



## *Service Manual*

**Lexmark Optra™ W810  
Laser Printer**

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**4023-001**

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## Laser Notice

The printer is certified in the U.S. to conform to the requirements of DHHS 21 CFR Subchapter J for Class I (1) laser products, and elsewhere is certified as a Class I laser product conforming to the requirements of IEC 60825.

Class I laser products are not considered to be hazardous. The printer contains internally a Class IIIb (3b) laser that is nominally a 5 milliwatt gallium arsenide laser operating in the wavelength region of 770-795 nanometers. The laser system and printer are designed so there is never any human access to laser radiation above a Class I level during normal operation, user maintenance, or prescribed service condition.

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## Laser *German*

Der Drucker erfüllt gemäß amtlicher Bestätigung der USA die Anforderungen der Bestimmung DHHS (Department of Health and Human Services) 21 CFR Teil J für Laserprodukte der Klasse I (1). In anderen Ländern gilt der Drucker als Laserprodukt der Klasse I, der die Anforderungen der IEC (International Electrotechnical Commission) 60825 gemäß amtlicher Bestätigung erfüllt.

Laserprodukte der Klasse I gelten als unschädlich. Im Inneren des Druckers befindet sich ein Laser der Klasse IIIb (3b), bei dem es sich um einen Galliumarsenlaser mit 5 Milliwatt handelt, der Wellen der Länge 770-795 Nanometer ausstrahlt. Das Lasersystem und der Drucker sind so konzipiert, daß im Normalbetrieb, bei der Wartung durch den Benutzer oder bei ordnungsgemäßer Wartung durch den Kundendienst Laserbestrahlung, die die Klasse I übersteigen würde, Menschen keinesfalls erreicht.

---

## Avis relatif à l'utilisation de laser *French*

Pour les Etats-Unis : cette imprimante est certifiée conforme aux provisions DHHS 21 CFR alinéa J concernant les produits laser de Classe I (1). Pour les autres pays : cette imprimante répond aux normes IEC 60825 relatives aux produits laser de Classe I.

Les produits laser de Classe I sont considérés comme des produits non dangereux. Cette imprimante est équipée d'un laser de Classe IIIb (3b) (arséniure de gallium d'une puissance nominale de 5 milliwatts) émettant sur des longueurs d'onde comprises entre 770 et 795 nanomètres. L'imprimante et son système laser sont conçus pour impossible, dans des conditions normales d'utilisation, d'entretien par l'utilisateur ou de révision, l'exposition à des rayonnements laser supérieurs à des rayonnements de Classe I .

---

## **Avvertenze sui prodotti laser** *Italian*

Questa stampante è certificata negli Stati Uniti per essere conforme ai requisiti del DHHS 21 CFR Sottocapitolo J per i prodotti laser di classe 1 ed è certificata negli altri Paesi come prodotto laser di classe 1 conforme ai requisiti della norma CEI 60825.

I prodotti laser di classe non sono considerati pericolosi. La stampante contiene al suo interno un laser di classe IIIb (3b) all'arseniuro di gallio della potenza di 5mW che opera sulla lunghezza d'onda compresa tra 770 e 795 nanometri. Il sistema laser e la stampante sono stati progettati in modo tale che le persone a contatto con la stampante, durante il normale funzionamento, le operazioni di servizio o quelle di assistenza tecnica, non ricevano radiazioni laser superiori al livello della classe 1.

---

## **Avisos sobre el láser** *Spanish*

Se certifica que, en los EE.UU., esta impresora cumple los requisitos para los productos láser de Clase I (1) establecidos en el subcapítulo J de la norma CFR 21 del DHHS (Departamento de Sanidad y Servicios) y, en los demás países, reúne todas las condiciones expuestas en la norma IEC 60825 para productos láser de Clase I (1).

Los productos láser de Clase I no se consideran peligrosos. La impresora contiene en su interior un láser de Clase IIIb (3b) de arseniuro de galio de funcionamiento nominal a 5 milivatios en una longitud de onda de 770 a 795 nanómetros. El sistema láser y la impresora están diseñados de forma que ninguna persona pueda verse afectada por ningún tipo de radiación láser superior al nivel de

la Clase I durante su uso normal, el mantenimiento realizado por el usuario o cualquier otra situación de servicio técnico.

---

## **Declaração sobre Laser** *Portugese*

A impressora está certificada nos E.U.A. em conformidade com os requisitos da regulamentação DHHS 21 CFR Subcapítulo J para a Classe I (1) de produtos laser. Em outros locais, está certificada como um produto laser da Classe I, em conformidade com os requisitos da norma IEC 60825.

Os produtos laser da Classe I não são considerados perigosos. Internamente, a impressora contém um produto laser da Classe IIIb (3b), designado laser de arseneto de potássio, de 5 milliwatts ,operando numa faixa de comprimento de onda entre 770 e 795 nanómetros. O sistema e a impressora laser foram concebidos de forma a nunca existir qualquer possibilidade de acesso humano a radiação laser superior a um nível de Classe I durante a operação normal, a manutenção feita pelo utilizador ou condições de assistência prescritas.

---

## **Laserinformatie** *Dutch*

De printer voldoet aan de eisen die gesteld worden aan een laserprodukt van klasse I. Voor de Verenigde Staten zijn deze eisen vastgelegd in DHHS 21 CFR Subchapter J, voor andere landen in IEC 60825.

Laserprodukten van klasse I worden niet als ongevaarlijk aangemerkt. De printer is voorzien van een laser van klasse IIIb (3b), dat wil zeggen een gallium arsenide-laser van 5 milliwatt met een golflengte van 770-795 nanometer. Het lasergedeelte en de printer zijn zo ontworpen dat bij normaal gebruik, bij onderhoud of reparatie conform de voorschriften, nooit blootstelling mogelijk is aan laserstraling boven een niveau zoals voorgeschreven is voor klasse 1.

---

## **Lasermeddelelse** *Danish*

Printeren er godkendt som et Klasse I-laserprodukt, i overensstemmelse med kravene i IEC 60825.

Klasse I-laserprodukter betragtes ikke som farlige. Printerens indeholder internt en Klasse IIIB (3b)-laser, der nominelt er en 5 milliwatt galliumarsenid laser, som arbejder på bølglængdeområdet 770-795 nanometer. Lasersystemet og printerens er udformet således, at mennesker aldrig udsættes for en laserstråling over Klasse I-niveau ved normal drift, brugervedligeholdelse eller obligatoriske servicebetingelser.

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## Huomautus laserlaitteesta *Finnish*

Tämä kirjoitin on Yhdysvalloissa luokan I (1) laserlaitteiden DHHS 21 CFR Subchapter J -määrityksen mukainen ja muualla luokan I laserlaitteiden IEC 60825 -määrityksen mukainen.

Luokan I laserlaitteiden ei katsota olevan vaarallisia käyttäjälle. Kirjoittimessa on sisäinen luokan IIIb (3b) 5 milliwatin galliumarsenidilaser, joka toimii aaltoalueella 770 - 795 nanometriä. Laserjärjestelmä ja kirjoitin on suunniteltu siten, että käyttäjä ei altistu luokan I määräyksiä voimakkaammalle säteilylle kirjoittimen normaalin toiminnan, käyttäjän tekemien huoltotoimien tai muiden huoltotoimien yhteydessä.

### LUOKAN 1 LASERLAITE

**VAROITUS!** Laitteen käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

### KLASS 1 LASER APPARAT

**WARNING!** Om apparaten används på annat sätt än i denna bruksanvisning specificerats, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

**VARO!** Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

**WARNING!** Osynlig laserstrålning när denna del är öppen och spärren är urkopplad. Betrakta ej strålen.

---

## Laser-notis *Swedish*

Denna skrivare är i USA certifierad att motsvara kraven i DHHS 21 CFR, underparagraf J för laserprodukter av Klass I (1). I andra länder uppfyller skrivaren kraven för laserprodukter av Klass I enligt kraven i IEC 60825.

Laserprodukter i Klass I anses ej hälsovådliga. Skrivaren har en inbyggd laser av Klass IIIb (3b) som består av en laserenhet av gallium-arsenid på 5 milliwatt som arbetar i våglängdsområdet 770-795 nanometer. Lasersystemet och skrivaren är utformade så att det aldrig finns risk för att någon person utsätts för laserstrålning över Klass I-nivå vid normal användning, underhåll som utförs av användaren eller annan föreskriven serviceåtgärd.

---

## Laser-melding *Norwegian*

Skriveren er godkjent i USA etter kravene i DHHS 21 CFR, underkapittel J, for klasse I (1) laserprodukter, og er i andre land godkjent som et Klasse I-laserprodukt i samsvar med kravene i IEC 60825.

Klasse I-laserprodukter er ikke å betrakte som farlige. Skriveren inneholder internt en klasse IIIb (3b)-laser, som består av en gallium-arsenlaserenhet som avgir stråling i bølgelengdeområdet 770-795 nanometer. Lasersystemet og skriveren er utformet slik at personer aldri utsettes for laserstråling ut over klasse I-nivå under vanlig bruk, vedlikehold som utføres av brukeren, eller foreskrevne serviceoperasjoner.

---

## Avís sobre el Làser *Catalàn*

Segons ha estat certificat als Estats Units, aquesta impressora compleix els requisits de DHHS 21 CFR, apartat J, pels productes làser de classe I (1), i segons ha estat certificat en altres llocs, és un producte làser de classe I que compleix els requisits d'IEC 60825.

Els productes làser de classe I no es consideren perillosos. Aquesta impressora conté un làser de classe IIIb (3b) d'arseniür de gal.li, nominalment de 5 mil.liuwats, i funciona a la regió de longitud d'ona de 770-795 nanòmetres. El sistema làser i la impressora han sigut concebuts de manera que mai hi hagi exposició a la radiació làser per sobre d'un nivell de classe I durant una operació normal, durant les tasques de manteniment d'usuari ni durant els serveis que satisfacin les condicions prescrites.

---

## Japanese Laser Notice

### レーザーに関するお知らせ

このプリンターは、米国ではDHHS 21 CFRサブチャプターJのクラスI (1)の基準を満たしたレーザー製品であることが証明されています。また米国以外ではIEC 825の基準を満たしたクラスIのレーザー製品であることが証明されています。

クラスIのレーザー製品には危険性はないと考えられています。このプリンターはクラスIII b (3 b)のレーザーを内蔵しています。このレーザーは、波長が770 ~ 795ナノメートルの範囲で、通常5ミリワットのガリウム砒化物を放射するレーザーです。このレーザーシステムとプリンターは、通常の操作、ユーザのメンテナンス、規定された修理においては、人体がクラスIのレベル以上のレーザー放射に晒されることのないよう設計されています。



---

## Chinese Laser Notice

注意：

本打印机被美国认证合乎 DHHS 21 CFR Subchapter I 对分类 I (1) 激光产品的标准，而在其他地区则被认证合乎 IEC 825 的标准。

分类 I 激光产品一般认为不具危险性，本打印机内部含有分类 IIIb (3b) 的激光，在操作过程中会产生 5 毫瓦含镓及砷的微量激光，其波长范围在 770-795 nm 之间。本激光系统及打印机的设计，在一般操作、使用者维护或规定内的维修情况下，不会使人体接触分类 I 以上等级的辐射。

---

## Korean Laser Notice

본프린터는 1등급 레이저 제품들에 대한 DHHS 21 CFR Subchapter 3의 규정을 준수하고 있음을 미국에서 인증받았으며, 그외의 나라에서도 IEC 825 규정을 준수하는 1등급 레이저 제품으로서 인증을 받았습니다.

1등급 레이저 제품들은 안전한 것으로 간주됩니다. 본 프린터는 5 밀리วัต트 갈륨 아르세나이드 레이저로서 770-795 나노미터의 파장대에서 활동하는 Class III (3b) 레이저를 내부에 갖고 있습니다. 본 레이저 시스템과 프린터는 정상 작동 중이나 유지 보수 중 또는 규정된 서비스 상태에서 상기의 Class I 수준의 레이저 방출에 사람이 절대 접근할 수 없도록 설계되어 있습니다.

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## 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.

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## Consignes de Sécurité *French*

- 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.

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## **Norme di sicurezza** *Italian*

- 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.

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## **Sicherheitshinweise** *German*

- 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** *Spanish*

- 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** *Portugese*

- 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.

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## **Informació de Seguretat** *Catalàn*

- Aquest producte està dissenyat, comprovat i aprovat per tal d'acomplir les estrictes normes de seguretat globals amb la utililització 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'us 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.

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*Chinese*

## 安全资讯

- 本产品使用特有的 Lexmark 元件，并依照严格的世界安全标准来设计、测试及验证。有些零件的安全功能可能不明显。對於其他厂牌更换零件的使用，Lexmark 概不负责。
- 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。

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*Korean*

## 안전 사항

- 본 제품은 특정 Lexmark 구성 요소의 사용에 있어 엄격한 세계 안전 표준에 맞도록 설계, 테스트되었으며 승인받았습니다. 일부 부품의 안전성은 항상 보장되지 않습니다. Lexmark는 다른 교체 부품의 사용에 대한 책임을 지지 않습니다.
- 본 제품에 관한 유지 보수 설명서는 전문 서비스 기술자용으로 작성된 것이므로 비 전문가가 사용할 수 없습니다.
- 본 제품을 해체하거나 정비할 경우 전기적인 충격을 받거나 상처를 입을 위험이 커집니다. 전문 서비스 기술자는 이 사실을 숙지하고 필요한 예방 조치를 취하도록 하십시오.



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# 1. General Information

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## Maintenance Approach

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The diagnostic information in this manual leads you to the correct field replaceable unit (FRU) or part. Use the error code charts, symptom index, and service checks to determine the symptom and repair the failure. You may find that the removals in the Repair Information chapter will help you identify parts.

After you complete the repair, perform tests as needed to verify the repair.

---

## Tools

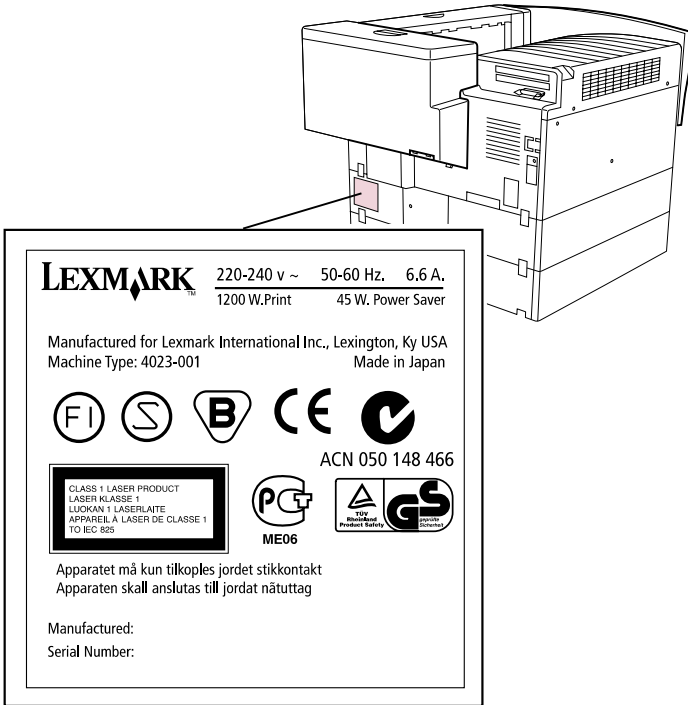
The removal and adjustment procedures described in this manual require the following tools and equipment:

- Magnetic tip Phillips screwdrivers, large and small
- Flat-blade screwdrivers
- Analog volt ohmmeter (a digital volt ohmmeter may also be used)
- Needle nose pliers
- Tweezers, C-ring pliers

When you make voltage readings, always use frame ground unless another ground is specified.

## Serial Number

The serial number is located in the bottom left corner of the label illustrated below:





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## Abbreviations

ASIC	Application-Specific Integrated Circuit
CSU	Customer Setup
DRAM	Dynamic Random Access Memory
EEPROM	Electrically Erasable Programmable Read-Only Memory
EP	Electrophotographic Process
ESD	Electrostatic Discharge
FRU	Field Replaceable Unit
HVPS	High Voltage Power Supply
LAN	Local Area Network
LASER	Light Amplification by Stimulated Emission of Radiation
LCD	Liquid Crystal Display
LED	Light-Emitting Diode
LVPS	Low Voltage Power Supply
NVRAM	Nonvolatile Random Access Memory
OEM	Original Equipment Manufacturer
PICS	Problem Isolation Charts
PIXEL	Picture Element
POR	Power-On Reset
POST	Power-On Self Test
PQET	Print Quality Enhancement Technology
RIP	Raster Image Processor
ROS	Read-Only Storage
SRAM	Static Random Access Memory
UPR	Used Parts Replacement
VAC	Volts alternating current
VDC	Volts direct current

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## Standard Features

### Printer (Main)

Feature	Description
Print speed	35 ppm (letter/A4) High Speed Printing
Power supply	AC120V, AC220–240V $\pm 10\%$
Power consumption	1200W 45W or less (low power)
Temperature	10 to 35°C
Controller	Lexmark Controller (High Performance)
RIP page storage	Hard disk option can be partitioned to be used for intermediate RIP page storage
Printer management software	Markvision™ for network and/or desktop printer management
Operator panel	Operator panel access for menus
Universal Drawer	250 sheet 11x17/A3/letter/legal/A4
500 sheet input drawers	Two (2) 500 sheet input drawers (11x17/A3/letter/legal/A4)
Copy collation	Multiple copy collation in the printer RAM
Dimensions	1.75 ft. (535 mm) Width x 2.06 ft. (628 mm) Depth x 1.40 ft. (428 mm) Height
Printing system	Electrostatic dry powdered imaging system + Imaging cartridge Two-component imaging cartridge
Exposure system	Laser diode + polygon mirror scanning
Paper feeding system	Six-way system Tray 1 (multipurpose) (250 sheets)
Charging system	Comb electrode with scorotron system
Development	MTHG system
Density correction	ATDC sensor
Density control	Developing bias adjusting system

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<b>Feature</b>	<b>Description</b>
Image transfer system	Roller transform system
PC drum	Organic photoconductor (OPC)
Cleaning system	Blade system
Separating system	Paper separator
Fusing system	Heat roller fusing system
Paper exit system	Printer Face down (300 sheets maximum A4/C/Letter C) Mailbox 2000 sheets Finisher 2500 sheets 500 sheets standard bin 2000 sheets finisher bin

## Options

Option	Description	Optra W810 Versions*
EDO DRAM Memory Options:	32MB EDO Memory 64MB EDO Memory	A,B,C
Hard disk	Hard disk option Hard disk adapter cable	A,B,C
Tri-port interface card	Serial, LocalTalk and IR	A,B,C
MarkNet™ S Adapters	Token-ring Ethernet (10BT/100BTx) Ethernet (10BT/2) Ethernet (10BT/100BTx) SCSI Coax/twinax adapter for SCS	B,C
Parallel connector	Parallel/USB	A,B,C
Paper handling	500 sheet input tray and drawer 2500 sheet input tray (worldwide) 2000 sheet mailbox 2500 sheet finisher (3 and 4 hole punching capability, 5k stapling capacity)	A,B,C
Optralimage™	Ethernet 10/100, SCSI scanner and fax	A,B,C
Supplies	Photoconductor kit Toner cartridge Staples	A,B,C
Cables	10-foot parallel cable 20-foot parallel cable 50-foot serial cable 10-foot 1284 A-C parallel cable	A,B,C

\*Versions are:

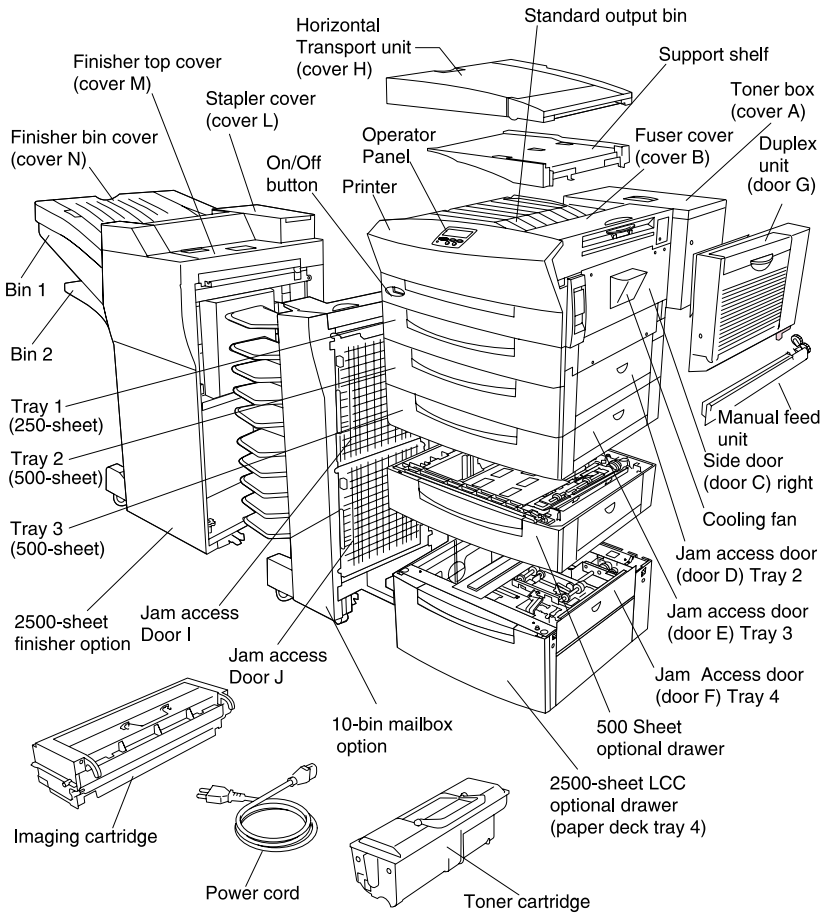
A–W810

B–W810n

C–W810dn

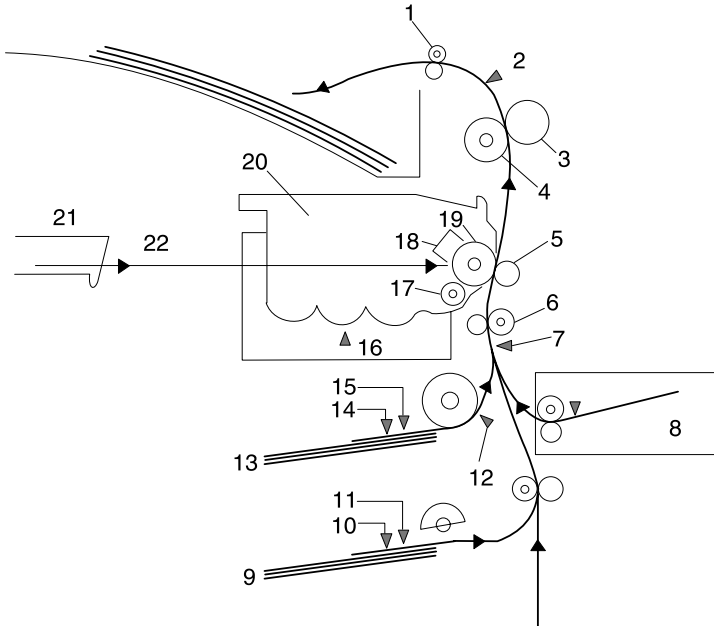
# Printer/Options

## Parts Identification



## Printer Configuration

The following diagram shows the major parts of the printer and paper path. The printer consists of the paper feed section, printhead unit (exposure section), imaging cartridge (charging section and development section), image transfer section, fusing section, cleaning section and paper exit section.



- |  |   |
|--|---|
| 1 Paper Exit Roller                            | 12 Double Feed Sensor                         |
| 2 Paper Exit Sensor (PS3)                      | 13 Tray1 (1st Paper Cassette)                 |
| 3 Lower Fusing Roller                          | 14 1st Paper Cassette Near Empty Sensor (PC5) |
| 4 Upper Fusing Roller (Heater Lamp)            | 15 1st Paper Cassette Empty Sensor (PC4)      |
| 5 Image Transfer Roller                        | 16 ATDC Sensor                                |
| 6 Synchronizing Roller                         | 17 Sleeve Roller                              |
| 7 Synchronizing Roller Sensor (PC2)            | 18 PC Drum Charger                            |
| 8 Manual Unit                                  | 19 PC Drum                                    |
| 9 Tray2 (2nd Paper Cassette)                   | 20 Imaging Cartridge                          |
| 10 2nd Paper Cassette Near Empty Sensor (PC25) | 21 Print Head Unit (PH)                       |
| 11 2nd Paper Cassette Empty Sensor (PC22)      | 22 Laser Beam                                 |

---

## General Description of Each Section

### Paper Feed Section

Paper feeds from tray 1 (1st paper cassette), tray 2 or 3 (500-sheet paper cassette). When the printer receives a print command, the transport motor M2 turns, paper take-up solenoid turns ON, and the paper take-up roller in the 1st paper cassette feeds a sheet of paper. The synchronizing roller sensor (PC2) detects the fed paper and the paper is then fed to the synchronizing roller for printing. When paper trays (500-sheet cassette (tray 2 or 3), 250-sheet universal cassette (tray 1)), or 2500-sheet drawer is installed, paper feeds from the respective paper source.

### Printhead Unit (Exposure Section)

The laser diode in the printhead unit emits a laser beam. The scanning beam creates an electrostatic latent image on the surface of the PC drum in the imaging cartridge.

### Imaging Cartridge (Charging, Development Section)

The imaging cartridge consists of the charging section and development section. The I/C drive motor (M1) drives the moving parts of the imaging cartridge.

### Image Transfer Section (Release Section)

The toner image on the PC drum transfers to the paper when passing over the transfer roll. The paper electrostatically releases from the PC drum.

### Fusing Section

Using a heated roller, the fusing section permanently fixes the toner image onto the paper. A heat sensitive element (thermistor) attached to the upper fusing roller controls the fusing temperature.

### Cleaning Section

The cleaning blade removes excess toner from the paper and transfers the toner to the waste toner box.

## Paper Exit Section

After the paper passes the fusing section, the paper exit roller ejects the paper out the top of the printer. The paper exit sensor (PC3) senses the ejection of the paper.

### Optional manual and duplex unit installed:

The duplex unit switchback motor pulls the trailing edge of the printed paper inside the duplex unit. The duplex unit transport motor then feeds the paper to the manual unit where the paper remains until the second print command.

---

## General Flow for Printing Process

Print command	The motor in the printhead unit starts turning.
Polygon Motor ON	
Cleaning	The transfer roller becomes negatively charged to prevent the negatively-charged toner from sticking to the PC Drum.
Starting processing	The I/C (imaging cartridge) drive motor (M1) starts turning.
Paper take-up	The transport motor (M2) starts turning.  The paper take-up solenoid turns on to feed paper.
Laser emission	A laser beam is emitted at constant power.
Scanning the image data	A laser beam scans the surface of the PC drum to produce a latent electrostatic image.
Paper feeding	The synchronizing roller sensor (PC2) detects the presence of paper. The synchronizing clutch then turns on which turns on the synchronizing roller for feeding paper.
Developing the image data	Toner is applied to the PC drum to produce a visible toner image.
Transfer the image data	The toner image on the surface of the PC drum is transferred onto the paper.
Fusing the toner	The toner is permanently fixed onto the paper.
Cleaning	Excess toner and electric potential on the PC drum are eliminated.
Paper ejection	The paper ejects.

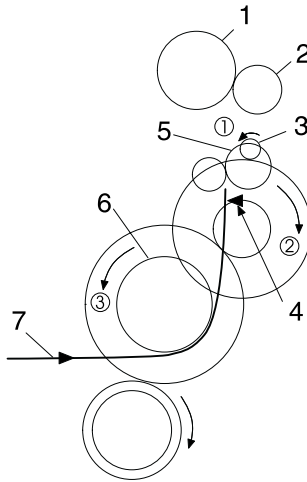


## Paper Feed Section

### Taking Up Paper–Tray 1 (1st Paper Cassette)

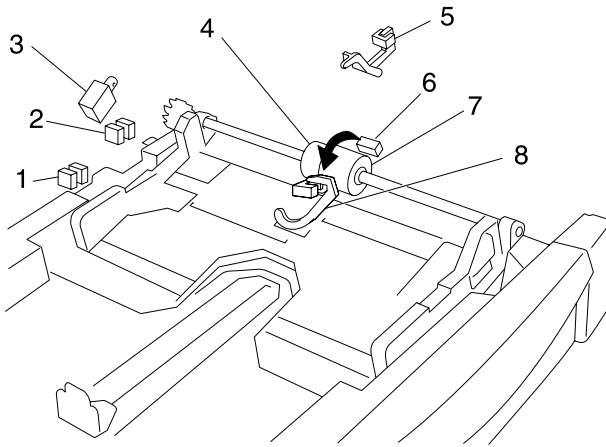
Power is transmitted from the transport motor (M2) as follows to take up paper from the 1st paper cassette:

1. The transport motor (M2) turns counterclockwise.
2. The idle gear turns clockwise and the 1st cassette paper take-up solenoid (SL1) turns ON.
3. The paper take-up roller turns counterclockwise and paper is taken up.



- |   |                                      |   |                      |
|---|--------------------------------------|---|----------------------|
| 1 | PC Drum                              | 5 | Synchronizing Roller |
| 2 | Image Transfer Roller                | 6 | Paper Take-Up Roller |
| 3 | Transport Motor (M2)                 | 7 | Paper                |
| 4 | Synchronizing Roller<br>Sensor (PC2) |   |                      |

## Tray 1 Sensors



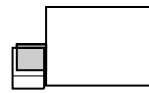
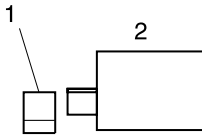
- |   |  |   |                                       |
|---|--|---|---------------------------------------|
| 1 | 1st Cassette Paper Near Empty Sensor (PC5) | 5 | Synchronizing Roller Sensor (PC2)     |
| 2 | 1st Cassette Set Sensor (PC6)              | 6 | Double Feed Sensor                    |
| 3 | 1st Cassette Paper Take-up Solenoid (SL1)  | 7 | Paper Take-up Roller                  |
| 4 | Separator Pad                              | 8 | 1st Paper Cassette Empty Sensor (PC4) |

### 1st Cassette Tray 1 Set Sensor (PC6)

PC6 (1) sensor detects installation of the 1st paper cassette in tray 1.

Cassette is not installed

Cassette is installed



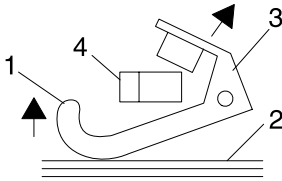
- |   |                               |
|---|-------------------------------|
| 1 | 1st Cassette Set Sensor (PC6) |
| 2 | 1st Paper Cassette            |

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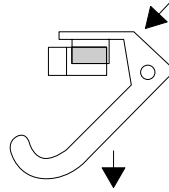
### 1st Cassette Tray 1 Paper Empty Sensor (PC4)

PC4 (1) detects paper empty status of the 1st paper cassette.

Paper is Present



Paper is not present



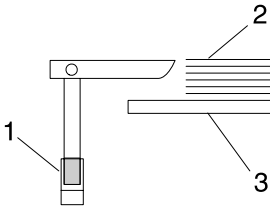
1 1st Paper Cassette Empty Sensor (PC4)

2 Paper

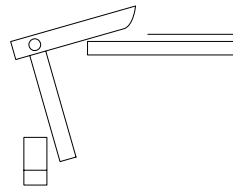
### 1st Cassette Tray 1 Paper Near Empty Sensor (PC5)

PC5 detects when the 1st cassette is near empty.

Paper is Present



Paper is not present



1 1st Paper Cassette Near Empty Sensor (PC5)

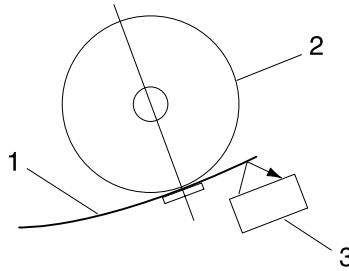
2 Paper

3 Paper Lifting Plate

### 1st Cassette Tray 1 Double Feed Sensor

The double feed sensor (located on the double feed detecting sensor board (PWB-H)) detects the possibility of double feed. This sensor uses a photo reflector.

The double feed sensor detects whether the leading edge of paper to be taken up next runs 10 mm or more from the paper nip point. If paper runs 10 mm or more, double feeding may occur if the paper is taken up in the normal printing interval. To avoid this, the printer prolongs the printing intervals as long as the double feed sensor detects a double feed status. This results in the reduction of the number of sheets fed per minute.



Light reflects: Output=L

Light does not reflect: Output=H

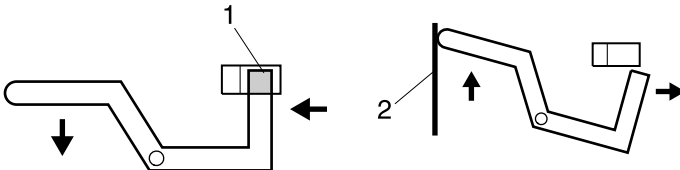
- 1 Paper
- 2 Paper Take-up Roller
- 3 Double Feed Sensor

### 1st Cassette Tray 1 Synchronizing Roller Sensor (PC2)

This sensor detects that the paper is fed inside the printer.

Paper is not present

Paper is present



- 1 Synchronizing Roller Sensor (PC2)
- 2 Paper

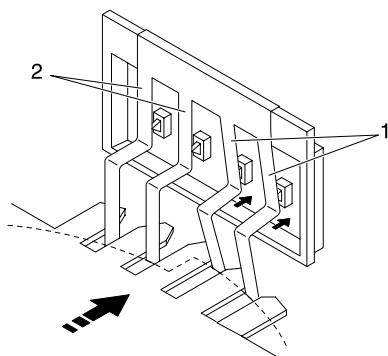
## 1st Cassette Tray 1 Paper Size Detection

Five DIP switches indicate the paper size for the 1st paper cassette. Four of the switches indicate length and one width. The DIP switches are located on the 1st cassette paper size board (PWB-S1).

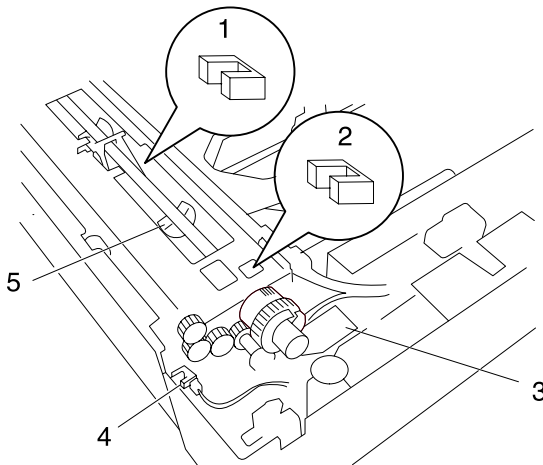
The ON(1)/OFF(2) settings of the length dip switches set the analog input voltage. The input voltage and the normal input data from the width dip switch port determine paper size.

The precise paper size cannot be identified by detection and must be selected from the operation panel.

When no cassette is set, all switches are set to off.



## Tray 2 (2nd Paper Cassette)

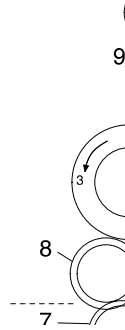


- |   |   |   |   |
|---|---|---|---|
| 1 | 2nd Cassette Paper Empty Sensor (PC22)      | 4 | 2nd Cassette Right Door Detecting Sensor (PC23) |
| 2 | 2nd Cassette Paper Near Empty Sensor (PC25) | 5 | Paper Take-Up Roller                            |
| 3 | 2nd Cassette Paper Take-up Solenoid (SL21)  |   |   |

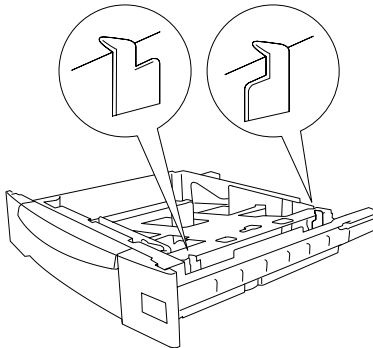
## Taking up Paper—Tray 2 (2nd Paper Cassette)

Power transmits from the transport motor (M2) as follows to take up paper from the 2nd paper cassette:

1. The transport motor (M2) turns counterclockwise.
2. The idle gear turns clockwise.
3. The 1st cassette paper take-up gear turns counterclockwise.
4. The 1st cassette idle gear turns clockwise and the transport clutch (CL1) turns ON.
5. Power is transmitted to the 2nd paper cassette.
  - a. The 2nd cassette paper take-up solenoid (SL21) turns ON.
  - b. Paper take-up roller turns counterclockwise.
  - c. Paper is taken up.



- |   |                                   |   |                        |
|---|-----------------------------------|---|------------------------|
| 1 | PC Drum                           | 6 | Paper                  |
| 2 | Image Transfer Roller             | 7 | Paper Take-up Roller   |
| 3 | Transport Motor (M2)              | 8 | Transport Clutch (CL1) |
| 4 | Synchronizing Roller Sensor (PC2) | 9 | Synchronizing Roller   |
| 5 | Transport Gear                    |   |                        |

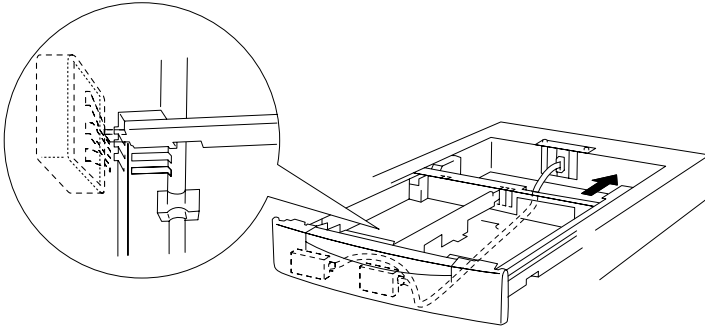


## Tray 2 Sensors

### 2nd Cassette Detection

This sensor detects installation of the 2nd paper cassette in tray 2.

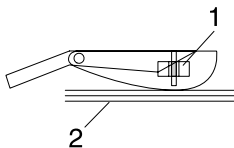
The paper size indicated by the 2nd cassette paper size board (PWB-S2, -S3) is also checked. The length dip switch setting determines paper size.



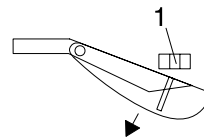
### 2nd Cassette Paper Empty Sensor (PC22)

PC22 detects the paper empty status of the 2nd paper cassette. Paper empty status occurs when paper runs out in the 2nd paper cassette.

Paper is present



Paper is not present



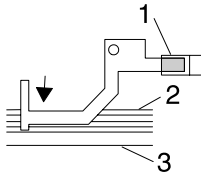
- 1 2nd Cassette Paper Near Empty Sensor (PC22)
- 2 Paper



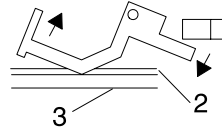
## 2nd Cassette Paper Near Empty Sensor (PC25)

PC25 detects paper near empty status of the 2nd cassette.

Paper is present



Paper is not present

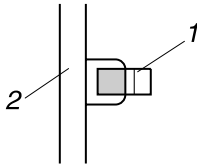


- 1 2nd Cassette Paper Near Empty Sensor (PC25)
- 2 Paper
- 3 Paper Lifting Plate

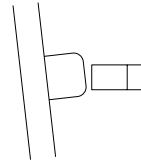
## 2nd Cassette Right Door Detecting Sensor (PC23)

PC23 detects if the 2nd cassette right door is open or closed. The right door is normally closed except when removing jammed paper.

Right door is closed



Right door is open



- 1 2nd Cassette Right Door Detecting Sensor (PC23)
- 2 Right Door

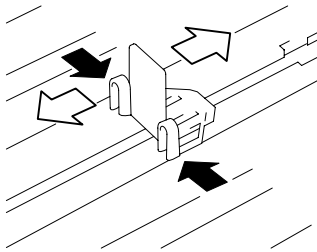
## Edge Guide and Trailing Edge Stop

### Universal Cassette/500-Sheet Tray 2 & 3

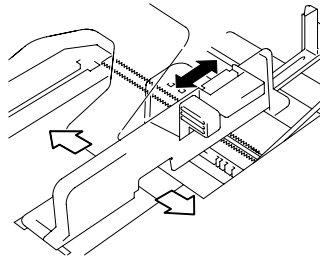
The edge guide and trailing edge stop of the universal cassette slide to accommodate different paper sizes. The edge guide and trailing edge stop of the fixed paper size cassette are attached in fixed positions.

#### Fixed Paper Size Cassette

Trailing Edge Stop



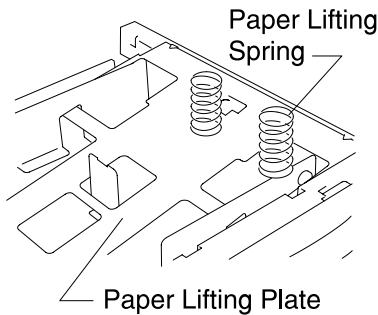
Edge Guide



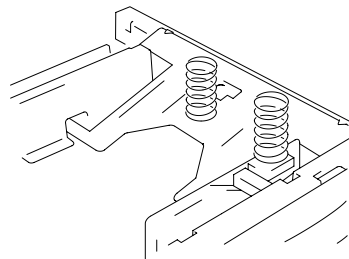
## Paper Lifting Plate

Two paper lifting springs in each cassette constantly raise the paper lifting plate.

Fixed Paper Size Cassette

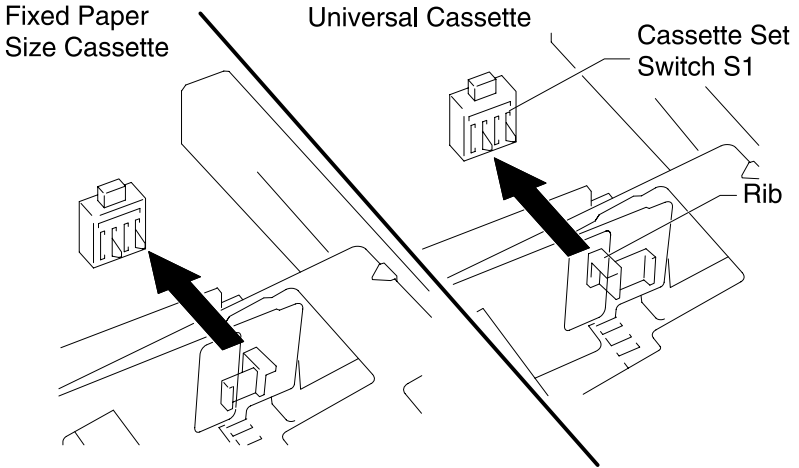


Universal Cassette



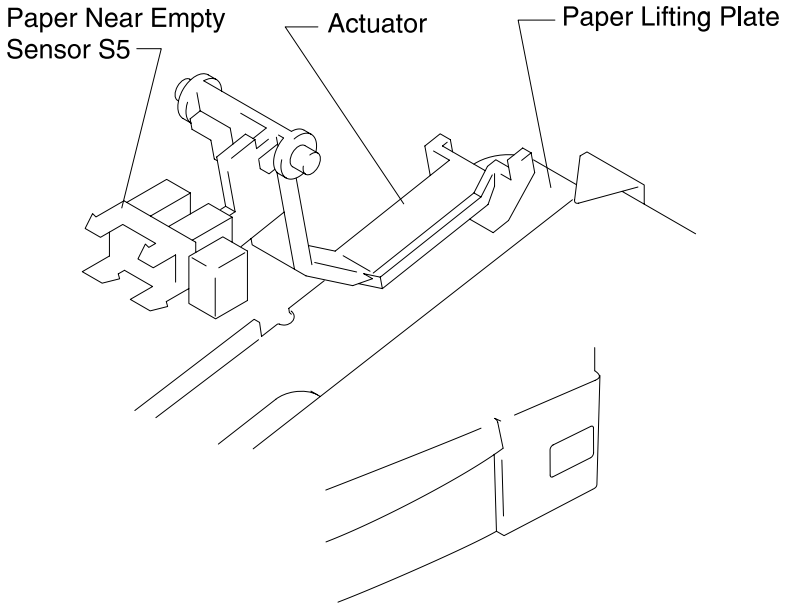
## Cassette-in-Position Detection

The rib on the cassette frame presses the cassette set switch on the back panel of the printer, indicating the cassette is inserted. The position of the rib on the cassette frame is different between the fixed paper size and universal cassette. This lets the printer detect which cassette is inserted.



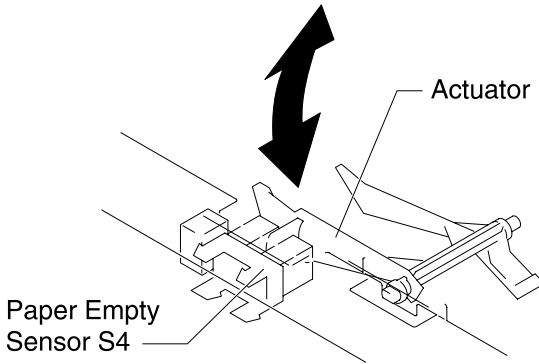
## Paper Near Empty Detection

Height of the paper lifting plate determines paper-near-empty condition. Since the amount of paper available during the take-up sequence varies, detection occurs when the paper take-up roll is in the retracted position.



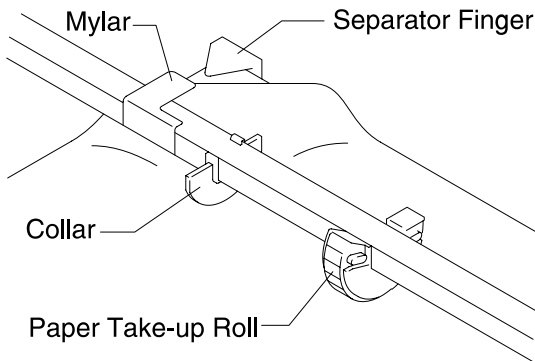
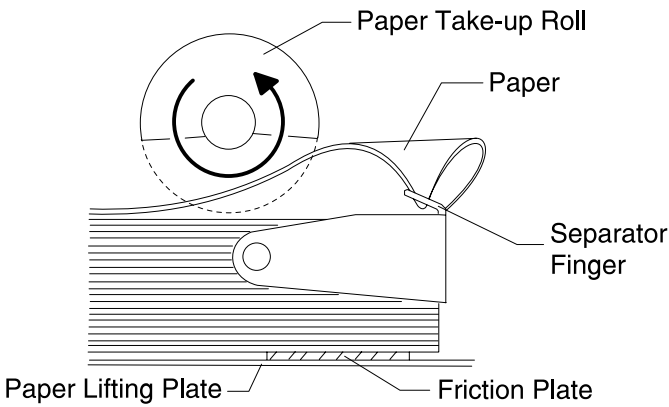
## Paper Empty Detection

When the cassette runs out of paper, the actuator of the paper empty sensor drops into the cutout of the paper lifting plate. This exposes the sensor, signaling that the cassette is out of paper.



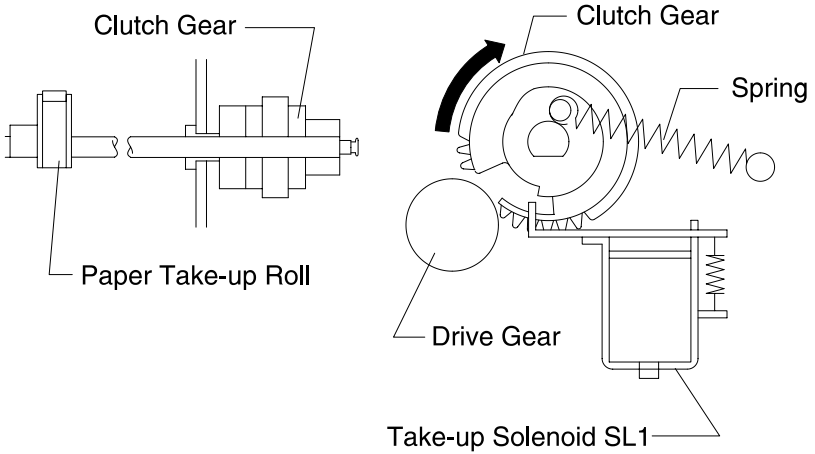
## Paper Separating Mechanism

Each cassette has fingers that separate the top sheet of paper from the rest of the paper stack during paper take-up. When the paper take-up roll starts to turn, the turning force transmits to the top sheet of paper. The transmitted force overcomes the block of the fingers, causing the top sheet of paper to ride over the fingers and feed out of the cassette into the printer. The paper transport force obtained through friction with the top sheet of paper is weak and does not allow the second sheet of paper to ride over the block of the fingers.



## Paper Take-Up Roll

Two paper take-up rolls are mounted in both the fixed paper size cassette and universal cassette. As the take-up solenoid energizes, the spring tension increases, meshing the drive and clutch gear which transmits drive to the paper take-up rolls.



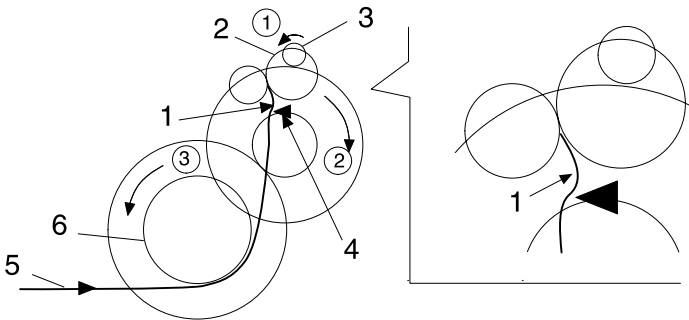
## Paper Feed

The paper taken up by the paper take-up section feeds to the transfer section after registration compensation.

### Registration Compensation

Registration compensation eliminates paper skew by controlling the paper take-up roller and synchronizing roller rotation timing.

The taken-up paper passes the synchronizing roller sensor (PC2) and reaches the synchronizing roller. The printer delays the synchronizing roller to align the leading edge of the paper with the stopping synchronizing roller. The leading edge of the paper slacks a little as shown in the figure. The synchronizing clutch (CL1) activates and the paper take-up roller turns for a moment to securely feed the paper to the inside of the printer.



- |   |                      |   |                                   |
|---|----------------------|---|-----------------------------------|
| 1 | Slack of Paper       | 4 | Synchronizing Roller Sensor (PC2) |
| 2 | Synchronizing Roller | 5 | Paper                             |
| 3 | Transport Motor (M2) | 6 | Paper Take-up Roller              |

### Paper Feeding

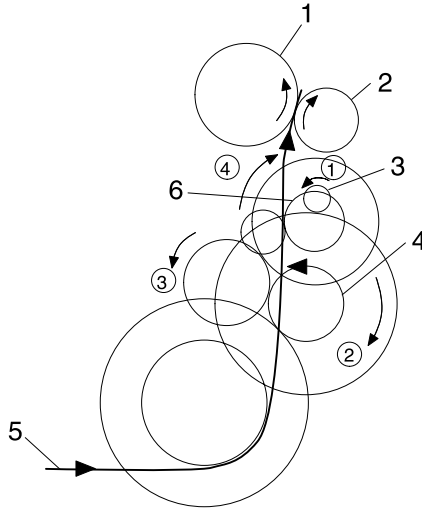
1. The transport motor (M2) turns counterclockwise.
2. The idle gear turns clockwise. The synchronizing clutch (CL1) turns. The I/C drive motor (M1) drives the PC drum.

As the PC Drum turns, the transfer roller also turns.



## 4023-001

The synchronizing roller feeds paper to the PC drum and transfer roller. The PC drum and transfer roller pinch the paper and feed it to the fusing section.



- |   |                       |   |                            |
|---|-----------------------|---|----------------------------|
| 1 | PC Drum               | 4 | Synchronizing Clutch (CL1) |
| 2 | Image Transfer Roller | 5 | Paper                      |
| 3 | Transport Roller      | 6 | Synchronizing Roller       |

---

## Printhead Unit (Exposure section)

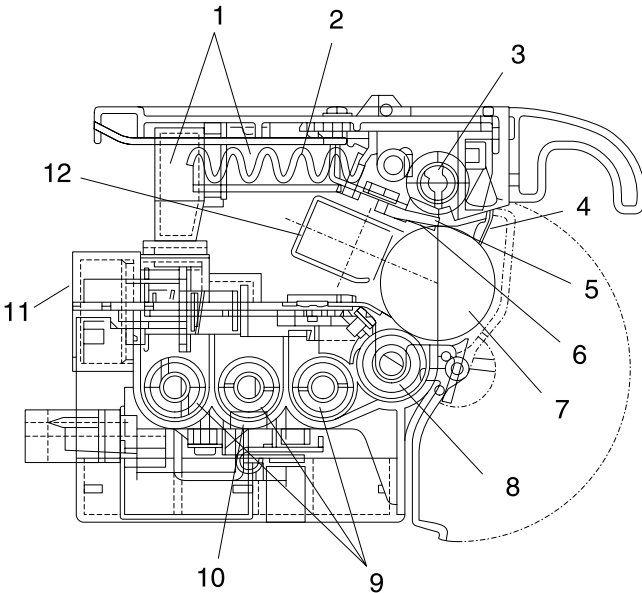
The printhead unit incorporates a laser diode that emits a laser beam corresponding to the print image data.

The scanning laser beam scans the PC drum from left to right, producing an electrostatic latent image on the surface of the PC drum.

---

## Imaging Cartridge (Charging/Development Section)

The printer main body I/C drive motor (M1) transmits power to the gears of the imaging cartridge. The I/C drive motor (M1) turns clockwise (as viewed from the front of the printer).



	<b>Part Name</b>	<b>Function</b>
1	Waste toner box	Collects excess toner.
2	Transfer screw	Transfers excess toner to the waste toner box.
3	Rotary blade	Transfers the waste toner collected by the cleaning blade to the waste toner box.
4	Separating claw	Ensures paper release from the PC Drum.
5	Cleaning blade	Removes excess toner from the PC Drum (waste toner) after transfer to the paper.
6	Sheet erase	Negatively charges the PC Drum to eliminate the remaining electric polarity after transfer to the paper.
7	PC drum	Charged roller that applies image to paper.
8	Sleeve roller	Transfers toner to the surface of the PC Drum via a rotating resin sleeve and then develops it.
9	Screw	Mixes toner and carrier inside the toner hopper.
10	ATDC Sensor	Adjusts the toner density.
11	Toner filler opening	Toner is supplied from the sub-hopper.
12	Charger	Charges the PC Drum.

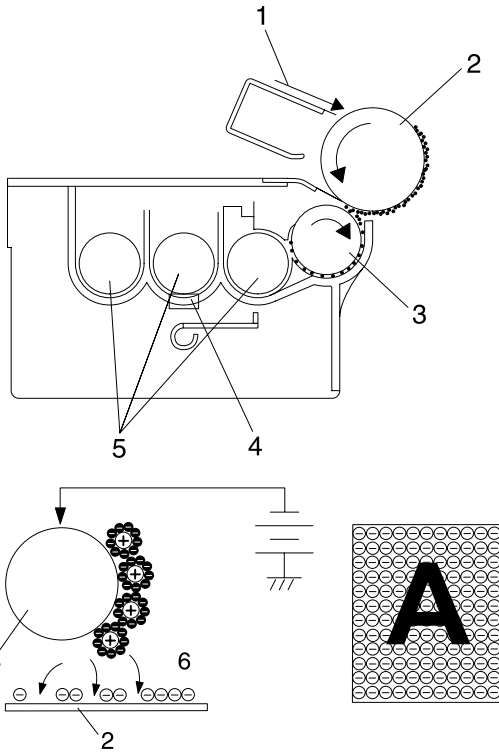
## Development Section

### Development

The development section feeds toner to the electrostatic latent image on the surface of the PC drum to produce a visible toner image.

A screw circulates the toner in the toner hopper. The toner mixes with the carrier to produce the developer. The ATDC sensor detects the ratio of toner to carrier, and voltage controls the toner density. The developer is then supplied to the sleeve roller.

The sleeve roller negatively charges the toner. The toner adheres to the electrostatic latent image due to the reduced negative voltage in the image area. The toner does not adhere to the area where the laser beam has not been applied. This occurs because the charge brush maintains the negatively charged voltage in the non-image area.



- |   |               |   |             |
|---|---------------|---|-------------|
| 1 | Laser Beam    | 4 | ATDC Sensor |
| 2 | PC Drum       | 5 | Screw       |
| 3 | Sleeve Roller | 6 | Developer   |

## Toner Empty Detection

Three empty-toner conditions are detected: sub-hopper empty, toner bottle near empty, and toner bottle empty.

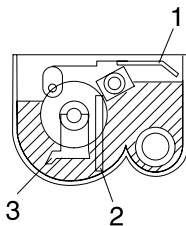
### Sub-Hopper Empty

The toner detection plate lead switch checks the toner level by detecting the position of the toner detection plate.

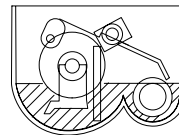
The toner bottle supplies toner to the rotating mixing plate. The rotating mixing plate spreads the toner evenly in the sub-hopper. The toner pushes upward on the toner detection plate. The position of the toner detection plate indicates the amount of toner in the sub-hopper.

A toner empty status occurs when the toner detection plate lowers enough for the lead switch to detect the plate. However, the lead switch is not activated when the toner supply motor stops or the bottle motor rotates. When the sub-hopper empty status occurs, the bottle motor activates to supply toner to the sub-hopper from the toner bottle.

Large quantity of toner



Toner is empty



- |   |                                   |   |                       |
|---|-----------------------------------|---|-----------------------|
| 1 | Toner Detection Plate             | 3 | Rotating Mixing Plate |
| 2 | Toner Detection Plate Read Switch |   |                       |

### **Toner bottle near empty**

The toner bottle empty status is detected when the toner bottle rotates and feeds toner to the sub-hopper. The bottle rotation counter checks the number of bottle rotations. If the number of rotations exceeds 10, the near empty status occurs. The bottle supplies toner after the near empty status occurs.

### **Toner bottle empty**

The toner bottle empty status in the imaging cartridge occurs when the ATDC sensor detects a toner density (ratio of toner to carrier) below 10%. When this occurs, the appropriate toner density cannot be maintained. The bottle motor and toner supply motor stop. The toner empty status is recorded and will not reset until the toner cartridge is replaced.

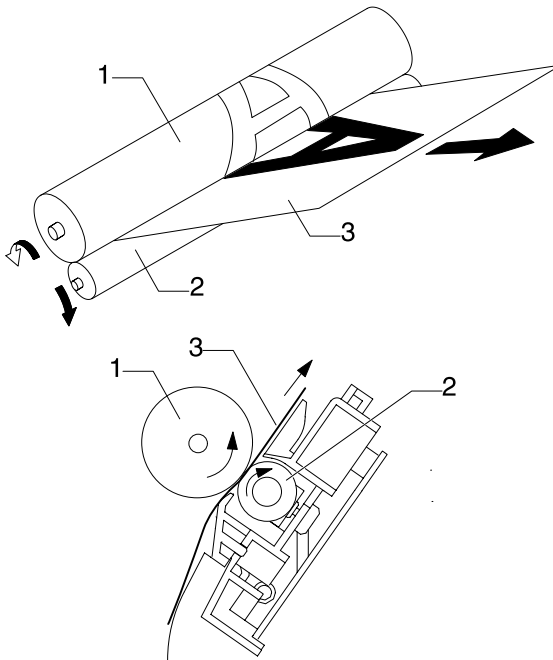
### **ATDC Sensor**

The developer, circulated by a screw, passes over the ATDC sensor. The sensor measures the ratio of toner to carrier (T/C ratio) in the developer. This ratio is converted to a charge and input to PWB-A. When the sensor detects a low T/C ratio, T/C recovery mode begins.

## Image Transfer Section (Release Section)

The transfer roller transfers the toner image on the surface of the PC Drum onto the paper.

Normally the paper separates from the PC drum without any outside interference. When the paper fails to separate from the PC drum, the separating claw releases the paper by force.

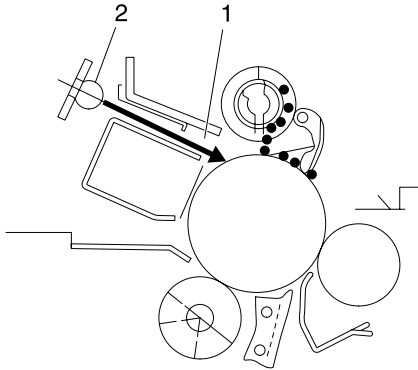


- 1 PC Drum
- 2 Image Transfer Roller
- 3 Paper



## Optical Erase

During the optical erase, light from the eraser lamp irradiates the PC drum, eliminating the negative charge applied by the cleaning blade during PC drum cleaning. This prevents black lines from being created on the front and rear ends and both sides of the image.



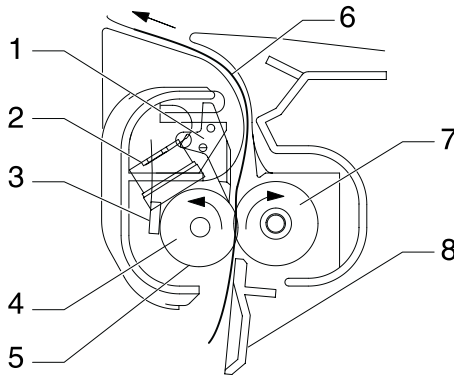
- 1 Cleaning Blade
- 2 Optical Erase

## Fusing Section

### Fusing

Toner-transferred paper feeds from the transfer section to the fusing section when power from the transport motor (M2) transmits to the upper fusing roller.

The fusing roller heater lamp (H1, built in the roller) heats the upper fusing roller. The fusing roller thermistor (TH1) attached to the upper fusing roller controls the heater temperature. To ensure overheating does not occur, the fusing roller thermostat (TS1) and fusing roller heater lamp fuse (TF1) are connected in series to the heater lamp (H1). The heater lamp (H1) heats when an AC voltage is applied.



1 Separator	5 Upper Fusing Roller
2 Thermostat (TS1)	6 Paper
3 Thermistor (TH1)	7 Lower Fusing Roller
4 Heater Lamp (H1)	8 Guide

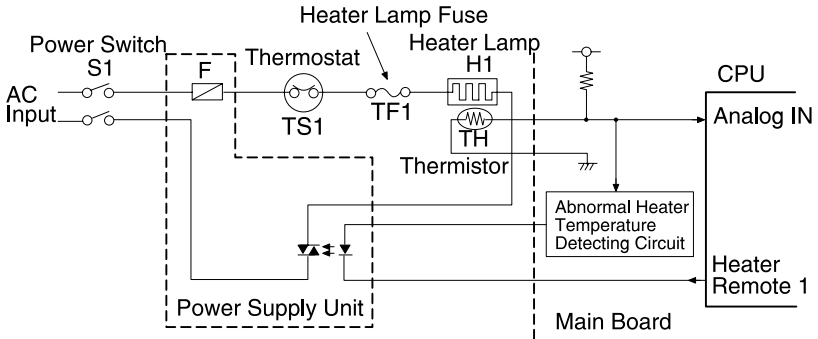
### Temperature Control Using The Thermistor

The resistance of the thermistor (TH1) attached to the upper fusing roller varies with temperatures. When temperature rises, the resistance of the thermistor (TH1) decreases, and vice versa.

### Thermostat (TS1) and Heater Lamp Fuse (TF1)

If an abnormal current flows into the heater lamp because of thermistor trouble and the upper fusing roller temperature reaches

approximately 220°C, the contact of the thermostat automatically opens to shut off AC voltage. (As the temperature decreases, the contact of the thermostat closes again. However, once the thermostat activates, you must replace it with a new one.) The thermostat cannot respond quickly enough to protect against a sudden overload current. In this case, the heater lamp fuse blows to protect the heater lamp.



## Fusing Temperature Control

The fusing section starts to warm up when the main switch turns ON. Preliminary rotation occurs for 20 seconds when the temperature of the upper fusing roller reaches 170°C (338°F). When the rotation stops, the temperature of the upper fusing roller is approximately 200°C (392°F) and warm-up is complete. (Warm-up takes approximately 1 minute.)

## Fusing PPM Control

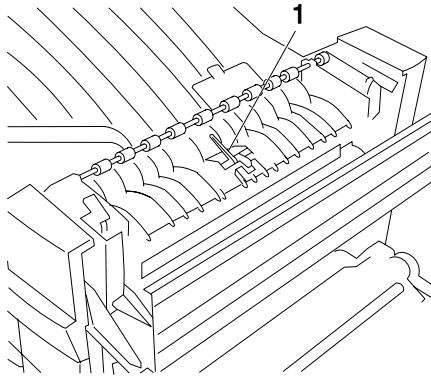
The sides of the fusing roller become excessively hot when small sheets of paper (paper width of 250 mm (9-3/4") or less) print continuously. When this occurs, "fusing PPM control" activates to maintain specific paperfeed intervals and prevent the roller from becoming too hot.

## Paper Exit Section

### Paper Path Through Exit

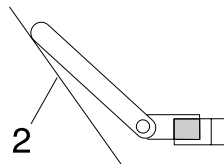
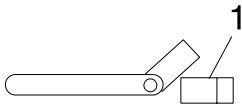
Paper fed from the fusing section passes through the paper exit roller and ejects printed-side down out the top of the printer. The transport motor (M2) provides transmit power for feeding paper.

The paper exit sensor (PC3) detects paper eject. As paper passes through the sensor, it presses the sensor arm until the sensor arm end engages with the photointerrupter.

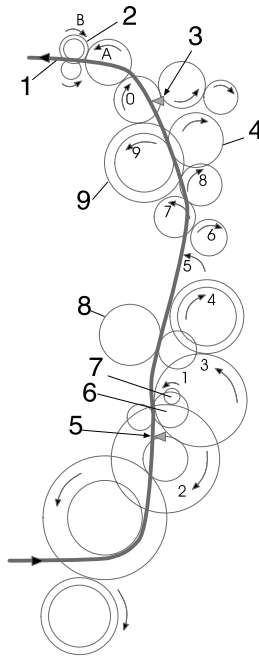


Paper is not present

Paper is present



- 1 Paper Exit Sensor (PC3)
- 2 Paper



- |   |                                   |   |                      |
|---|-----------------------------------|---|----------------------|
| 1 | Paper                             | 6 | Synchronizing Roller |
| 2 | Paper Exit Roller                 | 7 | Transport Motor (M2) |
| 3 | Paper Exit Sensor (PC3)           | 8 | PC Drum              |
| 4 | Lower Fusing Roller               | 9 | Upper Fusing Roller  |
| 5 | Synchronizing Roller Sensor (PC2) |   |                      |

---

## Detection of a New Imaging Cartridge

The printer checks for a new imaging cartridge when:

- The printer is turned on after installing a new imaging cartridge.
- With the printer turned on, the right door is closed after replacing the imaging cartridge.

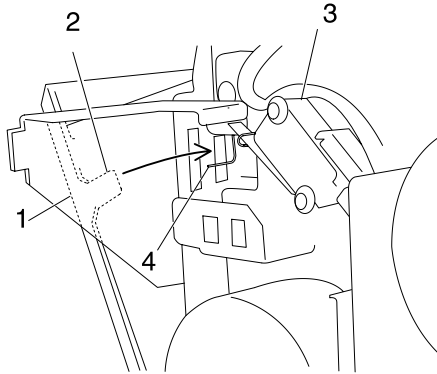
The imaging cartridge has an activating fuse. When the printer is turned ON, the fuse is blown and the PC drum counter clears, enabling detection of the image cartridge life. When power is turned OFF, the counter value is stored in the imaging cartridge EEPROM. When power is turned ON, the counter value is recalled from the imaging cartridge EEPROM to continue counting.

---

## Right Door Interlock Switch (S2)

The right door is normally closed. It is open when the imaging cartridge is replaced or jammed paper is removed.

With the door closed, the projection of the right door presses the spring attached to the switch lever, turning the switch ON. When it is opened, the lever of the switch is released, turning the switch OFF.



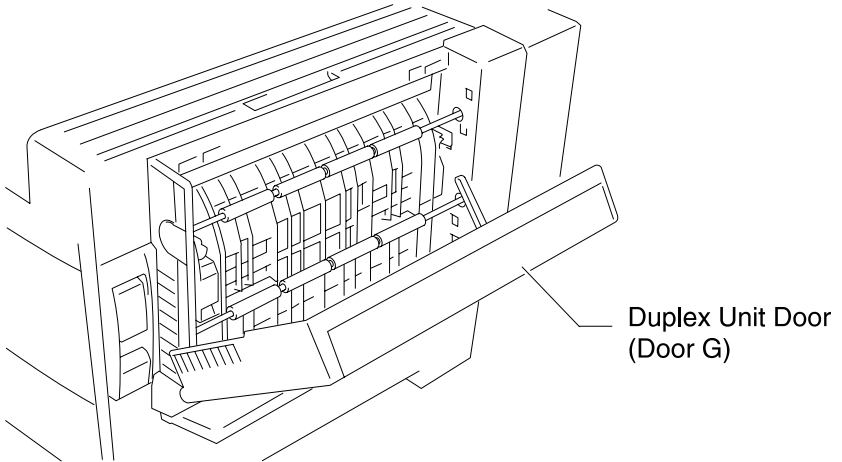
1 Right Door  
2 Projection

3 Right Door Interlocks  
4 Spring

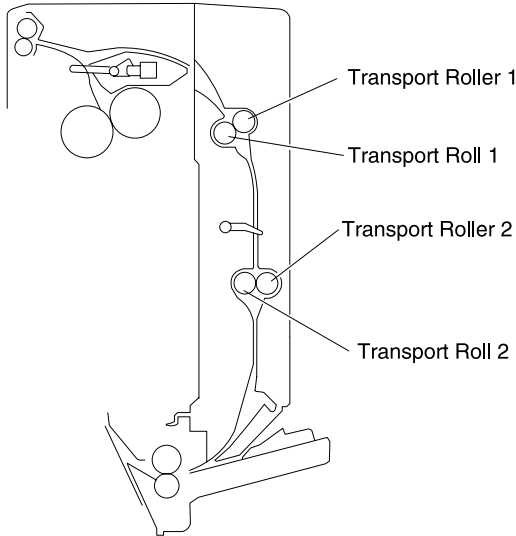
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## Duplex Unit Option

### Parts Identification



## Cross-Sectional View

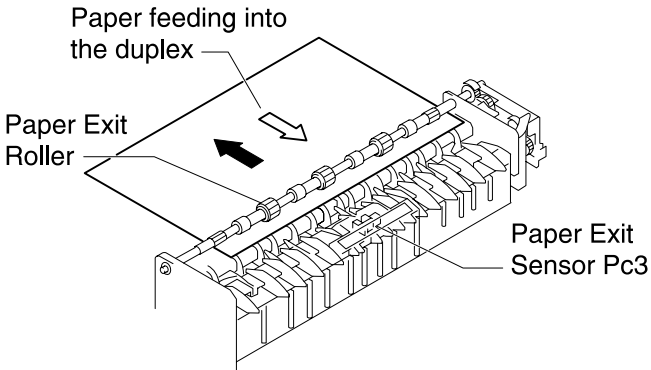


- 1 Duplex Unit Transport Roller 1
- 2 Duplex Unit Transport Roll 1
- 3 Duplex Unit Transport Roller 2
- 4 Duplex Unit Transport Roll 2

## Switchback Mechanism

### Switchback Operation

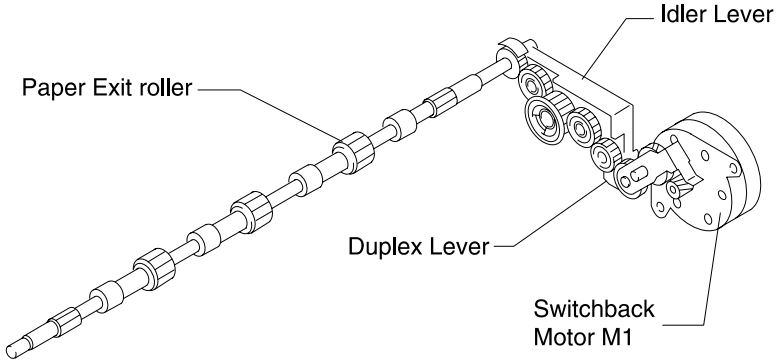
To accomplish the switchback operation, the switchback motor reverses the rotational direction of the paper exit roller. The one-sided print then feeds into the duplex unit. The drive of the switchback motor is transmitted through a gear train.





## Paper Exit Roller Drive Coupling Mechanism

When the duplex unit is mounted, the tip of the duplex unit lever raises the idler lever. This disconnects the printer drive (fusing roller) from the paper exit roller and connects the switchback motor drive.



## Switchback Motor Control

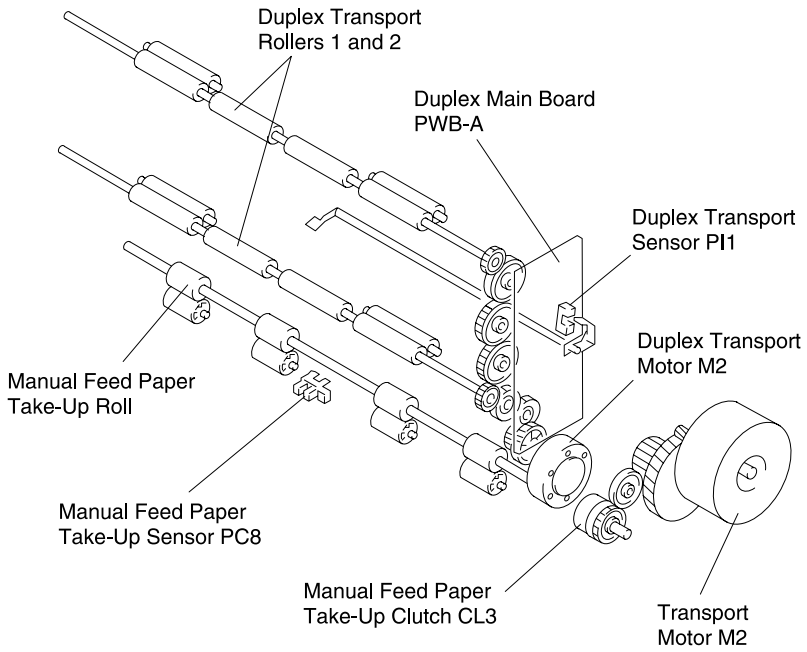
The switchback motor is a two-phase stepping motor.

## Transport and Duplex Paper Take-Up Mechanism

### Transport and Duplex Paper Take-Up Operation

The transport and duplex paper take-up operations are performed by two pairs of duplex unit transport rollers/rolls and the manual feed paper take-up roll of the printer. The drive for these operations comes from the duplex unit transport motor and manual feed paper take-up clutch.

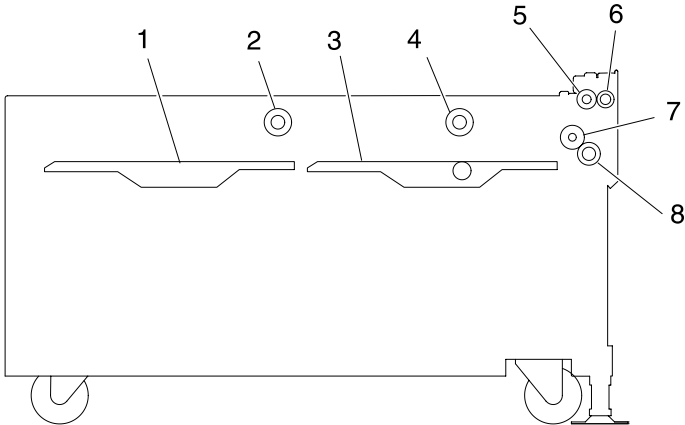
## Duplex Unit Transport Motor Control



The duplex unit transport motor is a two-phase stepping motor.

## Paper Deck 2500-Sheet (LCC) Option

### Cross-Sectional View



- |                        |                             |
|------------------------|-----------------------------|
| 1 Lift 2               | 5 Vertical Transport Roller |
| 2 Paper Take-Up Roll 2 | 6 Vertical Transport Roll   |
| 3 Lift 1               | 7 Feed Roll                 |
| 4 Paper Take-Up Roll 1 | 8 Separator Roll            |

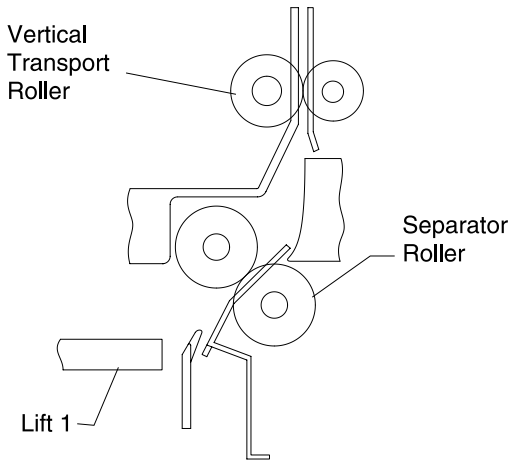
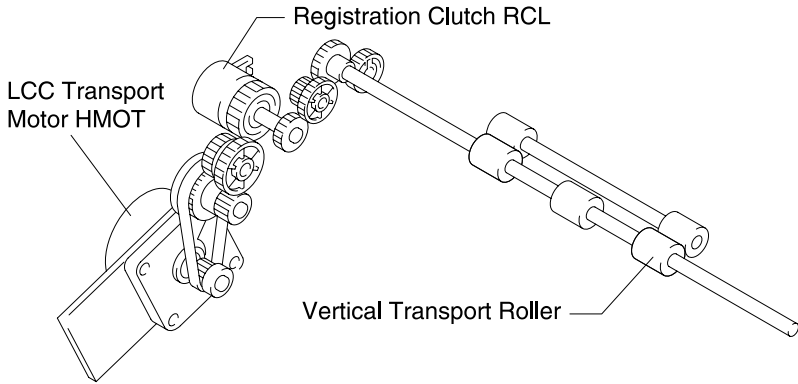
### Vertical Transport Drive Mechanism

#### Vertical Transport Drive Operation

The Vertical Transport Roller is driven by LCC (paper deck) transport motor (HMOT). The driving force of HMOT is transmitted via a gear train and registration clutch (RCL) to the vertical transport roller which feeds the paper from lift 1 or 2 to the printer. Because of the long paper path from lift 2, skew tends to occur in the paper fed

## 4023-001

from lift 2. To correct skew, RCL forms a loop in the paper between the separator roll and vertical transport roller.



### Control of LCC Transport Motor HMOT

The printer main engine board energizes and de-energizes HMOT by sending signals to HMOT through the LCC (paperdeck) main board (PWB-A). HMOT is a DC motor.

## Paper Take-Up Mechanism

The paper take-up mechanism takes up a sheet of paper from the paper stack on each lift and feeds it to the vertical transport roller.

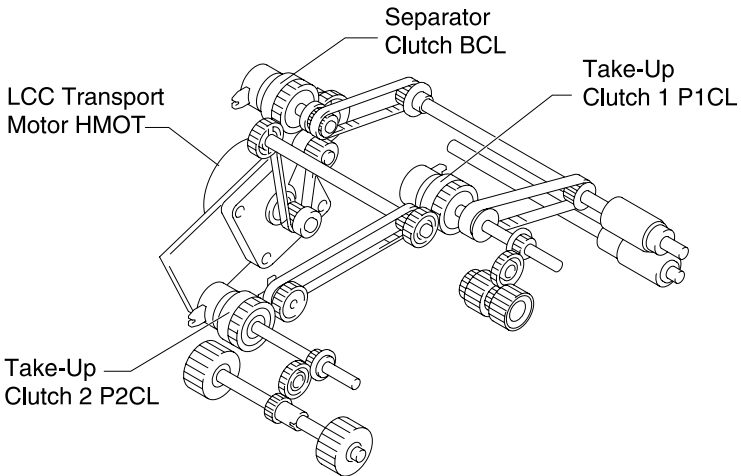
A paper take-up sequence occurs when drive from LCC Transport Motor HMOT transmits through take-up clutch 1/2 P1CL/P2CL to paper take-up roll 1/2. When lift 1 runs out of paper, paper feeds from lift 2.

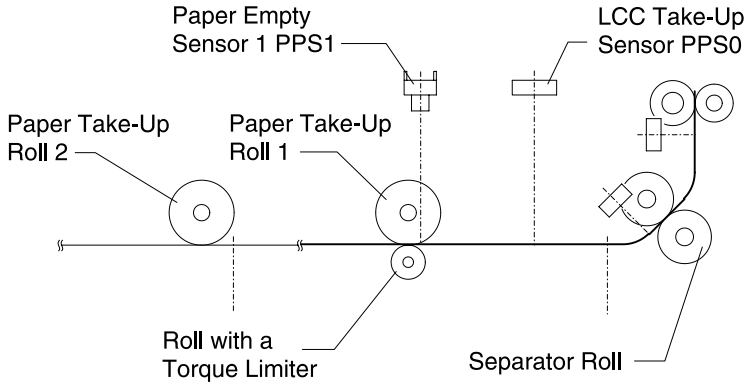
A roll with a torque limiter prevents double feed of the last two sheets of paper. The roll is mounted beneath paper take-up roll 1 of lift 1.

Paper take-up roll 1 is active when paper is fed from lift 1.

Both paper take-up roll 1 and 2 activate to perform the paper take-up sequence when paper feeds from lift 2. During this sequence, paper empty sensor 1 PPS1 detects proper feed of paper through take-up roll 1.

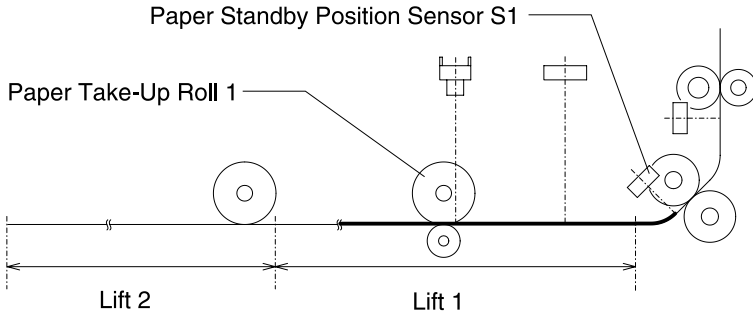
The sheet of paper taken from lift 1/2 temporarily stops at the paper standby position sensor to minimize variations in the position of the leading edge of the paper. Separator clutch BCL transmits drive to the separator roll which moves the sheet of paper to the vertical transport section.





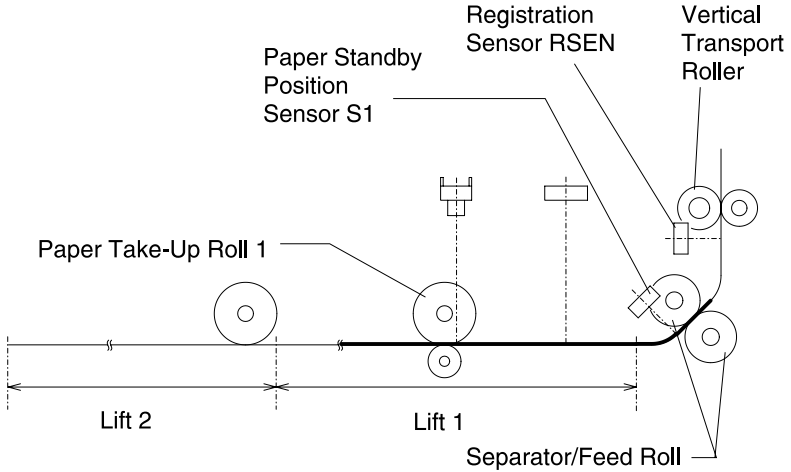
**Paper Take-Up From Lift 1**

After Lift 1 completes lifting motion, paper take-up roll 1 takes-up and feeds a sheet of paper until the paper blocks paper standby position sensor S1. This serves as the standby position of the paper.



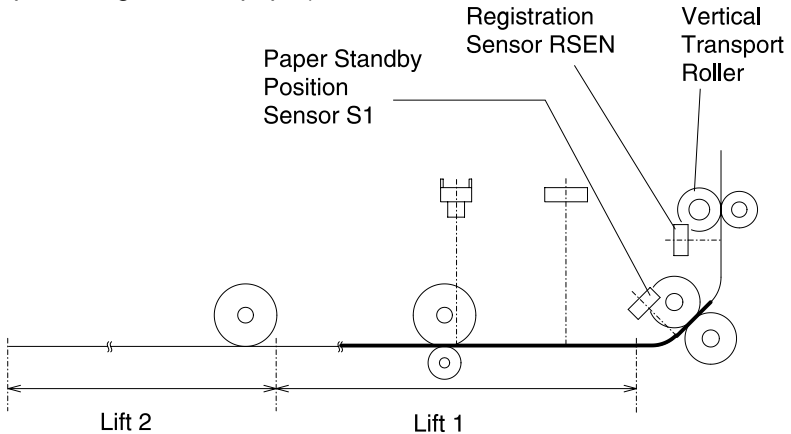
When the printer sends a paper take-up signal, the separator/feed rolls and paper take-up roll 1 transports the paper up to registration sensor RSEN. After RSEN has been blocked, the paper moves a

little further to reach the vertical transport roller, and forms a registration loop, before stopping.



The vertical transport roller transports the paper to the printer. When the trailing edge of the paper being transported by the vertical transport roller unblocks paper standby position sensor S1, the subsequent sheet of paper is transported to the standby position and the LCC waits for the next paper take-up signal.

Registration clutch RCL de-energizes a given period of time after the trailing edge of the paper being taken up unblocks registration sensor RSEN. The next paper take-up signal transmits after the timer (which starts when the vertical transport roller rotates for the preceding sheet of paper) runs out.

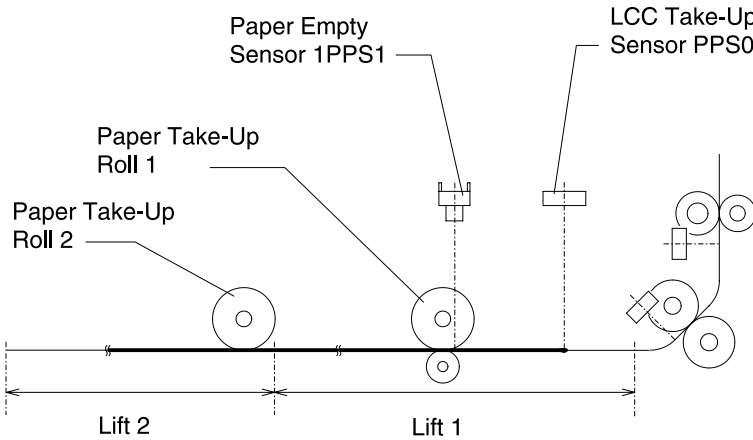


**Paper Take-Up From Lift 2**

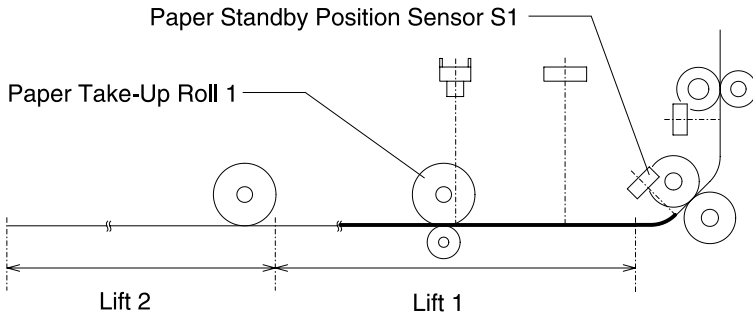
After all sheets of paper have been taken up and fed from lift 1, lift 1 moves to the top level position to serve as part of the paper path for feeding paper from lift 2.

