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HP LaserJet® 9000 Remanufacturing Instructions



About the Printer

The HP LaserJet® 9000 was introduced in May 2001 and targeted at the general departmental office and entry level production applications markets. Not meant as a replacement for any other HP model, the 9000 stands alone as HP's fastest laser printer to date, with a speed of 50 pages per minute (ppm). To achieve the extra speed, two laser beams were directed onto the OPC at the same time, writing two lines of print simultaneously. At the time of release the 9000's Canon® engine was not in use by any other OEM.

The HP9000 fuser automatically adjusts the temperature for the type of print media being used, i.e. plain paper, transparencies, etc. It also adjusts to the ambient temperature around the printer.

About the Cartridge

The HP9000 smart print cartridge is similar to that used in the HP4100, with its smart chip designed for supplies monitoring (including toner level) and on-line ordering, print quality enhancements and less operator/machine interaction. The operator can obtain a report of the number of pages printed, pages remaining for the cartridge and the number of jobs printed by paper size. The chip also stores information such as the manufacturing date and serial number. Although the printer supports non-HP cartridges, the chip's toner sensing and supplies monitoring features are disabled when the printer identifies the cartridges as non-HP.

From the outside of the cartridge there is no visible seal pull strip. The metalized film seal is contained entirely within the cartridge housing, and has two electrical circuits attached. The first circuit tells the printer that the cartridge is in place and then the seal is pulled automatically and wound inside the cartridge like a roll of film is wound inside the film case of a camera. The second circuit tells the printer that the seal has been pulled and printer operation can begin.

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Rev. 1/03

Printer Information

Printer Name	HP LaserJet® 9000
Printer Price	\$3,149.00
Date of Printer Introduction	May 2001
Cartridge Design	All-in-one
Toner Type	Magnetic, monocomponent
First Page Out	Less than 8 seconds
Seal Type	Metalized film, automated

Engine Information

Engine Type	Canon® monochrome laser
Print Speed (pages per minute)	50
Duty Cycle (pages per month)	300,000
Print Resolution (dpi)	600x600 base (1200 in FastRes mode)

Cartridge Information

Cartridge Part Number (OEM)	C8543X
Cartridge List Price	\$249
OEM Rated Page Yield	30,000 @ 5%
Typical Cartridge Distributor Price	\$222

*Prices as of December 2001

Model Compatibility

HP LJ9000, HP LJ9000N, HP LJ9000DN, HP LJ9000HNS



Tools and Supplies You Will Need

The cartridge is of a “no-shake” design, with stirring mechanisms to evenly distribute toner within the hopper. The toner unit holds approximately 1650 grams of what HP calls “Ultraprecise” 6 micron toner.

The OPC is the same size (30mm) and sensitivity as the HP 8100 drum. However, the gears are unique in size and utilize drive “lobes”. A bellows assembly allows for movement between the two halves of the cartridge within the confines of the two rigid endplates, preventing toner leakage once the seal has been pulled. The doctor blade is a conventional glued-on urethane blade with a new metal stamping. The PCR is the same as that used in the HP5000.

Critical Issues

- Cartridge seams are chemically bonded, so the two sections do not come apart as easily as with traditional cartridges.
- Seams are not straight, making it difficult to use traditional splitting methods.
- Because of the chemical bonding of all cartridge seams, a special removal tool is needed to remove the end caps. However, once the end caps have been removed, it is fairly easy to disassemble the rest of the cartridge.
- Electrical circuitry for the PCR and mag roller exits the cartridge where splitting needs to occur. One slip could render the cartridge unusable.
- The automated seal poses a special problem for remanufacturing.
- The bellows assembly is easily damaged and should be removed and replaced with a new seal assembly. Trying to reuse the OEM bellows assembly can result in gears not properly meshing between the drum and the mag roller, which can cause light print intervals or half of a page being blank.
- The replacement seal must be reconnected to the circuitry in order for the seal to be pulled and normal printer operation to continue.
- The seal would be automatically pulled during post-testing. A method of disrupting the signal while testing so the seal will not be pulled, and for resuming signal continuity afterwards to allow normal printer operations, must be utilized (See page 43).
- When reattaching end plates, use all clips in the positions indicated (See drill hole locations, page 9). Leaving off a clip or installing in the wrong location can cause the drive gear of the OPC Drum not to align properly ultimately causing a paper jam.
- Be careful not to damage the toner hopper when removing the toner hopper cap. New caps are available (9KHCAP), however a new cap will not always overcome damage to the hopper itself.
- Care should be taken during the removal and reinstallation

of the mag roller contact (inside sleeve). If damaged or improperly installed there can be a loss of mag roller contact and ultimately result in blank pages.

Use of Compressed Air

As of April 28, 1971, the Occupational Safety & Health Administration (OSHA) Standard, 29 CFR 1910.242 paragraphs a & b for general industry requires effective chip guarding and personal protective equipment (PPE) when using compressed air. When cleaning residual toner particles from cartridges using a compressed air system, you must use air nozzles meeting OSHA requirements. Air nozzles that regulate air pressure to a maximum of 30 psi comply with this standard. Refer to the OSHA publication for any updates or changes that have occurred since the date noted above.

Use of Isopropyl Alcohol

For best results, we recommend using ONLY 91-99% for cleaning as directed in these instructions. 91% isopropyl alcohol is available at most major drug stores; 99% isopropyl alcohol is available through distributors of chemical products. Follow the alcohol manufacturer's safety instructions.

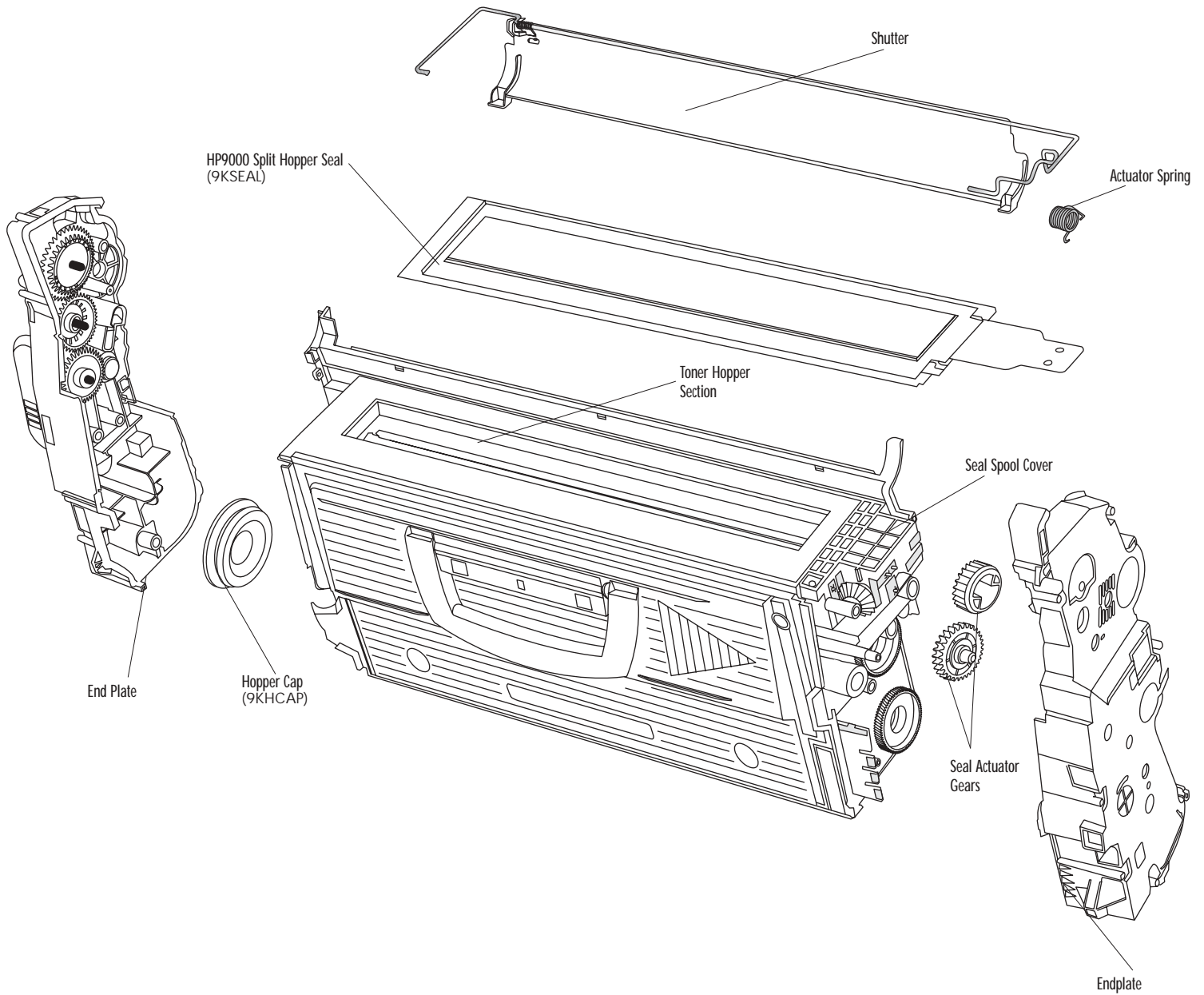
Tools and Supplies You Will Need

For Basic Remanufacturing:

- 91-99% Isopropyl Alcohol(See below)
- Compressed Air for Cleaning(See below)
- Phillips Screwdriver
- Utility Knife(SRTOOL)
- Putty Knife
- Needlenose Pliers
- Black Electrical Tape
- Lightproof Paper
- Square-End Knife Tool(SEKTOOL)
- Angle Blade Knife(ABKTOOL)
- Fast Drying Adhesive(REPLGLUE)
- Standard Flat-Blade Screwdriver
- HP9000 Hopper Fixture(9KHJIG)
- HP9000 Cartridge End Cap Removal Kit(9KCSS)
- Kynar® Lubricating Powder(KPOW)

