




# Using the Online EDGE Service Manual

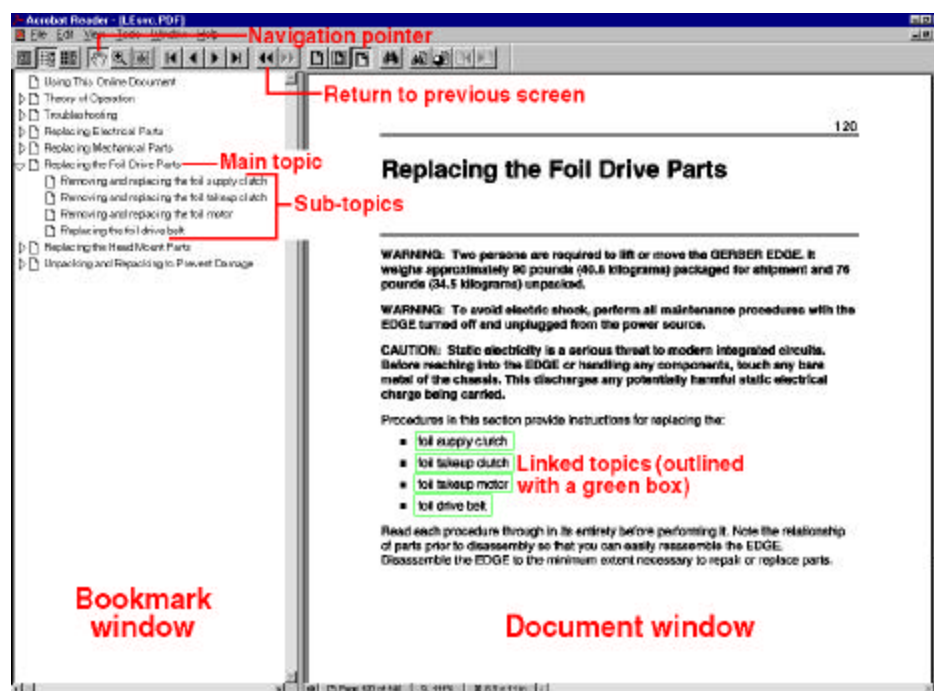
The text appears in the document window. The bookmark window serves as a table of contents by displaying the main topics. To the left of each main topic is an arrow. When you turn on the navigation pointer and click on the arrow, the arrow points down and displays the list of sub-topics. To go to a main topic or sub-topic, click on it with the finger pointer .

On many screens, some words and phrases are outlined with a green box. These are linked topics. Clicking in the green box with the finger pointer jumps you to that topic. To return from where you jumped, click on the return button .

If a topic is continued to another screen, there is an arrow  at the bottom of the page. Click on the arrow to go to the next screen and continue reading about the topic.

There are additional ways of navigating through the document, and you can even print part or all of the document. To learn more about the Acrobat™ Reader tools and features, click on Help in the menu bar, then click on Reader Online Guide. The topic "Viewing PDF documents" in the bookmark window contains complete information about using Acrobat. Two especially valuable sub-topics are "Navigating pages" and "Opening and printing PDF documents."

*Note: If you do not understand a procedure, do not perform it without calling the Field Service Department first. Gerber is not liable if you damage the EDGE while performing maintenance procedures.*



# Theory of Operation

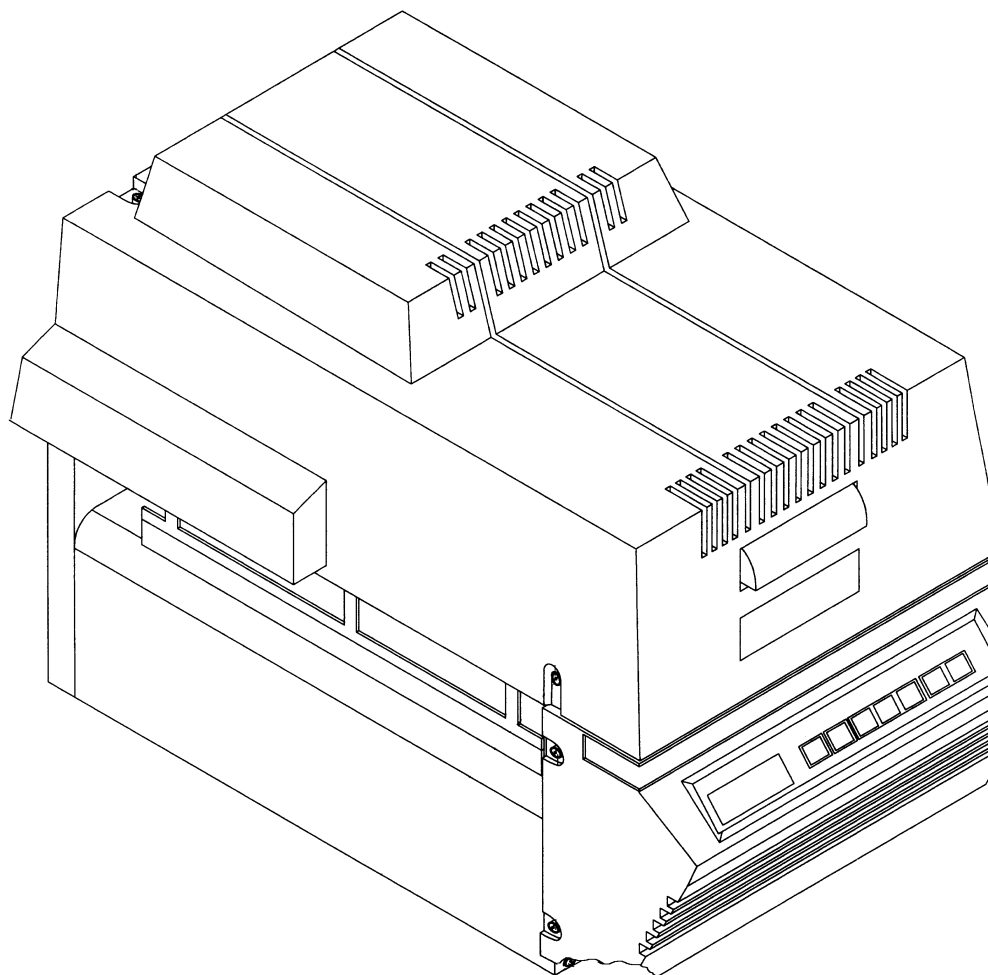
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Proper servicing of the GERBER EDGE® depends on a thorough understanding of its operating principles. The purpose of this section is to:

- give you an overview of EDGE® operation
- describe the relationships among the parts
- identify parts and their functions
- help you understand why you are performing particular procedures

## What is the GERBER EDGE?

The GERBER EDGE is a thermal transfer printer which prints computer-generated designs on a material such as vinyl, static cling, or EDGE Ready™ heat transfer paper. The design is printed on the material using EDGE Ready GerberColor™ spot color, process color, or L.T. Series foil cartridges.



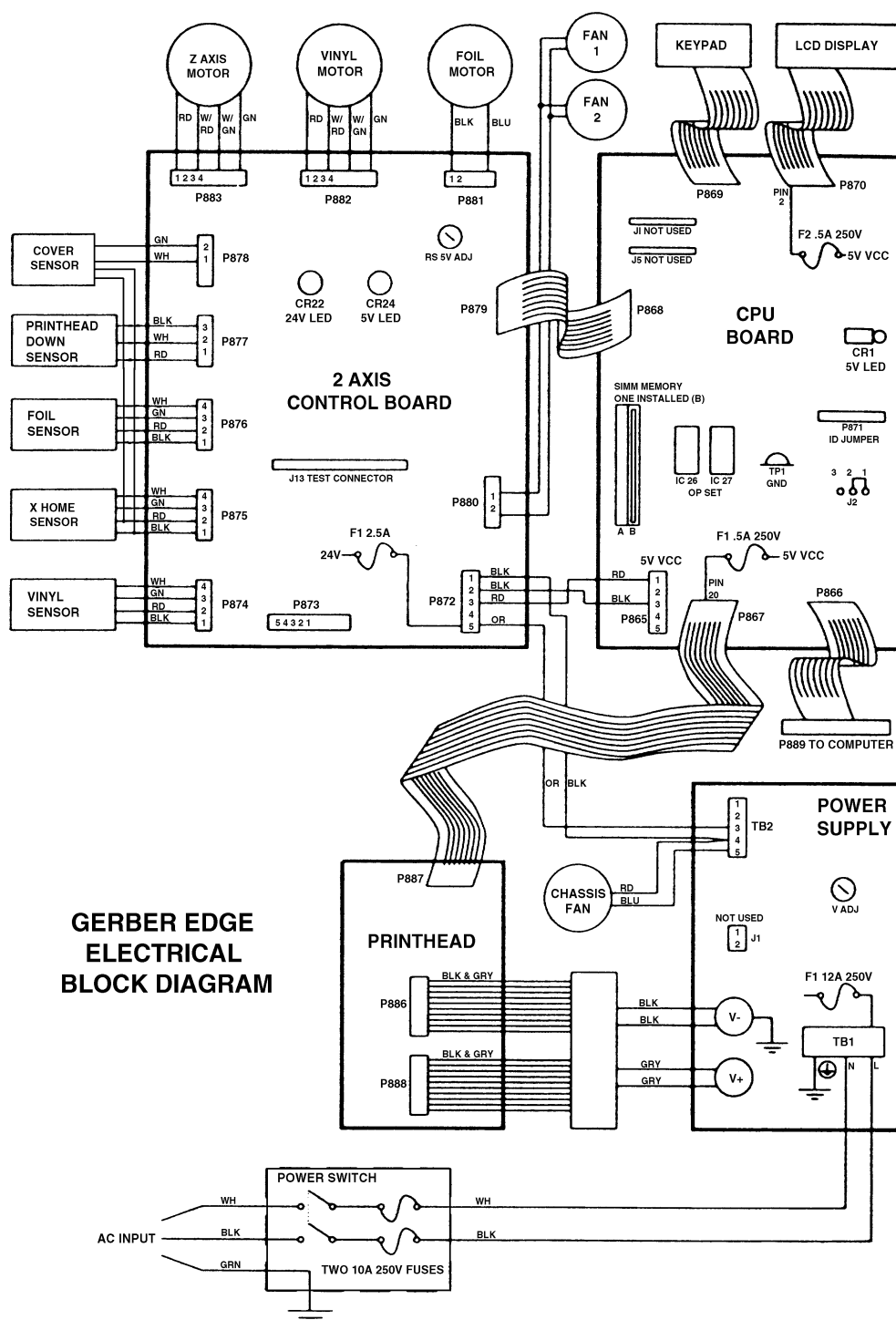
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## What does the operator do?

The following sequence is an overview of actions required by the operator. For step-by-step operating instructions, refer to the Owner's Guide provided with the EDGE.

1. Connect the EDGE directly to a computer parallel printer port (normally LPT2). Do not connect the EDGE to the computer through a security block, printer, device, or switch box or unacceptable print quality may result.
2. After designing a job in the workstation design program, send the job to the EDGE through an output program such as the Gerber Plot program. Be certain to select the plotter you plan to cut on prior to printing. If you change plotter selection after printing, cutting registration may be degraded.
3. Load the material and foil cartridge when prompted by the EDGE. If more than one color is required for the design, the LCD display prompts you for additional cartridges.
4. Cut the job on a plotter. You must register the plotter knife exactly with the cutter registration mark printed on the material. Use the eyepiece provided in the EDGE accessory kit to align the knife with the registration mark.

# Simplified schematic overview



When power is applied to the EDGE, a universal, auto-ranging power supply distributes power to:

- the circuit boards. The functions of these boards are described in subsequent screens.
- the capacitor boards. The capacitor boards act as regulators and provide power to the printhead. The power supply must be calibrated to the printhead. Refer to “Replacing the power supply.” for information about calibrated power supplies.
- the fan. The chassis cooling fan is mounted on the chassis and runs constantly when power is applied.

Protection for electrical circuitry is provided by two fuses at the on/off switch and a fuse within the power supply.

## Central processing unit (CPU) board

The CPU board:

- contains the program logic chip set (ICs 26 and 27) and memory modules
- provides the operator interface through the keypad and LCD display panel
- provides the computer interface through the EDGE parallel port
- provides design data to the printhead
- cycles the printhead fans on and off

Two fuses provide interface circuitry protection for the LCD display and printhead data. An indicator light (CR1) is used for troubleshooting.

## 2 axis control board

The 2 axis control board:

- controls the z axis (raise and lower the printhead using the z axis motor)
- controls the x axis (vinyl movement using the vinyl motor to drive the sprockets and platen)
- controls foil supply (foil movement using the foil motor to drive the takeup clutch)
- creates and distributes 5V power to the CPU board

A fuse and the sensors provide circuitry and machine operation protection. Two indicator lights (CR22 and CR24) are used for troubleshooting.



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## Printing sequence overview

Refer to the illustrations on the following screens to locate the parts discussed below.

When the EDGE is first turned on, the z axis motor rotates the head mount away from, then back to, the correct z axis position as determined by the printhead down sensor. This allows the operator to open the cover to load material and foil.

After a job is sent to the EDGE, messages on the LCD display prompt the operator to load the material and foil. When loading is complete, the operator presses the Online key and the printing sequence begins.

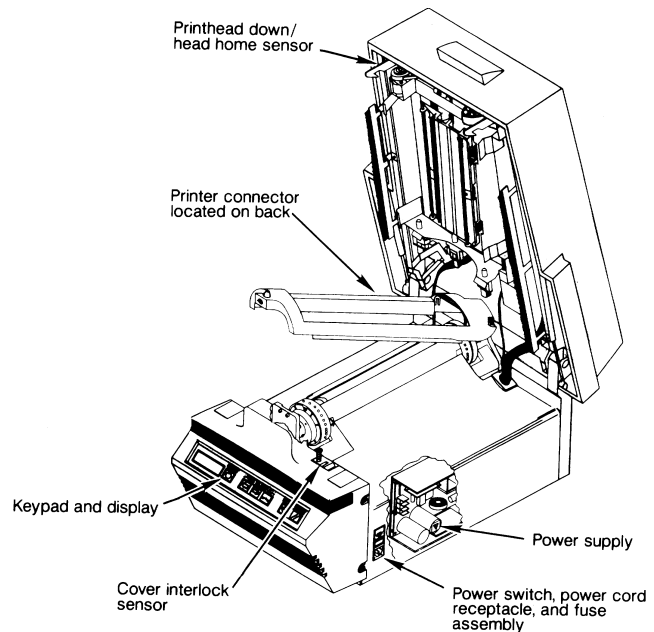
- The cover interlock sensor verifies that the cover is down. If the cover is not down, the LCD display prompts *Close Cover*.
- The vinyl and foil sensors verify that material and foil is loaded. If vinyl or foil is not loaded, the LCD display prompts *Check Vinyl* or *Check Foil*.
- The z axis motor lowers the head mount. When the printhead is tight against the platen, as determined by the z home sensor, the motor shuts off.
- The vinyl and foil motors turn on. The vinyl motor drives the sprockets and platen to pull the material through the EDGE. The foil motor drives the takeup clutch to pull the foil across the printhead.
- The printhead heats the foil, creating a bond between the foil and the material. This bond also helps to pull the foil across the printhead. Two dancer bars maintain foil smoothness and tension, and if slack develops in the foil, the clutch and foil motor take up the slack.
- When the pass with that foil is complete, the z axis motor raises the head mount, then the vinyl motor slews the material back to the starting position.
- The operator loads additional foil if prompted, or takes the EDGE offline and slews the material from the machine.

## Parts and their functions

The major parts of the GERBER EDGE are the chassis, the platen assembly, and the printhead assembly. These parts are generally described in subsequent screens.

### The chassis

- **Power switch and power cord receptacle** are located on the right side. The power cord is inserted in the power cord receptacle. The **printer connector** is located on the back and is used to connect EDGE to the computer.
- The **power supply** is a universal, auto-ranging power supply capable of operating from 90 to 132 volts, or 180 to 264 volts, on 50 to 60 Hz.
- The **keypad and display** are used to enter operator responses and display prompts and messages. For more information on the keypad and display, refer to the "Using the keypad and LCD display."
- The **cover interlock sensor** prevents EDGE operation if the cover is not completely closed.
- The **printhead down/head home sensor** reads when the flag attached to the head mount is within the sensor reading elements. If this sensor is not activated, the EDGE will not operate.



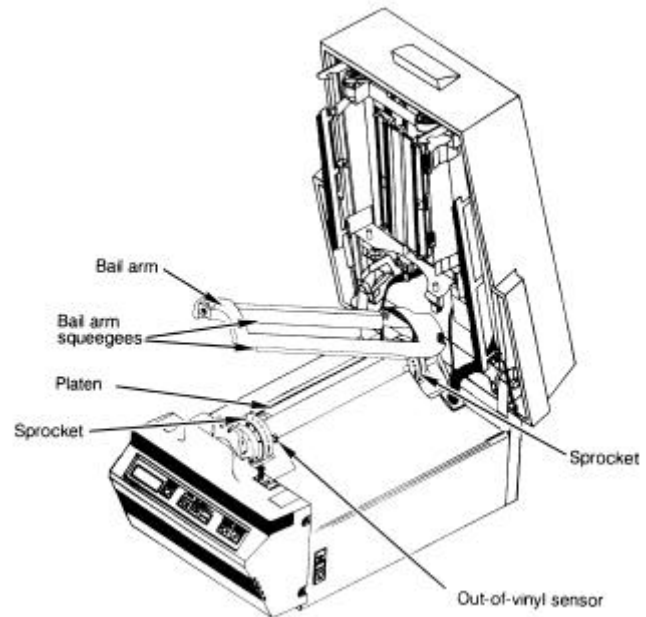
## The platen assembly

The **platen** is the rubber roller which presses the material and foil tightly between itself and the printhead.

The teeth in the **drive sprockets** use the holes in the material to move the material through the EDGE.

The **bail arm** holds the material in contact with the drive sprockets. The bail arm **squeegees** clean the area to be printed.

The EDGE does not operate if the **out-of-vinyl sensor** determines that no material is loaded or if the EDGE runs out of material while printing.



## The printhead assembly

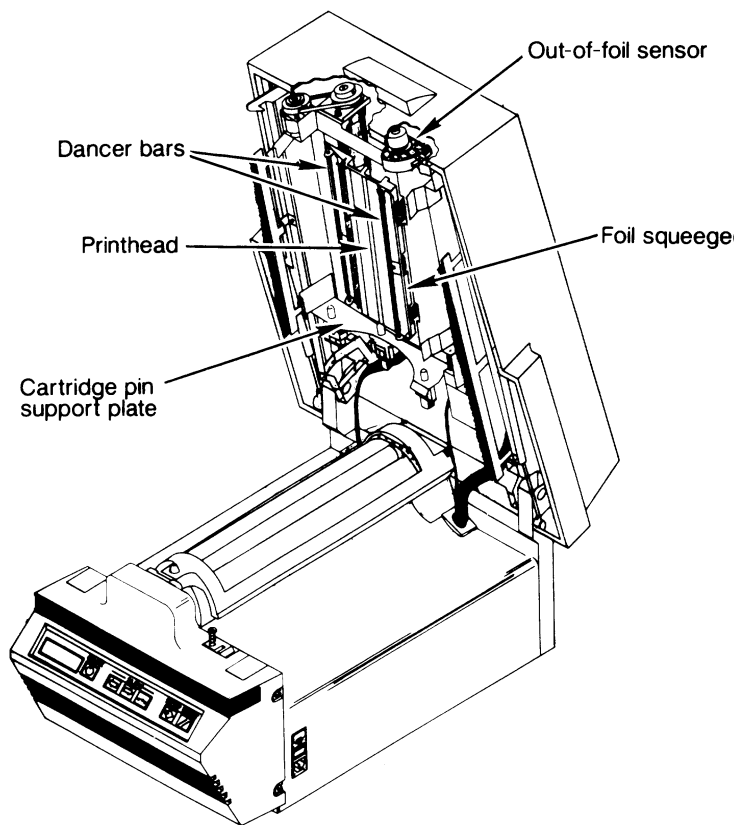
The **printhead** heats the foil and presses it tightly against the material and platen.

The **foil squeegee** cleans the back of the foil in the color cartridge.

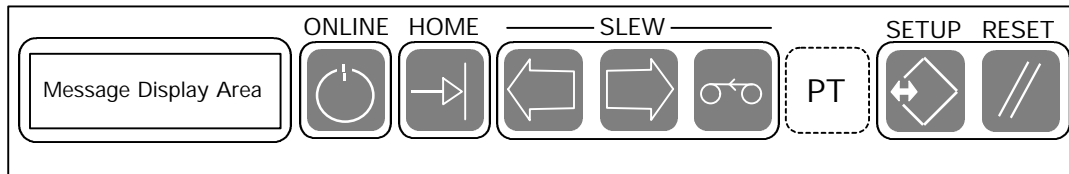
The **color cartridge** holds the roll of foil. The cartridge is held in the printhead assembly by three **cartridge pins** on the **cartridge pin support plate**.

The **dancer bars** are free moving, provide tension, and prevent foil wrinkling.

The EDGE does not operate if the **out-of-foil sensor** determines that a foil cartridge is not loaded or if the cartridge runs out of foil while printing.



## Using the Keypad and LCD display



The keypad and display are used to change operation modes, to enter operator responses and commands, and to display instructions for the operator. The eight keys are described on the next screen.





The **online** key is used to set the EDGE online, acknowledge prompts, and starts printing. It is also used to interrupt printing and enter the Paused mode, and to restart printing from the Paused mode.



The **x axis home** key rotates the drive sprockets to the home position (with the three closely-spaced teeth facing up). Press it once to home the drive sprockets.



The two **vinyl slew** keys move the material forward and backward. Vinyl slewing stops when the key is released.



The vinyl slew keys work when the EDGE is offline, or online but waiting for you to load a new color cartridge. The keys are also used to make selections in the Setup menu.



The **foil slew** key advances the foil in the color cartridge. The foil slew key works when the EDGE is offline or online. Foil slewing stops when the key is released.



The **print test** key is a hidden key located between the foil slew key and the setup key. (A hidden key is an unlabeled area of the keypad and indicated by an asterisk.) Pressing the print test key once continuously prints the test pattern selected in the Setup menu. Pressing the reset key stops printing.



The **setup** key opens the Setup menu, which allows you to change the print test pattern, the overlap, or the EDGE checksum. Pressing the RESET key returns the EDGE to Offline.



The **reset** key stops a job and sets the EDGE offline. The reset key is also used to return to Offline from the Setup menu and Print Test. When a job is interrupted with the reset key, the display reads Confirm Reset. To restart the job, press online. To terminate it, press reset again. This key is also used to reset the EDGE to the original factory parameters (refer to "Resetting to Factory Parameters").

## Message display area

The message display area shows the mode (Offline, Online, or Paused) and the Setup menu status. It also shows operator prompts and error messages. Refer to “Troubleshooting” for the response to operator prompts and error messages.

*Note: If a message appears in the LCD display which is not expected either in a procedure or in Troubleshooting, please contact your distributor or the Gerber Field Service Department for assistance.*





## Offline mode

When first turned on (**power on**), the EDGE is in the **offline mode**. While offline, you can press keys to slew the vinyl (**VS**) or the foil (**FS**), or set home (**XH**). Slewing stops when the key is released. Check the printing ability and quality by pressing the print test (**PT\***) key to make a test print. To stop the print test, press the reset (**RS**) key. To change the EDGE checksum, overlap setting, and print test pattern, press the setup (**SU\***) key to enter the Setup menu. After making changes, press the reset key to return to the offline mode. For additional information about the Setup menu, refer to "Setup menu".

## Online “idle” mode

While offline, pressing the online (**ON**) key puts the EDGE in the **online “idle” mode** and the EDGE is ready to print. Pressing the reset (**RS**) key returns to the offline mode. When the computer sends a job for printing, the EDGE enters the online “print” mode from the online “idle” mode.

## Online “print” mode

The EDGE stays in the **online “print” mode** until one of four things happens:

- Printing is complete and the EDGE returns to the online “idle” mode.
- You press the reset (**RS**) key. The job pauses and the display asks you to confirm the reset. If you press the reset key again, the job is canceled and the EDGE enters the offline mode.
- You press the online (**ON**) key and enter the online “paused” mode.
- An error occurs, an error message is displayed in the message display area, and the EDGE enters the online “error” mode.

## Online “paused” mode

Pressing the online (**ON**) key or the reset (**RS**) key while printing puts the EDGE in the **online “paused” mode**. The job stops printing and you can:

- look at the job while it is still in the EDGE and before printing is complete
- slew the foil (**FS\***).

To restart printing at the same location where printing was interrupted, press the online (**ON**) key. To cancel the job, press the Reset (**RS**) key. The job pauses and the display asks you to confirm the reset. If you press the reset key again, the job is canceled and the EDGE enters the offline mode. If you press the online (**ON**) key, the job resumes.

*Note: To ensure correct registration when printing resumes, the EDGE is set to overlap the foil by 15 pixels at the position where it was paused. You can reset this amount to any value between 5 and 25 pixels by following the instructions in "Changing the amount of overlap."*

## Online “error” mode

If an error occurs while printing, printing stops, the EDGE beeps, an error message is displayed in the message display area, and the EDGE enters the online “error” mode. For a list of possible messages and your response to each, refer to “Troubleshooting.”

