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Integrated Product Systems You Can Count On

Quality Assurance is the cornerstone of every integrated product system from Static Control. Through extensive testing and research, we develop the optimum combination of components for each cartridge system. Integrated product systems reduce the number of variables from thousands to a mere handful, eliminating the guesswork of matching individual components. The result is a system of components that works seamlessly together in each designed cartridge application.

Developing integrated product systems, such as the NX, is the primary mission of our system development laboratories. Our engineering and manufacturing expertise provides us total control in design, quality and development to produce products from the ground up. We also direct and coordinate the development of matched toners and drums with our toner and OPC vendors.

This dedication and commitment results in 100% guaranteed cartridge systems that allow you to quickly attack new market opportunities with complete confidence in the reliability and performance of your products.

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Canon® LBP-NX (IIISi/4Si)

Remanufacturing Instructions & Reference Information

Canon is a registered trademark of Canon USA and Canon Computer Systems, Inc. It's use in this document is for descriptive and informational purposes only.

Remanufacturing the IIISi/4Si (NX)

Remanufacturing the IIISi/4Si has evolved into a system of carefully selected and managed components. The high print speed and large number of prints per cartridge cycle cause critical components, such as the OPC, PCR and wiper blade, to wear at a faster rate. The PCR-based system also creates new challenges for the remanufacturer.

Background and ghosting have been the most common print defects associated with the NX cartridge. These defects can occur when the PCR fails to deliver sufficient voltage to properly charge and erase the drum or when the drum is degraded from wear and cannot accept sufficient voltage for charging and erasure.

The PCR and drum often have high failure rates into the second cartridge cycle. The outer protective layer of the OEM PCR typically wears out after the first cycle, leaving the PCR unusable. Aftermarket or stripped rollers offer alternatives, but do not have the design requirements needed to function properly. The OPC drum and wiper blade also show significant wear into the second cycle. Replacements are readily available; both the wiper blade and OPC should be replaced each cartridge cycle.

The cartridge has undergone several modifications since its introduction. Cartridges manufactured since early 1993 utilize a direct copper contact in the PCR housing, in addition to the conductive saddle. In early 1994, our research and development labs identified changes in toner hopper sealing material and the introduction of raised posts located at the seal exit port.

These cartridges are more complex than the SX. Remanufacturing a high quality PCR based cartridge requires very careful selection of components. Problems can be minimal with an understanding of the process and careful selection of components.

Remanufacturing Information

Estimated Remanufacturing Time	15 mins
Sug. Remanufactured Cartridge Price	$90
Toner Weight	500 grams
Toner Class	Microfine
Recommended Test Printer	HP4Si

Tools Needed

- Needle Nose Pliers
- Phillips Head Screwdriver with Magnetic Head
- Toner Vacuum and/or dry, filtered compressed air
- Soft, lint-free cloth
- Holding fixture for Toner Hopper

Market Outlook

According to market analysts, the 11 to 20 ppm printer market segment is definitely a growth segment. With more businesses moving away from personal printers toward network printers, printers with higher printing speeds, like the 4Si, will be in strong demand.

Analysts forecast an annual growth rate of about 14% between 1994-1998 for the 11-20 ppm market segment. Static Control estimates a current (1995) North American population of 720,000 NX printers. Because of networking capabilities and placement in business with high print demand, these printers may consume anywhere between 6 cartridges a year to a cartridge a day.

Contact your Static Control Sales Representative for more information on New Products, Systems, Kits and System Support Series Technical Bulletins

*In the US/CAN **800.488.2424** or INT'L **919.774.3808***
*In the UK **0800 834675** or outside the UK **+44 (0)1734 314569***

About the IIISi/4Si (NX) Cartridge

SEALING CHANNEL MODIFICATIONS In early 1994, our Research and Development lab identified two seal channel modifications in the IIISi/4Si cartridges that pose problems in effectively sealing these cartridges. Raised posts located at the seal exit port of the seal channel prevent the use of any insertable seal. However, by using Static Control's IIISi/4Si Cutting Tool, the posts are easily removed without affecting the performance of the cartridge.

A change in seal material was also identified as coinciding with the addition of the posts. The new material leaves residual filaments attached to the sealing channel once the seal is pulled. The filaments may obstruct the toner port or wrap around the mag roller, bunch up and completely block the seal channel or create a poor surface for the adhesion of insertable seals. For more information, refer to ***System Support Series #24,*** *New Production Modifications in IIISi/4Si Cartridges Create New Sealing Challenges.*

THE SEALING SOLUTION The only 100% reliable sealing solution for the IIISi/4Si cartridge is to utilize a split hopper sealing method. By splitting the hopper, the OEM polystyrene seal gasket can be completely replaced with an aftermarket gasket sealing assembly capable of 100% sealing yield rates. (Contact your SCC Sales Representative for more information about the IIISi Split Hopper System.)

OBSERVATIONS FROM THE FIELD As the paper travels from the imaging section to the fusing section of the printer, the leading edge of the paper may pick up toner that has accumulated in the paper path. The toner is then fused to the paper as it exits the printer. Clean the metal plate adjacent to the density control in the printer's paper path with a lint-free cloth.

FUSER OFFSETTING In the HP IIISi/4Si printer, toner off-setting can sometimes be confused with OPC/PCR ghosting as the fuser roller is very nearly the same diameter as the OPC. If toner sticks to the upper fuser roller, a repeat of the image will occur 3.75" down the page. Generally this type of defect is observed with a worn OEM or new, but improper, aftermarket fuser roller. Fuser offset ghosting or OPC/PCR ghosting can be determined by stopping the printer before the print passes through the fuser. If the ghosting appears before the fuser, then it is caused by the imaging process.

