Zebra® *T*300™ Printer

Maintenance Manual

Part # 547001L Rev. 2

Zebra® *T*300 Printer

Maintenance Manual
Revision 2
Registration Form

ZEBRA TECHNOLOGIES CORPORATION

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Zebra Technologies Corporation
333 Corporate Woods Parkway
Vernon Hills, Illinois 60060-3109 U.S.A.

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INTRODUCTION

For information on any of the following topics, please refer to the *T*300 User's Guide:

- Unpacking and inspection
- Additional requirements
- Setting up the printer and software
- Preventive maintenance
- Troubleshooting
- Specifications
- Additional information specific to particular configurations of the *T*300 printer.

IMPORTANT NOTES

Any maintenance performed by unauthorized personnel on a *T*300 printer voids the warranty.

WARNING:

DANGER OF ELECTRICAL SHOCK IF POWER SUPPLY IS DISASSEMBLED! THERE ARE NO SERVICEABLE COMPONENTS INSIDE THE POWER SUPPLY. SERIOUS SHOCK HAZARDS ARE PRESENT INSIDE THE POWER SUPPLY CASE, EVEN WITH THE POWER SWITCH OFF.

SPECIFICATIONS

Table 1. Specifications

Print density		203 dots/inch	8 dots/mm
Print width		1 to 4.125 inches	25.4 mm to 104.0 mm
Print Speed		2 in/sec., 1.5 in/sec.	50 mm/sec, 38 mm/sec
Label width (including backing material, if any)		1.0 in to 4.65 in.	25.4mm to 118 mm
Label length	Tear off	0.50 to 18 in.	12 mm to 457 mm
	Cutoff/Peel	1 to 18 in.	25.4 mm to 457 mm
Interlabel gap		0.08 to 0.16 in.	2 mm to 4 mm
Label thickness (including backing material, if any)		0.003 to .010 in.	0.076 mm to 0.25 mm
Label roll Size	Max. outer diameter	4.0 in.	101 mm
	Min. inner core diameter	1.0 in.	25.4 mm

Registration tollerance	Horizontal	± 0.059 in.	± 1.5 mm
	Vertical	± 0.0393 in.	± 1.0 mm
Inter-label gap		.08 in to .16 in.	2 mm to 4 mm
First dot location (from outer media edge)		0.060 to 0.140	1.5 mm to 3.5 mm
Ribbon roll size	Max. outer diameter	1.5 in.	38 mm
	Min. inner core diameter	0.50 in.	13.0 mm
Max. Length/Ribbon Roll		360 ft.	110 mm
Ribbon Mar. Width/Roll		1.0 in. to 4.25 in.	25.4 mm to 108 mm
Physical size (LxWxH)		10.1 x 8.8 x 6.2 in.	256mm x 223mm x 157mm
Weight (without media)		7 lbs	3.18 kg
Shipping Weight		10 lbs	4.54 kg
Temperature range	Operating	40° to 100° F	4° to 38° C
	Storage	-4° to 140° F	-20° to 60° C
Relative humidity, operation and storage		10 to 90% non condensing	
Media requirements		Zebra recommends using Zebra-brand thermal transfer media that is outside-wound (the label or printing surface is wound on the outside of the backing). Media may be roll or fanfold, transmissive or reflective (black-mark) sensing; continuous, die-cut or notched. **Notched media:** notch must be 1/4 inch wide x 3/32 inch long located on the left side of the label as viewed from the front of the printer. **Black-mark media:** marks must be located within 1 mm of the left edge of the media as viewed from the front of the printer; Mark thickness: 0.12 - 0.43 inches (3 mm - 11 mm); Mark width: 0.43 inches (11 mm) - full media width; mark-to-mark leading edge registration tolerance ±0.016 inch (± 0.4 mm); Mark density >1.0 ODU (Optical Density Unit); Maximum density of the back of the media on which the black mark is printed: 0.5 ODU.	

Ribbon requirements	Zebra recommends use of Zebra-brand ribbon which is inked on the inside surface. (Use tape to see which side is inked.)
Fonts available	• CG Triumvirate Bold Condensed (6, 8, 10, 12, 14, 18 pt) • Zebra fonts A, B, C, D, E (OCR-B), F, G, H (OCR-A), IBM® Code Page 850 (International Characters, Graphics symbols)
Bar codes available	• Codabar (supports ratios of 2:1 to 3:1) • Code 11 • Code 128 (supports serialization in all subsets and UCC Case Codes) • Code 39 (supports ratios of 2:1 to 3:1) • Code 93 • EAN Version 8 and 13, EAN Extensions • Industrial 2 of 5, Standard 2 of 5 • Interleaved 2 of 5 (supports ratios of 2:1 to 3:1, Modulus 10 Check Digit) • LOGMARS • MaxiCode • PDF 417 • MSI • Plessey • POSTNET • UPC Versions A and E, UPC Extensions with 2 and 5 digit supplements.
Electrical	External 120 or 230 VAC power supply, depending on which model you order. Additional custom line cords may also be available.
Communications	36-pin Centronics® compatible parallel port; 9-pin RS-232 serial port
Processor	32-bit microprocessor, 512 K Ram
Serial data cable	Should use twisted shielded pairs, not longer than 6 ft (1.8 mm) as recommended in the Appendix of the TIA/EIA-485 Specification
Parallel data cable	For maximum reliability, use a parallel data cable no longer than 6 ft (1.8 mm)

Agency approvals	• UL 544 Medical Equipment Standard Part 42.5 • CSA 22.2 No. 950 Canadian Safety Standard • IEC 950/EN 60950 International Safety Standard • FCC Part 15 Subpart B Level A Electromagnetic Radiation Standard • AAME Medical Standard part 4.3.2 • UL 1950 Domestic Safety Standard • SOR/88-475 Canadian Electromagnetic Radiation Standard • EN50082-1 International Immunity Standard • C.I.S.P.R. -22 Class B European Electromagnetic Radiation Standard • Carries the CE mark of compliance
Power line cord	• The overall length must be less than 12.5 ft (3.8 meters) • It must be rated for a least 3A, 250V. • The chassis ground (earth) MUST be connected to assure safety and reduce electromagnetic interference. The ground connection is handled by the third wire (earth) in the power line cord. (See Figure 1.) The AC power plug and IEC 320 connector must bear the certification mark of at least one international safety organization. (See Figure 2.)

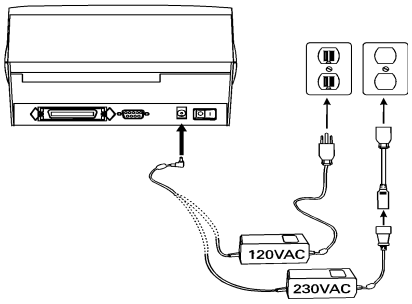


Figure 1. 120 and 230 VAC Power Line Cords

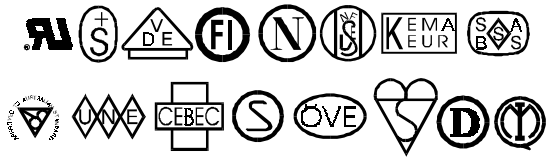


Figure 2. Examples of International Safety Organizations Symbols

SETTING UP THE PRINTER AND SOFTWARE

Operating the Printer

To create a label for the Zebra *T*300, you may either use the BAR-ONE® software to create the label format or write one in ZPL II®, which is Zebra's programming language for creating labels. If you are using BAR-ONE® software, refer to the BAR-ONE help files (us_man.exe). If you are using, or plan to use the ZPL II programming language to format your labels, make sure you have a copy of the *ZPL II Programming Guide* (Zebra PN 46469L).

Printer Operating Modes

- **Tear-Off Mode.** The operator tears off a single label (or a strip of labels) after printing.
- **Peel-Off Mode.** The backing material is peeled away from the label as it is printed, the printer waits until the operator removes the label, then the next label is printed.
- **Cutter Mode.** (Available only with factory installed Optional Cutter Module.) Each label is cut automatically after it is printed.

Printing Method

Thermal Transfer. (Requires use of thermal transfer ribbon.) The printer transfers ink from a ribbon onto the media to form an image.

Operator Controls (See Figure 3)

Power Switch. Located on the rear of the printer**. The power switch should be turned off before connecting or disconnecting any cables**.

Feed Key. In normal use, pressing the Feed Key once when the printer is idle (not printing) will cause the printer to feed a blank label. The Feed Key also activates a number of specialized functions that are described in Table 2.

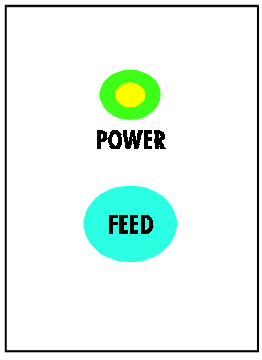


Figure 3. Operator Controls

Table 2: Feed Key Troubleshooting Modes

Power Off Mode (Communications Diagnostics Mode)		
With the printer power off, press and hold the Feed key while you turn the power on. The printer prints out a listing of its current configuration (configuration label). (See Figure 4.) For best results, use media that is at least 4 inches wide by 4 inches long. After printing the label, the printer will automatically enter a diagnostic mode in which the printer prints out a literal representation of all data subsequently received (communications diagnostics). To exit this mode, turn the printer power off.		
Power On Modes		
With the printer powered on, printhead closed, and Power light on, press and hold the Feed key for several seconds and the Power Light will begin to step through a series of flash sequences. Each sequence consists of a different number of flashes as shown in the following table. The corresponding explanation indicates what happens when you release the Feed key after each flash sequence.		
Sequence	**Number of flashes**	**Results**
1	1	The label showing the current configuration of the printer is printed. For best results, use media that is at least 4 inches wide by 4 inches long. (See Figure 4.)
2	2	The media sensor calibration process is started (see calibration procedure).
3	3	The serial communication parameters are reset to 9600 baud, 8 bit word length, no parity and 1 stop bit
4	4	Reset the printer to factory defaults. Once this mode is entered, the Power light will flash rapidly. Press and release the Feed key one more time and the factory default values are saved into memory.

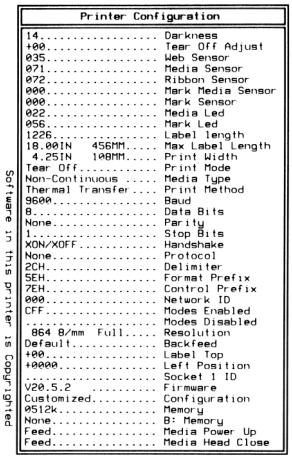


Figure 4. Configuration Label (Sample)

Printer Troubleshooting Indicator Lights.

Table 3: Printer Troubleshooting Indicator Lights

Power Light	Printer Condition
Off	Power is off or printer not receiving power
On	Power is on
Flashes once every 3 seconds after power-up	Printer failed internal diagnostics. Call a Service Technician.
Flashing	• Paper out or not sensed • Ribbon out • Needs calibration • Printhead is over temperature • Cutter error

Initial Printer Power-Up

Turn the printer on by toggling the Power Switch on the rear of the printer. The Power light will turn on. The printer performs a set of internal diagnostics, and after the diagnostics have been completed (within 1-10 seconds), the motor may start briefly.

If loading the printer with media for the first time or if you are changing the type of media you're using, perform the calibration procedures (see calibration procedure).