After taking corrective action, press the online (**ON**) key to resume printing. If the error is non-recoverable, you must press the reset (**RS**) key. The EDGE returns to the offline mode and you must resend the job from the computer.

*Note: If the LCD display message is “Thermistor Error,” no immediate action is required. A time delay allows the printhead to cool down. When the printhead is sufficiently cool, the “Paused” message is displayed on the keypad. Press the online (**ON**) key to restart printing.*

Before pressing the online key to restart printing, you can:

- look at the job while it is still in the EDGE and before printing is complete
- slew the foil (**FS\***).

## Resetting to factory parameters

The EDGE is set to certain parameters at the factory. If you change these settings, or if an incorrect checksum alters the settings, the EDGE may not operate properly. If you suspect a problem, reset the EDGE to factory parameters and try your job again. If you still have a problem, contact the Gerber Field Service Department.

1. Turn off the EDGE.
2. Press and hold the reset key.
3. Turn on the EDGE and keep the reset key pressed until the LCD display reads "OFFLINE."
4. Release the Reset key. The EDGE is reset to factory parameters.

## Setup menu

When you press the setup (**SU**) key from the offline mode, the EDGE enters the Setup menu. The Setup menu allows you to change:

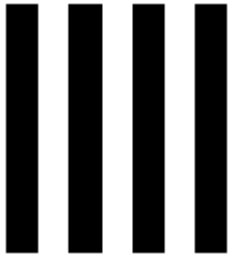


- the print test pattern
- the EDGE checksum
- the amount of overlap when resuming a job after a pause

*Note: There are additional selections in the Setup menu that are used for Gerber diagnostic purposes only. If you go beyond the menu selection you want, repeatedly press the setup key until that selection appears again in the display. Do not change any settings except for checksum, test pattern, or overlap without first consulting the Gerber Field Service Department.*

## Changing the print test pattern

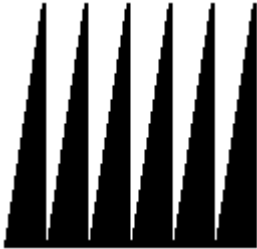
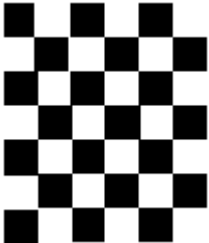
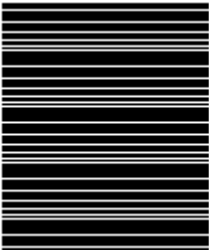

To change the print test pattern, repeatedly press the setup key until the LCD display reads "TEST PATTERN" followed by the test pattern number. Press either vinyl slew key to step through the test pattern choices, then press the reset (**RS**) key to return to the offline mode.

The following is a list of the test patterns and what they should look like. If you print a test pattern that does not look like the illustration, contact the Gerber Field Service Department.

Test number	Name	Illustration
0	Head up/down test	Head moves up and down until the reset key is pushed; nothing is printed on the vinyl
1	1" vertical lines	
2	1" horizontal lines	
3	Solid rectangle	





Test number	Name	Illustration
4	Solid upward triangles	
5	Checker board	
6	Linear lines	
7	Solid downward triangles	
8	Head down test	Head moves down only until the reset key is pushed; nothing is printed on the vinyl
9	Keyboard test	Keys beep when pushed down; nothing is printed on the vinyl
10	GSP only	Reserved for GSP use
11	Alignment Test	Thin vertical line used for alignment test

## Changing the checksum setting

There are special reasons for using the setup key regarding the checksum setting:

- The checksum setting of the EDGE must be the same as the checksum setting of the GRAPHIX ADVANTAGE® (also called the GA™) software release.
- The checksum setting of the EDGE must be the same as the checksum setting embedded in the spool file being printed.

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**Matching the checksum of the EDGE to the GA**

<b>If the GA Release installed on your computer is:</b>	<b>Then the EDGE checksum must be set to:</b>
4.3 or higher	OFF (This is the EDGE setting. You do not have to change the setting.)
4.1	ON (You must change the setting.)

If the EDGE checksum is not set correctly, you will not be able to print on the EDGE and you will get a “Data Error” message on the LCD display every time you send a job.

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**Matching the checksum of the EDGE to the spool file**

<b>If the spool file you are printing was saved in GA Release:</b>	<b>Then the EDGE checksum must be set to:</b>
4.3 or higher	OFF (This is the EDGE setting. You do not have to change the setting.)
4.1	ON (You must change the setting.)

If the checksum settings of the saved spool file and the EDGE are not the same, you will get a “Data Error” message on the LCD display every time you send one of these files for printing. You have two choices:

- rerender the Release 4.1 spool files in Release 4.3 or higher so that they are now Release 4.3 or higher files
- set the EDGE checksum to ON when printing Release 4.1 spool files

*Note: This situation only applies to spool files. Files originally created in Release 4.1 will print as Release 4.3 or higher files if they were not saved as spool files.*

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## Changing the EDGE checksum setting

Changing the EDGE checksum setting consists of opening the Setup menu, setting the checksum to OFF or ON, pressing the Reset key, and turning the EDGE off and on to complete the checksum change. The checksum is toggled OFF or ON by pressing either vinyl slew key.

1. Plug in and turn on the EDGE then the computer.
2. The LCD display reads "OFFLINE."
3. Repeatedly press the setup key until the LCD display reads "CHECKSUM" followed by "ON" or "OFF."

*Note: There are additional selections in the Setup menu that are used for Gerber diagnostic purposes only. If you go beyond the "Checksum" selection, repeatedly press the Setup key until "Checksum" appears again in the LCD display. Do not change any settings except for checksum or test pattern without first consulting the Gerber Field Service Department.*

4. Press either vinyl slew key so that the LCD display reads "CHECKSUM ON" or "CHECKSUM OFF."
5. Press the reset key. The LCD display reads "OFFLINE."
6. Turn the EDGE off, then on. The LCD display reads "OFFLINE."
7. Press the online key. The LCD display reads "ONLINE" and the EDGE is ready for printing.

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## Changing the amount of overlap

To ensure correct registration when resuming printing after pausing, the EDGE is set to overlap the foil by 15 pixels at the position where it was paused. You can reset this amount to any value between 5 and 25 pixels by changing the amount of overlap.

Changing the overlap setting consists of opening the Setup menu, setting the desired overlap, and pressing the reset (**RS**) key to return to the offline mode.

1. Plug in and turn on the EDGE then the computer.
2. The LCD display reads "OFFLINE."
3. Repeatedly press the setup key until the LCD display reads "OVERLAP" followed by the number of pixels. The default is 15.

*Note: There are additional selections in the Setup menu that are used for Gerber diagnostic purposes only. If you go beyond the "Checksum" selection, repeatedly press the Setup key until "Checksum" appears again in the LCD display. Do not change any settings except for checksum or test pattern without first consulting the Gerber Field Service Department.*

4. Press either vinyl slew key to increase or decrease the amount of overlap.
5. Press the reset key. The LCD display reads "OFFLINE."

# Troubleshooting

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This section provides information for:

- interpreting LCD display messages by using a chart containing the list of messages and the operator response to each message
- understanding the basic circuitry and components for troubleshooting
- identifying and correcting specific situations by using a series of charts containing situations, possible causes, and remedies
- maintaining print quality

*Note: Refer to the “Glossary” for definitions and examples of printing problems.*

## Interpreting LCD display messages

The following is a list of messages which may appear on the LCD display and the response to each message. If the response does not solve the problem, or if a message appears which is not listed here, contact your distributor or the Gerber Field Service Department.

<b>Message</b>	<b>Required action</b>
Check Foil	Make sure foil is correctly loaded and press ONLINE. Refer to "Check Foil error on the LCD display" for additional actions.
Check Vinyl	Make sure vinyl is correctly loaded and press ONLINE. Refer to "Check Vinyl error on the LCD display" for additional actions.
Close Cover	Close cover and press ONLINE. Refer to "Cover does not completely close" for additional actions.
Data Error	Turn off the EDGE, then hold down the Reset key and turn on the EDGE to reset the EDGE to default configuration. Check the cabling between the computer and the EDGE. Make sure the EDGE checksum setting is the same as the GA checksum setting. Refer to "Data Error on LCD display" for additional actions.
Initializing	Wait for OFFLINE message.
Label Prty Error	Verify that the color cartridge is correctly installed. Turn off the EDGE, then hold down the Reset key and turn on the EDGE to reset the EDGE to default configurations. If message continues, contact your distributor or the Gerber Field Service Department.
Label Read Error	Verify that the color cartridge is correctly installed. Turn off the EDGE, then hold down the Reset key and turn on the EDGE to reset the EDGE to default configurations. If message continues, contact your distributor or the Gerber Field Service Department.





## Interpreting LCD display messages (continued)

<i>Message</i>	<i>Required action</i>
Offline	None.
Online	None.
Paused	This message appears when ONLINE is pressed while the EDGE is printing. Press ONLINE again to resume printing. If you press RESET you return to OFFLINE status (however, you will lose the job).
Printing Image	None.
Processing Image	Wait for printing to start.
Thermistor Error	Wait for printhead to cool down. When the printhead is sufficiently cool, the PAUSED message appears.
Warming Up	Wait for machine to warm up and the OFFLINE message to appear.
Warmup Error	If warmup takes longer than 5 minutes, this non-recoverable error message appears. Reset the EDGE to the default settings and try again. If the problem continues, call the Gerber Field Service Department.
Z Axis Home Error	Refer to "Replacing the printhead down/head home sensor." If the problem continues, call the Gerber Field Service Department.

## Understanding basic circuitry and components

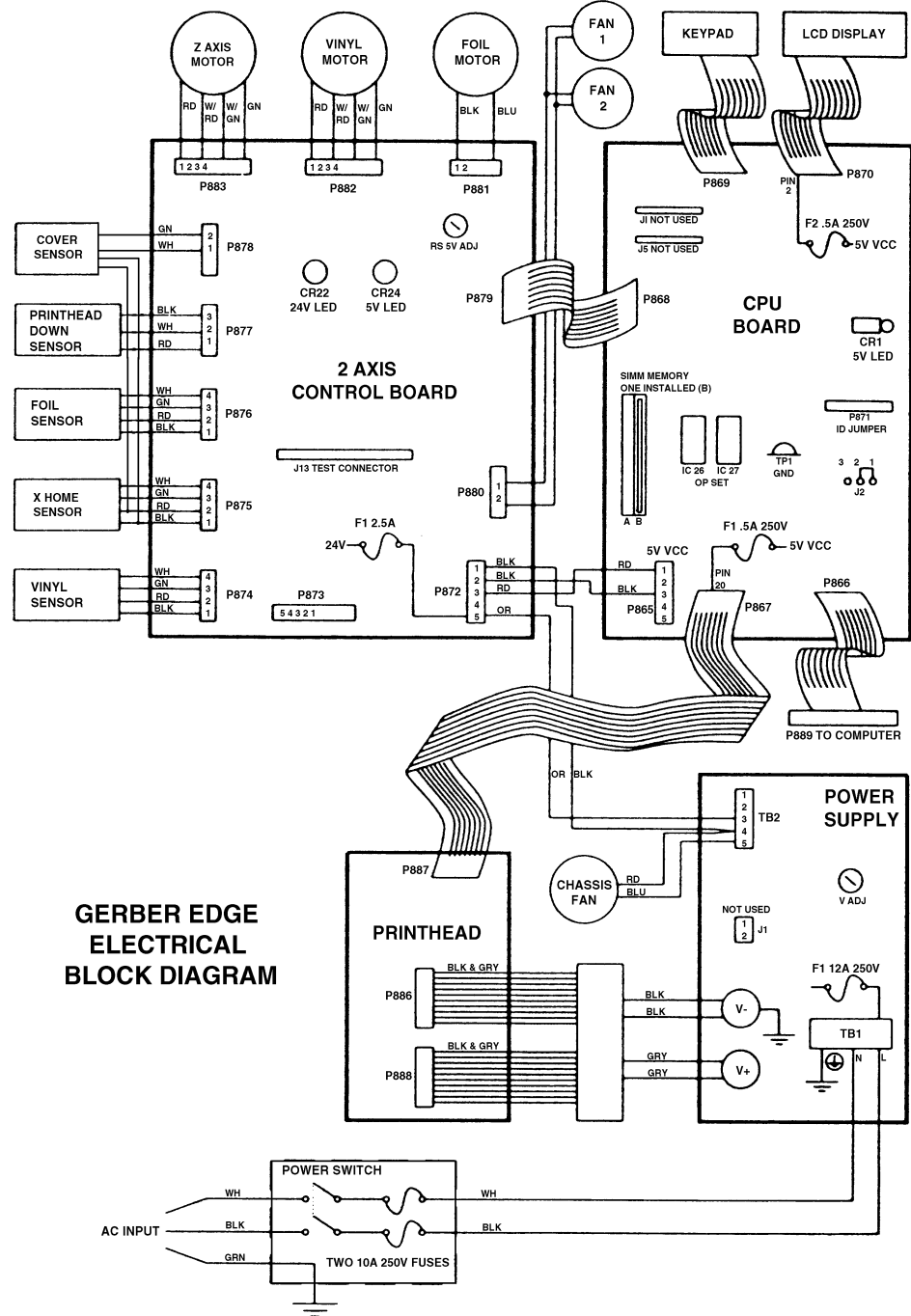
Many situations result from lack of power to boards, motors, sensors, or components. The block diagram on the following page and the accompanying text provide organized sequences for troubleshooting to verify that the boards, motors, sensors, and components are receiving power.

There are two methods of troubleshooting, depending on what you observe. If there is a problem with something specific, like the LCD display or a motor, you can troubleshoot the circuit board directly connected to the function as shown in the checklist. If there are multiple problems, it may be more efficient to sequentially troubleshoot the EDGE starting with “Verifying basic power circuits.”

☑ If the problem involves the keypad, LCD display, or print quality, troubleshoot the CPU board.

☑ If the problem involves the motors, head mount fans, sensors, or power to the CPU board, troubleshoot the 2 axis control board.

☑ If the problem involves the chassis fan, no printing, general system failures, or the EDGE won't power up, verify that the EDGE is receiving and distributing basic power.



## Verifying basic power circuits

**WARNING: Dangerous voltages exist in the power supply when the EDGE is turned on. Take extreme caution when performing this procedure to avoid injury or death.**

The power supply converts AC input power and distributes:

- 24V power to 2 axis control board connector P872
- 12V power to the chassis cooling fan
- specially calibrated power to the printhead.

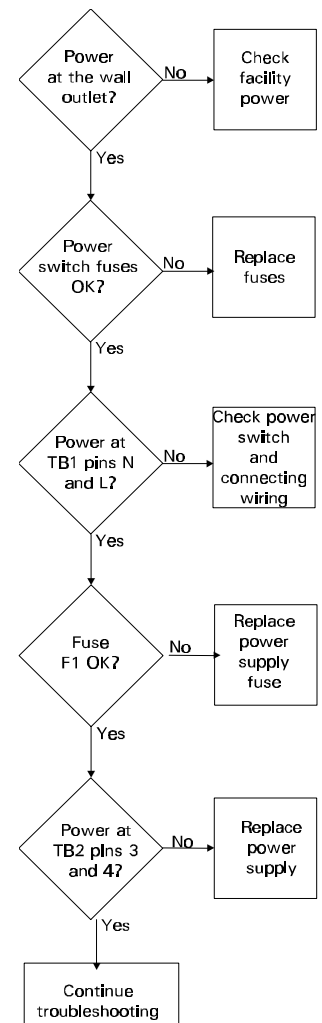
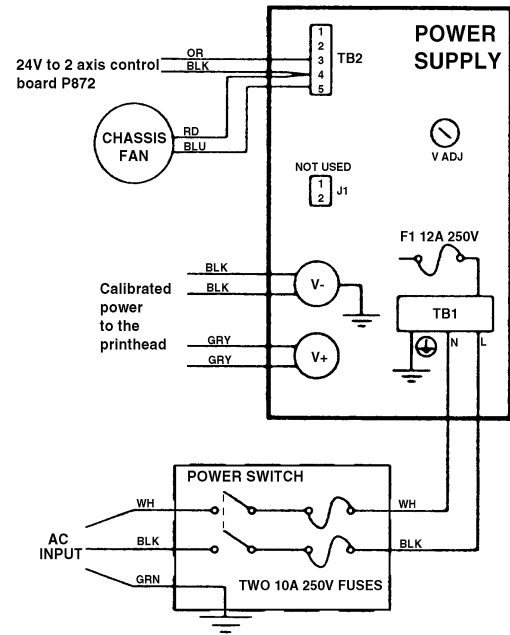
*Note: When replacing the power supply be certain to follow the procedure for determining the printhead resistance and adjusting the power supply voltage to the printhead.*

As shown in the block diagram, input power goes through the power switch to TB1 in the power supply. If the EDGE does not power up, do the following:

- ☑ Verify that there is power at the wall outlet.
- ☑ Check/replace the two 10A 250V fuses in the power switch.
- ☑ Verify that there is the correct AC input power at pins N and L at TB1.
- ☑ If there is no power at TB1, the problem is the power switch or interconnecting wires. Use a voltmeter to sequentially check the output from the switch and replace if necessary. Check the interconnecting wires for nicks, crimps, and damaged connectors and repair/replace as necessary.
- ☑ If there is correct AC input power at TB1, check/replace fuse F1.
- ☑ If the fuse is OK, verify that there is 24V power at pins 3 and 4 at TB2. If there is no power at TB2 and the fuse is OK, the problem is in the power supply. Call the Gerber Field Service Department for assistance.

*Note: If you are troubleshooting a chassis cooling fan problem, verify that there is 12V power at pins 4 and 5 at power supply TB2.*

- ☑ If 24V power is present at the pins on TB2, continue troubleshooting the 2 axis control board.



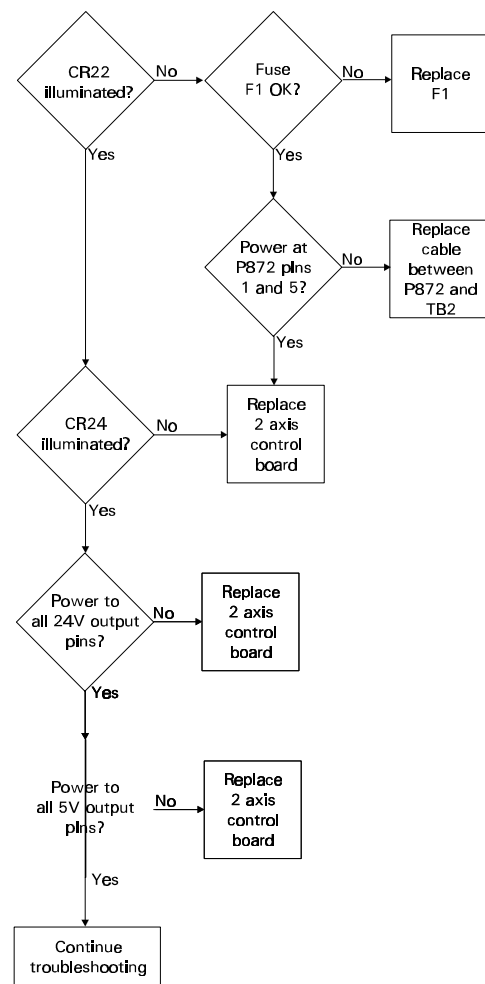
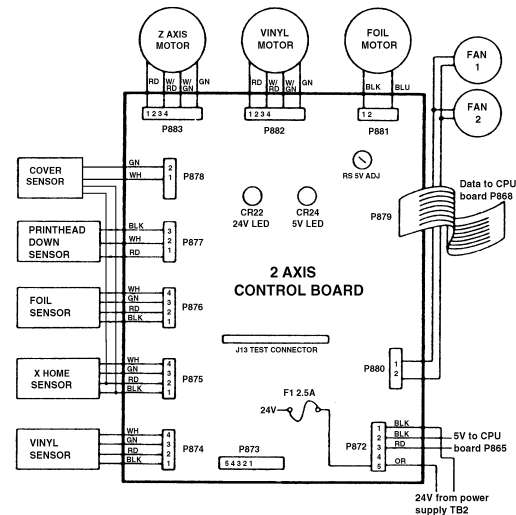
## Troubleshooting the 2 axis control board

The 2 axis control board contains circuitry which:

- distributes 24V power to the z axis, vinyl, and foil motors and head mount cooling fans
- creates and distributes 5V logic power for the sensors (cover, printhead down, foil, x home, and vinyl) and the CPU board.

If there are problems with the circuit boards, motors, fans, or sensors do the following:

- ☑ Verify that LED CR22 is illuminated.
- ☑ If CR22 is not illuminated, check/replace fuse F1.
- ☑ Verify that there is 24V power at pins 1 and 5 on connector P872 and that the connector is firmly seated.
- ☑ If there is no power at P872, the wires between power supply TB2 and P872 may be damaged. Check the wires for nicks, crimps, and damaged connectors and repair/replace as necessary. If there is power at P872 after repairing or replacing the wires, replace the 2 axis control board.
- ☑ Verify that LED CR24 is illuminated. If the LED is not illuminated, replace the 2 axis control board.
- ☑ Verify that all connectors are firmly seated and that there is 24V power at the motor and fan connectors and 5V power at the connectors for the sensors and P872. If you do not have power at all the connectors, replace the 2 axis control board.
- ☑ If there is power at all the connectors, the problem is off the board (in other words, the motor, fan, sensor, or CPU board). Troubleshoot the specific problem or continue the troubleshooting sequence for the CPU board.



## Troubleshooting the CPU board

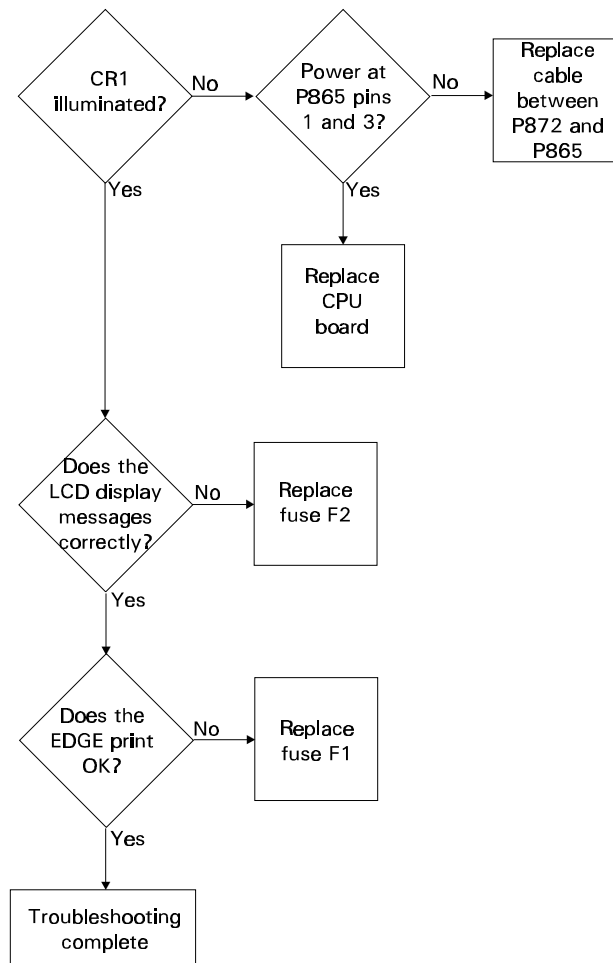
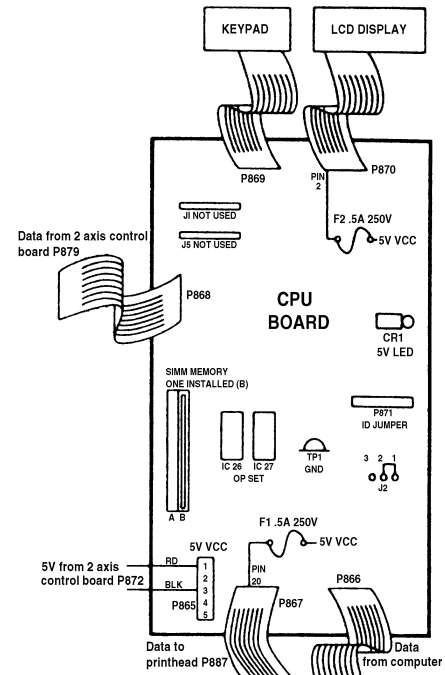
The CPU board contains circuitry which:

- receives data from the computer, 2 axis control board, and keypad
- sends data to the LCD display and printhead

The LCD display is protected by fuse F2. Printhead data signals are protected by fuse F1. Some display and printing problems can be resolved by checking/replacing F 2 and F1. If the EDGE does not beep at power up, check incoming power to the boards as described below and reseal the SIMM module.