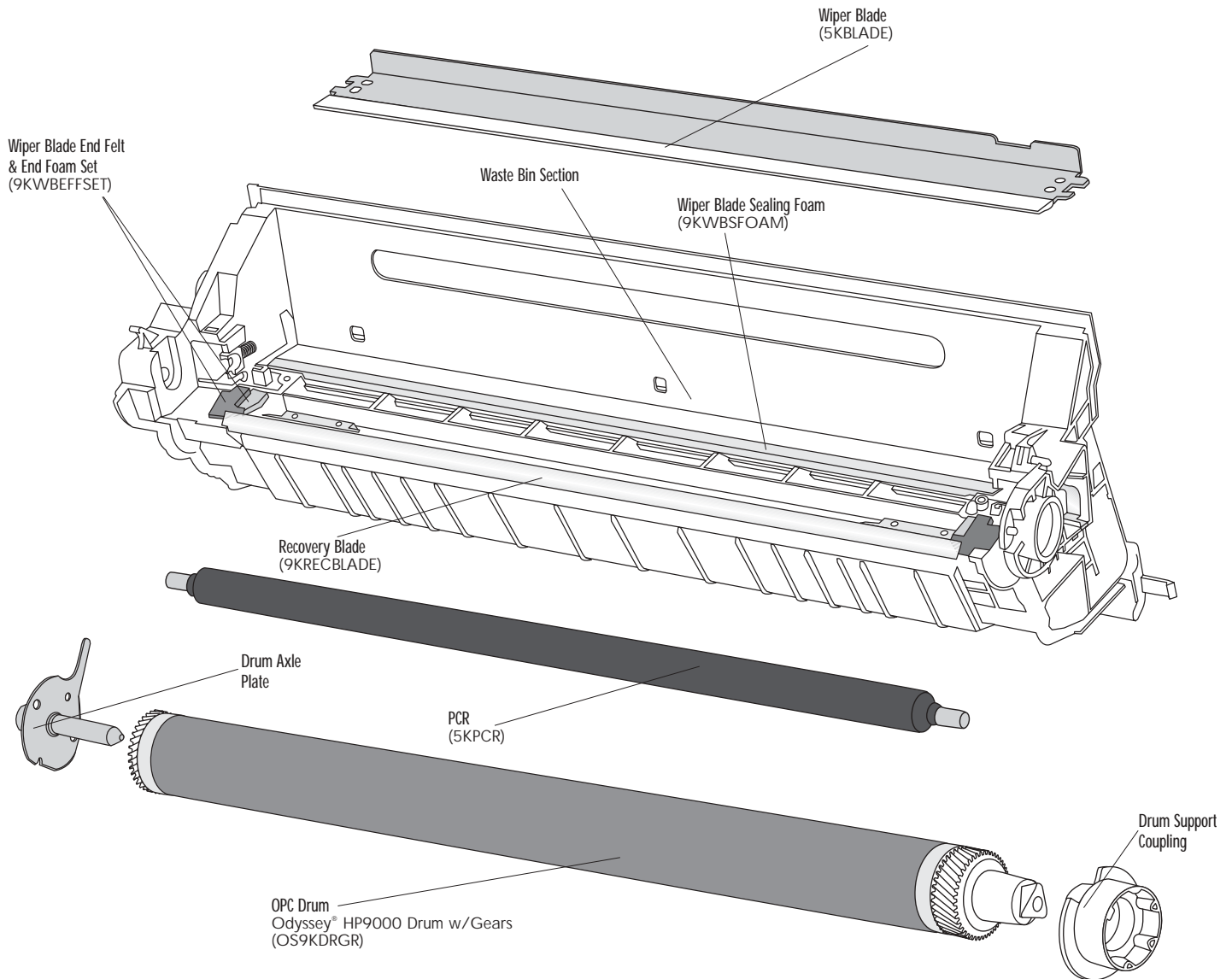
HEWLETT-PACKARD® 9000

TONER HOPPER UNIT



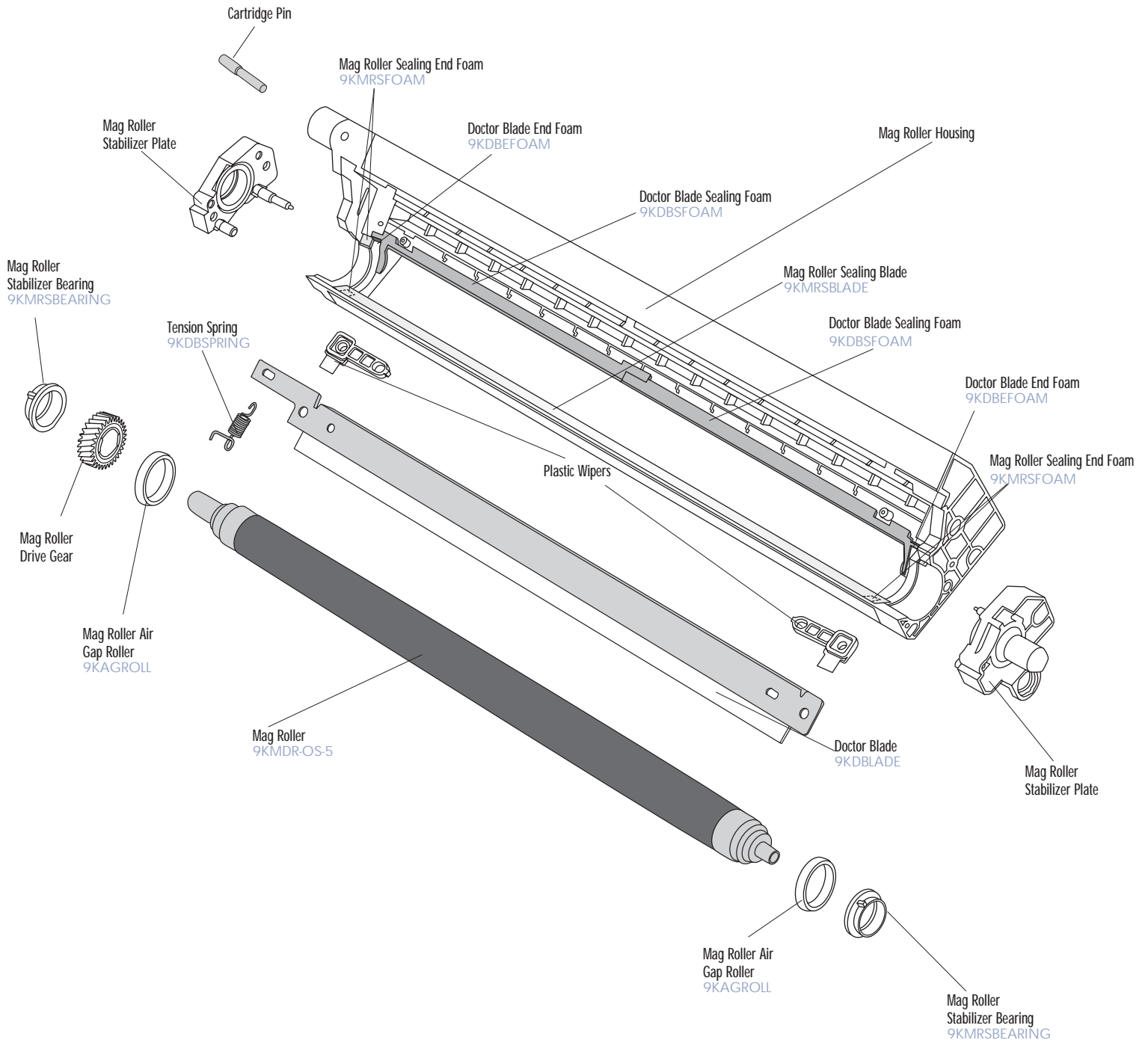
HEWLETT-PACKARD® 9000

WASTE BIN UNIT



HEWLETT-PACKARD® 9000

MAG ROLLER HOUSING UNIT

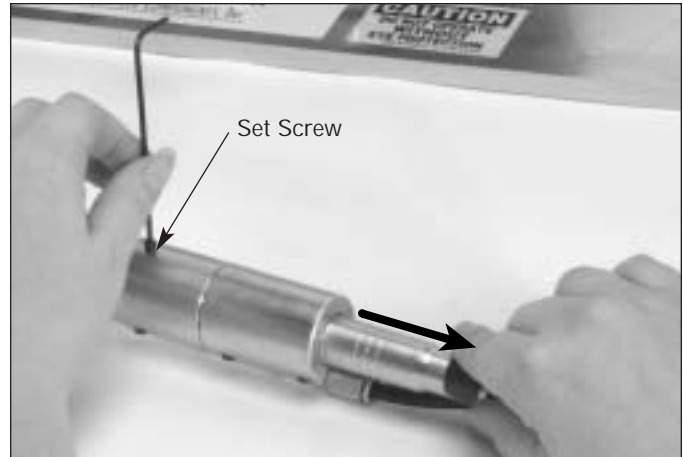




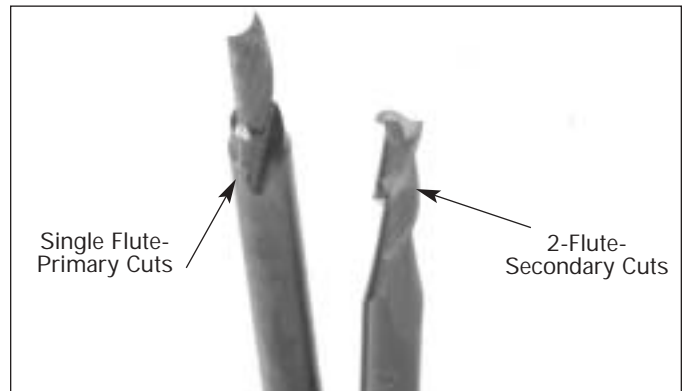
End Cap Removal

Critical Issues

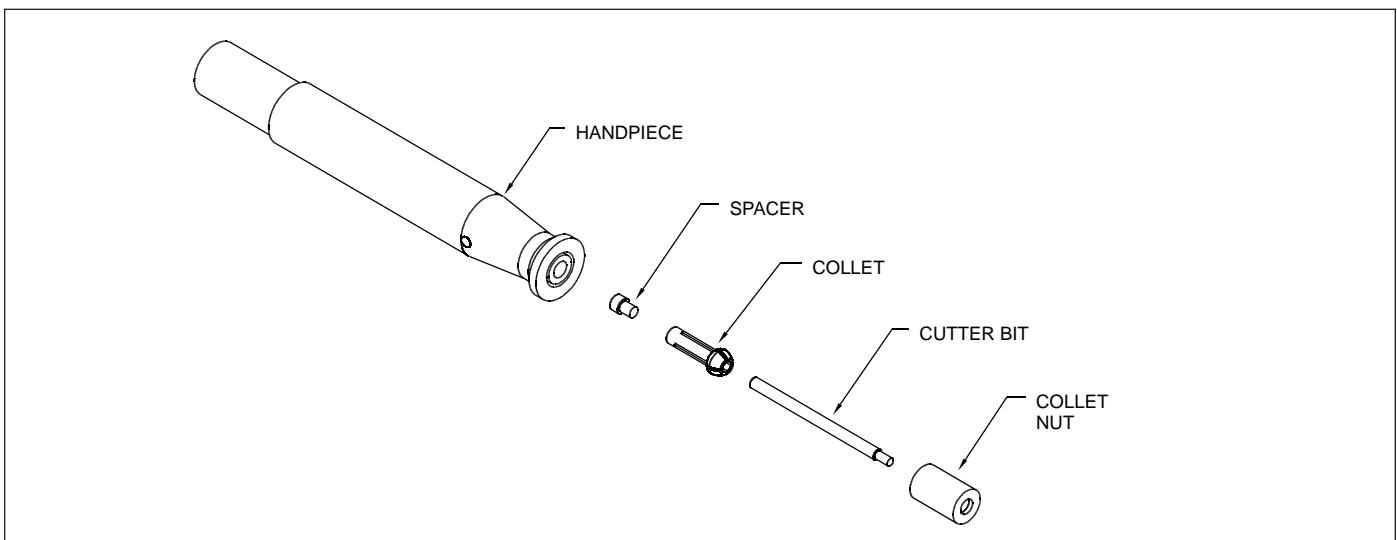
- Wear OSHA-approved eye and ear protection when operating the end cap removal kit and when using compressed air.
- Each end cap will separate in a unique manner so the matched or married sections of the cartridge must be kept together.
- The compressed air for the end cap removal operations should be kept at 60-80 PSI.
- Follow the manufacturers recommended maintenance schedule contained in the owner's manual (page 13) provided with the flex shaft power tool.
- Use of a small hand held Dremel for the secondary cutting operation is recommended. The cutting speed is to be 9,000-12,000 RPM. Use the 2-flute cutting bit provided.
- When using the flex shaft tool for the secondary cutting operation, loosen the set screw in the handpiece guide and remove the handpiece (See Handpiece Detail).
- When reinstalling the handpiece guide onto the handpiece, make sure the handpiece is fully seated into the handpiece guide prior to tightening the set screw. Failure to do this can result in serious damage to the handpiece and/or the flexible drive shaft (See Handpiece Installation Detail page 7).
- When replacing the cutter bit, ensure that the spacer is installed as shown (See Cutter Bit Installation Detail).



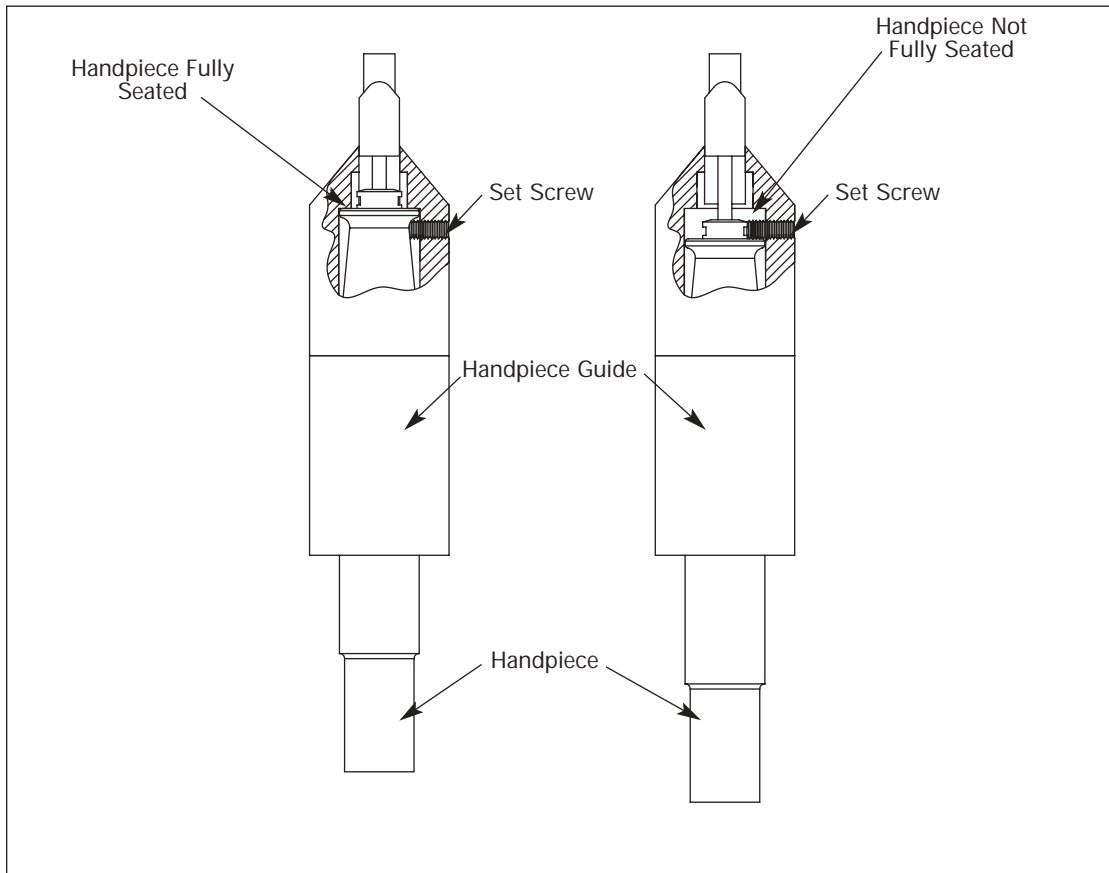
Handpiece Detail



Close Up Of Cutting Bits



Cutter Bit Installation Detail



Handpiece Installation Detail

1. Rotate the shutter approximately 90 degrees (FIG 1).



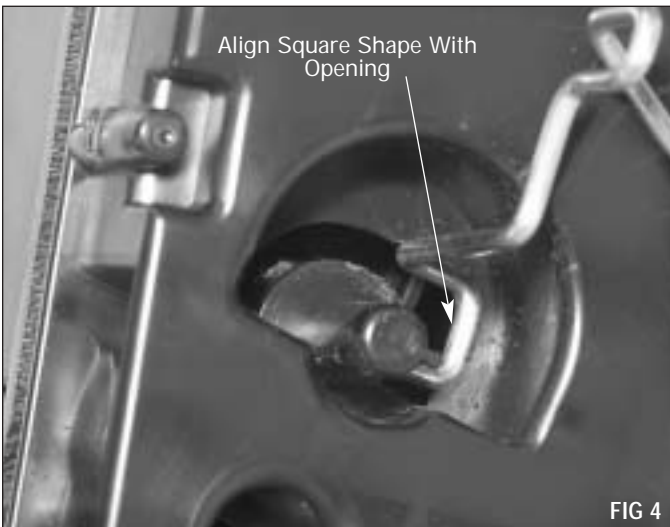
2. Pull shutter wire out of endcap (FIG 2).



3. Using needlenose pliers, disengage and remove shutter spring on the drive side (FIG 3). The left arm of the spring must be lifted over tab.



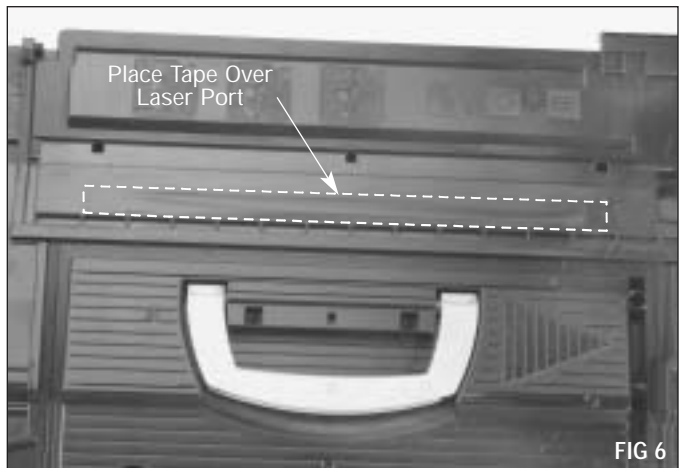
4. Rotate shutter until square shape in wire aligns with opening in the drive side endcap (FIG 4). Pull shutter wire out of endcap.

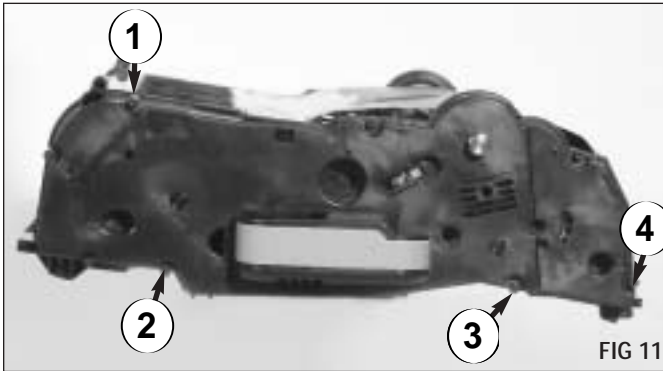


5. Cover drum with paper secured with tape to minimize cleaning (FIG 5).

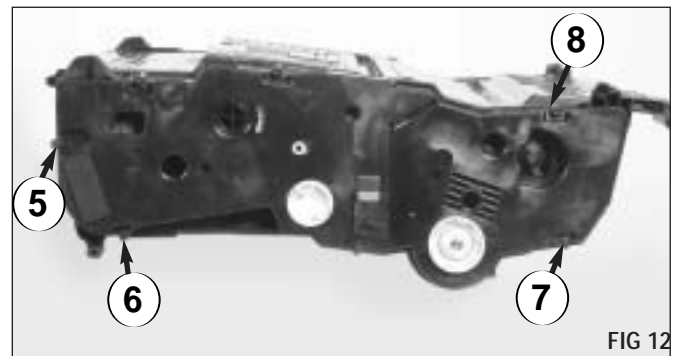


6. Seal laser port with tape (FIG 6).



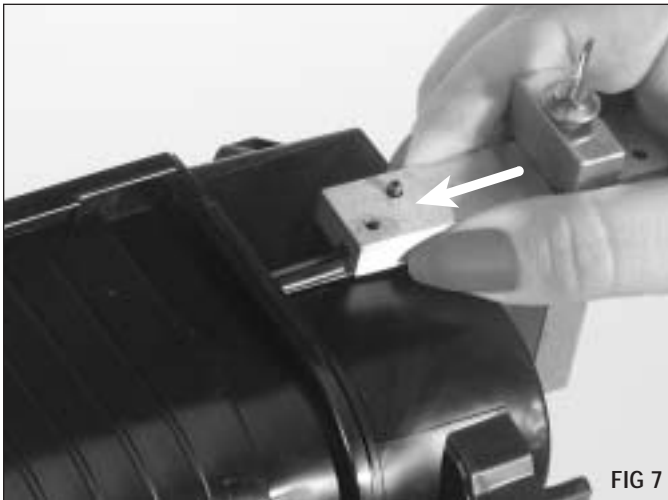


Drill Hole Locations
(Handle Side)



Drill Hole Locations
(Drive Side)

7. Using the drill guide, drill holes in the end caps as required for the retainer clips. Slide the drill guide over the posts on the end caps until the plate rests against the endcap and drill through hole on the drill guide (FIG 7, 8 & 9). At the places where the endcap is less wide (FIG 10), loosen the wingnut and change the position of the drill guide as shown. The required drill hole locations in the end caps are shown in FIG 11 & 12. Close up views of each hole location is shown in Figures 13 through 22.



