Version 3 - April 2009
SYSTEM SUPPORT SERIES™

CARTRIDGE REMANUFACTURING INSTRUCTIONS FOR:
SAMSUNG® ML-1630/ SCX-4500 TONER CARTRIDGE

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info@scc-inc.com

UK
info@scceurope.co.uk

Samsung® ML-1630/SCX-4500

The Samsung® ML-1630 ships with a starter cartridge with a yield of 1K pages. Samsung® also offers a standard yield cartridge with a yield of 2K pages. The starter cartridge and standard cartridge are physically the same and can be used interchangeably.

Purpose of this System Support Series™

The purpose of this System Support Series™ is to provide you a guide and the basic information needed to remanufacture a Samsung® ML-1630/SCX-4500 toner cartridge. This System Support Series™ contains information about:

• Remanufacturing the cartridge

• Basic cleaning

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 Static Control Web site.

Visit www.scc-inc.com/Library/ to check for updated documentation and technical updates:

Before you begin, read the entire System Support Series™ 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.

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.

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

Additional Tools & Supplies

Additional Items:
• **Qualified Toner**

Optional Items:

• **Samsung 550 Hopper Cap Removal Tool(SAM550HCRTOOL)**

For Basic Remanufacturing:
• **Phillips Screwdriver**
• **Compressed Air for Cleaning**
• **Lint-Free Cleaning Cloth (LFCCLOTH)**
• **91-99% Isopropyl Alcohol**
• **Narrow Toner Pour Spout (TPS-90)**
• **Lint-Free Foam Tip Swab (LFSWAB)**
• **Small Slotted Screwdriver**
• **Felt Foam Scraper Tool (FSTOOL)**
• **Conductive Lubricant (CONCLUBE)**

The following is a summary of the printer and cartridge information for the Samsung® ML-1630 and SCX-4500

	Samsung® ML-1630	Samsung® SCX-4500
Printer Information		
Printer Introduction Date	August 2007	September 2007
Print Technology	Monochrome	Monochrome
Printer Introduction Price	$190	$300
Print Resolution (dpi)	1200 x 600	600 x 600
Print Speed (pages per min)	17 ppm	17 ppm
First Page Out	15 sec	15 sec
Duty Cycle	5,000 pages per month	5,000 pages per month
RAM	8 MB	8 MB
Cartridge Information		
OEM Cartridge Number	ML-D1630A	ML-D1630A
OEM Rated Page Yield	2,000 standard	2,000 standard
Cartridge Price List (MSRP)	$90	$90
Chip	Yes	Yes

Top Cover

PCR

Contact
Side End
Plate

Axle
Bearing

Contact
Spring

End Foams

End
Felts

Drive Side
End Plate

Inner Sealing
Blade

Toner Adder Roller

Doctor
Blade

Developer
Roller

Developer
Roller Drive
Gear

Waste Bin Section

Wiper Blade End Felts

Wiper Blade End Foams

Recovery Blade

Waste Bin Section

Wiper Blade Sealing Foam

Wiper Blade

Drum

Drum Axle

1. Remove the three screws on the contact side end plate as shown in Figure 1.
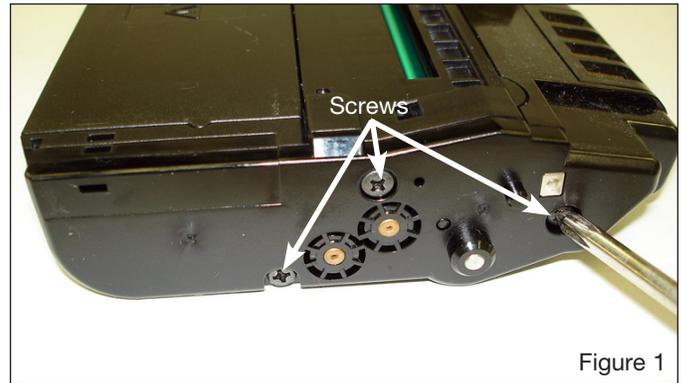
Figure 1

