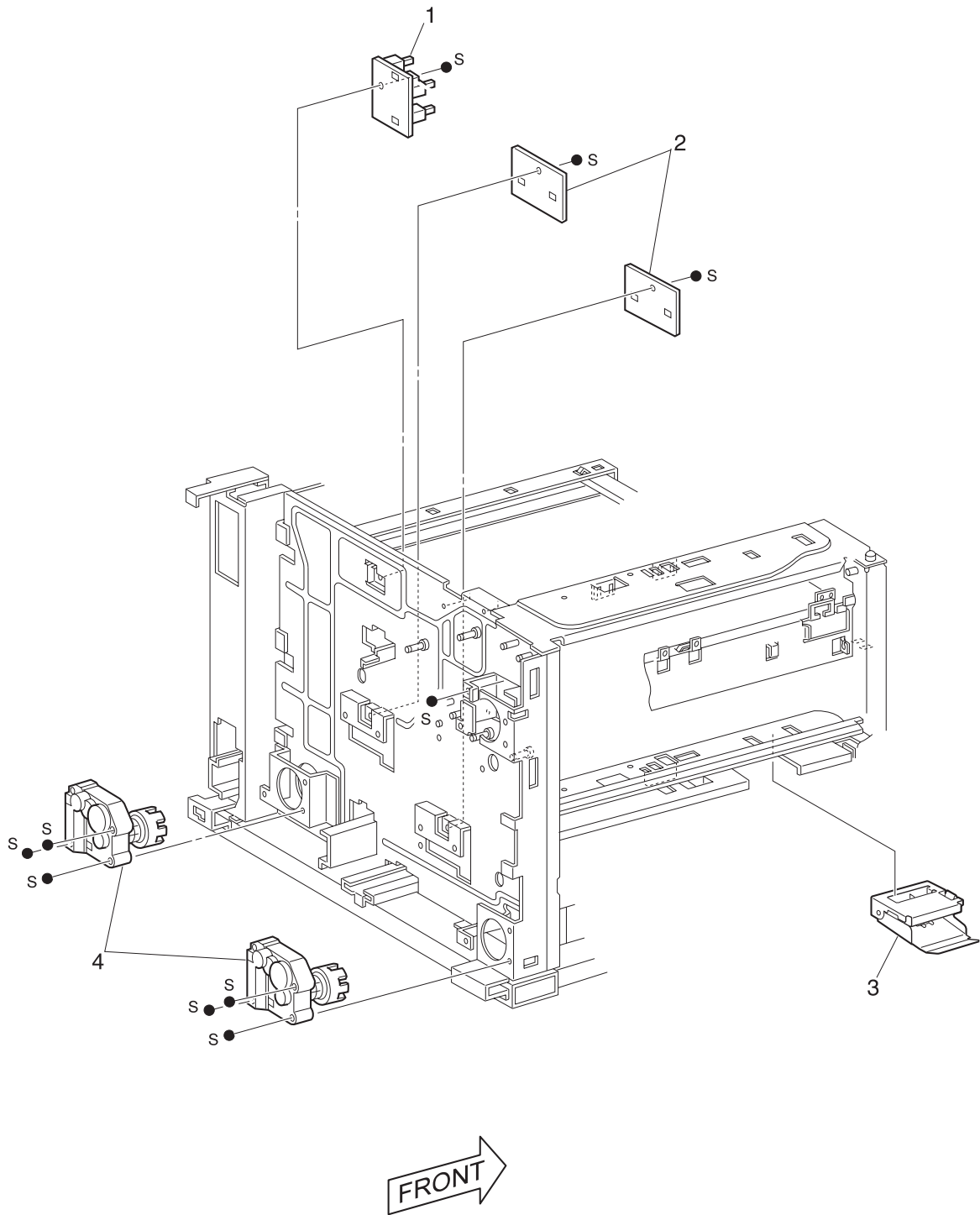
Assembly 4.1: High Capacity Feeder



Assembly 4.1: High Capacity Feeder

Asm-Index	Part Number	Units	Description
1	12G4123	1	KIT, HCF DRIVE GEAR
2	12G4122	1	CABLE, ASSEMBLY HCF
3	12G4121	1	CARD ASM, HCF
4	12G4119	1	MOTOR, FEED ASSEMBLY
5	12G4120	1	BELT, SYNCHRONOUS

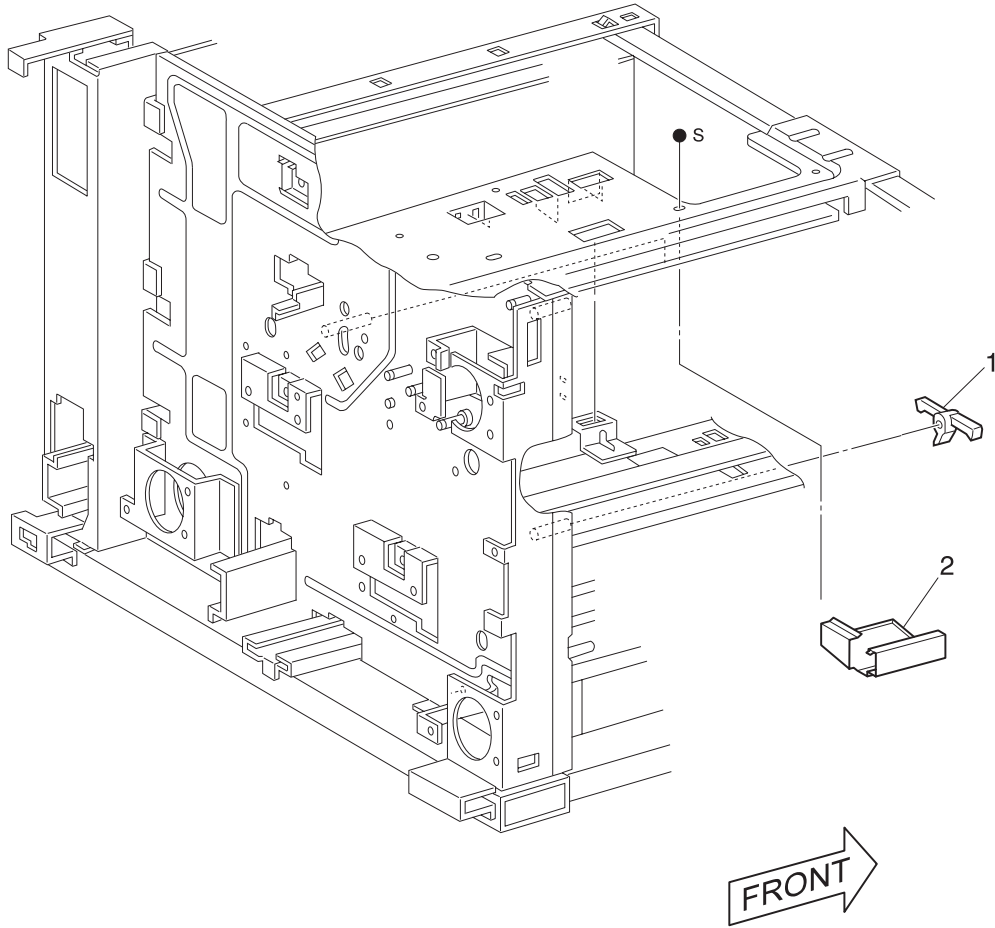
Assembly 4.2: High Capacity Feeder



Assembly 4.2: High Capacity Feeder

Asm-Index	Part Number	Units	Description
1	12G4125	1	SWITCH ASM, PAPER SIZE TR 3
2	12G4126	1	SWITCH ASM, PAPER SIZE TR4, 5
3	12G4124	1	GUIDE ASM, FRONT TR4
4	12G4127	1	MOTOR ASM, TRAY 4, 5