Printer Information

	HP LaserJet® IIISi	HP LaserJet® 4Si	QMS® 1725
Price	$3,999	$3,749	$4,999
First Ship Date	March 1991	May 1993	November 1992
Pages Per Minute (ppm)	17 ppm	17 ppm	17 ppm
Engine Duty Cycle	50,000 pages/month	75,000 pages/month	50,000 pages/month
Resolution (dpi)	300 x 300 dpi	600 x 600 dpi	600 x 600 dpi
Page Size	Let/Legal/Executive/A4	Let/Legal/Executive/A4	Let/Legal/Executive/A4

**The OEM recommends a printer operating range of 15-85% RH (50-95°F); Cartridge Storage at 35-85% RH (32-95°F)*

Cartridge Information

	HP LaserJet® IIISi	HP LaserJet® 4Si	QMS® 1725
OEM Part Number	92291A	92291A	R64-4001-000
OEM Published Yield*	8,000 pages	8,000 pages	8,000 pages
Price (Retail List/Retail Street)	$169/$125	$169/$125	$169/$125

**Yield is based on 5% page coverage, unless noted otherwise.*

Printer Engine Compatibility Guide

Alcatel 8376
Anzac 3017/2
Cameleon Proofing System
Canon LBP-NX
Canon P170
DEC PrintServer 17/600
GBT 6817 III SI
Genicom 9170
Hewlett-Packard IIISi/MAC
Hewlett-Packard IIISi/PS
Hewlett-Packard LaserJet 4Si
Hewlett-Packard LaserJet 4Si/MX
Interface Systems 7817/ ISI7817
Intergraph Corp
Memorex 1917
Newgen Sys Turbo PS/440N
Newgen Sys Turbo PS/440ND
OCE 6500/6525
Pacific Semi Turbo PCL5
QMS 1700/1725/PS 1700/PS 1725
Siemans 4824
Siemans HighPrint 4824-P10/P15
SRS Imaging Imager 17D
Talaris System 1794 Print Station
Talaris System 1794
Tandem 5577
Wang LDP-17

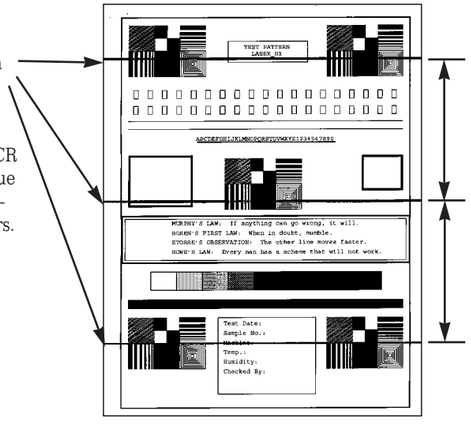
Repetitive Defects	Troubleshooting List
@ 3.75" (95 mm) Intervals	**Upper Fuser Roller Interval** Toner offsetting, Fuser Roller/Pressure Roller incompatibility, Upper Fuser Roller/Lower Pressure Roller wear/contamination
@ 3.75" (95 mm) Intervals	**Lower Pressure Roller Interval** Toner/Pressure Roller incompatibility, Pressure Roller wear/contamination (Defect will appear on backside of page)
@ 2.0" (50 mm) Intervals	**Magnetic Roller (MR) Interval** MR wear, MR electrical contact, MR cleaning damage MR bushing wear, Doctor Blade failure, Toner properties, MR contamination
@ 3.69" (94 mm) Intervals	**OPC Drum Interval** OPC wear, OPC damage, OPC contact Elliptical drum rotation, OPC light exposure degradation, PCR defect
@ 1.5 (38 mm) Intervals	**Primary Charge Roller Interval** PCR wear, PCR Contamination, Toner Properties Poor Electrical contact, Low RH% conditions, Dry Paper

Repetitive defects include horizontal banding, dots, lines and hazing.

TEST PRINT 2: Murphy's Law

PRINT DEFECT: Horizontal pin point discharge defect at the Drum Interval

CAUSE: A new aftermarket PCR with excessive conductivity, due to the lack of the outer protective and middle resistive layers.

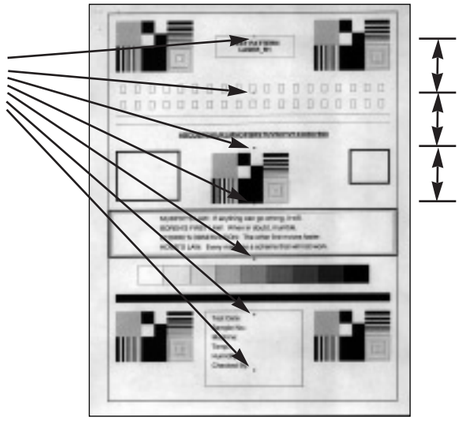


Drum Interval 3.75 (95 mm)

TEST PRINT 3: Murphy's Law

PRINT DEFECT: Repeating Black Dots at the PCR interval

CAUSE: Dirt or lint contamination in the replacement coating of a recoated PCR.



PCR Interval 1.5" (38 mm)

ESTABLISHING BASELINE PERFORMANCE BENCHMARKS

We recommend that you perform a comprehensive series of test prints to establish the performance standards of your cartridges utilizing Static Control's NX Imaging System Components. Listed below is a series of Anacom Smart Box® test targets that we regularly use in system evaluation. This test series will establish the normal print characteristics of the NX cartridge for comparison with your subsequent remanufactured cartridges. We further recommend that you retain this cartridge as your standard to simplify future performance verification.

▶ Anacom Smart Box® TEST PRINT SERIES

Test Print	Print Characteristic Test
Murphy's Law	Small Area Solid Black Density,Gray Scale Accuracy, Text Boldness, Character Blasting
Solid Black	Large Area Solid Black Density, Horizontal Banding, Repetitive Defects
Gray Scale	Gray Scale Accuracy, Overtoning, Horizontal Banding
Solid White	Toner Leakage, Repetitive OPC, Mag Roller Defects
Barber Pole	Text Boldness, Side to Side Uniformity, Character Blasting

▶ PRINT DEFECT TROUBLESHOOTING TIPS

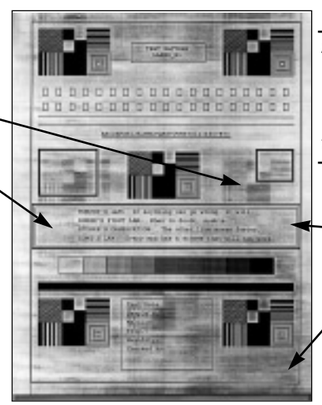
The following list of common defects is provided as a general guide to help you better assess your test prints and to direct you toward the cause of the problem. If you have questions or require further assistance, call our Technical Support Staff at the telephone numbers listed below.