2. Using a small slotted screwdriver or the felt scraper tool, release the locking tab on the contact side end plate. Insert the head of the screwdriver into the slot shown in Figure 2 and press down on the tab. This will release the end plate from the cartridge.
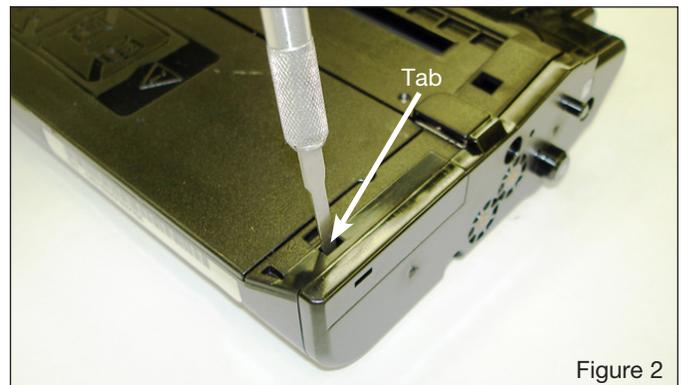
Figure 2

3. Remove the end plate from the cartridge as shown in Figure 3. A slotted screwdriver may be needed to gently pry the end plate away from the cartridge.
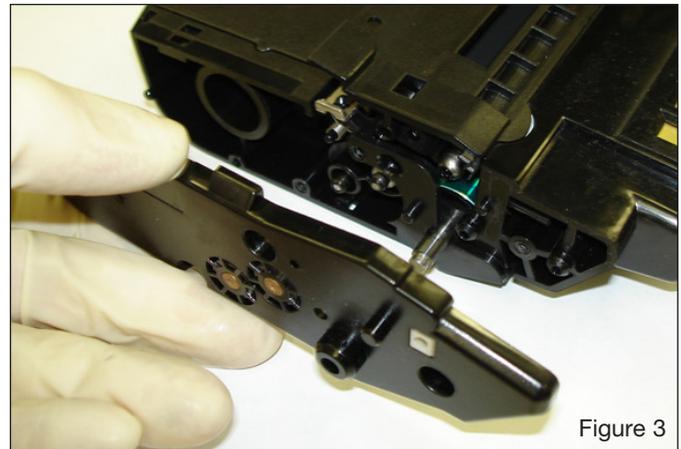
4. Repeat steps in Figure 1 - 3 for the drive side end plate.

Figure 3

5. Remove the cover on top of the cartridge by lifting on the back of the top cover as shown in Figure 4 and sliding the top away from the handle on the cartridge.
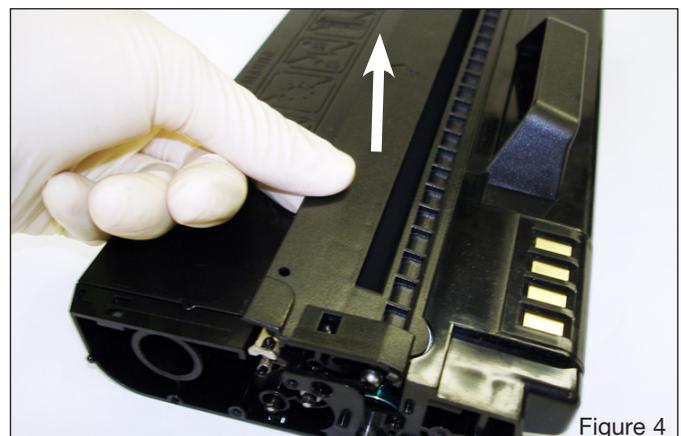

Figure 4

Separating the two sections

Note: **Be careful not to handle the PCR on the under side of the cover. If touched then use a lint-free cloth to wipe the PCR.**

6. **To separate the waste section from the hopper section, pull the drum axle out of the non-geared side of the drum as shown in Figure 5.**

