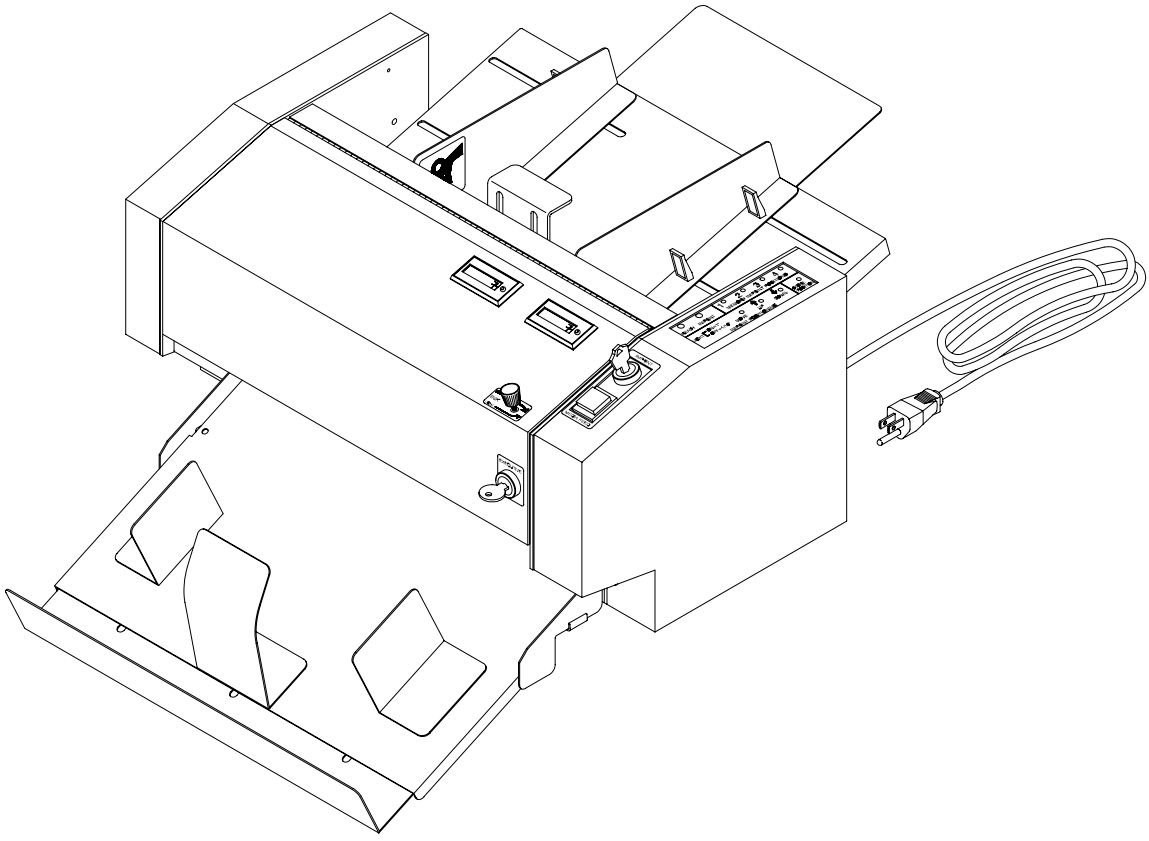
HEDMAN®

DI-100

Document Imprinter
Service Manual



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1. INTRODUCTION

1.1 What's Expected of the Technician

This service manual assumes the Service Technician is skilled at installing and operating the DI-100.

1.2 Service Level

This service manual contains procedures which will:

1. Identify faulty or worn parts and assemblies.
2. Provide procedures for the removal and replacement of faulty or worn parts and assemblies.

Every effort has been made to include accurate and complete servicing instructions. Both HEDMAN and the manufacturer assume the availability of experienced personnel who are familiar with servicing machines. Although the procedures contained in this service manual present the manufacturer's recommended methods for testing and repairing the DI-100, certain servicing techniques may be implied.

1.3 Additional Service Support

Before servicing the DI-100, read the Operating Manual. If you need additional support, contact the Customer Service Center of The HEDMAN Company at (800) 872-2788. Please be prepared to state your name, company and serial number of the machine.

1.4 Safety Terms

The following highlighted blocks are used throughout this guide to emphasize important information. ***Pay very careful attention to this information.***

WARNING
USED TO ALERT YOU TO ACTIONS OR CONDITIONS WHICH MAY PRESENT HAZARDS OR CAUSE INJURY TO PERSONNEL.

CAUTION
USED TO ALERT YOU TO ACTIONS WHICH MAY DAMAGE DOCUMENTS OR EQUIPMENT.

NOTE
Used to identify unusual or unexpected conditions or to point out the need for alternate procedures. A NOTE may also be used for emphasis when a WARNING or CAUTION are not required.

TIP
A suggestion to enhance the DI-100's productivity.

1.5 Safety Precautions

Observe the following safety precautions and warnings at all times while operating, cleaning, servicing or repairing the DI-100. Failure to so may result in physical injury or damage to the DI-100. Neither HEDMAN nor the manufacturer assumes any liability for your failure to comply with these requirements.

WARNING
READ ALL WARNINGS AND CAUTIONS.

WARNING
ONLY QUALIFIED PERSONNEL SHOULD PERFORM SERVICE AND REPAIRS.

WARNING
NEVER CLEAN, CLEAR OR DISASSEMBLE THE DI-100 WITHOUT FIRST UNPLUGGING THE POWER CORD.

WARNING
KEEP LOOSE CLOTHING, TIES, SCARVES AND HAIR AWAY FROM ALL MOVING PARTS.

WARNING
DO NOT PLACE FINGERS BETWEEN OR NEAR MOVING PARTS.

1.6 Frequently-Used Terms

leading edge	The edge of the document that enters and exits the DI-100 first.
trailing edge	The edge of the document that enters and exits the DI-100 last.
imprint position	The point at which the document is imprinted.
imprint saddle	Contains a plastic relief of the imprint; 2 imprint saddles are in the rounded imprint saddle holder - as one is imprinting, the other is being inked.
operator side	The side of the DI-100 where most of the controls are located.
input end	The end of the DI-100 where the document enters the DI-100.
output end	The end of the DI-100 where the document exits the DI-100.

1.7 Repacking Instructions

If it is necessary to return the DI-100 to HEDMAN, pack it in the original shipping container and material. If the original container is not available, the DI-100 and its accessories should be carefully packed so that they will not be damaged in transit.

NOTE

If the DI-100 is packed correctly, your Shipping Carrier is liable for any shipping damage.

Use the following instructions to pack the DI-100 with commercially available materials.

1. Double wrap the machine in plastic.
2. Use a heavy duty, double-walled container of 350-pound test material.
3. Surround the DI-100 on ALL sides with at least 4 to 5 inches of shock absorbing packaging material. This will provide firm cushioning and prevent movement inside the container.
4. Seal the top and bottom of the shipping container with strong tape or banding.
5. Clearly and legibly mark the shipping container FRAGILE.
6. Ship the DI-100 prepaid and insured.

2. SPECIFICATIONS & REQUIREMENTS

2.1 Physical Specifications

Size

19½" (49.53 cm) W x 10" (25.43 cm) H x 19" (48.26 cm) D
The receiving tray is not measured.

Weight

Machine alone: 50 pounds (22.68 kg)
Shipping weight: 57 pounds (25.85 kg)

Speed

19" (45.72 cm) per second

2.2 Electrical Requirements

CAUTION

ONLY OPERATE THE DI-100 ON A GROUNDED POWER LINE TO AVOID MICRO-PROCESSOR DAMAGE CAUSED BY POWER SURGES.

Power

The DI-100 is rated for continuous operation using a variety of supply voltages. Possible line voltages are 240V, 220V, 120V and 100V at 50-60 Hz

2.3 Operating Requirements

Document Size

Maximum length: 14" (35.56 cm)
Minimum length: $3^{1}/_{8}$" (10.92 cm)
Maximum width: 14" (35.56 cm)
Minimum width: $2^{7}/_{8}$" (7.3 cm)
Weight: 20# - 125# stock

Range of Imprint Placement

Approximately 9" (22.86 cm) from the leading edge toward the trailing edge.

Approximately 6½" (16.51 cm) left or right from the center of the document.

Range of Accuracy

$\pm\ ^{1}/_{8}$"

2.4 Necessary Tools

- hex key - $^{1}/_{8}$"
- hex key - $^{3}/_{16}$"
- hex key - $^{5}/_{64}$"
- wrench - $^{9}/_{16}$"
- holt driver - size 6
- holt driver - size 10
- screw driver - or similar tool
- pliers
- ring puller
- super glue
- V-O-M

3. OPERATION

3.1 DI-100 Description

The DI-100 is a document imprinter used for signing, endorsing and validating cut-sheet documents.

3.2 Sequence of Operation

1. Documents to be imprinted are stacked in the FEED TRAY.
2. The SEPARATOR separates the stack into single pieces as the FEED ROLL feeds them through the DI-100.
3. A DC MOTOR drives the PADDLE WHEEL, FEED ROLL and BACKUP PLATEN. Power to the motor is supplied by, and can be interrupted by, the MEDIA FEED SWITCH.
4. The leading edge of each document is sensed when it breaks a beam of infrared light near the SADDLE HOLDER. This beam is supplied by the DOCUMENT EMITTER and sensed by the DOCUMENT DETECTOR. The DOCUMENT DETECTOR transmits this information to the MICROPROCESSOR.
5. Sensing the leading edge of a document triggers the MICROPROCESSOR to start a time delay routine. The length of time is determined by the selected imprint position using the IMPRINT POSITION CONTROL.
6. When the time delay is finished, the SIGNATURE MOTOR rotates the SADDLE HOLDER if the IMPRINT KEY is turned on. The SIGNATURE MOTOR rotates 180 degrees when the first IMPRINT SADDLE imprints the document and the second IMPRINT SADDLE is inked. Two IMPRINT SADDLES are always required.
7. The SADDLE HOLDER reaches its correct position when the integral infrared light of the PULSE WHEEL PHOTOCELL detects the PULSE SLOTS on the PULSE WHEEL.

8. The POWER INTERLOCK SWITCH and the EXECUTIVE MICROSWITCH detect the position (locked or unlocked) of the EXECUTIVE KEY. Turning the EXECUTIVE KEY to the unlocked position (clockwise) interrupts the power supplied to the DI-100. Turning the EXECUTIVE KEY to the locked position (counterclockwise) supplies power at the POWER INTERLOCK SWITCH and engages the EXECUTIVE MICROSWITCH. Under this condition, the SIGNATURE MOTOR rotates the SADDLE HOLDER to position the IMPRINT SADDLES for accurate imprinting.

   If the EXECUTIVE KEY is in the locked position when the POWER SWITCH is turned on, power is supplied at the POWER INTERLOCK SWITCH but the SIGNATURE MOTOR does not rotate the SADDLE HOLDER.
9. The FEED indicator (light) flashes on and off as documents feed through the DI-100.
10. The IMPRINT light flashes on and off as the IMPRINT SADDLES rotate. This indicator is linked to the PULSE WHEEL.
11. The COUNTERS count documents as they are imprinted.
12. Documents exit the DI-100 and stack on the RECEIVING TRAY.

3.3 Operating Instructions

Use the following instructions to eliminate operator errors:

1. Load the SADDLES for the desired function. Two IMPRINT SADDLES are required.
2. Adjust the gap between the SEPARATOR and the FEED ROLL to feed one document at a time.
3. Place a stack of documents in the FEED TRAY.

NOTE
NCR, pin-fed and perforated paper require fine adjusting in order to feed properly.

   a. Lift the PAPER WEIGHT and center one document against the SEPARATOR and the FEED ROLL and move the PAPER GUIDES against both sides of the document without binding it. Once that document is ready to be fed, place a stack of documents in the FEED TRAY.
   b. Load a stack of documents no more than 1½" high at one time in the FEED TRAY. Lower the PAPER WEIGHT if necessary.
   c. Although it is possible, loading documents while the DI-100 is feeding is not recommended.

4. Feed several documents before imprinting to make sure the documents are feeding straight, smooth and one at a time.
   a. It is best to center the document with the SEPARATOR and the FEED ROLL. To adjust the imprint position, move the SADDLE HOLDER.
   b. Place the DOCUMENT STOPS on the RECEIVING TRAY far enough from the machine to allow the documents to fall freely out of the machine. If the DOCUMENT STOPS are too close to the machine, documents will back up into the machine, confuse the PHOTOSENSOR and cause a

jam. Always let the documents fall freely from the machine and into the RECEIVING TRAY.

c. Place a single sheet of paper in the RECEIVING TRAY to prevent exiting documents from catching on the bottom of the DOCUMENT STOPS.

5. Turn the IMPRINT KEY to **IMPRINT** and the EXECUTIVE KEY to **LOCKED**.

NOTE

Turn the EXECUTIVE KEY *slowly*. If the SADDLE HOLDER does not index, turn the key *slower*.

6. Set the IMPRINT POSITION.
7. PRESS MEDIA FEED **ON**.

NOTE

Always imprint several test documents until the imprint position is exactly where desired. If the IMPRINT POSITION is placed beyond the trailing edge, the document is counted but not imprinted.

3.4 Operating Tips

3.4.1 Endorsing Short Documents

Turn short documents 90º to feed the long way. Make sure proper IMPRINT SADDLES are used for imprinting.

3.4.2 Calculating Pieces Fed Per Minute

1. Add 1" to the length of the document. Example. If document is 11", add 1" to get 12"
2. Divide the sum into 20 to get documents fed per second.
3. Multiply this number by 60 to get documents per minute.

3.4.3 Finding A Non-Imprinted Document

If a certain number of documents are fed into the DI-100 and the COUNTER displays one less:

1. Feed the same stack of documents again without imprinting.
2. Watch for the one document missing an imprint.
3. Once found, stop feeding the stack and feed the single document, imprint and resume counting.

3.4.4 Feeding Various Sized Documents

Place the documents between the PAPER GUIDES. Justify the documents to the right with the leading edge as shown below in **Figure 3.1**.

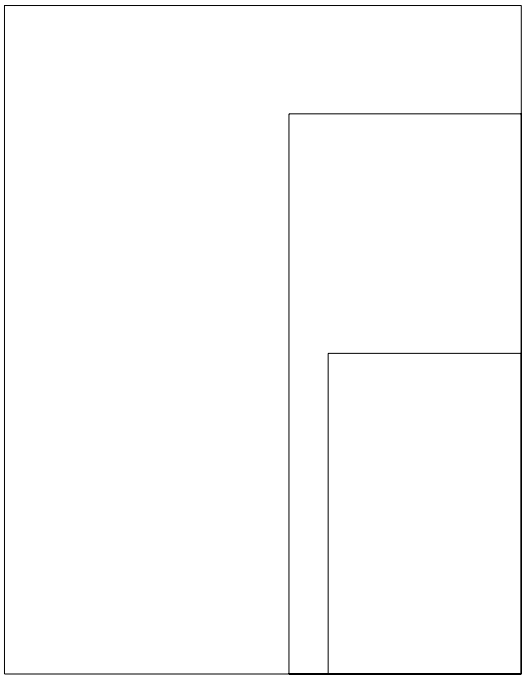


Figure 3.1 -- Right Justified Documents

4. POWER CONNECTION

WARNING

READ THE FOLLOWING INFORMATION ABOUT LINE VOLTAGE, FUSES AND THE POWER CORD *BEFORE* PLUGGING THE DI-100 INTO AN OUTLET.

4.1 Safety

The DI-100 can connect to any power distribution system, including the European IT Power System. Because the European IT Power System does not have a grounded neutral leg, the DI-100 uses protective fusing in both the neutral and hot supply lines of power.

WARNING

A BLOWN FUSE IN THE NEUTRAL LEG COULD MEAN INTERIOR PARTS OF THE DI-100 REMAIN AT A HAZARDOUS VOLTAGE. ALWAYS UNPLUG THE POWER CORD BEFORE REMOVING THE COVERS FROM THE DI-100.

4.2 Line Voltage

The DI-100 is rated for continuous operation using a variety of supply voltages. Possible line voltages are 240V, 220V, 120V and 100V at 50 to 60 Hz. The manufacturer configures the DI-100 to operate with the voltage requested by the customer.

CAUTION

VERIFY THE CORRECT VOLTAGE SETTING BEFORE PLUGGING THE DI-100 INTO AN OUTLET.

Read the selected voltage through the VOLTAGE SELECTOR WINDOW at the input end of the DI-100.

(Refer to **Figure 4.1**.) To select a different voltage, use the following instructions:

NOTE

The detachable POWER CORD may have to be changed to match the particular power-source output.

1. Unplug the POWER CORD.
2. Use a small screwdriver or similar tool to push up on and release the FUSE DRAWER LOCKING TAB.
3. Pull the FUSE DRAWER out of the POWER ENTRY CASING.
4. Pull the VOLTAGE SELECTOR out of the FUSE DRAWER.
5. Rotate the VOLTAGE SELECTOR until the correct voltage is on the same side as the VOLTAGE SELECTOR WINDOW.
6. Place the VOLTAGE SELECTOR in the FUSE DRAWER and verify the correct voltage selection.
7. Place the FUSE DRAWER in the POWER ENTRY CASING.

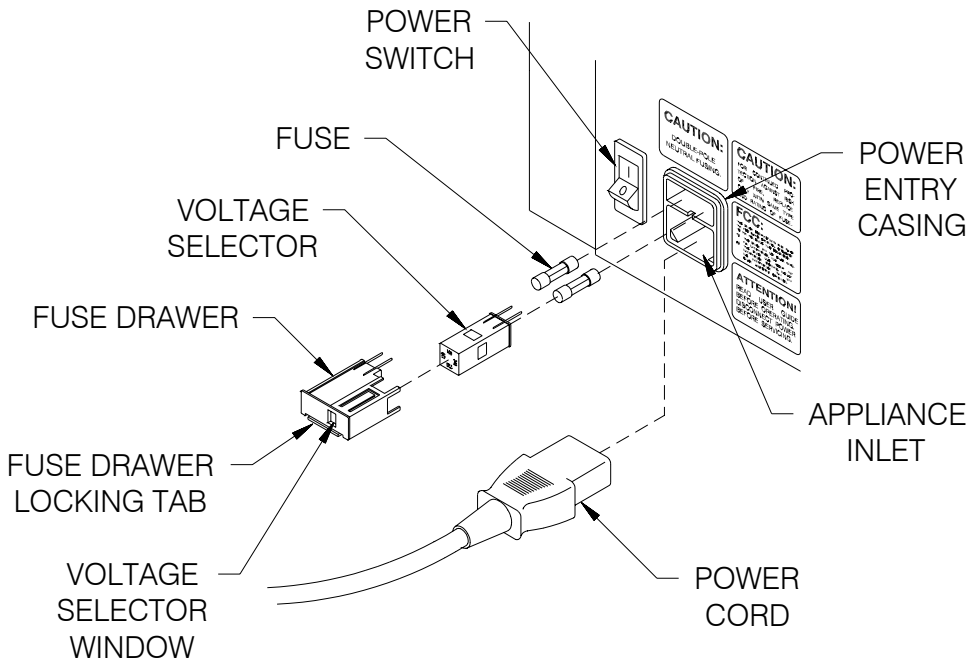


Figure 4.1 -- Power Entry

4.3 Line Fuses

The FUSE DRAWER, located on the input end, contains two LINE FUSES. (Refer to **Figure 4.1**.) The neutral and hot lines of power are fused. Both LINE FUSES must be in place for the DI-100 to operate properly.

CAUTION

VERIFY THAT THE LINE FUSE VALUE IS CORRECT FOR THE VOLTAGE SETTING. UNPLUG THE DI-100 BEFORE STARTING THIS PROCEDURE.

Use the following instructions to verify that the installed LINE FUSES have the proper fuse value:

1. Unplug the POWER CORD.
2. Use a small screwdriver or similar tool to push up on and release the FUSE DRAWER LOCKING TAB.
3. Pull the FUSE DRAWER out of the POWER ENTRY CASING. The attached LINE FUSES are inside.
4. Determine the proper fuse value as well as the condition of the LINE FUSE. The fuse value is shown on the metal tip of the LINE FUSE. The chart below lists the selected voltage in the left column followed by the proper fuse value in the right column.

Selected Voltage	Line Fuse Value
100V	1.0A (250V time delay)
120V	1.0A (250V time delay)
220V	0.5A (250V time delay)
240V (or 230V)	0.5A (250V time delay)

5. Replace the LINE FUSE if necessary. Both LINE FUSES must be in place for the DI-100 to operate properly.
6. Install the FUSE DRAWER in the POWER ENTRY CASING.