Adjusting for Different Media Widths

The thumbwheel on the side of the Printhead allows the Printhead pressure to be adjusted. To adjust, rotate the thumbwheel in a clockwise direction to reduce the pressure on the right edge of the Printhead. If the right edge printing seems to be too light, then rotate the thumbwheel slightly counterclockwise to achieve uniform print quality across the label. (See Figure 5.)

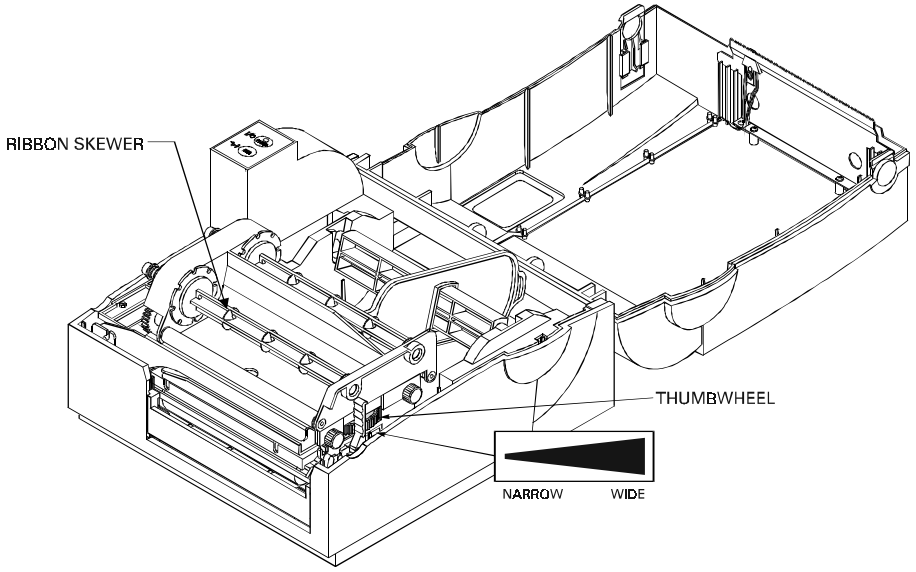


Figure 5. Adjusting for Different Media Widths

Adjusting for Different Ribbon Widths

Refer to Figure 6. If you are using narrow ribbon, hold the ribbon spindle while turning the ribbon tension adjustment knob clockwise. For full-width ribbon, turn the knob counter-clockwise until it reaches the stop. If your ribbon is somewhere in-between, experiment until you achieve acceptable print quality.

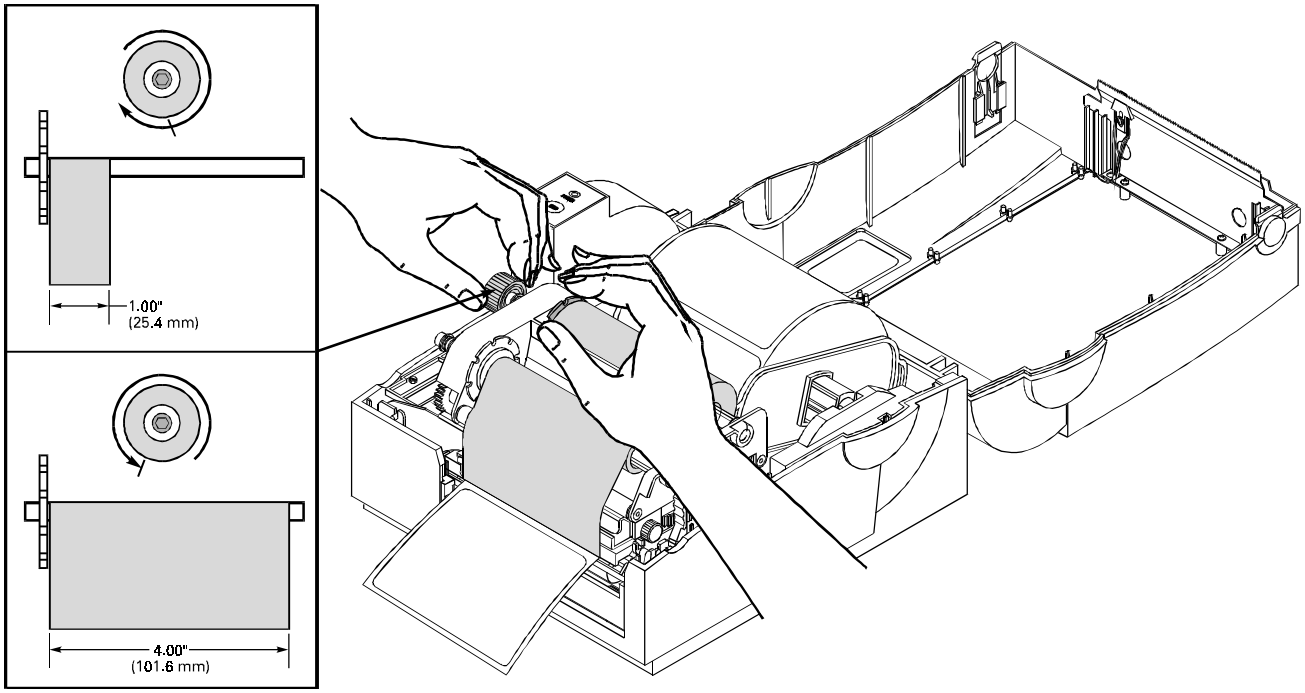


Figure 6. Adjusting for Different Ribbon Widths

Ribbon Loading Procedure (See Figure 7)

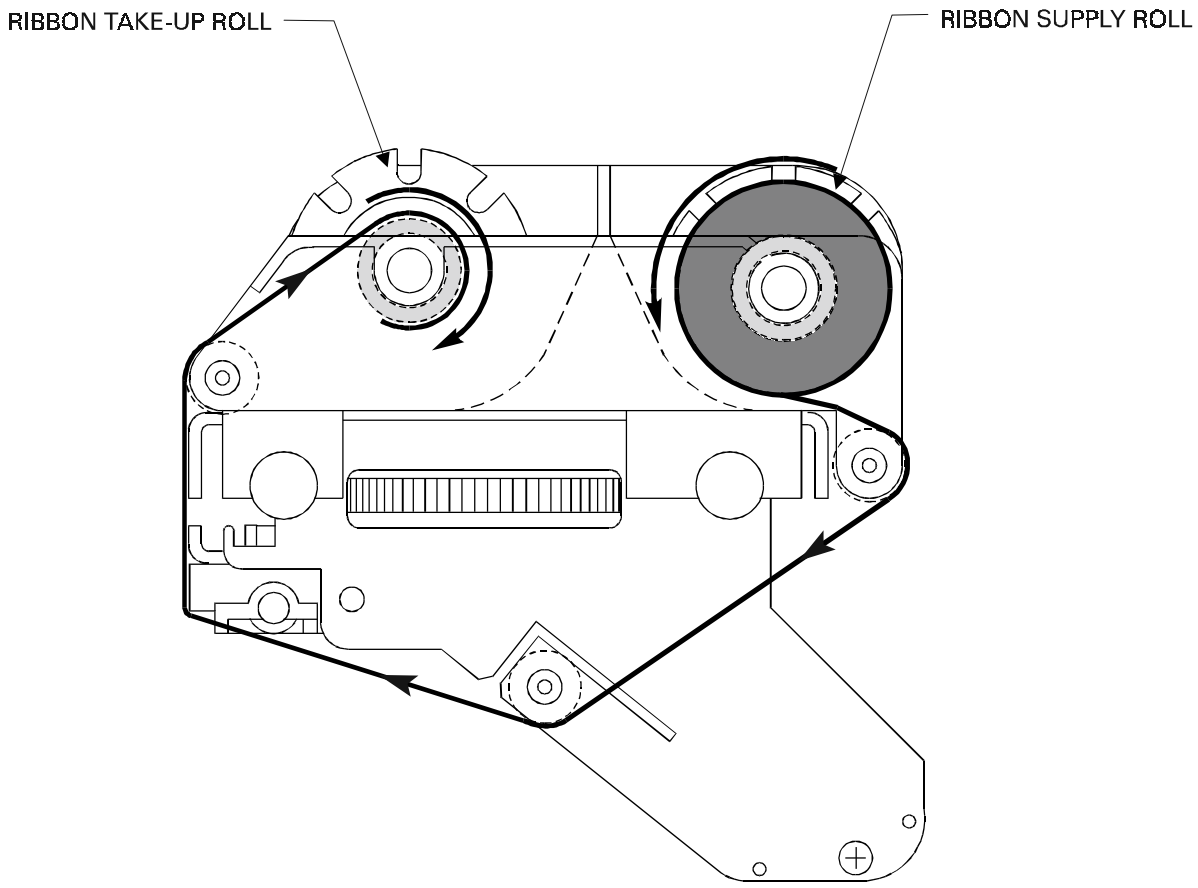


Figure 7. Ribbon Loading Diagram

Media Loading Procedure (See Figure 8)

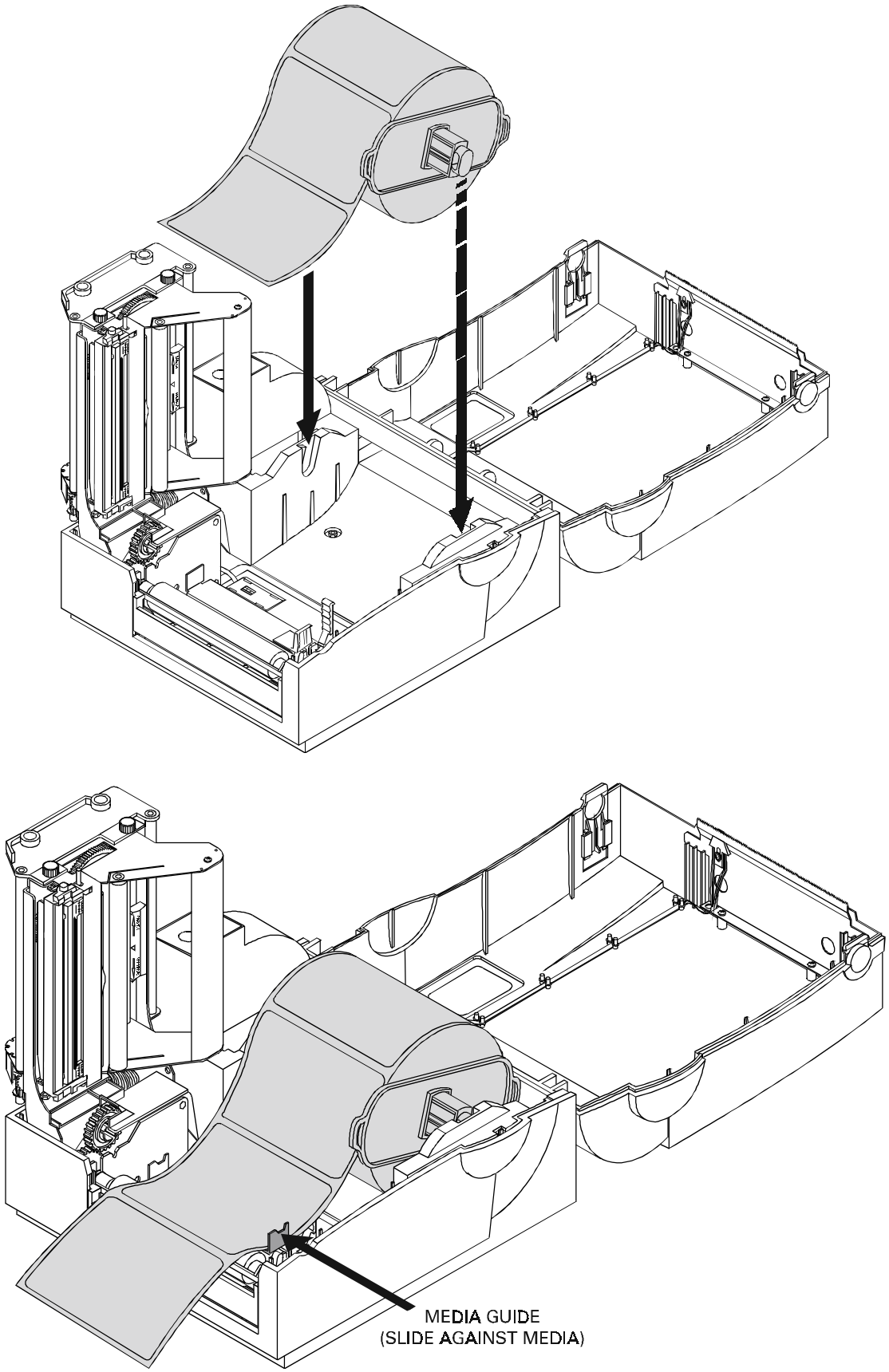


Figure 8. Media Loading Diagram

Calibration Procedure

This calibration procedure should be performed the first time you use the printer and any time you change the type of media in the printer.

