A-Series Printer
Maintenance Manual

Zebra

A-Series Printer

Maintenance Manual
Revision 2
Registration Form

ZEBRA TECHNOLOGIES CORPORATION

To receive maintenance manual revisions
and updates, complete this form and fax
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DESCRIPTION

Zebra's *A*100 direct thermal printer is a graphics printer for the Windows operating system. The printer's graphics driver quickly processes bitmapped images designed in standard Windows-based software applications such as Microsoft® Word and PowerPoint, and other well-known products. The *A*100 also comes with BAR-ONE® for Personal Printers software.

Zebra's *A*300 direct thermal printer operates with ZPL II® programming language which allows you to customize label formats, and provides compatibility with Zebra Value-Line and Performance-Line printers. With the Ethernet connectivity option, you have a network-compatible printer. The *A*300 also comes with BAR-ONE® for Personal Printers software.

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, and then the next label is printed.

PRINTING METHOD

- **Direct Thermal Printing** (requires use of direct thermal media). A substrate, typically paper, is coated with a chemical that changes to a dark color upon exposure to heat over a period of time to form an image.

SPECIFICATIONS

Table 1-1 Specifications

Physical size (LxWxH)		9.7" x 7.0" x 6.0"	249 mm x 179 mm x 154 mm
Weight (without media)		3.35 lbs.	1.52 kg
Shipping Weight		8.0 lbs.	3.63 kg
Temperature range	Operating	50° to 104° F	10° to 40° C
	Storage	-4° to 140° F	-20° to 60° C
Relative humidity, operation and storage		10 to 90% R.H. Non-condensing	
Electrical		External 117 or 230 VAC power supply, depending on which model you order. Additional custom line cords may also be available.	

Table 1-1 Specifications (Continued)

*A*100 Communications	36-pin Centronics® compatible parallel port
*A*300 Communications	36-pin Centronics® compatible parallel port or 9-pin RS-232 serial port.
Parallel data cable	For maximum reliability, use a parallel data cable no longer than 6 ft (1.8 meters) (IEEE 1284 bi-directional parallel cable). See Table 1-2 for pinouts.
Serial data cable	Should use twisted shielded pairs, not longer than 6 ft (1.8 meters) as recommended in the Appendix of the TIA/EIA-485 Specification. See Table 1-3 for pinouts.
*A*100 Processor	8-bit microprocessor
*A*300 Processor	32-bit microprocessor, 512 K Ram
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 1-1.)
Agency approvals	UL 544 Part 42.5 Medical Equipment Standard 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
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

Table 1-1 Specifications (Continued)

Media requirements	Zebra recommends using Zebra-brand media. All media must be direct thermal media. Media may be continuous, die-cut, or notched. **Notched media:** Notch must be ¼ inch wide x 3/32 inch long located on the left side of the label as viewed from the front of the printer.		
Label width (including backing material, if any)		1.0 in to 4.25 in.	25.4mm to 108 mm
Label length	Tear off	0.50 to 8 in.	12 mm to 203 mm
	Cutoff/Peel	1 to 8 in.	25.4 mm to 203 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	5.0 in.	127 mm
	Min. inner core diameter	1.0 in.	25.4 mm
Registration tolerance	Horizontal	± 0.059 in.	± 1.5 mm
	Vertical	± 0.0393 in.	± 1.0 mm
First dot location (from outer media edge)		0.125" to 0.140"	3.17 mm to 3.56 mm
*A*100 Fonts available	All Windows fonts resident in the host computer or Windows application		
*A*300 Fonts available	CG Triumvirate Bold Condensed (6, 8, 10, 12, 14, 18 pt) Zebra fonts A, B, C, D, E, F, H, GS, IBM® Code Page 850 (International Characters, Graphics Symbols)		
Bar codes available	2-digit and 5-digit supplemental code 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

Table 1-2 Parallel Pinouts

Pin No.	Description
1	Strobe
2-9	Data Bits 0-7
10	Acknowledge
11	Busy
12	Paper end
13	Select
14-17	Not used
18	+5 V @ 0.75 A
19-30	Ground
31	Not used
32	Error/fault
33	Ground
34	Not used
35	+5 V through 3.3 K
36	Select

Table 1–3 RS-232 Pinouts

Pin No.	Description
1	Not used
2	RXD (receive data) input to printer
3	TXD (transmit data) output from printer
4	DTR (data terminal ready) output from printer
5	Ground
6	DSR (data set ready) input to printer
7	RTS (request to send) output from printer
8	Not used
9	Not used
To connect your serial port to a 9-pin connector on your PC, use a 9-pin to 9-pin null modem (crossover) cable. If your PC has a 25-pin connector, use a standard (straight-through) 9-pin to 25-pin cable.	
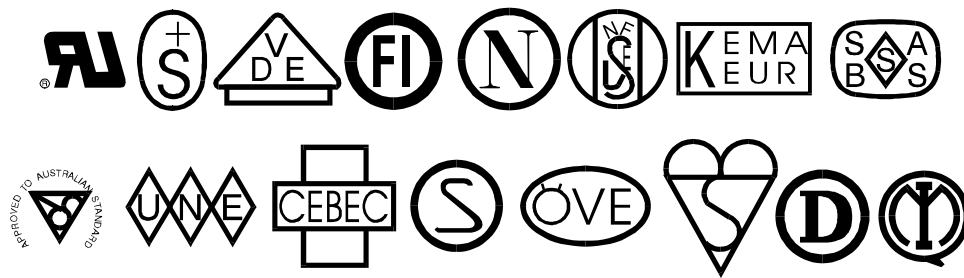
Figure 1-1 Examples of International Safety Organizations Symbols

Electronics System Block Diagram
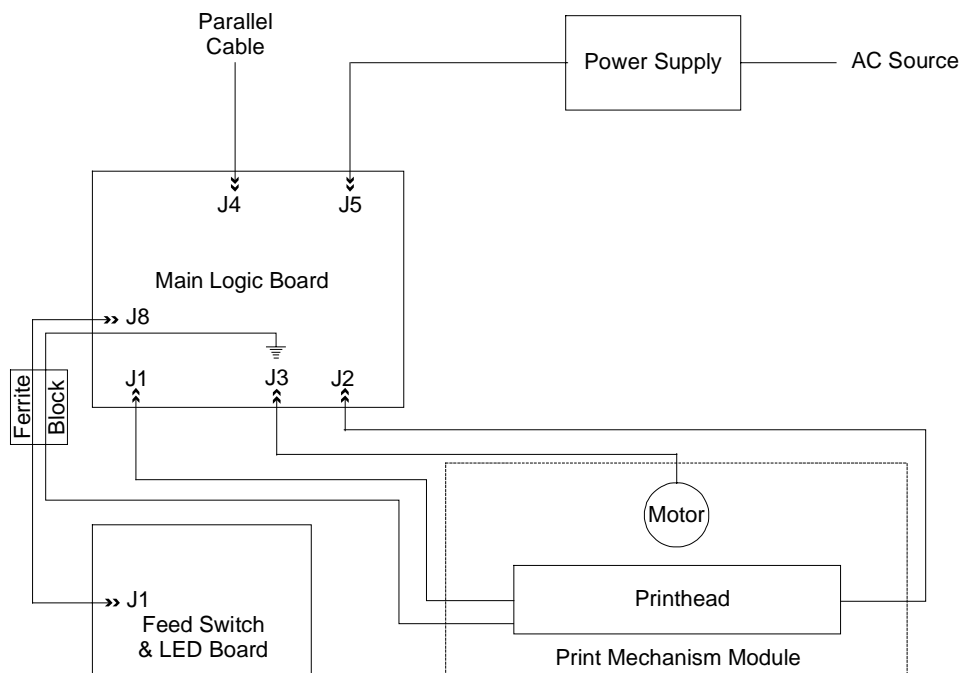
Figure 1-2 *A*100 Electronics System Block Diagram
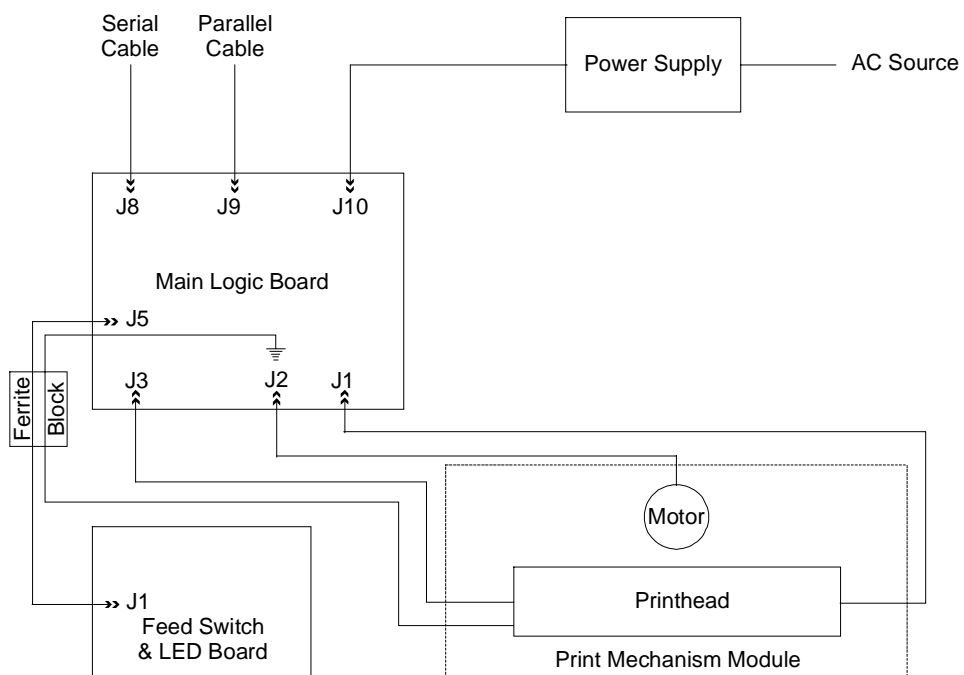
Figure 1-3 *A*300 Electronics System Block Diagram

OPERATIONS OVERVIEW

OPERATOR CONTROLS

Power Switch. Located on the right-hand side of the printer (see Figure 2-1)**.**

NOTE: The power switch must be turned off before disconnecting the power supply from its source or connecting or disconnecting any cables. **Damage may result if the power switch is not used properly.**

*A*100 **Feed Key.** In normal use, pressing the Feed Key (see Figure 2-1) once when the printer is idle (not printing) will cause the printer to feed a blank label.

To print an *A*100 test label (see Figure 2-2), press and hold the Feed Key while turning on the power switch and hold the Feed Key for 2 seconds afterwards. This test pattern allows you to quickly confirm that the printhead is working without connecting it to a computer.

*A*300 **Feed Key.** In normal use, pressing the Feed Key (see Figure 2-1) 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 2-2.

Power LED. When illuminated, indicates that the printer is receiving power.

Fault LED. Is used in the Feed Key Troubleshooting Modes (see Table 2-1) or as an indicator of a fault or problem with the printer (see Table 2-2).
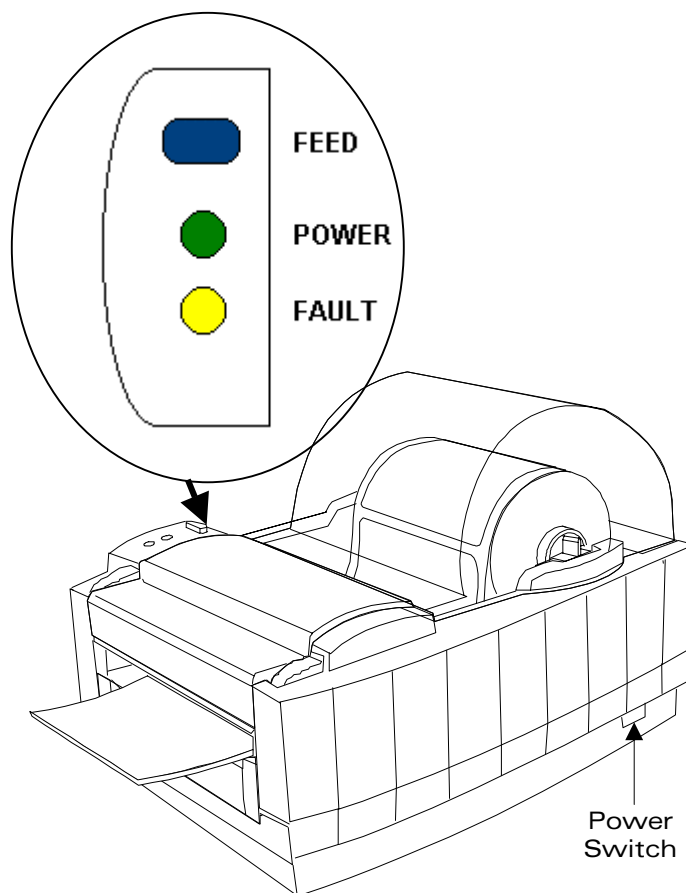
Figure 2-1 Operator Controls
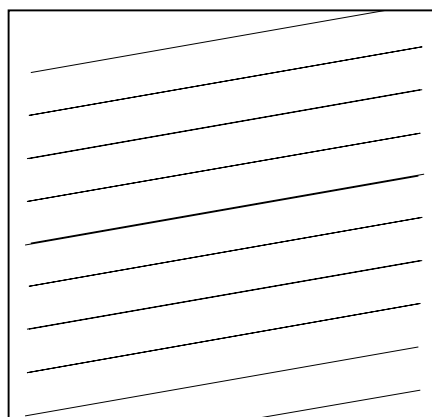
Figure 2-2 A100 Test Label

Table 2-1. *A*300 Feed Key Troubleshooting Modes

A300 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 (see Figure 2-3). 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.		
A300 Power On Modes		
With the printer powered on, printhead closed, and Fault light off, press and hold the Feed key for several seconds and the Fault 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 2-3.)
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 Fault light will flash rapidly. Press and release the Feed key one more time and the factory default values are saved into memory.
If the Feed Key is held down past 4 flashes, the printer will ignore the key when it is released.		

```
        Printer Configuration
 10................. Darkness
 +00................ Tear Off Adjust
 054................ Web Sensor
 089................ Media Sensor
 100................ Media Led
 0817............... Label length
 18.00IN   456MM..... Max Label Length
  4.25IN   108MM..... Print Width
 Tear Off........... Print Mode
 Non-Continuous...... Media Type
 9600............... Baud
 8.................. Data Bits
 None............... Parity
 1.................. Stop Bits
 XON/XOFF........... Handshake
 None............... Protocol
 2CH................ Delimiter
 5EH................ Format Prefix
 7EH................ Control Prefix
 000................ Network ID
 CFF................ Modes Enabled
 .................. Modes Disabled
  864 8/mm  Full..... Resolution
 Default............ Backfeed
 +00................ Label Top
 +0000.............. Left Position
 .................. Socket 1 ID
 V20.4.2............ Firmware
 Customized......... Configuration
 0512k.............. Memory
 None............... B: Memory
 Feed............... Media Power Up
 Feed............... Media Head Close
```

Figure 2-3 *A*300 Configuration Label (Sample)

Table 2-2. Printer Troubleshooting Indicator Lights

Printer Condition	A100 Power Light On	A100 Power Light Off	A100 Fault Light On	A100 Fault Light Flashing	A100 Fault Light Off	A300 Power Light On	A300 Power Light Off	A300 Fault Light On	A300 Fault Light Flashing	A300 Fault Light Off
Power is off or printer not receiving power		●			●		●			●
Power is on	●				●	●				●
Paper out or not sensed or Printhead is open	●		●			●			●	
Printhead is over temperature	●			●		●		●		

CONNECTING THE A-SERIES PRINTER TO THE COMPUTER

WARNING:

POWER TO THE PRINTER MUST BE TURNED OFF BY USING THE ON/OFF SWITCH ON THE PRINTER.

DAMAGE MAY OCCUR TO THE PRINTER OR POWER SUPPLY IF THE POWER SUPPLY IS UNPLUGGED FROM ITS SOURCE OR THE SOURCE IS TURNED OFF BEFORE THE PRINTER IS TURNED OFF.

Data Cable Installation

1. Turn the printer off by the power switch and disconnect the power supply from the printer (if connected).

2. Determine whether you are using a parallel data cable (A100 and A300) or serial data cable (A300 only). See Figures 2-1 and 2-2.