4.4 Power Cord

The DI-100 comes with a three-wire POWER CORD. The POWER CORD grounds the DI-100 when connected to an approved three-contact electrical outlet.

1. Plug the POWER CORD into the APPLIANCE INLET on the non-operator side. (Refer to **Figure 4.1**.)
2. Plug the POWER CORD into a grounded outlet.

WARNING
TO PREVENT ELECTRICAL SHOCK, ONLY PLUG THE POWER CORD INTO A GROUNDED OUTLET.

5. MAINTENANCE

WARNING
ALWAYS UNPLUG THE POWER CORD BEFORE CLEANING OR SERVICING THE DI-100.

Inspect surfaces, rollers and other parts for damage or excessive wear and replace before they become a problem.

5.1 Cleaning

Frequency of DI-100 cleaning is determined by the type of paper being fed, the volume and owner maintenance.

CAUTION
ANY CLEANING AGENT STRONGER THAN THOSE LISTED IN THE LEFT COLUMN BELOW COULD REMOVE PAINT OR DAMAGE MATERIALS.

use:	to clean:
compressed air	dust and paper debris
isopropyl alcohol	urethane and foam rolls (BUMPER WHEEL, FEED ROLL, BACKUP PLATEN, PRESSURE TIRES)
lemon extract	ink on painted surfaces and hands

NOTE
Do not saturate FOAM ROLLS with isopropyl alcohol. Pour a small amount of alcohol on a cloth and wipe the surface of the rolls immediately.

To clean the DI-100:

1. Clean all exterior surfaces including the SEPARATORS and the FEED ROLLS.

2. Open the COVER and blow compressed air onto the PHOTOSENSORS.
3. Blow compressed air on the STATIC BRUSHES.
4. Clean the BACKUP PLATEN.

NOTE
If left dirty, the BACKUP PLATEN may hinder clear imprinting or smear ink on the back of documents exiting the DI-100.

5. Clean all urethane and foam rolls.
6. Clean the TRANSPORT TRAY.
7. Close the COVER.

5.2 Adjusting Belt Tension

To check TIMING BELT tension:

1. Remove both SIDE COVERS.
2. Check the tension on both the FEED TIMING BELT and the SIGNATURE TIMING BELT.

NOTE
Belt tension is ideal if the belt can be deflected $^{1}/_{4}$" with little effort.

To adjust BELT tension:

1. Remove FRONT GUARD.
2. Loosen, but do not remove, the two screws on either motor.
3. Rotate the motor ***clockwise*** to increase tension.
4. Rotate the motor ***counterclockwise*** to decrease tension.
5. Tighten the screws on the motor.
6. Double-check belt tension and repeat steps 2-5 if necessary.

5.3 Replacing A Fuse

When one or both FUSES are blown, the DI-100 will appear to have no power. If the DI-100 has blown a FUSE, replace the fuse. The FUSE DRAWER is located on the input end of the machine. Use the following instructions to replace one or both FUSES. (Refer to **Figure 5.1.**)

WARNING
A BLOWN FUSE IN THE NEUTRAL LEG COULD MEAN THAT INTERIOR PARTS OF THE DI-100 REMAIN AT A HAZARDOUS VOLTAGE. ALWAYS UNPLUG THE POWER CORD BEFORE SERVICING THE DI-100.

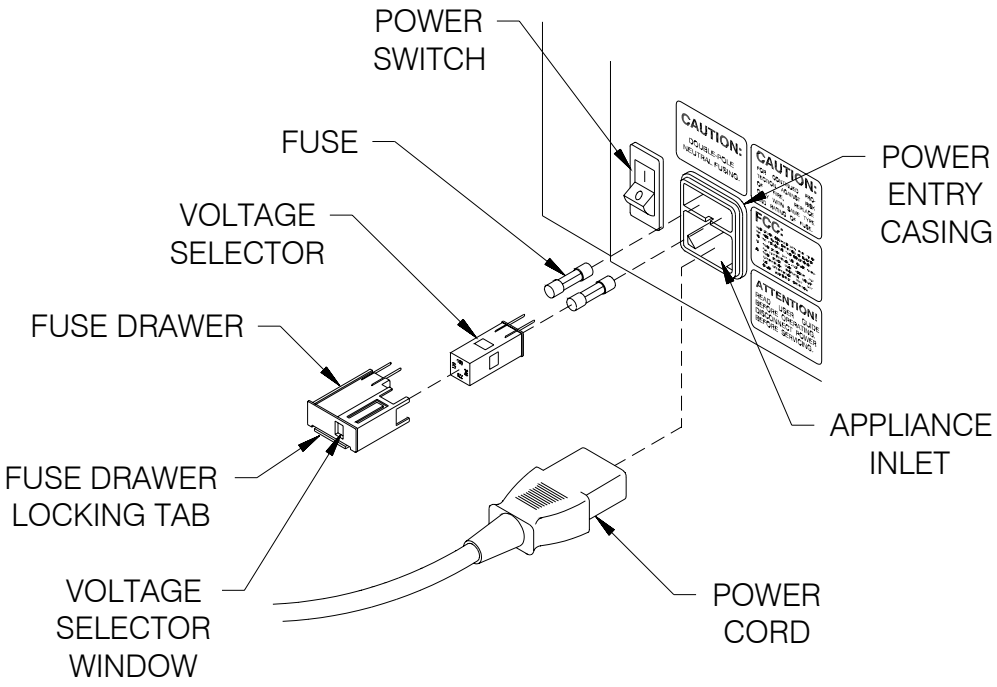


Figure 5.1 -- Replacing A Fuse

1. Unplug the POWER CORD.
2. Use a small screwdriver or similar tool to push up on and release the FUSE DRAWER LOCKING TAB.
3. Pull the FUSE DRAWER out of the POWER ENTRY CASING.

4. Inspect the FUSES; look for blackened glass, melted wire or a disconnected wire between the ends of the tube. If you find any of these problems in either FUSE, that FUSE is blown and needs to be replaced.
5. Pull the blown FUSE from its slot.
6. Place a new FUSE into the same slot. Both fuses must be in place for the DI-100 to operate properly.
7. Install the FUSE DRAWER in the POWER ENTRY CASING.

6. TROUBLESHOOTING

WARNING
NEVER CLEAN, CLEAR OR DISASSEMBLE THE DI-100 WITHOUT FIRST UNPLUGGING THE POWER CORD.

6.1 Operation Troubleshooting

PROBLEM	CAUSE	REMEDY
1. No power.	• POWER CORD is unplugged. • Electrical parts problem.	• Plug in POWER CORD. • Refer to Electrical Troubleshooting Chart.
2. Documents feeding, but not imprinting	• No gap between documents -- double-feeding.	• Check and adjust SEPARATOR position. • Clean feeding components.
	• IMPRINT SWITCH is off.	• Turn IMPRINT SWITCH on.
	• Document jam at output.	• Reposition CATCH TRAY components.
	• IMPRINT SADDLES not indexed.	• Turn EXECUTIVE KEY off and on slowly.
	• Imprint position set off document. (Document is counted but not imprinted.)	• Adjust imprint position.
3. Not feeding.	• Feed gap is too tight.	• Adjust feed gap.
	• Documents need extra weight to feed properly.	• Lower PAPER WEIGHT onto documents in FEED TRAY • Adjust feed gap.
	• Mechanical part problem.	• Refer to Mechanical Troubleshooting Cart.
	• Electrical part problem.	• Refer to Electrical Troubleshooting Cart.
	• Document jam.	• Clear jam.
4. Poor imprint quality.	• Light imprint.	• Adjust darkness.
	• Depleted INK ROLL.	• Check and replace INK ROLL.
	• Misplaced imprint.	• Reposition INK ROLL and or IMPRINT SADDLES.

6.2 Mechanical Troubleshooting

PROBLEM	CAUSE	REMEDY
1. Not feeding – MOTOR is on but belts don't move.	• Loose or broken drive.	• Tighten set screw on FEED MOTOR PULLEY.
		• Replace broken BELT.
2. Inconsistent, incorrect imprinting.	• Loose or broken signature part.	• Tighten set screw on SADDLE HOLDER to match INK ROLL. • Tighten set screw on MOTOR DRIVE PULLEY. • Tighten set screw on SIGNATURE SHAFT.
	• SENSOR not over PULSE WHEEL.	• Move SENSOR over PULSE WHEEL.
3. Inconsistent imprint – missing signatures.	• Mis-aligned DOCUMENT DETECTOR.	• Optimize DOCUMENT DETECTOR position.
4. DATER ASSEMBLY tearing documents and damaging PLATEN.	• Gap between DATER and PLATEN is too small.	• Contact The HEDMAN Company for adjustment kit.

6.3 Electrical Troubleshooting

PROBLEM	CAUSE	REMEDY
1. Not feeding – nothing happens.	• Blown FUSE.	• Check & replace FUSES.
	• Bad POWER CORD.	• Check & replace POWER CORD.
	• Bad SWITCH	• Check POWER SWITCH • Check INTERLOCK SWITCH.
	• Loose CONNECTOR.	• Trace wires and test connections.
	• Bad TRANSFORMER.	• Test & replace TRANSFORMER.
	• Bad CIRCUIT CARD.	• Test & replace CIRCUIT CARD.
2. Feeding, but not imprinting.	• Mis-aligned DOCUMENT DETECTOR or PHOTOCELL.	• Optimize DOCUMENT DETECTOR position or replace EMITTER and DETECTOR. Double-check alignment.
	• SENSOR not over PULSE WHEEL.	• Move SENSOR over PULSE WHEEL. If alignment is okay, replace SENSOR.
	• IMPRINT SWITCH or CONNECTORS.	• Check & replace IMPRINT SWITCH and CONNECTORS.
	• CONTROL PANEL TOUCHPAD	• Test TOUCHPAD.
	• CONTROL PANEL CIRCUIT CARD.	• Replace CIRCUIT CARD.
3. Inconsistent imprint position.	• Bad CONTROL PANEL.	• Check and replace CONTROL PANEL.
	• Bad CIRCUIT CARD.	• Check & replace CIRCUIT CARD.

7. PROCEDURES

All procedures are alphabetized by the part or assembly requiring adjustment or replacement.

WARNING
NEVER CLEAN, CLEAR OR DISASSEMBLE THE DI-100 WITHOUT FIRST UNPLUGGING THE POWER CORD.

WARNING
DO NOT TOUCH THE POWER INTERLOCK SWITCH WHILE THE POWER CORD IS PLUGGED IN.

7.1 Base

All the following assemblies are contained inside the BASE:

- FEED MOTOR
- FEED ROLL
- PADDLE WHEEL
- POWER ENTRY CASING
- POWER SWITCH
- TIMING BELT
- TRANSFORMER

To open the base and access these assemblies:

1. Remove both SIDE COVERS.
2. Remove the FRONT GUARD.
3. Remove the CIRCUIT CARD. (Refer to **Section 7.2**.)

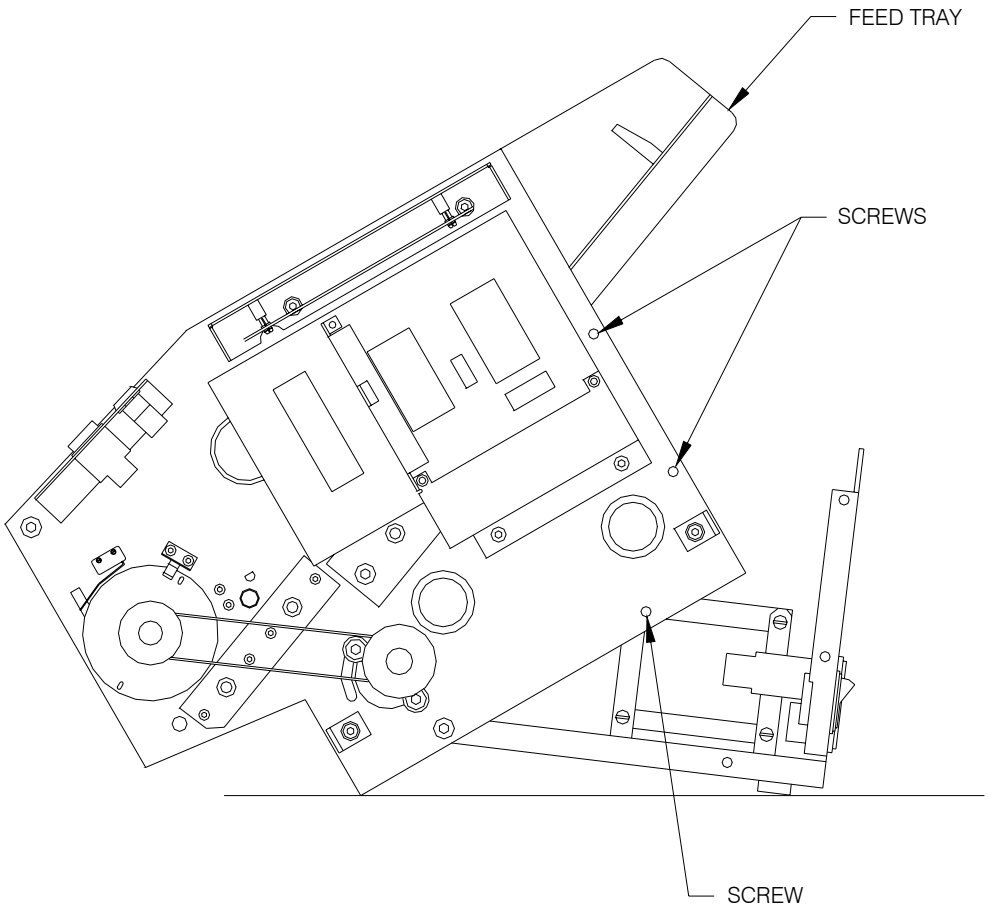


Figure 7.1 -- Opening the Base

4. Remove the 2 SCREWS underneath the BASE that hold the FEED MOTOR SUPPORT to the BASE.
5. Remove the 3 SCREWS on each SIDE FRAME that hold the SIDE FRAMES to the BASE. (Refer to **Figure 7.1**.)
6. Remove POWER INTERLOCK SWITCH COVER and disconnect POWER INTERLOCK SWITCH by pulling or prying off CONNECTORS. Do not pull on the wires. (Refer to **Figure 7.2**.)
7. Pushing up from underneath the FEED TRAY, tip the unit forward while holding the BASE down. (Refer to **Figure 7.1**.)

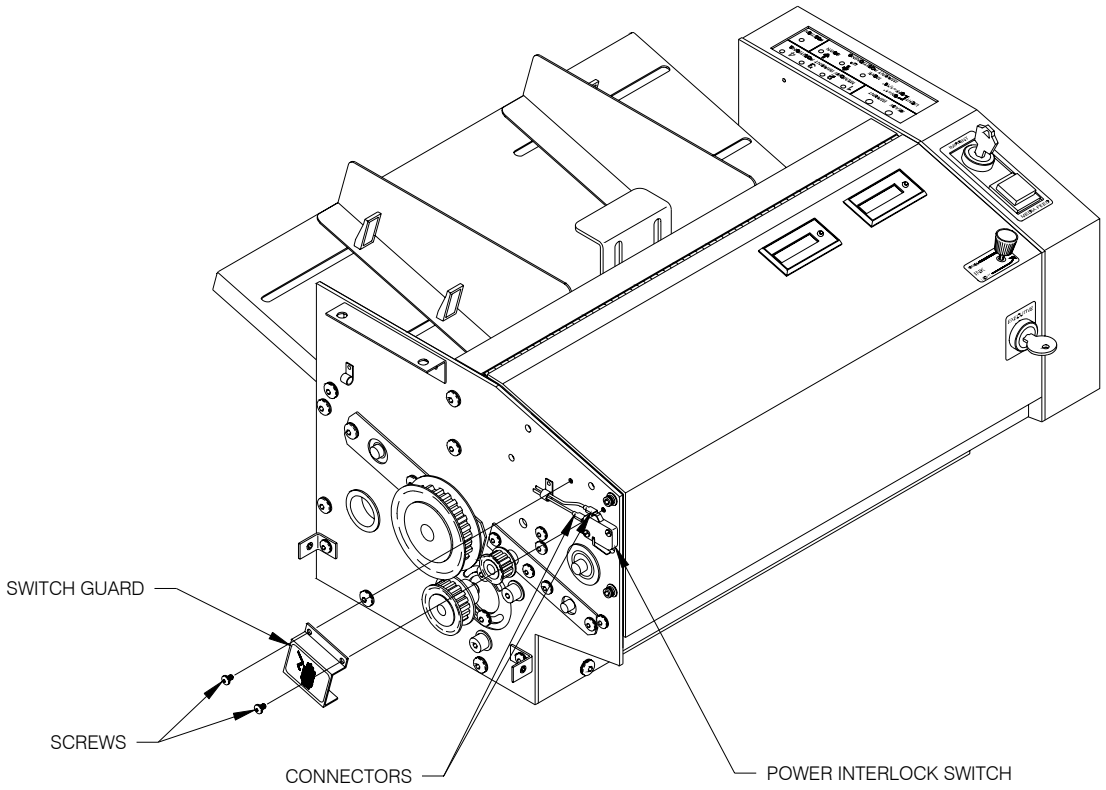


Figure 7.2 –
Power Interlock Switch & Connectors

To close the BASE:

1. Tip the unit back to the align it with the BASE.
2. Tighten the 2 SCREWS underneath the BASE which secure the FEED MOTOR SUPPORT to the BASE.
3. Tighten the 3 SCREWS on each SIDE FRAME which secure the SIDE FRAMES to the BASE. (Refer to **Figure 7.1**.)
4. Place the CONNECTORS in the POWER INTERLOCK SWITCH on the non-operator side FRAME. (Refer to the **Figure 7.2** and the **System Diagram**.)
5. Install the CIRCUIT CARD. (Refer to **Section 7.2**.)

7.2 Circuit Card

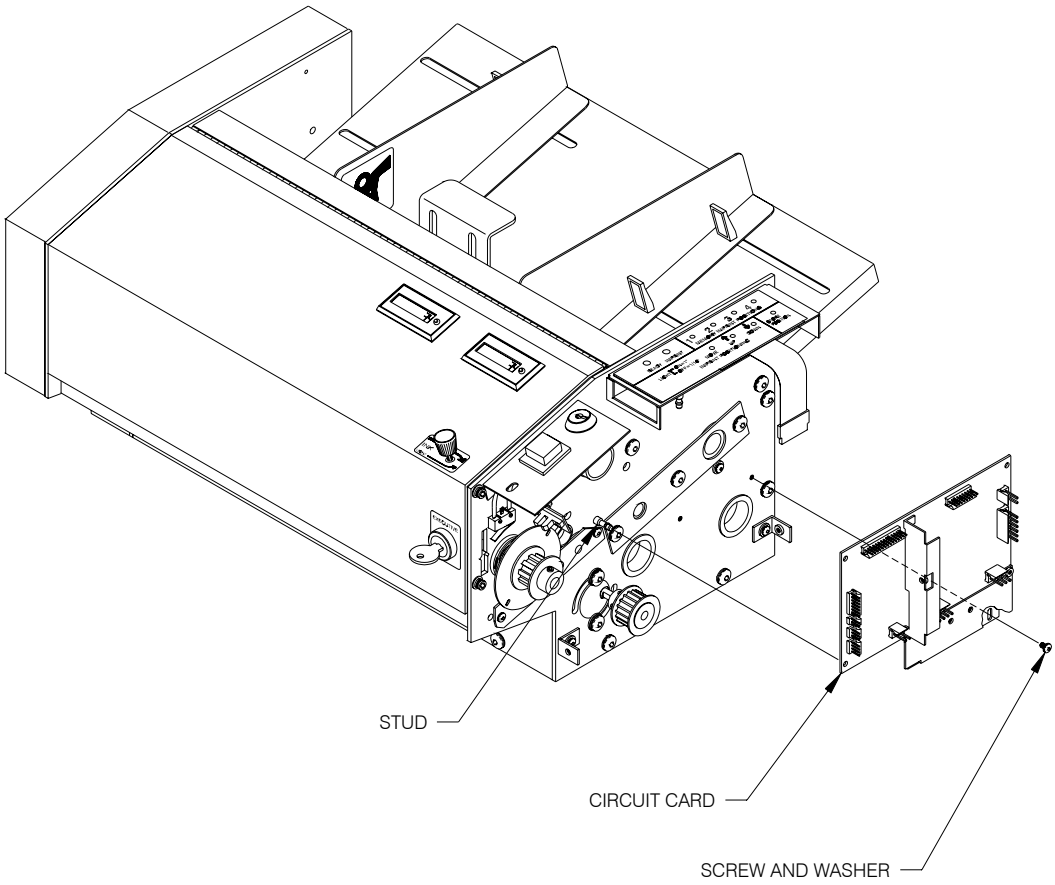


Figure 7.3 -- Replacing A Circuit Card

To remove a CIRCUIT CARD:

1. Remove the operator side COVER.
2. Unplug all CONNECTORS on the CIRCUIT CARD.
3. Remove the 2 SCREWS and WASHERS on the bottom of the CIRCUIT CARD. (Refer to **Figure 7.3**.)
4. Pull the CIRCUIT CARD off the 3 STUDS. (Refer to **Figure 7.3**.)