1. Turn the printer power on if it is not already on.
2. Remove several labels from a section of backing material so that only the backing material is under the printhead mechanism and media sensor.
3. Press and hold the Feed Key until the Power light flashes twice in a row. (First it will flash once, then twice in a row at which point you release the key.)
4. The printer will adjust the media sensor level for the media backing you are using. After it is done making this adjustment, the Power light will flash rapidly.
5. Reload the media so that a label is under the printhead and over the media sensor.
6. Press and release the Feed Key. A profile of the media sensor settings will print. See Figure 9. When complete, the printer will save the new settings in memory and the printer is ready for normal operation.

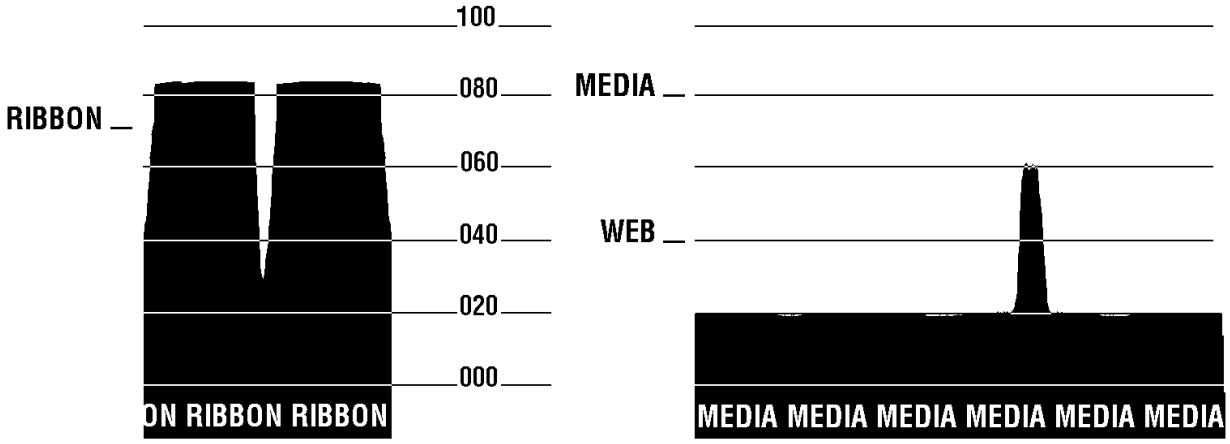


Figure 9. Media Sensor Profile (Sample)

Setting Up the Software

Note: If you plan to use BAR-ONE software to create your labels, you will need to install the software on you computer before you can operate your printer.

You will not need to use BAR-ONE software if you are printing label formats created in ZPL II. To print ZPL II, you may use practically any text program on any computer that will send ASCII text to the printer via either the serial or parallel port. For more information, refer to the *ZPL II Programming Guide* (Zebra PN 46469L).

BAR-ONE System Requirements

BAR-ONE software works with most IBM compatible personal computers available today. The software may be installed and up-and-running within a few minutes. Refer to the on-line help system and to the Read-Me file for further information and/or last-minute updates. The BAR-ONE software may be installed on any personal computer that meets the system requirements in Table 4:

Table 4. System Requirements

BAR-ONE Software	Minimum	Recommended
Processor	486SX	486DX
Hard disk	3 MB	10 MB
Memory	4 MB RAM	8MB RAM
Interface	RS-232	Parallel
Display	VGA	SVGA
Floppy drive	3-1/2 Inch	
Operating system	Windows™ 3.1 or higher, NT, 95; OS/2.2.1 or later	
Mouse	RS-232 or PS/2	

BAR-ONE Installation

The Zebra *T*300 printer uses the Windows™ based BAR-ONE software or ZPL II Programming Language commands. To install BAR-ONE software:

1. Start Windows.
2. Insert disk 1 of the BAR-ONE software in your floppy disk drive (**A:** or **B:**).
3. In Program Manager, click on the **File** menu. Select **Run**. (Windows 95 users: select **Run** from the **Start** menu.)
4. Type **A:\SETUP** (or **B:\SETUP**) and then press **OK**.
5. Follow the on-screen instructions to complete the installation.

TROUBLESHOOTING

Table 5. Troubleshooting Chart

SYMPTOM	DIAGNOSIS	ACTION
Power light does not turn on when Power switch is turned on.	Printer is not receiving power.	Make sure that the power supply is plugged into the printer and into a wall outlet, power strip, or other source of power.
When printer is first powered on, the Power light flashes every 3 seconds.	Printer Failed an internal diagnostic test.	Turn printer off and then back on.
Power light is flashing. For more information, see Table 3.	Out of media/ribbon or media/ribbon incorrectly loaded.	Load media correctly. Make sure that the media is placed to the left edge of the platen roller and that it feeds under the Printhead, otherwise, it may not be detected by the media sensor.
	Printhead is overheated.	Allow printer to cool. Printing resumes automatically when the Printhead cools to operating temperature.
	Needs calibration	Calibrate the printer (see Calibration procedures).
	Cutter (optional) error.	Clean the cutter.
Long tracks of missing print (blank vertical lines) on several labels.	Printhead is dirty.	Clean the Printhead. (See Table 6.)
	Print element is damaged.	Call a service technician to replace the Printhead.
Poor print quality.	Printhead is dirty.	Clean the Printhead. (See Table 6.)
	Ribbon tension is not set correctly.	Change the ribbon tension knob to the other setting. Generally, set it clockwise for narrow ribbon and counter-clockwise for wide ribbon.
	Media Width adjustment incorrect.	Adjust the media width thumbwheel on the side of the printhead (see adjusting for different media widths, figure 5).
Mis-registration (location of printed information changes on the label, from label to label).	Printer needs to be calibrated.	Recalibrate the printer. (See Calibration procedure).
	Ribbon tension is not set correctly	Change the ribbon tension knob to the other setting. Generally, set it clockwise for narrow ribbon and counter-clockwise for wide ribbon.

SYMPTOM	DIAGNOSIS	ACTION
A label format was sent to the printer but not recognized.	Communications parameters are incorrect.	For serial communication, make sure that the baud rates of the printer and the computer match. Also, make sure that the correct com port on the PC is connected to the printer.
	Problem with the data cable.	Make sure the data cable is installed correctly. For serial operation, make sure you are using a "null modem" cable.
Ribbon Wrinkle	Printhead Pressure Misadjusted	Rotate the Printhead Pressure Adjustment Thumbwheel until wrinkle is eliminated. (Light print will result if the Thumbwheel is turned too far). Change ribbon tension setting if problem persists. A fine printhead adjustment may be required (see Figure 11).
In the Peel Mode, liner bulges out from the Peel Bar and may block the Label Present Sensor.	Liner is slipping	Open the Peel-off Lever. Pull the liner until it is re-tensioned against the Peel Bar. Close the Peel-Off Lever.
Ribbon Take-Up Spindle rotation is not smooth and consistent. Ribbon may exit printer still bonded to the label.	Dirt build-up on the Ribbon Supply and Ribbon Take-Up Spindle Hubs.	Refer to Figure 10 and disassemble the Ribbon Supply and Ribbon Take-up Hub mechanisms. Clean the indicated areas with swabs saturated with 70% Isopropyl Alcohol (see Table 6).
Printer appears to operate, but nothing prints.	Ribbon is wound the wrong way.	Use Zebra-brand ribbon that is wound with the ink/wax on the inside surface.

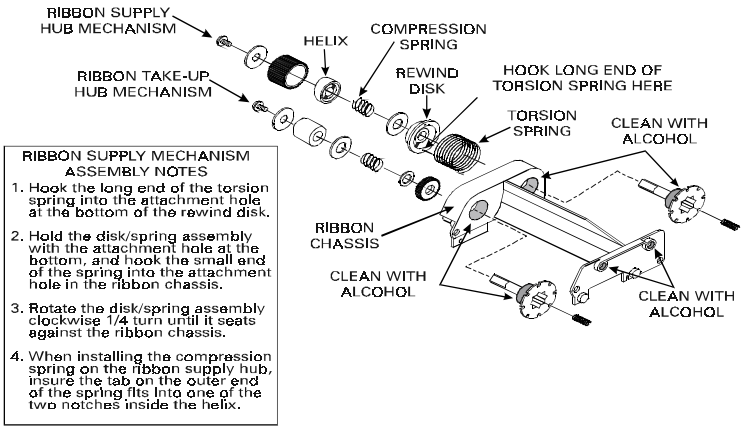


Figure 10. Disassembling and Cleaning of the Ribbon Supply and Take-up Spindles

PREVENTIVE MAINTENANCE PROCEDURES

Table 6. Cleaning Schedule

AREA	METHOD	INTERVAL
Printhead	**Note:** You do not need to turn the printer off prior to cleaning the Printhead. Use solvent* on a cotton swab to clean the print elements from end to end. (The print elements are the thin gray line on the Printhead). (See Figure 12.)	After every roll of media (or 500 ft. of fanfold media).
Platen Roller	With the power turned off, rotate the platen roller and clean it thoroughly with solvent* and a cotton swab or a clean lint-free cloth.	
Peel-Off Roller	Rotate the peel-off roller and clean it thoroughly with solvent* and a cotton swab or a clean lint-free cloth.	
Media Path	Solvent* and cotton swabs	
Peel/Tear Bar	Solvent* and cotton swabs	As needed.
Media Sensor	Air blow	Monthly (or depending on environment conditions).
Spindles	Take apart and clean with solvent*	As needed.
Ribbon Handler Assembly	Take apart and clean with solvent* and cotton swabs (See Figure 10).	As needed (or depending on environment conditions).
Exterior	Mild detergent or desktop cleaner.	As needed.
Interior	Brush/vacuum cleaner	As needed.
*Zebra recommends using solvent containing 70% isopropyl alcohol, 30% distilled water. Zebra also recommends using Part Number 01429 Preventive Maintenance Cleaning Kit.		

Lubrication

CAUTION:

NO LUBRICATING AGENTS OF ANY KIND SHOULD BE USED ON THIS PRINTER! IF USED, SOME COMMERCIALLY AVAILABLE LUBRICANTS WILL DAMAGE THE FINISH AND THE MECHANICAL PARTS.