3. Follow your computer manufacturer's instructions for installing data cables to the computer. The computer manufacturer may require you to power down the computer before making any cable connections.

4. Connect the printer data cable from the computer to the proper printer port on the rear of the printer (see Figures 2-4 and 2-5).

5. Connect the power supply to the printer following the instructions below.

Power Supply Installation

1. Insure that the power switch on the printer is in the OFF position.

2. Plug the AC power cord on the power supply into the wall outlet (see Figures 2-4 and 2-5).

3. Plug the DC connector from the power supply into the jack on the rear of the printer (see Figures 2-1 and 2-2).

IEEE 1284 Bi-directional
Parallel Cable

117VAC

230VAC
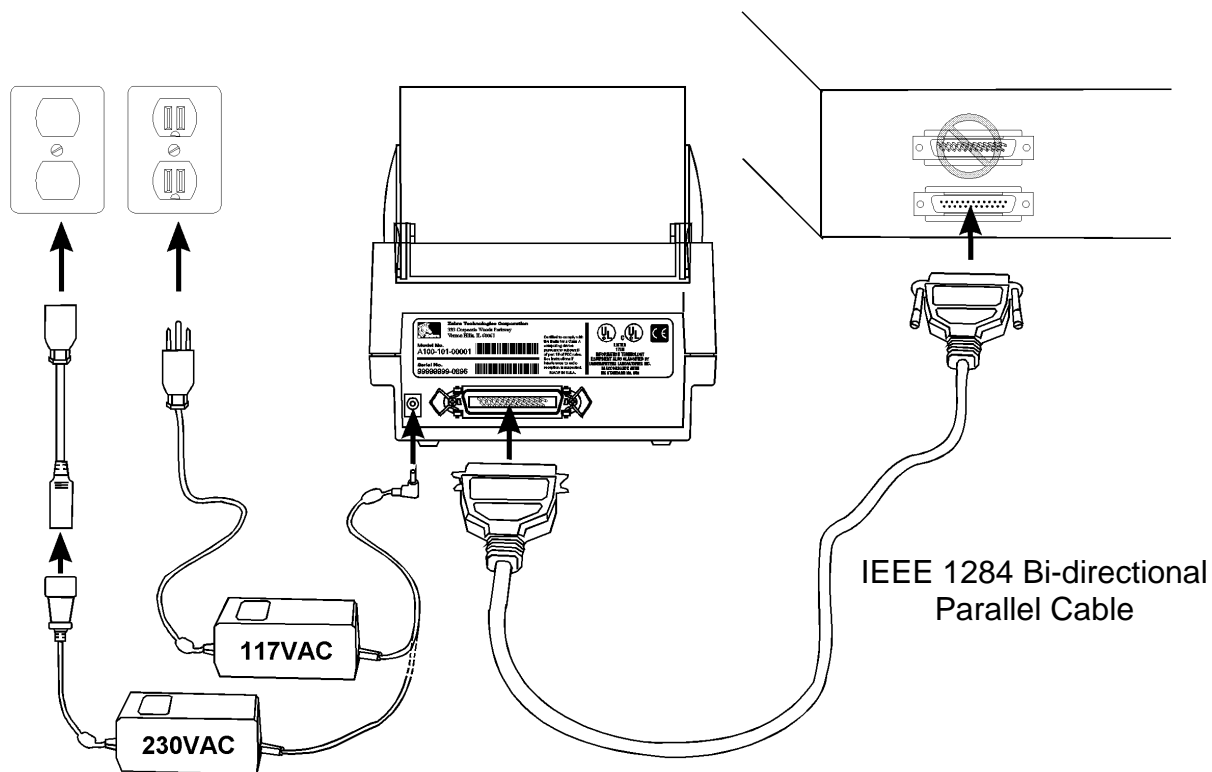
Figure 2-4 *A*100 and *A*300 Power and Parallel Data Cable Connection

Null Modem
Serial Cable

117VAC

230VAC
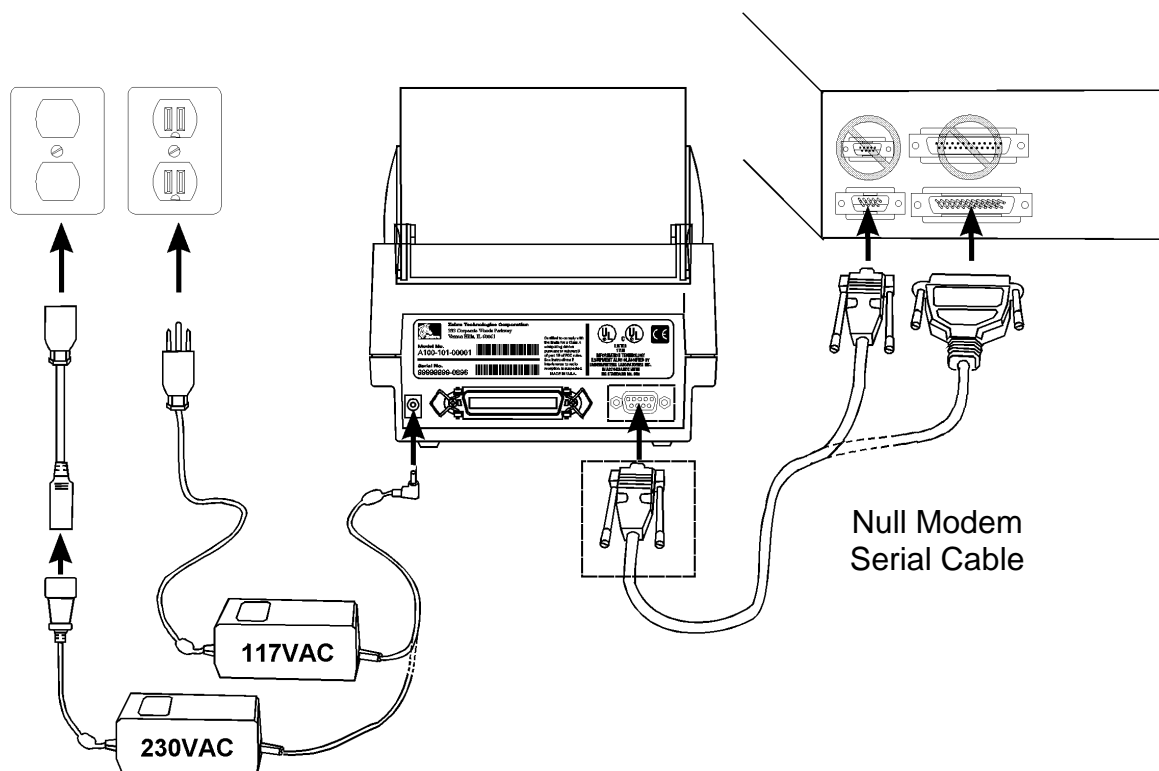
Figure 2-5 *A*300 Power and Serial Data Cable Connection

PRINTER OVERVIEW
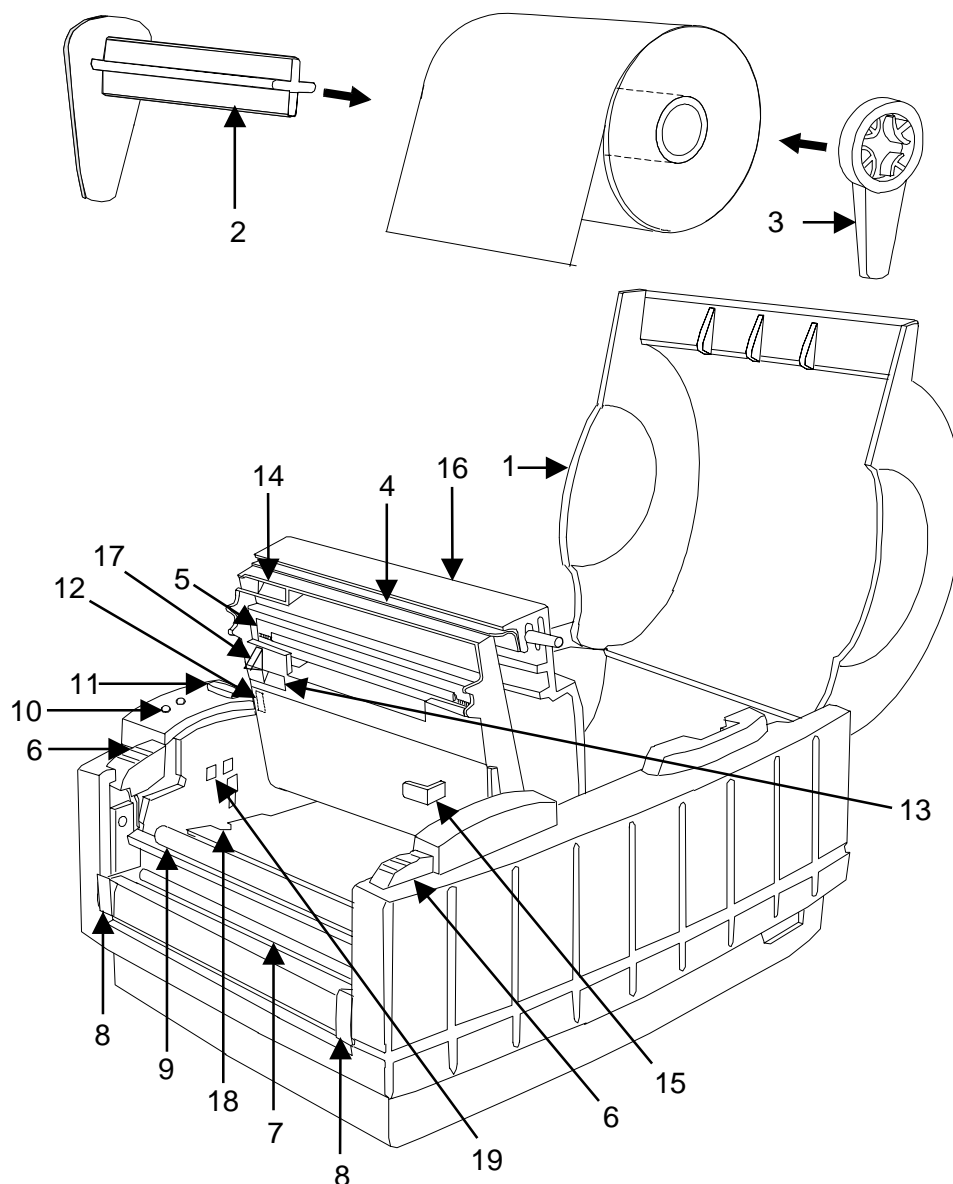
Figure 2-6 Printer Overview

1	Media Cover	11	Feed Button
2	Media Holder	12	Printhead Open Sensor
3	Media Guide (Media Holder)	13	Media Sensor
4	Tear Bar	14	Take Label Sensor
5	Printhead	15	Adjustable Media Guide
6	Print Mechanism Latches	16	Printhead Module
7	Peel-Off Roller	17	Fixed Media Guide
8	Peel-Off Door Latches	18	Label Present Sensor
9	Platen Roller	19	Printhead Open Sensor
10	Power/Fault Lights		

LOADING SUPPLIES

Refer to Figure 2-6, Printer Overview, for component location

Tear Off Mode of Operation

1. Using both thumbs, press the two blue
    Print Mechanism Latches at the same time
    until the Printhead Mechanism unlatches.
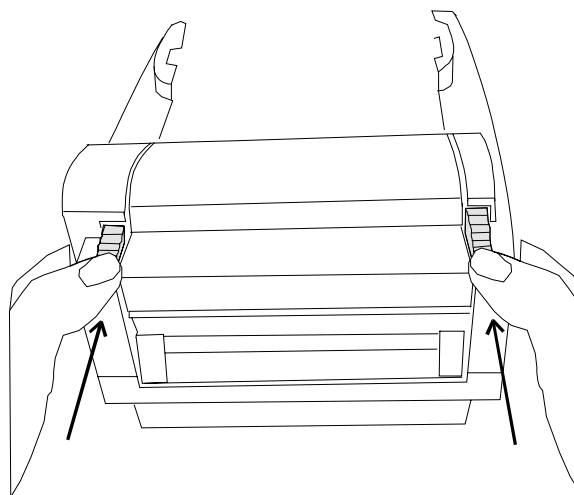
2. Raise the Media Cover and Printhead
    Mechanism. Remove the Media Holder
    and any remaining media and the
    cardboard core.
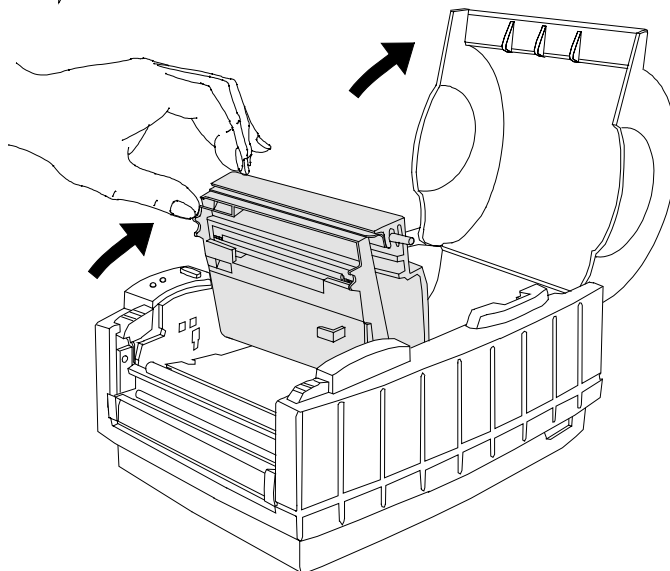
3. Slide the roll of media onto the Media
    Holder and slide the Media Guide onto the
    Media Holder.
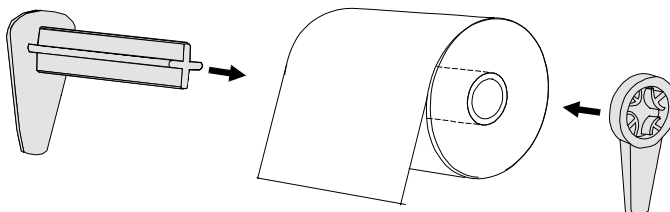
4.   Placed the assembled Media Holder into the printer.

Slide the end of the media underneath the Printhead Module until approximately six inches extend out the front of the printer.