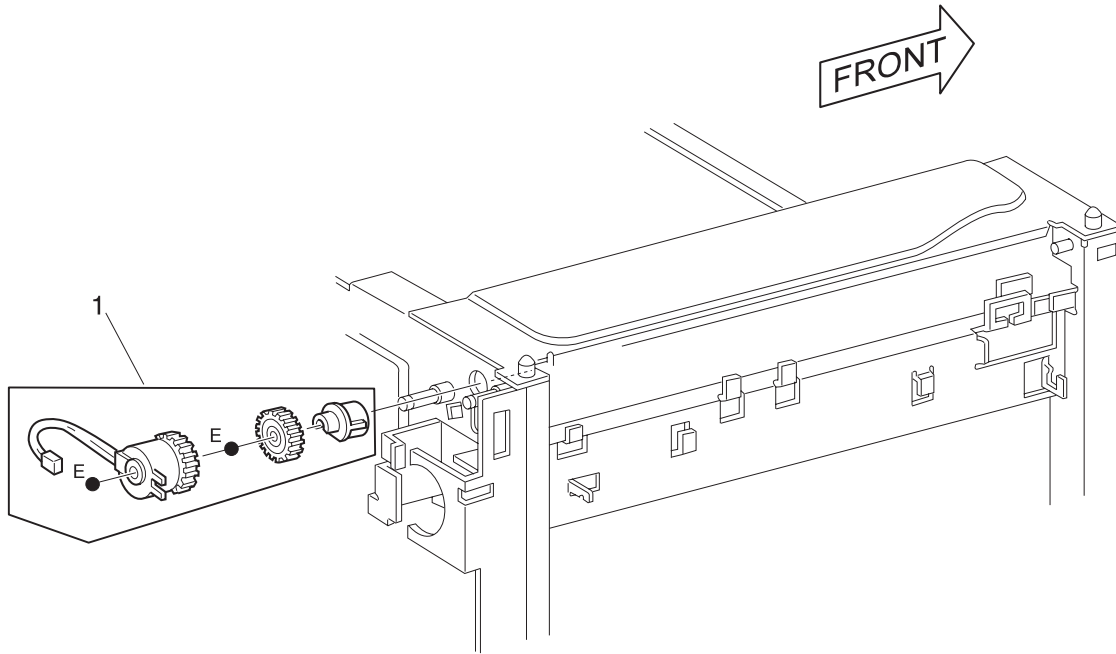
Assembly 4.3: High Capacity Feeder



Assembly 4.3: High Capacity Feeder

Asm-Index	Part Number	Units	Description
1	12G4128	1	STOP, LINK TRAY 4
2	12G4129	1	GUIDE, FRONT RT