Print Defect	Troubleshooting List
Backgrounding	Inadequate drum charging/erasing, OPC wear, PCR wear, Toner properties, Low RH% conditions, Dry paper
Ghosting	Inadequate drum charging/erasing, OPC wear, PCR wear, PCR contamination, Low RH% conditions, Toner properties, Dry paper, Upper Fuser Roller (Toner Offsetting)
Light Print	Magnetic Roller, Electrical contacts, OPC wear, PCR wear, Toner properties, High RH% conditions, Damp paper, Doctor Blade
Streaking/Lines	Wiper Blade (sharp-edged lines), Corona Wire (curved, fuzzy-edged lines), Upper Fuser Roller, PCR contamination (vertical line)
Random Sprinkles	Recovery Blade, Magnetic Roller Felts
Smudges	OPC contamination, Upper Fuser Roller, Magnetic Roller contamination
Toner Offsetting	Upper Fuser Roller, Lower Pressure Roller, Toner properties

TEST PRINT 1: Murphy's Law

PRINT DEFECT: Background and Ghosting

CAUSE: PCR failed to deliver sufficient voltage to properly charge and erase drum; Drum did not accept sufficient voltage for charging and erasure.



Ghosting at Drum Interval 3.69" (94 mm)

Background is the uniform attraction of toner over a large area of the page

System Support Series 32 Canon® LBP-NX (IIISi/4Si)

▶ IIISi/4Si (NX) Component Management Chart

Component	Recommended Type	Replace After	Cleaning Method	Lubrication Method
OPC	IIISi CorrectPrint™	1 cycle	NA	Drum Surface: Kynar®
PCR	SCC IIISi Rem. PCR	5 cycles	C. Air/Iso. Alcohol/SCC Lint-free cloth	Shaft contact end: CONCLUBE*
PCR Contact	Aftermarket Metal Clip	NA	Iso. Alcohol/Soft, SCC Lint-free cloth	CONCLUBE*
Wiper Blade	SCC Replacement	1 cycle	NA	Blade Edge: Kynar® powder
Mag Roller	OEM Once-used	3 cycles	C. Air/Soft, lint-free cloth	NA
Mag Roller Bushings	OEM Once-used	3 cycles	C. Air/Vacuuming	NA
Mag Roller Contact	OEM Once-used	3 cycles	Iso. Alcohol/SCC Lint-free cloth	CONCLUBE*
Toner	SCC IIISi MicroGraphics	1 cycle	NA	NA
Recovery Blade	SCC Replacement	1 cycle	NA	NA
Doctor Blade	SCC Replacement	2 cycles	C. Air/Soft, lint-free cloth	NA

** CONCLUDE is an abbreviation and Item# for Conductive Cartridge Lubricant ** Iso. Alcohol is an abbreviation for Isopropyl Alcohol *** C. Air is an abbreviation for clean, dry compressed air*

SPECIAL CONSIDERATIONS FOR PCR-BASED SYSTEMS The evolution away from corona charging has created special problems for the cartridge remanufacturer. With PCR technology, the high voltage power supply delivers a fixed maximum capacity of voltage which charges and erases the drum. Because most of the available voltage is consumed in the imaging process, only a small reserve of power remains to overcome changing conditions. The result is very little tolerance for variations or wear of all the critical imaging components.

Background and ghosting can occur when the PCR fails to deliver sufficient voltage to properly charge and erase the drum or when the drum is degraded from wear and cannot accept sufficient voltage for charging and erasure. OPC drums for the HP IIISI/4Si cartridge exhibit significant wear during the second cycle (12,000+ prints) during which background and ghosting are likely to occur. The drum has degraded to a point that the fixed capacity of the voltage is not enough to overcome the degraded condition of the drum.

Contamination build-up on the PCR surface can cause excessive power consumption, which in turn can cause insufficient voltage to be delivered to the drum to charge and erase it. The result is background and ghosting. The toner additives, toner fines, paper dust and wiper blade efficiency all contribute to the buildup and contamination of the PCR. For more information refer to ***System Support Series #16***, *The Technology of Primary Charge Rollers.*

LIMITATIONS OF THE OEM IIISI/4SI PCR One of the most important findings in our PCR research is that a 3-layer roller is necessary to address all the required performance characteristics for the operation of all Canon PCR-based cartridges. The three distinct layers are: an inner conductive layer, a middle resistive layer and an outer protective layer. If one of the layers is missing or lacking in proper design parameters, defects can occur in the PCR. A defective PCR can also affect other imaging components. Aftermarket or stripped rollers offer alternatives, but are not recommended due to design deficiencies or the lack of the 3-layer design. For details, refer to ***System Support Series #11***, *IIISi/4Si Primary Charger Rollers.*

The vital outer protective layer of the OEM PCR typically wears out in its first usage cycle, making the roller unusable. Our testing has shown that the inner conductive and middle resistive layers are not degraded while protected by an intact outer protective layer. By stripping the worn outer protective layer and recoating the roller, we are able to improve its durability, consistency and low humidity performance.

We recommend replacing all OEM PCRs with Static Control's Remanufactured PCR. This roller is guaranteed to print reliably for five cartridge cycles when used in conjunction with Static Control's PCR imaging system and component maintenance guide.

COMPONENT MANAGEMENT FOR THE IIISI/4SI

- Replace the OPC and wiper blade each cycle. We recommend the IIISi CorrectPrint™ Drum because it most closely replicates OEM imaging quality. Also, because the CorrectPrint™ drum uses less toner, it minimizes the occurrence of fuser offsetting.
- Add an aftermarket metal clip PCR contact if one is not present in the PCR housing. Using a metal contact clip is added assurance that the PCR is making proper electrical contact.
- Apply cartridge conductive lubricant to the PCR contact clip and the tip of the PCR shaft only. DO NOT lubricate the plastic saddles.

