

Copyright © 1998 by Gerber Technology, Inc. All rights reserved.

This document may not be reproduced by any means, in whole or in part, without the written permission of the copyright owner.

This document is part of the proprietary articles furnished to document the Gerber Technology, Inc. AccuPlot™ 100 and 300 Series systems and the AccuJet™ 520 system. In consideration of the furnishing of the information contained in this document, the party to whom it is given assumes its control and custody and agrees to the following:

1. The information contained herein is given in confidence and any part thereof shall not be copied or reproduced without the written consent of Gerber Technology, Inc.
2. This document or the contents herein under no circumstances shall be used in the manufacture or reproduction of the articles shown and the delivery of this document shall not constitute any right or license to do so.

The information contained in this document is subject to change without notice.

Gerber Technology, Inc. and its subsidiaries and affiliates shall not be liable for errors in this document or for incidental or consequential damages in connection with furnishing, or use of this material including, for example, loss of profits, fabric and production time.

Federal Communications Commission Radio Frequency Interference Statement.

WARNING

This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his or her own expense, will be required to take whatever measures may be required to correct the interference. Shielded cables should be used with this unit to ensure compliance with Class A limits.

AccuJet™, AccuMark™, AccuMark Silhouette™, AccuPlot™ and MicroMark™ are trademarks of Gerber Technology, Inc. All other trademarks are the property of their respective companies.

Gerber Technology, Inc.
24 Industrial Park Road West
Tolland, Connecticut, USA 06084

Telephone: (860) 871-8082
Fax: (860) 871-3758

Printed in USA 1/98
Doc. No. 077508000

Contents

PREFACE	iii
Product Documentation.....	iii
Chapter Summary.....	iii
Conventions in this Guide	iv
GGT Product Support	iv
Within the United States and Canada	iv
Outside the United States and Canada	iv
INTRODUCTION	CHAPTER 1
AccuPlot AP-100 and AP-300 Series Plotters.....	1
AccuJet AJ-520 Plotters	1
Safety	2
Remember These Safety Practices.....	2
Emergency Stop	2
Sliding Covers	2
STARTING AND STOPPING THE PLOTTERS	CHAPTER 2
Power On and Initialization.....	1
Power On.....	1
Initializing the Plotter	2
Putting the Plotter Online	3
Stopping the Plotter.....	4
Offline.....	4
Power Down.....	4
PLOTTER HARDWARE COMPONENTS	CHAPTER 3
Hardware Summary	1
Main Power Panel.....	4
Paper Transport System.....	5
Carriage and Pen Assembly	5
Control Panel	6
Table Orientation	8
OFFLINE OPERATION	CHAPTER 4
The Offline Menu	1
Initializing the Plotter.....	3
Putting the Plotter Online	3
Advancing the Paper.....	4
Reversing the Take-up Roll.....	5
Setting the Origin	6
Raising and Lowering the Pen	7

OFFLINE OPERATION (Cont'd)	CHAPTER 4
Disabling and Enabling Servo Power	8
Resetting the Plotter.....	10
Plotter Parameters.....	11
Changing Plotter Parameters.....	12
Saving Parameters.....	19
Loading Default Parameters	20
Setting the Pen and Inkjet Timers	21
Downloading Firmware	23
Diagnostic Tests	26

ACCULOT AND ACCUJET MAINTENANCE	CHAPTER 5
Plotter Supplies	1
Routine Cleaning	2
Loading Plotter Paper	3
To Load A New AJ-520 Supply Roll.....	4
Load New AccuJet Take-up Roll.....	7
Loading Paper on the AP-100/AP-300	9
Switching to the Second Paper Roll.....	12
Using Paper Width Adapters	13
Plotter Pen Maintenance.....	14
Task overview	14
AJ-520 Pen Maintenance	15
AccuPlot Longlife Pen Maintenance	18

GLOSSARY	G-1
INDEX	I-1

List of Figures

Figure 3-1	Top view of the AP-320	3-2
Figure 3-2	Top view of the AccuJet 520	3-3
Figure 3-3	AccuPlot 100/300 Power Panel.....	3-4
Figure 3-4	AccuJet 520 Power Panel.....	3-4
Figure 3-5	AJ-520 dancer bar	3-5
Figure 3-6	Control panel assembly	3-6
Figure 3-7	X-axis, Y-axis, and GGT default origin.....	3-8
Figure 4-1	Plotter Menu Structure.....	4-2
Figure 4-2	Plotter Diagnostics Menu.....	4-27
Figure 5-1	AJ-520 Longlife Pen Assembly	5-15
Figure 5-2	AccuPlot Longlife Pen & Ink Reservoir	5-19

Preface

AccuJet™ and AccuPlot™ is an optional plotting device used with the AccuMark™ , MicroMark™, and AccuMark Silhouette™ systems.

Product Documentation

This Operator's Guide is intended to be used by the person responsible for day-to-day plotting operations and for the person responsible for the plotter's routine maintenance. This document includes operating instructions for the AccuJet AJ-520 plotter as well as the AccuPlot AP-100 and AP-300 series of plotters.

Chapter Summary

Topics covered include plotter functions, default operating parameters, and routine maintenance guidelines. The guide is organized into the following chapters:

1. **Introduction** This chapter covers AccuPlot and AccuJet safety procedures.
2. **Starting and Stopping Plotters** This chapter describes how to turn on and turn off the AccuPlot and AccuJet plotters.
3. **Plotter Hardware Components** This chapter is provided to help identify the parts of the plotters referenced in this document. This chapter also tells you how to turn the plotter on, how to put the plotter online, and how to turn the plotter off.
4. **Offline Operation** This chapter covers the Offline menu structure and offline plotter operations, with an emphasis on plotter commands and functions.
5. **AccuPlot and AccuJet Maintenance** This chapter describes maintenance procedures required to keep your AccuJet or AccuPlot plotters operating at maximum efficiency and accuracy.

Conventions in this Guide

The following conventions are used throughout this guide:

<p>WARNING: WARNINGS ALERT YOU TO CONDITIONS THAT CAN CAUSE INJURY TO YOU OR CAUSE DAMAGE TO THE EQUIPMENT. Do NOT IGNORE WARNINGS.</p>

This type of heading indicates the beginning of a procedure.

Procedure steps are numbered and should be followed in the order presented.

Always read the entire procedure before beginning, to be sure you understand the steps, have all necessary tools or supplies, and are aware of any warnings.

GGT Product Support

As part of our commitment to excellence, GGT® provides complete worldwide support for the AccuJet and AccuPlot plotters.

Within the United States and Canada

For service support within the US and Canada, call 1-800-321-2448. For information about training or about other GGT products, call your local GGT Sales and Service Office.

Outside the United States and Canada

For service support, information about training, or information about other GGT products outside the US and Canada, call your local GGT Sales and Service Office.

1 Introduction

AccuPlot AP-100 and AP-300 Series Plotters

AccuPlot plotters are designed to plot markers and pieces, either full-size or in miniature. Working with your marking and grading system, these plotters draw individual pieces or markers on paper for verification of piece accuracy, or for later use in cutting fabric.

The models that make up the series are the AP-100, the AP-110, the AP-300, the AP-310/320 and the AP-350/360. The AP-100 and AP-300 use a different paper transport method and a smaller diameter paper roll than the other plotter models.

The only difference between the AP-320 and AP-360 models is the maximum paper width that can be used:

- AP-310/320 2000 millimeters (78.7 inches)
- AP-350/360 2400 millimeters (94.5 inches)

AccuJet AJ-520 Plotter

The GGT AccuJet 520 plotter combines the speed and quality of pen plotting of pattern outlines with the throughput and efficiency of inkjet printing for annotation.

Annotation is printed at speeds up to 635 mm per second (25 ips) and can be placed at any angle.

The AccuJet 520 plotter works with your marking and grading system.

Safety

Every effort has been made to design safety into AccuPlot and AccuJet plotters.

- Edges are rounded to eliminate pinch points.
- Electronic components are enclosed.
- Emergency Stop (E-Stop) push buttons are easily reached.

In addition, control programs include safety functions which automatically stop operation under certain error conditions.