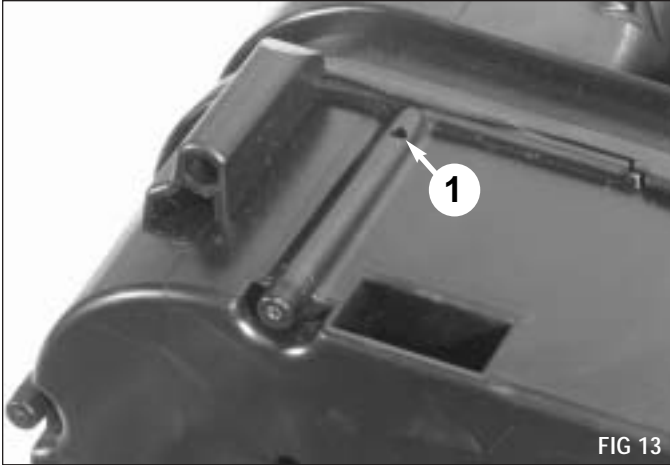


FIG 13

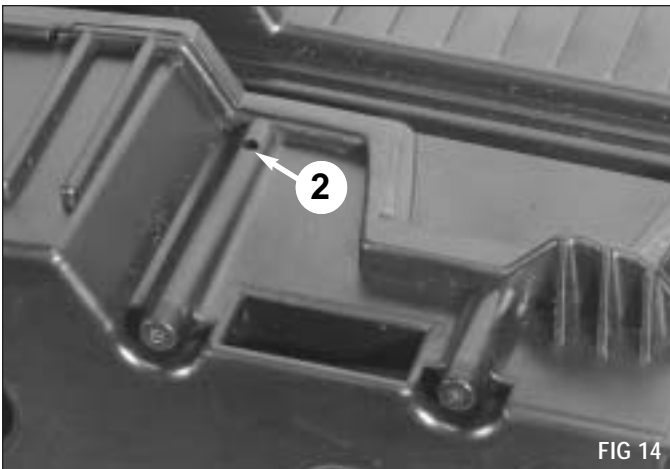


FIG 14

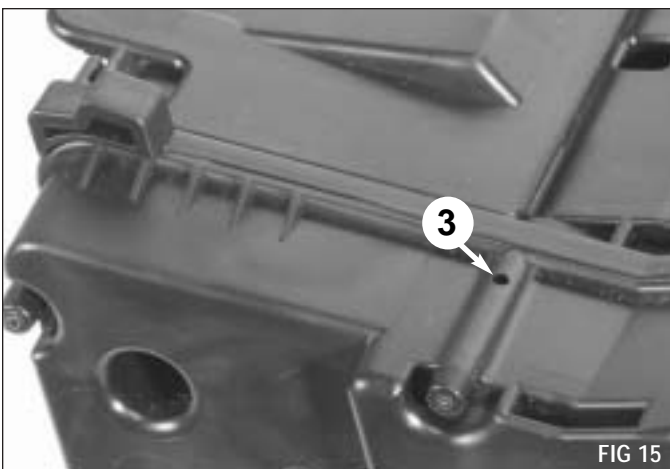


FIG 15

Prior to drilling hole 4, it is necessary to make a notch in the cartridge rib to allow clearance for the cartridge clip. First use a utility knife to cut down as shown (FIG 17). Then angle down to the bottom of the first cut to create a notch as shown (FIG 18).

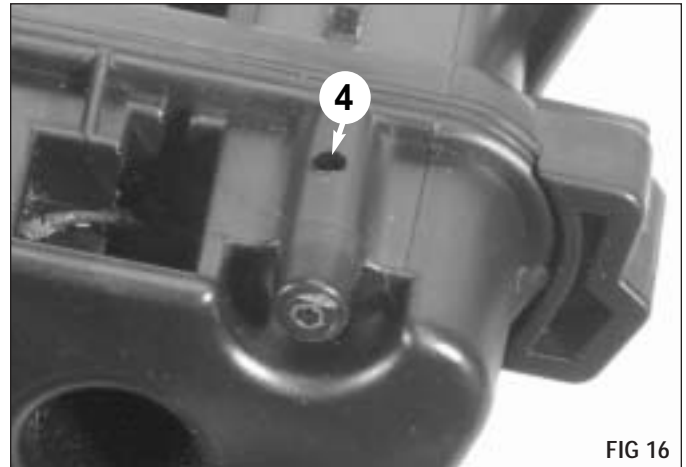
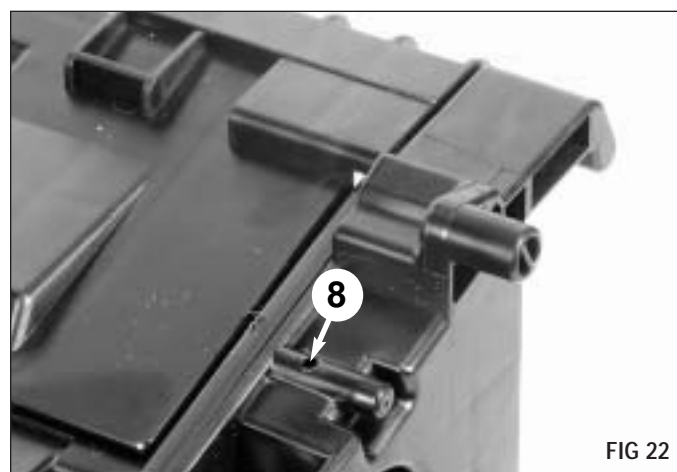
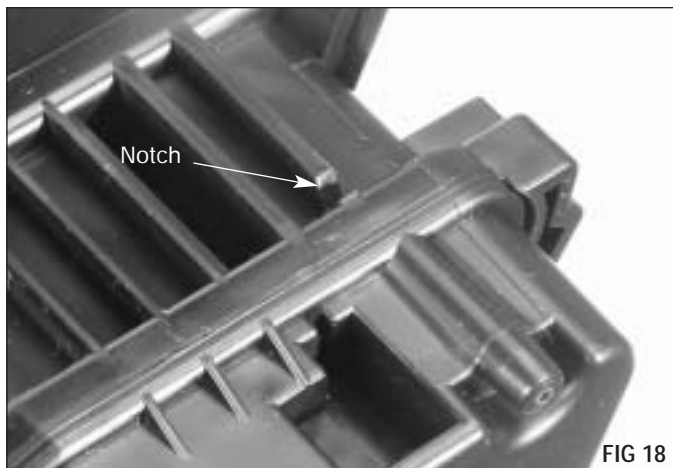


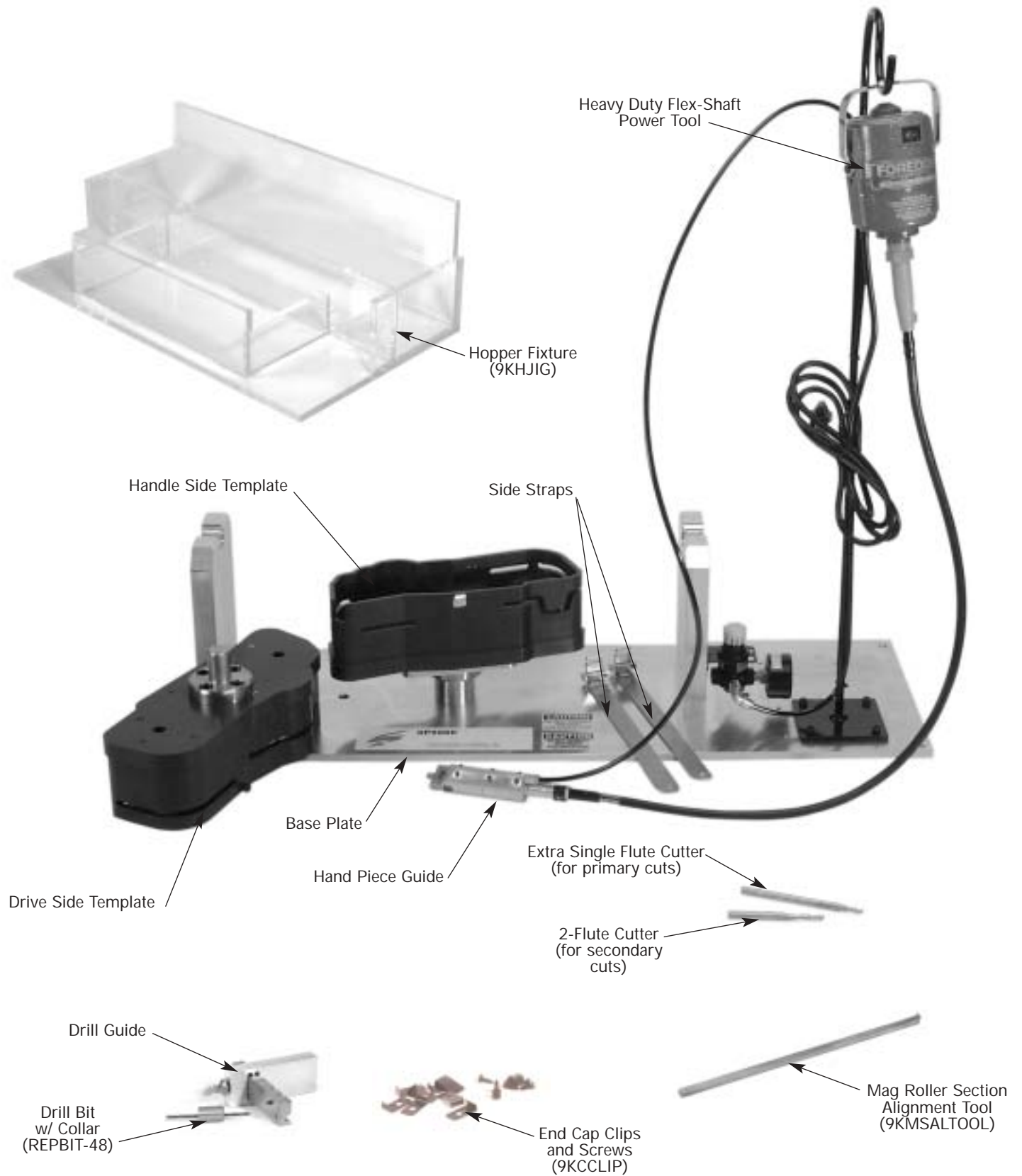
FIG 16



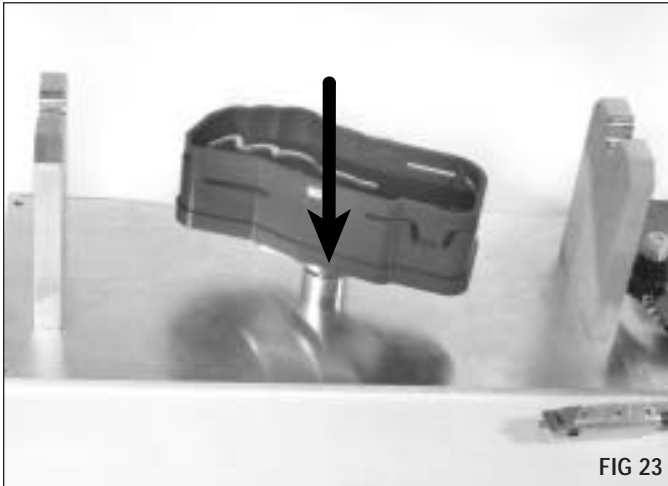
FIG 17



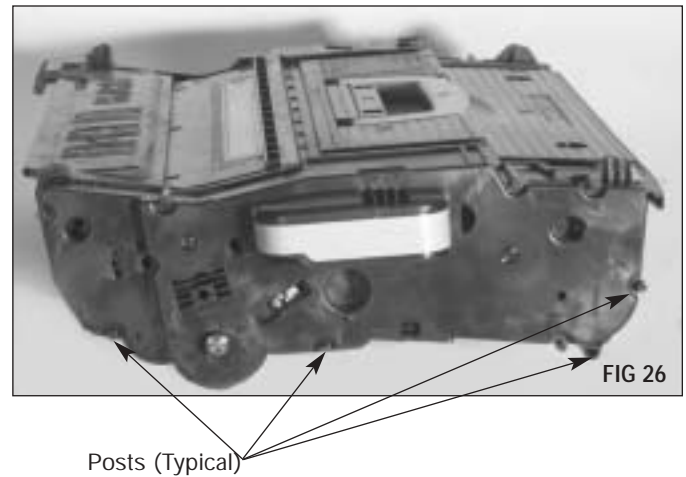
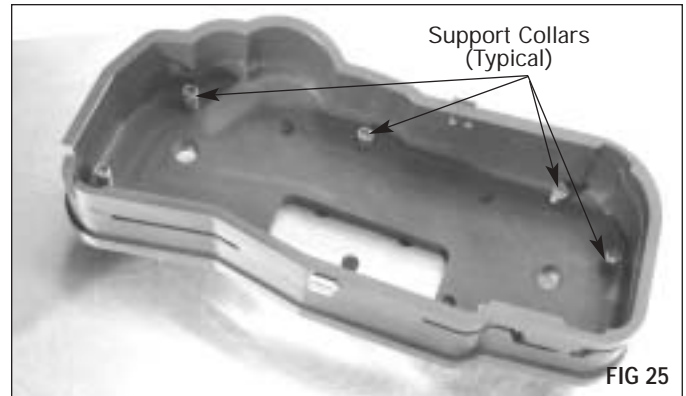
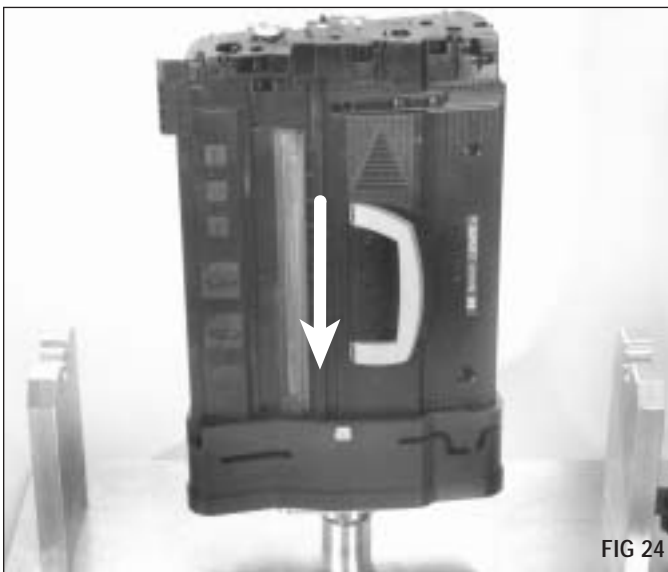
HP9000 Cartridge End Cap Removal Kit



8. Place the handle side template in the base plate (FIG 23).



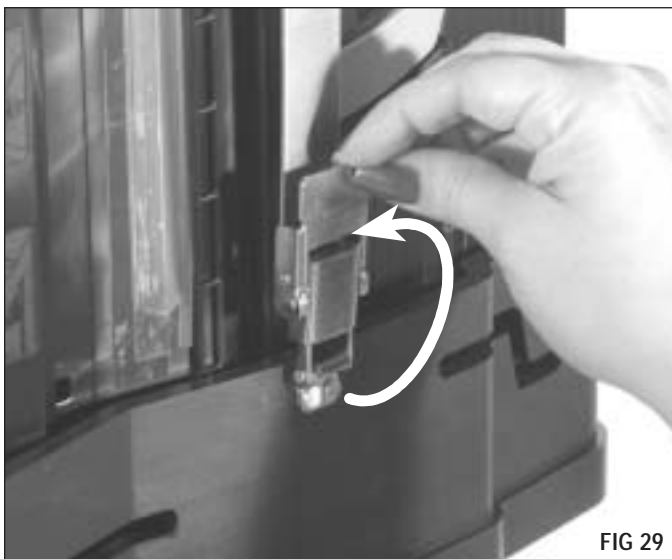
9. Place the cartridge into the handle side template (FIG 24). Make sure the posts on the cartridge are fully seated into the support collars on the template (FIG 25 & 26)



10. Place the drive side template on the cartridge (FIG 27). Again, make sure the posts on the cartridge are fully seated into the support collars on the template.