.
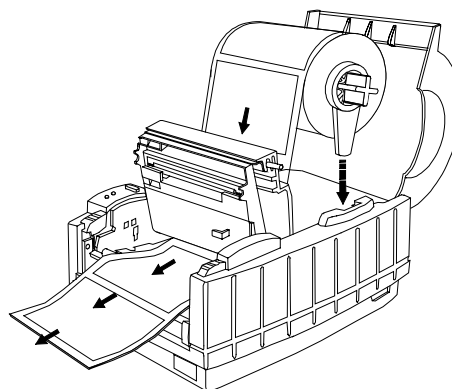
5.   Slide the right side of the media underneath the adjustable Media Guide. Adjust for the proper width of the media between the adjustable Media Guide and the fixed guide opposite of it on the Printhead Module.
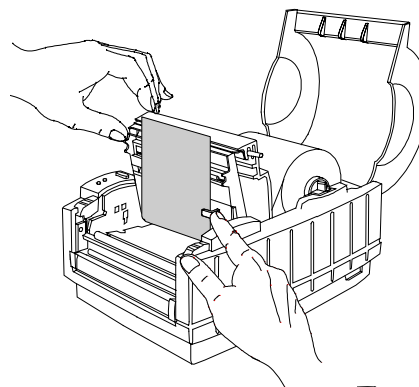
5.   Holding the media in place, close the Printhead Module until the Print Mechanism Latches snap into place. The Printhead Module is now locked into place.
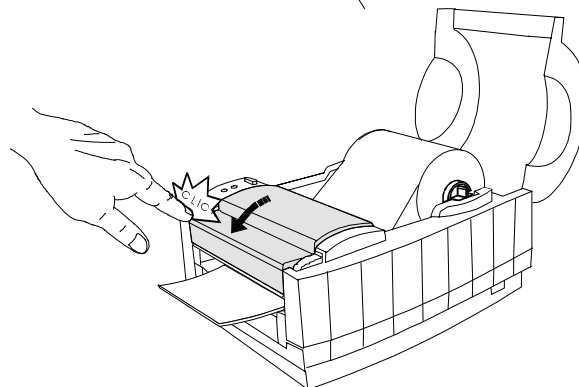
6.   Close the Media Cover.
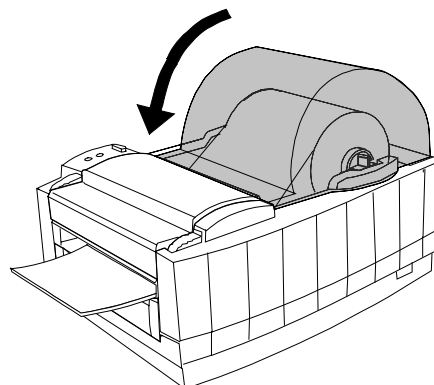
Peel-Off Mode of Operation

Refer to Figure 2-6, Printer Overview, for component location

1.   Using both thumbs, press the two blue
      Print Mechanism Latches at the same time
      until the Printhead Mechanism unlatches.
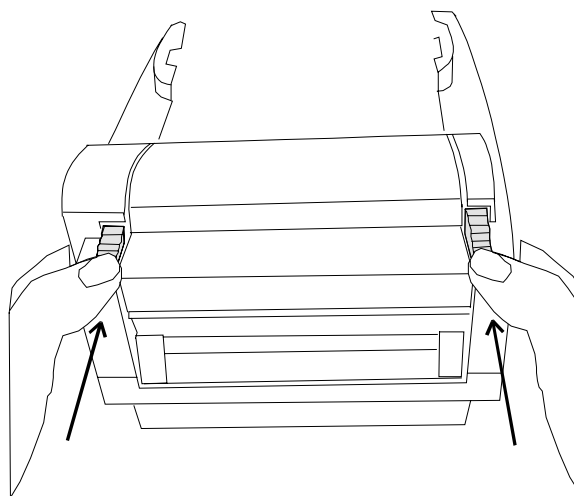
2.   Raise the Media Cover and Printhead
      Mechanism. Remove the Media Holder
      and any remaining media and the
      cardboard core.
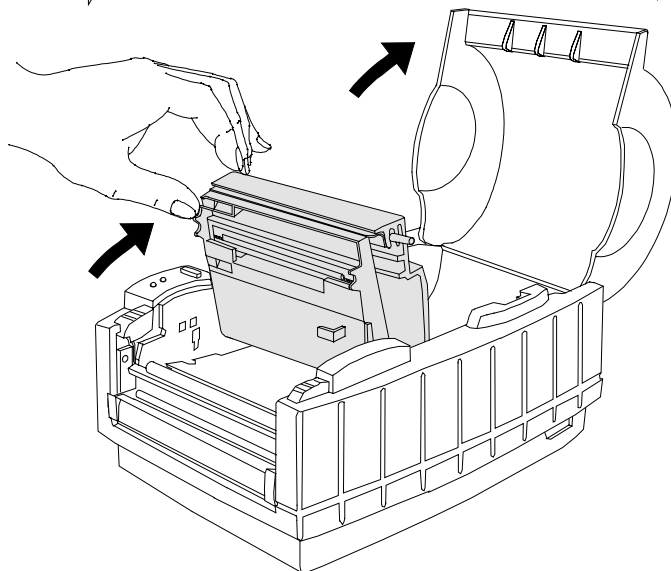
3.   Slide the roll of media onto the Media
      Holder and slide the Media Guide onto the
      Media Holder.

      Remove enough labels to leave only
      backing for approximately the first six
      inches.
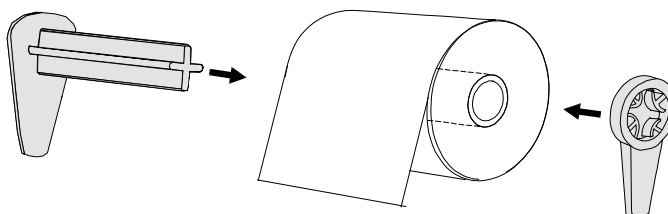
4.   Open the Peel Off Door by pulling down on the Peel Off Door Latches.
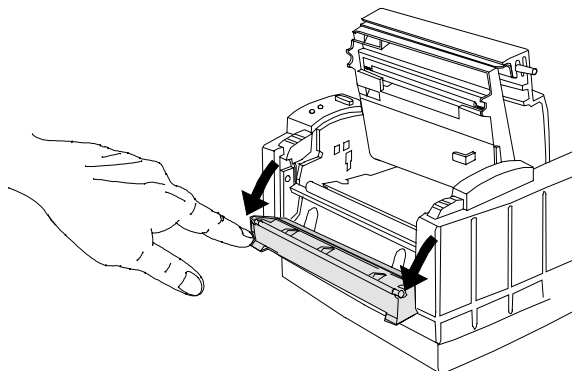
5.   Place the assembled Media Holder into the printer.

        Slide the end of the media underneath the Printhead Module until approximately six inches of the label backing extend out the front of the printer.
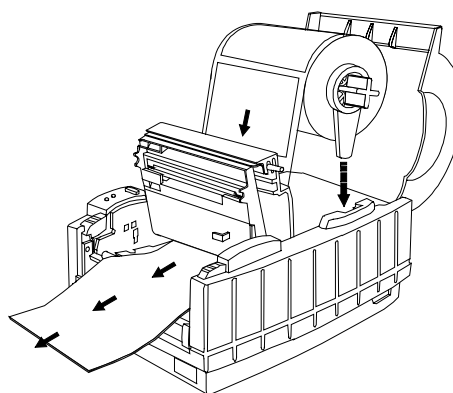
6.   Slide the right side of the label backing underneath the adjustable Media Guide. Adjust for the proper width of the media between the adjustable Media Guide and the fixed guide opposite of it on the Printhead Module.

        Feed the end of the media backing underneath the Peel Off Roller
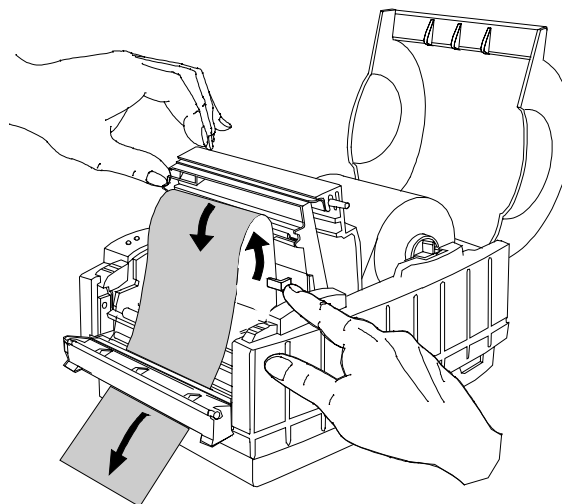
7.   Gently pull on the end of the media while holding the media in place against the Printhead Module. Close the Printhead Module until the Print Mechanism Latches snap into place. The Printhead Module is now locked into place.

Gently pull on the end of the media to remove any remaining slack and then close the Peel Off Door
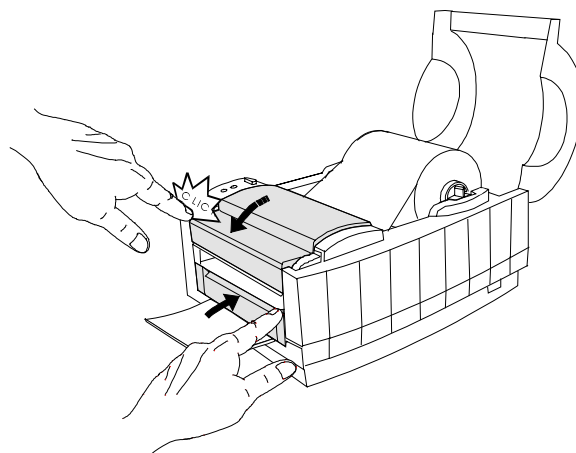
8.   Close the Media Cover.

When loaded properly, the label will separate from the backing when exiting the Peel Off Door.
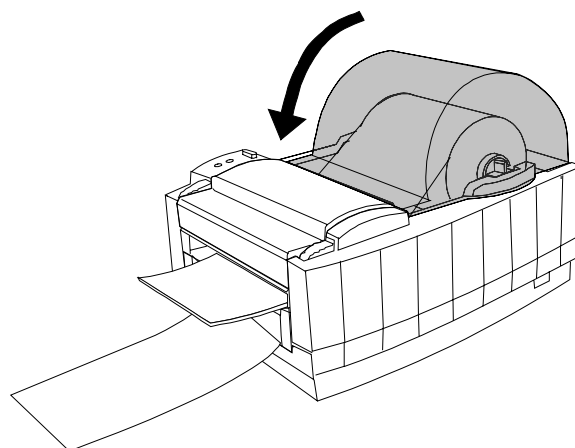
Fanfold Media Mode of Operation

Refer to Figure 2-6, Printer Overview, for component location

1. Using both thumbs, press the two blue
    Print Mechanism Latches at the same time
    until the Printhead Mechanism unlatches.
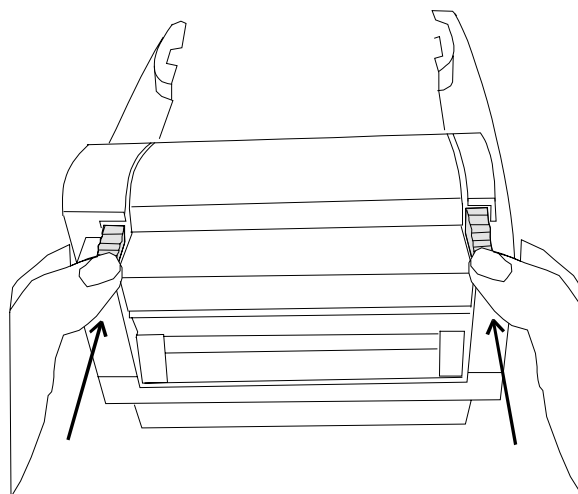
2. Raise the Media Cover and Printhead
    Mechanism. Remove the Media Holder
   and any remaining media and the
    cardboard core (if present).
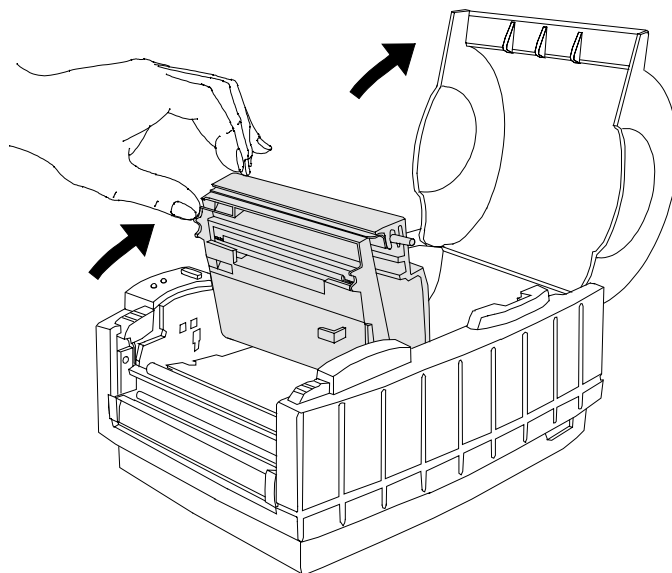
3. Slide the Media Guide onto the Media
    Holder as shown. Placed the assembled
    Media Holder into the printer.
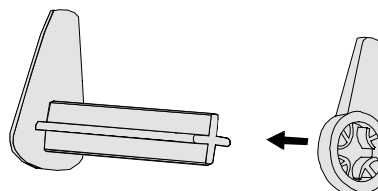
4.   Slide the end of the media from behind
       the printer and underneath the Media
       Cover. Feed the media between the
       upright Media Guide and underneath the
   Printhead Module until approximately six
   inches extend out the front of the printer.

       Slide the right side of the media
       underneath the adjustable Media Guide
       (Printhead Module). Adjust for the proper
       width of the media between the adjustable
       Media Guide and the fixed guide opposite
       of it on the Printhead Module.

5.   Holding the media in place, close the
       Printhead Module until the Print
       Mechanism Latches snap into place. The
   Printhead Module is now locked into
   place.

6.   Close the Media cover.
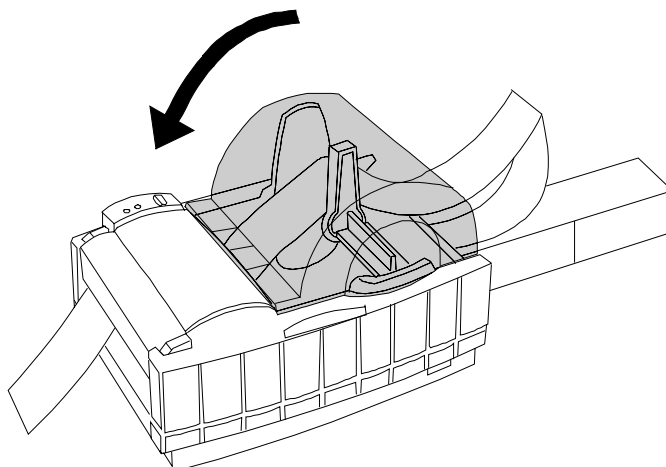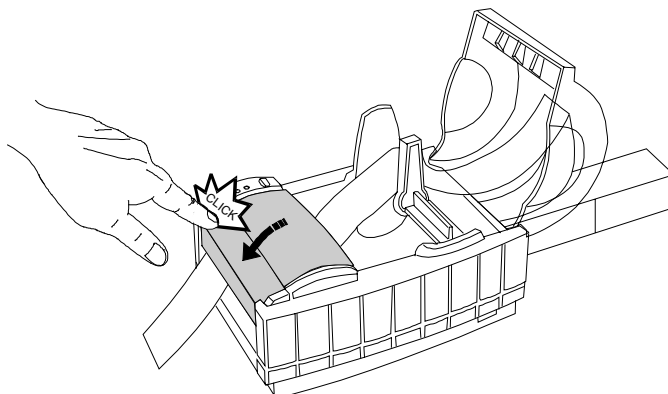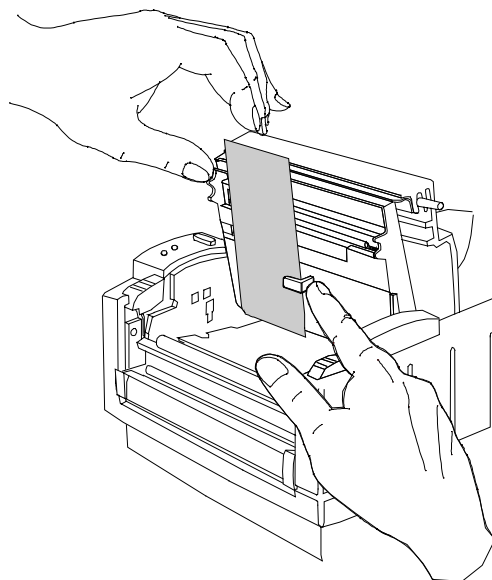
SETTING UP THE SOFTWARE

A100 – You will need to install the Zebra *A*100 Printer Driver on your computer before you can operate your printer. Also included for your use with the Zebra A100 printer is BAR-ONE for Personal Printers software, a powerful label design program.

The Zebra *A*100 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 Zebra *A*100 and is BAR-ONE for Personal Printers software may be installed on any personal computer that meets the system requirements in Table 2-3:

A300 – The Zebra A300 Printer can operate using ZPL II®, BAR-ONE® for Personal Printers or the Zebra *A*300 Printer Driver. For questions regarding ZPLII®, refer to the ZPL II Programming Guide (P/N 46469L).