To troubleshoot the CPU board, do the following:

- ☑ Verify that LED CR1 is illuminated.
- ☑ If CR1 is not illuminated, verify that there is 5V power at pins 1 and 3 on connector P865 and the connector is firmly seated.
- ☑ If there is no power at P865, the wires between P872 and P865 may be damaged. Check the wires for nicks, crimps, and damaged connectors and repair/replace as necessary. If there is power at P865 after repairing/replacing the wires, replace the CPU board.
- ☑ Verify that all connectors are firmly seated.
- ☑ If the LCD does not display messages correctly, check/replace fuse F2.
- ☑ If print quality is degraded or the EDGE does not print, check/replace fuse F1.
- ☑ If there still are printing, display, or keypad problems, go to:
  - “EDGE fan runs but no beeps on power up”
  - “Printing shifts in the middle of a job”
  - “Blotchy prints”
  - “Keypad works but there is no LCD display”
  - “Keypad does not work”



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## Charts for identifying and correcting situations

The following charts are divided into three broad categories:

- situations usually caused by electrical and mechanical failures
- situations involving material and foil
- situations occurring during printing and data transfer

Please supplement the possible causes and remedies in the charts with information from the “Theory of Operation” and the power circuitry and circuit board troubleshooting sequences.

*Note: Refer to the “Glossary” for definitions and examples of printing problems.*

## Electrical and mechanical failures

The following situations are usually caused by electrical and mechanical failures:

- EDGE does not power up
- EDGE fan runs but no beeps on power up
- Foil motor runs continuously on power up
- Keypad works but there is no LCD display
- Keypad does not work
- Cover does not completely close/close cover error message
- Z axis does not home correctly
- Foil motor does not run or runs intermittently
- Platen does not rotate when vinyl motor is running
- Grinding noise when printing
- X axis does not home correctly
- Foil drive belt broken



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<i>Situation</i>	<i>EDGE does not power up</i>
<i>Remedy</i>	Troubleshoot the basic power circuitry.

<b>Situation</b>	<b><i>EDGE fan runs but no beeps on power up</i></b>
<b>Possible cause</b>	Loose circuit board cable connector
<b>Remedy</b>	<input checked="" type="checkbox"/> Reseat connector P872 on the 2 axis control board.
<b>Possible cause</b>	Blown fuse on the 2 axis control board
<b>Remedy</b>	<input checked="" type="checkbox"/> Replace fuse F1 on the 2 axis control board.
<b>Possible cause</b>	2 axis control board failure
<b>Remedy</b>	<input checked="" type="checkbox"/> Troubleshoot the 2 axis control board.
<b>Possible cause</b>	Loose connectors
<b>Remedy</b>	<input checked="" type="checkbox"/> Reseat all connectors on both boards.

<b>Situation</b>	<b>Foil motor runs continuously on power up</b>
<b>Possible cause</b>	Temporary, unknown fault
<b>Remedy</b>	<input checked="" type="checkbox"/> Turn off the EDGE, then hold down the Reset key and turn on the EDGE to reset the EDGE to default configurations.
<b>Possible cause</b>	Loose cable connections
<b>Remedy</b>	<input checked="" type="checkbox"/> Check the connections between the motor and the 2 axis control board. Reseat connector P881 on the 2 axis control board.
<b>Possible cause</b>	CPU board jumper J2 missing or incorrectly set
<b>Remedy</b>	<input checked="" type="checkbox"/> Verify that the jumper is installed between pins J2-1 and J2-2.
<b>Possible cause</b>	2 axis control board or CPU board failure
<b>Remedy</b>	<input checked="" type="checkbox"/> Troubleshoot the 2 axis control board and the CPU board.

<b>Situation</b>	<b>Keypad works but there is no LCD display</b>
<b>Possible cause</b>	Blown CPU board fuse
<b>Remedy</b>	<input checked="" type="checkbox"/> Check/replace fuse F2 on the CPU board
<b>Possible cause</b>	Loose cable connections
<b>Remedy</b>	<input checked="" type="checkbox"/> Remove the front cover and left side panel and check all the connections between the LCD display and the CPU board.
<b>Possible cause</b>	LCD display failure
<b>Remedy</b>	<input checked="" type="checkbox"/> Replace the LCD display.
<b>Possible cause</b>	CPU board failure
<b>Remedy</b>	<input checked="" type="checkbox"/> Troubleshoot the CPU board.

<i>Situation</i> <i>Keypad does not work</i>	
<i>Possible cause</i>	Loose cable connections
<i>Remedy</i>	<input checked="" type="checkbox"/> Remove the front cover and left side panel and check all the connections between the keypad and the CPU board.
<i>Possible cause</i>	Keypad failure
<i>Remedy</i>	<input checked="" type="checkbox"/> Replace the keypad.
<i>Possible cause</i>	CPU board failure
<i>Remedy</i>	<input checked="" type="checkbox"/> Troubleshoot the CPU board.

<i><b>Situation</b></i>	<i><b>Cover does not completely close/close cover error message</b></i>
<i><b>Possible cause</b></i>	The z axis does not home correctly
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Refer to “Z axis does not home correctly” for causes and remedies.
<i><b>Possible cause</b></i>	Loose cable connectors
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Reseat connector P878 to the 2 axis control board.
<i><b>Possible cause</b></i>	Cover interlock sensor failure
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Use canned air or compressed air, or a cotton swab moistened with isopropyl alcohol to clean the sensor. <input checked="" type="checkbox"/> Replace the cover interlock sensor.
<i><b>Possible cause</b></i>	2 axis control board problem
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Troubleshoot the 2 axis control board.

<i><b>Situation</b></i>	<i><b>Z axis does not home correctly</b></i>
<i><b>Possible cause</b></i>	Shipping material not removed
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Verify that all shipping and packaging material is removed. See "Unpacking and Repacking to Prevent Damage" for details.
<i><b>Possible cause</b></i>	Printhead down/head home sensor problem
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Use canned air or compressed air, or a cotton swab moistened with isopropyl alcohol to clean the sensor. <input checked="" type="checkbox"/> Adjust or replace the z axis home sensor. Refer to "Replacing the printhead down/head home sensor."
<i><b>Possible cause</b></i>	Z axis motor turns but does not turn belt to z axis leadscrew
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Replace z axis motor.
<i><b>Possible cause</b></i>	Loose z axis motor connector to the 2 axis control board
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Reseat connector P883. If this remedy does not correct the situation, troubleshoot the 2 axis control board.

<i><b>Situation</b></i> <i><b>Foil motor does not run or runs intermittently</b></i>	
<i><b>Possible cause</b></i>	Loose connections between the motor and the 2 axis control board
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Reseat connector P881. <input checked="" type="checkbox"/> Check the entire cable from the motor to the 2 axis control board. Replace the cable from the 2 axis control board to the motor. <input checked="" type="checkbox"/> Troubleshoot the 2 axis control board.
<i><b>Possible cause</b></i>	Takeup motor failure
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Replace the foil takeup motor.



<b>Situation</b>	<b><i>Platen does not rotate when vinyl motor is running</i></b>
<b>Possible cause</b>	Platen O-rings are broken
<b>Remedy</b>	<input checked="" type="checkbox"/> Replace the O-rings.
<b>Possible cause</b>	X axis gears are not meshing properly
<b>Remedy</b>	<input checked="" type="checkbox"/> Remesh or replace the gears.

<b><i>Situation</i></b>	<b><i>Grinding noise when printing</i></b>
<b><i>Possible cause</i></b>	X axis gears are not meshing properly
<b><i>Remedy</i></b>	<input checked="" type="checkbox"/> Remesh or replace the gears.
<b><i>Possible cause</i></b>	Debris is in the X axis gears
<b><i>Remedy</i></b>	<input checked="" type="checkbox"/> Clean and remesh the gears <input checked="" type="checkbox"/> Replace the gears.
<b><i>Possible cause</i></b>	2 axis control board problem
<b><i>Remedy</i></b>	<input checked="" type="checkbox"/> Troubleshoot the 2 axis control board.

<b>Situation</b>	<b><i>X axis does not home correctly</i></b>
<b>Possible cause</b>	Incorrect firmware installed
<b>Remedy</b>	<input checked="" type="checkbox"/> Verify/install Rev F or higher firmware.
<b>Possible cause</b>	X axis home sensor problem
<b>Remedy</b>	<input checked="" type="checkbox"/> Use canned air or compressed air, or a cotton swab moistened with isopropyl alcohol to clean the sensor. <input checked="" type="checkbox"/> Adjust or replace the x axis home sensor. Refer to "Replacing the x axis home sensor."
<b>Possible cause</b>	Loose x axis home sensor connector to the 2 axis control board
<b>Remedy</b>	<input checked="" type="checkbox"/> Reseat connector P875. If this remedy does not correct the situation, troubleshoot the 2 axis control board.

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<b><i>Situation</i></b>	<b><i>Foil drive belt broken</i></b>
<b><i>Remedy</i></b>	<input checked="" type="checkbox"/> Refer to "Replacing the foil drive belt."

## Material and foil

The following situations involve material and foil:

- Cartridge pins do not move freely
- Label Read Error messages on the LCD display
- Check Foil error on the LCD display
- Check Vinyl error on the LCD display
- Foil is not being taken up
- Holes in the material are elongated or ripped
- Static cling material goes off track
- Magnetic material goes off track
- Material tracking problems

<b><i>Situation</i></b>	<b><i>Cartridge pins do not move freely</i></b>
<b><i>Possible cause</i></b>	Cartridge pins are dirty
<b><i>Remedy</i></b>	<input checked="" type="checkbox"/> Clean the cartridge pins with isopropyl alcohol.
<b><i>Possible cause</i></b>	Cartridge pin failure
<b><i>Remedy</i></b>	<input checked="" type="checkbox"/> Replace the cartridge pins.

<i>Situation</i>	<i>Label Read Error messages on the LCD display</i>
<i>Possible cause</i>	Temporary, unknown fault
<i>Remedy</i>	<input checked="" type="checkbox"/> Turn off the EDGE, then hold down the Reset key and turn on the EDGE to reset the EDGE to default configurations.
<i>Possible cause</i>	Label reader turned on (default configuration is turned off)
<i>Remedy</i>	<input checked="" type="checkbox"/> Turn off label reader as described above.

<i>Situation</i>	<i>Check Foil error on the LCD display</i>
<i>Possible cause</i>	Cartridge problem
<i>Remedy</i>	<input checked="" type="checkbox"/> Verify that the cartridge is correctly loaded. <input checked="" type="checkbox"/> Remove the cartridge and turn the cartridge spools to verify that the foil is not bound up in the cartridge. <input checked="" type="checkbox"/> When the cartridge is installed, press the Foil Slew key to slew the foil slightly to ensure that the foil moves smoothly. <input checked="" type="checkbox"/> Bend or replace the cartridge spring. <input checked="" type="checkbox"/> Try another cartridge.
<i>Possible cause</i>	Foil drive train problems
<i>Remedy</i>	<input checked="" type="checkbox"/> Tighten pulley on foil motor. <input checked="" type="checkbox"/> Check belt. <input checked="" type="checkbox"/> Verify that the pulley is not rubbing against the motor plate. <input checked="" type="checkbox"/> Adjust or replace the supply and foil takeup clutches.
<i>Possible cause</i>	Dirty foil sensor
<i>Remedy</i>	<input checked="" type="checkbox"/> Clean the foil sensor with compressed air or canned air.
<i>Possible cause</i>	False "out-of-foil" error
	<input checked="" type="checkbox"/> If vinyl is bunching up due to sprocket misalignment or too much printhead pressure, the LCD displays a false error. Verify that the vinyl is advancing properly. Go to "Material tracking problems."
<i>Possible cause</i>	Loose cable connection
<i>Remedy</i>	<input checked="" type="checkbox"/> Reseat connectors P876 and P881 on the 2 axis control board. If this does not correct the situation, troubleshoot 2 axis control board.
<i>Possible cause</i>	Foil takeup motor problem
<i>Remedy</i>	<input checked="" type="checkbox"/> Replace foil takeup motor.



<i>Situation</i>	<i>Check Vinyl error on the LCD display</i>
<i>Possible cause</i>	Material is binding or has jumped off the sprockets
<i>Remedy</i>	<input checked="" type="checkbox"/> Verify that the material is correctly loaded. Check material tracking.
<i>Possible cause</i>	The sprockets are dirty
<i>Remedy</i>	<input checked="" type="checkbox"/> Clean the sprockets with isopropyl alcohol and a soft brush.
<i>Possible cause</i>	The vinyl sensors are dirty
<i>Remedy</i>	<input checked="" type="checkbox"/> Clean the vinyl sensor tabs with isopropyl alcohol and clean the sensors with canned air, compressed air, or a cotton swab moistened with isopropyl alcohol.
<i>Possible cause</i>	A vinyl sensor tab is broken
<i>Remedy</i>	<input checked="" type="checkbox"/> Replace the vinyl sensor.
<i>Possible cause</i>	Loose cable connector
<i>Remedy</i>	<input checked="" type="checkbox"/> Reseat connector P874 on the 2 axis control board. If this does not correct the situation, troubleshoot the 2 axis control board.

<b>Situation</b> <b>Foil is not being taken up</b>	
<b>Possible cause</b>	Foil motor is not running
<b>Remedy</b>	<input checked="" type="checkbox"/> Check the foil motor as described in "Foil motor does not run or runs intermittently."
<b>Possible cause</b>	Foil drive belt is broken
<b>Remedy</b>	<input checked="" type="checkbox"/> Replace the belt.
<b>Possible cause</b>	The clamp on the pulley for the foil drive belt is loose
<b>Remedy</b>	<input checked="" type="checkbox"/> Tighten the clamp.
<b>Possible cause</b>	The clamp on the takeup clutch is loose
<b>Remedy</b>	<input checked="" type="checkbox"/> Tighten the clamp.
<b>Possible cause</b>	Foil not moving properly through the EDGE
<b>Remedy</b>	<input checked="" type="checkbox"/> Go to "Check Foil error on the LCD display."

<i><b>Situation</b></i>	<i><b>Holes in the material are elongated or ripped</b></i>
<i><b>Possible cause</b></i>	Not using Gerber material
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Use Edge Ready or Image Ready material.
<i><b>Possible cause</b></i>	Improper settings in GA
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Verify that the GA is set for printing on the material loaded in the EDGE.
<i><b>Possible cause</b></i>	Buildup of adhesive on the sprockets
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Clean the sprockets with isopropyl alcohol and a soft brush.
<i><b>Possible cause</b></i>	The bail arm is not holding the material down
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Run material through the EDGE with the head up and verify that the bail arm and associated hardware are working properly. Adjust the bail arm as necessary.
<i><b>Possible cause</b></i>	Material misaligned on the sprockets
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Verify that the punch holes are aligned with the sprocket teeth. Also, go to "Material tracking problems."

<b>Situation</b>	<b>Static cling material goes off track</b>
<b>Possible cause</b>	No transfer tape on the vinyl squeegees
<b>Remedy</b>	<input checked="" type="checkbox"/> Put transfer tape on the vinyl squeegees as described in the product bulletin packed with the material.
<b>Possible cause</b>	The sprockets are dirty
<b>Remedy</b>	<input checked="" type="checkbox"/> Clean the sprockets with isopropyl alcohol and a soft brush.
<b>Possible cause</b>	The bail arm is not holding the material down
<b>Remedy</b>	<input checked="" type="checkbox"/> Verify that the bail arm and associated hardware are working properly. Adjust the bail arm as necessary.
<b>Possible cause</b>	Improper settings in GA
<b>Remedy</b>	<input checked="" type="checkbox"/> Verify that the GA is set for printing on static cling material.
<b>Possible cause</b>	Material misaligned on the sprockets
<b>Remedy</b>	<input checked="" type="checkbox"/> Verify that the punch holes are aligned with the sprocket teeth.

<i><b>Situation</b></i>	<i><b>Magnetic material goes off track</b></i>
<i><b>Possible cause</b></i>	The material is sticking to the metal parts of the EDGE
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Cover the metal parts as described in the product bulletin packed with the material.
<i><b>Possible cause</b></i>	The material is sticking to itself
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Verify that the material is properly loaded on the tensioner assembly and that it is not sticking to itself and dragging additional material through.
<i><b>Possible cause</b></i>	The bail arm is not holding the material down
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Verify that the bail arm and associated hardware are working properly. Adjust the bail arm as necessary.
<i><b>Possible cause</b></i>	Improper settings in GA
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Verify that the GA is set for printing on magnetic material.
<i><b>Possible cause</b></i>	Material misaligned on the sprockets
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Verify that the punch holes are aligned with the sprocket teeth.

<i><b>Situation</b></i>	<i><b>Material tracking problems</b></i>
<i><b>Possible cause</b></i>	Not using Gerber material
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Use Edge Ready or Image Ready material
<i><b>Possible cause</b></i>	Improper settings in GA
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Verify that the GA is set for printing on the material loaded in the EDGE.
<i><b>Possible cause</b></i>	Damaged or dirty vinyl and foil squeegees
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Clean or replace the vinyl squeegees. <input checked="" type="checkbox"/> Clean or replace the foil squeegee.
<i><b>Possible cause</b></i>	Dirty or "frozen" dancer bars
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Clean or replace the dancer bars.
<i><b>Possible cause</b></i>	Sprocket problem
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Clean the sprockets. <input checked="" type="checkbox"/> Check/reset the sprocket alignment.
<i><b>Possible cause</b></i>	Material is not normalized
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Unroll material the length of the job and let it sit at room temperature for about 15 minutes.
<i><b>Possible cause</b></i>	The bail arm is not holding the material down
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Verify that the bail arm and associated hardware are working properly. Adjust the bail arm as necessary.

## Printing and data transfer

The following situations occur during printing and data transfer:

- Data Error on LCD display
- Wrinkling or streaking (a diagonal line of no print)
- Horizontal lines through the printed area
- Vertical lines in the printed area
- Printing shifts in the middle of a job
- Blotchy prints
- Color to color registration is off

*Note: Refer to the “Glossary” for definitions and examples of printing problems.*

<i><b>Situation</b></i>	<i><b>Data Error on LCD display</b></i>
<i><b>Possible cause</b></i>	Loose cable connections
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Check the cable connections from the PC to the EDGE.
<i><b>Possible cause</b></i>	Temporary, unknown fault or EDGE and PC plugged into different power strips
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Turn off the EDGE, then hold down the Reset key and turn on the EDGE to reset the EDGE to default configurations. <input checked="" type="checkbox"/> Plug the PC and EDGE into the same power strip.
<i><b>Possible cause</b></i>	EDGE running through the GA™ security block or other device
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Move the connector from the EDGE to another parallel port. The EDGE must be connected directly to the PC LPT port.
<i><b>Possible cause</b></i>	Incorrect EDGE checksum setting
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Make sure the EDGE checksum setting is the same as the GA checksum setting.
<i><b>Possible cause</b></i>	Damaged or faulty printer cable or printer cable too long
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Try another printer cable.
<i><b>Possible cause</b></i>	Parallel port failure
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Try another parallel port. <input checked="" type="checkbox"/> Make certain that the port is not configured as an ECP port as follows: <ol style="list-style-type: none"> <li>1. Open "My Computer," then "Control Panel."</li> <li>2. Open "System," then click on "Device Manager."</li> <li>3. Double-click on "Ports" to show the settings of the ports.</li> <li>4. Double-click on the port that needs to be changed.</li> <li>5. Click on "Driver," then "Update Driver." This opens the Device Driver Wizard.</li> <li>6. Click on "No," then "Next."</li> <li>7. Click on "Show All Hardware."</li> <li>8. Under the "Models" box, click on "Printer Port," then "Finish."</li> <li>9. Close all the programs and reboot the PC.</li> </ol>



<b>Situation</b>	<b><i>Wrinkling (a diagonal line of no print)</i></b>
<b>Possible cause</b>	Bent or damaged foil squeegee <input checked="" type="checkbox"/> Replace the foil squeegee
<b>Possible cause</b>	Dancer bars are not parallel to each other <b>Remedy</b> <input checked="" type="checkbox"/> Realign dancer bars so that they are parallel.
<b>Possible cause</b>	Improper settings in GA <b>Remedy</b> <input checked="" type="checkbox"/> Verify that the GA is set for printing on the material loaded in the EDGE.
<b>Possible cause</b>	Improper EDGE light/darkness settings <b>Remedy</b> <input checked="" type="checkbox"/> Change the settings to light or lighter (Plot Print Order dialog box).
<b>Possible cause</b>	Location of job on vinyl <b>Remedy</b> <input checked="" type="checkbox"/> Center the image on the vinyl.

<i><b>Situation</b></i>	<i><b>Horizontal lines through the printed area</b></i>
<i><b>Possible cause</b></i> Dirt on the printhead, foil, or material <i><b>Remedy</b></i> <input checked="" type="checkbox"/> Clean the printhead with the printhead cleaning kit. Be certain to use isopropyl alcohol with a strength of 98% or higher. <input checked="" type="checkbox"/> Use canned air to blow dirt off the foil. <input checked="" type="checkbox"/> Clean the material with distilled water.	
<i><b>Possible cause</b></i> Dirt on the foil squeegees or vinyl squeegees <i><b>Remedy</b></i> <input checked="" type="checkbox"/> Clean the squeegees with isopropyl alcohol. Be certain to use 98% isopropyl alcohol.	
<i><b>Possible cause</b></i> Material has creases or dents <i><b>Remedy</b></i> <input checked="" type="checkbox"/> Slew material to a point where the material is flat and without any creases or dents.	
<i><b>Possible cause</b></i> F1 fuse on the CPU board <i><b>Remedy</b></i> <input checked="" type="checkbox"/> Check/replace the fuse.	
<i><b>Possible cause</b></i> Printhead damage <i><b>Remedy</b></i> <input checked="" type="checkbox"/> Run internal test pattern 3 to verify the condition of the printhead.	
<i><b>Possible cause</b></i> Element blown in the printhead <i><b>Remedy</b></i> <input checked="" type="checkbox"/> Replace the printhead.	

<i><b>Situation</b></i>	<i><b>Vertical lines in the printed area</b></i>
<i><b>Possible cause</b></i> Cartridge problem <i><b>Remedy</b></i> <input checked="" type="checkbox"/> Verify that the cartridge is correctly loaded. <input checked="" type="checkbox"/> Remove the cartridge and turn the cartridge spools to verify that the foil is not bound up in the cartridge. <input checked="" type="checkbox"/> When the cartridge is installed, press the Foil Slew key to slew the foil slightly to ensure that the foil moves smoothly. <input checked="" type="checkbox"/> Bend or replace the cartridge spring.	
<i><b>Possible cause</b></i> X axis gears not meshing properly <i><b>Remedy</b></i> <input checked="" type="checkbox"/> Remesh or replace gears.	
<i><b>Possible cause</b></i> The clamp on the pulley for the foil drive belt is loose <i><b>Remedy</b></i> <input checked="" type="checkbox"/> Tighten the clamp.	
<i><b>Possible cause</b></i> The foil motor pulley is rubbing on the motor <i><b>Remedy</b></i> <input checked="" type="checkbox"/> Move the pulley away from the motor and tighten the clamp.	
<i><b>Possible cause</b></i> The clamp on the takeup clutch is loose <i><b>Remedy</b></i> <input checked="" type="checkbox"/> Tighten the clamp.	
<i><b>Possible cause</b></i> Clutch problems <i><b>Remedy</b></i> <input checked="" type="checkbox"/> Replace the foil takeup and/or supply clutches	
<i><b>Possible cause</b></i> Foil motor failure <i><b>Remedy</b></i> <input checked="" type="checkbox"/> Replace the foil motor.	

<i><b>Situation</b></i>	<i><b>Printing shifts in the middle of a job</b></i>
<i><b>Possible cause</b></i>	Temporary, unknown fault
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Turn off the EDGE, then hold down the Reset key and turn on the EDGE to reset the EDGE to default configurations.
<i><b>Possible cause</b></i>	Problem with the design of the job
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Try to run another job. If the problem is minor, you can use the GA Composer features of traps, bleeds, chokes, and spreads to correct some problems.
<i><b>Possible cause</b></i>	Loose cable connections
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Check the printhead data cable and connector P867 on the CPU board.
<i><b>Possible cause</b></i>	CPU board failure
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Troubleshoot the CPU board.

<i><b>Situation</b></i>	<i><b>Blotchy prints</b></i>
<i><b>Possible cause</b></i>	Dirt on the printhead, foil, or material
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Clean the printhead with the printhead cleaning kit. Be certain to use isopropyl alcohol with a strength of 98% or higher. <input checked="" type="checkbox"/> Use canned air to blow dirt off the foil. <input checked="" type="checkbox"/> Clean the material with distilled water.
<i><b>Possible cause</b></i>	Dirt on the foil squeegees, vinyl squeegees, or platen
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Clean the squeegees and platen with isopropyl alcohol. Be certain to use isopropyl alcohol with a strength of 98% or higher.
<i><b>Possible cause</b></i>	Material has creases or dents
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Slew material to a point where the material is flat and without any creases or dents. <input checked="" type="checkbox"/> Normalize the material.
<i><b>Possible cause</b></i>	Overtransfer of foil on material
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Change the settings to light or lighter. <input checked="" type="checkbox"/> Remove excess foil with transfer tape.
<i><b>Possible cause</b></i>	Improper settings in GA
<i><b>Remedy</b></i>	<input checked="" type="checkbox"/> Verify that the GA is set for printing on the material loaded in the EDGE.