Remember These Safety Practices

- Use extreme caution when reaching under the carriage or beam.
- When a plotter is networked, jobs can be sent to the plotter from any system on the network. Do not assume the system will not begin operating simply because you are not sending work.
- Stay out of the path of the beam at all times.
- Do not perform any maintenance on the plotter while the servos are enabled.
- Do not access the electrical panels while power is applied.

Emergency Stop

The emergency stop switch is a red, push/twist switch that turns the plotter on and off. The switch is located in the lower right corner of the control panel. Twisting the emergency power switch in the direction of the marked arrows allows the plotter to be powered on. Pushing the switch down turns the power off and immediately stops the beam and carriage assemblies.

Note: In an emergency, push the emergency power switch down. This stops the beam and carriage instantly.

Sliding Covers

The AccuJet 520 is equipped with covers which help prevent injury to operators or damage to the AccuJet during plotter operation. The sliding covers should be closed before operating the plotter.

2 Starting and Stopping the Plotters

The plotter must be online before it can accept and process data from your marking and grading system. Before the plotter can be put online, power must be applied and the plotter must be initialized.

The following are the procedures for starting, initializing, and putting the plotter online. Read all the steps before beginning a procedure to be sure you understand the process.

Power On and Initialization

The system must be initialized if power has been turned off or after an Emergency Stop (E-Stop) is detected. Initializing clears the system's memory buffer and positions the head at the origin (starting) position.

NOTE: Before turning the system on, be sure the table surface and surrounding area are clear of obstructions.

Power On

1. Be sure all plugs and connectors are in place and all safety features are in place.
2. Switch the plotter main power to **ON**.
3. Turn the emergency stop switch in the direction of the arrows until it unlocks and pops up. The plotter performs a self-test and then displays the following system prompt:

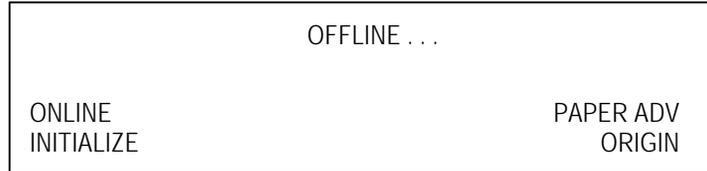
PLOTTER MODEL

V X.X.X

Press enter to
enable the plotter.

Starting and Stopping the Plotters

4. Press Enter to display page one of the Offline menu.

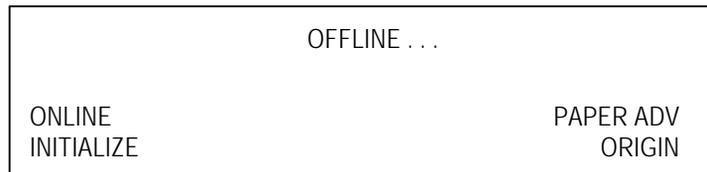


Initializing the Plotter

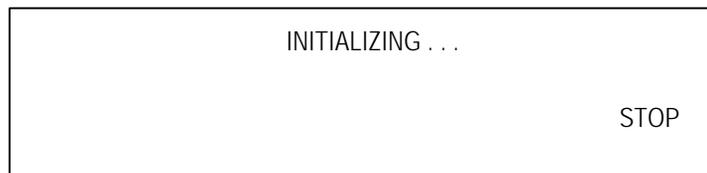
Initializing clears the plotter memory buffer and positions the pen assembly at the origin (starting) position. Initializing also loads the operating parameters currently defined for the plotter.

You must initialize the plotter after turning the power on and after any emergency stop.

TO INITIALIZE THE PLOTTER



1. From page one of the Offline menu, press **F2-INITIALIZE**. To interrupt the process, press **F3-STOP**.



2. Once initialization is complete, page one of the Offline menu appears in the control panel window again.

Putting the Plotter Online

Online means the plotter is ready to process jobs from the plot queue as soon as they are received. As a safety measure the system prompts you to confirm setting the system online. **Offline** is a type of standby mode. Although certain plotter components can be operated manually when offline, the system cannot perform plot jobs sent to it.

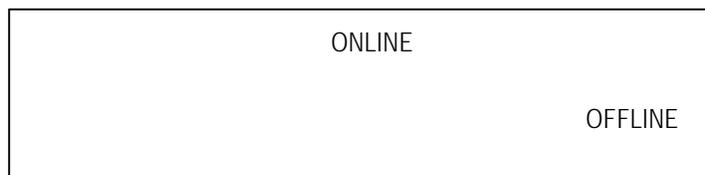
WARNING FAILURE TO KEEP HANDS AND CLOTHING AWAY FROM THE PLOTTING AREA WHEN THE PLOTTER IS ONLINE MAY RESULT IN INJURY.

On a network, jobs can be sent to the plotter from any system on the network. Do not assume the system will not begin operating simply because you are not sending work.

When online, the plotter will begin operating as soon as it receives data. Stay out of the path of the beam when the system is online.

TO PUT THE PLOTTER ONLINE

1. Power on and initialize the plotter.
2. Press **F1-ONLINE**.



The plotter is now online with the marking and grading system and is ready to receive data. If you have already sent data, the plotter begins to plot.

Stopping the Plotter

You can stop plotter operation by pushing an E-Stop button, taking the plotter offline, or by shutting off the power.

When the plotter is taken offline, data for jobs in process is retained. If, however, you turn the plotter power off while it is plotting, plot data is lost.

Offline

TO TAKE THE PLOTTER OFFLINE

1. From the ONLINE display, press **F3-OFFLINE**.

NOTE: Do not move the pen assembly or delete the job from the Plot Queue while the plotter is stopped.

Power Down

TO SHUTDOWN THE PLOTTER

1. From the ONLINE display, press **F3-OFFLINE**.
2. Push down on the emergency stop switch until it disengages.
3. Set the main power switch to **OFF**.

3 Plotter Hardware Components

This chapter describes the basic physical attributes of the AccuJet and AccuPlot 100/300 plotter families. Illustrations are included to help you identify the components that are referenced in procedures. Before operating any plotter or performing any maintenance, be sure you are familiar with its hardware and safety features.

Hardware Summary

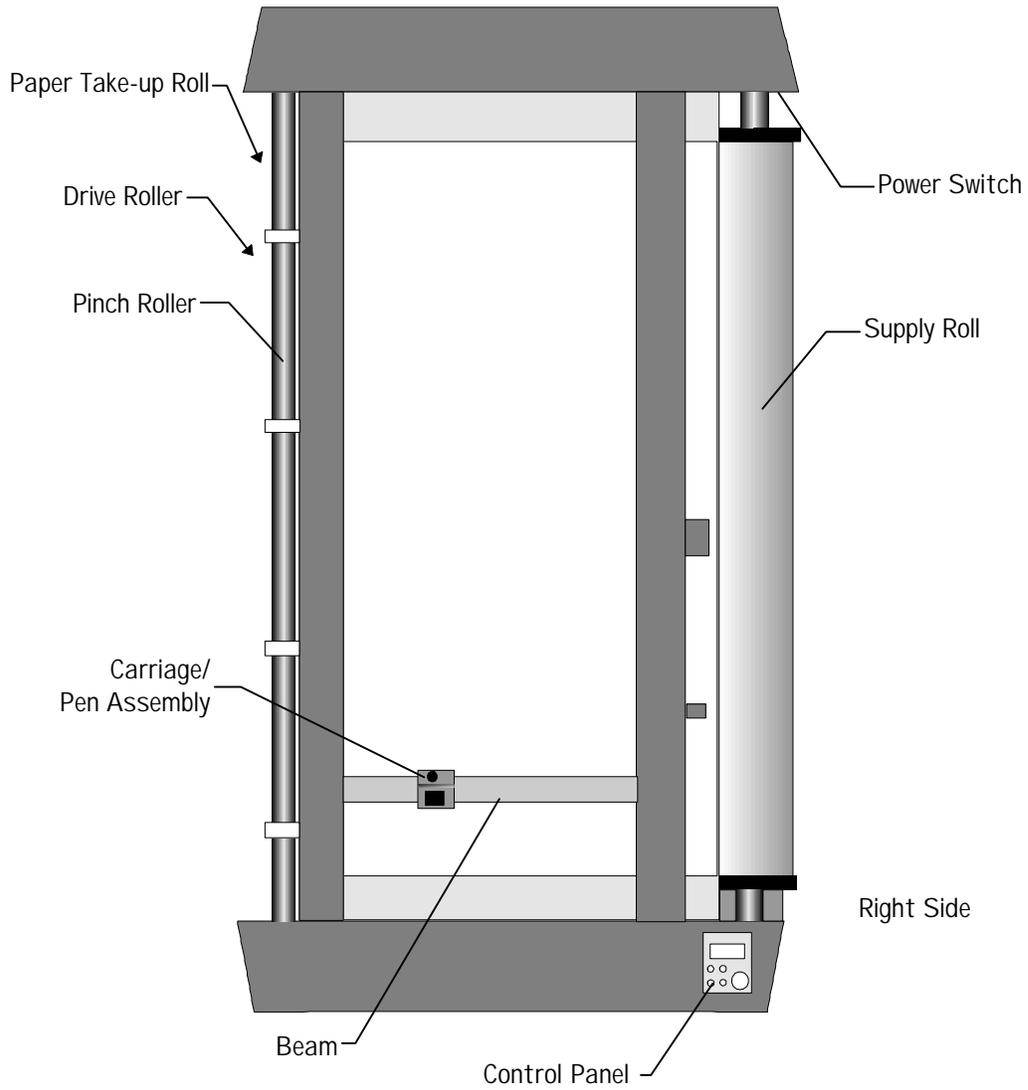
All of the plotters discussed in this guide provide cable driven, X-Y plotting. The beam moves on the Y-axis. All except the AP-100 and AP-300 models allow single sheet offloading. Table 3-1 summarizes the physical characteristics of each model.