CORRECTIVE MAINTENANCE PROCEDURES

Fine Printhead Adjustment

An Allen set screw is located on top of the Printhead Carrier Assembly that can be adjusted for controlling print quality. **This adjustment is set at the factory and should not need further adjusting.** However, due to a wide variety of media and ribbon that is available, some adjustment may be necessary. To adjust the Printhead, remove turn the set screw until optimum print quality is obtained. Some trial and error may be necessary (see Figure 11).

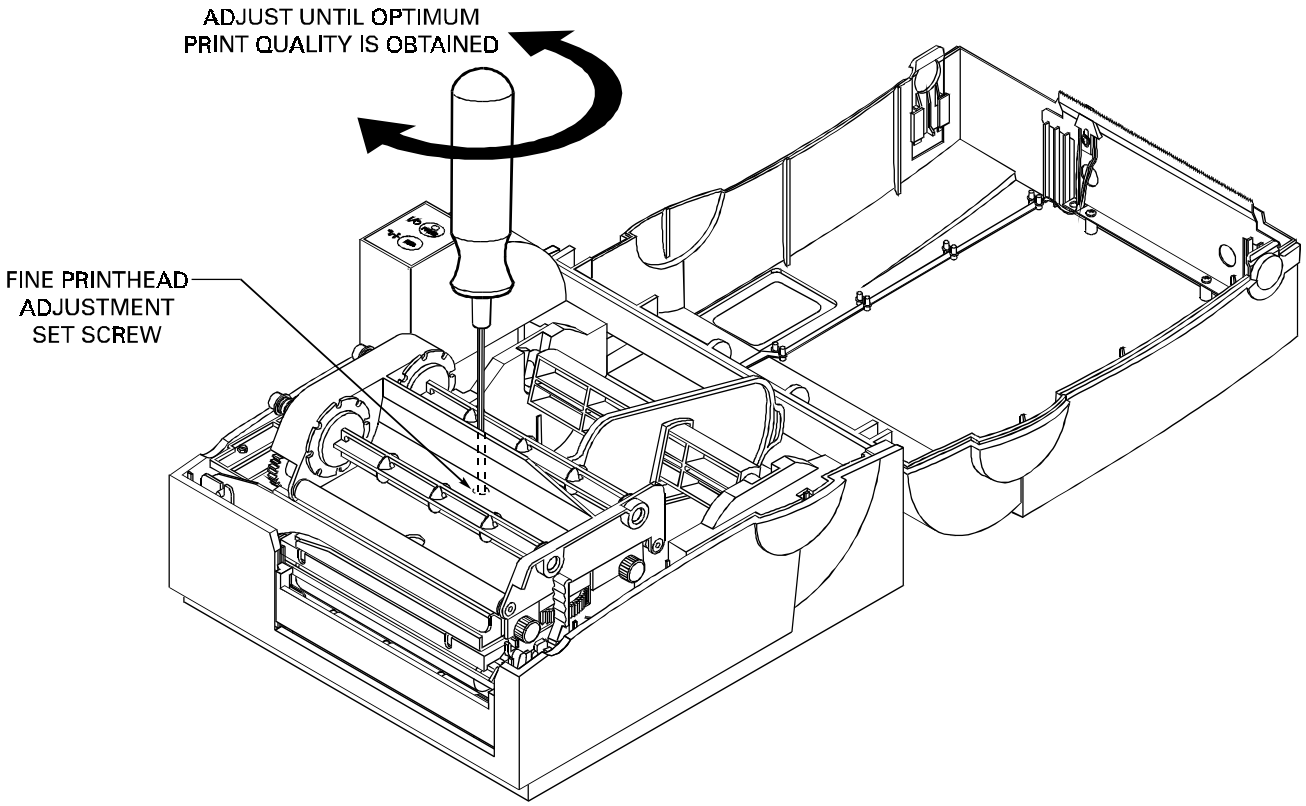


Figure 11. Fine Printhead Adjustment

Platen Roller Replacement (Use Maintenance Kit PN 503011M)

Remove the old Platen Roller (see Figure 12)

1. Turn the printer power off and disconnect the power cord from the back of the printer.
2. Open the printer's top cover and unlatch the Printhead Assembly by pushing back on the Printhead Release Lever. Remove all media and ribbon from the printer.
3. Remove the four screws securing the Printhead Assembly and the Media Guide to the printer. Remove the Media Guide. (see Figure 13).
4. Loosen and remove the three hex screws that secure the Tower Enclosure to the printer. Slide the Tower Enclosure forward and tilt up to unplug the Control Panel connector from J0004 connector located on the Main Logic Board. Remove the Tower Enclosure.
5. Loosen and remove the screw securing the ground wire to the Main Logic Board. Remove all other connectors from the Main Logic Board. Lift out the Printhead Assembly from the printer.
6. Remove the C-Rings (see Figure 12) and while pulling slightly forward on the Peel-Off Release lever, remove the outside bushing from the Platen Roller Shaft. Slide the Platen Roller shaft out from the gear end and remove the roller.

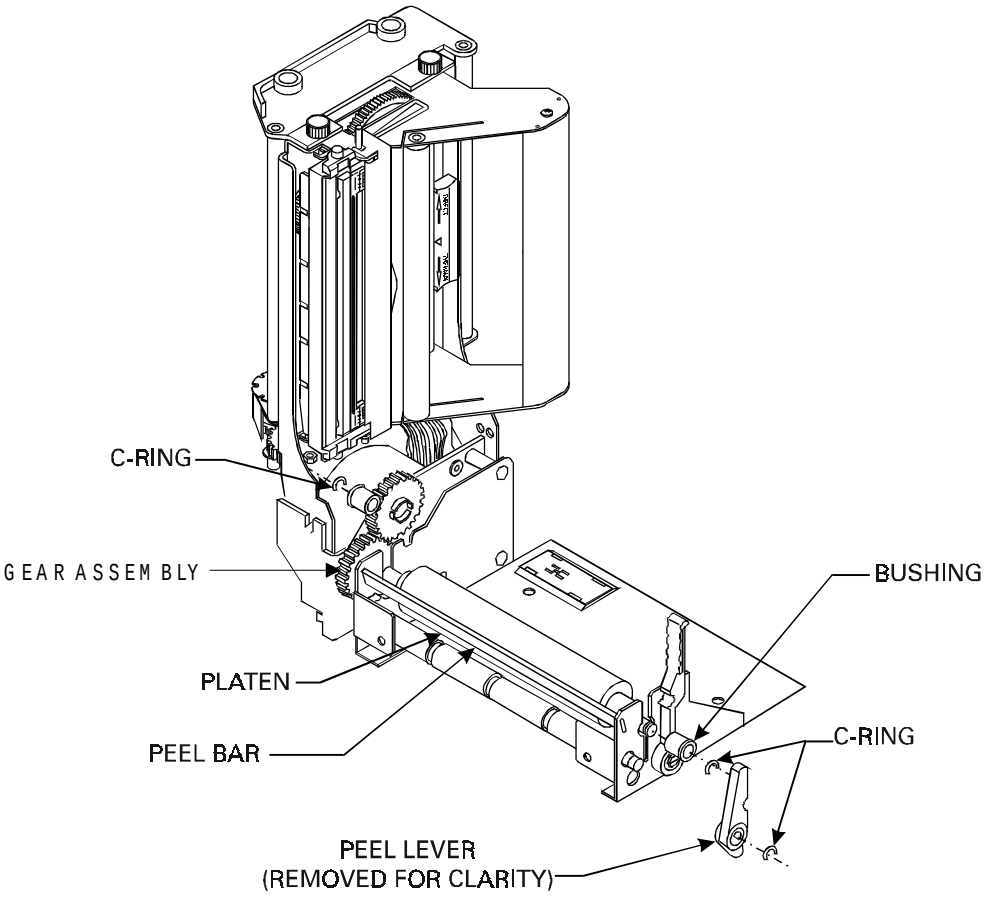


Figure 12. Installation and Removal of the Platen Roller

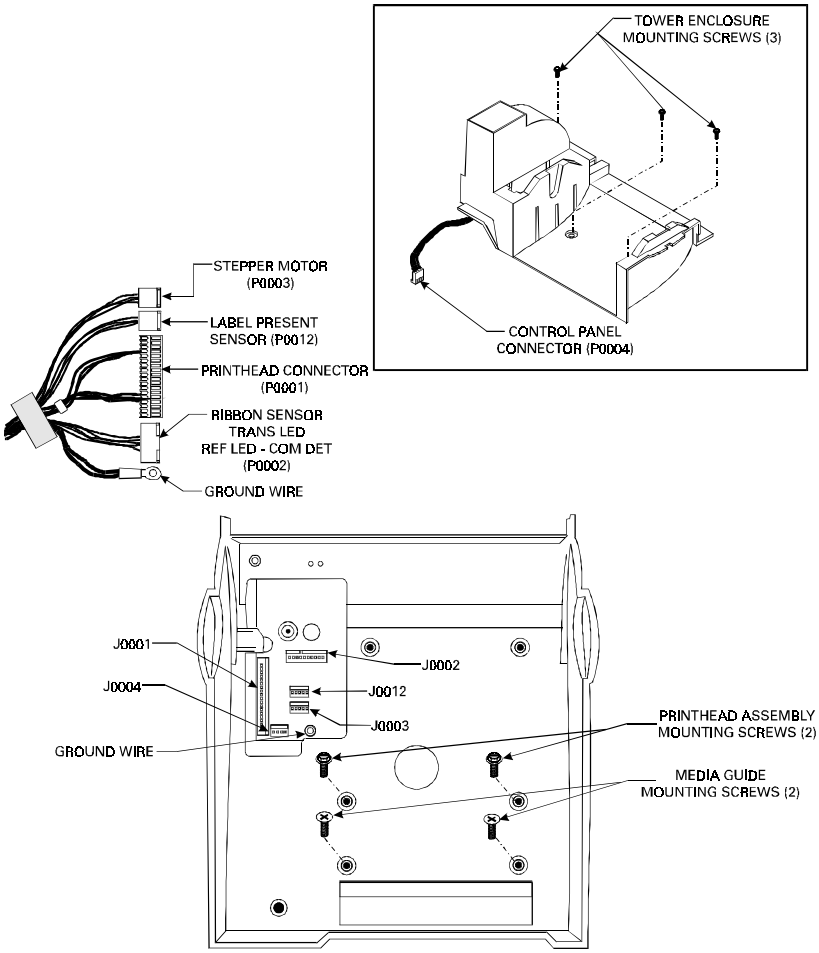


Figure 13. Cover Removal and Electrical Connector Location

Install the new Platen Roller

1. While holding the Gear Assembly in place, slide the Platen Roller shaft into the gear assembly. While pulling slightly forward on the Peel-Off Release lever, replace the outside bushing and the other shaft end and secure in place with the C-Rings (see Figure 12).
2. Place the Printhead Assembly back into the printer. Reconnect all cables (including the ground wire) to the Main Logic Board (see Figure 13 for proper reconnection of connectors).
3. Reconnect the Control Panel connector to the Main Logic Board. Lower the Tower Enclosure back into position on the printer and secure using the three hex screws.
4. Replace the Media Guide and secure using previously removed hardware. Secure the Printhead Assembly using previously removed hardware.
5. Replace Media and Ribbon back into the printer, close the cover and reconnect power to the printer.
6. Turn the power on and print a configuration label (see Table 2 Power Off Mode (Communications Diagnostics Mode)).