The Zebra *A*300 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 Zebra *A*300 and BAR-ONE® for Personal Printers software may be installed on any personal computer that meets the system requirements in Table 2-3:

Table 2-3. System Requirements

System Requirements	*A*100/*A*300 Printer Drivers		BAR-ONE for Personal Printers	
	Minimum	Recommended	Minimum	Recommended
Processor	486SX	486DX	486SX	486DX
Hard disk	10 MB	20 MB	10 MB	20 MB
Memory	4 MB RAM	8MB RAM	4 MB RAM	8MB RAM
Interface (*A*100)	Parallel (IEEE1284)		Parallel (IEEE1284)	
Interface (*A*300)	RS-232	Parallel (IEEE1284)	RS-232	Parallel (IEEE1284)
Display	VGA	SVGA	VGA	SVGA
Floppy drive	3-1/2 Inch		3-1/2 Inch	
Operating system	Windows™ 3.1 or higher, Windows™ NT, Windows™ 95		Windows™ 3.1 or higher, Windows™ NT, Windows™ 95; OS/2	
Mouse	RS-232 or PS/2		RS-232 or PS/2	

Downloading *A*100 Printer Drivers for Windows 95/3.1/3.11

*A*100 Printer Drivers for Windows 95 and Windows 3.1/3.11 are available on the Internet. To download the software:

1.   Access the Zebra Technologies Corporation website at **www.zebra.com**.

2.   From the Zebra Technologies Corporation homepage, locate and click on **Software**.

3.   Locate and click on **Zebra Drivers**.

4.   Locate and click on **Windows95/3.1**. At this point, you can read about the drivers and download information about the drivers.

5.   Locate and click on **Click Here to Download the Zebra Windows Drivers**.

6.   On the online form, click on the down arrow on the top box and choose which version of the *A*100 Printer Driver you want (**A100 Windows 95 Driver** or **A100 Windows 3.1 and 3.11 Driver**).

7.   Complete the online form and click on the **Send Registration: Start Download** button.

8.   The software will be downloaded in a compressed format. Follow the on screen instruction to complete downloading.

9.   To expand the Zebra Windows Drivers:

   a.   In Windows 95 - Click on **Start**. Then click on **Run**. In the **Open:** box type **A100W95.EXE**. Click on the **OK** button. The files will now be expanded on the floppy.

   b.   In Windows 3.1/3.11 – From The Program Manager window, click on **File**. Click on **Run**. On the **Command Line:** type **A:\A100W31.EXE**. Now click the **OK** button. The files will now be expanded on the floppy.

10. Proceed to the *A*100 Printer Driver Installation for Windows 95 or Windows 3.1.

*A*100 Printer Driver Installation for Windows 3.1

1.   Start Windows 3.1.

2.   Insert the A100 Windows 3.1 Printer Driver Disk in your floppy disk drive (**A:** or **B:**).

3.   Click on **File** in the **Program Manager** window.

Click on **Run** from the pull down menu.

In the **Command Line:** box type **a:\setup** (or **b:\setup**).

Click on the **OK** button.

Please read and follow the information on the **Welcome** screen.

Click on the **Next** button to continue with the installation.

4.   It is recommended that you view the **README** file. It contains the latest information that may not have been included in the User's Guide.

To view the **README** file, click on the **Yes** button.

To continue without viewing the **README** file, click on the **No** button.

5.   If you selected **Yes** to viewing the **README** file, you will get a screen similar to the one on the right.

View the **README** file by scrolling through the **Notepad** Screen.

To close **Notepad** and continue installation, click on **File**. Then click on **Exit** on the pull down menu.
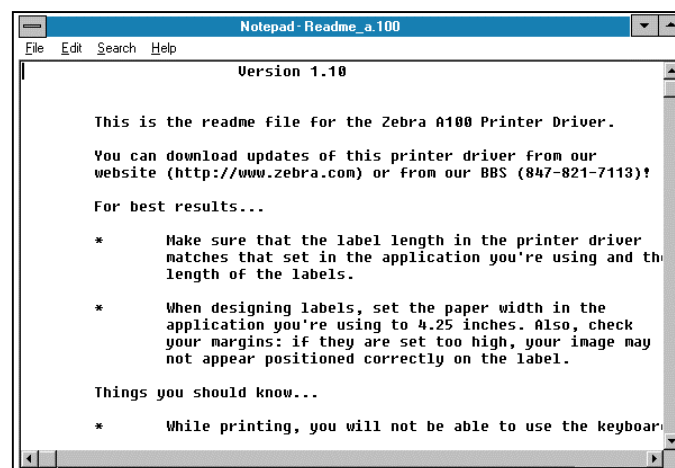
6.   You may set the *A*100 printer as your
        default printer (<u>all</u> print jobs going to this
        printer).

        Click on the **Y**es button to set the *A*100 as
        the default printer.

        Click on the **N**o button if you do not want
        the *A*100 to be the default printer.
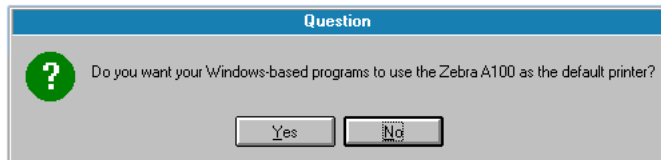
7.   You must reboot your computer or restart
        Windows in order for the software to
        operate.

        Click on the circle next to your choice.

        Click on the **Ok** button to continue.

*A*100 Printer Driver Installation for Windows 95

1.   Start Windows 95.

2.   Insert the A100 Windows 95 Printer Driver Disk in your floppy disk drive (**A:** or **B:**).

3.   Click on the **Start** button on the Windows 95 desktop.

Click on **Run.**

In the **Open:** box type **A:\Setup** (or **B:\Setup**).

Click on the **OK** button.

Please read and follow the information on the **Welcome** screen.

Click on the **Next** button to continue with the installation.

4.   It is recommended that you view the **README** file. It contains the latest information that may not have been included in the User's Guide.

To view the **README** file, click on the **Yes** button.

To continue without viewing the **README** file, click on the **No** button.

5.   If you selected **Yes** to viewing the **README** file, you will get a screen similar to the one on the right.

View the **README** file by scrolling through the **Notepad** Screen.

To continue installation, click on the **X** in the upper right hand corner of the **Notepad** window.

6.   You may set the *A*100 printer as your default printer (all print jobs going to this printer).

      Click on the **Yes** button to set the *A*100 as the default printer.

      Click on the **No** button if you do not want the *A*100 to be the default printer.

Question

Do you want your Windows-based programs to use the Zebra A100 as the default printer?

[Yes]   [No]

7.   You must reboot your computer or restart Windows in order for the software to operate.

      Click on the circle next to your choice.

      Click on the **Ok** button to continue.

Zebra A100 Printer Installation

Setup is complete. You must reboot your computer or restart Windows before you can use your Zebra A100 printer.

○ Yes, I want to restart Windows now.

○ Yes, I want to restart my computer now.

○ No, I will restart my computer later.

[OK]
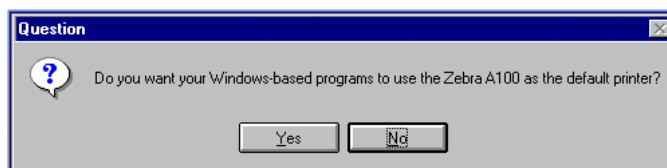
Downloading *A*300 Printer Drivers for Windows 95/3.1

*A*300 Printer Drivers for Windows 95 and Windows 3.1 are available on the Internet. To download the software:

1.   Access the Zebra Technologies Corporation website at **www.zebra.com**.

2.   From the Zebra Technologies Corporation homepage, locate and click on **Software**.

3.   Locate and click on **Zebra Drivers**.

4.   Locate and click on **Windows95/3.1**. At this point, you can read about the drivers and download information about the drivers.

5.   Locate and click on **Click Here to Download the Zebra Windows Drivers**.

6.   Fill out the online form and click on the **Send Registration: Start Download** button.

7.   The software will be downloaded in a compressed format. It is suggested that you create a separate folder (with a name of your choice) for this compressed file before loading it to your hard drive. If you download to a 1.44 Mb floppy, you will need to copy the compressed file to your hard drive before expanding it. Follow the on screen instruction to complete downloading.

8.   If you downloaded to a 1.44 Mb floppy, insert the disk into the computer you will be installing the printer drivers on. Create a folder on your hard drive, with a name of your choice, and copy the **zbrdrv95.exe** (Windows 95) or **zbrdrv31.exe** (Windows 3.1/3.11) to that folder. YOU WILL NOT BE ABLE TO EXPAND THE SOFTWARE ON THE FLOPPY.

9.   To expand the Zebra Windows Drivers:

    a.   In Windows 95 - Click on **Start**. Then click on **Run**. In the **Open:** box type the complete path (including the folder you named earlier) to the compressed file on the hard drive and the file name **zbrdrv95.exe** (example: **C:\Zebra\ zbrdrv95.exe**). Click on the **OK** button. The files will now be expanded in the file folder you named earlier.

    b.   In Windows 3.1/3.11 – From The Program Manager window, click on **File**. Click on **Run**. On the **Command Line:** type the complete path (including the folder you named earlier) to the compressed file on the hard drive and the file name **zbrdrv31.exe** (example: **C:\Zebra\ zbrdrv31.exe**). Now click the **OK** button. The files will now be expanded on the floppy.

10.   Proceed to the *A*300 Printer Driver Installation for Windows 95 or Windows 3.1.

*A*300 Printer Driver Installation for Windows 3.1

1. Start Windows 3.1

    Click on the **Main** icon in the **Program Manager** window.

    Click on the **Control Panel** icon.

    Click on the **Printers** icon.

    Click on the **Add>>** button.

    Highlight **Install Unlisted or Updated Driver**.

    Click on the **Install** button.
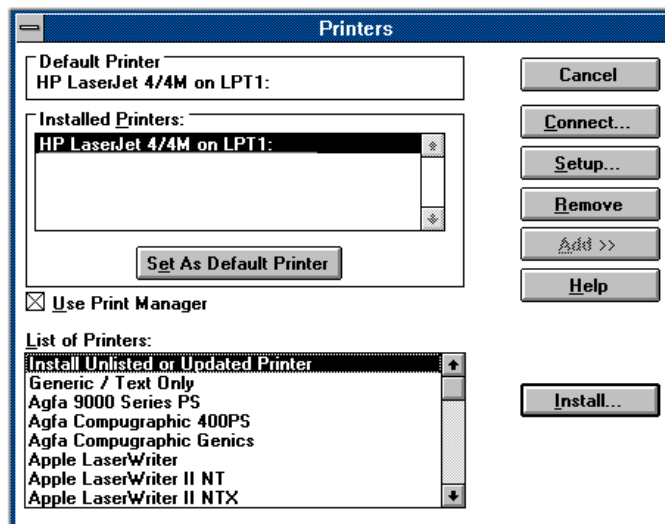
2. In the **Install Driver** window, enter the complete path to the folder where you downloaded and expanded the printer driver (example: C:\Zebra).

    Click on the **OK** button.
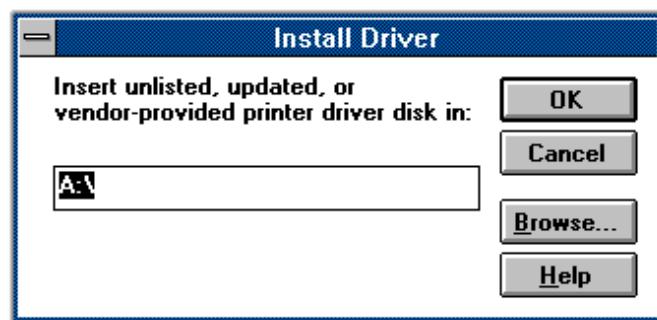
3. Highlight **Zebra A300**.

    Click on the **OK** button.
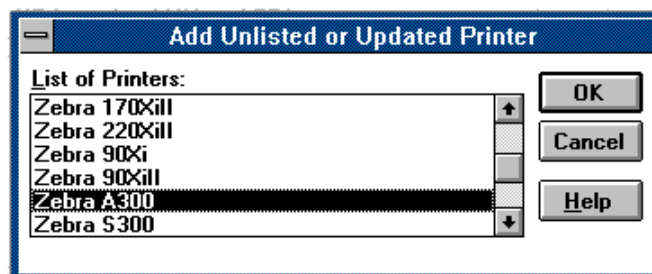
4.   The **Zebra A300** will now be listed on the **Installed Printers:** window.
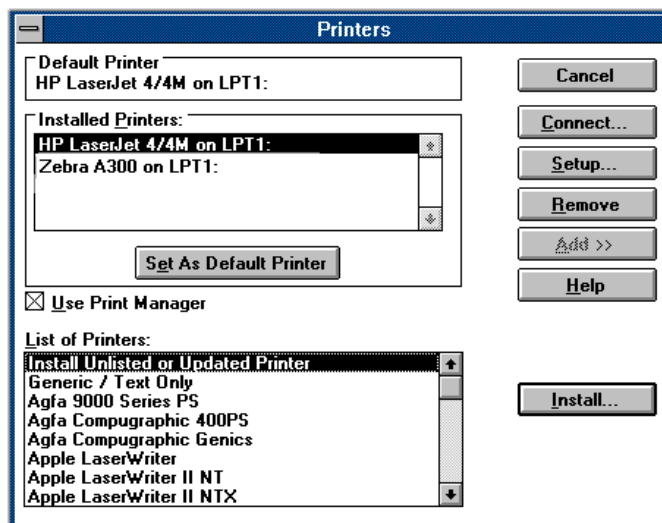
*A*300 Printer Driver Installation for Windows 95

1.   Start Windows 95.

      Click on the **Start** button on the Windows 95 desktop.

      Click on the **Settings** button**.**

      Click on the **Printers** button.

      Click on the **Add Printer** icon.

      Follow the instructions of the **Add Printer Wizard** until you get to the window at the right.

      Click on the **Have Disk** button.
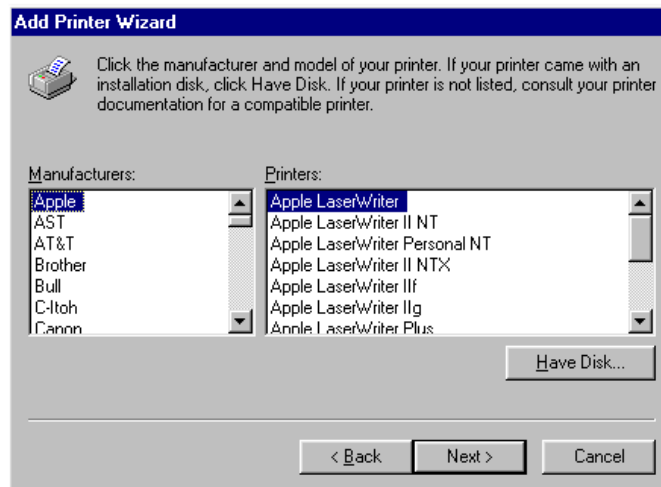
2.   In the **Copy manufacturer's files from:** box type in the complete path to the folder where you have downloaded the Zebra Printer Drivers (example: C:\Zebra).

      Click on the **OK** button.
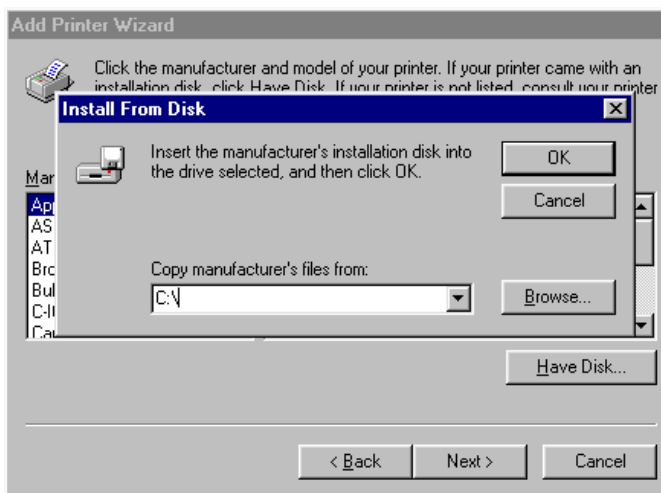
3.   Highlight **Zebra A300**.

      Click the **Next>** button.

      Complete the installation process by following the instructions in each window until the last window asks you to print a test page.

      Click on the **Finish** button.
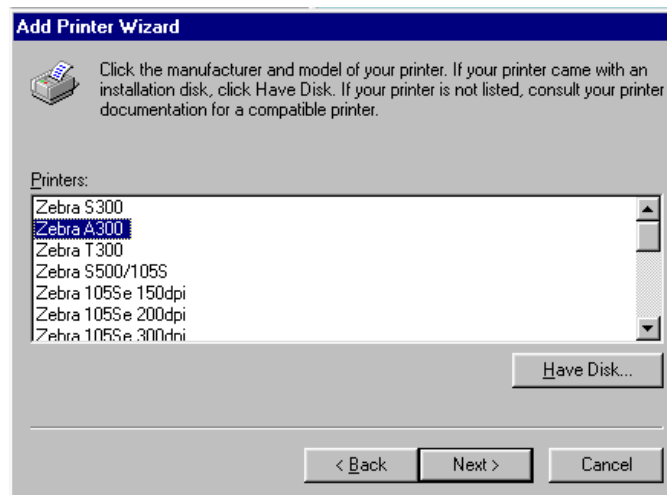
INITIAL POWER-UP

Turn the printer on by toggling the Power Switch on the right side of the printer. The Power and Fault lights will turn on. The printer performs a set of internal diagnostics, and after the diagnostics have been completed (within 1-10 seconds), the Fault light will turn off.