11. Place the two side straps on the cartridge (one on each side). The straps hang from the drive side template and are fastened to the handle side template as shown (FIG 28 & 29).



12. Pick up the cartridge (**Do Not use cartridge handle**) and place it on the base in a horizontal position as shown (FIG 30). The cartridge can be turned either way.



13. Using the hand piece guide begin making the primary cuts along the slots provided on the templates (FIG 31). Keep the hand piece guide straight, perpendicular to the surface of the templates and follow the contour of the slots. Push down on the hand piece guide while cutting to ensure proper cut depth. Keep the handpiece guide moving at a steady pace to prevent the plastic from melting.



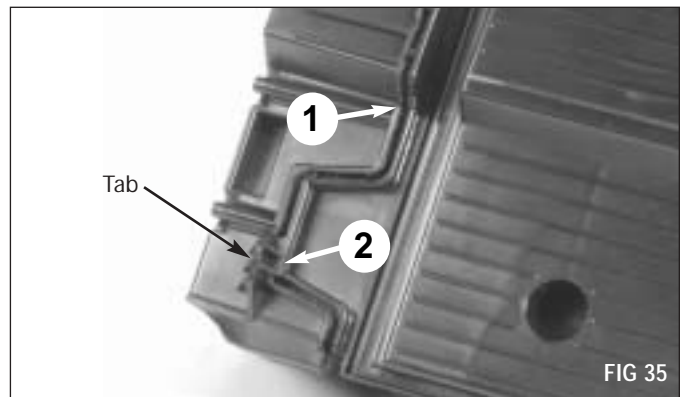
14. Rotate the cartridge as required and continue making the primary cuts along the slots provided (FIG 32). The cartridge can be rotated in either direction. Remember to keep the handpiece straight and perpendicular to the template surface.



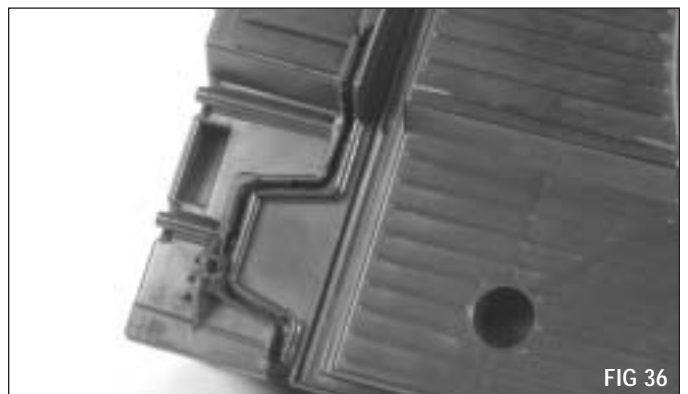
15. Remove the straps and templates from the cartridge. The next step is to begin making the required secondary cuts. The hopper fixture can be used to support the cartridge. Fig 33 shows the position of the cartridge in the hopper fixture for making the secondary cuts on the top of the cartridge and Fig 34 for the bottom of the cartridge.



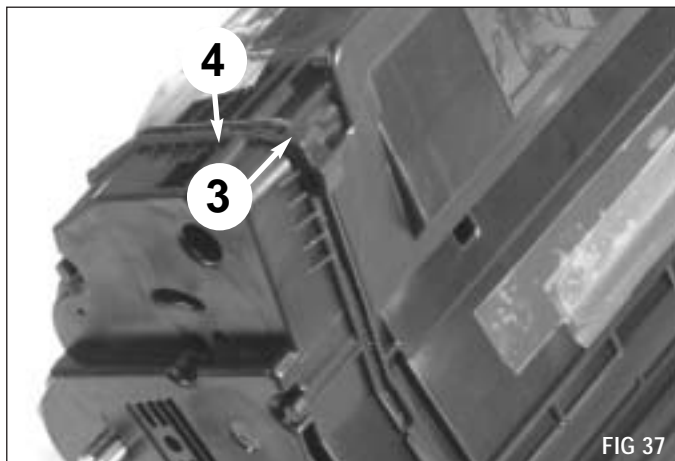
16. Secondary Cuts 1 & 2 Before (Handle End)
Plunge approximately 3/16" deep into cut line at (1) to finish cutting the inside corner. Cut around tab to join cuts (2).



16a. Secondary Cuts 1 & 2 After (Handle End)



17. Secondary Cuts 3 & 4 Before (Handle End) For cut 3 align the cutter bit as shown in FIG 38 so that it is even with the existing cut line. Cut under the positioning tab as shown. **Be Careful not to cut off the positioning tab.** For cut 4 cut down to (**but not through**) the post to break the solvent weld (See Fig 40).



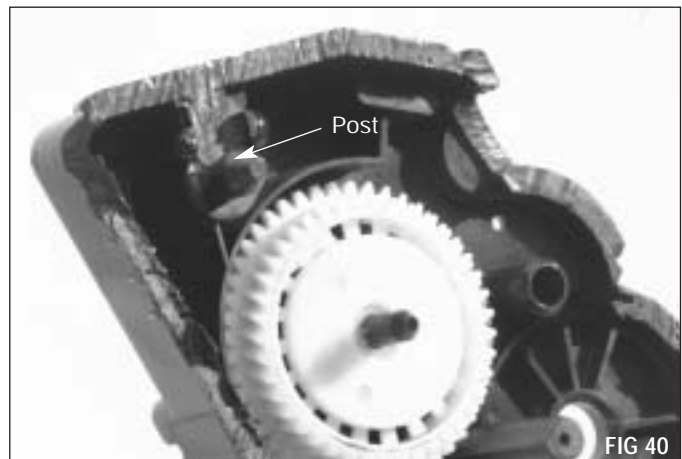
17a. Secondary Cuts 3 Detail (Handle End)



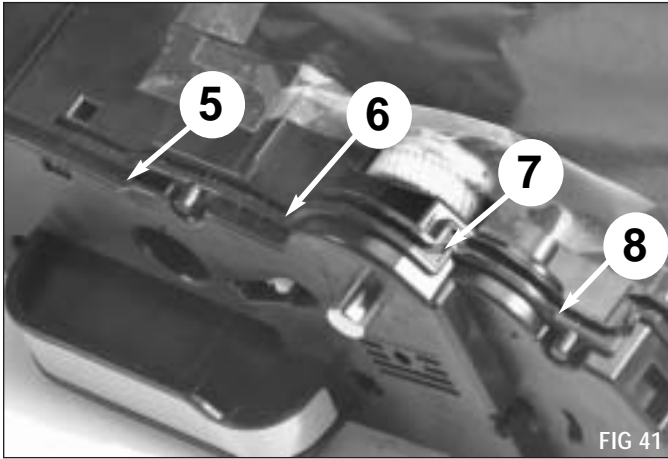
17b. Secondary Cuts 3 & 4 After (Handle End)



17c. Secondary Cut 4 After Detail (Handle End)



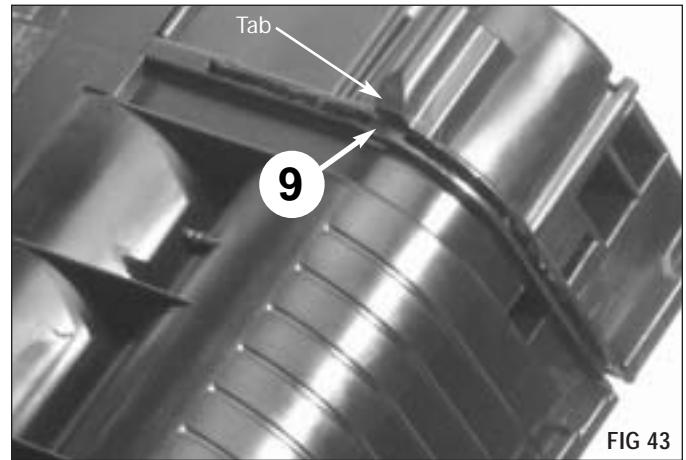
18. Secondary Cuts 5 & 6 & 7 & 8 Before (Handle End) For cuts 5, 6, 7, & 8 plunge approximately 1/8" deep into cut line to finish cutting the inside corners.



18a. Secondary Cuts 5 & 6 & 7 & 8 After (Handle End)



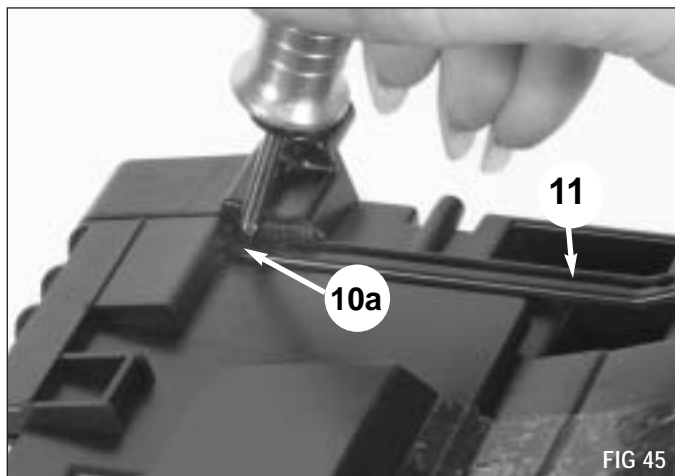
19. Secondary Cut 9 Before (Handle End) Cut around tab to join cuts.



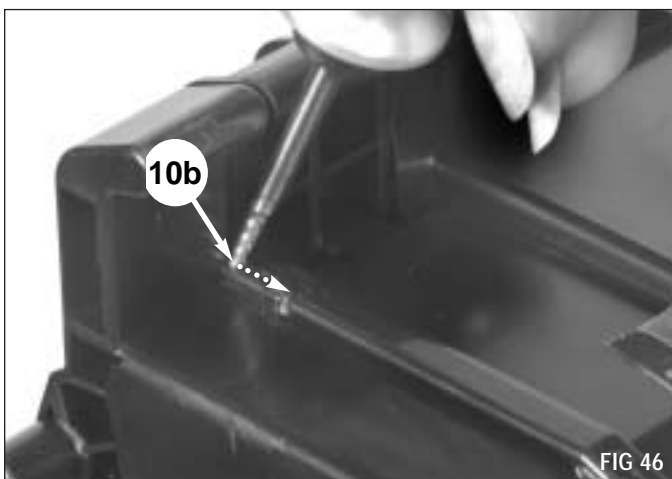
19a. Secondary Cut 9 After (Handle End)



20. Secondary Cut 10a, 10b & 11 Before (Drive Side End) For cut 10a plunge approximately 3/8" through to the back side at the angle shown in FIG 45. For cut 10b plunge approximately 1/8" and cut in the direction shown in FIG 46 approximately 1/2". For cut 11 cut down to (**but not through**) the post to break the solvent weld (See Fig 48).



20a. Secondary Cut 10b Before (Drive Side End)



20b. Secondary Cut 10a & 11 After (Drive Side End)



20c. Secondary Cut 11 After Detail (Drive Side End)



20d. Secondary Cut 10b After (Drive Side End)

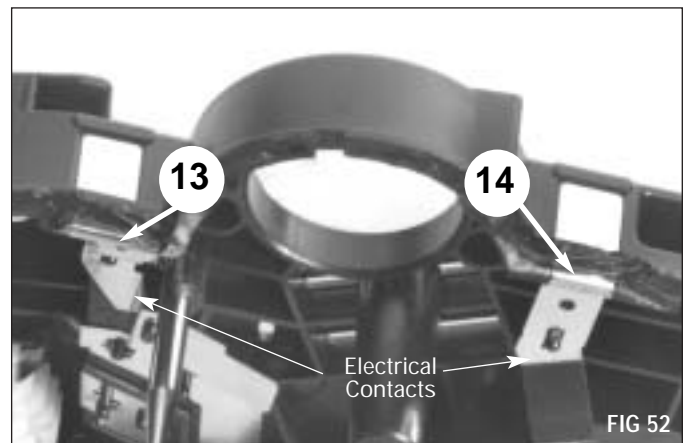
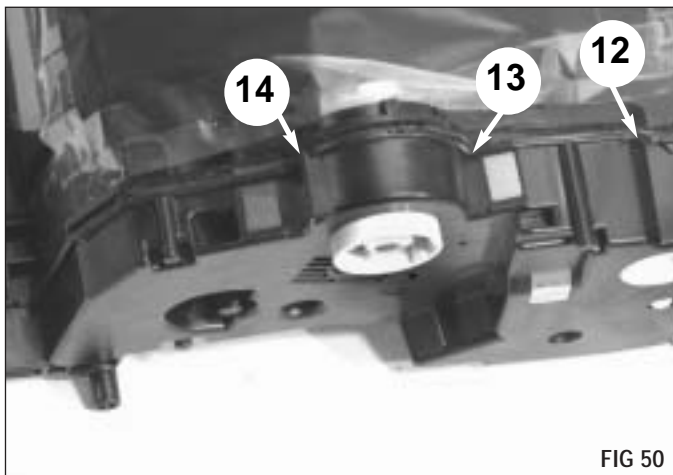


21a. Secondary Cut 12 & 13 & 14 After (Drive Side End)

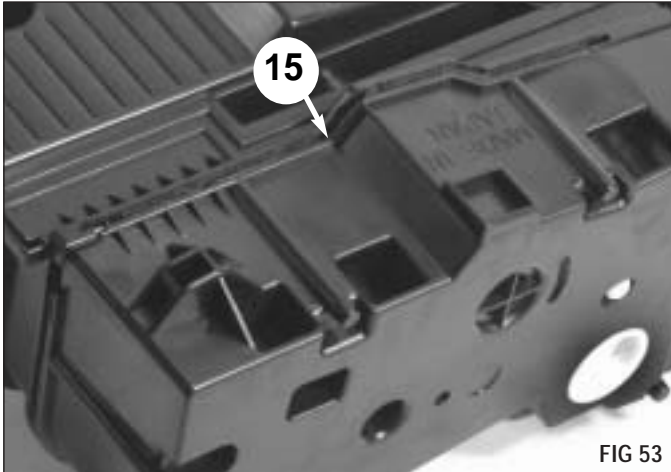


21. Secondary Cut 12 & 13 & 14 Before (Drive Side End) Plunge approximately 1/8" deep into cut line at 12 to finish cutting the inside corner. For cuts 13 & 14 clean the inside corners around the drum area, then cut down just far enough to expose the electrical contacts (See Fig 52). **Do Not** cut the electrical contacts.