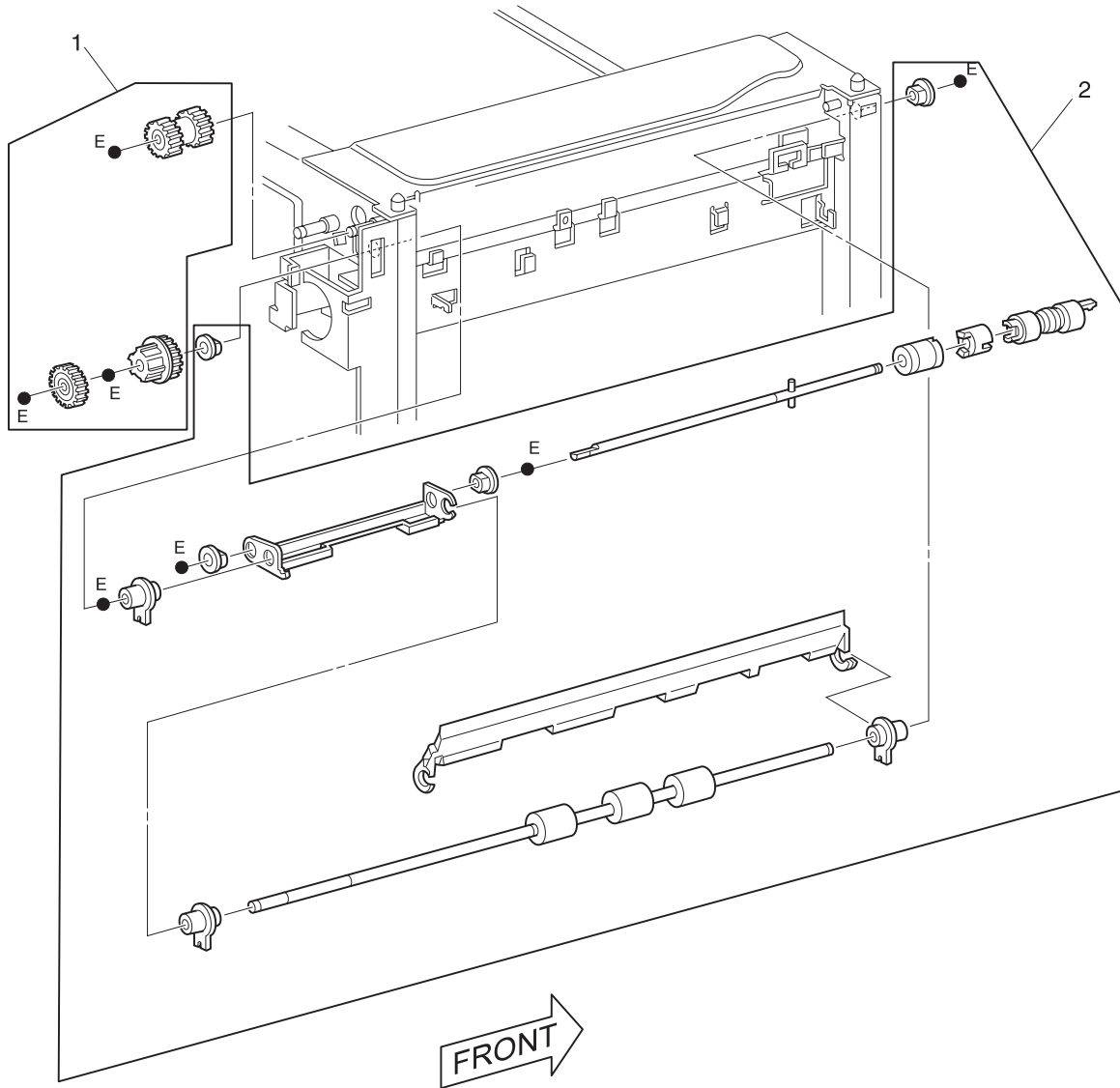
Assembly 4.4: High Capacity Feeder



Assembly 4.4: High Capacity Feeder

Asm-Index	Part Number	Units	Description
1	12G4130	1	KIT, TRAY 3 CLUTCH

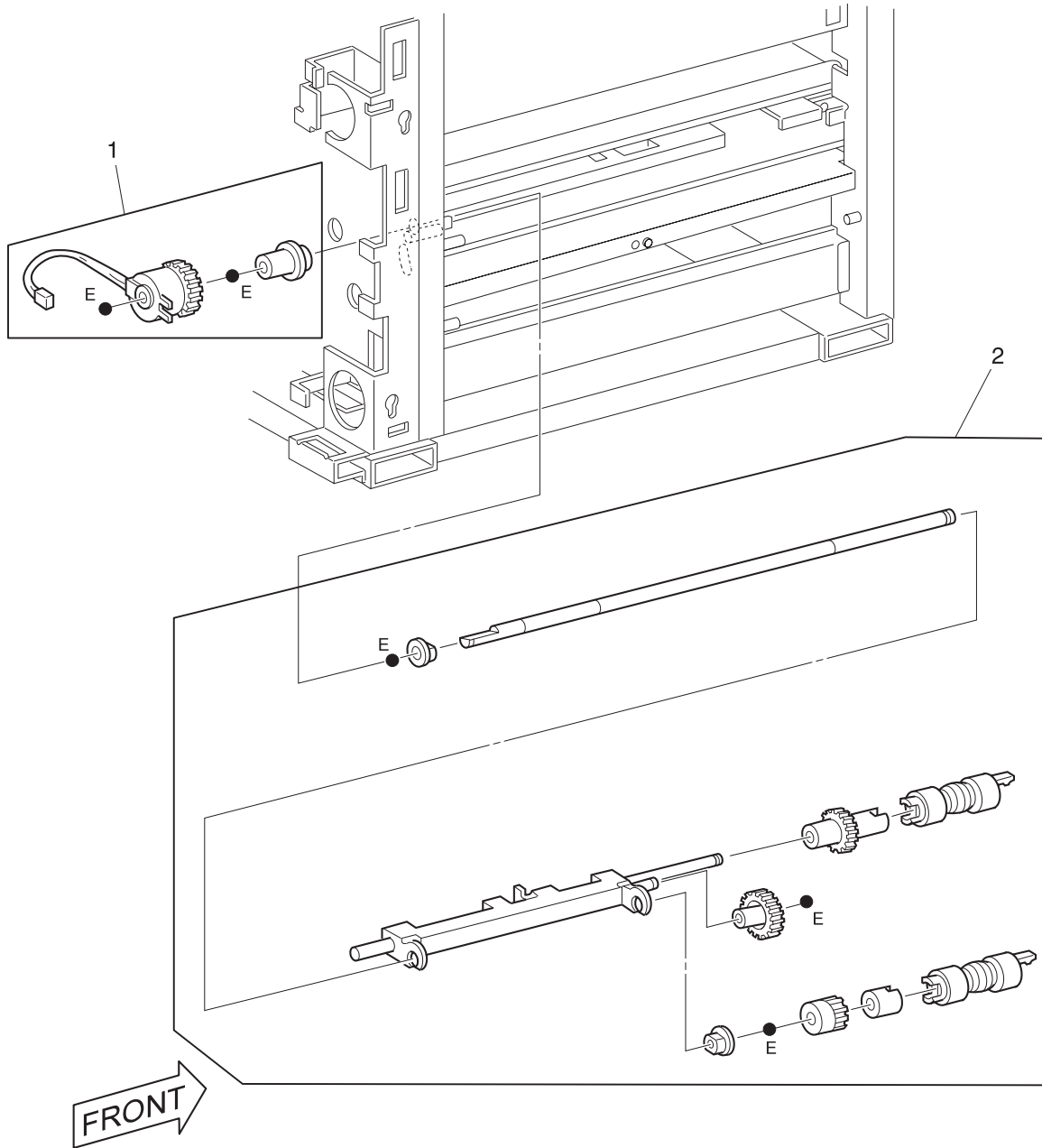
Assembly 4.5: High Capacity Feeder



Assembly 4.5: High Capacity Feeder

Asm-Index	Part Number	Units	Description
1	12G4131	1	KIT, GEAR TAKE AWAY 3
2	12G4132	1	KIT, RETARD TAKE AWAY 3

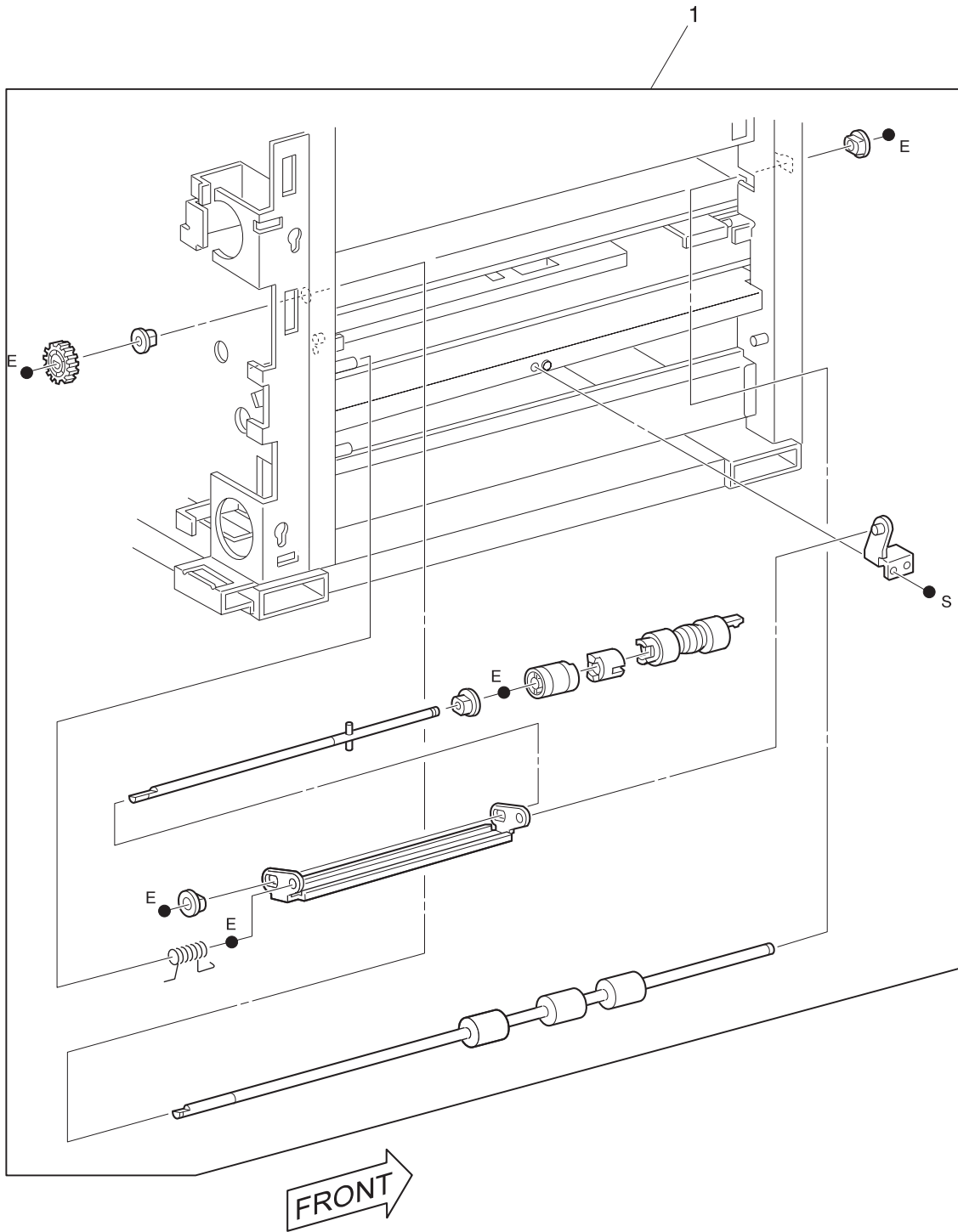
Assembly 4.6: High Capacity Feeder



Assembly 4.6: High Capacity Feeder

Asm-Index	Part Number	Units	Description
1	12G4134	1	KIT, PAPER PICKUP
2	12G4133	1	FEEDER, HCF ASSEMBLY