Ribbon Handler Replacement (Use Maintenance Kit PN 503017M)

Remove the old Ribbon Handler Assembly

1. Turn the printer power off and disconnect the power cord from the back of the printer.
2. Open the printer's top cover and unlatch the Printhead Assembly by pushing back on the Printhead Release Lever. Remove all media and ribbon from the printer.
3. Remove the two thumbscrews on the side of the Printhead Assembly. Disconnect the Ribbon Sensor connector from the sensor (see Figure 14).
4. While holding the ribbon handler assembly, push up the right side (where the thumbscrews have been removed) and slide the assembly towards the left of the Printhead Assembly. Remove the ribbon handle assembly from the printhead assembly.

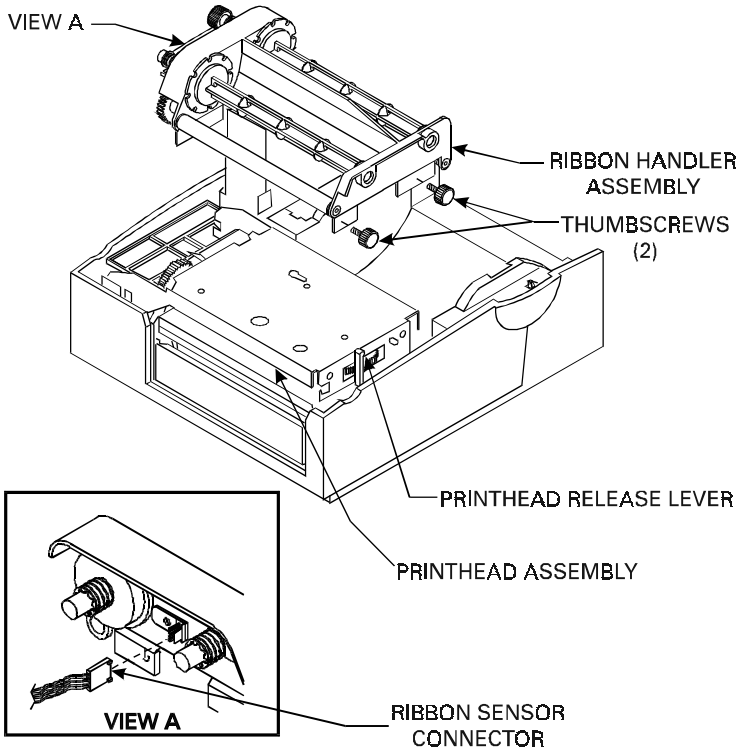


Figure 14. Ribbon Handler Assembly Replacement

Install the new Ribbon Handler Assembly (see Figure 14).

1. Using the two locating pins on the left side of the ribbon handler assembly, place the locating pins inside the holes on the Printhead assembly. Press the left side of the ribbon handler assembly until the unit snaps into place.
2. Reinstall and tighten the two thumbscrews. Reconnect the ribbon sensor connector.
3. Close the Printhead assembly.
4. Replace Media and Ribbon back into the printer, close the cover and reconnect power to the printer.
5. Turn the printer power on and print a configuration label (see Table 2 Power Off Mode (Communications Diagnostics Mode)).

Printhead Replacement (Use PN 14500M for Replacement)

Remove the old Printhead

1. Turn the printer power off and disconnect the power cord from the back of the printer.
2. Open the printer's top cover and unlatch the Printhead Assembly by pushing back on the Printhead Release Lever. Remove all media and ribbon from the printer.
3. Remove the guide underneath the Printhead by pulling up to remove the tab from the Printhead assembly and unlatch the bottom from the pin.

CAUTION:

OBSERVE PROPER ELECTROSTATIC SAFETY PRECAUTIONS WHEN REMOVING, HANDLING AND REPLACING THE PRINTHEAD.

4. Carefully unplug the Printhead Connectors from the back of the Printhead (see Figure 15).
5. Loosen the captive Printhead screw that secures the Printhead to the Printhead Assembly (see Figure 15).
6. Remove the two phillips head screws that secure the Printhead to the Printhead Carriage. Remove the Printhead from the carriage.

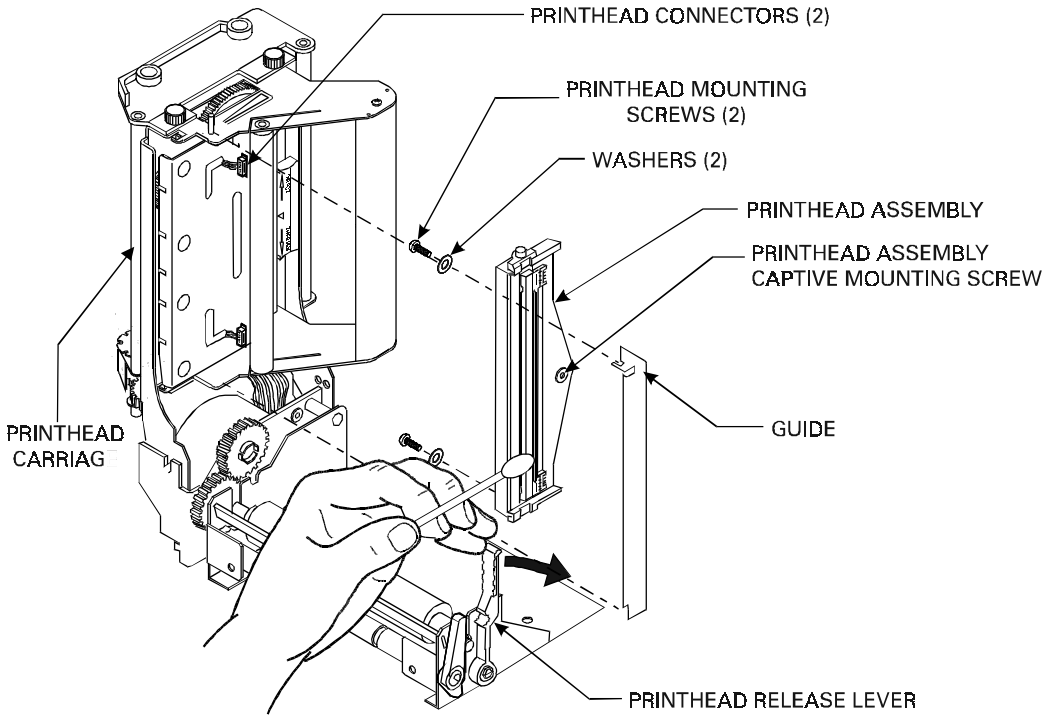


Figure 15. Removal of the Printhead Cable and Screws

Install the new Printhead

CAUTION:

OBSERVE PROPER ELECTROSTATIC SAFETY PRECAUTIONS WHEN REMOVING, HANDLING AND REPLACING THE PRINTHEAD.

1. Secure the Printhead Assembly to the Printhead Carriage by replacing the two phillips head mounting screws (see Figure 15).
2. Position the Printhead Assembly on the Printhead bracket and tighten the captive Printhead screw (see Figure 15).
3. Connect the Printhead Connectors to the new Printhead (see Figure 15).
4. Reinstall the Guide
5. Ensure that the Printhead Cables are not pinched. Clean the Printhead according to the Preventive Maintenance Procedures (see Table 6 Cleaning Schedule).
6. Replace Media and Ribbon back into the printer, close the cover and reconnect power to the printer.
7. Turn the printer power on and print a configuration label (see Table 2 Power Off Mode (Communications Diagnostics Mode)). If print quality needs to be adjusted, refer to Figure 11.

Replacing the Main Logic Board (Use PN 580000M for Replacement)

Remove the old Main Logic Board

1. Turn the printer power off and disconnect the power cord from the back of the printer.

IMPORTANT:

DO NOT ALLOW THE BOTTOM PLATE TO DROP DOWN FROM THE PRINTER. THERE ARE CONNECTORS ATTACHED TO THE MAIN LOGIC BOARD THAT MUST BE REMOVED FIRST.

2. Remove the six screws securing the Bottom Plate to the printer. (see Figure 16).

CAUTION:

OBSERVE PROPER ELECTROSTATIC SAFETY PRECAUTIONS WHEN REMOVING, HANDLING AND REPLACING THE MAIN LOGIC BOARD.

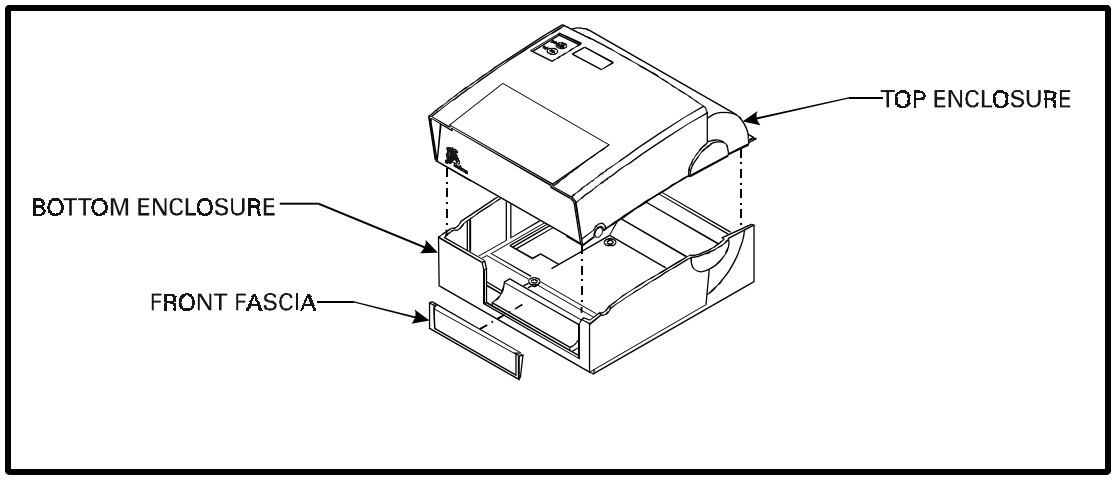
3. Carefully lower the bottom plate a few inches so that the connectors plugged into the Main Logic Board can be removed.
4. Remove the connectors from the Main Logic Board and note their orientation and location.
5. Remove the Main Logic Board mounting screw which secures the ground wire from the Main Logic Board.
6. Once the Bottom Plate Assembly is free from the printer, the Main Logic Board can be removed. Loosen and remove the remaining three Main Logic Board screws.
7. Loosen and remove the two screws that secure the Parallel Port connector to the bottom plate.
8. Loosen and remove the two Serial Port hex nuts which secure the connector to the bottom plate. Remove the Main Logic Board from the Bottom Plate.

Install the new Main Logic Board

CAUTION:

OBSERVE PROPER ELECTROSTATIC SAFETY PRECAUTIONS WHEN REMOVING, HANDLING AND REPLACING THE MAIN LOGIC BOARD.

1. Install the new Main Logic Board to the Bottom Plate and secure it using the screws previously removed.
2. Connect all the connectors and the ground wire to the Main Logic Board making sure that all connectors are installed in the correct locations (see Figure 13 for correct connector placement).
3. Install and secure the Bottom Plate Assembly to the printer using the six Bottom Plate Screws.
4. Replace Media and Ribbon back into the printer, close the cover and reconnect power to the printer.
5. Turn the power on and print a configuration label (see Table 2 Power Off Mode (Communications Diagnostics Mode)).



