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Canon® PC850

# Remanufacturing Instructions



on the convenience and productivity of enhanced features affordably priced.

Although the PC 850 actually sells for under \$1,500, the OEM replacement cartridge comes with a hefty price tag -- up to \$385.00. This opens the door for remanufacturers to offer compatible cartridges for considerably less and still make a substantial profit.

The cartridge is similar to previous Canon PC copier imaging systems and is relatively easy to remanufacture. OEM cartridges ship with a black paper installed between the drum shutter and the drum. It is probable that this paper is present to prevent damage to the drum during shipping as a result of the long drum shutter.

The PC 850 cartridge has an OEM-yield rating of 10,000 pages. The drum and wiper blade will most likely be single cycle components depending on how the cartridge is used. Additional testing will be required to verify component life for the PCR, mag roller and doctor blade.

Combining the ease of remanufacturing with the profit potential of selling compatible cartridges, the recharger has an attractive new business opportunity with the Canon PC 850 copier.

## About the Cartridge

The Canon® PC 850 personal copier was introduced in May 1994. It is Canon's top of the line personal copier with features more commonly found on the high-end copiers sold through dealers. The front-loading paper cassette holds 250 sheets and adjusts to accommodate various paper sizes up to tabloid-size (11" X 17"). It also enlarges and reduces from 49% to 204%. The 50-sheet bypass tray accommodates additional material from colored paper to transparencies. The copier also features what Canon refers to as their RAPID Fusing System™ that delivers copies instantly with no warm-up time. Copies are delivered at 16 pages per minute.

The PC 850 copier is targeted for small businesses and home/office environments and is sold extensively through office super stores. Canon's primary marketing efforts concentrate

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## World Wide Web

*Get the latest information on the web at SCC's PC850 Engine Reference Center at [www.scc-inc.com](http://www.scc-inc.com)*

**If you need additional information or technical assistance, please contact the Technical Support Group.**

**1.800.948.1072 (USA)  
 +44 (0) 118 935 1888 (UK)  
 email: [techservices@scc-inc.com](mailto:techservices@scc-inc.com)**

### PC850 Engine Information

Copier Name . . . . .	Canon® PC850/870
Date of Copier Introduction (Current/Discont'd) . . . . .	May 1994 (Current)
Copy Speed . . . . .	9 cpm (Ledger), 11 cpm (Legal), 16 cpm (Letter)