After the trailing edge of the last sheet of paper from Lift 1 unblocks paper empty sensor 1 PPS1, both paper take-up roll 1 and 2 turn.

Paper take-up roll 1 and 2 transports the sheet of paper until the paper blocks LCC take-up sensor PPS0.



Paper take-up roll 1 transports the paper located at PPS0 until the paper blocks paper standby position sensor S1. This is the standby position of the paper.

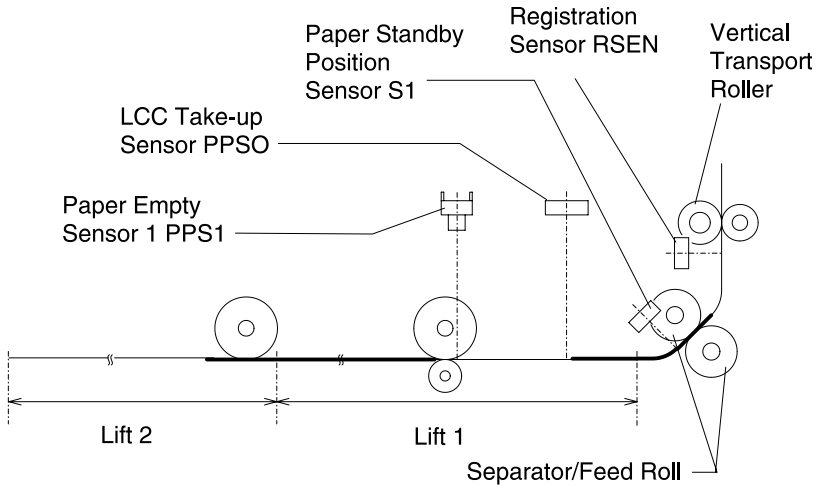






## 4023-001

If PPS0 is unblocked and a sheet of paper is blocking PPS1, the sheet of paper blocking PPS1 transports to the standby position uninterrupted. LCC then waits for the next paper take-up signal.



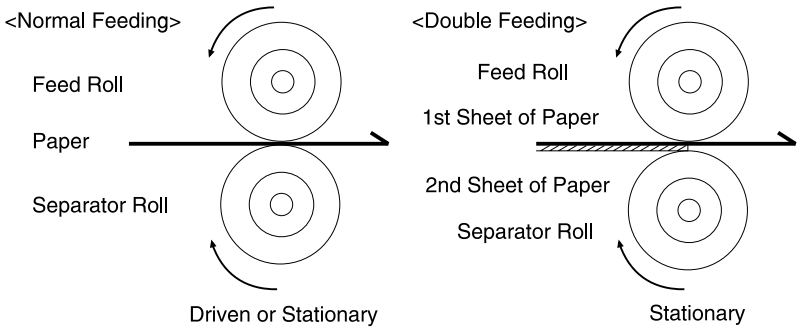
Registration clutch RCL de-energizes a given period of time after the trailing edge of the paper being taken-up unblocks registration sensor RSEN. The next paper take-up signal transmits after the timer (which starts when the vertical transport roller rotates for the preceding sheet of paper) runs out.

## Paper Take-Up Retry Control

To minimize the occurrence of paper misfeed due to a slippery paper take-up roll, separator clutch BCL energizes again if a sheet of paper fails to reach registration sensor RSEN within a given period of time after BCL first energizes.

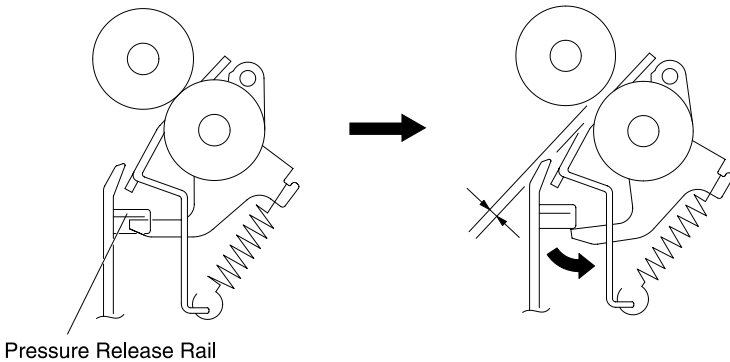
## Paper Separating Mechanism

The paper separating mechanism employs a system with a torque limiter that is fitted to the separator roll shaft. It stops the separator roll when friction changes between the feed and separator rolls.



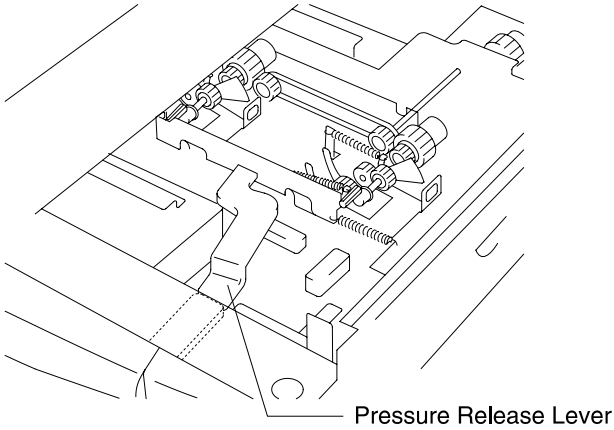
## Paper Pressure Releasing Mechanism

When LCC is pulled out, the pressure release rail pushes the separator roll assembly downward, releasing the pressure between the feed and separator roll. The pressure release rail is located above the rail on the paper take-up end.



## Paper Take-Up Roll Retracting Mechanism

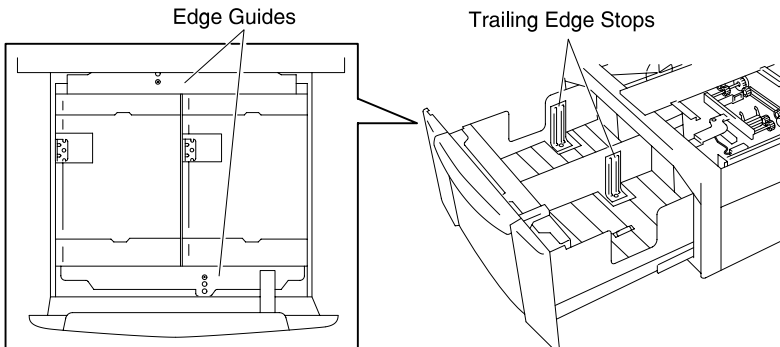
When LCC is slid out, the projection on the back of the LCC front cover disengages from the pressure release lever. This pushes the paper take-up roll upward, releasing pressure between the paper and paper take-up roll.



## Edge Guides and Trailing Edge Stop

The trailing edge stop screws into position (not used for letter crosswise). Edge guides slide into any position you want.

Whenever the positions of the edge guides and trailing edge stop change, be sure to perform the paper size setting procedure. (See “Paper Size Setting” that follows.)

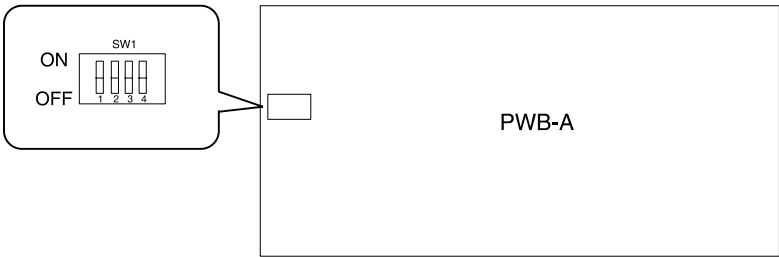


## Paper Size Setting

The paper sizes that can be set are A4 crosswise and Letter crosswise.

After the positions of the edge guides and trailing edge stop change, place the DIP switch keys on LCC main engine board PWB-A in the corresponding positions according to the current paper size

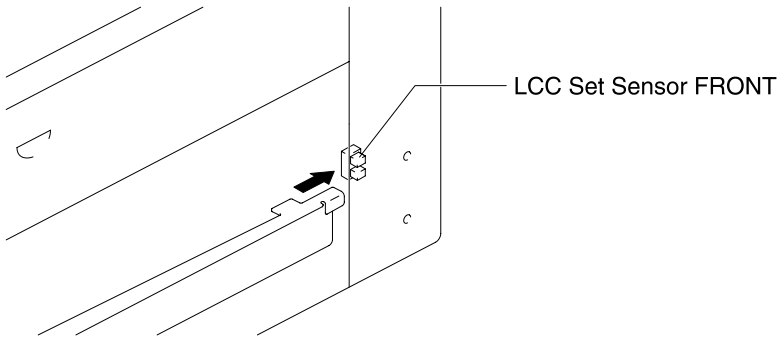
**Note:** Positions 3 and 4 are not used.



SW1	Letter Crosswise	A4 Crosswise
1	OFF	ON
2	OFF	OFF
3	OFF	OFF
4	OFF	OFF

## LCC-in-Position Detection

The LCC is detected at its closed position when the light blocking plate located on the rear end of the right rail blocks LCC Set Sensor FRONT.



## Lifting Mechanism

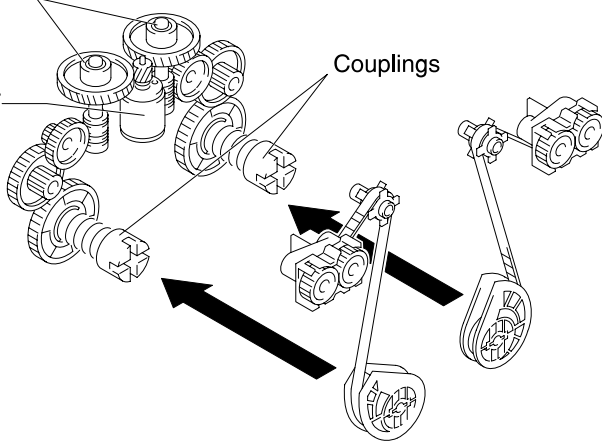
When the LCC is slid into the printer, the couplings engage. The LCC lift-up motor EMOT rotates forward and backward, turning the one-way gear and gear train to raise Lift 1 and Lift 2 respectively.

Lift 1 and 2 drive mechanisms each contain a one-way gear. When EMOT turns forward, drive transmits to Lift 1 and when the motor turns backward, drive transmits to Lift 2.

### One-Way Gears

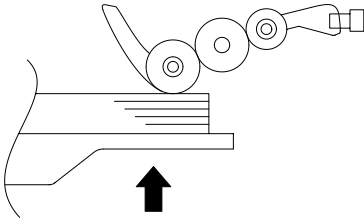
LCC Lift-Up  
Motor EMOT

Couplings



## Lifting Operations

When LCC is in:



LCC set sensor FRONT is blocked.

LCC lift-up motor EMOT turns forward raising lift 1.

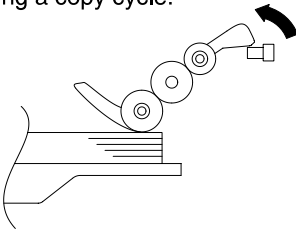
The paper stack causes the light blocking plate on the paper take-up roll 1 assembly to block lift-up sensor 1 LS1.

EMOT de-energizes and then energizes to start turning backward, raising Lift 2.

The paper stack causes the light blocking plate on the paper take-up roll 2 assembly to block lift-up sensor 2 LS2.

EMOT de-energizes.

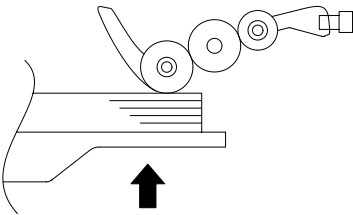
During a copy cycle:



Paper is consumed as print cycles run.

The paper take-up roll gradually lowers, unblocking the lift-up Sensor.

EMOT energizes and the lift raises. This lifts the paper stack to block the lift-up sensor.

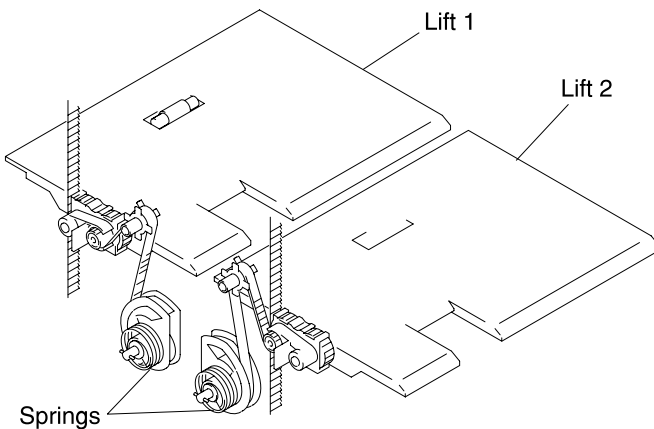


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Both lift 1 and 2 perform the following sequence of operations to maintain pressure between the paper and paper take-up roll.

1. Lift 1 and 2 ascends.
  - LCC is slid into position.
  - The lift-up sensor is unblocked while a paper take-up sequence occurs with paper present on the lift.
2. Lift 1 and 2 stops.
  - Lift-up sensor is blocked.
  - The paper stack top level position is being corrected.
3. LCC lift-up motor EMOT energizes.
4. Lift 1 and 2 descends.
  - LCC is slid out of the printer.
  - Lift 1 and 2 are lowered.

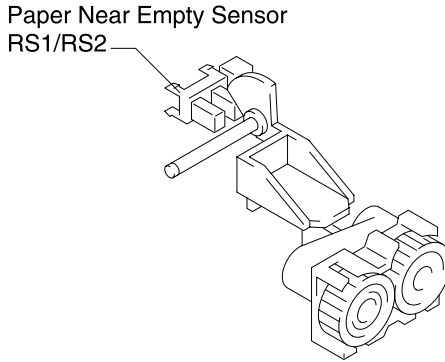
**Note:** To absorb shocks that would otherwise be applied during the descent motion, springs are loaded in the rear side of the LCC.





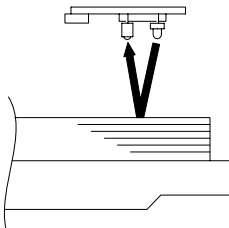
## Paper Near Empty Detection

A paper-near-empty condition is detected by sensing the height of lift 1 or lift 2. When paper is used during a print cycle, lift 1 or 2 gradually moves up. This eventually unblocks the paper near empty sensor, indicating that the LCC (paper deck) is near empty.



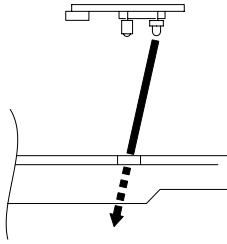
## Paper Empty Detection

Paper empty sensor 1 PPS1 and paper empty sensor 2 PPS2 (reflector-type photosensors), installed in the paper take-up unit, detect the paper-empty condition. When a paper-empty condition is detected, the corresponding message displays on the panel.



<sup>2</sup> When Paper is Loaded

The light from the LED of paper empty sensor 1 PPS1 or paper empty sensor 2 PPS2 reflects indicating that there is paper in LCC.

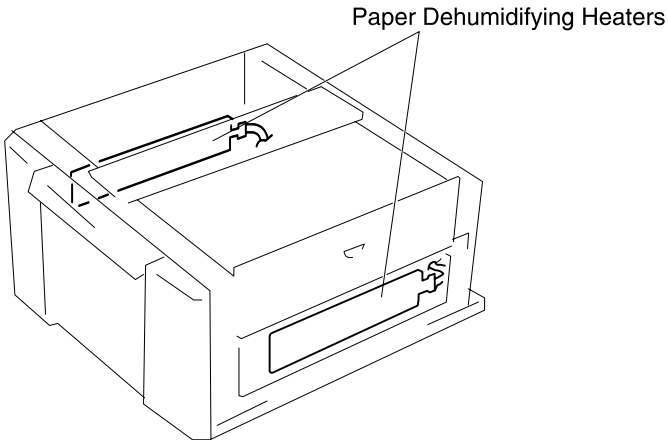


<sup>2</sup> When Paper is Not Loaded

The light from the LED of paper empty sensor 1 PPS1 or paper empty sensor 2 PPS2 does not reflect, indicating there is no paper loaded in the LCC.

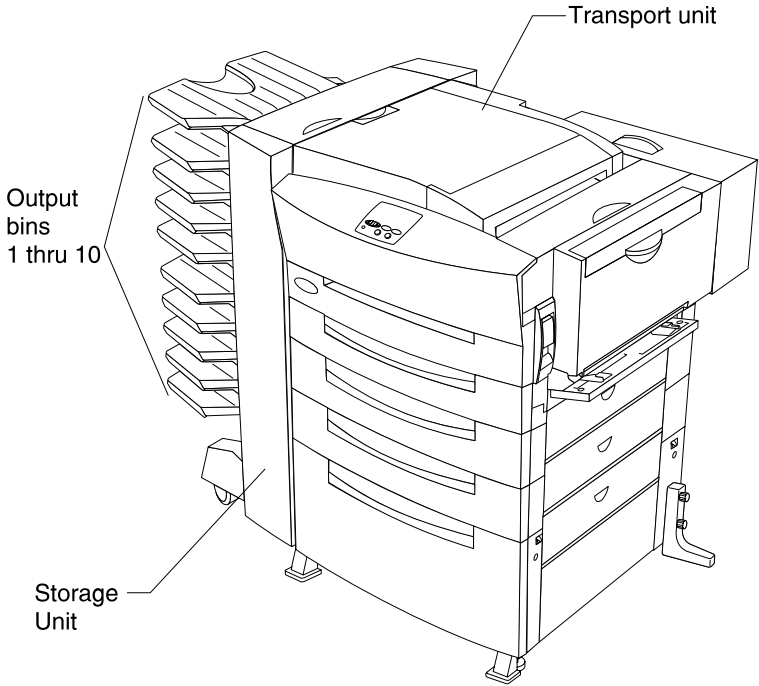
## Paper Dehumidifying Heaters

Paper dehumidifying heaters (mounted on both sides of the LCC) prevent paper passage performance from being degraded by damp paper during highly humid conditions. As long as the power cord is plugged in, these heaters are kept ON at all times.

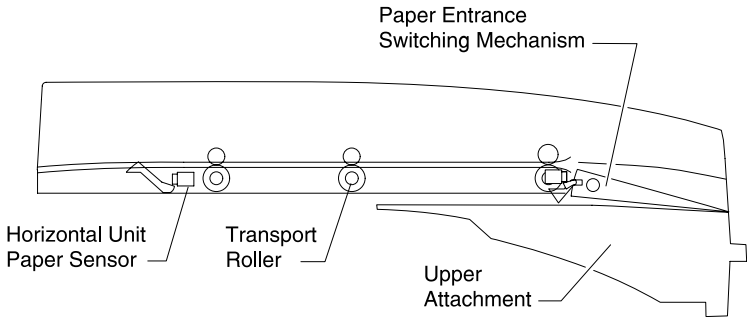


# Mailbox/Transport Option

## Parts Identification



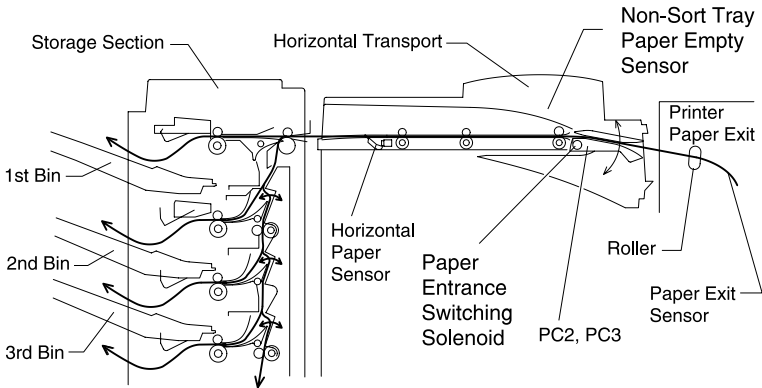
## Horizontal Transport Unit Cross-Sectional View



- 1 Paper Entrance Switching Mechanism
- 2 Upper Attachment
- 3 Transport Roller
- 4 Horizontal Unit Paper Sensor

## Paper Path

The path of the paper ejected from the printer varies with the paper output selection. Various sensors and switches check whether the paper travels properly in the designated path. The following illustration shows the relationship between the paper path and sensors/switches.



In single-side printing, as the entrance of the horizontal transport unit moves up, the paper travels into the horizontal transport unit and then into the storage unit, where the storage unit sorts the paper into the designated bin. If the paper has not passed the PC1 or PWB-C within a certain time after the printer paper exit sensor turns ON, the paper has jammed inside the horizontal transport unit or at the entrance/exit of the storage unit. This results in a jam error.

Paper ejects from the horizontal transport unit. The storage unit entrance roller then forwards the paper. The subsequent paper path varies with the paper output selection. The paper passes to the paper exit sensor (PWB-C), exit roller and arrives in the designated bin. If the paper has not reached/passed the paper exit sensor (PWB-C) within a certain time after the horizontal unit paper sensor (PC1) turns ON, the paper has jammed at the entrance/exit of the storage unit, causing a jam error.

## Paper Transport Mechanism

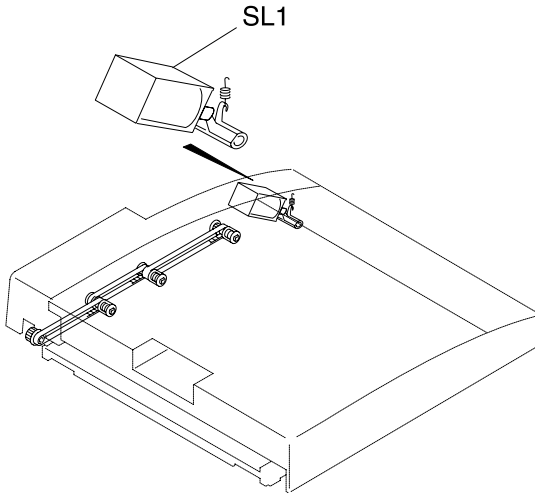
### Entrance Path Switching Mechanism

Non-Sort mode:

Paper entrance switching solenoid (SL1) energizes to swing the path switching guide upward and stop it when non-sort tray transport position detecting sensor is blocked.

Mode other than Non-Sort:

Paper entrance switching solenoid (SL1) energizes to swing the path switching guide upward and stop it when finisher transport position detecting sensor is blocked.



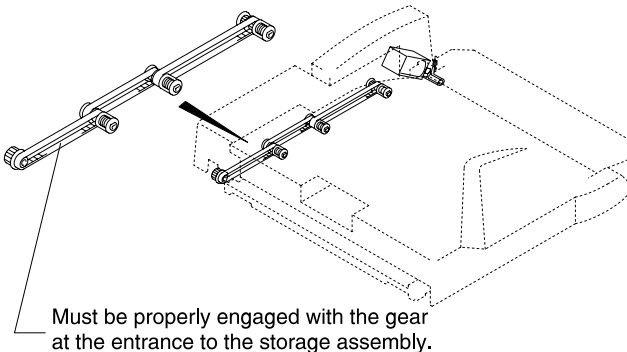
## Paper Entrance Switching Mechanism

The paper entrance switching solenoid (SL1) energizes according to the selected mode (duplex or single-side), which moves the entrance of the horizontal transport unit up or down. The entrance of the horizontal transport unit moves down in duplex printing, and moves up in single-side printing. A tab interlocked with the paper entrance switching solenoid (SL1) turns ON/OFF the non-sort tray positioning sensor (PC2) and the sort bin positioning sensor (PC3), detecting the position of the entrance.

If the entrance moves up and down when the horizontal transport unit is not attached to the printer properly, the entrance may be damaged. To prevent this, a stopper is provided. If the horizontal transport unit is not attached to the printer properly, this stopper prevents the gears from engaging. As a result, drive force of the paper entrance transport motor (M1) in the printer does not transfer to the entrance.

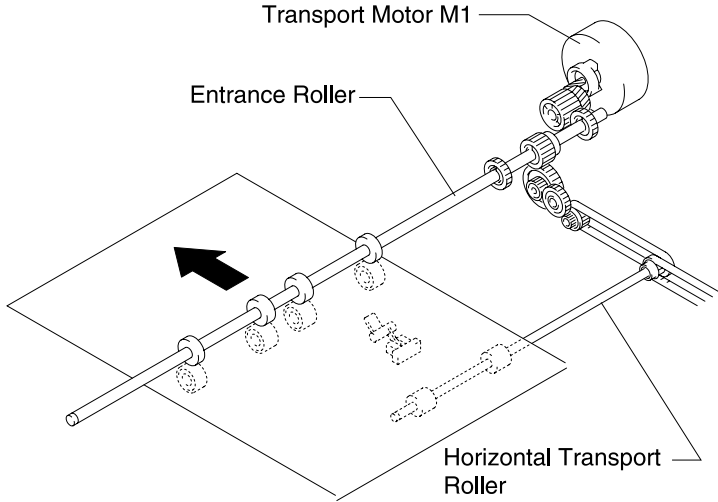
## Paper Transport Mechanism (Horizontal Transport Unit)

This mechanism transports the paper from the horizontal transport unit to the storage unit. Drive force transfers from the storage unit transport motor (M1). Make sure that the gear at the exit of this mechanism engages with the gear at the entrance of the storage unit.



## Paper Entrance Transport Mechanism

The transport motor (M1) drives the horizontal transport rollers and entrance roller, transporting the print into the mailbox/finisher.

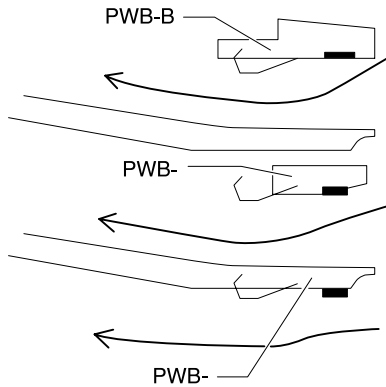


The paper ejects from the horizontal transport unit. The entrance roller guides the paper into the storage unit. The subsequent paper path varies with the paper output selection. In stacker mode, the 1st bin switching deflector moves down to close the downward paper path, forcing the paper toward the 1st bin. The paper then passes to the paper exit sensor, exit roller, and arrives in the 1st bin tray.

In mailbox mode, if a bin other than 1st bin is designated, the 1st bin switching deflector moves up, causing the paper to move down toward the 2nd and subsequent bins. For instance, if the 2nd bin is designated, the 2nd bin switching deflector moves down to close the downward paper path, forcing the paper toward the 2nd bin. The paper then passes to the paper exit sensor, exit roller, and arrives in the 2nd bin tray. The same applies to other bins. Bin switching deflectors move down when their corresponding solenoid turns ON.

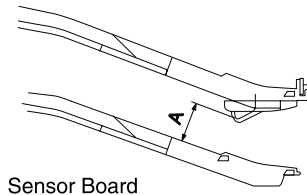
## Paper Empty Detection

A paper empty detecting sensor board, provided for each bin, checks for presence of paper. When paper is not present in a bin, the corresponding sensor turns ON. Sensor boards act in pairs (one as the emitter and the other as the receiver) to perform the paper sensing function. For instance, in the case of the 2nd Bin, the light emits from the topside (emitter) of the PWB-D2 (3rd bin) to the underside (receiver) of the PWB-D1 (2nd bin). If paper is not present in the 2nd Bin, the sensor turns ON, indicating a paper empty. If paper(s) is present, the paper blocks the light, keeping the sensor turned OFF.



## Paper Full Detection

Each bin contains a lever-type switch. When the height of the stacked papers exceeds a certain level, the paper pushes the lever up, turning the switch ON. The switch is attached to the underside of each paper empty detecting sensor board.





## Paper Output Modes

The mailbox has two paper output modes—stacker and mailbox.

### Stacker Mode

The horizontal transport unit moves up and all papers output through the horizontal transport unit into the 1st bin.

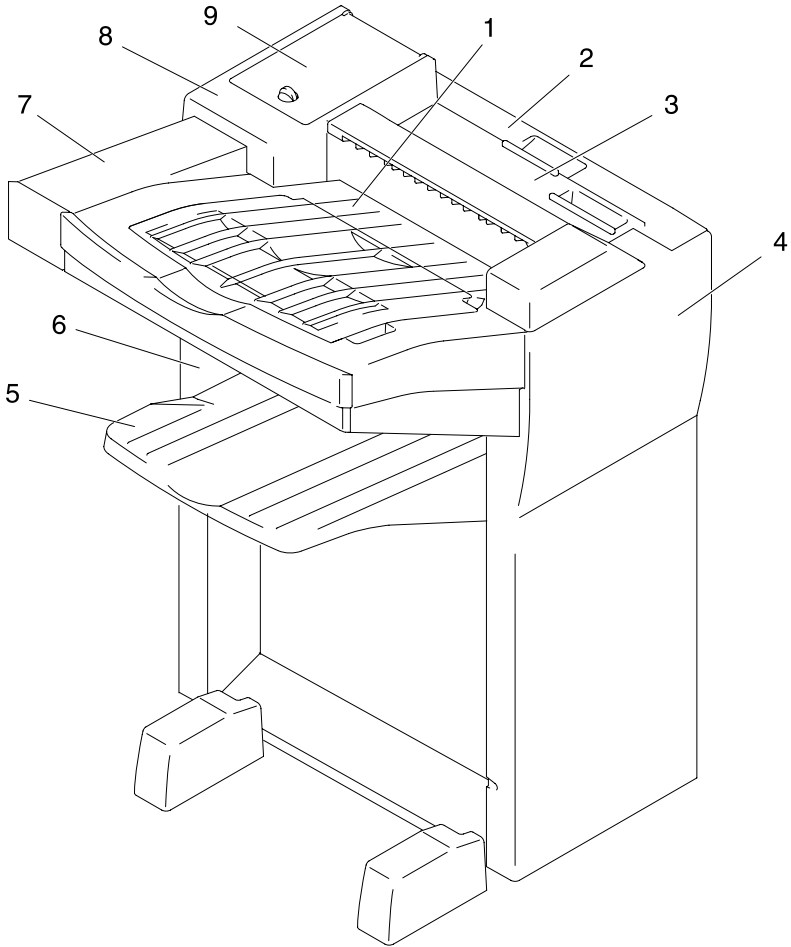
### Mailbox Mode

The entrance of the horizontal transport unit moves up and all papers output through the horizontal transport unit into the designated bin. Any bins from the 1st to 10th bins can be assigned as dedicated bins.

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# Finisher Option

## Parts Identification

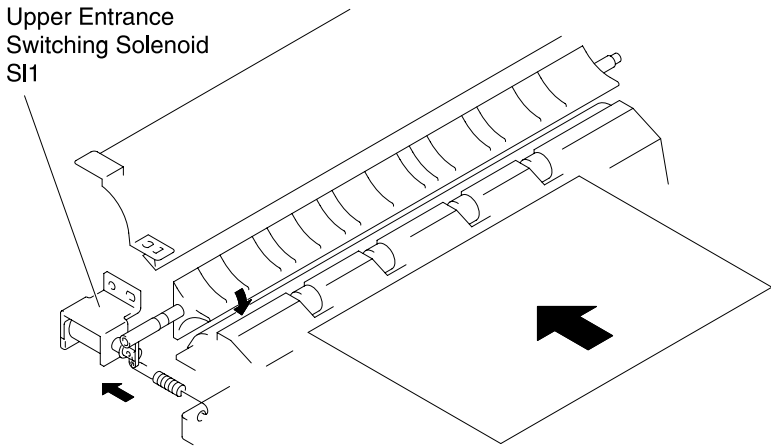


- |                          |                       |
|--------------------------|-----------------------|
| 1 1st Tray               | 6 Rear Cover          |
| 2 Upper Right Cover      | 7 Finisher Tray Cover |
| 3 Misfeed Clearing Cover | 8 Upper Rear Cover    |
| 4 Front Cover            | 9 Staple Door         |
| 5 Elevator Tray          |                       |

## Paper Transport Path Switching Mechanism

### 1st Tray/Finisher Tray Path Switching Mechanism

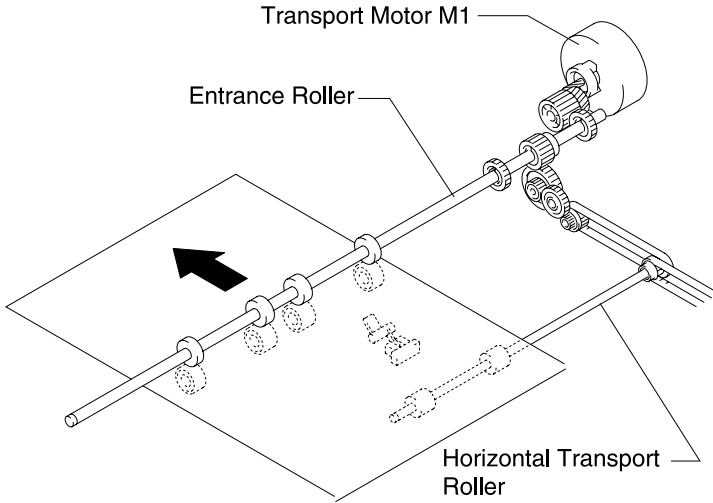
When the upper entrance switching solenoid energizes through PWM control, the print exits into the 1st tray. When the upper entrance switching solenoid de-energizes, the print exits toward the finisher tray.



## Paper Transport Mechanism

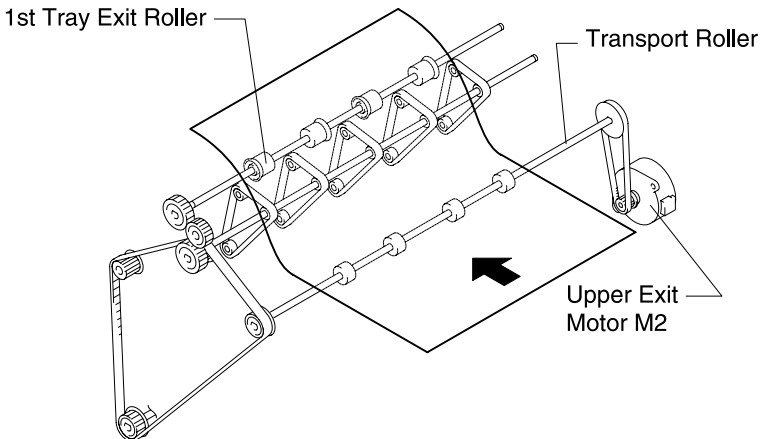
### Paper Entrance Transport Mechanism

The transport motor (M1) drives the horizontal transport rollers and entrance roller which transports the print into the finisher.



### 1st Tray Transport Mechanism

Upper exit motor drives the 1st tray exit roller and transport roller to feed the print into the 1st tray. The speed at which the print transports decelerates as it feeds into the 1st tray.



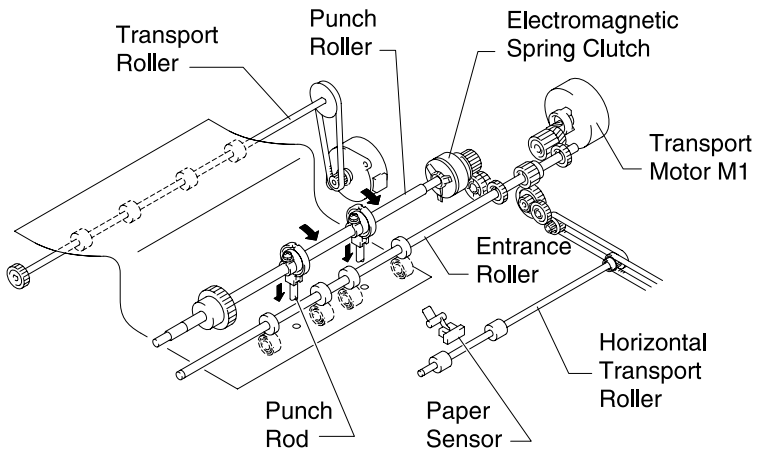
## Upper Exit Motor Control

Changing the driving action varies the upper exit motor (M2) speed.

## Punch Mechanism

The print traveling through the finisher briefly stops, allowing the punch rods to punch the paper.

The transport motor and the electromagnetic spring clutch fitted to the punch roller energize and de-energize, moving the punch rods up and down to punch holes in the print.

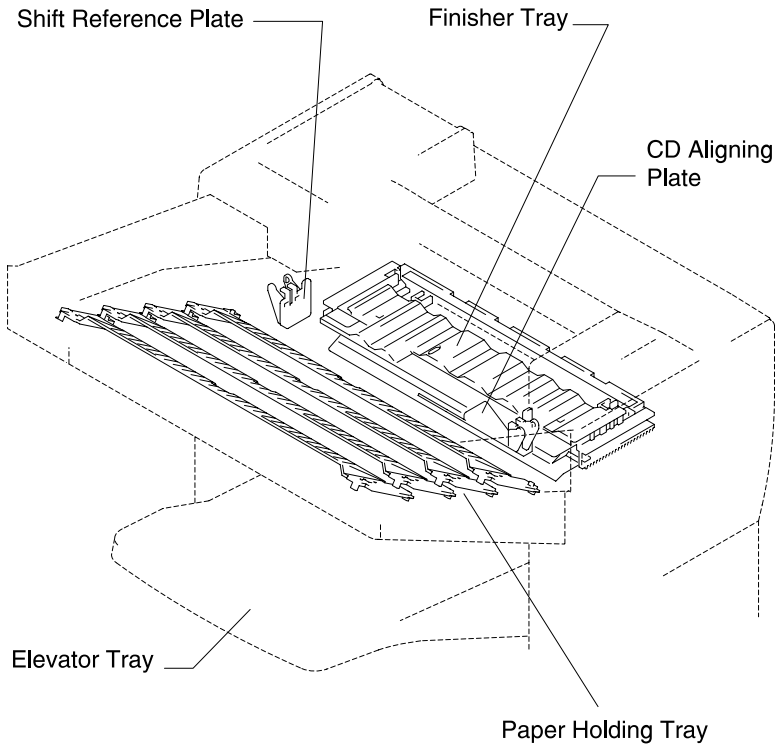


## Punch Operation

The print transports from the printer into the horizontal transport unit. M1 energizes to turn the horizontal transport rollers and entrance roller. At the same time, upper exit motor energizes to turn the transport roller. The trailing edge of the print moves past the paper sensor of the horizontal transport unit. After a given period of time, the upper exit motor deenergizes to stop the transport roller. The transport motor remains energized, forming a loop in the print before the transport roller. The electromagnetic spring clutch energizes causing the Punch Roller and eccentric cams to turn. The eccentric cams cause the punch rods to move up and down, punching holes in the print. The upper exit motor energizes again to feed the print into a tray or bin.

## Finisher Tray

The finisher tray is used when aligning, shifting, and stapling a print set/stack in the shift or staple mode. The finisher tray and paper holding tray retract to let the processed print set/stack drop onto the elevator tray.



## CD Aligning Mechanism

The CD aligning plate moves and the paddle rotates to press each print against the shift reference plate.

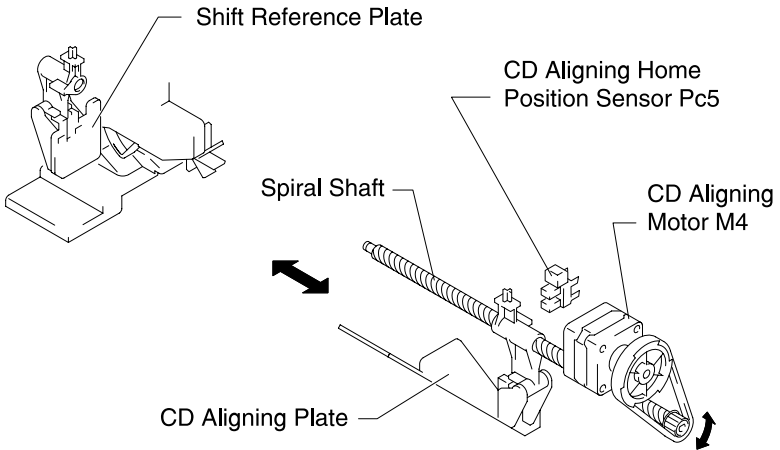
### CD Aligning Plate

The CD aligning motor rotates in the forward or backward direction, turning the spiral shaft to move the CD aligning plate.

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To ensure positive print aligning motion, the CD aligning plate moves from its home position to standby position before the print feeds into the finisher. The CD aligning plate moves between the standby and aligning positions until the last print is aligned. The CD aligning home position sensor detects the CD aligning plate home position. This position serves as the reference point for movement of the CD aligning plate. The standby position varies according to the paper size (CD length).

The standby position is 8.5 mm away from the print end face.

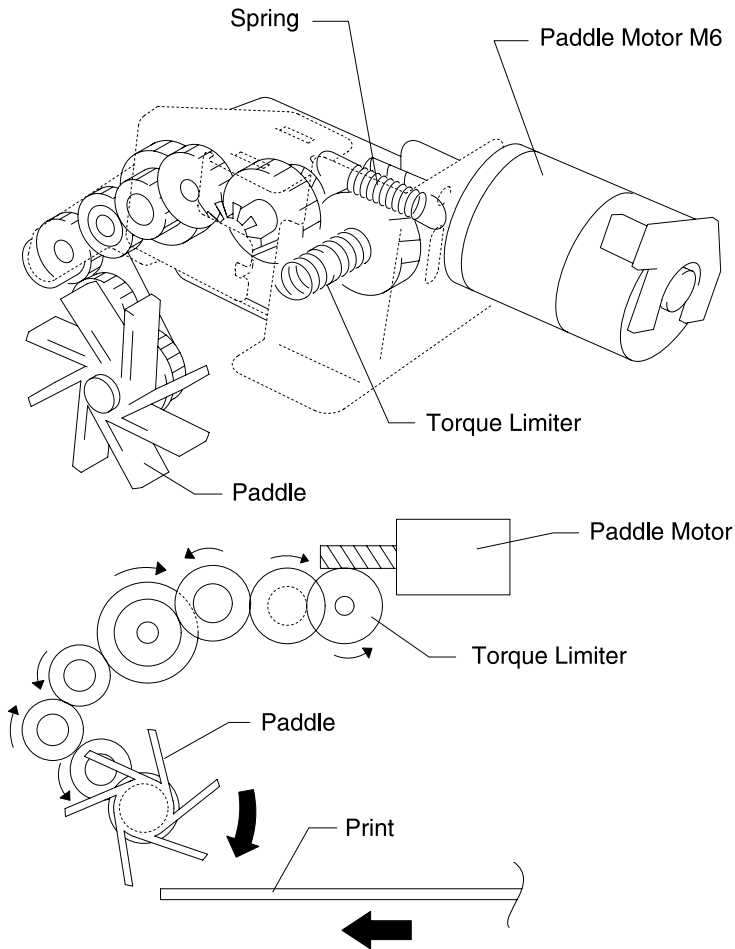


## CD Aligning Motor Control

The CD aligning motor sequences the movement of the CD aligning plate.

### Paddle

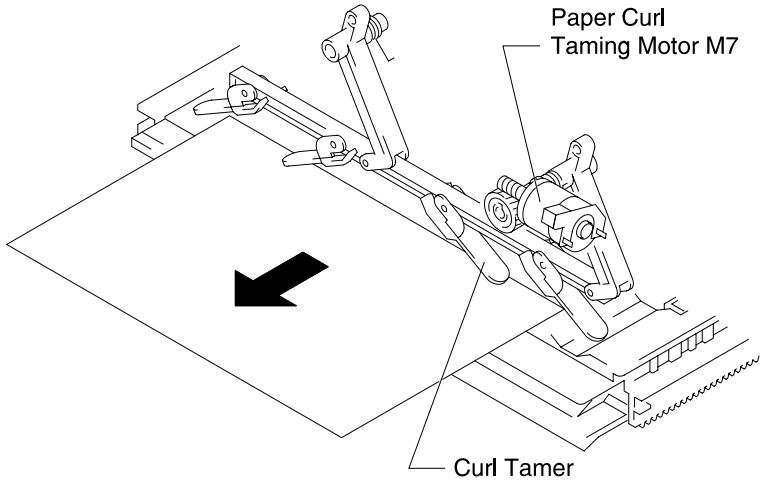
The paddle moves the print, which has been fed by the CD aligning plate, toward the stapling corner. The gear is normally locked by the torque limiter and, when paddle motor turns forward, the paddle lowers. As the tension of the spring exceeds the force of the torque limiter, the rotation of the motor transmits to the paddle through the gear train.





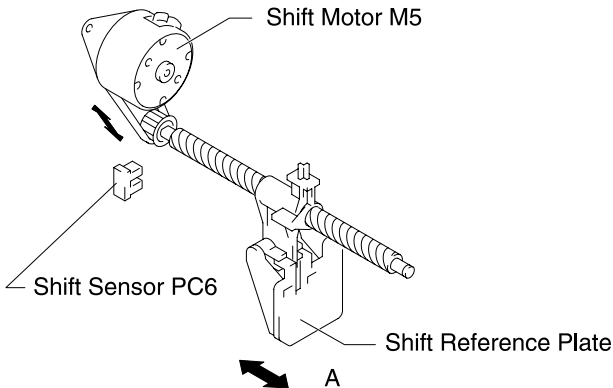
## Paper Curl Taming Mechanism

A curl tamer is installed in the finisher. Before the CD aligning motion occurs, the curl tamer lowers to press the trailing edge of the print transported onto the finisher tray. The paper curl taming motor turns forward and backward to lower and retract the curl tamer.



## Shifting Mechanism

A print set/stack which has been aligned and stapled together transports to the non-sort position or sort position. The shift motor energizes, turning the spiral shaft which moves the shift reference plate. The shift sensor detects the home position of the shift reference plate. The home position serves as reference for movement of the shift reference plate.



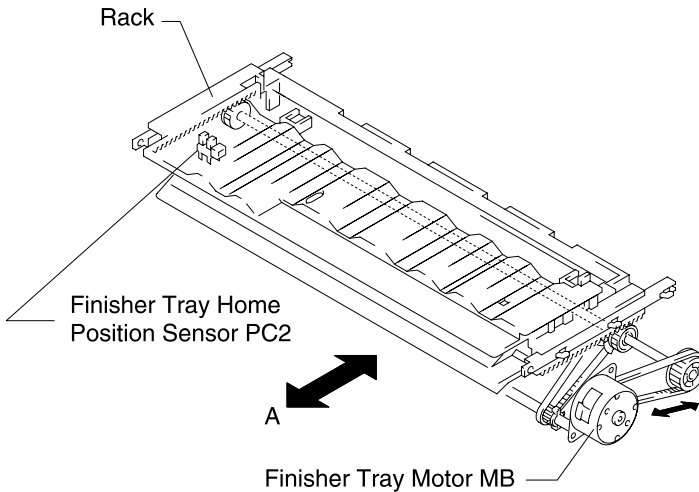
## Finisher Tray Drive Mechanism

The finisher tray retracts so that the processed print set/stack drops onto the elevator tray.

The finisher tray motor transmits drive through a belt and gear, moving the rack in the left-to-right direction. This causes the retracting motion of the finisher tray.

The finisher tray home position sensor detects the finisher tray home position. The home position serves as reference for retracting the tray.

The finisher tray motor turns forward to move the finisher tray to the home position and backward to retract the finisher tray.

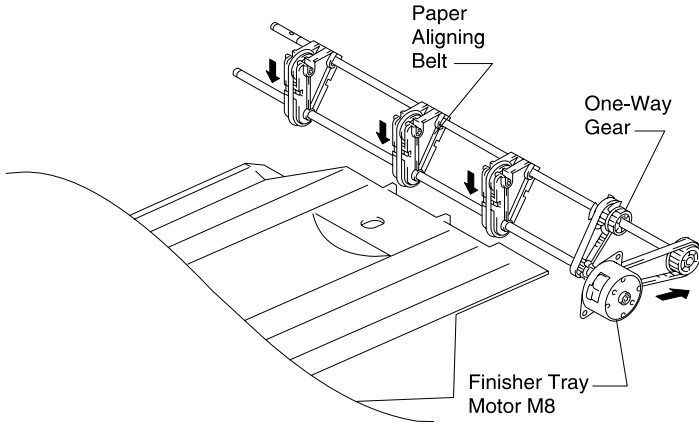


## Paper Trailing Edge Alignment

As the finisher tray retracts, the print set/stack drops on the elevator tray. The trailing edge of the print stack does not always rest flat on the elevator tray. This causes the stack to curve upward. To correct this, the paper aligning belts turn to properly align the print stack trailing edge when the finisher tray returns to the home position.

The finisher tray motor rotates forward which turns the gear, belt, one-way gear and the paper aligning belts. When the finisher tray

motor rotates backward, retracting the finisher tray, the paper aligning belts do not turn because of the one-way gear.



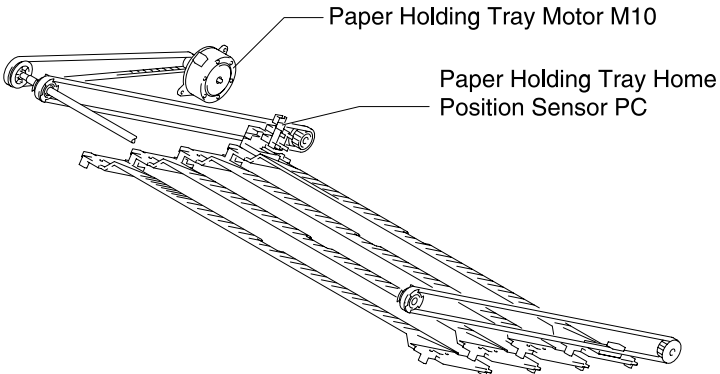
## Paper Holding Tray

The paper holding tray retracts to allow the processed print set/stack to drop on the elevator tray.

The paper holding tray motor drives gears and belts which move the paper holding tray.

The tray is divided into four parts. The retracted position of the tray varies according to the paper size.

The paper holding tray home position sensor detects the home position of the tray. The home position serves as reference for retracting the paper holding tray.

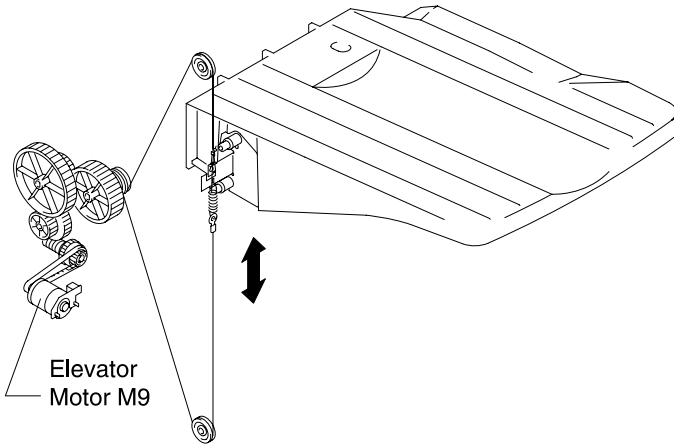


## Elevator Tray

The elevator tray moves up and down each time a print or print set/ stack feeds into the finisher. The tray stops at three different positions: standby, processing, and retracted.

### Elevator Tray Ascent/Descent Mechanism

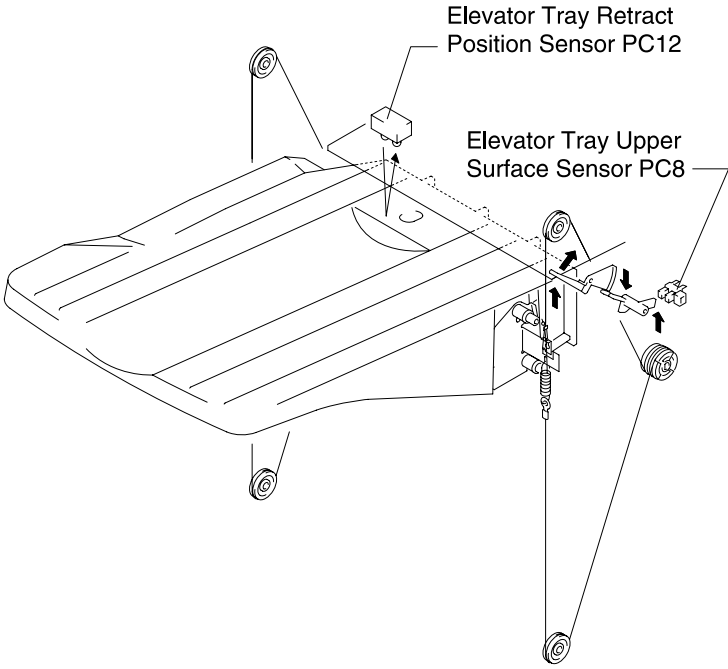
The elevator tray moves up and down as elevator motor turns forward and backward, respectively.



### Elevator Tray Stop Position Detection

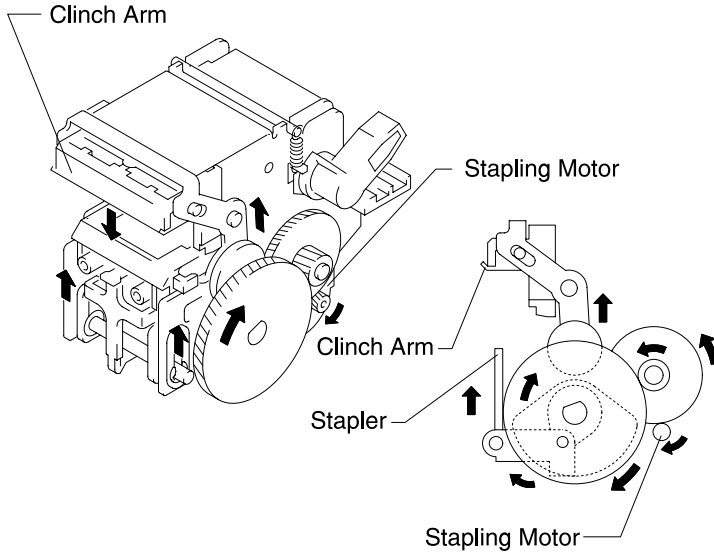
The elevator tray stops at the following positions:

Position	Condition	Detection
Processing	When a print or print set/ stack is fed into finisher	The position at which elevator tray upper surface sensor PC8 activates.
Retracted	Between two prints or print sets/stacks	Elevator tray position after lowering 55 mm from when PC8 activates.
Standby	In standby and when print sets/stacks are removed	55 mm $\pm$ 22 mm from the processing position, as measured by elevator tray retract position sensor PC12.



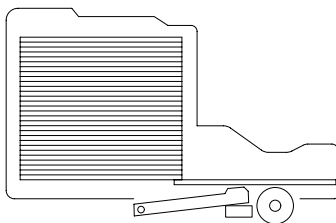
## Stapling Unit

When the stapling motor turns forward, the clinch arm lowers. The stapler then moves upward to drive a staple into the paper and the clinch bends the staple end over. The stapling motor then turns backward, raising the clinch arm and lowering the stapler. The stapling mechanism staples in the rear corner.

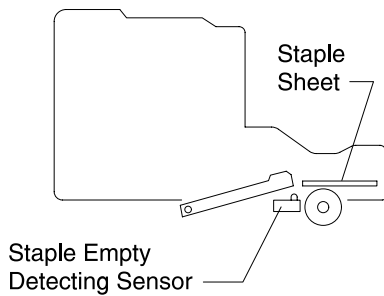


## Staple Sheet Empty Detection

The staple empty detecting sensor detects whether or not a staple sheet is in the staple cartridge. When the number of staples left in the staple cartridge reaches approximately 40, a staple-sheet-empty condition occurs and displays on the printer operator panel. If a staple-sheet-empty condition occurs during a stapling sequence, it displays after the stapling sequence completes. After a new staple cartridge has been loaded, the stapling motor energizes until the staple empty detecting sensor detects a staple sheet. After the staple sheet is detected, the stapling motor energizes once again.



Staple Sheet Empty Detection



## Horizontal Transport Unit

The finisher horizontal transport unit is the same as the mailbox horizontal transport unit. See [page 1-64](#).

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## 2. Diagnostic Information

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### Start

**CAUTION:** Turn off and unplug the printer and any attached equipment before you connect or disconnect any cable or electronic board or assembly for personal safety and to prevent damage to the printer. Use the handholds on the side of the printer. Make sure your fingers are not under the printer when you lift or set the printer down.

**Warning:** Ensure that the horizontal transport unit is firmly supported or removed before attempting to clear a paper jam that requires movement of the finisher or mailbox from the main printer. Failure to adhere will result in damage to the finisher or mailbox mounting brackets.

Use the service error code, user status message, user error message, symptom table, service checks, and diagnostic aids in this chapter to determine the corrective action necessary to repair a malfunctioning printer.

Service error codes are indicated by a three-digit error code. If a service error code is displayed, go to the [“Service Error Codes” on page 2-2](#).

User status messages provide information on the current status of the printer. Ready is displayed on the first line of the display unless Power Saver is invoked, and then Power Saver is displayed. If a user status message is displayed, go to the [“Operator Messages” on page 2-7](#).

User error messages are indicated by a two or three digit error code that provides the user with information that explains a problem with a print cartridge, paper jam, option, port, and so on. If a user error message is displayed, go to the [“Operator Messages” on page 2-7](#).

If the printer fails to operate correctly, disconnect any option and try to power on again. If the printer works correctly, go to the option that fails.

If a service error code appears while you are working on the machine, go to the **“Service Error Codes”** on page 2-2 and take the indicated action for that error.

## Service Error Codes

Service Error Codes are generally non-recoverable except in an intermittent condition when you can POR the printer to temporarily recover from the error condition. Whenever replacing a fuser/fuser mmkit or transfer roll/transfer mmkit, you must reset the maintenance counter. See **“Resetting Maintenance Counters”** on page 4-12.

Error Code	Action
900 RIP Software	Replace the RIP controller board.
906 Controller-Engine Link Driver Error	These errors indicate an unrecoverable engine software error. Replace the printer main engine board (PWB-A).
920 Fuser Error	Indicates the fuser is below temperature when printing. Go to the <b>“Fuser (Temperature Low) Service Check (920/922)”</b> on page 2-35.
921 Fuser Past Maint	Indicates the fuser is below temperature when printing and that the fuser life has been exceeded. Have customer order new fuser maintenance kit.
922 Fuser Error	Fuser failed to reach standby temperature. Go to the <b>“Fuser (Temperature Low) Service Check (920/922)”</b> on page 2-35.
923 Fuser Error	Fuser is too hot during printing or when printer is idle. Go to the <b>“Fuser (Abnormal Temperature) Service Check (923)”</b> on page 2-34.
924 Fuser Past Maint	Fuser failed to reach standby temperature and the fuser life has been exceeded. Have customer order new fuser maintenance kit.
925 Fuser Past Maint	Indicates the fuser is too hot during printing or when printer is idle and that the fuser life has been exceeded. Have customer order new fuser maintenance kit.

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Error Code	Action
927 Fan Stalled	Indicates a printer fan stalled. Check fan connectors.
928 Fan Stalled	<ul style="list-style-type: none"> <li>• 927—Replace cooling fan (fuser) M3.</li> <li>• 928—Replace power unit cooling fan M4.</li> <li>• 929—Replace ozone fan M8.</li> <li>• Replace printer main engine board (PWB-A).</li> </ul>
929 Fan Stalled	
930-933 PC Cartridge	Indicates there is a problem with the photoconductor cartridge. Replace the imaging cartridge (PC cartridge).
934 Mirror Motor	Indicates a problem with the printhead. Replace printhead assembly. Replace printer main engine board (PWB-A).
935 Transport Motor	Indicates a problem with the main drive motor. Check cable connectors. Replace the main drive transport motor M2. Replace the finisher main board (PWB-A).
936 Transport Motor Finisher	Ensure connectors are plugged in. Check for damage to the gear train. Ensure there is no overload. <ul style="list-style-type: none"> <li>• Replace any damaged gears.</li> <li>• Replace the transport motor (M1).</li> <li>• Replace the PWB-A finisher main board.</li> </ul>
936 Transport Motor Mailbox	Go to <b>“Mailbox Transport Drive Service Check (935)”</b> on page 2-59.
939 Controller - Engine Communications Error	<p>The controller board and the engine board cannot communicate with one another. The controller board, engine board or interconnect board is defective. Check each board for correct installation and secure ground. If no problem is found, replace the FRUs in the following order:</p> <p>RIP controller board</p> <p>printer main engine board (PWB-A)</p> <p>interconnect board</p> <p><b>Note:</b> The controller software also can cause a 939 error code. Contact your next level for software support.</p>
941 Controller Code CRC	Replace the RIP controller board.
941 Controller Font CRC	Replace the RIP controller board.

<b>Error Code</b>	<b>Action</b>
943 Controller Font Version	Indicates that the RIP controller code and FONT ROM are incompatible.
944 Controller Board Failure	Replace the RIP controller board.
945 Controller Board Failure - ASIC Failure	Replace the RIP controller board.
946 Controller Board Failure - SRAM Failure	Replace the RIP controller board.
947 Engine Board	Replace the printer main engine board (PWB-A).
953 NVRAM Failure	Indicates the NVRAM chip on the engine board has failed. Replace the IC EPROM on printer main engine board (PWB-A).
954 NVRAM Failure	Indicates the NVRAM experienced a CRC failure. Replace the printer main engine board (PWB-A).
955, 956, 957, 959 System Board	Indicates a processor, ASIC or SRAM failure on the engine board. Replace the printer main engine board (PWB-A).
960 RAM Memory Error	Indicates a memory error on the RIP controller board. Replace the RIP controller board.
961 RAM in Slot 1(J4) is Bad.	Ensure RAM is properly installed. Replace RAM in Slot 1. If this does not fix the problem, replace the RIP controller board.
962 RAM in Slot 2 (J3) is Bad.	Ensure RAM is properly installed. Replace RAM in Slot 2. If this does not fix the problem, replace the RIP controller board.
963 RAM in Slot 3 (J1) is Bad.	Ensure RAM is properly installed. Replace RAM in Slot 3. If this does not fix the problem, replace the RIP controller board.

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Error Code	Action
964 Emulation Error	Indicates a failure within the Download Emulation which is programmed into the code overlay SIMM. The specific error is:
965 Emulation Error	964 - Download Emulation CRC Failure. Checksum Failure. 965 - Download Emulation Outdated, The Download Emulation and the controller code are incompatible. Call Customer Support Center.
975 - 979 Network Card X	The following errors indicate a failure with the network card in the specified slot. X=any card installed in slots 1, 2 or 3. 975 - Unrecognizable Network Card x. Replace Network Card x. 976 - Unrecoverable software error in Network Card x. 977 - Controller software detects that a Network Card is installed in slot x but cannot establish communications with it. 978 - Bad checksum while programming Network Card x. Replace Network Card x. 979 - Flash parts failed while programming Network Card x.
980 <device> Comm device = mailbox, finisher, or LCC (2500-sheet paper drawer)	The engine is experiencing unreliable communications to the specified device. Check cables. Check control and system boards on specific device.
989 Paper Transport	Indicates a failure in the horizontal transport. Go to <b>"Paper Feed In Horizontal Transport Service Check"</b> on page 2-48.
990 LCC Tray 4 (2500-sheet)	Indicates transport motor error.  1. Check connectors. 2. Replace LCC transport drive motor (HMOT). 3. Replace LCC main board (PWB-A).
993 LCC Tray 4 (2500-sheet)	Indicates lift motor error.  1. Ensure connectors are plugged in. 2. Replace tray 4 lift motor (EMOT). 3. Replace LCC main board (PWB-A).

Error Code	Action
994 LCC Tray 4 (2500-sheet)	<p>Indicates lifter 1 limit error.</p> <ol style="list-style-type: none"> <li>1. Ensure connectors are plugged in.</li> <li>2. Check lift sensor 1 (LS1). Replace if defective.</li> <li>3. Replace LCC main board (PWB-A).</li> </ol>
995 LCC Tray	<p>Indicates lifter 2 limit error.</p> <ol style="list-style-type: none"> <li>1. Ensure connectors are plugged in.</li> <li>2. Check lift sensor 2 (LS2). Replace if defective.</li> <li>3. Replace LCC main board (PWB-A).</li> </ol>
993 Finisher	<p>Indicates elevator tray driver error.</p> <p>Go to <b>“Finisher Elevator Tray Service Check (993)” on page 2-53.</b></p>
994 Finisher	<p>Indicates finishing tray driver error.</p> <p>Go to <b>“Finisher Tray Drive Service Check (994)” on page 2-54.</b></p>
995 Finisher	<p>Indicates shift plate drive error.</p> <p>Go to <b>“Finisher Shift Plate Drive Service Check (995)” on page 2-54.</b></p>
996 Finisher	<p>Indicates arrangement bar drive error.</p> <p>Go to <b>“Finisher Paper Aligning Service Check (996)” on page 2-54.</b></p>
997 Finisher	<p>Indicates stapler driver error.</p> <p>Go to <b>“Finisher Stapler Drive Service Check (997)” on page 2-56.</b></p>
998 Finisher	<p>Indicates supporting tray driver error.</p> <p>Go to <b>“Finisher Paper Holding Tray Drive Service Check (998)” on page 2-56.</b></p>

## Operator Messages

Message	Description	Action
Check Finisher Installation	The finisher is not responding to the printer.	Check all connecting cables between the finisher and the printer. Ensure printer/option pin interlock is fully activated.
Check Mailbox Installation	The mailbox is not responding to the printer.	Check all connecting cables between the mailbox and the printer. Ensure printer/option pin interlock is fully activated.
Close Cover A	The toner box cover (A) is open.	<ol style="list-style-type: none"> <li>1. Close cover A. Check toner box cover open terminals and connector. Replace if necessary.</li> <li>2. Replace printer main engine board (PWB-A) if necessary.</li> </ol>
Close Door <D,E>	Tray 2(D) or tray 3(E) is open. Close to reset.	Check sensors (PC-23) and connectors. Replace if necessary. Replace printer main engine board (PWB-A) if necessary.
Close Door (C)	The upper right door (PC/image cartridge) is open. Close the upper right door.	Check door switch (S2) and door interlock (S3). Check connectors and replace as necessary. Replace printer main engine board (PWB-A) if necessary.
Close Door <F>	The 2500-sheet side door F is open.	<p>Check sensor (LS1) and connectors. Replace if necessary.</p> <p><b>Note:</b> Replace printer main engine board (PWB-A) if necessary.</p>

Message	Description	Action
Close Door <G>	The duplex side door is open.	Check sensor (S1) and connectors. Replace as necessary.  <b>Note:</b> Replace printer main engine board (PWB-A) if necessary.
Close Cover <H>	The horizontal transfer unit cover is open.	Check sensor (PC4) and connectors. Replace as necessary.  <b>Note:</b> Replace printer main engine board (PWB-A) if necessary.
Close Cover <L> Close Cover <J>	The staple unit cover is open.	Check switch (S4) and connectors. Replace as necessary.  <b>Note:</b> Replace the mailbox main board if necessary.
Close Cover <M>	The finisher top cover is open.	Check switch (S1) and connectors. Replace as necessary.  <b>Note:</b> Replace the finisher main board PWB-A if necessary.
Close Cover <N>	The finisher bin cover is open.	Check switch (S7) and connectors. Replace as necessary.  <b>Note:</b> Replace the finisher main board PWB-A if necessary.
Empty Box K	The hole punch count has exceeded the hole punch limit.	Empty the cardboard box which contains the discarded holes (Box K). Reset the hole punch counter. See <b>“Resetting Hole Punch Counter”</b> on page 4-12.



Message	Description	Action
Menus Disabled	<p>The printer menus have been disabled. This occurs when <b>&lt;Menu&gt;</b> is pressed while the printer is Ready and Menu Lockout is active.</p> <p>The printer display shows this message for one second and then returns to the <b>Ready</b> message.</p> <p>No button actions are possible while this message is displayed.</p>	<p>If the operator has disabled the menu and you want to run operator print tests, turn the machine off and then press <b>Go</b> and <b>Stop</b> as you turn the machine on.</p>
Not Ready	<p>The printer is in the Not Ready state, which means it is not ready to receive or process data.</p> <p>This message displays when <b>Stop</b> is pressed during a print job.</p>	<p>Press <b>Go</b> to take the printer out of the not ready state.</p> <p>Or, to reset the printer:</p> <ul style="list-style-type: none"> <li>• Press <b>&lt;Menu&gt;</b> to access the <b>Busy</b> menu.</li> <li>• Select <b>Reset Printer</b>.</li> </ul>
Performing Self Test	<p>The printer is running the normal series of start-up tests after it is powered on. When the tests are complete, the printer returns to <b>Ready</b>.</p> <p>No button actions are possible while this message is displayed.</p>	<p>Printer performs self-test.</p>
Remove Paper Standard Bin	<p>Remove paper.</p>	<p>Check paper exit full sensor (PC12) and connectors. Replace printer main engine board (PWB-A) if necessary.</p>
Remove Paper Output Bin X	<p>Remove paper.</p>	<p>Check exit full sensor for designated device and bin.</p>

Message	Description	Action
Remove Paper All Output Bins	Remove paper.	Check exit full sensor for designated device and bin.
Replace Fuser	The fuser page counter has exceeded the fuser page limit.	<p>Replace fuser mmkit. (customer ordered)</p> <p>This message will only be cleared when the fuser page count has been reset to zero. See <b>“Resetting Fuser Counter”</b> on page 4-13.</p>
Replace PC Kit	Photoconductor kit is near-life. If the photoconductor kit is not replaced when the warning is cleared, the printer repeats this warning.	Replace PC kit. See operator manual.
Replace Toner Cartridge	Toner cartridge is completely empty. If the toner cartridge is not replaced when the warning is cleared, the printer repeats this warning.	Replace toner cartridge. See operator manual.
Replace Toner/PC	The toner cartridge and the photoconductor kit have been reported as near-empty and near-life. If the photoconductor kit or toner cartridge is not replaced when the warning is cleared, the printer repeats the warning.	Replace toner cartridge and PC kit. See operator manual.
Replace Transfer Kit	The transfer page counter has exceeded the transfer page limit.	Replace transfer mmkit (customer ordered). See <b>“Resetting Transfer Counter”</b> on page 4-13.

Message	Description	Action
Replace Toner To Continue	The toner cartridge is almost empty.	Inform customer that they need to replace the toner cartridge. See operator manual. If you cannot reset, go to <b>“Toner Feed Service Check”</b> on page 2-35.
Replace PC Kit To Continue	The PC kit is almost empty.	Inform customer that they need to replace the PC kit. See operator manual.
Staples Empty	The printer finishing device is out of staples, or the staple unit is not installed.	Install new staples. Check the connection between the stapler unit and the finisher stapler connector. Replace the staple unit if necessary.
Staples Low	The printer finishing device is low on staples.	Install new staples. Check the connection between the stapler unit and the finisher stapler connector. Replace the staple unit if necessary.
Tray 1 Missing Tray 2 Missing Tray 3 Missing Tray 4 Missing Tray 5 Missing	An input tray is missing from the printer.	<p>Check the tray (cassette set sensor and actuators) and connectors.</p> <ul style="list-style-type: none"> <li>• Tray 1–PC6</li> <li>• Tray 2–PC3</li> <li>• Tray 3–PC3</li> <li>• Tray 4–SLIDE</li> </ul> <p>Replace as necessary. Replace the printer main engine board (PWB-A) if necessary.</p>

Message	Description	Action
Tray 4 Empty Tray 3 Empty Tray 2 Empty Tray 1 Empty	An input tray is out of media.	Check the tray (cassette empty sensor and actuators) and connectors. <ul style="list-style-type: none"> <li>• Tray 4–PPS1, PPS2</li> <li>• Tray 3–PC22</li> <li>• Tray 2–PC22</li> <li>• Tray 1–PC4</li> </ul> Replace as necessary. Replace the printer main engine board (PWB-A) if necessary.
Std Bin Full Bin 1 Full Bin 2 Full Bin 3 Full Bin 4 Full Bin 5 Full Bin 6 Full Bin 7 Full Bin 8 Full Bin 9 Full Bin 10 Full	A bin is full. The bin full warning is cleared when the output level reported by the bin is no longer full. This warning is only available when the configure bins setting is set to Mailbox.	Check the tray/bin full sensor and actuators. <ul style="list-style-type: none"> <li>• Finisher standard bin–PC12</li> <li>• Mailbox standard bin–PWB-B</li> <li>• Bin1–PWB-D1</li> <li>• Bin2–PWB-D2</li> <li>• Bin3–PWB-D3</li> <li>• Bin4–PWB-D4</li> <li>• Bin5–PWB-D5</li> <li>• Bin6–PWB-D6</li> <li>• Bin7–PWB-D7</li> <li>• Bin8–PWB-D8</li> <li>• Bin9–PWB-D9</li> <li>• Bin10–PWB-C</li> </ul>
Tray 4 Low Tray 3 Low Tray 2 Low Tray 1 Low	An input tray is low on media. The tray warning is cleared when the associated tray is removed.	Check the tray low sensors, actuators and connectors. Replace as necessary. <ul style="list-style-type: none"> <li>• Tray 4–RS1, RS2</li> <li>• Tray 3–PC25</li> <li>• Tray 2–PC25</li> <li>• Tray 1–PC5</li> </ul> Replace the printer main engine board (PWB-A) if necessary.

Message	Description	Action
34 Wrong Paper Size in Tray x	Install correct paper size.	<p>Check paper size detection board.</p> <ul style="list-style-type: none"> <li>• Tray 1–PWB-S1</li> <li>• Tray 2,3–PWB-S2</li> </ul> <p>Replace if necessary. Replace printer main engine board (PWB-A) if necessary.</p>
35 Res Save Off Deficient Memory	The printer lacks the memory needed to enable <b>Resource Save</b> . This message usually indicates that too much memory is allocated for one or more of the printer link buffers.	<ul style="list-style-type: none"> <li>• To enable <b>Resource Save</b> after this message is displayed, either install additional memory or set each link buffer to the <b>Auto</b> value.</li> <li>• After you set all link buffers to <b>Auto</b>, exit the printer menus to activate link buffer changes.</li> <li>• When <b>Ready</b> is displayed, enable <b>Resource Save</b> in the Setup Menu and modify the link buffers again.</li> <li>• Press <b>Go</b> to clear the message. The printer automatically disables <b>Resource Save</b> and continues.</li> </ul>
37 Insufficient Collation Area	This message is displayed when the printer memory used to store pages is too full to collate the print job.	<ul style="list-style-type: none"> <li>• Press <b>Go</b> to print the portion of the job already stored and begin collating the rest of the job.</li> <li>• Cancel the print job. Press <b>Menu&gt;</b> or <b>&lt;Menu</b>. The Job Menu is displayed. Press <b>Menu&gt;</b> or <b>&lt;Menu</b> until Cancel Job appears on the second line. Press <b>Select</b>.</li> </ul>
37 Insufficient Defrag Memory		See operator manual.

Message	Description	Action
37 Insufficient Memory		See operator manual.
38 Memory Full	This message is displayed when the printer memory used to store pages is full.	<ul style="list-style-type: none"> <li>• Press <b>Go</b> to clear the message and continue printing. Some data may not print or may not print correctly.</li> <li>• Cancel the print job. Press <b>Menu</b>&gt; or &lt;<b>Menu</b>. The Job Menu is displayed. Press <b>Menu</b>&gt; or &lt;<b>Menu</b> until Cancel Job appears on the second line. Press <b>Select</b>.</li> <li>• Reduce the complexity of the job: <ul style="list-style-type: none"> <li>– Reduce the number of graphics or images on a page.</li> <li>– Delete unnecessary downloaded fonts or macros.</li> <li>– Change the Print Quality setting.</li> <li>– Install additional printer memory to avoid future Memory Full errors.</li> </ul> </li> </ul>

Message	Description	Action
39 Complex Page	This message is displayed when the page is too complex to print.	<ul style="list-style-type: none"> <li>• Press <b>Go</b> to clear the message and continue printing. Some data may not print or may not print correctly.</li> <li>• Cancel the print job. Press <b>Menu&gt;</b> or <b>&lt;Menu</b>. The Job Menu is displayed. Press <b>Menu&gt;</b> or <b>&lt;Menu</b> until Cancel Job appears on the second line. Press <b>Select</b>.</li> <li>• To avoid another Complex Page error: <ul style="list-style-type: none"> <li>– Set Page Protect On from the Setup Menu and re-send the job.</li> <li>– Reduce the complexity of the page by using fewer fonts, macros, and graphics.</li> <li>– Install additional printer memory.</li> </ul> </li> </ul>
50 PPDS Error		See operator manual.
51 Defective Flash	The printer detects a defective flash during power on, or during format and write to flash operations.	<ul style="list-style-type: none"> <li>• Press <b>Go</b> to clear the message. Flash operations are not allowed until the problem is resolved.</li> <li>• Remove the defective flash memory card and try another.</li> </ul>

Message	Description	Action
52 Flash Full	There is not enough free space in the flash memory card to hold the data that was sent.	<ul style="list-style-type: none"> <li>• Press <b>Go</b> to clear the message and continue processing. Downloaded fonts and macros not previously stored in flash memory or disk are deleted.</li> <li>• Reset the printer. Press <b>Menu&gt;</b> or <b>&lt;Menu</b>. The Job Menu is displayed. Press <b>Menu&gt;</b> or <b>&lt;Menu</b> until Reset Printer appears on the second line. Press <b>Select</b>.</li> </ul>
53 Unformatted Flash	The printer detected an unformatted flash memory card during the power on process. Flash operations are not allowed until the flash is formatted.	<p>Try the following:</p> <ul style="list-style-type: none"> <li>• Format the flash memory card using <b>Format Flash</b> in the Tests Menu.</li> <li>• Send the data again.</li> <li>• If the error condition remains, the flash memory card is defective and must be replaced.</li> <li>• Press <b>Go</b> to clear the message. The flash memory is ignored and normal operation continues.</li> </ul>



Message	Description	Action
54 Serial Option x Error	<p>A serial interface error has been detected (framing or parity). This error usually indicates the serial link has not been set up correctly.</p> <p><b>x</b> represents optional serial port 1 through 3.</p>	<p>Press and hold <b>Select</b> and then press <b>Return</b> to determine the cause of the host interface error.</p> <p>When the serial error is displayed, the reporting of other serial errors is suppressed until interface parameters are changed or the printer is turned off.</p> <p>Check the interface:</p> <ul style="list-style-type: none"> <li>• Verify that the correct cable is used.</li> <li>• Make sure the serial interface parameters (protocol, baud, parity, data bits) are correct.</li> <li>• Press <b>Go</b> to clear the message and continue printing the job. The print job may not print correctly.</li> <li>• Reset the printer: <ul style="list-style-type: none"> <li>– Press <b>&lt;Menu&gt;</b> to access the <b>Busy</b> menu.</li> <li>– Select <b>Reset Printer</b>.</li> </ul> </li> </ul>
54 Std Par ENA Connection Lost	<p>An external network adapter (ENA) that was once connected to the standard parallel port is no longer responding. The printer only recognizes the missing connection when the printer power is first turned on.</p>	<ul style="list-style-type: none"> <li>• Ensure the cable connecting the ENA and the printer is securely attached. Turn the printer off and then on again to see if the printer recognizes the connection.</li> <li>• Press <b>Go</b> to clear the message. The printer erases any reference to the ENA and then resets.</li> </ul>

Message	Description	Action
54 Par x ENA Connection Lost	An external network adapter (ENA) that was once connected to the specified parallel port is no longer responding. The printer only recognizes the missing connection when the printer power is first turned on.	<ul style="list-style-type: none"> <li>• Ensure the cable connecting the ENA and the printer is securely attached. Turn the printer off and then on again to see if the printer recognizes the connection.</li> <li>• Press <b>Go</b> to clear the message. The printer erases any reference to the ENA and then resets.</li> </ul>
54 Ser x Fax Connection Lost		See operator manual.
54 Network x Software Error		See operator manual.
55 Insufficient Fax Buffer		See operator manual.
56 Serial Port x Disabled	<p>Data is sent to the printer across the serial port, but the serial port is disabled. When the serial error is displayed, the reporting of other serial errors is suppressed until the menus are entered or the printer is reset.</p> <p><b>x</b> is 1, 2, or 3 and represents the serial option attached.</p>	<p>Press <b>Go</b> to clear the message. The printer discards any data received on the serial port.</p> <p>Enable the serial port. Or,</p> <p>Reset the printer:</p> <ul style="list-style-type: none"> <li>• Press <b>&lt;Menu&gt;</b> to access the <b>Busy</b> menu.</li> <li>• Select <b>Reset Printer</b>.</li> </ul>

Message	Description	Action
56 Std Parallel Port Disabled	Data is sent to the printer across the parallel port, but the parallel port is disabled. When the error is displayed, the reporting of other errors is suppressed until the menus are entered or the printer is reset.	<ul style="list-style-type: none"> <li>• Press <b>Go</b> to clear the message. The printer discards the data sent to the parallel port.</li> <li>• Reset the printer. Press <b>Menu&gt;</b> or <b>&lt;Menu</b>. The Job Menu is displayed. Press <b>Menu&gt;</b> or <b>&lt;Menu</b> until Reset Printer appears on the second line. Press <b>Select</b>.</li> </ul>
56 Parallel Port x Disabled	Data was sent to the specified parallel port, but the port has been disabled from the Parallel Buffer menu item.	<ul style="list-style-type: none"> <li>• Press <b>Go</b> to clear the message. The printer discards the data sent to the parallel port.</li> <li>• Reset the printer. Press <b>Menu&gt;</b> or <b>&lt;Menu</b>. The Job Menu is displayed. Press <b>Menu&gt;</b> or <b>&lt;Menu</b> until Reset Printer appears on the second line. Press <b>Select</b>.</li> </ul>
58 Too Many Disks Installed	You have installed more than one Hard Disk Option. The Hard Disk Option can be installed only in connector 3.	Turn off the printer and remove the extra Hard Disk Option.
58 Too Many Flash Options		See operator manual.
61 Defective Disk	The printer detects a defective disk during power on, or during disk format and write operations.	<p>Press <b>Go</b> to clear the message. Hard disk operations are not allowed with a defective hard disk.</p> <p>Remove the defective hard disk and replace it with a new hard disk.</p>

Message	Description	Action
62 Disk Full	There is not enough free space in the disk to hold the data that was sent.	<p>Press <b>Go</b> to clear the message and continue processing. Any data currently being written to the disk is lost. Reset the printer:</p> <ul style="list-style-type: none"> <li>• Press <b>&lt;Menu&gt;</b> to access the <b>Busy</b> menu.</li> <li>• Select <b>Reset Printer</b>.</li> </ul>
63 Unformatted Disk	The printer detected an unformatted hard disk when the printer was turned on. Disk operations are not allowed until the disk is formatted.	<ul style="list-style-type: none"> <li>• Format the hard disk with the <b>Format Disk</b> setting in the Tests Menu.</li> <li>• Send the data again.</li> <li>• If the error condition remains, the disk is defective and must be replaced.</li> </ul> <p>Press <b>Go</b> to clear the message. The disk is ignored and normal operation continues.</p>
70-79 INA errors	These numbered messages are reserved for internal network adapter messages.	See the CD-rom on-line Help for more information. Also, refer to the documentation that is included with the internal network adapter.