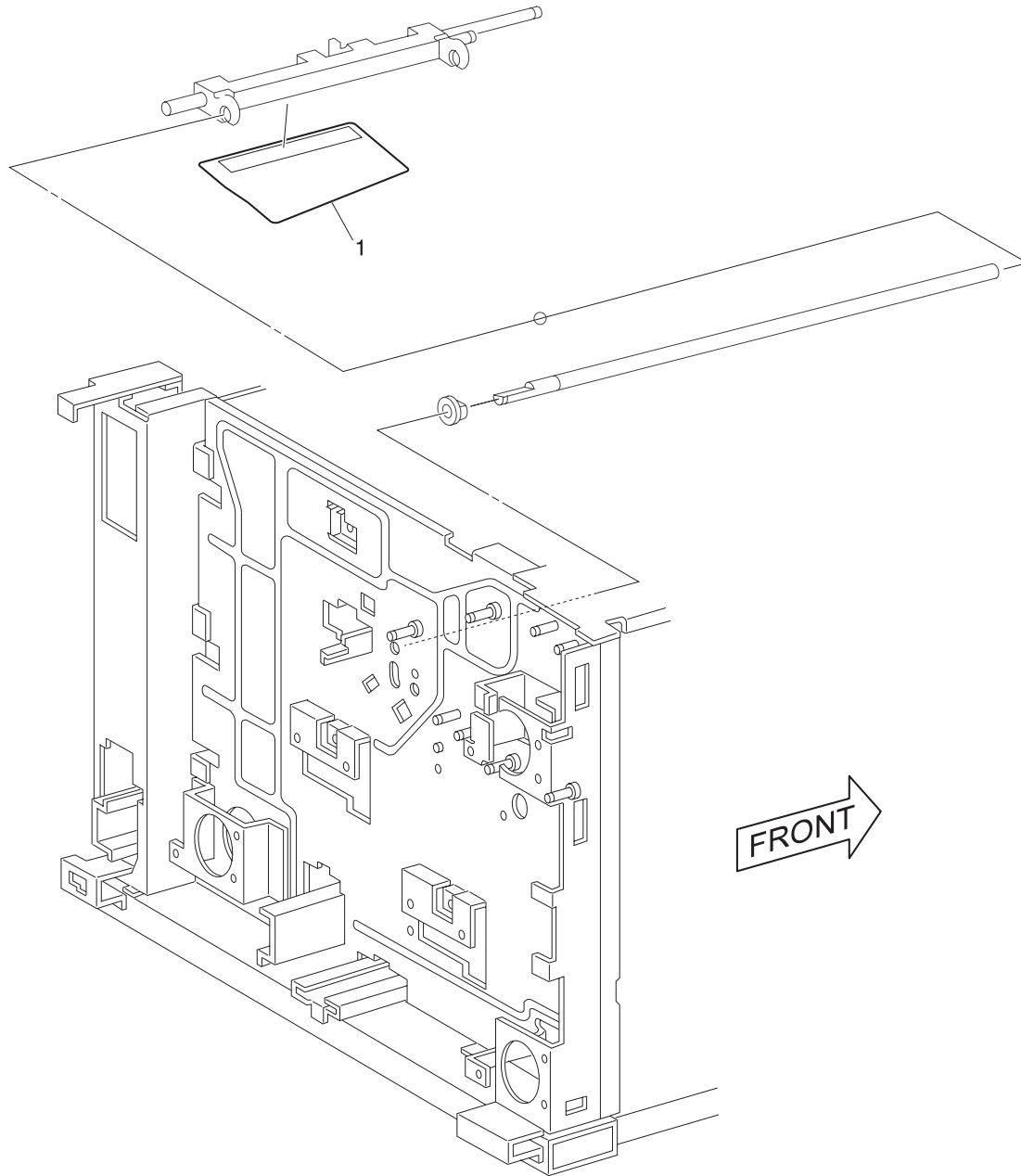
Assembly 4.7: High Capacity Feeder



Assembly 4.7: High Capacity Feeder

Asm-Index	Part Number	Units	Description
1	12G4135	1	KIT, RETARD TAKE AWAY TR4

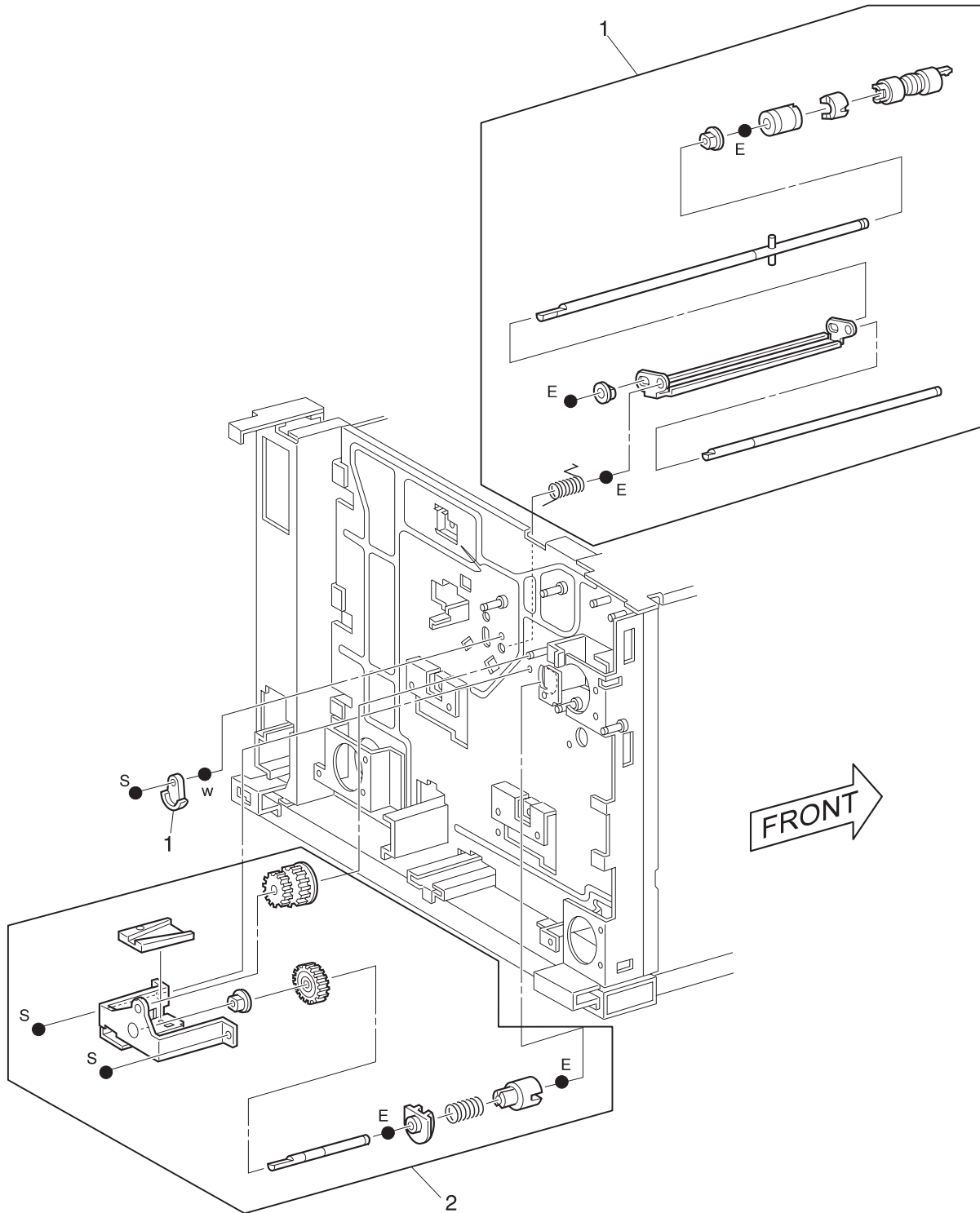
Assembly 4.8: High Capacity Feeder



Assembly 4.8: High Capacity Feeder

Asm-Index	Part Number	Units	Description
1	12G4136	1	GUIDE, PAPER

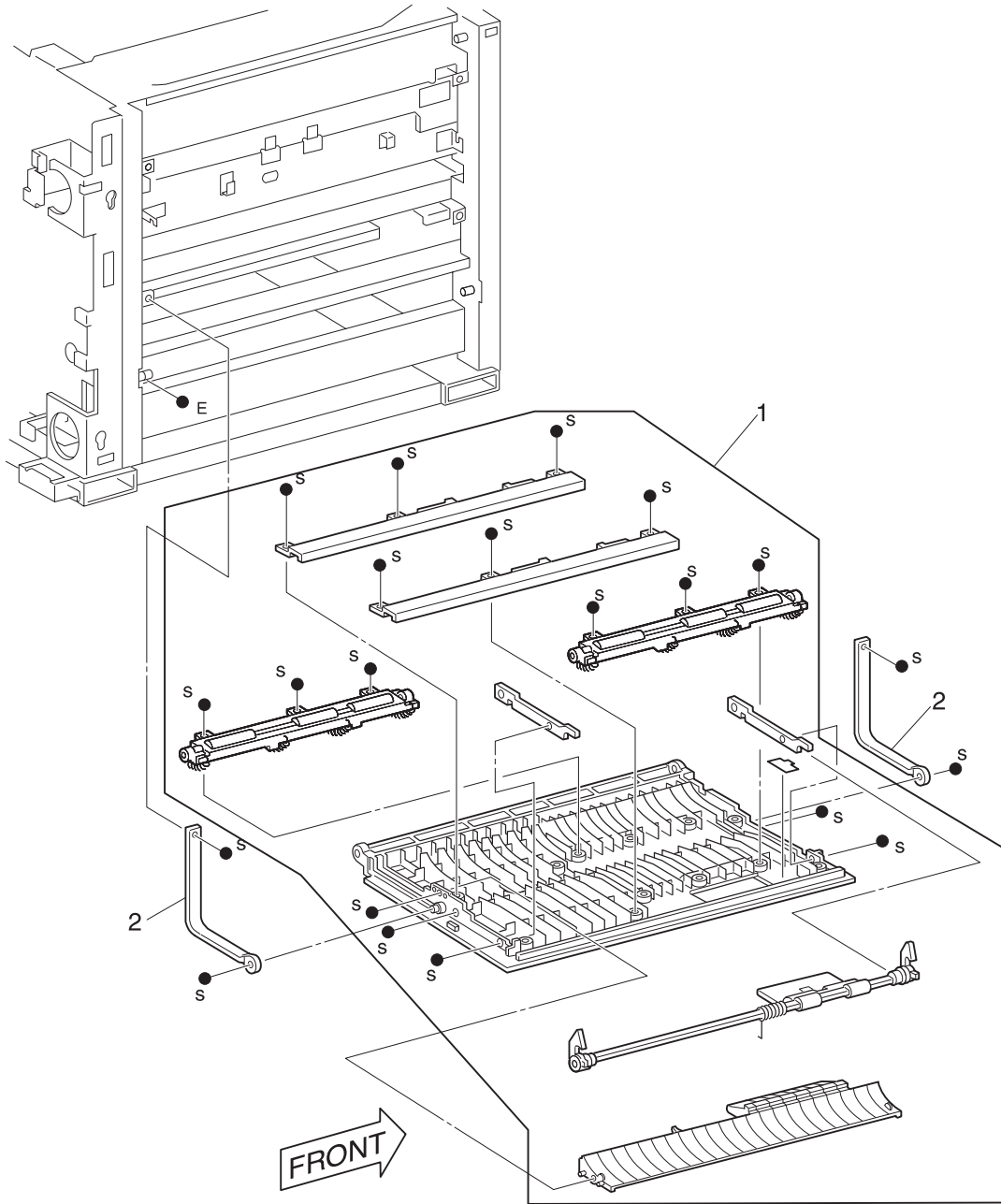
