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HP LaserJet® 2500/2550/1500 (Canon® EP-87) Toner Cartridge & Imaging Unit

The HP LaserJet® 2500/1500

In October 2002 HP released their newest entry-level Color LaserJet® desktop printers, the HP2500 and HP1500. The following report contains information on the printers that utilize the HP2500 and HP1500 engines and their cartridges.

The HP LaserJet® 2500

The base model 2500L has a footprint of only 18.9 inches wide x 17.7 inches deep, and at \$999 (base model) is one of the lowest priced color laser printer ever released by HP. It ships with a standard 125 sheet input tray (no cassette), both parallel and USB ports, and one open EIO slot. The 2500 model is the same printer with a 250 sheet tray added. The 2500n is a 2500 with an Ethernet port located in the EIO slot. Tack on a 500 sheet input tray and you have the 2500tn, making the only differences in the four models their paper capacity and network interface.

The HP LaserJet® 1500

There is only one model of the HP1500, it has a footprint of 19 inches wide X 17.8 inches deep, and at \$699 is the lowest priced color laser printer ever released by HP. It ships with a standard 125 sheet input tray (no cassette), both parallel and USB ports, and one open EIO slot.

The HP LaserJet® 2550

In June 2004 HP announced the release of the HP Color LaserJet® 2550 in the US, while it had been released to the European market a month earlier. This 20 ppm monochrome and 4 ppm color printer strives to be the most affordable small office color printer on the market.

Targeted at small and medium sized businesses, these color printers are competitively price, listed at \$499.

The Canon® LBP-2410 (EP-87)

Released February 2003, Canon's first color laser printer was designed for the consumer imaging market. Canon calls this "CAPT" technology, or "Canon Advanced Printing Technology". Available in Asia, Australia, Europe & South America.

Consumables for the HP2500 and 1500

Four toner cartridges and one imaging drum unit make up the consumables package. The toner cartridges sport a second generation HP ASIC (Application Specific Integrated Circuit) electronic chip, and the toner is a polymerized formulation. The development technology (developer roller, adder roller and wiper blade) are similar to the 4600. The imaging drum unit is made up of the drum, waste bin and the transfer belt, a unique design-first for HP/Canon®. There is also a chip on the unit.

CARTRIDGE REMANUFACTURING INSTRUCTIONS FOR:

HP LASERJET® 2500/2550,1500

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Consumables for the HP LaserJet® 2550

The HP2550 has five consumables, four toner cartridges and a drum and developer unit, which use all new SKUs. Standard (2,000) and High Yield (4,000 “Extended-Life”) cartridges are both available. Highlighted features of these cartridges are its improved chemical toner formulation and gloss properties.

Replacing supplies is easy with the convenient front door on printer. Another convenient design feature is the small footprint that allows for desktop use. Cartridges are chipped, providing supplies status information, toner low and toner out alerts, internet enabled supplies ordering, and remote trouble shooting capabilities.

Consumables for the Canon® LBP-2410 (EP-87)

The LBP-2410 (EP-87) has five consumables, four toner cartridges and a drum cartridge. Direct contact chip on toner cartridges and drum unit. Cartridges for Canon LBP-2410 and HP2500 are identical, with exception of chips. All HP2500 products (including packaging) are qualified for use in LBP-2410 cartridges/drum units.

Multi-pass Engine

A new Canon® multi-pass engine, not seen in any other printer to date powers the 1500 and 2500 lines, producing 16 monochrome pages per minute (ppm) and four color ppm. The instant-on fuser makes possible the first page out times of 20 seconds for mono, and 25 to 30 for color.

Targeted at small to medium-sized businesses just getting into color, the 2500 and 1500 are touted as a monochrome printer with color capabilities. However, the printers do not support color transparencies, coated, photo, or glossy papers, which many small businesses may desire.



Purpose of this SSS

The purpose of this SSS is to provide you a guide and the basic information needed to remanufacture a HP LaserJet® 2500/1500/2550 (Canon® EP-87) Drum Unit and the Toner Cartridges. This SSS contains information about:

- Disassembling the cartridge
- Basic cleaning
- Reassembling the cartridge.

Your cartridge might have been changed by the original equipment manufacturer (OEM) and include parts or features which are not described in this documentation. The documentation might be updated occasionally to include information about those changes, or technical updates might be available from the SCC Web site. Complete the following steps to check for updated documentation and technical updates:

1. Go to <http://www.scc-inc.com/imaging/Imaging.htm>.
2. Scroll down to the Technical Documents area of the screen.
3. Select the link for the new or updated SSS.
4. When the SSS file opens, print the file.

Before you begin, read the entire SSS to familiarize yourself with the procedures and take notes.

Be sure to follow all necessary safety precautions while working with tools, and chemicals, such as toner and alcohol.

Note: The HP2500/1500/2550 (Canon® EP-87) consists of four toner cartridges and one imaging drum unit. In this instruction we will cover how to remanufacture the Drum Unit and the Toner Cartridges.

Illustrations

The illustrations and photos in this document might differ slightly from your cartridge. Every effort is made to include the most up to date photos and illustrations at the time of printing. However, the OEM may make changes which were not available at the time of printing.

Safety

Statement 1:



Always wear eye protection while operating power tools.

Statement 2:



Always wear eye protection and protective clothing while working with toner and or other chemicals.

Statement 3:



Do not swallow or ingest toner, isopropyl alcohol, toner dust, or any chemicals or materials used in the process of remanufacturing a printer cartridge.

cartridge information table

The following is a summary of the cartridge information for the HP2500/1500 series printer and printer cartridge.

Cartridge Information	Cyan	Magenta	Yellow	Black	Drum unit
Cartridge Part # (OEM)	C9701A	C9703A	C9702A	C9700A	C9704A
OEM Rated Page Yield	4,000	4,000	4,000	5,000	20,000 black 5,000 color
HP MSRP*	\$131	\$131	\$131	\$109	\$228
OEM Street Price* (hpshopping.com)	\$100	\$100	\$100	\$83	\$174
OEM Wholesale*	\$64	\$64	\$64	\$53	\$111
*Prices as of Nov. 2002					

The following is a summary of the cartridge information for the HP2550 series printer and printer cartridge.

Cartridge Information	Cyan	Magenta	Yellow	Black	Drum unit
Cartridge Part # (OEM)	Q3961A	Q3963A	Q3962A	Q3960A	Q3964A
OEM Rated Page Yield	4,000	4,000	4,000	5,000	20,000 black 5,000 color
OEM Street Price* (hpshopping.com)	\$100	\$100	\$100	\$83	\$174
OEM Wholesale*	\$83	\$83	\$83	\$69	\$152
*Prices as of Feb. 2005					

The following is a summary of the cartridge information for the Canon® LBP-2410 (EP-87) series printer and printer cartridge.

Cartridge Information	Cyan	Magenta	Yellow	Black	Drum unit
Cartridge Part # (OEM)	7432A004 (CP87CYN)	7431A004 (CP87MAG)	7430A004 (CP87YEL)	7433A004 (CP87BLK)	7429A004 (CP87DRM)
OEM Rated Page Yield	4,000	4,000	4,000	5,000	20,000 black 5,000 color
OEM Street Price* (hpshopping.com)	\$114	\$114	\$114	\$95	\$199
*Prices as of Feb. 2005					

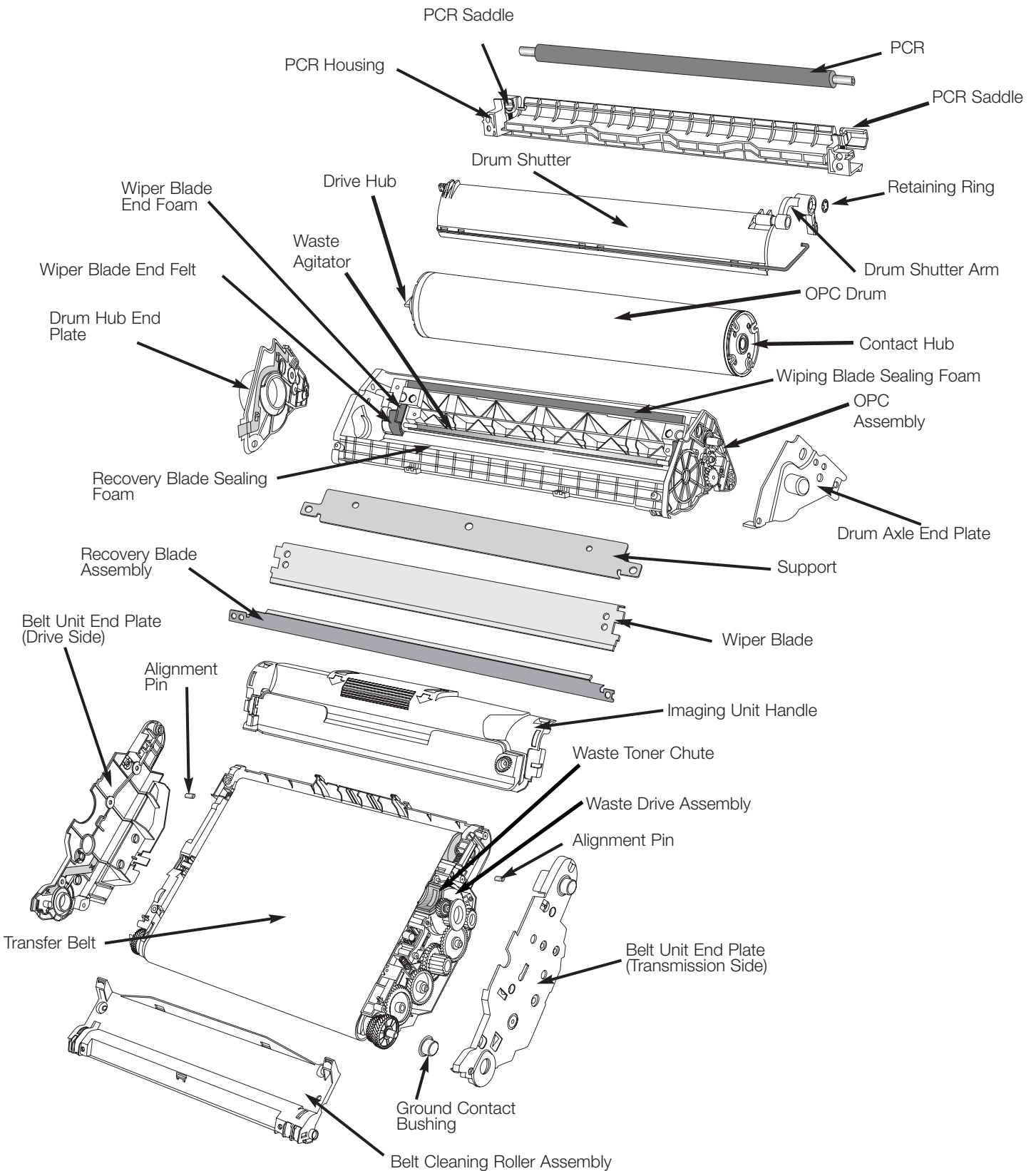
The following table is summary of the HP2500 and 1500 cartridge specifications. This information was obtained from the OEM's website and is considered to be the most up to date information at the time of printing.