Message	Description	Action
<p>200 Paper Jam Open Doors D,E,F</p>	<p>Paper is jammed in the vertical transport section.</p> <ul style="list-style-type: none"> <li>• Open tray 2 through 4 side doors (doors D,E,F) to access the paper jam.</li> </ul> <p><b>Note:</b> This jam message requests that all three doors (D,E,F) be opened regardless of the paper tray configuration. Some printer configurations (those without a fourth tray, for example) may not have all three doors. If sheets have been accumulated to be stapled when the jam is detected, the printer alternately flashes the primary and secondary messages to indicate to the user that all accumulated sheets should not be removed during the jam clearance procedure.</p>	<p>Check paper sensor and actuator in tray 2 (S3), tray 3 (S3), tray 4 (PPSO, RSEN).</p> <p>Go to:</p> <ul style="list-style-type: none"> <li>• “Paper Feed Pickup Tray 2&amp;3 (500-Sheet) Service Check” on page 2-44.</li> <li>• “Paper Feed LCC (2500-Sheet Tray 4) Service Check” on page 2-51.</li> </ul>

Message	Description	Action
201 Paper Jam Open Door C	<p>Paper is jammed in the drum area.</p> <ul style="list-style-type: none"> <li>• Open the printer upper side door and remove the PC cartridge to access the jam area.</li> </ul>	<p>Check paper sensor and actuator for PC2. Replace the printer main engine board PWB-A if necessary. Go to <b>“Paper Feed Synchronizing Roll/Registration Service Check”</b> on page 2-45.</p>
202 Paper Jam Open Cover B	<p>Paper is jammed in the printer fuser.</p> <ul style="list-style-type: none"> <li>• Open the upper side door.</li> <li>• Open the fuser cover.</li> </ul>	<p>Check paper sensor and actuator for PC3. Replace the printer main engine board PWB-A if necessary. Go to <b>“Paper Feed Fuser/Exit Service Check”</b> on page 2-46.</p>
231 Paper Jam Open Door G	<p>Paper is jammed in the duplex unit.</p> <ul style="list-style-type: none"> <li>• Open the duplex side door to access the jam area.</li> </ul>	<p>Check sensor and actuator for PL1. Replace the printer main engine board PWB-A if necessary. Go to <b>“Paper Feed In Duplex Service Check”</b> on page 2-46.</p>

Message	Description	Action
232 Paper Jam Open Door G	<p>Paper is jammed in the duplex switchback. If a mailbox or finisher is not installed, the paper should be partially ejected into the standard bin.</p> <p>Finisher/mailbox not installed:</p> <ul style="list-style-type: none"> <li>• Open door G to access jam area.</li> </ul> <p>Finisher/mailbox installed:</p> <ul style="list-style-type: none"> <li>• Separate mailbox or finisher from printer.</li> <li>• Open door G to access jam area.</li> </ul>	Check sensor and actuator for PL1. Replace the printer main engine board PWB-A if necessary. Go to <b>“Paper Feed In Duplex Service Check” on page 2-46.</b>
241 Paper Jam Open Door C	<p>Paper is jammed around tray 1.</p> <ul style="list-style-type: none"> <li>• Open side door C to access paper jam area. If jam is not located by opening the side door, open paper drawer 1.</li> </ul>	Check sensor and actuator for PC2. Replace the printer main engine board PWB-A if necessary. Go to <b>“Paper Feed Pickup Tray 1 (250-Sheet) Service Check” on page 2-44.</b>
242 Paper Jam Open Door D	<p>Paper is jammed around tray 2.</p> <ul style="list-style-type: none"> <li>• Open side door D to access paper jam area. If jam is not located by opening the side door, open paper drawer 2.</li> </ul>	Check sensor and actuator (S3). Replace the 500-sheet main board if necessary. Replace the printer main engine board PWB-A if necessary. Go to <b>“Paper Feed Pickup Tray 2&amp;3 (500-Sheet) Service Check” on page 2-44.</b>

Message	Description	Action
243 Paper Jam Open Door E	<p>Paper is jammed around tray 3.</p> <ul style="list-style-type: none"> <li>• Open side door E to access paper jam area. If jam is not located by opening the side door, open paper drawer 3.</li> </ul>	<p>Check sensor and actuator for S3. Replace the printer main engine board PWB-A if necessary. Replace the 500-sheet main board if necessary. Go to <b>“Paper Feed Pickup Tray 2&amp;3 (500-Sheet) Service Check”</b> on page 2-44.</p>
244 Paper Jam Open Door F	<p>Paper is jammed around tray 4.</p> <ul style="list-style-type: none"> <li>• Open side door F to access paper jam area. If jam is not located by opening side doors, open paper drawer 4.</li> </ul> <p><b>Note:</b> This message will not be displayed for the 2500-Sheet A4 drawer.</p>	<p>Check sensor and actuators for PPSO, RSEN. Replace the LCC main board PWB-A if necessary. Replace the printer main engine board PWB-A if necessary. Go to <b>“Paper Feed LCC (2500-Sheet Tray 4) Service Check”</b> on page 2-51.</p>
245 Paper Jam Open 500-Sheet Optional Tray 4 Door	<p>Paper is jammed around tray 5.</p> <ul style="list-style-type: none"> <li>• Open tray 5 side door to access paper jam area. If jam is not located by opening the side door, open paper drawer 5.</li> </ul>	<p>Check sensor and actuator for S3. Replace the 500-sheet main board if necessary. Replace the printer main engine board PWB-A if necessary. Go to <b>“Paper Feed Pickup Tray 2&amp;3 (500-Sheet) Service Check”</b> on page 2-44.</p>



Message	Description	Action
246 Paper Jam Check Tray 4	<p>Paper is jammed inside the 2500-sheet A4 drawer (LCC).</p> <p>Open the LCC drawer to access the jam area.</p>	<p>Check sensor and actuator for PPSO, RSEN. Replace the LCC main board PWB-A if necessary. Replace the printer main engine board PWB-A if necessary. Go to <b>“Paper Feed LCC (2500-Sheet Tray 4) Service Check” on page 2-51.</b></p>
247 Paper Jam Open Door F	<p>Paper is jammed inside the 2500-sheet A4 drawer (LCC).</p> <p>Open side door F to access the jam area. If jam is not located by opening the side door, open LCC paper drawer.</p>	<p>Check sensors and actuators for PPSO, RSEN, and S1. Replace the LCC main board PWB-A if necessary. Replace the printer main engine board PWB-A if necessary. Go to <b>“Paper Feed LCC (2500-Sheet Tray 4) Service Check” on page 2-51.</b></p>
251 Paper Jam Open Door C	<p>Paper is jammed in the vertical transport section.</p> <ul style="list-style-type: none"> <li>• Open tray 2 through 4 side doors (doors D,E,F) to access the paper jam.</li> </ul>	<p>Check paper sensor and actuator in tray 2 (S3), tray 3 (S3), tray 4 (PPSO, RSEN). If necessary, replace main board PWB-A located in failing option. Replace the printer main engine board PWB-A if necessary.</p> <p>Go to:</p> <ul style="list-style-type: none"> <li>• <b>“Paper Feed Pickup Tray 2&amp;3 (500-Sheet) Service Check” on page 2-44.</b></li> <li>• <b>“Paper Feed LCC (2500-Sheet Tray 4) Service Check” on page 2-51.</b></li> </ul>

Message	Description	Action
271 Paper Jam Open Cover M		<p>Check horizontal transport sensor and actuator for PC1, PC2. Replace the printer main engine board PWB-A if necessary.</p> <p>Go to:</p> <ul style="list-style-type: none"> <li>• “Paper Feed In Horizontal Transport Service Check” on page 2-48.</li> <li>• “Paper Feed Finisher Service Check” on page 2-50.</li> </ul>
272 Paper Jam Open Doors I,J	<p>Paper is jammed in the eject option area.</p> <ul style="list-style-type: none"> <li>• Separate the mailbox from the printer.</li> <li>• Open doors I and J to access the jam area</li> </ul>	<p>Go to “Paper Feed Mailbox Service Check” on page 2-48.</p>
280 Paper Jam Cover H	<p>Paper is jammed in the horizontal transport unit (HTU).</p> <ul style="list-style-type: none"> <li>• Open the HTU cover to access the jam area.</li> </ul>	<p>Check horizontal transport sensors and actuators for PC1, PC2. Replace the printer main engine board PWB-A if necessary.</p> <p>Go to “Paper Feed In Horizontal Transport Service Check” on page 2-48.</p>

Message	Description	Action
<p>281 Paper Jam Open Cover M</p>	<p>Paper is jammed in the transport of the finisher.</p> <ul style="list-style-type: none"> <li>• Open finisher cover M to access jam area.</li> </ul>	<p>Check horizontal transport sensors and actuators for PC1, PC2. Replace the finisher main board if necessary. Replace the printer main engine board PWB-A if necessary.</p> <p>Go to:</p> <ul style="list-style-type: none"> <li>• “Paper Feed In Horizontal Transport Service Check” on page 2-48.</li> <li>• “Paper Feed Finisher Service Check” on page 2-50.</li> </ul>
<p>281 Paper Jam Open Doors I,J</p>	<p>Paper is jammed in the transport of the mailbox.</p> <ul style="list-style-type: none"> <li>• Separate the mailbox from the printer.</li> <li>• Open doors I and J to access jam area.</li> </ul>	<p>Go to “Paper Feed Mailbox Service Check” on page 2-48.</p>
<p>282 Paper Jam Open Cover N</p>	<p>Paper is jammed in the finishing bin.</p> <ul style="list-style-type: none"> <li>• Open the finishing bin cover N to access jam area.</li> <li>• Clear all paper from the finishing bin.</li> </ul>	<p>Check horizontal transport sensors and actuators for PC1, PC2. If necessary, replace main board PWB-A located in failing option. Replace the printer main engine board PWB-A if necessary.</p> <p>Go to:</p> <ul style="list-style-type: none"> <li>• “Paper Feed In Horizontal Transport Service Check” on page 2-48.</li> <li>• “Paper Feed Finisher Service Check” on page 2-50.</li> </ul>

Message	Description	Action
283 Paper Jam Cover N	<p>A stapler jam has occurred and is displayed as a paper jam.</p> <ul style="list-style-type: none"> <li>• Open the finishing bin cover N to access jam area.</li> </ul>	<p>Check horizontal transport sensors and actuators for PC1, PC2. If necessary, replace main board PWB-A located in failing option. Replace the printer main engine board PWB-A if necessary.</p> <p>Go to:</p> <ul style="list-style-type: none"> <li>• “Paper Feed In Horizontal Transport Service Check” on page 2-48.</li> <li>• “Paper Feed Finisher Service Check” on page 2-50.</li> </ul>
284 Paper Jam Open Cover M	<p>Paper is jammed in the eject option area.</p> <ul style="list-style-type: none"> <li>• Open cover M to access jam area or,</li> <li>• Separate the finisher from the printer.</li> </ul>	<p>Check horizontal transport sensor and actuator for PC1, PC2. If necessary, replace main board PWB-A located in failing option. Replace the printer main engine board PWB-A if necessary.</p> <p>Go to:</p> <ul style="list-style-type: none"> <li>• “Paper Feed In Horizontal Transport Service Check” on page 2-48.</li> <li>• “Paper Feed Finisher Service Check” on page 2-50.</li> </ul>

## Symptom Tables

### Print Quality Symptom Table

Symptom	Action
Black Page	Go to “Black Page Service Check” on page 2-36.
White Spots	Go to “White Spots Service Check” on page 2-37.
Dirt on Back of Paper	Go to “Toner Smudges On Backside Service Check” on page 2-37.
Low Image Density	Go to “Low Image Density Service Check” on page 2-38.
Foggy Background	Go to “Foggy Background Service Check” on page 2-39.
White/Black Lines	Go to “White/Black Lines Service Check” on page 2-40.
Offset Image	Go to “Offset Image Service Check” on page 2-41.
Blank Print	Go to “Blank Print Service Check” on page 2-42.
Reoccurring Marks	Go to “Image Space Table” on page 2-43.

### Paper Feed Symptom Table

Symptom	Action
Paper Jam in Pickup Tray 1	Go to “Paper Feed Pickup Tray 1 (250-Sheet) Service Check” on page 2-44.
Paper Jam in Pickup Tray 2 & 3	Go to “Paper Feed Pickup Tray 2&3 (500-Sheet) Service Check” on page 2-44.

Symptom	Action
Paper Jam in Synchronizing Roll	Go to “Paper Feed Synchronizing Roll/Registration Service Check” on page 2-45.
Paper Jam in Fuser/Exit	Go to “Paper Feed Fuser/Exit Service Check” on page 2-46.
Paper Jam in Horizontal Transport	Go to “Paper Feed In Horizontal Transport Service Check” on page 2-48.
Paper Jam in Mailbox	Go to “Paper Feed Mailbox Service Check” on page 2-48.
Paper Jam in Finisher	Go to “Paper Feed Finisher Service Check” on page 2-50.
Paper Jam in LCC (2500-Sheet)	Go to “Paper Feed LCC (2500-Sheet Tray 4) Service Check” on page 2-51.
Paper Jam or Malfunction of Hole Punch	Go to “Paper Feed Hole Punch Service Check” on page 2-52.

## Other Printer Malfunction Symptom Table

Symptom	Action
No Printer Power	Go to “No Power Service Check (923)” on page 2-34.
Transport Drive Malfunction	Go to “Paper Feed Fuser/Exit Service Check” on page 2-46.
Fuser Failure (Abnormal Temperature)	Go to “Fuser (Abnormal Temperature) Service Check (923)” on page 2-34.
Fuser Failure (Warm-up Temperature Low)	Go to “Fuser (Temperature Low) Service Check (920/922)” on page 2-35.
Horizontal Registration Failure	Go to “Paper Feed Synchronizing Roll/Registration Service Check” on page 2-45.
Operator Panel Does Not Operate	Run “LCD Hardware Test” on page 3-5 and “Button Test” on page 3-6. If the display has diamonds on it or is blank and the printer PORs correctly, replace the operator panel. If problem persists, replace the printer main engine board PWB-A. If the machine beeps 5 times and the screen remains blank or displays diamonds, replace the operator panel.
No Paper Pickup from Tray 1	Go to “Paper Feed Pickup Tray 1 (250-Sheet) Service Check” on page 2-44.
No Paper Pickup from Tray 2 or 3	Go to “Paper Feed Pickup Tray 2&3 (500-Sheet) Service Check” on page 2-44.
Toner-Feed Feed Problems	Go to “Toner Feed Service Check” on page 2-35.

## LCC 2500-Sheet Tray 4 Symptom Table

Symptom	Action
No Power	Check printer power. Check connectors. Check LCC main board PWB-A and replace if necessary. Replace printer main engine board PWB-A if necessary.
No Paper Feed	Go to <b>“Paper Feed LCC (2500-Sheet Tray 4) Service Check”</b> on page 2-51.
No Pickup from Tray 4	Go to <b>“Paper Feed LCC (2500-Sheet Tray 4) Service Check”</b> on page 2-51.
Paper Feed Problems	Go to <b>“Paper Feed LCC (2500-Sheet Tray 4) Service Check”</b> on page 2-51.
Paper Lift and Other Problems	Go to <b>“Paper Deck 2500-Sheet (LCC) Option”</b> on page 1-45.

## Mailbox Symptom Table

Symptom	Action
No Power	Go to <b>“Mailbox Power Service Check”</b> on page 2-58.
Transport Drive Problems	Go to <b>“Mailbox Transport Drive Service Check (935)”</b> on page 2-59.
Bin Switching Problems	Go to <b>“Mailbox Bin 1–10 Service Check”</b> on page 2-59.
Other Problems	Go to <b>“Mailbox/Transport Option”</b> on page 1-61.



## Finisher Symptom Table

Symptom	Action
No Power	Go to "Finisher Power Service Check" on page 2-53.
Paper Feed Problem	Go to "Paper Feed Finisher Service Check" on page 2-50.
Paper Fails to go to Top Bin	Go to "Finisher Upper Entrance Service Check" on page 2-57.
Elevator Tray Fails to Move Up or Down	Go to "Finisher Elevator Tray Service Check (993)" on page 2-53.
Shift Plate Fails to Move	Go to "Finisher Shift Plate Drive Service Check (995)" on page 2-54.
Paper Aligning Fails to Move Correctly	Go to "Finisher Paper Aligning Service Check (996)" on page 2-54.
Staple Drive Does Not Staple	Go to "Finisher Stapler Drive Service Check (997)" on page 2-56.
Holding Tray Fails to Drop Paper After Stapling	Go to "Finisher Paper Holding Tray Drive Service Check (998)" on page 2-56.
Other Problems	Go to "Finisher Option" on page 1-68.

## Printer Service Checks

### No Power Service Check (923)

	FRU	Action
1	Voltage	Ensure the switch is on and the power cord is firmly plugged into the printer. Ensure the correct voltage is present at the outlet.
2	Power Cord	Check the power cord for continuity.
3	<ul style="list-style-type: none"> <li>• Fuse F1, F2</li> <li>• Switch (S1)</li> </ul>	The power supply fuses may be blown. Unplug the machine and check fuses F1 and F2 on the power supply (PU1) for continuity. If the fuses are good, check the power switch connector for continuity.
4	<ul style="list-style-type: none"> <li>• Power Supply (PU1)</li> <li>• Fuser Frame Resistor Board (PWB-R)</li> <li>• Printer Main Engine Board (PWB-A)</li> </ul>	If the fuses are not blown, the listed parts may be bad. Replace in the order given.

### Fuser (Abnormal Temperature) Service Check (923)

	FRU	Action
1	<ul style="list-style-type: none"> <li>• Thermistor</li> <li>• Fuser</li> </ul>	The thermistor could be shorted. Check and replace if necessary. Check the fuser for damage. If any thing other than the thermistor is damaged, replace the fuser unit.
2	Low Voltage Power Supply (PU1)	If replacing the fuser unit does not resolve the problem, replace the low voltage power supply.
3	Printer Main Engine Board (PWB-A)	If replacing the fuser unit does not resolve the problem, replace the main engine board.

## Fuser (Temperature Low) Service Check (920/922)

	FRU	Action
1	Thermistor (TH1)	The thermistor may be dirty. Ensure that the fuser upper roller is clean and the thermistor is positioned correctly.
2	<ul style="list-style-type: none"> <li>• Main Heater Lamp (H1)</li> <li>• Heater Lamp Fuse (TF1)</li> </ul>	The heater lamp may be broken in the fuser. If there is no continuity, replace the heater lamp. Check the fuser roller.
3	<ul style="list-style-type: none"> <li>• Thermostat (TS1)</li> <li>• Fuser Unit</li> </ul>	The thermostat may be open. Check for continuity and replace thermostat if open. Replace the fuser unit.
4	Printer Main Engine Board (PWB-A)	The printer main engine board (PWB-A) may be defective. Replace the main engine board.

## Toner Feed Service Check

	FRU	Action
1	Agitating Motor (M10)	The toner agitating motor may be defective, allowing the toner to cake. The caking prevents toner from being supplied to the main hopper. Check agitating motor and replace as necessary.
2	Toner Deflection Plate	The toner sub-hopper may be empty and not being supplied with toner. Check the toner deflection plate and replace as necessary.
3	Main Hopper Motor (M6)	The toner main hopper motor may not be working. Check and replace as necessary.
4	Sub-hopper Motor (M7)	The sub-hopper motor that supplies toner to the image cartridge may be defective. Check and replace as necessary.

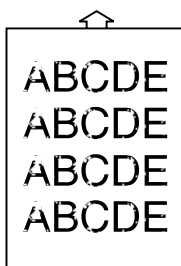
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## Print Quality Service Checks

### Black Page Service Check

	FRU	Action
1	Printhead Unit (PH)	The printer may have improper laser exposure. Replace the printhead unit.
2	Fuser Frame Resistor Board (PWB-R1)	Replace the fuser frame resistor board (PWB-R1) if necessary.
3	Printer Main Engine Board (PWB-A)	Replace the printer main engine board (PWB-A) if necessary.

## White Spots Service Check

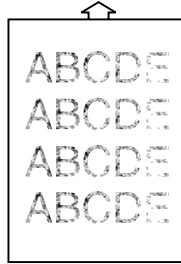


	FRU	Action
1	Paper	Check paper for moisture resulting from high humidity.
2	<ul style="list-style-type: none"> <li>• Image Transfer Roller</li> <li>• High Voltage Power Supply (HV1)</li> <li>• Fuser Frame Resistor Board (PWB-R1)</li> <li>• Printer Main Engine Board (PWB-A)</li> </ul>	The printer may have poor image transfer. Replace the listed parts in the order given as necessary.

## Toner Smudges On Backside Service Check

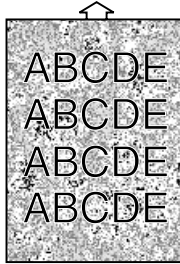
	FRU	Action
1	Fuser Unit	Check for dust, toner or damage on the fusing roller. Clean or replace as necessary.
2	Image Transfer Roller	Check for dust, toner or damage to the image transfer roller. Clean or replace as necessary.
3	Paper Path	Clean the paper path inside the printer.

## Low Image Density Service Check



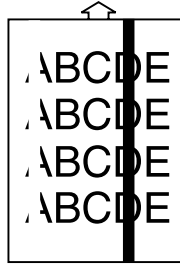
	FRU	Action
1	Toner Cartridge	The toner cartridge may be empty. Replace the toner cartridge.
2	Imaging/PC Cartridge	Imaging/PC cartridge may be at the end of life. Replace the imaging/PC cartridge.
3	<ul style="list-style-type: none"> <li>• High Voltage Power Supply (HV1)</li> <li>• Fuser Frame Resistor Board (PWB-R1)</li> <li>• Printer Main Engine Board (PWB-A)</li> </ul>	The printer may have poor development. Replace the listed parts in the given order as necessary.

## Foggy Background Service Check



	<b>FRU</b>	<b>Action</b>
1	Imaging/PC Cartridge	PC drum may have reached end of life. Replace the imaging/PC cartridge.
2	<ul style="list-style-type: none"> <li>• High Voltage Power Supply (HV1)</li> <li>• Fuser Frame Resistor Board (PWB-R1)</li> <li>• Printer Main Engine Board (PWB-A)</li> </ul>	The printer may have poor development. Replace the listed parts in the given order as necessary.

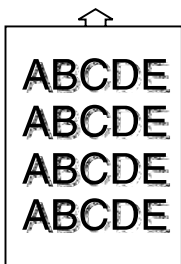
## White/Black Lines Service Check



	FRU	Action
1	Imaging/PC Cartridge	Check for scratches on the PC drum. Replace the imaging/PC cartridge.
2	<ul style="list-style-type: none"> <li>• Printhead Unit</li> <li>• Fuser Frame Resistor Board (PWB-R1)</li> <li>• Printer Main Engine Board (PWB-A)</li> </ul>	The printhead unit may be defective. Replace the listed parts in the given order as necessary.



## Offset Image Service Check



	<b>FRU</b>	<b>Action</b>
1	Fuser Unit	Fusing roller may be damaged or worn out. Replace the fusing unit.
2	Imaging Transfer Roller	Imaging transfer roller may be damaged or worn out. Replace the imaging transfer roller.

## Blank Print Service Check

	FRU	Action
1	Toner Cartridge	Check for toner cartridge. Install toner cartridge.
2	Toner Empty	Replace toner cartridge.
3	Imaging/PC Cartridge	Imaging/PC cartridge may be defective or at end of life. Inform customer to replace imaging/PC cartridge if at end of life.
4	<ul style="list-style-type: none"> <li>• Printhead Unit</li> <li>• Fuser Frame Resistor Board (PWB-R1)</li> <li>• Printer Main Engine Board (PWB-A)</li> </ul>	Exposure may be improper. Replace the printhead unit. Replace the listed parts in the order given as necessary.
5	<ul style="list-style-type: none"> <li>• Imaging Transfer Roller</li> <li>• High Voltage Power Supply (HV1)</li> <li>• Fuser Frame Resistor Board (PWB-R)</li> <li>• Printer Main Engine Board (PWB-A)</li> </ul>	Image transfer may be poor. Replace the listed parts in the order given as necessary.

## Image Space Table

The following table lists the parts that have a circumference measurement that repeats a defect at given space intervals.

49.6 mm	Sleeve Roller	Imaging/PC Cartridge
94 mm	PC Drum	
50 mm	Image Transfer Roller	Image Transfer Roller
62.8 mm	Upper Fuser Roller	Fuser Unit
93.5 mm	Lower Fuser Roller	

If the defect is not repetitive, the image cartridge/PC (IC) may be defective. If this does not resolve the problem, replace the high-voltage power supply (HV1). See **“High Voltage Unit (HV1) Removal”** on page 4-37.

## Paper Feed Service Checks

### Paper Feed Pickup Tray 1 (250-Sheet) Service Check

	FRU	Action
1	Gears	Ensure the main transport motor (M2) transmits power to the paper cassettes. Ensure the drive gears are not damaged. Replace any damaged or defective parts.
2	<ul style="list-style-type: none"> <li>• Paper Take-Up Solenoid (SL1)</li> <li>• Printer Main Engine Board (PWB-A)</li> </ul>	Ensure the 1st cassette paper take-up solenoid energizes. Check the solenoid for continuity and replace if bad. If the solenoid is good, but does not turn on, ensure connector PJ13 is plugged into the printer main engine board (PWB-A). If PJ13 is plugged in correctly and the solenoid still doesn't work, replace the printer main engine board (PWB-A).
3	Paper Take-Up roller	Ensure the paper take-up roller is not damaged and replace if necessary.
4	Paper Separator Pad	Ensure the separator pad prevents a second sheet from being fed. Replace if damaged.

### Paper Feed Pickup Tray 2&3 (500-Sheet) Service Check

	FRU	Action
1	Gears	Ensure the main transport motor (M2) transmits power to the paper cassettes. Ensure the drive gears are not damaged. Replace any damaged or defective parts.
2	<ul style="list-style-type: none"> <li>• Paper Transport Clutch (CL2)</li> <li>• Printer Main Engine Board (PWB-A)</li> </ul>	Ensure the paper transport clutch (CL2) turns on. Replace if damaged or defective. If clutch (CL2) is good, ensure connectors are plugged in. If this does not fix the problem, replace the printer main engine board (PWB-A).

	FRU	Action
3	<ul style="list-style-type: none"> <li>• 2nd Cassette Take-up Solenoid (SL21)</li> <li>• Printer Main Engine Board (PWB-A)</li> </ul>	Ensure the 2nd cassette take-up solenoid (SL21) turns on. Replace if damaged or defective. If SL21 is good, ensure connectors are properly plugged in. If SL21 does not turn on, replace the printer main engine board (PWB-A).
4	<ul style="list-style-type: none"> <li>• 2nd Cassette Take-up Roller</li> <li>• 2nd Cassette Transport Roller</li> </ul>	Ensure the 2nd cassette take-up and transport rollers are not damaged and that they turn. Replace any damaged or worn parts.

## Paper Feed Synchronizing Roll/Registration Service Check

	FRU	Action
1	Transport Rollers	Ensure paper is picked up normally. Ensure the transport rollers are not damaged. Replace as necessary.
2	<ul style="list-style-type: none"> <li>• Synchronizing Clutch (CL1)</li> <li>• Printer Main Engine Board (PWB-A)</li> </ul>	Ensure the synchronizing clutch (CL1) is turned on and paper is fed through the synchronizing roller. If the synchronizing clutch (CL1) is not turned on, check for damage and replace as necessary. If replacing the clutch does not resolve the problem, check connectors for proper connection. Replace the main printer engine board (PWB-A) if necessary.
3	Synchronizing Roller	Check for damage to the synchronizing roller. Replace if necessary.

## Paper Feed Fuser/Exit Service Check

	FRU	Action
1	Transport Motor (M2)	Ensure the gear and motor is not damaged. Replace if necessary.
2	Fuser Unit	Check the fuser for damage to the gear, bearings, upper and lower fusing rollers or detack fingers. Clean or replace as necessary.  <b>Note:</b> This is a customer consumable. Replace if warranty usage is not reached.
3	<ul style="list-style-type: none"> <li>• Gears</li> <li>• Exit Roller</li> </ul>	Ensure the gear train and exit roller are not damaged. Replace as necessary.
4	<ul style="list-style-type: none"> <li>• Fuser Frame Resistor Board (PWB-R1)</li> <li>• Main Printer Engine Board (PWB-A)</li> </ul>	Replace the listed parts in the given order as necessary.

## Paper Feed In Duplex Service Check

	FRU	Action
1	Paper Exit Roller Idler Lever	Ensure the idler lever and gear are not damaged. Replace if necessary.
2	Paper Duplex Lever	Ensure the duplex lever is not damaged. Replace if necessary.
3	Paper Switchback Motor (M1)	Ensure the gear and switchback motor (M1) are not damaged. Replace as necessary.
4	Duplex Transport Rollers 1 and 2	Check duplex transport rollers 1 and 2. Replace if damaged.

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	<b>FRU</b>	<b>Action</b>
5	Duplex Transport Motor 2 (M2)	Ensure the gear and duplex transport motor 2 are not damaged. Replace as necessary.
6	Manual Feed Paper Take-Up Clutch (CL3)	Ensure the manual feed paper take-up clutch is working. Replace if necessary.

## Paper Feed In Horizontal Transport Service Check

	FRU	Action
1	Paper Entrance Switching Solenoid (SL1)	Ensure the switching solenoid is turning on in single sheet mode, off in duplex mode, and that it is not damaged. Replace as necessary.
2	Transport Entrance Roller	Check for damage to the transport entrance roller. Replace if necessary.
3	Horizontal Transport Roller	Check for damage to the horizontal transport roller. Replace if necessary.
4	Storage Unit Transport Motor (M1)	Ensure gear and motor (M1) are not damaged. Replace if necessary.

## Paper Feed Mailbox Service Check

	FRU	Action
1	Transport Motor (M1)	Check for damage to gears and transport motor (M1). Replace if necessary.
2	Timing Belt	Check for broken or damaged timing belts. Replace as necessary.
3	Entrance Roller	Check entrance roller for damage. Replace as necessary.
4	<ul style="list-style-type: none"> <li>• 1st Bin Switch Solenoid Bin1 (SL1)</li> <li>• Deflector Solenoid Assembly Bin 2–5 (SL2)</li> <li>Bin 6–9 (SL3)</li> <li>• Mailbox Mainboard (PWBA)</li> </ul>	Ensure appropriate solenoid turns on to direct paper to bin 1, bin 2–5, or bin 6–9. Replace solenoid if necessary. Replace mailbox mainboard if necessary.



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	<b>FRU</b>	<b>Action</b>
5	<ul style="list-style-type: none"><li>• 1st Bin Deflector</li><li>• Bin 2–9 Deflector</li></ul>	Check deflector for damage. Replace if damaged.
6	Vertical Transport Roller	Check vertical transport roller for damage. Replace if damaged.
7	Exit Roller	Check exit roller for damage. Replace if damaged.

## Paper Feed Finisher Service Check

	FRU	Action
1	Transport Motor (M1)	Check for motor and gear damage. Replace as necessary.
2	Entrance Roll	Check entrance roll for wear or damage. Replace if necessary.
3	<ul style="list-style-type: none"> <li>• Transport Roller</li> <li>• Transport Roll</li> </ul>	Check transport roller and roll for wear or damage. Replace if necessary.
4	<ul style="list-style-type: none"> <li>• Upper Entrance Switching Plate</li> <li>• Lower Entrance Switching Plate</li> <li>• Upper Exit Motor (M2)</li> </ul>	Check upper entrance switching plate, lower entrance switching plate, upper exit motor (M2) for wear or damage. Replace if necessary.
5	<ul style="list-style-type: none"> <li>• 1st Tray Exit Roller</li> <li>• 1st Tray Exit Roll</li> <li>• Finisher Tray Exit Roller</li> <li>• Finisher Tray Exit Roll</li> </ul>	Check rollers and rolls for wear or damage. Replace if necessary.

## Paper Feed LCC (2500-Sheet Tray 4) Service Check

	FRU	Action
<b>Note:</b> With lift 1 paper present.		
1	<ul style="list-style-type: none"> <li>• Paper Take-Up Clutch 1 (P1CL)</li> <li>• Paper Take-Up Roll 1</li> <li>• LCC Transport Motor (HMOT)</li> </ul>	Ensure paper take-up clutch 1 turns on when paper is in lift 1. Replace if necessary. Ensure paper take-up roll 1 is not worn or damaged. Replace if necessary. Replace the transport motor (HMOT) if necessary.
<b>Note:</b> With lift 2 paper present, lift 1 empty.		
1	<ul style="list-style-type: none"> <li>• Paper Take-Up Clutch 2 (P2CL)</li> <li>• Paper Take-Up Roll 2</li> <li>• LCC Transport Motor</li> </ul>	Ensure paper take-up clutch 2 turns on when paper is in lift 2. Replace if necessary. Ensure paper take-up roll 2 is not worn or damaged. Replace if necessary. Replace the transport motor (HMOT) if necessary.
2	<ul style="list-style-type: none"> <li>• Paper Feed Roll</li> </ul>	Ensure the paper feed roll is not worn or damaged. Replace as necessary.
3	<ul style="list-style-type: none"> <li>• Separation Clutch (BCL)</li> <li>• Separator Roll</li> </ul>	Ensure the clutch (BCL) turns on and the separator roll is not worn or damaged. Replace as necessary.
4	<ul style="list-style-type: none"> <li>• Vertical Transport Roll</li> </ul>	Ensure the vertical transport roll is not worn or damaged. Replace if necessary.

## Paper Feed Hole Punch Service Check

	FRU	Action
<p><b>Note:</b> With paper entering the finisher from the horizontal transport roller, check the following for hole punch paper feed.</p>		
1	<ul style="list-style-type: none"> <li>• Transport Motor M1</li> <li>• Entrance Roller</li> </ul>	Check gear at finisher transport motor M1. Check entrance roller for wear or damage. Replace as necessary.
2	Upper Exit Motor	Ensure that the upper exit motor pulls paper into the punch assembly and stops while transport roll continues to turn. Replace parts as necessary.
3	Hole Punch Assembly	Ensure that the electromagnetic clutch in the hole punch assembly moves the punch rods to cut holes. Ensure the hole punch box is empty and push any tamped punch holes out of punch. Replace the hole punch assembly if damaged.
4	Transport Roller	Ensure that the upper exit motor turns the belt that rotates the transport roller. Check the belt and roller for damage. Replace as necessary.

## Finisher Service Checks

### Finisher Power Service Check

	FRU	Action
1	Finisher Set Switch S6	Ensure printer is ON and the interconnect cables are plugged in and not damaged. Ensure the finisher interlock set switch (S6) is activated and has continuity. Replace if necessary.
2	Fuse (F1)	Check fuse (F1) on the finisher main board (PWB-A). Replace if necessary.
3	<ul style="list-style-type: none"> <li>• Printer/Finisher Connecting Cable</li> <li>• Printer Power Supply Unit (PU1)</li> <li>• Printer Main Engine Board (PWB-A)</li> </ul>	Check for the following voltages (approximate) on the finisher main board PWB-A. Check for +24 Vdc on connector PJ1A between pin 3 and pin 4 (ground). If voltage is not present, check the connectors and cable to the printer power supply unit (PU1). Replace as necessary. Check for +5 Vdc on connector PJ5A between pin 1 and ground and pin 3 and ground. If voltage is not present, check the connector on the printer main engine board (PWB-A). Replace the printer main engine board PWB-A if necessary. If voltages are correct on PJ1 and PJ5A located on the finisher main board (PWB-A) and the finisher does not POR, replace the finisher main board PWB-A.

### Finisher Elevator Tray Service Check (993)

	FRU	Action
1	<ul style="list-style-type: none"> <li>• Upper Sensor PC8</li> <li>• Lower Sensor PC12</li> </ul>	Indicates an elevator tray malfunction. Check the elevator tray upper sensor PC8 and elevator tray retract sensor PC12.
2	<ul style="list-style-type: none"> <li>• Gears</li> <li>• Lift Wire</li> <li>• Elevator Tray Motor (M9)</li> <li>• PWB-H Finisher</li> </ul>	<p>Check for damaged gears or lift wire. Replace as necessary. If problem persists, replace the following parts in the order given:</p> <p>Elevator motor (M9)</p> <p>PWB-A main finisher board</p>

**Finisher Tray Drive Service Check (994)**

	<b>FRU</b>	<b>Action</b>
1	Finisher tray	You may have a finisher tray drive problem. Check the finisher tray for damage or binds. Replace if necessary.
2	Finisher Tray Home Sensor PC2	Check the finisher tray home sensor (PC2) for operation. Replace if defective.
3	<ul style="list-style-type: none"> <li>• Finisher Tray Motor Belt</li> <li>• Finisher Tray Motor (M8)</li> <li>• Finisher Main Board PWB-A</li> </ul>	The finisher tray motor belt may be broken. Replace if damaged. Ensure connectors are plugged in. The finisher tray motor may be defective. Replace if it fails to turn. If problem persists, replace the finisher main board PWB-A.

**Finisher Shift Plate Drive Service Check (995)**

	<b>FRU</b>	<b>Action</b>
1	<ul style="list-style-type: none"> <li>• Shift Plate</li> <li>• Gears</li> <li>• Belt</li> </ul>	The shift plate may be damaged. Check for binds or damaged gears. The drive belt may be broken. Replace as necessary.
2	Shift Plate Sensor (PC6)	The shift plate sensor PC6 may be defective. Replace if necessary.
3	Shift Plate Motor (M5)	The shift plate motor (M5) may be defective. If the motor fails to start during POR replace it.
4	Finisher Main Board PWB-A	If the motor turns during POR, replace the finisher main board PWB-A.

**Finisher Paper Aligning Service Check (996)**

	<b>FRU</b>	<b>Action</b>
1	CD Aligning Home Sensor (PC5)	You may have a paper aligning failure. Check the CD aligning home sensor (PC5), replace if defective.

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	<b>FRU</b>	<b>Action</b>
2	<ul style="list-style-type: none"><li>• Aligning Stops</li><li>• Gears</li><li>• Belt</li></ul>	Check and replace any damaged parts.
3	CD Aligning Motor (M4)	Ensure all connectors are plugged in. Replace the motor if it fails to turn during POR.
4	Finisher Main Board PWB-A	If problem persists, replace the finisher main board PWB-A.

**Finisher Stapler Drive Service Check (997)**

	<b>FRU</b>	<b>Action</b>
1	Gears Rubber Paddle Paddle Motor (M6) Finisher Main Board PWB-A	Ensure all connectors are plugged in. If the paddle motor does not turn during POR, check for binds and gear damage. Ensure the rubber paddle is not damaged. If the paddle motor still does not turn during POR, replace it. If problem persists, replace finisher main board PWB-A.
2	Stapler Unit	If the stapler does not energize, check for jammed staples or binds. Replace parts as necessary. Replace staple unit.

**Finisher Paper Holding Tray Drive Service Check (998)**

	<b>FRU</b>	<b>Action</b>
1	Paper Hold Tray Home Sensor (PC9)	Check the paper holding tray home sensor operation. Replace if necessary.
2	Paper Holding Tray Belt Guides	Ensure the trays, drive belt and guides are not damaged. Replace if necessary.
3	Paper Holding Motor (M10)	Ensure all connectors are plugged in. Replace the motor if it does not turn when the printer is turned on and POR is started.
4	Finisher Main Board PWB-A	If problem persists, replace the finisher main board PWB-A.



**Finisher Upper Entrance Service Check**

	<b>FRU</b>	<b>Action</b>
1	<ul style="list-style-type: none"><li>• Upper Entrance Switching Solenoid (SL1)</li><li>• Upper Switching Plate</li><li>• Finisher Main Board PWB-A</li></ul>	<p>Paper entrance switch mechanism fails to operate correctly.</p> <ul style="list-style-type: none"><li>• Check the upper entrance switching solenoid SL1.</li><li>• Check the path of the paper through the upper entrance switching plate.</li><li>• If problem persists, replace the finisher main board PWB-A.</li></ul>

## Mailbox Service Checks

### Mailbox Power Service Check

	FRU	Action
1	<ul style="list-style-type: none"> <li>• Mailbin Set Switch (Interlock, S1)</li> <li>• Fuse (F1)</li> </ul>	Ensure printer is ON and the interconnect cables are plugged in. Ensure the mailbox interlock mailbin set switch (S1) is activated. Check mailbin set switch for continuity if necessary. Replace if defective. Check fuse (S1) on the mailbox main board PWB-A. Replace if necessary.
2	<ul style="list-style-type: none"> <li>• Main Printer Power Supply (PU1)</li> <li>• Printer Main Engine Board PWB-A</li> <li>• Mailbox Main Board PWB-A</li> </ul>	Check for the following voltages (approximate) on the mailbox main board PWB-A. +24 Vdc on connector PJ1, pin 1 to ground. If no voltage is present, check the main printer power supply (PU1) connectors. Replace the main printer power supply if necessary. Check for +5 Vdc on connector PJ2 pin 1 to ground and pin 3 to ground. If voltage is not present, check the connectors on the main printer engine board PWB-A. If voltage is not present, check the connectors and replace the main engine board PWB-A if necessary. If voltages are correct on PJ1 and PJ2 located on mailbox main board PWB-A and the mailbox does not POR, replace the mailbox main board PWB-A.

## Mailbox Bin 1–10 Service Check

	FRU	Action
1	<ul style="list-style-type: none"> <li>Mailbox Switching Solenoids</li> <li>1st Bin Switching Solenoid (SL1)</li> <li>Deflector Solenoid Assembly 1 Bin 2–5 (SL2)</li> </ul>	<p>Ensure that all bin solenoids work correctly. Both the Advanced Diagnostic Aids Menu (“<b>Feed To All Bins Test</b>” on page 3-14) and the “<b>Mailbox Internal Diagnostic Test</b>” on page 3-26 activate the solenoids. Replace solenoids as necessary.</p>
2	<ul style="list-style-type: none"> <li>Deflector Solenoid Assembly 2 Bins 6–9</li> <li>Bin Deflector</li> <li>Mailbox Main Board PWB-A</li> </ul>	<p>Check bin deflector, replace if damaged. Refer to the following for solenoids and sensors tests:</p> <ul style="list-style-type: none"> <li>Advanced Diagnostic Aids Menu (“<b>Output Bin Feed Test</b>” on page 3-13 and “<b>Mailbox Sensor Tests</b>” on page 3-18).</li> <li>“<b>Mailbox Internal Diagnostic Test</b>” on page 3-26.</li> </ul>

## Mailbox Transport Drive Service Check (935)

	FRU	Action
1	<ul style="list-style-type: none"> <li>Drive Belts</li> <li>Drive Gears</li> <li>Emitter Wheel/Sensor</li> <li>Transport Motor (M1)</li> </ul>	<p>Ensure the connectors are plugged in. Check the transport drive belts and gears for damage and binds. Go to the “<b>Mailbox Internal Diagnostic Test</b>” on page 3-26 to check the emitter wheel sensor.</p>
2	<ul style="list-style-type: none"> <li>Transport Motor (M1)</li> <li>Mailbox Main Board</li> </ul>	<p>Check the motor for binds or damage. The motor should start running during POR and stop in standby. Replace transport motor M1 if necessary. If problem persists, replace mailbox main board PWB-A.</p>

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## 3. Diagnostic Aids

### Operator Menu Disabled

If the operator has disabled the menu and you want to run operator print tests, turn the machine off, and then press **Go** and **Stop** as you turn the machine on.

### Diagnostics Mode

To run the printer diagnostic tests, you must put the printer in Diagnostics mode. The controller card must be plugged into the system board (normal state).

To enter Diagnostics mode:

1. Turn the printer off.
2. Press and hold the Go and Return buttons as you turn on the machine. The printer performs the Power-On Self Test.
3. Release the buttons when [Performing Self Test] displays.
4. Select [Reset Printer] to exit Diagnostics mode without a POR.
5. Press EXIT DIAGNOSTICS to exit Diagnostics mode and POR the printer.

### Diagnostics Mode Menu Structure

The following is the Diagnostics mode menu structure, The indented items are sub-menus available under the main menu items, which are in capital letters on the operator panel. Menu items referring to options are only present if those options are installed. Menus with more than four items use [MORE] on the fourth operator panel button to access the next screen of selections.

#### PRINT TESTS

- Tray 1
- Tray 2
- Tray 3
- Tray 4
- Prt Quality Pgs

## **HARDWARE TESTS**

- LCD Test
- Button Test
- DRAM Memory Test
- ROM Memory Test
- Parallel Wrap
- Parallel 1 Wrap (if available)
- Parallel 2 Wrap (if available)
- Parallel 3 Wrap (if available)
- Serial Wrap (if available)
- Serial 1 Wrap (if available)
- Serial 2 Wrap (if available)
- Serial 3 Wrap (if available)

## **DUPLEX TESTS**

- Quick Test
- Top Margin

## **INPUT TRAY TESTS**

- Feed Test

## **OUTPUT BIN TESTS**

- Feed Test
- Feed To All Bins

## **FINISHER TESTS**

- Staple Test

## **BASE SENSOR TEST**

- Engine
- LCC
- Finisher
- Mailbox

**PRINTER SETUP**

Quick Disk Test  
Disk Test/Clean  
Flash Test  
Defaults  
Page Count  
Perm Page Count  
View Tray Count  
Reset Tray Count  
Serial Number  
Configuration ID  
Edge to Edge  
Par S Strobe Adj  
Par 1 Strobe Adj  
Par 2 Strobe Adj  
Par 3 Strobe Adj  
Loop Adjustment

**ERROR LOG**

Display Log  
Clear Log

**EXIT DIAGNOSTICS**

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## Diagnostics Mode Tests

### Printing Menu Settings Page

To print the menus page:

1. Enter the Diagnostic mode. See **“Diagnostics Mode” on page 3-1**.
2. Select print menus from the Utilities menu.
  - The printer automatically exits the operator panel menus and prints the menus page. The Printing Menu Settings message displays and the power indicator blinks while the page is formatted and printed.

### Quick Test Printing

The printer attempts to print the quick test page from the paper source for which the registration adjustments are currently being made. The page consists of alignment diamonds, horizontal lines used for skew adjustment, the page count setting, printer serial number, code levels, and print registration settings. The power indicator also blinks while the page is printing. When the quick test has successfully printed, the panel returns to the prior level of the menu.

## Diagnostics—Print Tests

### Input Source Print Tests

The diagnostic input source print tests may be used to verify that the printer can print on media from each of the installed print sources. Each of the installed sources is available as a selectable option within the print tests menu. For each source, the user has two choices.

1. Enter the Diagnostic mode. See **“Diagnostics Mode” on page 3-1**.
2. Select [PRINT TESTS].
3. Select input source you want.
4. Select [Single] or [Continuous].
  - The following message displays while printing:



<input source>  
Printing...

**Note:** <input source> represents the input source selected for the print test. One of the following sources displays: Tray 1, Tray 2, Tray 3, Tray 4, Tray 5, or MP Feeder.

5. Press Return or Stop to stop continuous print.
6. Press Return to go back to Diagnostics mode main menu.

**Note:** The print test page is a single page regardless of the duplex setting or the presence of the duplex unit.

## Print Quality Pages

1. Enter the Diagnostic mode. See **“Diagnostics Mode” on page 3-1**.
2. Select [PRINT TESTS].
3. Select [Prt Quality Pgs].
  - The following message displays while printing:  
Prt Quality Pgs  
Printing...
4. Press Return to go back to Diagnostics mode main menu.

## Hardware Tests

### LCD Hardware Test

1. Enter the Diagnostic mode. See **“Diagnostics Mode” on page 3-1**.
2. Select [HARDWARE TESTS].
3. Select [LCD Test].
  - The LCD test continually executes the LCD display test.
4. Press Return/Stop to cancel the test.

## Button Test

1. Enter the Diagnostic mode. See “Diagnostics Mode” on page 3-1.
2. Select [HARDWARE TESTS].
3. Select [Button Test].
  - With no buttons pressed several OP (Open) appear on the display.
4. Press each button one at a time and a CL (Closed) displays in place of an OP. The proper operation of each button can be checked.
5. Press Return/Stop to cancel the test.

## DRAM Memory Test

The purpose of this test is to check the validity of DRAM, both standard and optional. The test writes patterns of data to DRAM to verify that each bit in memory can be set and read correctly.

1. Enter the Diagnostic mode. See “Diagnostics Mode” on page 3-1.
2. Select [HARDWARE TESTS].
3. Select [DRAM Memory Test].
  - The power indicator blinks indicating the test is in progress.
4. Press Return/Stop to exit the test.

P:##### represents the number of times the memory test has passed and finished successfully. Initially 000000 displays with the maximum pass count being 999,999.

F:##### represents the number of times the memory test has failed and finished with errors. Initially 000000 displays with the maximum fail count being 99,999.

Once the maximum pass count or fail count is reached, the test is stopped, the power indicator is turned on solid, and the final results display. If the test fails, the message DRAM Error, displays for approximately 3 seconds and the failure count increases by 1.

## ROM Memory Test

The ROM Memory Test is used to check the validity of the RIP code and fonts.

1. Enter the Diagnostic mode. See “Diagnostics Mode” on page 3-1.
2. Select [HARDWARE TESTS].
3. Select [ROM Memory Test]. P and F represent the same numbers for DRAM.
  - The power indicator blinks indicating the test is in process. The test runs continuously.
4. Press Return/Stop to exit the test.

Each time the test finishes, the screen updates with the result. If the test passes, the Pass Count increases by 1, however if the test fails, one of the following messages displays for approximately 3 seconds:

ROM Checksum Error  
ROM Burst Read Error

Once the maximum pass count or fail count is reached, the test stops with the power indicator on solid. The final results display.

## Parallel Wrap Test

This test is used with a wrap plug to check operation of the parallel port hardware. Each parallel signal is tested.

1. Disconnect the parallel interface cable and install the wrap plug (P/N 1319128).
2. Enter the Diagnostic mode. See “Diagnostics Mode” on page 3-1.
3. Select [HARDWARE TESTS].
4. Select the [Parallel Wrap Test].
  - The power indicator blinks indicating the test is in progress. The test runs continuously until canceled.

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Each time the test finishes, the screen updates. If the test passes, the Pass Count increases by 1, however if the test fails, one of the following messages displays for approximately 3 seconds:

- Sync Busy Error
- Byte Interrupt Request Error
- Strobe Interrupt Request Error
- Init Fail Error
- Init Busy Error
- Init Rise Error
- Host Busy Error
- RAM Data FF Error
- RAM Data AA Error
- RAM Data 00 Error
- RAM Data 55 Error
- DMA Count Error
- DMA Address Error
- DMA Interrupt Error
- DMA Memory Error
- DMA Background Error
- Clear Init Rise Error
- False Init Rise Error
- Autofeed Rising Interrupt Error
- Clear Autofeed Rise Error
- False Autofeed Rise Error
- Autofeed Falling Interrupt Error
- Clear Autofeed Fall Error

Once the maximum count is reached the test stops. The power indicator goes on solid and the final results display.

5. Press Return/Stop to exit the test.

## Serial Wrap Tests

This test is used to check the operation of the Serial Port Hardware using a wrap plug. Each signal is tested.

1. Disconnect the serial interface cable and install the wrap plug.
2. Enter the Diagnostic mode. See [“Diagnostics Mode” on page 3-1](#).
3. Select [HARDWARE TESTS].
4. Select the appropriate Serial Wrap Test: [Serial Wrap], [Serial 1 Wrap], [Serial 2 Wrap] or [Serial 3 Wrap]. P & F represent the same numbers for DRAM.
  - The power indicator blinks indicating the test is running.
5. This test runs continuously unless canceled by pressing Return/ Stop.

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Each time the test finishes, the screen updates with the result. If the test passes, the Pass Count increases by 1, however if the test fails, one of the following failure messages displays for approximately 3 seconds and the Fail Count increases by 1:

- Receive Status Interrupt Error
- Status Error
- Receive Data Interrupt Error
- Transmit Data Interrupt Error
- Transmit Empty Error
- Threshold Error
- Receive Data Ready Error
- Break Interrupt Error
- Framing Error
- Parity Error
- Overrun Error
- Data Error
- Data 232 Error
- Data 422 Error
- FIFO Error
- DSR Error
- DSR PIO Error
- DSR Interrupt Error
- CTS Error
- CTS PIO Error
- CTS Interrupt Error

Once the maximum count is reached the test stops. The power indicator goes on solid and the final results display.

6. Press Return/Stop to exit the test.

## Duplex Tests

### Duplex Quick Test

The Duplex Quick Test is used to verify that the duplex Top Margin is set correctly. This test prints a duplex version of the Quick Test page that can be used to adjust the Top Margin for the backside of the page.

1. Enter the Diagnostic mode. See “**Diagnostics Mode**” on [page 3-1](#).
2. Select [DUPLEX TESTS].
3. Select [Quick Test].
4. Select [Single] or [Continuous].
  - The following message displays while printing:  
Quick Test  
Printing...
5. Press Return or Stop to stop continuous print.
6. Press Return to go back to Diagnostics mode main menu.

You have the option of printing one duplex page (Single) or continuously printing duplex 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 displays. The power indicator also blinks while the page is printing.

Quick Test  
Printing...

## Input Tray Tests

### Input Tray Feed Test

Manufacturing line and service engineers use the Feed Test operation within the input tray tests to observe the paper path as media feeds through the printer.

**Note:** The upper front door (used to access the print cartridge) cannot be opened during the feed test. No information is printed on the feed test pages since the laser isn't engaged during this test.

1. Enter the Diagnostic mode. See **“Diagnostics Mode” on page 3-1**.
2. Select [INPUT TRAY TESTS].
3. Select [Feed Test].
4. Open the lower front door to observe the paper path as media is being fed through the printer.
5. Select input source:[Tray1], [Tray2], [Tray3], or [Tray4].
6. Select [Single] or [Continuous].
  - The following message displays and the power indicator blinks:  
<input tray>  
Feeding...

where <input tray> represents the input source selected for the feed test.

7. Press Return or Stop to stop continuous print.
  - The following message displays:  
<input tray>  
Cancelling...
8. Press Return to go back to Diagnostics mode main menu.



## Output Bin Tests

### Output Bin Feed Test

The Feed Test operation within the output bin tests menu verifies that media can be fed to a specific output bin.

**Note:** No information is printed on the test pages since the laser isn't engaged during the test.

1. Enter the Diagnostic mode. See **“Diagnostics Mode”** on [page 3-1](#).
2. Select [OUTPUT BIN TESTS].
3. Select [Feed Test].
4. Select output bin:[Standard Bin], [Output Bin 1]...[Output Bin 10].
5. Select [Single] or [Continuous].
  - The following message displays and the power indicator blinks:  
<output bin>  
Feeding...

where <output bin> represents the output bin selected for the feed test.

6. Press Return or Stop to stop continuous print.
  - The following message displays:  
<input tray>  
Cancelling...
7. Press Return to go back to Diagnostics mode main menu.

## Feed To All Bins Test

The Feed To All Bins operation within the output bin tests menu verifies that media can be fed to all the output destinations on the finisher as well as the printer standard bin. After this test is selected, media is fed from the user default paper source. The first piece of media is fed to Bin 1. A second piece is fed to Bin 2, and so on until the last bin is reached. Then the sequence is repeated in reverse. This cycle is repeated continuously until you stop the test.

**Note:** No information is printed on the test pages since the laser isn't engaged during the test. Some output bins cannot accept all paper sizes. If the printer's user default paper source has unsupported media installed, the printer automatically diverts all output to Bin 1. No warning or message is posted when media is diverted.

1. Enter the Diagnostic mode. See **“Diagnostics Mode” on page 3-1**.
2. Select [OUTPUT BIN TESTS].
3. Select [Feed To All Bins].
  - The following message displays and the power indicator blinks:  
All Bin Test  
Feeding...
4. Press Return or Stop to stop the test.
  - The following message displays:  
All Bin Testing  
Cancelling...
5. Press Return to go back to Diagnostics mode main menu.

## Finisher Tests

### Staple Test

**Note:** No information is printed on the test pages that are stapled since the laser isn't engaged during the test. The finisher cannot accept all paper sizes and types. If the printer's user default paper source has unsupported media installed, the printer automatically diverts all output to Bin 1 on either the mailbox or the finisher and no stapling occurs. No warning or message is posted when media is diverted. The staple test cannot be cancelled or terminated when

execution of the test has begun. As a result, no buttons are active during the execution of this test.

1. Enter the Diagnostic mode. See **“Diagnostics Mode” on page 3-1**.
2. Select [FINISHER TESTS].
3. Select [Staple Test].
4. Select a bin destination for the stapled packet.
  - The printer feeds eight pieces of media and accumulates all eight pieces in the finisher accumulator. After the last sheet is accumulated, the packet is stapled and fed to the designated bin.
  - The following message displays and the power indicator blinks during testing:  
Staple Test  
Feeding...
5. When the test ends, the printer returns to the original screen.

## **Base Printer Sensor Tests**

The base sensor test is used to determine whether or not the sensors located inside the printer are working correctly. All sensor tests are contained under the same menu and they are separated into the following groups:

- Engine/Printer
- LCC/2500-Sheet Optional Paper Drawer
- Finisher
- Mailbox

Each of these categories can be selected as a sub-menu of the BASE SENSOR TEST menu in diagnostics. When selected, a binary value displays on the panel. Each bit of that binary value represents a sensor. A zero-valued bit indicates that particular sensor is closed, while a one-valued bit indicates that particular sensor is open. When checking to see if a sensor is working correctly, look for a digit change on the display as each sensor is individually activated.

## Engine Sensor Tests

1. Enter the Diagnostic mode. See “Diagnostics Mode” on page 3-1.
2. Select [BASE SENSOR TEST].
3. Select [Engine].
  - The following message displays:
  - Engine  
010001001

The binary number above contains nine bits. Starting from the left-most bit, those nine bits correspond to the following sensors:

1. Paper Exit
2. Sync Roller
3. Take-up 4
4. Take-up 3
5. Take-up 2
6. MP Paper Pos
7. Duplex Paper
8. Manual Take-up
9. Bin 0 Full

**Note:** In the example above, the Sync Roller, MP Paper Pos, and Bin 0 Full sensors are all open, and the rest are closed.

## LCC Sensor Tests

1. Enter the Diagnostic mode. See “Diagnostics Mode” on page 3-1.
2. Select [BASE SENSOR TEST].
3. Select [LCC].
  - The following message displays:
  - LCC  
0001001

The binary number above contains seven bits. Starting from the left-most bit, those seven bits correspond to the following sensors:

1. Paper Empty 2
2. Paper Empty 1
3. LCC Take-up

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4. Paper Standby
5. Registration
6. Lift-up 2
7. Lift-up 1

**Note:** In the example above, the Paper Standby and the Lift-up 1 sensors are open, and the rest are closed.

### Finisher Sensor Tests

1. Enter the Diagnostic mode. See [“Diagnostics Mode” on page 3-1](#).
2. Select [BASE SENSOR TEST].
3. Select [Finisher].
  - The following message displays:
  - Finisher 000111  
10001001100

The binary number above is split into two segments. The first segment (top line) contains six bits. Starting from the left-most bit, the six bits correspond to the following sensors:

1. Finisher Tray Exit
2. Tray 1 Exit
3. HTU Paper
4. Copy Set Detecting
5. HTU Switch Back

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The second segment (bottom line) contains twelve bits. Starting from the left-most bit, the twelve bits correspond to the following sensors:

1. Tray 1 Full
2. Tray 1 Empty
3. Stapler Home
4. Shift
5. CD Aligning Home
6. Finisher Tray Home
7. Elevator Upper
8. Elevator Lower
9. Elevator Retract
10. Self Priming
11. Paper Hold Retract
12. Paper Hold Home

### Mailbox Sensor Tests

1. Enter the Diagnostic mode. See [“Diagnostics Mode” on page 3-1](#).
2. Select [BASE SENSOR TEST].
3. Select [Mailbox].
  - The following message displays:
  - Mailbox 000111  
01101000100110

The binary number above is split into two segments. The first segment (top line) contains six bits. Starting from the left-most bit, the six bits correspond to the following sensors:

1. Bin 1 Empty
2. Bin 7 Empty
3. Bin 6 Empty
4. Bin 5 Empty
5. Bin 4 Empty

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The second segment (bottom line) contains fifteen bits. Starting from the left-most bit, the fifteen bits correspond to the following sensors:

1. Bin 3 Empty
2. Bin 2 Empty
3. Bin 3 Full
4. Bin 2 Full
5. Bin 1 Full
6. Bin 10 Empty
7. Bin 9 Empty
8. Bin 8 Empty
9. Bin 9 Full
10. Bin 8 Full
11. Bin 7 Full
12. Bin 6 Full
13. Bin 5 Full
14. Bin 4 Full
15. Bin 10 Full

## Device Tests

### Quick Disk Test

This test performs a non-destructive read/write on one block per track on the disk. The test reads one block on each track, saves the data, and proceeds to write and read four test patterns to the bytes in the block. If the block is good, the saved data is written back to the disk.

1. Enter the Diagnostic mode. See **“Diagnostics Mode” on page 3-1**.
2. Select [DEVICE TESTS].
3. Select [Quick Disk Test].
  - The power indicator blinks while the test is in progress.
  - “Quick Disk Test/Test Passed...” message displays if the test passes and the power indicator turns on solid.
  - “Quick Disk Test/Test Failed...” message displays if the test failed and the power indicator turns on solid.
4. Press Go, Return, or Stop to return to the Device Tests menu.

## Disk Test/Clean

**WARNING:** This test destroys all data on the disk and should not be attempted on a good disk. Also note that this test may run approximately 1 1/2 hours depending on the disk size.

1. Enter the Diagnostic mode. See **“Diagnostics Mode” on page 3-1**.
2. Select [DEVICE TESTS].
3. Select [Disk Test/Clean].
  - "Files will be Lost/Go or Stop?" message displays to warn the user that all contents on the disk will be lost.
4. To exit the test immediately and return to the Device Tests menu, press Return/Stop. To continue with the test, press Go.
  - If go is selected, "Disk Test/Clean/BAD:000000 00%" message displays. The screen updates periodically indicating the percentage of test completed and the number of bad blocks found.
5. The power indicator blinks during the test. The test can be canceled anytime during the test by pressing Return/Stop.
  - Once the test is complete, the power indicator turns on solid and a message displays.
  - "xxxx Bad Blocks/yyyyy Usable" message displays if fewer than 2000 bad blocks are detected. xxxx indicates the number of bad blocks and yyyyyy indicates the number of usable blocks.
  - "xxxx Bad Blocks/Replace Disk" message displays if more than 2000 bad blocks are detected. The disk cannot be recovered because too many bad blocks exist on the disk.
6. Press Go, Return, or Stop to return to the Device Tests menu.



## Flash Test

This test causes the file system to write and read data on the flash to test the flash.

**WARNING:** This test destroys all data on the flash because the flash is reformatted at the end of the test.

1. Enter the Diagnostic mode. See **“Diagnostics Mode” on page 3-1**.
2. Select [DEVICE TESTS].
3. Select [Flash Test].
  - The power indicator blinks while the test is running.
  - “Flash Test/Test Passed” message displays if the test passes and the power indicator turns on solid.
  - “Flash Test/Test Failed” message displays if the test fails and the power indicator turns on solid.
4. Press Go, Return, or Stop to return to the Device Tests menu.

## Printer Setup

### Setting the Page Count

1. Enter the Diagnostic mode. See **“Diagnostics Mode” on page 3-1**.
2. Select [PRINTER SETUP].
3. Select [Page Count].
  - The following message displays:
    - Page Count
    - =1234567\*
  - The left-most digit ('1' in this example) blinks, indicating it is the first digit to be changed.
4. Press Menu> or Menu< until the value you want displays.
5. Press Select to move to the next digit.
6. After entering the page count, move to after the final digit and press Select.

## Viewing the Permanent Page Count

**Note:** The permanent page count setting cannot be modified via the operator panel. Use the diagnostics menu to view the permanent page count.

1. Enter the Diagnostic mode. See **“Diagnostics Mode” on page 3-1**.
2. Select [PRINTER SETUP].
3. Select [Perm Page Count].
  - The following message displays:
  - Perm Page Count  
=1234567\*

## Viewing the Per-Tray Page Counters

The “View Tray Counters” menu contains a list of menus for each installed tray.

**Note:** Tray count cannot be modified from this menu.

1. Enter the Diagnostic mode. See **“Diagnostics Mode” on page 3-1**.
2. Select [PRINTER SETUP].
3. Select [View Tray Count].
4. Select tray in question.
  - The following message displays:
  - Tray X Count  
=1234567\*
5. Press Return to return to the View Tray Count menu.

## Resetting the Per-Tray Page Counters

The “Reset Tray Count” menu lets you reset the page count for a particular tray, or for all trays at once.

1. Enter the Diagnostic mode. See **“Diagnostics Mode” on page 3-1**.
2. Select [PRINTER SETUP].
3. Select [Reset Tray Count].
4. Select [Tray X] where X is the number of the tray (1 through 4).
  - The following message displays:

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- Resetting Tray X  
Page Counter
  - Menu returns to Reset Tray Count menu.
5. Select [All Trays]
- Resetting All
  - Tray Counters
  - Menu returns to Reset Tray Count menu.

**Note:** Pressing Return takes you back to the Reset Tray Count menu without resetting any tray counts.

### Setting Configuration ID

The configuration ID is used to communicate characteristics of certain areas of the printer that cannot be determined by the hardware sensors. Reset the configuration ID when the engine card is replaced.

1. Enter the Diagnostic mode. See **“Diagnostics Mode” on page 3-1**.
2. Select [PRINTER SETUP].
3. Select [Configuration ID].
  - The left-most digit blinks. The blinking indicates which digit is ready for editing.
  - The following message displays:
    - Configuration ID  
=123456\*
4. Press Menu> or Menu< until the value you want displays.
5. Press Select to move to the next digit.
6. After entering the page count, press Select and move to after the final digit and press Select.
  - Configuration ID is validated. Invalid ID–“Invalid ID” is momentarily displayed on Line 2 and ID is displayed. Valid ID–ID is stored in NVRAM and printer automatically PORs to activate the new setting.

**Note:** The printer PORs into normal mode (not diagnostics mode). If a configuration ID is not set:

- The panel posts “Check Config ID” message.

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- The Configuration ID is the only diagnostic function displayed when the diagnostics mode is entered. This remains true until a valid ID is entered.

### Setting the Printhead Loop Adjustment

1. Enter the Diagnostic mode. See **“Diagnostics Mode”** on [page 3-1](#).
2. Select [PRINTER SETUP].
3. Select [Loop Adjustment].
4. Select [Tray 1], [Tray 2-4], or [Duplex Feeder].
5. Set the selected input source to one of the following:

Setting Displayed on Panel	Engine Status Byte (with bit 0 masked)
=Small - 0.0 mm*	0x00
=Small - 1.0 mm	0x02
=Small - 1.9 mm	0x04
=Small - 2.9 mm	0x06
=Small - 3.8 mm	0x08
=Small - 4.8 mm	0x0A
=Big - 0.0 mm	0x40
=Big - 1.0 mm	0x42
=Big - 1.9 mm	0x44
=Big - 2.9 mm	0x46
=Big - 3.8 mm	0x48
=Big - 4.8 mm	0x4A

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- The following message displays and the menu returns to the previous level:
- Tray X  
SAVED

## Error Log

The error log provides a history of printer errors. The log contains the twelve most recent errors. The most recent displays in position 1. If an error occurs after the log is full, the oldest error in the log is discarded to make room for the new. All 2xx paper jam messages and 9xx service messages are stored in the error log.

### Viewing the Error Log

1. Enter the Diagnostic mode. See **“Diagnostics Mode” on page 3-1**.
2. Select [ERROR LOG].
3. Select [Display Log].
4. Press Menu> to move forward in the log.
5. Press Menu< to move backward in the log.
6. Press Return or Stop to exit the error log.

### Clearing the Error Log

1. Enter the Diagnostic mode. See **“Diagnostics Mode” on page 3-1**.
2. Select [ERROR LOG].
3. Select [Clear Log].
  - The following message displays:
  - Clear Log  
=Yes
4. Select Yes to confirm clearing of log.
  - The following message displays:
  - 1-000      2-000
  - 3-000      4-000
5. Select No or press Return or Stop to exit Clear Log menu.

## Defaults

Sets the following defaults to U.S. or Non U.S. values.

U.S.	NON U.S.
Letter size paper	A4 paper
Symbol Set Roman-8	Symbol Set PC-850

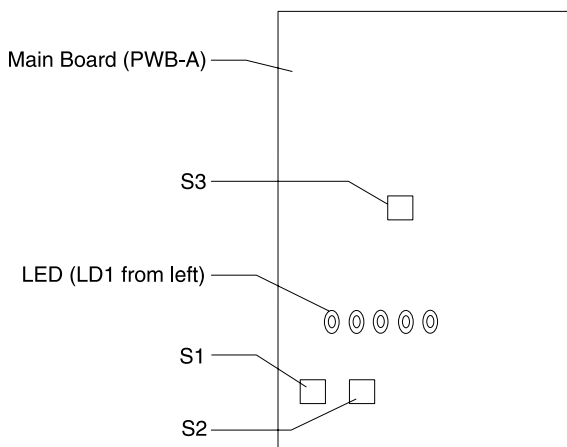
1. Enter Diagnostics mode.
2. Select [PRINTER SETUP].
3. Select [Defaults].
4. Select [U.S.] or [NON U.S.].
5. Press Return to return to the Diagnostics mode main menu.

## Mailbox Internal Diagnostic Test

In test mode, the 10-bin mail bin can be disconnected from the printer and checked alone. Five LEDs are provided on the main board (PWB-A) of the storage unit. Operation of electrical and mechanical components such as sensors, solenoids and motors can be checked by observing these LEDs.

### Preparation

Turn OFF the power to the printer, disconnect the storage unit from the printer, and then remove each cover from the storage unit, as described in [“Storage Unit Cover Removals” on page 4-91](#). The main board (PWB-A), shown below, is located behind the rear cover.



**Note:** Before starting test mode:

- Ensure that the storage unit is connected to the printer with the storage unit cable (12 pins). This provides power to the storage unit.
- Ensure that the storage unit is connected to the printer with the horizontal transport unit cable (28 pins). This provides signal transfer between the printer and the storage unit.

### Starting Test Mode

The starting method varies according to how power is turned ON. If the printer has not been powered ON, turn ON the power switch on the printer while holding down S1 on the main board (PWB-A). If the printer has already been powered ON, press S3 for an instant while holding down S1 on the main board (PWB-A).

### Exiting Test Mode

Press S3.

## Description of Each Test Mode

The following checks can be carried out in test mode.

Test Mode Name	LED Display (LED1 from left)	Check Contents
Initial Display Check	○ ○ ○ ○ ○ ○	Checks the model, installation of Storage Unit, Horizontal Transport Unit.
Sensor Input Check	○ ● ● ● ● ●	Checks operation of each sensor.
Printer Model Setting Check	● ○ ● ● ● ●	Checks printer model setting.
Initial Operation Check	○ ○ ● ● ● ●	Checks initial operation of the 10-Bin Mailbox.
Paper Size Input Check	● ● ○ ● ● ●	Checks paper size setting.
Sorting Check	○ ● ○ ● ● ●	Checks sorting operation.
Solenoid Check	● ○ ○ ● ● ●	Checks operation of each solenoid.
Paper Entrance Switching Check	○ ○ ○ ● ● ●	Checks the paper entrance switching mechanism.

○: ON, ○: Blinking, ●: OFF

Blinking intervals differ between non-test and test modes.

Non-test mode:1.0 sec.

Test mode:0.5 sec.

Each time S1 is pressed, the test mode switches to the next check. Pressing S1 during paper entrance switching check returns to the first test mode (initial display check).

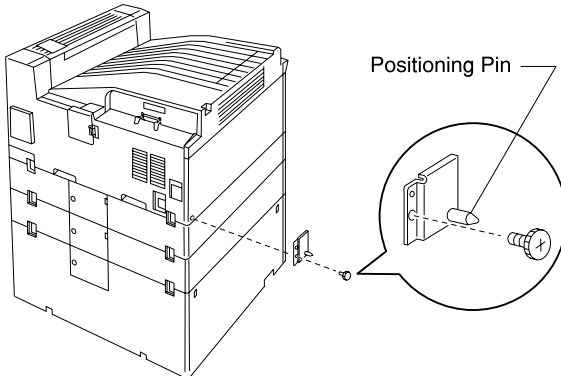


## Initial Display Check (○●○○○○○)

Initial display check mode activates when test mode starts. This test mode allows you to check whether the mail bin model is correct, and whether the storage unit and horizontal transport unit are connected to the printer properly. All the LEDs blink if there are no problems.

LED	Sensor & Switch	Code	LED State
1			○: 10-Bin Mailbox
2	Not used		
3	Sorter Set Switch	S1	○: Storage unit connected properly. ●: Storage unit not connected properly.
4	Horizontal Unit Door Sensor	PC4	○: Horizontal unit connected properly. ●: Horizontal unit not connected properly.
5	Not used		

The sorter set switch (S1) turns ON and LED3 blinks if the positioning pin on the printer is inserted into the hole on the storage unit properly.



## Sensor Input Check (○●●●●●)

This mode checks operation of each sensor. There are too many sensors to check at once. For this reason, they are put into groups of six. To shift from one group to another, press S2. Each time S2 is pressed, the group switches in the following order.

Mode Display ⇒ Group 1 ⇒ Group 2 ⇒ Group 3 ⇒ Group 4 ⇒  
Group 5 ⇒ Group 6 ⇒ Mode Display

### Group 1

LED	Sensor	Code	LED State
1	Paper Exit Sensor (Storage Unit)	PWB-C	○: Paper present ●: No paper
2	Horizontal Unit Paper Sensor (Horizontal Transport Unit)	PC1	○: Paper present ●: No paper
3	Not used		
4	Sorter Set Switch (Storage Unit)	S1	◎: Storage unit connected properly. ●: Storage unit not connected properly.
5	Horizontal Unit Door Sensor	PC4	◎: Horizontal unit connected properly. ●: Horizontal unit not connected properly.

## Group 2

LED	Sensor	Code	LED State
1	Transport Motor Pulse Detecting Switch	PC1	Blinks when the Transport Motor (M1) is rotated by hand.
2	Not used		
3	Non-Sort Tray Positioning Sensor (Horizontal Transport Unit)	PC2	○: Entrance of Horizontal Unit is in lower position. (Paper path: Non-sort tray)
4	Sort Bin Positioning Sensor (Horizontal Transport Unit)	PC3	○: Entrance of Horizontal Unit is in upper position. (Paper path: Horizontal Transport Unit)
5	Non-Sort Tray Paper Empty Sensor (Horizontal Transport Unit)	PWB-A PWB-B	○: No paper ●: Paper present

## Group 3 ○: No paper, ●: Paper present

LED	Sensor	Code
1	Paper Empty Detecting Sensor (1st bin)	PWB-B
2	Paper Empty Detecting Sensor (2nd bin)	PWB-D1
3	Paper Empty Detecting Sensor (3rd bin)	PWB-D2
4	Paper Empty Detecting Sensor (4th bin)	PWB-D3
5	Paper Empty Detecting Sensor (5th bin)	PWB-D4

**Group 4** ○: No paper, ●: Paper present

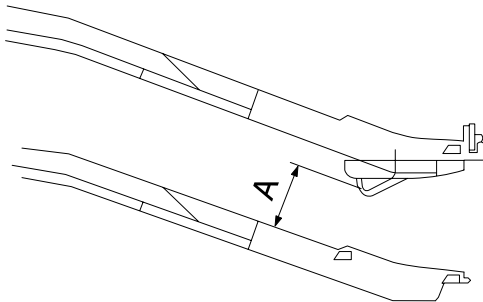
LED	Sensor	Code
1	Paper Empty Detecting Sensor (6th bin)	PWB-D5
2	Paper Empty Detecting Sensor (7th bin)	PWB-D6
3	Paper Empty Detecting Sensor (8th bin)	PWB-D7
4	Paper Empty Detecting Sensor (9th bin)	PWB-D8
5	Paper Empty Detecting Sensor (10th bin)	PWB-D9

**Group 5** ○: Paper full

LED	Sensor	Code
1	Paper Full Detecting Switch (1st bin)	PWB-B
2	Paper Full Detecting Switch (2nd bin)	PWB-D1
3	Paper Full Detecting Switch (3rd bin)	PWB-D2
4	Paper Full Detecting Switch (4th bin)	PWB-D3
5	Paper Full Detecting Switch (5th bin)	PWB-D4

Both paper full detecting switch and paper empty detecting sensor are located on the same board.

A = 32 mm +/- 2 mm (distance from the top of the tray rib)



**Group 6** ○: Paper full

LED	Sensor	Code
1	Paper Full Detecting Switch (6th bin)	PWB-D5
2	Paper Full Detecting Switch (7th bin)	PWB-D6
3	Paper Full Detecting Switch (8th bin)	PWB-D7
4	Paper Full Detecting Switch (9th bin)	PWB-D8
5	Paper Full Detecting Switch (10th bin)	PWB-D9

Both Paper Full Detecting Switch and Paper Empty Detecting Sensor are provided on the same board.

**Initial Operation Check** (○○●●●●)

This mode performs initial operations of the 10-bin mail bin. The transport motor (M1) rotates, and when initial operations are complete, the LED state is “○○●●●●”.

**Paper Size Input Check** (●●○●●●)

This mode sets the paper size. Each time S2 is pressed, the paper size switches as shown below. When LEDs respond correctly, the paper size setting can be made correctly from the printer. The paper size will return to A4Y at the 9th depression.

Depression	Paper Size	1	2	3	4	5
1st	A4Y	○	●	●	●	●
2nd	A4T	●	○	●	●	●
3rd	B5Y	○	○	●	●	●
4th	B5T	●	●	○	●	●
5th	Letter Y	○	●	○	●	●
6th	Letter T	●	○	○	●	●
7th	A3	○	○	○	●	●
8th	B4	●	●	●	○	●

**Sorting Check (○●○●●)**

This mode checks whether paper sorting works properly. Each time S1 and S2 are pressed, sorting operation switches from enable, start and stop. When sorting operation starts, all the Exit Rollers and Vertical Transport Rollers in both Storage Unit and Horizontal Transport Unit rotate. Each time new paper feeds, the output bin switches from one to another (1st ⇒ 2nd ⇒ 3rd ⇒...⇒ 10th ⇒ 9th ⇒ 8th ⇒...⇒ 1st bin).

Depression	SW	Sorting	1	2	3	4	5
1st	S2	Enable	○	●	●	●	●
2nd	S1	Start	○	○	●	●	●
3rd	S1	Stop	○	●	●	●	●

After the 4th and subsequent depressions, sorting operation repeats start and stop alternately. To exit this mode, press S1 while sorting operation is at stop. To proceed to the next mode, press S1 again after this mode is exited.

**Solenoid Check (●○●○●●)**

This mode checks operation of each solenoid. Each time S2 is pressed, the solenoids turn ON sequentially, one at a time. When a solenoid turns ON (that is, the solenoid pin moves in), the corresponding bin switching deflector opens. A solenoid is not present for the 10th bin because a deflector is not used for that bin.

Depression	Solenoid	1	2	3	4	5
1st	1st bin ON	○	●	●	●	●
2nd	2nd bin ON	●	○	●	●	●
3rd	3rd bin ON	○	○	●	●	●
4th	4th bin ON	●	●	○	●	●
5th	5th bin ON	○	●	○	●	●

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Depression	Solenoid	1	2	3	4	5
6th	6th bin ON	●	○	○	●	●
7th	7th bin ON	○	○	○	●	●
8th	8th bin ON	●	●	●	○	●
9th	9th bin ON	○	●	●	○	●
10th	all bins OFF	●	●	●	●	●

The above sequence repeats at the 11th and subsequent depressions. If S1 is pressed during check, this mode resets (that is, all solenoids turn OFF).

### Paper Entrance Switching Check (○●○●●)

This mode checks for proper operation of the paper entrance switching mechanism. The entrance of the horizontal transport unit moves down for duplex printing, and moves up for single-side printing. The default is duplex printing. Each time S2 is pressed, the entrance moves up or down as shown.

Depression	Paper Path
1st	Moves up (for Horizontal Transport Unit).
2nd	Moves down (for Duplex Unit).
3rd	Moves up (for Horizontal Transport Unit).
4th	Returns to the beginning of this mode.

Press S1 to exit this mode and return to initial display mode.

**4023-001**



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## 4. Repair Information

### Disassembly and Cleaning Precautions

Observe the following precautions whenever you service the printer:

- Be sure to unplug the printer from the outlet before attempting to service the printer.
- To reassemble the printer, reverse the order of disassembly unless otherwise specified.
- Do not operate the printer anytime during disassembly. If it is absolutely necessary to run the printer with its covers removed, use care not to allow your clothing to be caught in revolving parts such as the gears, rollers and fan motor.
- Never touch the terminals of electrical parts or high-voltage parts such as the high voltage unit.
- Be sure to handle the fuser carefully as it remains hot for a while after the printer stops running. Always unplug connectors by holding the connector housing.
- Be sure to use the fuse listed in the parts catalog.
- Remember to install the ground wire or ground plate to ensure positive conduction. Install the screw with a toothed washer in the right position at reassembly.

### Handling the Printed Circuit Boards with MOS ICs

The following precautions must be observed when handling circuit boards with MOS (Metal Oxide Semiconductor) ICs.

#### During Transportation/Storage:

- During transportation or when in storage, do not remove new circuit boards from their protective conductive bags.
- Do not store or place circuit boards in a location exposed to direct sunlight.
- When it becomes necessary to remove a board from its conductive bag or case, always place it on its conductive mat in an area as free as possible from static electricity.
- Do not touch pins of the ICs with your bare hands.

### During Replacement:

- Before you unplug connectors from the circuit boards, be sure the power cord has been unplugged from the power outlet.
- When you remove a board from its conductive bag or case, do not touch the pins of the ICs or the printed pattern. Place it in position by holding only the edges of the board.
- Before you plug connectors into the board, be sure the power cord has been unplugged from the power outlet.
- **Before removing the finisher or mailbox, ensure that the horizontal transport unit is firmly supported or removed. Failure to adhere will result in damage to the finisher or mailbox mounting brackets.**

### During Inspection:

- Avoid checking the IC directly with a multi-meter; use connectors on the board.
- Never create a closed circuit across IC pins with a metal tool.
- If it is necessary to touch the ICs and other electrical components on the board, be sure to ground your body.

## Image Cartridge/PC (I/C) Handling Precautions

The following precautions must be observed when handling the image cartridge/PC:

### During Transportation/Storage:

- Use the specified carton whenever moving or storing the image cartridge/PC.

### Handling:

- The PC drum in the image cartridge/PC exhibits greatest light fatigue after being exposed to strong light over an extended period of time. Never expose it to direct sunlight. Cover the image cartridge/PC when you remove it from the printer.
- Use care not to contaminate the surface of the PC drum with oil-base solvent, fingerprints, and other foreign matter.
- Do not scratch the surface of the PC drum.

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## **Parts Not To Be Touched**

Any part where the mounting screws are painted red, such as the printhead, must not be removed, disassembled or adjusted.

# Adjustments

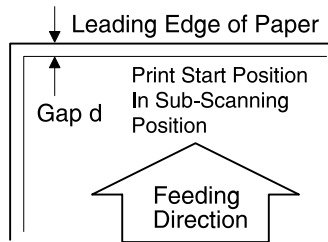
## Printer (Main)

### Image Registration Adjustment

If the starting position of the image (registration gap (d)=4mm) in the sub-scanning direction is not suitable, adjust the gap by following this procedure:

#### Visual Adjustment

1. Turn the printer off.
2. Press **Select** and **Return** as you turn the machine on.
3. Select REGISTRATION from the Configuration Menu Group.
4. Scroll to the margin you want and press **Select**. See the following table.
5. Scroll to the value you want and press **Select**. A Quick Test page prints.
6. Repeat margin adjustment until the registration gap (d) is the appropriate distance.



Margin	Valid Range
Top Margin	=-50 to 50 (0)
Tray 1 Left Mar	=-50 to 50 (0)
Tray 2 Left Mar	=-50 to 50 (0)
Tray 3 Left Mar	=-50 to 50 (0)
Tray 4 Left Mar	=-50 to 50 (0)
Tray 5 Left Mar	=-50 to 50 (0)

**Note:** Tray 2 through 5 menu settings appear only if the corresponding tray is installed.

## Right Cover Safety Switch Adjustment

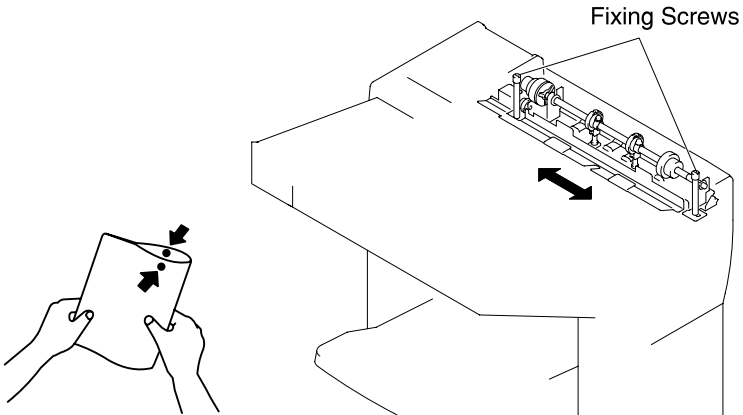
With power switch (S1) ON and the right cover closed, check and adjust the position of the right cover safety switch (S2).

1. Remove the outer cover, and the cartridge hopper assembly.
2. After loosening the right cover interlock switch (S2) screw, close the right cover carefully.
3. Move the right cover interlock switch (S2) up and down and tighten the screw at the position where the switch turns on.

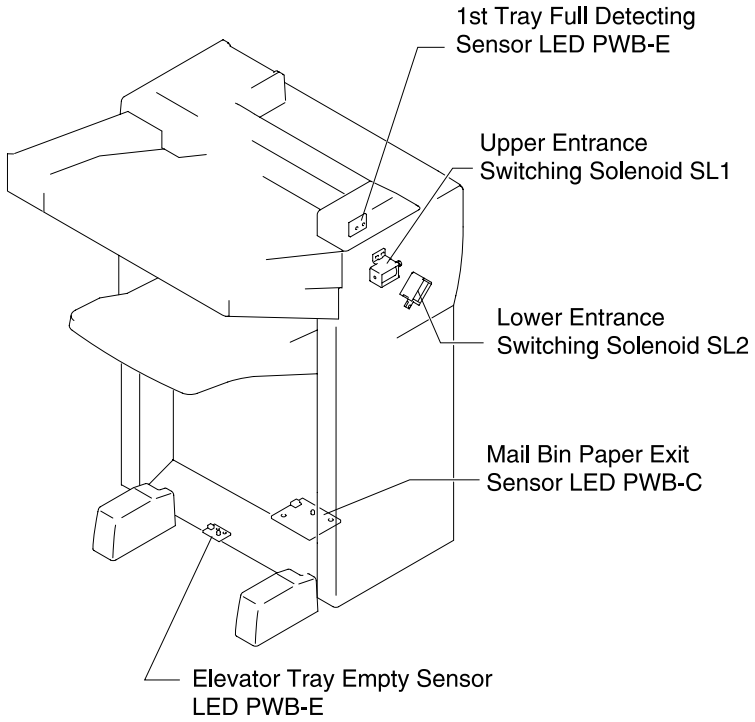
## Finisher

### Punch Hole Position Check/Adjustment

1. Set the printer into the hole punch mode and make a print in the 1→1 setting.
2. Fold the print in half and check to see if the punch holes are aligned (deviation should be within 2 mm).
3. If the holes are misaligned, loosen the two screws that secure the punch unit and slide the punch unit left or right as necessary. (Use the scale on the cover as a reference.)
4. Reprint and check for the correct punching position.



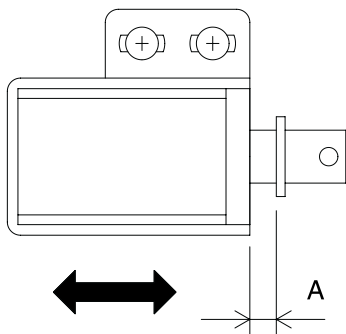
## Solenoids and Sensors Adjustment



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### Upper Entrance Switching Solenoid (SL1)

1. Loosen the two screws.
2. Move SL1 left and right so that dimension A measures  $4 \pm 1$  mm.
3. Secure two screws.



### Sensor LED Output Adjustment

- 1st tray full detecting sensor LED PWB-E
- Elevator tray empty sensor LED PWB-E

1. Turn VR (1, 4, and 7) on PWB-A fully clockwise (0 ohms).

Elevator tray empty sensor LED PWB-E :VR4  
1st tray full detecting sensor LED PWB-E :VR7

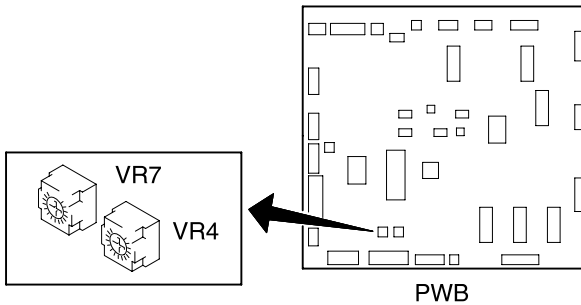
2. Block the sensor with a sheet of paper.