*A*100 - If loading the printer with die-cut labels for the first time, press the Feed Key once to position the media. **If loading the printer with media for the first time or if you are changing the type of media you're using, the *A*100 Calibration Procedure may need to be performed.** Once the calibration in completed, the settings are saved. You do not have to perform a calibration just because you turned off the power on the printer.

*A*300 - If you are using non-continuous media, the printer will then advance the media to position the gap over the tear bar so that it is ready for use. **If loading the printer with media for the first time or if you are changing the type of media you're using, you must perform the *A*300 Calibration Procedure.** Once the calibration is completed, the settings are saved. You do not have to perform a calibration just because you turned off the power on the printer.

CALIBRATION

The printer's media sensor sensitivity establishes how your printer detects where the top of your label is. If you are using die-cut label media, the printer needs to detect the difference between no media in the printer at all, backing material only (indicating the space/gap between labels), and a label plus backing material.

To make these distinctions, the printer shines light through the media and measures the amount of light that makes it through the media. In this way, the printer can detect where your labels begin and end and when you run out of media.

Amount of light detected:	What it is detecting:	What it means:
High	Nothing. No media is present.	Out of media or it may indicate the notch/gap between labels if you are using notched media or tagstock.
Medium	Media backing material only.	The web between labels is directly under the printhead.
Low	A label plus backing material.	A label is directly under the printhead.

Note: If you are using notched media or tagstock, the values for High and Medium will be identical. This is because the space between tags is indicated by a notch or gap in the media, instead of by the web between labels.

Windows 3.1 *A*100 Calibration Procedure

Note: Before you begin each step of the Calibration procedure, remove any labels waiting to be picked when in the Peel-Off Mode.

1.   The printer must be connected to the computer and the A100 Printer Driver must already be installed.

2.   Turn the printer power on if it is not already on.

3.   To access the calibration procedure in Windows 3.1, you must open the *A*100 Print Setup Dialog Box.

     Click on the **Main** icon in the **Program Manager** window.

     Click on the **Control Panel** icon.

     Click on the **Printers** icon.

     Highlight **Zebra A100 on LPT1** in the **Installed Printers:** box.

     Click on the **Setup** button.

     Click on the **Advanced** button.

     You will now see the **Zebra A100 Advanced Settings** window at the right.

4.   Click on the **Calibrated** button.

     If your setup does not support bi-directional communication, you will get an error message. Click **OK** and you will be returned to the **Zebra A100 Advanced Settings** window. You must then follow the **Fixed** procedure in step 8.

5.   If your setup supports bi-directional communication, you will get the window at the right (**Zebra *A*100 Calibration – Step 1 of 2**). Read and follow the four steps.

> **Zebra A100 Calibration - Step 1 of 2**
>
> STEP 1:
> 1. Open the printhead.
> 2. Remove several labels from the roll of media and place only the backing material under the printhead.
>
> Note: If you are not using die-cut label media, remove all media from the printer.
>
> 3. Close the printhead.
> 4. Press "Begin Calibration"
>
> [Begin Calibration]   [Help...]   [Cancel]

6.   If you did not remove the labels from the media, you will get the following error message.

     If you get this message, click **OK** and repeat the calibration procedure, this time making sure that media backing material only is under the printhead.

> **Zebra A100 - Error**
>
> Unable to calibrate the A100 printer's label sensor.
> Readings indicate there may be a label under the printhead.
>
> [OK]

7.   The next window is the **Zebra *A*100 Calibration – Step 2 of 2**. Read and follow the four steps.

> **Zebra A100 Calibration - Step 2 of 2**
>
> STEP 2:
> 1. Open the printhead.
> 2. Pull out some of the media until a label is positioned under the printhead.
>
> Note: If you are not using die-cut label media, simply reload the media into the printer.
>
> 3. Close the printhead.
> 4. Press "Continue Calibration".
>
> [Continue Calibration]   [Help...]   [Cancel]

8.   If your setup does not support bi-directional communication, you must select **Fixed** on the **Zebra A100 Advanced Settings** window at the right.

Adjust the **Sensitivity Range** and **Media Detection Level** until your labels track properly.

Windows 95 *A*100 Calibration Procedure

Note: Before you begin each step of the Calibration procedure, remove any labels waiting to be picked when in the Peel-Off Mode.

1. The printer must be connected to the computer and the A100 Printer Driver must already be installed.

2. Turn the printer power on if it is not already on.

3. To access the calibration procedure in Windows 95, you must open the *A*100 Print Setup Dialog Box.

    Click on the **Start** button on the Windows 95 desktop.

    Click on **Settings.**

    Click on **Printers.**

    Click with the right mouse button on the **Zebra A100** icon.

    Click on **Properties.**

    Click on the **Details** tab.
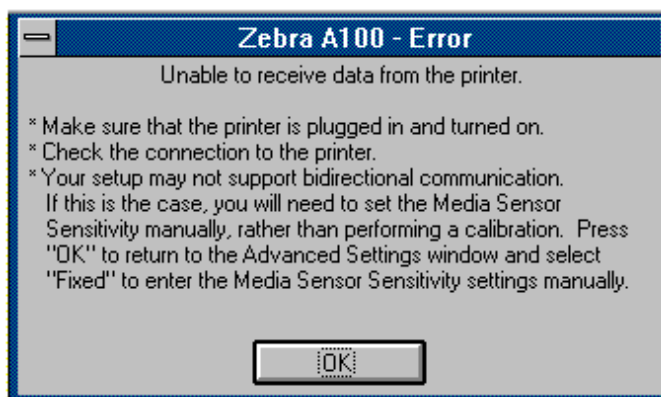
    Click on the **Setup** button.

    Click on the **Advanced** button.

    You will now see the **Zebra A100 Advanced Settings** window at the right.

4. Click on the **Calibrated** button.

    If your setup does not support bi-directional communication, you will get an error message. Click **OK** and you will be returned to the **Zebra A100 Advanced Settings** window. You must then follow the **Fixed** procedure in step 8.
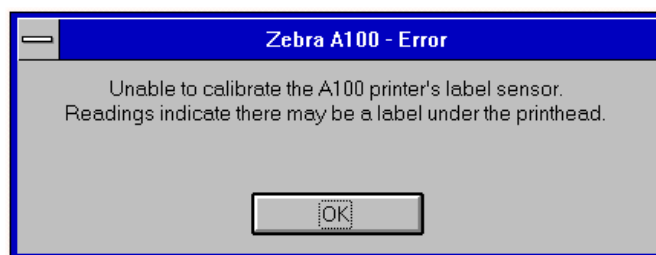
5.   If your setup supports bi-directional
       communication, you will get the window
       at the right (**Zebra *A*100 Calibration –
       Step 1 of 2**). Read and follow the four
       steps.

```
Zebra A100 Calibration - Step 1 of 2                    [X]

STEP 1:
1.  Open the printhead.
2.  Remove several labels from the roll of media and place only
the backing material under the printhead.

Note: If you are not using die-cut label media, remove all media
from the printer.

3.  Close the printhead.
4.  Press "Begin Calibration"

   [ Begin Calibration ]    [ Help ]    [ Cancel ]
```
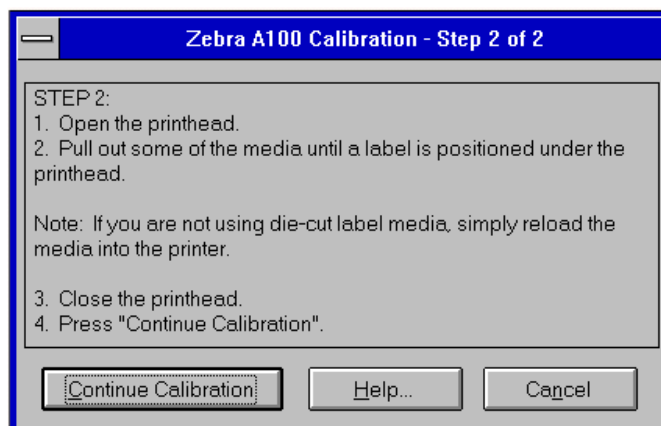
6.   If you did not remove the labels from the
       media, you will get the following error
       message.

       If you get this message, click **OK** and
       repeat the calibration procedure, this time
       making sure that media backing material
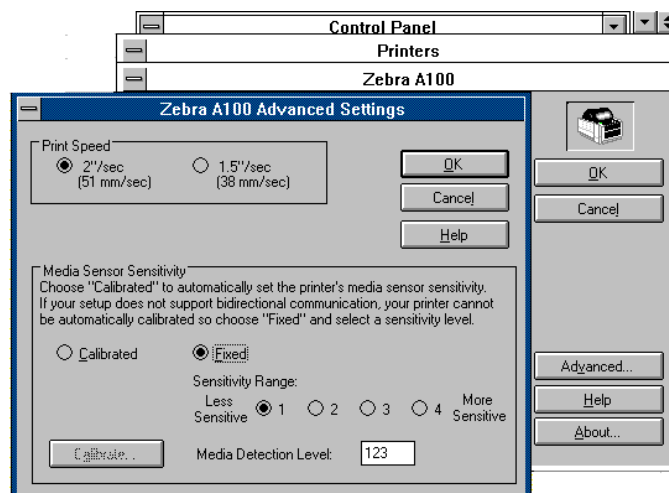   only is under the printhead.

```
Zebra A100 - Error                                      [X]

       Unable to calibrate the A100 printer's label sensor.
    Readings indicate there may be a label under the printhead.

                        [ OK ]
```

7.   The next window is the **Zebra *A*100
       Calibration – Step 2 of 2**. Read and
       follow the four steps.

```
Zebra A100 Calibration - Step 2 of 2                    [X]

STEP 2:
1.  Open the printhead.
2.  Pull out some of the media until a label is positioned under the
printhead.

Note:  If you are not using die-cut media, simply reload the
media into the printer.

3.  Close the printhead.
4.  Press "Continue Calibration".

   [ Continue Calibration ]  [ Help ]    [ Cancel ]
```

8.   If your setup does not support bi-directional communication, you must select **Fixed** on the **Zebra A100 Advanced Settings** window at the right.

Adjust the **Sensitivity Range** and **Media Detection Level** until your labels track properly.

A300 Calibration Procedure

Note: 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 Fault light flashes twice in a row. (First it will flash once, and 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 2-7. When complete, the printer will save the new settings in memory and the printer is ready for normal operation.

NOTE: The media sensor profile takes several labels to complete its printing. The spikes should fall between WEB and MEDIA. The distance between spikes is the length of a label.

Figure 2-7 Media Sensor Profile (Sample)

SETTING THE SERIAL PORT COMMUNICATION PARAMETERS

A100 – The A100 has no serial port.
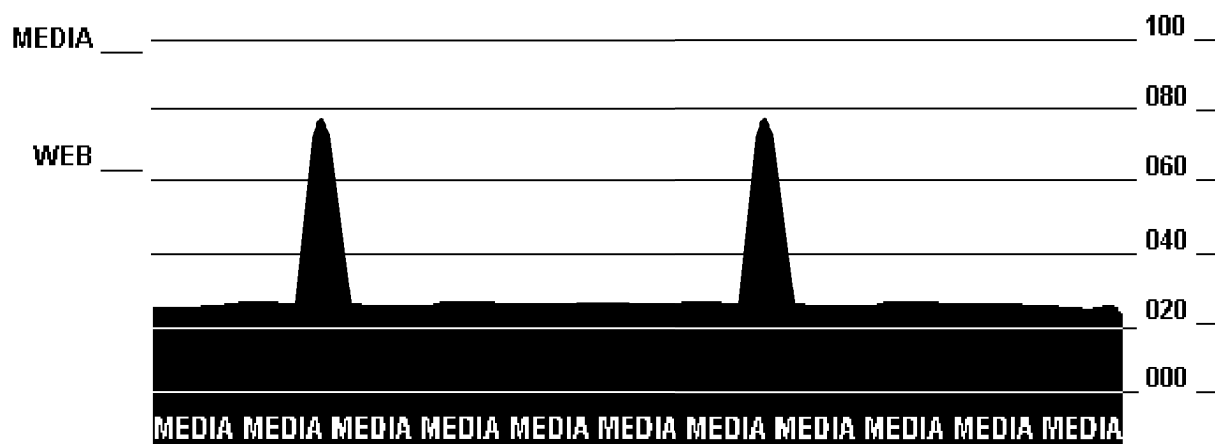
A300 – If you are using the printer's serial port to transfer data, you will need to make sure that the printer and the computer have identical communication parameter settings.

To initialize the communication parameters for the printer:

Press and hold the Feed Key until the Fault Light blinks three (3) times in a row and then release the Feed Key. The baud rate for the printer will be reset to the default settings of 9600 baud, 8-bit word length, no parity, and 1 stop bit. Now set the communications parameters on your computer to match these settings.

If you need to use different settings than the defaults, you will need to send the Set Communications (**^SC**) ZPL command. Listed below is the command description for the Set Communications command (refer to your ZPL II Programming Guide for additional programming information):

^SCa,b,c,d,e,f

a = baud rate (**110** – **19200** baud)
b = word length (**7** or **8** data bits)
c = parity (**N** = none, **E** = even, **O** = odd)
d = stop bits (**1** or **2**)
e = handshake (**X** = XON/XOFF, **D** = DTR/DSR)
f = Zebra protocol (**Y** = yes, **N** = no)

If you do not specify a new setting for a parameter, it remains unchanged (it does not change the default value).

There are two options for changing the **^SC** "Set Communications" ZPL command:

1.   Send the **^SC** command at 9600 Baud via the serial port using the default settings and then reset the computer to the new values.

2.   Send the **^SC** command via the parallel port and then reconnect for serial port operations as needed.

OPERATING THE PRINTER

To create a label for the **Zebra *A* 100**, you will need to design the label in a Windows application (such as BAR-ONE® for personal printers) and use that application's print setup to select the Zebra *A* 100 printer before you print. Alternatively, you may use the Windows Printers Control Panel to select the Zebra *A* 100 as your default printer for all your Windows applications. The Zebra *A* 100 printer driver works like any other printer driver. By selecting the Zebra *A* 100 printer in Print Setup or in the Windows Printers Control Panel, you can print from most Windows applications to this printer.

To create a label for the **Zebra *A* 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. 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).

Adjusting the Darkness of the Printing

A100 - Use the Windows Printers Setup dialog from your Windows application or from the Windows Printers Control Panel to adjust the slide bar labeled **Image Control** (see Figure 2-8). See **A100 Print Setup Dialog Box** (on next page) for more information. Print sample labels and adjust darkness further if necessary. If you are using BAR-ONE or other software, adjust the relative darkness settings as indicated in that software.