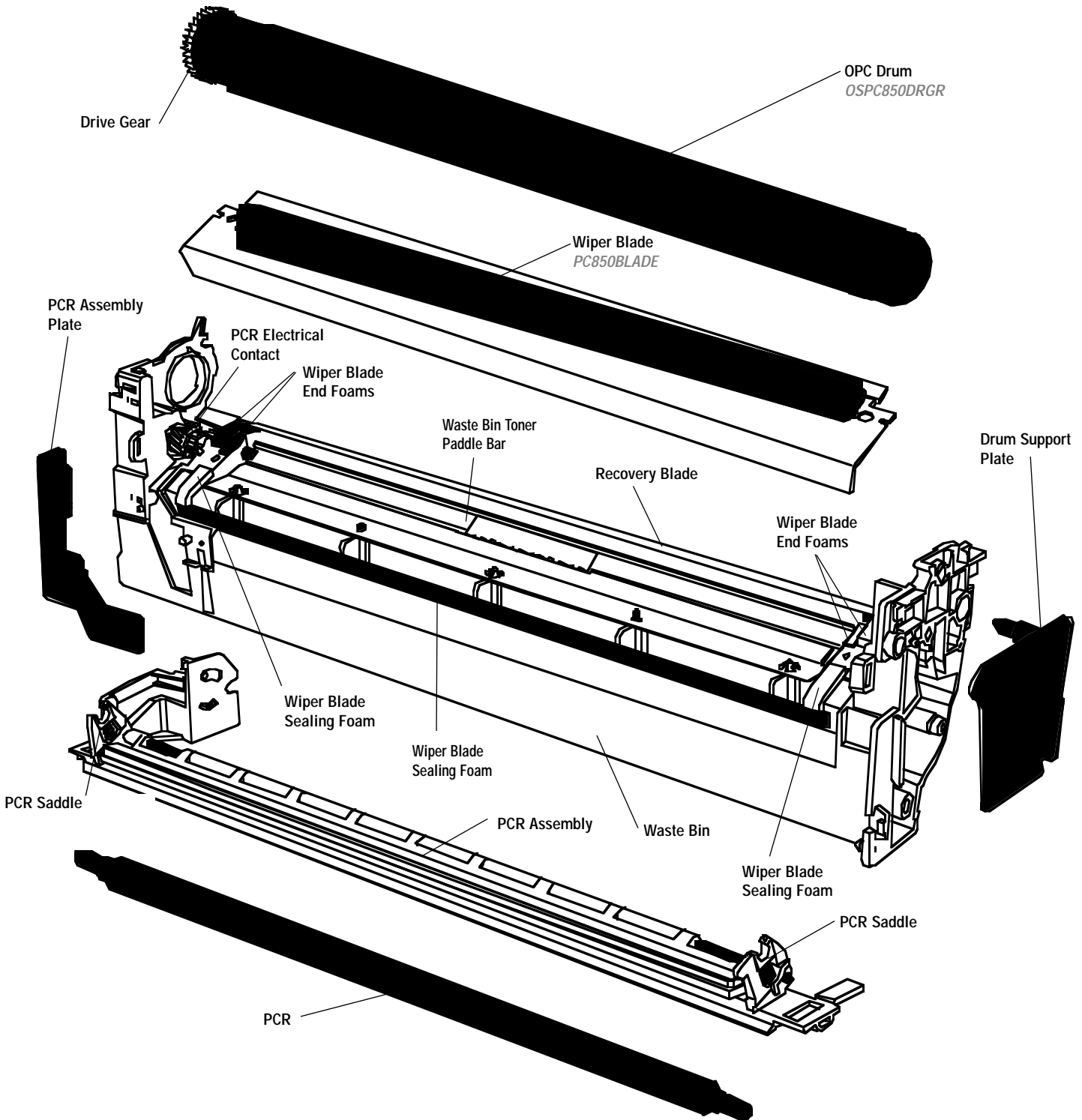
### PC850 Cartridge Information

Cartridge OEM Part Number (Code) . . . . .	F41-9921-700 (F100)
Cartridge List/Wholesale Price . . . . .	\$385/\$270
OEM Rated Page Yield . . . . .	10,000 pages
Toner Weight . . . . .	630 grams (10,000 page-F100)
Toner Class . . . . .	Magnetic, Monocomponent
Estimated Remanufacturing Time . . . . .	15-30 minutes

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# Waste Bin Section—Terms and Definitions



*SCC PARTS INDICATED IN GRAY.*

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### **Drum Gear**

The spur gear, located at the contact end of the waste bin section, houses the drum electrical contact.

### **Organic Photo Conductor (OPC) Drum**

An aluminum cylinder coated with light-sensitive organic photoconductive material used to retain an image written to it by a laser beam. (Also called OPC, drum, photoreceptor.)

### **Primary Charge Roller**

Uniformly charges the OPC drum. (Also called PCR, charge roller.)

### **PCR Electrical Contact**

Provides electrical contact between the printer and the PCR.

### **PCR Saddles**

Two saddles support the PCR at each end of the shaft. The springs at the base of the saddles maintain tension on the PCR so that it will make constant and uniform contact with the drum.

### **Recovery Blade**

Acts as a dam at the base of the waste bin, keeping the toner from falling out of the waste bin onto the paper. (Also called catcher blade, scavenger blade.)

### **Waste Bin**

A receptacle that catches toner wiped from the drum. (Also called waste hopper or dust bin.)

### **Wiper Blade**

Cleans the drum by wiping away toner that was not transferred to the paper. Constructed of a metal stamping (base) and polyurethane blade. (Also called cleaning blade.)