Compatibility	
Compatibility	HP Color LaserJet 1500/2500/2550 Series printers
Print Technology/Print Color	
Print cartridges, color (cartridge #)	Black (C9700A), Cyan (C9701A), Yellow (C9702A), Magenta (C9703A)
Print technology	Laser
Resolution technology	Smart
Volume	
Approximate page yield (letter)	4,000 color *Based on 5% average coverage 5,000 black *Based on 5% average coverage
Environmental Specifications	
Storage humidity	10 to 90% RH
Operating temperature (Fahrenheit)	59 to 77° F
Storage temperature (Fahrenheit)	-4 to 104° F
Packaging Information	
Package weight	1.96 lb

Imaging Unit

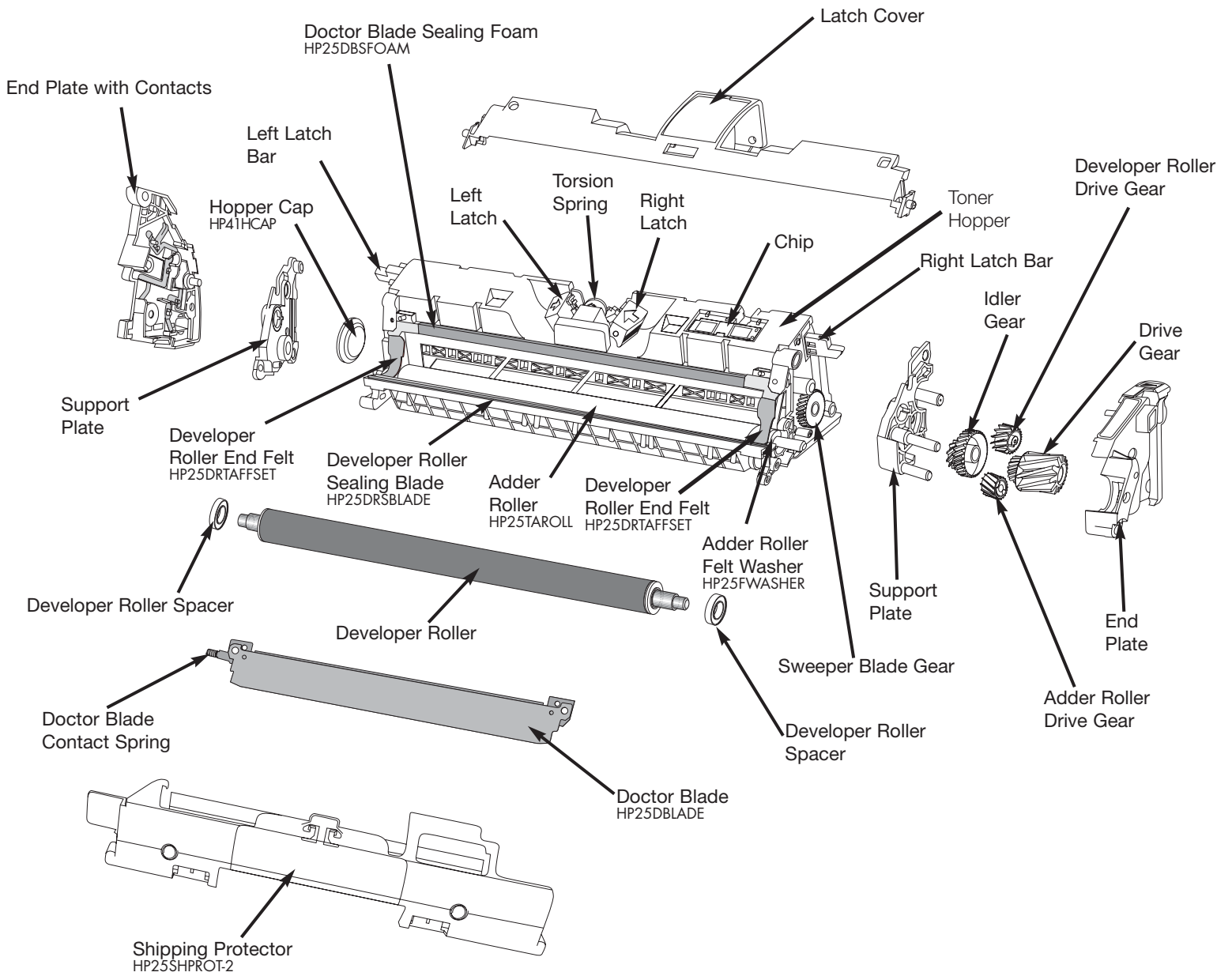
Drive Side

CARTRIDGE WIRELINE



Toner Cartridge Contact Side

CARTRIDGE WIRELINE





Disassembling the toner cartridge

REMANUFACTURING THE HP2500/2550/1500

This section provides the information needed to disassemble the Toner Cartridge. Before attempting to perform the following procedures, read the entire section carefully. Ensure that you follow all necessary safety precautions.

1. Pop the back of the Latch cover back using a small flathead screwdriver as shown in Figure 1. Then place the Toner Cartridge in to the Hopper Jig (HP25HJIG), with the contact end of the cartridge facing you. See Figure 1a.

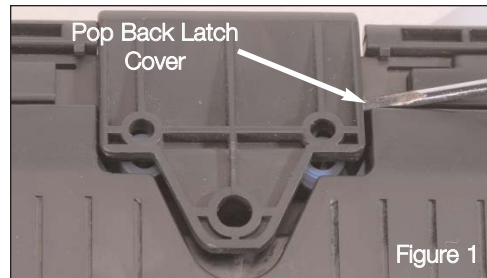


Figure 1

2. Remove the Contact Side End Plate.
 - a. Remove the three screws securing the end plate to the cartridge body.



Note: Be sure to note the location of the brass screw. It must be re-installed in the same location during reassembly.

- b. Pull the end plate off the cartridge body and set it aside for future use.

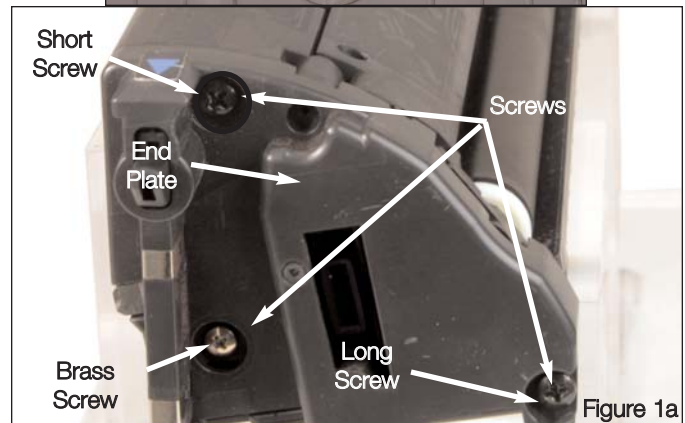


Figure 1a

Position the Cartridge in the Hopper Jig and remove the three screws from the Contact Side End Plate.

3. Remove the Drive Side End Plate.
 - a. Position the cartridge so that the Drive Side End Plate is facing you.
 - b. Remove the two screws from the end plate. See Figure 2.



Note: Be sure to note the location of the machine screw. It must be re-installed in the same location during reassembly.

- c. Set the end plate aside for future use.

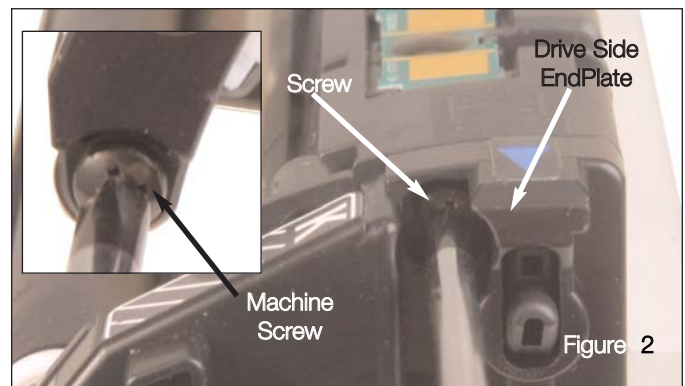


Figure 2

Position the Cartridge so that the Drive Side End Plate is facing you.

4. Remove the Latch Cover. See Figure 3.
 - a. Grasp the Latch Cover from the center as shown in Figure 3.
 - b. Lift the Latch Cover straight up to remove it from the cartridge body.

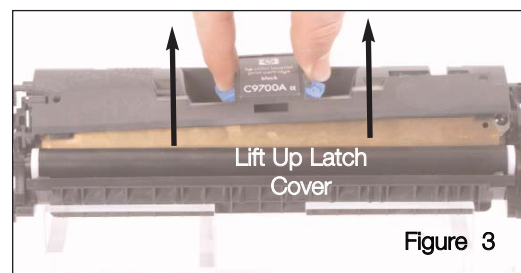
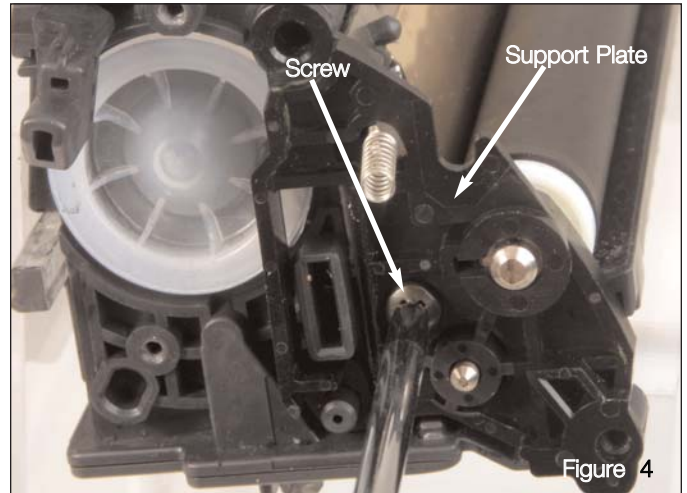


Figure 3

Lift Latch Cover straight up.

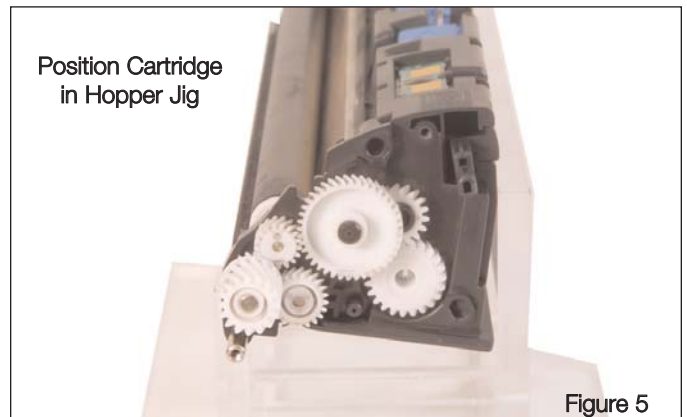
Disassembling the toner cartridge

5. Position the cartridge and Hopper Jig with the Contact Side Inner Support Plate facing you.
6. Remove the Contact Side Inner Support Plate.
 - a. Remove the screw securing the Inner Support Plate to the cartridge body and pull the Inner Support Plate off. See Figure 4.
 - b. Set the inner Support Plate aside for future use.



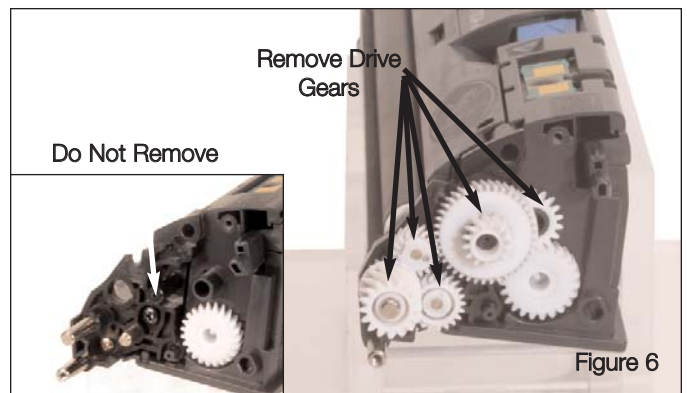
Remove the Inner Support Plate.

7. Position the cartridge and Hopper Jig with the Drive Side Drive Gears facing you, as shown in Figure 5.



Position hopper jig with drive gears facing towards you.

8. Remove the five Drive Gears from the cartridge body as shown in Figure 6.



Remove the five drive gears.

Disassembling the toner cartridge

9. Position the cartridge and Hopper Jig so that the Developer Roller is in front of you as shown in Figure 7.

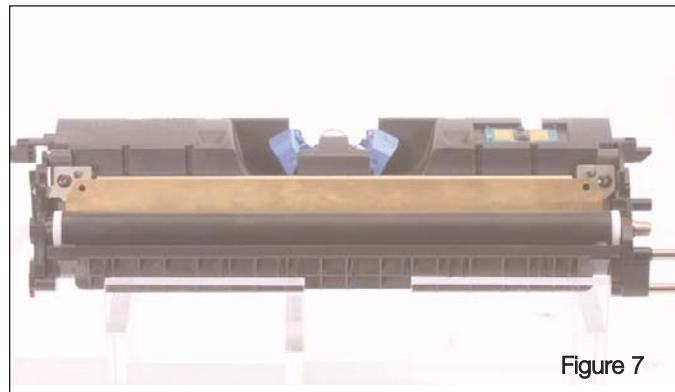


Figure 7

Position cartridge with developer roller facing towards you.

10. Remove the Developer Roller by lifting the Contact side of the Developer Roller and sliding out the Drive side from the cartridge. See Figure 8.
 - a. Place Developer Roller in HP46DRCLEANJIG2 until it is ready to be reinstalled in step 3 on page 7.

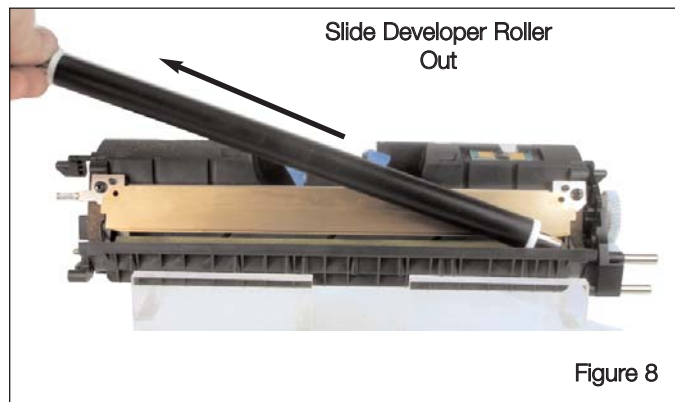



Figure 8

Slide out the Developer Roller on the contact side.

11. Remove the Drive Side Inner Support Plate.
 - a. Remove the two screws from the Drive Side Inner Support Plate.

 **Note:** Be sure to note the location of the brass screw. It must be re-installed in the same location during reassembly. See Figure 9.