Note: **The location of the conductive grease and keyed end on the axle for re-installation later.**

Hopper
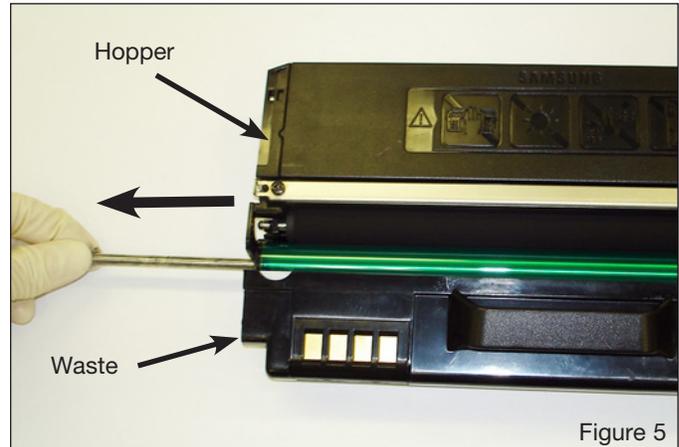
Waste

Figure 5

7. **Once the axle is removed then the waste section can be lifted up and away from the hopper section as shown in Figure 6.**

Note: **The toner may spill during the process.**

Figure 6

1. **Remove the two screws on each end of the wiper blade as shown in Figure 7. After removing the two screws then remove the wiper blade.**
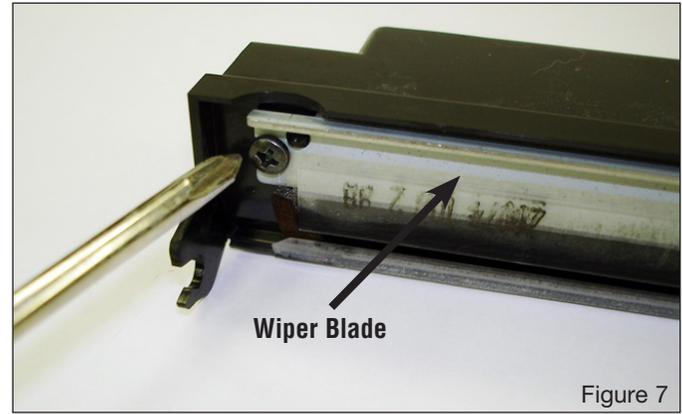
Wiper Blade

Figure 7

2. **Clean out the waste section using dry, filtered, compressed air as shown in Figure 8. Inspect the wiper blade sealing foam, wiper blade end foams/felts and recovery blade for damage.**
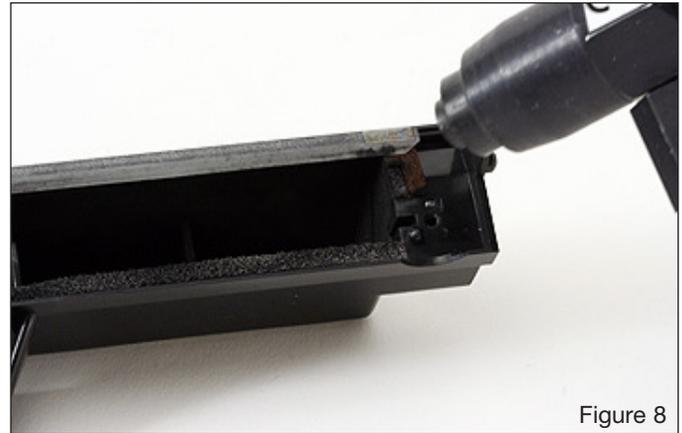
Figure 8