Assembly 4.9: High Capacity Feeder



Assembly 4.9: High Capacity Feeder

Asm-Index	Part Number	Units	Description
1	12G4137	1	KIT, TAKE AWAY TR 5
2	12G4138	1	KIT, RETARD TAKE AWAY TR 5

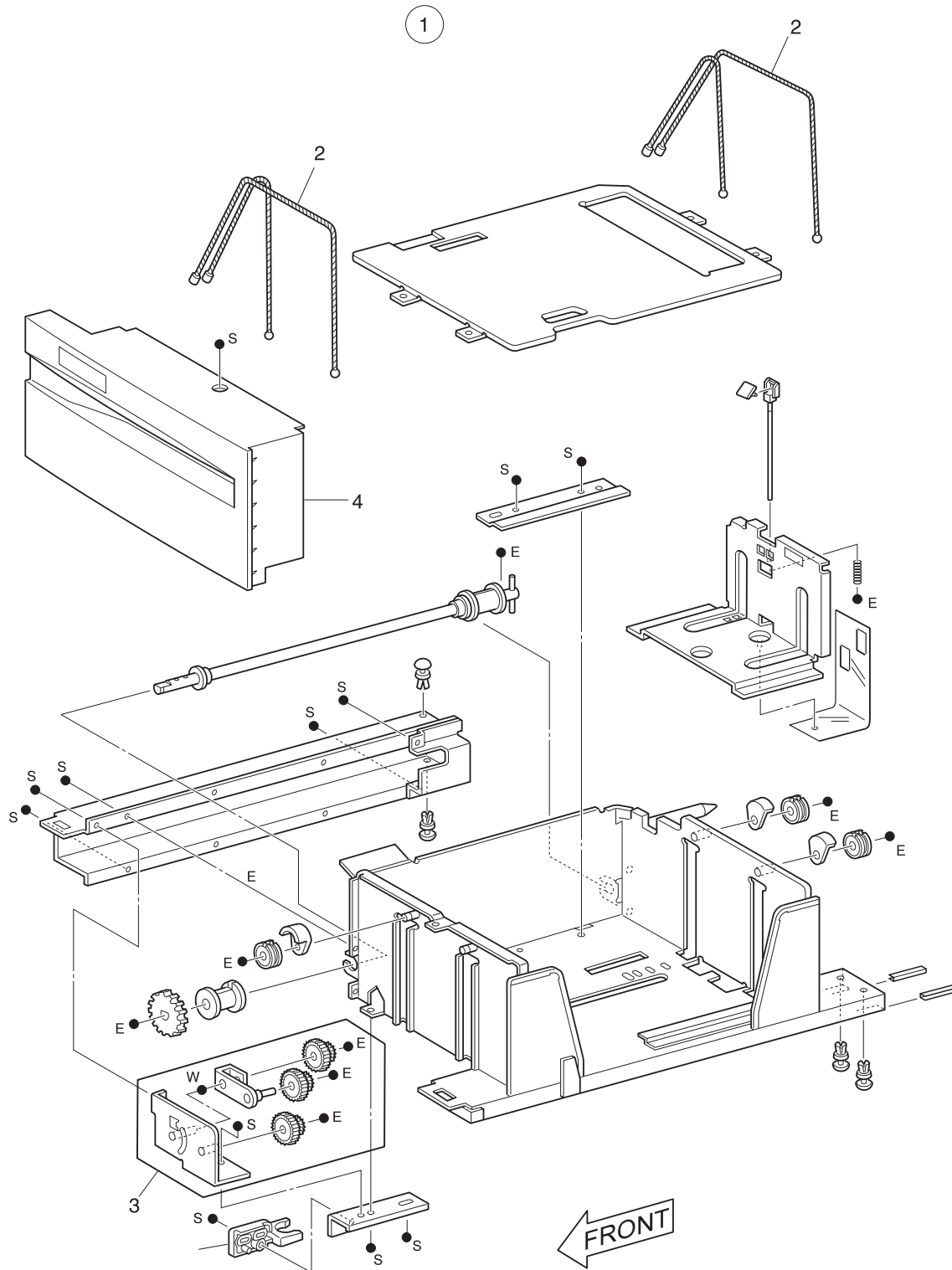
Assembly 4.10: High Capacity Feeder



Assembly 4.10: High Capacity Feeder

Asm-Index	Part Number	Units	Description
1	12G4139	1	COVER ASM, LH
2	12G4140	1	SUPPORT, COVER LH