A300 – Use the Windows Printers Setup dialog from your Windows application or from the Windows Printers Control Panel to adjust the slide bar labeled **Intensity** (see Figure 2-8). If you are using ZPL II, refer to the ZPL II User's Guide for the proper commands for adjusting the printing darkness.
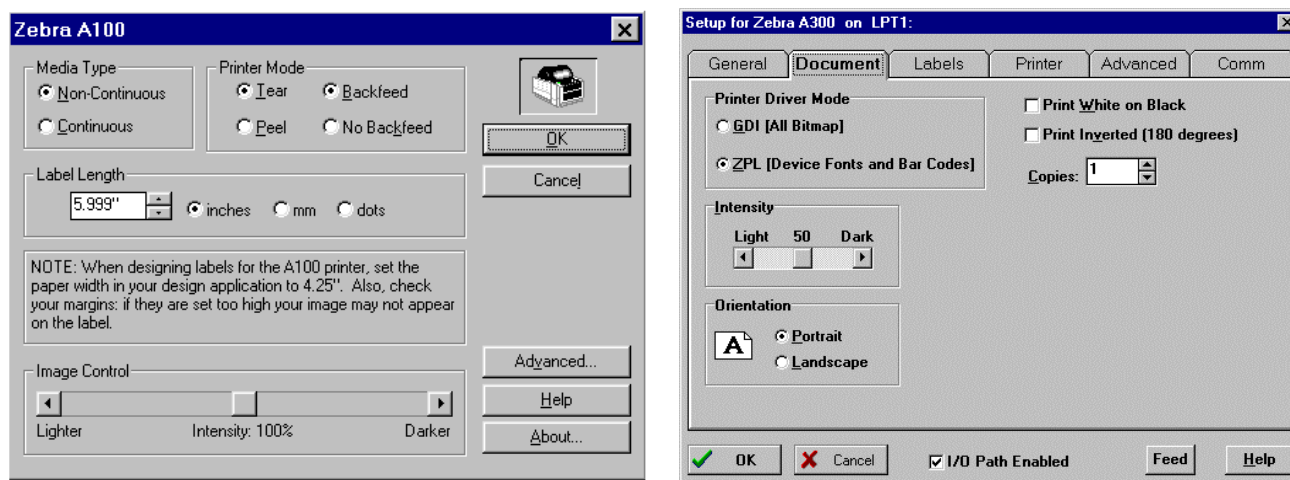
Figure 2-8 Print Setup Dialog Box

*A*100 Print Setup Dialog Box

After you have installed the Zebra *A*100 software, it is recommended that you use the Windows Printers Control Panel to calibrate and configure the printer before you try to print (see page 2-24 for calibration procedures and information).

Accessing the Windows 3.1 *A*100 Print Setup Dialog Box

1.   The printer must be connected to the computer and the A100 Printer Driver must already be installed.

2.   Turn the printer power on if it is not already on.

3.   Start Windows 3.1

        Click on the **Main** icon in the **Program Manager** window.

        Click on the **Control Panel** icon.

        Click on the **Printers** icon.

        Highlight **Zebra A100 on LPT1** in the **Installed Printers:** box.

        Click on the **Setup** button.

Accessing the Windows 95 *A*100 Print Setup Dialog Box

1.   The printer must be connected to the computer and the A100 Printer Driver must already be installed.

2.   Turn the printer power on if it is not already on.

3.   Start Windows 95.

        Click on the **Start** button on the Windows 95 desktop.

        Click on **Settings.**

        Click on **Printers.**

        Click with the right mouse button on the **Zebra A100** icon.

        Click on **Properties.**

        Click on the **Details** tab.

        Click on the **Setup** button.
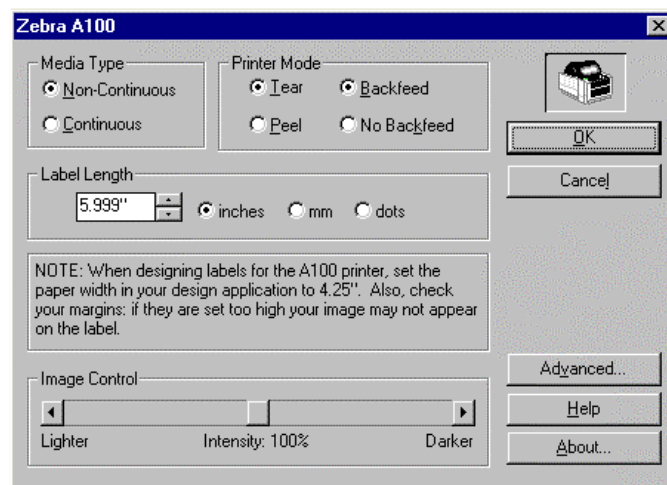
If you will use die cut labels or notched tickets or tags, then the Non-Continuous Media Type button is already selected for you. If instead you are using continuous media having no gaps or notches to identify the start and end of each label, tag, or ticket, then click the Continuous Media Type button.

If you plan to tear off labels, tickets, tags, or strips as they are printed, then the Tear Mode is already selected for you. If instead you are using die cut pressure sensitive labels and want the printer to peel them from the backing and wait for you to take them, then click the Peel button. (See "Peel Off Mode Operation" for instructions on proper loading of peel off media.)

Enter the length of your label, tag, or ticket into the Label Length box by over-typing or using the up and down arrows. If you are using continuous media, enter the length you want your label, ticket or tag to be.

Before printing, the Zebra *A*100 printer will normally reverse feed slightly to begin printing at the very top of the next label. If you wish to disable this feature to save time, click the No Backfeed button.

The Image Control slider sets the darkness of the printed image. The 100% setting is correct for most thermal media. We suggest you leave the slider set there until you have printed some labels and see a need to change it.

When you are satisfied with your settings, click **OK**.

You can return to the *A*100's Setup Dialog at any time from the Printers Control Panel (in Windows 3.1) or Printer Settings (in Windows 95) and from the print dialog of most Windows applications.

Accessing the Windows 3.1 *A*300 Print Setup Dialog Box

1. The printer must be connected to the computer and the A100 Printer Driver must already be installed.

2. Turn the printer power on if it is not already on.
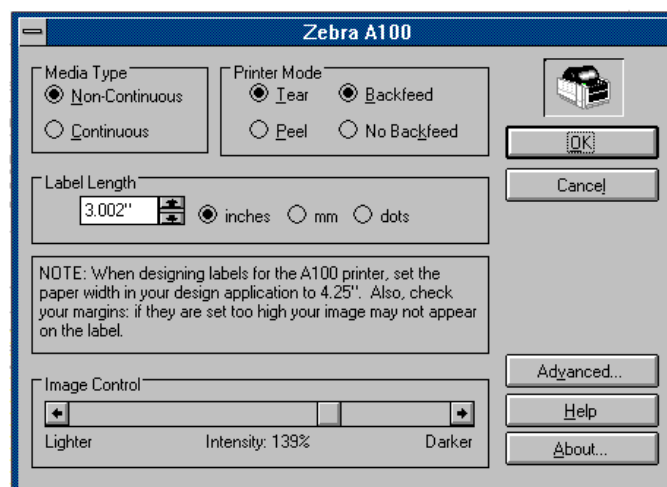
3. Start Windows 3.1

    Click on the **Main** icon in the **Program Manager** window.

    Click on the **Control Panel** icon.

    Click on the **Printers** icon.

    Highlight **Zebra A300 on LPT1** in the **Installed Printers:** box.

    Click on the **Setup** button.

    If this is the first time the software is run, the screen at the left will appear.

    Click on the **OK** button.

4. Enter in the **Firmware:** level in the highlighted box.

    The firmware level can be seen by printing out a configuration label.

    Click on the **OK** button.

5.   In the **Setup for Zebra A300** screen, the **General** tab will display information about the printer firmware, memory and resolution.

6.   Click on the **Document** tab.

   Changes to the **Printer Driver Mode**, **Intensity** and **Orientation** can be made here.

7.   Click on the **Labels** tab.

   Changes to the **Media Type**, **Print Method** and label size (**Defined** or **Create New**) can be made here.

8.   Click on the **Printer** tab.

Changes to **Print Rate**, **Slew Rate**, **Firmware**, **Print Mode** and **Media Feed** can be made here.

Accessing the Windows 95 *A*300 Print Setup Dialog Box

1.   The printer must be connected to the computer and the A100 Printer Driver must already be installed.

2.   Turn the printer power on if it is not already on.

3.   Start Windows 95

    Click on the **Start** button.

    Click on **Settings.**

    Click on **Printers.**

    Click with the right mouse button on the **Zebra A300** icon.

    Click on **Properties.**

    Click on the **Details** tab.

    Click on the **Setup** button.

    If this is the first time the software is run, the screen at the left will appear.
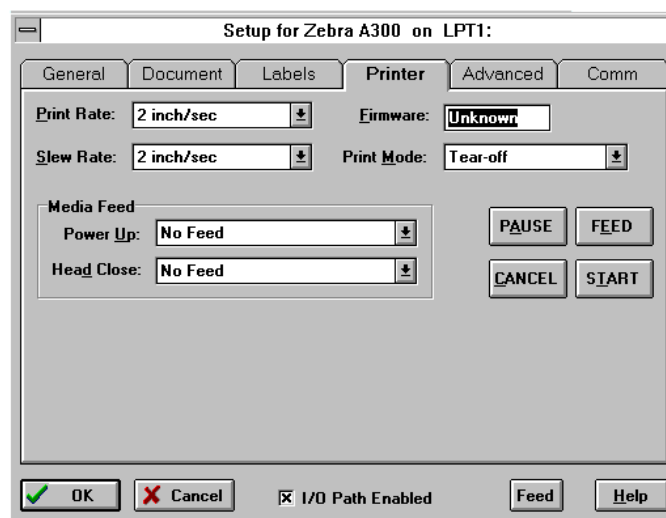
    Click on the **OK** button.

4.   Enter in the **Firmware:** level in the highlighted box.

    The firmware level can be seen by printing out a configuration label.
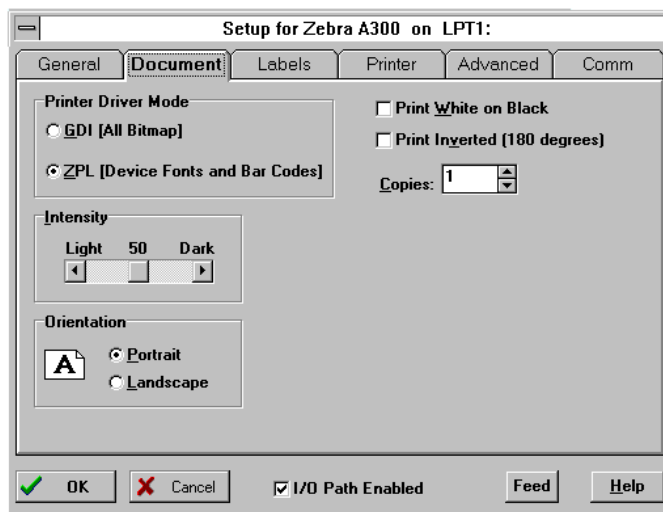
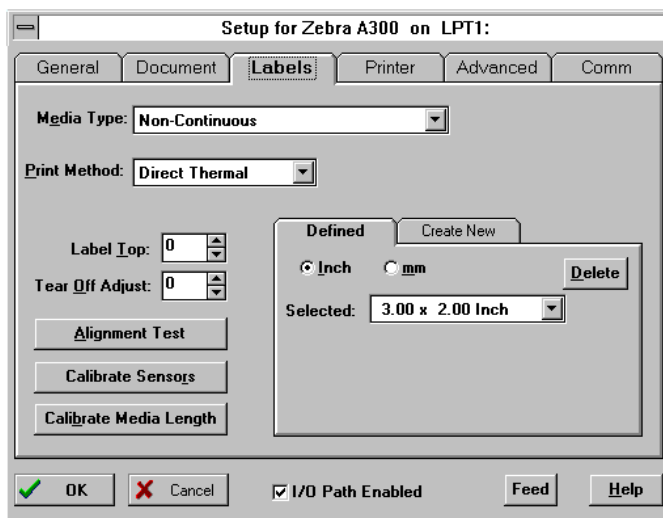   Click on the **OK** button.

5.   In the **Setup for Zebra A300** screen, the **General** tab will display information about the printer firmware, memory and resolution.

6.   Click on the **Document** tab.

Changes to the **Printer Driver Mode**, **Intensity** and **Orientation** can be made here.

7.   Click on the **Labels** tab.

Changes to the **Media Type**, **Print Method** and label size (**Defined** or **Create New**) can be made here.

8.   Click on the **Printer** tab.

     Changes to **Print Rate**, **Slew Rate**, **Firmware**, **Print Mode** and **Media Feed** can be made here.

NOTES

TROUBLESHOOTING

TROUBLESHOOTING TABLES

Table 3-1 and 3-2 Troubleshooting Charts list the most common problems that may be encountered when operating the *A*100 and *A*300 printers. Go to the chart for your particular model and review the column titled SYMPTOM. The ACTION column lists possible corrective actions.

Table 3-1 *A*100 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.
		Check DC output of power supply.
		Replace Main Logic Board
When printer is first powered on, the Fault light stays on.	Printer Failed an internal diagnostic test.	Turn printer off and then back on.
Fault light is on.	Printhead is open.	Close Printhead.
	Out of media or media 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.
Fault light is flashing.	Printhead is overheated.	Allow printer to cool. Printing resumes automatically when the Printhead cools to operating temperature.
	Communications error: printer and host computer are not communicating correctly.	Make sure the printer cable is installed correctly.
Long tracks of missing print (blank vertical lines) on several labels.	Printhead is dirty.	Clean the Printhead (See Section IV Preventive Maintenance).
	Print element is damaged.	Replace the Print Mechanism Module
Printer appears to operate, but nothing prints.	Non-thermally sensitive material.	Make sure you are using direct thermal label, ticket, or tag stock. Zebra recommends using genuine Zebra media in your printer for best results.

Table 3-2 *A*300 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. Insure AC power is present.
		Check DC output of power supply.
		Replace Main Logic Board
When printer is first powered on, the Fault light stays on.	Printer Failed an internal diagnostic test.	Turn printer off and then back on.
Fault light is flashing.	Printhead is open.	Close Printhead.
	Out of media or media 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.
Long tracks of missing print (blank vertical lines) on several labels.	Printhead is dirty.	Clean the Printhead (See Section IV Preventive Maintenance).
	Print element is damaged.	Replace the Print Mechanism Module
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).
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.
Printer appears to operate, but nothing prints.	Non-thermally sensitive material.	Make sure you are using direct thermal label, ticket, or tag stock. Zebra recommends using genuine Zebra media in your printer for best results.

FACTORY ASSISTANCE

Should any problem be encountered which cannot be corrected with the aid of this manual, and you have Internet access, you should check out ZIP Support™ at **http://support.zebra.com**. If you cannot solve your problem via ZIP Support™ or do not have Internet access, contact your Distributor or Zebra Technologies Corporation's Technical Support Department to minimize or avoid printer downtime and/or assist in returning the equipment.

ZIP SUPPORT™

- Zebra Internet Product Support is putting technology to use for you.

- High-speed, accurate, intuitive database utilizes text and graphics.

- Available any time – all time zones.

    24 hours a day

    7 days a week

    365 days a year

- Questions can be identified, diagnosed, and resolved all in one brief, easy, on-line session.

- A visit costs as little as a local Internet access phone call.

- ZIP Support™ is updated regularly by Zebra corporate product experts, guaranteeing the most comprehensive, timely product information available.

    You can access ZIP Support™ on the Internet at http://support.zebra.com

RETURNING EQUIPMENT

Should it become necessary to ship your printer, carefully pack the printer in a suitable container to avoid damage during transit. A note describing the failure must be enclosed with the unit. Whenever possible, the original shipping container should be used. If the original shipping container is not available, a replacement can be ordered by contacting the Zebra Technologies Corporation's Technical Support Department. If other containers are used, a procedure similar to the original factory packaging should be followed.

Remove all media from the printer. Enclose the unit in a protective, dust-proof bag and insure that the unit floats in an outer carton of shock absorbing material.

A Return Materials Authorization (RMA) number is required for all equipment being returned. Contact Zebra Technologies Corporation's Technical Support Department to obtain an RMA number. Equipment returned for service without prior authorization may be refused.

NOTES

PREVENTIVE AND CORRECTIVE MAINTENANCE PROCEDURES

EQUIPMENT SAFETY TIPS

After reviewing each procedure, place a check in the box.

❏   The AC power plug and IEC 320 connectors on all Zebra Printers must bear the certification mark of at least one international safety organization listed below.
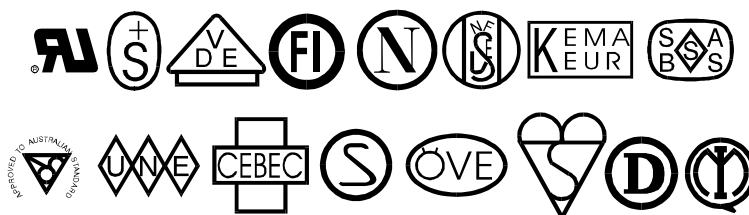
❏   Unless indicated otherwise, turn the power OFF before performing any maintenance procedures to the printer.

❏   To prevent damage to the spindles, on 160S™ and *Xi*II™ printers, **do not** lubricate the spindle assemblies.

❏   To prolong printhead life, when reinstalling the Printhead, secure the grounding strap to the Printhead mounting screw.