Table 3-1 Plotter Physical Characteristics Summary

Model	Pen Type	Plot Width	Roll Diameter	Single Sheet Offloading	Carriage Cabling	Footprint	Reverse Paper Take-up
AP-100	disposable	1550 mm (61.0 in.)	165 mm (6.5 in.)	no	whip	915 x 2090 mm (36 x 83 in.)	no
AP-110	disposable	1550 mm (61.0 in.)	241mm (9.5 in.)	yes	whip	915 x 2090 mm (36 x 83 in.)	no
AP-300	disposable	2000 mm (78.7 in.)	165 mm (6.5 in.)	no	whip	915 x 2667 mm (36 x 105 in.)	no
AP-310	disposable cartridge	2000 mm (78.7 in.)	241mm (9.5 in.)	yes	whipless	915 x 2667 mm (36 x 105 in.)	no
AP-320	disposable cartridge	2000 mm (78.7 in.)	241mm (9.5 in.)	yes	whipless	915 x 2667 mm (36 x 105 in.)	yes
AP-350	disposable cartridge	2400 mm (94.5 in.)	241mm (9.5 in.)	yes	whipless	915 x 3035 mm (36 x 119.5 in.)	no
AP-360	disposable cartridge	2400 mm (94.5 in.)	241mm (9.5 in.)	yes	whipless	915 x 3035 mm (36 x 119.5 in.)	yes
AP-520	longlife (refillable reservoir)	2000 mm (78.7 in.)	241mm (9.5 in.)	yes	whipless	915 x 2667 mm (36 x 105 in.)	yes

Figure 3-1 illustrates major components of the AP-100/AP-300 series plotters. Figure 3-2 illustrates major components of the AccuJet AJ-520 plotter.

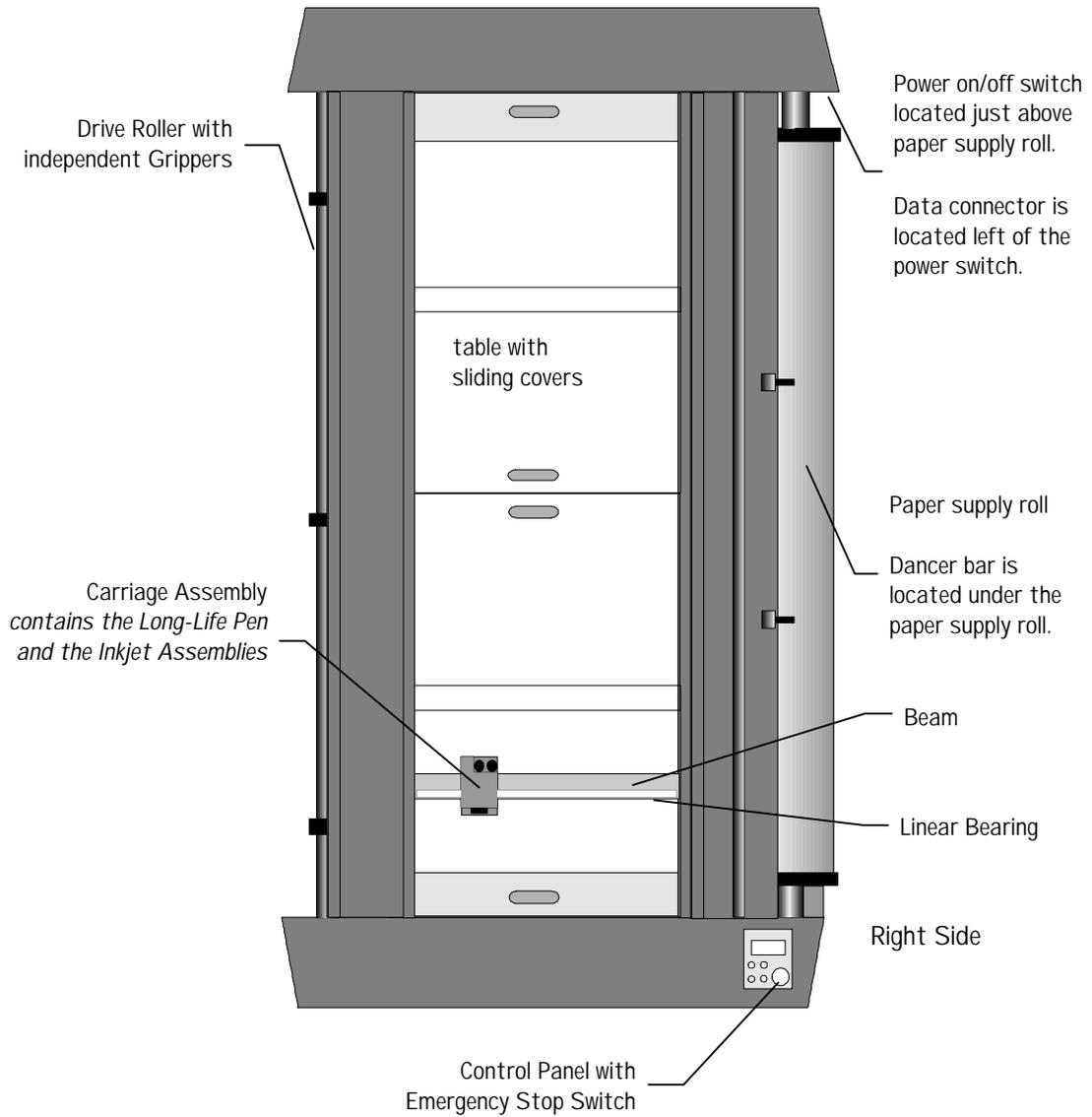
Plotter Hardware Components



Note: All locations assume that you are standing at and facing the control panel.

Figure 3-1 Top view of the AP-320

Plotter Hardware Components



Note: All locations assume that you are standing at and facing the control panel.

Figure 3-2 Top view of the AccuJet 520

Main Power Panel

The main power panels includes the on/off switch and data connectors. Figures 3-3 and 3-4 show the power panels for the AccuPlot and the AccuJet plotters.