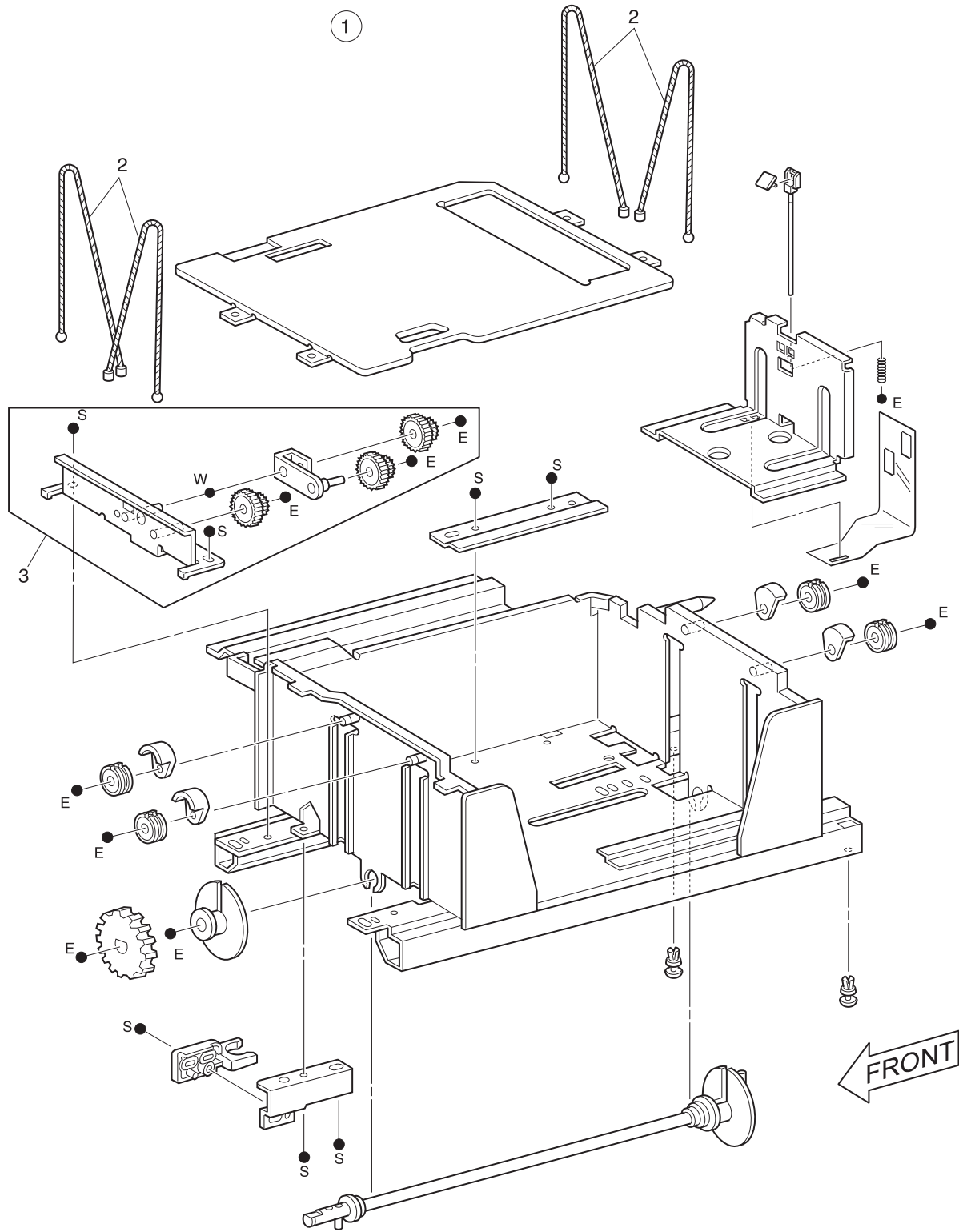
Assembly 4.11: High Capacity Feeder



Assembly 4.11: High Capacity Feeder

Asm-Index	Part Number	Units	Description
1	12G4141	1	TRAY ASSEMBLY
2	12G4144	1	KIT, TRAY 4 CABLES
3	12G4142	1	BRAKE BRACKET ASSEMBLY
4	12G4143	1	COVER ASSEMBLY

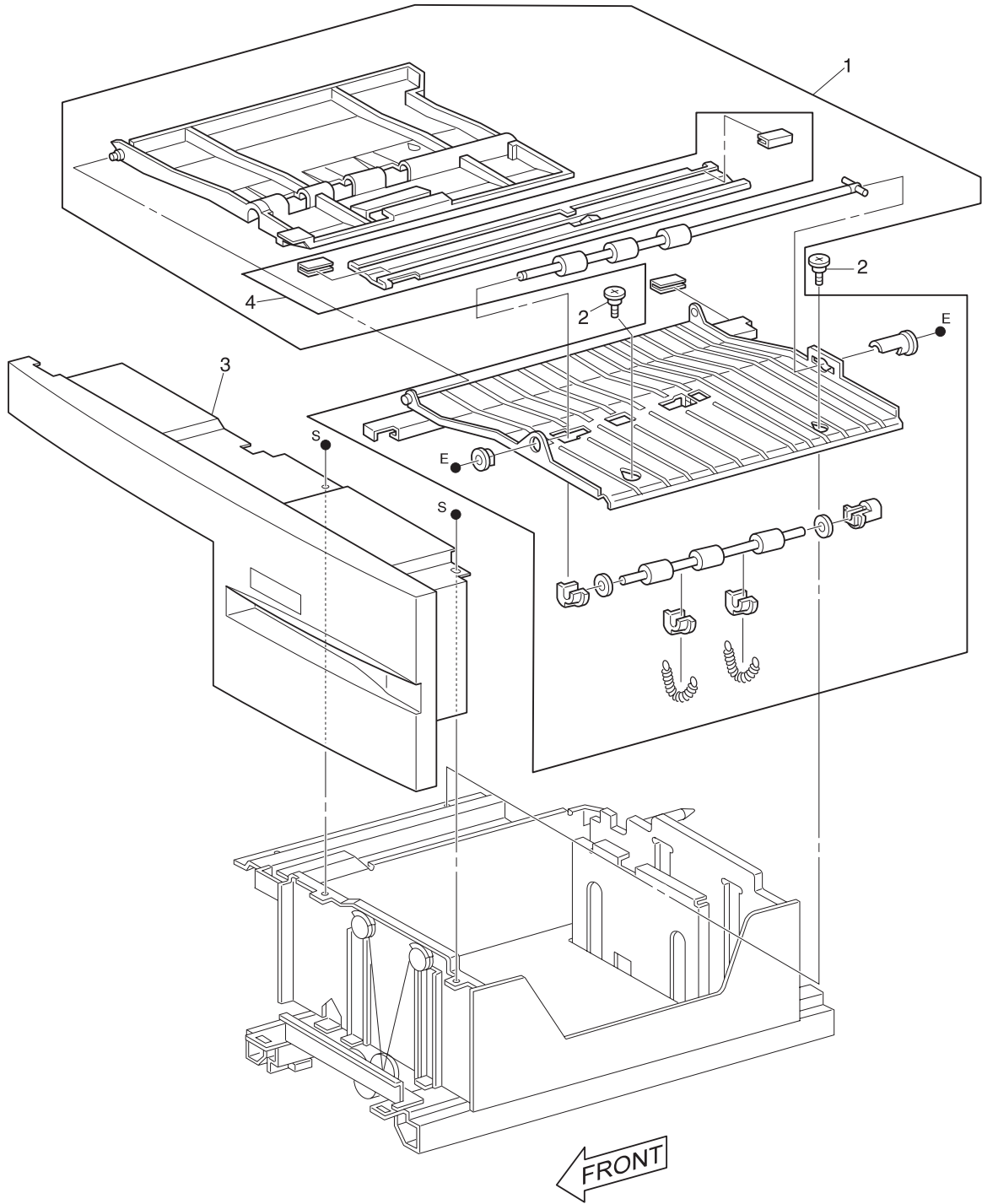
Assembly 4.12: High Capacity Feeder



Assembly 4.12: High Capacity Feeder

Asm-Index	Part Number	Units	Description
1	12G4145	1	TRAY ASSEMBLY
2	12G4147	1	KIT, TRAY 5 CABLES
3	12G4146	1	BRAKE BRACKET ASSEMBLY