<b>Situation</b> <i>Color-to-color registration is off</i>	
<i>Possible cause</i>	Not using Gerber material
<i>Remedy</i>	<input checked="" type="checkbox"/> Use Edge Ready™ or Image Ready™ material.
<i>Possible cause</i>	Not using chokes, spreads, bleeds, traps, and strokes/not using them properly
<i>Remedy</i>	<input checked="" type="checkbox"/> Refer to the <i>GRAPHIX ADVANTAGE® Reference</i> manual to design the job with chokes and spreads to maximized color coverage.
<i>Possible cause</i>	Material is not normalized
<i>Remedy</i>	<input checked="" type="checkbox"/> Unroll material the length of the job and let it sit at room temperature for about 15 minutes.
<i>Possible cause</i>	Buildup of adhesive on the sprockets
<i>Remedy</i>	<input checked="" type="checkbox"/> Clean the sprockets with isopropyl alcohol and a soft brush.
<i>Possible cause</i>	Material hole puckering and/or hole elongation
<i>Remedy</i>	<input checked="" type="checkbox"/> Normalize material by unrolling material the length of the job and let it sit at room temperature for about 15 minutes. <input checked="" type="checkbox"/> Check the material path through the EDGE and verify that the material does not bind and moves smoothly. Also, go to "Holes in the material are elongated or ripped."
<i>Possible cause</i>	Color cartridge failure
<i>Remedy</i>	<input checked="" type="checkbox"/> Try another color cartridge.
<i>Possible cause</i>	X axis gears not meshing properly
<i>Remedy</i>	<input checked="" type="checkbox"/> Remesh or replace gears.

## Maintaining print quality

Quality printing and cutting depends on several factors:

- The material must be clean.
- The foil must be clean.
- The printhead, squeegees, platen, sprockets, and cartridge pins must be clean.
- The printed image must be exactly registered with the plotter knife and you must cut on the plotter you selected prior to printing.

*Note: Refer to the “Glossary” for definitions and examples of printing problems.*

## **Cleaning**

The material, foil, printhead, squeegees, platen, sprockets, and cassette pins must be clean.



## **The material**

Gerber has created a material called *Edge Ready*. Edge Ready materials are processed, prepared, and qualified by the material manufacturer for optimum image quality when printing with the EDGE. Edge Ready materials are the only materials recommended for use with the EDGE. Edge Ready material is identified by an Edge Ready sticker inside the roll and on the outside of the box.

To remove any surface dust or dirt, gently wipe the material with a clean, dry, lint-free cloth before printing and between foil colors. If the vinyl needs to be cleaned, use only distilled water.

When not using the material, store it in the plastic wrap it originally came in. Following this advice should keep print quality high and material loss low.

## **The foil**

Keep the color cartridge in its sleeve and store it in a clean and protected environment when it is not installed in the EDGE. Store the cartridge at 40 to 60 percent relative humidity in a temperature range of 40 to 90° F (4 to 32° C). Do not store the color cartridge in direct sunlight.

The foil in the color cartridge can get dirty in two ways: in storage, where dust is attracted to it because of static charges, and during use. If the color cartridge is not loaded in the EDGE, use a compressed air, ultra-filtered, non-residue dust remover, such as Chemtronics® Ultrajet® 2000 or equivalent, to quickly spray the spool ends and both sides of the foil in the color cartridge before loading the color cartridge in the EDGE. Do not soak the foil – just spray it enough to blow the dust off the foil. If the color cartridge is in the EDGE, use the foil slew key to advance the foil several inches so that the dirt buildup is rolled beyond the printhead and into the color cartridge.

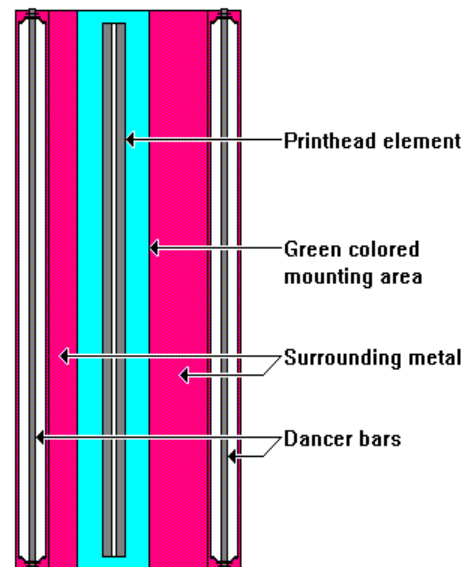
## The printhead, foil squeegee, and dancer bars

**WARNING:** The printhead will be damaged if any chemical other than 98% isopropyl alcohol is used to clean the printhead. Clean the printhead only when cooled and only with the recommended cleaning kit. (If necessary, the polishing paper can be slightly moistened with 98% isopropyl alcohol.) **USE SPARINGLY. DO NOT** touch the printhead with bare hands. **DO NOT** allow any foreign or unknown substances to come in contact with the printhead.

There are two times to clean the printhead: normal cleaning, and removing contamination buildup. Normal cleaning refers to cleaning the printhead before each job.

If a job is longer than 10 feet, clean the printhead before loading each color cartridge. Use the printhead cleaning kit or a pad moistened with 98% isopropyl alcohol to gently rub the entire length and width of the printhead as shown in the illustration. Do not soak the pad with alcohol or you may damage the printhead. Dry the printhead with a clean, lint-free cloth.

Contamination buildup occasionally occurs on the printhead element itself (the brown strip surrounded by the green mounting area in the printhead). When this happens, printing quality is degraded and a more thorough cleaning is necessary. We suggest cleaning the printhead element weekly or as required. Use the Thermal Printhead Cleaning Kit provided with your EDGE. If you need additional cleaning kits, contact your Gerber distributor or the Gerber Field Service Department.



Clean the foil squeegee with a lint-free cloth moistened with isopropyl alcohol. Clean the dancer bars with a brush and isopropyl alcohol. Allow to air dry before loading a color cartridge.

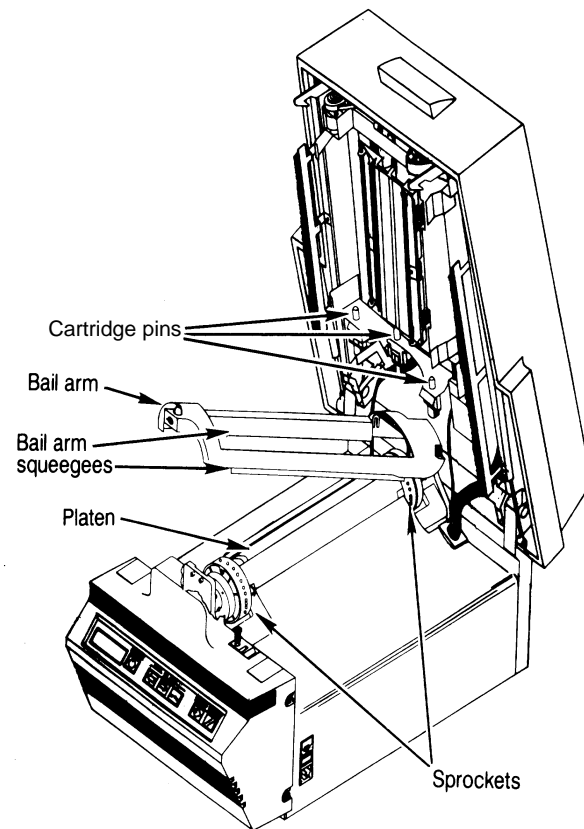
*Note: Isopropyl alcohol may discolor the squeegee over time. Discoloring does not affect the operation of the squeegee.*

## The platen, bail arm, squeegees, sprockets, and cartridge pins

Wipe the platen with a clean, lint-free pad moistened with 98% isopropyl alcohol to remove any debris. Allow to air dry before loading vinyl.

Wipe the bail arm squeegees and bail arm with a clean, lint-free cloth moistened with 98% isopropyl alcohol. Use a small brush, such as a toothbrush, dipped in isopropyl alcohol to clean the sprockets and cartridge pins. (Do not soak the brush in alcohol so that excess alcohol drips into the EDGE.) Allow to air dry before loading vinyl.

*Note: Isopropyl alcohol may discolor the squeegees over time. Discoloring does not affect the operation of the squeegees.*



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## Correcting printing problems

Occasionally a job may not print perfectly. The following information tells you how to correct some printing problems.

*Note: Refer to the “Glossary” for definitions and examples of printing problems.*

**A line through the length of a job.** Clean the printhead and foils. Change the print settings to Dark or Darker by clicking on the Display Print Order command in the Plot program. Click on Settings in the Print Order dialog box, then choose a dark or darker setting.

**Imperfections in the printing, such as voids, hair lines, or small unprinted areas.** Wipe the vinyl with a clean, lint-free cloth. If imperfections are present in the entire job, the printhead is dirty.

**Lines in the job that are not on the X or Y axis (wrinkling).** Usually this appearance is accompanied by a pulling or crinkling sound while printing. The foil is wrinkled. Make sure the dancer bars are free. Check to see that the C clips at each end of the dancer bar are not jammed in the slot of the dancer bar frame.

**Opacity problems, such as a light color (like yellow) not covering a dark color (like purple).** Print a white or gray undercoat on the vinyl before printing the other colors in the job. If your design program provides for applying a primer, use this feature to apply an undercoat.

**The top or bottom of a job consistently darker than the other.** This may be a printhead pressure problem. Please call your distributor or the Gerber Field Service Department.

**Light spots in a repeating pattern in the job.** Clean the platen. If the problem persists, please call your distributor or the Gerber Field Service Department.

**Poor print registration.** Do not butt colors in a job. Use traps, bleeds, chokes, and spreads to improve registration as you prepare the job in your design program. Unroll the vinyl before printing and slew it into and out of the printer.

**Stretched sprocket holes in the vinyl.** Use materials that are Gerber-approved for the EDGE. Unroll and normalize the vinyl before printing. Check the floating sprocket for free movement and, if necessary, clean the sprocket and shafts with 98% alcohol. If the problem persists, please call your distributor or the Gerber Field Service Department.



**Lifting printed images from the material or lifting material from the liner.** A job printed on vinyl, film, or sheeting can be sensitive to transfer tape pressure. Wait at least 15 minutes before applying transfer tape to the printed vinyl, film, or sheeting. Use only Gerber Standard Tack Application Tape. Do not stack printed materials print-side to print-side. Stack the printed side contacting the liner side of another piece of material or use a paper interleaf between the layers.

# Glossary

This glossary presents definitions and examples of printing problems. It also includes possible solutions to problems.

Definition and description	Solution
<b>Missing line of no print:</b> an uninterrupted single print line in the X axis upon which the foil does not print in any color	Clean the printhead. If this does not solve the problem, call the Gerber Field Service Department.
<b>Continuous line of print:</b> an uninterrupted single print line in the X axis where printing always occurs in all colors	Clean the printhead. If this does not solve the problem, call the Gerber Field Service Department.
<b>Print-to-print registration:</b> accuracy of printed image locations relative to one another	Use chokes, spreads, traps, bleeds, and strokes in the design; use Edge Ready™ material; normalize the material.
<b>Print-to-cut registration:</b> accuracy of the position of image location(s) and shape(s) relative to cut location	Calibrate the plotter; use bleed cuts in the design.
<b>Streaking:</b> various random lines of no print in the X axis	Clean the printhead. If this does not solve the problem, call the Gerber Field Service Department.
<b>Overtransfer:</b> edges of shapes may have a small amount of additional foil transfer (more foil color is transferred to the substrate than was designated by the job).	Decrease the LPI; use transfer tape to remove excess foil; use Gerber Tone™ setting to automatically select print settings. (If the job has Abrasion Guard™ applied, transfer tape cannot remove overtransfer.)
<b>Blotchy prints:</b> see overtransfer	
<b>Scratches in vinyl:</b> fine mechanical scratch marks in the X axis on the top surface of the substrate, most visible at an oblique angle; not found on printed area	Clean the foil squeegees. Adjust the bail arms. If this does not solve the problem, call the Gerber Field Service Department.
<b>Impressions in vinyl:</b> material flow of foil not fully transferred to job	Clean the material, platen, and squeegees.



Definition and description	Solution
<b>Puckering:</b> the stretching of the hold pattern in the vinyl	Check the settings in GA, try another foil or vinyl, reset the EDGE, check the squeegees for damage, clean the sprockets, make sure that the floating sprocket moves freely. If these steps do not solve the problem, call the Gerber Field Service Department.



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# Replacing Electrical Parts

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**WARNING:** Two persons are required to lift or move the GERBER EDGE. It weighs approximately 90 pounds (40.8 kilograms) packaged for shipment and 76 pounds (34.5 kilograms) unpacked.

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

**CAUTION:** Static electricity is a serious threat to modern integrated circuits. Before reaching into the EDGE or handling any components, touch any bare metal of the chassis. This discharges any potentially harmful static electrical charge being carried.

Procedures in this section provide instructions for replacing:

- power switch fuses
- CPU board or fuse
- 2 axis control board or fuses
- power supply fuse
- power supply
- print cable connector
- vinyl motor
- chassis fan
- keypad and LCD display
- cover interlock sensor
- foil sensor
- printhead down/head home sensor
- vinyl sensors
- x axis home sensor
- x axis home sensor position

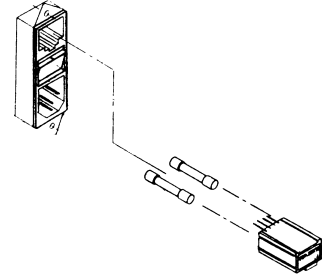
To replace the foil takeup motor, refer to the section "Replacing the Foil Drive Parts." To replace the z axis motor, refer to the section "Replacing the Head Mount Parts."

Read each procedure through in its entirety before performing it. Note the relationship of parts prior to disassembly so that you can easily reassemble the EDGE. Disassemble the EDGE to the minimum extent necessary to repair or replace parts.

## Replacing the power switch fuses

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

The fuse carrier is located immediately above the power switch on the right side of the EDGE and has a notch on the bottom of the plate. It is labeled with the fuse type required for replacement – 10A 250V SB.



## Replacing the CPU board or fuses

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

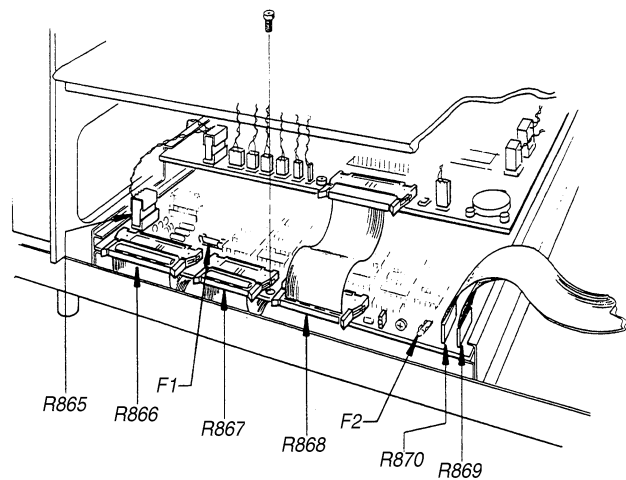
**CAUTION:** Static electricity is a serious threat to modern integrated circuits. Before reaching into the EDGE or handling any components, touch any bare metal of the chassis. This discharges any potentially harmful static electrical charge being carried.

**CAUTION:** When removing a connector, hold the connector body and pull upward. Never pull on the cable when removing a connector.

The CPU board is located behind the left side panel. The fuses shown in the illustration are .5A, 250V.

1. Remove the connectors shown in the illustration from the board.
2. Move connectors and cables away from the board, then slide the board on its rails out the front of the EDGE. Put the board on a static-free surface.

*Note: Ribbon cable R869 on the far right side of the board labeled "This side out" must be attached with the label facing away from the center of the board. Ribbon cable R870 next to it must be attached with the R870 label facing toward the center of the board.*



## Replacing the 2 axis control board or fuse

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

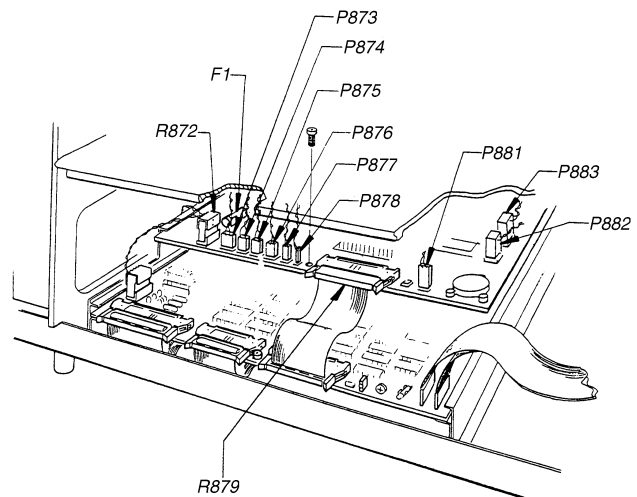
**CAUTION:** Static electricity is a serious threat to modern integrated circuits. Before reaching into the EDGE or handling any components, touch any bare metal of the chassis. This discharges any potentially harmful static electrical charge being carried.

**CAUTION:** When removing a connector, hold the connector body and pull upward. Never pull on the cable when removing a connector.

The 2 axis control board is located behind the left side panel. The fuse shown in the illustration is 2.5A, 250V.

1. Remove the connectors shown in the illustration from the board.
2. Move connectors and cables away from the board, then slide the board on its rails out the front of the EDGE. Put the board on a static-free surface.

*Note: Each connector socket is labeled either in front or in back of the socket on the circuit board.*

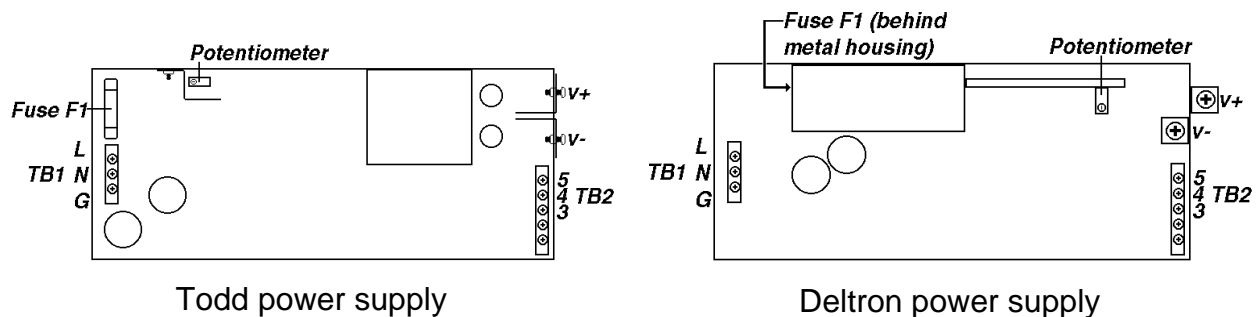


## Replacing the power supply or fuse

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

**CAUTION:** Static electricity is a serious threat to modern integrated circuits. Before reaching into the EDGE or handling any components, touch any bare metal of the chassis. This discharges any potentially harmful static electrical charge being carried.

The power supply is located behind the right side panel. Two configurations of power supplies are available in the EDGE – the Todd, shown on the left, and the Deltron, shown on the right. The power supplies are similar in appearance and function identically. Each power supply uses a 12A, 250V SB fuse.



Regardless of the power supply configuration, replacing the power supply is a three-step operation:

- determining the printhead resistance
- removing the power supply
- installing the power supply

## Determining the printhead resistance

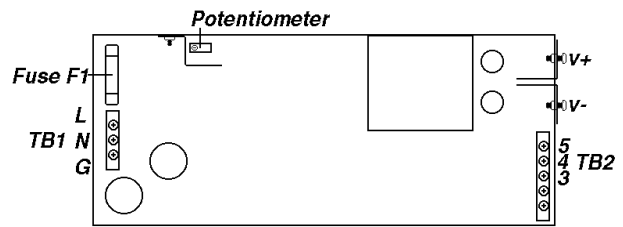
It is extremely important that the output voltage of the power supply is calibrated for the resistance of the printhead. The most efficient way to do this is to order a power supply calibrated by Gerber at the factory for the printhead existing in the EDGE. Therefore, before removing the power supply:

1. Read the printhead resistance on the printhead's manufacturing label.
2. Call the Gerber Field Service Department and order a new power supply. Tell Field Service that you want a power supply calibrated for the printhead resistance and tell them the Ohms readings.

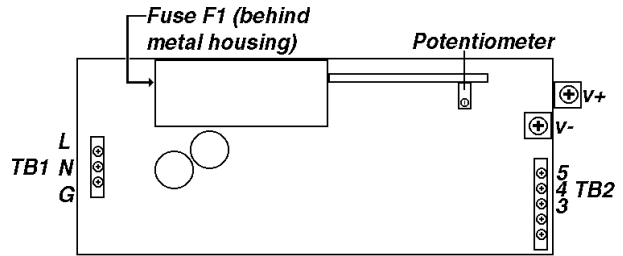
*Note: To calibrate the power supply to the printhead refer to "Adjusting the power supply voltage to the printhead."*

## Removing the power supply

1. Remove all cable connections from terminal block TB1 and TB2.
2. Remove the V- cables, the ground cable, and the V+ cables from the terminal mounts located near TB2.
3. Remove the two screws underneath the base pan that hold the power supply to the base pan.
4. Remove the single screw that attaches the brace at the top to the chassis and lift the power supply out of the chassis.
5. Remove the brace for use with the new power supply.



Todd power supply



Deltron power supply

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## Installing the power supply

After installing the power supply, verify that the power supply is calibrated for the printhead resistance. If it is not, adjust the power supply voltage to the printhead as described on the next screen.

1. Attach the brace to the power supply with the two screws removed at step 5 of the removal instructions.
2. Position the power supply in the chassis so that the base pan and brace screw holes are aligned.
3. Attach the power supply to the base pan and top of the chassis with the screws removed at steps 3 and 4 of the removal instructions.

**CAUTION: When performing steps 4, 5, and 6, all connectors must sit flat between the screw head and the screw mount surface to prevent arcing.**

4. Replace all connectors to terminal block TB2.
5. Place the two cables marked V+ on the V+ terminal mount and tighten the screw. Place the ground connector and both V- cable connectors on the V- terminal mount and tighten the screw.
6. Replace all connectors to terminal block TB1. The cable marked *TB1-L* is attached to the connection marked *L*. The cable marked *TB1-N* is attached to the connection marked *N*. The cable marked *G* is attached to the connection marked with the earth ground symbol.



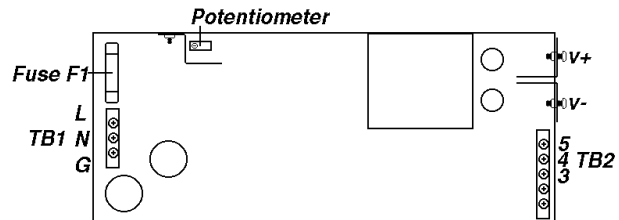
# Adjusting the power supply voltage to the printhead

**WARNING:** When performing this procedure you must have the EDGE plugged in and turned on. Dangerous voltages exist in the power supply when the EDGE is turned on. Take extreme caution when performing this procedure to avoid injury or death.

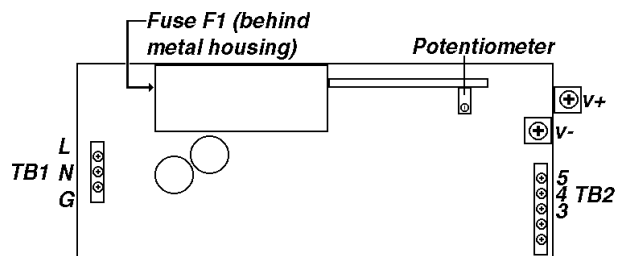
**CAUTION:** Static electricity is a serious threat to modern integrated circuits. Before reaching into the EDGE or handling any components, touch any bare metal of the chassis. This discharges any potentially harmful static electrical charge being carried.

The power supply is located behind the right side panel. Remove the side panel, then plug in and turn on the EDGE.

1. Use a volt meter to read voltage (VDC) across terminals V+ and V- and make a note of the reading.
2. Read the resistance on the printhead's manufacturing label.
3. Refer to the EDGE Power Supply Voltage Settings table on the next screen to determine the correct voltage setting for the printhead resistance. If the voltage measured at step 1 is not the correct voltage for the printhead resistance determined at step 2, adjust the potentiometer until the voltage is correct when read across terminals V+ and V-.
4. Turn off and unplug the EDGE and replace the right side panel.