### **Wiper Blade End Foam**

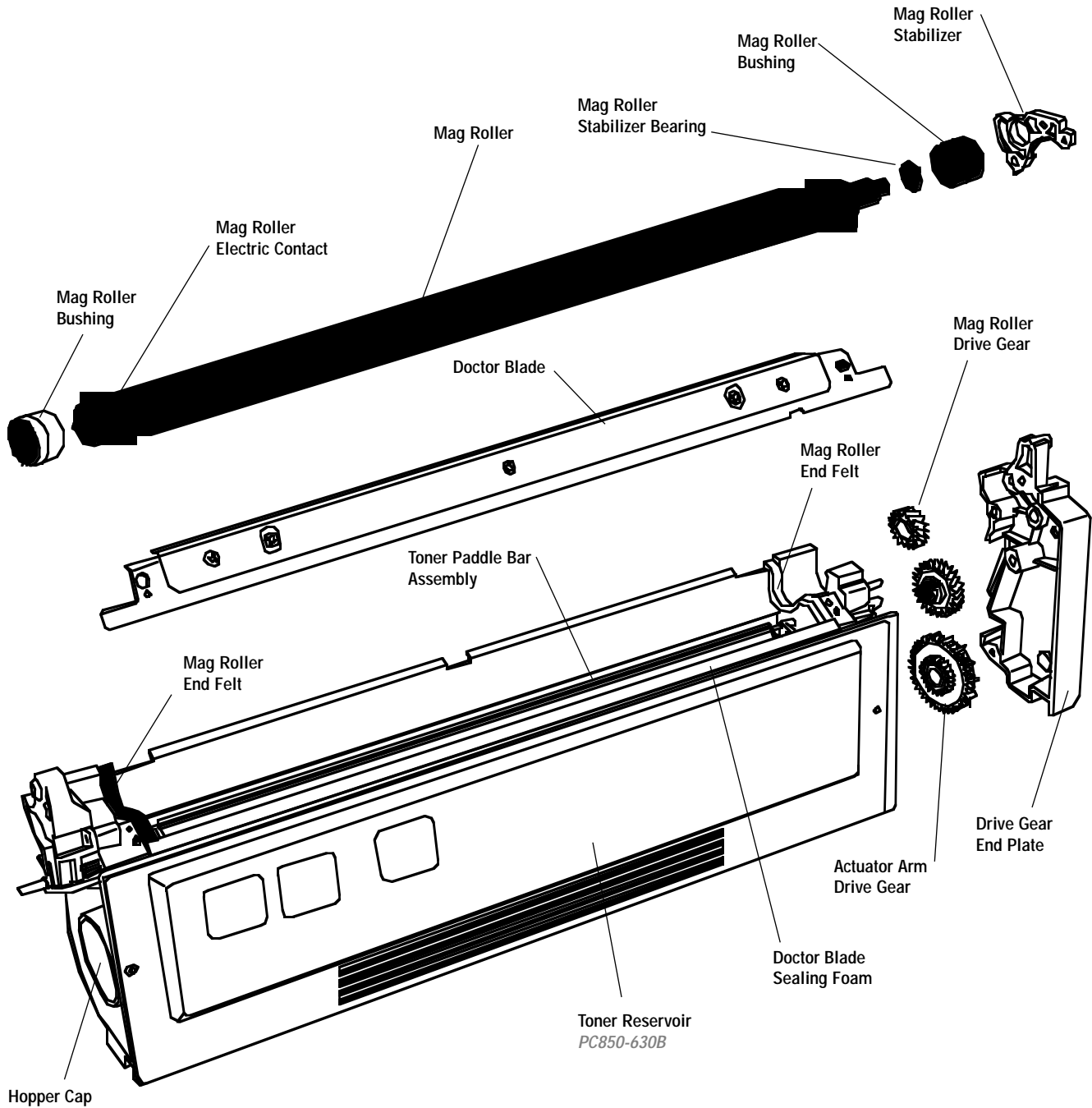
Layers of foam and felt that seals the area at the ends of the wiper blade; prevents leakage from the waste bin.

### **Wiper Blade Sealing Foam**

A strip of foam that seals the area between the wiper blade and waste bin; prevents leakage from the waste bin.



# Hopper Section-Terms and Definitions



SCC PARTS INDICATED IN GRAY.

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### **Doctor Blade**

Uniformly meters the amount of toner on the mag roller. The doctor blade is constructed of a metal stamping (base) and a flexible blade. (Also called metering blade.)

### **Doctor Blade Sealing Foam**

A strip of foam that seals the area between doctor blade stamping and mag roller housing; prevents leakage from the toner hopper.

### **Gear Housing End Plate**

A removable end plate that covers the drive train on the mag roller section of the cartridge.

### **Magnetic Developer Roller**

A rotating coated aluminum sleeve around a stationary magnet. The mag roller attracts toner magnetically and applied AC/DC voltage charges the toner and transfers it to the OPC. A doctor blade meters the toner before it is delivered to the OPC. (Also called mag roller, developer roller.)

### **Mag Roller Bushing (Left/Right)**

Placed on each end of the mag roller sleeve to establish a consistent air gap between the mag roller and drum when the cartridge is assembled.

### **Mag Roller Drive Gear**

Rotates the mag roller sleeve around the permanent magnet.