Assembly 4.13: High Capacity Feeder



Assembly 4.13: High Capacity Feeder

Asm-Index	Part Number	Units	Description
1	12G4148	1	TRANSPORT ASSEMBLY
2	12G4149	1	SCREW M3
3	12G4150	1	COVER ASSEMBLY
4	12G4151	1	KIT, SLIDE BAR

4025 Options

Index

C

Caution Labels [1-3](#)
 Caution Notice [1-1](#)
 Connector Locations
 Duplex
 P/J Location Map [5-7](#)
 P/J Location Table [5-6](#)
 Wiring Diagrams [5-8](#)
 Envelope Feeder
 P/J Location Map [5-2](#)
 P/J Location Table [5-1](#)
 Wiring Diagrams [5-2](#)
 High Capacity Feeder
 P/J Location Map 1 [5-19](#)
 P/J Location Map 2 [5-20](#)
 P/J Location Table [5-17](#)
 Wiring Diagrams [5-21](#)
 Mailbox
 P/J Location Map [5-12](#)
 P/J Location Table [5-11](#)
 Wiring Diagrams [5-13](#)

D

Diagnostic Aids
 Duplex [3-2](#)
 Feed Test [3-2](#)
 Sensor Test [3-2](#)
 Envelope Feeder [3-1](#)
 Feed Test [3-1](#)
 Sensor Tests [3-1](#)
 High Capacity Feeder [3-5](#)
 Feed Test [3-5](#)
 Sensor Test [3-6](#)
 Mailbox [3-3](#)
 Feed Test [3-3](#)
 Feed To All Bins Test [3-3](#)
 Sensor Test [3-4](#)
 Diagnostics
 Duplex
 Error Code Table [2-8](#)
 Printing Modes [2-9](#)
 Service Checks
 Error Code Service Checks [2-9](#)
 Symptom Service Checks [2-18](#)
 Symptom Table [2-9](#)
 Envelope Feeder
 Error Code Table [2-2](#)
 Service Checks
 Error Code Service Checks [2-3](#)

 Symptom Service Checks [2-7](#)
 Symptom Table [2-2](#)
 High Capacity Feeder
 Error Code Table [2-32](#)
 Service Checks
 Error Code Service Checks [2-33](#)
 Symptom Service Checks [2-52](#)
 Symptom Table [2-33](#)
 Mailbox
 Error Code Table [2-19](#)
 Service Checks
 Error Code Service Checks [2-20](#)
 Symptom Service Checks [2-30](#)
 Symptom Table [2-20](#)
 Duplex Error Code Service Checks [2-9](#)
 Duplex Error Code Table [2-8](#)
 Duplex General Specifications [1-21](#)
 Duplex Overview [1-12](#)
 Duplex Paper Path [1-17](#)
 Duplex Printing Modes [2-9](#)
 Duplex Schematic Diagram [1-13](#)
 Duplex Symptom Table [2-9](#)

E

Envelope Feeder
 Overview [1-4](#)
 Schematic Diagram [1-5](#)
 Envelope Feeder Error Code Service Checks [2-3](#)
 Envelope Feeder Error Code Table [2-2](#)
 Envelope Feeder General Specifications [1-11](#)
 Envelope Feeder Symptom Table [2-2](#)
 Error Code Table [2-32](#)
 Error Code Table, High Capacity Feeder [2-32](#)

G

General Information
 Duplex
 Control [1-14](#)
 Drive Components [1-16](#)
 Drive Generation [1-13](#)
 General Specifications [1-21](#)
 Mechanical Drive [1-15](#)
 Overview [1-12](#)
 Paper Path [1-17](#)
 Paper Path Components [1-20](#)
 Power [1-14](#)
 Power and Control [1-13](#)
 Schematic Diagram [1-13](#)

4025 Options

- Envelope Feeder
 - Control [1-7](#)
 - Control Components [1-15](#)
 - Drive Generation and Distribution [1-6](#)
 - Feeder Control Components [1-8](#)
 - General Specifications [1-11](#)
 - Mechanical Drive [1-8](#)
 - Overview [1-4](#)
 - Paper Path [1-10](#)
 - Paper Path Components [1-10](#)
 - Power [1-6](#)
 - Power and Control [1-6](#)
 - Schematic Diagram [1-5](#)
 - High Capacity Feeder
 - Control [1-43](#)
 - Control Components [1-44](#)
 - Drive for the High Capacity Feeder [1-45](#)
 - Drive for Tray 3 [1-46](#)
 - Drive for Tray 4 [1-49](#)
 - Drive for Tray 5 [1-52](#)
 - Drive Generation and Distribution [1-42](#)
 - Feed from Tray 3 [1-56](#)
 - Feed from Tray 4 [1-57](#)
 - Feed from Tray 5 [1-61](#)
 - General Specifications [1-64](#)
 - Lift Motor Operation for Tray 4 [1-50](#)
 - Lift Motor Operation for Tray 5 [1-53](#)
 - Mechanical Drive [1-45](#)
 - Mechanical Drive Tray 3 Components [1-47](#)
 - Mechanical Drive Tray 4 Components [1-50](#)
 - Mechanical Drive Tray 5 Components [1-54](#)
 - Overview [1-40](#)
 - Paper Path [1-55](#)
 - Power [1-42](#)
 - Power and Control [1-42](#)
 - Schematic Diagram [1-41](#)
 - Tray 3 Paper Path Components [1-57](#)
 - Tray 4 Paper Path Components [1-59](#)
 - Tray 5 Paper Path Components [1-62](#)
 - Mailbox
 - Control [1-24](#)
 - Control Components [1-26](#)
 - Drive for the Mailbox [1-28](#)
 - Drive Generation and Distribution [1-24](#)
 - General Specifications [1-39](#)
 - Mechanical Drive [1-27](#)
 - Mechanical Drive Components [1-29](#)
 - Modes [1-37](#)
 - Overview [1-22](#)
 - Paper Path [1-30](#)
 - Paper Path 1 Components [1-31](#)
 - Paper Path 2 Components [1-33](#)
 - Paper Path 3 Components [1-36](#)
 - Paper Size Recommendations [1-38](#)
 - Power [1-24](#)
 - Power and Control [1-24](#)
 - Print Speeds [1-38](#)
 - Schematic Diagram [1-23](#)
 - Safety Details
 - Caution Labels [1-3](#)
 - Fuser Components [1-3](#)
 - Laser Components [1-2](#)
 - Mechanical Components [1-2](#)
 - Power Supply/Electrical Components [1-2](#)
 - Glossary [1-65](#)
- ## H
- HCF Symptom Table [2-33](#)
 - High Capacity Feeder General Specifications [1-64](#)
 - High Capacity Feeder Overview [1-40](#)
 - High Capacity Feeder Paper Path [1-55](#)
 - High Capacity Feeder Schematic Diagram [1-41](#)
 - How to Use the Parts Catalog [7-1](#)
- ## M
- Mailbox Error Code Table [2-19](#)
 - Mailbox General Specifications [1-39](#)
 - Mailbox Modes [1-37](#)
 - Mailbox Overview [1-22](#)
 - Mailbox Paper Path [1-30](#)
 - Mailbox Paper Size Recommendations [1-38](#)
 - Mailbox Print Speeds [1-38](#)
 - Mailbox Schematic Diagram [1-23](#)
 - Mailbox Symptom Table [2-20](#)
 - Maintenance, Scheduled [6-1](#)
- ## P
- Parts Catalog
 - Duplex [7-4](#)
 - Envelope Feeder [7-2](#)
 - High Capacity Feeder [7-30](#)
 - Mailbox [7-14](#)
- ## R
- Removal and Replacement Procedures
 - Duplex
 - Drive Assembly [4-9](#)
 - Duplex Cover [4-4](#)
 - Duplex Unit Assembly [4-3](#)
 - Exit Gate Solenoid [4-11](#)
 - Exit Roll [4-12](#)
 - Exit Roll Belt [4-16](#)
 - Exit Sensor [4-10](#)
 - Front Cover [4-6](#)
 - Interlock Switch [4-15](#)
 - Pinch Roll [4-17](#)
 - PWB and Bracket [4-7](#)