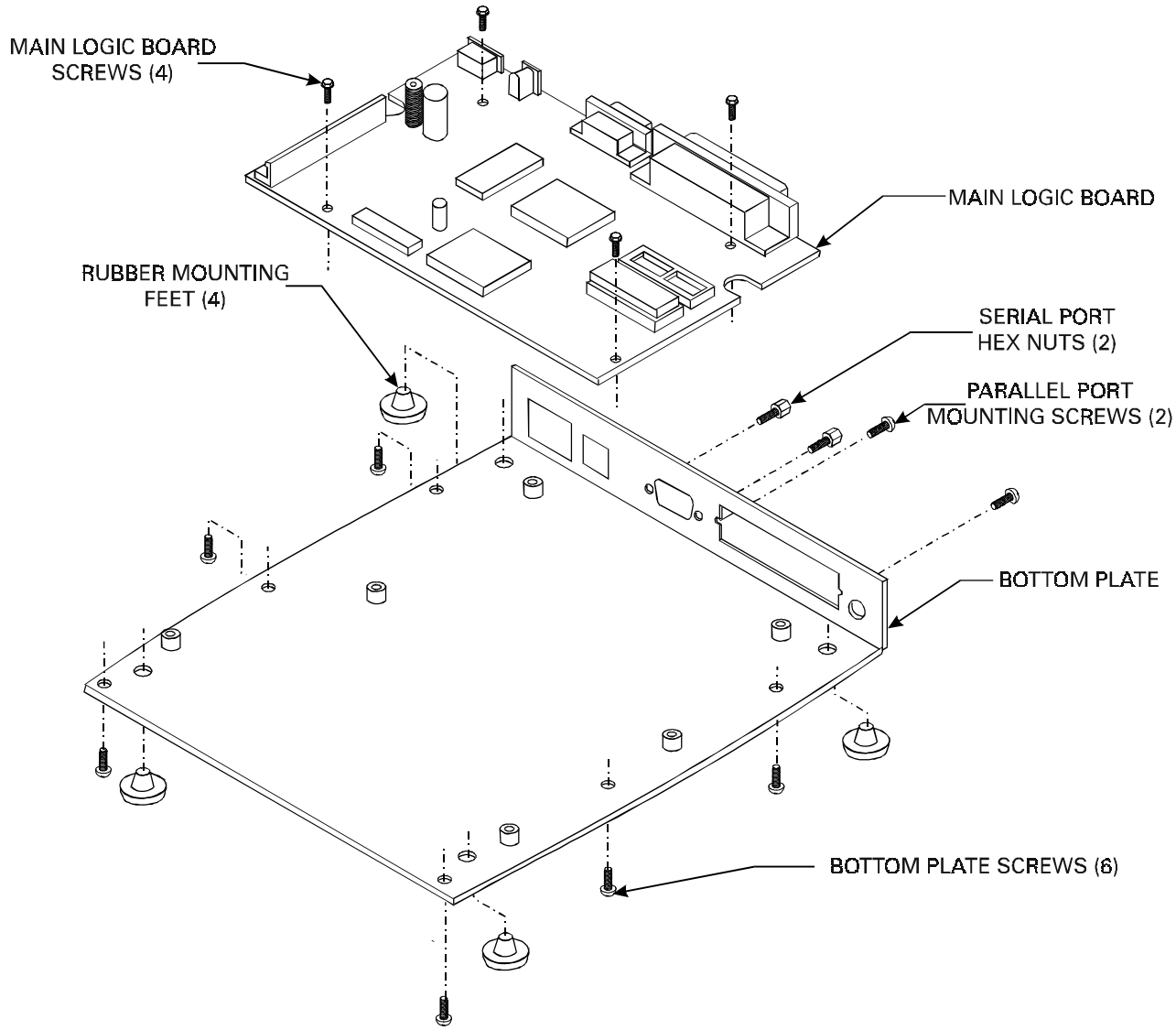


Figure 16. Main Logic Board Removal/Reinstall

Control Panel Circuit Board Replacement (Use Maintenance Kit PN 503014M)

Remove the old Circuit Board

1. Turn the printer power off and disconnect the power cord from the back of the printer.
2. Open the printer's top cover and unlatch the Printhead Assembly by pushing back on the Printhead Release Lever. Remove media and ribbon from the printer.
3. Loosen and remove the three hex screws that secure the Tower Enclosure to the printer (see Figure 17). Slide the Tower Enclosure forward and tilt up to unplug the Control Panel connector from J0004 connector located on the Main Logic Board (see Figure 13). Remove the Tower Enclosure.
4. Remove the two screws securing the Control Panel Circuit Board to the Tower Enclosure (see Figure 18).

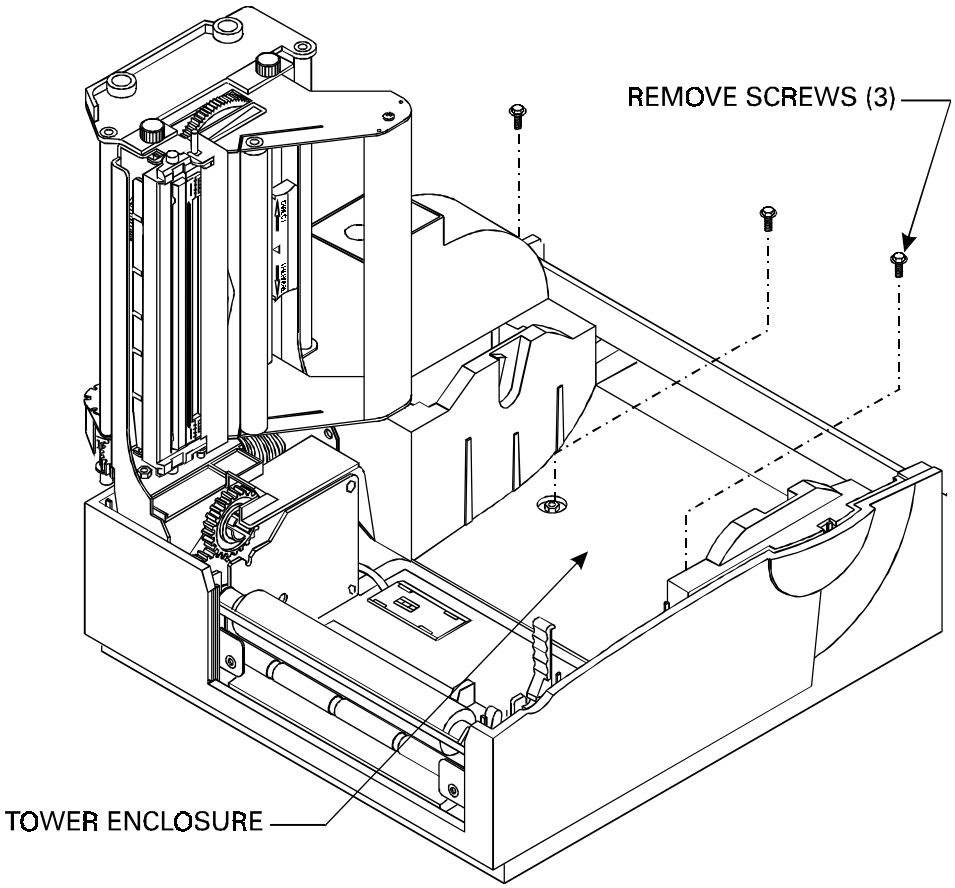


Figure 17. Tower Enclosure Removal

Install the new Circuit Board

1. Position the Control Panel Circuit Board into the Tower Enclosure and secure it using the two screws (see Figure 18).
2. Plug the Control Panel connector into J0004 on the Main Logic Board (see Figure 13).
3. Lower the Tower Enclosure back into position on the printer and secure it using the three hex screws.
4. Replace Media and Ribbon back into the printer, close the cover and reconnect power to the printer.
5. Print a configuration label (see Table 2 Power Off Mode (Communications Diagnostics Mode)).

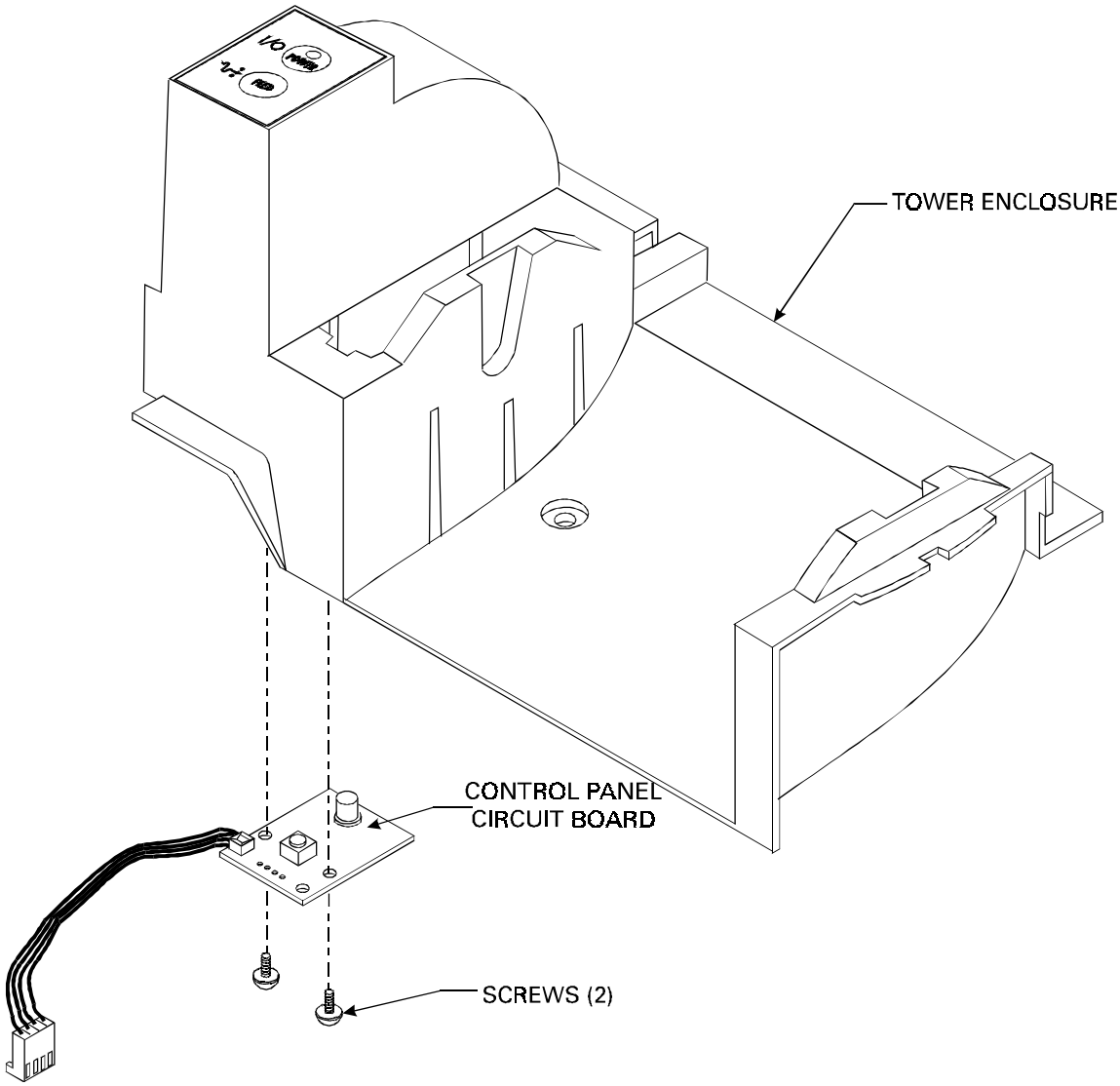


Figure 18. Control Panel Circuit Board Installation

Drive Motor Replacement (Use Maintenance Kit PN 503013M)

Remove the old Drive Motor

1. Turn the printer power off and disconnect the power cord from the back of the printer.
2. Open the printer's top cover and unlatch the Printhead Assembly by pushing back on the Printhead Release Lever. Remove media and ribbon from the printer.
3. Unlatch the Printhead and remove the four screws securing the Printhead Assembly and the Media Guide to the printer. Remove the Media Guide (see Figure 13 for Media Guide screw location).
4. Loosen and remove the three hex screws that secure the Tower Enclosure to the printer. Slide the Tower Enclosure forward and tilt up to unplug the Control Panel connector from J0004 connector located on the Main Logic Board (see Figure 13). Remove the Tower Enclosure.
5. Loosen and remove the screw securing the ground wire to the Main Logic Board (see Figure 13). Remove all other connectors from the Main Logic Board and lift out the Printhead Assembly from the printer.
6. Cut the cable tie that bundles the motor harness with the other printer harnesses.
7. Remove the two screws that secure the drive motor to the Printhead Assembly (see Figure 19). Slide the drive motor assembly towards the back of the Printhead Assembly so the motor gear can go through the access hole.