21b. Secondary Cut 12 & 13 & 14 After Detail (Drive Side End)



22. Secondary Cut 15 Before (Drive Side End) For cut 15 plunge approximately 3/16" to finish cutting the inside corner. **Be Careful** not to cut too deep to avoid severing the ribbon cable (See Fig 55).



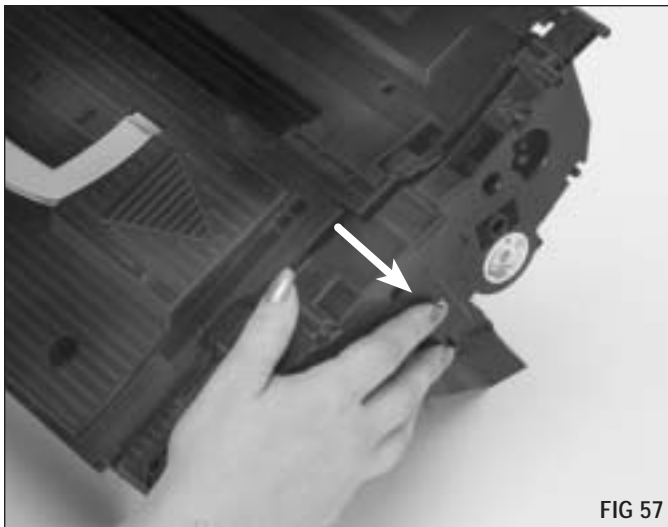
22b. Secondary Cut 15 After Detail (Drive Side End)



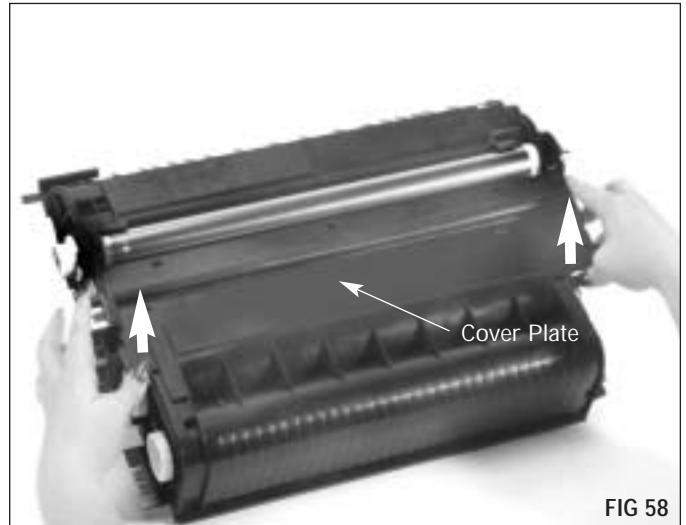
22a. Secondary Cut 15 After (Drive Side End)



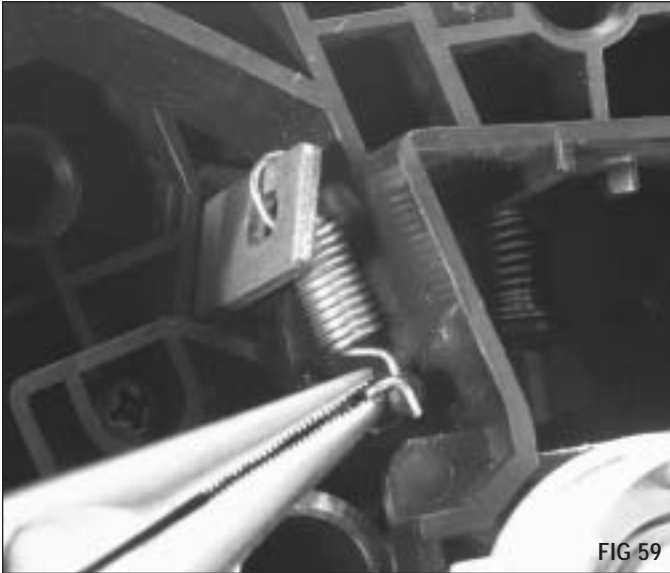
23. Remove the protective paper over the OPC drum and the tape over the laser port. Remove the end caps (FIG 56 & 57).



24. Turn the cartridge over. Remove the cover plate by lifting up on the ends to release the tab and then move the cover back and to the left (FIG 58).



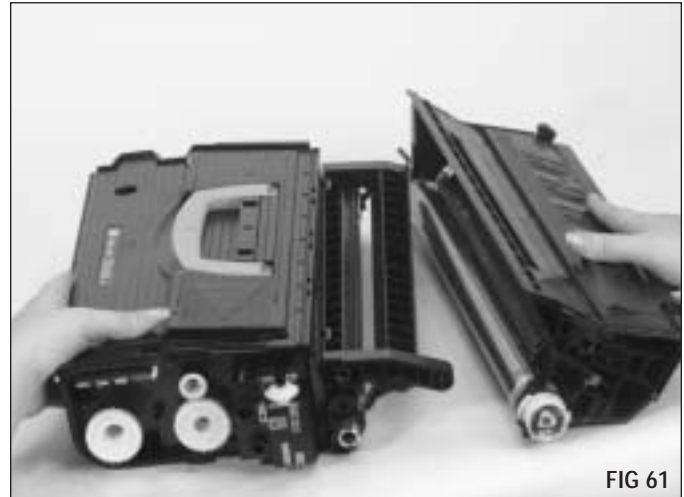
25. Use needlenose pliers to unhook the doctor blade spring (FIG 59).



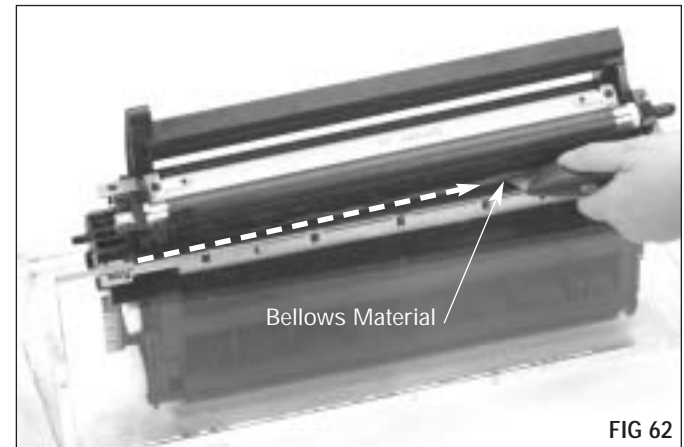
26. Remove the cartridge pin (FIG 60). If the pin is pushed in too far to remove with needlenose pliers use side cutters.



27. Separate the sections (FIG 61).



28. Separate the hopper from the mag roller housing by cutting through the bellows material (FIG 62).



29. Use dry, filtered, compressed air to clean the cartridge of loose debris created during the splitting process.

NOTE If the cartridge has previously had the bellows material removed and been sealed with an SCC seal, follow steps 1 through 4 below.

1. Cut the foam between the mag roller housing and the hopper (Fig 63) and then pull the mag roller housing free from the hopper.



FIG 63

2. Remove the seal material from the mag roller housing by peeling the tape away (FIG 64).



FIG 64

3. Begin peeling the gasket away from the hopper as shown (FIG 65).



FIG 65

4. Continue to peel the gasket toward the contacts. End with a sideways pull to prevent damage to the contacts (FIG 66). Use 91-99% isopropyl alcohol to remove any remaining adhesive residue or seal materials on the hopper and the mag roller housing.

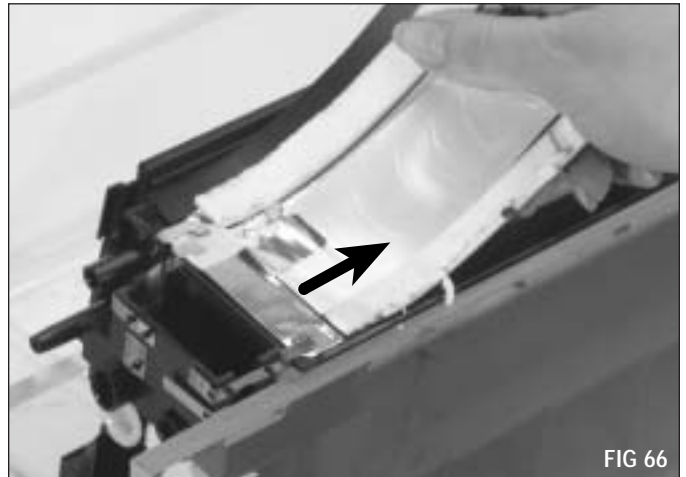


FIG 66

NOTE Care must be taken when removing the SCC seal to not damage the electrical contacts. Do not scrape the adhesive off with a sharp object. Damage to the sealing surface may occur which can cause the seal to not adhere securely and thereby cause toner leakage.

Disassembly

Hopper Section

NOTE Be very careful when working near the contacts by the seal spool as they are easily damaged.

1. Pry along the edge of the seal spool cover and remove (FIG 67 & 68). **Be careful** not to damage the electrical contacts.



FIG 67

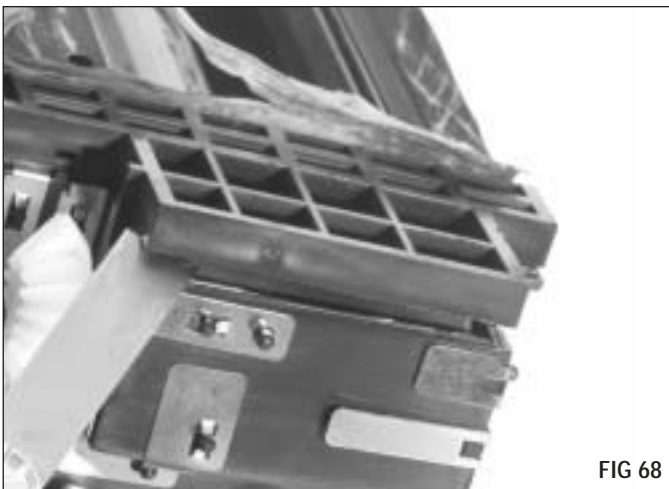


FIG 68

2. Remove and discard the bellows plate from the hopper side (FIG 69 through FIG 71). The bellows plate is held in place by a perimeter sonic weld. Carefully move around the perimeter and pry it up. Score the back edge with a utility knife (FIG 70).

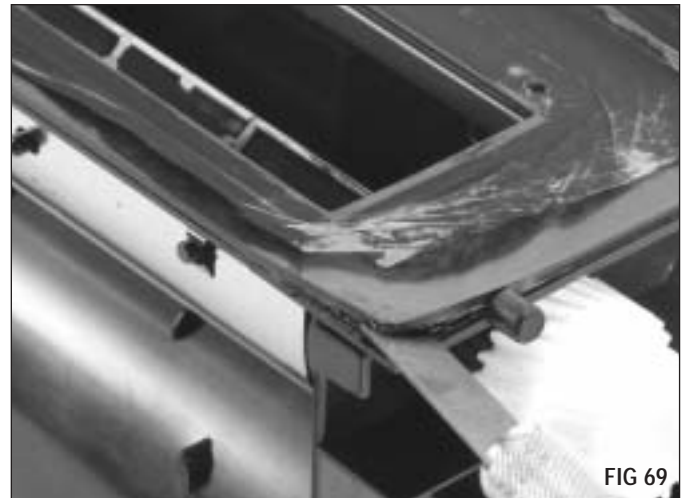


FIG 69

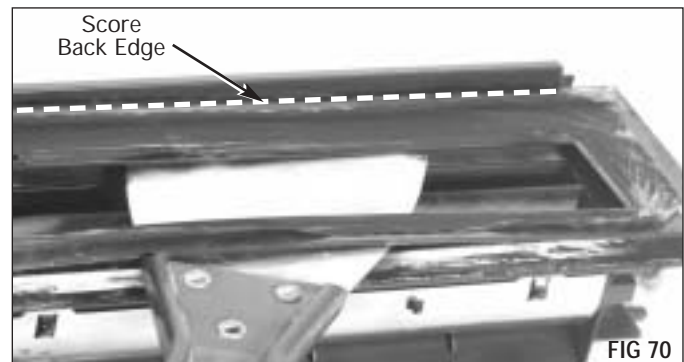


FIG 70

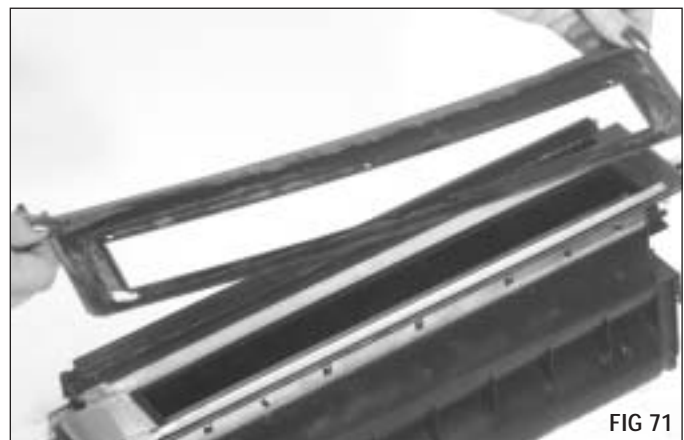
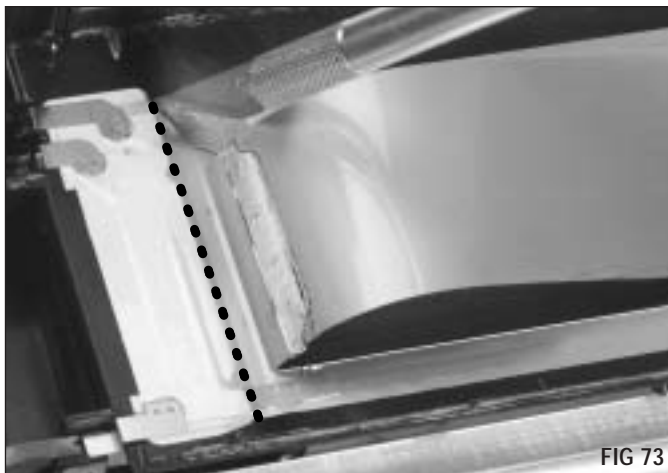