### **Mag Roller Electrical Contact**

Installed in the end of the mag roller sleeve; provides electrical contact between the mag roller and printer.

### **Mag Roller End Felt**

The end felts help to contain toner in the hopper and provides protection against leakage from the hopper during cartridge operation.

### **Mag Roller Stabilizer**

Prevents lateral movement of the mag roller. A stabilizer is placed on the drive gear end of the mag roller axle and secured in place by locating posts in the hopper section.

### **Mag Roller Stabilizer Bearing**

Serves as a bearing surface and supports the hub of the mag roller sleeve on the end plate side of the cartridge. Prevents lateral movement of the mag roller. There is a little knob on the bearing that fits into a notch on the stabilizer.

### **Toner Low Sensor Bar**

Acts as an antenna to detect low toner volume in the hopper. Once a signal from the antenna reaches a specified value, the printer displays a toner low warning for the printer operator.

### **Toner Paddle Bar Assembly**

Thin metal bar assembly located near the opening of the development station; rotates inside the toner hopper to move toner toward the development station.

### **Toner Paddle Bar Drive Gear**

Rotates the toner paddle bar; located at the drive train end of the mag roller housing.

### **Actuator Arm Drive Gear**

Rotates the actuator arm located in the toner reservoir.



## Tools and Supplies You Will Need

### 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.

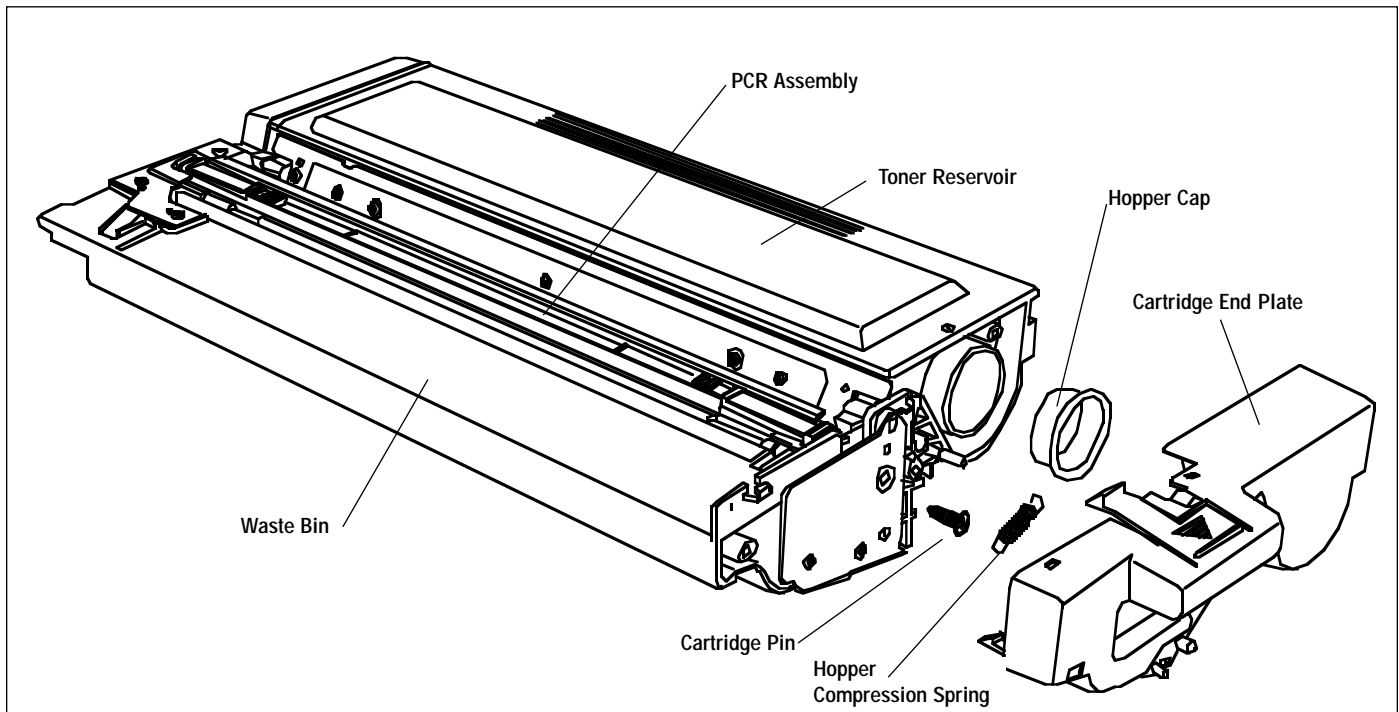
### Use of Isopropyl Alcohol

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:

- Phillips Screwdriver #2
- Standard Flat-Blade Screwdriver
- Needlenose Pliers
- Funnel for Toner Bottle
- Compressed Air for Cleaning ..... (See left)
- 91-99% Isopropyl Alcohol ..... (See left)
- Lint-Free Cleaning Cloth ..... LFCCLOTH
- Conductive Cartridge Lubricant ..... CONCLUBE
- Kynar® Lubricating Powder ..... KPOW
- Shallow Trough for Dipping the Wiper Blade



# Separating the Cartridge

## 1. Remove the end cap.

Lay the cartridge upside down and release the two clips on the underside and the clip through the hole on the end. Pivot the end plate out and away from the cartridge (FIG 1).

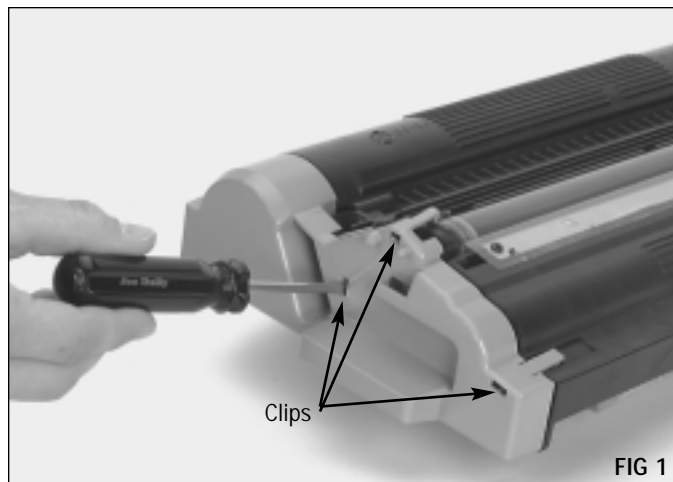


FIG 1

## 2. Remove the cartridge pin.

Remove the plastic pin with a screw starter as shown in the illustration (FIG 2).

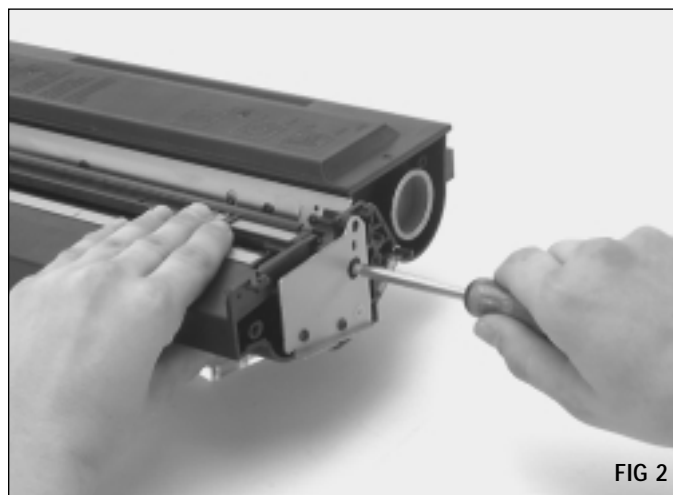


FIG 2

## 3. Remove the hopper tension spring.

Slide the hopper tension spring off of the post it is hooked to and remove it (FIG 3).

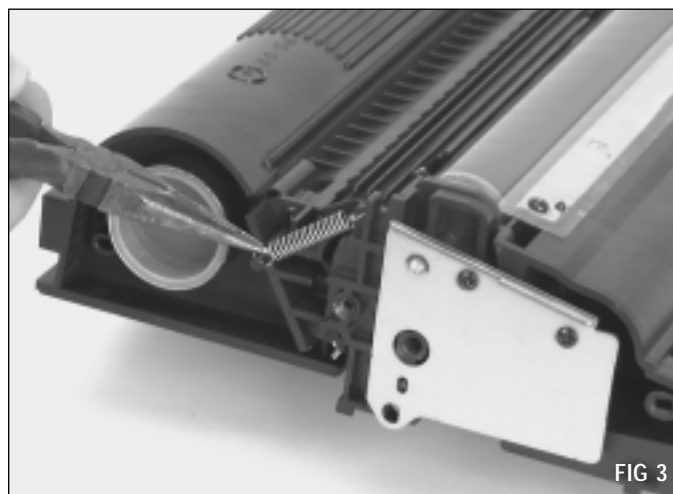


FIG 3



## Separating the Cartridge

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4. **Separate the hopper section from the waste bin.**  
Lift out the waste bin and gently work it to the left until the pivot post slips out of the sleeve (FIG 4).