Todd power supply



Deltron power supply

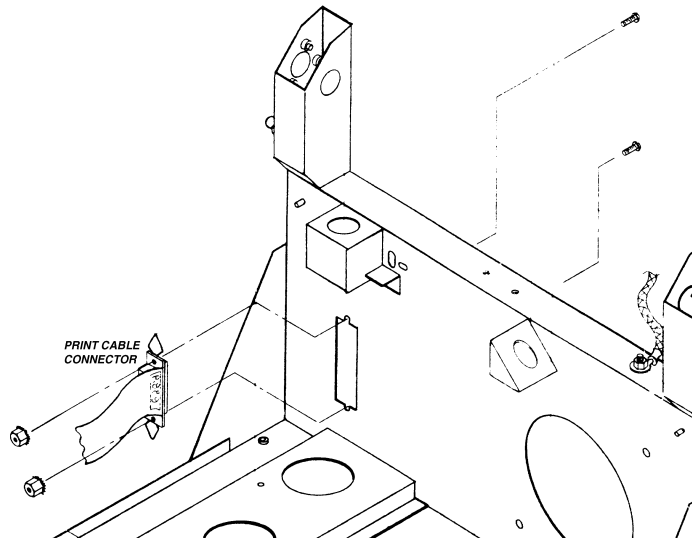
## LE Power Supply Voltage Settings

Printhead resistance range	Correct VDC reading
1135 - 1139	17.9
1140 - 1152	18.0
1153 - 1165	18.1
1166 - 1178	18.2
1179 - 1192	18.3
1193 - 1205	18.4
1206 - 1218	18.5
1219 - 1232	18.6
1233 - 1246	18.7
1247 - 1259	18.8
1260 - 1273	18.9
1274 - 1287	19.0
1288 - 1301	19.1
1302 - 1315	19.2
1316 - 1329	19.3
1330 - 1343	19.4
1344 - 1357	19.5
1358 - 1372	19.6
1373 - 1386	19.7
1387 - 1400	19.8
1401 - 1415	19.9
1416 - 1430	20.0
1431 - 1444	20.1
1445 - 1459	20.2
1460 - 1474	20.3
1475 - 1489	20.4
1490 - 1504	20.5
1505 - 1519	20.6
1520 - 1534	20.7
1535 - 1549	20.8
1550 - 1564	20.9
1565 - 1580	21.0
1581 - 1595	21.1
1596 - 1611	21.2

## Replacing the print cable connector

**WARNING:** To avoid electric shock, perform all maintenance procedures with the **EDGE** turned off and unplugged from the power source.

The print cable connector is located on the back wall of the chassis. You must remove the left side panel to gain access to the connector from the inside. After the panel is removed, unplug the P866 from the CPU board, then remove the nuts holding the connector body to the screws through the back wall.



# Replacing the vinyl motor

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

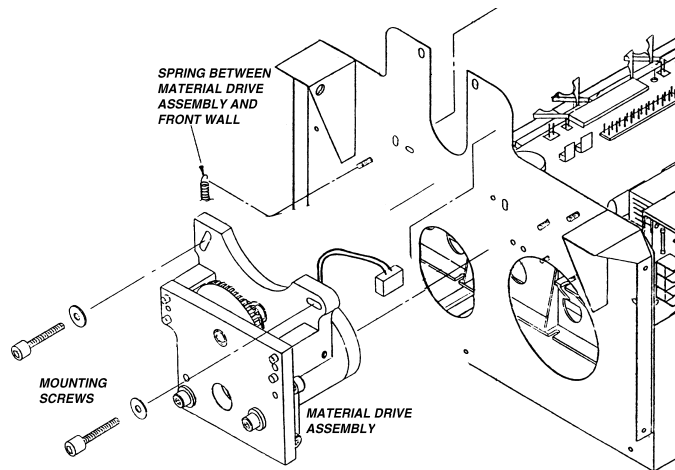
1. Remove the left side panel.
2. Remove connector R882 from the 2 axis control board.

**CAUTION:** When performing the next step, be careful to not stretch and damage the ground strap and keypad cables when you pull the front cover away from the front wall.

3. Remove the front cover and carefully pull it away from the front wall.
4. Remove the spring between the material drive assembly and the front wall.

5. Remove the two mounting screws and washers attaching the material drive assembly to the front wall.

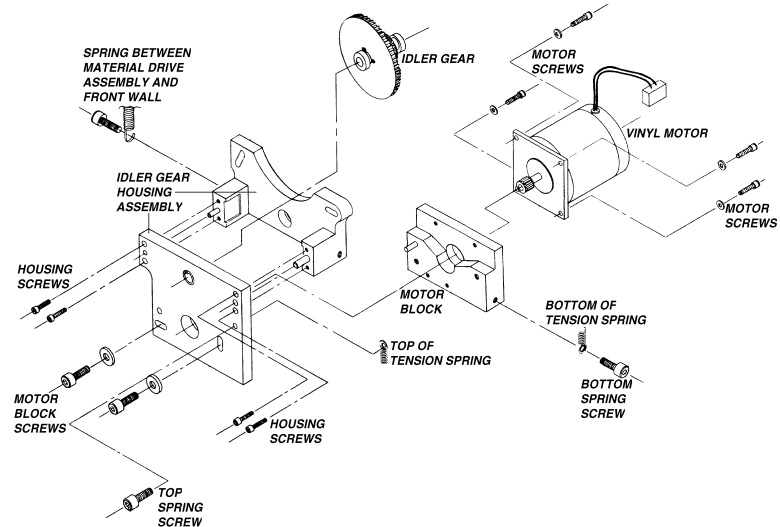
6. Pivot the material drive assembly so that it can be removed from behind the vinyl drive gear and lifted out of the chassis.



7. Remove the bottom spring screw and tension spring on the material drive assembly.

8. Loosen the two motor block screws securing the motor block to the idler gear housing assembly. The motor block is still attached to the plate with a pin.

9. Pivot the motor downward so you can gain access to the four motor screws, then remove the screws and washers.



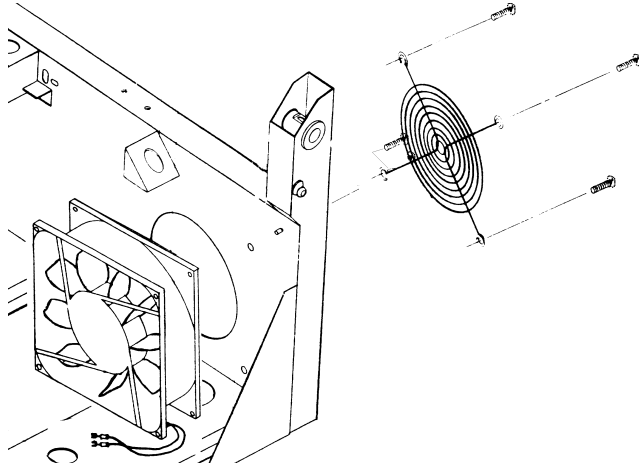
10. Reverse the steps to install the vinyl motor. *Note: When reinstalling the motor, ensure that the gear teeth of the motor, idler, and vinyl drive gears mesh properly. Also, install the spring with the bottom spring screw prior to tightening the motor block screws and washers. For information about replacing the gears driven by the motor, refer to "Replacing the vinyl drive gear" and "Replacing the idler gear."*

## Replacing the chassis cooling fan

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

**CAUTION:** Ensure that the fan airflow is into the chassis or overheating will result.

Remove the right side panel for access to the fan. The fan is located on the rear wall. The power cables (labeled #4 and #5) are connected to power supply terminal block TB2.



## Replacing the keypad and LCD display

Replacing the keypad and LCD display is a two-step operation:

- removing and disassembling the keypad and LCD display
- assembling the keypad and LCD display and installing them in the cover

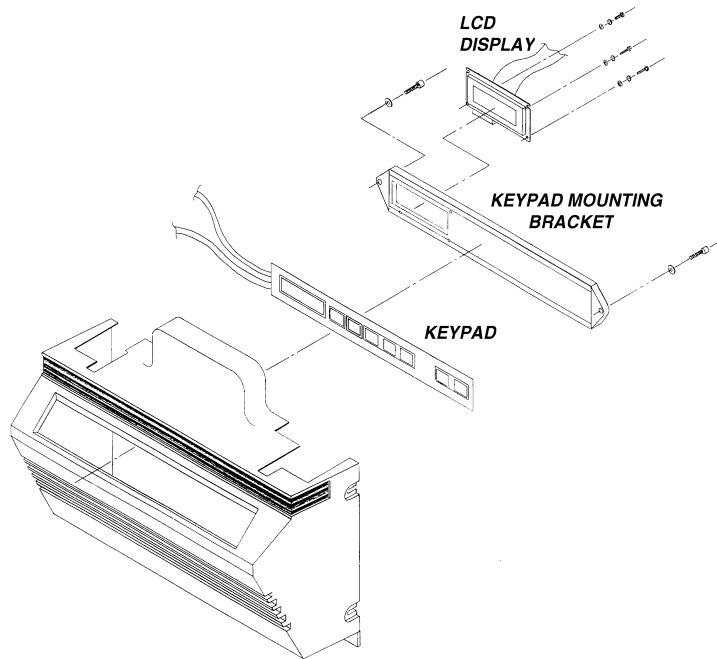
## Removing and disassembling the keypad and LCD display

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

1. Remove the left side panel.
2. Remove connectors R869 and R870 from the CPU board.

**CAUTION:** When performing the next step, be careful to not stretch and damage the ground strap from the keypad to the outside of the front wall.

3. Remove the front cover.
4. Disconnect the keypad ground strap from the front wall and slide connectors R869 and R870 through the front wall.
5. Remove the two screws and washers attaching the keypad mounting bracket to the inside of the front cover.
6. Remove the screws and washers attaching the LCD display to the back of the keypad mounting bracket.
7. Separate the keypad from the keypad mounting bracket.



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## Assembling the keypad and LCD display and installing them

This procedure provides instructions for replacing both the keypad and the LCD display. If you are replacing just the keypad, use the original LCD display at step 2. If you are replacing just the LCD display, use the original keypad at steps 1 and 3. If you are replacing both the keypad and LCD display, use a new keypad and LCD display at steps 1, 2, and 3. *Note: If you are using a new keypad, remove the paper backing before starting the procedure.*

1. Feed the keypad ribbon and ground cables in through the slot in the left side of the keypad mounting bracket.
2. Attach the LCD display and cable to the back of the keypad mounting bracket.
3. Press the keypad firmly against the keypad mounting bracket so that the adhesive strip secures the two together.
4. Attach the keypad mounting bracket to the inside of the front cover with two screws and washers.
5. Connect the keypad ground strap to the front wall, then slide connectors R869 and R870 through the front wall.
6. Replace the front cover.
7. Connect the cables to the CPU board. Ribbon cable R869 on the far right side of the board labeled "This side out" must be attached with the label facing away from the center of the board. Ribbon cable R870 next to it must be attached with the R870 label facing toward the center of the board.
8. Replace the left side panel.



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## Replacing the cover interlock and x axis home sensors

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

The cover interlock sensor and the x axis home sensor share a common wire harness. Each pair of wires have their own connector and sensor but are difficult to separate. Therefore, if you have to replace one sensor, it is best to replace both with the new wire harness.

### Notes about the cover interlock sensor

The cover interlock sensor is mounted on the outside of the front wall. A cover sensor pin is attached to the bottom of the head mount frame. When the cover closes, the pin pushes the plunger down. Attached to the bottom of the plunger is a flag which slides through the center of the cover interlock sensor.

Before replacing the sensor, make sure the sensor is clean and the plunger moves freely. Verify that when you push the plunger down, the flag goes through the center of the sensor. If it doesn't, adjust it by loosening the nut on the bottom of the plunger, repositioning the flag, and tightening the nut.

### Notes about the x axis home sensor

The x axis home sensor is mounted on the platen housing end plate near the bail arm latch. The flag for the sensor is mounted on the vinyl drive gear. Before replacing the sensor, make sure the sensor is clean and verify that the flag goes through the center of the sensor. If it does not, you may be able to loosen the flag mounting screws and adjust the flag. However, in most cases, you will need to set the x axis home position.

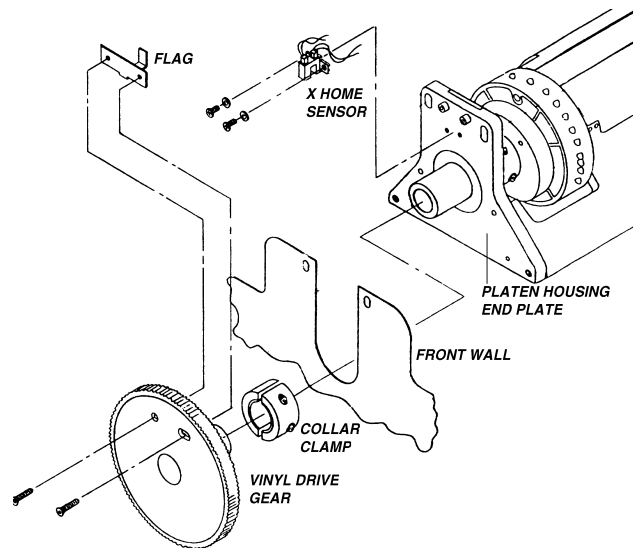
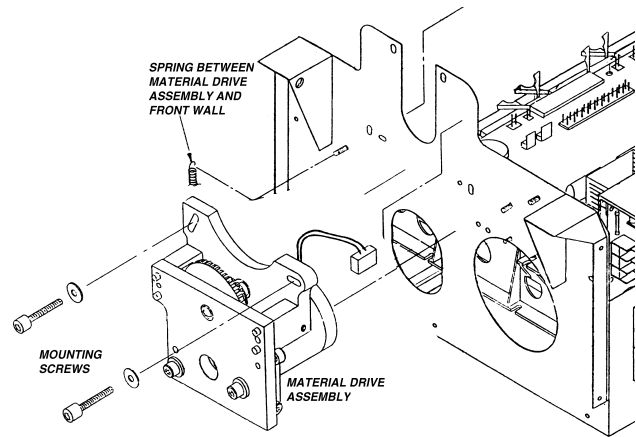
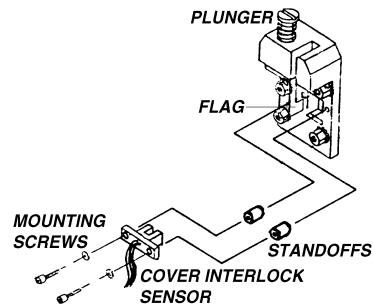


## Removing and installing the sensors

1. Remove the left side panel.
2. Remove connectors R882, R878, and R875 from the 2 axis control board.

**CAUTION:** When performing the next step, be careful to not stretch and damage the ground strap and keypad cables when you pull the front cover away from the front wall.

4. Remove the front cover and carefully pull it away from the front wall.
  5. Remove the two mounting screws and washers attaching the cover interlock sensor and standoffs to the sensor housing.
  6. Remove the spring between the material drive assembly and the front wall.
  7. Remove the two mounting screws and washers attaching the material drive assembly to the front wall.
  8. Pivot the material drive assembly so that it can be removed from behind the vinyl drive gear and lifted out of the chassis.
  9. Loosen the two vinyl drive gear collar clamp screws and slide the vinyl drive gear off the sprocket shaft.
  10. Remove the two screws and washers attaching the x axis home sensor to the platen housing end plate, then remove the two sensors and the wire harness from the chassis.
  11. Reverse the steps to install the new x axis home and cover interlock sensors.
- Before installing the front cover, set the x axis home position.

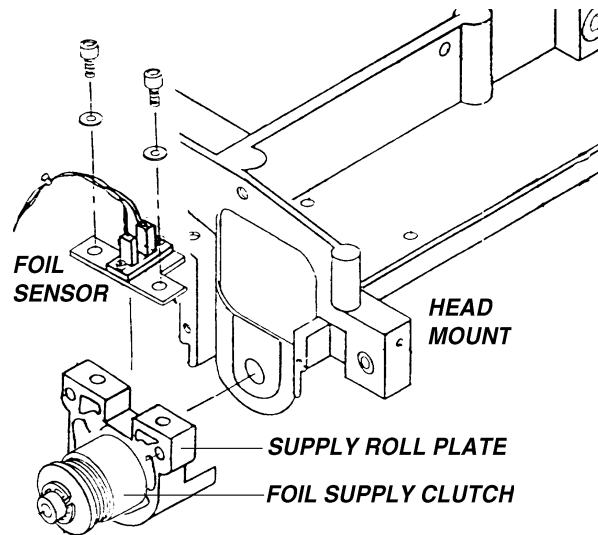


## Replacing the foil sensor

**WARNING:** To avoid electric shock, perform all maintenance procedures with the **EDGE** turned off and unplugged from the power source.

The foil sensor is mounted on top of the supply roll plate at the front of the head mount.

1. Remove the top cover.
2. Unplug the foil sensor connector from the wire harness connector tie wrapped to the head mount.
3. Remove the two screws and washers attaching the foil sensor to the supply roll plate.
4. Reverse the steps to install the foil sensor.



## Replacing the printhead down/head home sensor

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

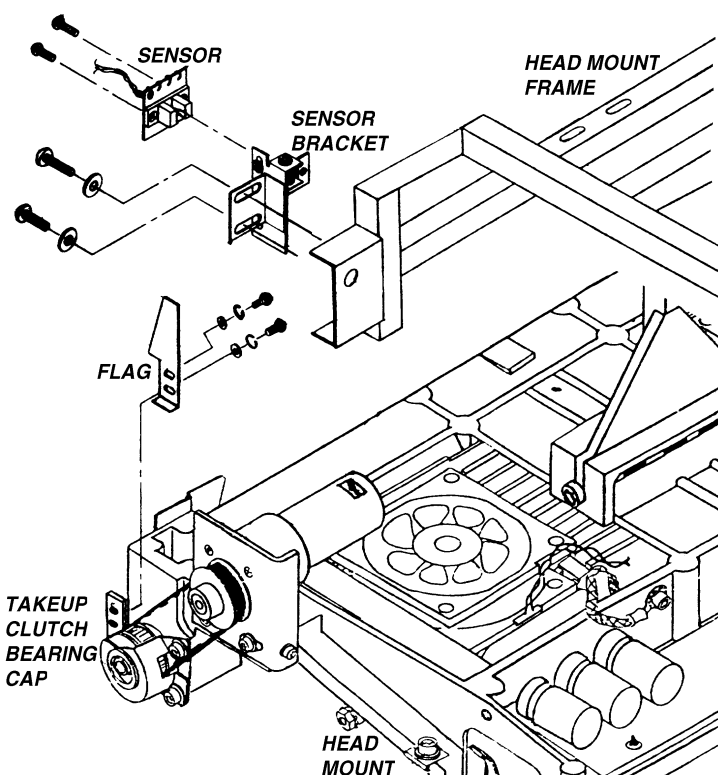
The printhead down/head home sensor is attached to the sensor bracket with two screws. The sensor bracket is attached to the head mount frame with two screws and washers. When the z axis motor lowers the head mount, the flag attached to the takeup clutch bearing cap slides into the sensor. If you get a z axis error the flag may be bent or misaligned and drive into the sensor bracket or head mount frame. Another cause could be that the sensor has failed.

### Adjusting the sensor and flag

Before replacing the sensor, remove the top and manually turn the z axis motor pulley to lower the head mount and observe that the flag enters the center of the sensor. Use the screws on the flag and the sensor bracket to adjust the flag so that it enters the sensor properly. If this does not correct the problem, replace the sensor. *Note: On some EDGEs, the flag is attached to the takeup clutch bearing cap with only one screw. This may allow the flag to pivot slightly and contact the sensor or frame. Make sure the flag is in the proper position (vertical) and not pivoted.*

### Replacing the sensor

1. Remove the top cover.
2. Unplug the sensor connector from the wire harness connector tie wrapped to the frame head mount.
3. Remove the two screws attaching the sensor to the sensor bracket.
4. Reverse the steps to install the sensor.
5. Turn on the EDGE and verify correct z axis movement. Adjust the flag and the sensor bracket as necessary.

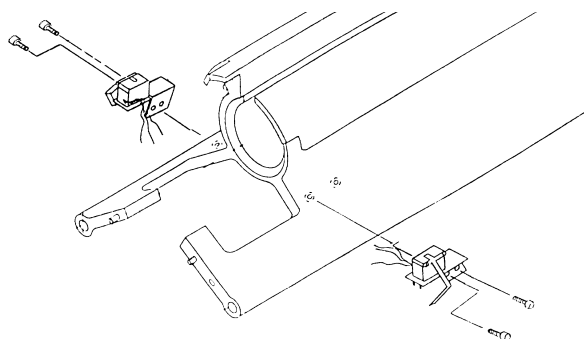


## Replacing the vinyl sensors

**WARNING:** To avoid electric shock, perform all maintenance procedures with the **EDGE** turned off and unplugged from the power source.

The vinyl sensors must be replaced as a pair because they use a common wire harness connected to P874 on the 2 axis control board. They are mounted on the front end of the platen housing near the bail arm latch.

1. Remove the left and right side panels.
2. Remove connector P874 from the 2 axis control board.
3. Remove the two screws attaching each sensor and bracket to the platen housing, then remove the wire harness and connector from the chassis.
4. Reverse the steps to install the sensors.



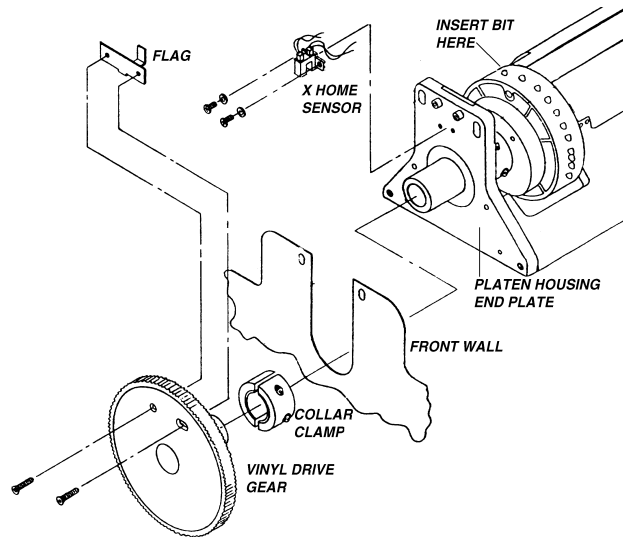
## Setting the x axis home position

**WARNING:** When performing this procedure you must have the EDGE plugged in and turned on. Dangerous voltages exist in the power supply when the EDGE is turned on. Take extreme caution when performing this procedure to avoid injury or death.

If you replace the x home sensor or loosen any of the collar clamps on the sprocket shaft, you must reset the x axis home position so that the flag goes through the center of the sensor.

**CAUTION:** When removing the front cover, be careful to not stretch and damage the ground strap and keypad cables when you pull the front cover away from the front wall.

1. Remove the front cover and carefully pull it away from the front wall.
2. Loosen the two vinyl drive gear collar clamp screws.
3. Rotate the sprockets so that the three closely-spaced teeth are straight up and the v-shaped cutouts in the platen housing and sprockets form a diamond-shaped hole.
4. Insert a 3/16" drill bit into the diamond-shaped hole.
5. Rotate the vinyl drive gear so that the flag is in the sensor. Slide the gear in and out on the sprocket shaft so that the flag is in the center of the opening in the sensor.
6. Rotate the vinyl drive gear about 1/4 turn so that the flag is not in the sensor.
7. Plug in and turn on the EDGE, then press the home key. The vinyl drive gear rotates, then stops with the flag in the sensor. Turn off the EDGE. *Note: If the gear does not stop with the flag in the sensor and continues to rotate, replace the x home sensor.*
8. Push the collar clamp toward the front wall and tighten the collar clamp screws. Be careful to not change the position of the vinyl drive gear and the flag inside the sensor.
9. Remove the drill bit from the diamond-shaped hole, then turn on the EDGE and press the home key. Verify that both sprockets stop with the three closely-spaced teeth straight up and the diamond-shaped hole is at each end of the platen housing.
10. Turn off the EDGE and replace the front cover.



# Replacing Mechanical Parts

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**WARNING:** Two persons are required to lift or move the GERBER EDGE. It weighs approximately 90 pounds (40.8 kilograms) packaged for shipment and 76 pounds (34.5 kilograms) unpacked.

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

**CAUTION:** Static electricity is a serious threat to modern integrated circuits. Before reaching into the EDGE or handling any components, touch any bare metal of the chassis. This discharges any potentially harmful static electrical charge being carried.

This section provides instructions for replacing or adjusting the following:

- covers
- bail arm
- bail arm pressure foot
- vinyl squeegees
- cartridge pins
- cartridge spring
- cover support shocks
- O rings and platen
- sprocket alignment
- vinyl drive gear
- idler gear

Read each procedure through in its entirety before performing it. Note the relationship of parts prior to disassembly so that you can easily reassemble the EDGE.

Disassemble the EDGE to the minimum extent necessary to repair or replace parts.

## Replacing the covers

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

**CAUTION:** Static electricity is a serious threat to modern integrated circuits. Before reaching into the EDGE or handling any components, touch any bare metal of the chassis. This discharges any potentially harmful static electrical charge being carried.