3. Measure the voltage on the print jack on PWB-A.

Elevator tray empty sensor LED PWB-E :PJ16A-11B  
1st tray full detecting sensor LED PWB-E :PJ16A-7B

4. Turn VR counterclockwise until the voltage reads 4.3V or more.

5. Remove the sheet of paper and check that the voltage is 0.8V or less.

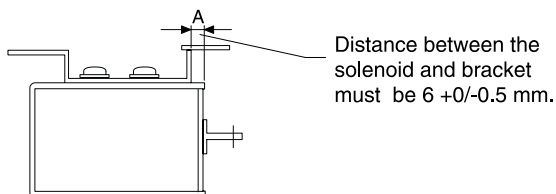




## Mailbox

### Check the 1st Bin Switching Solenoid Stroke

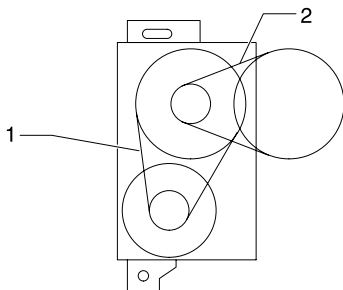
1. Remove the storage unit front cover.
2. Check the stroke of the 1st bin switching solenoid as shown.



### Check the Timing Belts Tension

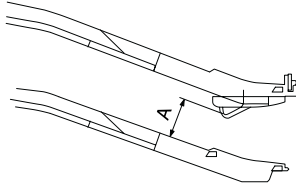
1. Remove the storage unit rear cover.
2. Check the tension of each timing belt. Ensure any belt sag is within the specified range when the belt center is hand-pushed with the listed force:

Check Point	Force (gf)	Sag
1	100 to 200	2 mm
2	200 to 300	2 mm



## Check the Paper-Full Detecting Switches

1. Press the paper-full detecting switch to turn it ON. The distance (A) to the tray when the switch is turned ON must be 32 mm  $\pm$  2 mm (distance from the top of the tray rib).



2. Repeat for each paper-full detecting switch.

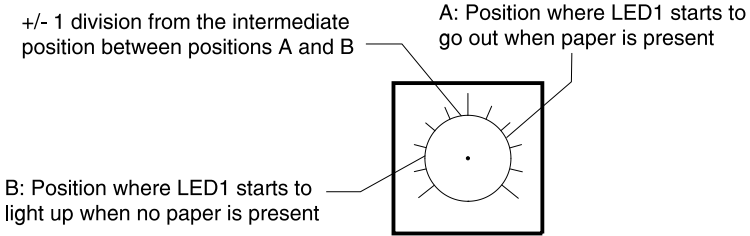
## Adjust the Paper Exit Sensor

When the paper exit sensor (PWB-C) is replaced, always adjust as described:

**Note:** The specified paper must be used for adjustment. VR11 must be turned in the correct direction as described.

1. Activate sensor input check (test mode). (See **“Sensor Input Check ()”** on page 3-30.)
  - 1 illuminates when paper is present and extinguishes when there is no paper.
2. Ensure that paper is not present in any bin, and perform the following.
  - a. Rotate VR to the full-clockwise position and check that LED1 illuminates.
  - b. Rotate VR counterclockwise slowly until LED1 starts to extinguish. Record this position as position A. If LED1 extinguishes at the full-clockwise position, record that position as position A.
3. Place paper into bin 1 and perform the following.
  - a. Insert paper into bin 1 until it passes through the paper eject sensor. Check that LED1 illuminates.
  - b. Rotate VR fully counterclockwise and check whether LED1 is still illuminated. If LED1 extinguishes, rotate VR clockwise slowly until LED1 starts to illuminate. Record this position as position B. If LED1 remains lit, record the fully clockwise position as position B.

- Adjust VR to the intermediate position between positions A and B (must be within +/-1 division from the intermediate position)



### Paper Empty Detecting Sensor Adjustment

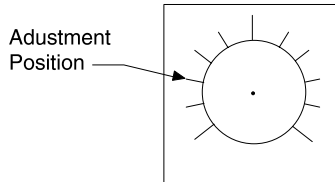
Perform this adjustment when the circuit board for the paper empty detecting sensor is replaced.

**Note:** The specified paper must be used for adjustment. The VR must be turned in the correct direction as described.

(a) Replaced Component	(b) Sensor	(c) Test Mode Sensor Input Check	(d) VR
PWB-D1	1-Bin Empty Sensor	Group 3, LED1	VR1
PWB-D2	2-Bin Empty Sensor	Group 3, LED2	VR2
PWB-D3	3-Bin Empty Sensor	Group 3, LED3	VR3
PWB-D4	4-Bin Empty Sensor	Group 3, LED4	VR4
PWB-D5	5-Bin Empty Sensor	Group 3, LED5	VR5
PWB-D6	6-Bin Empty Sensor	Group 4, LED1	VR6
PWB-D7	7-Bin Empty Sensor	Group 4, LED2	VR7
PWB-D8	8-Bin Empty Sensor	Group 4, LED3	VR8
PWB-D9	9-Bin Empty Sensor	Group 4, LED4	VR9
PWB-C	10-Bin Empty Sensor	Group 4, LED5	VR10

- Rotate VR to the full-clockwise position and turn the printer ON.
- Start test mode and set the sensor input mode. See **“Sensor Input Check ()” on page 3-30.**

3. Turn VR (d) to the full-counterclockwise position and check that the corresponding LED (c) illuminates.
4. Load paper in the bin (b).
5. When the LED (c) extinguishes, adjust VR (d) to the second graduation position from the full-counterclockwise position. This completes the adjustment.



6. When LED (c) illuminates, slowly turn VR (d) to the right and record the position where LED (c) illuminates. Record the position as A.
7. Remove paper from bin (b).
8. Turn VR (d) to the full-clockwise position.
9. When LED (c) illuminates, record the position (all the way to the right) as position B.
10. When the LED (c) goes off, slowly turn VR (d) counterclockwise and record the position where LED illuminates as position B.

---

## Resetting Maintenance Counters

### Resetting Hole Punch Counter

When the hole punch box has been emptied, the hole punch counter must be reset. Perform the following to reset the counter:

1. Turn the printer off.
2. Press **Select** and **Return** as you turn the machine on.
3. Select MAINT COUNTER from the Configuration Menu Group.
4. Scroll to Reset Hole Punch and press **Select**. The hole punch counter resets while the following message displays:  
Resetting  
Hole Punch Count

## Resetting Fuser Counter

When the fuser/fuser mmkit is replaced, the fuser page counter must be reset.

1. Turn the printer off.
2. Press **Select** and **Return** as you turn the machine on.
3. Select MAINT COUNTER from the Configuration Menu Group.
4. Scroll to Reset Fuser and press **Select**. The fuser page counter resets while the following message displays:  
Resetting  
Fuser Count

## Resetting Transfer Counter

When the transfer roll/transfer mmkit is installed, the transfer page counter must be reset.

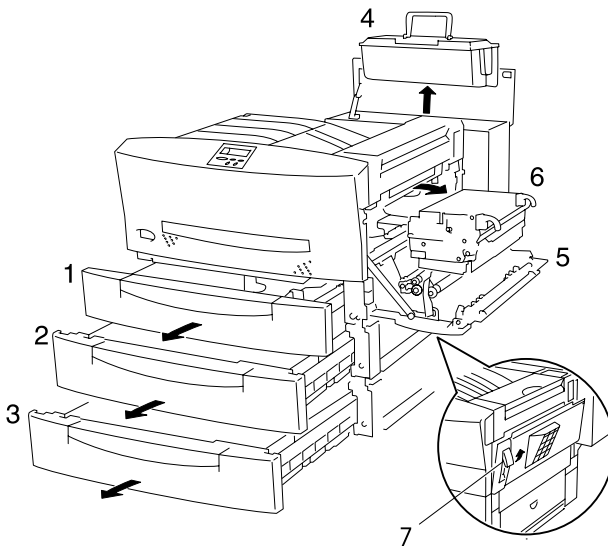
1. Turn the printer off.
2. Press **Select** and **Return** as you turn the machine on.
3. Select MAINT COUNTER from the Configuration Menu Group.
4. Scroll to Reset Transfer and press **Select**. The transfer page counter resets while the following message displays:  
Resetting  
Transfer Count

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## Printer Removal Procedures

### Pre-disassembly

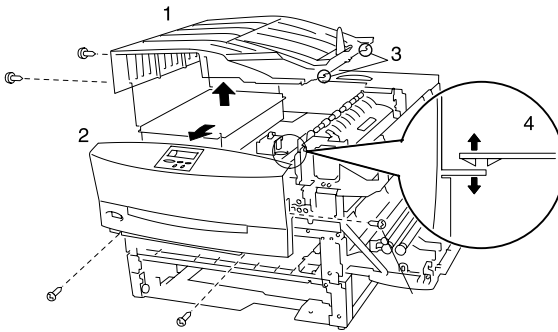
1. Remove the 1st cassette (1).
2. Remove the 2nd cassette (2).
3. Remove the 3rd cassette (3).
4. Remove the toner cartridge (4).
5. Raise the right cover release lever (7) and open the right cover (5).
6. Remove the imaging cartridge (6).



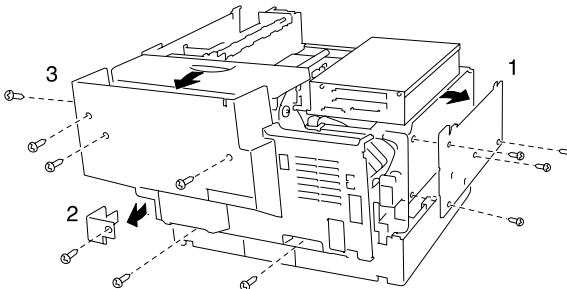
## Outer Cover Removal

1. Perform pre-disassembly procedure. (See **“Pre-disassembly”** on page 4-14.)
2. Remove the top cover (1). (2 screws)
3. Remove the front cover (2). (2 screws)

**Note:** When reinstalling the top and front cover, securely insert the projections (3,4) of the covers into the appropriate cutouts of the printer frame.

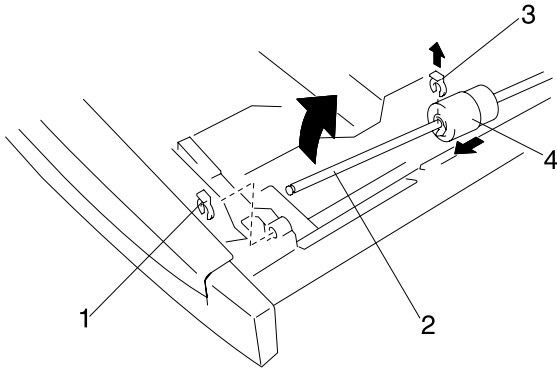


4. Remove the left cover (1). (4 screws)
5. Remove the harness cover (2). (1 screw)
6. Remove the rear cover (3). (6 screws)



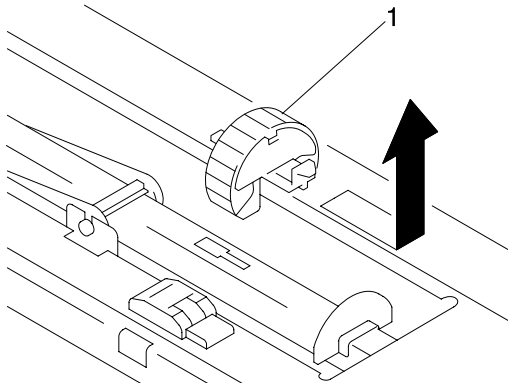
## 1st Cassette/250-Sheet (Tray1) Paper Take-Up Roller Removal

1. Remove the 1st cassette.
2. Remove C-clip (1) from end of rod (2).
3. Remove C-clip (3).
4. Slide paper take-up roller (4) to end of rod (2).
5. Lift rod (2) and remove paper take-up roller (4).



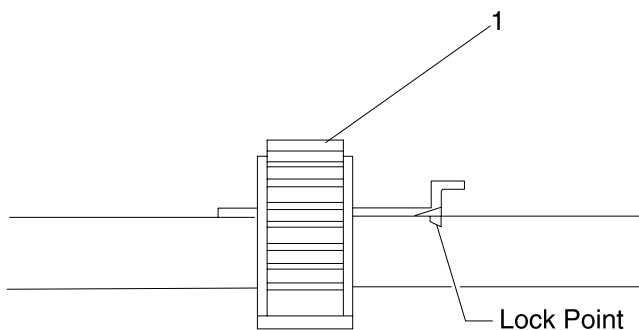
## 250-Sheet Cassette (Tray 1) Paper Take-Up Rolls Removal

1. Remove the cassette from the upper drawer.
2. Unlock the paper take-up roll (1) and slide it off its shaft.



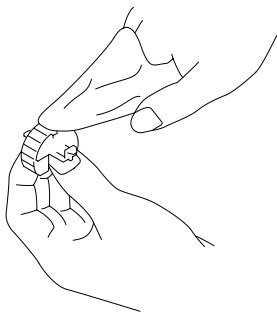


**Note:** When installing the roll, ensure it securely locks into place as illustrated.



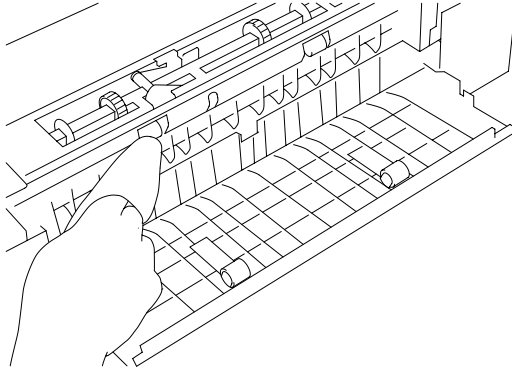
## 250-Sheet Cassette (Tray 1) Paper Take-Up Rolls Cleaning

Clean the surface of the paper take-up rolls with a soft cloth dampened with alcohol.



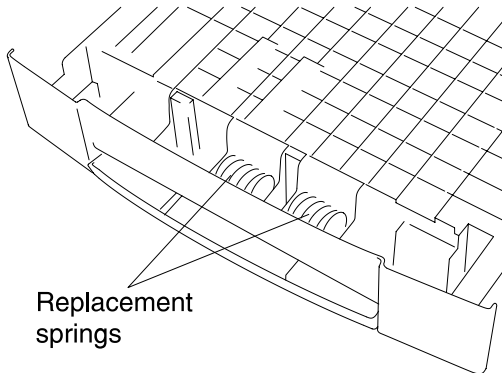
## 500-Sheet Cassette (Tray 2 and 3) Vertical Transport Roller/Rolls Cleaning

Clean the surface of the vertical transport roller/rolls with a soft cloth dampened with alcohol.

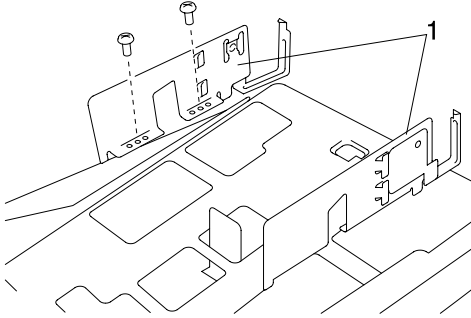


## 500-Sheet Cassette (Tray 2 and 3) Paper Lifting Springs Replacement

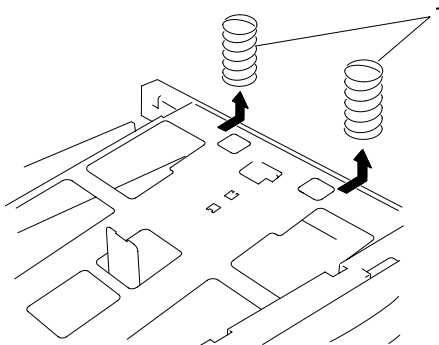
**Note:** The replacement springs are housed on the bottom of the cassette.



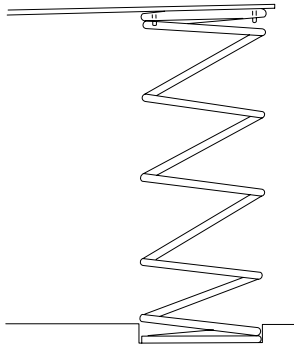
1. Remove the cassette.
2. Remove the two edge guide assemblies (1). (2 screws each)



3. Replace the springs (1).



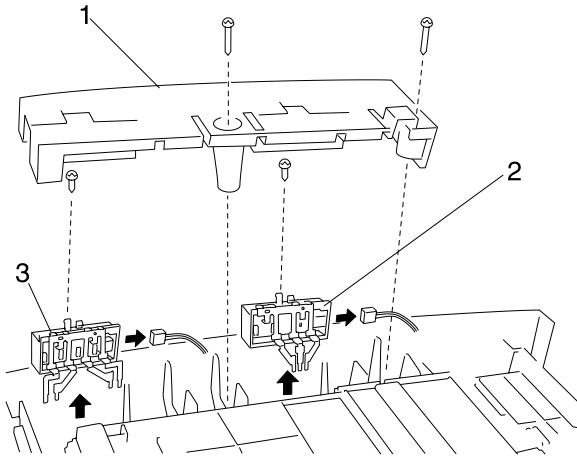
**Note:** When installing the springs, make sure both ends of the spring are properly secured as illustrated.



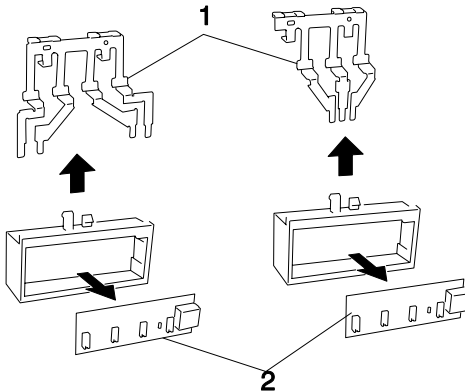
## 500-Sheet Cassette (Tray 2 and 3) Paper Size Detecting Board (PWB-S2) Removal

**Note:** This procedure covers the 2nd, 3rd and optional tray.

1. Remove the 2nd cassette.
2. Turn the 2nd cassette over and remove the cover (1). (2 screws)
3. Remove the right PWB-I assembly (2). (1 screw, 1 connector)
4. Remove the left PWB-I assembly (3). (1 screw, 1 connector)

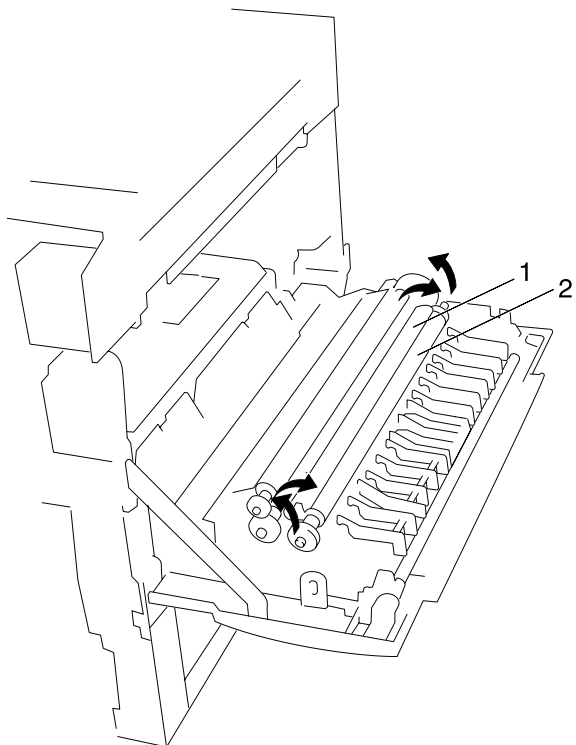


5. Remove the paper size detecting lever (1) and the left PWB-S2 (2).
6. Remove the paper size detecting lever (1) and the right PWB-S2 (2).



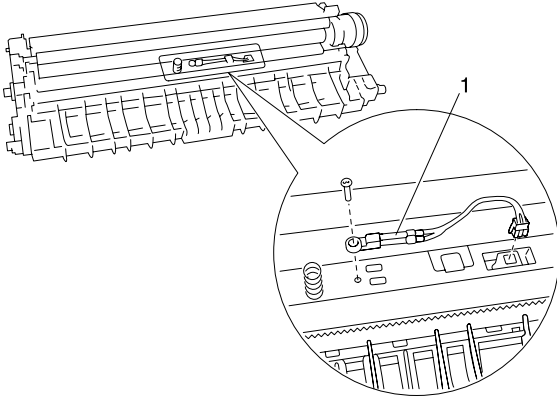
## Image Transfer Roller Removal

1. Raise the right cover release lever and open the right cover.
2. Raise the pre-image transfer guide plate (1).
3. Remove the image transfer roller (2).



## Image Cartridge/PC (I/C) Thermistor (TH2) Removal

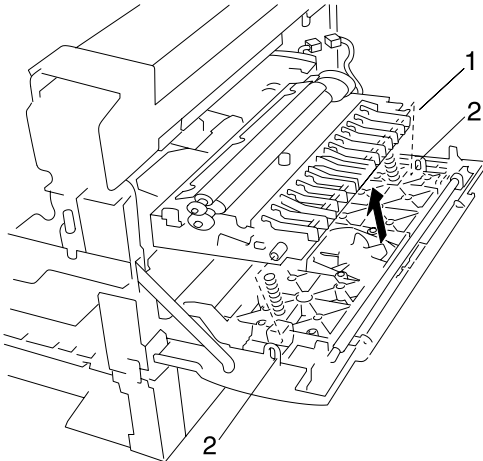
1. Remove the image transfer roller. (See **“Image Transfer Roller Removal”** on page 4-21.)
2. Remove the I/C thermistor (TH2). (1 screw, 1 connector)



## Image Transfer Unit Removal

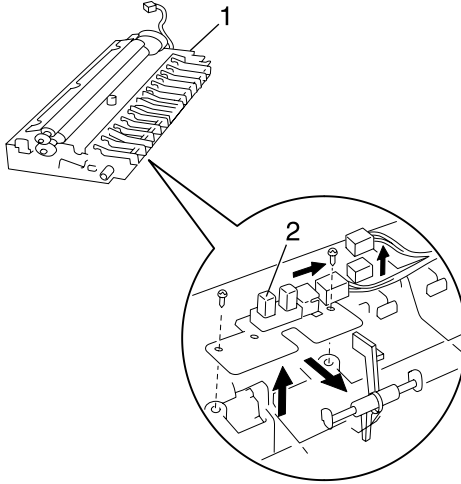
1. Raise the right cover release lever and open the right cover.
2. Remove two projections (2) and the image transfer unit (1). (4 connectors)

**Note:** Because the harness is short, slightly raise the image transfer unit (1) and unplug the connector before attempting to remove the image transfer unit (1).



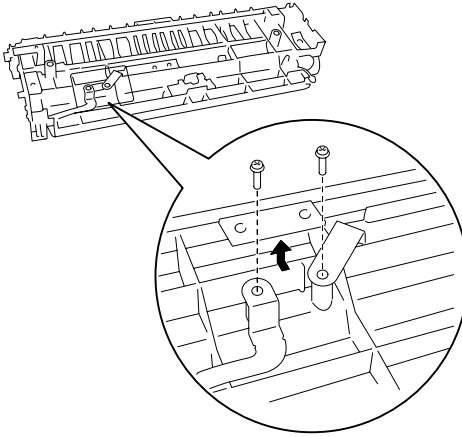
## Synchronizing Roller Sensor (PC2) Removal

1. Remove the image transfer unit (1). (See **“Image Transfer Unit Removal”** on page 4-22.)
2. From the back side of the image transfer unit (1), remove the synchronizing roller sensor (PC2) (2). (2 screws)



## Pre-transfer Guide Plate Register Plate (PWB-R2) Removal

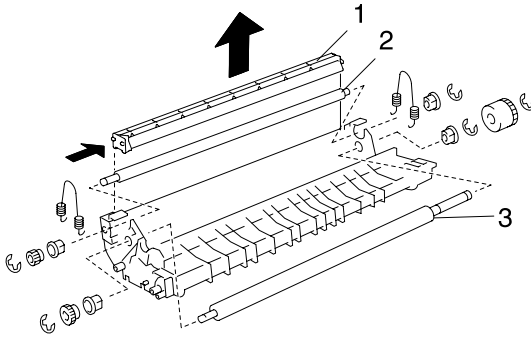
1. Remove the image transfer roller. (See **“Image Transfer Unit Removal”** on page 4-22.)
2. Turn the imaging transfer unit over and remove PWB-R2. (2 screws)





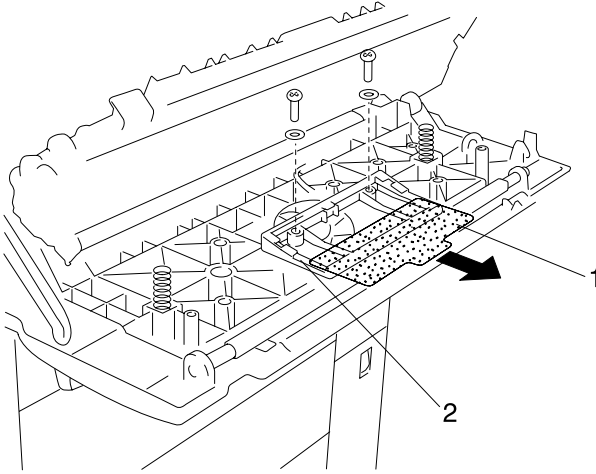
## Synchronizing Roller Removal

1. Remove the image transfer unit. (See **“Image Transfer Unit Removal”** on page 4-22.)
2. Remove the paper dust remover (1).
3. Remove two E-ring and transport clutch (2).
4. Remove the synchronizing roller (3). (3 E-rings, 2 springs, 4 bushings, 2 gears)

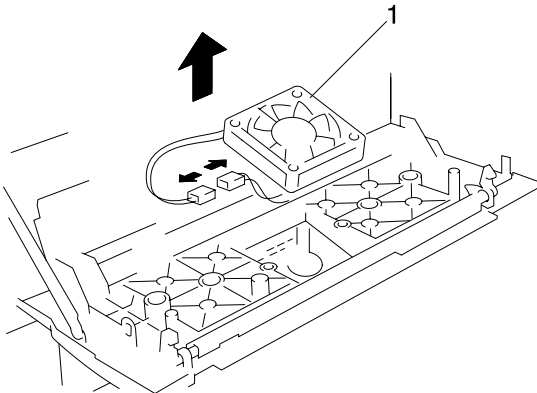


## Cooling Fan Motor (M3) and I/C Filter Removal

1. Remove the image transfer unit. (See **“Image Transfer Unit Removal”** on page 4-22.)
2. Remove the filter (1).
3. Remove the filter fixing plate (2). (2 screws)

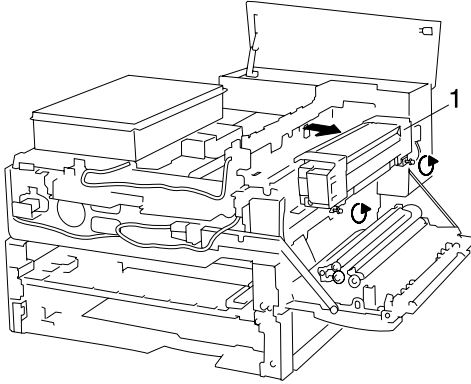


4. Remove the cooling fan motor M3 (1). (1 connector)



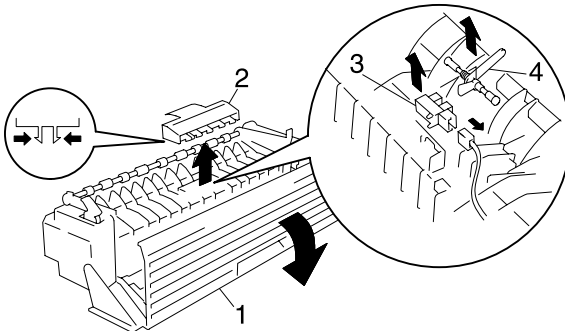
## Fusing Unit Removal

1. Raise the right cover release lever and open the right cover.
2. Loosen 2 screws and remove the fusing unit (1).



## Paper Exit Sensor (PC3) and Actuator Removal

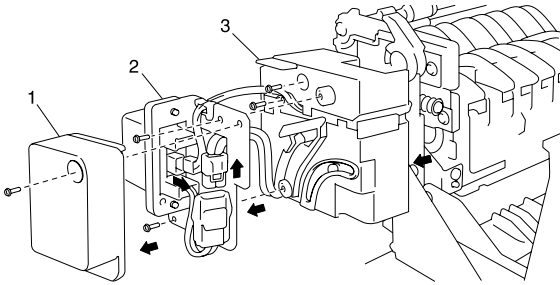
1. Remove the fusing unit. (See **“Fusing Unit Removal”** on **page 4-27.**)
2. Open the fusing unit cover (1).
3. Compress projections and remove the paper exit sensor cover (2).
4. Remove the paper exit sensor (PC3) (3).
5. Remove the actuator (4).



## Heater Lamp Cover

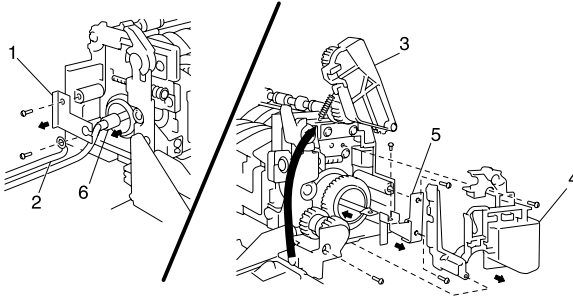
1. Remove the fusing unit. (See **“Fusing Unit Removal”** on page 4-27.)
2. Remove the harness cover (1). (1 screw)
3. Remove the harness holder (2). (2 screws, 1 connector)
4. Release one projection of the fusing unit cover and remove the heater lamp cover (3). (2 screws)

**Note:** The spring for opening and closing the fusing unit cover is removed when the heater lamp cover is removed.



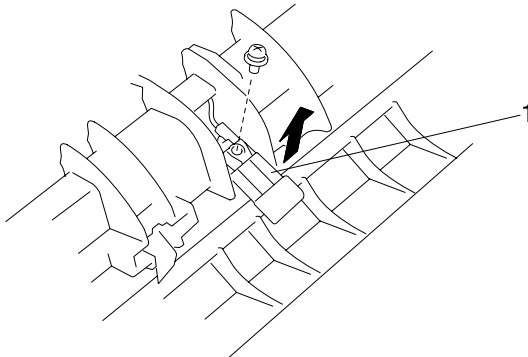
## Heater Lamp (H1) Removal

1. Remove the heater lamp cover. (See **“Heater Lamp Cover”** on **page 4-28.**)
2. Remove the heater lamp holder(front) (1). (1 screw)
3. Remove the earth (2). (1 screw)
4. Remove the gear assembly (3). (1 spring)
5. Remove the heater lamp cover(rear) (4). (2 screws)
6. Remove the heater lamp holder(rear) (5). (2 screws)
7. Remove the heater lamp(H1) (6). (1 screw)



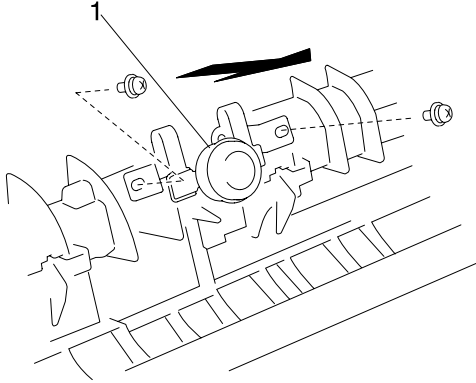
## Fusing Roller Thermistor (TH1) Removal

1. Remove the upper fusing roller.
2. Remove the fusing roller thermistor TH1 (1). (1 screw)



## Fusing Roller Thermostat (TS1) Removal

1. Remove the upper fusing roller.
2. Remove the fusing roller thermostat TS1 (1). (2 screws)

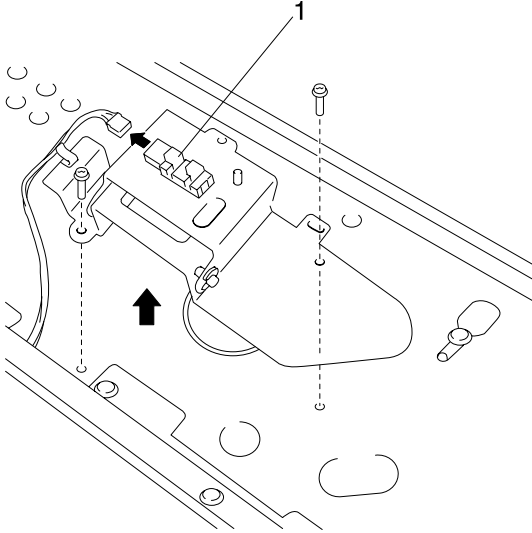


## Paper Exit Full Sensor (PC12) Removal

1. Remove the top cover. (2 screws)

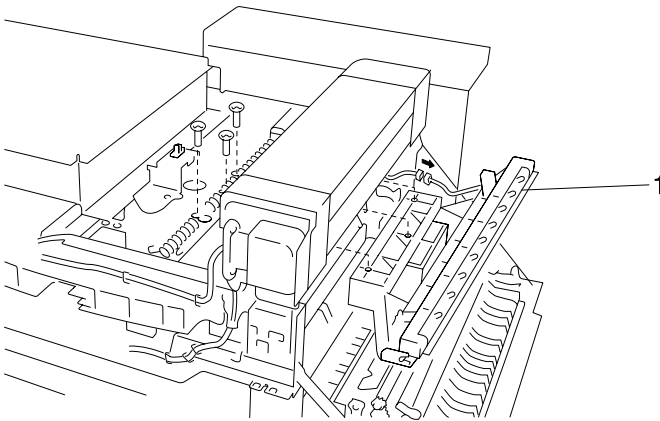
**Note:** When reinstalling the top cover, securely insert the projections of the cover into the appropriate cutouts of the printer frame.

2. Remove the paper exit full sensor PC12 (1). (1 screw, 1 connector)



## Eraser Duct Assembly Removal

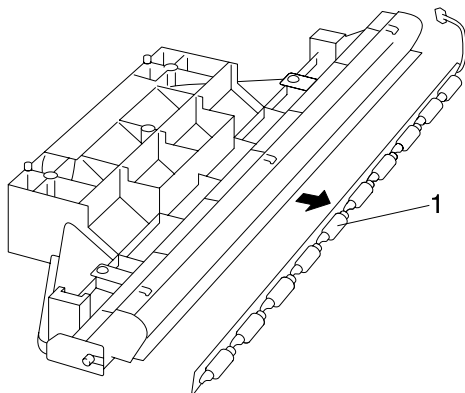
1. Remove the top cover. (2 screws)  
**Note:** When reinstalling the top cover, securely insert the projections of the top cover into the appropriate cutouts of the printer frame.
2. Raise the right cover release lever and open the right cover.
3. Remove the imaging cartridge.
4. Remove the eraser duct assembly (1). (3 screws, 1 connector)





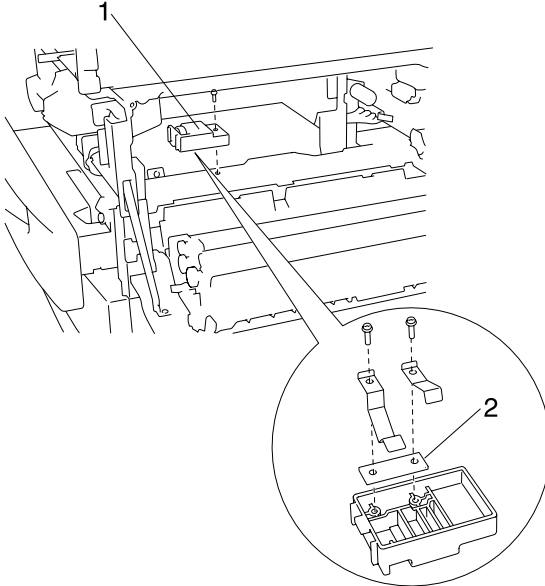
## Erase Lamp (LA1) Removal

1. Remove the eraser duct assembly. (See **“Eraser Duct Assembly Removal”** on page 4-32.)
2. Release three projections and remove the erase lamp LA1 (1).



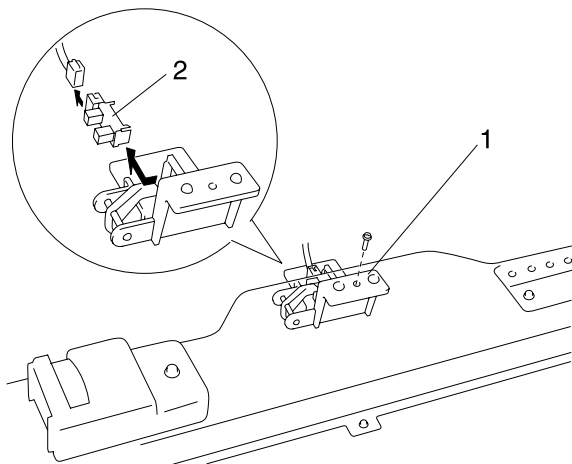
## Fuser Frame Resistor Board (PWB-R1) Removal

1. Remove the eraser duct assembly. (See **“Eraser Duct Assembly Removal”** on page 4-32.)
2. Remove the cover (1). (1 screw)
3. Remove PWB-R1 (2). (2 screws)



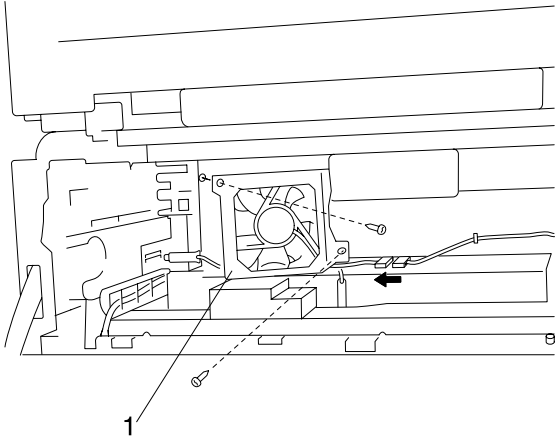
## 1st Cassette Paper Empty Sensor (PC4) Removal

1. Remove the eraser duct assembly. (See **“Eraser Duct Assembly Removal”** on page 4-32.)
2. Remove the 1st cassette paper empty sensor assembly (1). (1 screw, 1 connector)
3. Remove the 1st cassette paper empty sensor PC4 (2).



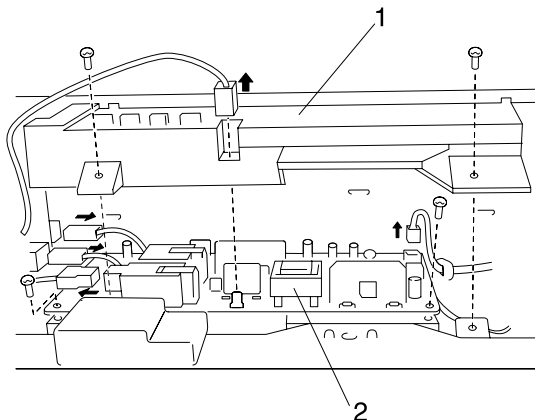
## Image Cartridge/PC (I/C) Cooling Fan Motor (M9) Removal

1. Remove the eraser duct assembly. (See **“Eraser Duct Assembly Removal”** on page 4-32.)
2. Remove the I/C cooling fan motor M9 (1). (2 screws, 1 connector)



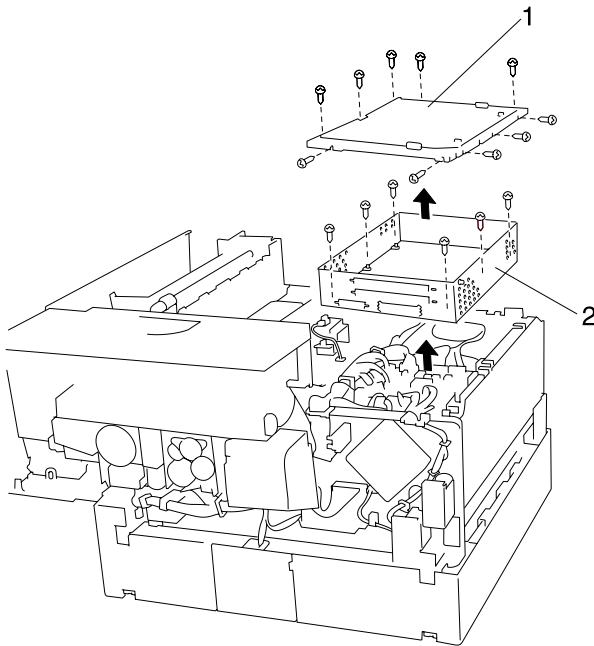
## High Voltage Unit (HV1) Removal

1. Remove the I/C Cooling Fan Motor (M9). (See **“Image Cartridge/PC (I/C) Cooling Fan Motor (M9) Removal”** on page 4-36.)
2. Remove the high voltage unit cover (1). (2 screws, 1 connector)
3. Remove the high voltage unit HV1 (2). (2 screws, 5 connectors)



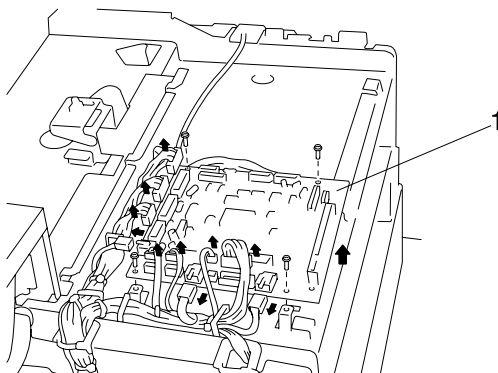
## Printer Main Engine Board (PWB-A) Removal

1. Remove the top cover. (2 screws)  
**Note:** When reinstalling the top cover, securely insert the projections of the top cover into the appropriate cutouts of the printer frame.
2. Remove the top cover of the main board reinforcement box cover (1). (10 screws)
3. Remove the top cover of the main board reinforcement box (2). (6 screws)



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4. Remove PWB-A (1). (4 screws)
5. Adjust image registration if necessary. See **“Image Registration Adjustment”** on page 4-4.

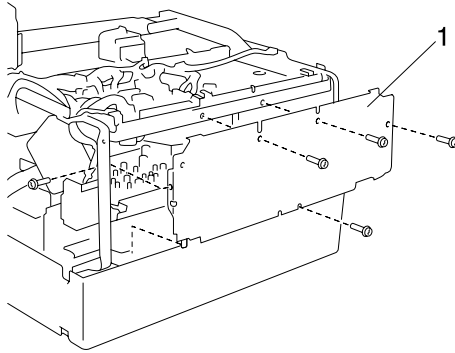


## Printhead Unit Assembly (PH) Removal

1. Remove the main board (PWB-A). See “**Printer Main Engine Board (PWB-A) Removal**” on page 4-38.)
2. Remove the toner cartridge.
3. Remove the rear cover. (6 screws)

**Note:** When reinstalling the rear cover, securely insert the projections of the rear cover into the appropriate cutouts of the printer frame.

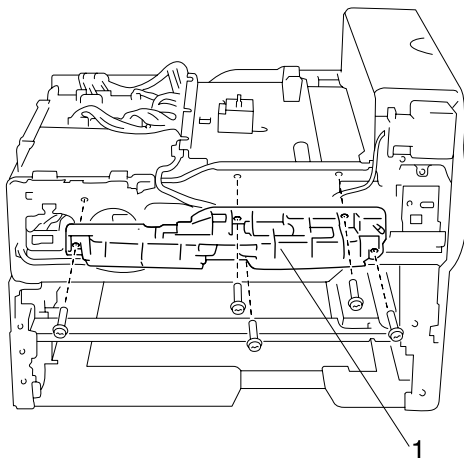
4. Remove the left reinforcement plate (1). (6 screws)



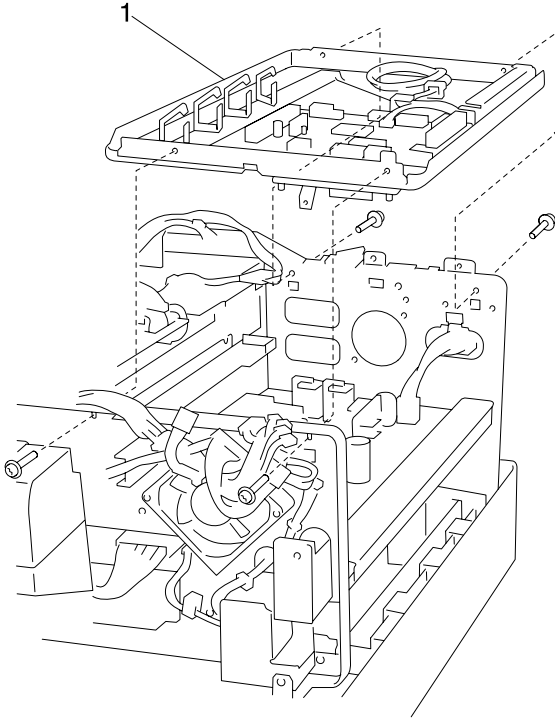


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5. Disconnect the harness (3 cord clamps) and remove the handle (1). (5 screws)

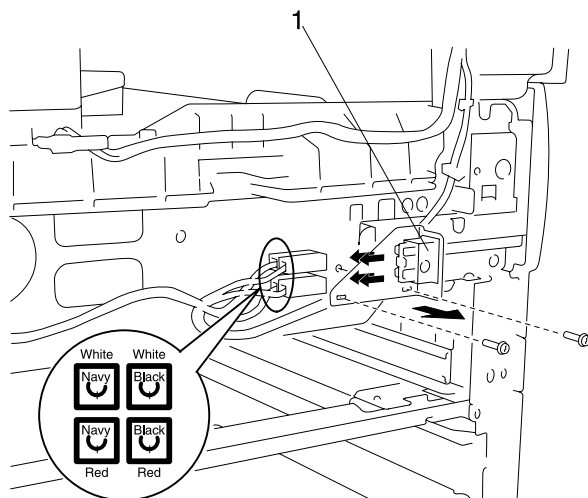


6. Remove the printhead unit assembly (1). (4 screws)



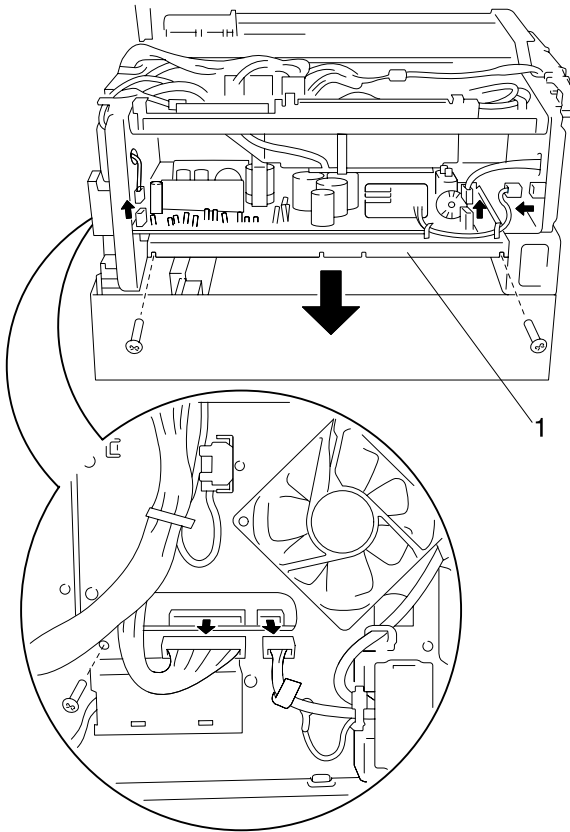
## Right Door Switch (S3) Removal

1. Remove the 1st cassette.
2. Remove the front cover. (2 screws)  
**Note:** When reinstalling the front cover, securely insert the projections of the front cover into the appropriate cutouts of the printer frame.
3. Remove the side switch S3 (1). (1 screw, 4 connectors)

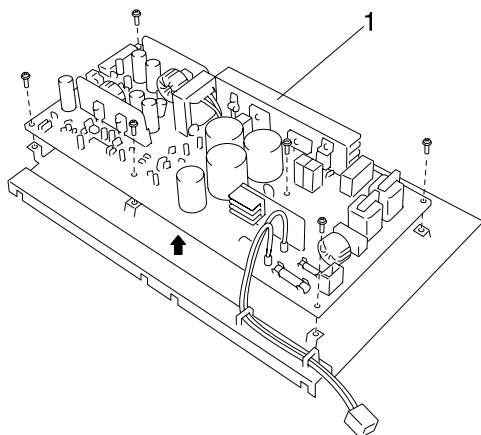


## Power Supply Unit (PU1) Removal

1. Remove the toner cartridge.
2. Remove the rear cover. (6 screws)
3. Remove the left cover. (4 screws)
4. Remove the left reinforcement plate. (6 screws)
5. Remove the power supply base (1). (3 screws, 5 connectors)

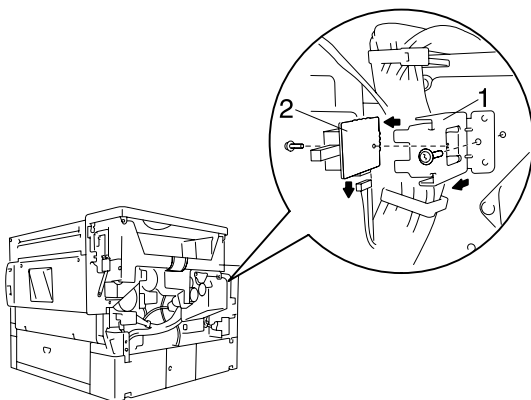


6. Remove PU1 (1). (6 screws)



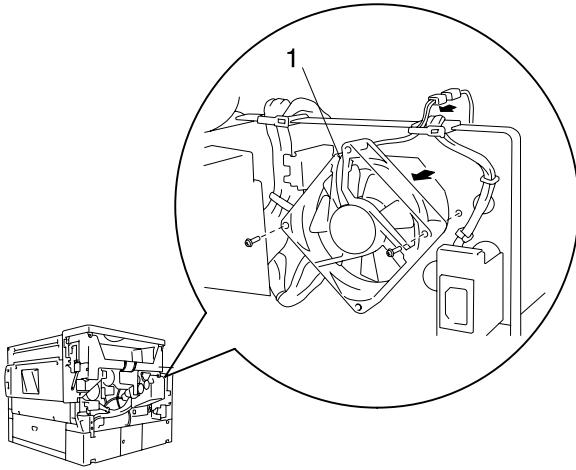
## CPM (Power Supply Safety) Switch and PWB-L Removal

1. Remove the toner cartridge.
2. Remove the rear cover. (6 screws)
3. Remove PWB-L assembly (1). (1 screw)
4. Remove PWB-L (2). (1 screw, 1 connector)



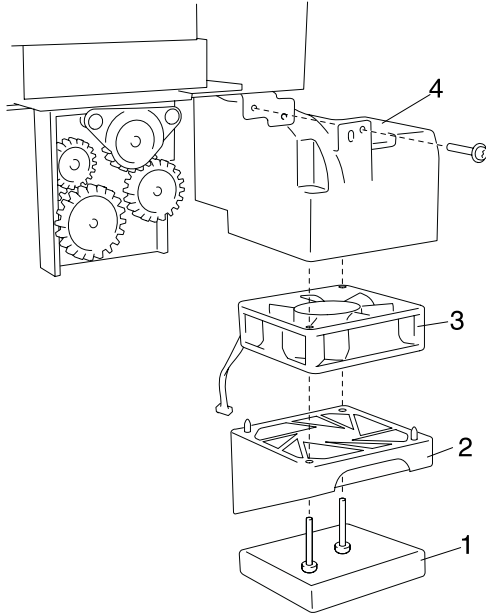
## Power Unit Cooling Fan Motor (M4) Removal

1. Remove the main board (PWB-A). See **“Printer Main Engine Board (PWB-A) Removal”** on page 4-38.)
2. Remove the power unit cooling fan motor M4 (1). (2 screws, 1 connector)



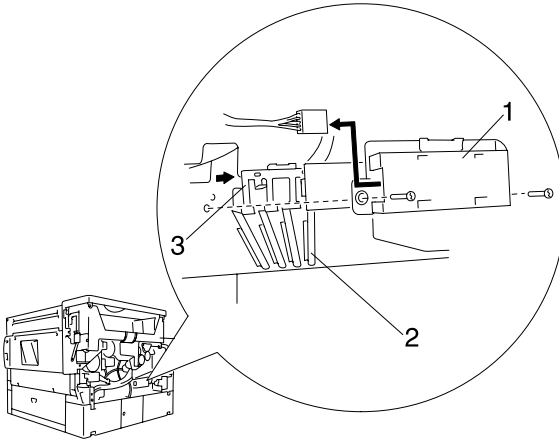
## Ozone Fan Motor (M8) and Ozone Filter Removal

1. Remove the toner cartridge.
2. Remove the rear cover. (6 screws)
3. Remove the ozone filter assembly (4). (1 screw, 1 connector)
4. Remove the ozone filter (1).
5. Remove the ozone fan motor cover (2). (2 screws)
6. Remove the ozone fan motor M8 (3).



## 1st Paper Cassette (Tray 1) Paper Size Detecting Board Removal

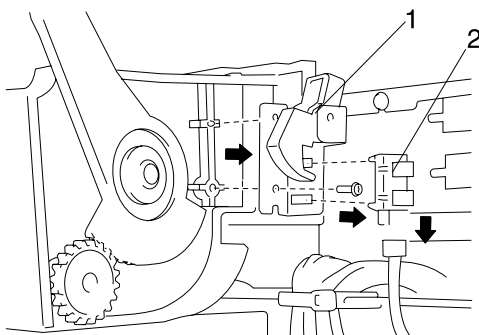
1. Remove the toner cartridge.
2. Remove the rear cover. (6 screws)
3. Remove the PWB-S1 assembly (1). (2 screws, 1 connector)
4. Remove the paper size detecting lever (2) and PWB-S1(3).





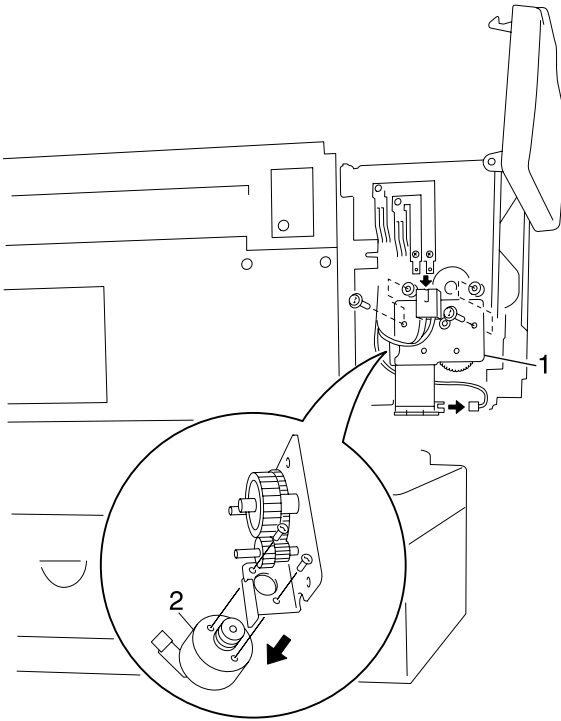
## Bottle Cover Sensor (PC10) Removal

1. Remove the toner cartridge.
2. Remove the rear cover. (6 screws)
3. Remove the bottle cover sensor assembly (1). (1 screw, 1 connector)
4. Remove the bottle cover sensor (2) (PC10).



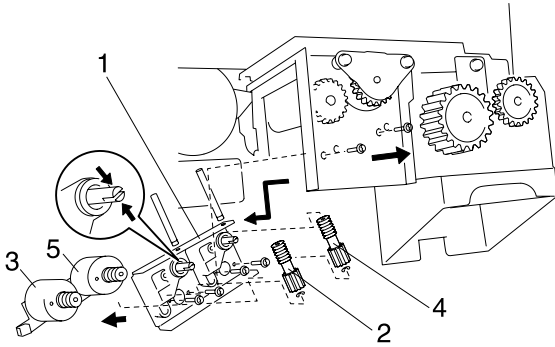
## Agitating Motor (M10) Removal

1. Remove the toner cartridge.
2. Remove the rear cover. (6 screws)
3. Remove the agitating motor assembly (1). (2 screws, 2 connectors)
4. Remove the agitating motor (M10) (2). (2 screws)



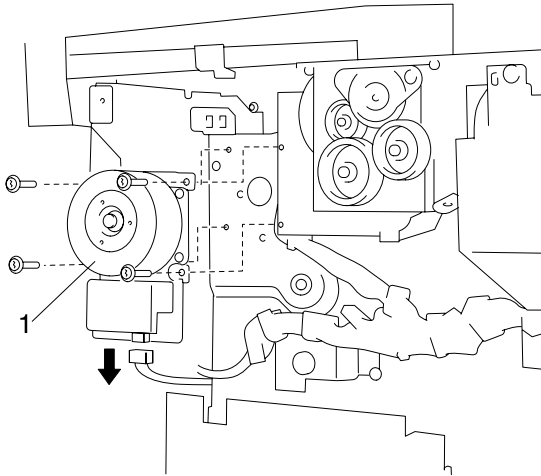
## Main Hopper Motor (M6) and Sub Hopper Motor (M7) Removal

1. Remove the toner cartridge.
2. Remove the rear cover. (6 screws)
3. Compress the ends of both shafts and remove two gears.
4. Remove the hopper motor assembly (1). (2 screws)
5. Remove the helical gear and shaft (2). (1 E-ring)
6. Remove the main hopper motor M6 (3). (2 screws)
7. Remove the helical gear and shaft (4). (1 E-ring)
8. Remove the sub hopper motor M7 (5). (2 screws)



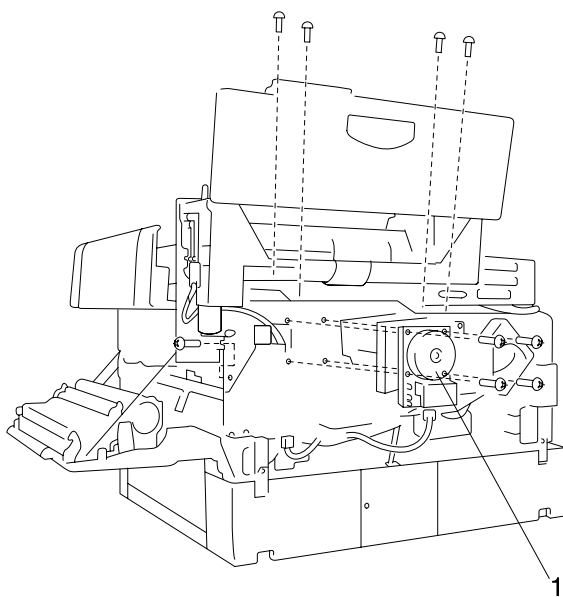
## Transport Motor (M2) Removal

1. Remove the toner cartridge.
2. Remove the rear cover. (6 screws)
3. Remove the transport motor M2 (1). (4 screws, 1 connector)



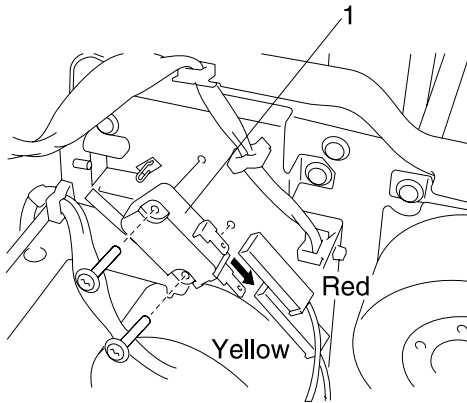
## Image Cartridge/PC (I/C) Drive Motor (M1) Removal

1. Remove the toner cartridge.
2. Remove the rear cover. (6 screws)
3. Remove the right cartridge hopper cover. (1 screw)
4. Remove the cartridge hopper assembly. (4 screws, 2 connectors)
5. Remove the cartridge hopper housing assembly. (4 screws)
6. Remove the I/C drive motor M1 (1). (4 screws, 1 connector)



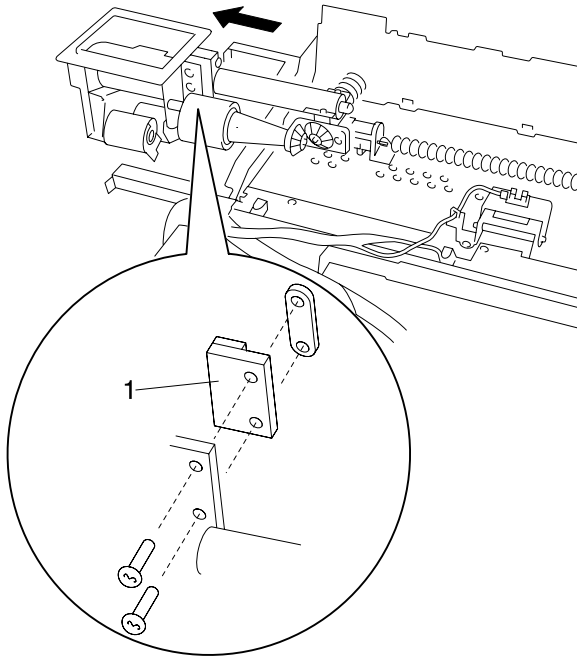
## Right Door Interlock Switch (S2) Removal

1. Remove the toner cartridge.
2. Remove the rear cover. (6 screws)
3. Remove the right cartridge hopper cover. (1 screw)
4. Remove the cartridge hopper assembly. (4 screws, 2 connectors)
5. Remove the cartridge hopper housing assembly. (4 screws)
6. Remove the right door interlock switch S2 (1). (2 screws, 2 connectors)



## Toner Detecting Read Switch (S4) Removal

1. Remove the toner cartridge.
2. Remove the rear cover. (6 screws)
3. Remove the right cartridge hopper cover. (1 screw)
4. Remove the cartridge hopper assembly. (4 screws, 2 connectors)
5. Remove the cartridge hopper housing assembly. (4 screws)
6. Remove the toner detecting read switch S4 (1). (2 screws)

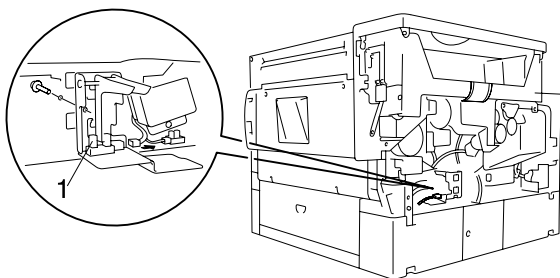


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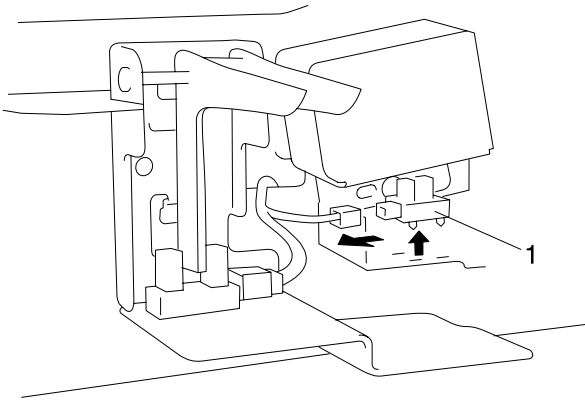
## 1st Cassette (Tray 1) Paper Near Empty Sensor (PC5) Removal

1. Remove the toner cartridge.
2. Remove the rear cover. (6 screws)
3. Remove the right cartridge hopper cover. (1 screw)
4. Remove the cartridge hopper assembly. (4 screws, 2 connectors)
5. Remove the cartridge hopper housing assembly. (4 screws)
6. Remove the 1st cassette paper near empty sensor PC5 (1). (1 screw, 1 connector)



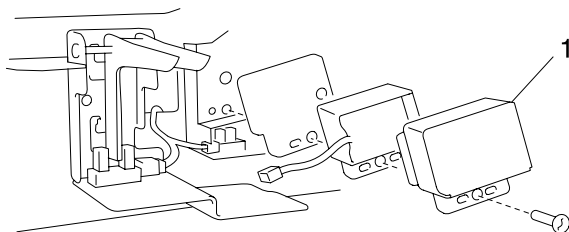
## 1st Cassette (Tray 1) Set Sensor (PC6) Removal

1. Remove the toner cartridge.
2. Remove the rear cover. (6 screws)
3. Remove the right cartridge hopper cover. (1 screw)
4. Remove the cartridge hopper assembly. (4 screws, 2 connectors)
5. Remove the cartridge hopper housing assembly. (4 screws)
6. Remove the 1st cassette set sensor PC6 (1). (1 connector)



## 1st Cassette (Tray 1) Paper Take-Up Solenoid (SL1) Removal

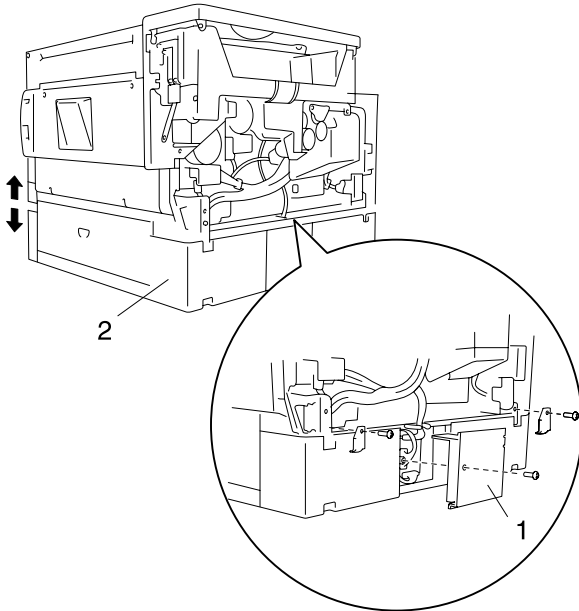
1. Remove the toner cartridge.
2. Remove the rear cover. (6 screws)
3. Remove the right cartridge hopper cover. (1 screw)
4. Remove the cartridge hopper assembly. (4 screws, 2 connectors)
5. Remove the cartridge hopper housing assembly. (4 screws)
6. Remove the 1st cassette paper take-up solenoid SL1 (1). (1 screw, 1 connector)



## Double Feed Detection Sensor Board (PWB-H) Removal

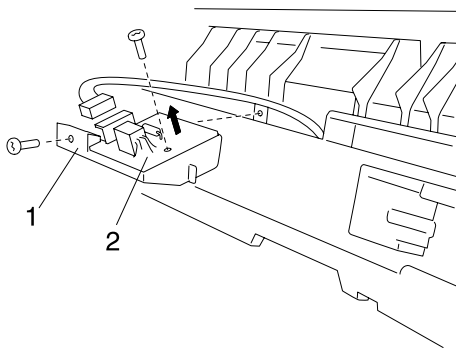
1. Remove the toner cartridge.
2. Remove the rear cover. (6 screws)
3. Remove the right cartridge hopper cover. (1 screw)
4. Remove the cartridge hopper assembly. (4 screws, 2 connectors)
5. Remove the cartridge hopper housing assembly. (4 screws)
6. Remove the 2nd cassette main board cover (1). (1 screw)
7. Remove the 2nd cassette unit (2). (4 screws, 4 fix-plates, 1 connector)

**Note:** Place the printer body so that the left side is on the bottom when the 2nd cassette is removed.



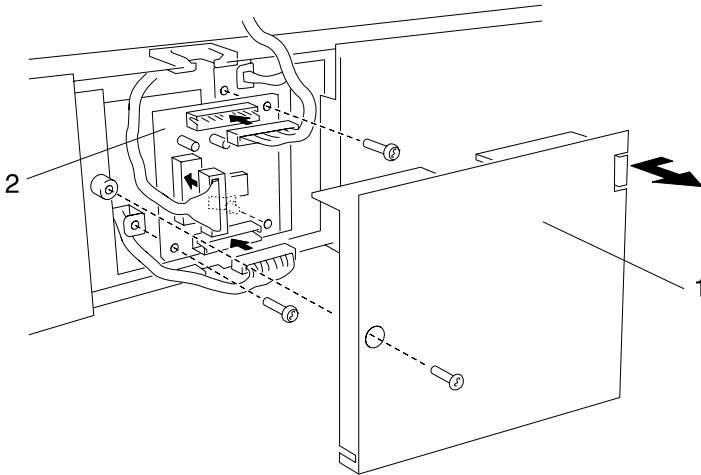
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8. Remove the PWB-H assembly (1). (1 screw, 1 connector)
9. Remove the PWB-H (2). (1 screw)



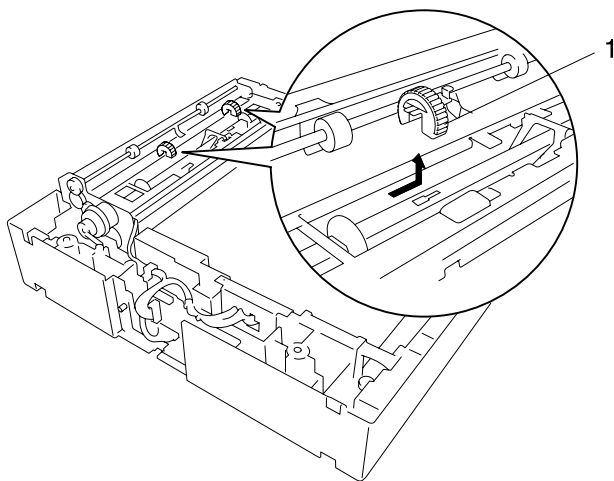
## 500-Sheet Cassette (Tray 2 and 3) Control Board (PWB-A2) Removal

1. Remove the toner cartridge.
2. Remove the rear cover. (6 screws)
3. Remove the right cartridge hopper cover. (1 screw)
4. Remove the cartridge hopper assembly. (4 screws, 2 connectors)
5. Remove the cartridge hopper housing assembly. (4 screws)
6. Push and hold right projection and remove the 2nd cassette board cover (1). (1 screw)
7. Remove PWB-A2 (2). (2 screws, 2 connectors)



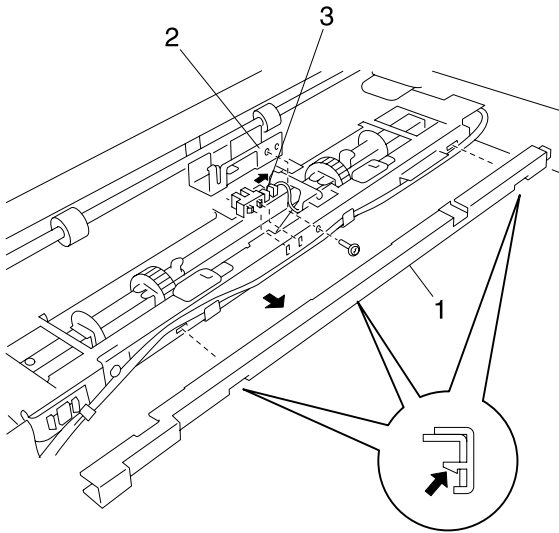
## 500-Sheet Cassette (Tray 2 and 3) Paper Take-Up Roller Removal

1. Remove the 2nd cassette unit. (See **“Double Feed Detection Sensor Board (PWB-H) Removal”** on page 4-60.)
2. Remove the 2nd cassette paper take-up roller (1).



## 500-Sheet Cassette (Tray 2 and 3) Paper Empty Sensor (PC22) Removal

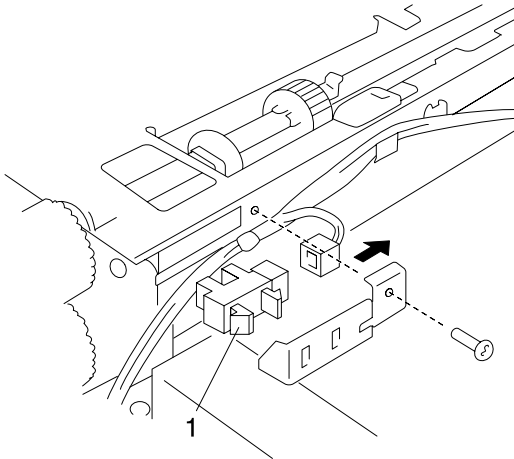
1. Remove the 2nd cassette unit. (See **“Double Feed Detection Sensor Board (PWB-H) Removal”** on page 4-60.)
2. Release 3 projections and remove the harness cover (1).
3. Remove the 2nd cassette paper empty sensor cover (2). (1 screw, 1 connector)
4. Remove the 2nd cassette paper empty sensor PC22 (3).





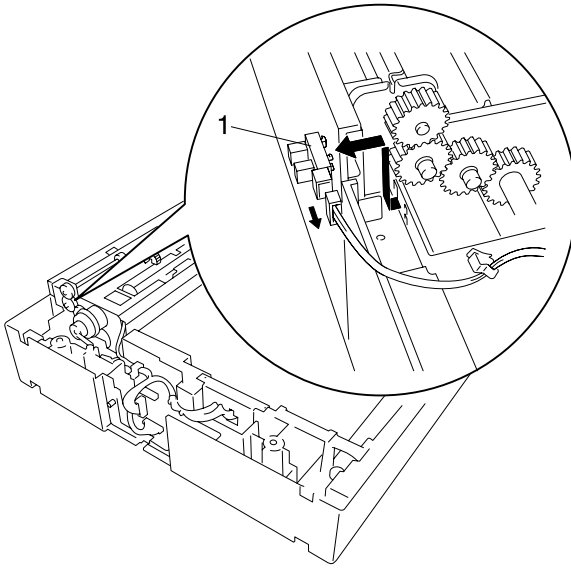
## 500-Sheet Cassette (Tray 2 and 3) Paper Near Empty Sensor (PC25) Removal

1. Remove the 2nd cassette unit. (See **“Double Feed Detection Sensor Board (PWB-H) Removal”** on page 4-60.)
2. Release 3 projections and remove the harness cover. (See **“500-Sheet Cassette (Tray 2 and 3) Paper Empty Sensor (PC22) Removal”** on page 4-64 for illustration.)
3. Remove the 2nd cassette paper near empty sensor PC25 (1). (1 screw, 1 connector)



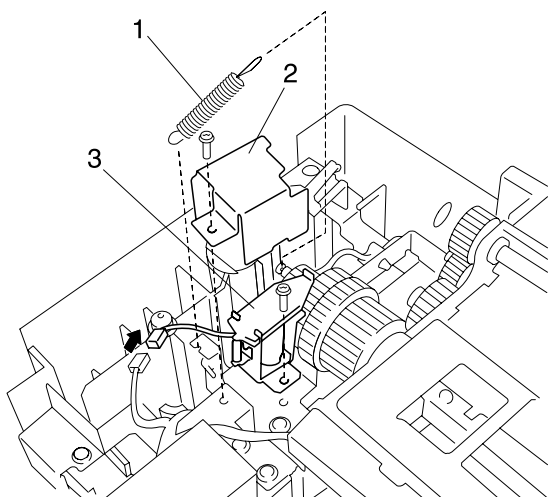
## 500-Sheet Cassette (Tray 2 and 3) Right Door Detecting Sensor (PC23) Removal

1. Remove the 2nd cassette unit. (See **“Double Feed Detection Sensor Board (PWB-H) Removal”** on page 4-60.)
2. Remove the 2nd cassette right door detecting sensor PC23 (1). (1 connector)



## 500-Sheet Cassette (Tray 2 and 3) Paper Take-Up Solenoid (SL2) Removal

1. Remove the 2nd cassette unit. (See **“Double Feed Detection Sensor Board (PWB-H) Removal”** on page 4-60.)
2. Unhook one side of the spring (1).
3. Remove the 2nd cassette paper take-up solenoid (2). (1 screw)
4. Remove the 2nd cassette paper take-up solenoid SL2 (3). (1 screw, 1 connector)

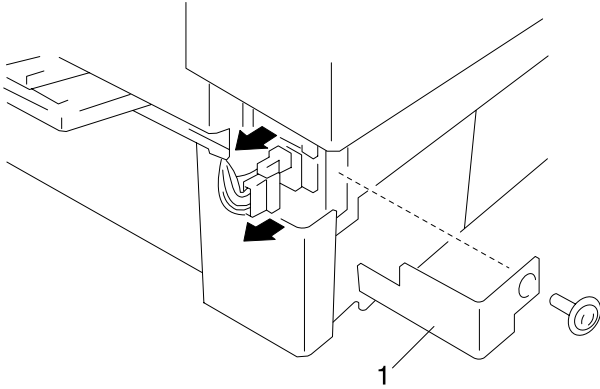


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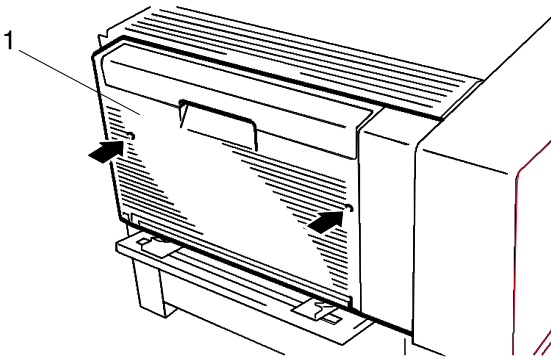
## Duplex Unit Removal Procedures

### Duplex Unit Removal

1. Remove the wiring cover (1). (1 screw)
2. Unplug the 2 connectors.



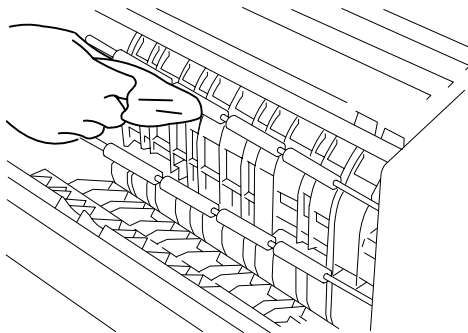
3. Remove the duplex unit (1). (2 screws)



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## Duplex Unit Cleaning

Wipe the surfaces of duplex unit transport roller 1 and 2 and duplex unit transport roll 1 and 2 clean with a soft cloth dampened with alcohol.



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# Paper Deck 2500-Sheet Tray 4 (LCC) Removal Procedures

## Exterior Parts Removal

### Left Cover (1) Removal

Remove 2 screws

### Front Cover (2) Removal

Slide out the LCC and remove 3 screws.

### Side Panel (3) Removal

Open the side panel.

### Right cover (4) removal.

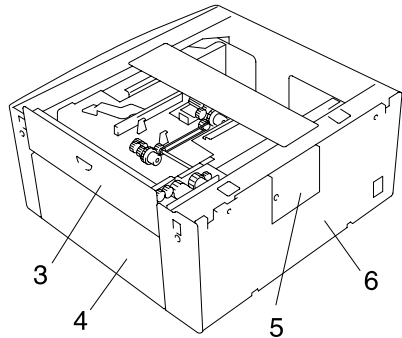
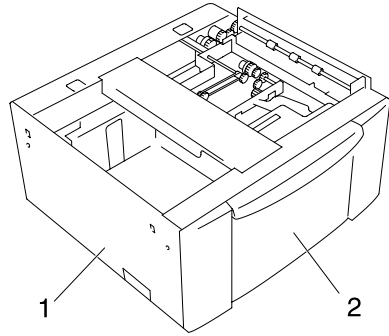
Remove 2 screws.

### Maintenance Panel (5) Removal

Remove 1 screw.

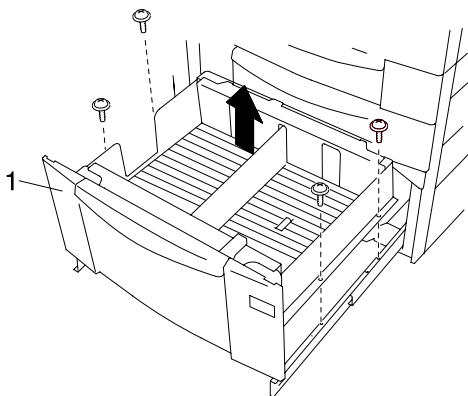
### Rear Cover (6) Removal.

Remove 4 screws.

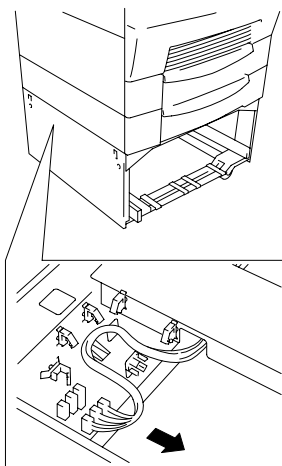


## Paper Take-Up Unit Removal

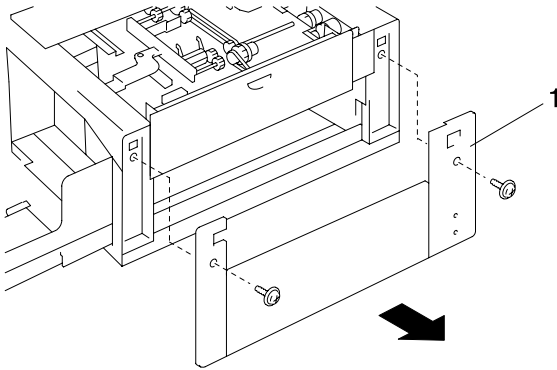
1. Remove the LCC (1). (4 screws)



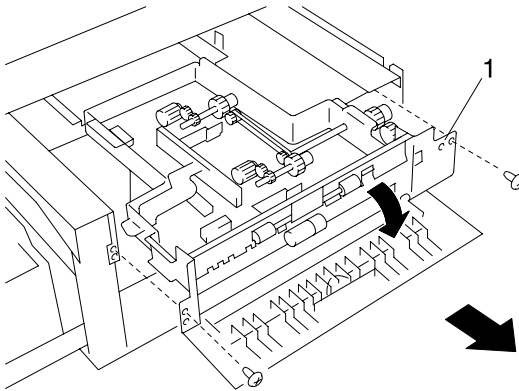
2. Unplug 3 connectors and remove the harness from 5 cord clamps.



3. Remove right cover (1). (2 screws)



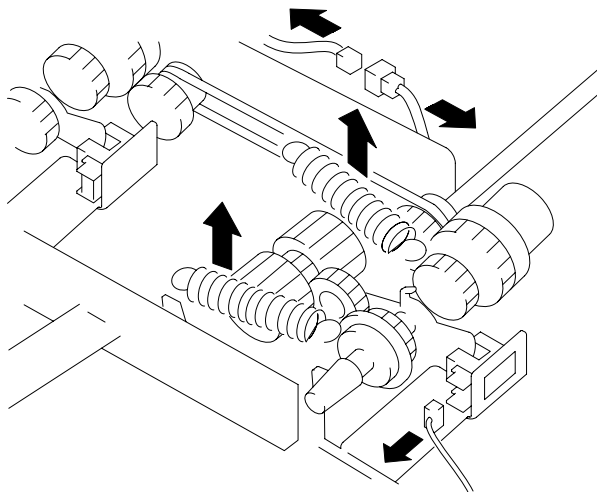
4. Open the side panel.
5. Remove paper take-up unit (1). (2 screws)



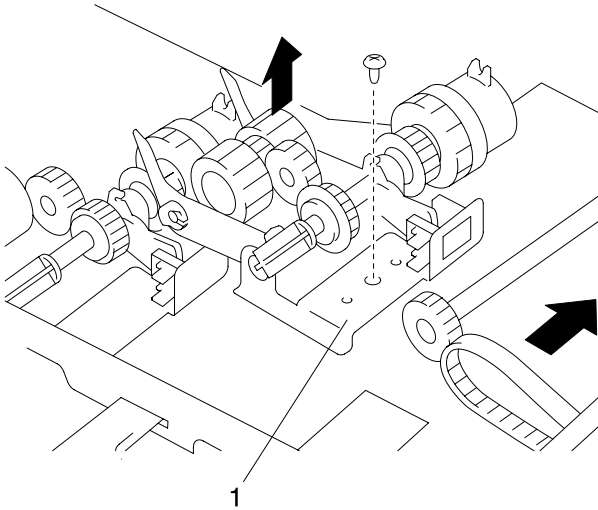


## Paper Take-Up Rolls Removal

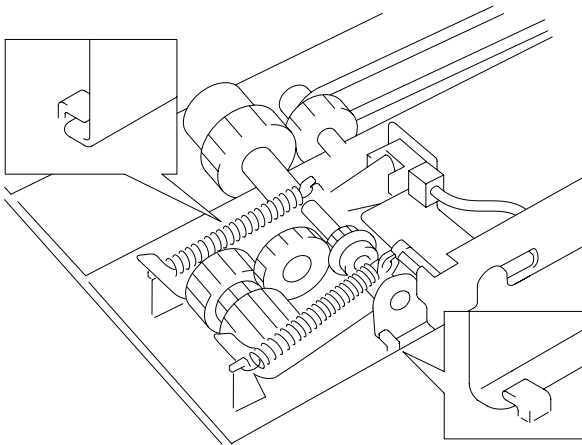
1. Remove the paper take-up unit. (See **“Paper Take-Up Unit Removal”** on page 4-71.)
2. Unplug lift-up sensor 1 and take-up clutch 1 connectors of the right paper take-up roll assembly.
3. Unhook 2 springs.



4. Remove 1 screw and slide timing belt toward the clutch side. Remove the right paper take-up roll assembly (1).

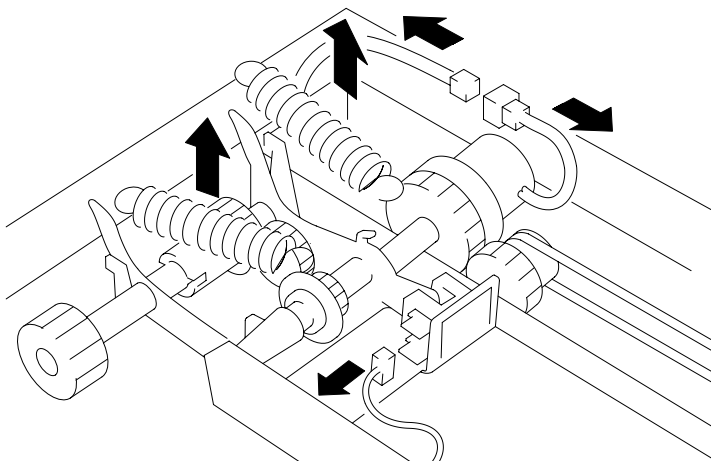


**Note:** When mounting the right paper take-up roll assembly, fit the ends of the assembly into position as shown.

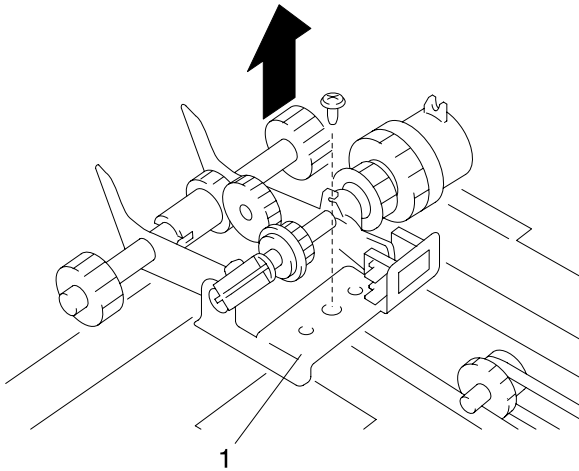


## 4023-001

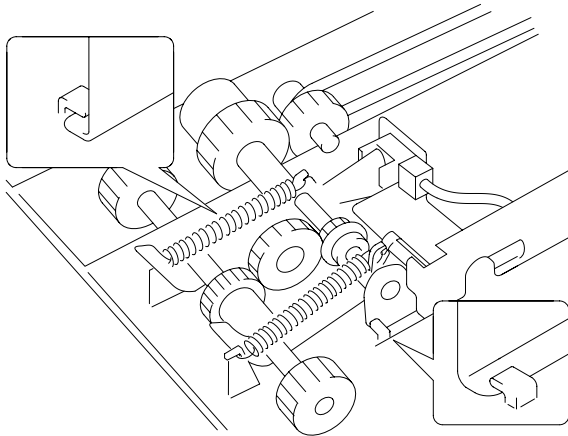
5. Unplug lift-up sensor 2 and take-up clutch 2 connectors of the left paper take-up roll assembly.
6. Unhook 2 springs.