## Prepare the Hopper

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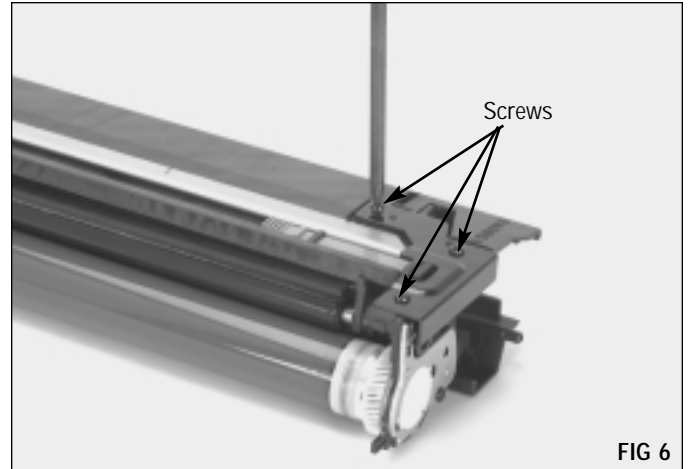
5. **Clean and fill the hopper.**  
Remove the hopper cap and clean the hopper with dry, filtered, compressed air. Clean off the contacts with a lint free cloth (FIG 5). Fill the hopper with 625 grams of the proper type of toner. Replace the hopper cap and set the hopper section safely to the side.



# Disassembling the Waste Bin

## 1. Remove PCR assembly.

Remove the three screws securing the black metal plate to the cartridge then lift off the plate (FIG 6).



Slide the gray tabs toward the middle of the cartridge (FIG 7).



Lift up on the left end of the assembly then rotate the right side up and out (FIG 8).



## Disassembling the Waste Bin

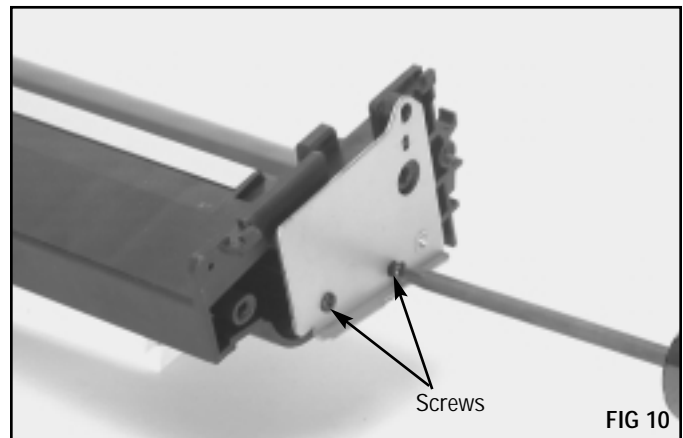
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Remove the PCR and clean it with a lint free-cloth. Clean the assembly with dry, filtered, compressed air (FIG 9).



### 2. Remove the drum.

Remove the two screws that secure the metal plate to the non-gear side of the waste bin and remove the plate (FIG 10). This plate contains a drum axle that is inserted into the drum.

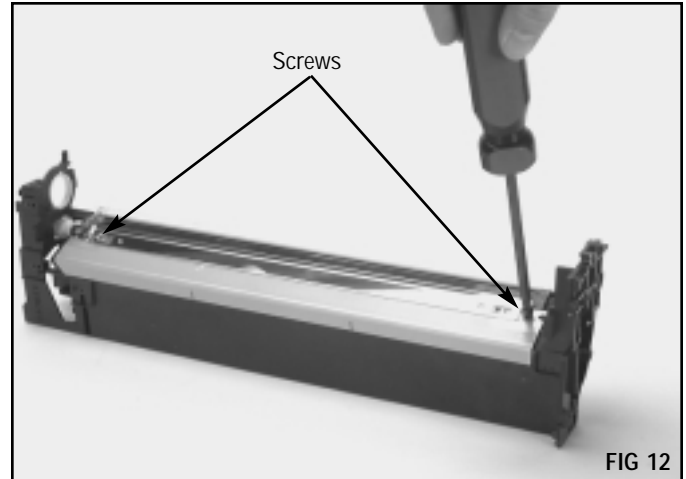


Lift up on the non-gear side of the drum and slide the geared side out of the waste bin (FIG 11). If you plan to reuse the drum, clean it with compressed air or a soft lint-free cloth. Store the drum in an area where it is protected from light and impact damage.