NX-DEDICATED SYSTEMS AND SUPPLIES

Static Control IIISi/4Si (NX) Imaging Systems	Item #
IIISi/4Si Drum wg, Toner (3SIDRGEAR, 3SI500B)	3SIDRGR500B
IIISi/4Si Reman. PCR, Toner, Drum wg. (3SIRMPCR, 3SI500B, 3SIDRGEAR) w/ Exchange OEM PCR	3SISYS-SD
IIISi/4SI CorrectPrint™ Drum, Toner (3SICPGEAR, 3SI500B)	3SICP500B
IIISi/4Si Reman. PCR, Toner, CorrectPrint™ Drum wg (3SIRMPCR, 3SI500B, 3SICPGEAR) w/ Exchange OEM PCR	3SISYS-CP
IIISi/4Si Blue/Green OPC Drum, Toner (BG3SIGEAR, 3SI500B)	BG3SIGEAR500B
IIISi/4Si Reman. PCR, Toner, B/G Drum wg (3SIRMPCR, 3SI500B, BG3SIGEAR) w/ Exchange OEM PCR	3SISYS-BG
IIISi/4Si Blue/Green OPC Drum wg, Toner (NXBGDRGEAR, 3SI500B)	NXBG3SI500B
IIISi/4Si Reman. PCR, Toner, NX B/G Drum wg (3SIRMPCR, 3SI500B, NXBGDRGEAR) w/ Exchange OEM PCR	3SISYS-NX

Static Control IIISi/4Si (NX) System Supplies	Item #
Doctor Blade	3SIDBLADE
Wiper Blade	3SIBLADE
Recovery Blade	3SIRECBLADE
Recovery Blade Installation Kit	RBIKIT
CorrectPrint™ OPC/Gears	3SICPGEAR
OPC SuperDrum/Gears	3SIDRGEAR
Blue/Green OPC SuperDrum/Gears	BG3SIGEAR
NX Dedicated Blue/Green OPC SuperDrum/Gears	NXBGDRGEAR
Remanufactured PCR When Purchased with Toner & Drum	3SIRMPCR
Perimeter Adhesive ProSeal™	3SIADHSEAL
IIISi/4Si, SX, CX OEM Seal Pull Tabs	SXOEMTAB
Silk-Screened Rigid Seals, Printed	3SISEAL
ProSeal™ Kit	3SISEALKIT
IIISi/4Si Cutting Tool Kit	3SICTOOLKIT
MicroGraphics 1, 500g Bottle	3SI500B
SX Replacement Cartridge Pins	SXPIN
SX Sensitivity Tabs	SXSENTAB
Conductive Cartridge Lubricant, 20 g	CONCLUBE
Lint-free Cleaning Cloth	LFCCLOTH
IIISi Plexiglas Hopper Fixture	3SISEALJIG

System Support Series Technical Bulletins	SSS #
The Technology of Primary Charge Rollers	16
IIISi/4Si Primary Charge Rollers	11
New Production Modifications in IIISi/4Si Cartridges Create New Sealing Challenges	24
IIISi/4Si Technical Toner Analysis	20

TIPS AND TECHNIQUES...

GENERAL CLEANING: Dry, filtered compressed air is the preferred cleaning method for all cartridge components in the IIISi/4Si imaging system. Effective alternative methods are noted in parenthesis ( ) throughout the instructions. DO NOT use toner cloths with any imaging components.

LUBRICATION: When conductive grease is required, use Static Control Conductive Cartridge Lubricant (CONCLUBE). "Sparingly" refers to a layer of lubricant that is approximately the thickness of a sheet of notebook paper.

DO NOT use conductive lubricant on the PCR saddles. The grease can become contaminated with toner, and the mixture of grease and toner will become abrasive, defeating the purpose of the lubricant.

PADDING THE DRUM AND WIPER BLADE: Use only Kynar® for padding the drum and wiper blade. Liquid wiper blade lubricants and wiper blade coatings can cause numerous problems, such as filming of both the drum and charge roller, poor drum cleaning and wiper blade flip-overs. Blade coatings do nothing for wiper blade durability and can inhibit proper drum cleaning. Leave the charge roller out of the cartridge until the drum has been rotated into the wiper blade.

MAG ROLLER CLEANING: Do not use any type of mag roller chemical cleaner or coating. Any type of liquid cleaner used on the mag roller causes a measurable degradation of print quality compared to an untreated roller. A mag roller coating is not necessary when you use a toner properly designed for this cartridge. Usage of such mag roller coatings can contribute to overbolded characters, poor page yield and backgrounding. Mag coatings can increase the tendency of toner additives to film the mag roller surface.

Do not touch touch the mag roller with your fingers. Oil from your fingers can remain on the mag roller and cause print defects.

STATIC CONTROL PCR CLEANING: Clean a Static Control Remanufactured PCR only with isopropyl alcohol and a Static Control lint-free cleaning cloth. Do not use any other type of cleaners, polishes, waxes or treatments.

TONER HOPPER CLEANING: Completely disassemble the toner hopper, including the mag roller, bushings, wiper blade, fill cap, etc. to effectively clean the hopper. This allows the complete removal of residual toner, preventing the cross-contamination of toners. Do not use any type of liquid cleaners on the toner hoppers, or any type of "static" prevention treatments.

System Support Series 32 Canon® LBP-NX (IIISi/4Si)

37. Replace the cover and secure with the screws and pins. Don't forget that the screws are installed with spacers. The ground screw is located in the deep receptacle on the side of the cartridge. (Refer back to *Figures 1 and 2* on page 4)

38. This cartridge requires that at least one sensitivity tab be present on the side of the casing as shown in *Figure 36*. A tab placed in position 1 may cause lighter print than does a tab placed in position 2. One tab must be installed for the printer to recognize the cartridge. (SCC Item # SXPIN) ❖

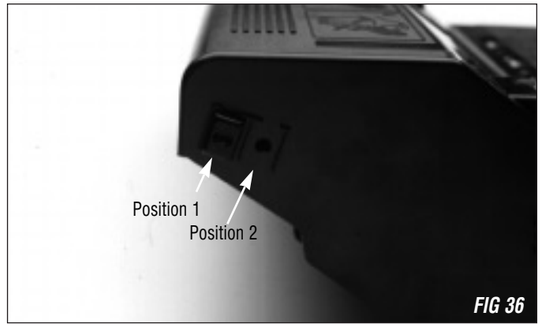


FIG 36

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34. Reinstall the gear housing. Line up the gears and snap the housing back into place. Make sure the bar agitator is properly seated. The gear that drives the bar may become dislodged while handling the hopper. *(See Figure 32)*