FIG 71

3. Remove and discard the original seal material from the seal spool (FIG 72). The seal spool will be reused.



4. Cut through the original seal along the edge of the white tape under the seal contacts (FIG 73).



5. Remove the original seal up to the edge of the white tape (FIG 74).



6. Remove the remaining original seal material from the hopper up to the edge of the white tape (FIG 75 & 76).



FIG 75

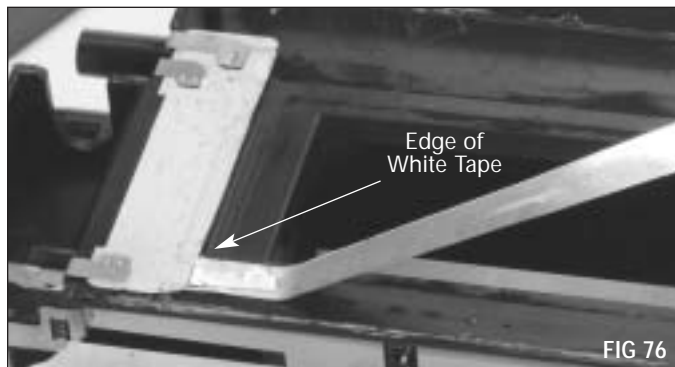


FIG 76

7. To remove the white tape around the electrical contacts, first lift up and then slide the tape out (FIG 77). **Be careful not to damage the contacts.**

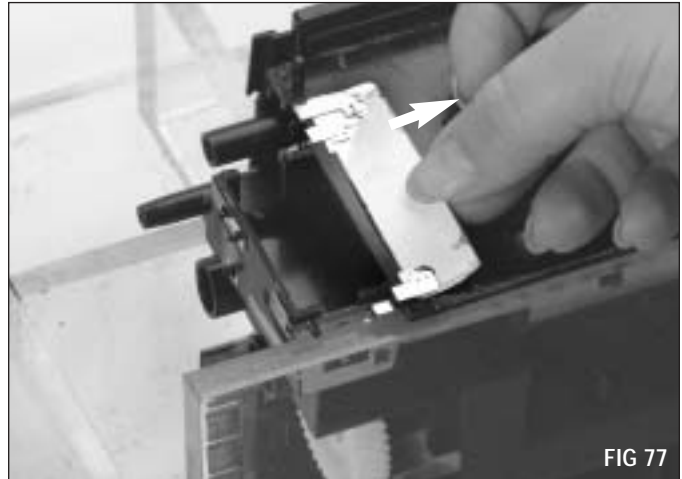


FIG 77

Mag Section

- 8.** Remove the mag roller drive gear (FIG 78).



FIG 78

- 9.** Remove the two screws from each mag roller stabilizer plate (FIG 79 & 80). Remove stabilizer plates.



FIG 79

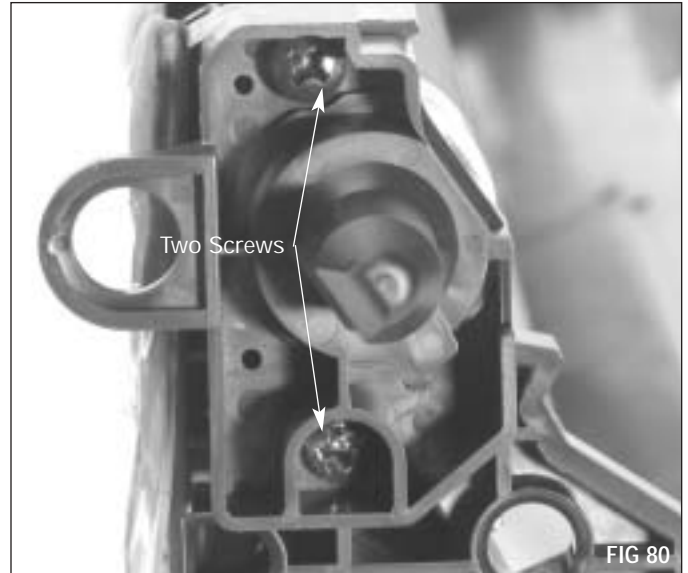


FIG 80

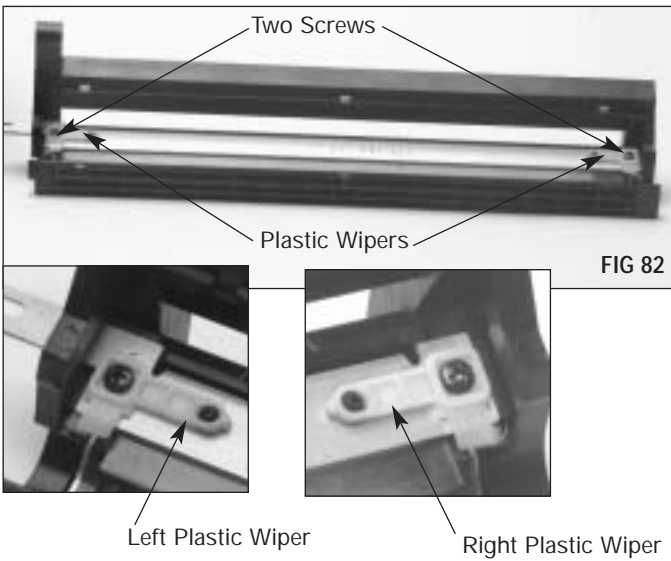
- 10.** Remove the mag roller (FIG 81).



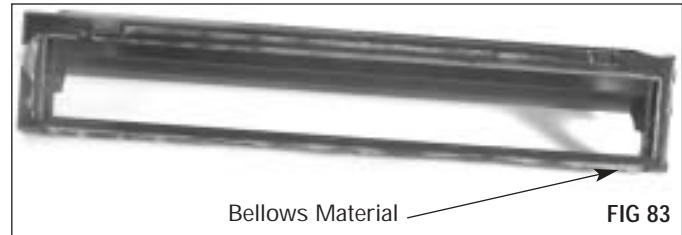
FIG 81

Mag Section (continued)

11. Remove the two screws from the doctor blade. Remove the doctor blade and the plastic wipers at each end (FIG 82).



12. Clean the surface of the mag roller housing with dry, filtered, compressed air (FIG 83). Apply 91-99% isopropyl alcohol on bellows material and let it set for 30-60 seconds for easy removal.



Drum Section

13. Remove the drum support coupling (FIG 84).



14. Remove 2 screws from the drum axle plate (FIG 85). Remove the axle plate.



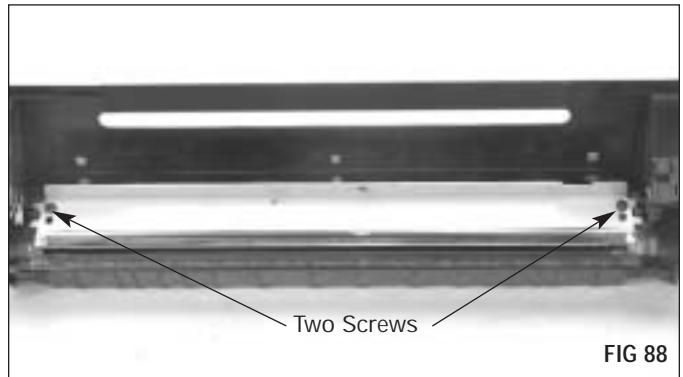
15. Remove the drum (FIG 86).



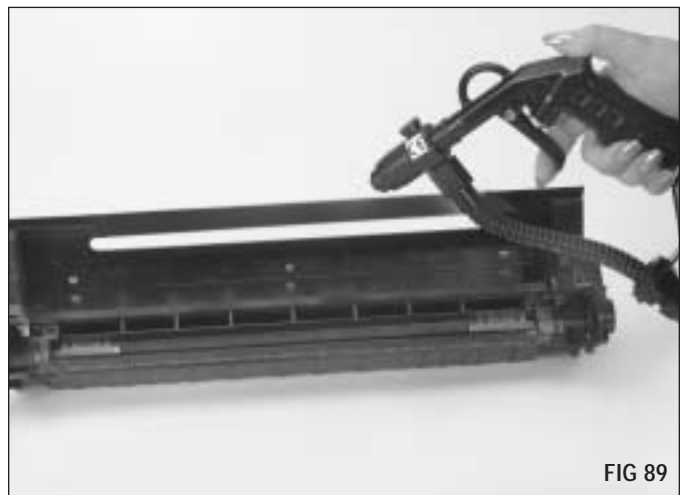
16. Remove the PCR by grasping the shaft with needlenose pliers and lifting out of the saddle (FIG 87).



17. Remove the two screws from the wiper blade (FIG 88). Remove the wiper blade.



18. Dump the toner from the cartridge and clean thoroughly with dry, filtered compressed air (FIG 89). Clean toner and debris from the foam and felt sealing components.



Inspect the sealing components in the cartridge and replace as required. Foam components should display a smooth, clean surface. Make sure the foam materials are secured in the correct position. Replace the foam components that are ripped, pitted or dislodged. Sealing blades should exhibit a smooth, flat surface along the entire length of the blade. Make sure the blade is fully attached to the cartridge.

HP9000 Qualified Products

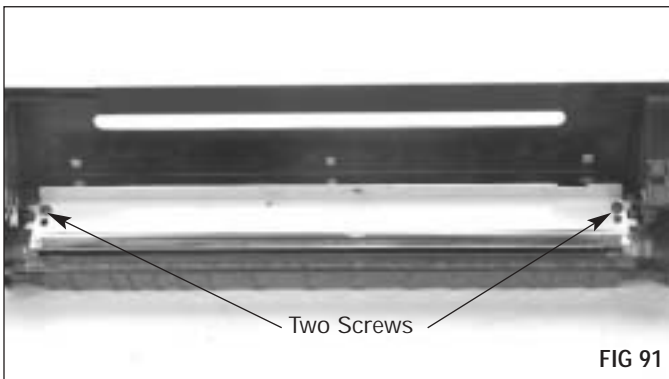
- Doctor Blade (9KDBLADE)
- Doctor Blade Spring (9KDBSPRING)
- Doctor Blade End Foam (9KDBEFOAM)
- Doctor Blade Sealing Foam (9KDBSFOAM) left and right
- Wiper Blade (5KBLADE)
- Wiper Blade End Felt & End Foam Set (9KWBEFFSET) left and right
- Wiper Blade Sealing Foam (9KWBSFOAM)
- Mag Roller (9KMDR)
- Mag Roller Sealing Foam (9KMRSFOAM)
- Mag Roller Sealing Blade, Mylar (9KMRSBLADE)
- Mag Roller Air Gap Roller (9KAGROLL)
- Mag Roller Stabilizer Bearing (9KMRSBEARING)
- HP9000 Recovery Blade, Mylar (9KRECBLADE)
- PCR (5KPCR)
- OPC Drum w/Gears (OS9KDRGR)
- Hopper Cap (9KHCAP)
- Hopper Fixture (9KHJIG)
- Cartridge Clip w/Screw (9KCCLIP)
- HP9000 Chip Solution (9KCHIP)
- HP9000 Cartridge Box (9KBOX)
- HP9000 Cartridge Box Insert (9KINSERT)
- HP9000 Cartridge Box Label (9KLABEL)
- HP9000 Cartridge Label (9KCLABEL)
- HP9000 Toner (9K-1650B) & (9K-1400B-MICR)
- HP9000 Cartridge End Cap Removal Kit (9KCSS)

Reassembly

1. Kynar Lubricating powder applied to the working edge of the wiper blade will help prevent blade “flip overs” during the first drum rotations of the remanufactured cartridge. Dip the edge of the blade in a long, shallow container of Kynar® lubricating powder (FIG 90). Examine the blade to ensure even coverage.



2. Install the wiper blade and replace the two screws (FIG 91).



3. Install the PCR (FIG 92).

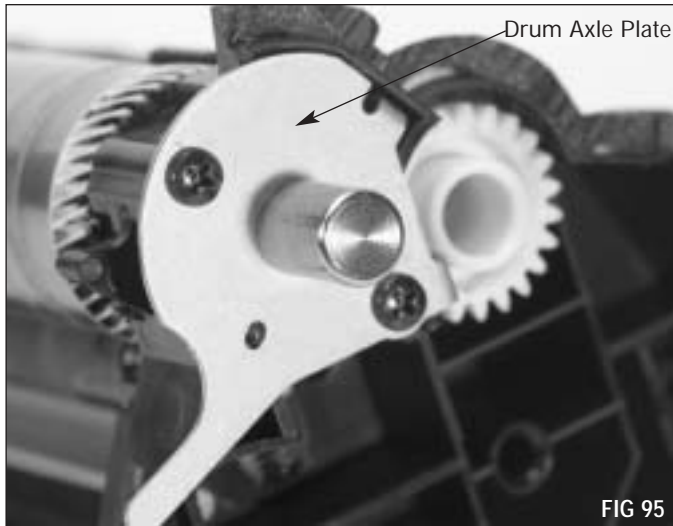


4. Pad the coated area of the drum with Kynar® lubricating powder (FIG 93) Be careful to avoid getting powder on the gears.



5. Install the drum, drum axle plate, and drum support coupling (FIG 94, 95, 96).

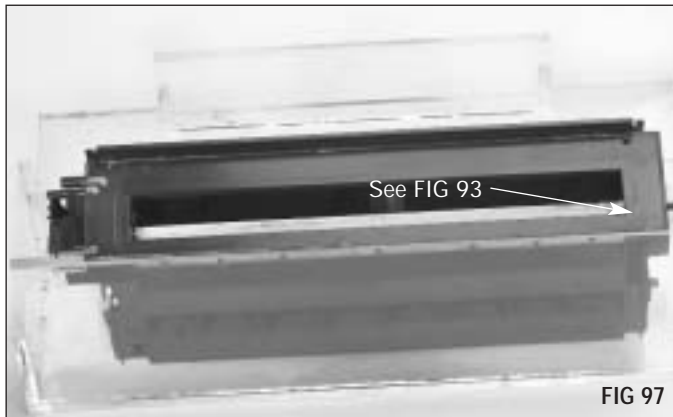




NOTE Rotate the drum 4 or 5 revolutions to assure that the drum will rotate without flipping the wiper blade. Clean any residual kynar off of the PCR with a dry lint-free cloth.

Installing a Seal

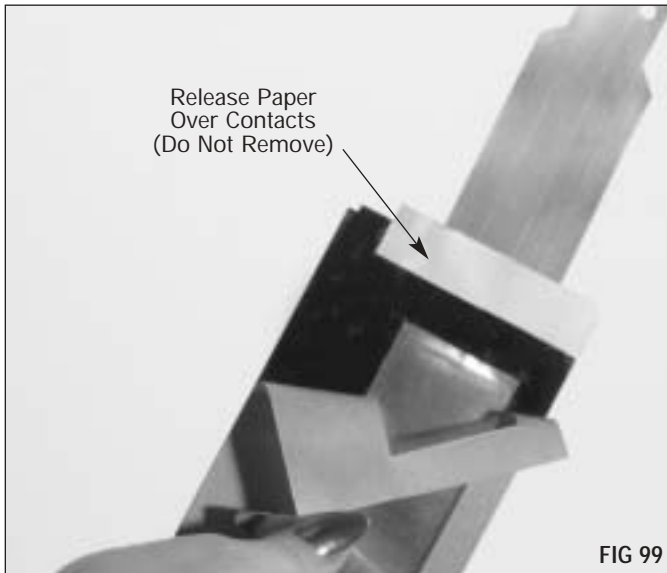
6. Clean the sealing surface (FIG 97). The entire sealing area should be flat and clean.