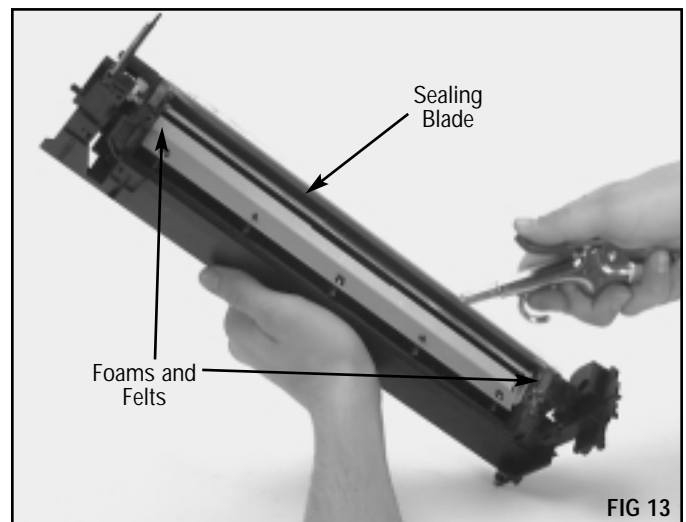
**3. Remove the wiper blade.**

Remove the two screws that secure the wiper blade and remove the wiper blade (FIG 12). Clean the wiper blade with dry, filtered, compressed air.



**4. Clean the waste bin.**

Clean the waste bin with dry, filtered, compressed air (FIG 13). Inspect the foams, felts and sealing blade for damage.





## Assembling the Waste Bin Section

### 1. Install the wiper blade.

Install the wiper blade and secure it with the two screws. Wipe the reflective metal stamping on the wiper blade clean with a lint-free cloth (FIG 14). This reflective metal stamping helps in the erasure of post images from the OPC drum.

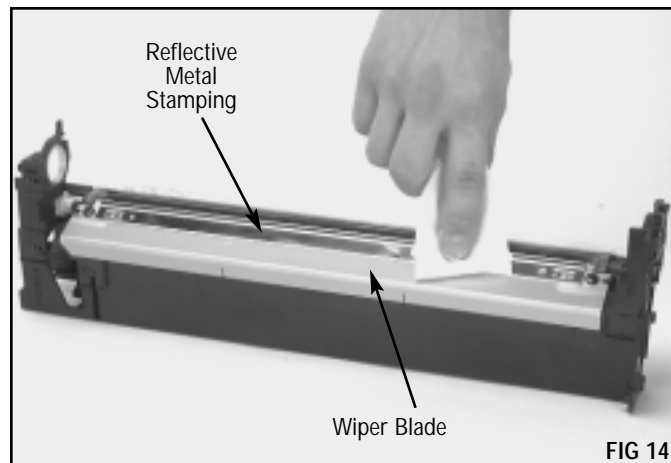


FIG 14

### 2. Install the drum.

Powder the drum with Kynar® powder and install in the waste bin in the same manner it was removed in step 7 (FIG 15). Replace the metal end plate with the gear axle and secure it with two screws.



FIG 15

### 3. Install PCR assembly.

Insert the PCR axles into the saddles on the assembly (FIG 16). Install the PCR assembly in the reverse sequence as described in step 6. Be careful not to bend the PCR contact on the geared side of the cartridge (FIG 16A). Install the black metal plate and secure it with the three screws.



FIG 16

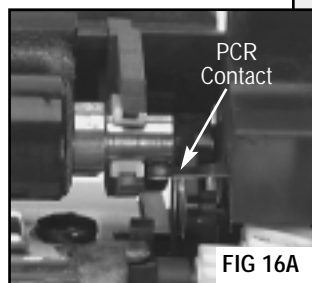
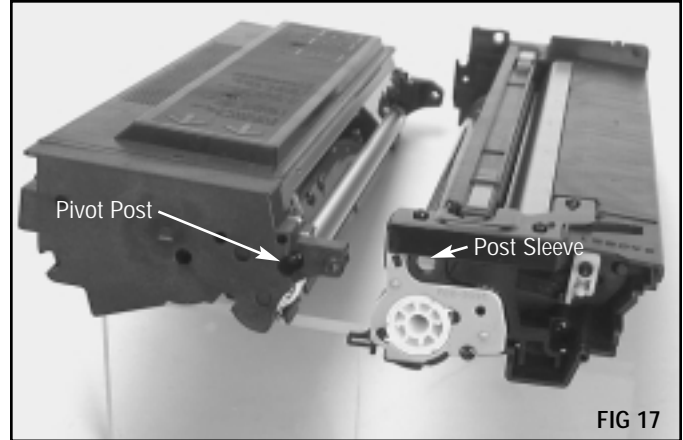