7. Remove left paper take-up roll assembly (1). (1 screw)

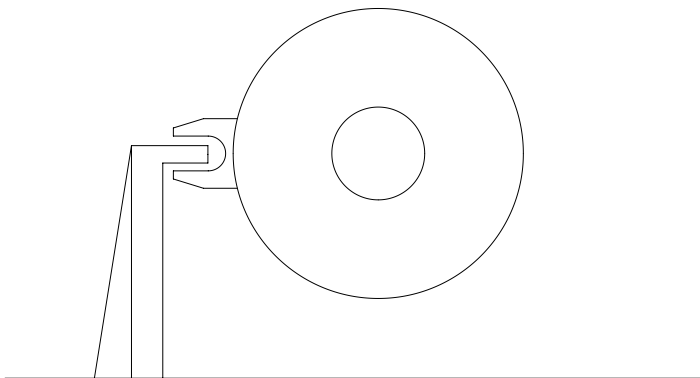


**Note:** When mounting the left paper take-up roll assembly, fit the ends of the assembly into position as shown.

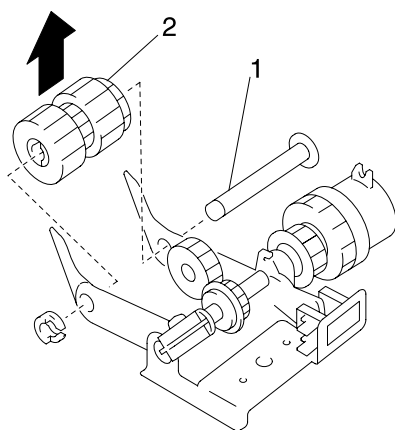


## 4023-001

**Note:** When mounting the paper take-up roll assemblies, fit the take-up clutch into position as shown.

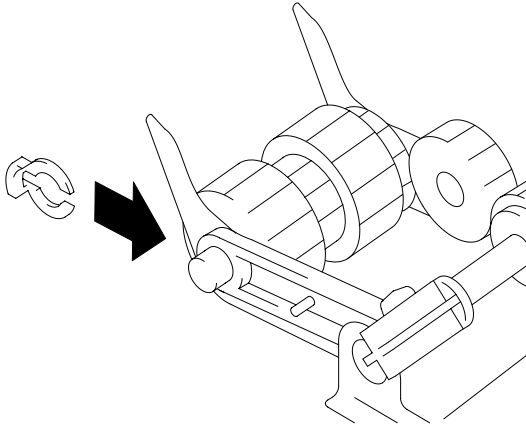


8. Take the shaft (1) and paper take-up roll 1 (2) apart. (1 C-clip)

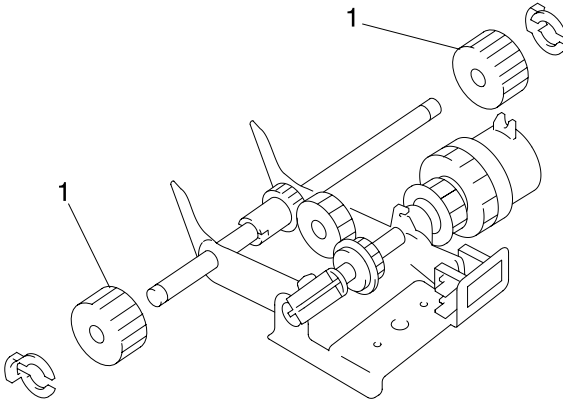


## 4023-001

**Note:** When mounting paper take-up roll 1, face the C-clip as shown.

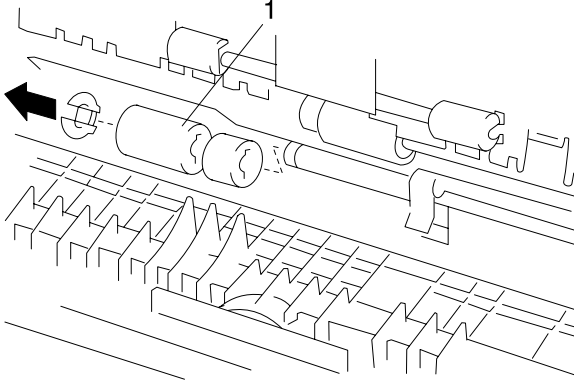


9. Remove paper take-up roll 2 (1). (2 C-clips)

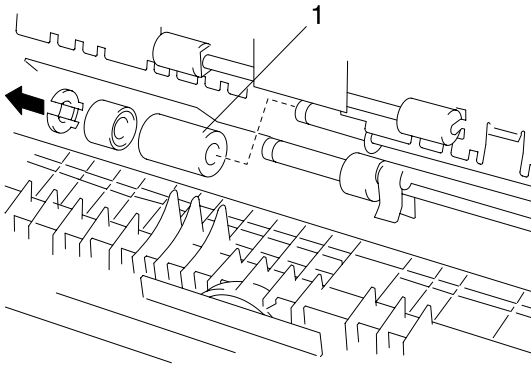


## Feed Roll, Separator Roll and Torque Limiter Assembly Removal

1. Open the side cover.
2. Remove the separator roll and torque limiter assembly (1). (1 C-clip)

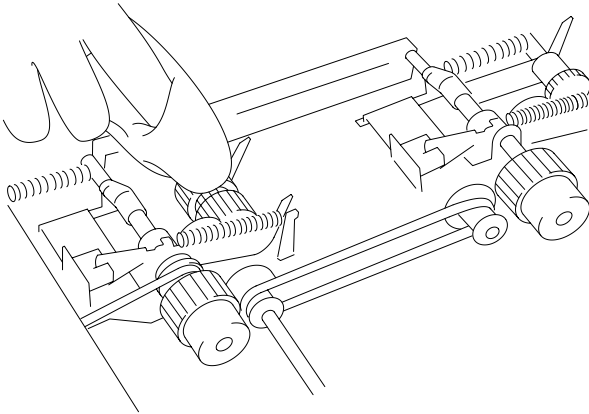


3. Remove the feed roll (1). (1 C-clip)



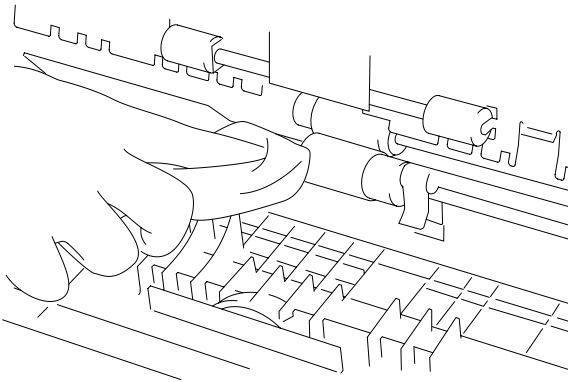
## Paper Take-Up Roll Cleaning

1. Remove the paper take-up unit.
2. Wipe the surface of paper take-up roll 1 & 2 clean with a soft cloth dampened with alcohol.



## Feed Roll and Separator Roll Cleaning

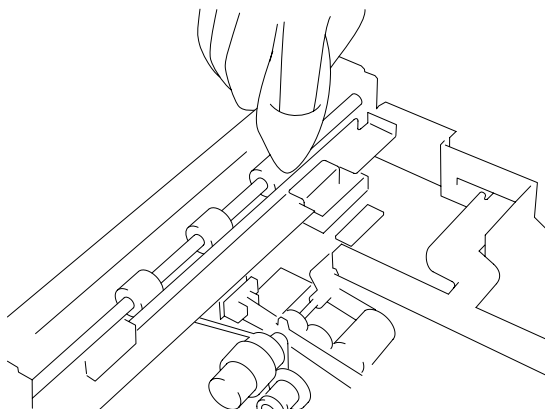
1. Open the side panel.
2. Wipe the surface of the feed/separator roll clean with a soft cloth dampened with alcohol.





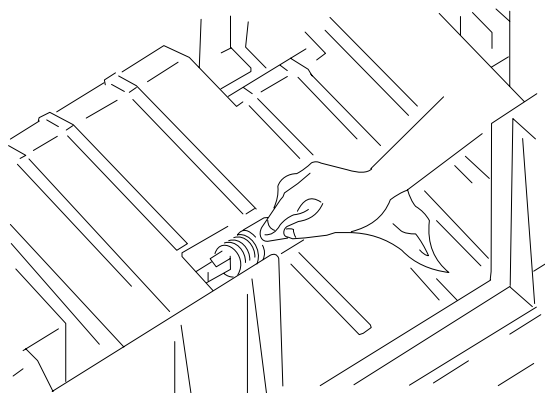
## Vertical Transport Roller/Rolls Cleaning

1. Remove the paper take-up unit.
2. Wipe the surface of the vertical transport roller/rolls clean with a soft cloth dampened with alcohol.



## Roll with a Torque Limiter Cleaning

1. Slide out the LCC.
2. Wipe the surface of the roll with a torque limiter clean with a soft cloth dampened with alcohol.



## **Finisher Removal Procedures**

### **External Covers Removal**

#### **Finisher Tray Cover (1) Removal**

1. Open top cover of the finisher tray.
2. Remove 4 screws.

#### **Upper Left Cover (2) Removal.**

1. Remove the finisher tray cover.
2. Remove 2 screws.

#### **Upper Rear Cover (3) Removal.**

1. Open the misfeed clearing cover.
2. Remove 3 screws.

#### **Upper Right Cover (4) Removal.**

1. Open the misfeed clearing cover.
2. Remove 2 screws.

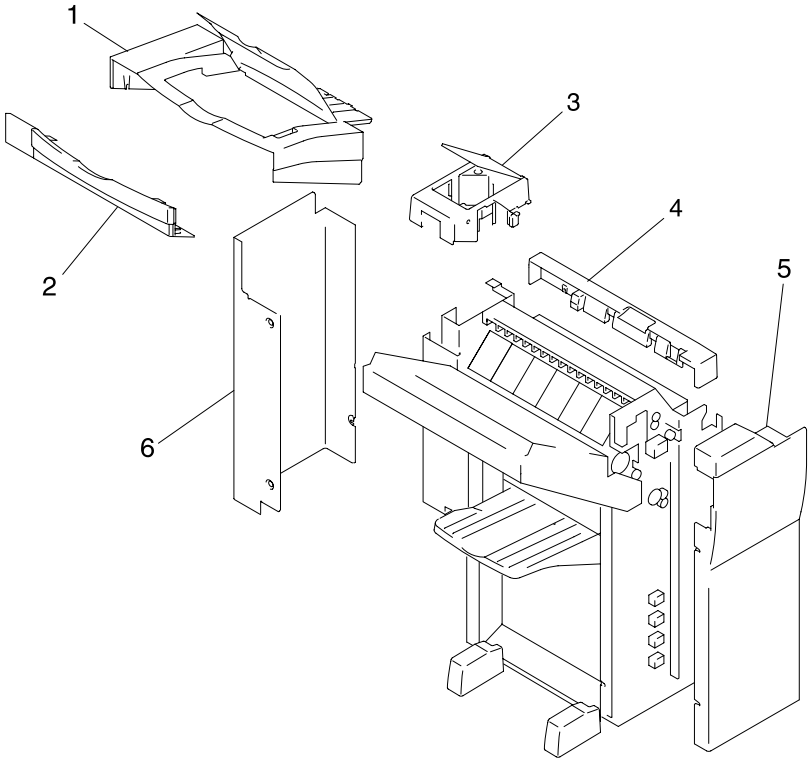
#### **Front Cover (5) Removal**

1. Open the misfeed clearing cover.
2. Remove the upper right cover.
3. Remove 5 screws.

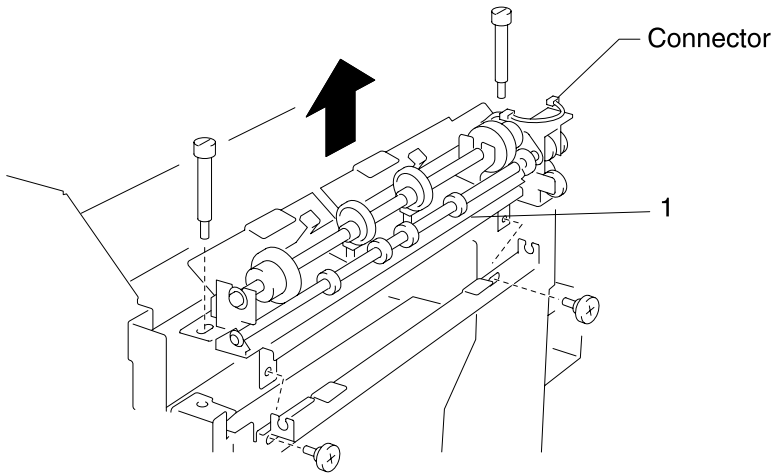
#### **Rear Cover (6) Removal**

Remove 5 screws.

4023-001



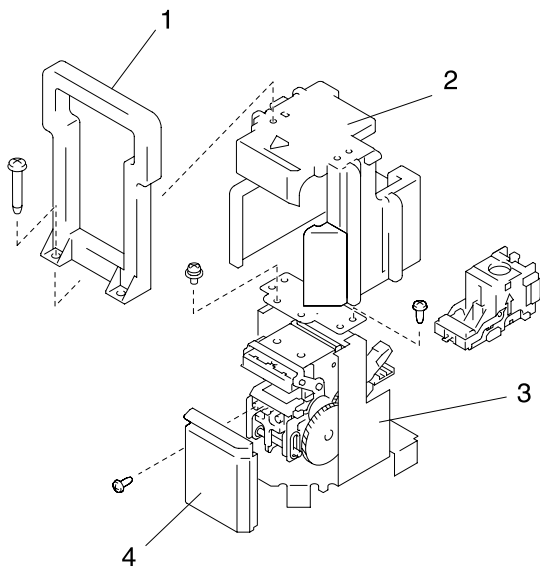
## Punch Unit Removal



1. Remove punch unit (1). (4 screws)

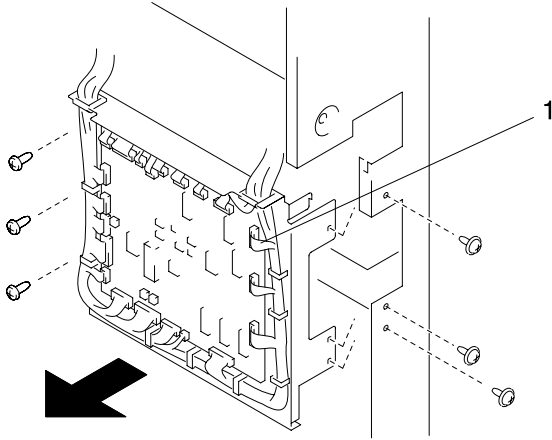
## Stapler Unit Disassembly

1. Remove handle (1) and cover (2). (2 screws)
2. Remove plate (3). (2 screws)
3. Remove guide (4). (1 screw)



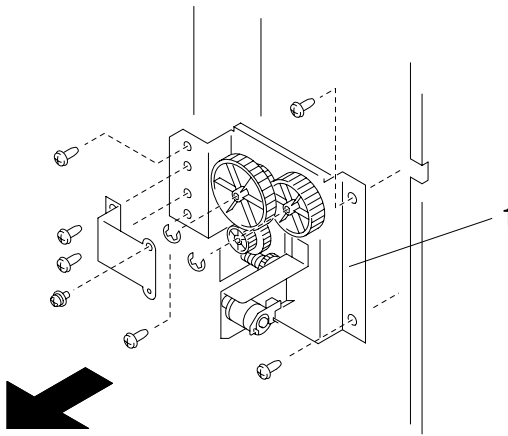
## Rear Cable Removal

1. Remove PWB-A (1). (6 screws)



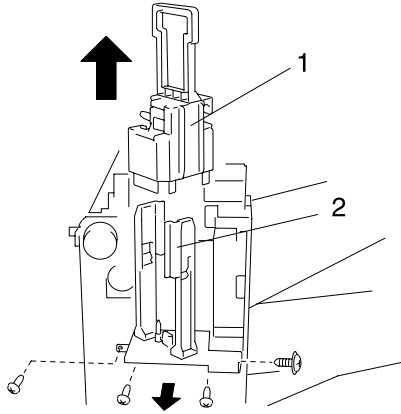
2. Remove the elevator motor (M9) assembly (1). (6 screws, 2 C-clips)

**Note:** During the removal procedure, support the elevator tray to prevent it from falling.

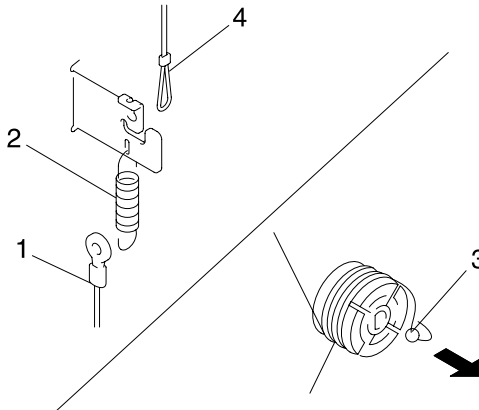


## 4023-001

3. Pull out the stapling unit (1).
4. Remove the stapling unit base (2). (4 screws)

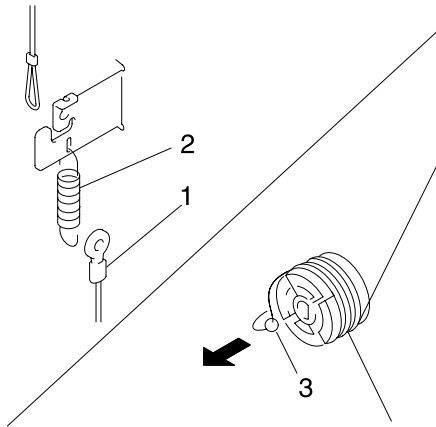


5. Unhook the cable (1) from the spring (2).
6. Remove the ball (3) from the cable pulley.
7. Unhook the cable (4) from the hook.



## Front Cable Removal

1. Unhook the cable (1) from the spring (2).
2. Remove the ball (3) from the cable pulley.
3. Unhook the cable from the hook.

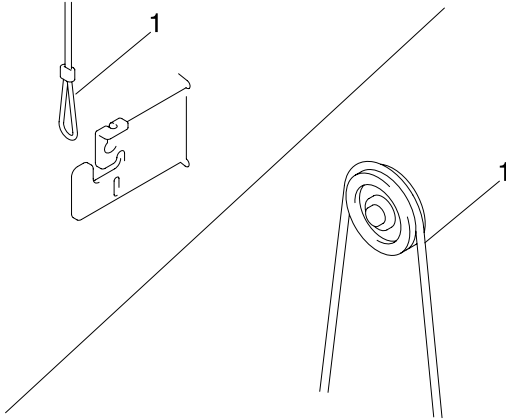




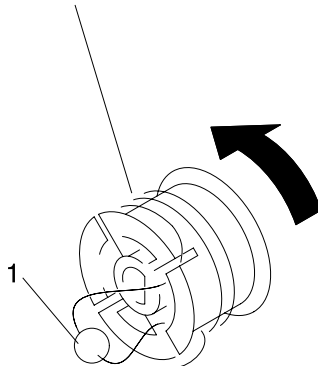
## Front Cable Installation

**Note:** The same procedure applies to the rear cable, except the cable winding direction which is opposite.

1. Hook the cable (1) on the hook.
2. Wind the cable (1) around the pulley.

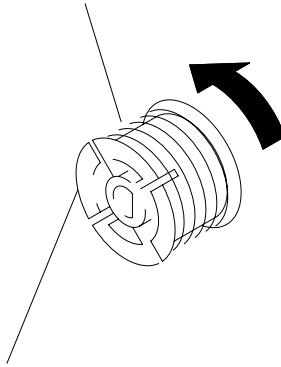


3. Wind the cable counterclockwise and load the ball (2) into the cable pulley.
4. With the elevator tray in the uppermost position, wind the cable about five turns.

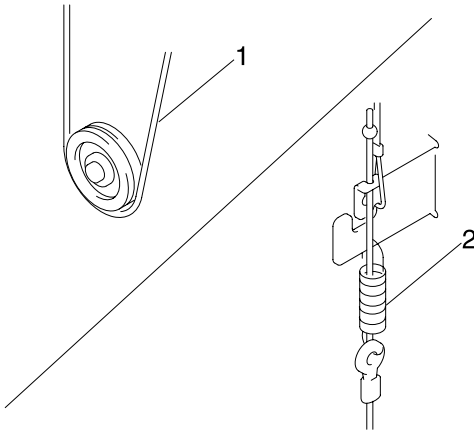


## 4023-001

5. Wind the rest of the cable counterclockwise.
6. With the elevator tray in the uppermost position, wind the cable about 1 turn.



7. Hook the cable (1) to the pulley.
8. Hook the cable (2) to the spring.
9. Pass the cable through the spring and secure it to the hook.



---

# Mailbox Removal Procedures

## Storage Unit Cover Removals

**Note:** Removing the rear cover lets you access the main board and transport motor. Removing the front cover lets you access each solenoid.

### Rear Cover (1) Removal

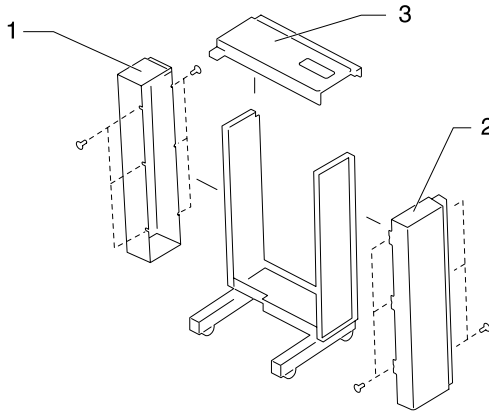
Remove 6 screws.

### Front Cover (2) Removal

Remove 6 screws.

### Top Cover (3) Removal

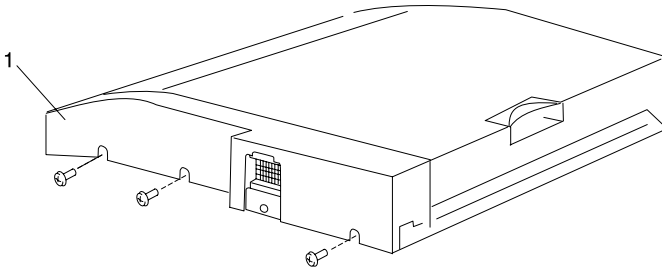
1. Remove rear cover (1).
2. Remove front cover (2).
3. Remove top cover (3).



## Horizontal Transport Unit Cover Removal

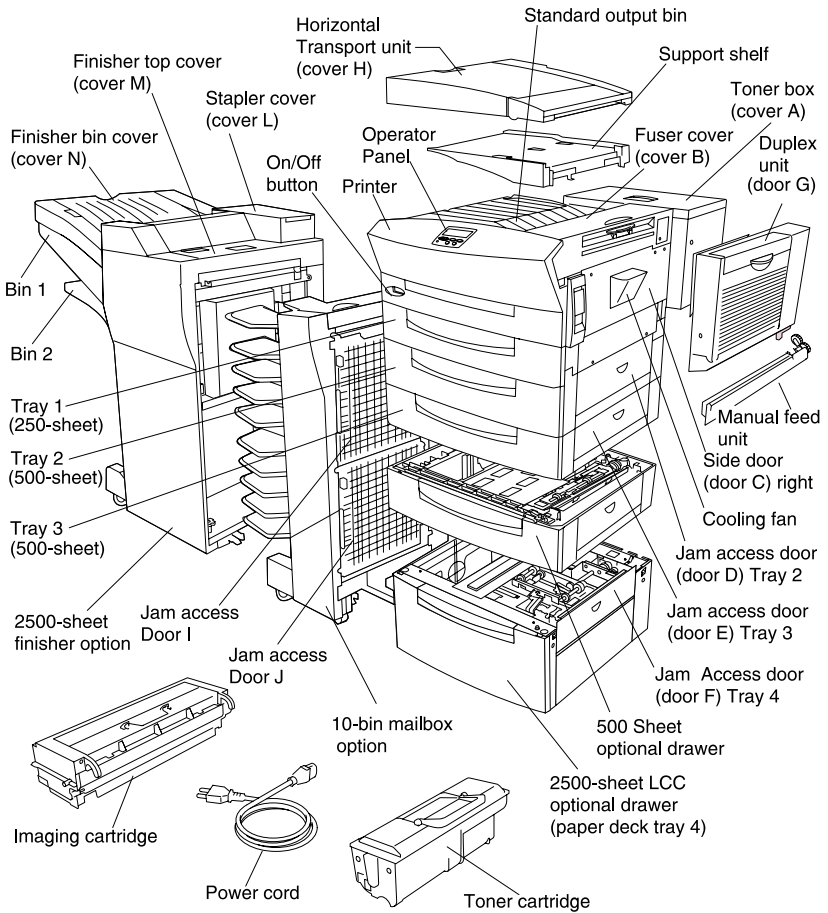
**Warning:** Before removing the finisher or mailbox, ensure that the horizontal transport unit is firmly supported or removed. Failure to adhere will result in damage to the finisher or mailbox mounting brackets.

Remove rear cover (1). (3 screws)

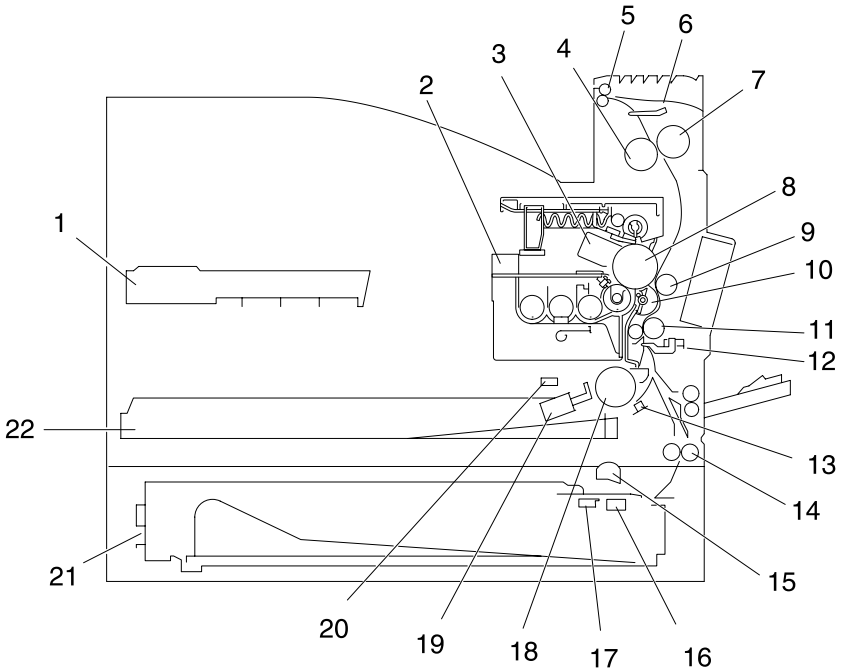


# 5. Locations

## Printer with Options

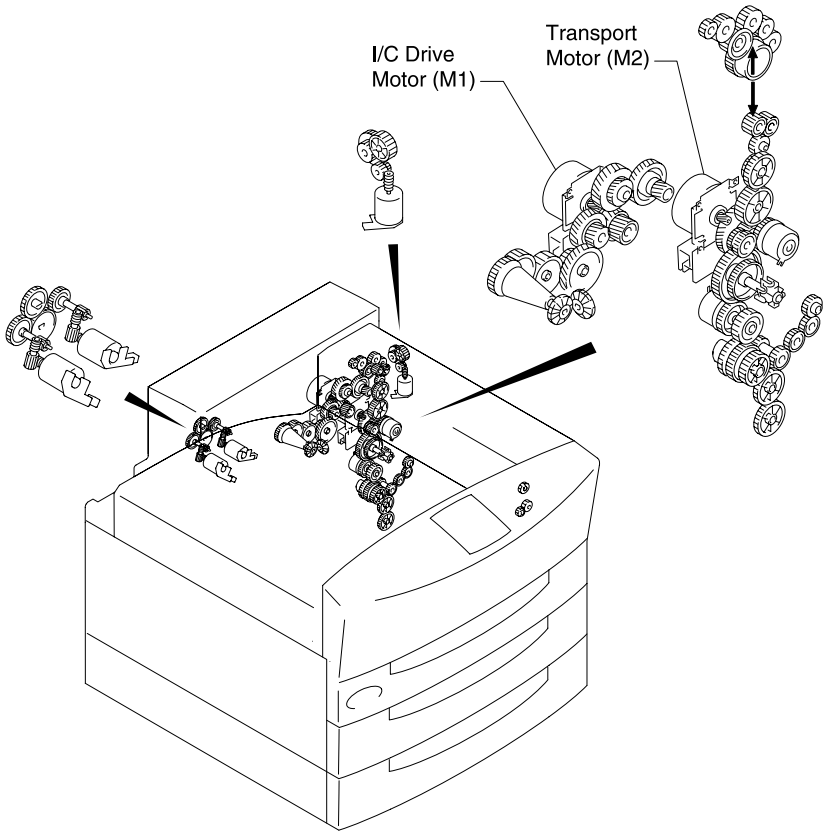


Printer Parts

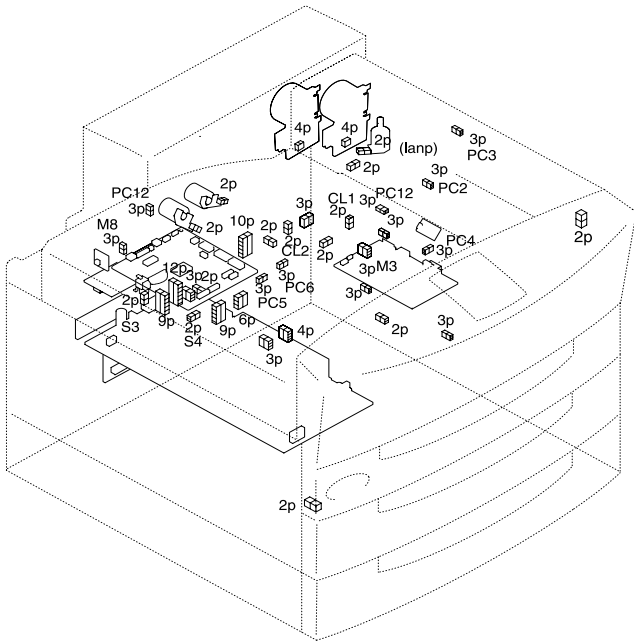
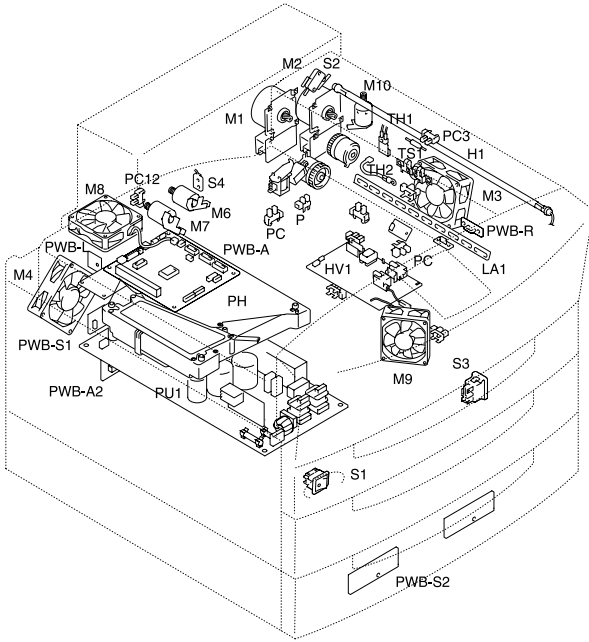


1	Printhead Unit (PH)	12	Synchronizing Roller Sensor (PC2)
2	Imaging Cartridge (I/C)	13	Double Feed Detecting Sensor Board (PWB-H)
3	PC Drum Charger	14	Vertical Transport Roller
4	Upper Fusing Roller (Fusing Roller Heater Lamp (H1) is incorporated.)	15	2nd Cassette Paper Take-up Roller
5	Paper Exit Roller	16	2nd Cassette Paper Empty Sensor (PC22)
6	Paper Exit Sensor (PC3)	17	2nd Cassette Paper Take-up Solenoid (SL21)
7	Lower Fusing Roller	18	1st Cassette Paper Take-up Roller
8	PC Drum	19	1st Cassette Paper Take-up Solenoid (SL1)
9	Image Transfer Roller	20	1st Cassette Paper Empty Sensor (PC4)
10	Sleeve Roller	21	2nd Paper Cassette
11	Synchronizing Roller	22	1st Paper Cassette

**Gear/Roller Assignment Motors**



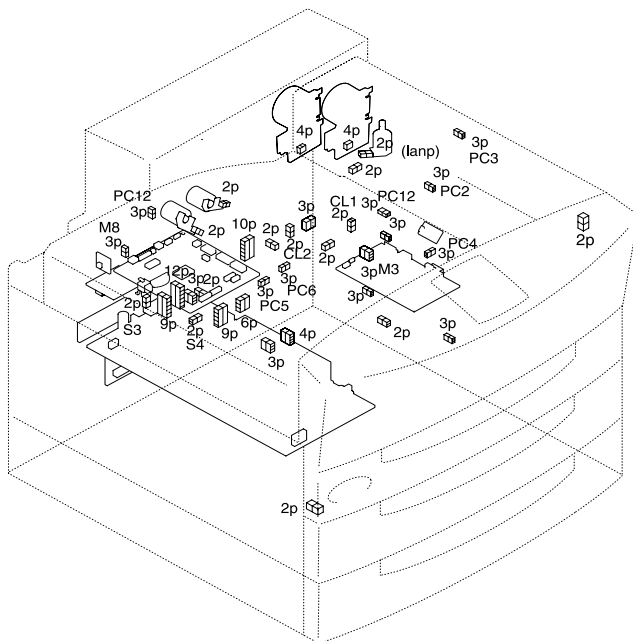
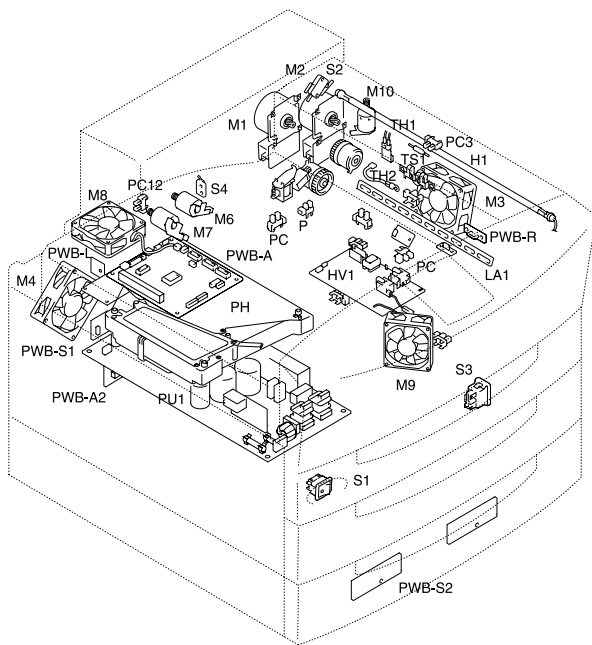
# Electrical Components





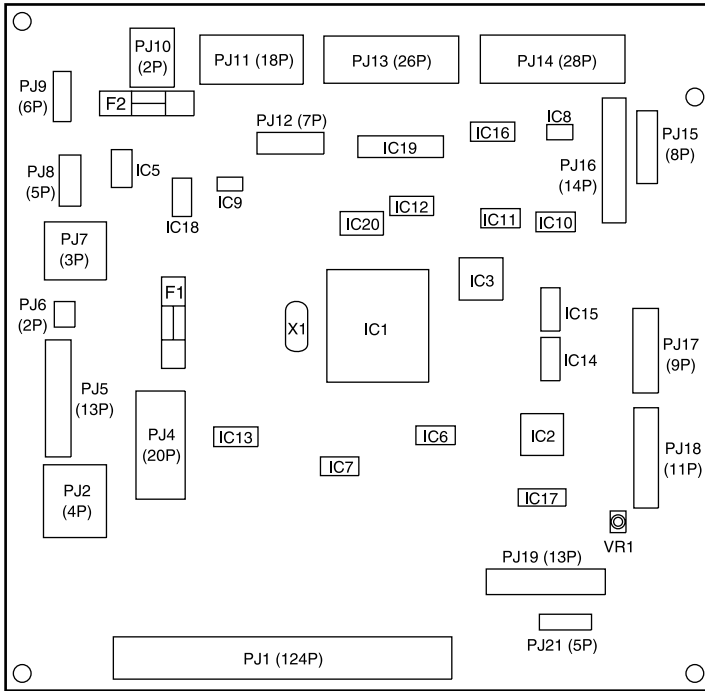
Symbol	Name	Symbol	Name
CL1	Synchronizing Clutch	PU1	Power Supply Unit
CL2	Transport Clutch	PWB-A	Printer Main Engine Board
H1	Fusing Roller Heater Lamp	PWB-A2	2nd Cassette Main Board
HV1	High Voltage Unit	PWB-H	Double Feed Detecting Sensor Board
LA1	Erase Lamp	PWB-I	Paper Size Detecting Board
M1	I/C Drive Motor	PWB-L	CPM Switching Board
M2	Transport Motor	PWB-OP	Control Panel
M3	Cooling Fan Motor	PWB-P	Controller Board
M4	Power Unit Cooling Fan Motor	PWB-R1	Fuser Frame Resistor Board
M6	Main Hopper Motor	PWB-R2	Pre-Transfer Guide Plate Resistor Board
M7	Sub Hopper Motor	PWB-R3	Resistor Board
M8	Ozone Fan Motor	PWB-S1	1st Cassette Paper Size Detecting Board
M9	I/C Cooling Fan Motor	PWB-S2	2nd Cassette Paper Size Detecting Board
M10	Agitating Motor	S1	Power Switch
PC2	Synchronizing Roller Sensor	S2	Right-Side Door Interlock Switch
PC3	Paper Exit Sensor	S3	Right Door Switch
PC4	1st Cassette Paper Empty Sensor	S4	Toner Detection Plate Read Switch
PC5	1st Cassette Paper Near Empty Sensor	S5	1st Cassette Paper width Detecting Switch
PC6	1st Cassette Set Sensor	SL1	1st Cassette Paper Take-Up Solenoid
PC10	Bottle Cover Sensor	SL21	2nd Cassette Paper Take-Up Solenoid
PC12	Exit Paper Full Detecting Sensor	TF1	Fusing Roller Heater Lamp Fuse
PC22	2nd Cassette Paper Empty Sensor	TH1	Fusing Roller Thermistor
PC23	2nd Cassette Right Door Sensor	TH2	I/C Thermistor
PC25	2nd Cassette Paper Near Empty Sensor	TS1	Fusing Roller Thermostat
PH	Printhead Unit		

# Electrical Components (cont.)



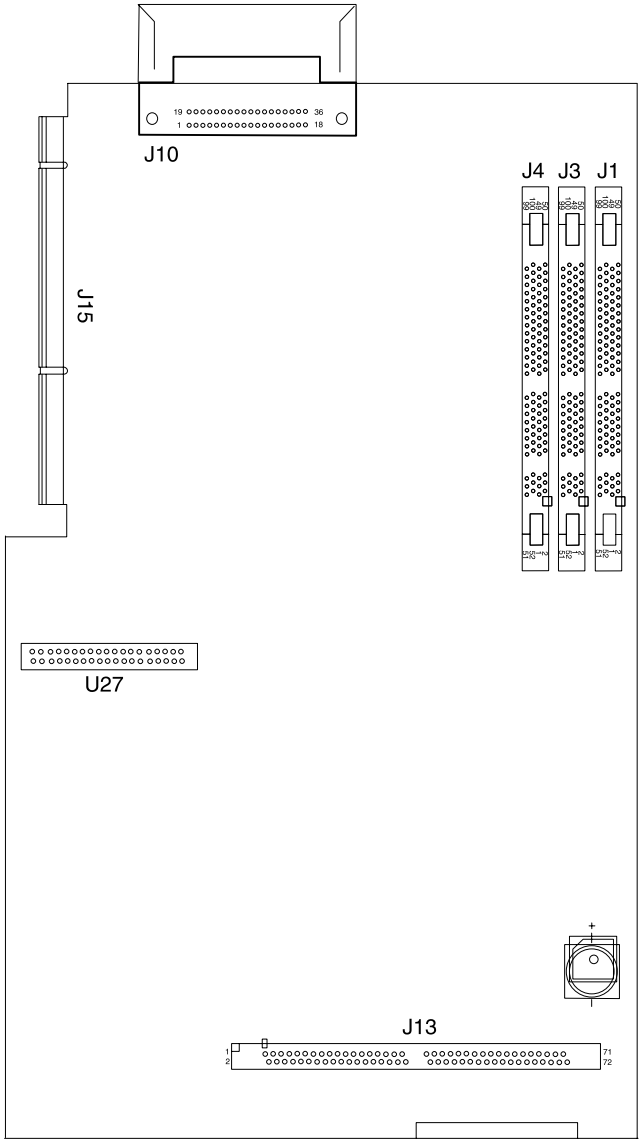
Symbol	Name	Function
PC2	Synchronizing Roller Sensor	Detects the paper fed from the tray. Active: "L".
PC3	Paper Exit Sensor	Detects paper ejection from the printer. Active: "L"
PC4	1st Cassette Paper Empty Sensor	Detects paper empty condition of the 1st paper cassette.
PC5	1st Cassette Paper Near Empty Sensor	Detects paper near empty condition of the 1st paper cassette.
PC6	1st Cassette Set Sensor	Detects that the 1st paper cassette is installed in the tray 1. Active: "H"
-	Double Feed Sensor	Detects the possibility of double feeding on the 1st paper cassette. Active: "L" (Detects whether the leading edge of the paper to be taken up next runs 10 mm or more from the nip point.) The sensor is on the double feed sensor board (PWB-H)
PC22	2nd Cassette Paper Empty Sensor	Detects paper empty condition of the 2nd paper cassette. Active: "L"
PC23	2nd Cassette Side Door Detecting Sensor	Detects open/close condition of the 2nd cassette side door. When it is opened, the sensor output is "H".
PC25	2nd Cassette Paper Near Empty Sensor	Detects paper near empty condition of the 2nd paper cassette. Active: "L"
S1	Power Switch	Turns power on and off.
S2	Right Door Interlock Switch	Detects open/close condition of the right door. When it is closed, the switch is ON.
S3	Right Door Switch	Detects open/close condition of the right door. When it is closed, the switch is ON.
S4	Toner Detection Plate Read Switch	Checks the toner level by detecting the position of the toner detection plate.
S5	1st Cassette Paper Size Detect Switch	Detects the paper width of the 1st paper cassette.
TH1	Fusing Roller Thermistor	Detects the temperature of the upper fusing roller.
TH2	I/C Thermistor	Detects the temperature of the imaging cartridge.
TS1	Fusing Roller Thermostat	Shuts off the application voltage to the fusing roller heater lamp (H1) when temperature becomes abnormal.
TF1	Fusing Roller Heater Lamp Fuse	Blows own fuse immediately to shut off the application voltage to the fusing roller heater lamp (H1) when temperature rises abnormally.

Printer Main Engine Board PWB-A



F1	Fuse (3A, 125V)
F2	Fuse (3A, 125V)
VR1	Factory setting (do not touch)

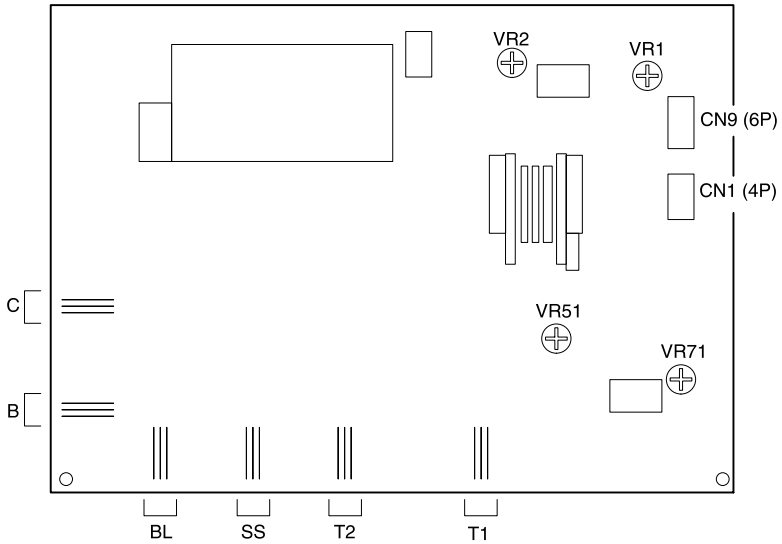
# RIP Controller Card



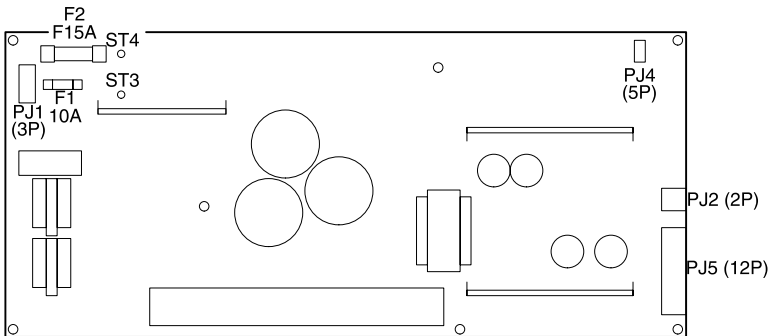
J1	Memory DIMM	J13	Code DIMM
J3	Memory DIMM	J15	Riser Card
J4	Memory DIMM	U27	Hard Disk
J10	Parallel Port		

## High Voltage Board (HV1)

Factory settings, do not touch.



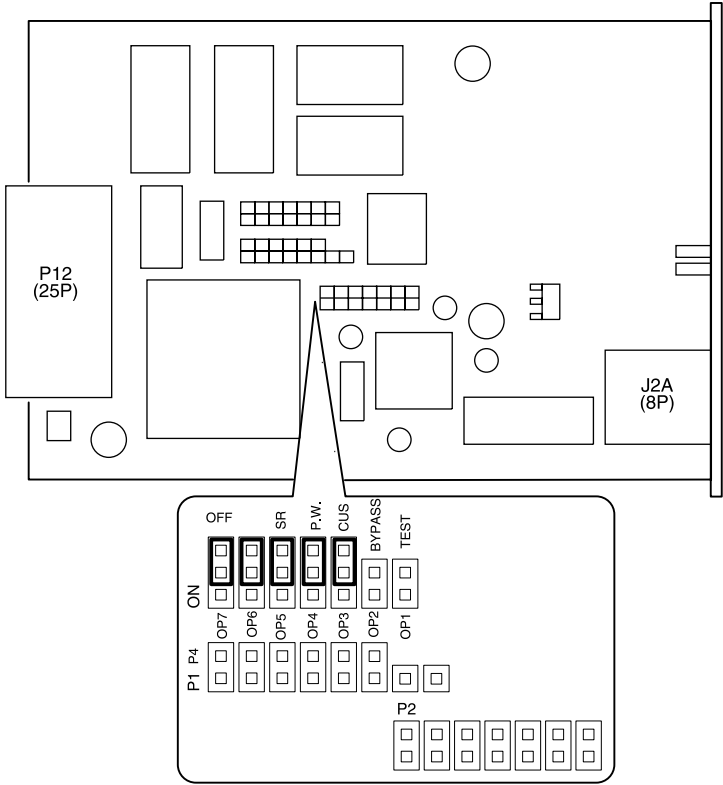
## Power Unit (PU1)



F1	Fuse (10A, 125V)
F2	Fuse (15A, 250V)
All other	Factory settings (do not touch)

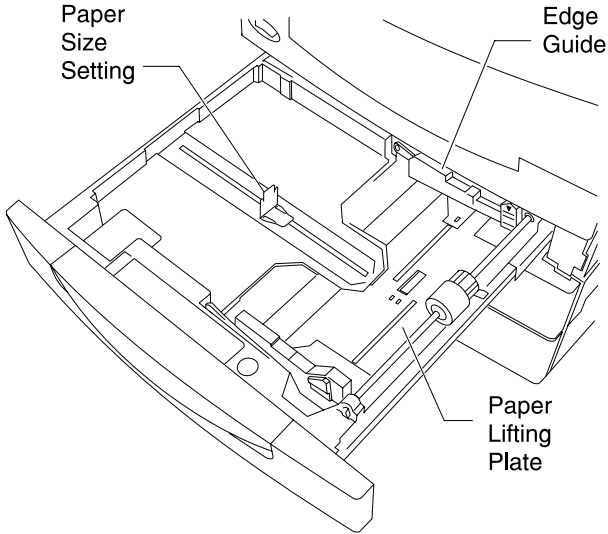
# Network Interface Card (NIC)

Default setting of jumper posts.

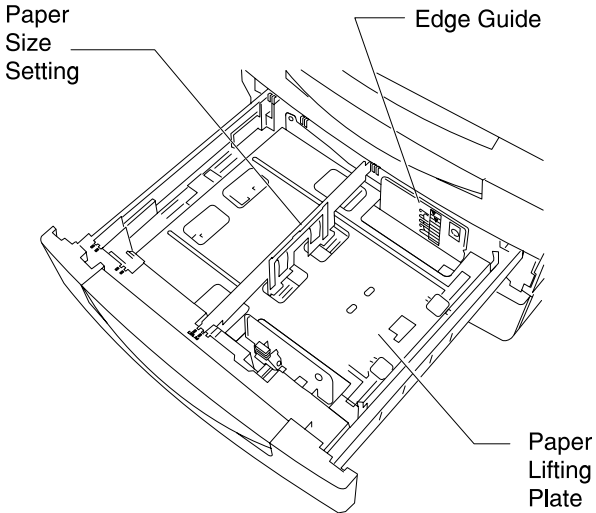


## Paper Cassettes

### Fixed Paper Size Cassette (Tray 1 only)



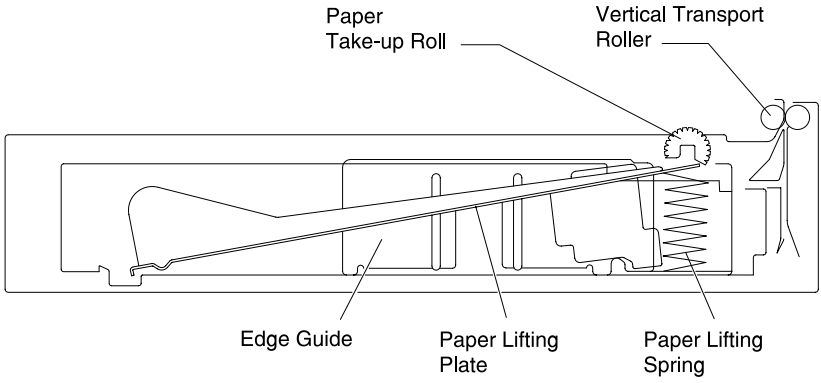
### Universal Cassette (Tray 2,3 and 500-Sheet Option)



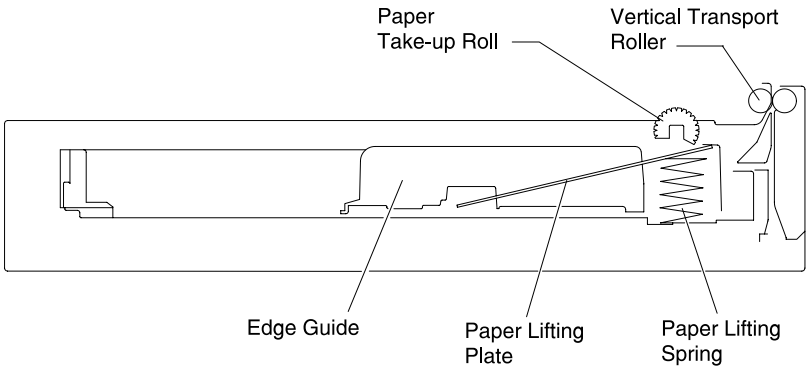


## Cross-Sectional View

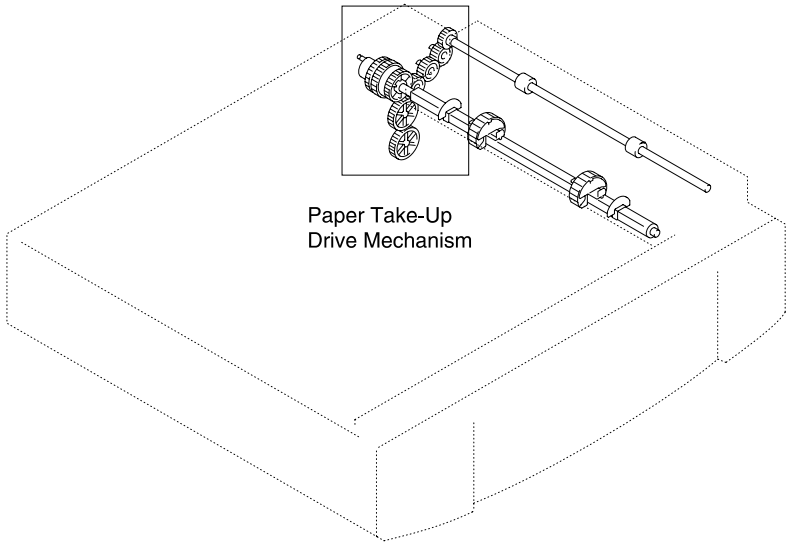
### Fixed Paper Size Cassette (Tray 1 only)



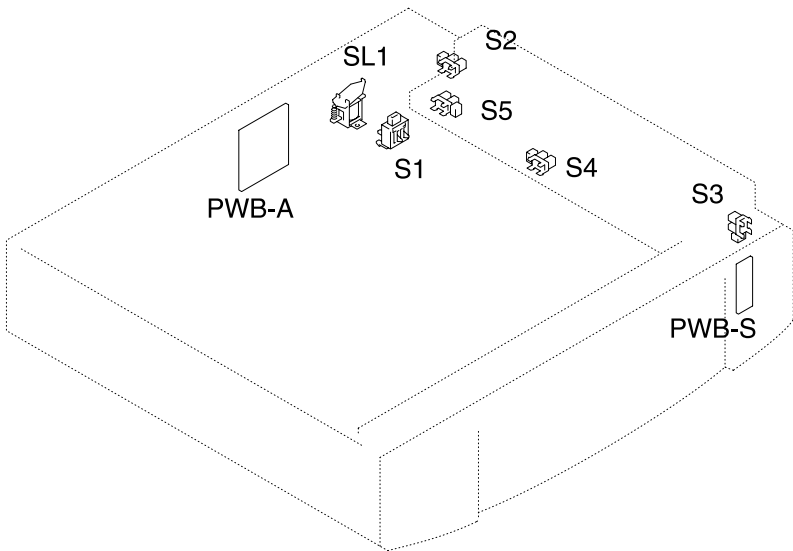
### Universal Cassette (Tray 2,3 and 500-Sheet Option)



## Paper Cassette Drive System



## Paper Cassette Electrical Components

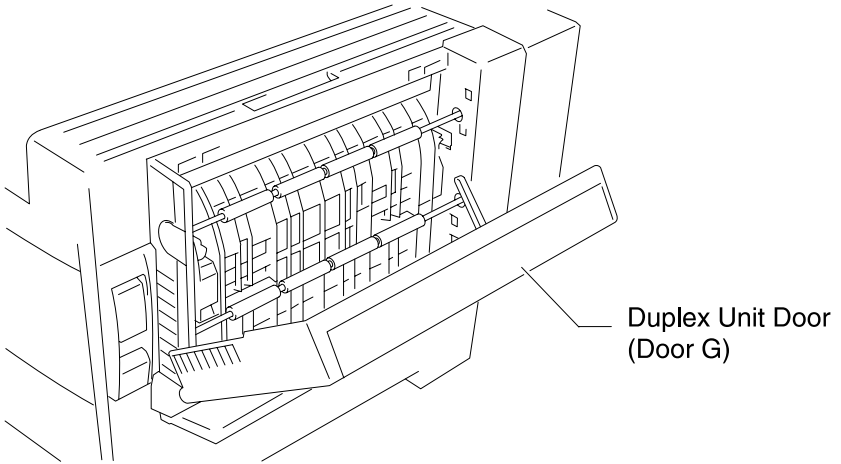


Symbol	Name	Symbol	Name
PWB-A	Cassette Main Board	S2	Side Cover Set Sensor
PWB-S	Paper Size Detecting Board	S3	Take-Up Sensor
SL1	Take-Up Solenoid	S4	Paper Empty Sensor
S1	Cassette Set Switch	S5	Paper Near Empty Sensor

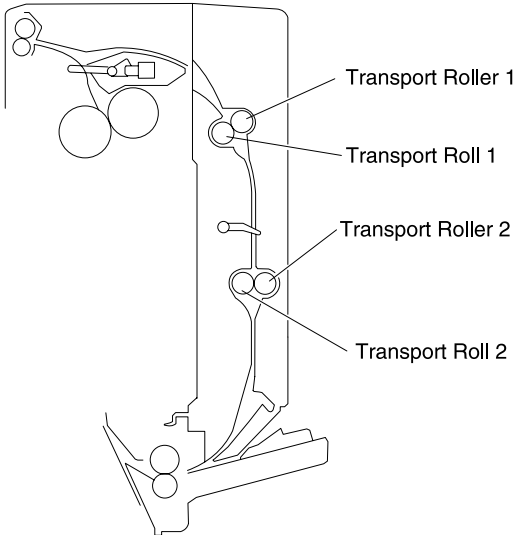
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## Duplex Unit

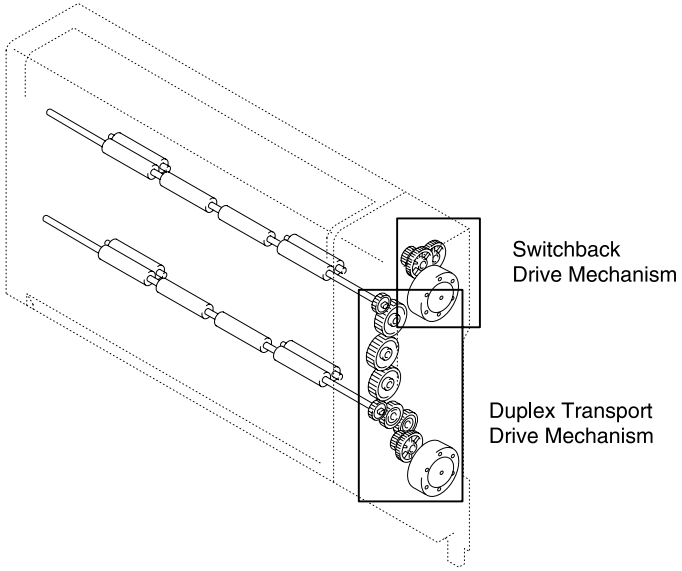
### Parts Identification



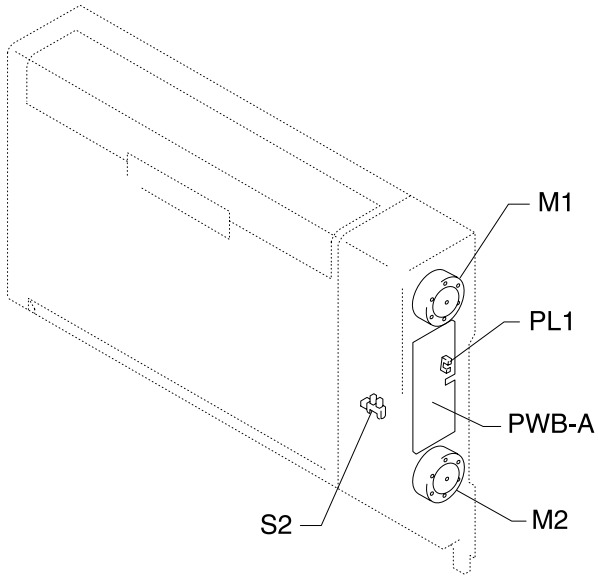
### Duplex Cross-Sectional View



## Duplex Drive System



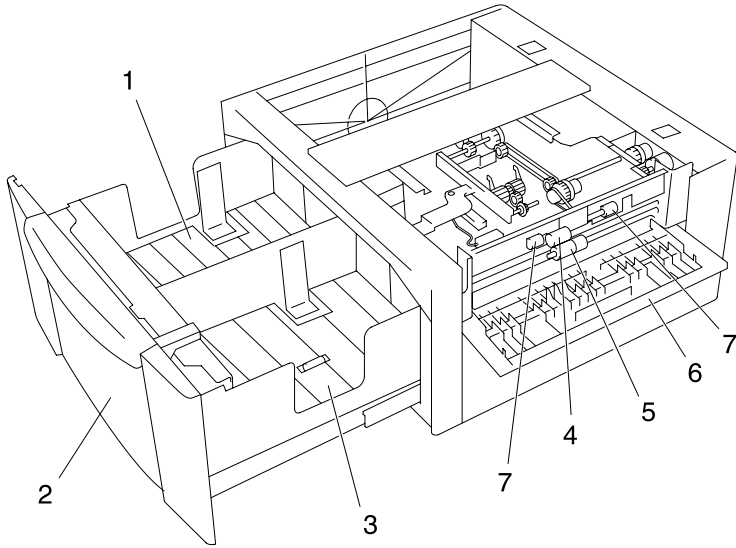
## Duplex Electrical Components



Symbol	Name
PWB-A	Duplex Main Board
M1	Switchback Motor
M2	Duplex Unit Transport Motor
S2	Duplex Unit Door Set Sensor
PL1	Duplex Unit Transport Sensor (in PWB-A)

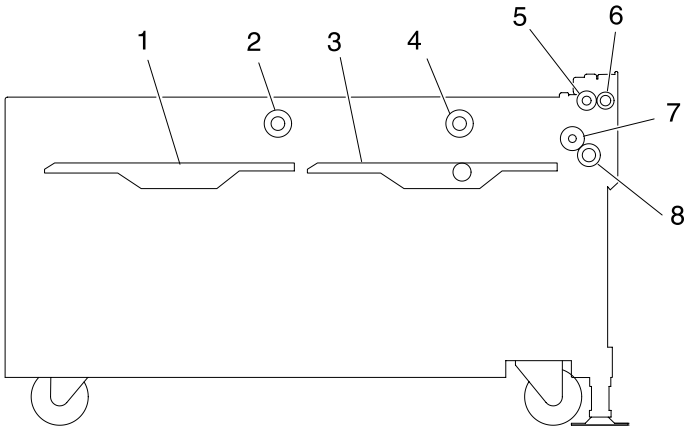
# Paper Deck

## Parts Identification



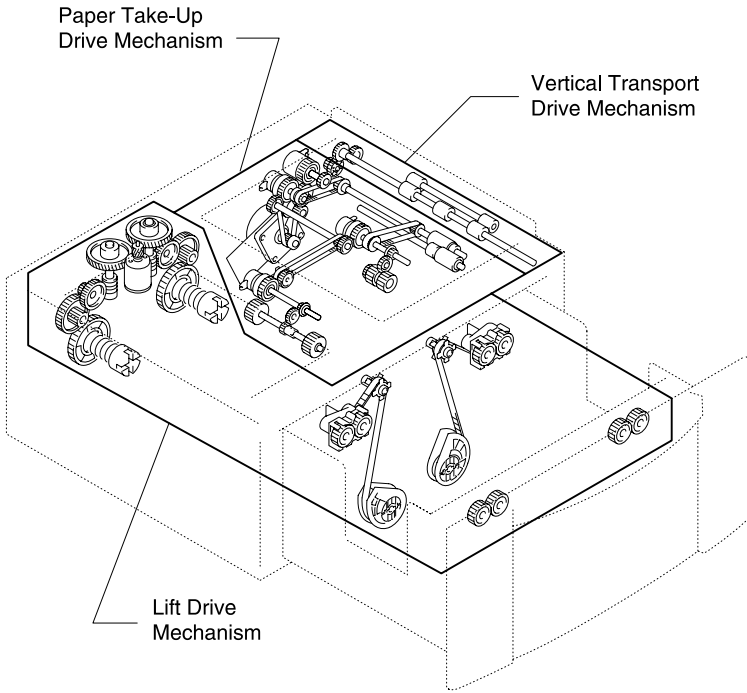
1	Lift 2	5	Separator Roll
2	Front Cover	6	Side Cover
3	Lift 1	7	Vertical Transport Rolls
4	Feed Roll		

### Paper Deck Cross-Sectional View



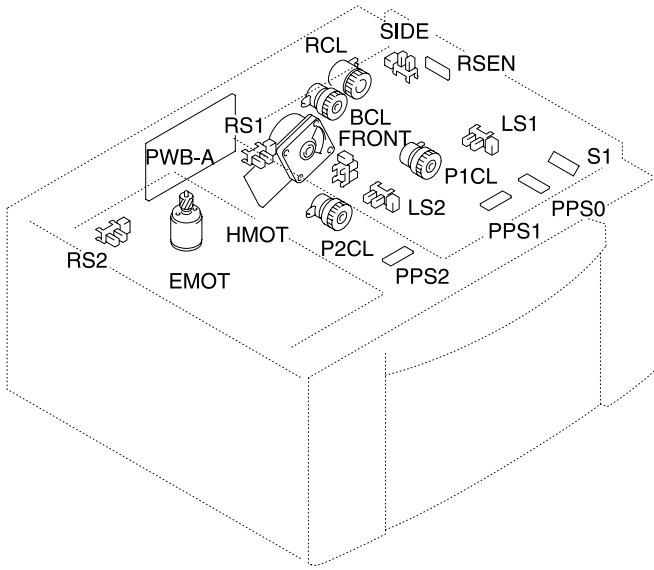
1	Lift 2	5	Vertical Transport Roller
2	Paper Take-Up Roll 2	6	Vertical Transport Roll
3	Lift 1	7	Feed Roll
4	Paper Take-Up Roll 1	8	Separator Roll

# Paper Deck Drive System





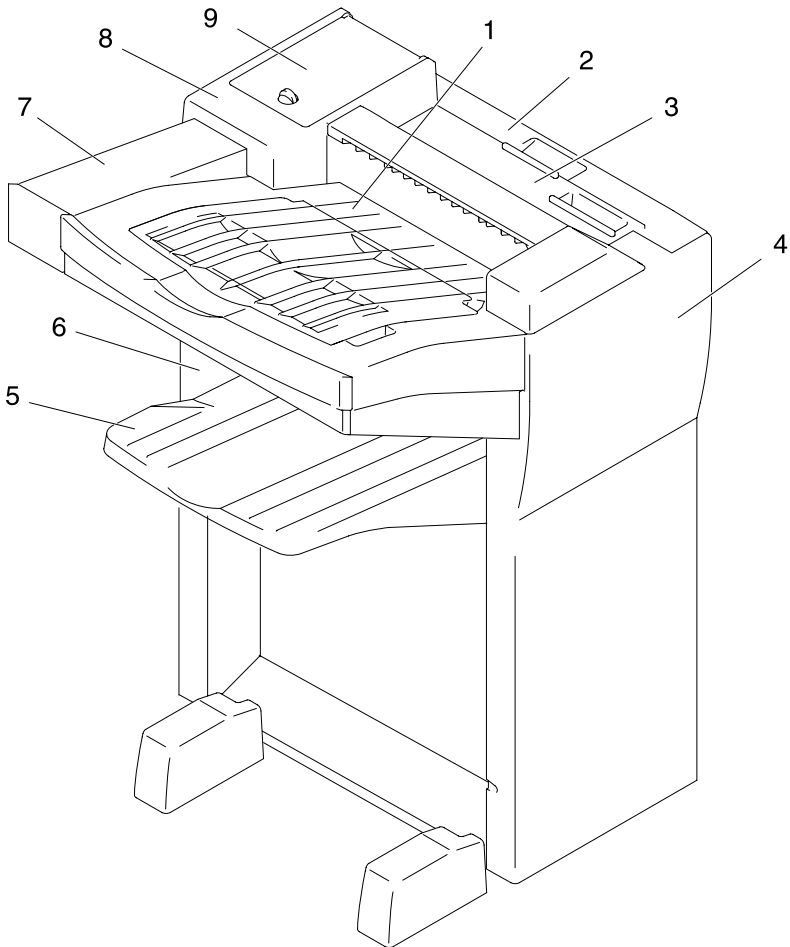
## Paper Deck Electrical Components



Symbol	Name	Symbol	Name
BCL	Separator Clutch	PPS1	Paper Empty Sensor 1
EMOT	LCC Lift-Up Motor	PPS2	Paper Empty Sensor 2
FRONT	LCC Set Sensor	PWB-A	LCC Main Board
HMOT	LCC Transport Motor	RCL	Registration Clutch
LS1	Lift-Up Sensor 1	RS1	Paper Near Empty Sensor 1
LS2	Lift-Up Sensor 2	RS2	Paper Near Empty Sensor 2
P1CL	Take-Up Clutch 1	RSEN	Registration Sensor
P2CL	Take-Up Clutch 2	S1	Paper Standby Position Sensor
PPS0	LCC Take-Up Sensor	SIDE	Side Cover Set Sensor

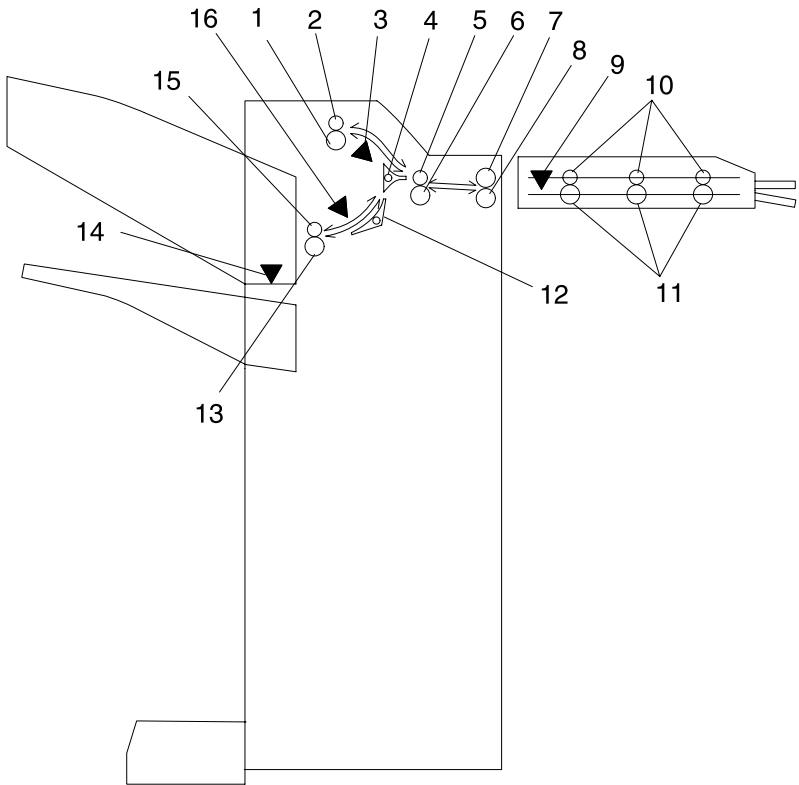
# Finisher

## Parts Identification



1	1st Tray	6	Rear Cover
2	Upper Right Cover	7	Finisher Tray Cover
3	Misfeed Clearing Cover	8	Upper Rear Cover
4	Front Cover	9	Staple Door
5	Elevator Tray		

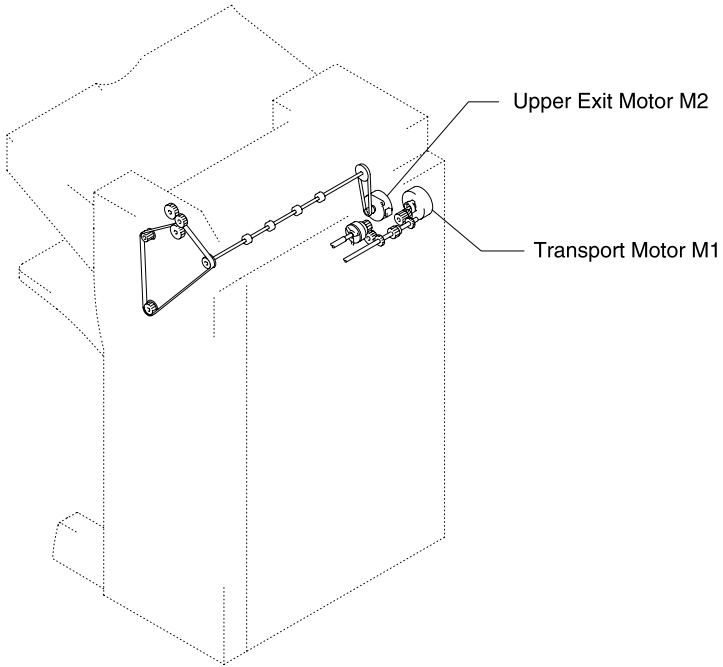
**Finisher Cross-Sectional View**



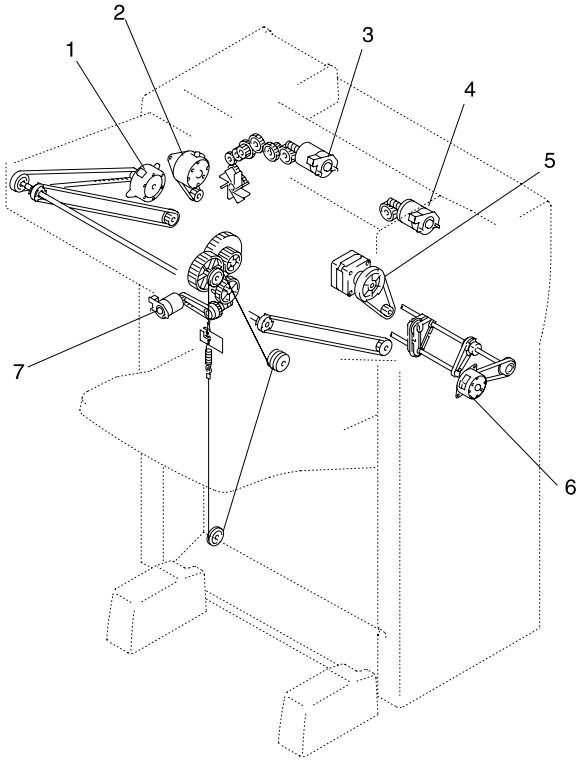
1	1st Tray Exit Roller	9	Paper Sensor PC1
2	1st Tray Exit Roll	10	Horizontal Transport Rolls
3	1st Tray Exit Sensor PC1	11	Horizontal Transport Rollers
4	Upper Entrance Switching Plate	12	Lower Entrance Switching Plate
5	Transport Roll	13	Finisher Tray Exit Roller
6	Transport Roller	14	Elevator Tray Empty Sensor PQ PWB-F
7	Entrance Roller	15	Finisher Tray Exit Roll
8	Entrance Roll	16	Finisher Tray Exit Sensor PC3

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## Finisher Drive System

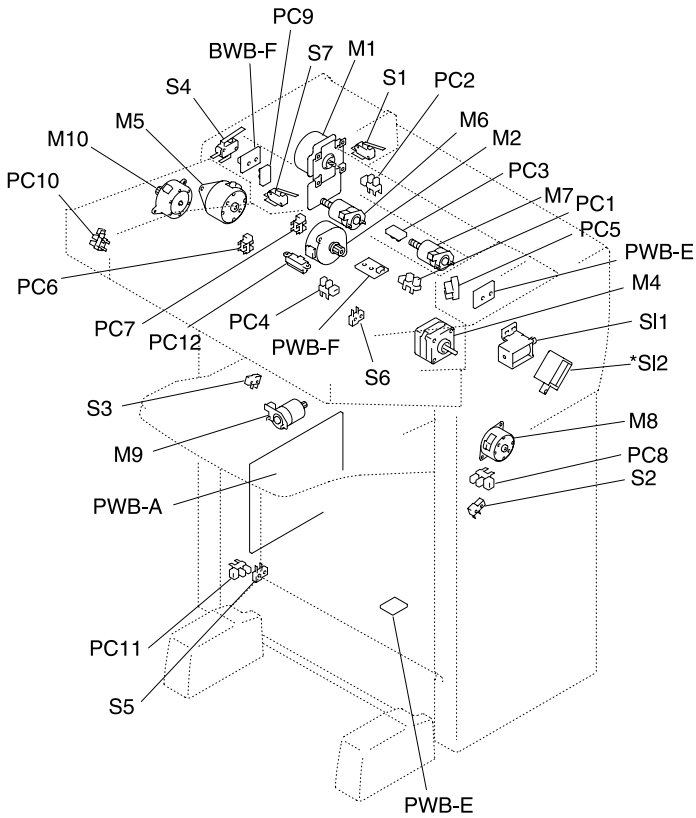


4023-001



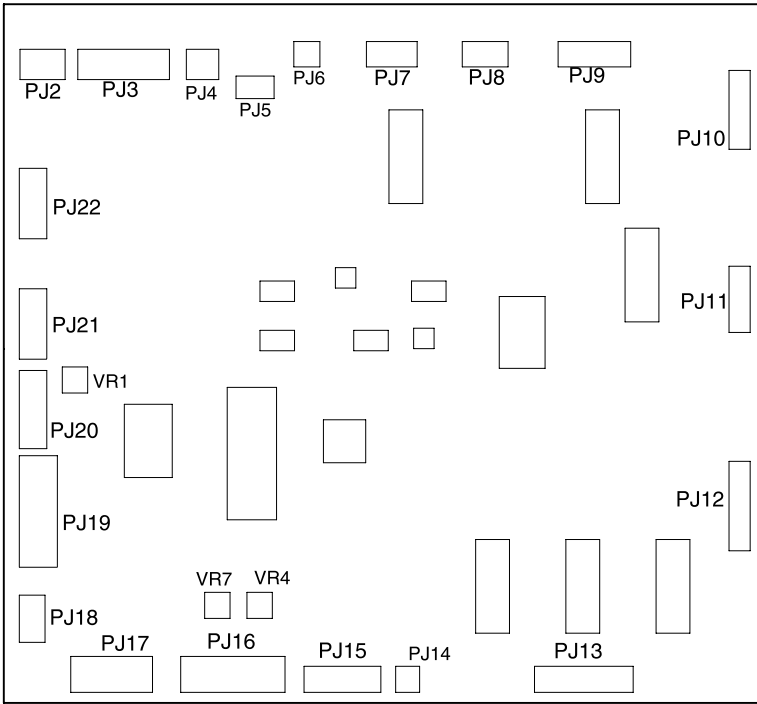
1	Paper Holding Tray Motor M10	5	CD Aligning Motor M4
2	Shift Motor M5	6	Finisher Tray Motor M8
3	Paddle Motor M6	7	Elevator Motor M9
4	Paper Curl Taming Motor M7		

# Finisher Electrical Components



<b>Symbol</b>	<b>Name</b>	<b>Symbol</b>	<b>Name</b>
M1	Transport Motor	PC9	Paper Holding Tray Home Position Sensor
M2	Upper Exit Motor	PC10	Paper Holding Tray Retract Position Sensor
M4	CD Aligning Motor	PC11	Elevator Lower Limit Sensor
M5	Shift Motor	PC12	Elevator Tray Retract Position Sensor
M6	Paddle Motor	PWB-A	Control Board
M7	Paper Curl Taming Motor	PWB-E	1st Tray Full Detecting Sensor LED
M8	Finisher Tray Motor	PWB-F	Elevator Tray Empty Sensor PQ
M9	Elevator Motor	PWB-F	1st Tray Full Detecting Sensor PQ
M10	Paper Holding Tray Motor	S1	Upper Cover Set Switch
PC1	1st Tray Exit Sensor	S2	Elevator Upper Limit Interlock Switch 1
PC2	Finisher Tray Home Position Sensor	S3	Elevator Upper Limit Interlock Switch 2
PC3	Finisher Tray Exit Sensor	S4	Staple Door Switch
PC4	1st Tray Empty Sensor	S5	Elevator Lower Limit Interlock Switch
PC5	CD Aligning Home Position Sensor	S6	Set Switch
PC6	Shift Sensor	S7	1st Tray Door Switch
PC7	Print Set Detecting Sensor	SL1	Upper Entrance Switching Solenoid
PC8	Elevator Tray Upper Surface Sensor		

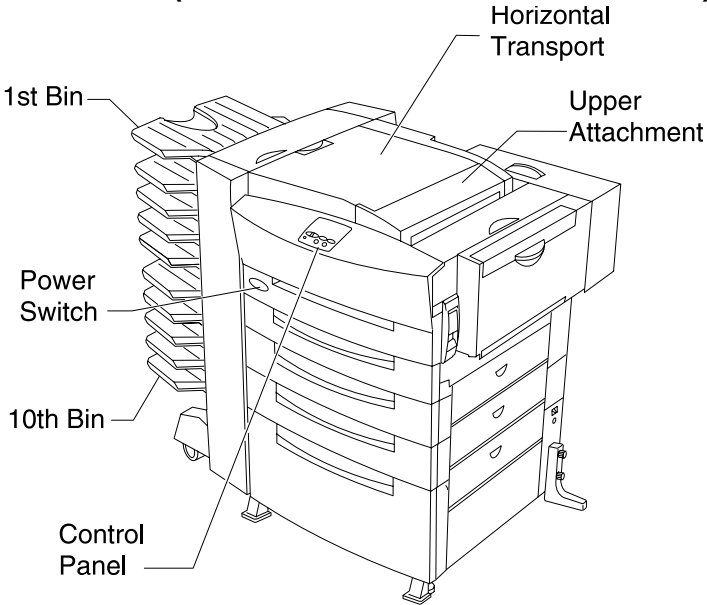
# Finisher Main Board PWB-A



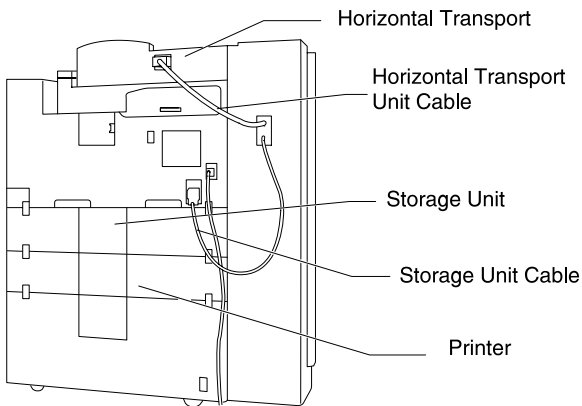


# Mailbox

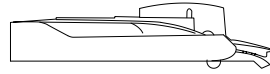
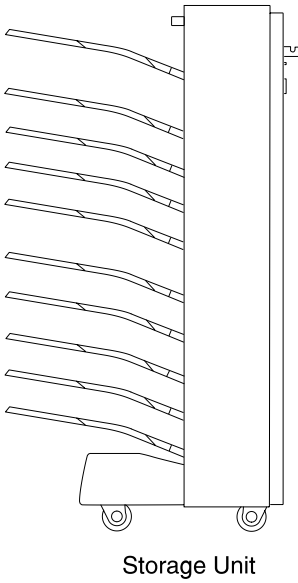
## External View (Front: When Connected To Printer)



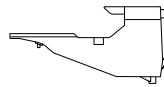
## External View (Rear: When Connected To Printer)



## Mailbox External View (Each Section)

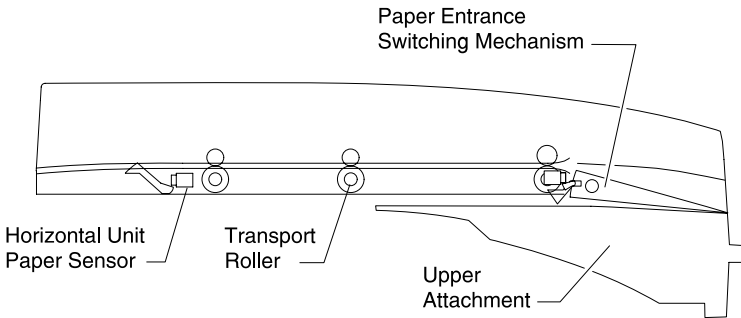


Horizontal Transport Unit

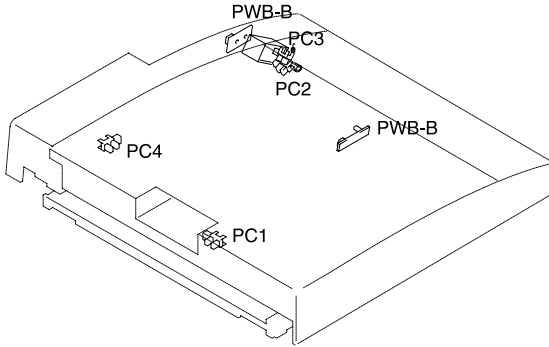


Upper Attachment

## Mailbox Horizontal Transport Unit: Cross-Sectional View

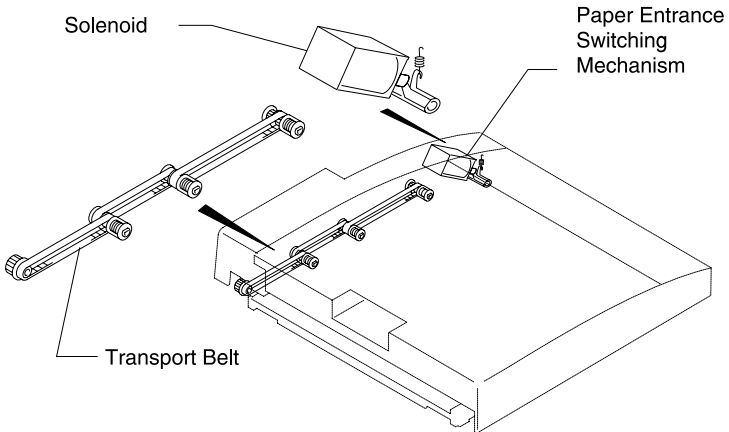


## Mailbox Horizontal Transport Unit: Electrical Components

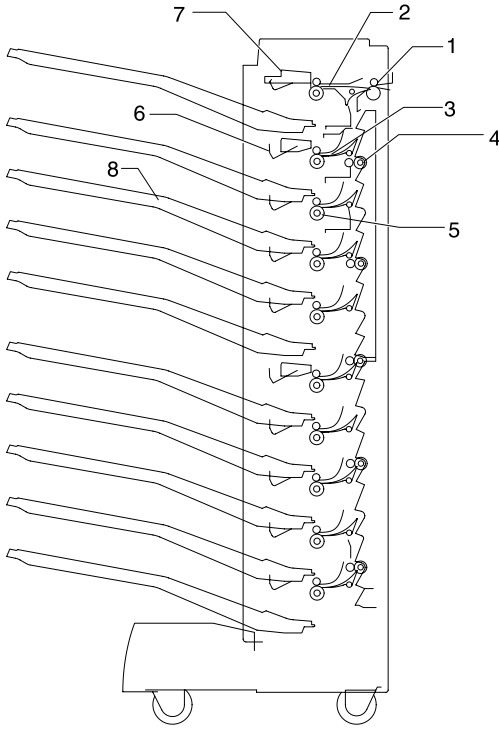


Symbol	Name
	Solenoid
PC1	Horizontal Unit Paper Sensor
PC2	Non-Sort Tray Positioning Sensor
PC3	Sort Bin Positioning Sensor
PC4	Horizontal Unit Door Sensor
PWB-A	Non-Sort Tray Paper Empty Sensor (PQ)
PWB-B	Non-Sort Tray Paper Empty Sensor (LED)

## Mailbox Horizontal Transport Unit: Mechanical Components

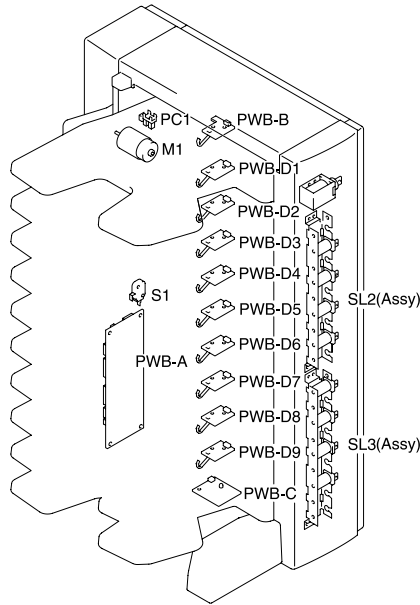


## Mailbox Storage Unit: Cross-Sectional View



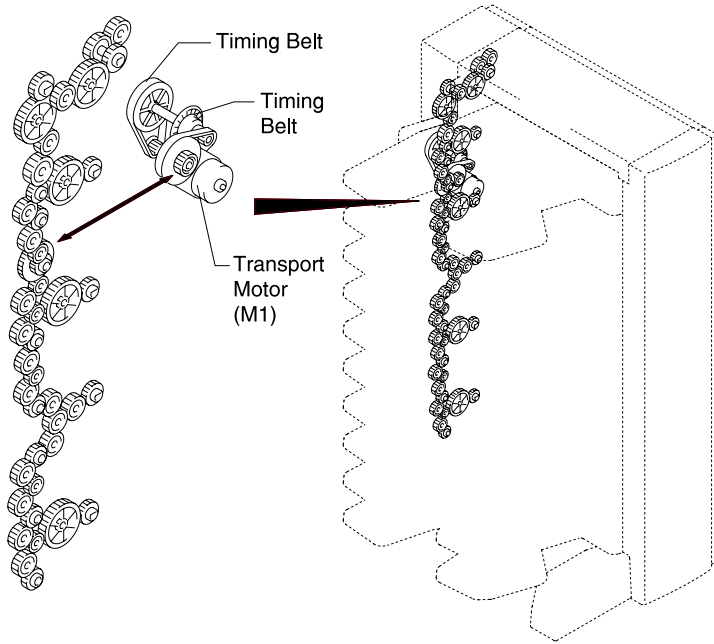
1	Entrance Roller
2	1st Bin Switching Deflector
3	2nd Bin Switching Deflector
4	Vertical Transport Roller
5	Exit Roller
6	Paper Full Detecting Switch
7	Paper Empty Detecting Sensor Board
8	Bin Tray (1st to 10th bin, from the top)

## Mailbox Storage Unit: Electrical Components

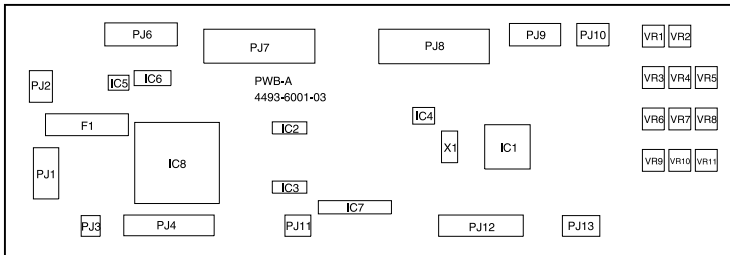


Symbol	Name
M1	Transport Motor
PC1	Transport Motor Pulse Detection Switch
PWB-A	Main Board
PWB-B	Paper Empty Detecting Sensor Board (1st bin)
PWB-D1	Paper Empty Detecting Sensor Board (2nd bin)
PWB-D2	Paper Empty Detecting Sensor Board (3rd bin)
PWB-D3	Paper Empty Detecting Sensor Board (4th bin)
PWB-D4	Paper Empty Detecting Sensor Board (5th bin)
PWB-D5	Paper Empty Detecting Sensor Board (6th bin)
PWB-D6	Paper Empty Detecting Sensor Board (7th bin)
PWB-D7	Paper Empty Detecting Sensor Board (8th bin)
PWB-D8	Paper Empty Detecting Sensor Board (9th bin)
PWB-D9	Paper Empty Detecting Sensor Board (10th bin)
PWB-C	Paper Exit Sensor Board (common to all bins)
S1	Sorter Set Switch
SL1	1st Bin Switching Solenoid
SL2	Deflector Solenoid Asm 1 (2nd–5th bin)
SL3	Deflector Solenoid Asm 2 (6th–9th bin)

## Mailbox Storage Unit: Mechanical Components



## Mailbox Storage Unit: Main Board PWB-A



## 6. Preventive Maintenance

### Maintenance Schedule

Parts	Cleaning	Replacement Single Prints
Imaging Cartridge/PC	none	72,000
Transfer Roll/Ozone MMkit	none	150,000
Fuser MMkit	none	250,000
Tray 1, 250 Sheet Paper Take-Up Roller	Clean with a soft cloth dampened with alcohol.	Replaced at the time of trouble due to wear.
Second Cassette Tray 2 & 3 Take-Up Roller	Clean with a soft cloth dampened with alcohol.	Replaced at the time of trouble due to wear.
Duplex Transport Roll Transport Roller	Clean with a soft cloth dampened with alcohol.	Replaced at the time of trouble due to wear.