3. **Before installing a new wiper blade, be sure to dip the working edge of the wiper blade in toner for lubrication. Install the new wiper using the two screws that were removed as shown in Figure 9.**
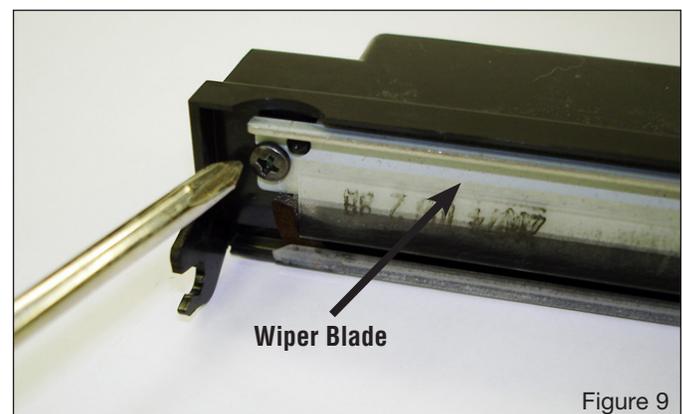

Wiper Blade

Figure 9

1. Since the axle to the drum has already been removed the drum is free to be removed from the hopper section. See Figure 10.

Figure 10

2. Note the position of the developer roller/doctor blade contact spring on the contact side of the hopper section in Figure 11.


Developer Roller/ Doctor Blade Contact Spring
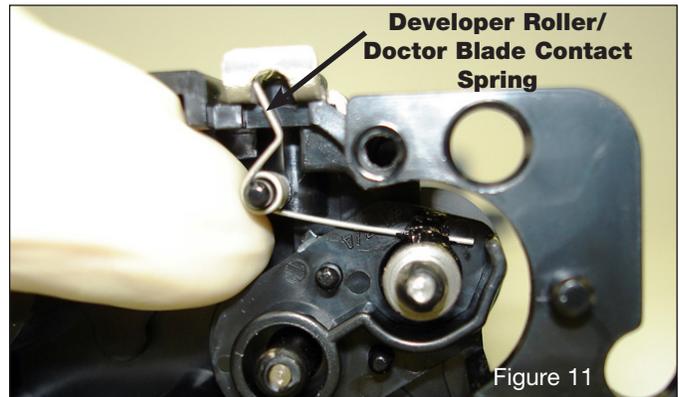
Figure 11

3. Use a slotted screwdriver to release the long leg of   the contact spring from the developer roller. Then remove   the spring from the hopper as shown in Figure 12.

Developer Roller

Center Shaft

Long Leg of Contact Spring
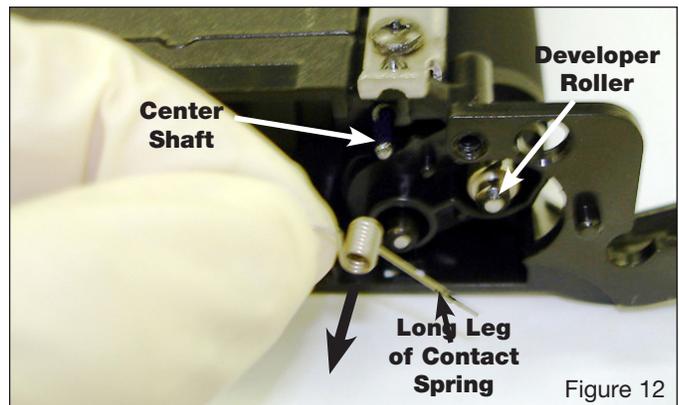
Figure 12

4. Insert a small slotted screwdriver or felt scraper tool into the slot on the bottom of the hopper section on the contact side and push into release the locking tab on the axle bearing plate as shown in Figure 13.
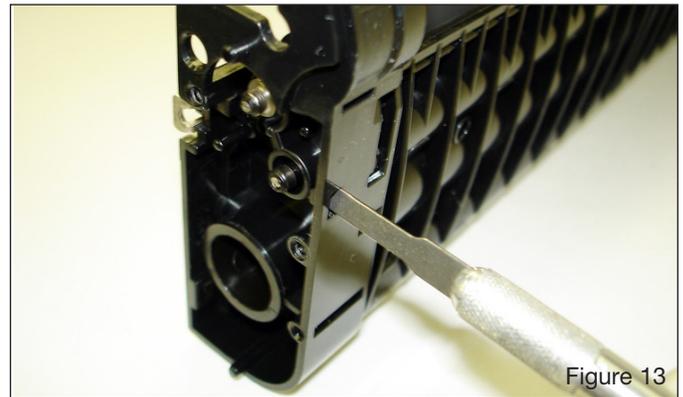
Figure 13