- b. Pull the Support Plate off of the cartridge body. Set aside for future use.

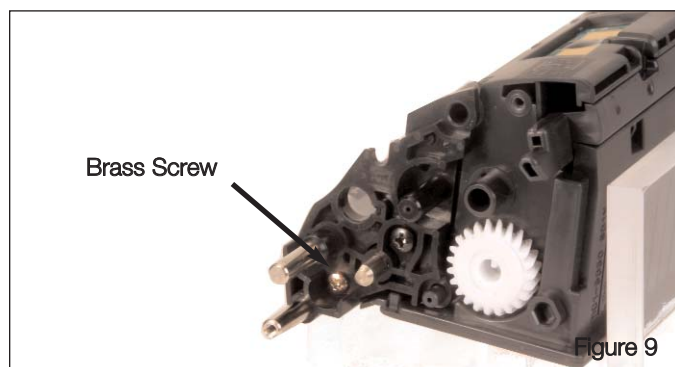



Figure 9


Brass screw must be reinstalled into same slot.

12. Remove the Doctor Blade.

- a. Remove the screws from each end of the Doctor Blade.
- b. Using a Foam Removal Tool (CSS-40) cut the adhesive and Hot Melt Foam from the back of the Doctor Blade. See Figure 10.
- c. Once the adhesive and Hot Melt Foam have been cut away, remove the Doctor Blade from the cartridge body.

 **Note:** If there are plastic Shims present, **DO NOT** remove from the cartridge.

- d. Clean the Doctor Bar with dry, filtered compressed air. Set aside in HP46DRCLEANJIG2 until step 3 on page 7.
- e. Dump out the residual toner from the cartridge body. Clean cartridge body with dry, filtered compressed air.
- f. Remove as much of the Hot Melt Foam as possible from the cartridge body.
- g. Inspect the Doctor Blade Sealing Foam for signs of wear, missing pieces, tears, etc. If necessary, remove the Doctor Blade Sealing Foam.
- h. Use a Curved Scraper Tool (CSBTOOL) to remove the Doctor Blade Sealing foam as shown in Figure 11.

 **Note:** Do not install a new Doctor Blade Sealing Foam at this time. This will be done later in the remanufacturing process.

- i. Using 91%-99% Isopropyl Alcohol and a lint-free cloth clean any remaining adhesive from the sealing foams mounting surface. See Figure 12.

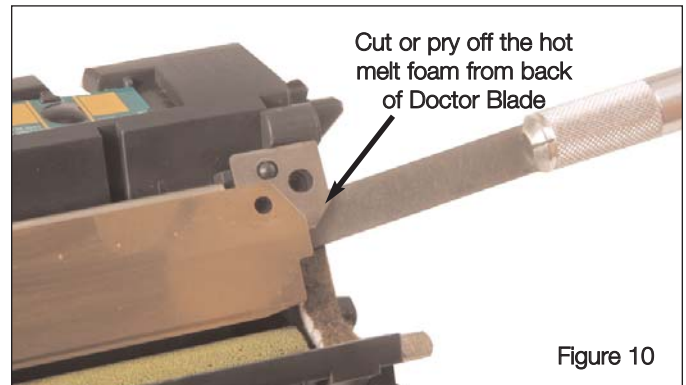


Figure 10
Cut the hot melt foam, away from the back of the doctor blade.

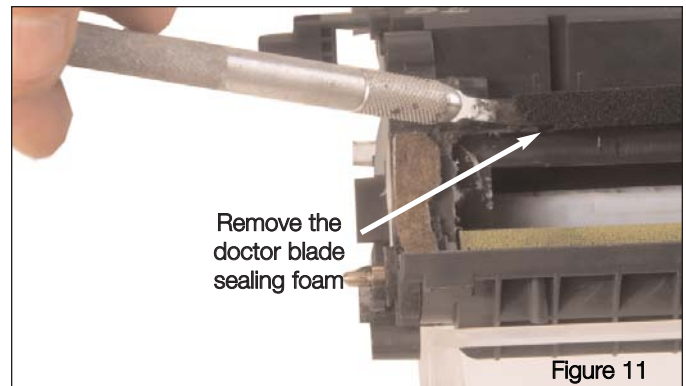


Figure 11
Remove the doctor blade sealing foam, using CSBTOOL.

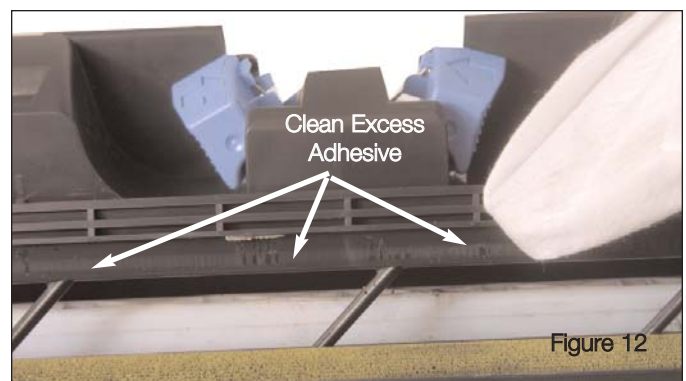
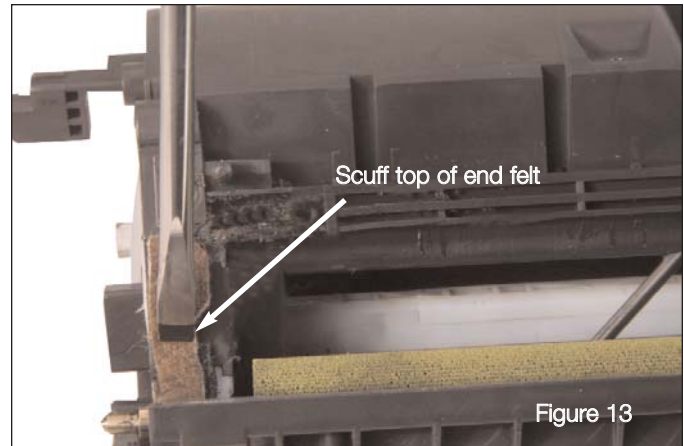


Figure 12
Clean excess adhesive from the sealing foam mounting surface


Disassembling the toner cartridge

13. Inspect the Developer Roller End Felts and Toner Adder Roller.
 - a. Look for missing pieces, tears, or excessive toner buildup on the end felts.
 - b. Inspect the Toner Adder Roller surface for damage, excessive toner build up, or signs of wear.
 - c. During cartridge use toner will build up on the tops of the Developer Roller End Felts. To remove this build up you will need to scuff the tops of the end felts using a flathead screwdriver. See Figure 13.




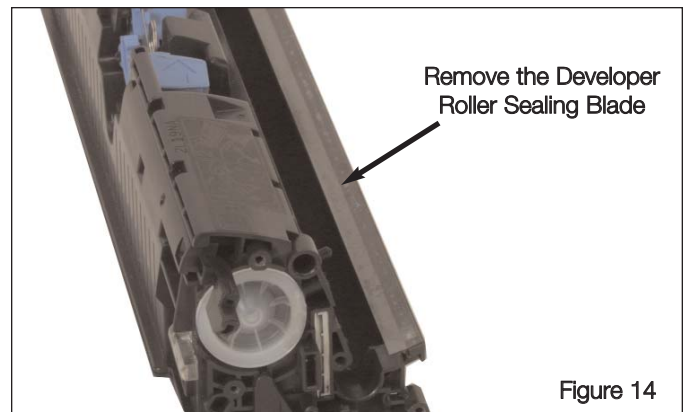
Scuff the top of the developer roller end felts to remove toner build up.

14. If necessary, remove the Toner Adder Roller, felts, foams and Developer Roller Sealing Blade as follows:

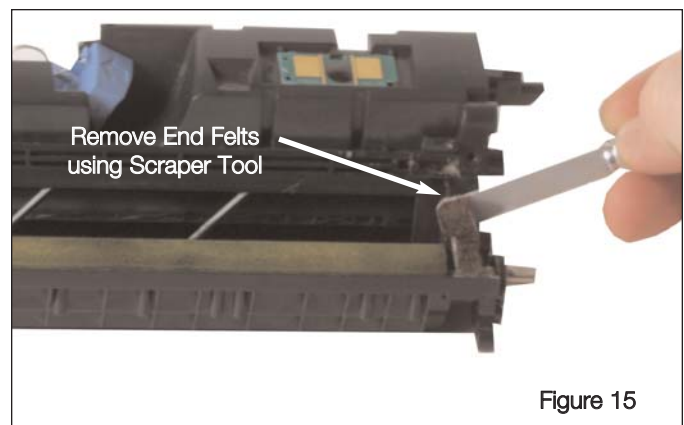
 **Note:** When removing the Developer Roller End Felts the Developer Roller Sealing Blade will become damaged. Therefore it should be replaced at the same time.

- a. Peel off the Developer Roller Sealing Blade. Metal strip under Sealing Blade will remain in place. See Figure 14.
- b. Using the Foam Removal Tool (CSS-40) remove the existing Developer Roller End Felts (one on each end). See Figure 15.

 **Note:** Toner Adder Roller Bushing Foam will tear when End Felt on the Contact Side is removed. Toner Adder Roller Bushing Foam will need to be replaced.

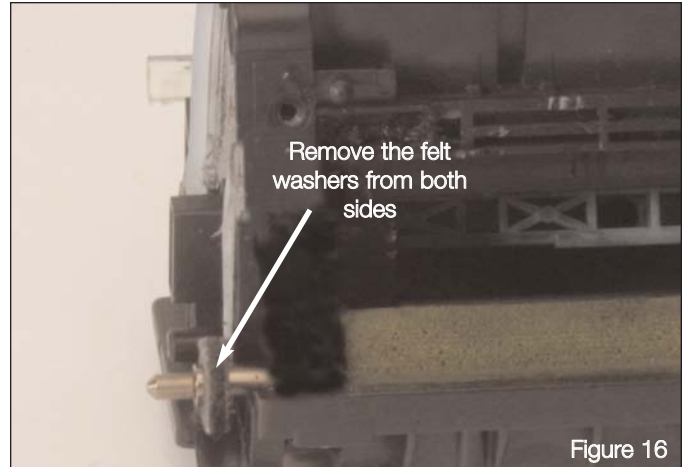


Remove the Developer Roller Sealing Blade from cartridge.



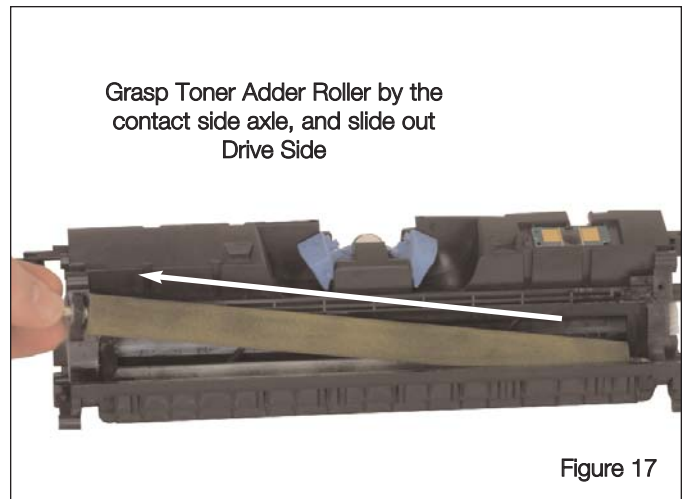
Using a scraper tool remove the end felts from both ends of the cartridge

- c. Remove the Toner Adder Roller Felt Washers (one on each end). See Figure 16.



Remove the felt washers from both sides of the adder roller.

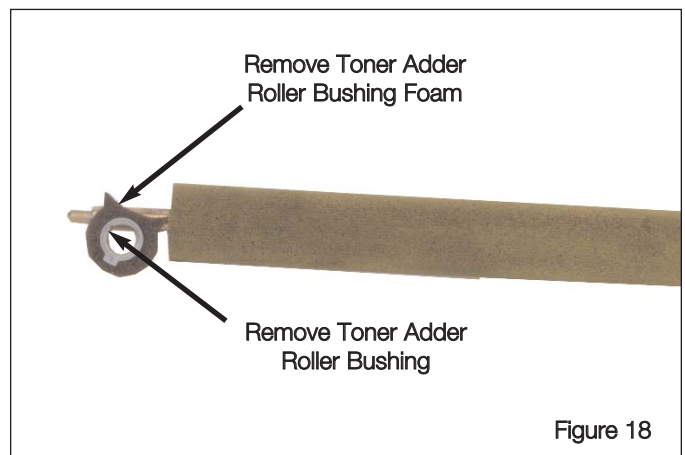
- d. Grasp the Toner Adder Roller by the axle while sliding out the Drive side and remove it from the cartridge, as shown in Figure 17.



Slide the Adder Roller out the contact side, while holding the roller by the axle.

- e. Remove the Toner Adder Roller Bushing Foam and Bushing from the Toner Adder Roller. See Figure 18.