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<b>Parts</b>	<b>Cleaning</b>	<b>Replacement Single Prints</b>
2500 Sheet LCC Tray 4 Pickup Roller Transport Roller Roll for torque limiter, transport roll, transport roller	Clean with a soft cloth dampened with alcohol.	Replaced at the time of trouble due to wear.
Mailbox/ Finisher All rolls All rollers	Clean with a soft cloth dampened with alcohol.	Replaced at the time of trouble due to wear.



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## 7. Parts Catalog

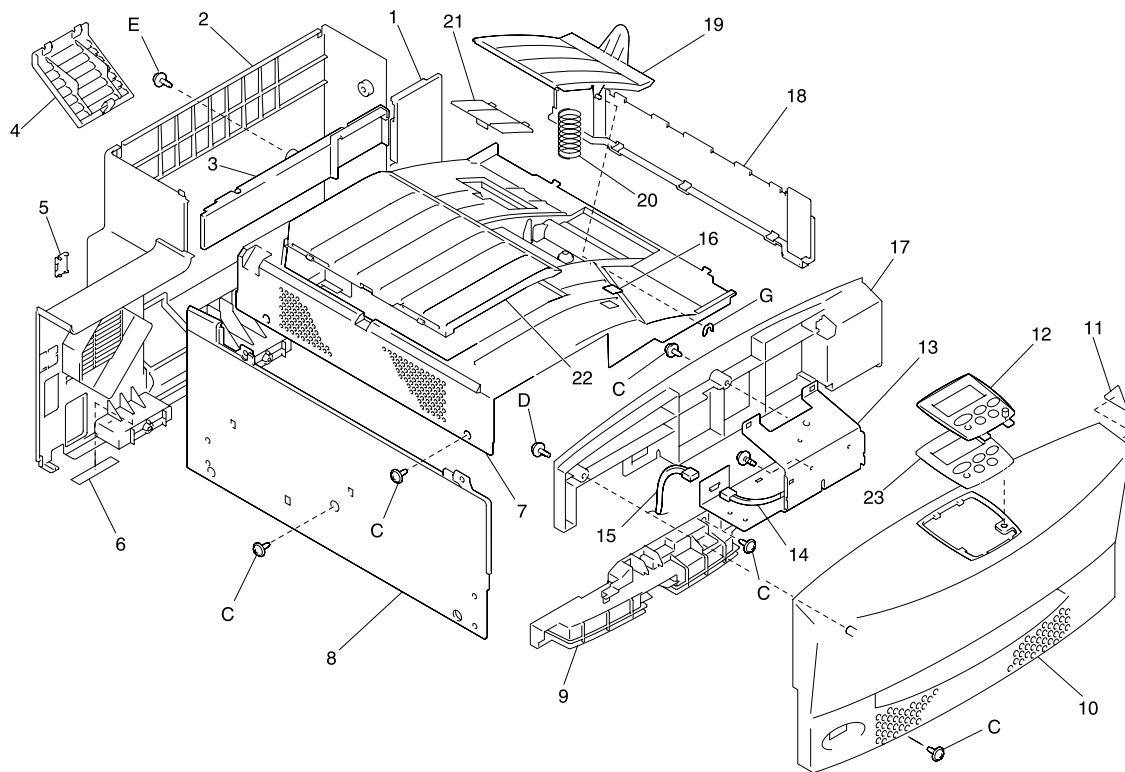
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### How To Use This Parts Catalog

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- **SIMILAR ASSEMBLIES:** If two assemblies contain a majority of identical parts, they are broken down on the same list. Common parts are shown by one index number. Parts peculiar to one or the other of the assemblies are listed separately and identified by description.
- **AR:** (As Required) in the Units column indicates that the quantity is not the same for all machines.
- **NP:** (Non-Procurable) in the Units column indicates that the part is non-procurable and that the individual parts or the next higher assembly should be ordered.
- **NR:** (Not Recommended) in the Units column indicates that the part is procurable but not recommended for field replacement, and that the next higher assembly should be ordered.
- **R:** (Restricted) in the Units column indicates that the part has a restricted availability.
- **NS:** (Not Shown) in the Ref column indicates that the part is procurable but is not pictured in the illustration.
- **PP:** (Parts Packet) in the Description column indicates that the part is contained in a parts packet.
- A part reference within a circle indicates an assembly or a bill-of-material. An assembly is complete. A bill-of-material contains unassembled parts.
- **NA:** Not available/not referenced.

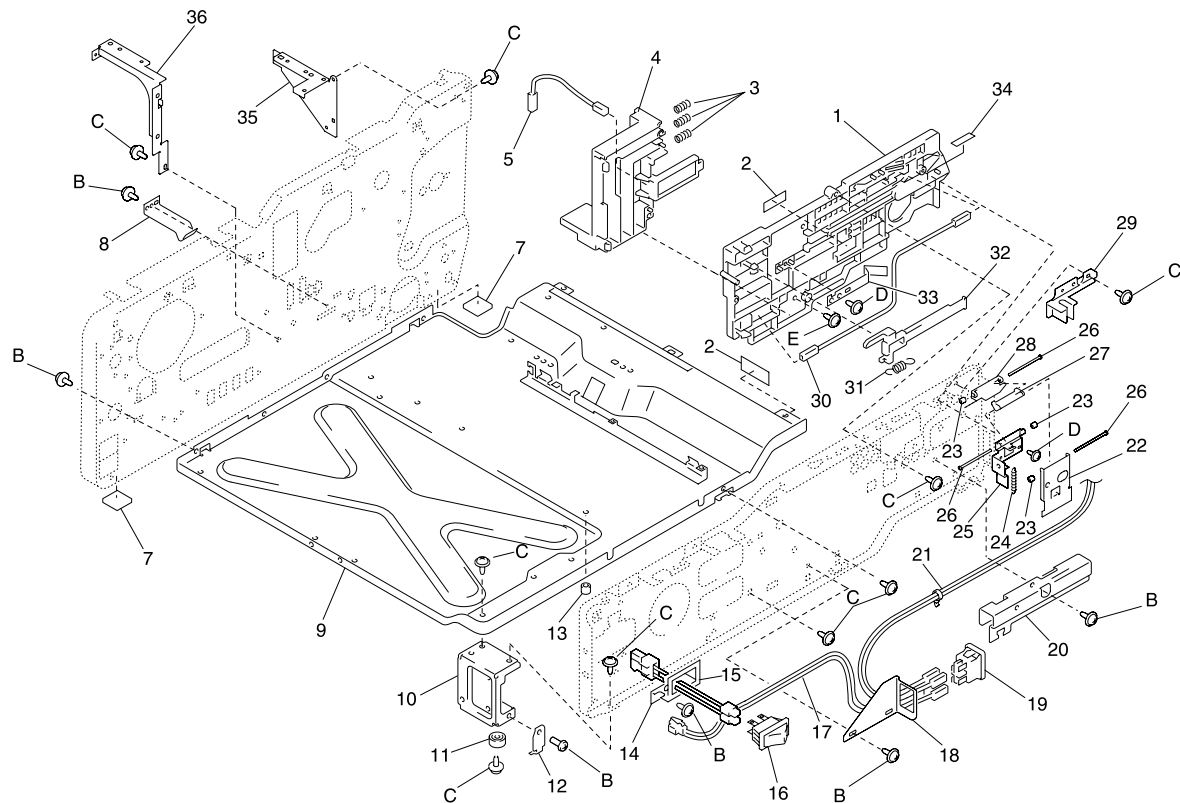
# Assembly 1: Printer Housing



## Assembly 1: Printer Housing

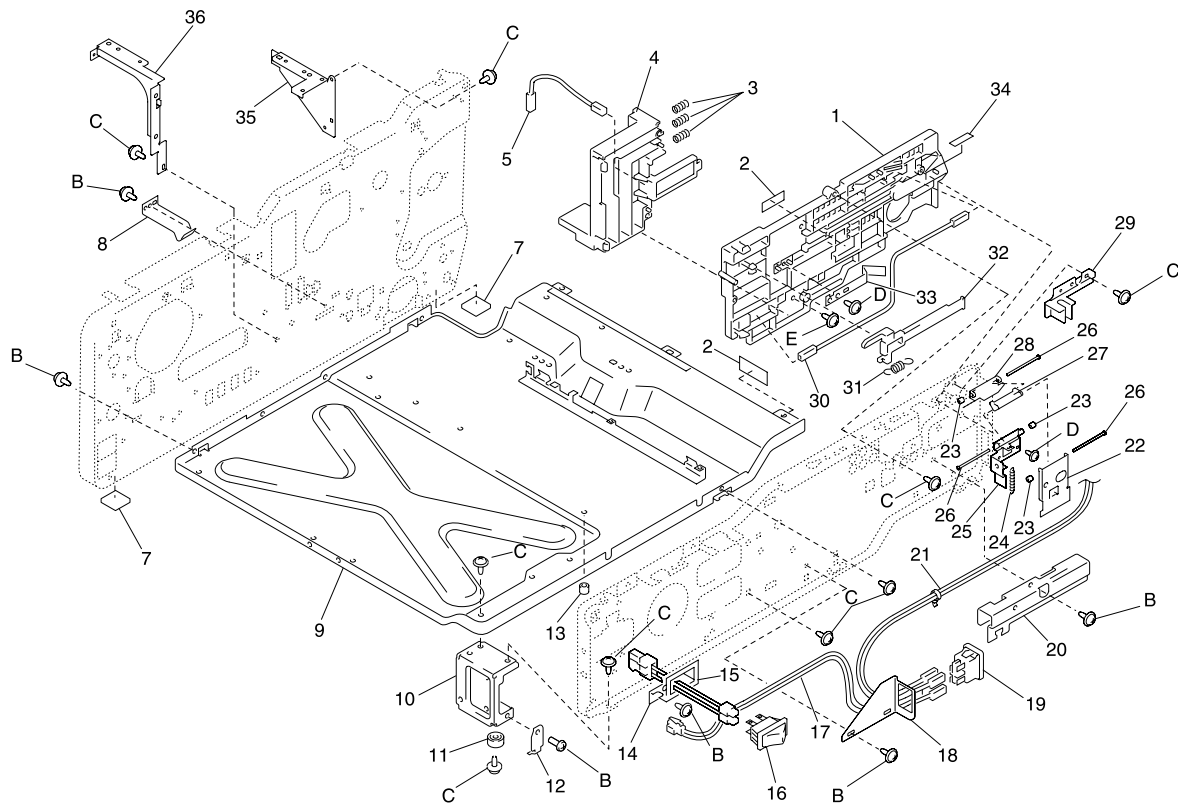
Ref	Part Number	Units	Description
1-1	12G2001	1	Cover
-2	12G2002	1	Rear Cover
-3	12G2003	1	Cover
-4	12G2004	1	Cover
-5	12G2005	1	Cover
-6	12G2006	2	Seal
-7	12G2007	1	Top Cover
-8	12G2008	1	Right Cover
-9	12G2009	1	Handle
-10	12G2010	1	Front Cover
-11	12G2011	1	Label
-12	12G2012	1	Cover
-13	12G2013	1	Shield Plate
-14	12G2014	1	Harness
-15	12G2015	1	Harness
-16	12G2016	1	Seal
-17	12G2017	1	Cover
-18	12G2018	1	Cover
-19	12G2019	1	Tray
-20	12G2020	1	Pressure Spring
-21	12G2021	1	Cover
-22	12G2022	1	Cover
-23	12G3520	1	Operator Control Panel
-C		1	Parts Packet 3, PN 12G3402
-D		1	Parts Packet 4, PN 12G3403
-E		1	Parts Packet 5, PN 12G3404
-G		1	Parts Packet 7, PN 12G3406

## Assembly 2: Printer Frames (A)



## Assembly 2: Printer Frames (A)

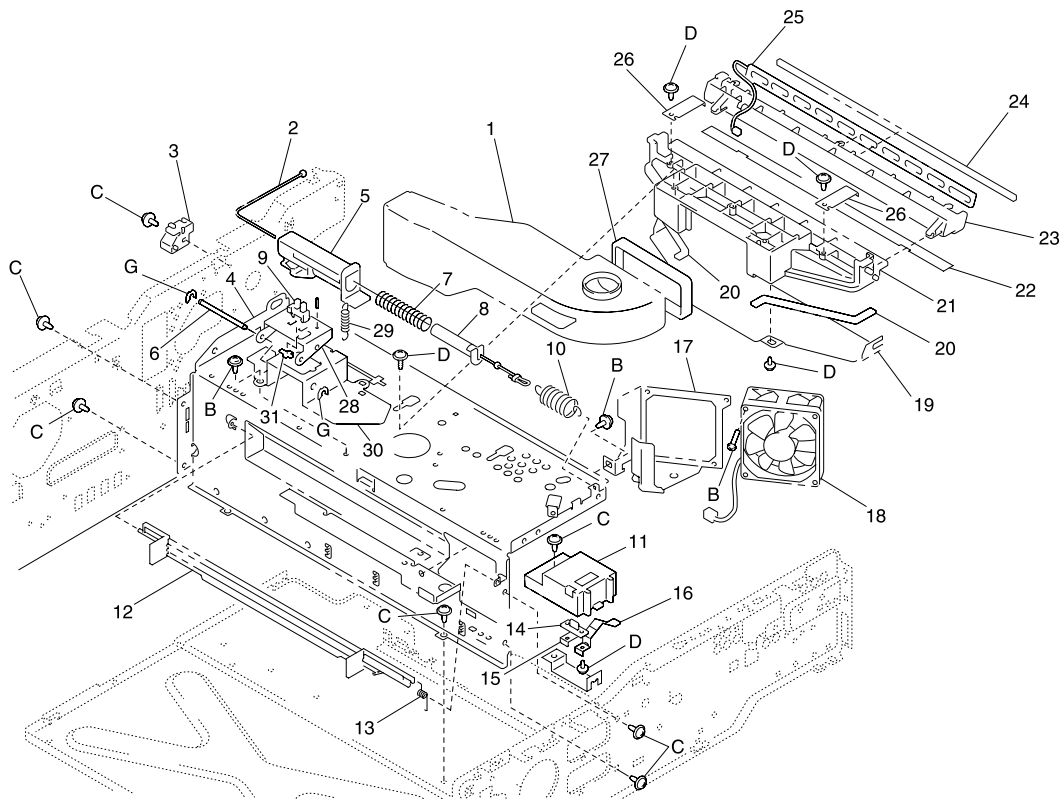
Ref	Part Number	Units	Description
2-1	12G2031	1	Holder Asm
-2	12G2032	2	Label High Voltage
-3	12G2033	3	Pressure Spring
-4	12G2034	1	Holder Asm
-5	12G2035	1	Harness
-7	12G2037	2	Rubber Foot
-8	12G2038	1	Plate Spring
-9	12G2039	1	Base Frame
-10	12G2040	1	Frame
-11	12G2041	1	Rubber Foot
-12	12G2042	4	Holder
-13	12G2043	1	Collar
-14	12G2044	1	Bracket
-15	12G2045	1	Harness
-16	12G2046	1	Switch, Power, S1 Main SW
-17	12G2047	1	Harness
-18	12G2048	1	Bracket
-19	12G2049	1	Switch, SW# Interlock S3 Right Side Door
-20	12G2050	1	Guide Plate
-21	12G2051	1	Harness
-22	12G2052	1	Lever
-23	12G2053	3	Retaining Ring
-24	12G2054	1	Tension Spring
-25	12G2055	1	Bracket
-26	12G2056	3	Shaft
-27	12G2057	1	Joint
-28	12G2058	1	Lever
-29	12G2059	1	Guide
-30	12G2060	1	Harness
-31	12G2061	1	Tension Spring
-32	12G2062	1	Lever
-33	12G2063	1	Plate Spring

**Assembly 2 (cont.): Printer Frames (A)**

**Assembly 2 (cont.): Printer Frames (A)**

<b>Ref</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
2-34	12G2064	1	Label
-35	12G2065	1	Bracket
-36	12G2066	1	Bracket
-B		1	Parts Packet 2, PN 12G3401
-C		1	Parts Packet 3, PN 12G3402
-D		1	Parts Packet 4, PN 12G3403
-E		1	Parts Packet 5, PN 12G3404

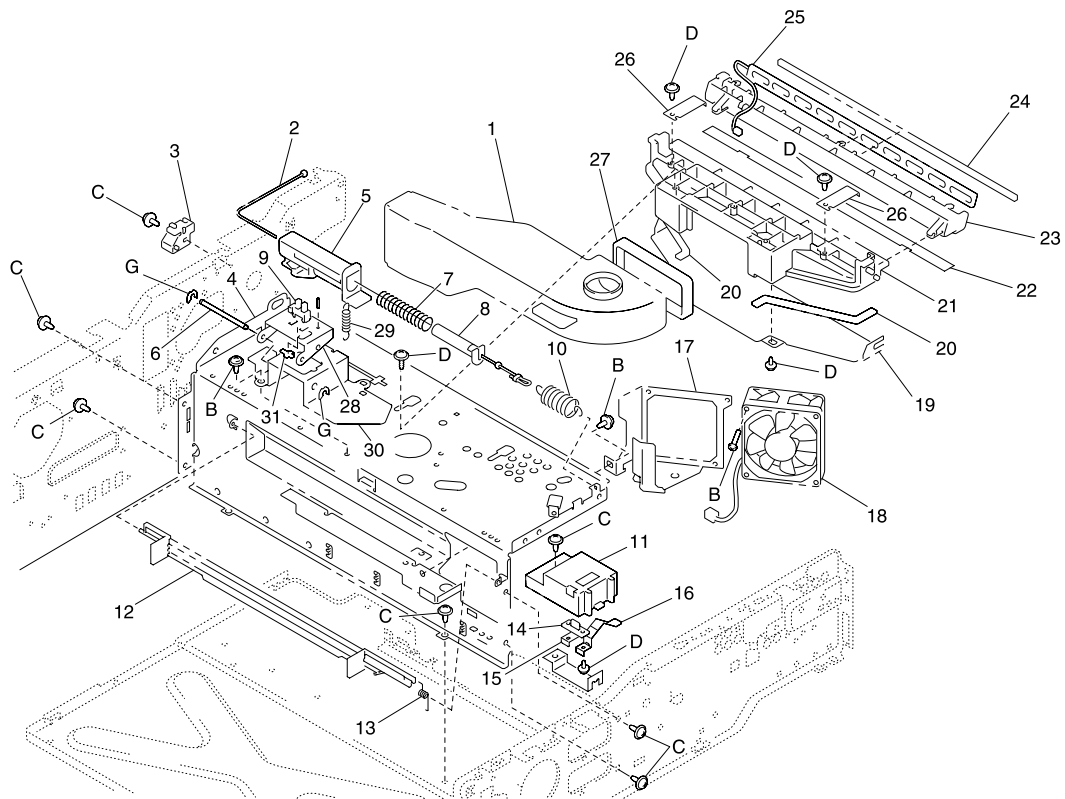
## Assembly 3: Printer Frames (B)





**Assembly 3: Printer Frames (B)**

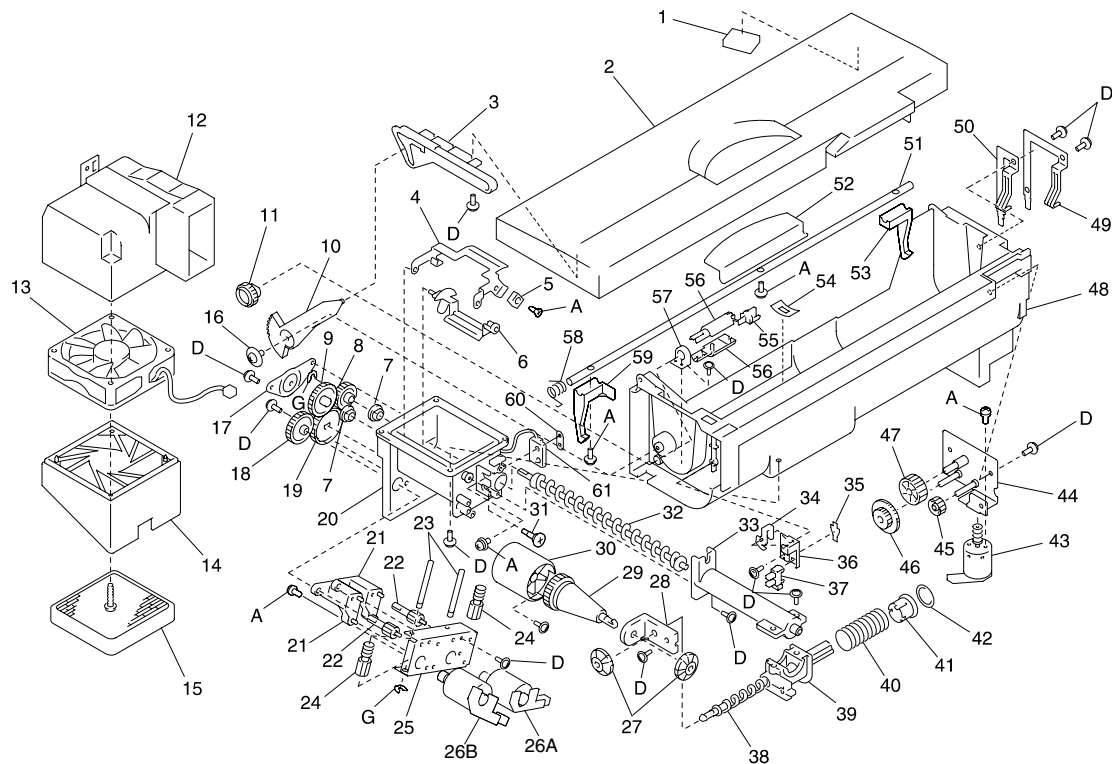
Ref	Part Number	Units	Description
3-1	12G2073	1	Duct
-2	12G2074	1	Wire, Paper Feed Door
-3	12G2075	1	Guide
-4	12G2076	1	Frame
-5	12G2077	1	Flange, Paper Feed Door
-6	12G2078	1	Shaft
-7	12G2079	1	Pressure Spring, PF Door
-8	12G2080	1	Flange, PF Door
-9	12G2081	1	Photo Interrupter, PC12 Exit Full
-10	12G2082	1	Tension Spring, PF Door
-11	12G2083	1	Holder
-12	12G2084	1	Shutter
-13	12G2085	1	Torsion Spring
-14	12G2324	1	PW Board-R, PWB-R2, Resistor Board
-15	12G2086	1	Ground Plate
-16	12G2087	1	Ground Plate
-17	12G2088	1	Bracket
-18	12G2089	1	Fan Motor, M9 Image/PC Cartridge
-19	12G2090	1	Duct
-20	12G2091	2	Seal
-21	12G2092	1	Duct
-22	12G2093	1	Seal
-23	12G2094	1	Holder
-24	12G2095	1	Seal
-25	12G2096	1	Lamp, Erase (LA1)
-26	12G2097	2	Plate Spring
-27	12G2098	1	Seal
-28	12G2099	1	Bracket
-29	12G2100	1	Tension Spring
-30	12G2101	1	Bracket
-31	12G2102	1	Stopper

**Assembly 3 (cont.): Printer Frames (B)**

**Assembly 3 (cont.): Printer Frames (B)**

<b>Ref</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
3-B		1	Parts Packet 2, PN 12G3401
-C		1	Parts Packet 3, PN 12G3402
-D		1	Parts Packet 4, PN 12G3403
-G		1	Parts Packet 7, PN 12G3406

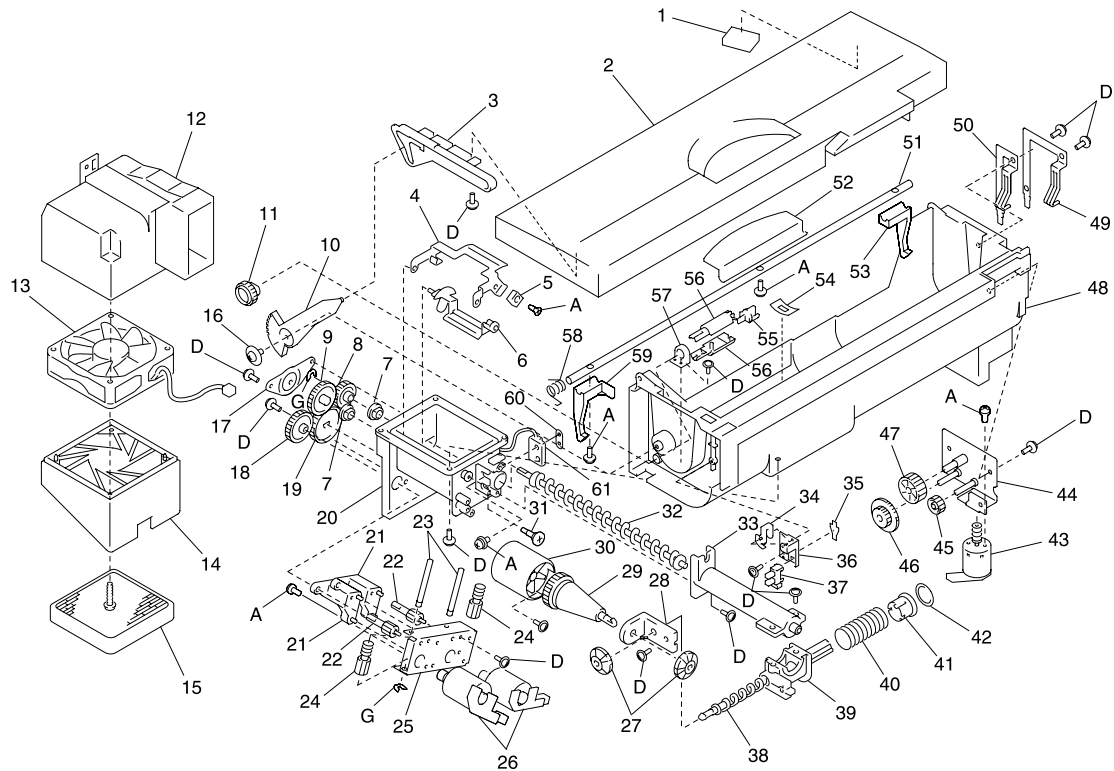
# Assembly 4: Printer Hopper



## Assembly 4: Printer Hopper

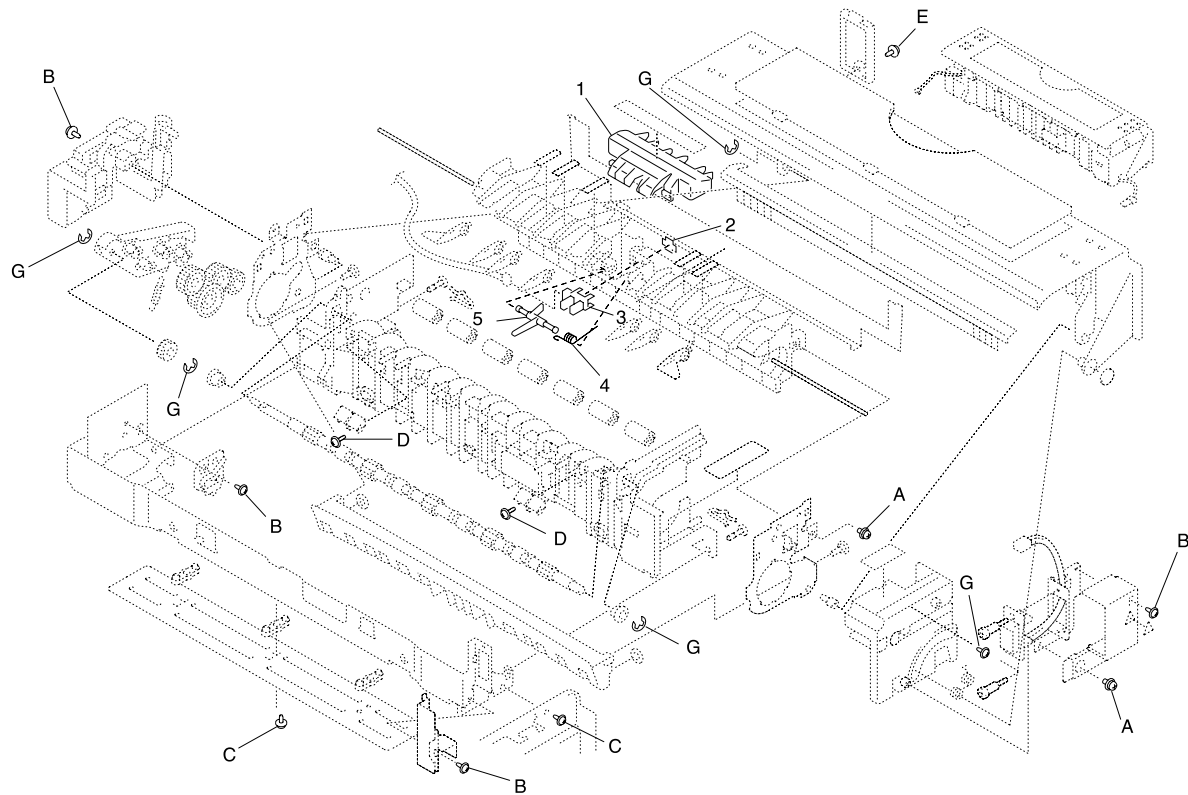
Ref	Part Number	Units	Description
4-1	12G2105	1	Cushion
-2	12G2106	1	Cover
-3	12G2107	1	Guide
-4	12G2108	1	Detecting Plate
-5	12G2109	1	Magnet
-6	12G2110	1	Scraper Plate
-7	12G2111	2	Bushing
-8	12G2112	1	Gear 29t
-9	12G2113	1	Gear 37t
-10	12G2114	1	Lever
-11	12G2115	1	Gear 26t
-12	12G2116	1	Duct
-13	12G2089	1	Fan Motor, M8 Ozone
-14	12G2117	1	Cover
-15	12G3425	1	Transfer Ozone BM (includes ozone filter and transfer unit)
-16	12G2119	1	Screw
-17	12G2120	1	Set Plate
-18	12G2121	1	Gear 39t
-19	12G2122	1	Gear 45t
-20	12G2123	1	Housing
-21	12G2124	2	Bushing
-22	12G2125	2	Gear 20t
-23	12G2126	2	Shaft
-24	12G2127	2	Worm Gear
-25	12G2128	1	Bracket
-26A	12G2129	1	PWB-Motor, M6(main hopper)
-26B	56P2580	1	PWB-Motor, M7(sub-hopper)
-27	12G2130	2	Gear 24t
-28	12G2131	1	Bushing
-29	12G2132	1	Gear 30t
-30	12G2133	1	Holder
-31	12G2134	1	Shoulder Screw
-32	12G2135	1	Spiral Roller

# Assembly 4 (cont.): Printer Hopper



## Assembly 4 (cont.): Printer Hopper

Ref	Part Number	Units	Description
4-33	12G2136	1	Duct
-34	12G2137	1	Actuator
-35	12G2102	1	Stopper
-36	12G2138	1	Bracket
-37	12G2081	1	Photo Interrupter, PC10 Bottle Cover
-38	12G2139	1	Spiral Roller
-39	12G2140	1	Duct
-40	12G2141	1	Pressure Spring
-41	12G2142	1	Shutter
-42	12G2143	1	Seal
-43	12G2144	1	PWB-Motor, M10 Agitating Motor
-44	12G2145	1	Mounting Plate
-45	12G2146	1	Gear 16/20t
-46	12G2147	1	Gear 16/60t
-47	12G2148	1	Gear 25t
-48	12G2149	1	Housing
-49	12G2150	1	Terminal, Cover A Toner Box
-50	12G2151	1	Terminal, Cover A Toner Box
-51	12G2152	1	Shaft
-52	12G2153	1	Lever
-53	12G2154	1	Lock Lever
-54	12G2155	1	Seal
-55	12G2156	1	Durm
-56	12G2157	2	Holder
-57	12G2158	1	Bushing
-58	12G2159	1	Torsion Spring
-59	12G2160	1	Lock Lever
-60	12G2161	1	Plate Nut
-61	12G2162	1	Switch, SW4 Toner Empty
-A		1	Parts Packet 1, PN 12G3400
-D		1	Parts Packet 4, PN 12G3403
-G		1	Parts Packet 7, PN 12G3406

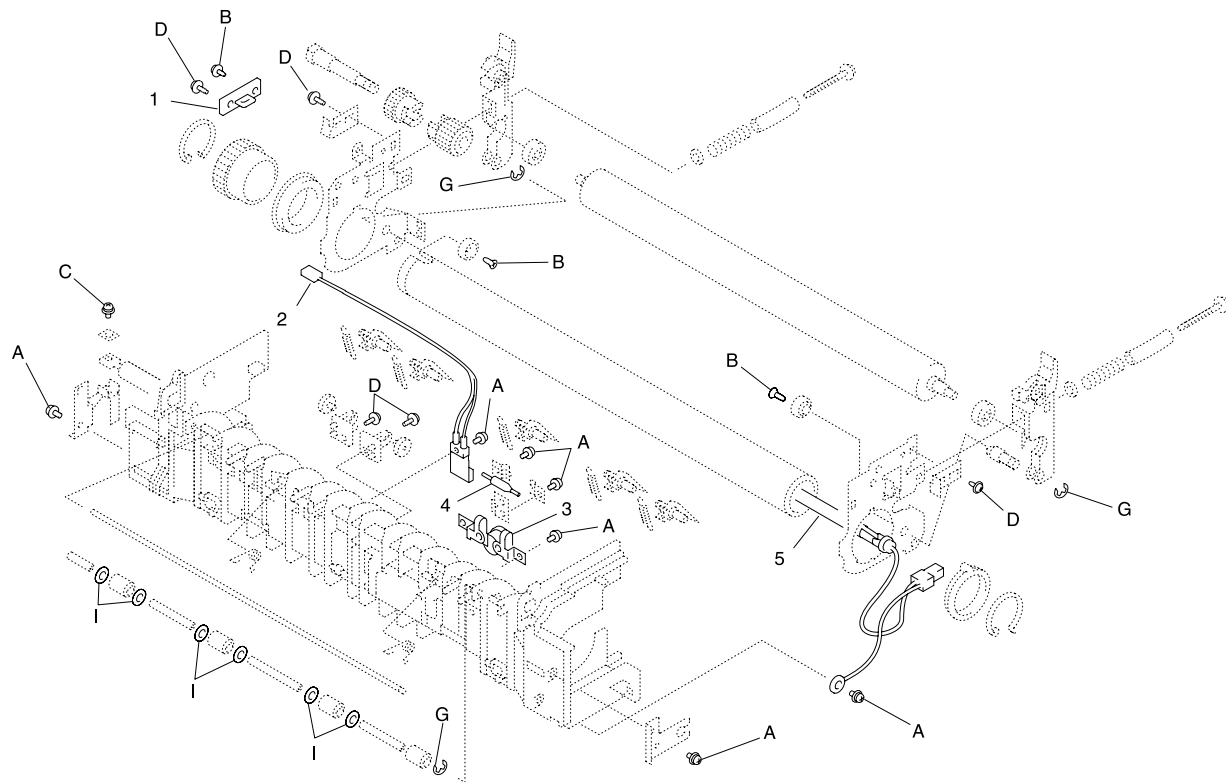
**Assembly 5: Printer Fuser (A)**



**Assembly 5: Printer Fuser (A)**

Ref	Part Number	Units	Description
5-1	12G2169	1	Cover
-2	12G2173	1	Stopper
-3	12G2081	1	Photo Interrupter, PC3 Paper Exit
-4	12G2175	1	Torsion Spring
-5	12G2176	1	Actuator
NS	12G2221	1	Fusing Unit, 110V
NS	12G2222	1	Fusing Unit, 220V
-A		1	Parts Packet 1, PN 12G3400
-B		1	Parts Packet 2 PN 12G3401
-C		1	Parts Packet 3 PN 12G3402
-D		1	Parts Packet 4 PN 12G3403
-E		1	Parts Packet 5 PN 12G3404
-G		1	Parts Packet 7 PN 12G3406
<b>Note:</b> Illustrated parts that do not have a callout are for reference only.			

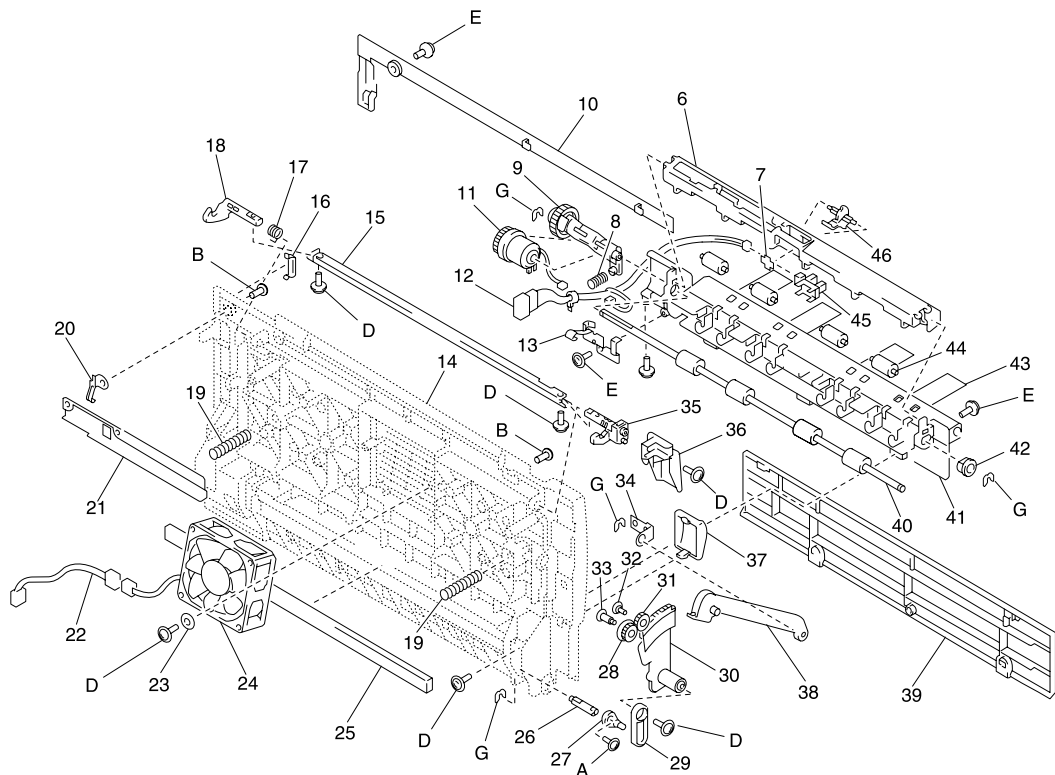
## Assembly 6: Printer Fuser (B)



**Assembly 6: Printer Fuser (B)**

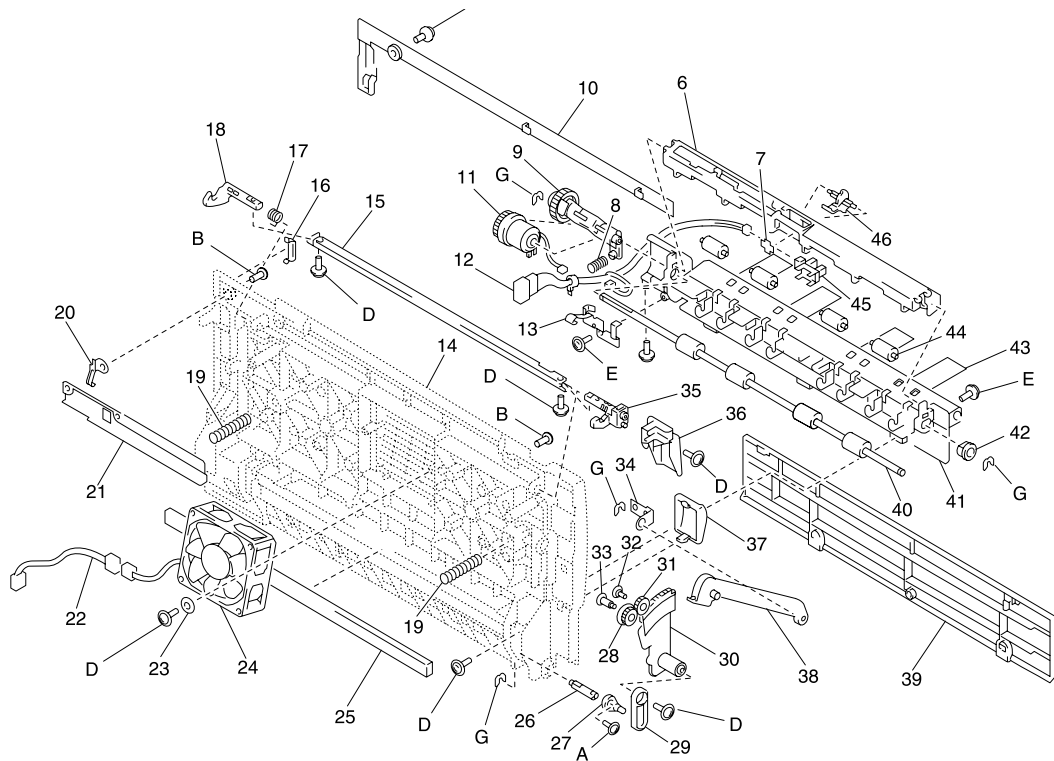
Ref	Part Number	Units	Description
6-1	12G2238	1	PW Board-R1, Fuser Frame Resistor Board
-2	12G2242	1	Thermistor, TH2
-3	12G2255	1	Thermostat, TS1
-4	12G2256	1	Thermal Fuse, TF1
-5	12G2262	1	Heater, 110V
-5	12G2263	1	Heater, 220V
-A		1	Parts Packet 1, PN 12G3400
-B		1	Parts Packet 2, PN 12G3401
-C		1	Parts Packet 3 PN 12G3402
-D		1	Parts Packet 4, PN 12G3403
-G		1	Parts Packet 7, PN 12G3406
-I		1	Parts Packet 9, PN 12G3408
<b>Note:</b> Illustrated parts that do not have a callout are for reference only.			

# Assembly 7: Printer Manual Feed



## Assembly 7: Printer Manual Feed

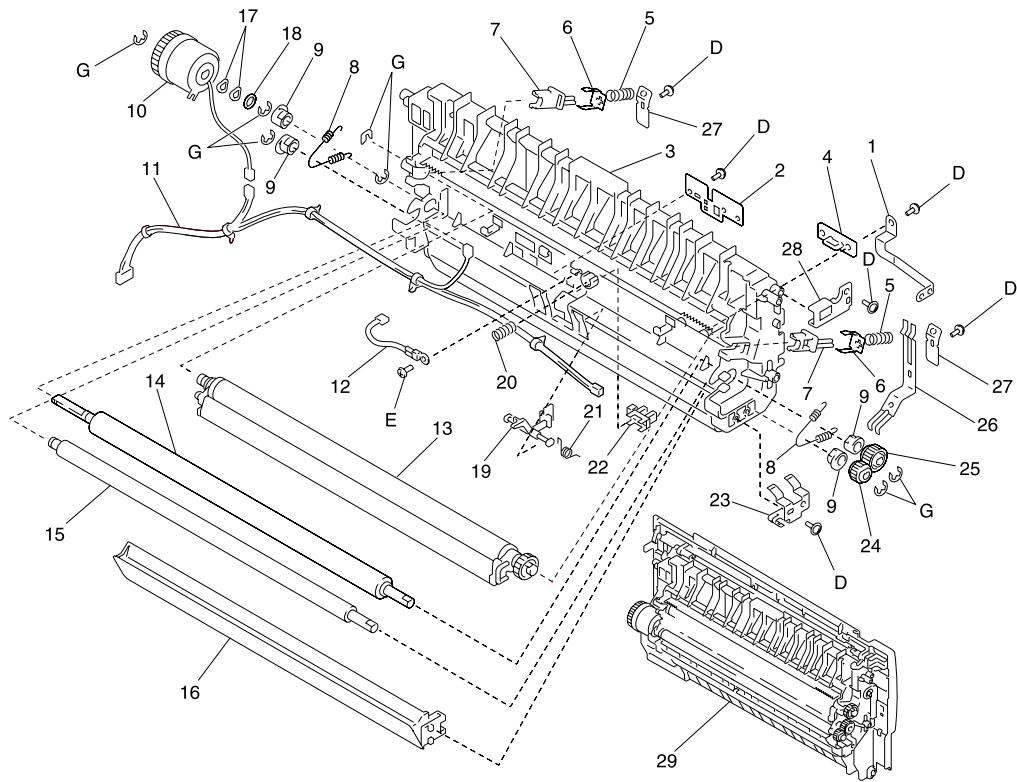
Ref	Part Number	Units	Description
7-1	N/A		
-2	N/A		
-3	N/A		
-4	N/A		
-5	N/A		
-6	12G2281	1	Cover
-7	12G2173	1	Stopper
-8	12G2282	1	Pressure Spring
-9	12G2283	1	Lever Asm
-10	12G2284	1	Cover
-11	12G2285	1	Clutch, CL3 Manual Feed
-12	12G2286	1	Harness
-13	12G2287	1	Ground Plate
-14	12G2288	1	Cover Asm
-15	12G2289	1	Lock Plate
-16	12G2021	1	Cover
-17	12G2290	1	Torsion Spring
-18	12G2291	1	Hook
-19	12G2292	2	Pressure Spring
-20	12G2293	1	Ground Plate
-21	12G2294	1	Bracket
-22	12G2295	1	Harness
-23	12G2296	2	Washer
-24	12G2089	1	Fan Motor, M3 Cooling
-25	12G2297	1	Cushion
-26	12G2298	1	Shaft
-27	12G2299	1	Joint
-28	12G2300	1	Gear 14t
-29	12G2301	1	Lever
-30	12G2302	1	Lever
-31	12G2303	1	Gear 14t
-32	12G2304	1	Shoulder Screw

**Assembly 7 (cont.): Printer Manual Feed**

**Assembly 7 (cont.): Printer Manual Feed**

<b>Ref</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
7-33	12G2305	1	Shoulder Screw
-34	12G2306	1	Bracket
-35	12G2307	1	Hook
-36	12G2308	1	Lock Release Lever
-37	12G2309	1	Cover
-38	12G2310	1	Lever
-39	12G2311	1	Cover
-40	12G2312	1	Roller
-41	12G2313	1	Guide
-42	12G2190	1	Bushing
-43	12G2314	4	Guide Bar
-44	12G2315	4	Roll
-45	12G2081	1	Photo Interrupter, PC8 Manual Feed
-46	12G2316	1	Actuator
-A		1	Parts Packet 1, PN 12G3400
-B		1	Parts Packet 2, PN 12G3401
-D		1	Parts Packet 4, PN 12G3403
-E		1	Parts Packet 5, PN 12G3404
-G		1	Parts Packet 7, PN 12G3406

# Assembly 8: Printer Transport

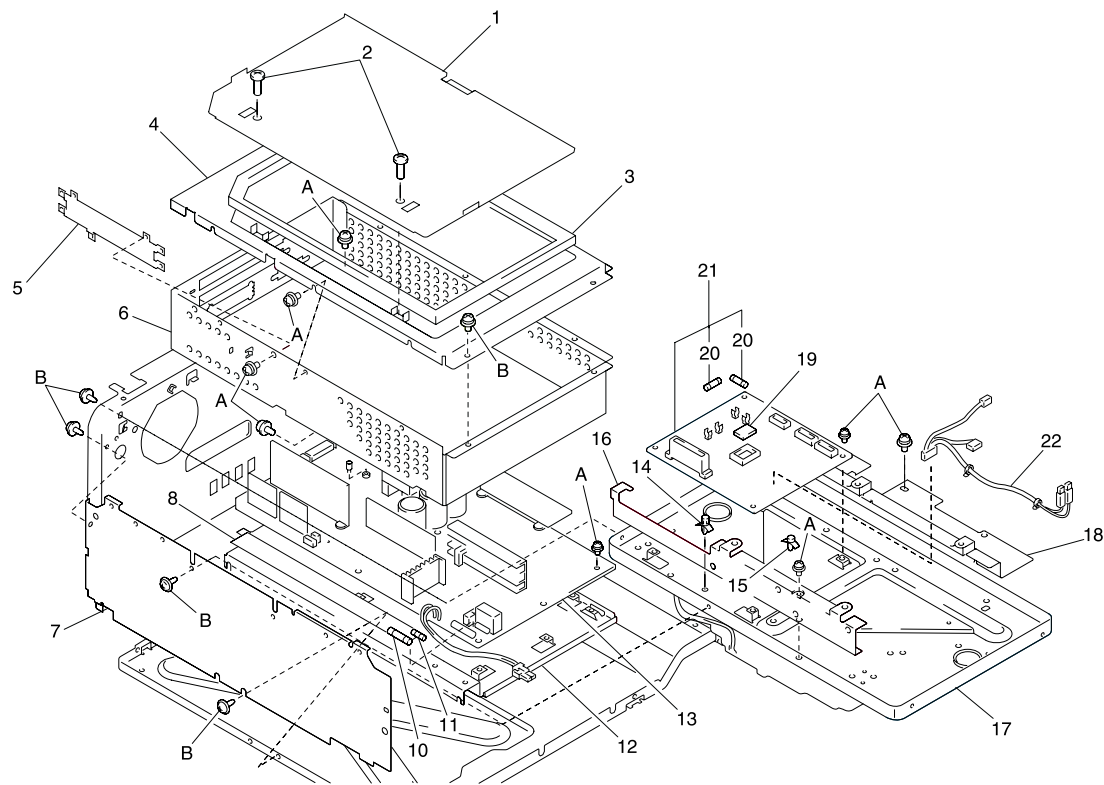




## Assembly 8: Printer Transport

Ref	Part Number	Units	Description
8-1	12G2321	1	Terminal
-2	12G2322	1	Bracket
-3	12G2323	1	Holder Asm
-4	12G2324	1	PWB-R Resistor Board
-5	12G2325	2	Pressure Spring
-6	12G2326	2	Plate Spring
-7	12G2327	2	Bushing
-8	12G2328	2	Tension Spring
-9	12G2329	4	Bushing
-10	12G2330	1	Clutch, CL1 Transport
-11	12G2331	1	Harness
-12	12G2332	1	Thermistor, TH1 Image/PC Cartridge
-13	12G3425	1	Transfer Ozone BM (includes transfer unit and ozone filter)
-14	12G2334	1	Conveyor Roller
-15	12G2335	1	Conveyor Roller
-16	12G2336	1	Cleaning Pad Asm
-17	12G2337	2	Wave Washer
-18	12G2338	1	Washer
-19	12G2339	1	Actuator
-20	12G2340	1	Pressure Spring
-21	12G2341	1	Torsion Spring
-22	12G2081	1	Photo Interrupter, PC2 Timing
-23	12G2342	1	Ground Plate
-24	12G2343	1	Gear 13t
-25	12G2344	1	Gear 18t
-26	12G2345	1	Terminal
-27	12G2346	2	Ground Plate
-28	12G2347	1	Holder
-29	12G2348	1	Transport Unit
-D		1	Parts Packet 4, PN 12G3403
-E		1	Parts Packet 5, PN 12G3404
-G		1	Parts Packet 7, PN 12G3406

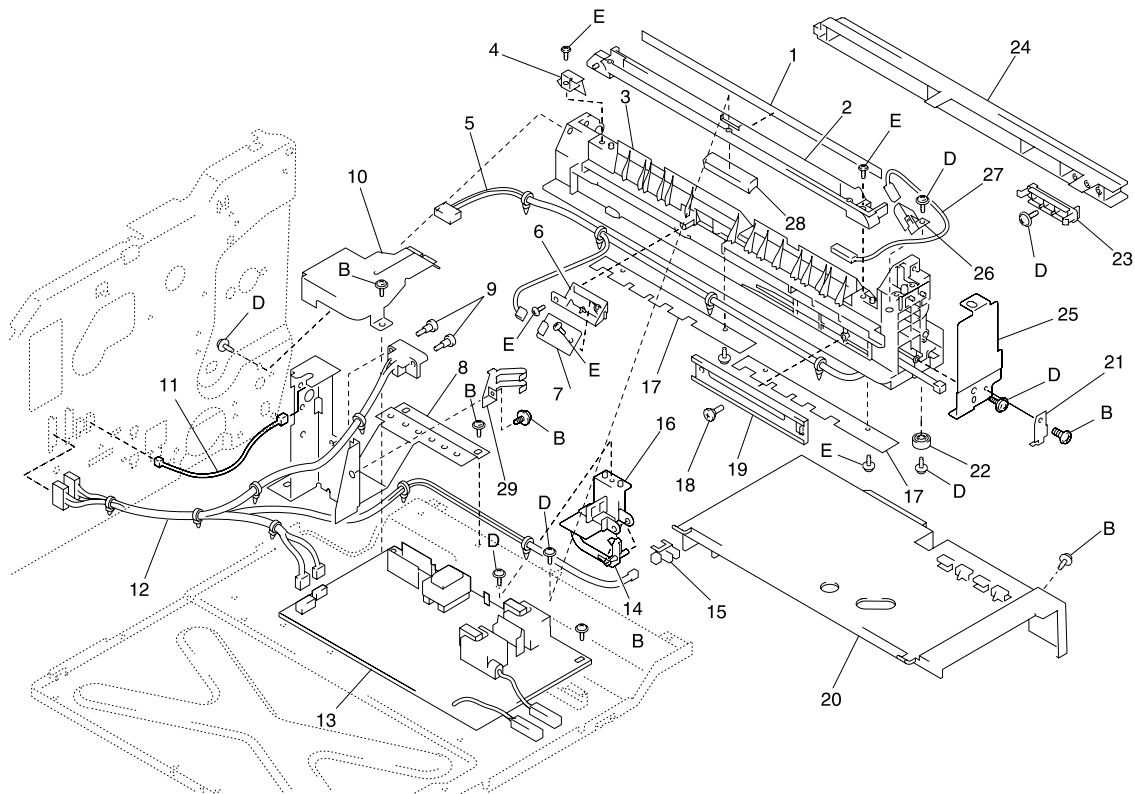
## Assembly 9: Printer Electrical Components



## Assembly 9: Printer Electrical Components

Ref	Part Number	Units	Description
9-1	12G2351	1	Lid
-2	12G2352	2	Shoulder Screw
-3	12G2353	1	Shield
-4	12G2354	1	Cover
-5	12G2355	1	Bracket
-6	12G2356	1	Shield Box
-7	12G2357	1	Reinforce Plate
-8	12G2358	1	Label Caution
-9	12G2359	1	Fuse 3.15A
-10	12G2360	1	Fuse 15A
-10	12G2361	1	Fuse 8A
-11	12G2362	1	Fuse 10A
-11	12G2363	1	Fuse 6.3A
-12	12G2364	1	Bracket
-13	12G2365	1	Power Supply, 110V, PU1
-13	12G2366	1	Power Supply, 220V, PU1—below SN 1W856776
-13	12G3457	1	Power Supply, 220V, PU1—above SN 1W856776
NS	12G3456	1	Power Supply Resistor, 220V—above SN 1W856776
-14	12G2367	2	PWB Support 6.4h
-15	12G2368	1	PWB Support
-16	12G2369	1	Bracket
-17	12G2370	1	Printhead Asm
-18	12G2371	1	Bracket
-19		1	IC, PWB-A <b>Note:</b> Included on PWB-A board only. Order 12G2374.
-20	12G2373	2	Fuse 3A
-21	12G2374	1	PWB-A, Printer Main Engine Board, 110V—all printers; 220V— below SN 1W856776
-21	12G3458	1	PWB-A, Printer Main Engine Board, 220V—above SN 1W856776
-22	12G2375	1	Harness
-A		1	Parts Packet 1, PN 12G3400
-B		1	Parts Packet 2, PN 12G3401

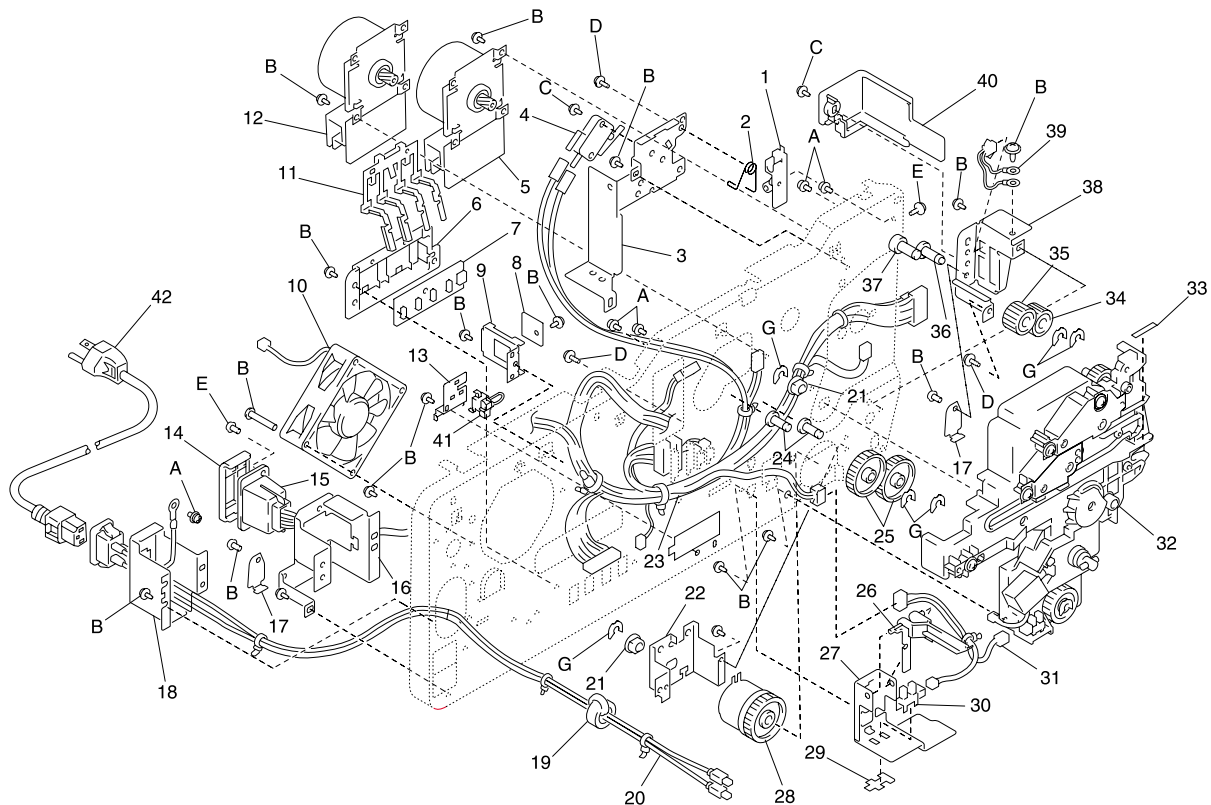
# Assembly 10: Printer Paper Take-up



## Assembly 10: Printer Paper Take-up

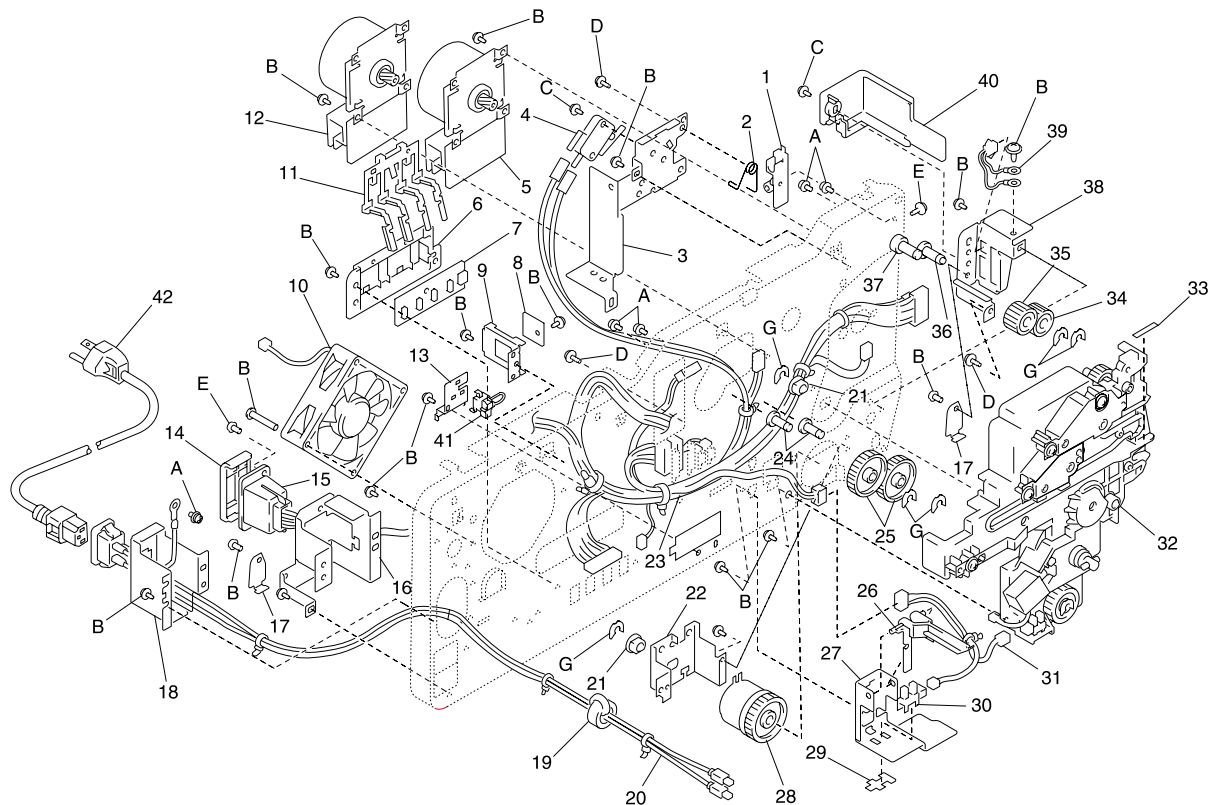
Ref	Part Number	Units	Description
10-1	12G2377	1	Polyester Film
-2	12G2378	1	Guide Bar
-3	12G2379	1	Rail
-4	12G2380	1	Ground Plate
-5	12G2381	1	Harness
-6	12G2382	1	Holder
-7	12G2383	1	PWB-H Humidity Board
-8	12G2384	1	Bracket
-9	12G2385	2	Shoulder Screw
-10	12G2386	1	Bracket
-11	12G2387	1	Harness
-12	12G2388	1	Harness
-13	12G2389	1	PWB-HV1, High Voltage Power Supply
-14	12G2390	1	Actuator
-15	12G2081	1	Photo Interrupter, PC4 Empty
-16	12G2391	1	Cover
-17	12G2392	2	Cover
-18	12G2393	1	Shoulder Screw
-19	12G2394	1	Rail
-20	12G2395	1	Cover
-21	12G2042	1	Holder
-22	12G2041	1	Rubber Foot
-23	12G2396	1	Lever
-24	12G2397	1	Cover
-25	12G2398	1	Bracket
-26	12G2399	1	Terminal
-27	12G2400	1	Harness
-28	12G2401	1	Pad
-29	12G2402	1	Ground Plate
-B		1	Parts Packet 2, PN 12G3401
-D		1	Parts Packet 4, PN 12G3403
-E		1	Parts Packet 5, PN 12G3404

# Assembly 11: Printer Drive



## Assembly 11: Printer Drive

Ref	Part Number	Units	Description
11-1	12G2404	1	Guide
-2	12G2405	1	Torsion Spring
-3	12G2406	1	Bracket
-4	12G2407	1	Micro Switch, S2 Right Side Door
-5	12G2408	1	Motor, M2 Transport Drive
-6	12G2409	1	Holder
-7	12G2410	1	PWB-I, Paper Size Board
-8	12G2411	1	CPM Switch Board, PWB-L
-9	12G2412	1	Bracket
-10	12G2413	1	Fan Motor, M4 Power Unit Cooling
-11	12G2414	1	Lever
-12	12G2415	1	Motor, M1 Image/PC Cartridge
-13	12G2416	1	Bracket
-14	12G2417	1	Cover
-15	12G2418	1	Harness
-16	12G2419	1	Bracket
-17	12G2042	2	Holder
-18	12G2420	1	Bracket
-19	12G2421	1	Ferrite Core
-20	12G2422	1	Harness
-21	12G2423	2	Bushing
-22	12G2424	1	Bracket
-23	12G2425	1	Harness
-24	12G2426	2	Pin
-25	12G2427	2	Gear 34t
-26	12G2428	1	Lever
-27	12G2429	1	Bracket
-28	12G2430	1	Clutch, CL2 Transport
-29	12G2431	1	Cover
-30	12G2081	1	Photo Interrupter, PC5 Near Empty
-31	12G2432	1	Harness
-32	12G2433	1	Drive Unit
-33	12G2434	1	Label

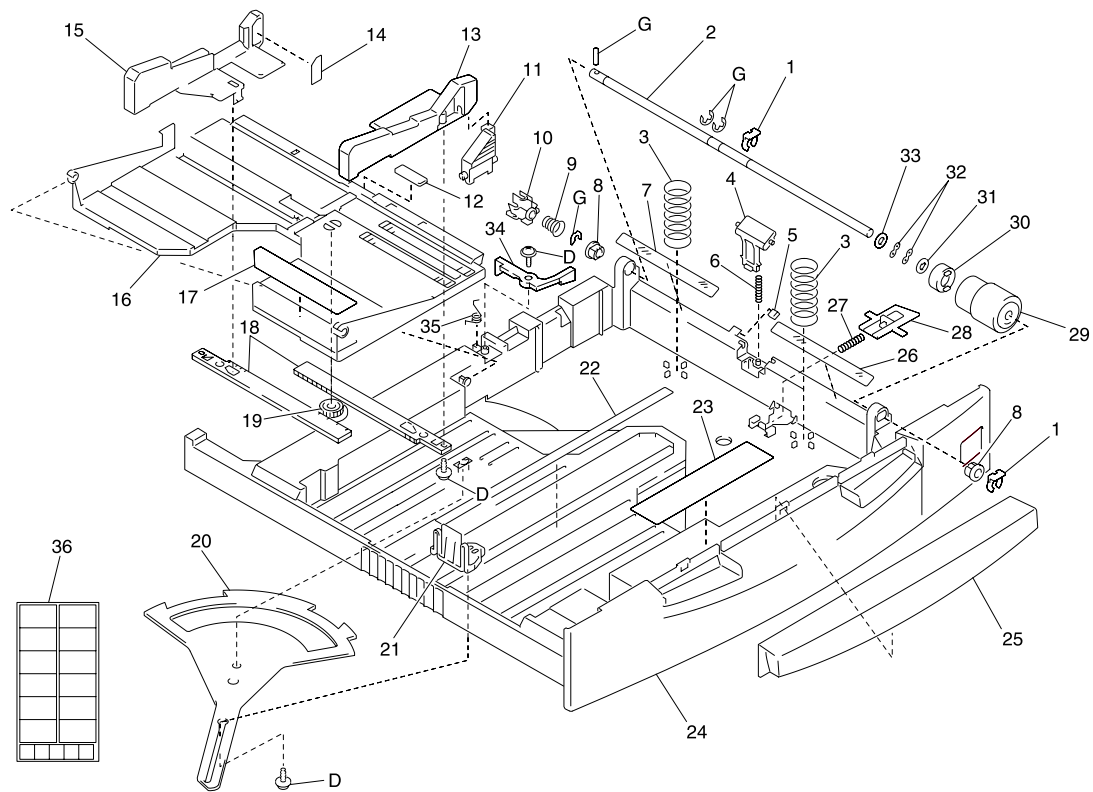
**Assembly 11 (cont.): Printer Drive**



**Assembly 11 (cont.): Printer Drive**

Ref	Part Number	Units	Description
11-34	12G2435	1	Gear 20t
-35	12G2436	1	Gear 18t
-36	12G2437	1	Shaft
-37	12G2438	1	Shaft
-38	12G2439	1	Bracket
-39	12G2440	1	Harness
-40	12G2441	1	Cover
-41	12G2442	1	Switch, S5 Size
-42	11D0328	1	Power Cord, U.S, Canada, APG (LV), LAD (LV)
-42	11D0333	1	Power Cord, Denmark
-42	11D0334	1	Power Cord, Europe, England
-42	11D0334	1	Power Cord, France
-42	11D0334	1	Power Cord, Germany
-42	11D0335	1	Power Cord, Italy
-42	11D0334	1	Power Cord, Spain
-42	11D0336	1	Power Cord, Swiss/French
-42	11D0336	1	Power Cord, Swiss/German
-42	11D0336	1	Power Cord, Swiss/Italian
-42	11D0337	1	Power Cord, U.K.
-42	11D0338	1	Power Cord, Israel
-42	11D0339	1	Power Cord, South Africa
-42	11D0334	1	Power Cord, Belgium
-42	11D0330	1	Power Cord, Argentina
-42	11D0331	1	Power Cord, Brazil
-42	11D0332	1	Power Cord, Chile
-42	11D0329	1	Power Cord, Peru
-A		1	Parts Packet 1, PN 12G3400
-B		1	Parts Packet 2, PN 12G3401
-C		1	Parts Packet 3, PN 12G3402
-D		1	Parts Packet 4, PN 12G3403
-E		1	Parts Packet 5, PN 12G3404
-G		1	Parts Packet 7, PN 12G3406

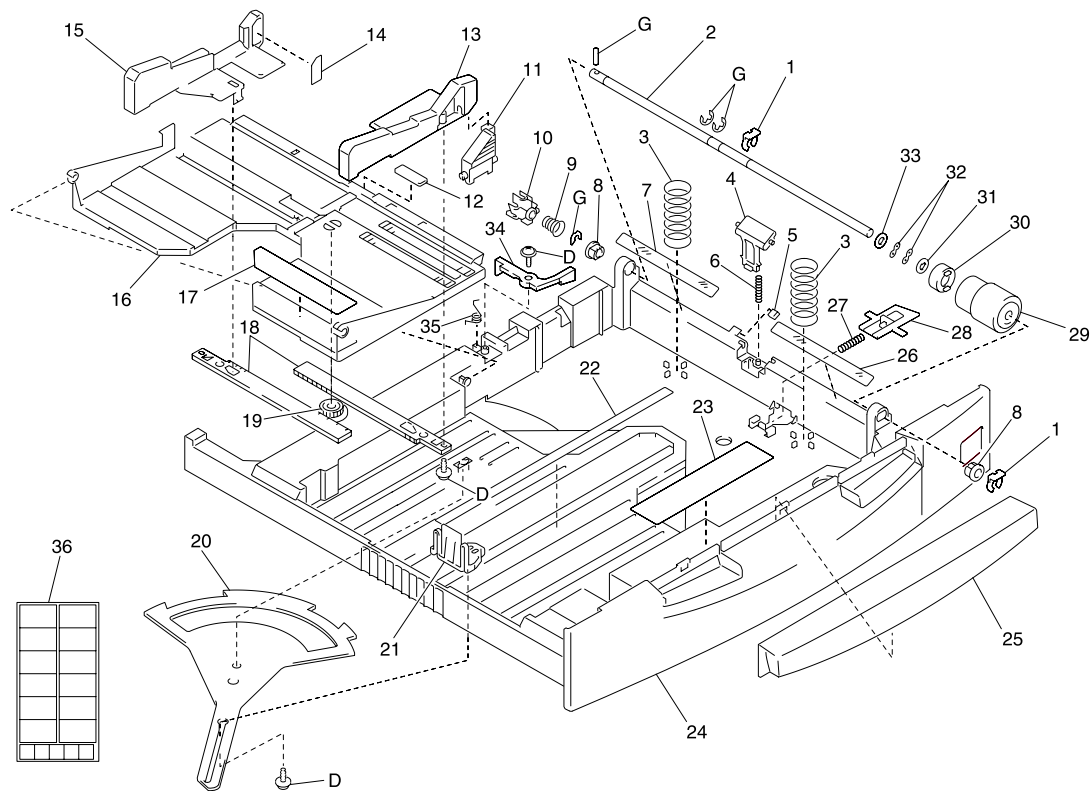
# Assembly 12: Printer Paper Tray



**Assembly 12: Printer Paper Tray**

<b>Ref</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
12-1	12G2447	2	Stopper Ring
-2	12G2448	1	Shaft
-3	12G2449	2	Pressure Spring
-4	12G2450	1	Separator, Paper
-5	12G2451	1	Cleaning Pad
-6	12G2452	1	Pressure Spring
-7	12G2453	1	Polyester Film
-8	12G2454	2	Bushing
-9	12G2455	1	Pressure Spring
-10	12G2456	1	Joint
-11	12G2457	1	Lock Lever
-12	12G2458	1	Friction Sheet
-13	12G2459	1	Regulating Plate
-14	12G2460	1	Label Max Level
-15	12G2461	1	Regulating Plate
-16	12G2462	1	Lifting Plate
-17	12G2463	1	Width Scale
-18	12G2464	2	Rack Gear
-19	12G2465	1	Gear 20t
-20	12G2466	1	Lever
-21	12G2467	1	Regulating Plate
-22	12G2468	1	Length Scale
-23	12G2469	1	Label Paper Loading
-24	12G2470	1	Cassette Body
-25	12G2621	1	Handle
-26	12G2472	1	Polyester Film
-27	12G2473	1	Pressure Spring
-28	12G2474	1	Lock Lever
-29	12G2475	1	Roll, Paper Pickup
-30	12G2476	1	Weight
-31	12G2477	1	Washer
-32	12G2337	2	Wave Washer
-33	12G2478	1	Washer

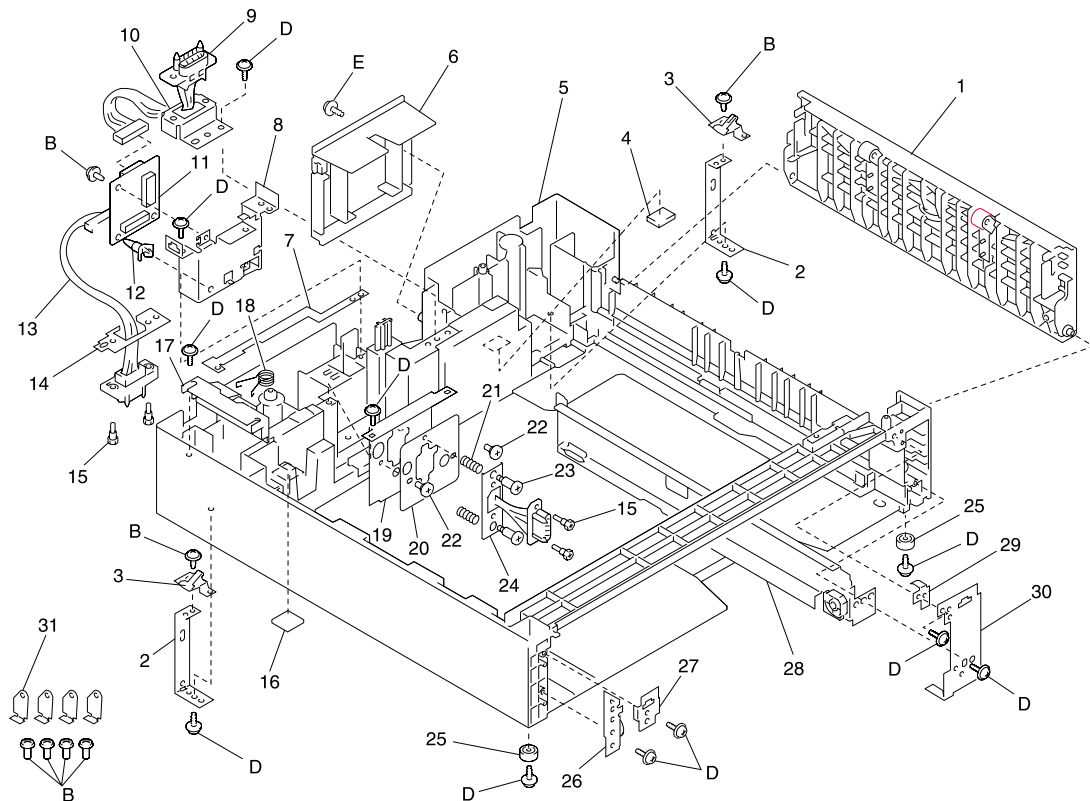
# Assembly 12 (cont.): Printer Paper Tray



**Assembly 12 (cont.): Printer Paper Tray**

<b>Ref</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
12-34	12G2479	1	Lever
-35	12G2480	1	Torsion Spring
-36	12G2481	1	Label Paper Size
-D		1	Parts Packet 4, PN 12G3403
-G		1	Parts Packet 7, PN 12G3406

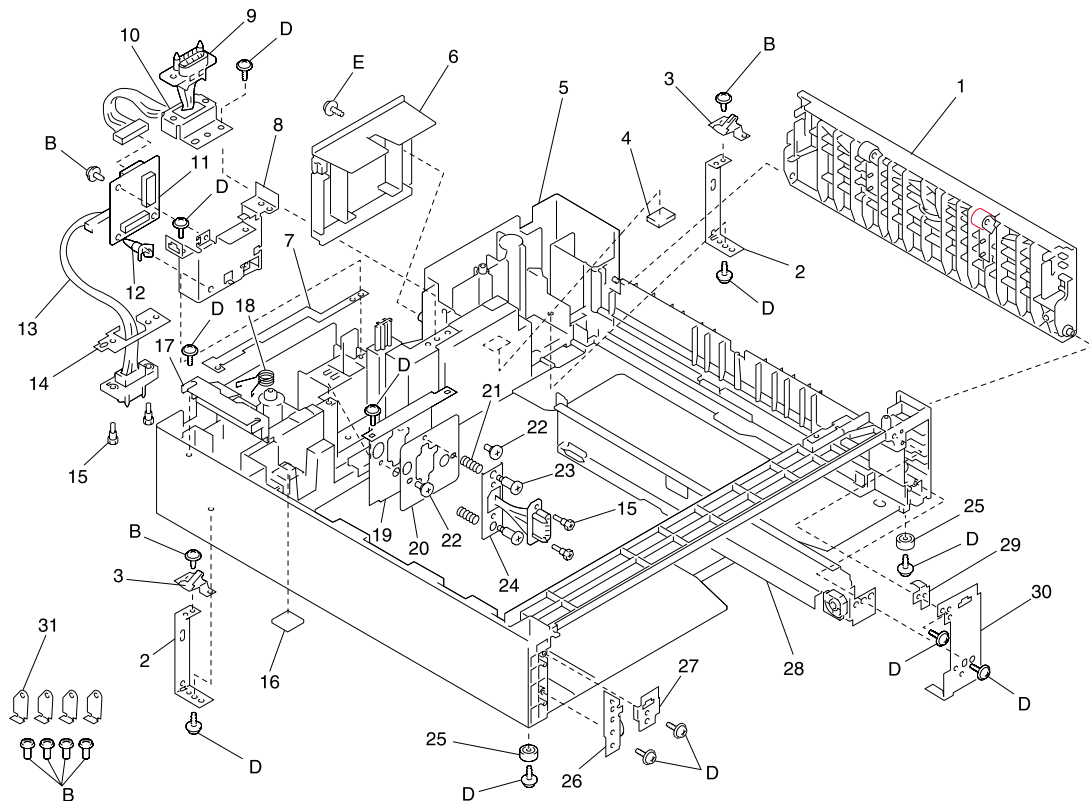
# Assembly 13: 500 Sheet Unit Housing



**Assembly 13: 500 Sheet Unit Housing**

Ref	Part Number	Units	Description
13-1	12G2528	1	Guide
-2	12G2529	2	Bracket
-3	12G2530	2	Plate Spring
-4	12G2531	1	Rubber Foot
-5	12G2532	1	Frame
-6	12G2533	1	Cover
-7	12G2534	1	Ground Plate
-8	12G2535	1	Bracket
-9	12G2536	1	Harness
-10	12G2537	1	Bracket
-11	12G2538	1	PWB-A, Main Controller Board
-12	12G2539	1	PWB Support 6.35h
-13	12G2540	1	Harness
-14	12G2541	1	Bracket
-15	12G2542	4	Shoulder Screw
-16	12G2543	1	Rubber Foot
-17	12G2544	1	Holder
-18	12G2545	1	Spring
-19	12G2546	1	Bracket
-20	12G2547	1	Bracket
-21	12G2548	2	Pressure Spring
-22	12G2549	2	Shoulder Screw
-23	12G2550	2	Shoulder Screw
-24	12G2551	1	Bracket
-25	12G2552	2	Rubber Foot
-26	12G2553	1	Bracket
-27	12G2554	1	Bracket
-28	12G2555	1	Rail
-29	12G2556	1	Pressure Spring
-30	12G2557	1	Bracket
-31	12G2042	4	Holder