To install a CIRCUIT CARD:

1. Place a new CIRCUIT CARD on the 3 STUDS and press it in place.

NOTE
Make sure the orange and black WIRES and their CONNECTOR are behind the CIRCUIT CARD.

2. Secure the 2 SCREWS and WASHERS through the bottom of the CIRCUIT CARD and into the SIDE FRAME.
3. Plug all CONNECTORS into the CIRCUIT CARD. Match the number and size of pins on the male half with the female half.

7.3 Control Panel

To remove and replace the CONTROL PANEL ASSEMBLY:

1. Remove the operator side COVER.
2. Remove the CIRCUIT CARD. Carefully unplug all WIRES and CONNECTORS, making sure not to lose the 2 screws that secure the CIRCUIT CARD.
3. Unplug the CONTROL PANEL TOUCHPAD from the CONTROL PANEL CIRCUIT CARD.
4. Gently pry the CONTROL PANEL CIRCUIT CARD from the CONTROL PANEL MOUNTING BRACKET and remove.
5. Unscrew the CONTROL PANEL MOUNTING BRACKET from the DI-100 and remove.
6. Replace in reverse order.

7.4 Counter

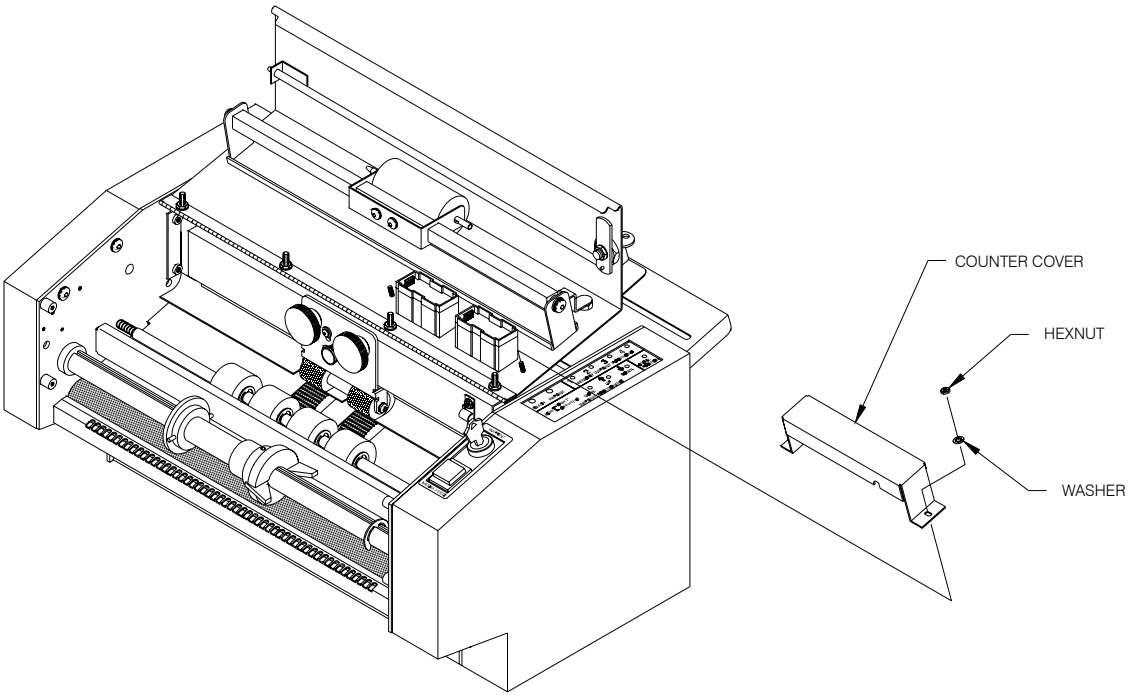


Figure 7.4 -- Replacing the Counter

To replace a COUNTER:

1. Open the COVER.
2. Remove COUNTER COVER. (Refer to **Figure 7.4.**)
3. Unplug the CONNECTOR on the COUNTER(S).
4. Remove the FIXING CLIPS and push the COUNTER through the COVER.
5. Place the new COUNTER in the COVER.
6. Fasten the FIXING CLIPS in place around the COUNTER.
7. Plug the CONNECTOR together.
8. Close the COVER.

7.5 Document Detector

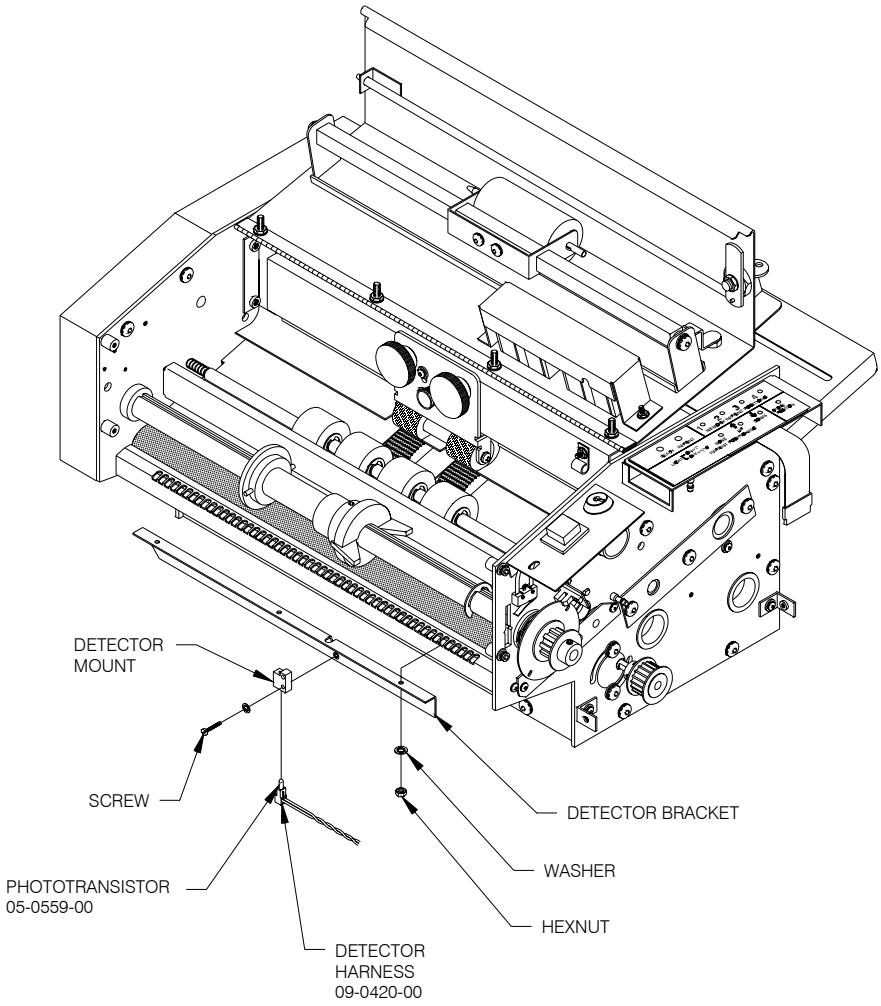


Figure 7.5 -- Replacing the Document Detector

7.5.1 Testing the Detector

To test the DOCUMENT DETECTOR:

1. Remove OPERATOR SIDE COVER.
2. Turn POWER and EXECUTIVE KEY **ON**.
3. Using a DVM set on the 20 vdc scale, read between the white wire on P3 and ground. If all is well, a reading of .5-.9 vdc without paper in the sensor path and over 3.0 vdc with paper blocking the beam are expected. While

making these readings, slightly wiggle the EMITTER MOUNTING BRACKET. If movement in the bracket causes the readings to change drastically, see following section.

7.5.2 Optimizing the Detector Position

To optimize the DOCUMENT DETECTOR position, install Sensor Optimization Kit (16-0057-00):

NOTE
This procedure is most applicable to machines with serial numbers ending in 209 or lower.

1. Open the COVER.
2. Remove the FRONT GUARD.
3. Remove the 3 HEX NUTS on the DETECTOR BRACKET and pull the DETECTOR BRACKET out of the BASE. (Refer to **Figure 7.5**.)
4. Loosen the 2 SCREWS on the DETECTOR MOUNT and pull out the DETECTOR HARNESS. (Refer to **Figure 7.5**.)
5. Install shims between the metal DETECTOR BRACKET and the plastic DETECTOR MOUNT. Install two thin (#4) shims on the top mounting hole and two thicker (#6) on the bottom. These shims move the DETECTOR toward the output end of the machine while angling it back toward the input end. Use 4-40 x $^{5}/_{8}$" machine screws to mount the DETECTOR.
6. Re-test DOCUMENT DETECTOR. (Refer to **Section 7.5.1**.)

7.5.3 Replacing the Detector

To replace the DOCUMENT DETECTOR:

1. Open the COVER.
2. Remove both SIDE COVERS.
3. Remove the FRONT GUARD.
4. Remove the 3 HEX NUTS on the DETECTOR BRACKET and pull the DETECTOR BRACKET out of the BASE. (Refer to **Figure 7.5**.)
5. Loosen the 2 SCREWS on the DETECTOR MOUNT and pull out the DETECTOR HARNESS. (Refer to **Figure 7.5**.)
6. Pull the DETECTOR out of the DETECTOR HARNESS. (Refer to **Figure 7.5**.)
7. Holding the DETECTOR by the pins, find the pin near the flat side of the DETECTOR.
8. Place the DETECTOR into the DETECTOR HARNESS. Connect the pin closest to the flat on the lens base to the blue wire, Position 1. (Refer to the **System Diagram**.)

CAUTION

TO AVOID DAMAGE TO THE DETECTOR, MAKE SURE IT IS PLACED CORRECTLY INTO THE DETECTOR HARNESS.

9. Place the DETECTOR HARNESS into the DETECTOR MOUNT. (Refer to **Figure 7.5**.)
10. Tighten the 2 SCREWS on the DETECTOR MOUNT.
11. Fasten the DETECTOR BRACKET to the bottom of the TRAY.
12. Install the FRONT GUARD.
13. Install both SIDE COVERS.

7.6 Document Emitter

To replace the DOCUMENT EMITTER:

1. Open the COVER.
2. Remove the PRESSURE TIRE SHAFT.
3. Remove the 2 SCREWS on the EMITTER MOUNT and remove it from the EMITTER BRACKET. (Refer to the **Illustrated Parts Guide**.)
4. Pull the EMITTER out of the EMITTER HARNESS. (Refer to the **Illustrated Parts Guide**.)
5. Holding the EMITTER by the pins, find the pin near the flat side of the EMITTER.
6. Place the EMITTER into the EMITTER HARNESS. Connect the pin closest to the flat on the lens base to the green wire, Position 2. (Refer to the **System Diagram**.)

CAUTION

TO AVOID DAMAGE TO THE EMITTER, MAKE SURE IT IS PLACED CORRECTLY INTO THE EMITTER HARNESS.

7. Place the EMITTER HARNESS in the EMITTER MOUNT. (Refer to the **Illustrated Parts Guide**.)
8. Fasten the EMITTER MOUNT to the EMITTER BRACKET. (Refer to the **Illustrated Parts Guide**.)
9. Install both SIDE COVERS.
10. Install the PRESSURE TIRE SHAFT.
11. Close the COVER.

7.7 Feed Motor

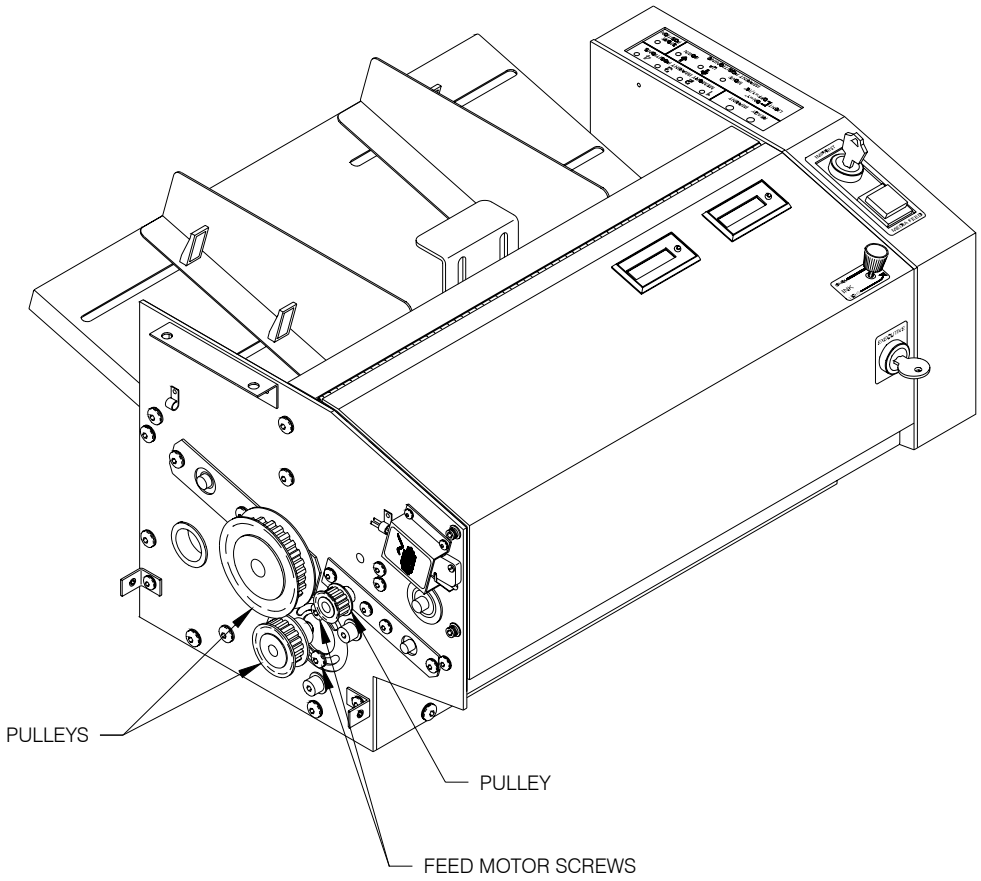


Figure 7.6 -- Adjusting Belt Tension

To replace a FEED MOTOR:

1. Access the inside of the BASE. (Refer to **Section 7.1**.)
2. Loosen the 2 SCREWS in the FEED MOTOR and rotate the FEED MOTOR counterclockwise to loosen the tension on the FEED TIMING BELT. (Refer to **Figure 7.6**.)
3. Remove the FEED TIMING BELT.
4. Loosen the SET SCREW on each PULLEY and remove these 3 PULLEYS. (Refer to **Figure 7.6**.)
5. Remove the 2 SCREWS that hold the FEED MOTOR SUPPORT to the SIDE FRAME. (Refer to **Figure 7.7**.)
6. Remove the 3 SCREWS and GROMMETS that hold the FEED MOTOR BRACKET to the SIDE FRAME

and pull the FEED MOTOR (with the attached SUPPORT and BRACKET) out of the BASE. (Refer to **Figure 7.7**.)

7. Remove the 2 SCREWS and GROMMETS (refer to **Figure 7.7**) that hold the FEED MOTOR BRACKET to the FEED MOTOR SUPPORT and pull the FEED MOTOR out of the FEED MOTOR BRACKET. (Refer to **Illustrated Parts Guide**.)
8. Place the new FEED MOTOR in the FEED MOTOR BRACKET.
9. Fasten the FEED MOTOR BRACKET to the FEED MOTOR SUPPORT.
10. Fasten the FEED MOTOR SUPPORT to the SIDE FRAME. (Refer to **Figure 7.7**.)

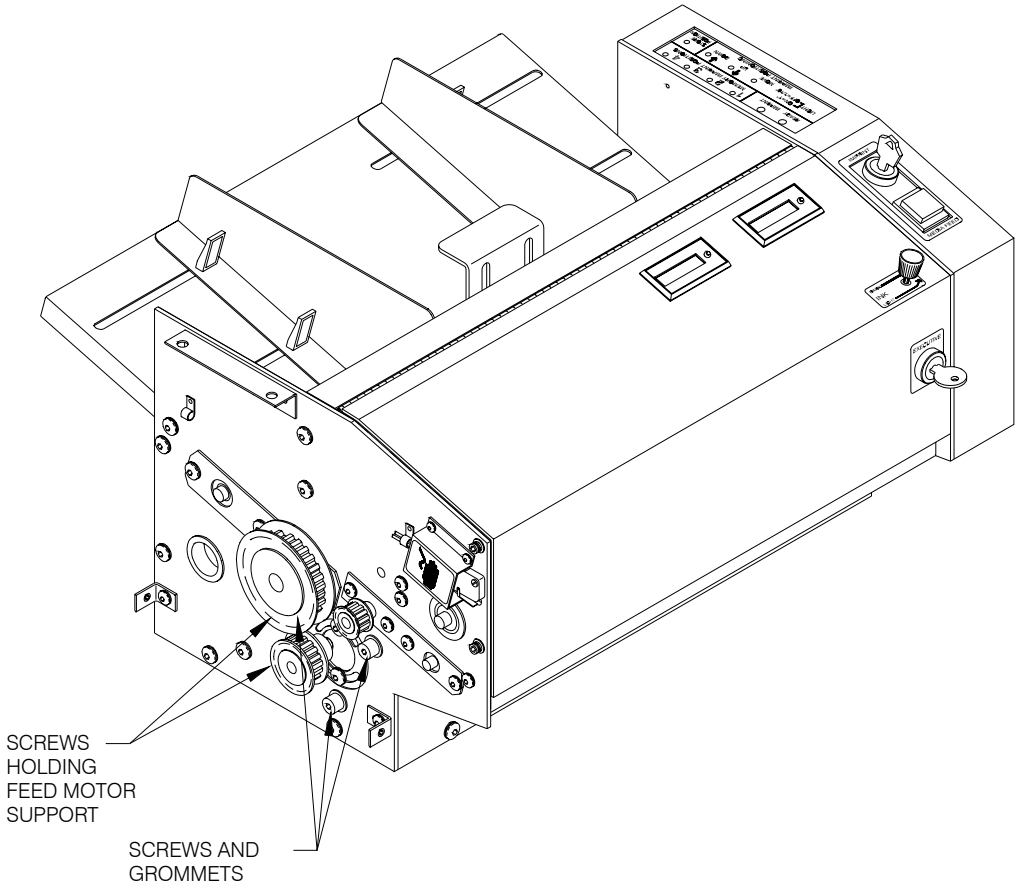


Figure 7.7 -- Replacing a Feed Motor

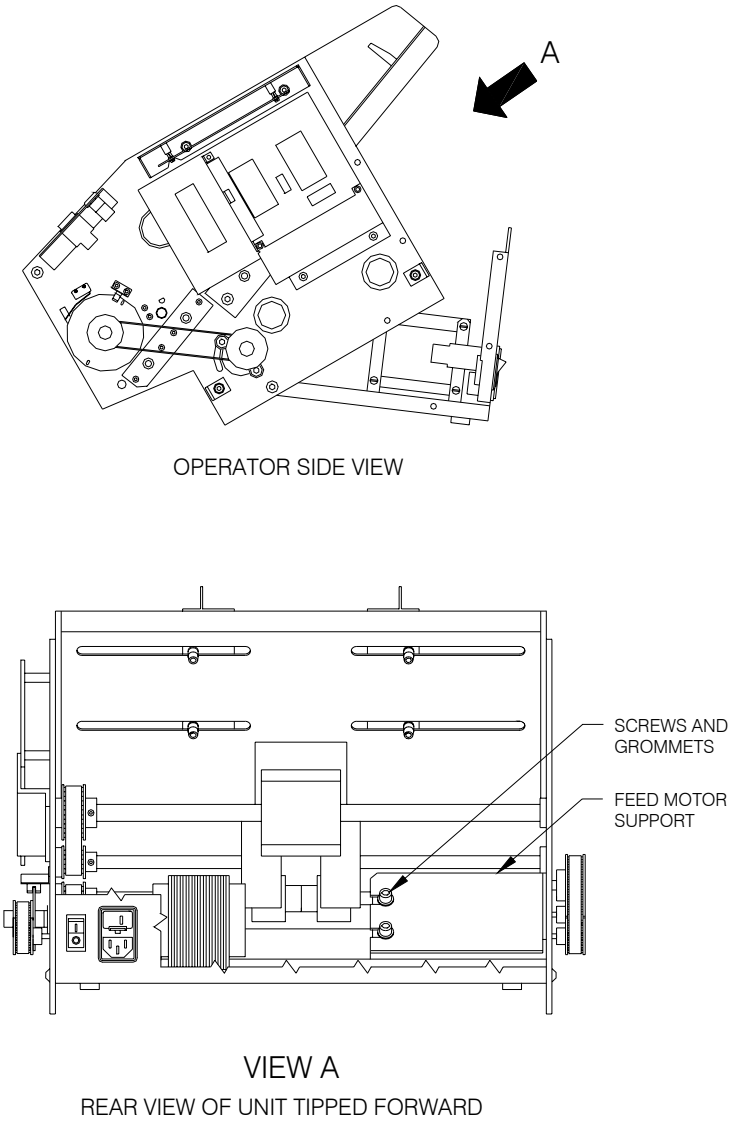


Figure 7.8 -- Feed Motor Support

11. Place the 3 PULLEYS on the shafts and fasten the SET SCREWS to the flat on the shafts. (Refer to **Figure 7.6**)
12. Place the FEED TIMING BELT around the 3 PULLEYS and rotate the FEED MOTOR clockwise until belt deflects $^{1}/_{8}$" with little effort.
13. Tighten the 2 SCREWS in the FEED MOTOR. (Refer to **Figure 7.7**.)
14. Place the FEED MOTOR WIRES in the WIRING SADDLES on the BASE and feed these WIRES through the operator side FRAME.