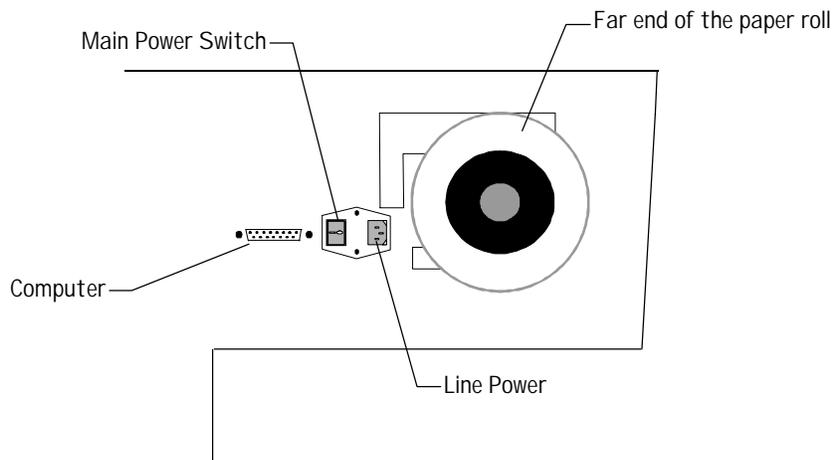


Figure 3-3 AccuPlot 100/300 Power Panel

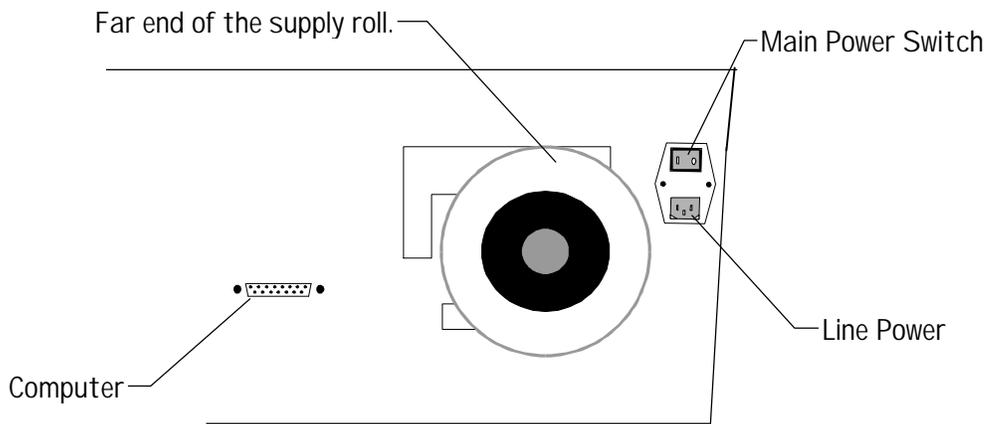


Figure 3-4 AccuJet 520 Power Panel

Paper Transport System

New paper is loaded on the PAPER SUPPLY ROLL. Paper is fed from the supply roll, across the table surface to the DRIVE ROLLER. On the AccuJet 520 a DANCER BAR is positioned across the width of the paper between the supply roll and the AccuJet table (Figure 3-5). The dancer bar provides even tension across the supply paper, resulting in more accurate plots.

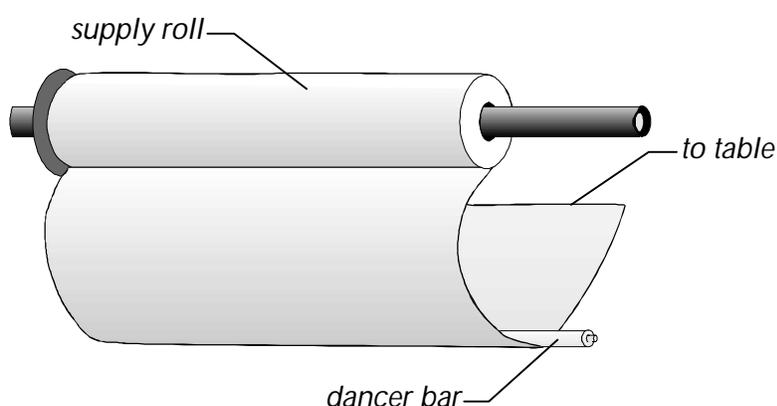


Figure 3-5 AJ-520 dancer bar

The drive roller advances the paper during a page advance.

All AccuPlot plotters except the AP-100 and AP-300 include a PINCH ROLLER, which holds the paper onto the drive roller during page advances. On the AccuJet 520, individual GRIPPERS perform the same function. The pinch roller/grippers must be in contact with the paper to avoid a misfeed.

Used paper is collected on the TAKE-UP ROLL.

Carriage and Pen Assembly

The carriage, mounted on the beam, moves the pen assembly along the X-axis. The AP-100 and AP-300 plotters use disposable pens. The AP-310/320 and AP-350/360 use disposable cartridges. AccuJet 520 plotters use a long-life pen assembly with a refillable ink reservoir. The AJ-520 inkjet assembly, which is mounted on the same carriage as the pen assembly, holds the inkjet cartridge used to draw annotation. The inkjet assembly rotates, which allows annotation to be placed at any angle.

Control Panel

The control panel provides easy access to plotter operational functions and diagnostic tools. Chapter 4, *Offline Operation*, explains the plotter functions available.

All AccuPlot and AccuJet functions are available from control panel menus. The control panel design, shown in Figure 3-6, is the same for both families of plotters.

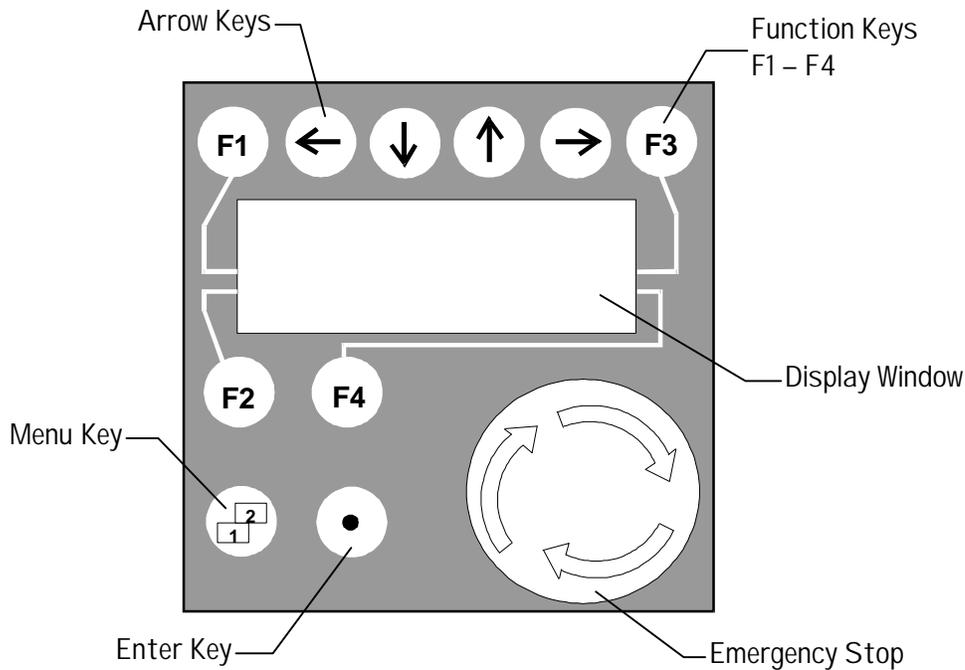


Figure 3-6 Control panel assembly

Emergency Stop

The switch is located in the lower right corner of the control panel. Twisting the emergency power switch in the direction of the marked arrows allows the plotter to be powered on. Pushing the switch down turns the power off and immediately stops the beam and carriage assemblies.

Plotter Hardware Components

Display Window

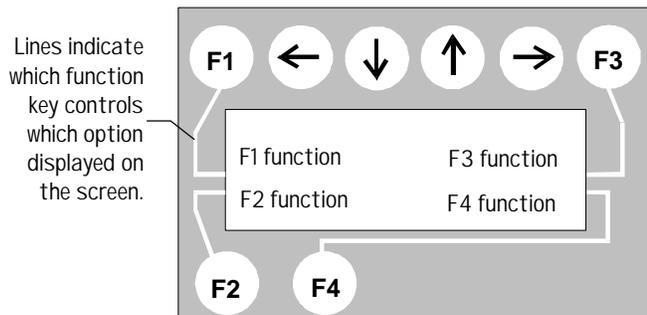
Plotter status messages, menu choices, and system prompts appear in this window.