# Assembly 13 (cont.): 500 Sheet Unit Housing



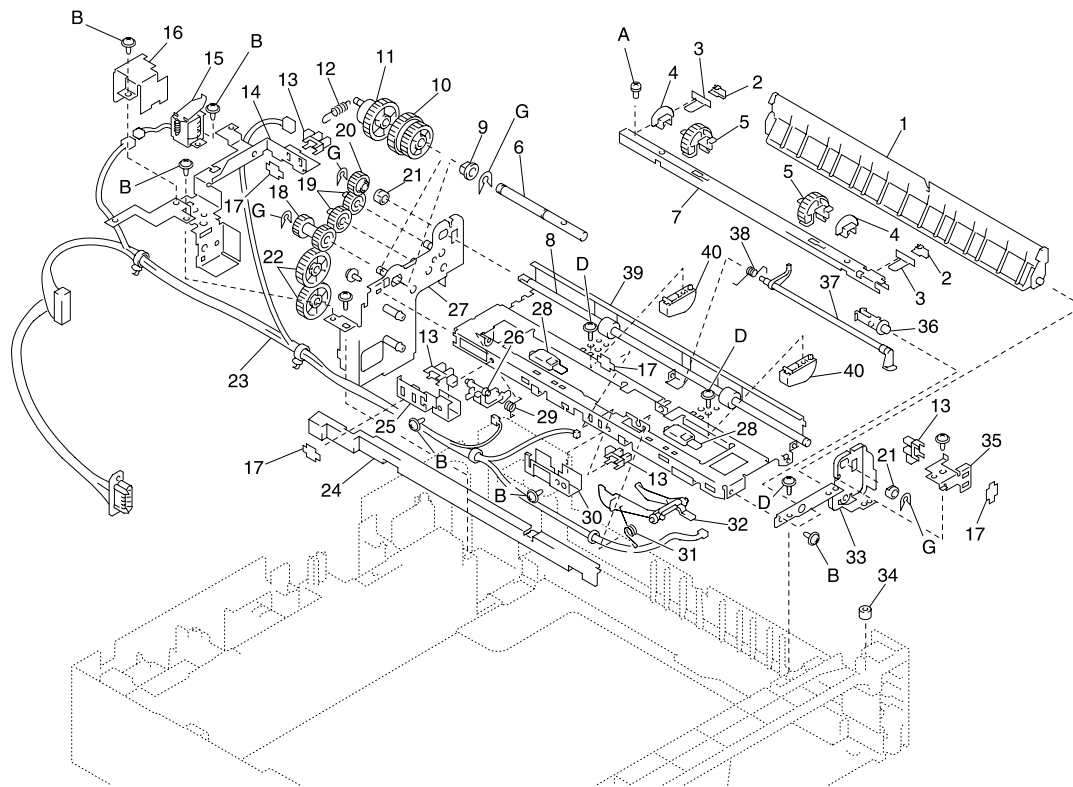


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### Assembly 13 (cont.): 500 Sheet Unit Housing

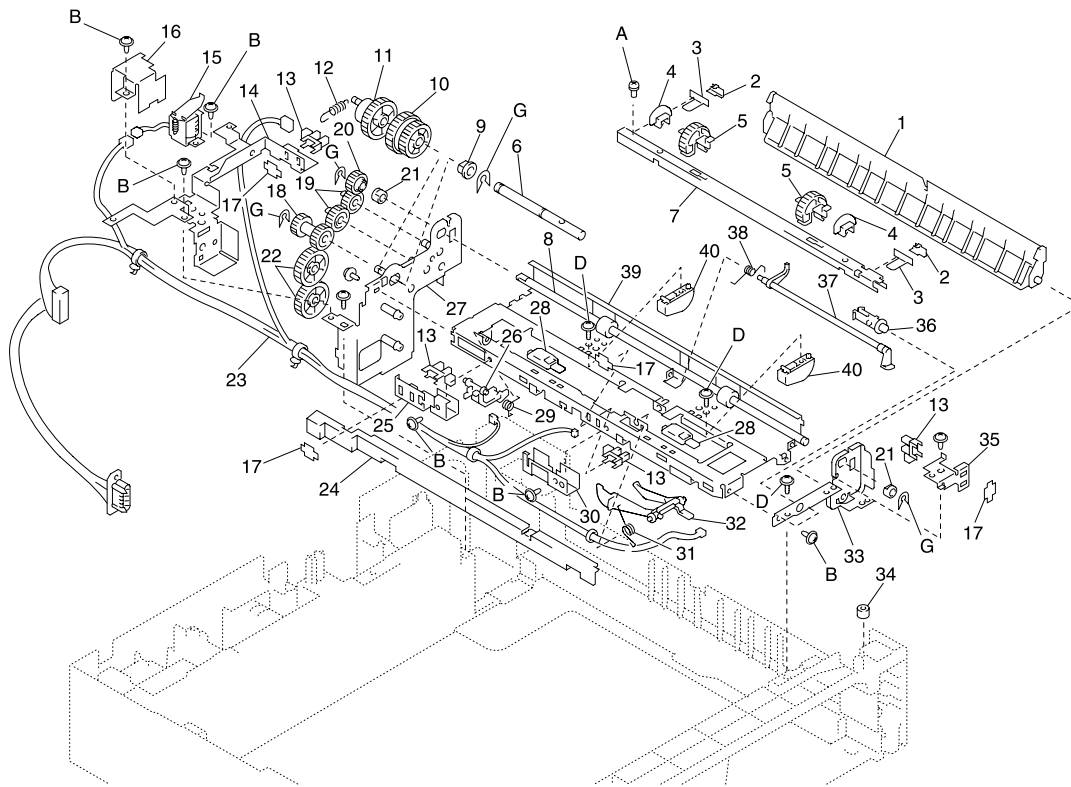
Ref	Part Number	Units	Description
13-B		1	Parts Packet 2, PN 12G3401
-D		1	Parts Packet 4, PN 12G3403
-E		1	Parts Packet 5, PN 12G3404

# Assembly 14: 500 Sheet Unit Paper Take-up



**Assembly 14: 500 Sheet Unit Paper Take-up**

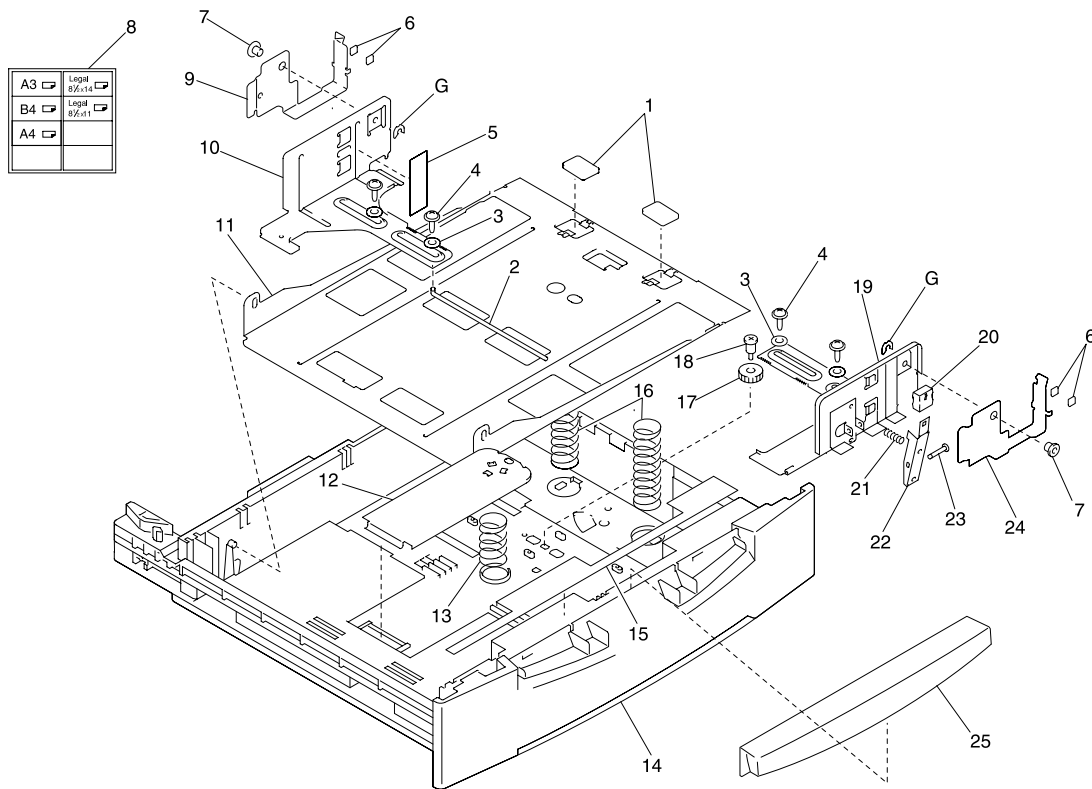
Ref	Part Number	Units	Description
14-1	12G2558	1	Guide Plate
-2	12G2559	2	Holder
-3	12G2560	2	Polyester Film
-4	12G2561	2	Collar
-5	12G2562	2	Roller, Paper Pick-up
-6	12G2563	1	Shaft
-7	12G2564	1	Axle Plate
-8	12G2565	1	Roller
-9	12G2566	1	Bushing
-10	12G2567	1	Gear 30/36t
-11	12G2568	1	Gear 31t
-12	12G2569	1	Tension Spring
-13	12G2081	4	Photo Interrupter, PC22, PC23, PC25
-14	12G2570	1	Bracket
-15	12G2571	1	Solenoid, SL1 Take-up
-16	12G2572	1	Bracket
-17	12G2173	4	Stopper
-18	12G2574	1	Gear 16/20t
-19	12G2575	2	Gear 20t
-20	12G2576	1	Gear 18t
-21	12G2577	2	Bushing
-22	12G2578	2	Gear 34t
-23	12G2579	1	Harness
-24	12G2580	1	Holder
-25	12G2581	1	Bracket
-26	12G2582	1	Lever
-27	12G2583	1	Axle Plate
-28	12G2584	2	Spacer
-29	12G2585	1	Torsion Spring
-30	12G2586	1	Bracket
-31	12G2587	1	Torsion Spring
-32	12G2588	1	Actuator
-33	12G2589	1	Bracket

**Assembly 14 (cont.): 500 Sheet Unit Paper Take-up**

**Assembly 14 (cont.): 500 Sheet Unit Paper Take-up**

<b>Ref</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
14-34	12G2590	1	Collar
-35	12G2591	1	Bracket
-36	12G2592	1	Shaft
-37	12G2593	1	Actuator
-38	12G2594	1	Torsion Spring
-39	12G3508	1	Guide Plate
-40	12G2596	2	Guide
-A		1	Parts Packet 1, PN 12G3400
-B		1	Parts Packet 2, PN 12G3401
-D		1	Parts Packet 4, PN 12G3403
-G		1	Parts Packet 7, PN 12G3406

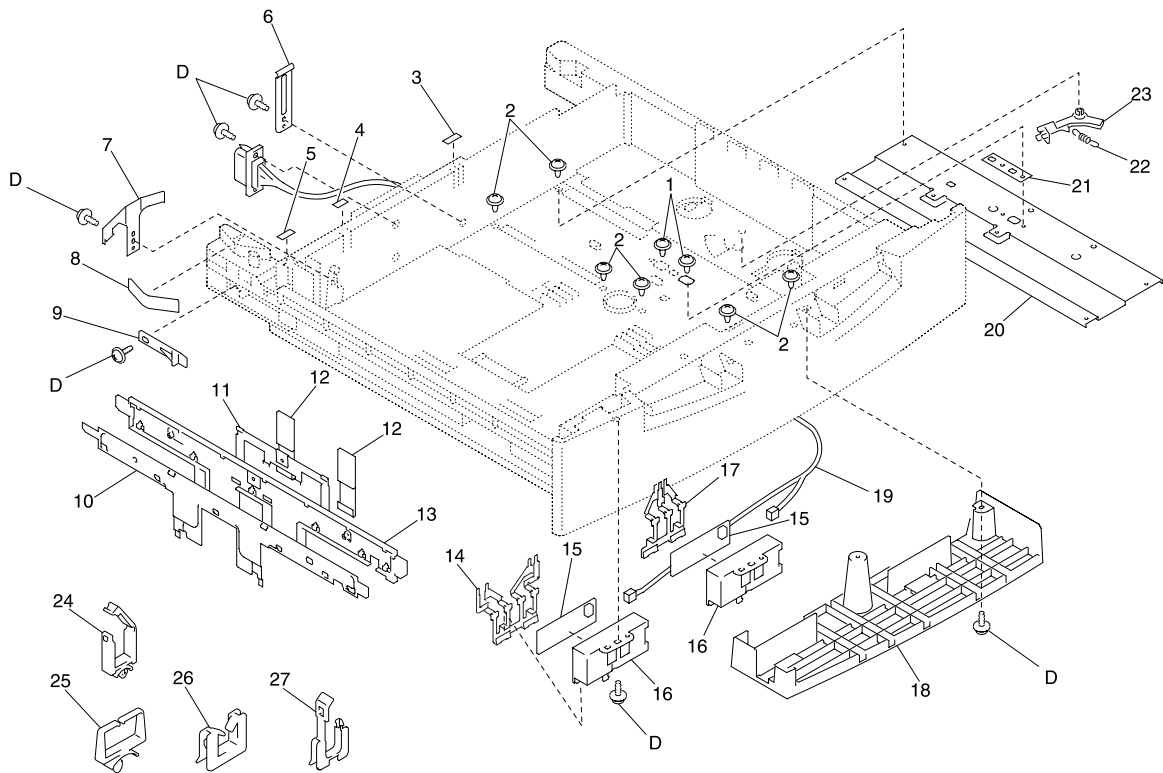
# Assembly 15: 500 Sheet Unit Paper Tray Unit (A)



**Assembly 15: 500 Sheet Unit Paper Tray Unit (A)**

Ref	Part Number	Units	Description
15-1	12G2597	2	Cork
-2	12G2598	1	Shaft
-3	12G3371	4	Washer
-4	12G2600	4	Screw
-5	12G2601	1	Label Max Level
-6	12G3509	4	Collar
-7	12G2603	2	Hold Plate
-8	12G2604	1	Label Paper Size
-9	12G2605	1	Guide Plate
-10	12G2606	1	Regulating Plate
-11	12G2607	1	Lifting Plate
-12	12G2608	1	Lifting Plate
-13	12G2609	1	Pressure Spring
-14	12G2610	1	Cassette Body
-15	12G2611	1	Label Cassette
-16	12G2612	2	Pressure Spring
-17	12G2613	1	Gear 14t
-18	12G2614	1	Shoulder Screw
-19	12G2615	1	Regulating Plate
-20	12G2616	1	Knob
-21	12G2617	1	Pressure Spring
-22	12G2618	1	Lever
-23	12G2619	1	Shaft
-24	12G2620	1	Guide Plate
-25	12G2621	1	Handle
-G		1	Parts Packet 7, PN 12G3406

# Assembly 16: 500 Sheet Unit Paper Tray Unit (B)



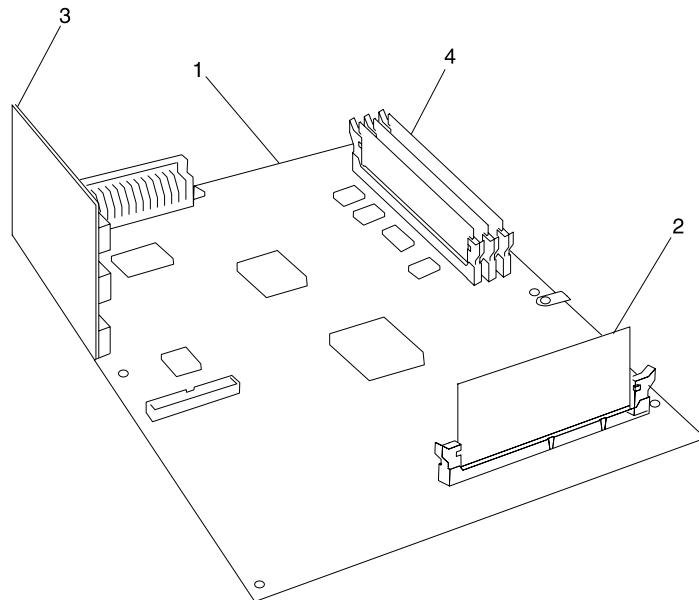


**Assembly 16: 500 Sheet Unit Paper Tray Unit (B)**

Ref	Part Number	Units	Description
16-1	12G2622	2	Screw
-2	12G2623	6	Screw
-3	12G2624	1	Label
-4	12G2625	1	Label
-5	12G2626	1	Label
-6	12G2627	1	Plate Spring
-7	12G3372	1	Plate Spring
-8	12G2629	1	Friction Sheet
-9	12G2630	1	Stopper
-10	12G2631	1	Reinforce Plate
-11	12G2632	1	Plate Spring
-12	12G2633	2	Sheet
-13	12G2634	1	Regulating Plate
-14	12G2635	1	Terminal
-15	12G2410	2	PWB-I, Paper Size Board
-16	12G2636	2	Holder
-17	12G2637	1	Terminal
-18	12G2638	1	Cover
-19	12G2639	1	Harness
-20	12G2640	1	Reinforce Plate
-21	12G2641	1	Plate
-22	12G2642	1	Tension Spring
-23	12G2643	1	Lever
-24	12G2486	1	Wiring Saddle 5.2h
-25	12G2487	2	Wiring Saddle 6.4h
-26	12G2490	9	Edge Cover 8.5h
-27	12G2491	1	Edge Cover 15.4h
-D		1	Parts Packet 4, PN 12G3403

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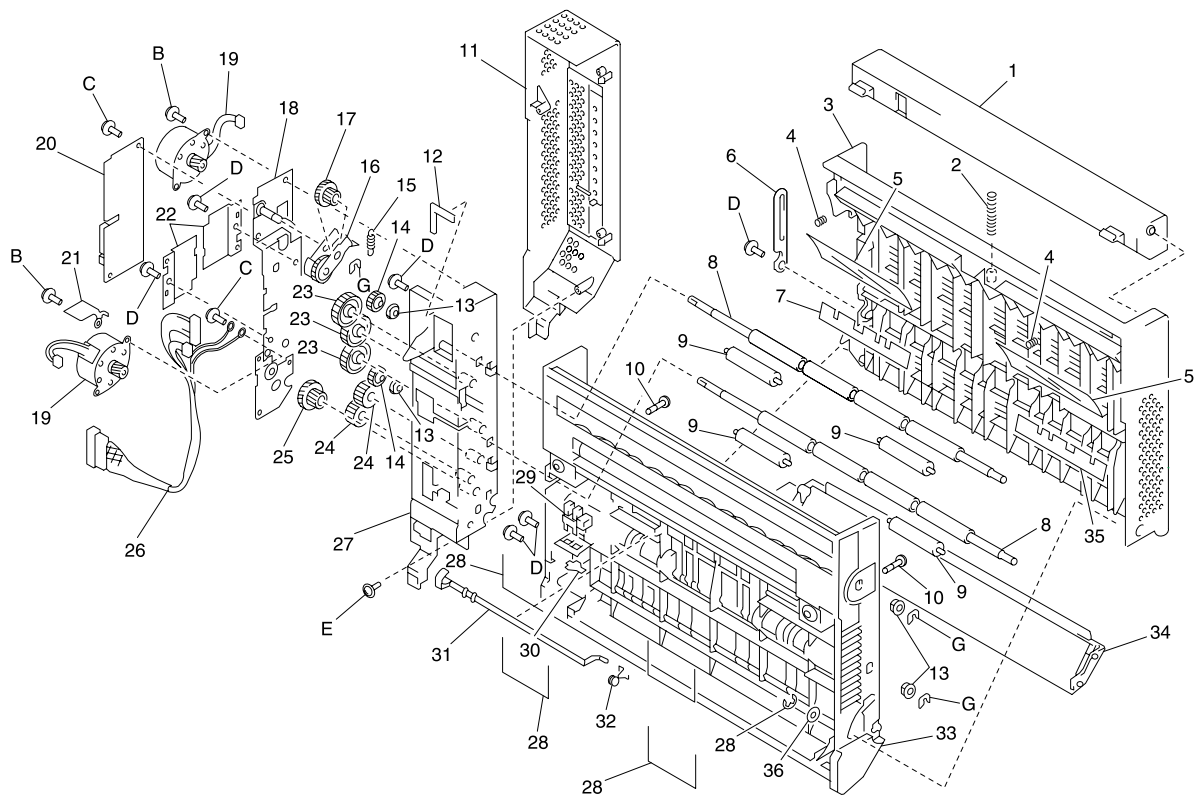
## Assembly 17: Printer Controller Card



**Assembly 17: Printer Controller Card**

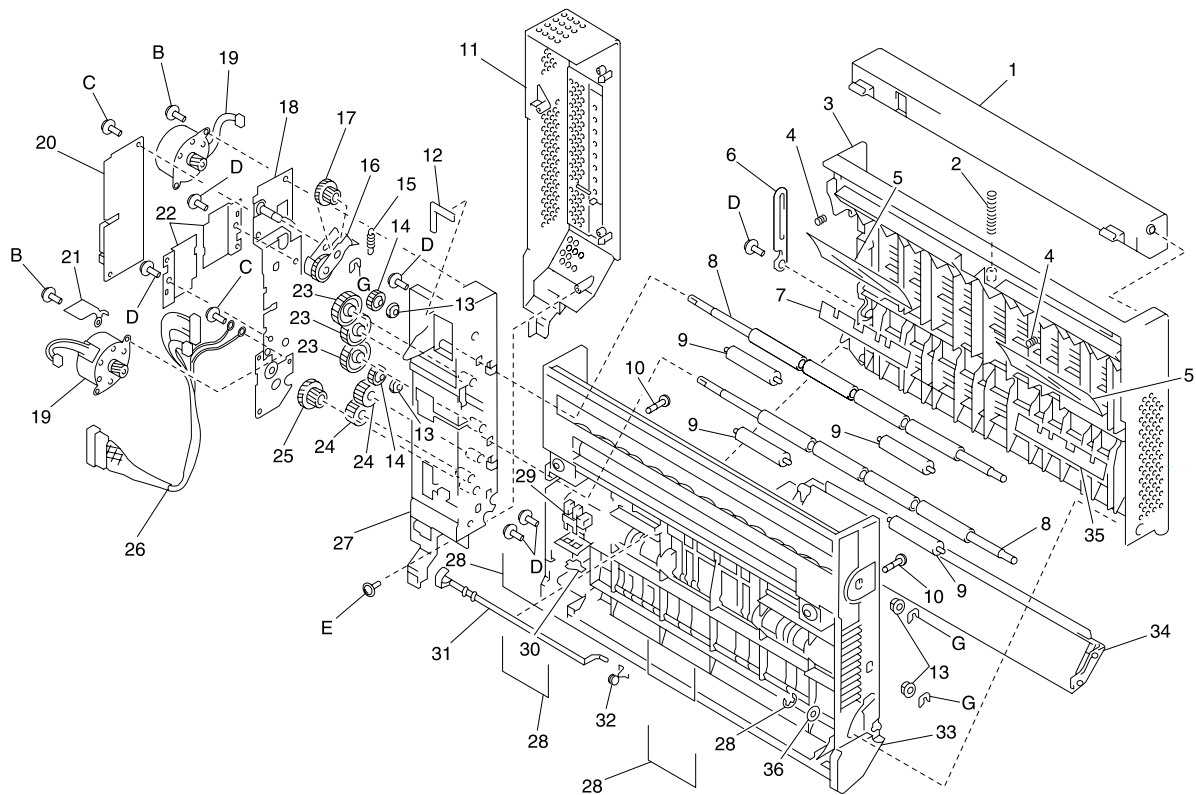
Ref	Part Number	Units	Description
17-1	12G3454	1	RIP Controller Card
-2	11G3523	1	5MB SIMM Code, Controller Card
-3	12G3521	1	Riser Card, Controller Card
-4	99A1757	1	2MB Flash DIMM
-4	99A1758	1	4MB Flash DIMM
-4	99A1759	1	8MB Flash DIMM
-4	99A1774	1	16MB Flash DIMM
-4	99A1752	1	4MB SDRAM DIMM
-4	99A1753	1	8MB SDRAM DIMM
-4	99A1754	1	16MB SDRAM DIMM
-4	99A1755	1	32MB SDRAM DIMM
-4	99A1756	1	64MB SDRAM DIMM
NS	12C0805	2	Screw, Parallel Port

# Assembly 18: Duplex Unit



**Assembly 18: Duplex Unit**

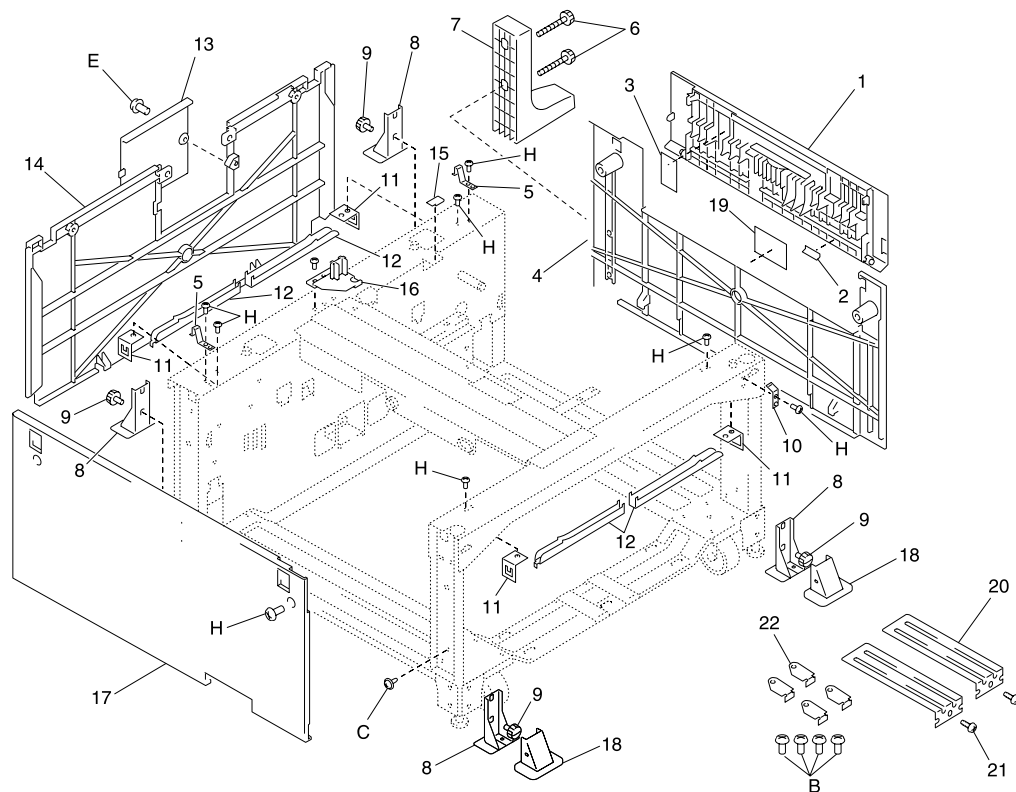
Ref	Part Number	Units	Description
18-1	12G2494	1	Lever
-2	12G2495	1	Pressure Spring
-3	12G2496	1	Cover
-4	12G2497	2	Pressure Spring
-5	12G2498	2	Polyester Film
-6	12G2499	1	Stopper
-7	12G2500	1	Polyester Film
-8	12G2501	2	Roller
-9	12G2502	4	Roll
-10	12G2503	2	Shoulder Screw
-11	12G2504	1	Cover
-12	12G2505	1	Seal
-13	12G2190	4	Bushing
-14	12G2506	2	Gear 20 T
-15	12G2507	1	Tension Spring
-16	12G2508	1	Lever
-17	12G2509	1	Gear 12/40 T
-18	12G2510	1	Axle Plate
-19	12G2511	2	Motor, M1, M2 Duplex Drive
-20	12G2512	1	PWB-A, Duplex Control Board
-21	12G2513	1	Plate
-22	12G2514	2	Plate
-23	12G2515	3	Gear 35 T
-24	12G2516	2	Gear 24 T
-25	12G2517	1	Gear 17/45 T
-26	12G2518	1	Harness
-27	12G2519	1	Holder
-28	12G2520	4	Spring
-29	12G2081	1	Photo Interrupter, S2 Door Close
-30	12G2102	1	Stopper
-31	12G2521	1	Actuator
-32	12G2523	1	Torsion Spring
-33	12G2524	1	Frame

**Assembly 18 (cont.): Duplex Unit**

**Assembly 18 (cont.): Duplex Unit**

<b>Ref</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
18-34	12G2525	1	Cover
-35	12G2526	1	Polyester Film
-36	12G2527	1	Washer
-B		1	Parts Packet 2, PN 12G3401
-C		1	Parts Packet 3, PN 12G3402
-D		1	Parts Packet 4, PN 12G3403
-E		1	Parts Packet 5, PN 12G3404
-G		1	Parts Packet 7, PN 12G3406

# Assembly 19: Paper Deck Housing

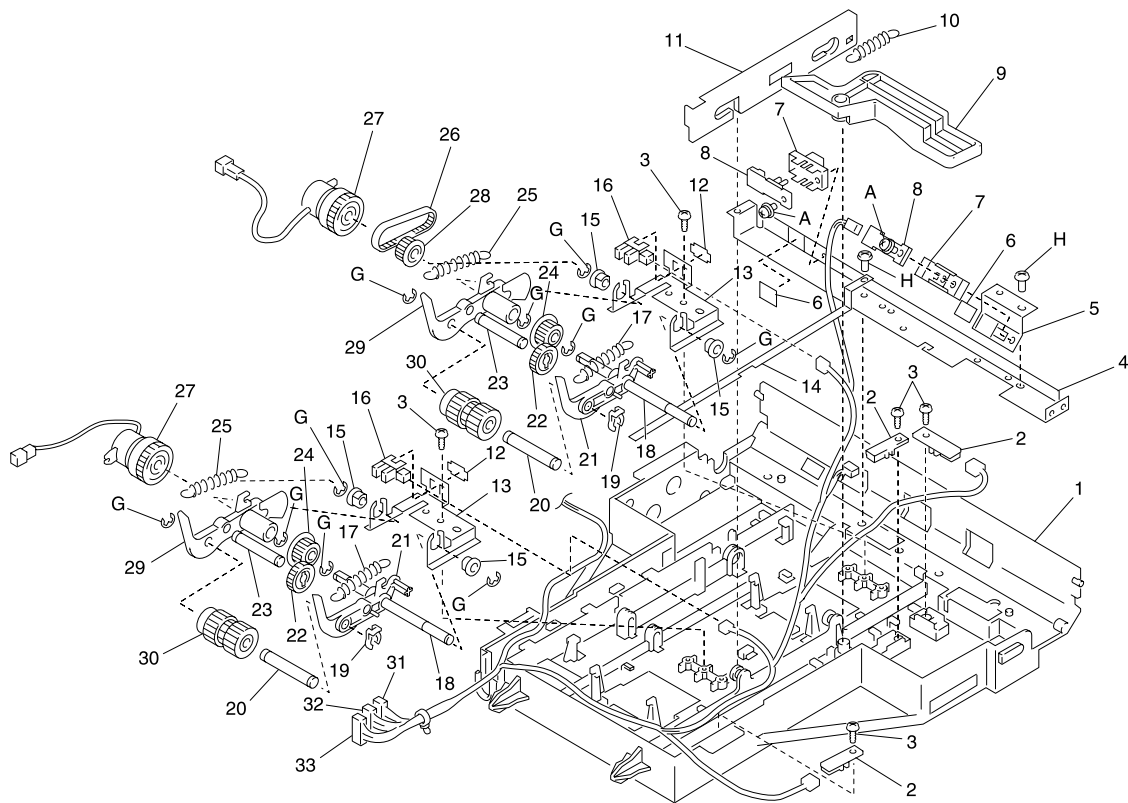




## Assembly 19: Paper Deck Housing

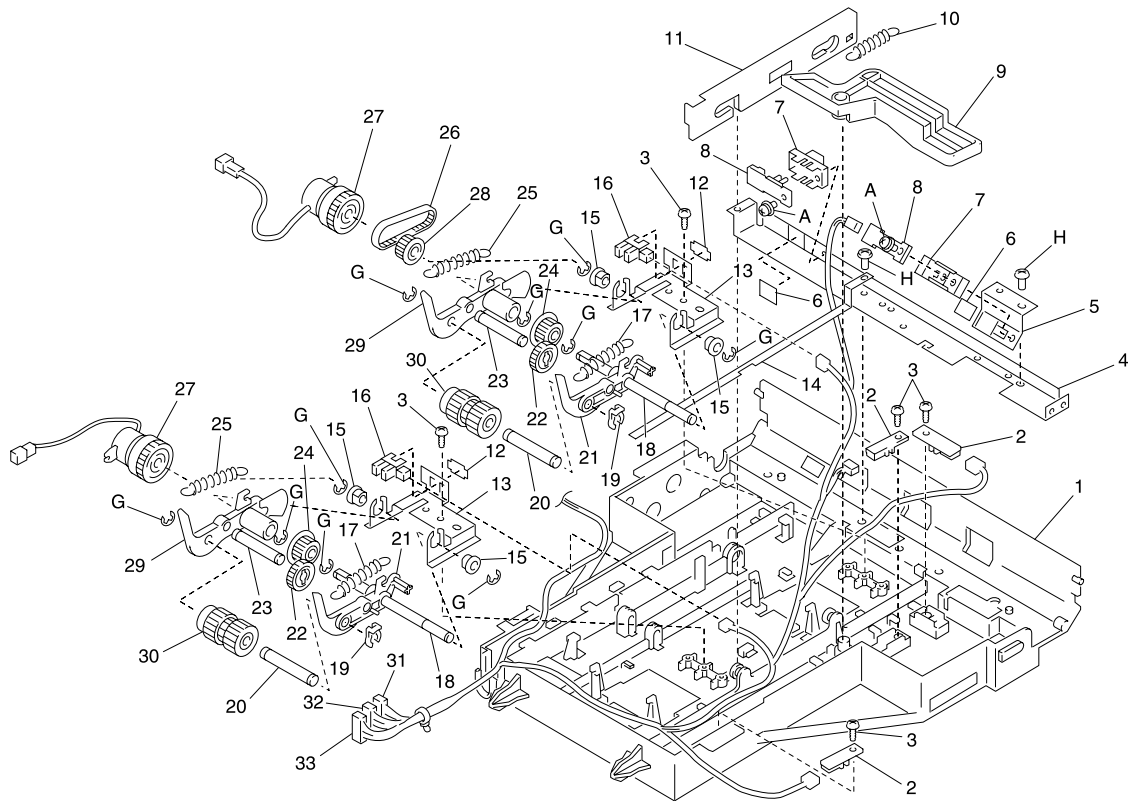
Ref	Part Number	Units	Description
19-1	12G2644	1	Cover
-2	12G2645	1	Sheet
-3	12G2646	1	Sheet
-4	12G2647	1	Right Cover
-5	12G2648	2	Ground Plate
-6	12G2649	2	Shoulder Screw
-7	12G2650	1	Stopper
-8	12G2651	4	Bracket
-9	12G2652	4	Shoulder Screw
-10	12G2653	1	Ground Plate
-11	12G2654	4	Bracket
-12	12G2655	4	Handle
-13	12G2656	1	Cover
-14	12G2657	1	Rear Cover
-15	12G2658	1	Polyester Film
-16	12G2659	1	Holder
-17	12G2660	1	Left Cover
-18	12G2661	2	Cover
-19	12G2662	1	Label Warning
-20	12G2663	2	Regulating Plate
-21	12G2664	2	Shoulder Screw
-22	12G2042	4	Holder
-B		1	Parts Packet 2, PN 12G3401
-C		1	Parts Packet 3, PN 12G3402
-E		1	Parts Packet 5, PN 12G3404
-H		1	Parts Packet 8, PN 12G3407

# Assembly 20: Paper Deck Paper Take-up (A)



**Assembly 20: Paper Deck Paper Take-up (A)**

Ref	Part Number	Units	Description
20-1	12G2666	1	Guide Plate
-2	12G2667	3	Photo Interrupter, PPSO-2
-3	12G2664	5	Shoulder Screw
-4	12G2668	1	Reinforce Plate
-5	12G2669	1	Bracket
-6	12G2670	2	Polyester Film
-7	12G2671	2	Holder
-8	12G2672	2	Photo Interrupter, RSEN, S1
-9	12G2673	1	Arm
-10	12G2674	1	Tension Spring
-11	12G2675	1	Arm
-12	12G2676	2	Stopper
-13	12G2677	2	Bracket
-14	12G2678	1	Ground Plate
-15	12G2679	4	Bushing
-16	12G2680	2	Photo Interrupter, LS1,LS2
-17	12G2681	2	Tension Spring
-18	12G2682	2	Shaft
-19	12G2683	2	Stopper Ring
-20	12G2684	2	Shaft
-21	12G2685	2	Arm
-22	12G2686	2	Gear 26 T
-23	12G2687	2	Shaft
-24	12G2688	2	Pulley 20 T
-25	12G2689	2	Tension Spring
-26	12G2690	1	Timing Belt
-27	12G2691	2	Clutch, P1CL, P2CL
-28	12G2692	1	Pulley 18 T
-29	12G2693	2	Arm
-30	12G2694	2	Roller, Paper Transport
-31	12G2695	1	Harness
-32	12G2696	1	Harness
-33	12G2697	1	Harness

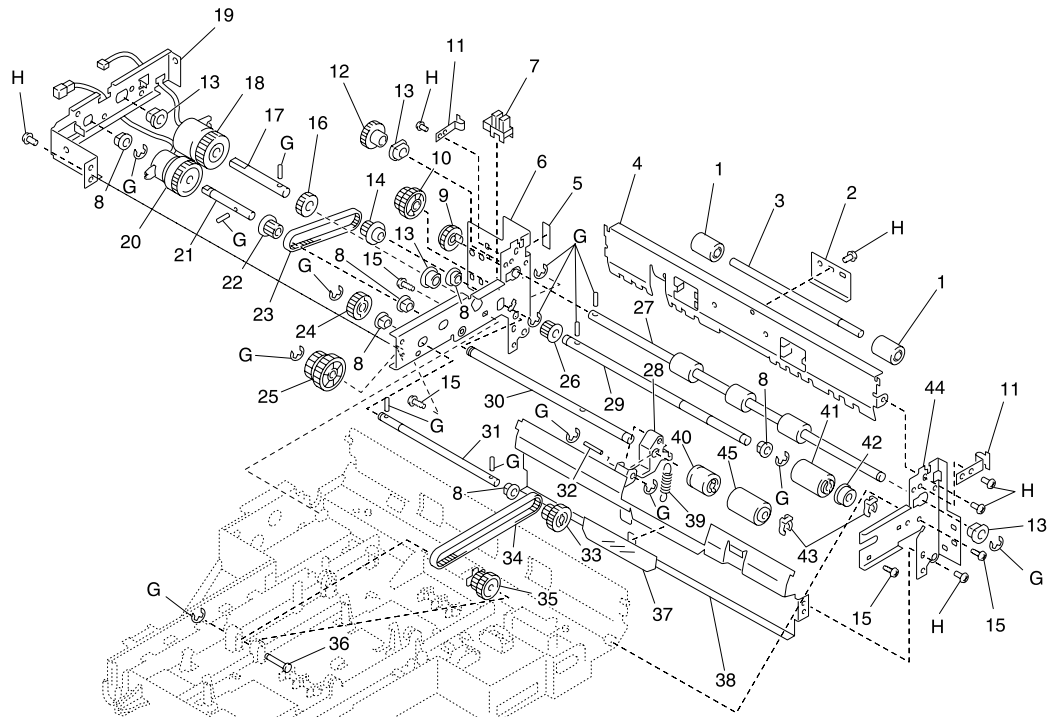
**Assembly 20 (cont.): Paper Deck Paper Take-up (A)**

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**Assembly 20 (cont.): Paper Deck Paper Take-up (A)**

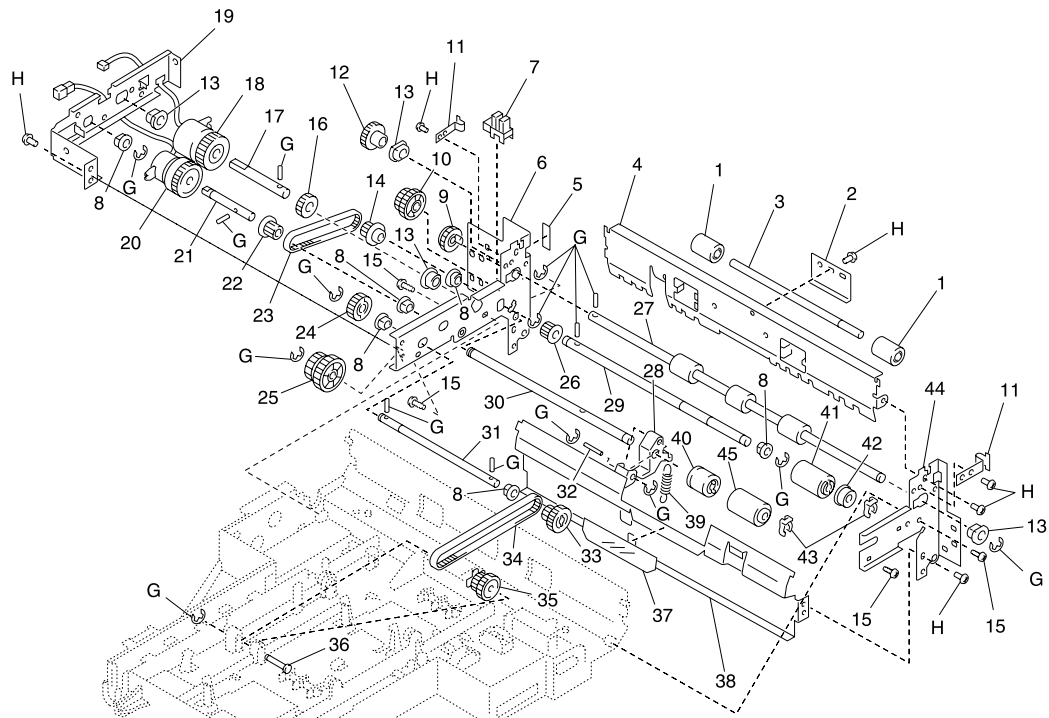
<b>Ref</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
20-A		1	Parts Packet 1, PN 12G3400
-G		1	Parts Packet 7, PN 12G3406
-H		1	Parts Packet 8, PN 12G3407

# Assembly 21: Paper Deck Paper Take-up (B)



**Assembly 21: Paper Deck Paper Take-up (B)**

Ref	Part Number	Units	Description
21-1	12G2700	2	Roller, Paper
-2	12G2701	1	Plate Spring
-3	12G2702	1	Shaft
-4	12G2703	1	Bracket
-5	12G2704	1	Label
-6	12G2705	1	Axel Plate
-7	12G2680	1	Photo Interrupter, Side, Door Close
-8	12G2679	6	Bushing
-9	12G2706	1	Gear 18 T
-10	12G2707	1	Gear 22/28 T
-11	12G2708	2	Plate Spring
-12	12G2709	1	Gear 26 T
-13	12G2710	4	Bush
-14	12G2711	1	Pulley 20 T
-15	12G2664	4	Shoulder Screw
-16	12G2712	1	Gear 20 T
-17	12G2713	1	Shaft
-18	12G2714	1	Clutch RCL, Registration
-19	12G2715	1	Bracket
-20	12G2716	1	Clutch BCL, Separation
-21	12G2717	1	Shaft
-22	12G2718	1	Pulley 18 T
-23	12G2719	1	Timing Belt
-24	12G2720	1	Gear 24 T
-25	12G2721	1	Gear 20/35 T
-26	12G2722	1	Pulley 14 T
-27	12G2723	1	Roller
-28	12G2724	1	Lever
-29	12G2725	1	Shaft
-30	12G2726	1	Shaft
-31	12G2727	1	Shaft
-32	12G2728	1	Shaft
-33	12G2729	1	Ply Gear 14/26 T

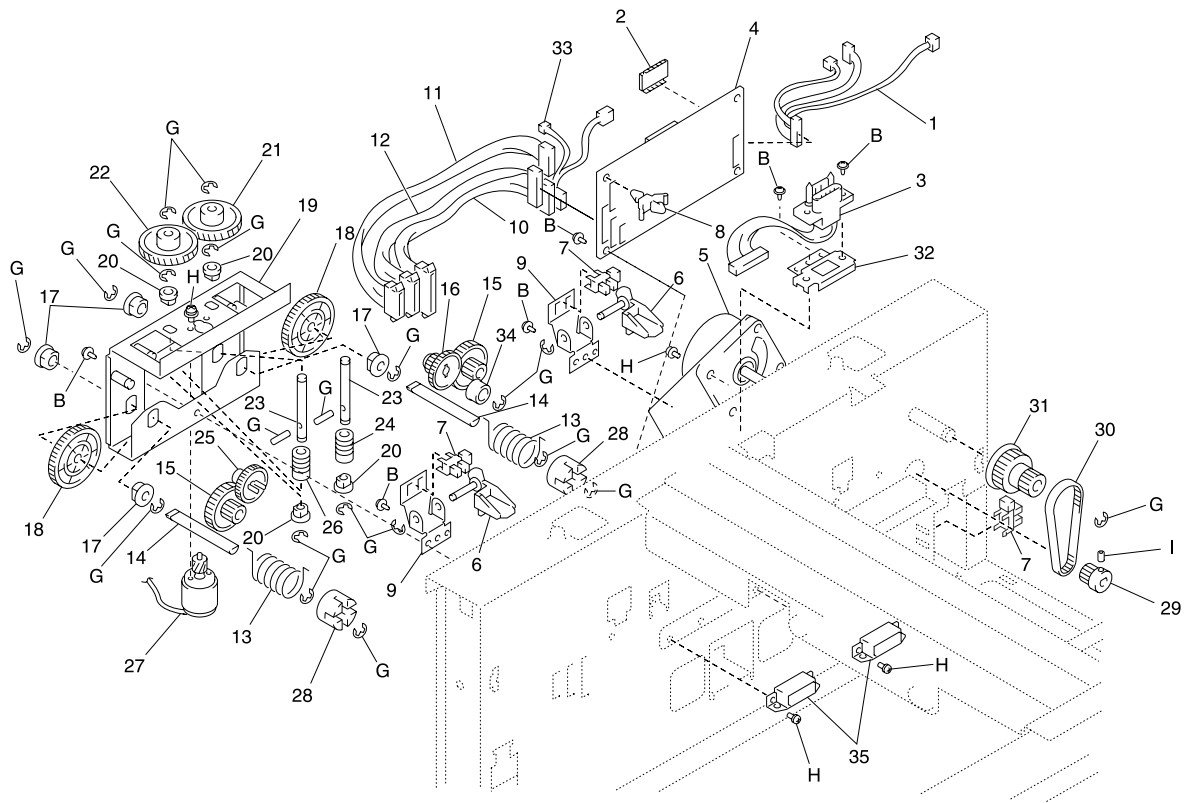
**Assembly 21 (cont.): Paper Deck Paper Take-up (B)**



**Assembly 21 (cont.): Paper Deck Paper Take-up (B)**

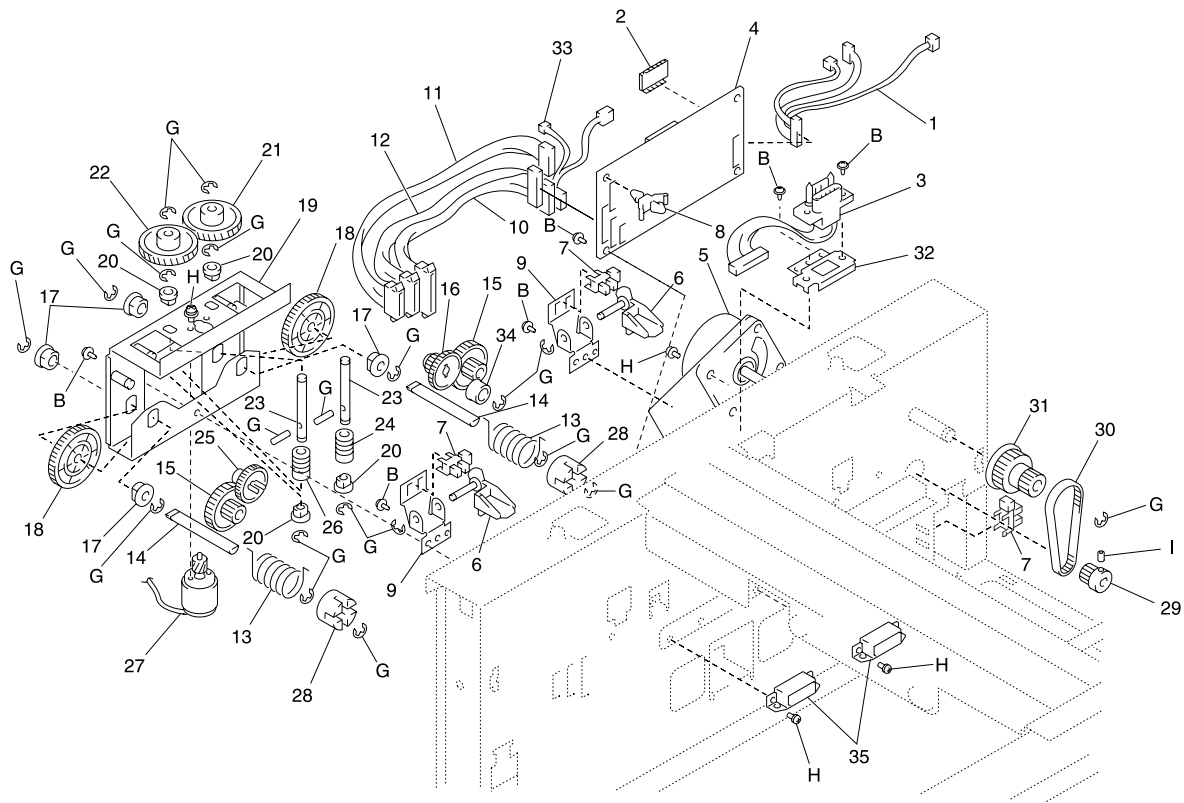
Ref	Part Number	Units	Description
21-34	12G2730	1	Timing Belt
-35	12G2731	1	Ply Gear 14/26 T
-36	12G2732	1	Shaft
-37	12G2733	1	Polyester Film
-38	12G2734	1	Bracket
-39	12G2735	1	Tension Spring
-40	12G2736	1	Arbor Asm
-41	12G2737	1	Roller, Paper Take-up
-42	12G2738	1	Clutch
-43	12G2683	2	Stopper Ring
-44	12G2739	1	Frame
-45	12G2740	1	Roller, Paper Take-up
-G		1	Parts Packet 7, PN 12G3406
-H		1	Parts Packet 8, PN 12G3407

# Assembly 22: Paper Deck Drive



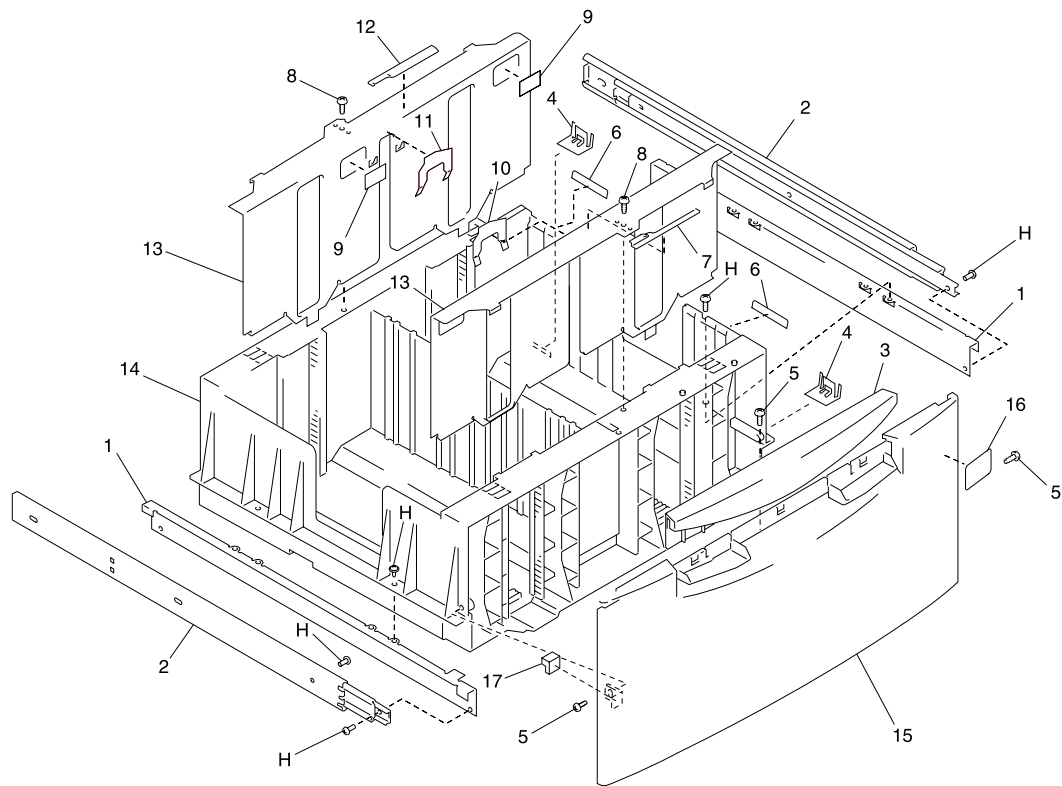
## Assembly 22: Paper Deck Drive

Ref	Part Number	Units	Description
22-1	12G2745	1	Harness
-2	12G2746	1	IC
-3	12G2747	1	Harness
-4	12G2748	1	PWB-A, Drive Board  <b>Note:</b> Remove IC (reference 2) from old board and place on new board.
-5	12G2749	1	Motor, HMOT Paper Transport
-6	12G2750	2	Lever
-7	12G2680	1	Photo Interrupter, RS1, RS2 Front
-8	12G2751	3	PWB Support
-9	12G2752	2	Bracket
-10	12G2753	1	Harness
-11	12G2754	1	Harness
-12	12G2755	1	Harness
-13	12G2756	2	Pressure Spring
-14	12G2757	2	Shaft
-15	12G2758	2	Gear 16/32 T
-16	12G2759	1	Gear 16/32 T
-17	12G2806	4	Bush
-18	12G2760	2	Gear 58 T
-19	12G2761	1	Axle Plate
-20	12G2679	4	Bushing
-21	12G2762	1	Gear 72 T
-22	12G2763	1	Gear 72 T
-23	12G2764	2	Shaft
-24	12G2765	1	Worm Gear
-25	12G2766	1	Gear 16/32 T
-26	12G2767	1	Worm Gear
-27	12G2768	1	Motor, EMOT Paper Lift
-28	12G2769	2	Holder
-29	12G2770	1	Pulley 18 T
-30	12G2771	1	Timing Belt
-31	12G2772	1	Ply Gear 16/50 T

**Assembly 22 (cont.): Paper Deck Drive**

**Assembly 22 (cont.): Paper Deck Drive**

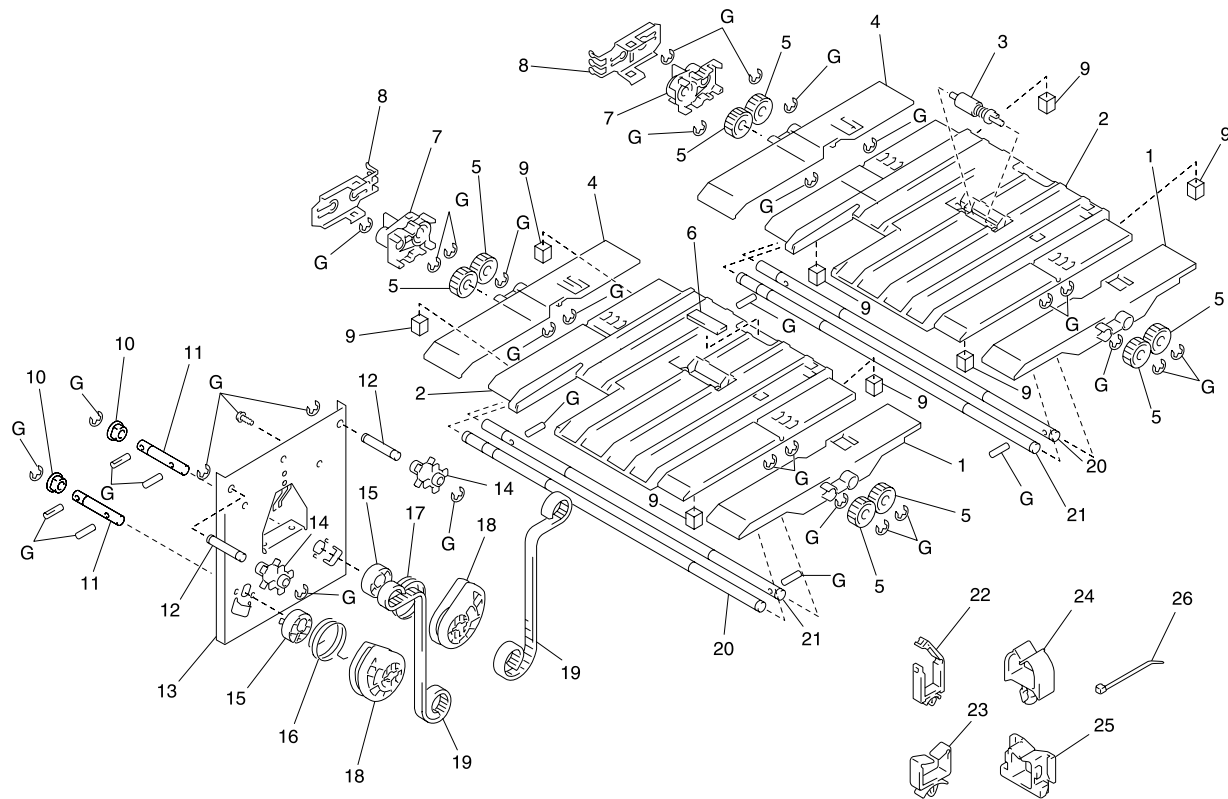
<b>Ref</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
22-32	12G2773	1	Bracket
-33	12G2774	1	Harness
-34	12G2775	1	Arbor
-35	12G2776	2	Magnet Catch
-B		1	Parts Packet 2, PN 12G3401
-G		1	Parts Packet 7, PN 12G3406
-H		1	Parts Packet 8, PN 12G3407
-I		1	Parts Packet 9, PN 12G3408

**Assembly 23: Paper Deck Paper Tray (A)**

**Assembly 23: Paper Deck Paper Tray (A)**

Ref	Part Number	Units	Description
23-1	12G2779	2	Bracket
-2	12G2780	2	Rail
-3	12G2621	1	Handle
-4	12G2781	2	Ground Plate
-5	12G2782	3	Shoulder Screw
-6	12G2783	2	Polyester Film
-7	12G2784	1	Holder
-8	12G2664	2	Shoulder Screw
-9	12G2785	2	Label Max Level
-10	12G2786	1	Polyester Film
-11	12G2787	1	Polyester Film
-12	12G2788	1	Holder
-13	12G2789	2	Regulating Plate
-14	12G2790	1	Cassette Body
-15	12G2791	1	Front Cover
-16	12G2792	1	Label A4
-16	12G2793	1	Label Letter
-17	12G2794	1	Stopper
-H		1	Parts Packet 8, PN 12G3407

# Assembly 24: Paper Deck Paper Tray (B)

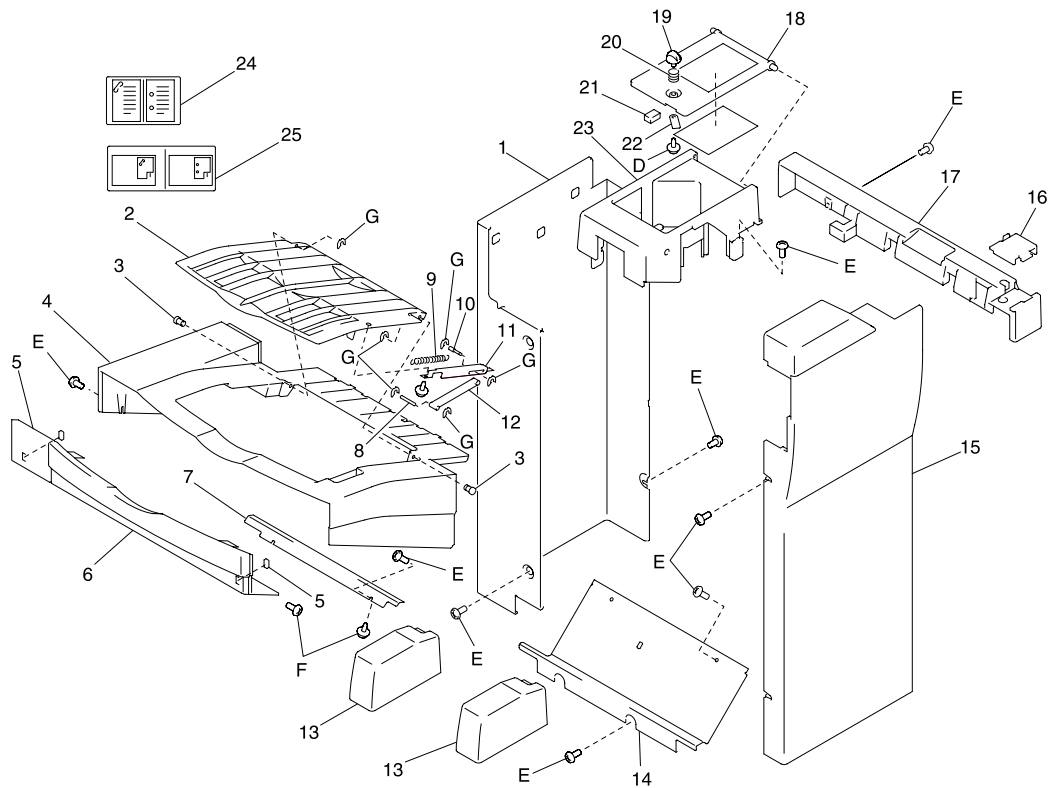




**Assembly 24: Paper Deck Paper Tray (B)**

Ref	Part Number	Units	Description
24-1	12G2797	2	Holder
-2	12G2798	2	Guide Plate
-3	12G2799	1	Roll Asm
-4	12G2800	2	Holder
-5	12G2801	8	Gear 24 T
-6	12G2802	1	Pad
-7	12G2803	2	Pulley 20 T
-8	12G2804	2	Ground Plate
-9	12G2805	8	Cushion
-10	12G2806	2	Bush
-11	12G2807	2	Shaft
-12	12G2808	2	Shaft
-13	12G2809	1	Bracket
-14	12G2810	2	Cam
-15	12G2811	2	Holder
-16	12G2812	1	Torsion Spring
-17	12G2813	1	Torsion Spring
-18	12G2814	2	Pulley 32 T
-19	12G2815	2	Timing Belt
-20	12G2816	2	Shaft
-21	12G2817	2	Shaft
-22	12G2818	5	Wiring Saddle
-23	12G2819	6	Wiring Saddle
-24	12G2820	4	Wiring Saddle
-24	12G2821	5	Cord Clamp
-25	12G2822	1	Edge Cover
-25	12G2823	2	Edge Cover
-26	12G2824	6	Cable Tie
-G		1	Parts Packet 7, PN 12G3406
-H		1	Parts Packet 8, PN 12G3407

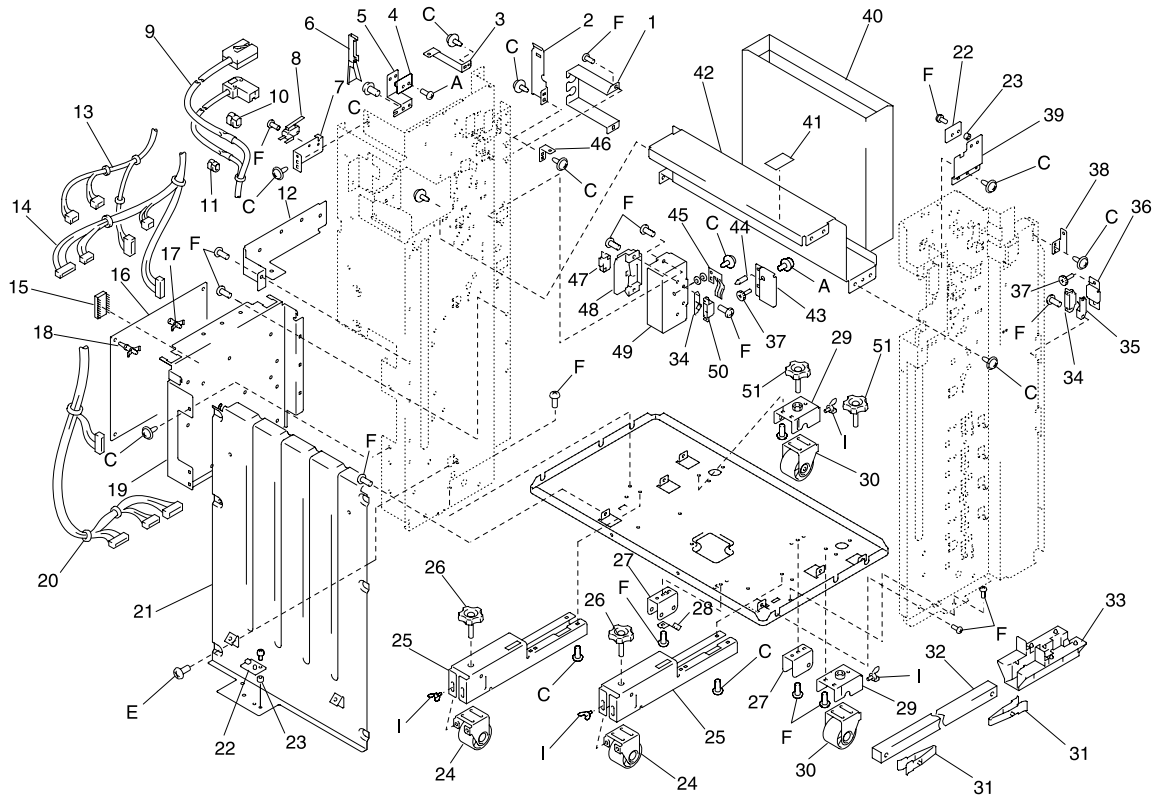
# Assembly 25: Finisher Housing



**Assembly 25: Finisher Housing**

Ref	Part Number	Units	Description
25-1	12G3034	1	Rear Cover
-2	12G3035	1	Tray
-3	12G3036	2	Stud
-4	12G3037	1	Tray
-5	12G3038	2	Cushion
-6	12G3039	1	Cover
-7	12G3040	1	Plate
-8	12G3041	1	Shaft
-9	12G3042	1	Tension Spring
-10	12G3043	1	Shaft
-11	12G3044	1	Slide Plate
-12	12G3045	1	Stay
-13	12G3046	2	Cover
-14	12G3047	1	Left Cover-lwr
-15	12G3048	1	Front Cover
-16	12G3049	1	Cover
-17	12G3050	1	Right Cover-upr
-18	12G3051	1	Cover
-19	12G3052	1	Knob
-20	12G3053	1	Pressure Spring
-21	12G2875	1	Rubber Strip
-22	12G3054	1	Plate
-23	12G3055	1	Rear Cover-upr
-24	12G3056	1	Label Position
-24	12G3057	1	Label Position
-24	12G3058	1	Label Position
-25	12G3059	1	Label Position
-25	12G3060	1	Label Position
-25	12G3061	1	Label Position
-D		1	Parts Packet 4, PN 12G3403
-E		1	Parts Packet 5, PN 12G3404
-F		1	Parts Packet 6, PN 12G3405
-G		1	Parts Packet 7, PN 12G3406

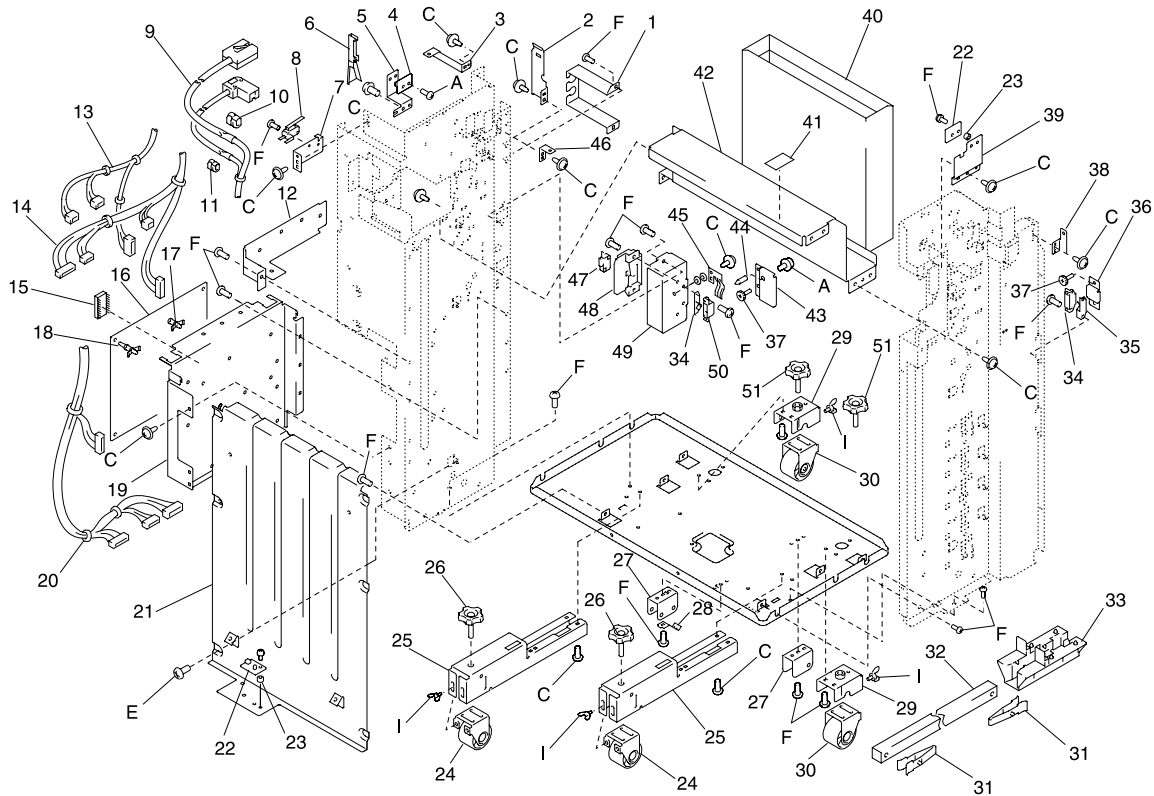
# Assembly 26: Finisher Frames



**Assembly 26: Finisher Frames**

Ref	Part Number	Units	Description
26-1	12G3062	1	Holder
-2	12G3063	1	Bracket
-3	12G3064	1	Bracket
-4	12G3065	1	PW Board-F, PWB-F
-5	12G3066	1	Bracket
-6	12G3067	1	Guide
-7	12G3068	1	Bracket
-8	12G3069	1	Microswitch, S4 Staple Door
-9	12G3070	1	Harness
-10	12G2949	1	Cord Bushing
-11	12G2951	1	Cord Bushing
-12	12G3071	1	Guide Plate
-13	12G3072	1	Harness
-14	12G3073	1	Harness
-15	12G3074	1	IC, PWB-A IC3
-16	12G3075	1	PWB-A, Control Board
-17	12G3076	6	PWB Support
-18	12G3077	4	PWB Support 12.7h
-19	12G3078	1	Mounting Plate
-20	12G3079	1	Harness
-21	12G3080	1	Plate
-22	12G3081	2	PWB-E, LED Board
-23	12G3082	4	Collar
-24	12G2859	2	Caster
-25	12G3083	2	Mounting Plate
-26	12G2858	2	Adjusting Bolt
-27	12G3084	2	Bracket
-28	12G3085	1	Plate Spring
-29	12G3086	2	Bracket
-30	12G3087	2	Caster
-31	12G2863	2	Stopper
-32	12G2865	1	Pipe
-33	12G2834	1	Holder

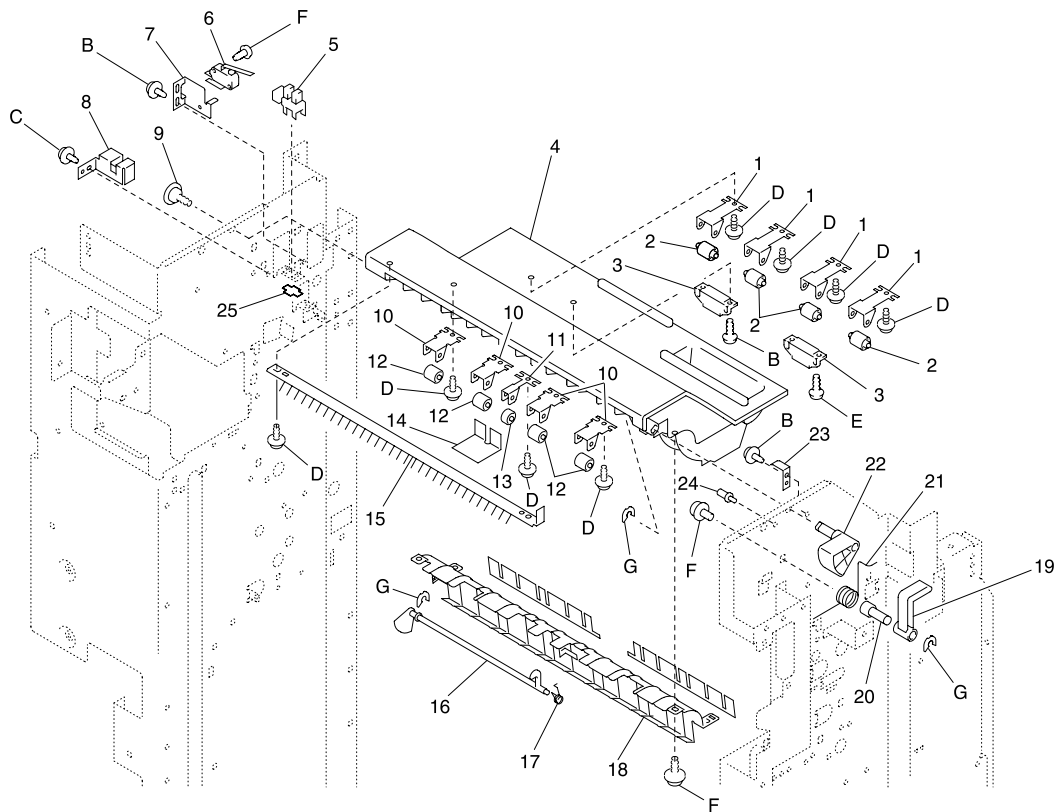
# Assembly 26 (cont.): Finisher Frames



**Assembly 26 (cont.): Finisher Frames**

Ref	Part Number	Units	Description
26-34	12G2873	1	Magnet Catch
-35	12G2872	2	Ground Plate
-36	12G3088	1	Bracket
-37	12G2939	3	Shoulder Screw
-38	12G3089	1	Bracket
-39	12G3090	1	Plate
-40	12G3091	1	Punch Trash Box
-41	12G3092	1	Tape
-42	12G3093	1	Mounting Plate
-43	12G3094	1	Bracket
-44	12G2068	1	Pin
-45	12G3095	1	Plate Spring
-46	12G3096	1	Bracket
-47	12G3097	1	Microswitch, S6
-48	12G2960	1	Holder
-49	12G3098	1	Bracket
-50	12G3104	1	Magnet Catch
-51	12G3099	2	Adjusting Bolt
-A		1	Parts Packet 1, PN 12G3400
-C		1	Parts Packet 3, PN 12G3402
-E		1	Parts Packet 5, PN 12G3404
-F		1	Parts Packet 6, PN 12G3405
-I		1	Parts Packet 9, PN 12G3408

# Assembly 27: Finisher Paper Transport (A)

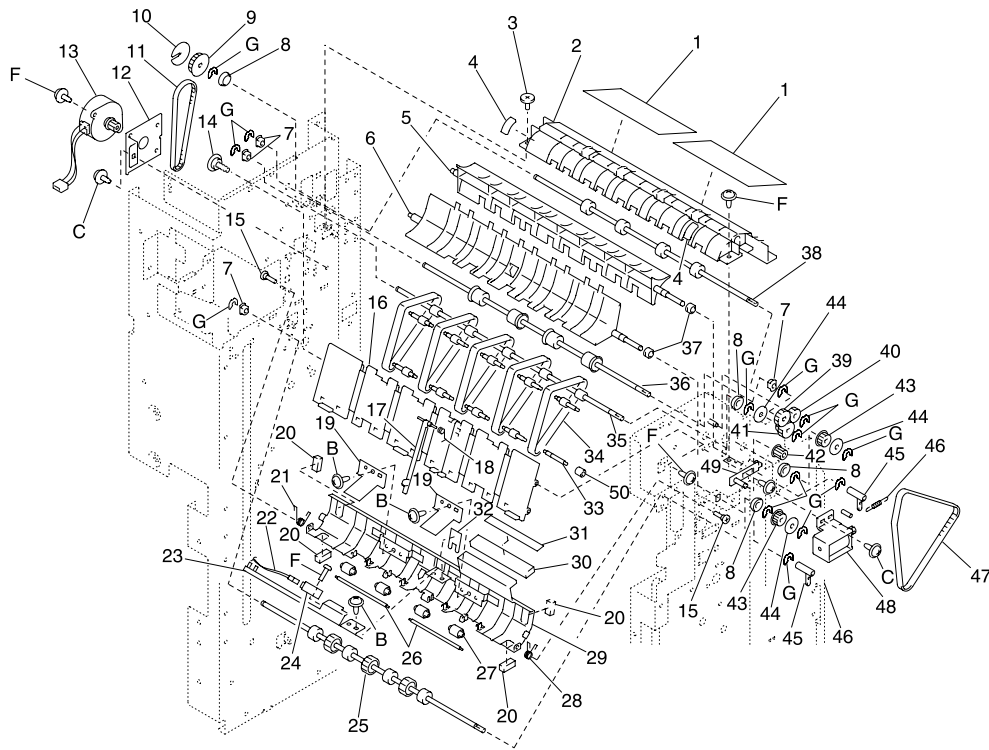




**Assembly 27: Finisher Paper Transport (A)**

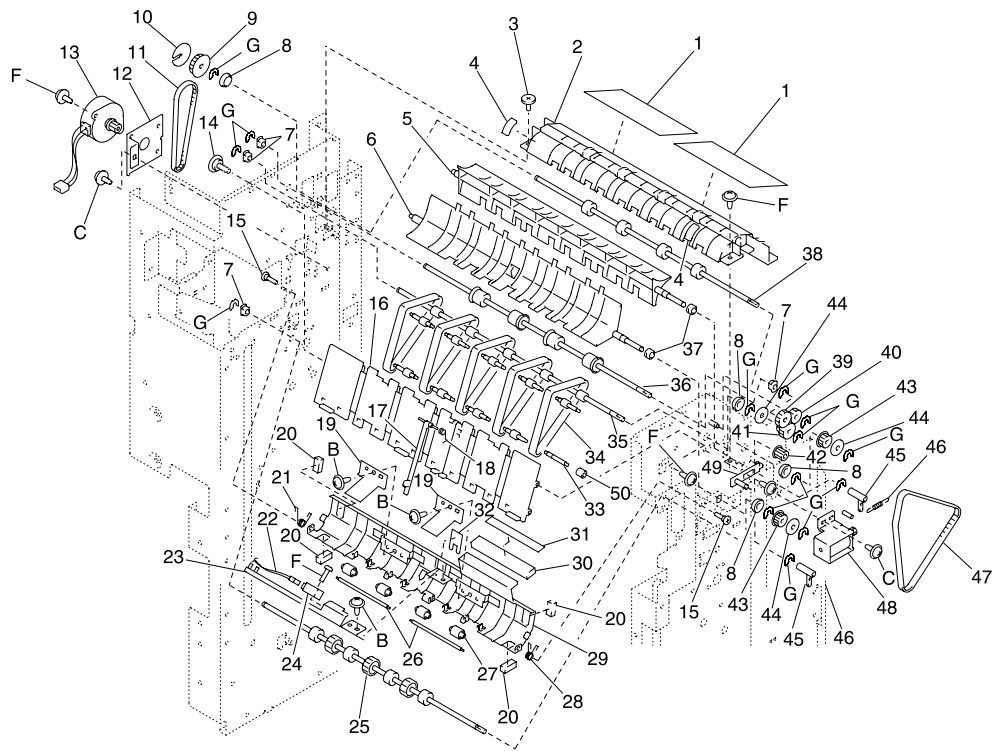
Ref	Part Number	Units	Description
27-1	12G3103	4	Plate Spring
-2	12G2907	4	Roll
-3	12G3104	2	Magnet Catch
-4	12G3105	1	Guide
-5	12G3106	1	Photo Interrupter, PC1
-6	12G3069	1	Upper Cover, S1
-7	12G3107	1	Bracket
-8	12G3108	1	Cover
-9	12G3109	1	Shoulder Screw
-10	12G3110	4	Plate Spring
-11	12G3111	1	Plate Spring
-12	12G2931	4	Roll
-13	12G3112	1	Roll
-14	12G3113	1	Polyester Film
-15	12G3114	1	Neutralizing Brush
-16	12G3115	1	Actuator
-17	12G3116	1	Torsion Spring
-18	12G3117	1	Guide Plate
-19	12G3118	1	Arm
-20	12G3119	1	Shaft
-21	12G3120	1	Torsion Spring
-22	12G3121	1	Cam
-23	12G3122	1	Plate Spring
-24	12G3123	1	Shoulder Screw
-25	12G2173	1	Stopper
-B		1	Parts Packet 2, PN 12G3401
-C		1	Parts Packet 3, PN 12G3402
-D		1	Parts Packet 4, PN 12G3403
-E		1	Parts Packet 5, PN 12G3404
-F		1	Parts Packet 6, PN 12G3405
-G		1	Parts Packet 7, PN 12G3406

# Assembly 28: Finisher Paper Transport (B)



**Assembly 28: Finisher Paper Transport (B)**

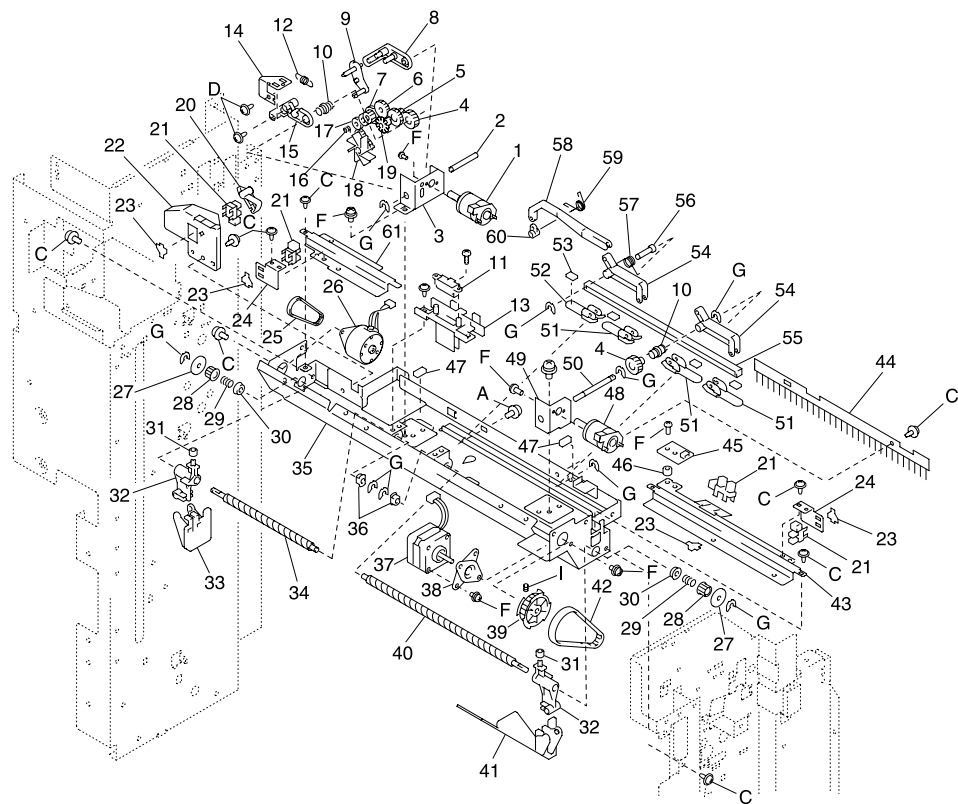
Ref	Part Number	Units	Description
28-1	12G3124	2	Polyester Film
-2	12G3125	1	Guide
-3	12G2911	1	Shoulder Screw
-4	12G3126	2	Sponge
-5	12G3127	1	Guide
-6	12G3128	1	Guide
-7	12G2971	4	Bushing
-8	12G3129	4	Ball Bearing
-9	12G3130	1	Pulley 32t
-10	12G3131	1	Flange
-11	12G3132	1	Timing Belt
-12	12G3133	1	Bracket
-13	12G3134	1	Motor, M2 Transport, Upper Exit
-14	12G3135	2	Shoulder Screw
-15	12G3136	2	Shoulder Screw
-16	12G3137	1	Guide
-17	12G3138	1	Actuator
-18	12G3139	1	Torsion Spring
-19	12G3140	2	Plate Spring
-20	12G3038	4	Cushion
-21	12G3141	1	Torsion Spring
-22	12G3142	1	Harness
-23	12G3143	1	Bracket
-24	12G2999	1	Photo Interrupter, PC3 Finish Tray
-25	12G3144	1	Roller
-26	12G3145	2	Shaft
-27	12G2924	4	Roll
-28	12G3146	1	Torsion Spring
-29	12G3147	1	Guide Plate
-30	12G3148	1	Cover
-31	12G3149	1	Label
-32	12G3150	1	Polyester Film
-33	12G3151	10	Shaft