❏   Zebra printers comply with international regulations governing radiated emissions when using fully shielded data cables. Data cables must be fully shielded and fitted with metal or metalized connector shells. Required Shielded data cables and connectors prevent radiation and reception of electrical noise. Use of unshielded data cables may increase radiated emissions above the regulated limits.

EQUIPMENT SAFETY TIPS (CONTINUED)

❏ Permanent damage to the ROM will result if you power up the printer with ROM chips installed in the wrong direction.

❏ To insure optimum printhead life, observe proper electrostatic safety precautions (i.e.; ESD Wrist Straps) when removing, handling and replacing the Printhead.

❏ Zebra recommends using solvent containing 70% isopropyl alcohol, 30% distilled water for cleaning of;

- Printheads
- Platen Rollers
- Peel-Off Roller
- Media Path
- Peel/Tear Bar
- Spindles

❏ Ribbons used in the printers must be as wide as or wider than the media. If the ribbon is narrower than the media, areas of the printhead will be unprotected and subject to premature wear.

❏ To insure the printer has proper ventilation and cooling, do not place any padding or cushioning material under the unit because this restricts air flow.

❏ Install Zebra printers on a solid, level surface of sufficient size and strength to accommodate the physical dimensions and weight of the unit. The area enclosure in which the printer will operate must meet the environmental conditions specified in the Maintenance Manual or Users Guide . Electrical power must be available and in close proximity to the printer.

PERSONAL SAFETY TIPS

❏   Danger of an explosion exists if the back-up battery is replaced incorrectly.

❏   Do not wear any jewelry (rings, watches, etc.) and loose clothing when servicing the printers.

❏   Beware of "Pinch Points" on the printers. Be especially careful of:

- Opening and closing of covers.
- Printhead
- Rewind Spindle
- Platen Roller

❏   Wear protective eye wear when removing E-Rings, C-Clips and springs.

❏   For personal and equipment safety use a three-prong plug with a ground (earth) connection.

PREVENTIVE MAINTENANCE SCHEDULE

Cleaning

Table 4-1 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 wires on the Printhead).	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.
Transmissive Media Sensor	Air blow	Monthly (or depending on environment conditions).
Label Available Sensor	Air blow	As needed.
Printhead Open Sensor	Air blow	As needed.
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

Tools Required

Screwdriver, Phillips No. 2
EPROM extraction tool, Zebra part # 01796

Test Equipment Required

Anti-Static Mat and Anti-Static Wrist Strap (used when removing Electronic Circuit Boards or
updating Firmware).

Drawing And Parts List

Use Figure 4-1 when identifying *A - S e r i e s* printer parts or assemblies for troubleshooting and
replacing components. Replacement parts and pricing are available by contacting your Zebra
distributor. Table 4-2 lists replacement parts available for the *A - S e r i e s* printer. Some of these
are only available in kit form or as subassemblies. No piece parts in these kits or subassemblies,
unless otherwise listed, are available separately.

Table 4-2 Replacement Parts And Assemblies (See Figure 4-1)

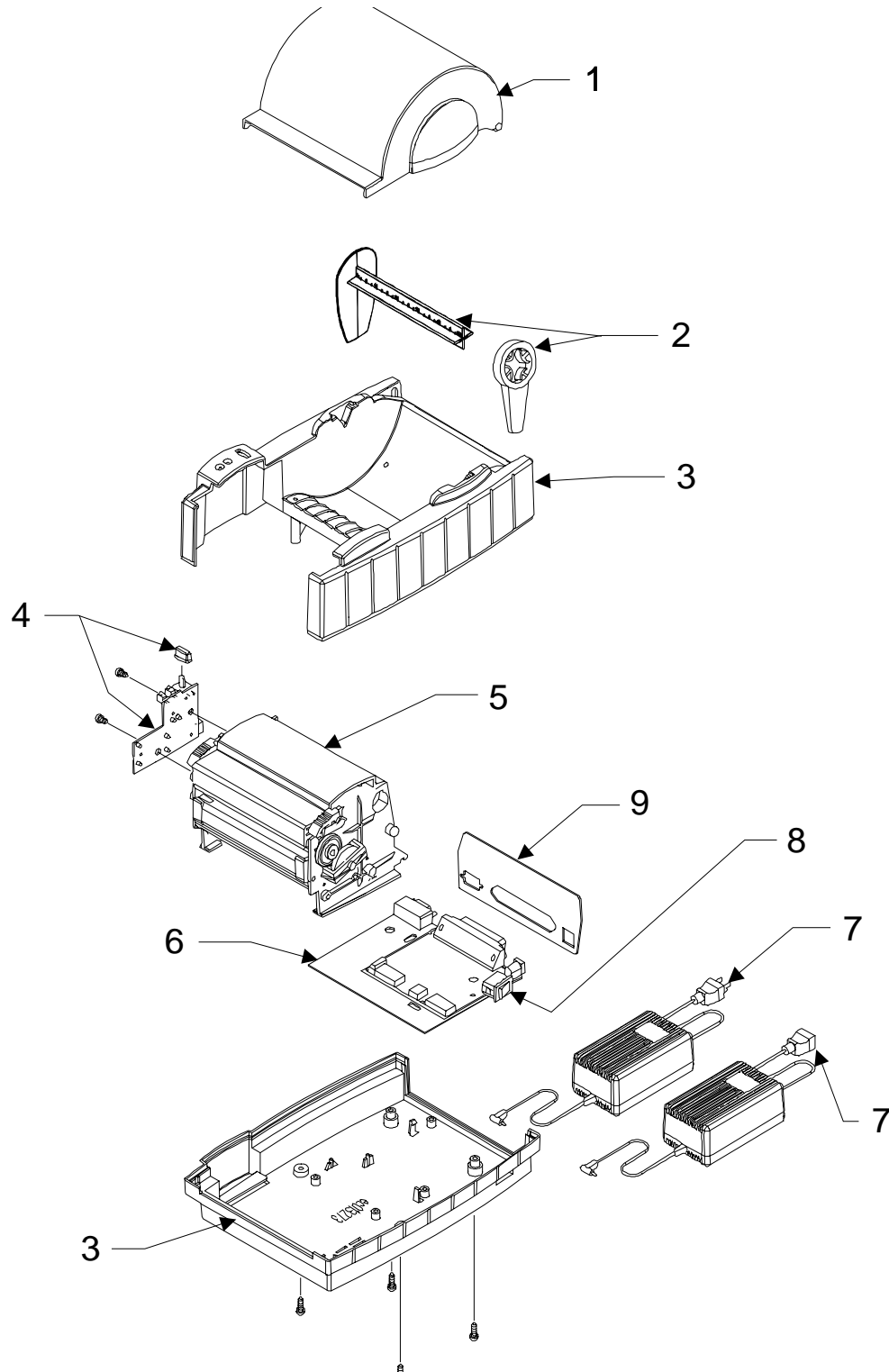| Item	Quantity	PART NUMBER	DESCRIPTION
1	1	55509	Media Compartment Cover
2	1	55526	Media Holder and Guide
3	1	55548	Printer Body Kit - Top and Bottom
4	1	55512	Feed Switch & LED Board
5	1	51200M	Print Mechanism Module
6	1	55514	*A*100 Main Logic Board
		14530M	*A*300 Main Logic Board
7	1	55506	117 VAC Power Supply Module
		55507	230 VAC Power Supply Module
8	1	55513	On/Off Switch
9	1	Not Available	Back Plate
	1	55501L	*A*100 User's Guide
	1	55530L	*A*300 User's Guide
	1	46469L	ZPL II® Programming Guide

Figure 4-1 Printer Part/Assembly Identification

MEDIA COMPARTMENT COVER REMOVAL

Refer to Figure 4-1

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

2.　　Gently, but firmly, squeeze the sides of the Media Compartment Cover where they meet the Printer Body – Top and lift off.

3.　　Reverse the procedure to reinstall or replace the Media Compartment Cover.

WARNING:

DANGER OF ELECTRICAL SHOCK IF PRINTER IS DISASSEMBLED WHILE POWER IS APPLIED! SHOCK HAZARDS ARE PRESENT INSIDE, EVEN WITH THE POWER SWITCH OFF.

PRINTER BODY REMOVAL

Refer to Figure 4-1

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

2.　　Remove all media.

3.　　Turn printer upside down.

4.　　Remove the four Phillips screws from the bottom of the printer.

5.　　Turn the printer right side up.

6.　　Lift the Printer Body – Top straight up and off the Printer Body – Bottom.

7.　　Lift off the blue plastic Feed Switch button found on the Peripheral Board.

8.　　Perform the removal procedures for the Main Logic Board and the Print Mechanism Module to gain access to the Printer Body – Bottom.

9.　　Reverse the procedure to reinstall or replace the Printer Body.

MAIN LOGIC BOARD REPLACEMENT

CAUTION:

OBSERVE PROPER ELECTROSTATIC SAFETY PRECAUTIONS WHEN
REMOVING, HANDLING AND REPLACING PRINTED CIRCUIT BOARDS.

Main Logic Board Removal

Refer to Figure 4-2

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

2. Remove all media.

3. Turn printer upside down.

4. Remove the four Phillips screws from the bottom of the printer (see Figure 4-1).

5. Turn the printer right side up.

6. Lift the Printer Body – Top straight up and off the Printer Body – Bottom.

7. Lift off the blue plastic Feed Switch button found on the Peripheral Board.

8. Disconnect all cables connected to the Main Logic Board by gently pulling on the connectors (J1, J2, J3 and J8 on *A100*. J1, J2, J3 and J5 on *A300*).

9. Remove the ground wire from the Main Logic Board by removing the screw holding it into place.

10. Release the two plastic retaining clips by gently pushing them away from the edge of the circuit board (or towards the center of the oblong cutouts on the *A300* Main Logic Board) and lifting the Back Plate and Main Logic Board together.

11. On the *A300*, remove the Back Plate on the Main Logic Board by removing the two hex standoffs holding the Back Plate to the Serial Port connector. Put the two hex standoffs back on the Serial Port connector. NOTE: On the *A100*, the Back Plate is not attached to the Main Logic Board. Remove the Back Plate by simply lifting up and out of the Printer Body – Bottom along with the Main Logic Board.

12. Place the board on an anti-static mat.

Main Logic Board Installation

1.   Remove the two hex standoffs on the Serial Port connector on the replacement A300 Main Logic Board. Put the Back Plate on the replacement *A*300 Main Logic Board and secure with the two hex standoffs just removed from the Serial Port connector. **NOTE: On the *A*100, the Back Plate is not attached to the Main Logic Board.**

2.   Reinstall the Main Logic Board by lowering it back onto the Printer Body – Bottom. Make sure the Back Plate is in the corresponding slots on the Printer Body. **NOTE: On the *A*100, install the Back Plate by holding it in place against the Main Logic Board and simply sliding it down and in the Printer Body – Bottom**.

3.   Gently push the two plastic retaining clips away from the edge of the circuit board (or to the center of the oblong cutouts on the *A300* Main Logic Board) and push down on the Back Plate and Main Logic Board together.
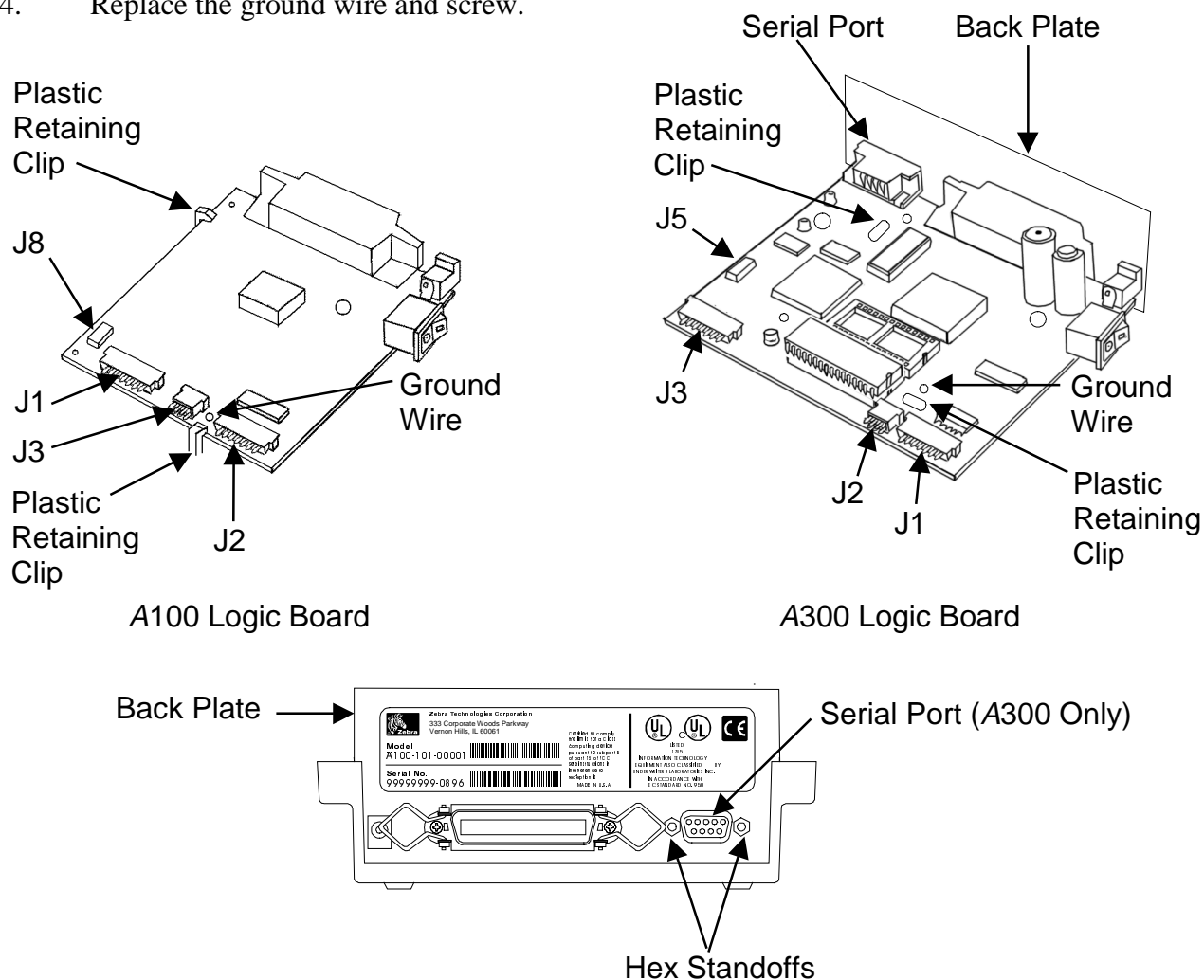
4.   Replace the ground wire and screw.

Figure 4-2 Main Logic Board

*A*300 MAIN LOGIC BOARD EPROM INSTALLATION INSTRUCTIONS

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

2. Remove all media.

3. Turn printer upside down.

4. Remove the four Phillips screws from the bottom of the printer (see Figure 4-1).

5. Turn the printer right side up.

6. Lift the Printer Body – Top straight up and off the Printer Body – Bottom.

CAUTION:

OBSERVE PROPER ELECTROSTATIC SAFETY PRECAUTIONS WHEN REMOVING, HANDLING AND REPLACING PRINTED CIRCUIT BOARDS.

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7. Locate the EPROM chip socket (U1) on the Main Logic Board (see Figure 4-3).

8. Using an EPROM extractor, gently squeeze the extractor and lift up to remove the old EPROM Chip from the board. Note the orientation of the locating notch on the chip you are removing.

9. Position the new EPROM with the locating notch facing the same direction as the removed chip. Carefully install the new chip by pressing firmly down on the chip. Ensure that no EPROM pins are bent away from the socket and the EPROM is seated properly.