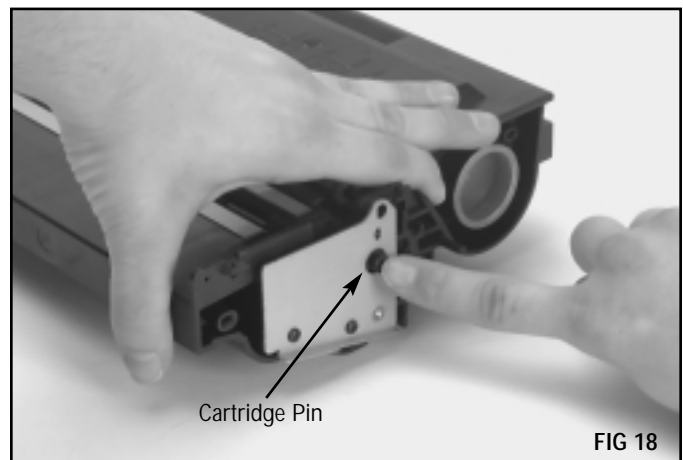
FIG 16A

**4. Join the hopper section and the waste bin.**

Slide the pivot post on the hopper section into the sleeve on the waste bin (FIG 17).

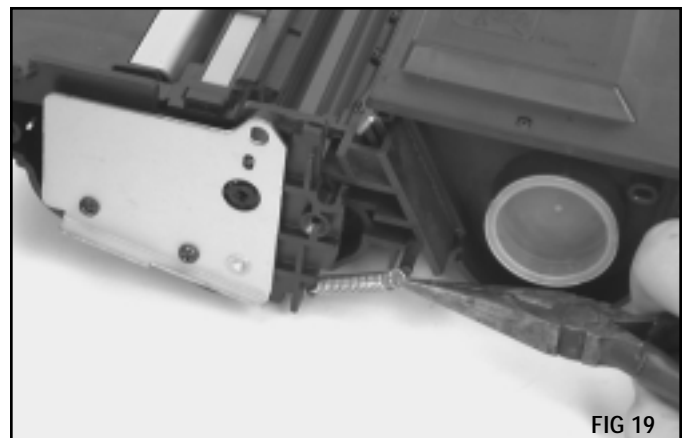


Bring the two halves together and install the plastic cartridge pin (FIG 18).



**5. Install the hopper compression spring.**

Use a pair of needlenose pliers and set one end of the spring into the notch shown and slide the other end onto the post (FIG 19).

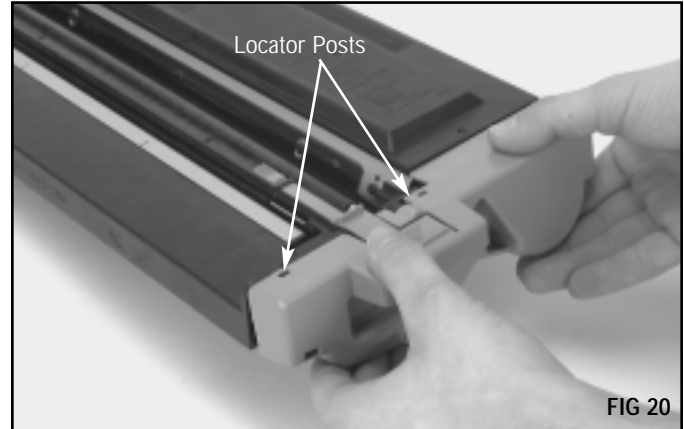


## Assembling the Waste Bin Section

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**6. Install the end cap.**

Set the end cap on to the two locator posts on the top of the cartridge. Pivot the end cap into the cartridge until all three clips are engaged (FIG 20).



**Notes:**





## Imaging System Technology You Can Count On!

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*The development of cartridge imaging systems, such as the PC850 System, 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.*



STATIC CONTROL COMPONENTS, INC.

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