7.8 Feed Roll

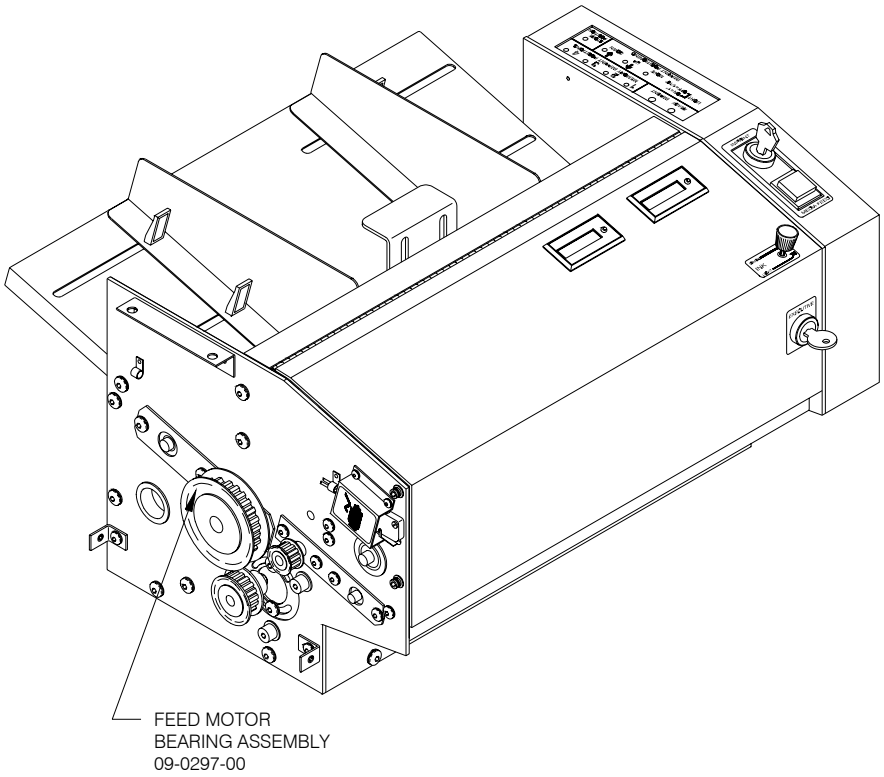


Figure 7.9 -- Feed Motor Bearing Assembly

To replace a FEED ROLL:

1. Access the inside of the BASE. (Refer to **Section 7.1**.)
2. Loosen the 2 SCREWS in the FEED MOTOR and rotate the FEED MOTOR counterclockwise to loosen the tension on the FEED TIMING BELT. (Refer to **Figure 7.6**.)
3. Remove the FEED TIMING BELT.
4. Loosen the SET SCREW on each PULLEY and remove these 3 PULLEYS. (Refer to **Figure 7.6**.)
5. Remove the FEED MOTOR BEARING ASSEMBLY. (Refer to **Figure 7.9**.)
6. Push the FEED ROLL SHAFT through the hole in the non-operator side FRAME and out of the BASE. Pull the TIMING BELT off the FEED ROLL SHAFT PULLEY. (Refer to **Figure 7.10**.)
7. Remove both E-RINGS from the FEED ROLL SHAFT.

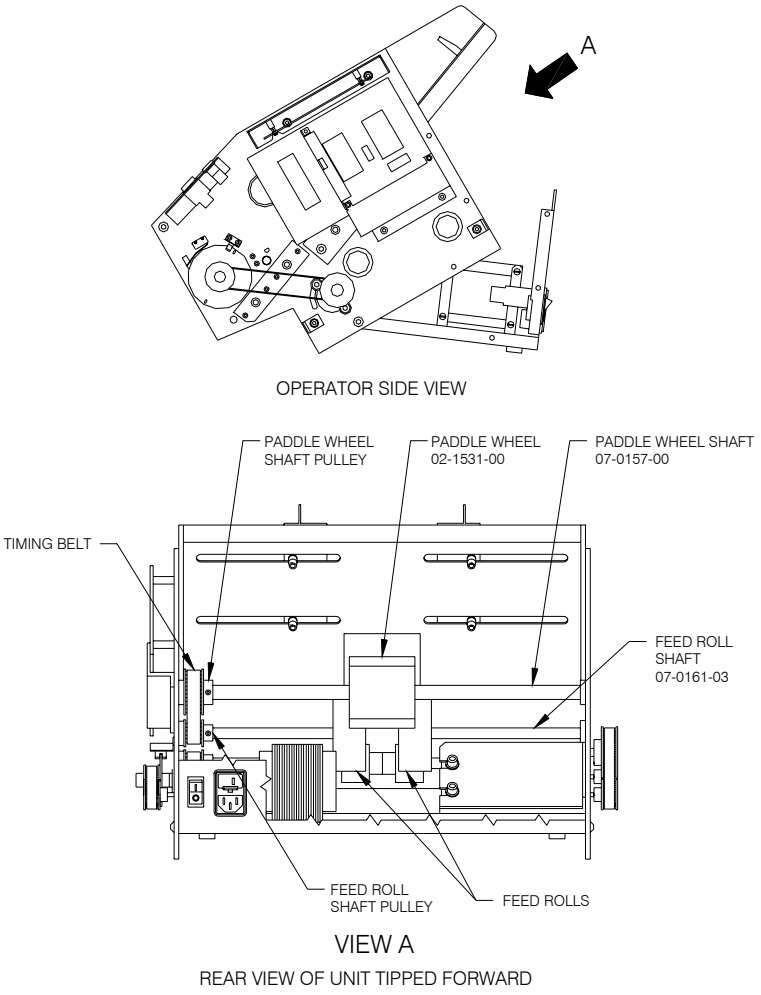


Figure 7.10 -- Inside View of the Base

8. Pull the FEED ROLL off the FEED ROLL SHAFT. (Refer to **Figure 7.10**.)
9. Place the new FEED ROLL on the FEED ROLL SHAFT between the 2 notches.

NOTE

The FEED ROLL must be mounted to spin toward the SEPARATOR.

10. Clip 1 E-RING into the notch on each side of the FEED ROLL on the FEED ROLL SHAFT.
11. Push the FEED ROLL SHAFT through the hole in the SIDE FRAME on the non-operator side.

12. Place the TIMING BELT around the FEED ROLL SHAFT PULLEY. Make sure the TIMING BELT is around the PADDLE WHEEL SHAFT PULLEY also. The tension is fixed. (Refer to **Figure 7.10**.)
13. Install the FEED MOTOR BEARING ASSEMBLY. (Refer to **Figure 7.9**.)
14. Place the 3 PULLEYS on the shafts and fasten the SET SCREWS to the flat on the shafts. (Refer to **Figure 7.6**.)
15. Place the FEED TIMING BELT around the 3 PULLEYS and rotate the FEED MOTOR clockwise until you set the proper belt tension.

NOTE

Belt tension is ideal if the belt can be deflected $^1/_4$" with little effort.

16. Tighten the 2 SCREWS in the FEED MOTOR. (Refer to **Figure 7.6**.)

7.9 Feed Timing Belt

1. Remove the non-operator side COVER.
2. Remove the FRONT GUARD. (Refer to **Figure 7.11**.)
3. Loosen the 2 SCREWS in the FEED MOTOR and rotate the FEED MOTOR counterclockwise to loosen the tension on the FEED TIMING BELT. (Refer to **Figure 7.6**.)
4. Remove the FEED TIMING BELT.
5. Place the new FEED TIMING BELT around the 3 PULLEYS on the SIDE FRAME on the non-operator side. (Refer to **Figure 7.6**.)
6. Turn the FEED MOTOR clockwise until you find the proper belt tension.

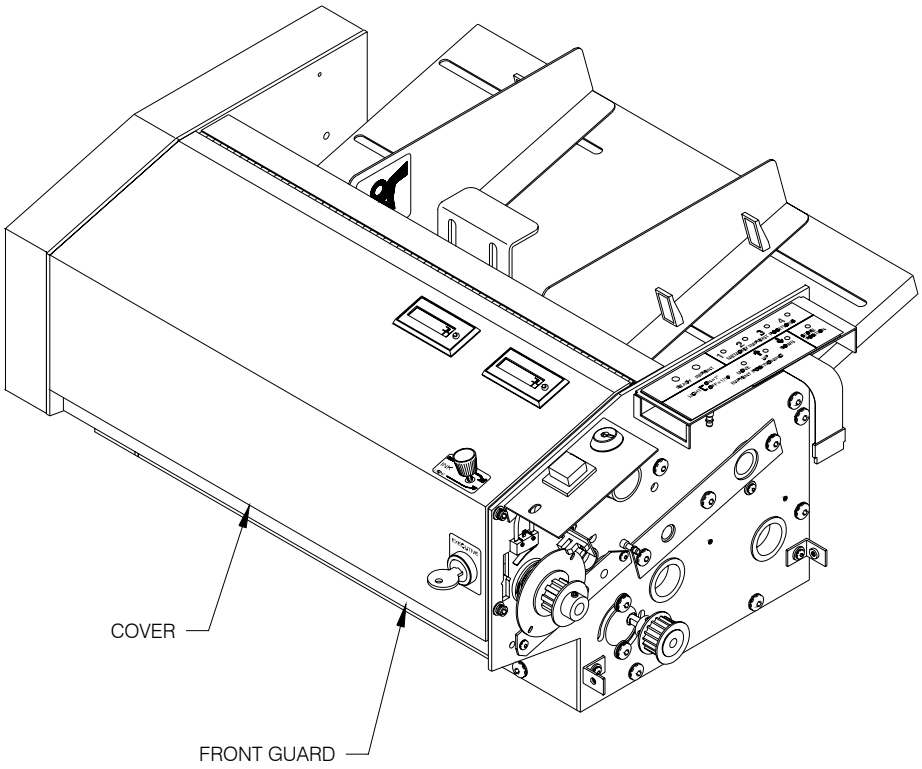


Figure 7.11 -- Front Guard

NOTE

Belt tension is ideal if the belt can be deflected $^{1}/_{4}$" with little effort.

7. Tighten the SCREWS in the FEED MOTOR. (Refer to **Figure 7.6**.)

7.10 Foam Rolls

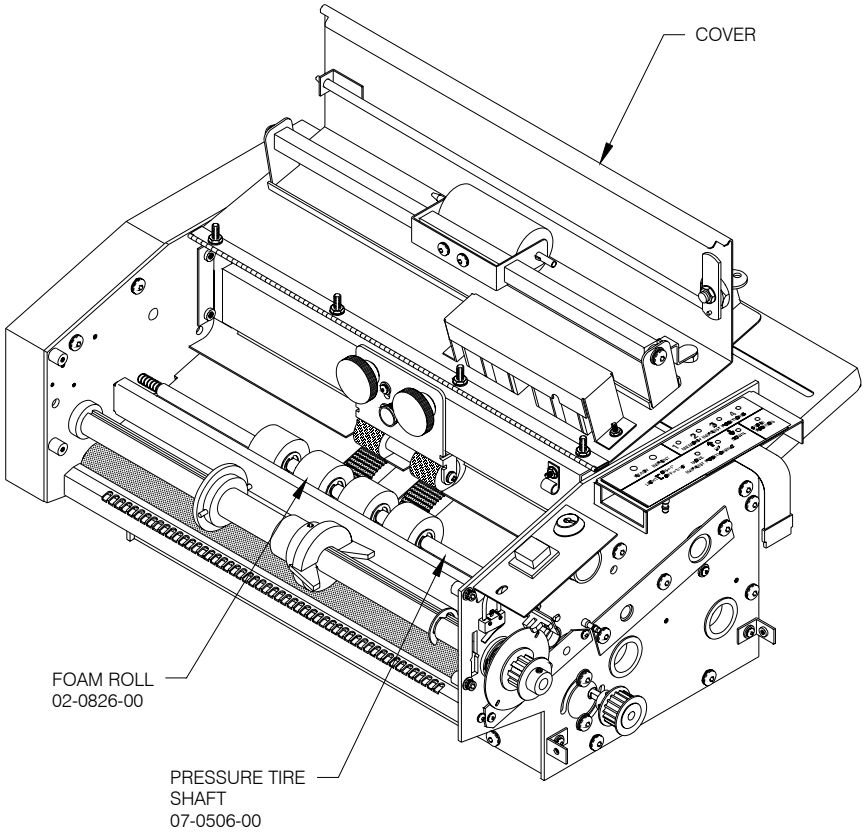


Figure 7.12 -- Foam Rolls & Pressure Tire Shaft

To replace FOAM ROLLS on the PRESSURE TIRE SHAFT:

1. Open the COVER. (Refer to **Figure 7.12**.)
2. Remove the PRESSURE TIRE SHAFT from the machine.
3. Pry the E-RINGS off the PRESSURE TIRE SHAFT with a screwdriver or ring puller.
4. Slide the FOAM ROLLS off the PRESSURE TIRE SHAFT. (Refer to **Figure 7.12**.)
5. Slide each new FOAM ROLL onto the PRESSURE TIRE SHAFT between 2 notches.
6. Clip the E-RINGS into each notch.
7. Install the PRESSURE TIRE SHAFT.

7.11 Fuses

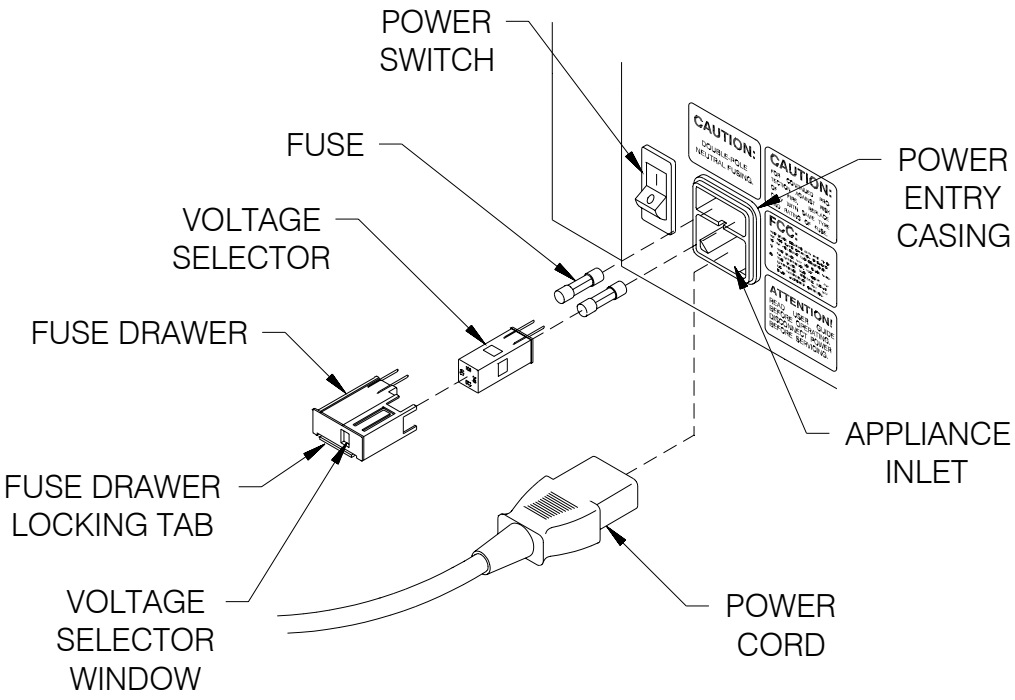


Figure 7.13 -- Replacing A Fuse

To replace a FUSE:

1. Push up on the FUSE DRAWER LOCKING TAB with a small screwdriver or similar tool to release this locking tab. (Refer to **Figure 7.13**.)
2. Pull the FUSE DRAWER out of the POWER ENTRY CASING.
3. Inspect the FUSES; look for blackened glass, melted wire or a disconnected wire between the ends of the tube. If you find any of these problems in either FUSE, that FUSE is blown and needs to be replaced.
4. Pull the blown FUSE from its slot.
5. Place the new FUSE into the same slot.
6. Install the FUSE DRAWER.

7.12 Media Feed Switch

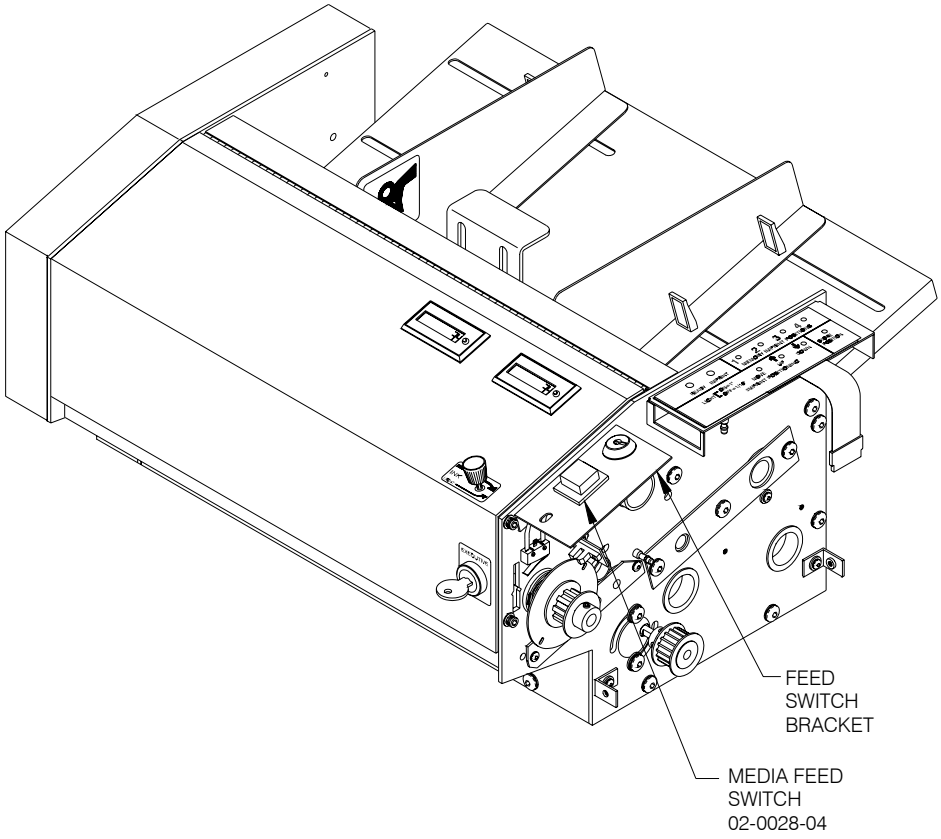


Figure 7.14 -- Replacing the Media Feed Switch

To replace the MEDIA FEED SWITCH:

1. Remove both SIDE COVERS.
2. Unplug all CONNECTORS from the MEDIA FEED SWITCH. (Refer to **Figure 7.14**.)
3. Collapse the RETAINING CLIPS on the MEDIA FEED SWITCH and pull through the FEED SWITCH BRACKET.
4. Push the MEDIA FEED SWITCH through the FEED SWITCH BRACKET and secure the RETAINING CLIPS.
5. Plug all CONNECTORS into the MEDIA FEED SWITCH.