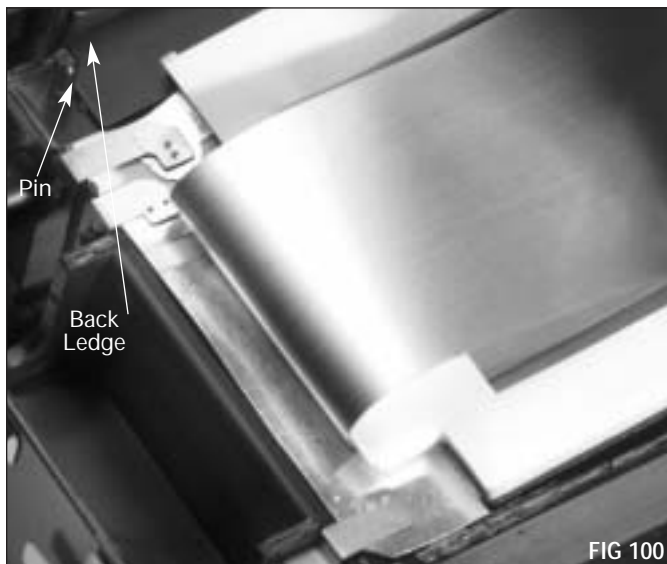
7. Use the square end knife tool to scrape over the ridge as shown (FIG 98). Toner leakage can occur if this area is not flat and clean.



8. Peel the release paper back some from the end of the seal as shown (FIG 99). **Do not** remove the release paper over the foil contacts. As you're placing the seal into position continue removing the release paper a little at a time (See FIG 101).



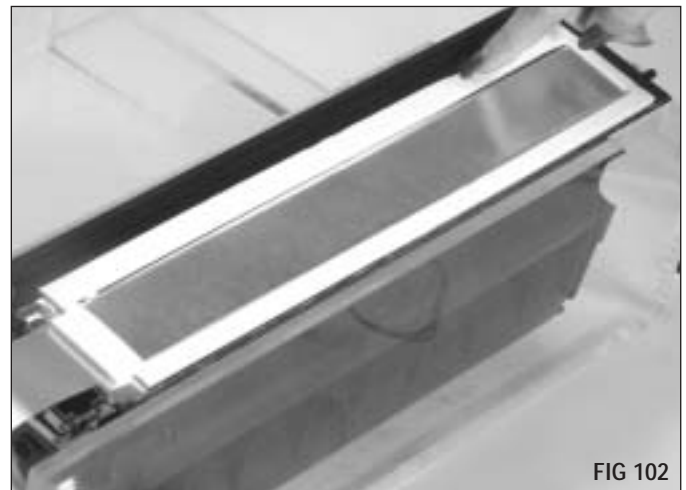
9. Slide foil area of the seal assembly under the three seal contacts on the hopper (FIG 100). The seal should rest against the pin and the back ledge of the hopper.



10. Continue securing the seal (FIG 101).



11. Apply pressure to the perimeter of the gasket to secure (FIG 102).

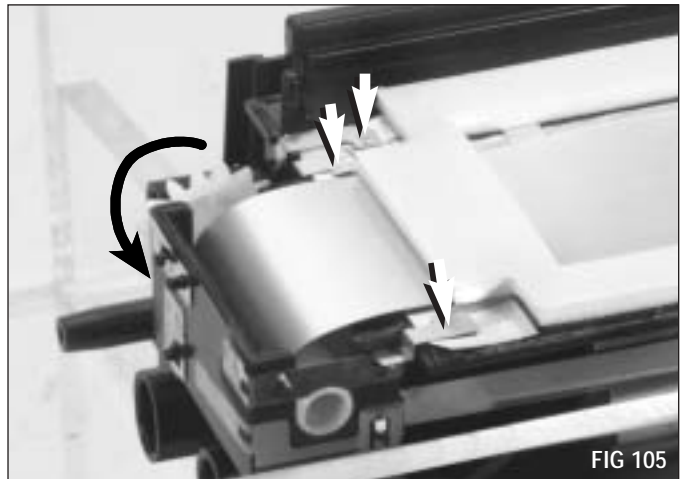


NOTE The HP9000 seal features pressure sensitive adhesive. You must apply pressure to the perimeter of the gasket to secure.

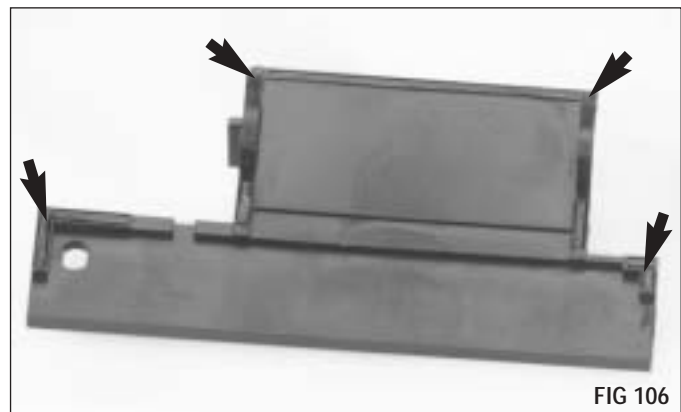
12. Thread the end of the seal pull film through slot in the seal spool (FIG 103) until the holes in the pull film engage with the hooks on the seal spool (FIG 104).



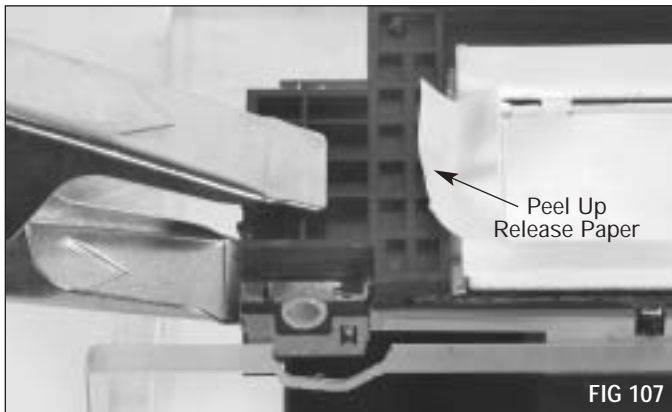
13. Place spool into spool housing, then wind excess pull film onto spool (FIG 105). Make sure the contacts are touching the seal contacts. Failure of the contacts touching will give an “Install cartridge” message on the printer display.



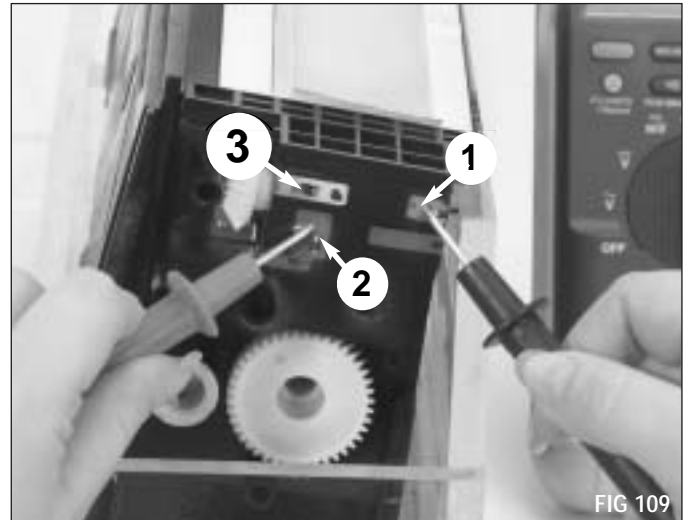
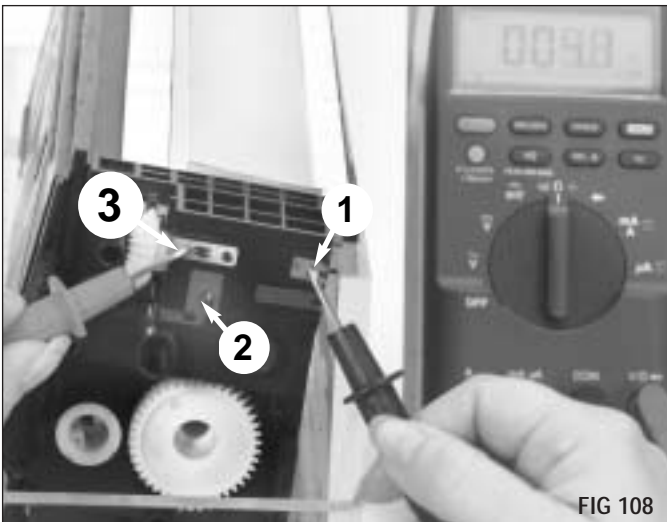
14. Place small drops of adhesive in the corners of the underside of the spool cover where the cover attaches (FIG 106).



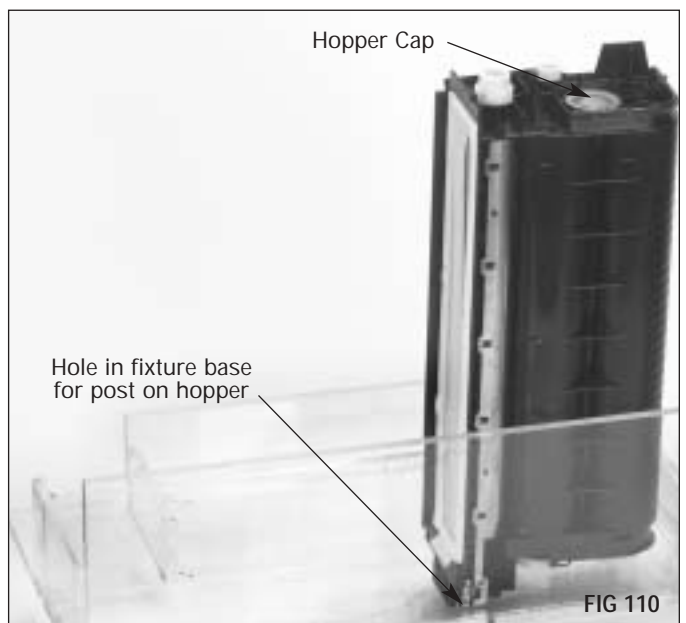
15. Peel up the portion of the release paper that is overlapped by the seal spool cover as shown. Replace the cover and clamp tight until secure (FIG 107).



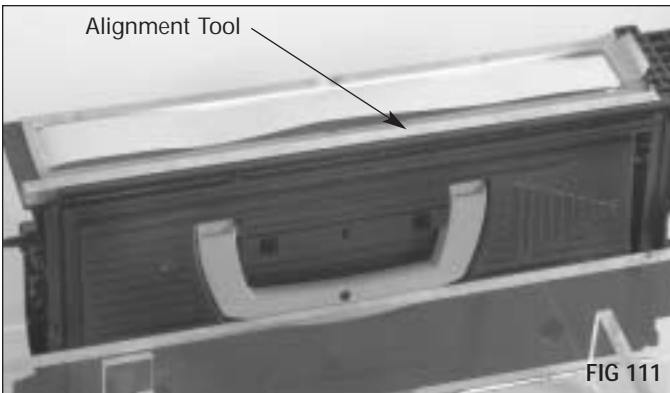
16. Confirm proper installation of seal contacts by checking for continuity between contact 1 and contact 3 (FIG 108), and between contact 1 and contact 2 (FIG 109).



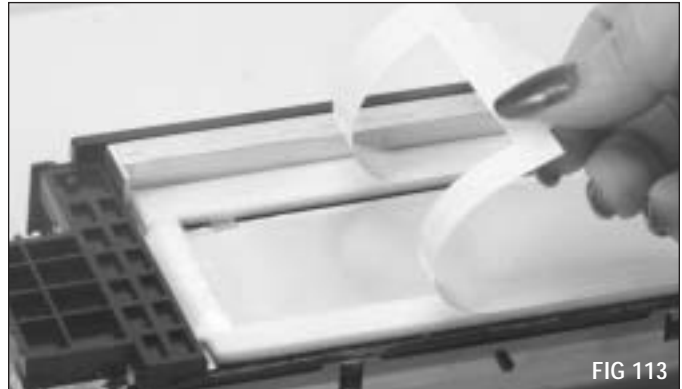
17. Place the hopper vertically in the hopper fixture as shown (FIG 110) and fill the hopper with toner. Install a new hopper cap after filling. Reusing an old hopper cap will likely result in toner leakage.



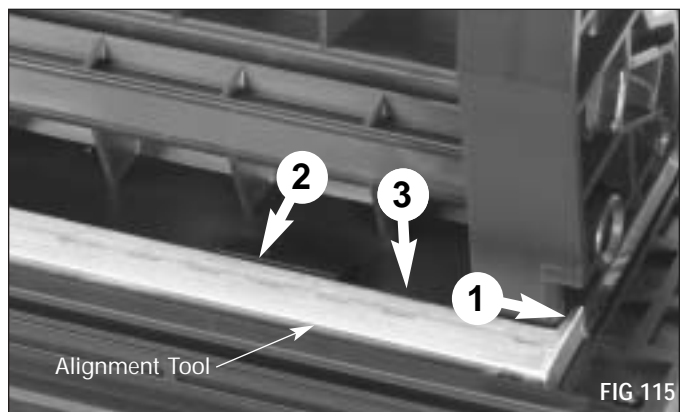
18. Place the mag roller section alignment tool on the hopper (FIG 111). Note how the right end of the alignment tool rest against the spool cover (FIG 112). The alignment tool is used to ensure proper positioning of the mag roller section to the toner hopper.



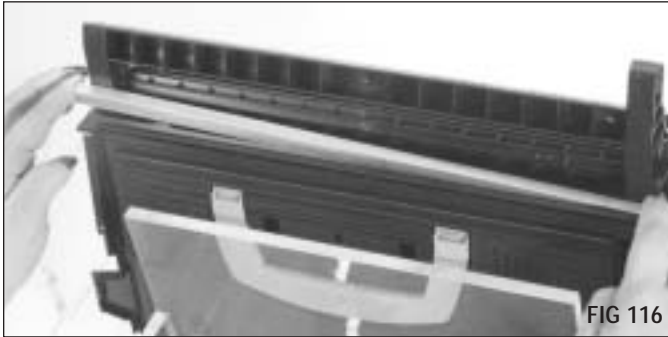
19. Remove the release liner from the seal (FIG 113).



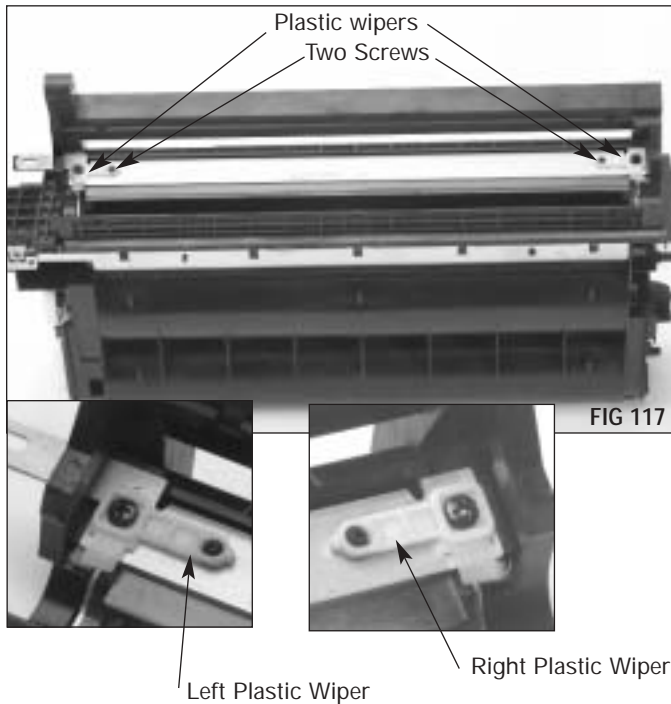
20. Place the mag roller housing on the hopper (FIG 114). Be careful not to bow the front of the mag roller housing when installing. Align the mag roller section against the alignment tool (1 & 2) and press down (3) to seat the frame onto the gasket (FIG 115).