**Assembly 28 (cont.): Finisher Paper Transport (B)**

**Assembly 28 (cont.): Finisher Paper Transport (B)**

Ref	Part Number	Units	Description
28-34	12G3152	5	Belt
-35	12G3153	1	Roller
-36	12G3154	1	Roller
-37	12G2896	2	Bushing
-38	12G3155	1	Roller
-39	12G3156	1	Gear 28t
-40	12G3157	1	Gear 24t
-41	12G3158	1	Ply Gear 19/28t
-42	12G3159	1	Pulley 15t
-43	12G3160	2	Pulley 19t
-44	12G3161	3	Flange
-45	12G3162	2	Arm
-46	12G3163	2	Tension Spring
-47	12G3164	1	Timing Belt
-48	12G3165	1	Solenoid, Transport SL1
-49	12G3166	1	Bracket
-50	12G3167	10	Roll
-B		1	Parts Packet 2, PN 12G3401
-C		1	Parts Packet 3, PN 12G3402
-F		1	Parts Packet 6, PN 12G3405
-G		1	Parts Packet 7, PN 12G3406

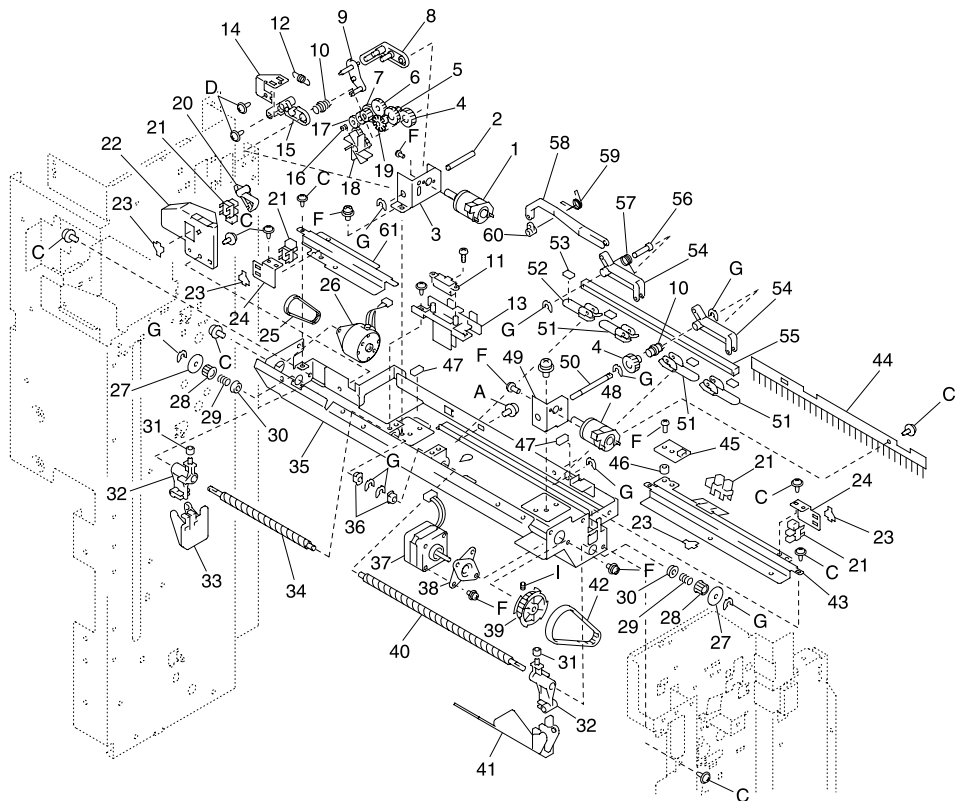
# Assembly 29: Finisher Paper Aligning



**Assembly 29: Finisher Paper Aligning**

Ref	Part Number	Units	Description
29-1	12G3168	1	PWB-Motor, Staple Paddle M6
-2	12G3169	1	Shaft
-3	12G3170	1	Bracket
-4	12G3171	2	Gear 41t
-5	12G3172	1	Gear 25/26t
-6	12G3157	1	Gear 24t
-7	12G3173	1	Gear 18/27t
-8	12G3174	1	Arm
-9	12G3175	1	Arm
-10	12G3176	2	Clutch Spring
-11	12G3177	1	Photo Switch, Top Position PC12
-12	12G3178	1	Tension Spring
-13	12G3179	1	Holder
-14	12G3180	1	Bracket
-15	12G3181	1	Arm
-16	12G3182	1	Torsion Spring
-17	12G3183	3	Gear 19t
-18	12G3184	1	Paddle
-19	12G3185	1	Actuator
-20	12G3186	1	Actuator
-21	12G3106	4	Photo Interrupter, PC4-PC7
-22	12G3187	1	Guide
-23	12G2102	4	Stopper
-24	12G3188	2	Bracket
-25	12G3189	1	Timing Belt
-26	12G3190	1	Motor, Shift M5
-27	12G3191	2	Flange
-28	12G3192	2	Pulley 22t
-29	12G3193	2	Pressure Spring
-30	12G2844	2	Ball Bearing
-31	12G3507	2	Roll
-32	12G3194	2	Slider
-33	12G3195	1	Stopper

# Assembly 29 (cont.): Finisher Paper Aligning

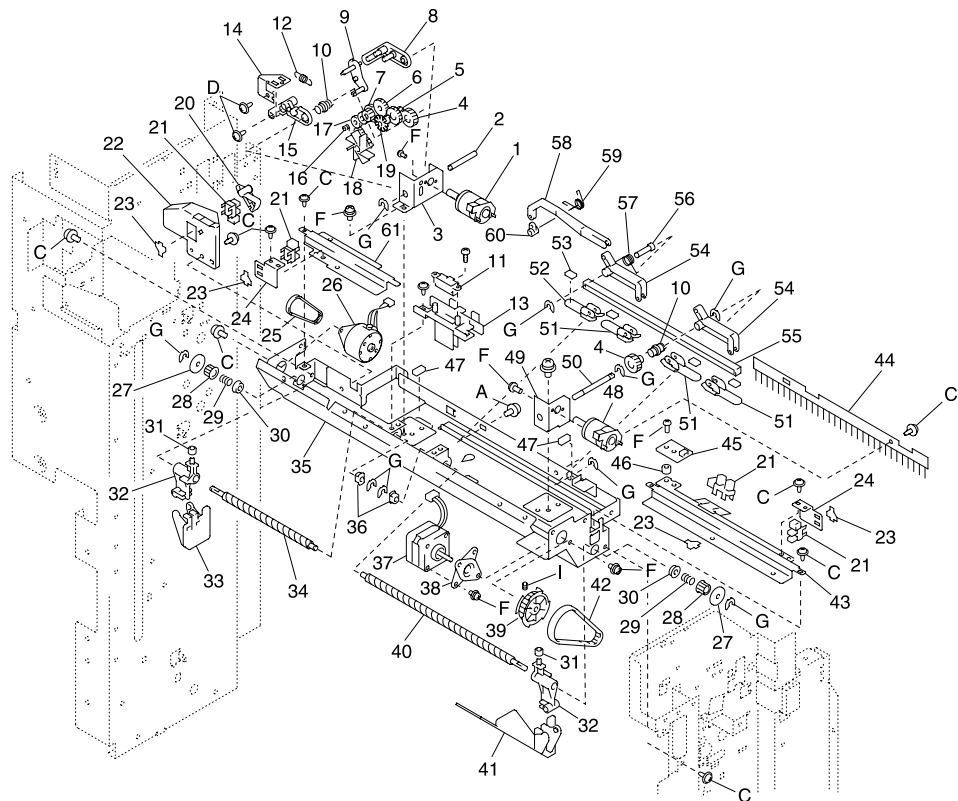




**Assembly 29 (cont.): Finishing Paper Aligning**

Ref	Part Number	Units	Description
29-34	12G3196	1	Spiral Roller
-35	12G3197	1	Frame
-36	12G2971	2	Bushing
-37	12G3198	1	Motor, Aligning M4
-38	12G3199	1	Cushion
-39	12G3200	1	Pulley 72t
-40	12G3201	1	Spiral Roller
-41	12G3202	1	Stopper
-42	12G3203	1	Timing Belt
-43	12G3204	1	Rail
-44	12G3205	1	Neutralizing Brush
-45	12G3065	1	PW Board-F, PWB-F
-46	12G3082	2	Collar
-47	12G3038	2	Cushion
-48	12G3206	1	PWB-Motor, Curl Control M7
-49	12G3207	1	Bracket
-50	12G3208	1	Shaft
-51	12G3209	3	Lever
-52	12G3210	1	Lever
-53	12G3211	4	Cushion
-54	12G3212	2	Arm
-55	12G3213	1	Holder
-56	12G3214	1	Shaft
-57	12G3215	1	Torsion Spring
-58	12G3216	1	Lever
-59	12G3217	1	Torsion Spring
-60	12G3218	1	Link
-61	12G3219	1	Rail

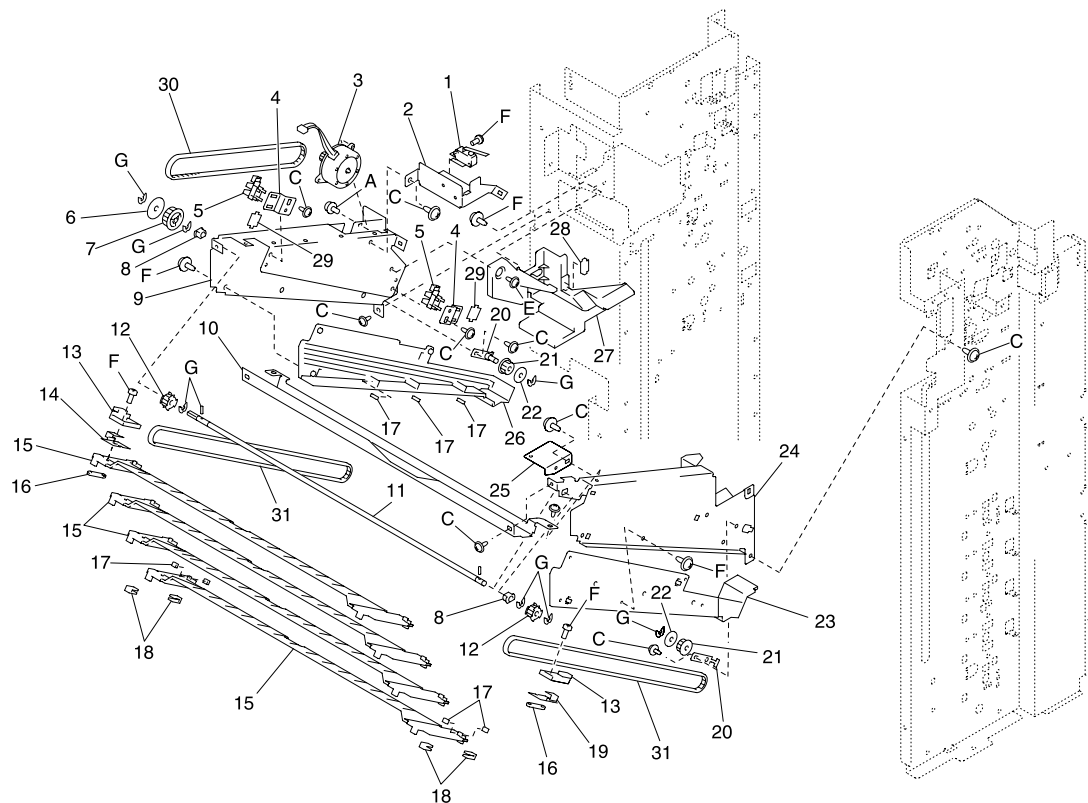
# Assembly 29 (cont.): Finisher Paper Aligning



**Assembly 29 (cont.): Finishing Paper Aligning**

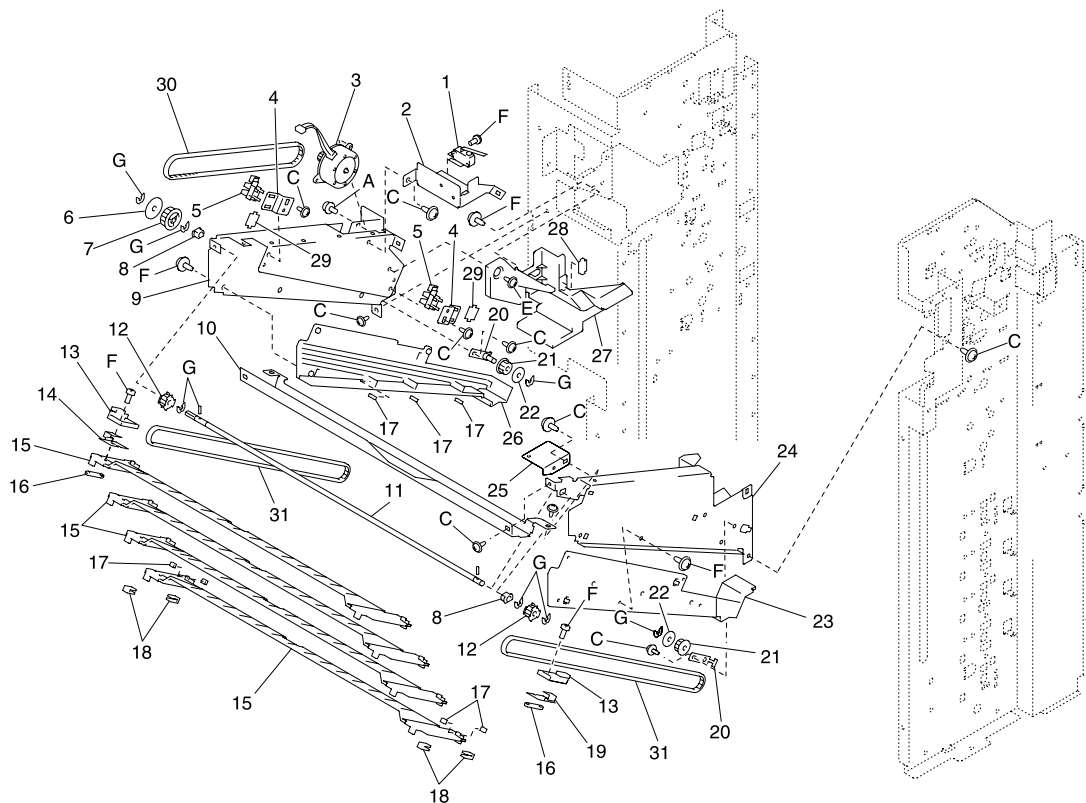
<b>Ref</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
29-A		1	Parts Packet 1, PN 12G3400
-C		1	Parts Packet 3, PN 12G3402
-D		1	Parts Packet 4, PN 12G3403
-F		1	Parts Packet 6, PN 12G3405
-G		1	Parts Packet 7, PN 12G3406
-I		1	Parts Packet 9, PN 12G3408

# Assembly 30: Finisher Assistance Tray



**Assembly 30: Finisher Assistance Tray**

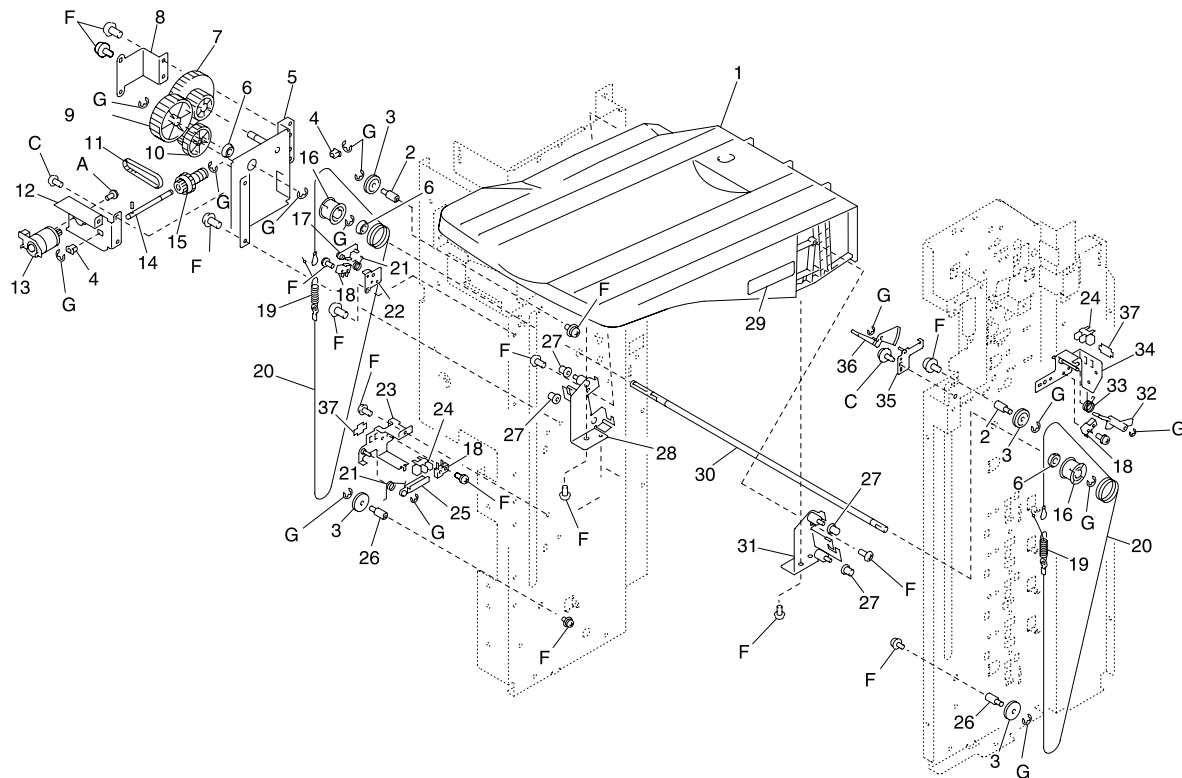
Ref	Part Number	Units	Description
30-1	12G3069	1	Microswitch, S7 1st Tray Door
-2	12G3223	1	Bracket
-3	12G3224	1	Motor, Paper Holding Tray M10
-4	12G3225	2	Bracket
-5	12G3106	2	Photo Interrupter, PC9, PC10
-6	12G3226	1	Flange
-7	12G3227	1	Pulley 28t
-8	12G2971	2	Bushing
-9	12G3228	1	Frame
-10	12G3229	1	Frame
-11	12G3230	1	Shaft
-12	12G3231	2	Pulley 19t
-13	12G3232	2	Holder
-14	12G3233	1	Bracket
-15	12G3234	4	Sub Tray
-16	12G3235	2	Plate Nut
-17	12G3236	18	Cushion
-18	12G3237	16	Slider
-19	12G3238	1	Reinforce Plate
-20	12G3239	2	Bracket
-21	12G3240	2	Pulley 19t
-22	12G3161	2	Flange
-23	12G3241	1	Rail
-24	12G3242	1	Frame
-25	12G3243	1	Plate
-26	12G3244	1	Rail
-27	12G3245	1	Support
-28	12G3246	1	Sheet
-29	12G2102	2	Stopper
-30	12G3247	1	Timing Belt
-31	12G3248	2	Timing Belt

**Assembly 30 (cont.): Finisher Assistance Tray**

**Assembly 30 (cont.): Finisher Assistance Tray**

<b>Ref</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
30-A		1	Parts Packet 1, PN 12G3400
-C		1	Parts Packet 3, PN 12G3402
-E		1	Parts Packet 5, PN 12G3404
-F		1	Parts Packet 6, PN 12G3405
-G		1	Parts Packet 7, PN 12G3406

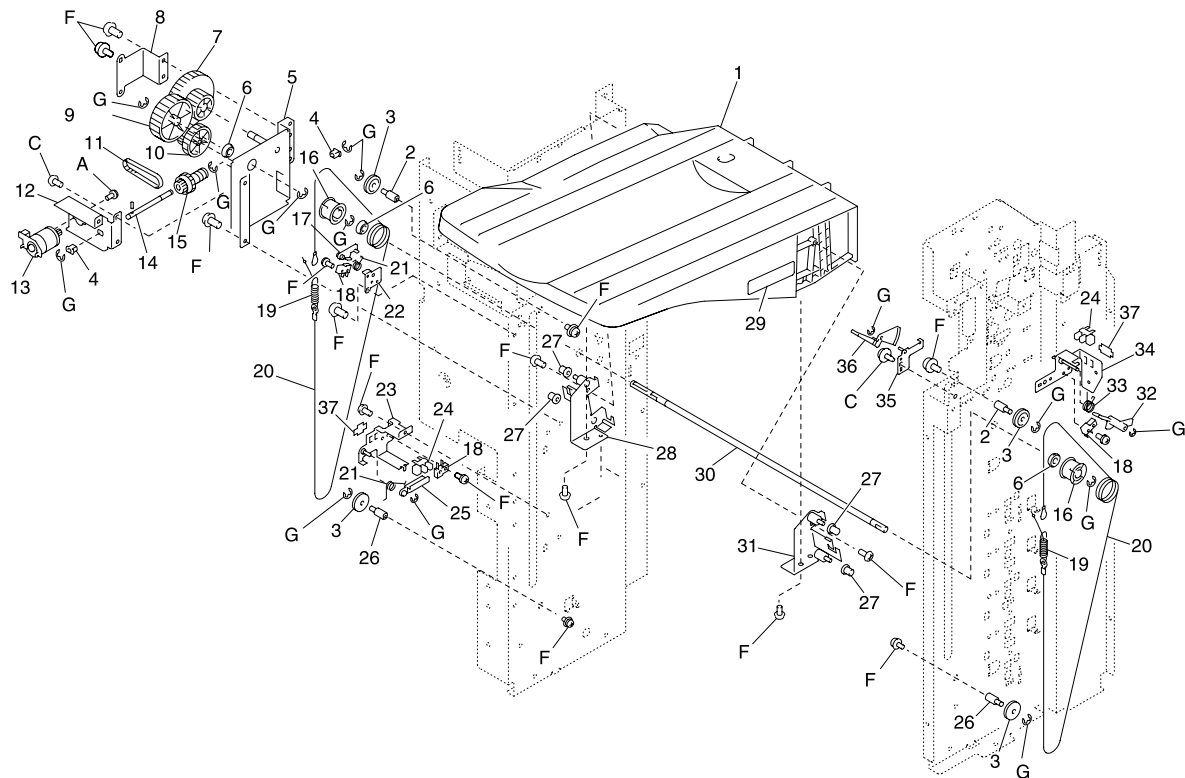
# Assembly 31: Finisher Elevator Tray





**Assembly 31: Finisher Elevator Tray**

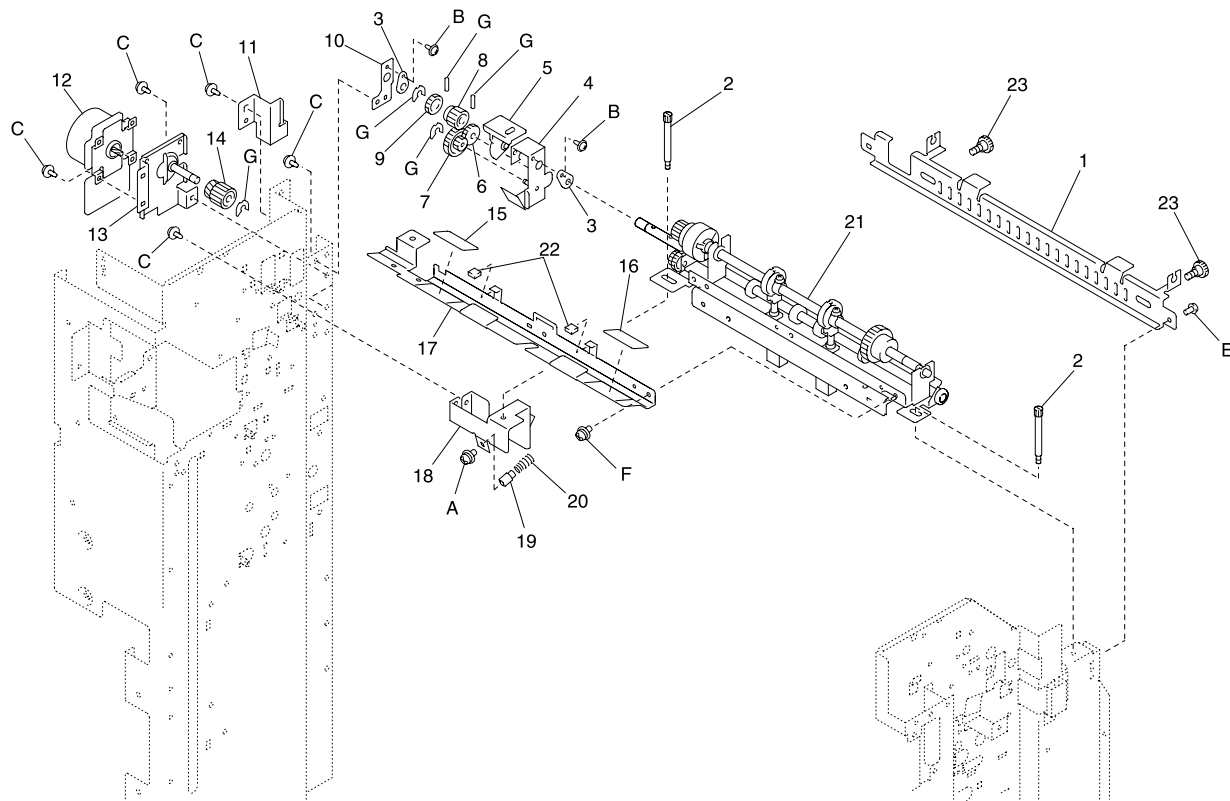
Ref	Part Number	Units	Description
31-1	12G3250	1	Tray
-2	12G3251	2	Shaft
-3	12G3252	4	Pulley
-4	12G2971	2	Bushing
-5	12G3253	1	Bracket
-6	12G3254	3	Ball Bearing
-7	12G3255	1	Gear 35/75t
-8	12G3256	1	Reinforce Plate
-9	12G3257	1	Gear 60t
-10	12G3258	1	Gear 28/42t
-11	12G3259	1	Timing Belt
-12	12G3260	1	Bracket
-13	12G3261	1	PWB-Motor, Elevator M9
-14	12G3262	1	Shaft
-15	12G3263	1	Pulley 29t
-16	12G3264	2	Pulley
-17	12G3265	1	Actuator
-18	12G3266	3	Microswitch, S2, S3, S5
-19	12G3267	2	Tension Spring
-20	12G3268	2	Wire
-21	12G3269	2	Torsion Spring
-22	12G3270	1	Bracket
-23	12G3271	1	Bracket
-24	12G3460	2	Photo Interrupter, PC8, PC11
-25	12G3272	1	Actuator
-26	12G3273	2	Shaft
-27	12G3274	4	Bush
-28	12G3275	1	Bracket
-29	12G3276	1	Label
-30	12G3277	1	Shaft
-31	12G3278	1	Bracket
-32	12G3279	1	Lever
-33	12G3280	1	Torsion Spring

**Assembly 31 (cont.): Finisher Elevator Tray**

**Assembly 31 (cont.): Finisher Elevator Tray**

<b>Ref</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
31-34	12G3281	1	Bracket
-35	12G3282	1	Bracket
-36	12G3283	1	Lever
-37	12G2102	2	Stopper
-A		1	Parts Packet 1, PN 12G3400
-C		1	Parts Packet 3, PN 12G3402
-F		1	Parts Packet 6, PN 12G3405
-G		1	Parts Packet 7, PN 12G3406

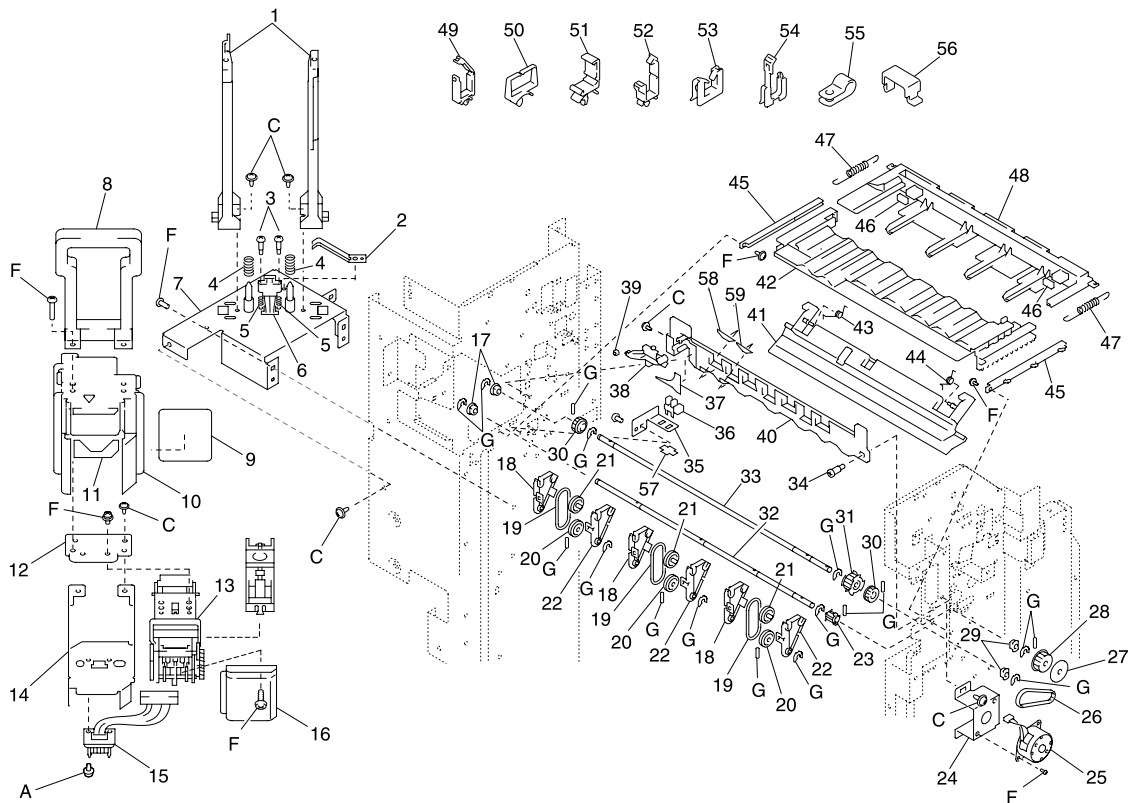
# Assembly 32: Finisher Punch Unit



**Assembly 32: Finisher Punch Unit**

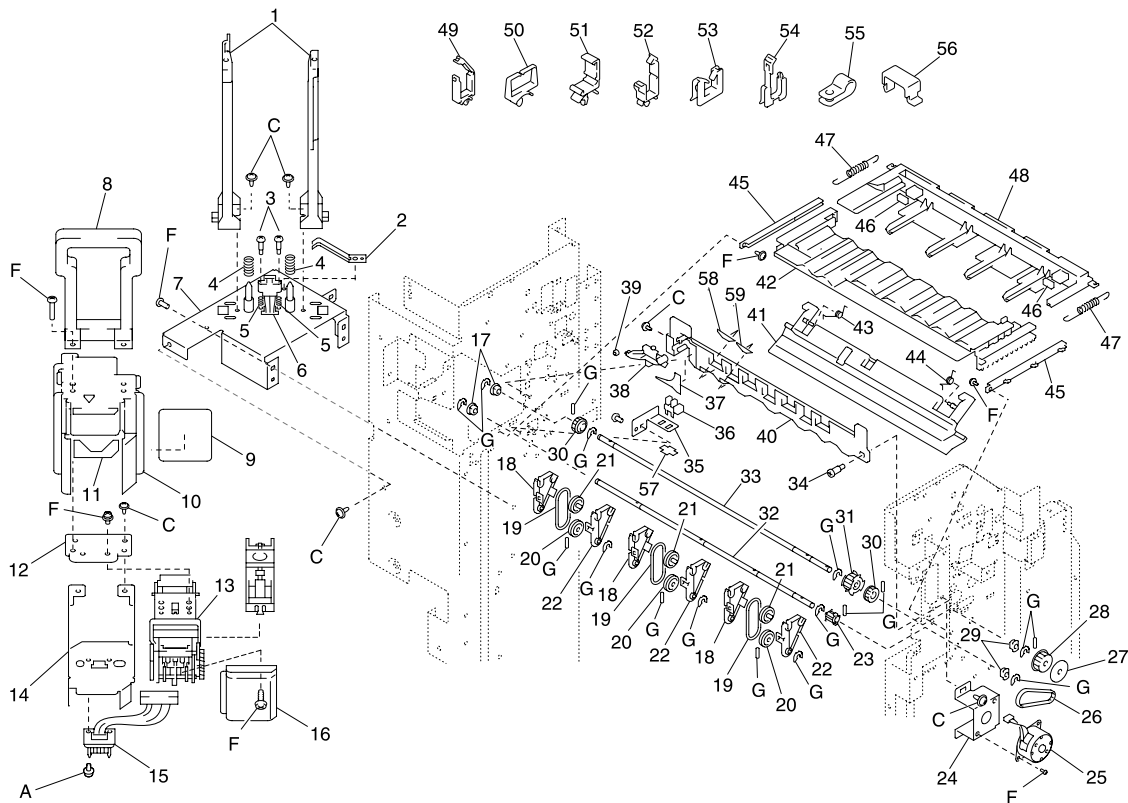
Ref	Part Number	Units	Description
32-1	12G3288	1	Mounting Plate
-2	12G3289	2	Shoulder Screw
-3	12G3290	2	Bushing
-4	12G3291	1	Bracket
-5	12G3292	1	Bushing
-6	12G3293	1	Gear 21t
-7	12G3294	1	Gear 14/31t
-8	12G3295	1	Gear 20t
-9	12G3296	1	Gear 20t
-10	12G3297	1	Bracket
-11	12G3298	1	Bracket
-12	12G3299	1	PWB-motor, M1 Transport
-13	12G3300	1	Bracket
-14	12G3301	1	Gear 22/38t
-15	12G3302	1	Label Jam Removal
-16	12G3303	1	Label Jam Removal
-17	12G3304	1	Guide Plate
-18	12G3305	1	Bracket
-19	12G3306	1	Shaft
-20	12G3307	1	Pressure Spring
-21	12G3309	1	Punch Unit (3-hole)
-21	12G3310	1	Punch Unit (4-hole)
-22	12G3311	2	Knob
-23	12G3312	2	Shoulder Screw
-A		1	Parts Packet 1, PN 12G3400
-B		1	Parts Packet 2, PN 12G3401
-C		1	Parts Packet 3, PN 12G3402
-E		1	Parts Packet 5, PN 12G3404
-F		1	Parts Packet 6, PN 12G3405
-G		1	Parts Packet 7, PN 12G3406

# Assembly 33: Finisher Stapler Unit/Finisher Tray



**Assembly 33: Finisher Stapler Unit/Finisher Tray**

Ref	Part Number	Units	Description
33-1	12G3313	2	Guide
-2	12G3314	1	Plate Spring
-3	12G3315	2	Shoulder Screw
-4	12G3316	2	Pressure Spring
-5	12G3313	2	Pressure Spring
-6	12G3317	1	Harness
-7	12G3318	1	Bracket
-8	12G3319	1	Handle
-9	12G3320	1	Label Jam Removal
-10	12G3321	1	Cover
-11	12G3322	1	Polyester Film
-12	12G3323	1	Plate
-13	12G3324	1	Stapler Unit
-14	12G3325	1	Bracket
-15	12G3326	1	Harness
-16	12G3327	1	Guide
-17	12G3328	2	Bushing
-18	12G3329	3	Holder
-19	12G3330	3	Belt
-20	12G3331	3	Pulley
-21	12G3332	3	Pulley
-22	12G3333	3	Holder
-23	12G3334	1	Pulley 18t
-24	12G3335	1	Bracket
-25	12G3336	1	Motor, Finisher Tray M8
-26	12G3337	1	Timing Belt
-27	12G3226	1	Flange
-28	12G3338	1	Pulley 40t
-29	12G2971	2	Bushing
-30	12G3339	2	Gear 18t
-31	12G3340	1	Pulley
-32	12G3341	1	Shaft
-33	12G3342	1	Shaft

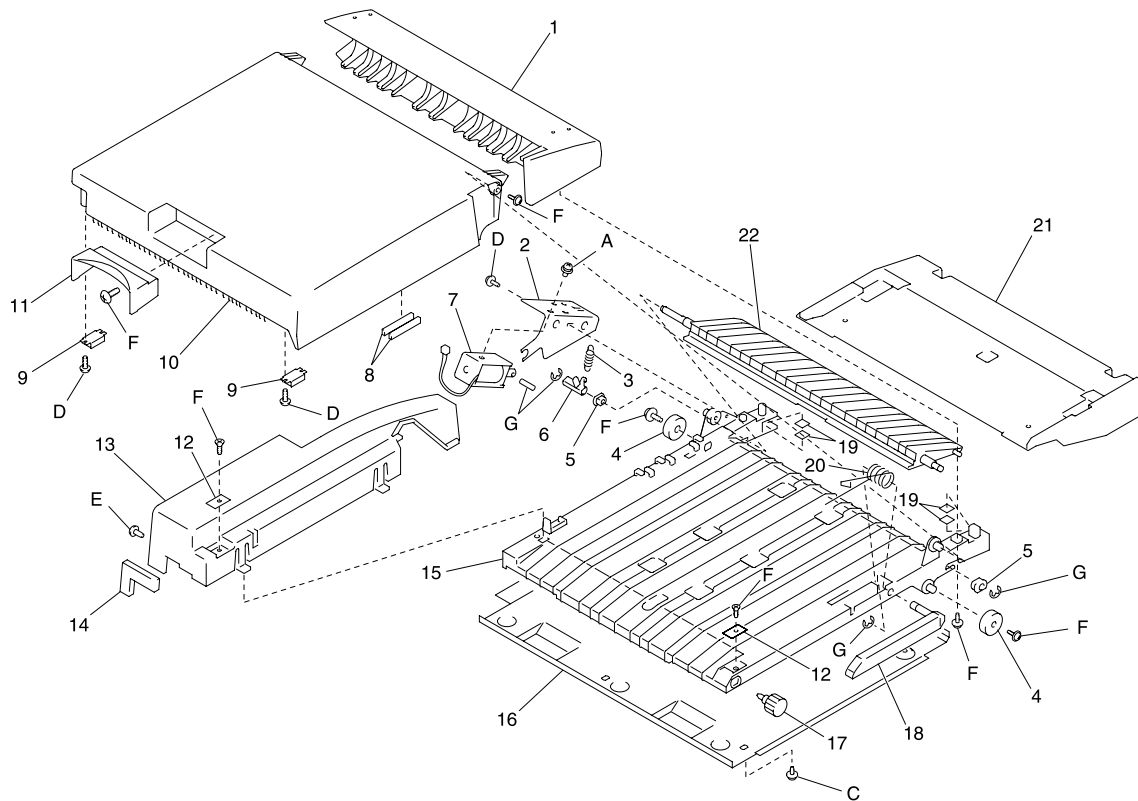
**Assembly 33 (cont.): Finisher Stapler Unit/Finisher Tray**



**Assembly 33 (cont.): Finisher Stapler Unit/Finisher Tray**

Ref	Part Number	Units	Description
33-34	12G3343	1	Shoulder Screw
-35	12G3344	1	Bracket
-36	12G3106	1	Photo Interrupter, PC2 Finish Pos.
-37	12G3345	1	Polyester Film
-38	12G3346	1	Lever
-39	12G3347	1	Roll
-40	12G3348	1	Tray
-41	12G3349	1	Stay
-42	12G3350	1	Tray
-43	12G3351	1	Torsion Spring
-44	12G3352	1	Torsion Spring
-45	12G3353	2	Rail
-46	12G3038	2	Cushion
-47	12G3354	2	Tension Spring
-48	12G3355	1	Guide
-49	12G2486	16	Wiring Saddle 5.2h
-50	12G2487	2	Wiring Saddle 6.4h
-51	12G3024	6	Wiring Saddle 16.8h
-52	12G3356	22	Wiring Saddle 14.4h
-53	12G2490	7	Edge Cover 8.5h
-54	12G2491	4	Edge Cover 15.4h
-54	12G2492	3	Edge Cover 25.0h
-55	12G3027	16	Wiring Saddle 3.8h
-56	12G3357	2	Cord Clamp
-57	12G2102	1	Stopper
-58	12G3358	1	Polyester Film
-59	12G3360	1	Polyester Film
-A		1	Parts Packet 1, PN 12G3400
-C		1	Parts Packet 3, PN 12G3402
-F		1	Parts Packet 6, PN 12G3405
-G		1	Parts Packet 7, PN 12G3406

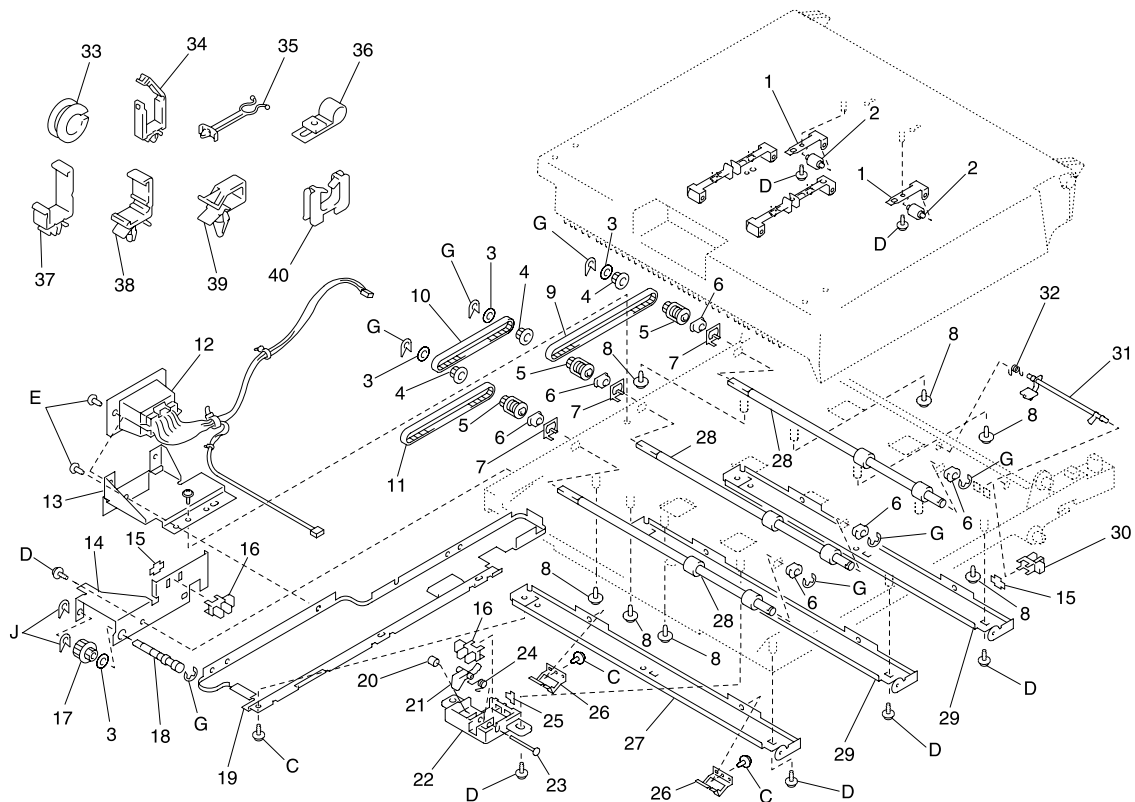
# Assembly 34: Finisher/Mailbox Horizontal Transfer (A)



**Assembly 34: Finisher/Mailbox Horizontal Transfer (A)**

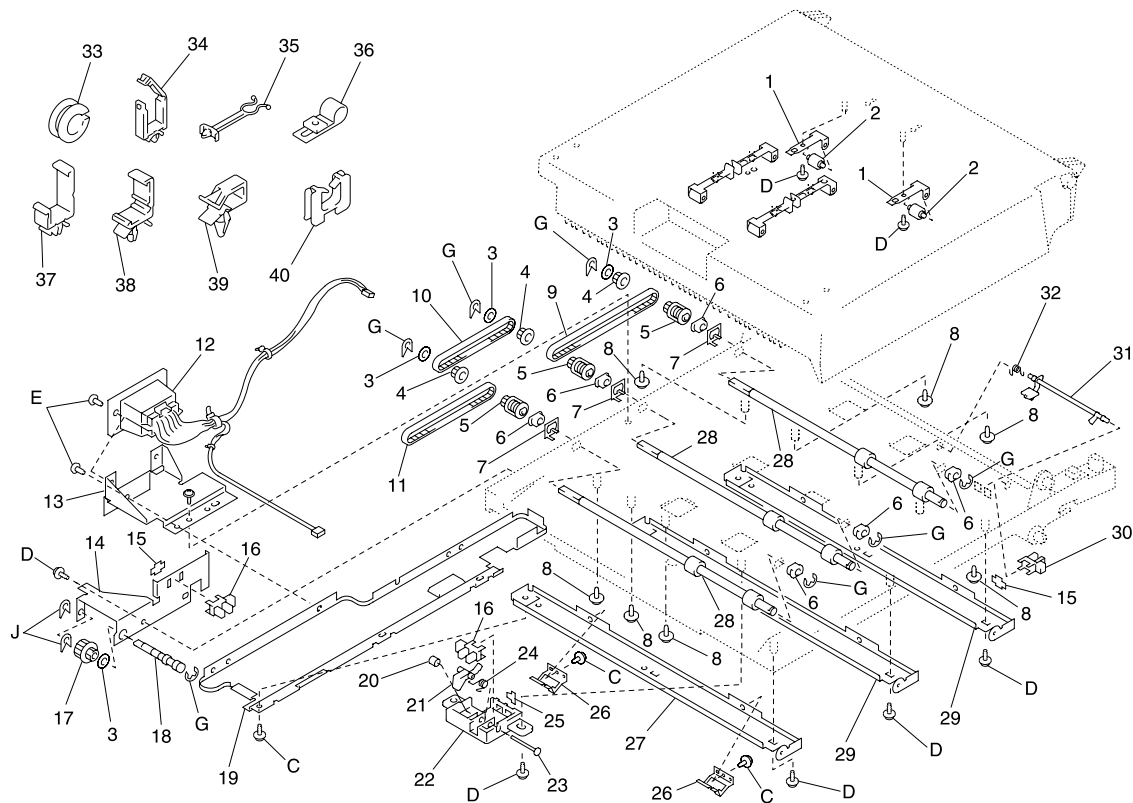
Ref	Part Number	Units	Description
34-1	12G2967	1	Cover
-2	12G2968	1	Bracket
-3	12G2969	1	Tension Spring
-4	12G2970	2	Roll
-5	12G2971	2	Bushing
-6	12G2972	1	Lever
-7	12G2973	1	Solenoid, Switch SL1
-8	12G2974	2	Seal
-9	12G2975	2	Magnet Catch
-10	12G2976	1	Cover
-11	12G2977	1	Handle
-12	12G2978	2	Plate
-13	12G2979	1	Rear Cover
-14	12G2980	1	Cushion
-15	12G2981	1	Guide Plate
-16	12G2982	1	Lower Cover
-17	12G2983	1	Shoulder Screw
-18	12G2984	1	Lever
-19	12G2985	4	Cushion
-20	12G2986	1	Torsion Spring
-21	12G2987	1	Guide Plate
-22	12G2988	1	Guide Plate
-A		1	Parts Packet 1, PN 12G3400
-C		1	Parts Packet 3, PN 12G3402
-D		1	Parts Packet 4, PN 12G3403
-E		1	Parts Packet 5, PN 12G3404
-F		1	Parts Packet 6, PN 12G3405
-G		1	Parts Packet 7, PN 12G3406

# Assembly 35: Finisher/Mailbox Horizontal Transfer (B)



**Assembly 35: Finisher/Mailbox Horizontal Transfer (B)**

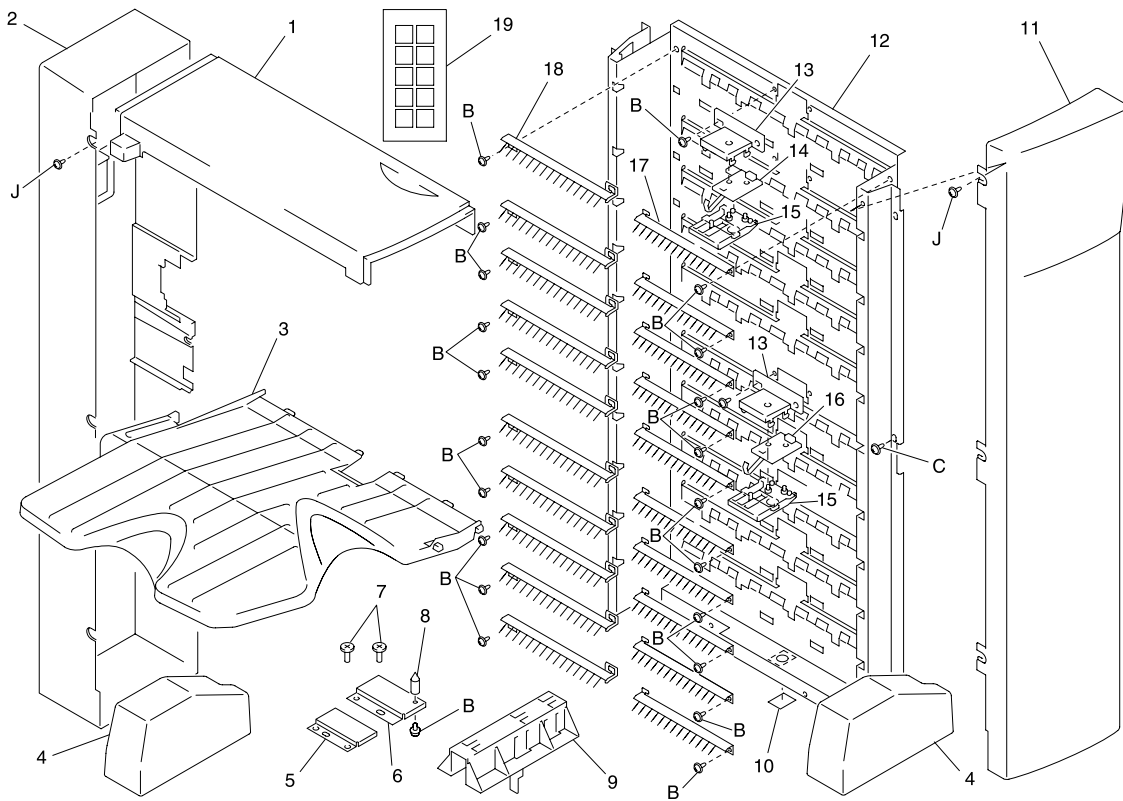
Ref	Part Number	Units	Description
35-1	12G2993	2	Plate Spring
-2	12G2994	2	Roll
-3	12G2995	4	Washer
-4	12G2996	3	Pulley 17t
-5	12G2997	3	Clutch
-6	12G2971	6	Bushing
-7	12G2998	3	Ground Plate
-8	12G2119	7	Screw
-9	12G3000	1	Timing Belt
-10	12G3001	1	Timing Belt
-11	12G3002	1	Timing Belt
-12	12G3003	1	Harness
-13	12G3004	1	Bracket
-14	12G3005	1	Bracket
-15	12G2173	2	Stopper
-16	12G3006	2	Photo Interrupter, PC1, PC4
-17	12G3007	1	Ply Gear 16/17t
-18	12G3008	1	Shaft
-19	12G3009	1	Frame
-20	12G2053	1	Retaining Ring
-21	12G3010	1	Actuator
-22	12G3011	1	Cover
-23	12G3012	1	Pin
-24	12G3026	1	Torsion Spring
-25	12G3013	1	Stopper
-26	12G3014	2	Plate Spring
-27	12G3015	1	Reinforce Plate
-28	12G3016	3	Roller
-29	12G3017	2	Reinforce Plate
-30	12G3018	1	Photo Interrupter, PC6 Empty
-31	12G3019	1	Actuator
-32	12G3020	1	Torsion Spring
-33	12G3021	1	Grommet

**Assembly 35 (cont.): Finisher/Mailbox Horizontal Transfer (B)**

## Assembly 35 (cont.): Finisher/Mailbox Horizontal Transfer (B)

Ref	Part Number	Units	Description
35-34	12G2486	1	Wiring Saddle 5.2h
-35	12G3025	1	Wiring Saddle 8.0h
-36	12G3027	11	Wiring Saddle 3.8h (Mailbox only)
-37	12G2488	5	Wiring Saddle 27h (Mailbox only)
-38	12G3024	2	Wiring Saddle 16.8h (Mailbox only)
-39	12G3025	1	Wiring Saddle 8.0h (Mailbox only)
-40	12G2490	2	Edge Cover 8.5h (Mailbox only)
-C		1	Parts Packet 3, PN 12G3402
-D		1	Parts Packet 4, PN 12G3403
-E		1	Parts Packet 5, PN 12G3404
-G		1	Parts Packet 7, PN 12G3406
-J		1	Parts Packet 10, PN 12G3409

# Assembly 36: Mailbox Housing

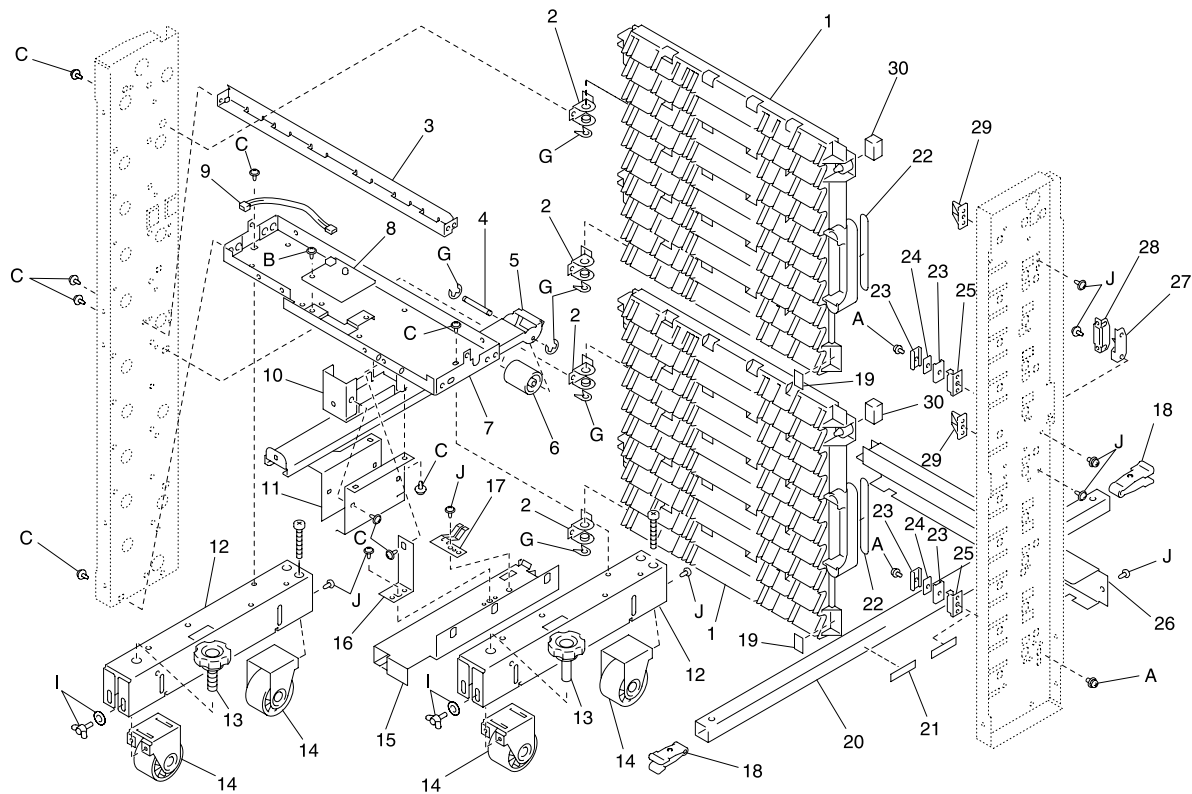




**Assembly 36: Mailbox Housing**

Ref	Part Number	Units	Description
36-1	12G2828	1	Top Cover
-2	12G2829	1	Rear Cover
-3	12G2830	10	Tray
-4	12G2831	2	Cover
-5	12G2832	1	Plate
-6	12G2833	1	Plate
-7	12G2939	2	Shoulder Screw
-8	12G2068	1	Pin
-9	12G2834	1	Holder
-10	12G2835	1	Polyester Film
-11	12G2836	1	Front Cover
-12	12G2837	1	Bin Rack
-13	12G2838	2	Bracket
-14	12G2839	1	PWB-B, Paper Exit Board
-15	12G2840	2	Cover
-16	12G2918	1	PWB-D, Paper Exit
-17	12G2841	10	Neutralizing Brush
-18	12G2842	10	Neutralizing Brush
-19	12G2843	1	Label
-B		1	Parts Packet 2, PN 12G3401
-C		1	Parts Packet 3, PN 12G3402
-J		1	Parts Packet 10, PN 12G3409

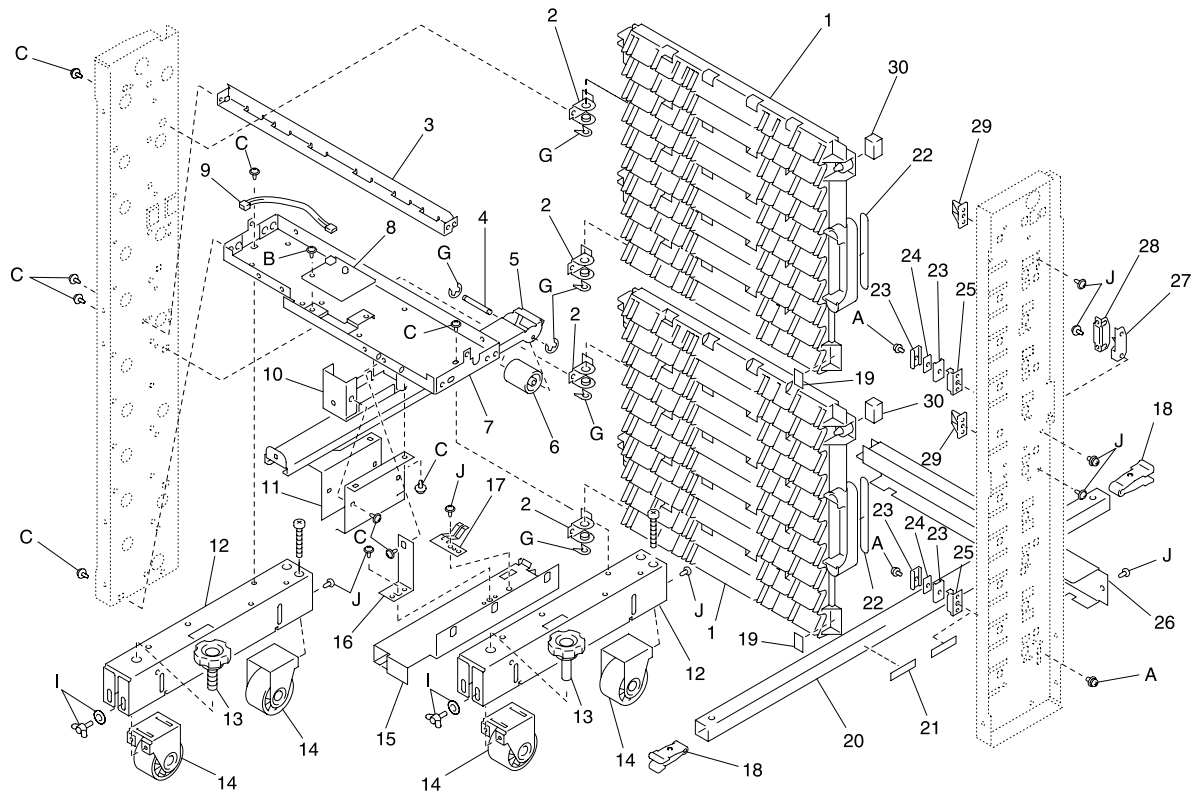
# Assembly 37: Mailbox Frames



**Assembly 37: Mailbox Frames**

<b>Ref</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
37-1	12G2846	2	Guide
-2	12G2847	4	Support Plate
-3	12G2848	1	Guide Plate
-4	12G2849	1	Shaft
-5	12G2850	1	Foot
-6	12G2851	1	Roll
-7	12G2852	1	Base Frame
-8	12G2853	1	PW Board-C, PWB-C
-9	12G2854	1	Harness
-10	12G2855	1	Support Plate
-11	12G2856	1	Bracket
-12	12G2857	2	Foot
-13	12G2858	2	Adjusting Bolt
-14	12G2859	4	Caster
-15	12G2860	1	Stop Plate
-16	12G2861	1	Stop Plate
-17	12G2862	1	Ground Plate
-18	12G2863	2	Stopper
-19	12G2864	2	Plate
-20	12G2865	1	Pipe
-21	12G2866	1	Label
-22	12G2867	2	Label
-23	12G2868	4	Plate
-24	12G2869	2	Magnet
-25	12G2870	2	Bracket
-26	12G2871	1	Cover
-27	12G2872	1	Ground Plate
-28	12G2873	1	Magnet Catch
-29	12G2874	4	Holder
-30	12G2875	2	Rubber Strip

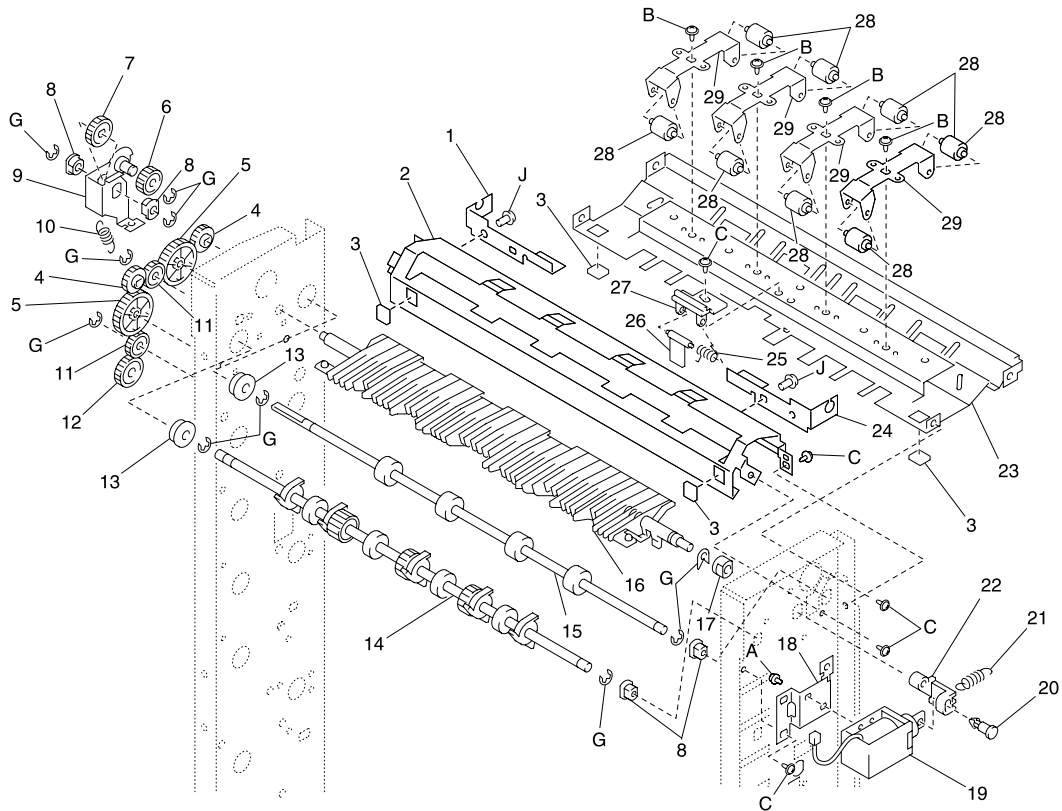
## Assembly 37 (cont.): Mailbox Frames



**Assembly 37 (cont.): Mailbox Frames**

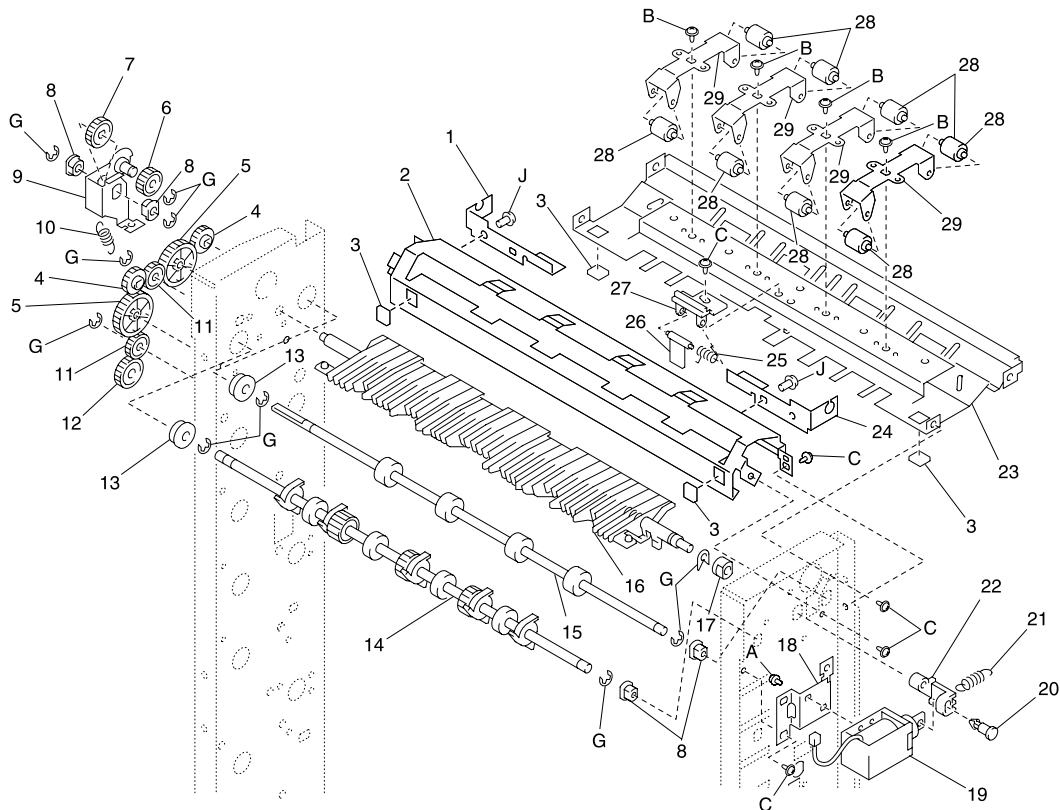
<b>Ref</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
37-A		1	Parts Packet 1, PN 12G3400
-B		1	Parts Packet 2, PN 12G3401
-C		1	Parts Packet 3, PN 12G3402
-G		1	Parts Packet 7, PN 12G3406
-I		1	Parts Packet 9, PN 12G3408
-J		1	Parts Packet 10, PN 12G3409

# Assembly 38: Mailbox Paper Transport (A)



**Assembly 38: Mailbox Paper Transport (A)**

Ref	Part Number	Units	Description
38-1	12G2883	1	Bracket
-2	12G2884	1	Guide Plate
-3	12G2885	4	Cushion
-4	12G2920	2	Gear 17 T
-5	12G2886	2	Gear 37 T
-6	12G2887	1	Gear 18 T
-7	12G2888	1	Gear 20 T
-8	12G2971	4	Bushing
-9	12G2889	1	Axle Plate
-10	12G2890	1	Tension Spring
-11	12G2891	2	Gear 17 T
-12	12G2928	1	Gear 19 T
-13	12G2892	2	Ball Bearing
-14	12G2893	1	Roller
-15	12G2894	1	Roller
-16	12G2895	1	Guide
-17	12G2896	1	Bushing
-18	12G2897	1	Bracket
-19	12G2898	1	Solenoid, SL1 Non-sort
-20	12G2899	1	Stopper
-21	12G2900	1	Tension Spring
-22	12G2901	1	Holder
-23	12G2902	1	Guide Plate
-24	12G2903	1	Bracket
-25	12G2904	1	Torsion Spring
-26	12G2905	1	Actuator
-27	12G2906	1	Holder
-28	12G2907	8	Roll
-29	12G2908	4	Plate Spring

**Assembly 38 (cont.): Mailbox Paper Transport (A)**

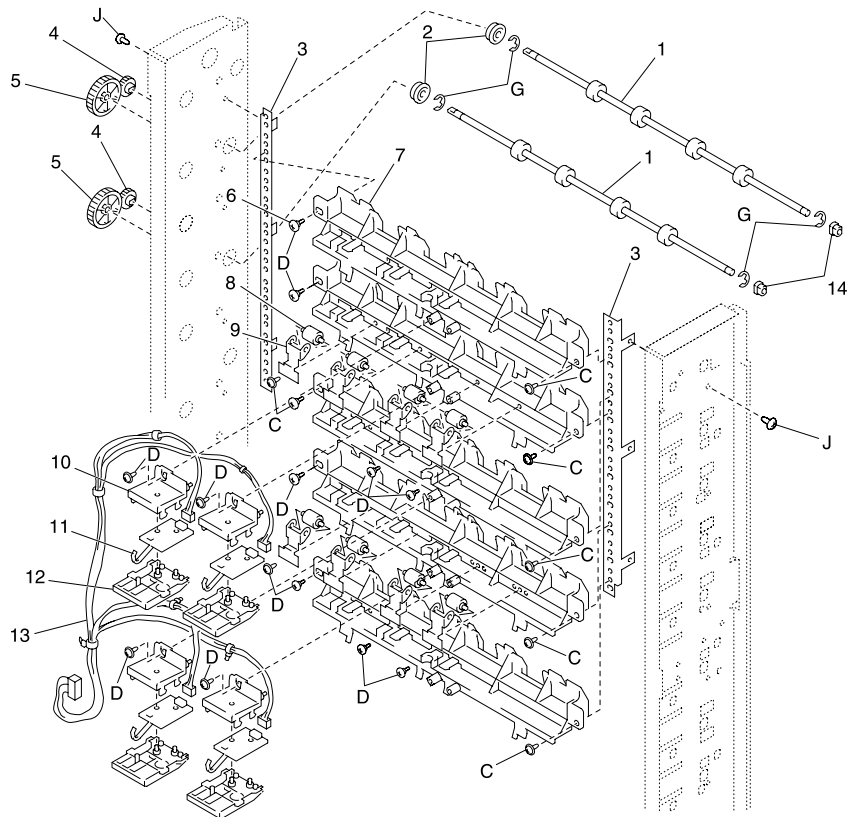


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### Assembly 38 (cont.): Mailbox Paper Transport (A)

Ref	Part Number	Units	Description
38-A		1	Parts Packet 1, PN 12G3400
-B		1	Parts Packet 2, PN 12G3401
-C		1	Parts Packet 3, PN 12G3402
-G		1	Parts Packet 7, PN 12G3406
-J		1	Parts Packet 10, PN 12G3409

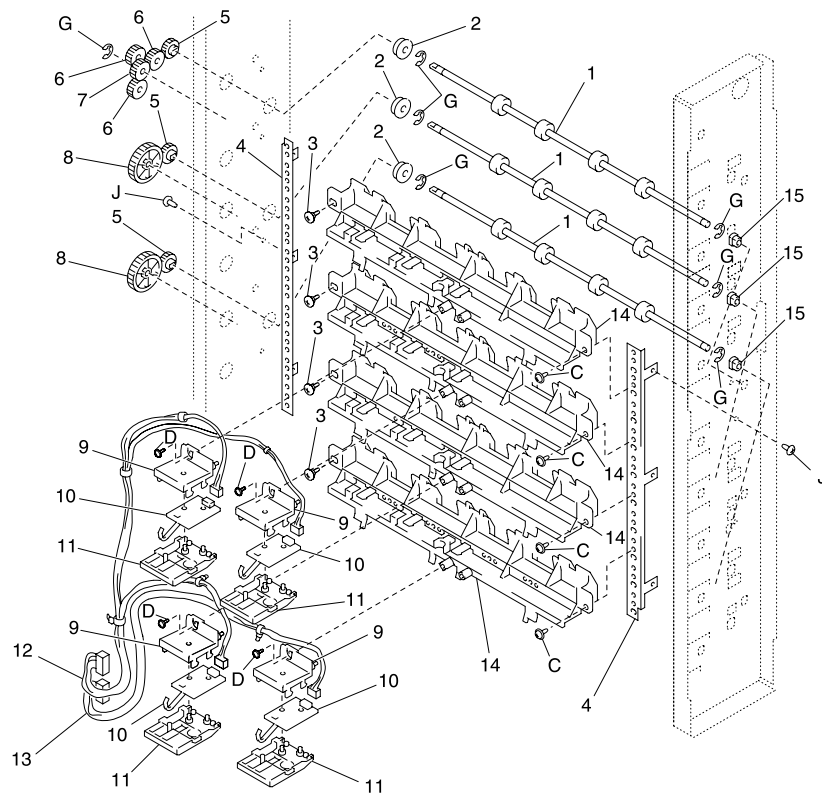
# Assembly 39: Mailbox Paper Transport (B)



**Assembly 39: Mailbox Paper Transport (B)**

Ref	Part Number	Units	Description
39-1	12G2916	2	Roller
-2	12G2892	2	Ball Bearing
-3	12G2917	2	Bracket
-4	12G2920	2	Gear 17t
-5	12G2886	2	Gear 37t
-6	12G2911	5	Shoulder Screw
-7	12G2912	5	Guide
-8	12G2907	8	Roll
-9	12G2913	8	Plate Spring
-10	12G2914	4	Bracket
-11	12G2918	4	PW Board-D, PWB-D1–PWB-D4
-12	12G2840	4	Cover
-13	12G2915	1	Harness
-14	12G2971	2	Bushing
-C		1	Parts Packet 3, PN 12G3402
-D		1	Parts Packet 4, PN 12G3403
-G		1	Parts Packet 7, PN 12G3403
-J		1	Parts Packet 10, PN 12G3409

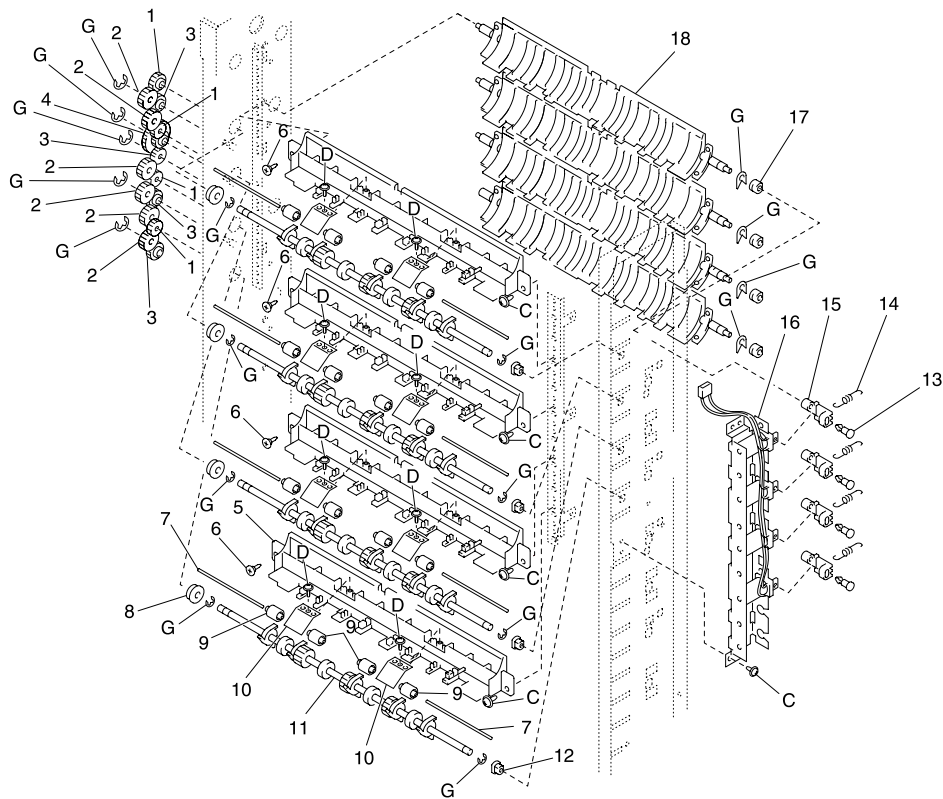
# Assembly 40: Mailbox Paper Transport (C)



**Assembly 40: Mailbox Paper Transport (C)**

Ref	Part Number	Units	Description
40-1	12G2916	3	Roller
-2	12G2892	3	Ball Bearing
-3	12G2911	4	Shoulder Screw
-4	12G2917	2	Bracket
-5	12G2920	3	Gear 17t
-6	12G2928	3	Gear 19t
-7	12G2891	1	Gear 17t
-8	12G2886	2	Gear 37t
-9	12G2914	4	Bracket
-10	12G2918	4	PW Board-D, PWB-D6–PWB-D9
-11	12G2840	2	Cover
-12	12G2915	1	Harness
-13	12G2919	1	Harness
-14	12G2912	4	Guide
-15	12G2971	3	Bushing
-C		1	Parts Packet 3, PN 12G3402
-D		1	Parts Packet 4, PN 12G3403
-G		1	Parts Packet 7, PN 12G3406
-J		1	Parts Packet 10, PN 12G3409

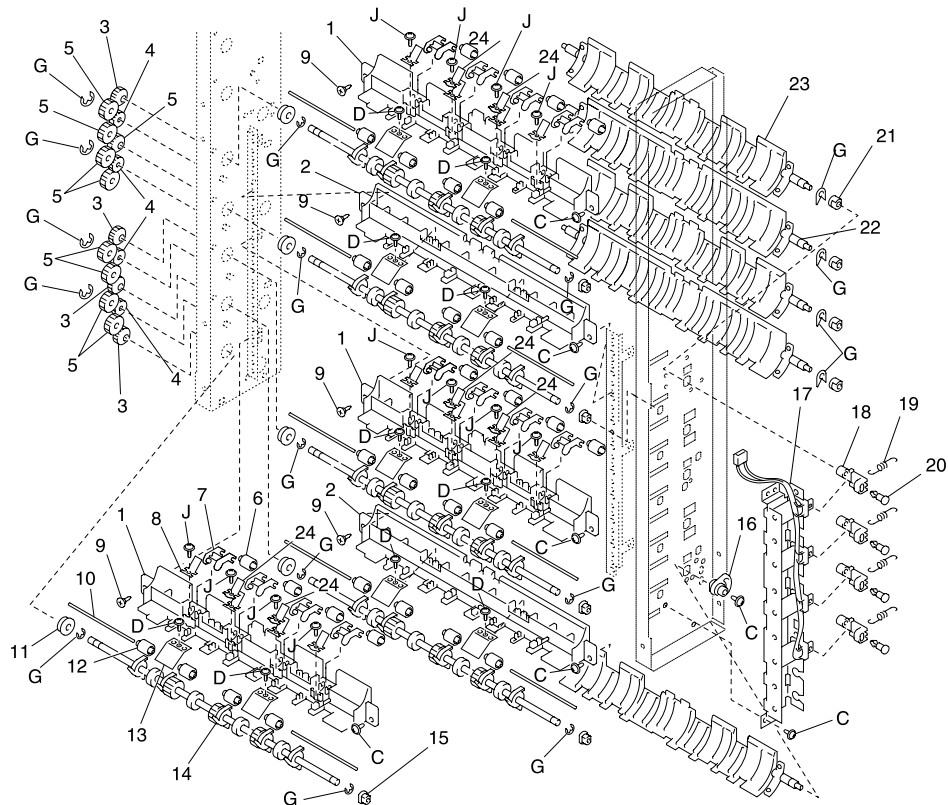
# Assembly 41: Mailbox Paper Transport (D)



**Assembly 41: Mailbox Paper Transport (D)**

Ref	Part Number	Units	Description
41-1	12G2920	4	Gear 17t
-2	12G2928	6	Gear 19t
-3	12G2891	4	Gear 17t
-4	12G2921	1	Gear 18/40 T
-5	12G2922	4	Guide
-6	12G2911	4	Shoulder Screw
-7	12G2923	8	Shaft
-8	12G2892	4	Ball Bearing
-9	12G2924	16	Roll
-10	12G2932	8	Plate Spring
-11	12G2893	4	Roller
-12	12G2971	4	Bushing
-13	12G2899	4	Stopper
-14	12G2935	4	Tension Spring
-15	12G2901	4	Holder
-16	12G2925	1	Solenoid, Deflect SL2
-17	12G2896	4	Bushing
-18	12G2926	4	Guide
-C		1	Parts Packet 3, PN 12G3402
-D		1	Parts Packet 4, PN 12G3403
-G		1	Parts Packet 7, PN 12G3406

# Assembly 42: Mailbox Paper Transport (E)

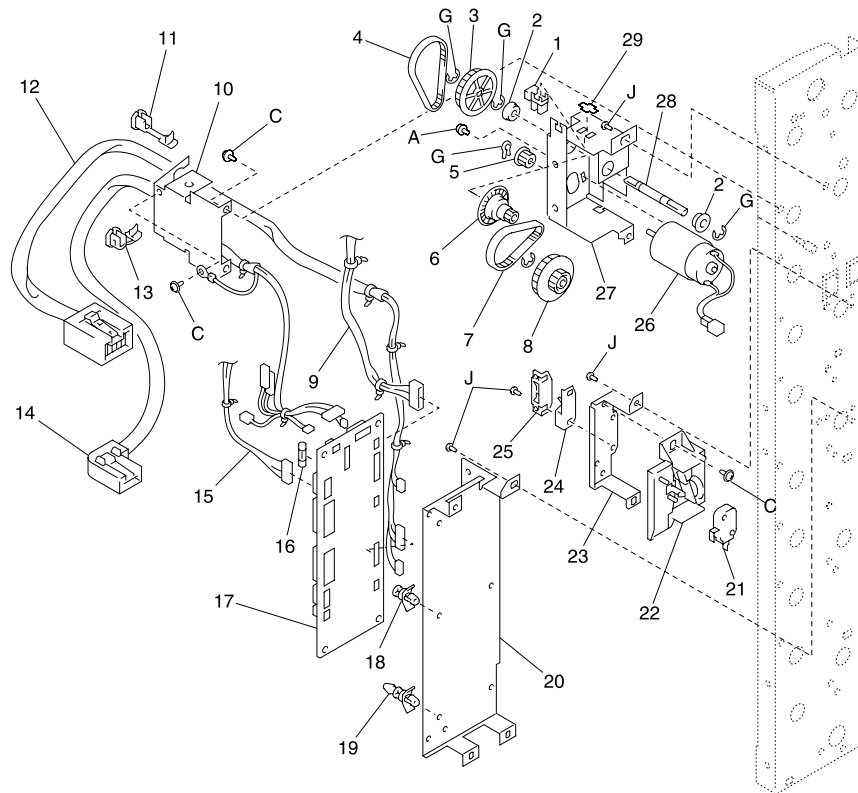




**Assembly 42: Mailbox Paper Transport (E)**

Ref	Part Number	Units	Description
42-1	12G2927	3	Guide
-2	12G2922	2	Guide
-3	12G2920	5	Gear 17t
-4	12G2891	4	Gear 17t
-5	12G2928	8	Gear 19t
-6	12G2924	20	Roll
-7	12G2929	12	Holder
-8	12G2930	12	Plate Spring
-9	12G2911	5	Shoulder Screw
-10	12G2923	10	Shaft
-11	12G2892	5	Ball Bearing
-12	12G2931	12	Roll
-13	12G2932	10	Plate Spring
-14	12G2893	5	Roller
-15	12G2971	5	Bushing
-16	12G2933	1	Bushing
-17	12G2934	1	Solenoid, Deflect SL3
-18	12G2901	4	Holder
-19	12G2935	4	Tension Spring
-20	12G2899	4	Stopper
-21	12G2896	4	Bushing
-22	12G2926	2	Guide
-23	12G2936	3	Guide
-24	12G2937	6	Plate Spring
-C		1	Parts Packet 3, PN 12G3402
-D		1	Parts Packet 4, PN 12G3403
-G		1	Parts Packet 7, PN 12G3406
-J		1	Parts Packet 10, PN 12G3409

# Assembly 43: Mailbox Drive



**Assembly 43: Mailbox Drive**

Ref	Part Number	Units	Description
43-1	12G2940	1	Photo Interrupter, PC1 Non-sort
-2	12G2844	2	Ball Bearing
-3	12G2941	1	Pulley 64 T
-4	12G2942	1	Timing Belt
-5	12G2943	1	Pulley
-6	12G2944	1	Pulley 16 T
-7	12G2945	1	Timing Belt
-8	12G2946	1	Ply Gear 64/18 T
-9	12G2947	1	Harness
-10	12G2948	1	Holder
-11	12G2949	1	Cord Bushing
-12	12G2950	1	Harness
-13	12G2951	1	Cord Bushing
-14	12G2952	1	Harness
-15	12G2953	1	Harness
-16	12G2954	1	Fuse 0.5A
-17	12G2955	1	PWB-A, Main Drive Board
-18	12G2956	2	PWB Support 9.53h
-19	12G2957	4	PWB Support 9.53h
-20	12G2958	1	Bracket
-21	12G2959	1	Microswitch, Power S1
-22	12G2960	1	Holder
-23	12G2961	1	Bracket
-24	12G2872	1	Ground Plate
-25	12G2873	1	Magnet Catch
-26	12G2962	1	Motor Asm, Transport M1
-27	12G2963	1	Bracket
-28	12G2964	1	Shaft
-29	12G2173	1	Stopper
-A		1	Parts Packet 1, PN 12G3400
-C		1	Parts Packet 3, PN 12G3402
-G		1	Parts Packet 7, PN 12G3406
-J		1	Parts Packet 10, PN 12G3409

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## **Assembly 44: Optional Features (No illustration)**

**Assembly 44: Optional Features**

<b>Ref</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
	99A0421	1	Ethernet Card
	99A0420	1	Token-Ring Card
	12G3422	1	Transfer MMKit
	12G3421	1	Fuser 110V MMKit
	12G3420	1	Fuser 220V MMKit
	99A0459	1	Hard Disk
	11G0610	1	Cable, Hard Disk
	99A0422	1	Ethernet 10BaseT and 10Base2
	99A0467	1	Parallel Port Adapter
	99A0424	1	Infrared Adapter
	99A0545	1	Serial Interface Adapter
	12G3522	1	Printer Field-Return Packaging
	12G3543	1	TIFF Image Quick SIMM
	99A1088	1	Prescribe Code SIMM
	12G3426	1	IPDS and SCS/TNe SIMM
	99A1127	1	Barcode SIMM

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