7.13 Paddle Wheel

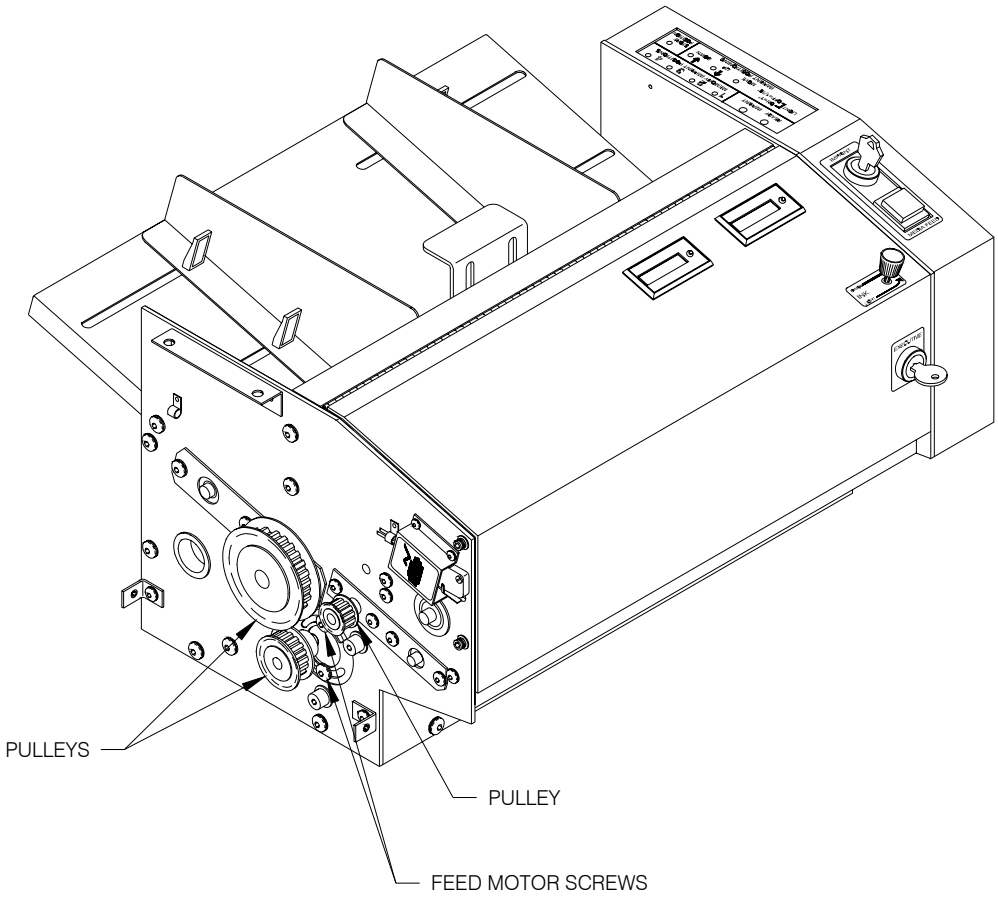


Figure 7.15 -- Feed Motor Screws & Pulleys

To replace the PADDLE WHEEL:

1. Access the inside of the BASE. (Refer to **Section 7.1**.)
2. Loosen the 2 SCREWS in the FEED MOTOR (refer to **Figure 7.15**) and rotate the FEED MOTOR counterclockwise to loosen the tension on the FEED TIMING BELT.
3. Remove the FEED TIMING BELT.
4. Loosen the SET SCREW on each PULLEY and remove these 3 PULLEYS.
5. Remove the FEED MOTOR BEARING ASSEMBLY. (Refer to **Figure 7.16**.)

6. Push the PADDLE WHEEL SHAFT through the hole in the SIDE FRAME on the non-operator side and out of the BASE. Pull the TIMING BELT off the PADDLE WHEEL SHAFT PULLEY. (Refer to **Figure 7.17**.)
7. Pull the PADDLE WHEEL off the PADDLE WHEEL SHAFT.
8. Push the new PADDLE WHEEL on the PADDLE WHEEL SHAFT. Align the PADDLE WHEEL to fit into the cutout in the FEED TRAY.

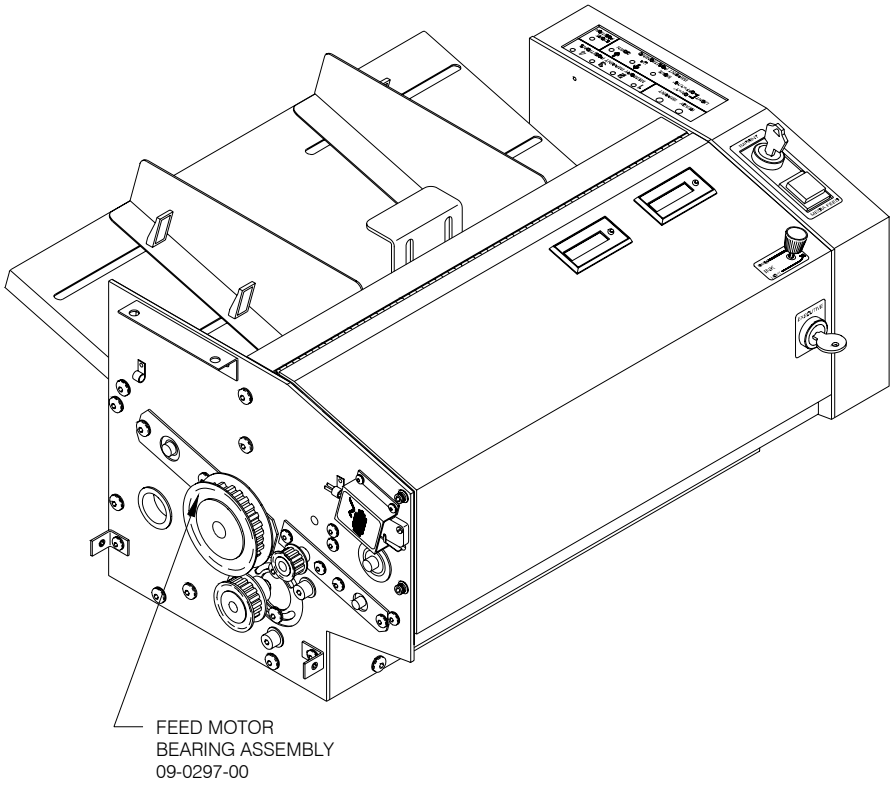


Figure 7.16 -- Feed Motor Bearing Assembly

9. Push the PADDLE WHEEL SHAFT through the hole in the non-operator side FRAME.
10. Place the TIMING BELT around the PADDLE WHEEL SHAFT PULLEY. Make sure the TIMING BELT is around the FEED ROLL SHAFT PULLEY also. The tension is fixed. (Refer to **Figure 7.17**.)
11. Install the FEED MOTOR BEARING ASSEMBLY.
12. Place the 3 PULLEYS on the shafts and fasten the SET SCREWS to the flat sides of the shafts.

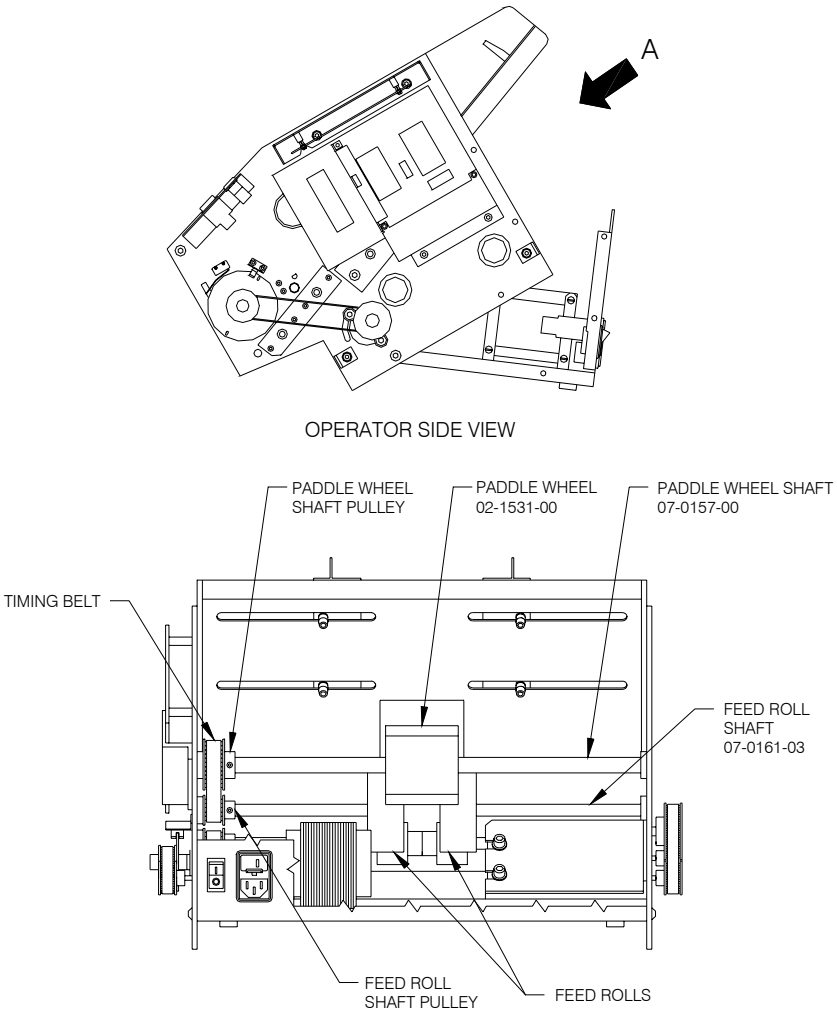


Figure 7.17 -- Inside View of the Base

13. Place the FEED TIMING BELT around the 3 PULLEYS and rotate the FEED MOTOR clockwise until you set the proper belt tension.

NOTE

Belt tension is ideal if the belt can be deflected $^{1}/_{4}$" with little effort.

14. Tighten the 2 SCREWS in the FEED MOTOR.

7.14 Paper Guides

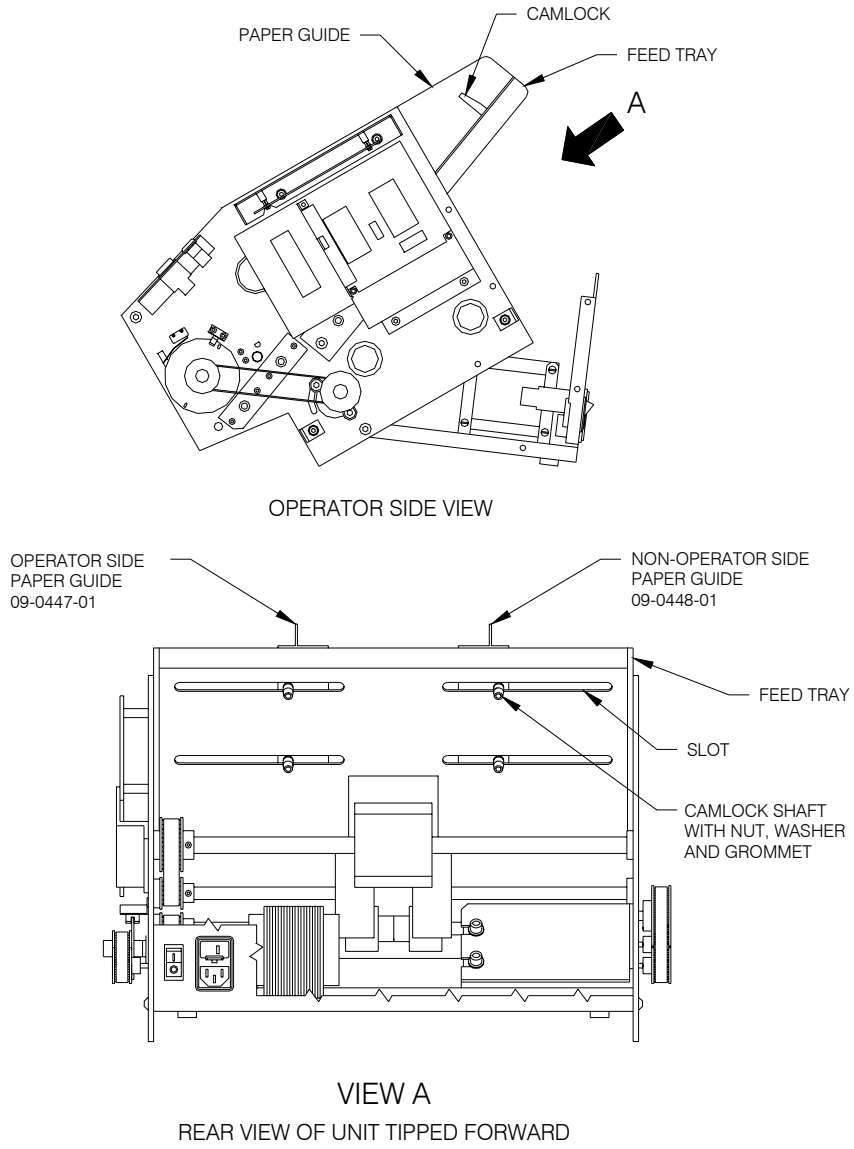


Figure 7.18 -- Replacing Paper Guides

NOTE
This procedure requires 4 new CAMLOCKS.

To replace the PAPER GUIDES:

1. Access the inside of the BASE. (Refer to **Section 7.1**.)
2. Lift each CAMLOCK. (Refer to **Figure 7.18**.)
3. Cut the CAMLOCK SHAFTS under the FEED TRAY, between the WASHER and the RUBBER GROMMET.
4. Pull the PAPER GUIDES out of the FEED TRAY. (Refer to **Figure 7.18**.)
5. Place each CAMLOCK SHAFT through each hole in the PAPER GUIDE. Make sure the CAMLOCKS are between the SIDE FRAMES and the side of the PAPER GUIDE.
6. Place the new PAPER GUIDES in the SLOTS in the FEED TRAY.
7. Place 1 WASHER, 1 RUBBER GROMMET and 1 PLASTIC NUT on each CAMLOCK SHAFT.
8. Adjust CAMLOCK tension and apply 1 drop of super glue in the end of each PLASTIC NUT.

7.15 Platen Gap (widening)

NOTE

In order to widen the PLATEN GAP to accept the DATER ASSEMBLY you must first contact The HEDMAN Company for an Adjustment Kit. The kit contains .750" spacers, a diagram and instructions.

CAUTION

PROCEED ONLY IF THIS PROCEDURE HAS BEEN DONE BEFORE AND YOU HAVE THE KIT WITH INSTRUCTIONS.

To widen the PLATEN GAP to accept the DATER ASSEMBLY:

1. Remove SIDE COVERS.
2. Loosen 4 screws on PLATEN BEARING ASSEMBLIES.
3. Remove the three buttonhead screws on the bottom COVER. Lift the machine and swing the cover upwards, gaining access to the PLATEN.
4. Insert spacers on each end between PLATEN and FACSIMILE SHAFT.
5. With spacers in place, move the PLATEN to the spacer. Tighten the left side first then the right. Double check to be sure that both ends have the same clearance, symmetry (parallelism) is critical.

NOTE

When tightening the spacers to the PLATEN, make sure both the left and right sides have equal spacing, like mirror-images.

6. Remove spacers and replace covers.

7.16 Power Entry Casing

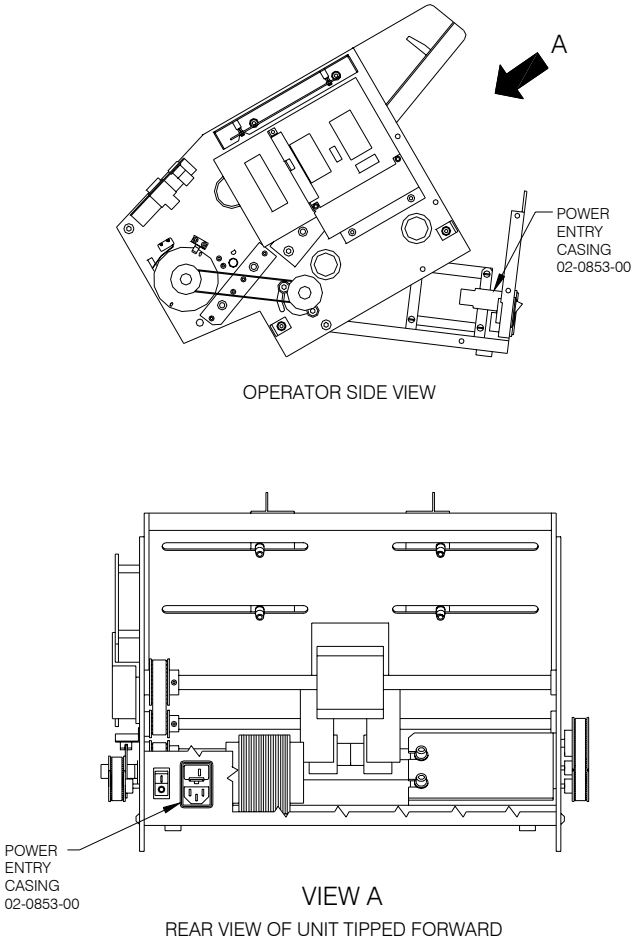


Figure 7.19 -- Replacing the Power Entry Casing

To replace the POWER ENTRY CASING:

1. Access the inside of the BASE. (Refer to **Section 7.1**.)
2. Unplug the CONNECTORS from the POWER ENTRY CASING. (Refer to **Figure 7.19**.)
3. Squeeze the CLIPS on the top and bottom of the POWER ENTRY CASING and push it out of the BASE.
4. Squeeze the CLIPS on the new POWER ENTRY CASING and push into the BASE.
5. Plug the CONNECTORS into the POWER ENTRY CASING. Follow the **System Diagram**.

7.17 Power Switch

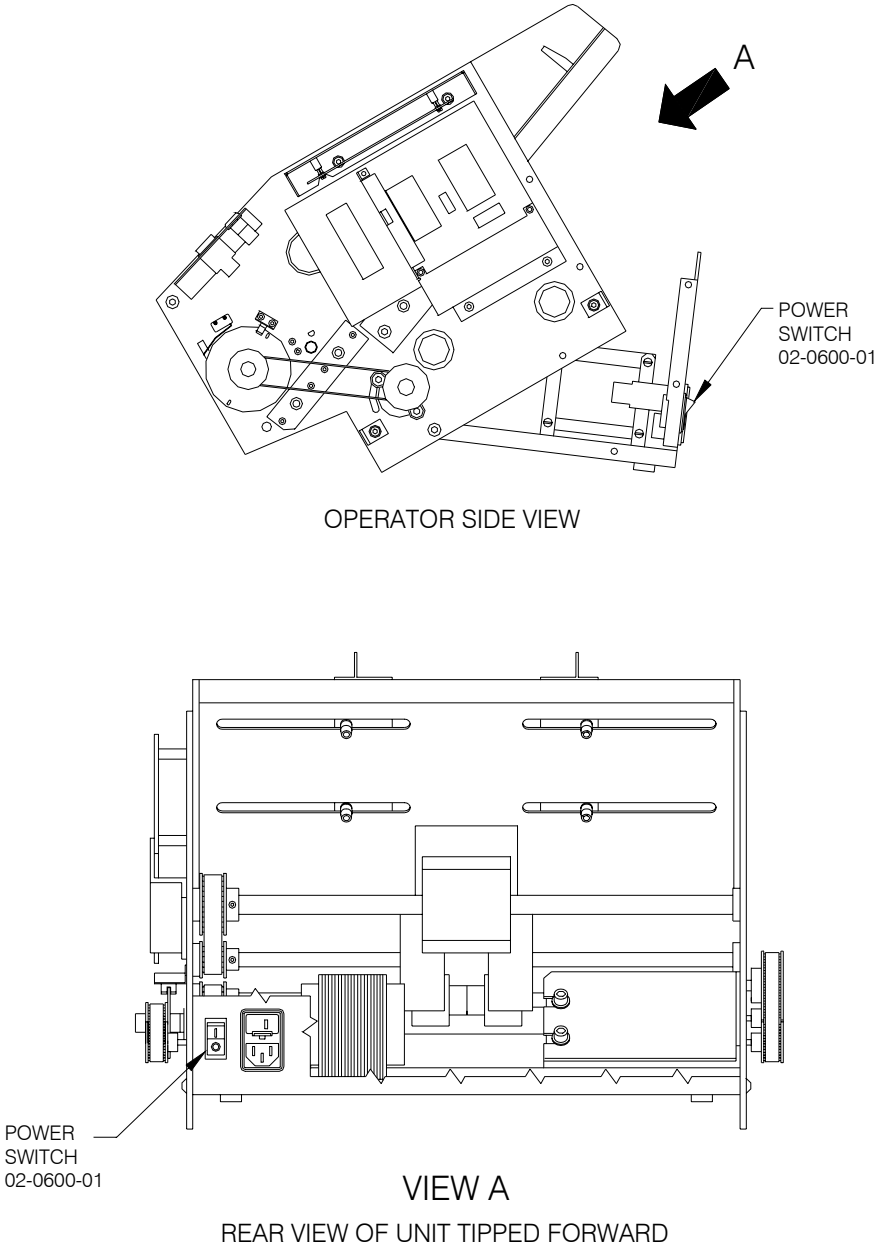


Figure 7.20 -- Replacing the Power Switch

To replace the POWER SWITCH:

1. Access the inside of the BASE. (Refer to **Section 7.1**.)
2. Unplug the CONNECTORS from the POWER SWITCH. (Refer to **Figure 7.20**.)
3. Squeeze the CLIPS on the top and bottom of the POWER SWITCH and push out of the BASE.
4. Squeeze the CLIPS on the new POWER SWITCH and push into the BASE.