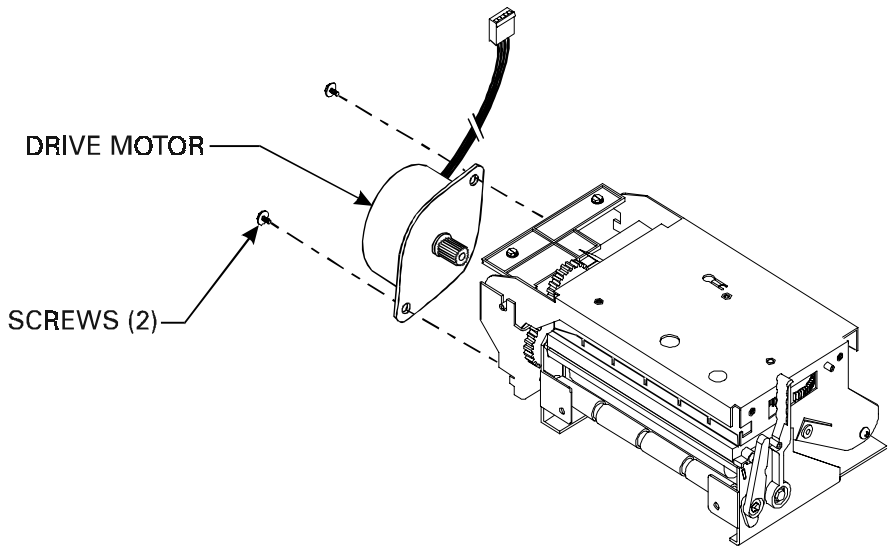


Figure 19. Drive Motor Replacement

Install the new Drive Motor

1. Install the new Motor with the gear going through the access hole and sliding the motor forward. Secure the new motor with the two screws previously removed. Replace the cable tie which bundles all the harness wires together (see Figure 19).
2. Replace all the connectors previously removed from the Main Logic Board (see Figure 13 for correct connector placement). Place the Printhead Assembly and Media Guide back in the printer, secure with four screws.
3. Connect the Control Panel connector (J0004) back onto the Main Logic board and secure the Tower Enclosure using the three hex screws previously removed.
4. Replace Media and Ribbon back into the printer, close the cover and reconnect power to the printer.
5. Turn the power on and print a configuration label (see Table 2 Power Off Mode (Communications Diagnostics Mode)).

Media Sensor Harness Assembly Replacement (Use Maintenance Kit PN 562001)

Remove the Media Sensor Harness Assembly (see Figure 20)

1. Turn the printer power off and disconnect the power cord from the back of the printer.
2. Open the printer's top cover and unlatch the Printhead Assembly by pushing back on the Printhead Release Lever. Remove all media and ribbon from the printer.
3. Unlatch the Printhead Assembly and remove the four screws securing the Printhead Assembly and the Media Guide to the printer. Remove the Media Guide. (see Figure 13).
4. Loosen and remove the three hex screws that secure the Tower Enclosure to the printer. Slide the Tower Enclosure forward and tilt up to unplug the Control Panel connector from J0004 connector located on the Main Logic Board. Remove the Tower Enclosure.
5. Loosen and remove the screw securing the ground wire to the Main Logic Board. Remove all other connectors from the Main Logic Board. Lift out the Printhead Assembly from the printer.
6. Under the Printhead assembly, press in the four plastic tabs on the sensor and remove the sensor from the Printhead Assembly (see Figure 20).
7. Cut the cable tie that bundles the media sensor harness with the other printer harnesses. Remove the assembly.

Install the new Media Sensor Harness Assembly

1. Under the Printhead assembly, press in the four plastic tabs on the sensor and install the new sensor harness assembly on the Printhead Assembly. . Replace the cable ties which bundles all the harness wires together.
2. Replace all the connectors previously removed from the Main Logic Board (see Figure 13 for correct connector placement). Place the Printhead Assembly and Media Guide back in the printer, secure with four screws.
3. Connect the Control Panel connector (J0004) back onto the Main Logic board and secure the Tower Enclosure using the three hex screws previously removed.
4. Replace Media and Ribbon back into the printer, close the cover and reconnect power to the printer.
5. Turn the power on and print a configuration label (see Table 2 Power Off Mode (Communications Diagnostics Mode)).