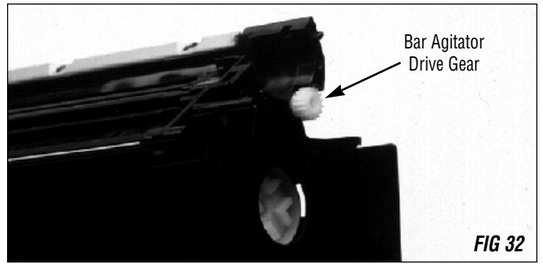


FIG 32

35. Join the toner hopper and waste bin sections. Rest the hinge post in its cradle. Then align the casings at the other end and replace the hinge pin. *(See Figure 33)*

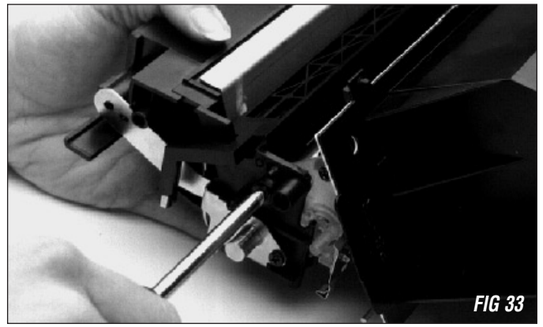


FIG 33

36. Reinstall the springs. Note the placement of the springs as shown in *Figures 34 and 35*. The long spring is installed on the drive gear side. The short spring is installed on the seal exit side.

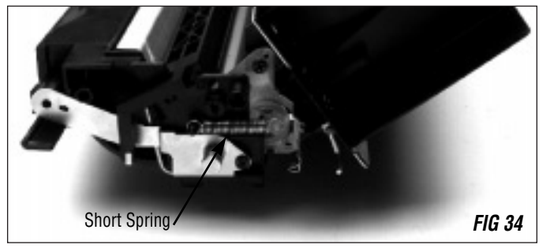


FIG 34

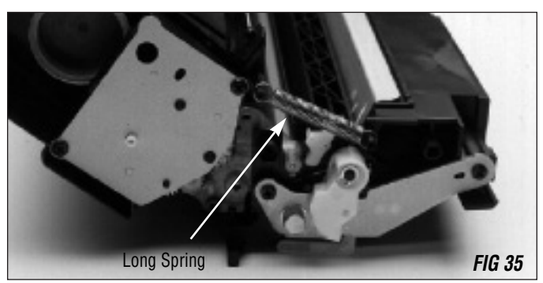


FIG 35

1. Remove one **phillips head screw** from each side of the casing. Note that a spacer fits around each screw. *(See Figures 1 and 2)*

   Using a pin puller, remove one **pin** from each side of the cartridge. Replace damaged pins with Static Control SX Cartridge Pins. *(See Figures 1 and 2)*

   Remove the **ground screw** located inside a receptacle on the seal exit end of the cartridge. *(See Figure 2)*

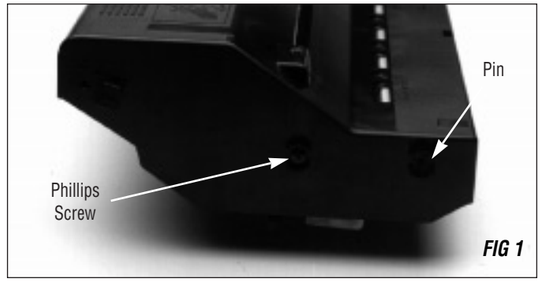


FIG 1

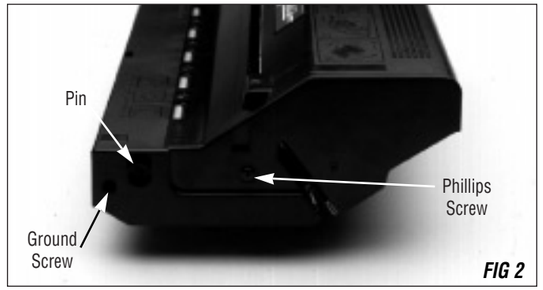


FIG 2

2. To remove the cartridge casing, gently pull the **clasp** on the front of the casing and lift off the casing as shown in *Figure 3*.

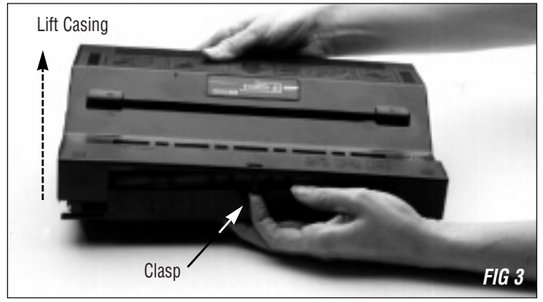


FIG 3

3. Remove the **two springs** that hold the cartridge sections together. *(See Figure 4)*

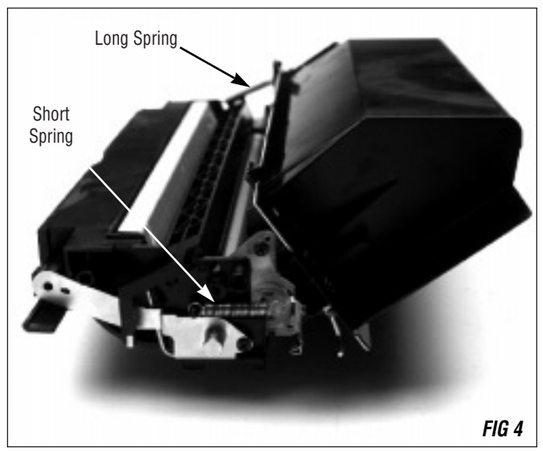


FIG 4

4. Using a pin puller, remove the **hinge pin** from the ground side of the cartridge as shown in *Figure 5*. Note that the hinge pin and casing pins are not interchangeable.

FIG 5

Carefully separate the toner hopper and waste bin sections. *(See Figure 6.)*

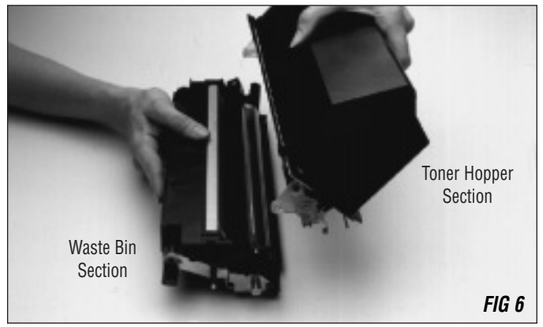


FIG 6

5. Remove the PCR assembly. Pinch together the top and bottom clips on the white **retaining tab** as shown in *Figure 7*. Remove the retaining clip.