5. After releasing the locking tab slide the axle bearing plate away from the hopper section as shown Figure 14.

Axle Bearing Plate
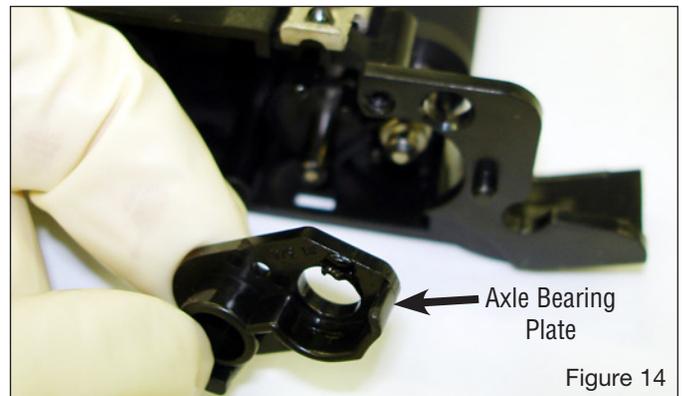
Figure 14

6. With the axle bearing plate removed, the developer roller can be removed. Lift the contact side (non-geared side) of the developer roller out and away from the hopper section. See Figure 15 & 16.

1st
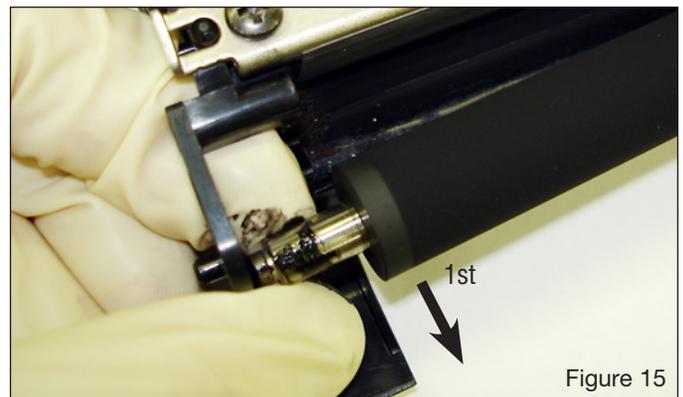
Figure 15

7. Then slide the developer roller towards the contact side so that the geared end will clear

2nd

Geared End
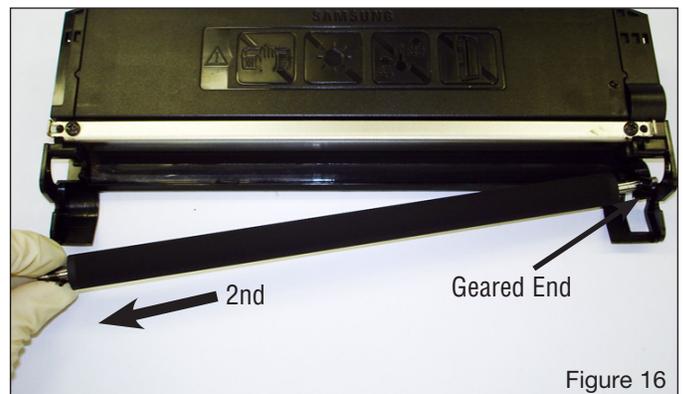
Figure 16

the hopper section as shown in Figure 16. Clean the developer roller with dry, filtered, compressed air and wipe with a lint-free cloth. Be careful not to get any grease from the axle on the developer roller.