Arrow Keys

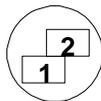
The arrow keys are used to move the pen assembly around the table when the plotter is offline, and to move the cursor during certain menu functions. Each arrow key is marked indicating the direction the pen (or cursor) will travel when the arrow key is pressed.

Function Keys

To choose from a menu or to respond to a prompt, press the function key associated with your choice or response.

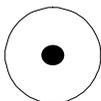


Menu Key



Several of the plotter menus have multiple layers, called *pages*. The Menu key allows you to move from page to page.

Enter Key



The Enter key is marked by a dot in the center. The Enter key is also used to select menu options, register parameter changes and, in some functions, to signal the plotter to begin a process.

Table Orientation

Some procedures in this guide refer to the X-axis, the Y-axis, or the origin point. Figure 3-7 shows each axis direction and the GGT default origin.

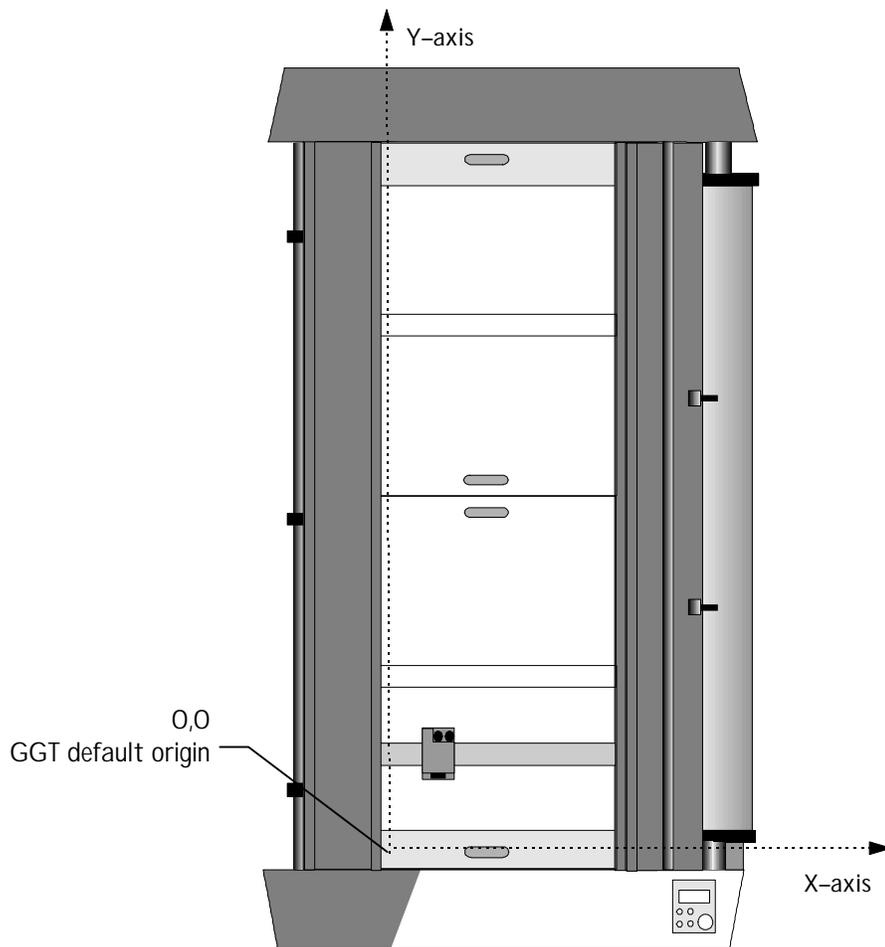


Figure 3-7 X-axis, Y-axis, and GGT default origin

4 Offline Operation

While it is online, the plotter is controlled by the computer system sending the plot data. Online operation requires very little input from you. However, operating parameter settings and diagnostic tests are done while the plotter is offline.

The Offline Menu

Plotter offline operations are controlled through the menus displayed on the control panel. The Offline menu is the first menu to display after the plotter completes its power-on self tests. The Offline menu is divided into three sections, called PAGES. Press the menu key to move from page to page.

- Page One options allow you to initialize the plotter, put the plotter online, adjust the paper position, or move the pen origin.
- Page Two options allow you to change plotter settings (called parameters). The Page Two menu also provides access to the Tool Up/Down, Servo Disable, and Pen Timer functions.
- Page Three contains three Diagnostics menus used to check plotter performance. In addition, Page Three provides access to the Download function, which is used to install firmware updates.

You can return to any previous menu or page by pressing F4-Exit from the control panel.

Figure 4-1 shows the plotter menu structure.

Offline Operation

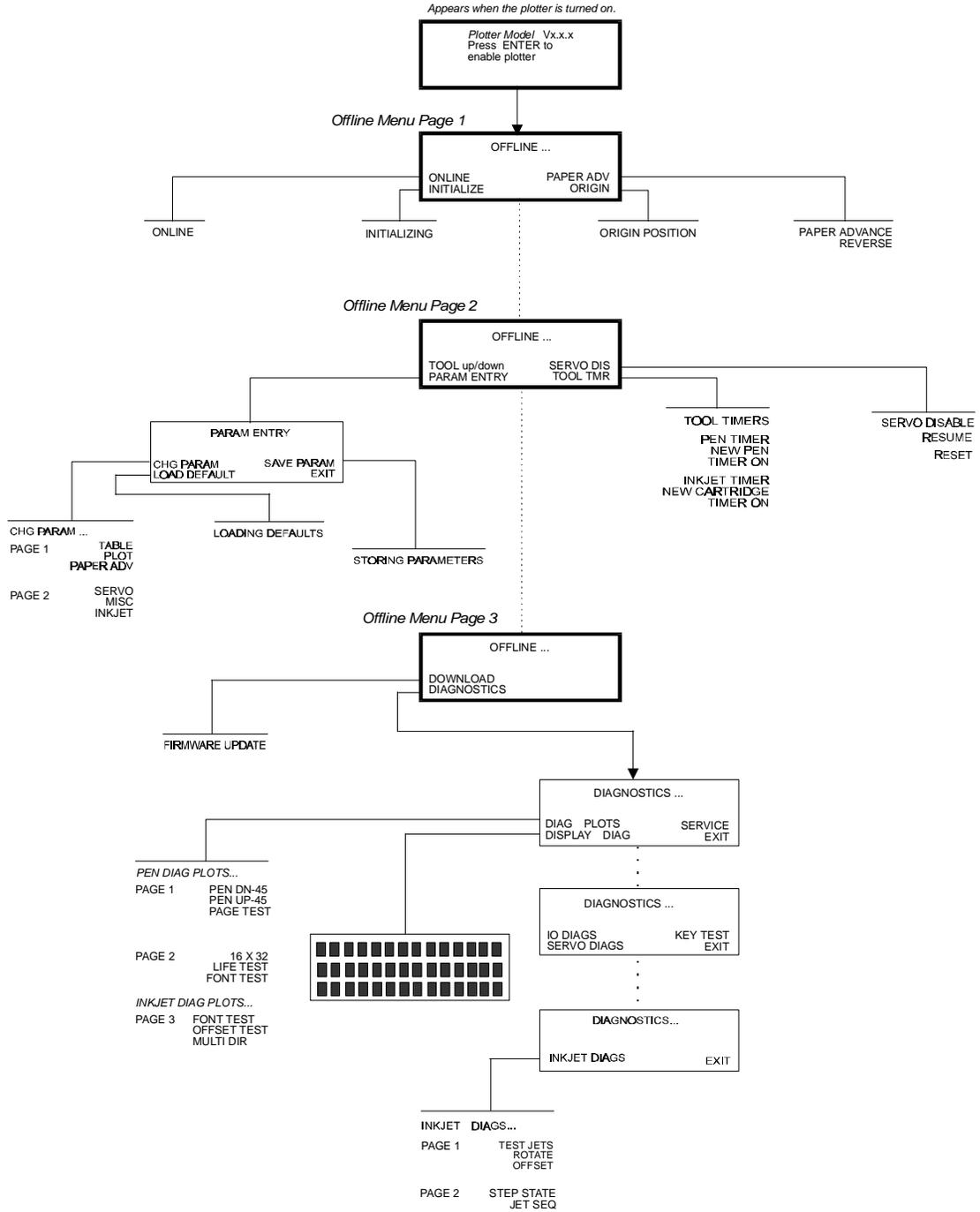


Figure 4-1 Plotter Menu Structure

Offline Operation

Initializing the Plotter

You must initialize the plotter each time you apply power to the plotter and after any emergency stop.