FIG 7

6. Lift up the left end of the **PCR housing** and shift it to the left as shown in *Figure 8*, and remove the housing from the dust bin section. Note the locating posts on the right end of the housing.

   Set the PCR housing aside while you work on waste bin section.

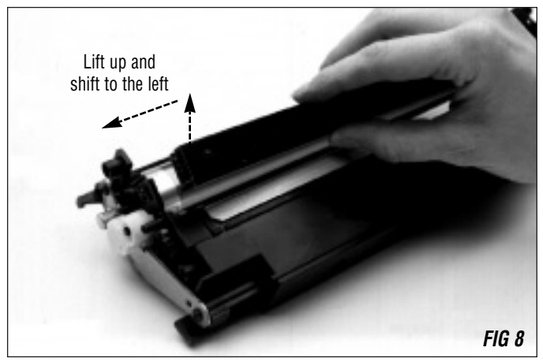


FIG 8

27. Seal the hopper. Static Control offers 3 sealing technologies for the IIISi/4Si cartridge: Hard Card, insertable ProSeal™ and NX Split Hopper System. If raised tabs are present at the opening of the seal channel *(Figure 27A)*, use the IIISi Cutting Tool to remove them as needed.

28. Fill the hopper with 500 grams of IIISi/4Si MicroGraphics Toner and replace the fill cap. It should fit snugly to avoid leakage.

29. Clean the doctor blade with compressed air (or a soft, lint-free cloth). Reinstall the doctor blade and secure it with the holding screws. Note the locating bosses at each end. *(See Figure 27)*

30. Clean the mag roller with clean, dry compressed air (or a soft, lint-free cloth). DO NOT use cleaning agents or solvents to clean the mag roller.

    Clean the copper contact prongs on the end of the mag roller. *(See Figure 28)* To ensure that the prongs make proper contact with the mag roller contact, make sure the prongs are lifted to the position shown in Figure 28A.

    Reinstall the mag roller, bushings, bearings and gear.

31. Clean the mag roller end caps with a soft, lint-free cloth. Make sure the end caps are completely free of toner and debris.

32. Clean the mag roller contact and doctor blade contact with a lint-free cloth and 99% isopropyl alcohol. *(See Figure 29)*

    Apply CONCLUBE (very sparingly) to the mag roller contact using the end of a cotton swab. *(See Figure 30)*

33 Reinstall the mag roller end caps. Secure with the holding screws. Make sure the doctor blade stamping is touching the contact on the mag roller contact end cap. *(See Figure 31)*

    Rotate the mag roller in its normal direction to position the wiper blade. If the polyurethane blade folds back or "flips" during initial use, it may cause the mag roller gears to bind or possibly break.

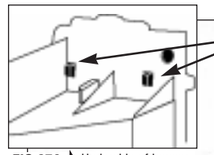


FIG 27A

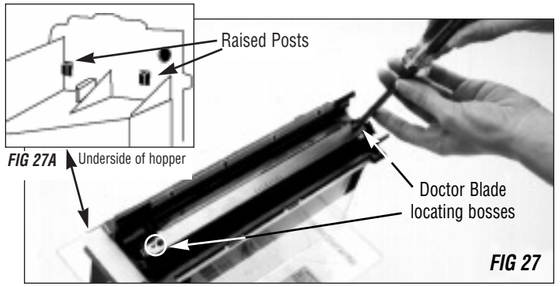


FIG 27

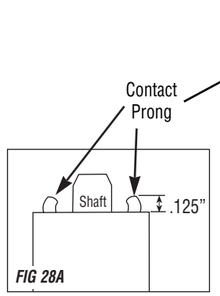


FIG 28A

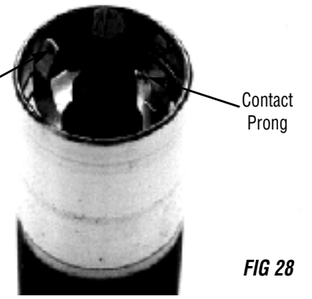


FIG 28

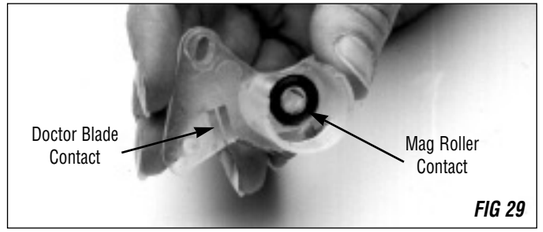


FIG 29

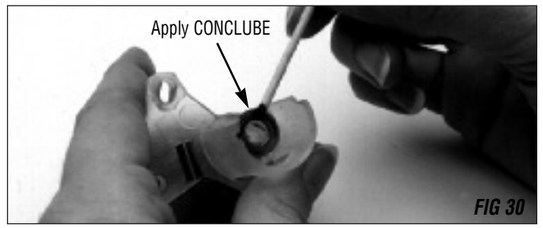


FIG 30

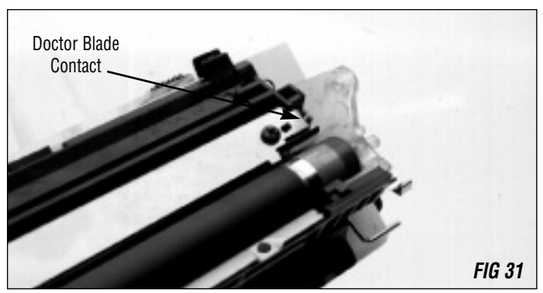


FIG 31

23. Lift the mag roller, including the bushings, bearings (blue rings), and gear, out of its housing. Be careful not to nick or scratch the roller. *(See Figure 22)*