- 15. See "Clean, Fill, and Seal the Toner Cartridge" on page 24 to continue the remanufacturing process.



Remove the bushing foam and bushing from end of the Adder Roller.



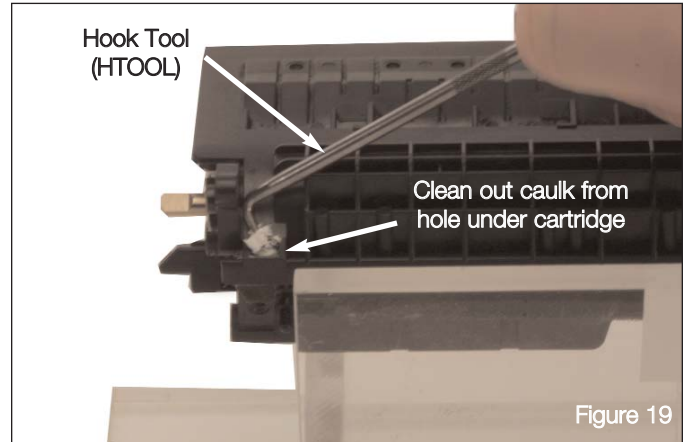
Reassembling the toner cartridge

REMANUFACTURING THE HP2500/2550/1500

This section provides the information needed to reassembly the Toner Cartridge. At this point you should have disassembled, cleaned, sealed, and filled the Toner Cartridge as described in this SSS. If you have not completed these tasks, then refer to page 1 to begin disassembling the Toner Cartridge. Before attempting to perform the following procedures, read the entire section carefully. Ensure that you follow all necessary safety precautions.

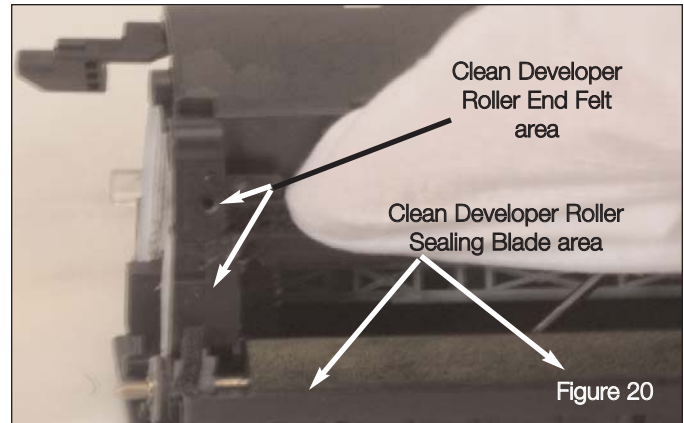
1. If the Toner Adder Roller and Developer Roller Sealing Blade were removed during the disassembly process install their replacements now.

a. Using the Hook Tool (HTOOL), clean out the caulk from the small hole on the under surface of the Toner Cartridge. (Both ends of the cartridge). See Figure 19.



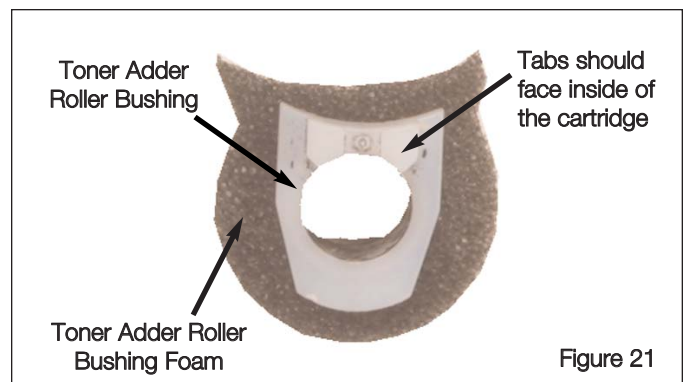
Clean caulk out of the small hole on the under surface of the cartridge using the Hook Tool (HTOOL)

b. Use a dry, lint-free cloth (LFCLOTH) and 91% - 99% Isopropyl Alcohol to clean any residual adhesive from Developer Roller End Felt and Developer Roller Sealing Blade mounting surfaces. See Figure 20.



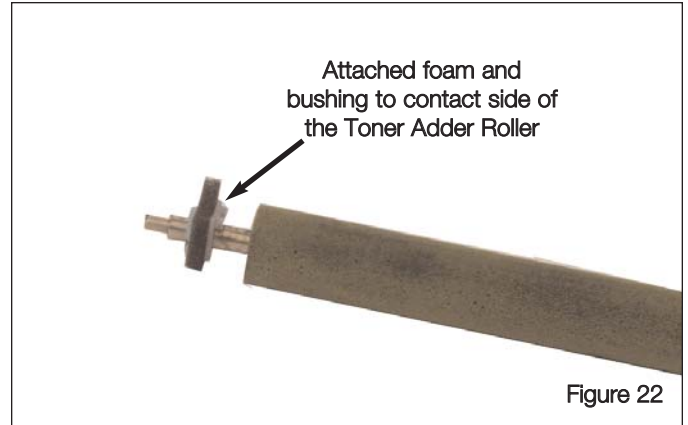
Clean off the Developer Roller End Felt and Developer Roller Sealing Blade mounting surfaces using lint free cloth and 91-99% Isopropyl Alcohol

c. Install the Toner Adder Roller Bushing in the new Toner Adder Roller Bushing Foam. The Toner Adder Roller Bushing Foam is positioned with the 'ears' pointing up and the Toner Adder Roller Bushing tabs should face to the inside of the Toner Hopper section. See Figure 21.



Install adder roller bushing in new bushing foam.

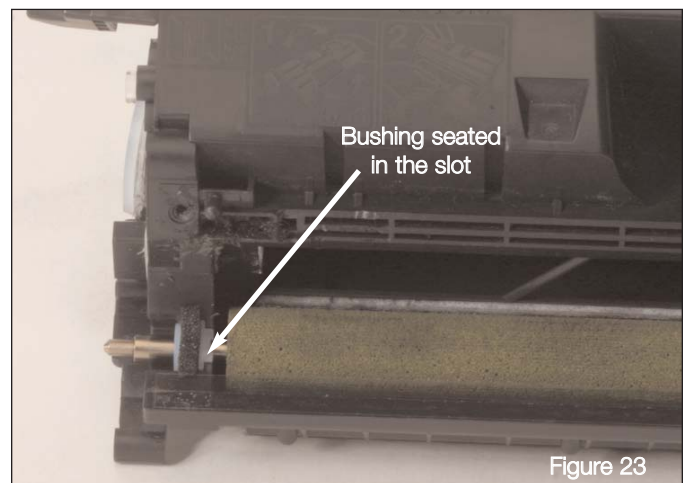
- d. Install the Toner Adder Roller Bushing Foam on the Toner Adder Roller. See Figure 22.



Install toner adder roller bushing foam on the toner adder roller.

- e. Install the Toner Adder Roller in the Toner Hopper.

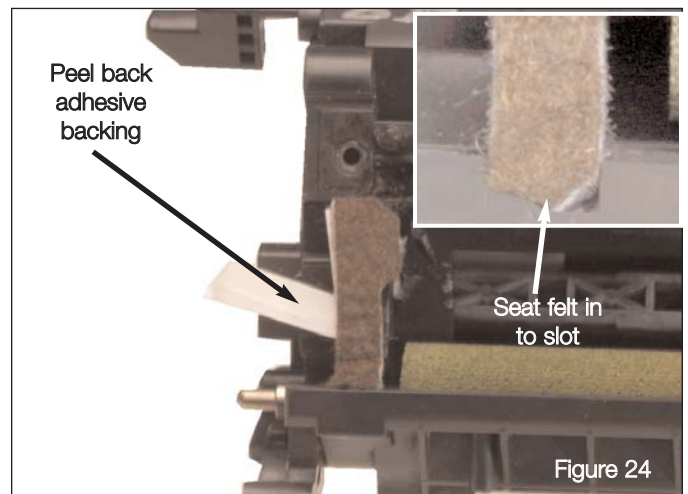
1. Position the Toner Adder Roller so that the indexed or flat end of the axle is to your right or drive side of the cartridge.
2. Insert the indexed end of the Toner Adder Roller axle through the hole in the drive side of the cartridge body.
3. Seat the Toner Adder Roller Foam in to slot, as shown in Figure 23.
4. Smooth out the Toner Adder Roller Bushing Foam if it becomes twisted or wrinkled during the installation.



Seat the toner adder roller foam in to the slot.

- f. Install the new Developer Roller End Felts.

1. Peel a small section of the adhesive backing and position felt end in small slot located under the Developer Roller Sealing Blade Metal Support. See Figure 24.



Peel back small piece of adhesive backing and position felt end in small slot located under Developer Roller sealing blade metal support.

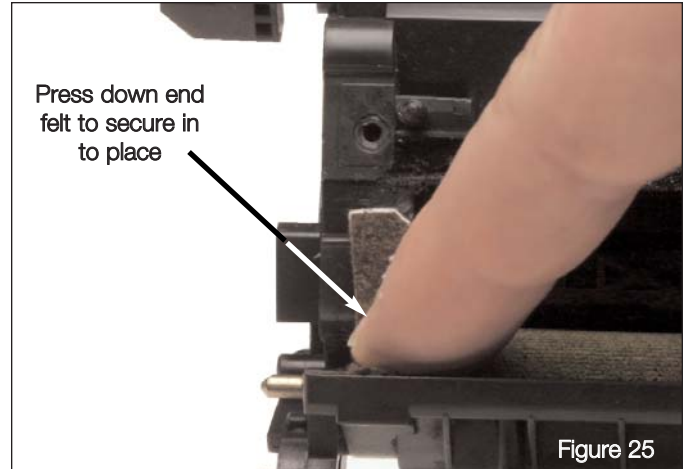
Reassembling the toner cartridge

2. Use the tweezers to remove the remaining adhesive backing and press down felt to secure to the cartridge surface and the Toner Adder Roller Bushing Foam. See Figure 25.



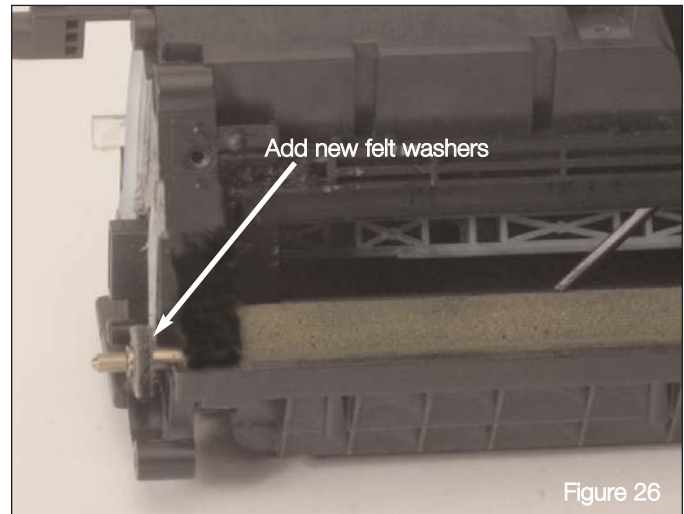
Note: The notched edge of the Developer Roller End Felt will face the center of the hopper section.

3. Install the End Felt on the other end of the cartridge.



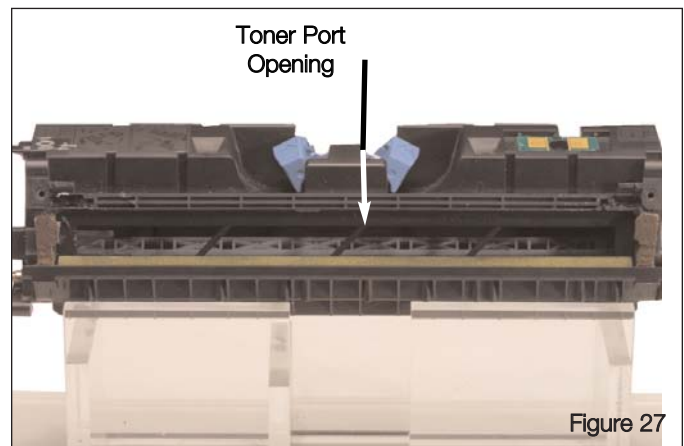
Using tweezers, remove the remaining adhesive backing and secure the Felt to the cartridge and the Bushing Foam.

4. Install new Toner Adder Roller Felt Washers on each end of the Toner Adder Roller. See Figure 26.
5. Install a new Developer Roller Sealing Blade. See SSS™ # 551 “How to install the HP2500 Developer Roller Sealing Blade (HP25DRSBLADE)” for instructions.



Install new toner adder roller felt washers, on each end.

2. Install the Doctor Blade.
 - a. If the Doctor Blade Sealing Foam was removed, perform the following tasks first. Otherwise go to step f on page 17.
 - b. Position the cartridge so the toner port opening is facing you as shown in Figure 27.
 - c. Ensure that the mounting surface has been thoroughly cleaned. If necessary, use 91%-99% Isopropyl Alcohol and a lint-free cloth to clean the mounting surface.



Position cartridge so that the toner port opening is facing you.