Initializing clears the plotter memory buffer and positions the pen assembly at the origin (starting) position. Initializing also loads the operating parameters currently defined for the plotter and moves the paper forward about 13 mm (½ inch).

TO INITIALIZE THE PLOTTER



1. From page one of the the Offline menu, press **F2-INITIALIZE**.

To stop initializing, press **F3-STOP**.

Putting the Plotter Online

Putting the plotter online links your marking and grading system to the plotter. The plotter must be online to plot pieces and markers.

TO PUT THE PLOTTER ONLINE

1. Power on and initialize the plotter.
2. Press **F1-ONLINE** to put the plotter online. When the plotter is online, press **F3** to take it offline.

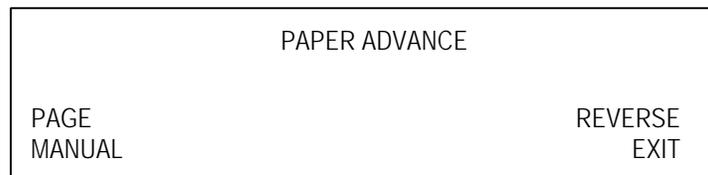
Advancing the Paper

The paper advance function, Paper Adv, moves the paper one window length. Window length is the length of the available plotting area, as defined by the marking and grading system controlling the plotter.

The default AccuMark window length is 406 mm (16.25 inches). Window length is adjustable in 17mm (0.68 inch) increments in order to limit the space between adjoining markers.

TO ADVANCE THE PAPER

1. From page one of the Offline menu, press **F3-PAPER ADV** to display the Paper Advance menu.



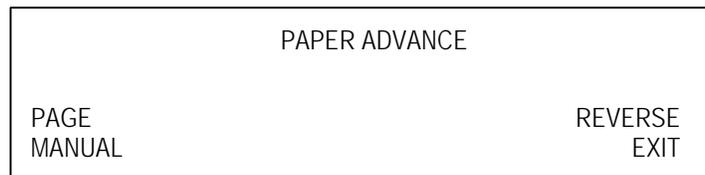
2. Do one of the following:
 - Press **F1-PAGE** to advance the paper by one window length.
 - Press and hold **F2-MANUAL** to advance the paper until you release the F2 key, up to one window length.
3. Press **F4-EXIT** to return to the Offline menu.

Reversing the Take-up Roll

The Reverse function turns the take-up roll clockwise, making it easy to cut off a plot.

TO REVERSE THE TAKE-UP ROLL AND CUT OFF A PLOT

1. Raise the three paper grippers.
2. Press F3-**PAPER ADV** from the Offline menu to display the Paper Advance menu.



3. Press F3-**REVERSE**. The paper automatically reverses. The message "Reversing Paper" displays briefly, then the Paper Advance screen reappears.
4. Using a utility knife, cut the plot off at the point where it finishes unwinding from the take-up roll.
5. Trim the other side of the plot with the utility knife and tape the free end of the paper back onto the take-up roll.
6. Put the grippers back into position.

Setting the Origin

The *origin* is the point (expressed as X and Y coordinates) from which all plotting operations begin. The GGT default origin is 0,0. The Origin function lets you *temporarily* change the origin point to any position within the plotting area.

The origin value set from the Offline menu is temporary. The next time you initialize the plotter, the origin is reset to the default value.

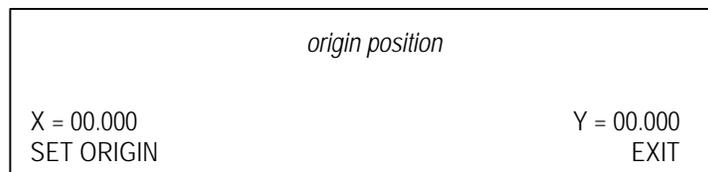
To permanently change the origin, use Param Entry menu commands (see Changing Parameters, page 4-12).

TO SET A TEMPORARY ORIGIN

1. Press **F4-ORIGIN** from the Offline menu.



2. When the current pen position displays, use the arrow keys to move the pen to the desired position.



Use the up and down arrow keys to move the pen along the Y-axis. Use the left and right arrow keys to move the pen along the X-axis. The pen position values (X and Y) change as the pen moves.

3. When the pen is properly positioned, press **F2-Set Origin** to register the new origin setting and return to the Offline menu.

Raising and Lowering the Pen

Tool Up/Tool Down is a toggle function that raises and lowers the pen.

The menu displays the action to be performed, not the current position of the pen. For example, if the pen is raised, the menu displays Tool Down. If the pen is lowered, the menu displays Tool Up.

TO LOWER OR RAISE THE PEN

1. From page one of the Offline menu, press the Menu key one time to display page two.
2. From page two, press **F1-TOOL UP/DOWN**.

If the pen was up, it lowers to the paper and the Offline menu display changes as shown below.



If the pen was down, it lifts off the paper and the Offline menu display changes as shown below.



Disabling and Enabling Servo Power

Servo Disable removes power from the servo motors that control the movement of the beam. This allows you to safely change the pen or cartridge, or to move the beam/cartridge assembly by hand without loss of data or position information.

When you enable the servo motors, the beam automatically moves to where it was before you disabled the servos.

WARNING: ALWAYS DISABLE SERVOS WHEN PERFORMING ANY TASK THAT REQUIRES PUTTING YOUR HANDS NEAR THE PLOTTING AREA. **FAILURE TO DISABLE SERVOS MAY RESULT IN INJURY.**

TO DISABLE SERVOS

1. From page one of the Offline menu, press the Menu key one time to display page two.
2. From page two of the Offline menu, press **F3-SERVO DISABLE** to remove power from the servo motors.



Disabling the servos does not remove power to the plotter. All plot and position data is kept intact.

From the Servo Disable menu you can restart the servos or reset the plotter.

Resume returns the plotter to operation at the point where the servos were disabled.

Reset returns the plotter to its initial power-on state. Any temporary parameter settings will be returned to GGT default values.

Offline Operation

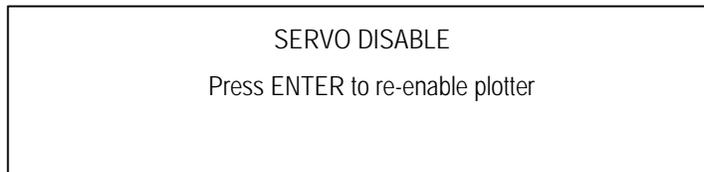
WARNING: FAILURE TO KEEP HANDS AND CLOTHING OUT OF THE PLOTTING AREA
MAY RESULT IN INJURY.

TO ENABLE SERVOS

1. Verify that the plotting area is clear and that the sliding covers are closed.



2. From the Servo Disable menu, press **F2-RESUME**.



3. Press the Enter key.



Offline Operation

Resetting the Plotter

TO RESET THE PLOTTER

1. From the Servo Disable menu, press **F3-RESET**.



The plotter resets and displays the message "Press Enter to Enable the Plotter" on the control panel display.

Plotter Parameters

The default operating parameter settings are designed to give you the best performance and reliability over a wide range of applications. If necessary, the Param Entry menu lets you change certain plotter operating characteristics to match your plotting requirements.

You must use the Save Param function (page 4-19) to make changes permanent. Otherwise, the plotter resets when you remove power and the GGT default values are reloaded the next time you initialize the plotter.

Saved parameter settings remain as you set them even when the plotter is powered off. You can also reload the GGT default parameters, if necessary.

Plotter operating parameters are grouped as follows:

Table Used to adjust the table size and plot origin.

Plot Control velocity and acceleration settings, the pen up and pen down delay, and the pen timer.