4025 Options

Rear Cover [4-5](#)
Wait Clutch [4-8](#)
Wait Sensor [4-14](#)
Envelope Feeder [4-2](#)
High Capacity Feeder [4-55](#)
 Drive Belt [4-64](#)
 Front Cover BTM [4-61](#)
 Left Cover [4-58](#)
 Left Cover Assembly [4-59](#)
 Left Cover Interlock Switch [4-77](#)
 Lift Motor [4-67](#)
 PWB [4-66](#)
 Rear Cover [4-57](#)
 Right Cover [4-60](#)
 Tray 3 Feeder Assembly [4-79](#)
 Tray 3 Nudger, Feeder, and Retard Rolls [4-84](#)
 Tray 3 Paper Size Sensor PWB [4-68](#)
 Tray 3 Retard Assembly [4-81](#)
 Tray 3 Take Away Sensor [4-78](#)
 Tray 4 [4-86](#)
 Tray 4 and Tray 5 Paper Size Sensor PWBs [4-69](#)
 Tray 4 Feed, Nudger, and Retard Rolls [4-96](#)
 Tray 4 Feeder Assembly [4-92](#)
 Tray 4 Front Cover [4-87](#)
 Tray 4 Retard Assembly [4-94](#)
 Tray 4 Take Away Roll [4-89](#)
 Tray 4 Take Away Sensor [4-88](#)
 Tray 5 [4-98](#)
 Tray 5 Feed, Nudger, and Retard Rolls [4-104](#)
 Tray 5 Feeder Assembly [4-100](#)
 Tray 5 Front Cover [4-99](#)
 Tray 5 Retard Assembly [4-102](#)
 Trays 3, 4, and 5 Feed Clutches [4-70](#)
 Trays 3, 4, and 5 No Paper Actuator [4-71](#)
 Trays 3, 4, and 5 No Paper Sensors [4-73](#)
 Trays 3, 4, and 5 Paper Level Sensors [4-75](#)
Mailbox [4-19](#)
 Actuator Cover Assembly [4-27](#)
 BIN Trays 1-9 Assemblies [4-34](#)
 Bin 10 Jam Sensor [4-29](#)
 BIN 10 Tray Assembly [4-30](#)
 Control PWB [4-44](#)
 Drive Belt [4-32](#)
 Drive Motor [4-46](#)
 Entrance Sensor [4-39](#)
 Exit Roll and Bin Gate [4-38](#)
 Front Cover [4-22](#)
 Full Stack Actuator [4-48](#)
 Gate Solenoids 1-9 [4-36](#)
 IN Gate [4-50](#)
 IN Gate Solenoid [4-40](#)

Inner Chute Assembly [4-18](#)
Interlock Switch [4-53](#)
Left Cover Assembly [4-21](#)
Lower Chute [4-52](#)
Rear Cover [4-24](#)
Rear Lower Cover [4-49](#)
Top Cover [4-25](#)
Transport Guide Assembly [4-54](#)
Vertical LED/Sensor [4-42](#)

S

Safety Details
 Caution Labels [1-3](#)
 Fuser Components [1-3](#)
 Laser Components [1-2](#)
 Mechanical Components [1-2](#)
 Power Supply/Electrical Components [1-2](#)
 Safety Components [1-3](#)
Safety Information [x](#)
Safety Inspection Guide [6-1](#)
Scheduled Maintenance [6-1](#)
Service Checks
 Duplex Error Code Service Checks [2-9](#)
 Duplex Symptom Service Checks [2-18](#)
 Envelope Feeder Error Code Service Checks [2-3](#)
 Envelope Feeder Symptom Service Checks [2-7](#)
 High Capacity Feeder Error Code Service Checks [2-33](#)
 High Capacity Feeder Symptom Service Checks [2-52](#)
 Mailbox Error Code Service Checks [2-20](#)
 Mailbox Symptom Service Checks [2-30](#)
Symbols [1-1](#)

W

Warning Notice [1-1](#)

Part Numbers

12G4109 [7-31](#)
12G4110 [7-31](#)
12G4111 [7-31](#)
12G4112 [7-31](#)
12G4113 [7-31](#)
12G4114 [7-31](#)
12G4115 [7-31](#)
12G4116 [7-31](#)
12G4117 [7-31](#)
12G4118 [7-31](#)
12G4119 [7-33](#)
12G4120 [7-33](#)
12G4121 [7-33](#)
12G4122 [7-33](#)
12G4123 [7-33](#)

4025 Options

12G4124	7-35	12G4181	7-3
12G4125	7-35	12G4188	7-15
12G4126	7-35	12G4189	7-15
12G4127	7-35	12G4190	7-15
12G4128	7-37	12G4191	7-15
12G4129	7-37	12G4192	7-17
12G4130	7-39	12G4193	7-17
12G4131	7-41	12G4194	7-17
12G4132	7-41	12G4195	7-17
12G4133	7-43	12G4196	7-17
12G4134	7-43	12G4197	7-17
12G4135	7-45	12G4198	7-17
12G4136	7-47, 7-51	12G4199	7-17
12G4137	7-49	12G4200	7-19
12G4138	7-49	12G4201	7-19
12G4141	7-53	12G4202	7-19
12G4142	7-53	12G4203	7-19
12G4143	7-53	12G4204	7-19
12G4144	7-53	12G4205	7-21
12G4145	7-55	12G4206	7-21
12G4146	7-55	12G4207	7-21
12G4147	7-55	12G4208	7-23
12G4148	7-57	12G4209	7-23
12G4149	7-57	12G4210	7-23
12G4150	7-57	12G4211	7-23
12G4151	7-57	12G4212	7-25
12G4152	7-5	12G4213	7-25
12G4153	7-5	12G4214	7-25
12G4154	7-5	12G4215	7-25
12G4155	7-5	12G4216	7-25
12G4156	7-5	12G4217	7-25
12G4158	7-5	12G4218	7-25
12G4159	7-7	12G4219	7-25
12G4160	7-7	12G4220	7-25
12G4161	7-7	12G4221	7-25
12G4162	7-7	12G4223	7-27
12G4163	7-7	12G4224	7-27
12G4164	7-9	12G4225	7-27
12G4165	7-9	12G4226	7-27
12G4166	7-11	12G4227	7-27
12G4167	7-11	12G4228	7-29
12G4168	7-11	12G4229	7-29
12G4169	7-11	12G4230	7-29
12G4170	7-11	12G4231	7-29
12G4171	7-11		
12G4172	7-11		
12G4173	7-11		
12G4174	7-11		
12G4175	7-11		
12G4176	7-11		
12G4177	7-11		
12G4178	7-11		
12G4179	7-11		
12G4180	7-13		