- d. Peel the protective backing from the new Doctor Blade Sealing Foam, and position it so that the notches on each end are down toward the toner port. See Figure 28.

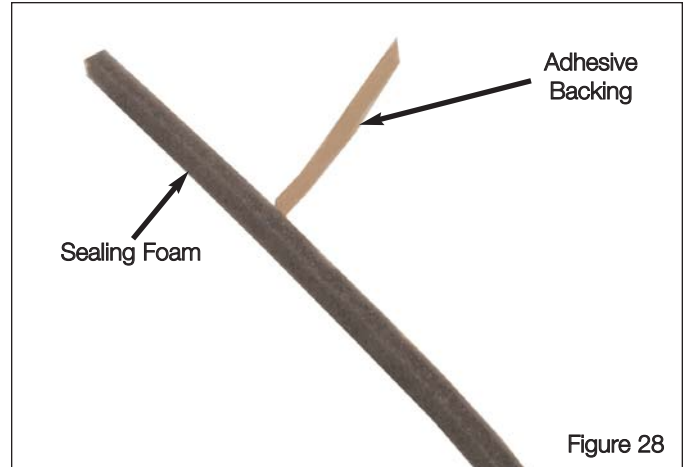


Figure 28
Peel back protective backing from new Dr. Blade Sealing Foam, and position the notches down toward the toner port.

- e. Center the sealing foam over the cartridge, and align the edge of the Doctor Blade Sealing Foam with the top ledge of the toner port opening. See Figure 29.



Note: The notched ends of the Doctor Blade Sealing Foam should fit around the bottom wall at the ends of the cartridge.

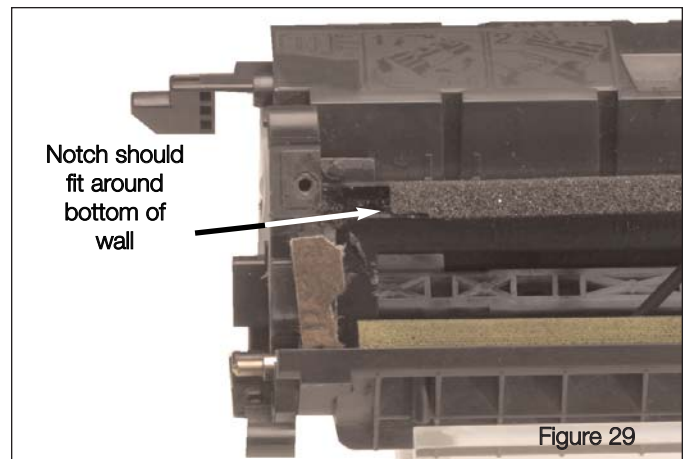


Figure 29
Center the Sealing Foam, and align the edge of the Doctor Blade Sealing Foam with the top ledge of the toner port opening.

- f. Adhesive Caulk (ADHCAULK), fill the area in between the Doctor Blade Sealing Foam and Developer Roller End Felts on both sides of the cartridge as shown in Figure 30.

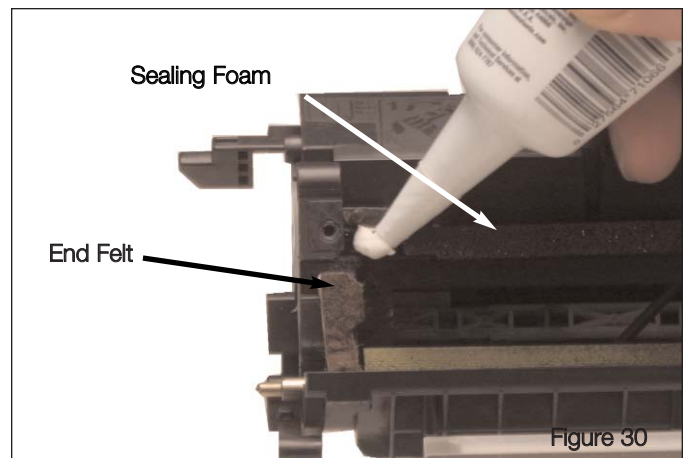


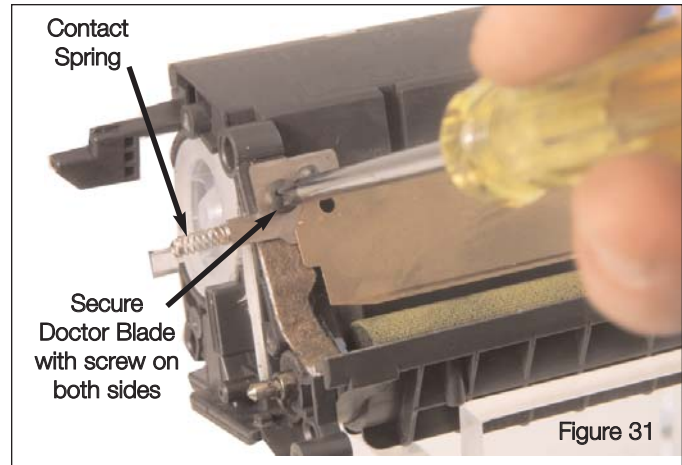
Figure 30
Using adhesive caulk fill space between Sealing Foam and End Felts, on both sides of the cartridge.

Reassembling the Toner Cartridge

- g. Before the Adhesive Caulk dries, install the Doctor Blade and secure with two screws as shown in Figure 31. Be sure that the Contact Spring is in place, and has not been lost.

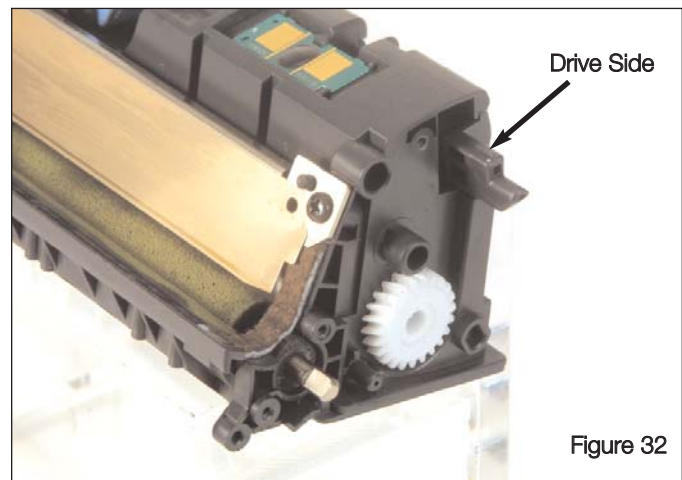


Note: Wipe the excess Adhesive Caulk from the Doctor Blade.



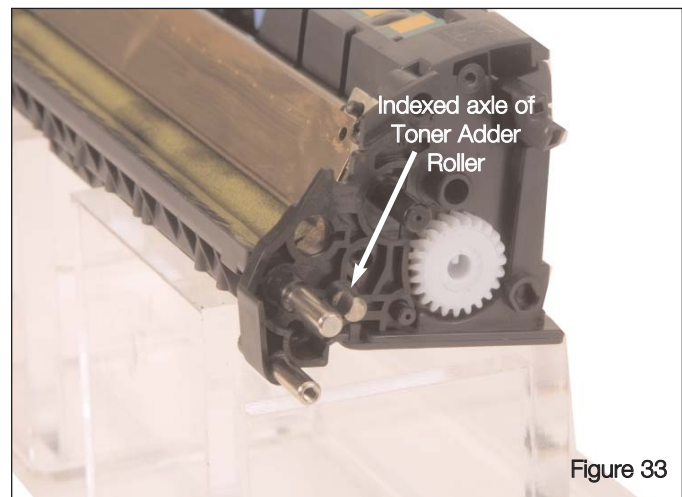
Before caulk dries install the Doctor Blade and secure with two screws

5. Install the Drive Side Inner Support Plate and Drive Gears.
 - a. Position the cartridge as show in Figure 32.



Position the cartridge with drive side facing you.

- b. Position the Drive Side Inner Support Plate as shown in Figure 33.



Position Drive Side Inner Support Plate with the indexed axle of the Toner Adder Roller through the slot.

- c. Place the support plate first on the end of the Toner Adder Roller axle as shown in Figure 34; then, align the guide post with the hole in the support plate and slide the support plate in to place.

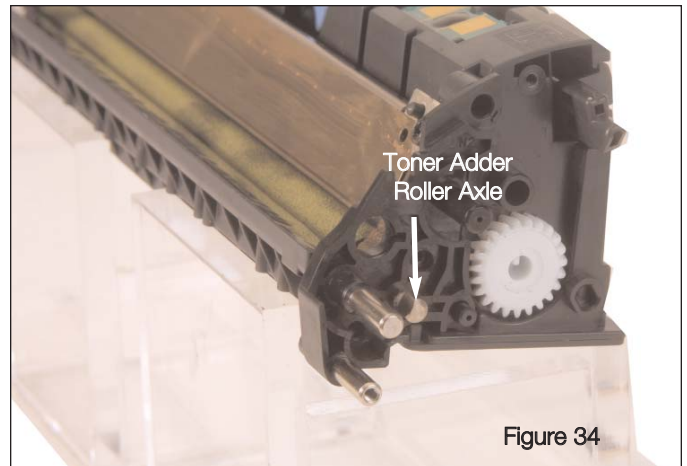


Figure 34
Place support plate on end of the Toner Adder Roller axle, and align the guide post with the hole in the support plate

- d. Locate on black phillips head screw and one brass phillips head screw. Insert the screws in to the holes shown in Figure 35 and tighten them. Ensure that these screws are installed in the proper location.

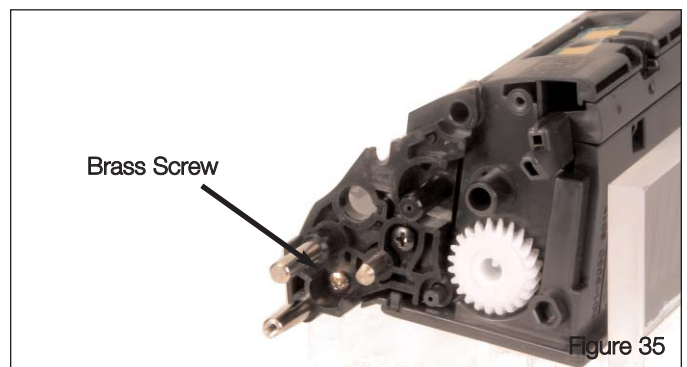
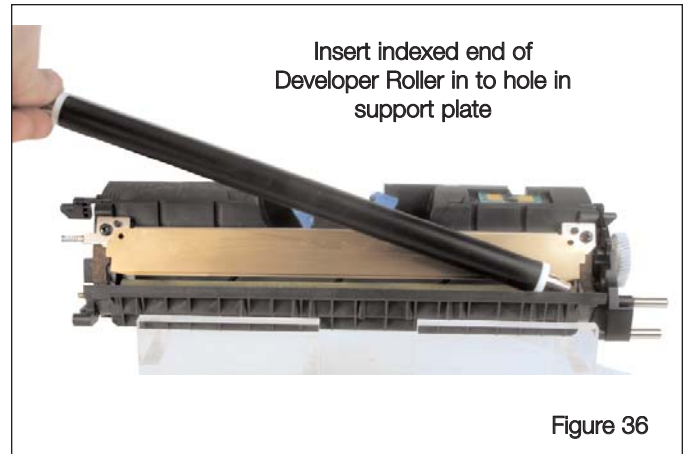


Figure 35
Secure Inner Support Plate with Brass Screw and Black Screw, make sure they are in their proper location.

Reassembling the Toner Cartridge

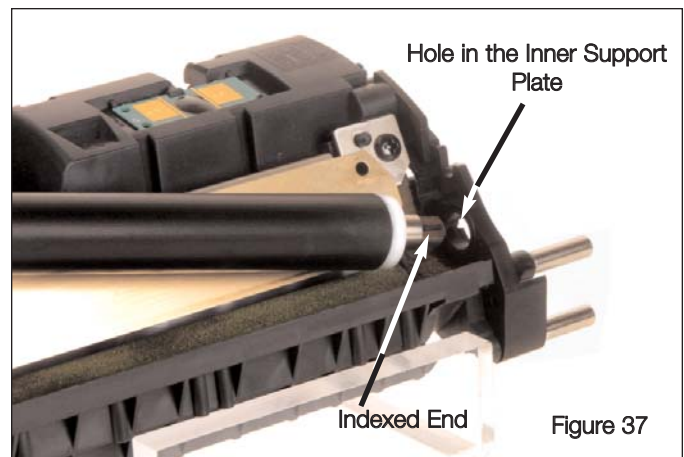
6. Install the Developer Roller.

a. Position the Developer Roller as shown in Figure 36.



Position the Developer Roller as shown.