10. Reverse Steps 1 through 6 to reassemble the printer.

11. Turn the power on and print a configuration label to make sure the printer is operating correctly.
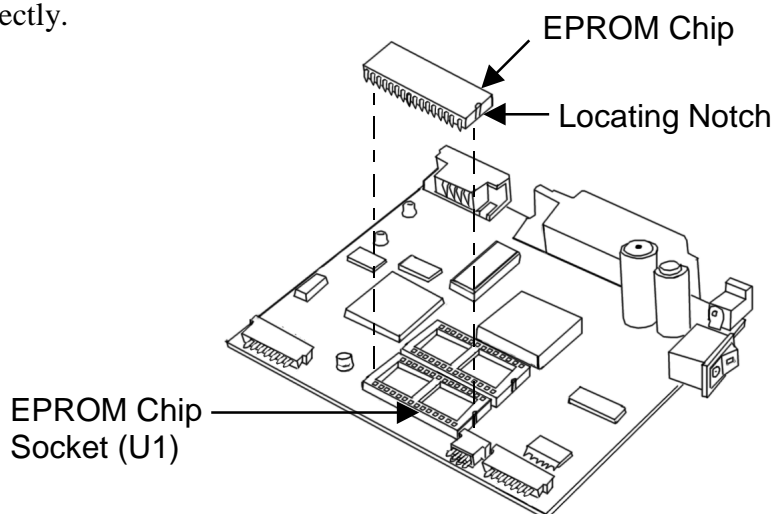

Figure 4-3 *A*300 Main Logic Board EPROM Location

FEED SWITCH & LED BOARD REMOVAL

CAUTION:

OBSERVE PROPER ELECTROSTATIC SAFETY PRECAUTIONS WHEN REMOVING, HANDLING AND REPLACING PRINTED CIRCUIT BOARDS.

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

2. Remove all media.

3. Turn printer upside down.

4. Remove the four phillips screws from the bottom of the printer (see figure 4-1).

5. Turn the printer right side up.

6. Lift the printer body – top straight up and off the printer body – bottom.

7. Lift off the blue plastic feed switch button found on the Feed Switch & LED Board.

8. Remove ribbon cable connector from J1 on the peripheral board (see figure 4-4).

9. Unscrew the two phillips screws. The screw at the bottom right of the board is longer than the one on the upper left. Make note of which screw came out of which hole to reassemble.

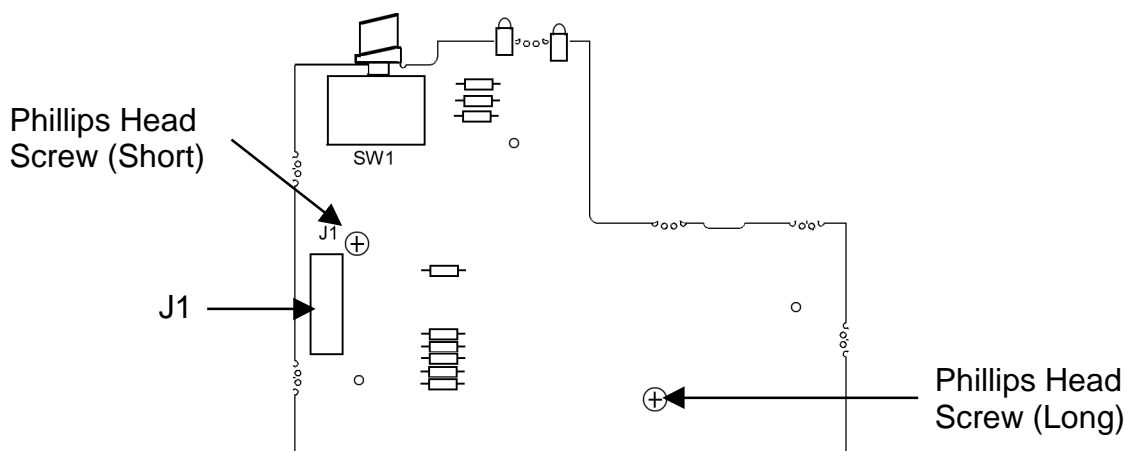10. Reverse the procedure to replace the Feed Switch & LED Board.

Figure 4-4 Feed Switch & LED Board

PRINT MECHANISM MODULE REMOVAL

CAUTION:

OBSERVE PROPER ELECTROSTATIC SAFETY PRECAUTIONS WHEN REMOVING, HANDLING AND REPLACING PRINTED CIRCUIT BOARDS.

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

2. Remove all media.

3. Turn printer upside down.

4. Remove the four Phillips screws from the bottom of the printer (see Figure 4-1).

5. Turn the printer right side up.

6. Lift the Printer Body – Top straight up and off the Printer Body – Bottom.

7. Lift off the blue plastic Feed Switch button found on the Peripheral Board.

8. Remove the Main Logic Board and Feed Switch & LED Board using the removal procedures listed for those items.

9. Slide the Print Mechanism Module toward the back of the printer and out from under the mounting flanges (see Figure 4-5).

10. Lift the Print Mechanism Module up and off the Printer Body – Bottom.

11. Reverse the procedures to replace the Print Mechanism Module and reassemble the printer.
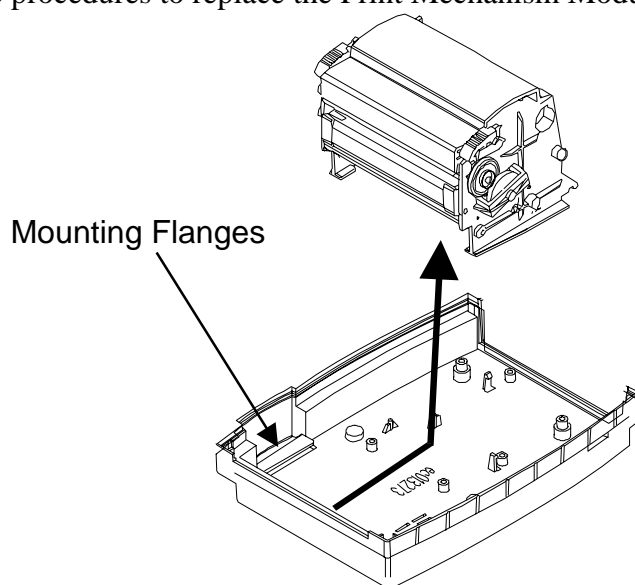
Mounting Flanges
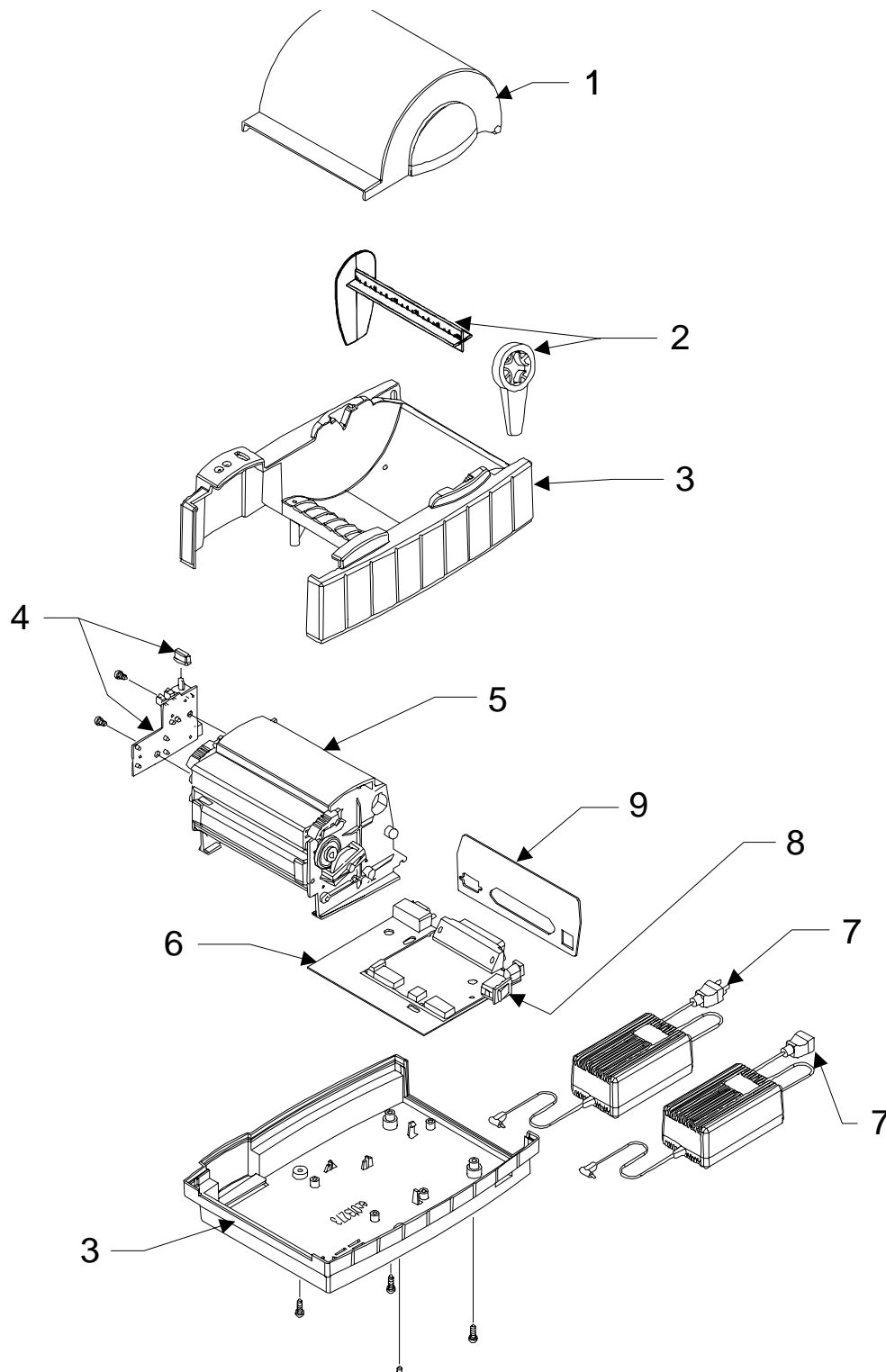
Figure 4-5. Print Mechanism Module Removal

MAINTENANCE AND ASSEMBLY DRAWINGS

Figure 5-1 Master Drawing

DRAWING AND PARTS LIST

Use Figure 5-1 when identifying *A - S e r i e s* printer parts or assemblies for troubleshooting and replacing components. Replacement parts and pricing are available by contacting your Zebra distributor. Table 5-1 lists replacement parts available for the *A - S e r i e s* printer. Some of these are only available in kit form or as subassemblies. No piece parts in these kits or subassemblies, unless otherwise listed, are available separately.

Table 5-1 Replacement Parts And Assemblies (See Figure 5-1)

| Item	Quantity	PART NUMBER	DESCRIPTION
1	1	55509	Media Compartment Cover
2	1	55526	Media Holder and Guide
3	1	55548	Printer Body Kit - Top and Bottom
4	1	55512	Feed Switch & LED Board
5	1	51200M	Print Mechanism Module
6	1	55514	*A*100 Main Logic Board
		14530M	*A*300 Main Logic Board
7	1	55506	117 VAC Power Supply Module
		55507	230 VAC Power Supply Module
8	1	55513	On/Off Switch
9	1	Not Available	Back Plate
	1	55501L	*A*100 User's Guide
	1	55530L	*A*300 User's Guide
	1	46469L	ZPL II® Programming Guide

MAIN CIRCUIT BOARD LAYOUT
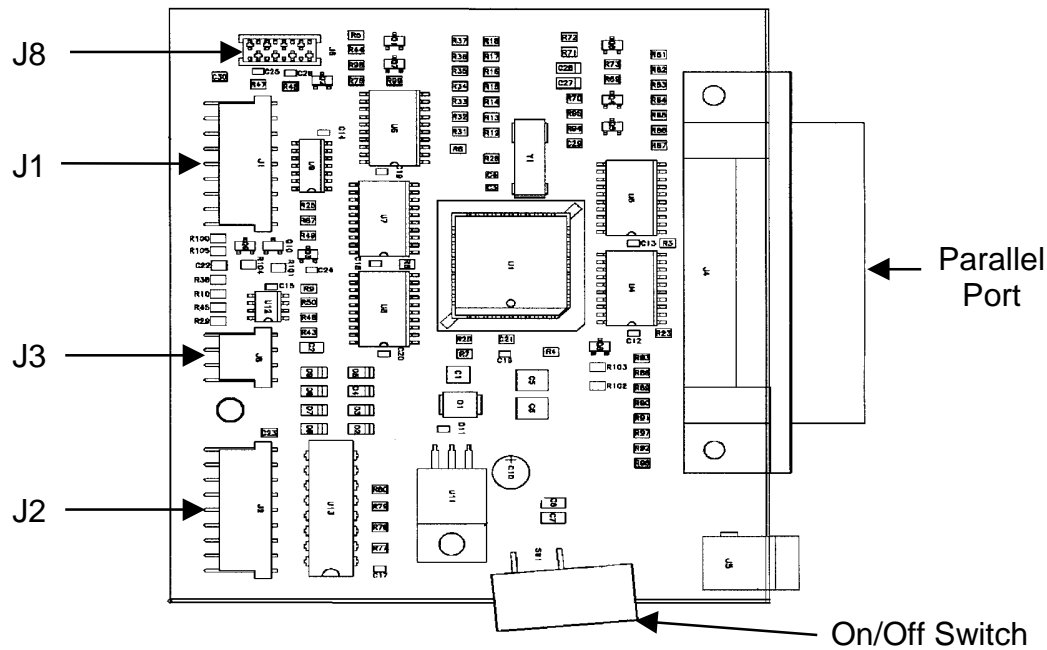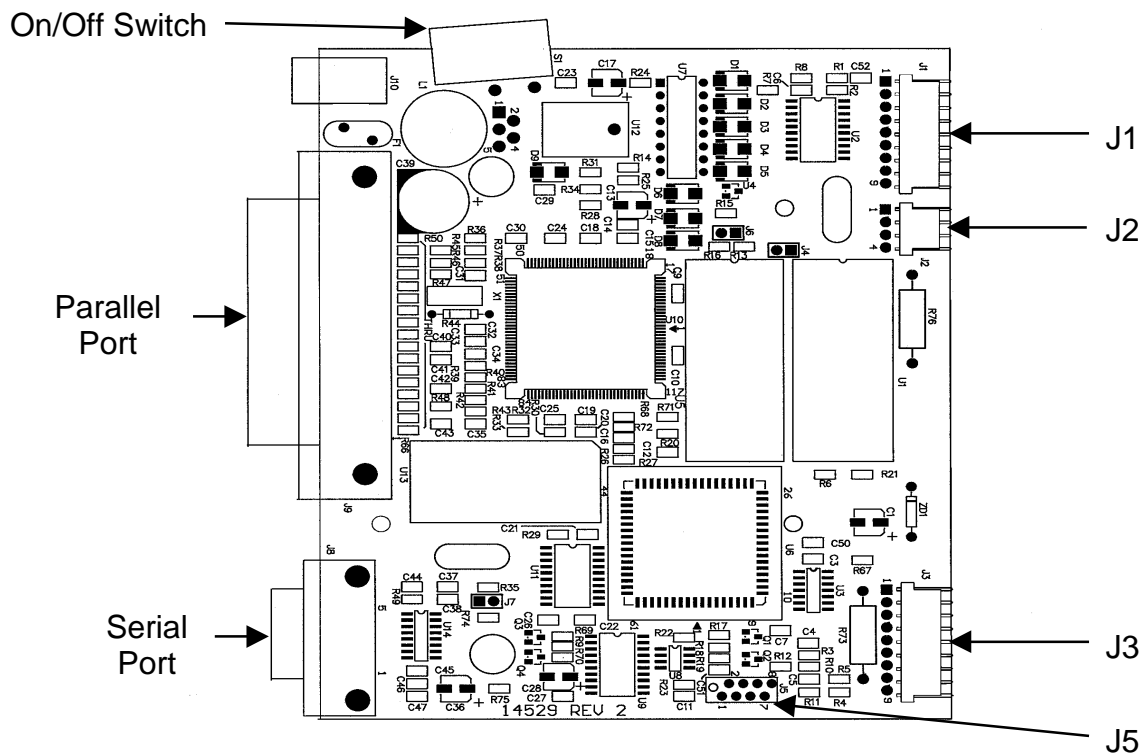

Figure 5-2 *A*100 Main Circuit Board Layout

Figure 5-3 *A*300 Main Circuit Board Layout

NOTES

MISCELLANEOUS INFORMATION AND APPENDICES

This section is used to file various documents not originally included with the manual. This includes (if applicable):

- Option Kit Installation Instructions

- Upgrade Kit Installation Instructions

- Maintenance Kit Installation Instructions

- Additional information provided that does not fit in any other section

- Notes

NOTES