Paper Adv Set the amount of advance.

Servo These parameters can be adjusted only by field service personnel.

Inkjet Control velocity and acceleration for the Inkjet assembly.

Misc These general settings apply to overall plotter operation, including language, font, and character set.

Changing Plotter Parameters

The procedure for changing parameters is similar for all types of parameters.

TO ACCESS THE CHANGE PARAMETER MENUS

1. From page one of the Offline menu, press the Menu key one time to display page two.
2. From page two of the Offline menu, press **F2-PARAM ENTRY** to display page one of the Parameter Entry menu.

PARAM ENTRY . . .	
CHG PARAM	SAVE PARAM
LOAD DEFAULT	EXIT

3. Press **F1-CHG PARAM** to display page one of the Change Parameter menu. From this menu you can change Table, Plot, and Paper Advance parameters.

CHG PARAMETER . . .	
TABLE	PAPER ADV
PLOT	EXIT

4. From page one of the Chg Param menu, press the Menu key to display page two.

CHG PARAMETER . . .	
SERVO	INKJET
MISC	EXIT

From page two, you can change Servo, Inkjet, and Miscellaneous Parameters.

Offline Operation

TO VIEW THE CURRENT SETTING FOR A PARAMETER

1. Follow the procedure beginning on page 4-12 to display the Chg Param menu page that lists the parameter type you want.
2. Press the key associated with the parameter type to display the first parameter setting of the group.

<i>PARAMETER NAME</i>	
NEXT PARAM	SIGN +/-
PREV PARAM	EXIT

TO CHANGE A SETTING

1. Use the left and right arrow keys to position the cursor on the digit you want to change.
2. Press the up arrow key to increase the value of that digit, press the down arrow key to decrease the value. Repeat this for each digit you want to change.
3. Press **F3-SIGN** to change a positive value to negative or a negative value to positive.
4. When you have completed your changes, press the Enter key to record the new value.

NOTE: You must press Enter to record the new value, or the parameter will not be changed.

If the value you enter is outside the limits for that parameter, (too high or too low) the message Range Error appears in the display window. Although the invalid value remains on the display, it will be rejected by the plotter. To clear the message, raise or lower the value and press the enter key again.

5. Do one of the following:
 - Press **F1-NEXT PARAM** to go to the next parameter.
 - Press **F2-PREV PARAM** to return to the previous parameter.
 - Press **F4-EXIT** to return to the Chg Param menu.

Offline Operation

- When finished, return to page one of the Offline menu and initialize the plotter.

Default Table Parameters

Table 4-1 shows the plotter Table parameters. The parameters appear on the control panel screen in the order they are listed in the table. Follow the instructions starting on page 4-12 to adjust the values for these parameters.

TABLE 4-1 PLOTTER TABLE PARAMETERS

parameter	function	default
X Origin Position	Sets default X-axis origin position.	AJ-520 = 00.17 inches AP-100, 300, 320, 360 = 00.00 inches
Y Origin Position	Sets default Y-axis origin position.	00.00 inches
X Table Size	Sets default X-axis table dimension.	AJ-520 = 17.20 inches AP-100, 300, 320, 360 = 16.50 inches
Y Table Size	Sets default Y-axis table dimension.	AJ-520 = 85.80 inches AP-100 = 61.1 inches AP-300, 320 = 78.8 inches AP-360 = 94.6 inches
X Step Size	Used for development or field service.	AJ-520 = 0.7305 mils/cnt AP-100, 300, 320, 360 = 0.7282 mils/cnt
Y Step Size	Used for development or field service.	0.6725 mils/cnt

NOTE: You may want to decrease the Y Table Size value if you plan to use shorter width paper rolls.

Offline Operation

Default Plot Parameters

Table 4-2 shows the AccuJet Plot parameters. The parameters appear on the control panel screen in the order they are listed in the table. Follow the instructions starting on page 4-12 to adjust the values for these parameters.

TABLE 4-2 ACCUJET PLOT PARAMETERS

parameter	function	default
Plot Velocity	Sets maximum velocity along X-axis and Y-axis.	66 in/sec
Plot Acceleration	Sets acceleration rate along X-axis and Y-axis.	AJ-520 = 2.0 Gs AP-100, 300, 320, 360 = 2.5 Gs
Annotation Acceleration	Sets acceleration rate of characters being drawn, when using pen for annotation.	AJ-520 = 2.0 Gs AP-100, 300, 320, 360 = 2.5 Gs
Annotation Velocity	Sets velocity of characters being drawn, when using pen for annotation.	66 in/sec
Pen Up Delay	Ssets amount of time the plotter delays after lifting pen.	1 20 msec intervals
Pen Down Delay	Sets amount of time the plotter delays after lowering pen.	2 20 msec intervals

NOTE: The default settings for *Plot Velocity* and *Annotation Velocity* are the maximum allowed for these parameters. For very precise, plotting you may want to use slower velocity and acceleration values.

Offline Operation

Default Paper Advance Parameters

Table 4-3 shows the AccuJet Paper Advance parameters. The parameters appear on the control panel screen in the order they are listed in the table. Follow the instructions starting on page 4-12 to adjust the values for these parameters.

NOTE: These parameters influence the internal controls the plotter uses for paper movement, and should not be adjusted.

TABLE 4-3 ACCUJET PAPER ADVANCE PARAMETERS

parameter	function	default
Flat PWM Command	Used for development or field service.	100 percent
Rev Flat PWM Command	Used for development or field service.	100 percent
Rev Ramp Up Period	Used for development or field service.	15 units
Rev Ramp Down Period	Used for development or field service.	15 units
Page Advance Delay	Used for development or field service.	07000 msec intervals ¹ 01000 msec intervals ₂

1 - AJ520

2 - APxxx

Offline Operation

Default Miscellaneous Parameters

Table 4-4 shows the plotter miscellaneous parameters, their function, and the GGT default setting for each. The parameters appear on the control panel screen in the order they are listed in the table. Follow the instructions starting on page 4-12 to adjust the values for these parameters.

TABLE 4-4 PLOTTER MISCELLANEOUS PARAMETERS

parameter	function	default
Language	Sets menu language from standard to alternate. 0 = standard 1 = alternate	0 – STD
Font Type	Sets style of font used in plotting. 0 = fast 1 = elaborate	0 – FST
Character Set	Sets character used for plotting to the downloaded set. 0 = standard 1 = alternate	0 – STD
Annotate With Inkjet	Prints all annotation with the inkjet head, overriding any tool selection command sent from your marker making system. 0 = no 1 = yes	0 – NO
Pen Up Velocity	Sets velocity limit for pen up movement.	66 in/sec
Pen Up Acceleration	Sets acceleration limit for pen up movement.	AJ-520 = 2.0 Gs AP-100, 300, 320, 360 = 2.5 Gs

Offline Operation

Default Inkjet Parameters

Table 4-5 shows the plotter Inkjet parameters, their function, and the GGT default setting for each. The parameters appear on the control panel screen in the order they are listed in the table. Follow the instructions starting on page 4-12 to adjust the values for these parameters.

TABLE 4-5 PLOTTER INKJET PARAMETERS

parameter	function	default
Inkjet Velocity	Sets maximum velocity along the X and Y-axes to be used for printing with inkjet.	24 in/sec
Inkjet Acceleration	Sets maximum acceleration along the X and Y-axes to be used for inkjet printing.	2 Gs
Inkjet Strike Count	Sets the number of passes on a character. Higher value makes a darker annotation.	1 strike(s)
Offset Test DIM A	Used for development or field service.	0 inches
Offset Test DIM B	Used for development or field service.	0 inches
Offset Test DIM C	Used for development or field service.	0 inches
Offset Test DIM D	Used for development or field service.	0 inches
X Pivot Offset	Used for development or field service.	0 inches
Y Pivot Offset	Used for development or field service.	0 inches
X Jet 1 Offset	Used for development or field service.	0 inches
Y Jet 1 Offset	Used for development or field service.	0 inches
IJ C Axis Home State	1, 2, 3, or 4	+ 1

Offset Parameter Values

Values for Offset Test and Pivot Offset parameters are unique to each machine and must be set individually using the procedure on page 4-12. **Do not leave the offset values at zero.** Offset values of zero result in annotation printed with the inkjet extremely out of position.