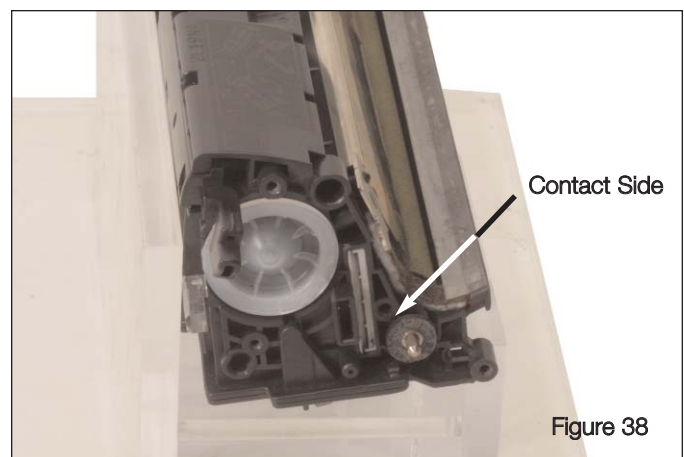
b. Insert the indexed end of the Developer Roller axle in to the hole in the Drive Side Inner Support Plate. See Figure 37.



Insert the indexed end of the Developer Roller axle in the hole in the Drive Side Inner Support Plate

c. Set the contact side of the Developer Roller in to place.

d. Position the cartridge so that you can see the contact side. See Figure 38.



Position the cartridge so that you can see the contact side.

- e. Position the Contact Side Support Plate as shown in Figure 39.
- f. Align the guide post, and holes with their corresponding locations on the cartridge body. If you have installed a Seal, be sure to feed the seal tail through the support plate at the same time.
- g. Locate and install the mounting screw in the support plate.

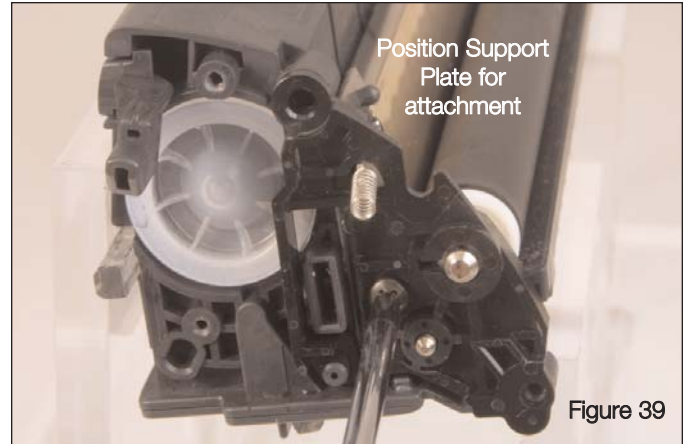


Figure 39

Position the Contact Side Support Plate as shown.

- 7. Install the Developer Roller Drive Gear on to the indexed end of the axle. See Figure 40.



Figure 40

Install the Developer Roller Drive Gear on the indexed end of the Developer Roller axle

- a. Install the Drive Gears in the order and locations shown in Figure 41.

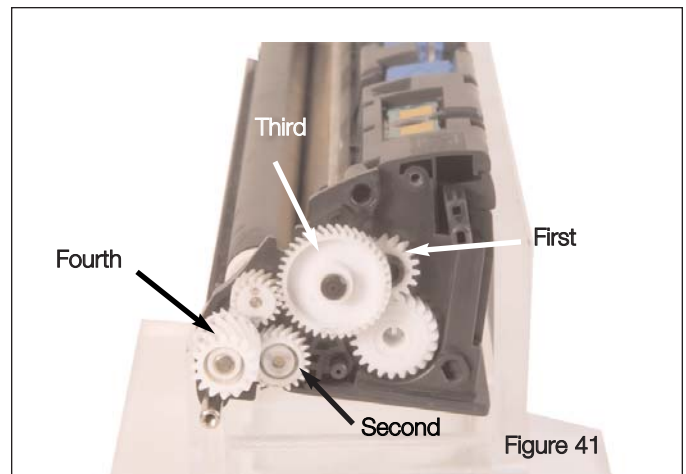


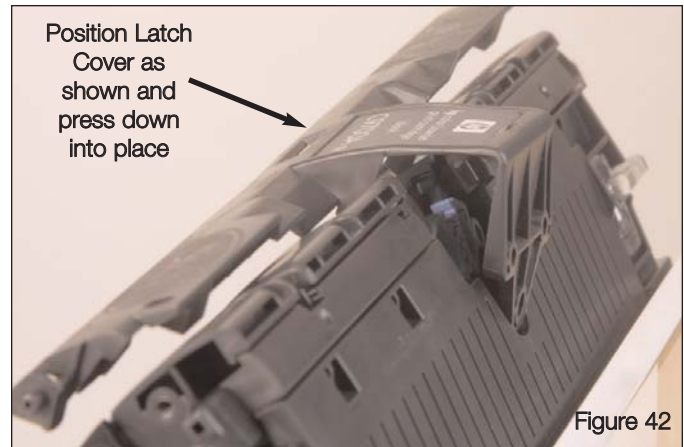
Figure 41

Install the Drive Gears in order and locations as shown.

Reassembling the Toner Cartridge

8. Install the Latch Cover.

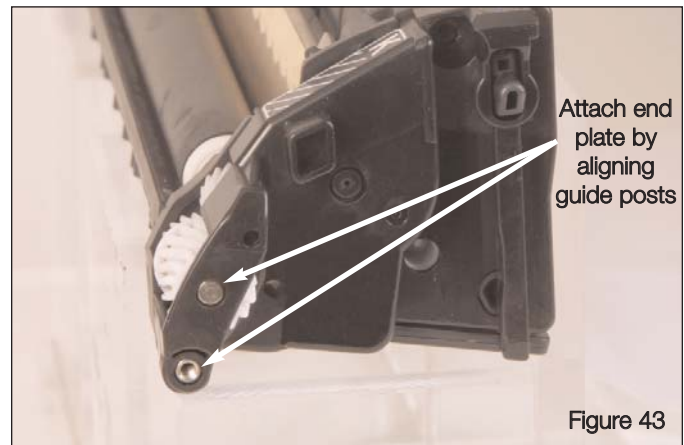
- a. Position the Latch Cover and cartridge as shown in Figure 42.
- b. Place the Latch Cover on the top of the cartridge and press it down into place.



Position the Toner Cartridge and Latch Cover as shown.

9. Install the End Plates.

- a. Position the Drive Side End Plate as shown in Figure 43.
- b. Align the guide posts and place the end plate on the cartridge body.



Position the Belt Unit End Plate (Drive Side) as shown.

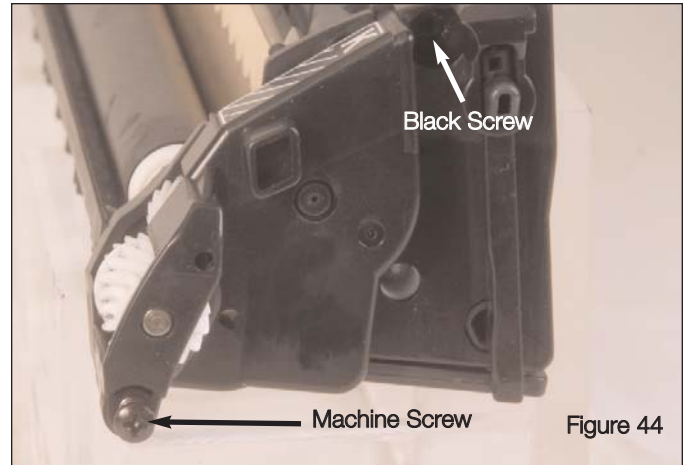
c. Install the two mounting screws in the locations shown in Figure 44. Ensure that the machine screw is in the proper location.

d. Position the cartridge so that you can see the contact side.

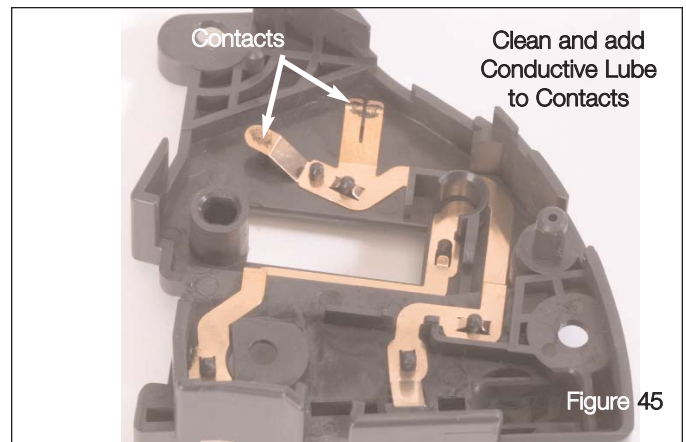
e. Clean the contacts on the inside of the Contact Side Outer Support Plate using a cotton swab (QTIP) and 91-99% Isopropyl alcohol; then, apply small amount of conductive lube (CONCLUBE) to the ends of each contact. See Figure 45.

f. Align the guide posts and place the end plate on the cartridge body.

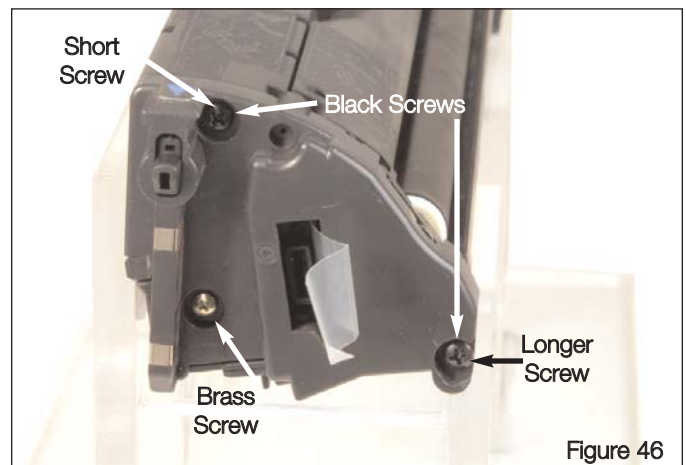
g. Install the three mounting screws in the locations shown in Figure 46. Ensure that the brass screw is in the proper location.



Install the two mounting screws in place. Ensure that the machine screw is in the proper location.



Clean contacts on the Contact Side Outer Support Plate, and apply conductive lube.



Install the three mounting screws, Ensure that the brass screw is in the proper location



Clean, seal, and fill the toner cartridge

REMANUFACTURING THE HP2500/2550/1500

This section provides the information needed to clean, fill, and seal the Toner Cartridge. At this point you should have disassembled the Toner Cartridge as described in this SSS. If you have not completed this tasks, then refer to page 1 to begin disassembling the Toner Cartridge. Before attempting to perform the following procedures, read the entire section carefully. Ensure that you follow all necessary safety precautions.

1. Using a flat tipped screwdriver, carefully remove the Hopper Cap from the cartridge body. Once the Hopper Cap is removed, it must be replaced with a new Hopper Cap, SCC product code (HP41HCAP).



Note: Be careful not to damage the lip of the cartridge body while removing the Hopper Cap. Leakage could occur if lip is damaged.

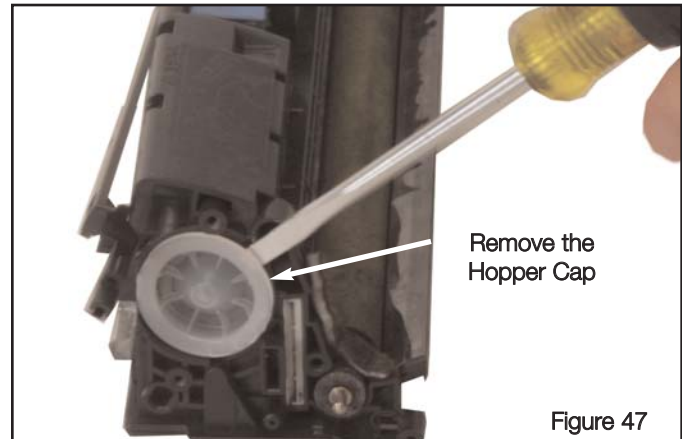
2. Place the cartridge body in a work station; then dump and clean any remaining toner from the cartridge body.
3. Clean the Doctor Blade and Developer Roller.

- a. Using a scraper tool, scrape off any remaining Hot Melt Foam from the front and back of the Doctor Bar.
- b. Complete the cleaning by using the Doctor Blade Cleaning Jig (HP46DRCLEANJIG2) to clean the Developer Roller and Doctor Blade. For detailed instructions on how to use the jig and properly clean the Doctor Blade see SSS™ # 580 “How to use your HP2500/1500/4600 Doctor Blade and Developer Roller Cleaning Instructions”.

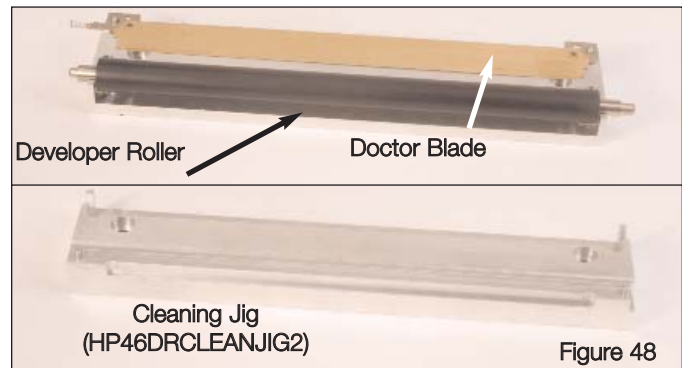
4. Seal the Toner Cartridge using either the HP2500 Adhesive ProSeal™ or the Foam Type Rapid Seal. For instructions on using these seals see:

- SSS # 633 “How to install the HP2500 Foam Type Rapid Seal”
- SSS # 547 “How to install the HP2500 Adhesive ProSeal™”. This seal must be used if you did not remove the Toner Adder Roller.