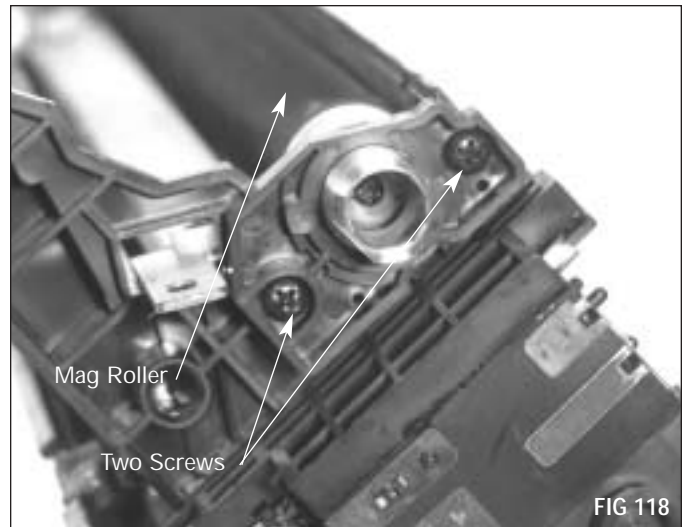
21. Remove the alignment tool (FIG 116).



22. Install the doctor blade and the plastic wipers at each end and secure with the two screws (FIG 117) .



23. Install the mag roller and both stabilizer plates. Secure the stabilizer plates with two screws on each end (FIG 118).



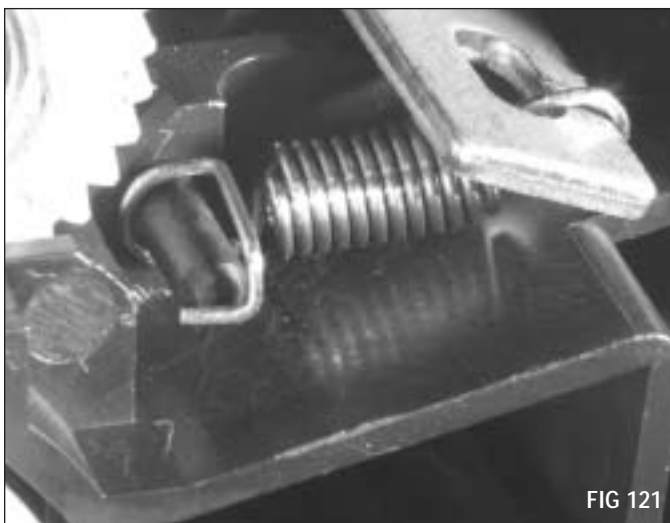
24. Install the mag roller drive gear (FIG 119).



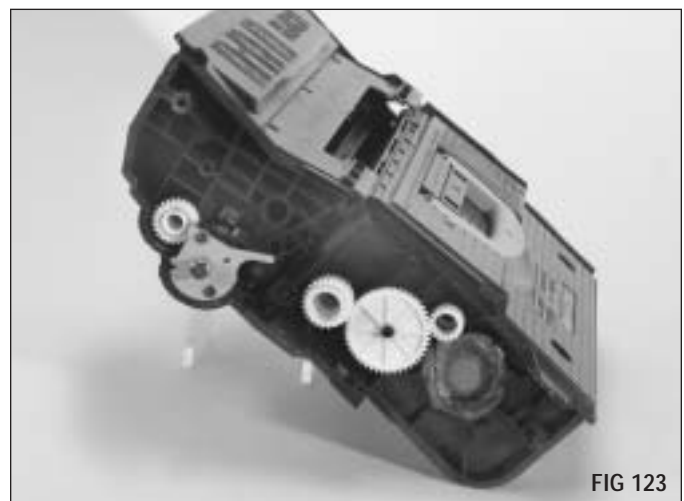
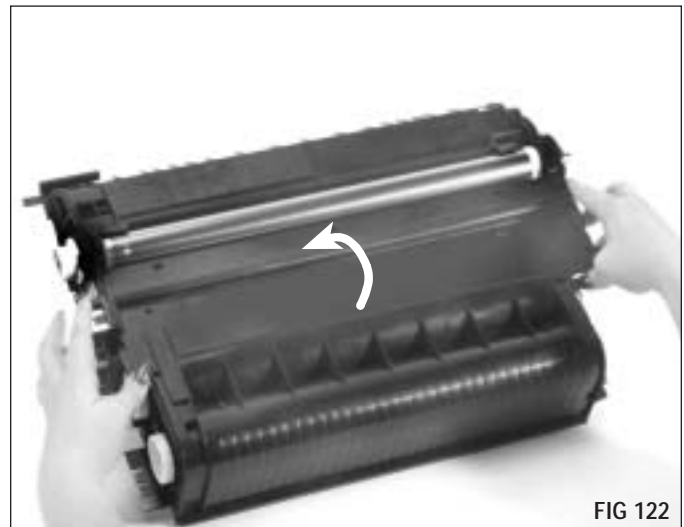
25. Place the hopper and drum sections back together. Reinstall the pin (FIG 120). Do not push the pin in past the outside rim of the plastic boss adjacent to the pin.



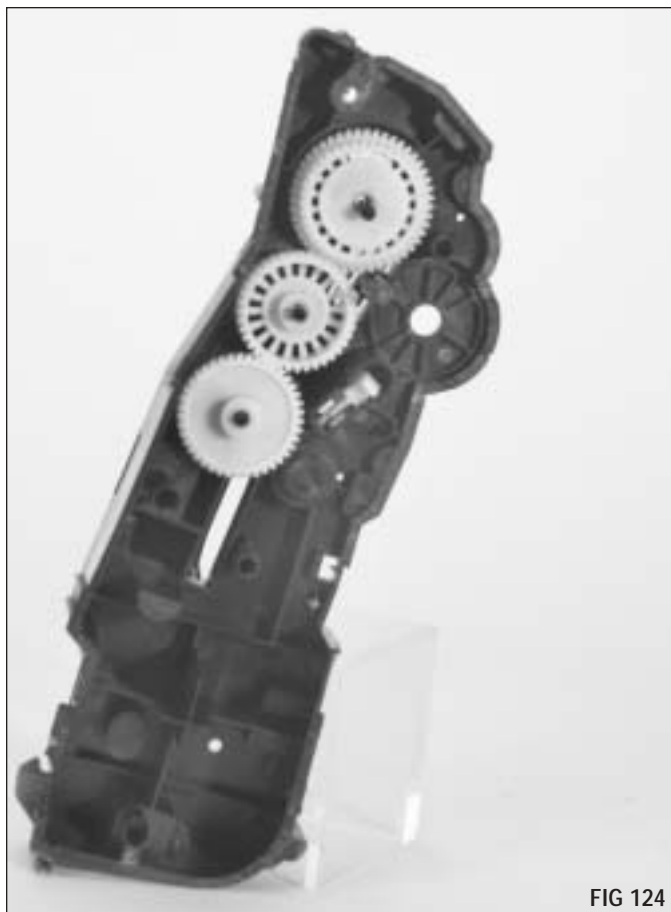
26. Reinstall the doctor blade spring as shown (FIG 121). **Correct installation of the spring is critical to print quality.**



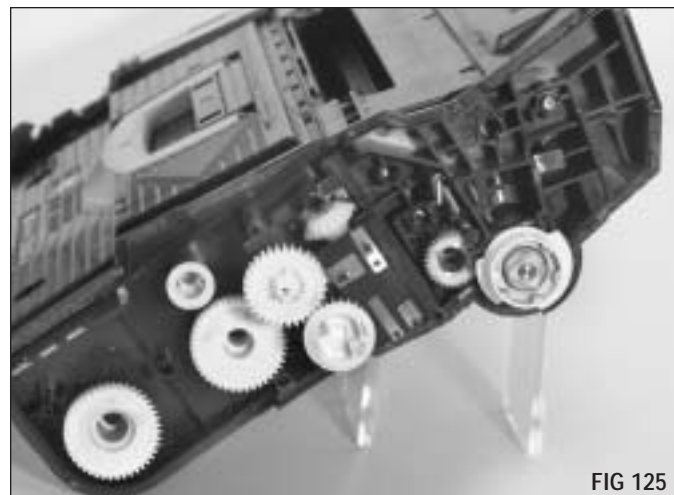
27. Turn the cartridge over. Reinstall the cover plate by rotating it away from you as shown (FIG 122).



**Gear Positions
(Handle Side)**



**Gear Positions
(Handle Side Endplate)**



**Gear Positions
(Drive Side)**

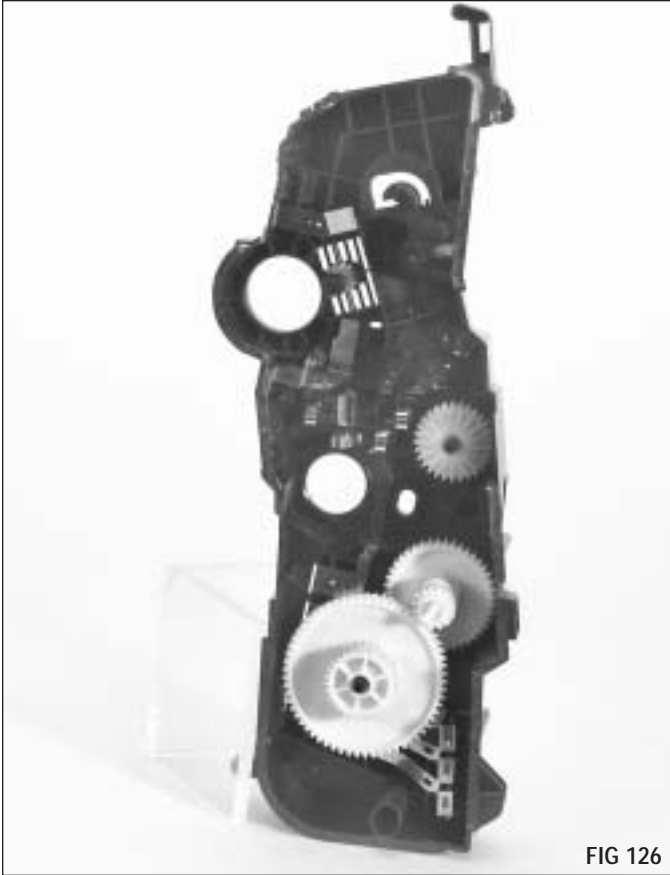


FIG 126

**Gear Positions
(Drive Side Endplate)**

28. Replace the endcaps ensuring that the gears and agitator drive are correctly aligned (FIG 127 & 128).



FIG 127



FIG 128

29. To replace the drum shutter, first align the square end of the shutter support bar with the square shape on the cartridge as shown (FIG 129).



30. Rotate the shutter as shown and place the opposite end of the support bar into the cartridge (FIG 130).



31. Replace the drum shutter actuator spring as shown (FIG 131).



32. Secure the endcaps with the clips and screws (FIG 132 & 133 - Typical).

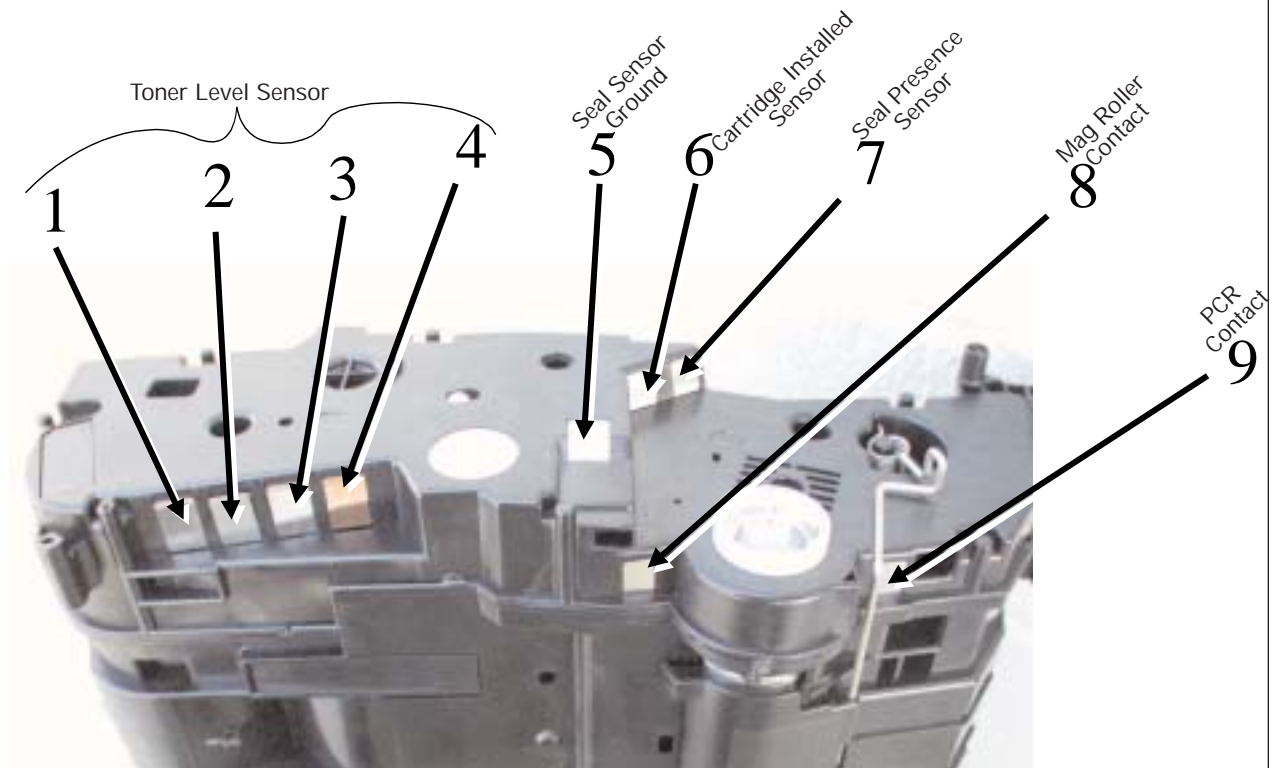


FIG 132



FIG 133

HP 9000 CONTACT LOCATION



POST TESTING NOTE Care must be taken during post testing to ensure that the newly installed seal is not “pulled” by the printer as the printer will automatically sense and pull a new seal before allowing printer operations. To disable the sensor and prevent the seal from being pulled, place a piece of black electrical tape over contact number 7 (shown above), completely covering it but not covering the adjacent contact number 6. With contact number 7 covered, the printer senses a “seal pulled” condition and permits printing operations to take place without the seal actually being pulled. After post testing, be sure to remove the tape from contact 7.



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