8.   Remove the two screws on top of the doctor blade. Remove the doctor blade and clean with compressed air. The wooden end of a lint-free swab may need to be run along the working edge of the doctor blade to remove excess toner build up. See Figure 17 & 18.

Working Edge
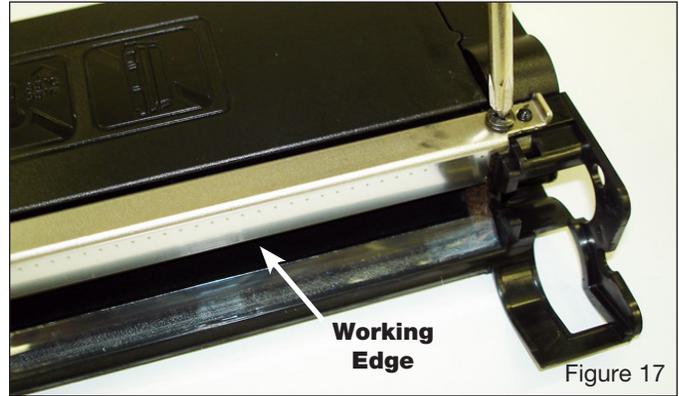
Figure 17

Figure 18

9.   Use a Static Control hopper cap removal tool as seen in Figure 20 to remove the hopper cap. Screw the tool into the hopper cap and twist the hopper cap out and away from the hopper section. Thoroughly clean out the hopper section using dry, filtered, compressed air.
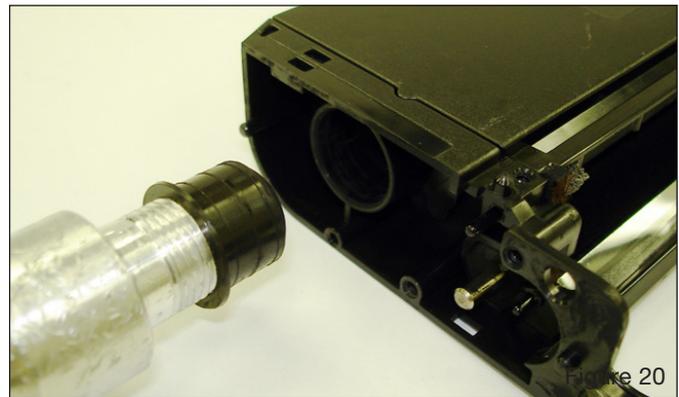
Figure 20

10.   Fluff the felts on each end of the hopper section with the scraper tool to prevent toner from leaking around the ends of the developer roller. See Figure 21.
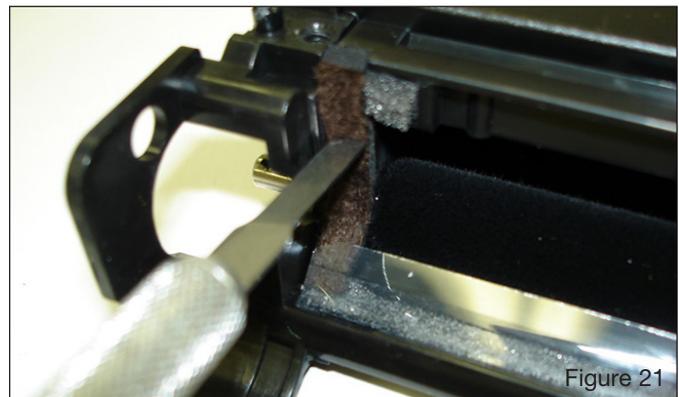

Figure 21

1. Reinstall the doctor blade using the two screws as shown in Figure 22.

Figure 22

2. Reinstall the developer roller by first sliding the geared side into position and then sliding the contact side back into place as shown in Figure 23 & 24.