5. Fill the Toner Cartridge with Toner and install the new Hopper Cap (HP41HCAP).
6. Continue remanufacturing the Toner Cartridge by going to “Assembling the Toner Cartridge”.



Remove the hopper cap, and pour out the toner in the cartridge.



Place the Developer Roller and the Doctor Blade in the Cleaning Jig (HP46DRCLEANJIG2) for cleaning



Disassembling the Imaging Unit

REMANUFACTURING THE HP2500/2550/1500

1. Place the Drum Unit as shown in Figure 49 with the transfer belt at the bottom.

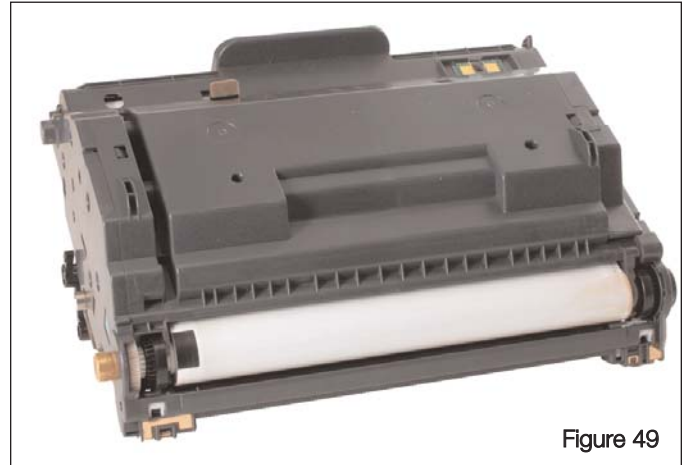



Figure 49

Place the Drum Unit with the transfer belt at the bottom.

2. Attach the Waste Bin Entry Tool (HP2550WBETOOL) to a 3/8" drill. Always wear eye protection while operating power tools. Using the Waste Bin Entry Tool, drill through the Waste Bin at the location as shown in Figure 50. Make sure that the collar does not overlap the edges. This will ensure plenty of surface area for the patch to adhere to. The collar will stop the bit from traveling too far into the Waste Bin.

 **Note:** Only drill at the location shown in Figure 50. Drilling at any other location may damage parts inside the Waste Bin. Do not damage the Transfer Belt.

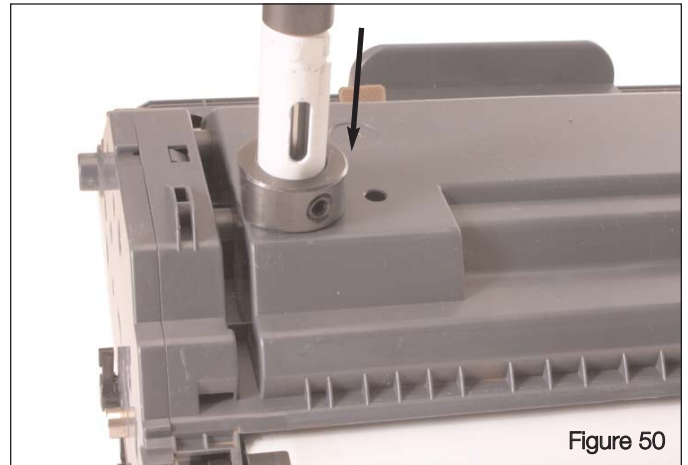


Figure 50

Drill through the Waste Bin.

3. Dump the excess toner from the drilled hole as shown in Figure 51. Make sure the plastic disc that was drilled out is removed from the bin. Then, finish cleaning with the 3M® Field Service Toner Vacuum 115 Volt (TONERVAC115), 220 Volt (TONERVAC220) using the Toner Vacuum Curved Wand Nozzle (TVACNOZ-CW) to clean the leftover toner.

 **Caution:** Do not damage the Transfer Belt.

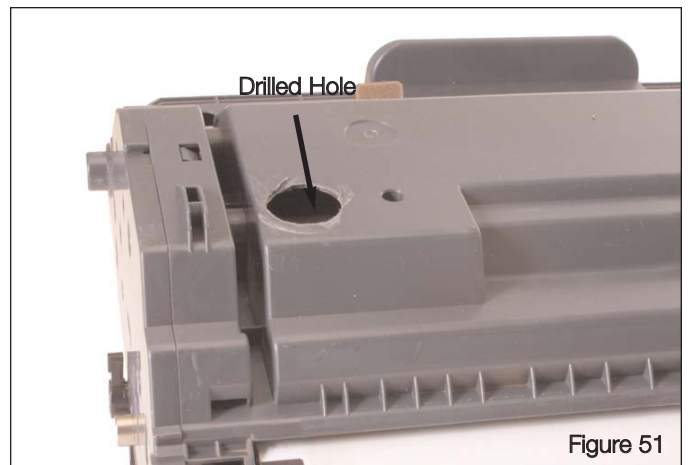



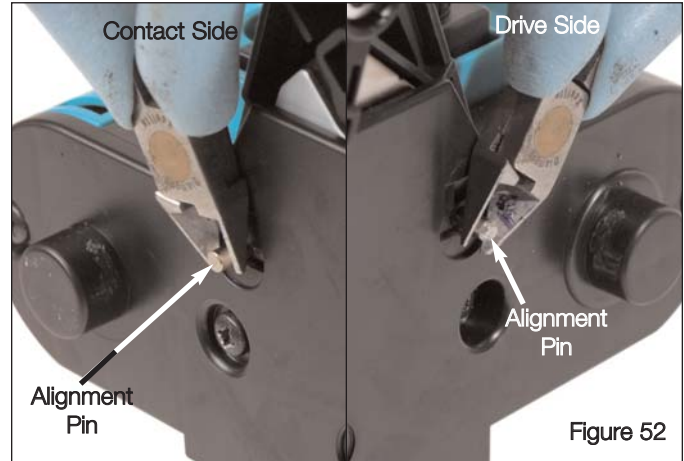
Figure 51

Remove toner from the Waste Bin.

Disassembling the Imaging Unit

4. Use Sidecutters to remove the metal Alignment Pins from the OPC Assembly. See Figure 52. Lift the OPC Assembly from the cartridge.

 **Note:** Some toner may leak from the Imaging Unit when removing the OPC Assembly.



Remove the Alignment Pins from the OPC Assembly.

5. Lift the OPC Assembly from the Drum Unit (Figure 53).



Lift the OPC Assembly from the Drum Unit.



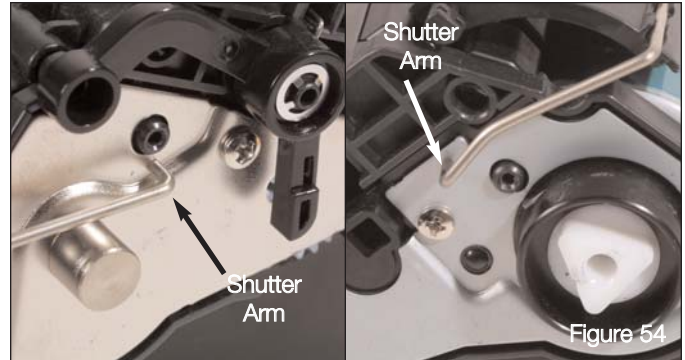
Disassembling the OPC Assembly

REMANUFACTURING THE HP2500/2550/1500

1. Pull the metal Shutter Arm out of the End Plate (both ends). See Figure 54. Then fold the Drum Shutter back away from the Drum and secure temporarily.



Note: It is not necessary to remove the Shutter from the cartridge.

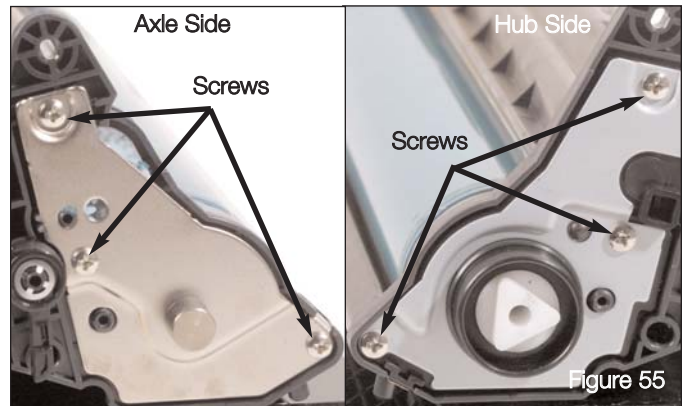


Pull metal Shutter Arm out of Endplate.

2. Remove three screws from the Drum Axle End Plate and Drum Hub End Plate. See Figure 55. Remove the end plates from the OPC Assembly.



Note: The Drum Hub End Plate is a metal and plastic piece that should not be separated when removing the End Plate.

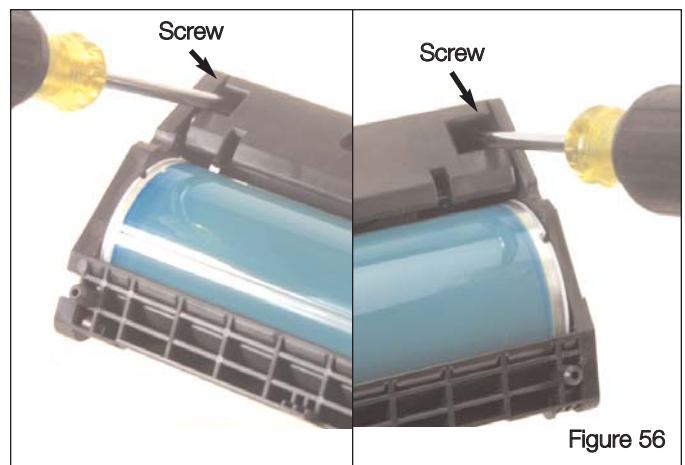


Remove the three screws from the Drum Axle End Plate and the Drum Hub End Plate.

3. Using a magnetic Phillips screwdriver, remove the two screws in the PCR housing. See Figure 56. Lift the PCR housing from the OPC Assembly.



Note: Clean the PCR with a Lint-Free Cloth dampened with water and set aside on a dry Lint-Free Cloth until ready for re-installation.



Using a magnetic screwdriver remove the PCR housing.

Disassembling the OPC Assembly

4. Remove the Drum from the OPC Assembly as shown in Figure 57. If reusing the drum, store in an area that is protected from light and impact damage.



Figure 57

Remove the Drum from the OPC Assembly.

5. Remove the flat cap screws from the Wiper Blade; then, remove the Wiper Blade (Figure 58).
6. Remove the Recovery Blade Assembly (Figure 58).
7. Clean the Imaging Unit with dry, compressed air (Figure 58).

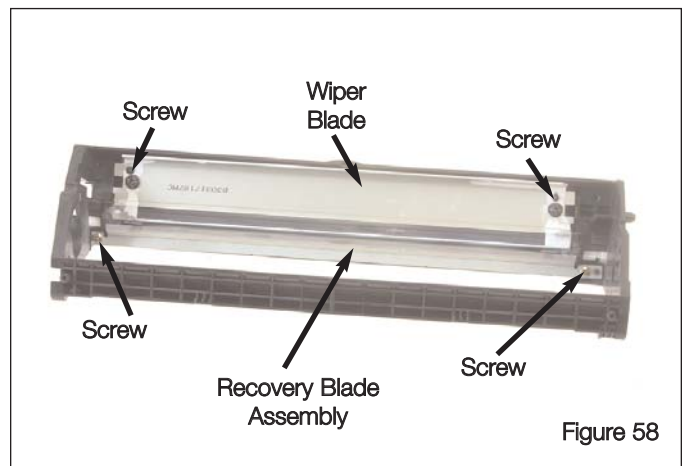


Figure 58


Remove the flat cap screws from the Wiper Blade, to remove the Wiper Blade.



Reassembling the OPC Assembly

REMANUFACTURING THE HP2500/2550/1500

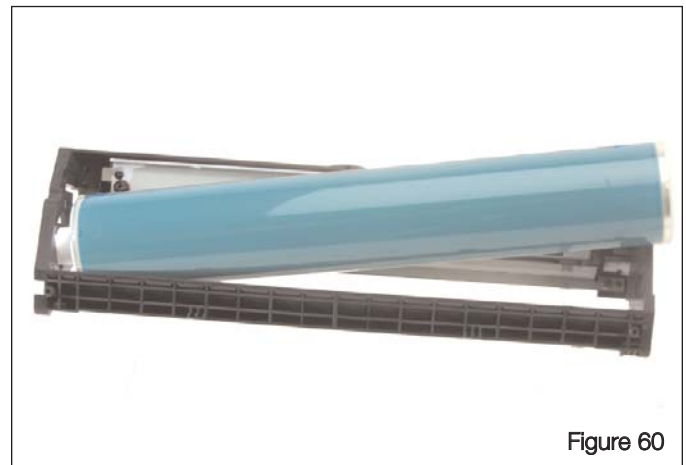
1. If the Recovery Blade was removed during the disassembly of the Imaging Unit; then, install the new Recovery Blade at this time.
2. Install the Wiper Blade using the two flat cap screws, as shown in Figure 59.