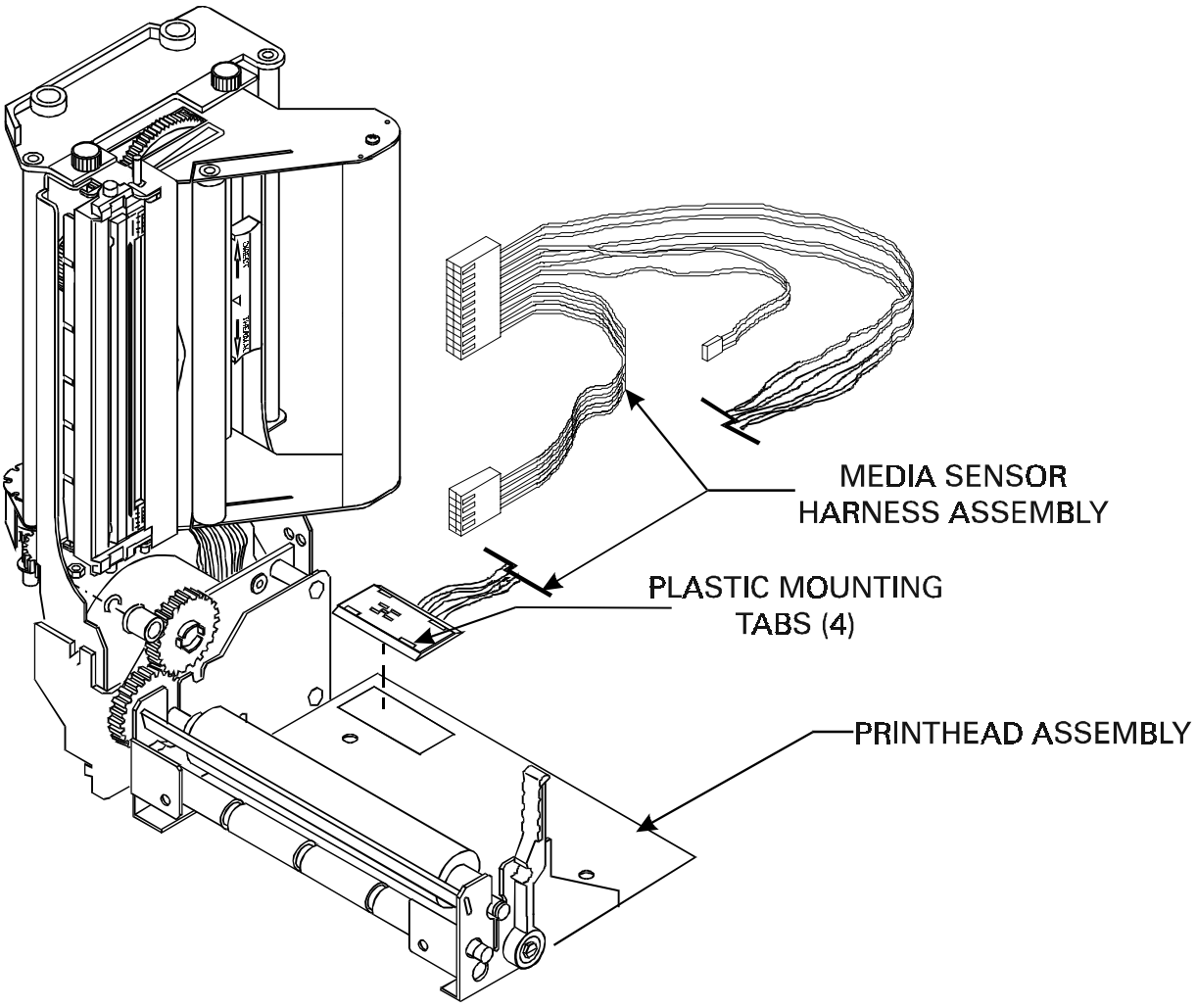


Figure 20. Removal of the Media Sensor Harness Assembly

MAIN CIRCUIT BOARD LAYOUT

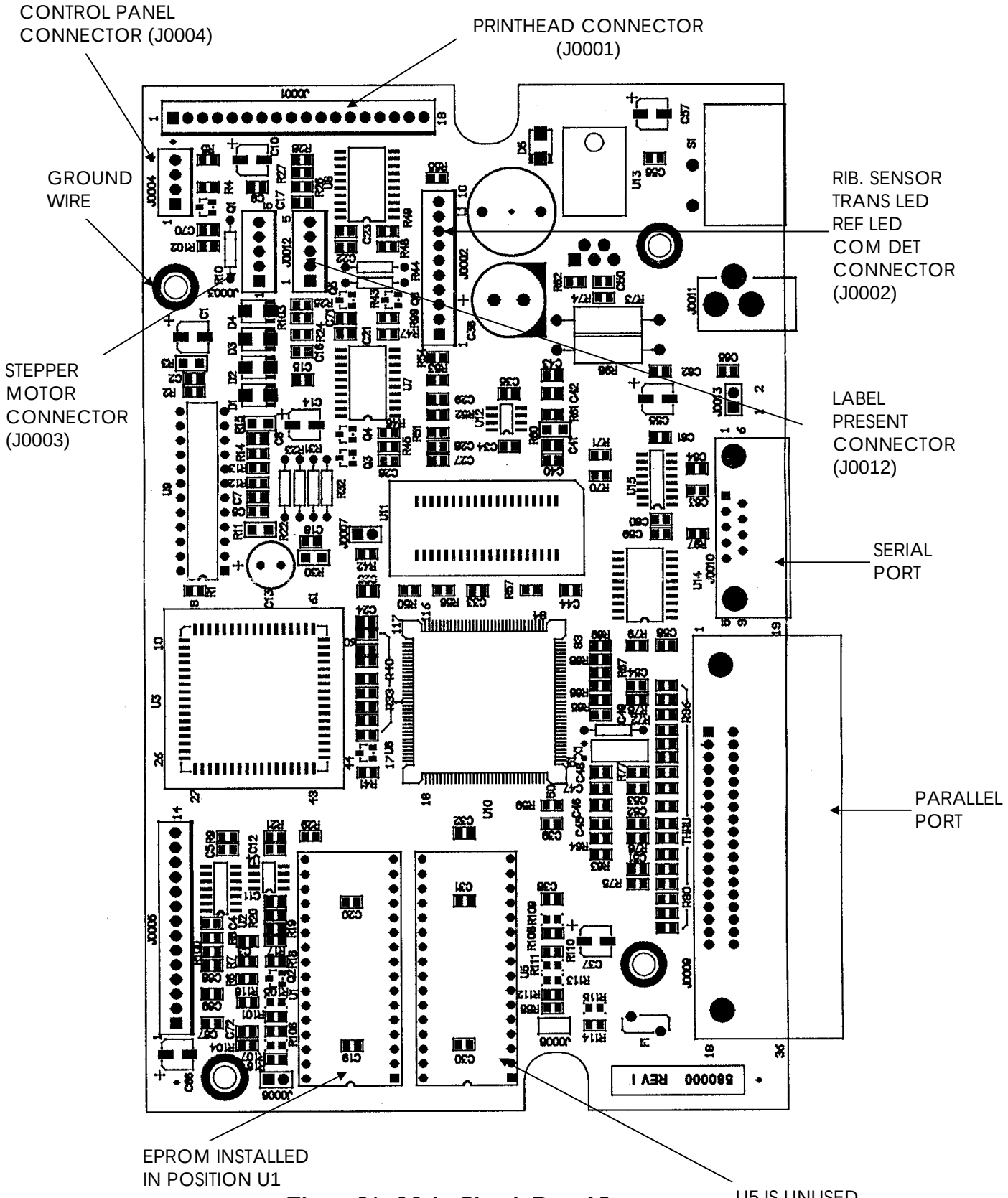


Figure 21. Main Circuit Board Layout

MECHANICAL DRAWINGS

Replacement Parts

Replacement parts and pricing are available by contacting your Zebra distributor. Table 7 lists replacement parts available for the *T*300 printer. Table 8 is a list of Maintenance Kits available for the *T*300 printer. These are only available in kit form, no piece parts in these kit are available separately.

Table 7. Replacement Parts

QUANTITY	PART NUMBER	DESCRIPTION
1	14500M	Printhead (See Figure 15)
1	506009	Enclosure, Bottom (See Figure 16)
1	506010	Fascia, Front (See Figure 16)
4	506017	Bumper, Button (See Figure 16)
2	506020	Skewer, Ribbon (See Figure 11)
1	506024	Cover, Cutter (See Figure 23)
1	510000	Bar, Peel (See Figure 12)
1	548003	Label, Power/Feed (See Figure 3)
1	562000	Assy., Printhead Cable (See Figure 15)
1	562001	Harness, Sensors (See Figure 20)
1	569000	Take Label Sensor (Not Illustrated)
1	580000M	PCB Main (See Figure 21)
1	510012	Ribbon Guide Bracket (See Figure 15)

Table 8. Maintenance Kits

QUANTITY	PART NUMBER	DESCRIPTION
1	503009M	Kit, Top Enclosure *T*300 printer (See Figure 16)
1	503010M	Kit, Media Support *T*300 printer (See Figure 22)
1	503011M	Kit, Platen Roller *T*300 printer (See Figure 12)
1	503012M	Kit, Latch Printhead Assy. *T*300 printer (See Figure 14)
1	503013M	Kit, Stepper Motor *T*300 printer (See Figure 19)
1	503014M	Kit, Control Panel PCB *T*300 printer (See Figure 18)
1	503015M	Kit, Cutter Module *T*300 printer (See Figure 23)
1	503016M	Kit, Media Guide *T*300 printer (See Figure 24)
1	503017M	Kit, Ribbon Handler Assy. (See Figure 14)
1	503018M	Kit, Sensor Assy. Ribbon Out *T*300 printer (See Figure 25)
1	503019M	Kit, Screw *T*300 printer (Not Illustrated)

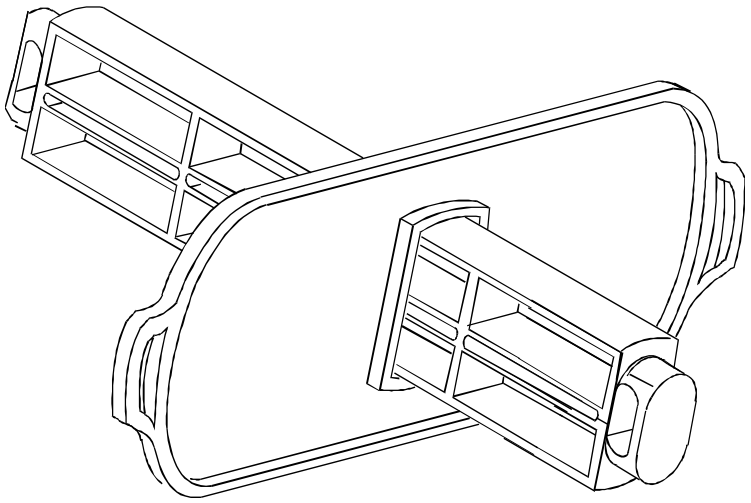


Figure 22. Media Support Kit PN 503010M

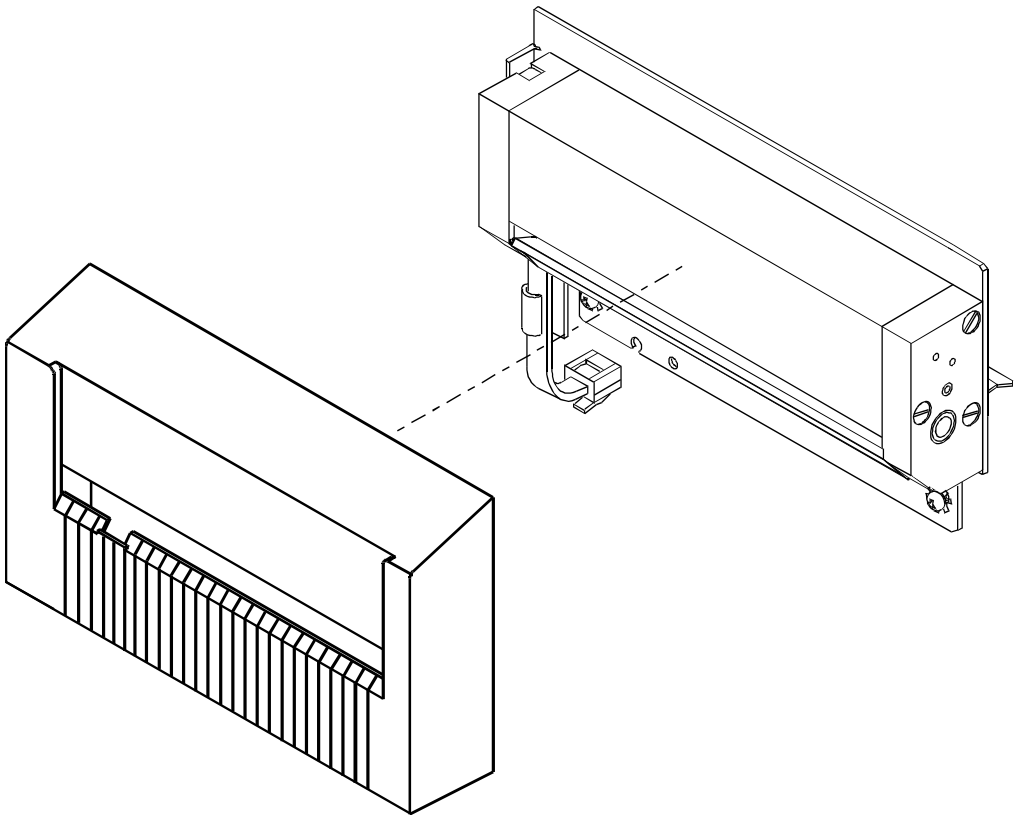


Figure 23. Cutter Module Kit PN 503015M

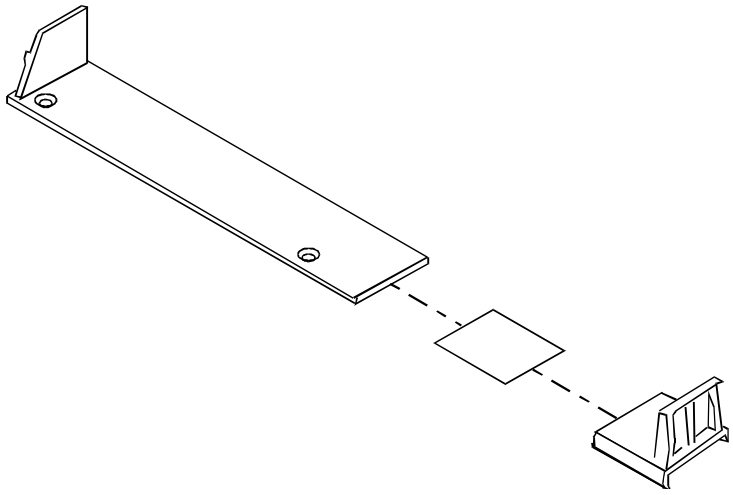


Figure 24. Media Guide Kit PN 503016M

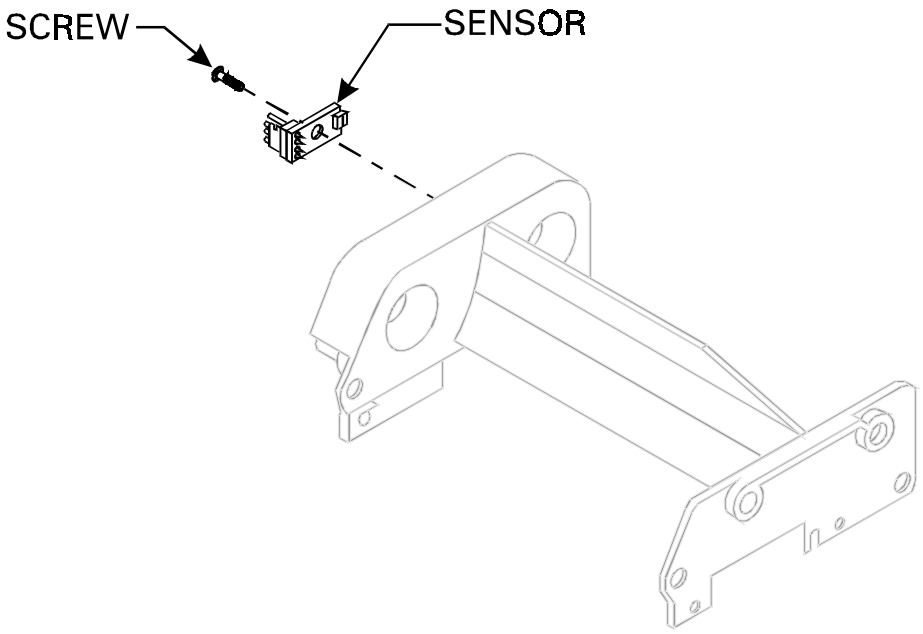


Figure 25. Ribbon Out Sensor Assembly Kit PN 503018M