1st   Geared End

Figure 23

2nd
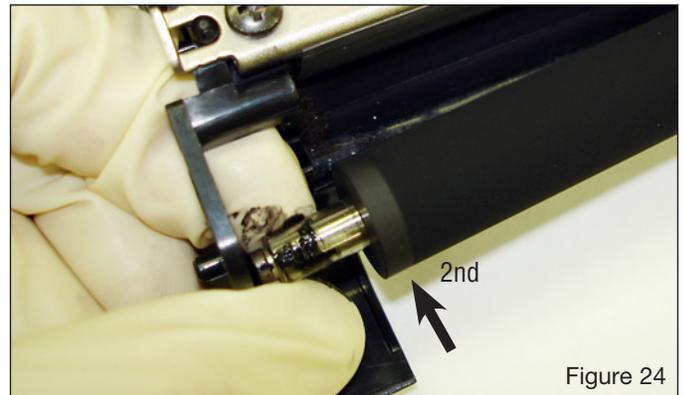
Figure 24

3. Snap the axle bearing plate back into place and apply conductive lubricant to the developer roller shaft. Reinstall the contact spring onto its center shaft. See Figure 25. Make sure that the contact spring is touching the developer roller and the doctor blade.

Doctor Blade

Developer Roller Shaft
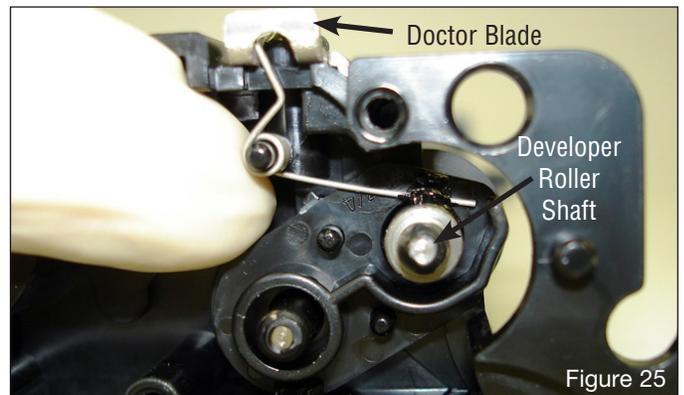
Figure 25

4. Lay the new drum back in the tray on the hopper section where the old drum was removed. Move the waste section so that the holes for the drum axle line up with the holes in the drum and the hopper section as shown in Figure 26a & 26b.
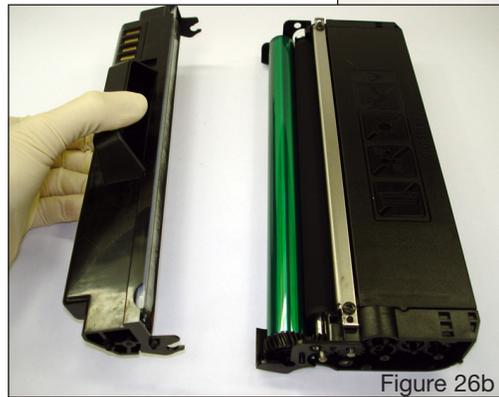
Figure 26a

Figure 26b

5. Slide the drum axle through the geared side of the drum. See Figure 27. Make sure the keyed end is oriented as it was removed. It should be on the geared side.

6. Before attaching either end plate or the top cover make sure that all the contacts have a small amount of conductive lubricant and that they are free of any toner.
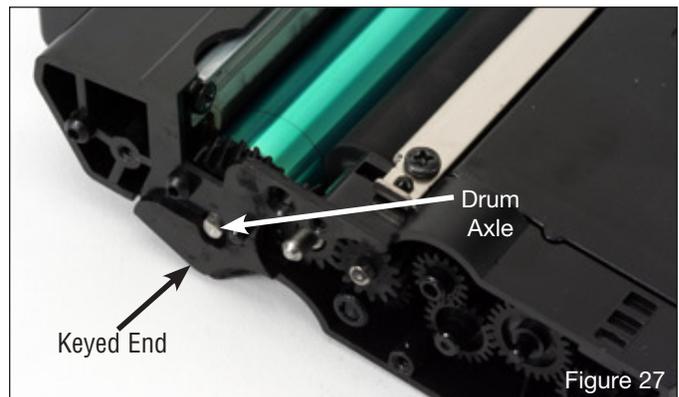
Drum Axle
Keyed End
Figure 27

7. Slide the top cover back into position. Press down on the top cover while attaching the geared side end plate. See Figure 28. Make sure that the drum axle keyed end fits into the geared side end plate properly. The axle may need to be rotated to get the keyed end to fit into the end plate properly.