NOTE
The "I" must be on top and the "O" on the bottom.

5. Plug the CONNECTORS into the POWER SWITCH. Follow the **System Diagram.**

7.18 Separators

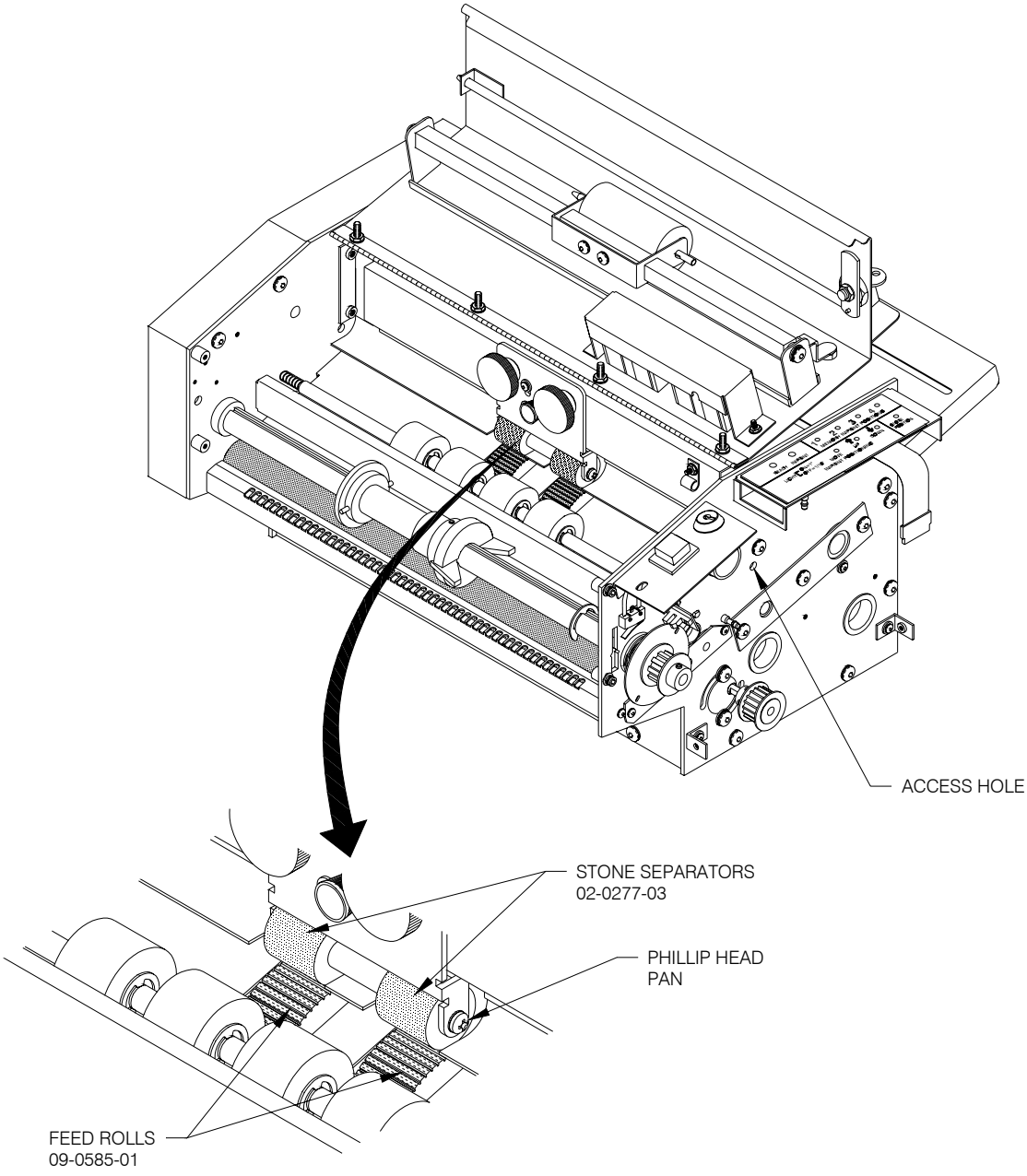


Figure 7.21 -- Reaching & Replacing the Separators

To rotate the SEPARATORS, exposing a clean surface:

1. Open the COVER.
2. Loosen the socket head cap screws on each end of the SEPARATOR SHAFT.
3. Slightly rotate the SEPARATORS. (Refer to **Figure 7.21**.) Test to be sure that the contact between the SEPARATORS and the FEED ROLL is consistent on both sides by sliding a strip of paper between the separators and the rolls and feeling for constant drag. Rotate SEPARATORS until drag is consistent and a clean section of the SEPARATOR is in contact with the FEED ROLL.
4. Tighten screws.

To remove and replace the SEPARATORS:

1. Open the COVER.
2. Remove the SEPARATOR LOCKING KNOBS.
3. Remove the four screws that attach the SEPARATOR ASSEMBLY to its carrier. Lift the assembly from the machine.
4. Remove the SEPARATORS and their shaft from the assembly. (Refer to **Figure 7.21**.)
5. Replace in reverse order. Be sure to set the SEPARATOR ASSEMBLY in place so that it slides freely without play.

To eliminate SEPARATOR free play:

1. Open the COVER.
2. Slide the SEPARATOR ASSEMBLY up and down in its slots several times. Observe the free play in the direction of paper feed. There should be little or no play in this direction. Adjust the free play by tightening and/or loosening each of the 4 SEPARATOR ASSEMBLY mounting screws. Repeat the process until the SEPARATOR ASSEMBLY slides freely up and down, rests squarely on the FEED ROLLS and has no free play in the paper feed direction. Place a drop of semi-permanent thread locking compound on the screws to insure that the adjustment doesn’t change.

7.19 Signature Motor

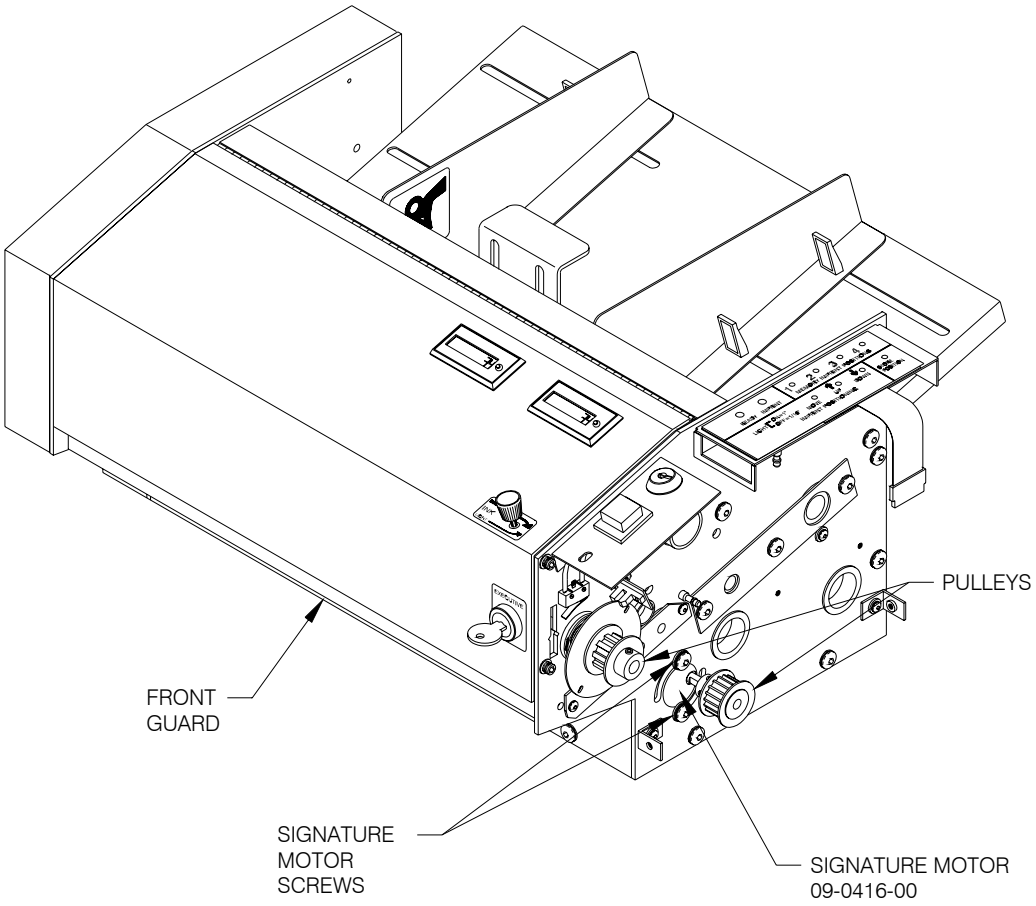


Figure 7.22 -- Replacing the Signature Motor

To replace the SIGNATURE MOTOR:

1. Remove the SIDE COVERS.
2. Remove the FRONT GUARD. (Refer to **Figure 7.22**.)
3. Loosen the 2 SCREWS in the SIGNATURE MOTOR.
4. Rotate the SIGNATURE MOTOR counterclockwise to loosen tension on the SIGNATURE TIMING BELT and remove the SIGNATURE TIMING BELT.
5. Loosen the 2 SET SCREWS on the 2 PULLEYS and remove the PULLEYS.

6. Find the WIRES connecting the SIGNATURE MOTOR and the CIRCUIT CARD and unplug the WIRE CONNECTOR from the CIRCUIT CARD.
7. Remove the 2 SCREWS holding the SIGNATURE MOTOR to the SIDE FRAME and pull the SIGNATURE MOTOR out of the BASE. (Refer to **Figure 7.22**.)
8. Fasten the new SIGNATURE MOTOR to the SIDE FRAME. Keep the 2 SCREWS loose enough to rotate the SIGNATURE MOTOR.
9. Plug the WIRE CONNECTOR attached to the SIGNATURE MOTOR into the CIRCUIT CARD.
10. Place the 2 PULLEYS on the SHAFTS and tighten the SET SCREWS. Make sure each SET SCREW contacts the flat side of each SHAFT.
11. Place the SIGNATURE TIMING BELT around these PULLEYS.
12. Rotate the SIGNATURE MOTOR until you set the proper tension on the SIGNATURE TIMING BELT.

NOTE

Belt tension is ideal if the belt can be deflected $^{1}/_{4}$" with little effort.

13. Tighten the 2 SCREWS in the SIGNATURE MOTOR.
14. Install the FRONT GUARD.
15. Install both SIDE COVERS.

7.20 Signature Timing Belt

To replace the SIGNATURE TIMING BELT:

1. Remove both SIDE COVERS.
2. Remove the FRONT GUARD. (Refer to **Figure 7.22**.)
3. Loosen, do not remove the SCREWS on the SIGNATURE MOTOR.
4. Turn the SIGNATURE MOTOR counterclockwise.
5. Replace the TIMING BELT.
6. Turn the SIGNATURE MOTOR clockwise until you find the proper tension.

NOTE
Belt tension is ideal if the belt can be deflected $^{1}/_{4}$" with little effort.

7. Tighten the SCREWS in the SIGNATURE MOTOR.

7.21 Timing Belt

To replace the TIMING BELT around the PADDLE WHEEL SHAFT PULLEY and the FEED ROLL SHAFT PULLEY:

1. Access the inside of the BASE. (Refer to **Section 7.1**.)
2. Loosen the 2 SCREWS in the FEED MOTOR and rotate the FEED MOTOR counterclockwise to loosen the tension on the FEED TIMING BELT. (Refer to **Figure 7.23**.)
3. Remove the FEED TIMING BELT.
4. Loosen the SET SCREW on each PULLEY and remove these 3 PULLEYS.
5. Remove the FEED MOTOR BEARING ASSEMBLY.

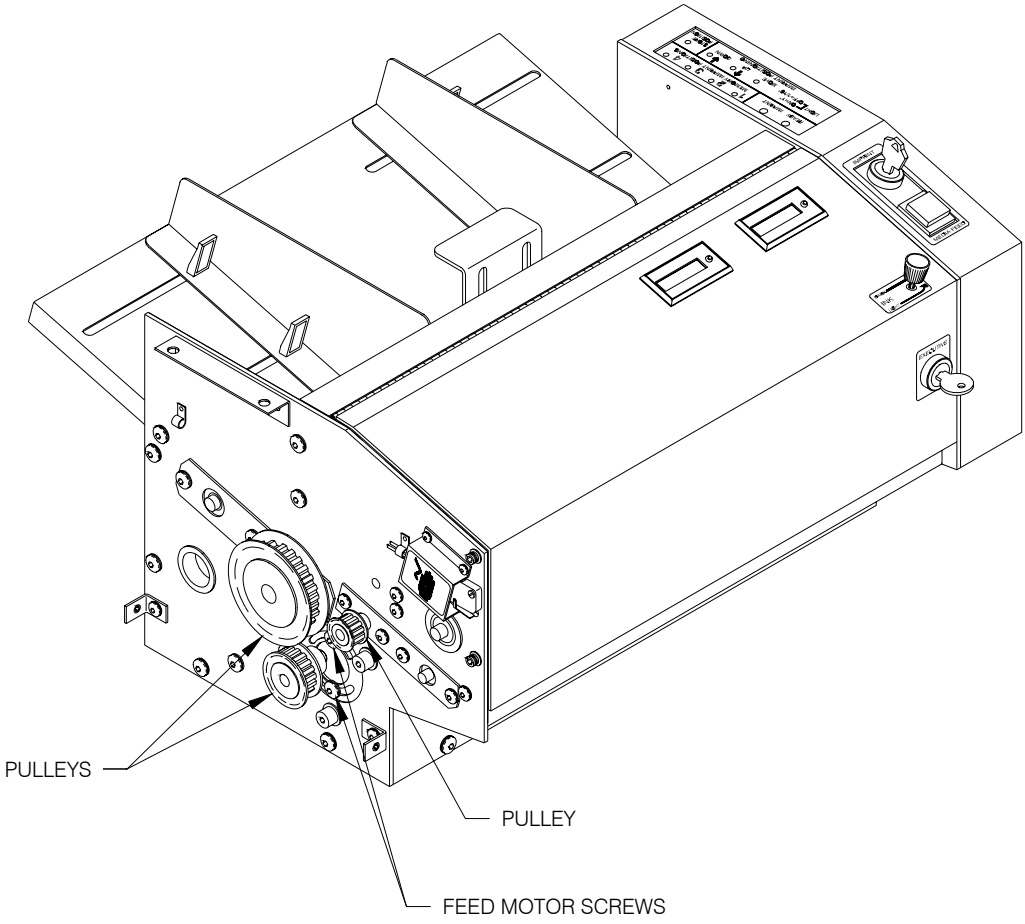


Figure 7.23 -- Feed Motor Screws & Pulleys

6. Push the PADDLE WHEEL SHAFT through the hole in the non-operator side FRAME and out of the BASE.
7. Push the FEED ROLL SHAFT through the hole in the SIDE FRAME on the non-operator side and out of the BASE.
8. Remove the TIMING BELT.
9. Place the new TIMING BELT around the PADDLE WHEEL SHAFT PULLEY and the FEED ROLL SHAFT PULLEY.

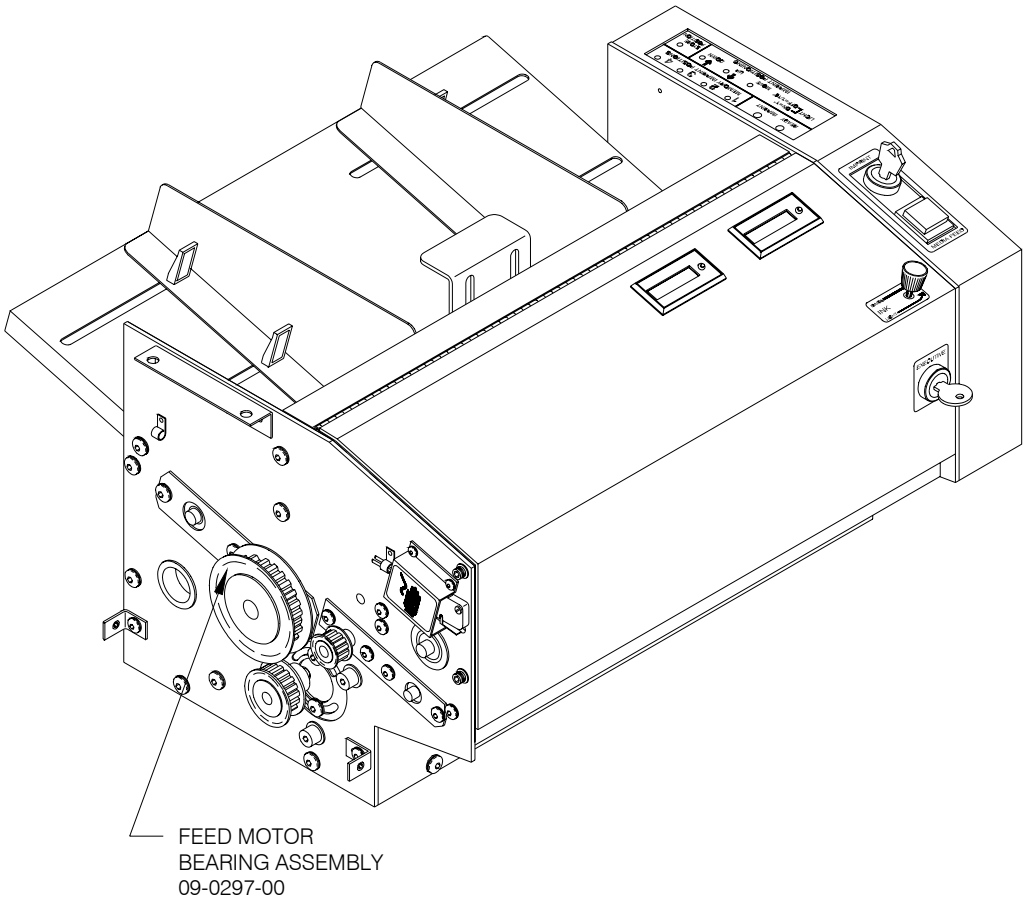


Figure 7.24 -- Feed Motor Bearing Assembly

10. Push the FEED ROLL SHAFT through the hole in the SIDE FRAME on the non-operator side.
11. Push the PADDLE WHEEL SHAFT through the hole in the SIDE FRAME on the non-operator side.
12. Install the FEED MOTOR BEARING ASSEMBLY. (Refer to **Figure 7.24**.)
13. Place the 3 PULLEYS on the SHAFTS and fasten the SET SCREWS to the flat sides of the SHAFTS. (Refer to **Figure 7.23**.)