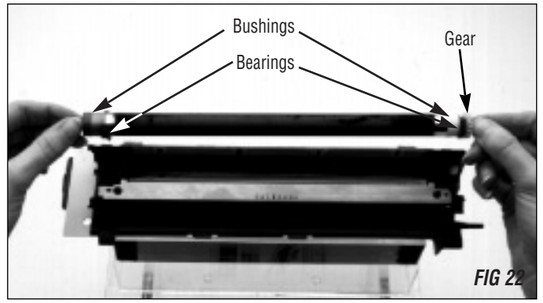


FIG 22

24. Remove the two 7.5 mm screws holding the doctor blade; then use needle nose pliers to lift out the blade. *(See Figure 23)*

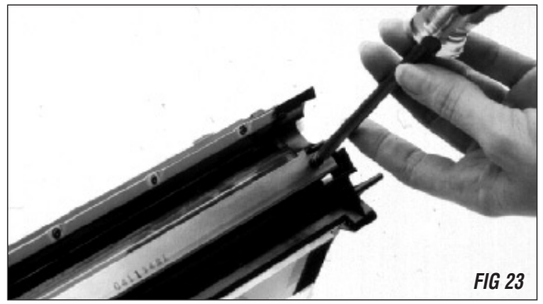


FIG 23

25. Use needle nose pliers to remove the toner fill cap. *(See Figure 24)*


FIG 24

26. Empty the toner and clean the hopper with clean, dry compressed air (or a toner vacuum). Clean the mag roller felts and the adjacent doctor blade end foams with compressed air. Replace as needed.

    NOTE: There are two agitators in the hopper as shown in *Figures 25 and 26*. **The hopper has been split for better visibility of these components.** One is a paddle-type agitator and the other is a bar agitator located near the toner port.

FIG 25

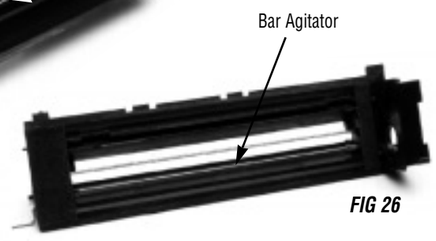


FIG 26

7. Remove the **ground drum axle**. *(See Figure 9)* Note that there is only one screw (5.7 mm) to remove. The other screw was removed when you removed the casing.

   Loosen the axle at the opposite end, but don't take it off. This will reduce the stress on the small helical gear when the drum is removed from the waste bin.

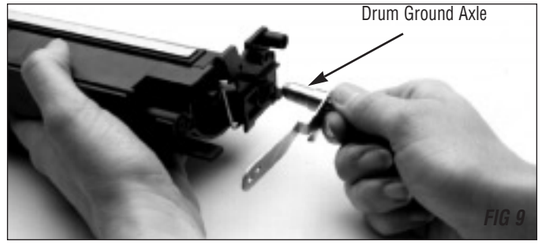


FIG 9

8. Hold the **drum shutter** back out of the way. Holding the drum as shown in *Figure 10*, gently rotate the **drum** into the wiper blade (clockwise direction) and pull it out of the waste bin. Replace the drum each cycle. (SCC Item# 3SICPGEAR)

   NOTE: Rotating the drum when removing it from the waste bin prevents damage to the recovery blade.

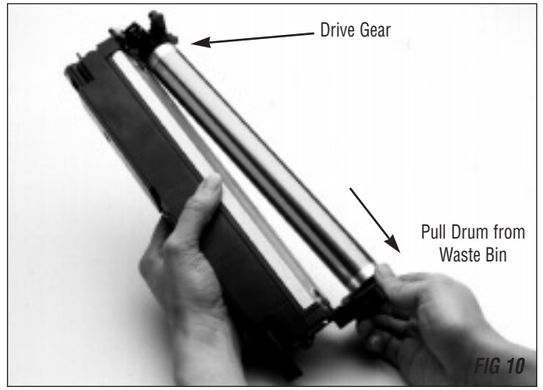


FIG 10

9. Remove the **wiper blade**. *(See Figure 11)* Note that the wiper blade is secured with 7.5 mm screws. Replace the wiper blade each cycle. (SCC Item# 3SIBLADE)

10. Inspect the **recovery blade** and replace as needed. The recovery blade should be free of waves, dips or creases. (SCC Recovery Blade Installation Kit Item# RBIKIT) *(See Figure 12)*

11. Clean the **waste bin, wiper blade and recovery blade** with clean, dry compressed air (or a toner vacuum). Rotate the waste bin sweeper blade to verify proper operation. Inspect the blade for cracks or excessive wear.

    Be sure to clean the **sealing foam** located underneath the wiper blade.

12. Dip the flat bottom edge of the replacement wiper blade in Kynar® powder. Lightly run the tip of your finger over the length of the blade to ensure even coverage. Repeat the dipping process. Reinstall the wiper blade and secure it with holding screws.


FIG 11

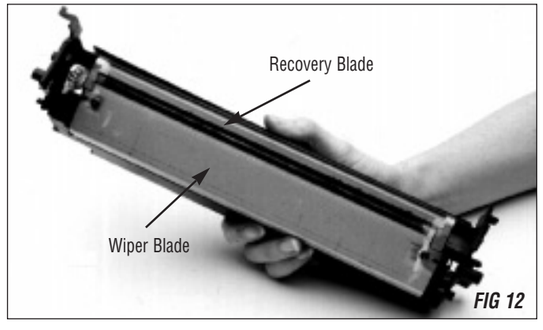


FIG 12

13. Pad the coated surface of the replacement drum with Kynar® powder. Be careful to avoid Kynar® on the gears. *(See Figure 13)*

    Install the replacement drum and secure both drum axles with the holding screws. Don't replace the ground screw at this time.

    Hold the drum shutter back. Rotate the drum in its normal rotational direction (into the wiper blade) until all of the Kynar® is deposited in the waste bin. Blow off any excess Kynar® with compressed air or use a dry, lint-free cloth. DO NOT reinstall the PCR if Kynar® is present around the drum.