 **Note:** Yellow toner applied to the working edge of the Wiper Blade will help prevent “flip overs” during the first drum rotations of the remanufactured cartridge.



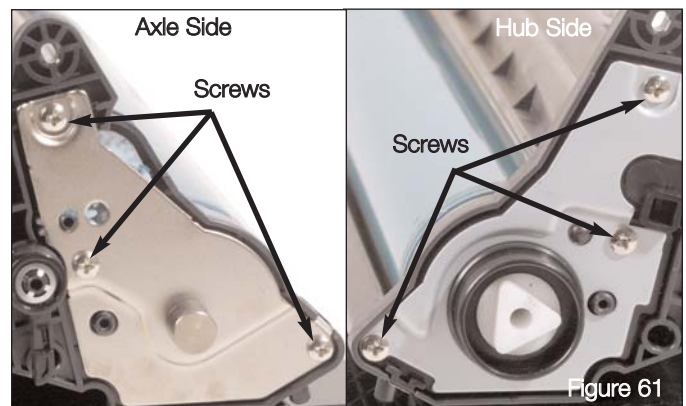
Install the Wiper blade with the two flat cap screws.

3. Install the Drum, as shown in Figure 60. Make sure not to damage the Drum when installing it into the OPC Assembly.



Install the Drum in the Imaging Unit.


4. Install the Drum Axle End Plate and Drum Hub End Plates and secure with the three Phillip screws. See Figure 61.

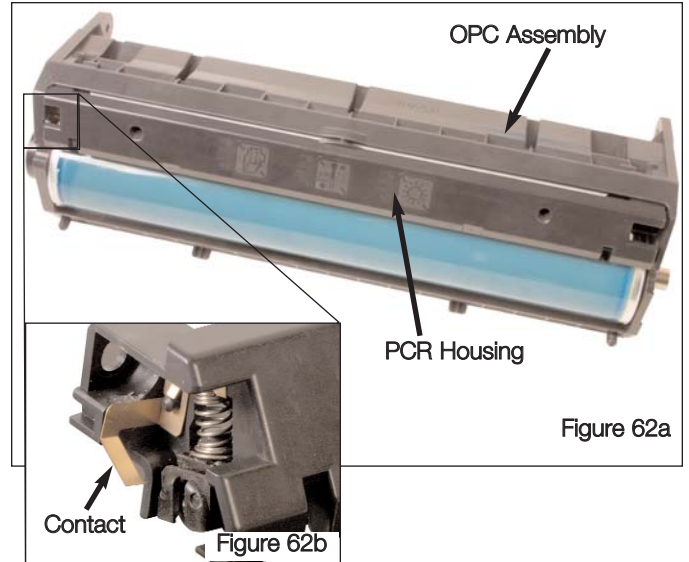


Install the three screws from the Drum Axle End Plate and the Drum Hub End Plate.

Reassembling the OPC Assembly

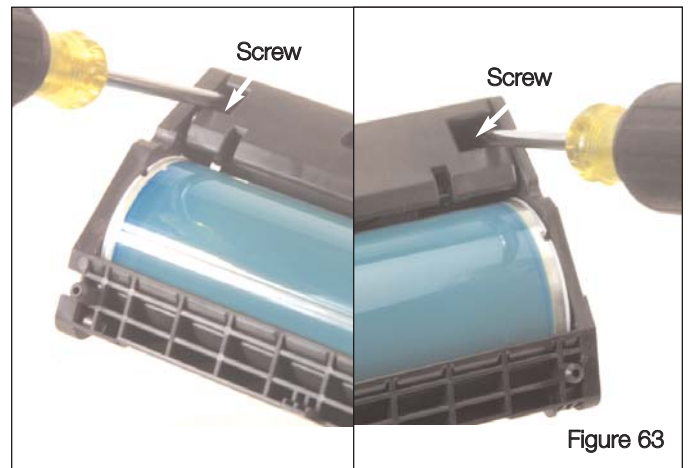
5. Carefully, place the PCR Housing in to the OPC Assembly as shown in Figure 62a.

 **Note:** Be careful not to damage the contact on the PCR Housing (Figure 62b).



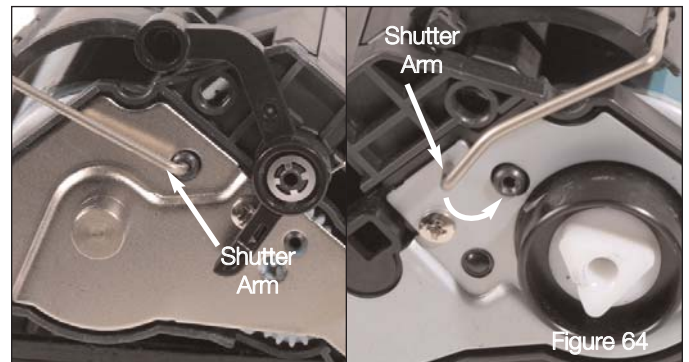
Install PCR Housing.

6. Using a magnetic Phillips Screwdriver, secure the PCR housing. See Figure 63.



Secure the PCR Housing.

6. Install the metal Shutter Arm in the Endplate (both ends) (Figure 64). Release the Drum Shutter in to the closed position.



Install the Drum Shutter Arm in the the metal Endplate.



Reassembling the Imaging Unit

REMANUFACTURING THE HP2500/2550/1500

1. Clean the Waste bin using dry filtered compressed air. With a small file or sand paper, remove all rough edges on the surface where the Patch will be placed. Clean the area around the drilled hole in the Waste Bin with 91-99% Isopropyl Alcohol as shown in Figure 65. Make sure no toner is present in the area immediately surrounding the hole.

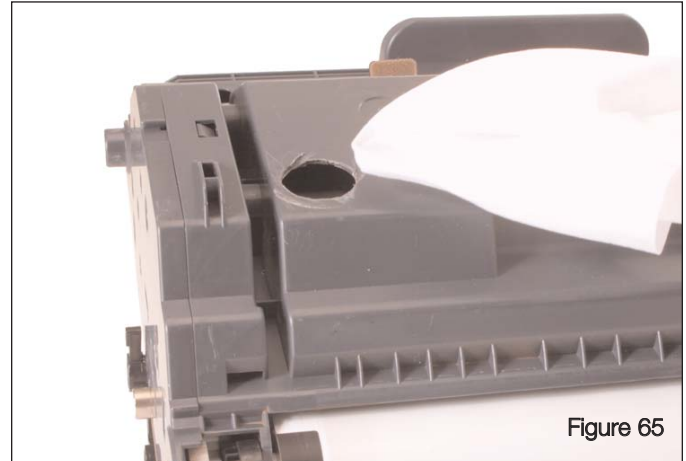


Figure 65

Clean the Waste Bin.

2. Apply the Patch (HP37HCAP) to cover the hole in the Waste Bin as shown in Figure 66.

- a. Bend the flap of the Hopper Patch back to remove the adhesive backing. See Figure 67.

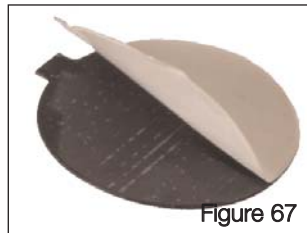


Figure 67

- b. Place the Hopper Patch on the Waste Bin and firmly press down to secure the patch to the Waste Bin.

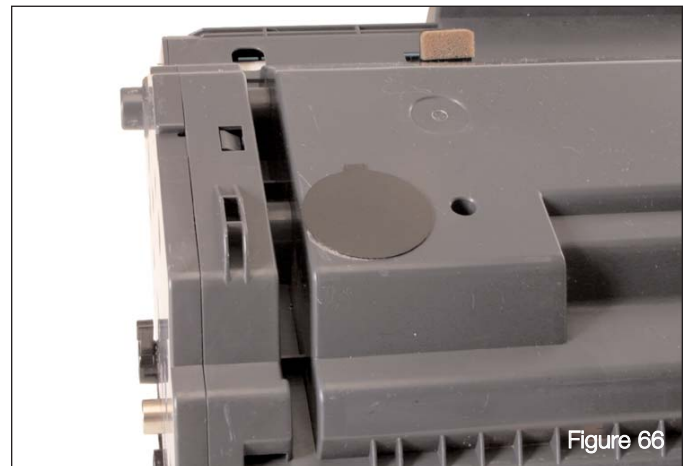



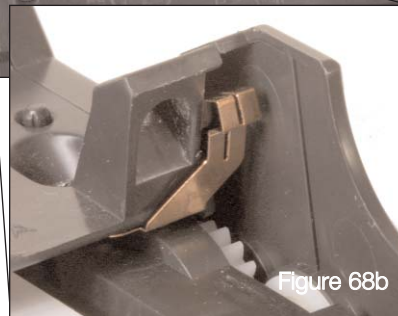
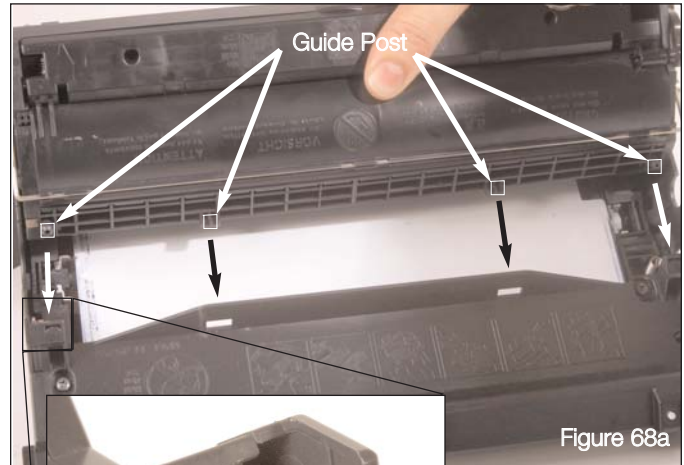
Figure 66

Install the Hopper Patch on the drilled hole

Reassembling the Imaging Unit

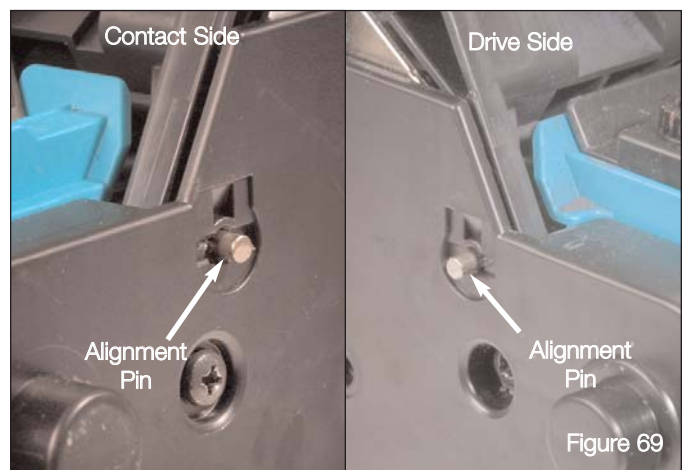
3. Position the OPC Assembly with the Imaging Unit. Align the four guide post located on the OPC Assembly. See Figure 68a.

 **Note:** Be careful not to damage the contact (Figure 68b).



Align the OPC Assembly with the Imaging Unit.

4. Install the Alignment Pins as shown in Figure 69.



Install the Alignment Pins.



Post Testing:



Note: The cartridge can be post tested with a used chip, or a spent chip, (information will be written to the chip).

1. Measure 1 gram of toner on to a small piece of paper (approx. 4" x 4"); then, uniformly distribute the toner into the valley where the developer roller contacts the developer roller sealing blade, along the entire length of the roller.
2. Rotate the developer roller by rotating the uppermost gear in the gear train, moving the top of the gear towards the rear of the hopper. The rotation of the developer roller will draw the toner in to the seal area and distribute it evenly across the surfaces of the developer roller and adder roller. Continue rotating the roller until all of the toner has been drawn into the seal area.
3. Instruct the printer to print two 30% pages followed by 10 solid pages.

Replace the Chip

See SSS™#630 *HP2500/2550 Chip* for further instructions on how to replace the Toner Cartridge Chip.

See SSS™#675 *HP2500/2550 Drum Unit Chip* for further instructions on how to replace the Drum Unit Chip.

Notes:

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The development of cartridge imaging systems, is the primary mission of our Imaging Labs. Through extensive testing and research, we develop the optimum combination of matched components for each cartridge system. Our engineering and manufacturing expertise provides us with total control in design, quality and development to produce products from the ground up. The result is a system of components that seamlessly work together in each cartridge application.

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