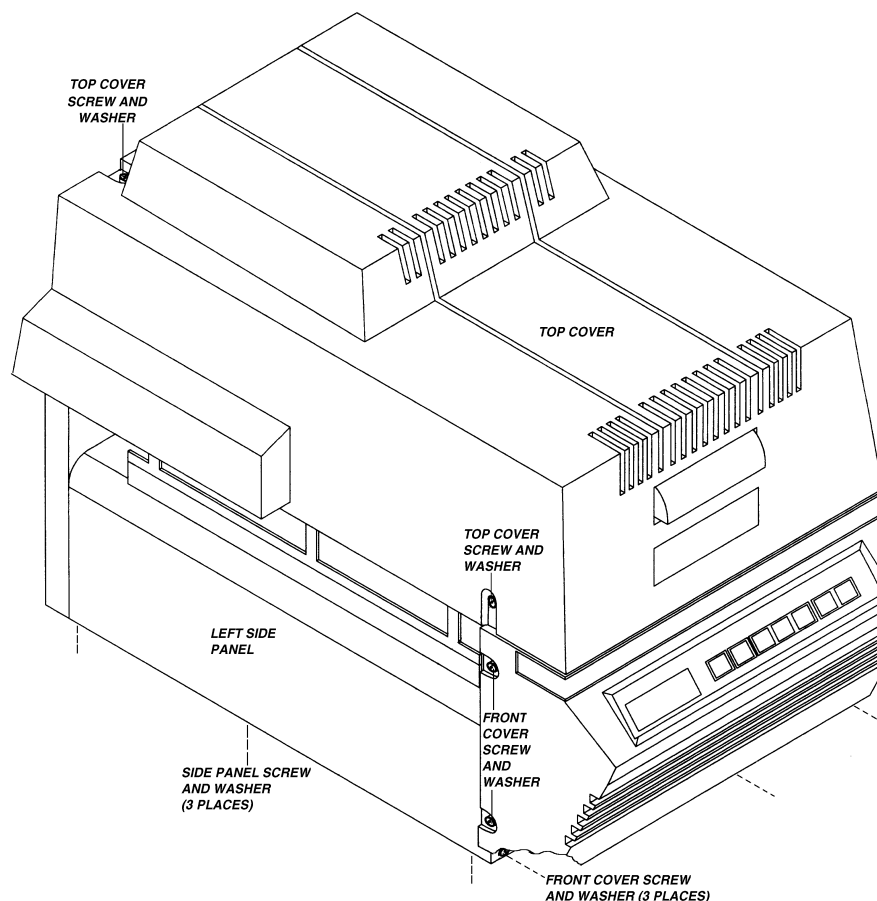
**CAUTION:** When removing the front cover, do not stretch the ribbon cables between the chassis and the keypad and LCD display.

### Notes:

The top cover is attached the head mount frame with four screws and washers as shown in the illustration. On some production units, an additional two screws were installed inside the cover near the front and through the head mount frame.

The front cover is attached to the chassis with nine screws and washers (two on each side, one on each side of the bail arm latch plate inside the front wall, and three across the bottom).

The left and right side panels are each attached to the bottom of the chassis with three screws and washers. Just loosen the screws, then pull the side panel away from the bottom of the chassis and unclip it from underneath the platen housing.



This illustration shows the location of the cover and panel mounting hardware on the left side of the EDGE. The right side is identical. The back wall is not removable.



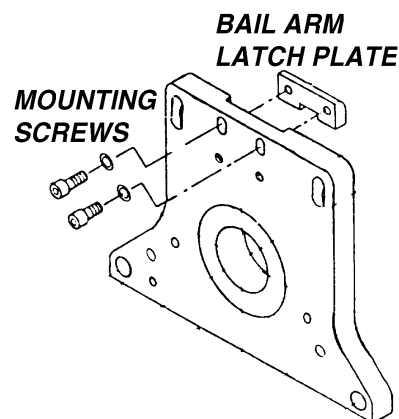
## Adjusting the bail arm

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

An improperly adjusted bail arm can contribute to vinyl tracking problems. If the bail arm is pressing too tightly against the material, it can cause the material to bind or otherwise disrupt the movement of material through the EDGE.

Before adjusting the bail arm, make certain that the pressure feet are properly installed and not damaged.

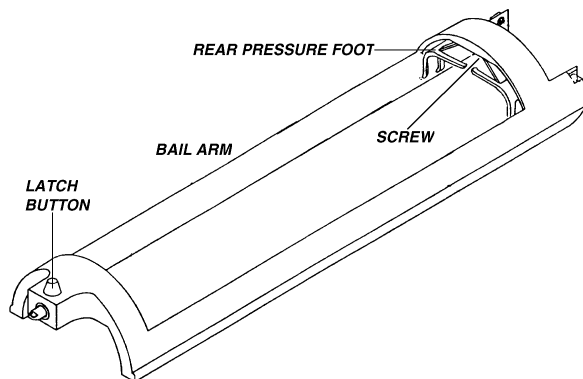
The bail arm latch plate, mounted at the top center on the inside of the front wall, is used to adjust the bail arm. Remove the front cover and loosen the two bail arm latch plate screws. Slide the latch plate up to reduce bail arm pressure on the material, then retighten the screws. Install the front cover, then run a test job to verify that the material tracks properly.



## Replacing a bail arm pressure foot

**WARNING:** To avoid electric shock, perform all maintenance procedures with the **EDGE** turned off and unplugged from the power source.

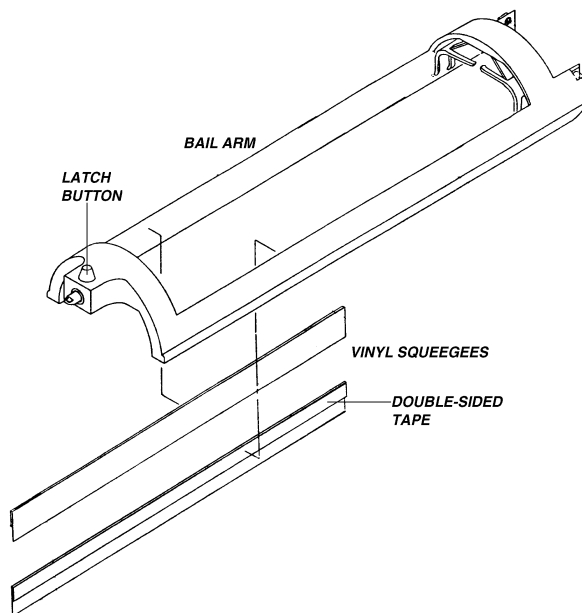
There are two pressure feet on the underside of the bail arm – one at the front near the bail arm latch button and the other at the rear. The pressure feet hold the material down tightly over the sprockets. The front and rear pressure foot are slightly different in appearance, but each is attached to the bail arm with one screw through the pressure foot and into the underside of the bail arm.



## Replacing the vinyl squeegees

**WARNING:** To avoid electric shock, perform all maintenance procedures with the **EDGE** turned off and unplugged from the power source.

The vinyl squeegees are attached to the bail arm with double-sided tape. To replace a vinyl squeegee, peel the old one off the bail arm. Clean the surface of the bail arm with 98% isopropyl alcohol and a clean cloth. When the bail arm is dry, remove the protective film from the double-sided tape on the new squeegee, then press the squeegee into place on the bail arm. Proper alignment of the squeegee on the bail arm is critical. Make certain that the squeegee is fully up against the lip on the bottom of the bail arm.

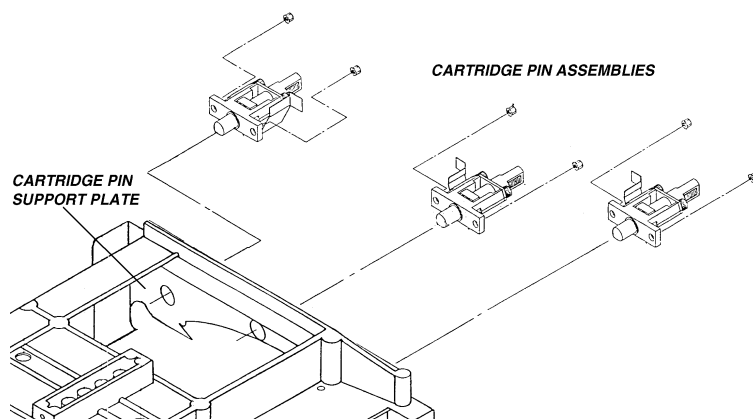


## Replacing the cartridge pins

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

The cartridge pin that you insert in the foil cartridge is part of the cartridge pin assembly. The assembly is attached to the bottom of the cartridge pin support plate in the head mount with two nuts which thread onto studs on the plate.

Remove the top cover to gain access to the nuts on the cartridge pin assembly.

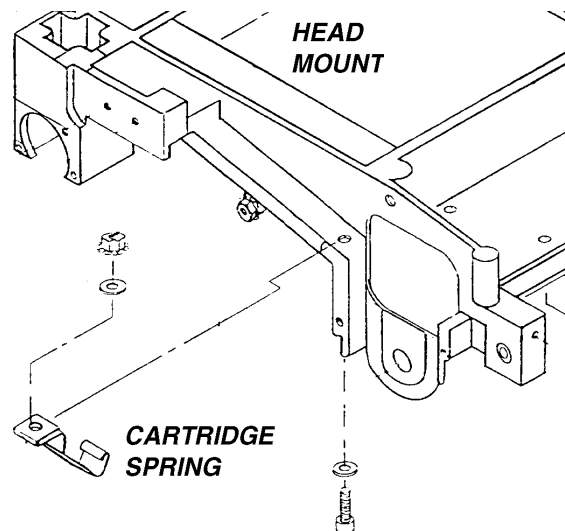


## Adjusting or replacing the cartridge spring

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

The cartridge spring, located just to the left of the foil supply clutch, holds the cartridge in place before you secure the cartridge in the head mount with the cartridge pins. If the spring is bent too far up, it won't hold the cartridge. If it is bent too far down, it prevents the cartridge from fully entering the cartridge area in the head mount.

If you have a cartridge problem, try bending the spring to a central location. If you cannot achieve satisfactory results, or if the spring is broken, remove the screw, washers, and nut holding the spring to the head mount and install a new spring.

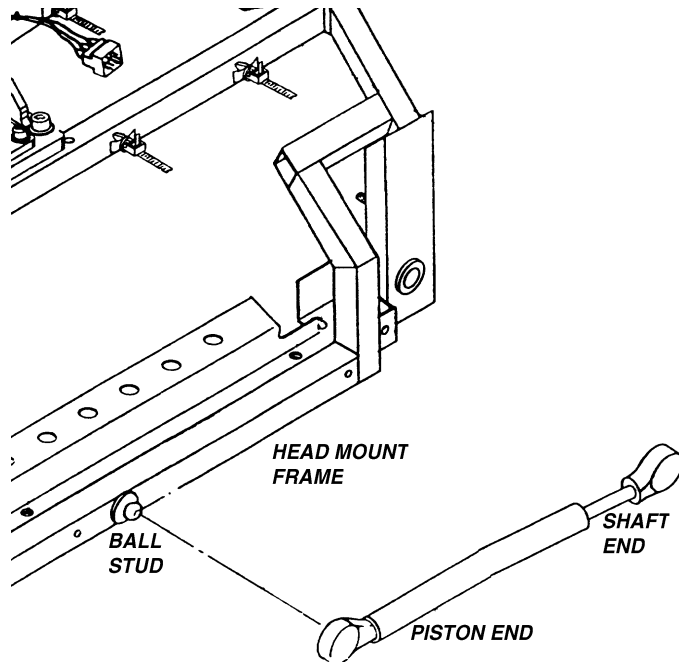


## Replacing the cover support shocks

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

Gerber recommends replacing the support shocks in pairs.

1. Remove the top cover and raise the head mount frame.
2. Using a flat screwdriver, pry off the caps on both ends of the shock.
3. Pull and twist the piston section until the socket releases from the ball stud on the head mount frame.
4. Pull and twist the shaft section until the socket releases from the ball stud on the chassis.
5. Using a flat screwdriver, pry the caps off the new cover support pistons.



**CAUTION:** When performing the next step, considerable strength is required to compress and hold the shock before installing it.

6. Align the piston end socket with the head mount frame ball stud, then gently tap the socket until it snaps firmly on the ball stud. Repeat the procedure for the shaft end socket.
7. Snap the caps on the sockets.
8. Replace the top cover.

## Replacing the O rings and platen

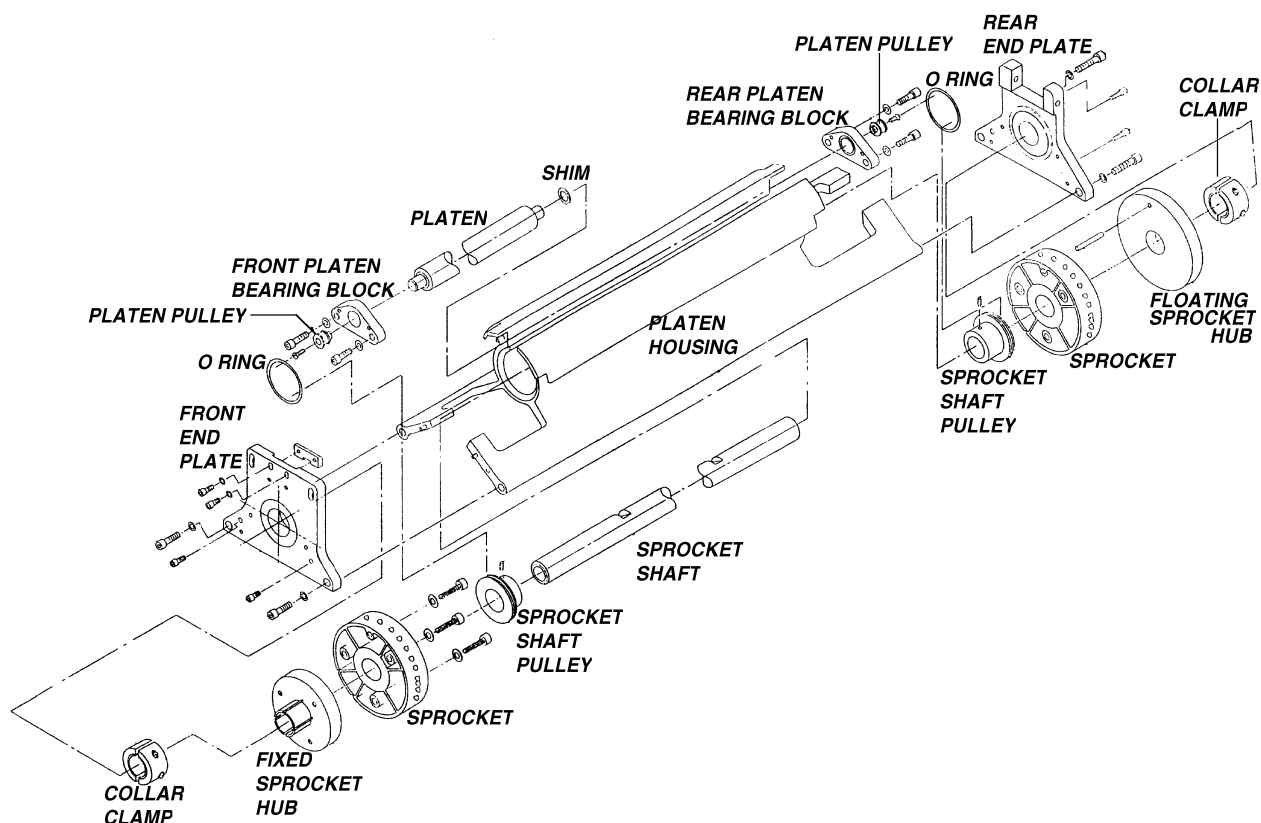
**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

If you are performing this procedure to replace the platen, always use new **O** ring belts and always replace **O** ring belts in pairs.

Replacing the O rings and platen is a five-step process:

- removing the **O** rings
- removing and replacing the platen
- replacing the **O** rings
- setting the sprocket alignment
- setting the x axis home position

Read this procedure through in its entirety before performing it. Study the following illustration, compare it to the EDGE, and note the relationship of parts prior to disassembly so that you can easily reassemble the EDGE. Disassemble the EDGE to the minimum extent necessary to repair or replace parts.



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## Removing the O rings

1. Remove the left and right side panels.

**CAUTION:** When removing the front cover, be careful to not stretch and damage the ground strap and keypad cables when you pull the front cover away from the front wall.

2. Remove the front cover and carefully pull it away from the front wall.
3. Remove the set screw securing each sprocket shaft pulley to the sprocket shaft.
4. Loosen the three collar clamps (one on each sprocket hub and the one on the vinyl drive gear).
5. Slide the sprocket shaft in so that you can remove the vinyl gear from the sprocket shaft.
6. Slide the sprocket shaft in and out so that you can remove the sprockets and sprocket hubs from the shaft.
7. Slip the **O** rings off the pulleys at each end of the platen, then slip them off the sprocket shaft pulleys.
8. Clean the sprocket shaft, the sprocket shaft pulleys, the sprockets, and the sprocket hubs with 98% isopropyl alcohol.
9. Use a magic marker to color the flat spots on the sprocket shaft to make locating the flat spots easier when you need to install and tighten the sprocket shaft pulley set screws.

*Note: If you are replacing the platen, go to "Removing and replacing the platen." If you are replacing only the **O** rings, go to "Replacing the **O** rings."*



## Removing and replacing the platen

1. Remove the screw holding each platen pulley to the ends of the platen.
2. Remove the front platen bearing block.

**CAUTION:** When performing the next step, do not lose the shim from the rear of the platen shaft. Also note that there may be more than one shim of the platen shaft.

3. Slide the platen out of the rear bearing block. Save the shim(s) for reassembly.
4. Use your fingers to rotate the bearing in each bearing block and verify that it turns smoothly.
5. Slide the shim(s) on one end of the platen shaft and install the platen shaft in the rear bearing block.
6. Install the front bearing block, then verify that the platen rolls smoothly and that there is no play between the bearing blocks. If the platen is difficult to roll, remove one or more shims. If there is play between the bearing blocks, add shims.
7. Attach each platen pulley to the ends of the platen with the screw.

*Note: After you replace the platen, go to "Replacing the O rings."*

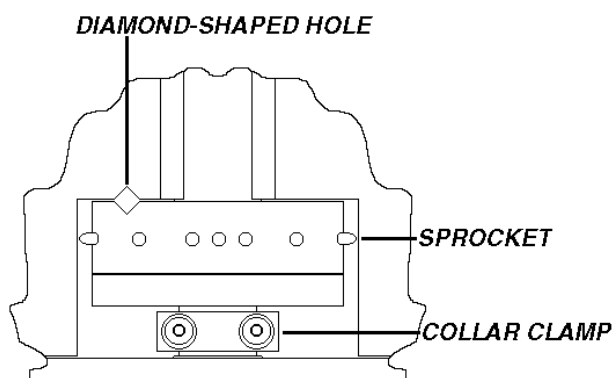
## Replacing the O rings

1. Slip an **O** ring over the pulley on each end of the platen.
2. Align the front sprocket shaft pulley under the platen pulley and slip the **O** ring over the sprocket shaft pulley. Repeat this action for the rear sprocket shaft pulley.
3. Slide the sprockets and sprocket hubs on the sprocket shaft. Do not tighten the collar clamps.
4. Install the vinyl driver gear on the sprocket shaft. Do not tighten the collar clamp.
5. Rotate the front sprocket shaft pulley so that you can see the set screw hole in the pulley, then rotate the sprocket shaft until you can see the flat spot through the set screw hole. Insert and tighten the set screw.
6. Rotate the rear sprocket shaft pulley so that you can see the flat spot through the set screw hole. Insert and tighten the set screw.

*Note: After you replace the **O** rings, go to "Setting the sprocket alignment."*

## Setting the sprocket alignment

1. Push the floating sprocket hub against the rear wall and tighten the collar clamp screws.
2. Rotate the rear sprocket until you see the diamond-shaped hole formed by the v-shaped cutouts in the sprocket and the platen housing. Make certain the three closely-spaced teeth are pointing up.
3. Insert a 3/16" drill bit into the diamond-shaped hole, then insert a large screwdriver between the floating sprocket hub and the sprocket to hold the sprocket against the platen housing.
4. Rotate the front sprocket until you see the diamond-shaped hole and the three closely-spaced teeth are pointing up, then push and hold the sprocket against the platen housing.
5. Insert another 3/16" drill bit into the front diamond-shaped hole, then – while pushing the sprocket against the platen housing – slide the collar clamp toward the vinyl drive gear and tighten the collar clamp screws. Ensure that the sprocket shaft has no play between the front and rear walls.

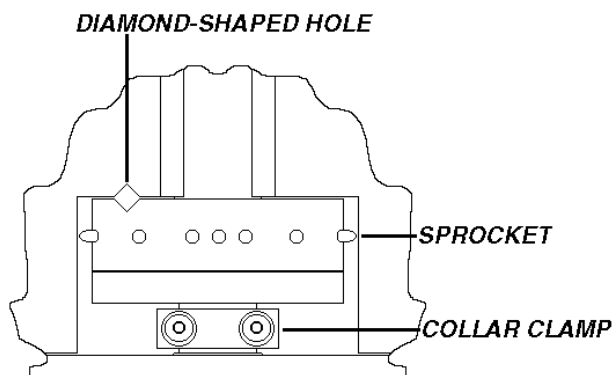


*Note: After you set the sprocket alignment, go to "Setting the x axis home position." After you set the sprocket alignment install the front cover and the left and right side panels.*

## Checking and setting sprocket alignment

Each sprocket has a v-shaped cutout in the edge. The platen housing also has a v-shaped cutout at the front and rear. When these v-shapes are aligned, as shown in the illustration, they form a diamond-shaped hole that a 3/16" drill bit fits into.

To check sprocket alignment, press the home key so that the three closely-spaced teeth are pointing up, then insert the drill bit into the diamond-shaped holes at the front and rear of the platen housing. If the bit does not fit properly in both holes, loosen the collar clamp screws at the end that does not fit. Rotate the sprocket until the bit fits in the diamond-shaped hole, then tighten the collar clamp screws.



# Replacing the vinyl drive gear

*Note: For information about replacing the vinyl drive motor, refer to “Replacing the vinyl motor.”*

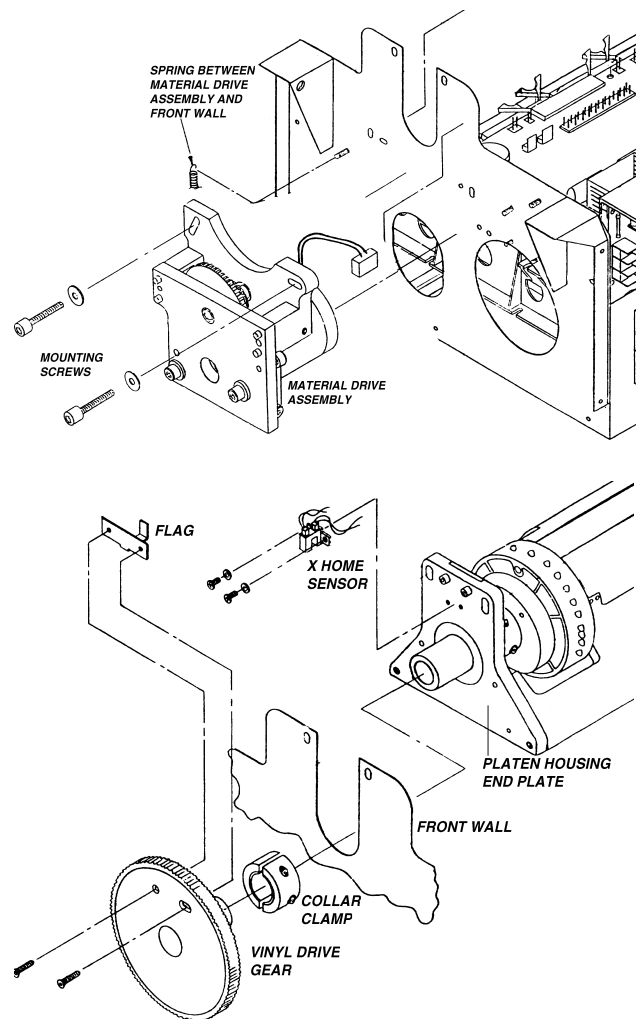
**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

1. Remove the left side panel.
2. Remove connector R882 from the 2 axis control board.

**CAUTION:** When performing the next step, be careful to not stretch and damage the ground strap and keypad cables when you pull the front cover away from the front wall.

3. Remove the front cover and carefully pull it away from the front wall.
4. Remove the spring between the material drive assembly and the front wall.
5. Remove the two mounting screws and washers attaching the material drive assembly to the front wall.
6. Pivot the material drive assembly so that it can be removed from behind the vinyl drive gear and lifted out of the chassis.
7. Loosen the two vinyl drive gear collar clamp screws and slide the vinyl drive gear off the sprocket shaft.
8. Reverse the steps to install the vinyl drive gear. Before installing the front cover, set the x axis home position.