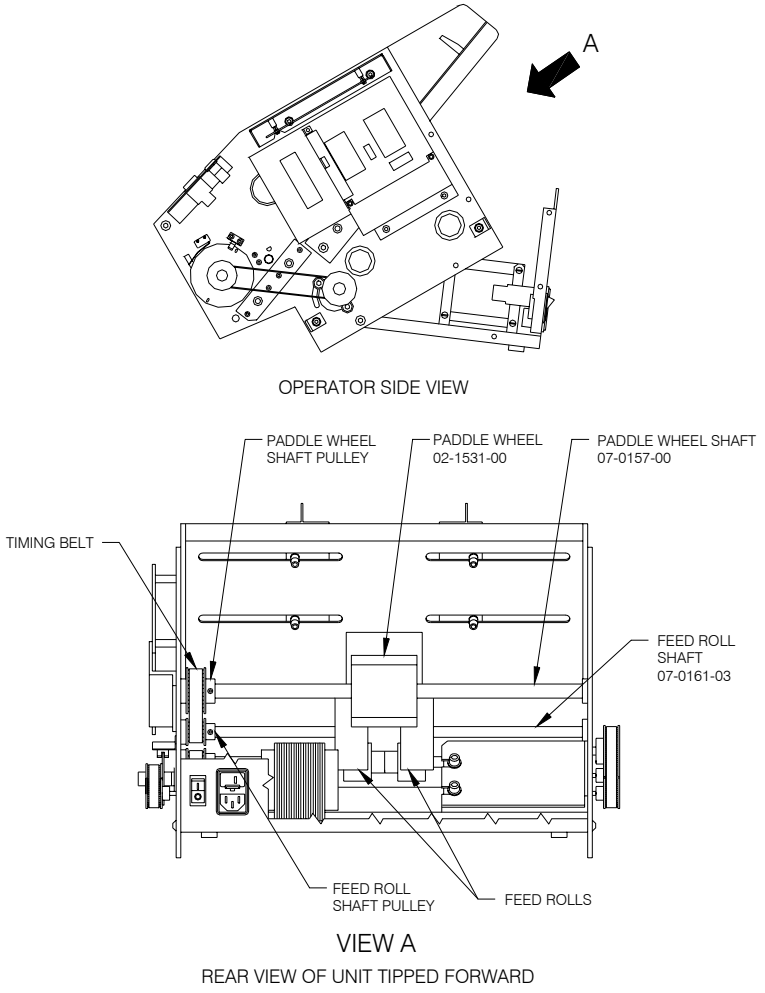


Figure 7.25 -- Inside View of the Base

14. Place the FEED TIMING BELT around the 3 PULLEYS and rotate the FEED MOTOR clockwise until you set the proper belt tension. (Refer to **Figure 7.25**.)

NOTE

Belt tension is ideal if the belt can be deflected $^{1}/_{4}$" with little effort.

15. Tighten the 2 SCREWS in the FEED MOTOR. (Refer to **Figure 7.23**.)

7.22 Transformer

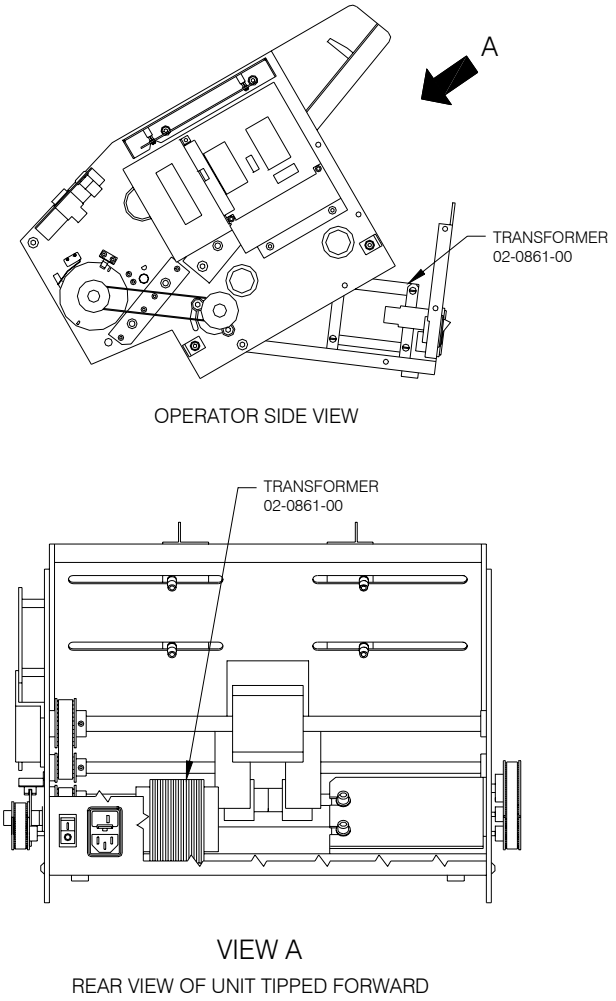


Figure 7.26 -- Replacing A Transformer

To replace a TRANSFORMER:

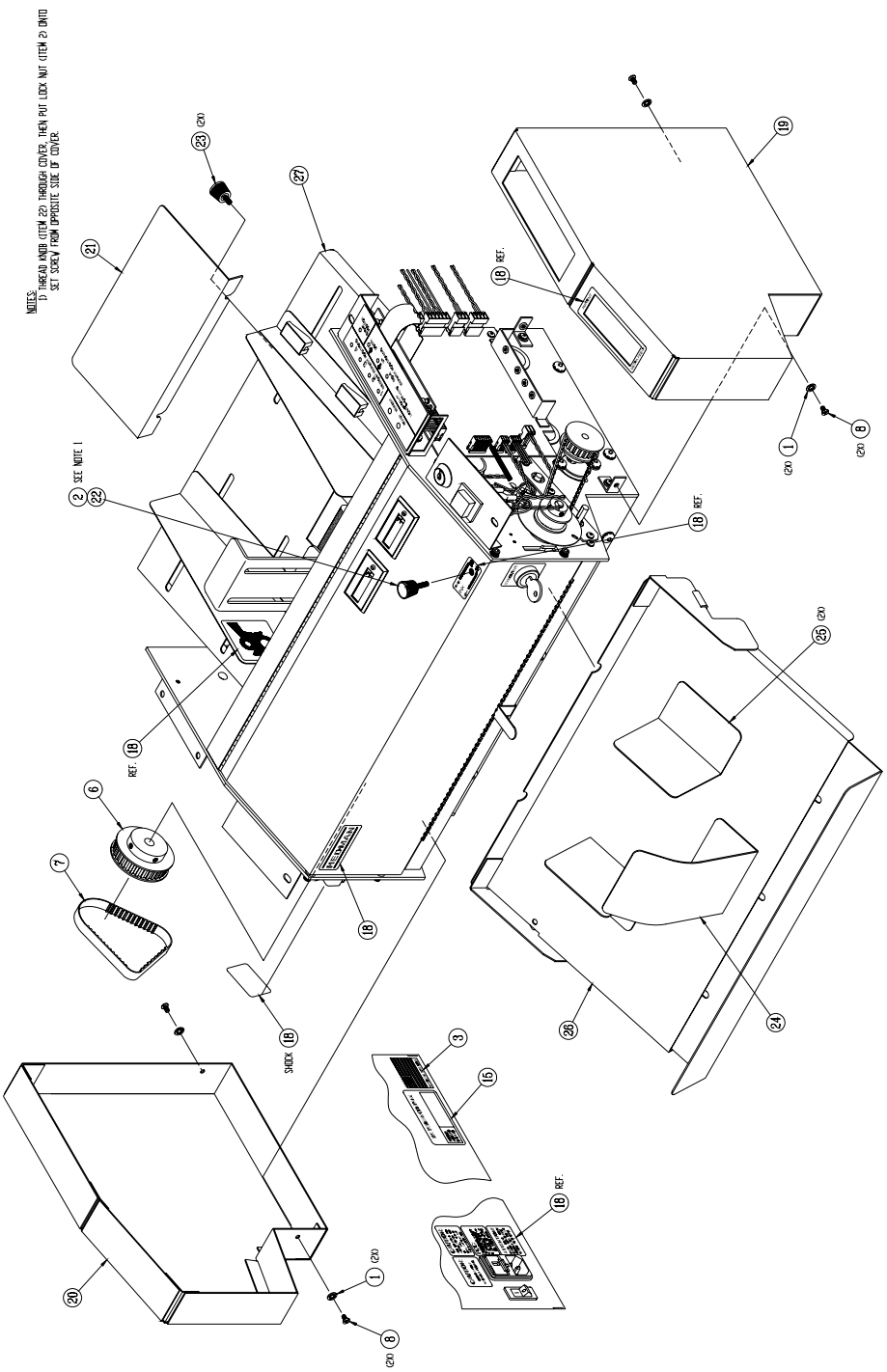
1. Access the inside of the BASE. (Refer to **Section 7.1**.)
2. Unplug all CONNECTORS from the TRANSFORMER. (Refer to **Figure 7.26**.)
3. Remove the 4 SCREWS holding the TRANSFORMER to the BASE.
4. Replace the TRANSFORMER. (Refer to **Figure 7.26**.)
5. Secure the 4 SCREWS.
6. Plug the CONNECTORS into the new TRANSFORMER. Follow the **System Diagram.**

8. SYSTEM DIAGRAM

DI-100 Control Card – 10-0373-02

9. ILLUSTRATED PARTS GUIDE

NOTE
Order parts by part number ONLY.

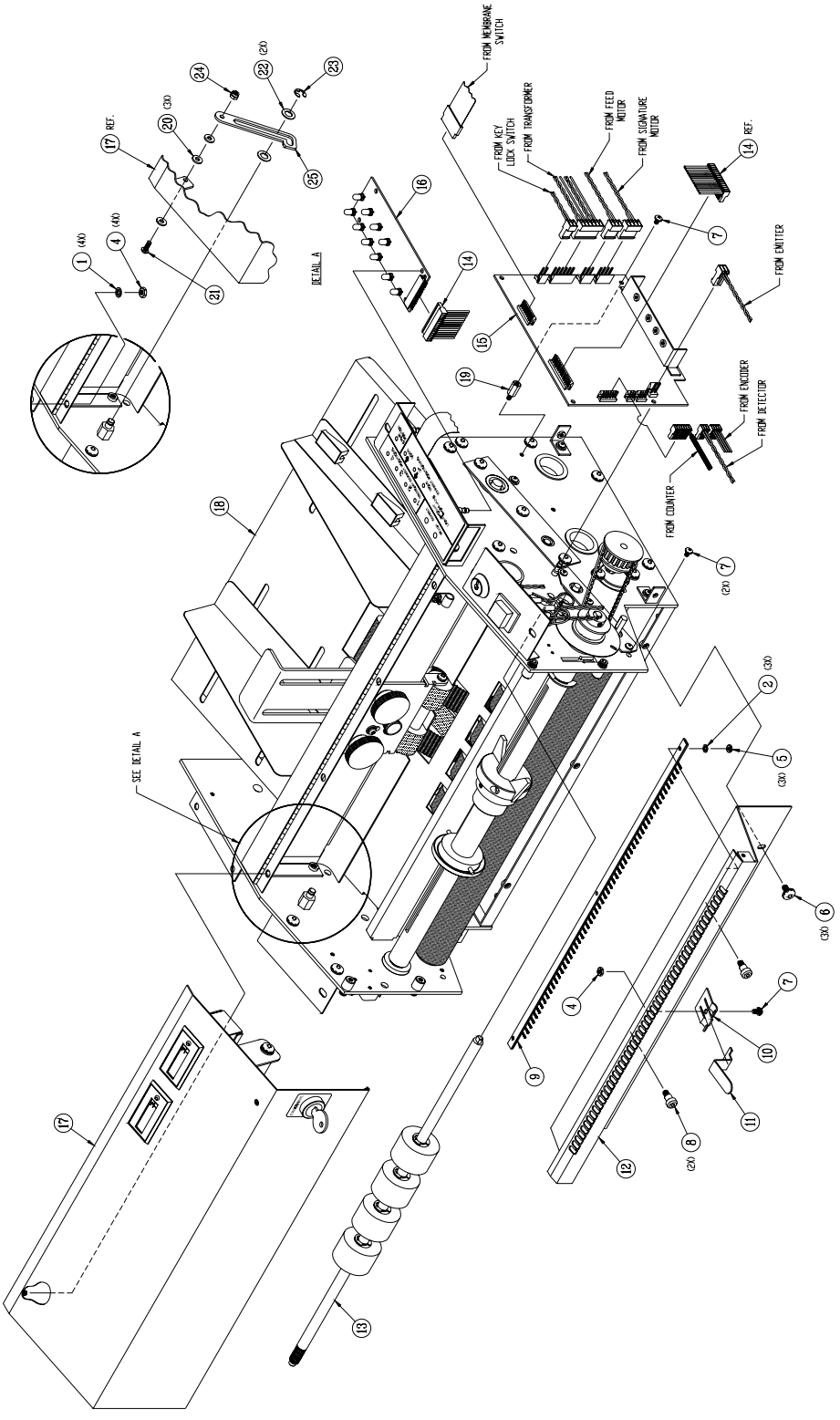


DI-100 Unit Assembly – 99-0034-01

NOTE

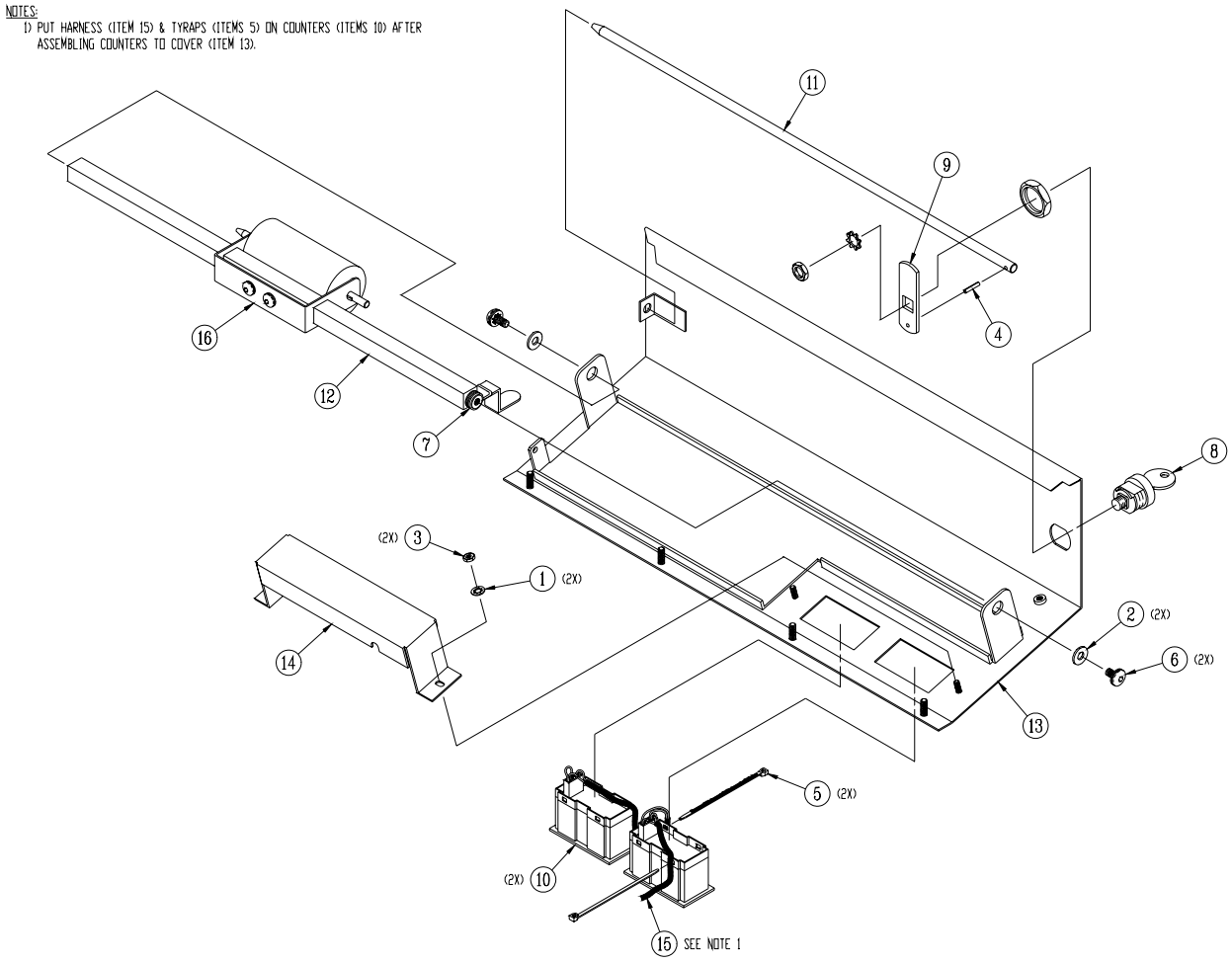
The following part numbers are used in the machine but are not illustrated in the exploded drawing: 4 5 9 10 11 12 13 14 16 17 28.

Item	Part No.	Description	Qty
1	02-0025-03	WASHER, INT TOOTH LOCK, #6	4
2	02-0208-02	NUT, HEX PLASTIC LOCK, #8-32	1
3	02-0274-01	DECAL, FLAG, MADE IN THE USA	1
4	02-0392-00	PLASTIC, SHEET, CLEAR POLY	AR
5	02-0399-00	TAPE, CARTON SEALING, CLEAR, 2”	AR
6	02-0415-00	PULLEY, DBL FLANGE, 32-TOOTH, $^{3}/_{8}$ ID	1
7	02-0417-00	BELT, TIMING, $^{1}/_{5}$ P, $^{3}/_{8}$ W, 55-TOOTH	1
8	02-0916-01	SCREW, TAMPERPROOF, #6-32 x $^{1}/_{4}$”	4
9	02-0918-00	CARTON	1
10	02-0920-00	BAG, KEY	1
11	02-0921-00	BOOK, CHECK LOG	1
12	02-0922-00	CARD, WARRANTY, BLUE	1
13	02-0922-01	CARD, WARRANTY, WHITE	1
14	02-0922-02	CARD, CUSTOMER REPLY	1
15	02-0924-00	PLATE, SERIAL NUBER	1
16	02-0929-00	T-HANDLE, $^{3}/_{32}$ x 6”, WIRE GRIP	1
17	02-0944-00	BOX, ACCESSORY	1
18	02-2110-00	SET, DECAL	1
19	08-0546-01	WELDMENT, COVER, OPERATOR SIDE	1
20	08-0547-01	WELDMENT, COVER, NON-OPER SIDE	1
21	08-0628-00	EXTENSION TRAY	1
22	09-0209-00	KNOB, PAPER GUIDE	1
23	09-0296-00	KNOB ASSEMBLY, SMALL	2
24	09-0432-00	STOP, CATCH TRAY	1
25	09-0433-00	GUIDE, SIDE, CATCH TRAY	2
26	09-0582-00	CATCH TRAY	1
27	10-0509-02	FINAL ASSEMBLY	1
28	25-0060-00	PACKET, OPERATING MANUAL SET	1