Figure 28

8.   Secure the gear side end plate with three screws as shown in Figure 27.

Screws
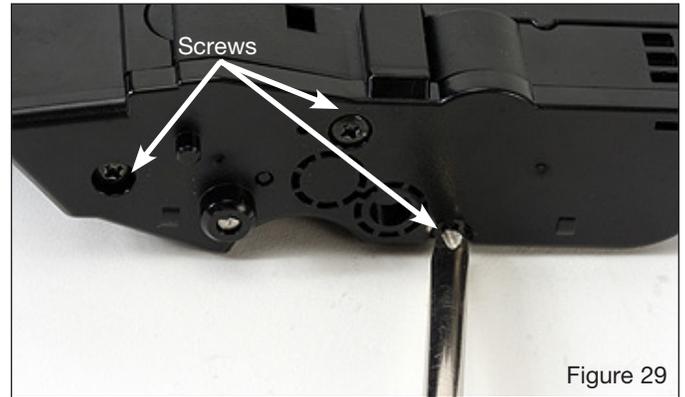
Figure 29

9.   Before attaching the contact side end plate pour the correct amount of toner into the toner fill port as shown in Figure 30.

Toner Fill Port
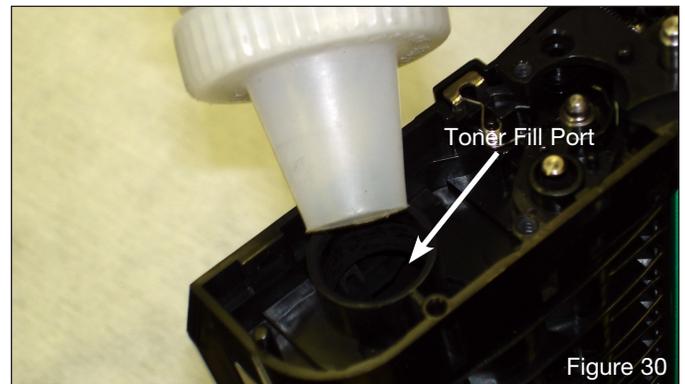
Figure 30

10. After the cartridge is filled with toner then reinstall the hopper cap and the contact side end plate using the three screws as shown in Figure 31.

See System Support Series™# 968 for further instructions on installing the chip

Screws
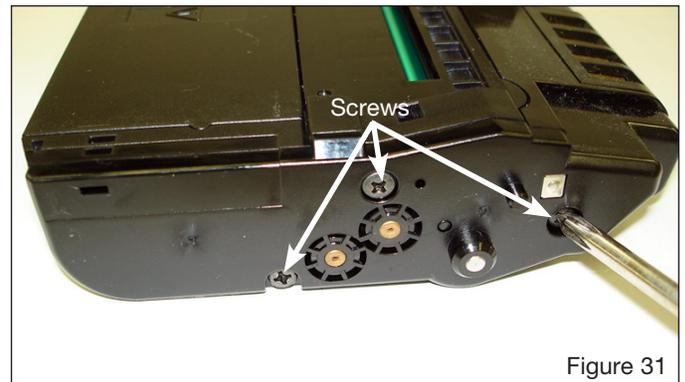
Figure 31

MOVING AT THE SPEED OF NEW TECHNOLOGY

The development of cartridge imaging systems, such as the HP2300/2100, 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.

This dedication and commitment results in integrated cartridge systems that Static Control fully supports, allowing you to quickly attack
new market opportunities with complete confidence in the reliability and performance of your cartridges.