*Note: When installing the gear, ensure that the gear teeth of the vinyl drive gear mesh properly with the gear teeth of the idler gear.*



## Replacing the idler gear

*Note: For information about replacing the vinyl drive motor, refer to “Replacing the vinyl motor.”*

Replacing the vinyl drive and idler gears (the x axis gears) is a two-step procedure:

- removing the material drive assembly
- disassembling the idler gear housing assembly

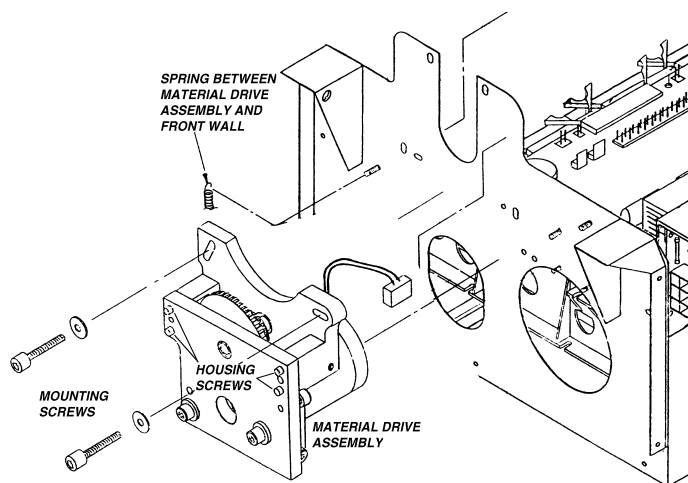
**WARNING: To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.**

### Removing the material drive assembly

1. Remove the left side panel.
2. Remove connector R882 from the 2 axis control board.

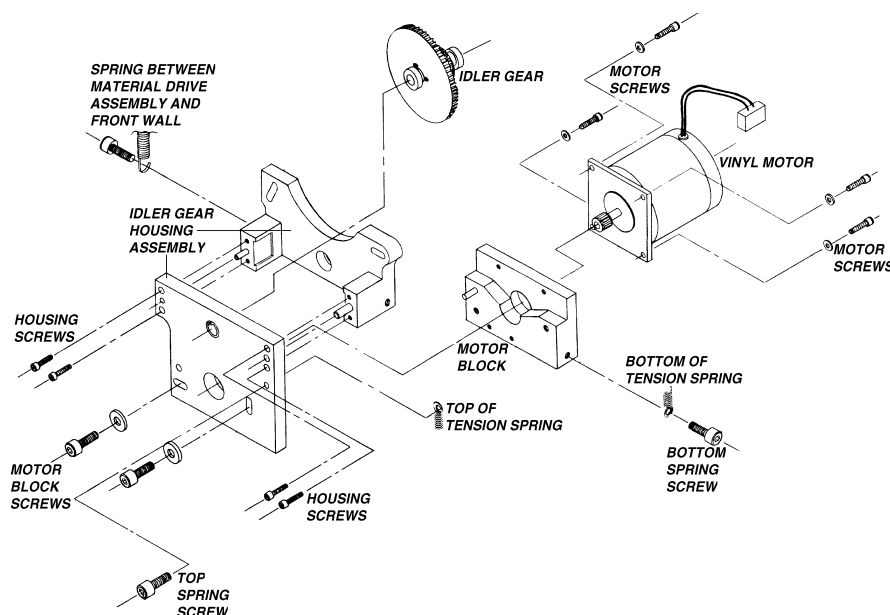
**CAUTION: When performing the next step, be careful to not stretch and damage the ground strap and keypad cables when you pull the front cover away from the front wall.**

3. Remove the front cover and carefully pull it away from the front wall.
4. Break loose, but do not remove, the four housing screws.
5. Remove the spring between the material drive assembly and the front wall.
6. Remove the two mounting screws and washers attaching the material drive assembly to the front wall.
7. Pivot the material drive assembly so that it can be removed from behind the vinyl drive gear and lifted out of the chassis.



## Disassembling the idler gear housing assembly

1. Remove the bottom spring screw and tension spring on the material drive assembly.
2. Loosen the two motor block screws securing the motor block to the outer housing plate. The motor block is still attached to the plate with a pin.
3. Pivot the motor downward to disengage the motor gear from the idler gear.
4. Remove the four housing screws from the idler gear housing assembly front plate, then use a small flat screwdriver to pry the two parts of the idler gear housing assembly apart.
5. Push the idler gear out of the front plate.
6. Reverse the steps to install the new idler gear.



*Note: When reassembling, ensure that the gear teeth of the motor mesh properly with the gear teeth of the idler gear and the gear teeth of the idler gear mesh properly with the gear teeth of the vinyl drive gear.*

# Replacing the Foil Drive Parts

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**WARNING:** Two persons are required to lift or move the GERBER EDGE. It weighs approximately 90 pounds (40.8 kilograms) packaged for shipment and 76 pounds (34.5 kilograms) unpacked.

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

**CAUTION:** Static electricity is a serious threat to modern integrated circuits. Before reaching into the EDGE or handling any components, touch any bare metal of the chassis. This discharges any potentially harmful static electrical charge being carried.

Procedures in this section provide instructions for replacing the:

- foil supply clutch
- foil takeup clutch
- foil takeup motor
- foil drive belt

Read each procedure through in its entirety before performing it. Note the relationship of parts prior to disassembly so that you can easily reassemble the EDGE. Disassemble the EDGE to the minimum extent necessary to repair or replace parts.

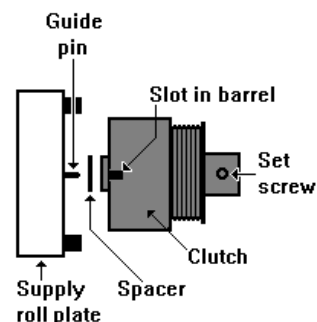


## Removing and replacing the foil supply clutch

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

*Note:* You do not have to remove the top cover to remove and replace the foil supply clutch. Put a foil cartridge in the EDGE, turn the EDGE on, and use the foil slew key to turn the clutch until you can access the set screw. Turn off the EDGE and remove the foil cartridge, then perform the following steps.

1. Loosen the clutch set screw.
2. Slide the clutch and spacer off the cartridge pin. You may have to slide the cartridge pin down slightly so that the body of the clutch clears the head mount frame.
3. Slide the spacer and clutch on the cartridge pin. Make certain that the cartridge pin C clip is firmly against the head support. Make certain that the guide pin goes in the slot in the barrel of the clutch and that the spacer is against the supply roll plate and the clutch touches the spacer.
4. Rotate the cartridge pin so that the flat spot on the shaft is even with the set screw, then tighten the clutch set screw on the flat of the shaft.



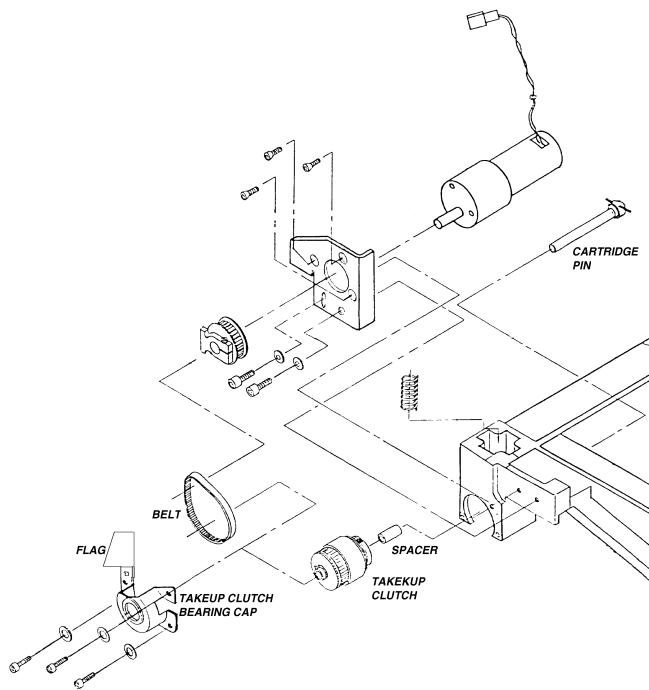
## Removing and replacing the foil takeup clutch

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

1. Remove the top cover.

**CAUTION:** Before performing the next step, it may be helpful to manually turn the z axis motor pulley to lower the head mount to gain access to the screws. If you do this, be careful to not bend or damage the flag, which is attached to the cap, inside the sensor.

2. Remove the three screws and washers holding the takeup clutch bearing cap to the head mount.
3. Slide the belt off the clutch pulley. Leave the belt on the motor pulley.
4. Loosen the two clutch clamp screws.
5. Slide the clutch off the cartridge pin. Leave the spacer on the cartridge pin.
6. Slide the new clutch on the cartridge pin. Make certain that the cartridge pin C clip is firmly against the head support. Make certain that the spacer is against the head support and the clutch touches the spacer.
7. Tighten the two clutch clamp screws.
8. Slide the belt on the clutch pulley.



**CAUTION:** When performing the next step, be careful to not bend the sensor flag attached to the takeup clutch bearing cap. Also, note that on some EDGES, the flag is attached by only one screw and the flag can rotate so that it doesn't enter the sensor properly. For additional information, refer to "Replacing the printhead down/head home sensor."

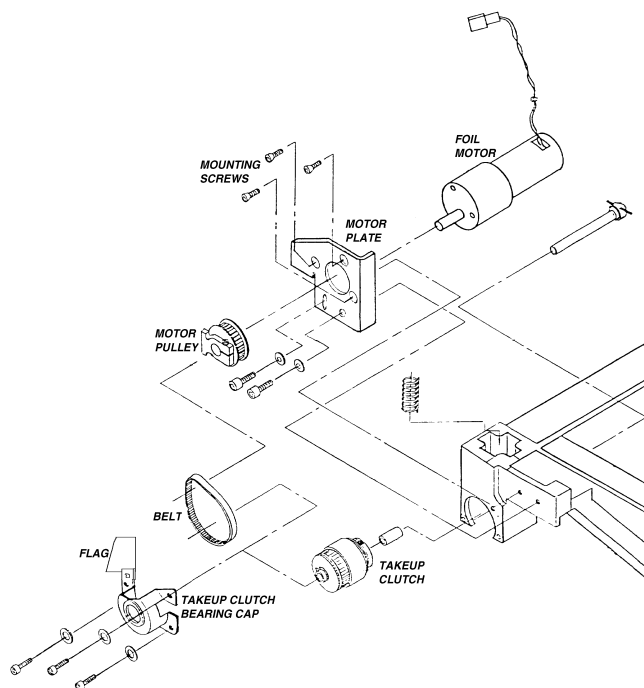
9. Attach the takeup clutch bearing cap to the head mount with the three screws and washers removed at step 2. Do not overtighten the screws.
10. Replace the top cover.

## Removing and replacing the foil motor

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

1. Remove the top cover.
2. Ground yourself by touching any bare metal of the chassis.
3. Unplug the motor cable connector from the connector with the wires going to the 2 axis control board. Cut the tie wrap securing the motor cable to the head support.

**CAUTION:** Before performing the next step, it may be helpful to manually turn the z axis motor pulley to lower the head mount to gain access to the screws. If you do this, be careful to not bend or damage the flag, which is attached to the cap, inside the sensor.



4. Remove the three screws and washers holding the takeup clutch bearing cap to the head mount.
5. Slide the belt off the clutch pulley and the motor pulley.
6. Loosen the motor pulley clamp screw securing the motor pulley to the motor shaft, then slide the motor pulley off the motor shaft.
7. Remove the three screws attaching the motor to the motor plate, then remove the motor.
8. Attach the new motor to the motor plate with the three screws removed at step 7.
9. Slide the motor pulley on the motor shaft, then put the belt on the motor pulley and the clutch pulley.
10. Tighten the motor pulley clamp screw.

**CAUTION:** When performing the next step, be careful to not bend the sensor flag attached to the takeup clutch bearing cap. Also, note that on some EDGES, the flag is attached by only one screw and the flag can rotate so that it doesn't enter the sensor properly. For additional information, refer to "Replacing the printhead down/head home sensor."

11. Attach the takeup clutch bearing cap to the head mount with the three screws and washers removed at step 4. Do not overtighten the screws.



12. Ground yourself by touching any bare metal of the chassis.
13. Plug the motor cable connector into the connector with the wires going to the 2-axis control board. Tie wrap the connected cables to the head support.
14. Replace the top cover.



## Replacing the foil drive belt

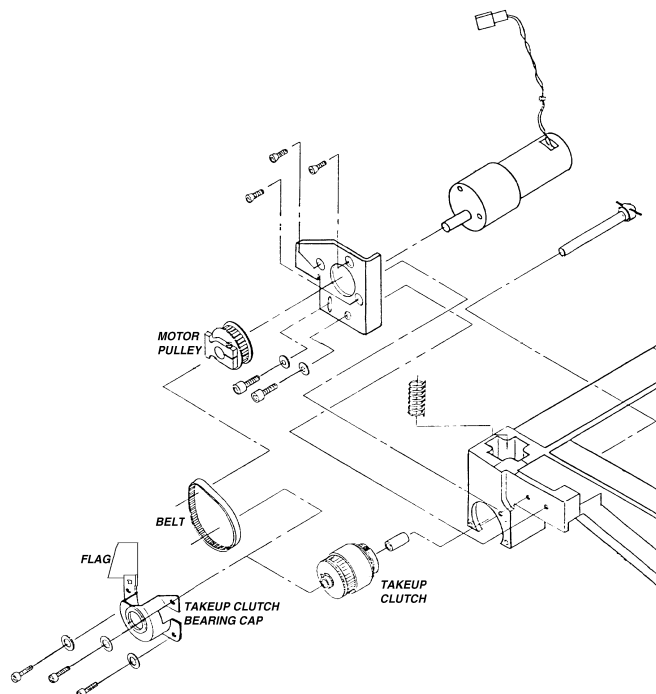
**WARNING:** To avoid electric shock, perform all maintenance procedures with the **EDGE** turned off and unplugged from the power source.

The foil drive belt runs between the motor pulley and the takeup clutch. To gain access to the belt, first remove the takeup clutch bearing cap covering the takeup clutch. If you are performing this procedure to replace a broken belt, perform all steps except step 3.

1. Remove the top cover.

**CAUTION:** Before performing the next step, it may be helpful to manually turn the z axis motor pulley to lower the head mount to gain access to the screws. If you do this, be careful to not bend or damage the flag, which is attached to the cap, inside the sensor.

2. Remove the three screws and washers holding the takeup clutch bearing cap to the head mount.
3. Slide the belt off the clutch pulley and the motor pulley.
4. Slide the new belt on the clutch pulley and the motor pulley.



**CAUTION:** When performing the next step, be careful to not bend the sensor flag attached to the takeup clutch bearing cap. Also, note that on some **EDGES**, the flag is attached by only one screw and the flag can rotate so that it doesn't enter the sensor properly. For additional information, refer to "Replacing the printhead down/head home sensor."

5. Attach the takeup clutch bearing cap to the head mount with the three screws and washers removed at step 2. Do not overtighten the screws.
6. Replace the top cover.

# Replacing the Head Mount Parts

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**WARNING:** Two persons are required to lift or move the GERBER EDGE. It weighs approximately 90 pounds (40.8 kilograms) packaged for shipment and 76 pounds (34.5 kilograms) unpacked.

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

**CAUTION:** Static electricity is a serious threat to modern integrated circuits. Before reaching into the EDGE or handling any components, touch any bare metal of the chassis. This discharges any potentially harmful static electrical charge being carried.

Procedures in this section provide instructions for replacing the:

- z axis motor
- printhead
- foil squeegee
- dancer bars
- static strip
- fans

Read each procedure through in its entirety before performing it. Note the relationship of parts prior to disassembly so that you can easily reassemble the EDGE. Disassemble the EDGE to the minimum extent necessary to repair or replace parts.

## Replacing the z axis motor

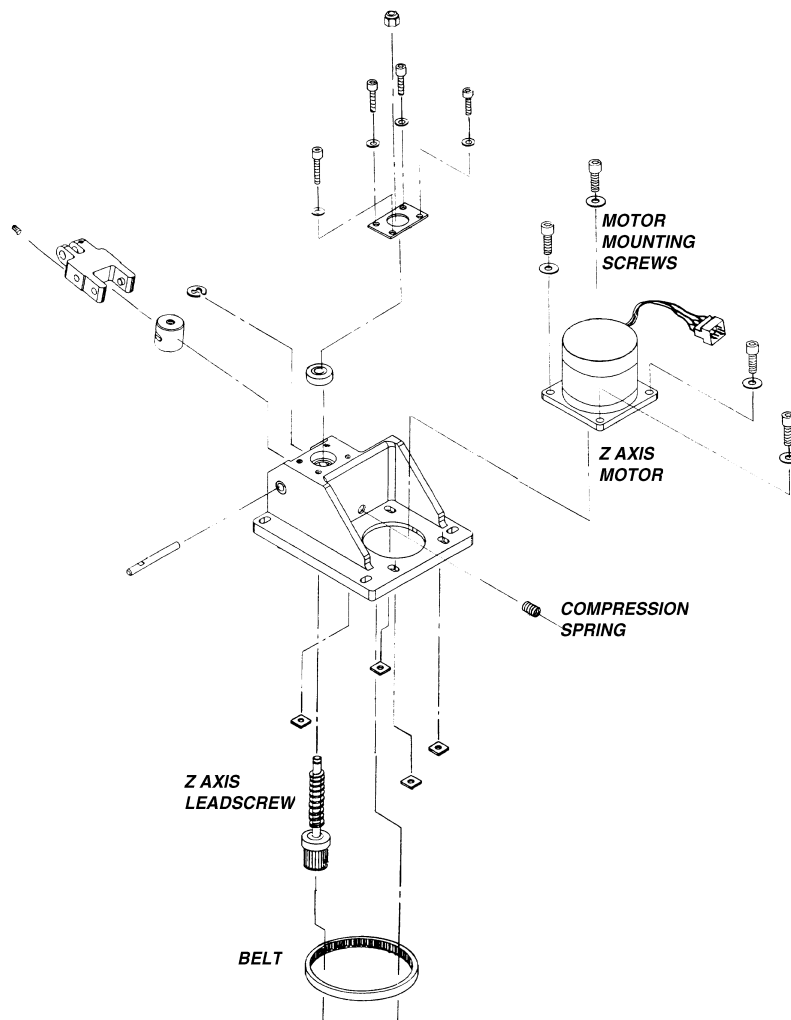
**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

The z axis motor lowers the head mount to press the printhead and foil against the vinyl. When the motor is on, it turns a belt which drives the z axis leadscrew to lower or raise the head mount. A compression spring between the motor mount and the motor provides belt tension.

1. Remove the top cover.
2. Disconnect the motor cable from chassis wire harness.
3. Loosen the four motor mounting screws.
4. Push the z axis motor against the compression spring to relieve belt tension, then remove the belt from between the motor pulley and the z axis leadscrew.

**CAUTION:** When performing the next step, be careful to not lose the compression spring.

5. Remove the four screws and washers attaching the z axis motor to the motor mount.
6. To replace the z axis motor, reverse the steps. Make certain that the compression spring is in the hole in the motor mount before installing the motor.



## Removing and replacing the printhead

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

**CAUTION:** Do not touch the printhead surface. Static electricity and oil from your fingers can damage the printhead and could affect printing quality.

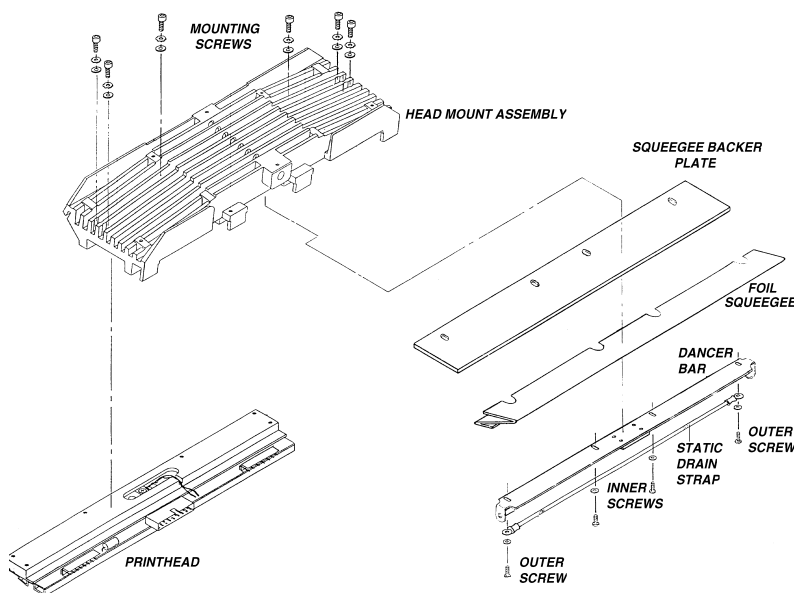
1. Remove the top cover.
2. Ground yourself by touching any bare metal of the chassis.

**CAUTION:** When performing steps 3 and 4, be extremely careful to not strip the head of the screws.

3. Remove the two outer screws holding the static drain strap to the dancer bar.
4. Remove the two inner screws holding the dancer bar, foil squeegee, and squeegee backer plate to the head mount assembly.
5. Look at the left side of the printhead where it meets the head mount assembly. If there is a small gap between the printhead and head mount assembly at either the top or bottom, it means that the printhead requires an offset alignment distance between the two. If that is the case, continue the procedure. If there is no gap, go to step 7.
6. Use a spark plug feeler gage to measure the distance between the head mount assembly and the printhead. Record this measurement for use when installing the new printhead.

**CAUTION:** When performing the next step, the printhead will fallout. Be sure to support it so it does not get damaged.

7. Remove the six screws and 12 washers attaching the printhead to the head mount assembly.
8. Disconnect the two power connectors and the data ribbon connector from the printhead. *Note: The power connectors have locking tabs.*
9. Remove the blue plastic film covering the new printhead and clean the printhead.
10. Install the new printhead in the head mount assembly and secure it in place with the six screws and 12 washers removed at step 7. Do not tighten the screws. If the





11. Use a spark plug feeler gage as a shim between the printhead and the head mount assembly, at the top or the bottom as determined in steps 5 and 6. Hold the feeler gage between the printhead and head mount assembly and tighten the screws so that the printhead is immobile.
12. Torque the mounting screws to 5 inch-pounds. When tightening the screws, alternately tighten opposing screws (upper left, then lower right, upper right, then lower left, and so forth).

**CAUTION: When performing steps 13 and 14, be extremely careful to not strip the head of the screws.**

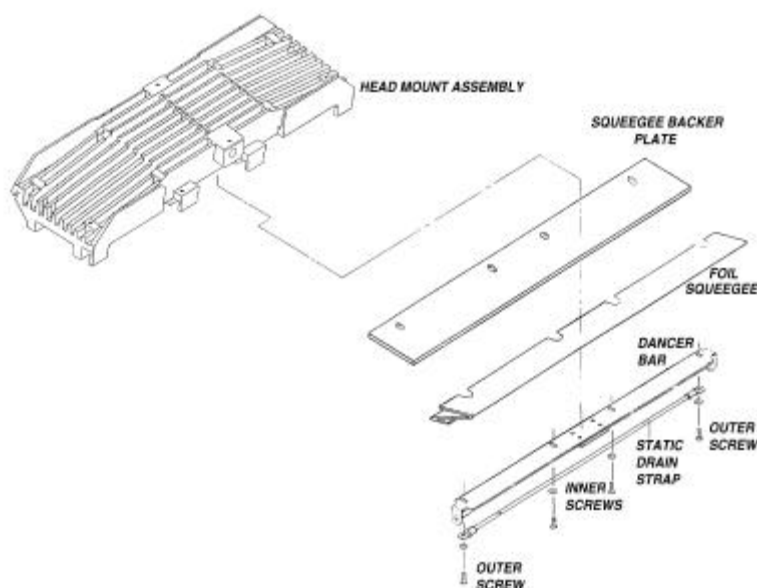
13. Reinstall the squeegee backer plate, the foil squeegee, and the dancer bar with the two inner screws. Before tightening the inner screws, slide the foil squeegee upward as far as possible so that it will not contact the foil cartridge when you load it. Also the slots in the dancer bar should be full left or right against the attaching screws.
14. Reinstall the static drain strap to the dancer bar with the two outer screws.
15. Adjust the power supply voltage to match the printhead resistance.
16. Adjust the print line using the alignment template.
17. Run a halftone test to check print quality and adjust as necessary to achieve good results. *Note: To make a halftone test, create a box in Composer 11.8" high by 12" wide. Apply a 50 percent fill at 70.7 LPI and print the job on the EDGE.*
18. Replace the top cover.

## Replacing the foil squeegee

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

**CAUTION:** When performing these steps be extremely careful to not strip the head of the screws.

1. Loosen the inner and outer screws holding the dancer bar to the head mount assembly.
2. Install the foil squeegee. Before tightening the screws, slide the foil squeegee upward as far as possible so that it will not contact the foil cartridge when you load it. Also the slots in the dancer bar should be full left or right against the attaching screws.



## Replacing the dancer bars

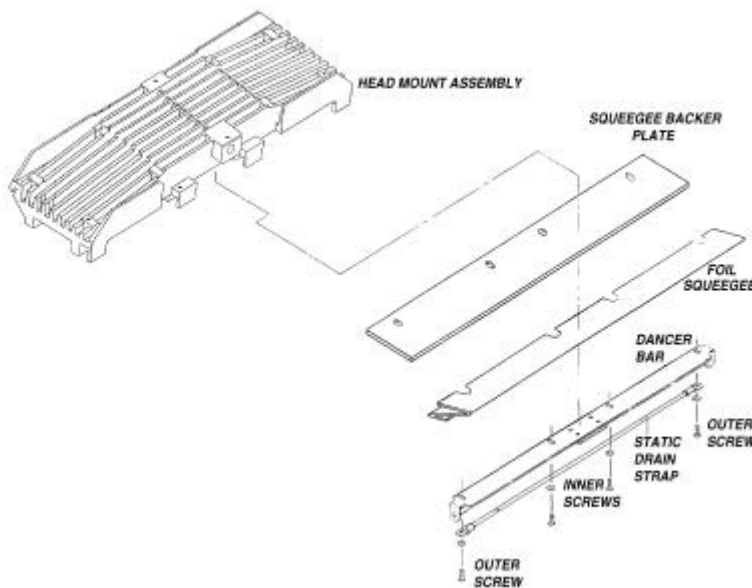
**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

There are two dancer bars on the head mount assembly – the right and the left.