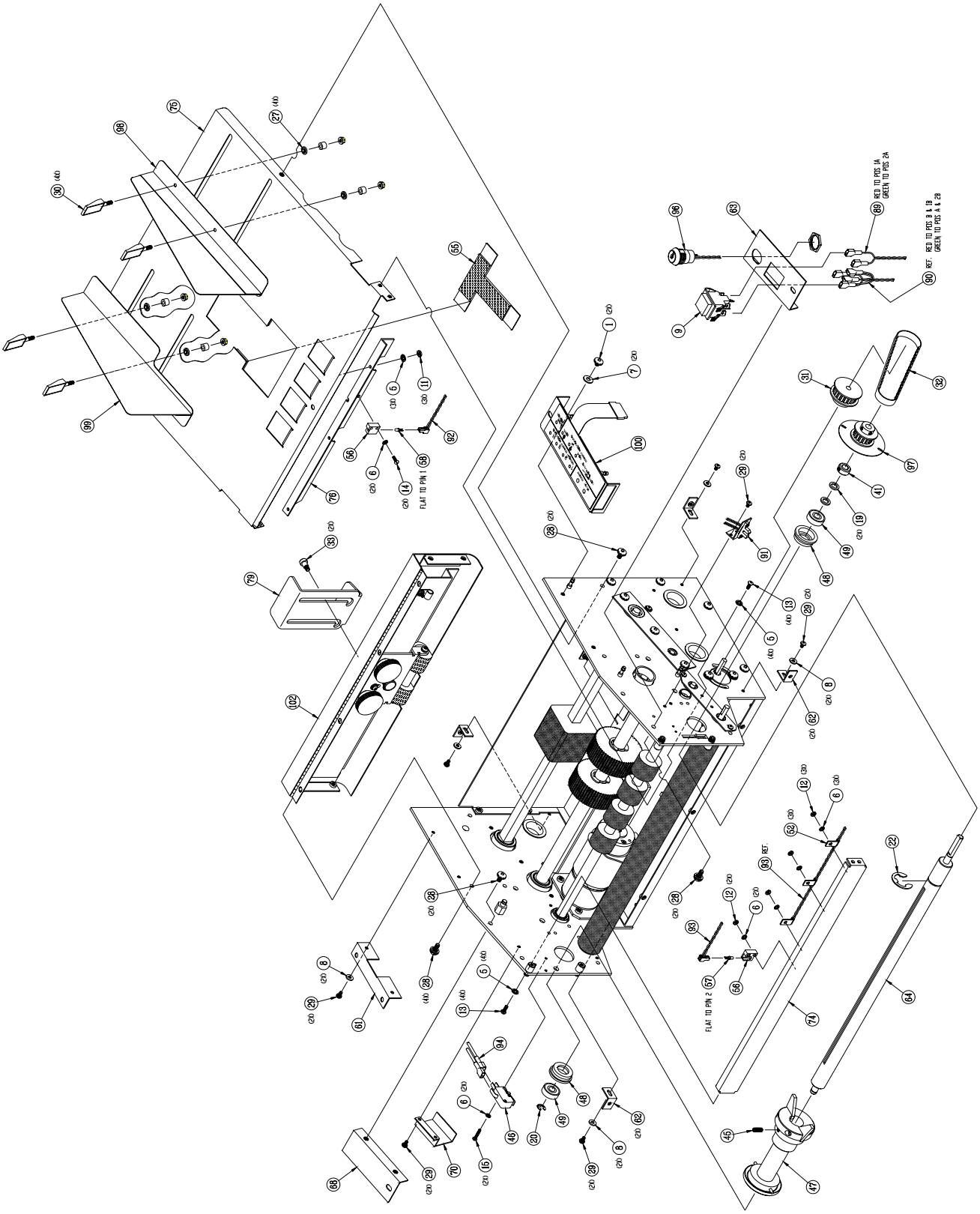
DI-100 Final Assembly – 10-0509-01

Item	Part No.	Description	Qty
1	02-0025-02	WASHER, INT TOOTH LOCK, #8	5
2	02-0025-04	WASHER, INT TOOTH LOCK, #4	3
3	02-0035-01	NUT, HEX, #8-32	4
4	02-0035-02	NUT, HEX, #6-32	1
5	02-0035-03	NUT, HEX, #4-40	3
6	02-0370-01	SCREW, BUTNHD, W/ LOCK, #10-32 x $^{3}/_{8}$"	3
7	02-0370-02	SCREW, BUTNHD, W/ LOCK, #6-32 x $^{1}/_{4}$"	4
8	02-0582-01	SCREW, SHOULDER, SOC, #10-32 x $^{1}/_{8}$"	2
9	02-0934-00	BRUSH, STATIC	1
10	02-1596-00	CLIP	1
11	04-0588-00	GUIDE, CURVED PAPER	1
12	08-0550-00	WELDMENT, GUARD, FRONT	1
13	09-0434-00	SHAFT ASSEMBLY, UPPER TRANSPORT	1
14	09-0437-00	HARNESS, DISPLAY	1
15	10-0373-02	PWB ASSY, CHECK SIGNER CONTROL	1
16	10-0374-00	PWB ASSY, DISPLAY	1
17	10-0510-02	COVER ASSEMBLY	1
18	10-0511-01	BASE ASSEMBLY	1
19	02-0329-01	SPACER, HEX, M/F, #6-32 x .500"	1
20	02-0026-03	WASHER, FLAT, #6	3
21	02-0036-02	SCREW, BUTNHD, SOC, #6-32 x $^{3}/_{8}$"	1
22	02-0092-02	WASHER, FLAT, .281 ID x .500 OD x .031	2
23	02-0128-02	E-RING, ¼"	1
24	02-0208-03	NUT, HEX, PLASTIC LOCK, #6-32	1
25	07-0572-10	STOP, COVER	1

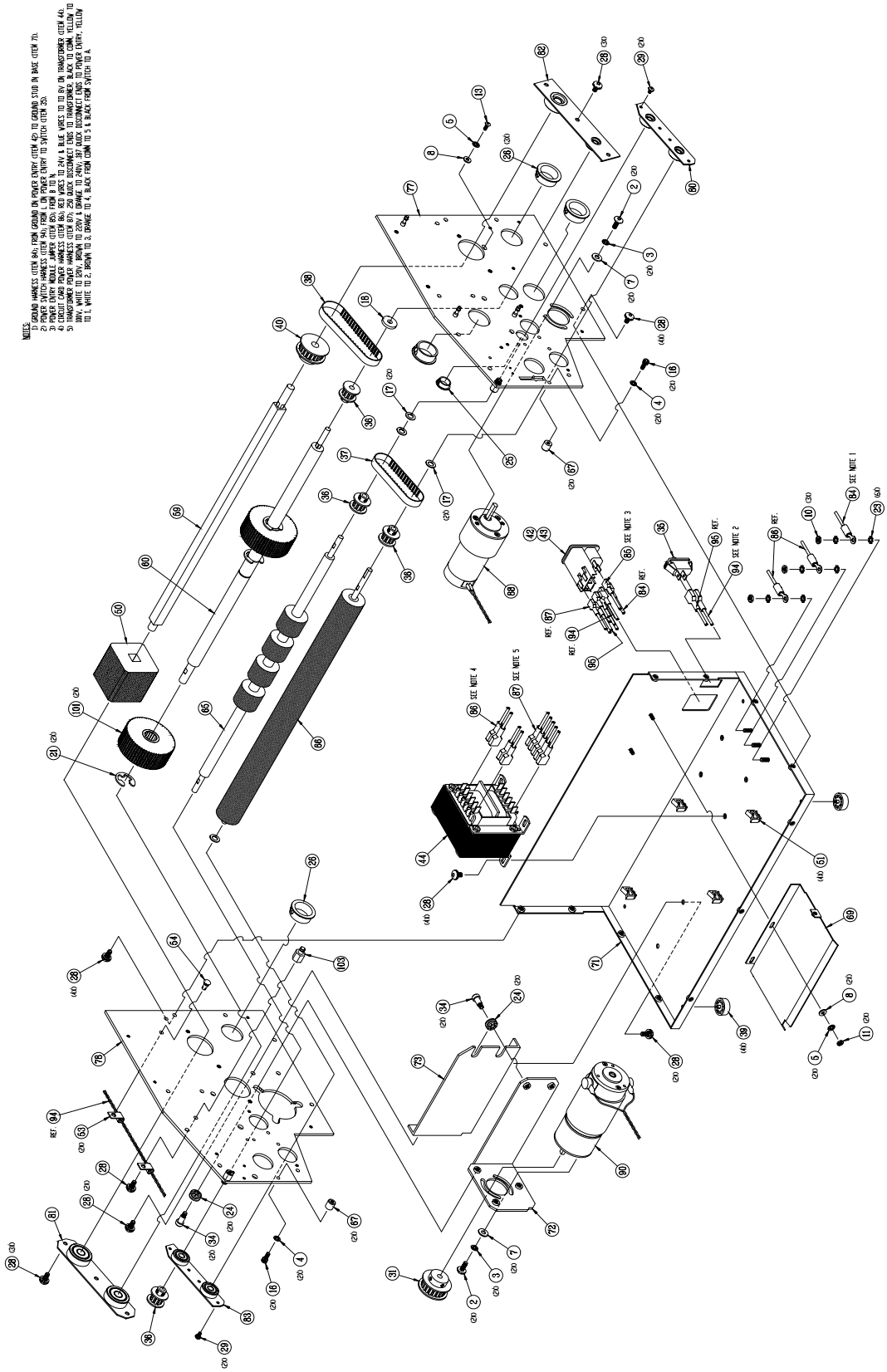


DI-100 Cover Assembly, Hinged – 10-0510-02

Item	Part No.	Description	Qty
1	02-0025-03	WASHER, INT TOOTH LOCK, #6	2
2	02-0026-01	WASHER, FLAT, #10	2
3	02-0035-02	NUT, HEX, #6-32	2
4	02-0074-04	PIN, ROLL, $^{3}/_{32}$" x ½"	1
5	02-0173-01	TYWRAP, NYLON, 3.1" L x .9" W	2
6	02-0370-01	SCREW, BUTNHD, W/ LOCK, #10-32 x $^{3}/_{8}$"	2
7	02-1149-00	SPRING, TORSION	1
8	02-1151-00	KEYLOCK, COVER	1
9	02-1152-00	CAM, COVER, KEYLOCK	1
10	02-1161-00	COUNTER, LCD, 8-DIG, LITH, BAT, W/ RES.	2
11	05-0614-00	SHAFT, COVER LOCKING	1
12	07-0501-00	WELDMENT, INK ROLLER BAR	1
13	08-0548-02	WELDMENT, COVER, HINGED, DUAL COUNT	1
14	08-0625-00	COVER, COUNTER	1
15	09-0429-01	HARNESS, COUNTER ASSY, DUAL	1
16	09-0431-00	ROLLER ASSY, INK	1



(1 of 2) **DI-100 Base Assembly – 10-0511-01**

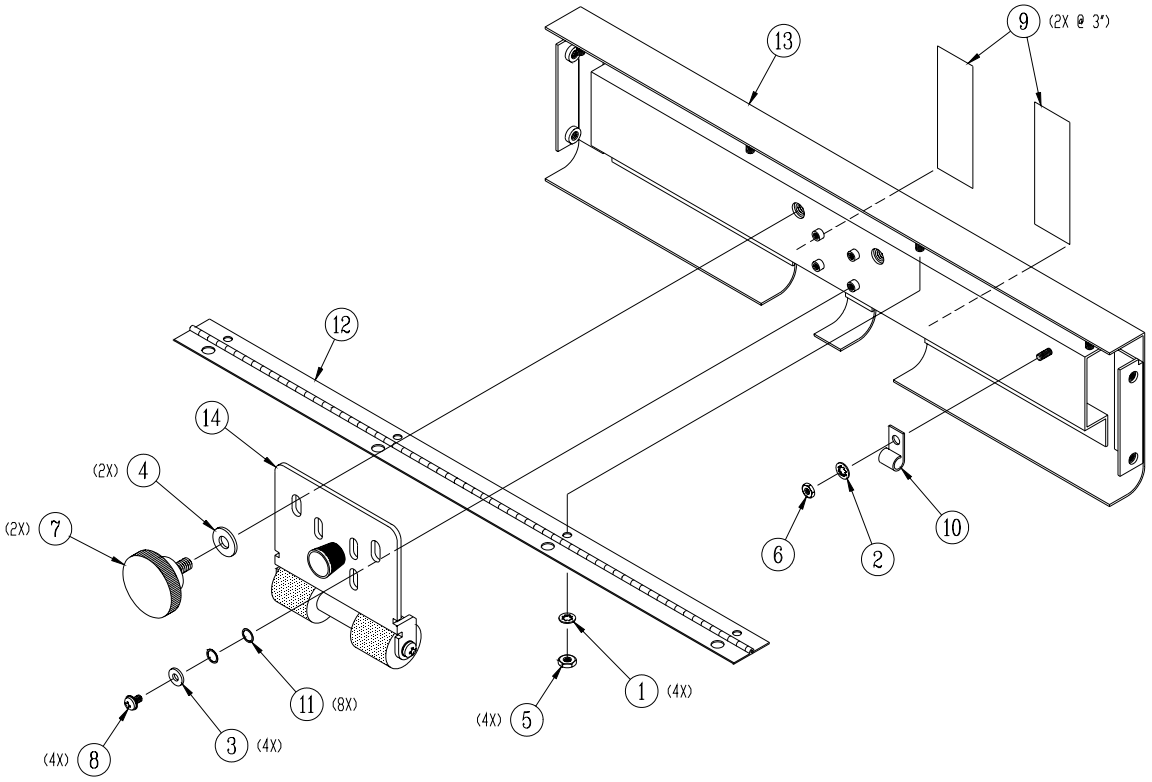


(2 of 2) **DI-100 Base Assembly – 10-0511-01**

Item	Part No.	Description	Qty
1	02-0024-01	SCREW, BUTNHD, W/ LOCK, #10-32 x ¼"	2
2	02-0024-03	SCREW, BUTNHD, SOC, #10-32 x ½"	4
3	02-0025-01	WASHER, INT TOOTH LOCK, #10	4
4	02-0025-02	WASHER, INT TOOTH LOCK, #8	4
5	02-0025-03	WASHER, INT TOOTH LOCK, # 6	14
6	02-0025-04	WASHER, INT TOOTH LOCK, #4	9
7	02-0026-01	WASHER, FLAT, #10	6
8	02-0026-03	WASHER, FLAT, #6	9
9	02-0028-04	SWITCH, PUSH, DPST, 10A, 28 V, GREEN	1
10	02-0035-01	NUT, HEX, #8-32	3
11	02-0035-02	NUT, HEX, #6-32	5
12	02-0035-03	NUT, HEX, #4-40	5
13	02-0036-02	SCREW, BUTNHD, SOC, #6-32 x $^{3}/_{8}$"	9
14	02-0045-01	SCREW, PAN HD, SLOT, #4-40 x $^{3}/_{8}$"	2
15	02-0045-02	SCREW, PAN HD, SLOT, #4-40 x $^{5}/_{8}$"	2
16	02-0046-02	SCREW, CAP HD, SOC, #8-32 x $^{3}/_{8}$"	4
17	02-0092-02	WASHER, FLAT, .281 ID x .500 OD x .031	4
18	02-0092-03	WASHER, FLAT, .250 ID x .750 OD x .125	1
19	02-0092-06	WASHER, FLAT, .312 ID x .500 OD x .062	2
20	02-0128-02	E-RING, ¼"	1
21	02-0128-05	E-RING, $^{5}/_{8}$"	4
22	02-0128-08	E-RING, ¾"	1
23	02-0143-01	WASHER, EXT TOOTH LOCK, #8	6
24	02-0185-00	GROMMET, NOISE ISOLATION, $^{1}/_{8}$"	5
25	02-0214-01	BUSHING, .500 ID	1
26	02-0214-09	BUSHING, .938 ID	4
27	02-0354-00	WASHER, SHLDR, NYLON, .375 OD x .156 ID	4
28	02-0370-01	SCREW, BUTNHD, W/ LOCK, #10-32 x $^{3}/_{8}$"	32
29	02-0370-02	SCREW, BUTNHD, W/ LOCK, #6-32 x ¼"	14
30	02-0377-00	LATCH, SWELL, HANDLE STYLE	4
31	02-0413-00	PULLEY, DBL FLANGE, 20-TOOTH, ¼ ID	2
32	02-0418-00	BELT, TIMING, $^{1}/_{5}$ P, $^{3}/_{8}$ W, 65-TOOTH	1
33	02-0582-01	SCREW, SHOULDER, SOC, #10-32 x $^{1}/_{8}$"	2
34	02-0582-02	SCREW, SHOULDER, SOC, #10-32 x $^{3}/_{8}$"	5
35	02-0600-01	SWITCH, ON-OFF, ROCKER, SPST	1
36	02-0643-00	PULLEY, DBL FLANGE, 10-TOOTH, ¼ ID	4
37	02-0646-00	BELT, TIMING, .2 P, $^{3}/_{8}$ W, 33-TOOTH	1
38	02-0648-00	BELT, TIMING, .2 P, $^{3}/_{8}$ W, 45-TOOTH	1

Item	Part No.	Description	Qty
39	02-0649-00	FOOT, SNAP-IN, VINYL, W/ PUSH RIVET	4
40	02-0650-01	PULLEY, DBL FLANGE, 20-TOOTH, $^{3}/_{8}$ ID	1
41	02-0684-00	SET COLLAR, W/ SET SCREW	1
42	02-0853-00	CASING, POWER ENTRY, 4-POS, 2-POLE	1
43	02-0854-00	FUSE DRAWER, POWER ENTRY, 2-POLE	1
44	02-0861-00	TRANS, 240/220/120/110, 24V-2A, 8V-.8A	1
45	02-0919-00	SCREW, SET, SOC, F DOG, #10-32 x ½"	1
46	02-1146-00	SWITCH, MINIATURE, SPDT, 5 AMP, ¼ HP	1
47	02-1154-00	HOLDER, SIGNATURE PLATE	1
48	02-1155-00	CUP, BEARING	2
49	02-1156-00	BEARING, .312 ID	2
50	02-1531-00	WHEEL, PADDLE	1
51	02-1542-00	SADDLE, WIRING, SM LOCKING, NYLON	4
52	02-1543-00	CLAMP, CABLE, WIRING, .12 DIA, NYLON	3
53	02-1543-01	CLAMP, CABLE, WIRING, .25 DIA, NYLON	2
54	02-1544-01	RIVET, SNAP, .197 DIA x .26 L, NYLON	1
55	02-1585-02	GUARD, FINGER	1
56	05-0554-00	SUPPORT, SENSOR	2
57	05-0558-00	LED, INFRARED, T-1, MODIFIED LEADS	1
58	05-0559-00	PHOTOTRANSISTOR, T-1, MOD. LEADS	1
59	07-0157-00	SHAFT, PADDLE WHEEL	1
60	07-0161-02	SHAFT, FRICTION FEED ROLL	1
61	07-0229-00	BRACKET, CVR MOUNT, BASE NON-OP SIDE	1
62	07-0260-00	BRACKET, COVER MOUNTING	4
63	07-0508-01	BRACKET, KEY LOCK AND FEED SWITCH	1
64	07-0509-00	SHAFT, FACSIMILE	1
65	07-0510-00	SHAFT, TRANSPORT DRIVE	1
66	07-0511-00	SHAFT, BACK-UP ROLL	1
67	07-0519-00	PIN, COVER STOP	4
68	07-0680-00	BRACKET, FRONT, PIN, NON-OPER SIDE	1
69	07-0763-00	GUARD, TRANSFORMER	1
70	07-0776-00	GUARD, SWITCH	1
71	08-0070-03	BASE	1
72	08-0137-00	BRACKET, MOTOR	1
73	08-0138-00	SUPPORT, MOTOR	1
74	08-0479-00	BRACKET, EMITTER	1
75	08-0484-01	WELDMENT, FEED/TRANSPORT TRAY	1

Item	Part No.	Description	Qty
76	08-0485-01	BRACKET, DETECTOR	1
77	08-0486-01	FRAME, OPERATOR SIDE	1
78	08-0487-01	FRAME, NON-OPERATOR SIDE	1
79	08-0499-02	PAPER WEIGHT, ANGLE	1
80	09-0276-00	BEARING ASSY, TRANS, OPERATOR SIDE	1
81	09-0297-00	BEARING ASSY, FEED, NON-OPER SIDE	1
82	09-0298-00	BEARING ASSY, FEED OPERATOR SIDE	1
83	09-0301-00	BEARING ASSY, TRANS, NON-OPER SIDE	1
84	09-0305-01	HARNESS, GROUND	1
85	09-0343-01	JUMPER, POWER ENTRY MODULE	1
86	09-0354-01	HARNESS, POWER, CIRCUIT CARD	1
87	09-0355-01	HARNESS, POWER, TRANSFORMER	1
88	09-0416-00	MOTOR ASSY, SIGNATURE	1
89	09-0417-00	HARNESS, FEED SWITCH	1
90	09-0418-00	MOTOR ASSY, FEED	1
91	09-0419-01	HARNESS, ENCODER SENSOR	1
92	09-0420-00	HARNESS, DOCUMENT DETECTOR	1
93	09-0421-01	HARNESS, CHECK EMITTER	1
94	09-0422-00	HARNESS, POWER INTERLOCK SWITCH	1
95	09-0426-00	JUMPER, POWER SWITCH	1
96	09-0428-01	KEY LOCK SWITCH ASSEMBLY	1
97	09-0435-00	PULLEY ASSY, PULSE WHEEL	1
98	09-0447-01	PAPER GUIDE ASSY, OPERATOR SIDE	1
99	09-0448-01	PAPER GUIDE ASSY, NON-OPER SIDE	1
100	09-0583-00	BRACKET ASSY, CONTROL PANEL	1
101	16-0082-00	FEED TIRE REPLACEMENT KIT (2 ROLLERS)	1
102	09-0700-00	ASSEMBLY, PAPER STOP	1
103	07-0866-00	STUD, STOP, COVER	1



DI-100 Paper Stop Assembly – 09-0700-00

Item	Part No.	Description	Qty
1	02-0025-02	WASHER, INT TOOTH LOCK, #8	4
2	02-0025-03	WASHER, INT TOOTH LOCK, #6	1
3	02-0026-03	WASHER, FLAT, #6	4
4	02-0026-05	WASHER, FLAT, ¼"	2
5	02-0035-01	NUT, HEX, #8-32	4
6	02-0035-02	NUT, HEX, #6-32	1
7	02-0142-05	KNOB, KNURL, ¼-20 x ½" $1^3/_8$ OD	2
8	02-0299-03	SCREW, PHIL W/ LOCK #6-32 x ¼"	4
9	02-0319-00	TAPE, UHMW, 1" W	6"
10	02-1543-01	CLAMP, CABLE, WIRING, .250 DIA, NYLON	1
11	02-1566-00	WASHER, WAVE, .305 OD x .243 ID	8
12	07-0503-00	HINGE	1
13	08-0551-02	WELDMENT, PAPER STOP	1
14	09-0584-01	ASSEMBLY, SEPARATOR BRACKET, STONE	1

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