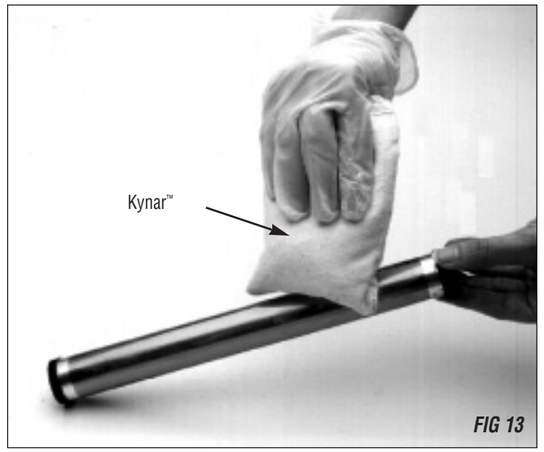


FIG 13

14. Store the assembled waste bin in a light-protected area while you clean and inspect the PCR housing.

15. Remove the PCR and clean the **PCR housing** with clean, dry compressed air or a toner vacuum. *(See Figure 14)*

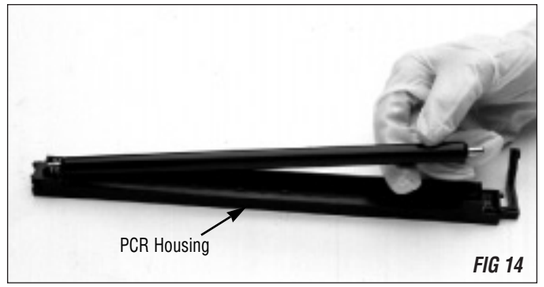


FIG 14

16. Clean the **PCR saddles** and the **PCR contact** with a dry cotton swab. *(See Figure 15)*


FIG 15

NOTE: **Early-style housings** use a conductive saddle and **late-style housings** use a metal clip. *(See Figure 16)* We recommend installing a metal clip contact on early-style housings for better continuity.

Apply CONCLUBE (very sparingly) to the contact end of the PCR shaft. DO NOT apply any lubricant to the PCR saddles.

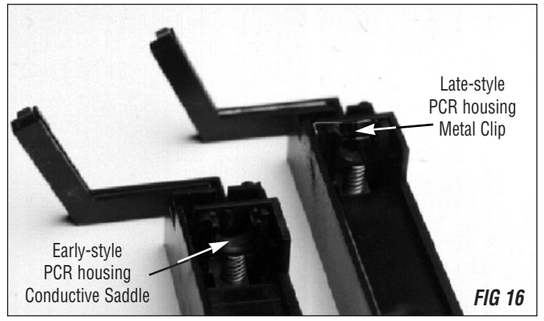


FIG 16

17. Clean the **PCR** with a dry, lint free cloth dampened with water. If you are using a Static Control IIISi Remanufactured PCR, clean it with alcohol and a soft, lint-free cloth.

    We recommend replacing all OEM PCRs after the first cycle with the Static Control IIISi Remanufactured PCR. This PCR is guaranteed for 5 cycles when used with Static Control's PCR imaging system and component management system. *Contact your Static Control Sales Representative for details.*

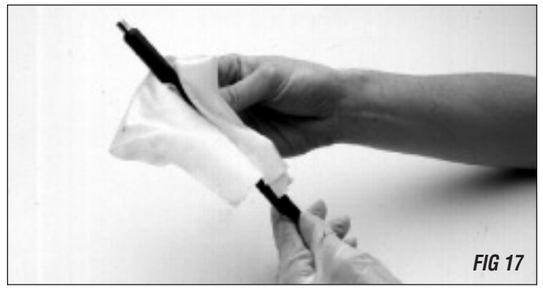


FIG 17

18. Reinstall the PCR.

19. Reinstall the PCR housing in the waste bin. First, position the locating posts in the receptacles at the end of the waste as shown in *Figure 18.*

    Then, lower the other end of the housing until the end positioning post rests in its cradle. Reinstall the white retaining clip. *(See Figure 19)*

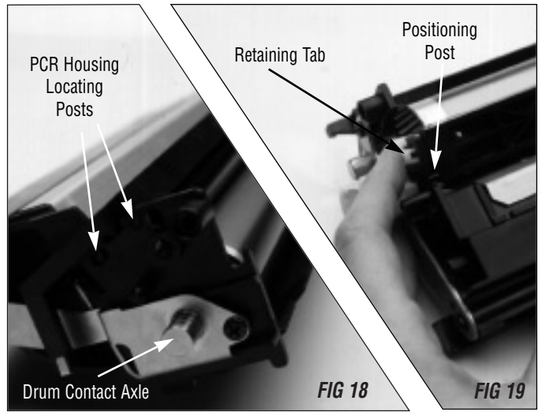


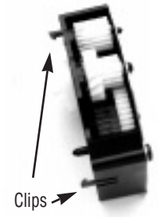
FIG 18

FIG 19

20. Store the assembled waste bin in a light-protected area until final reassembly.

21. Remove the gear housing.

    NOTE: The gear housing snaps into place with two clips on each side. The clips are visible through small receptacles on each side of the hopper. Use your finger or the tip of the needle nose pliers to free both clips. Then remove the gear housing. *(See Figure 20)*



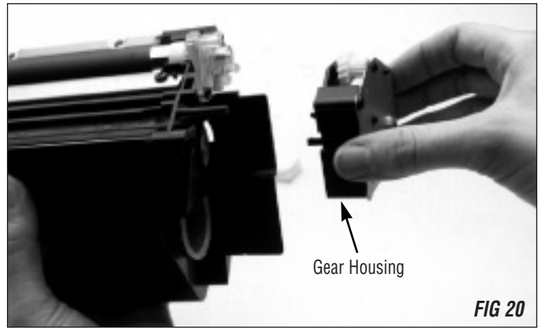


FIG 20

Place the hopper in a holding fixture so that both hands are free.

22. Remove both mag roller end caps. Each end cap is held in place by two phillips screws (9.5 mm). *(See Figure 21)*

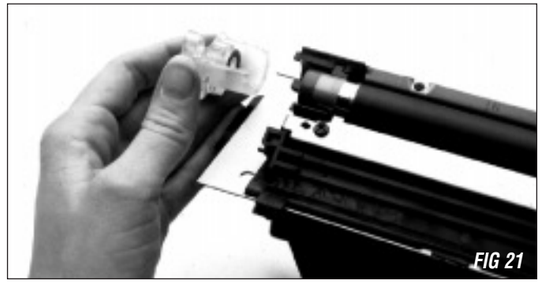


FIG 21