### Replacing the right dancer bar

**CAUTION:** When performing these steps be extremely careful to not strip the head of the screws.

1. Remove the two outer screws holding the static drain strap to the dancer bar.
2. Remove the two inner screws holding the dancer bar, foil squeegee, and squeegee backer plate to the head mount assembly.
3. Reinstall the squeegee backer plate, the foil squeegee, and the dancer bar with the two inner screws. Before tightening the inner screws, slide the foil squeegee upward as far as possible so that it will not contact the foil cartridge when you load it. Also the slots in the dancer bar should be full left or right against the attaching screws.
4. Reinstall the static drain strap to the dancer bar with the two outer screws.

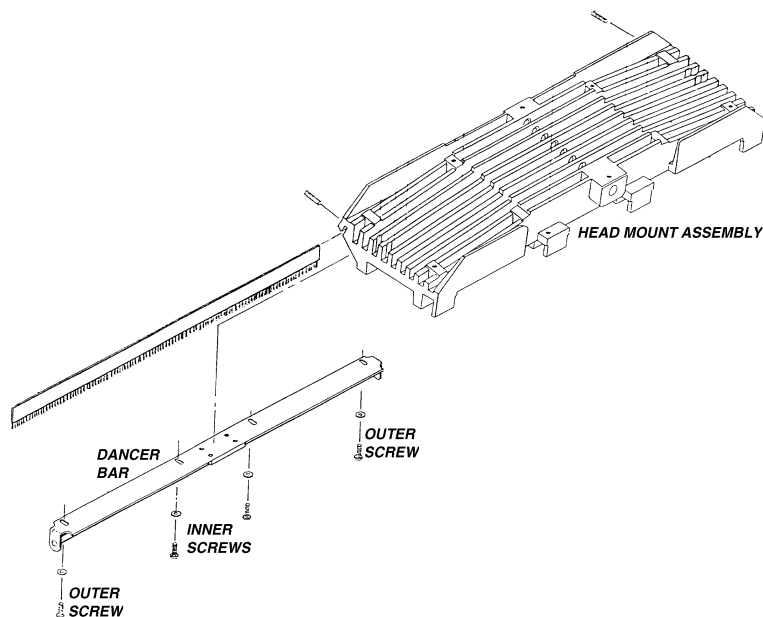


## Replacing the left dancer bar

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

**CAUTION:** When performing these steps be extremely careful to not strip the head of the screws.

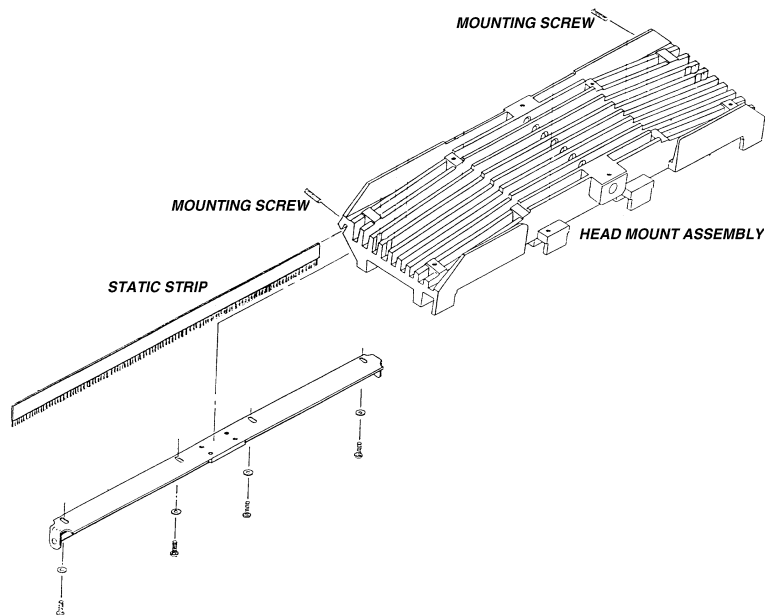
1. Remove the outer screws, then the inner screws holding the dancer bar to the head mount assembly.
3. Install the dancer bar with the two inner screws. Before tightening the inner screws, slide the dancer bar firmly against the head mount assembly. Install and tighten the two outer screws.



## Replacing the static strip

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

Loosen the two mounting screws holding the static strip in the head mount assembly and slide the static strip out of the slot in the head mount assembly. Slide the new static strip in to the slot and carefully tighten the screws.



## Replacing a head mount cooling fan

**WARNING:** To avoid electric shock, perform all maintenance procedures with the EDGE turned off and unplugged from the power source.

The fans are located under the top cover.

1. Remove the top cover.
2. Disconnect the fan power connector on the head support mount.
3. Remove the two screws and washers securing the fan to the head support mount.
4. Reverse the steps to install the cooling fan.

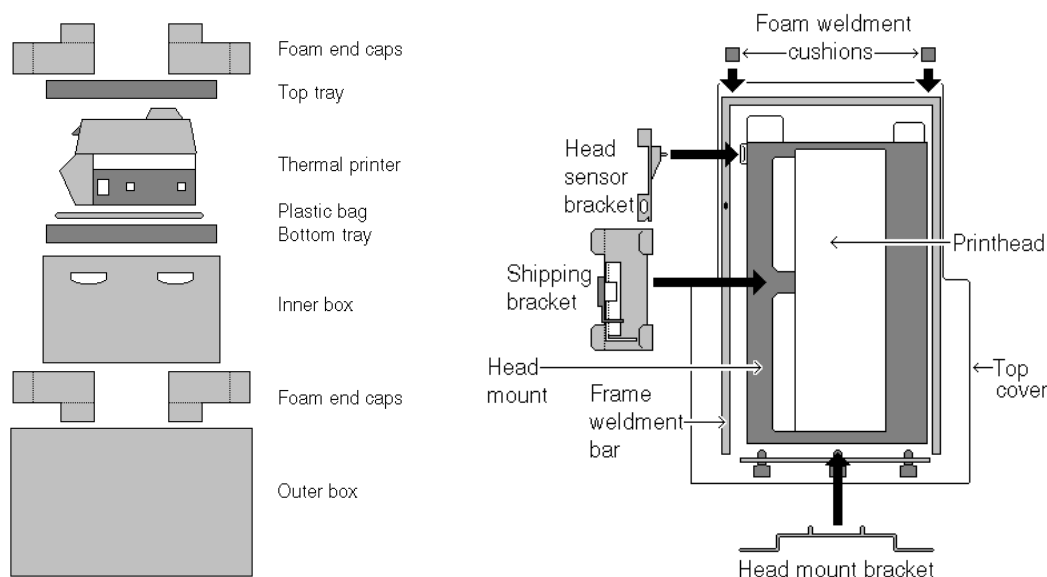
**CAUTION:** When installing the fan make certain that it is blowing air down onto the head support mount or overheating can result.

# Unpacking and Repacking to Prevent Damage

The Gerber thermal printer is shipped in specially-designed packaging materials to prevent damage while in transit. Save these packaging materials for future use in case you need to ship the printer.

## Packaging concept

The chassis and covers must be protected from damage that can occur from dropping or rough handling. The packaging materials shown below on the left are designed to protect the machine during transit.



In addition, it is critical to prevent movement of the head mount and printhead during shipment. The illustration on the right shows the location of the brackets and foam cushions which protect the areas inside the top cover.

**CAUTION:** Failure to repack the printer with the specified packaging materials may result in damage to the unit. Always repack the printer as described in this section. Gerber is not liable for shipping damage due to improperly packed units. If you do not have the proper packaging materials, call the Gerber Field Service Department at 800-828-5406.

## Unpacking the thermal printer

Unpacking the printer is a three-step process:

- removing the printer from the boxes
- removing the brackets and foam cushions in the printer cover
- preparing the printer for use

Refer to the illustrations at the beginning of this section to identify and locate the packaging materials, brackets, and foam cushions.



## Removing the printer from the boxes

**WARNING:** Two persons are required to lift or move the printer. It weighs approximately 90 pounds (40.8 kilograms) packaged for shipment and 76 pounds (34.5 kilograms) unpacked.

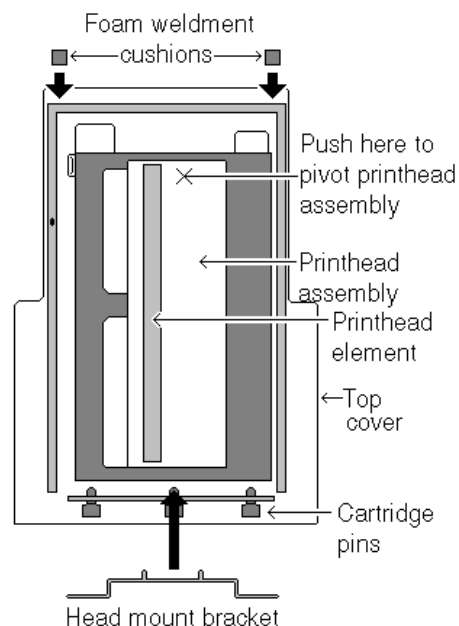
1. Open the top of the outer box and lift out the top two gray foam end caps.
2. Remove the inner box and open the top.
3. Remove the power cord, data cable, and packaged accessory kit from the top tray of the inner box, then remove the top tray.
4. Lift the printer out of the box and remove the plastic bag it is wrapped in.

## Removing the brackets and cushions in the printer cover

**CAUTION:** Remove all packaging before power-up to prevent damaging the printer.

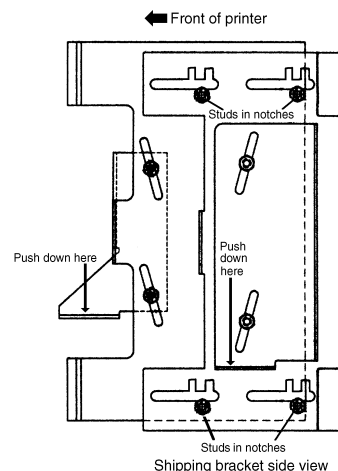
1. Push the cover latch in, raise the cover, and remove the two black foam weldment cushions in the corners of the top cover. Save the cushions.
2. Push the three cartridge pins down and remove the head mount bracket as follows:

- Carefully push on the top part of the printhead so that the printhead assembly pivots to the rear inside the cover. Do not push on or touch the printhead element itself.
- Disengage the right pin of the bracket from the bottom of the printhead assembly by pushing down on the center of the bracket while rotating the bracket clockwise.
- Disengage the left pin from the bottom of the printhead assembly.
- Save the head mount bracket.



3. Remove the shipping bracket as follows:

- Loosen the eight nuts on the shipping bracket assembly with the wrench provided in the accessory kit.
- Push down on the front and rear slide tabs to unclamp the slides from the frame weldment bar and head mount.
- Slide the studs out of the notches and remove the shipping bracket from the frame weldment bar and head mount.
- Save the shipping bracket.

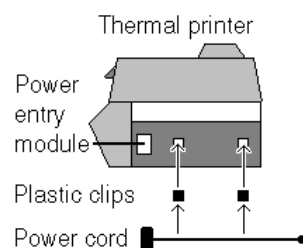


4. Remove the head sensor bracket as follows:

- Remove the nut attaching the bracket to the cartridge support bracket using the wrench provided in the accessory kit.
- Remove the hex screw and washer attaching the bracket to the frame weldment bar using the wrench provided in the accessory kit.
- Disengage the stud from the cartridge support bracket, then slide the bracket up the frame weldment bar and rotate the bracket off the bar.
- Save the head sensor bracket and hardware.

## Preparing the printer for use

1. Locate the two black plastic power cord clips in the packaged accessory kit and push them into the two holes in the right side panel.
2. Remove the label from the power entry module and plug the power cord into the module.
3. Attach the power cord to the right side panel and into the power cord clips.
4. Refer to the printer owner's guide to attach the data cable, then connect the printer to your computer system.



## Repacking the printer for shipment

Repacking the printer is a three-step process:

- disconnecting the printer
- installing the brackets and foam cushions in the printer cover
- packing the printer in the boxes

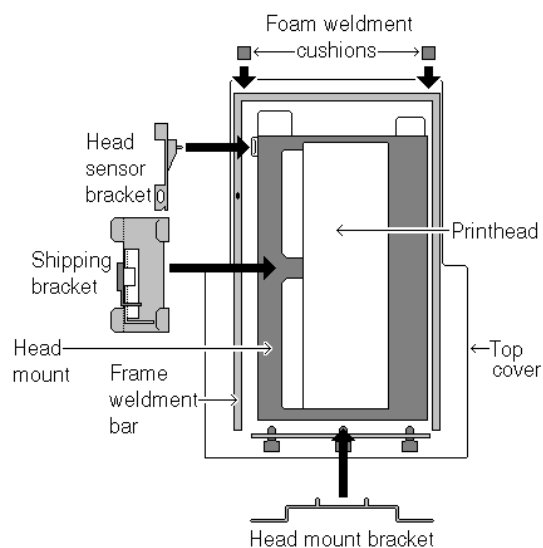
## **Disconnecting the printer**

1. Turn on the printer to automatically set the head mount to the correct position.
2. Turn off the printer.
3. Disconnect the power cord and data cable.
4. Remove the black plastic power cord clips.

## Installing the brackets and foam cushions in the printer cover

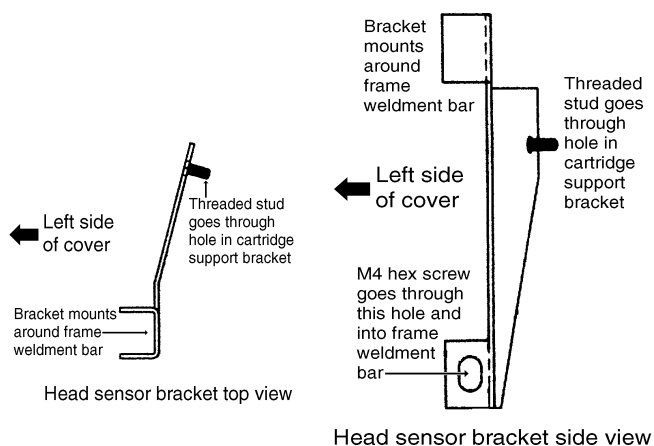
Each piece of packaging inside the printer cover has a specific function. Understanding the functions will help you successfully install the packaging and prevent damage to the printer.

- The head sensor bracket prevents the head mount from moving forward into the head up/down sensor assembly.
- The shipping bracket assembly prevents the head mount from moving up into the cover. The nuts on the bracket must be very tight so that the parts of the bracket do not slip apart.
- The head mount bracket protects the platen, printhead, and head mount fans.
- The black foam weldment cushions prevent the frame weldment from moving.



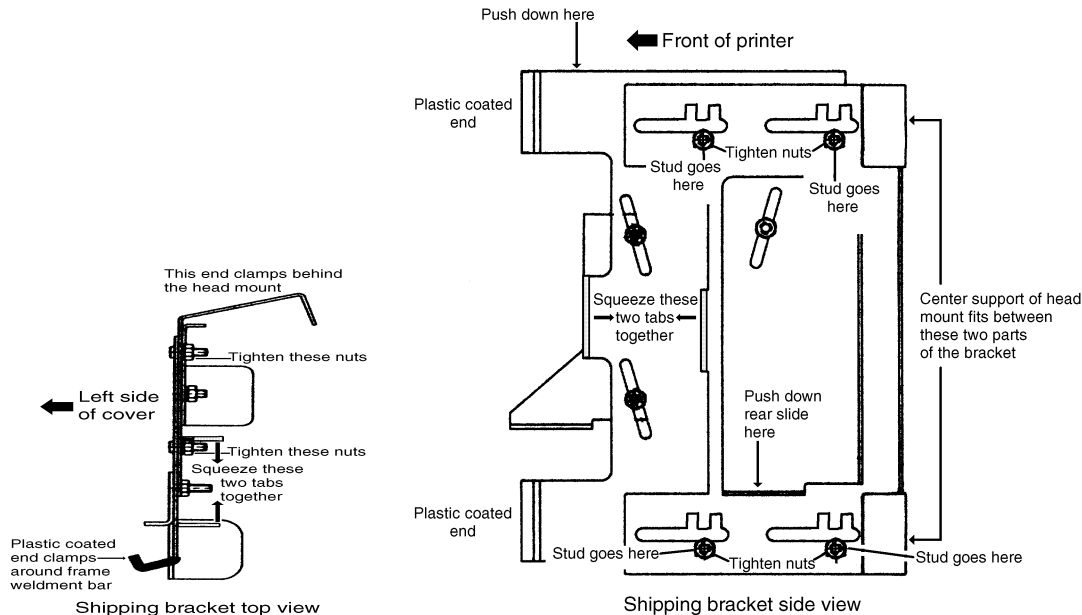
## Installing the head sensor bracket

1. Mount the bracket clip around the frame weldment bar.
2. Insert the threaded stud into the mounting hole located in the cartridge support bracket.
3. Attach the bracket to the cartridge support bracket with the M3 nut. Do not tighten the nut at this time.
4. Attach the bracket to the frame weldment bar with the M4 hex screw and lock washer. Use the wrench to tighten both the M4 screw and the M3 nut.



## Installing the shipping bracket assembly

1. Make sure that the eight nuts and star washers are loose on the bracket so that all the parts of the bracket assembly slide smoothly.
2. Push down the rear slide shown in the illustration below.

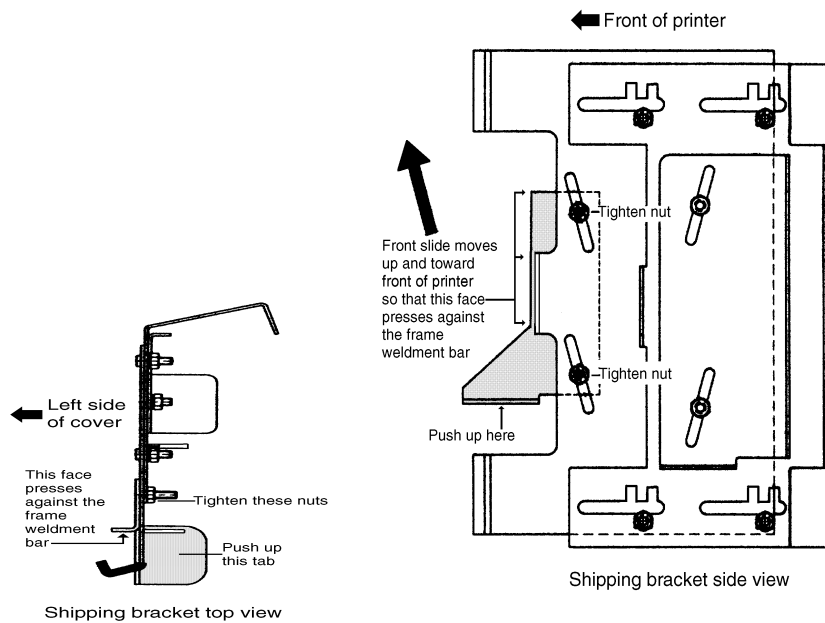


3. Position the shipping bracket so that the bare metal end is behind the head mount and the plastic coated end is around the frame weldment bar near the static eliminator brush.
4. Squeeze together by hand the two tabs shown in the illustration until the head mount moves toward you and the four studs can slide into the single notch as indicated in the illustration.
5. Push down on the plastic coated end as shown in the illustration so that the four studs slide into the notches indicated in the illustration, then tighten the four nuts with the wrench provided.

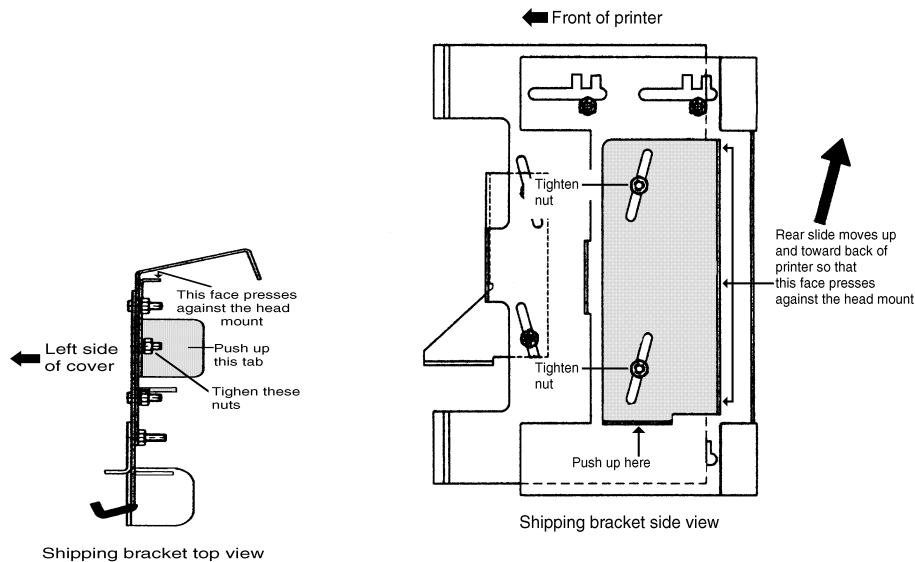




6. Push up on the front slide tab to clamp the bracket face shown below against the frame weldment bar, then use the wrench to tighten the two nuts.

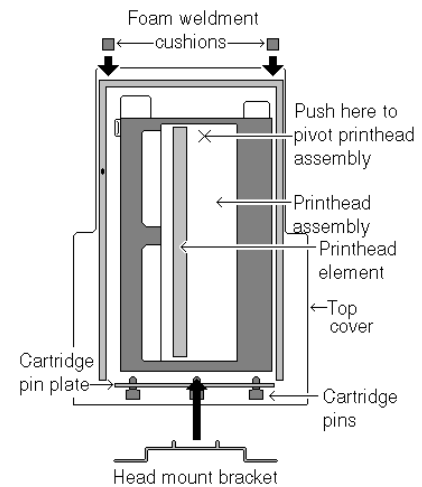
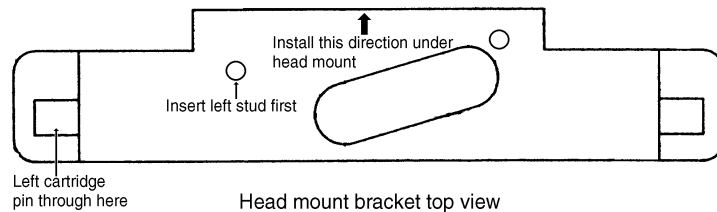


7. Push up on the rear slide tab to clamp the bracket face shown below against the head mount, then use the wrench to tighten the two nuts.



## Installing the head mount bracket

1. Lower the three cartridge pins.
2. Carefully push the top part of the printhead as shown at the right so that the printhead assembly pivots to the rear inside of the cover. Do not push or touch the printhead element itself



3. Orient the part as shown above.
4. Insert the bracket between the printhead assembly and the cartridge pin plate. The studs go into two holes on the bottom of the printhead assembly. To locate the holes, look at the top of the printhead assembly – the holes are the same on the bottom as on the top. Insert the bracket as follows:
  - Insert the left stud first.
  - Rotate the bracket counterclockwise while pushing down on the center of the bracket until the right stud is inserted.
  - Verify that the part is seated flush against the bottom of the printhead assembly.
5. Release the three cartridge pins so that they protrude through the bracket plate.

**Installing the foam weldment cushions**

Install the two black foam weldment cushions at the top corners of the cover inside the lip between the latches and the cover.

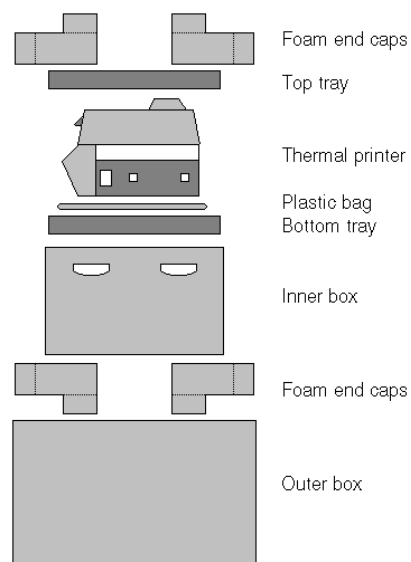
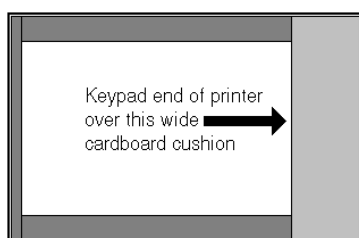
## Packing the printer in the boxes

1. Lower and latch the cover. Verify that the latch is fully engaged and the cover does not move.

**WARNING: Two persons are required to lift or move the printer. It weighs approximately 90 pounds (40.8 kilograms) packaged for shipment and 76 pounds (34.5 kilograms) unpacked.**

2. Put the printer into the plastic bag and tape the bag closed.
3. Put the bottom tray into the inner box.

**CAUTION: Before performing the next step, look inside the inner box and determine the location of the wide cardboard cushion area of the bottom tray. The keypad end of the printer must be over the wide cushioned area.**



4. Lift the printer into the inner shipping box. Make sure it is seated properly on the bottom tray.
5. Put the top tray on top of the printer with the cutout section around the "top hat" of the cover, then fold the side flaps.
6. Fold down the flaps of the inner shipping box and make certain that the printer does not move inside the box. Tape the box flaps, preferably with fiber reinforced tape.
7. Install the two lower foam cushions in the outer box.
8. Put the inner box on the cushions and make certain that the cushions uniformly support the box.
9. Install the remaining two foam cushions on top of the inner box, then fold down the flaps of the box. Make certain that the printer does not move inside the box. Tape the box flaps, preferably with fiber reinforced tape.