Offline Operation

Saving Parameters

Use the Save Param function to permanently save changes made to parameter settings. Settings stored using Save Param remain in effect even after plotter power is turned off.

TO PERMANENTLY SAVE NEW PARAMETER SETTINGS

1. From page one of the Offline menu, press the Menu key one time to display page two.
2. From page two of the Offline menu, press **F2-Param Entry** to display page one of the Parameter Entry menu.

PARAM ENTRY . . .	
CHG PARAM	SAVE PARAM
LOAD DEFAULT	EXIT

3. Press **F3-Save Param**. The message "Storing Parameters" appears briefly, then the Param Entry menu reappears.
4. From page one of the Parameter Entry menu, press **F4-Exit** until page one of the Offline menu appears.

OFFLINE . . .	
ONLINE	PAPER ADV
INITIALIZE	ORIGIN

5. Press **F2-Initialize** to enable the new parameter settings.

Offline Operation

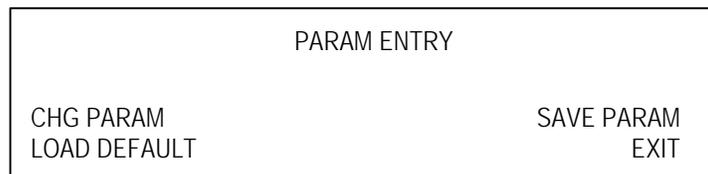
Loading Default Parameters

The Load Default function resets all plotter parameters to their GGT default values. You will need to load default settings after downloading firmware updates.

If you want to change any of the parameters after loading the defaults, use the Change Parameter option.

TO LOAD THE DEFAULT PARAMETERS

1. From the Param Entry menu, press **F2-Load Default**.



The message "Loading Defaults" appears in the display window until the process is complete.

2. When the Param Entry menu redisplay, press **F3-Save Param** to save the plotter defaults.
3. Press **F4-Exit** until you reach page one of the Offline menu.
4. From page one of the Offline menu, press **F2-Initialize** to load and use the plotter defaults.

Setting the Pen and Inkjet Timers

The Tool Timer function allows you to see the time remaining in the life of the pen, check the remaining inkjet capacity, and reset the pen life and cartridge life values.

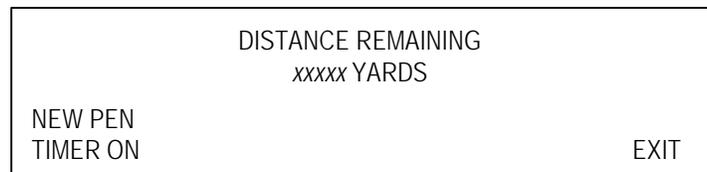
The pen timer tracks the amount of distance that the pen tip has been in contact with the paper. This is important if your plotter runs unattended. If you set the pen timer (at the parameter entry screen), the plotter automatically stops when the distance expires.

TO SET THE PEN TIMER

1. From page one of the Offline menu, press the Menu key one time to display page two.
2. From page two of the Offline menu, press **F4-Tool Tmr** to display the tool timer menu.



3. Press **F1-Pen Timer** to see the current values.



4. Do one of the following:
 - Press **F1-New Pen** to restart the timer after installing a new pen.
 - Press **F2-Timer On** to enable the timer.
5. Press **F4-Exit** until you reach page one of the Offline menu.
6. From page one of the Offline menu, press **F2-Initialize** to load the new timer value.

Offline Operation

TO SET THE INKJET TIMER

1. From page one of the Offline menu, press the Menu key one time to display page two.
2. From page two of the Offline menu, press **F4-Tool Tmr** to display the tool timer menu.

TOOL TIMERS	
PEN TIMER INKJET TIMER	EXIT

3. Press **F2-Inkjet Timer** to see the current values.

INKJET LEVEL xxx PERCENT	
NEW CARTRIDGE TIMER ON	EXIT

4. Do one of the following:
 - Press **F1-New Cartridge** to restart the timer after installing a new inkjet cartridge.
 - Press **F2-Timer On** to enable the timer.
5. Press **F4-Exit** until you reach page one of the Offline menu.
6. From page one of the Offline menu, press **F2-Initialize** to load the new timer value.

Downloading Firmware

The firmware is a set of instructions which determines how the plotter will respond to the commands you choose from the menus and those it receives from the grading and marking system. Firmware is permanently stored in the control circuitry of the plotter. The Download function allows you to incorporate new versions.

NOTE: When updating firmware, be sure to read all instructions and release notes supplied with the new firmware, before beginning, as there may be parameters that you have to record.

Downloading new firmware requires you to perform steps both from the plotter control panel and from the host system (the system physically connected to the plotter).

From the plotter control panel you get the plotter ready to receive new firmware. Also, after the programs have been successfully transferred, the control panel provides the menu command to permanently load the new programs into the plotter.

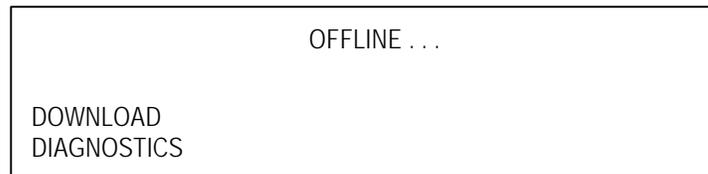
The commands for transferring the programs are entered at the host system keyboard. The status of the update process appears on the plotter control panel display, as well as any error messages.

Offline Operation

TO DOWNLOAD FIRMWARE

at the plotter control panel:

1. From page one of the Offline menu, press the Menu key two times to display page three.



2. From page three of the Offline menu, press **F1-Download** to begin the download process.



3. Press **F2** to continue. The message "Wait ..." displays for 15 seconds, then the message "Ready To Receive" displays.
4. When the ready to receive message appears, continue with the update from the host system.

at the host system:

5. Insert the floppy disk containing the firmware update into the host's floppy drive. *If the floppy drive is not active, type A: and then press Enter. Substitute B for A if your floppy drive is the B drive.*
6. Type the command: **DLOAD**, and then press Enter.
7. At the prompt:

Input comm port for output (1,2,3,4,or 5) ===>>

type the number that corresponds to the serial communications port you are using with the plotter, then press enter. The standard AccuMark plotter port is comm 5.

Offline Operation

8. At the prompt:

Input file name for transfer===>>

type the release filename (included in the release notes) and press Enter.

at the plotter control panel:

You should now see a screen similar to the one below, indicating the plotter is receiving the transmission.

```
RECEIVING
# OF RECORDS = n
# EXPECTED = n                               EXIT
```

The number of records, n , continues to increase as data is sent to the plotter. If transmission errors occur, an error screen displays. From there you can press **F2-Retry** to attempt the download again, or press **F4-Exit** to return to page three of the Offline menu. If no errors occur, the following screen displays:

```
COMPLETE
# OF RECORDS = n
# EXPECTED = n
PROGRAM                                       EXIT
```

Press **F2-Program** to replace the old version of the firmware.

9. Upon successful reprogramming, the following screen displays on the plotter control panel.

```
EPROM PROGRAM OK

HIT ANY KEY TO CONTINUE
```

at the host system:

10. Press Enter to reboot the system and return to the Power Up menu. Be sure the new version number displays.

Offline Operation

NOTE: After rebooting, the default parameters must be reloaded using the **Parameter Entry-Load Defaults (page 4-20)** and saved using **Save Parameters (page 4-19)**.

After loading the default parameters, enter any parameters you recorded prior to the download procedure, in order to return the plotter to your specific settings.

Diagnostic Tests

Diagnostic menu commands allow you test the operation capability of plotter components. Most of these diagnostics are used primarily by service personnel. There are three pages of Diagnostic menu.

- Page One diagnostics test plotting capability, control panel keys and the control panel display.
- Page Two contains tests that can be performed only by qualified service personnel.
- Page Three tests the pen and inkjet assemblies.

Figure 4-2 shows the structure of the complete plotter Diagnostics menu.

Offline Operation

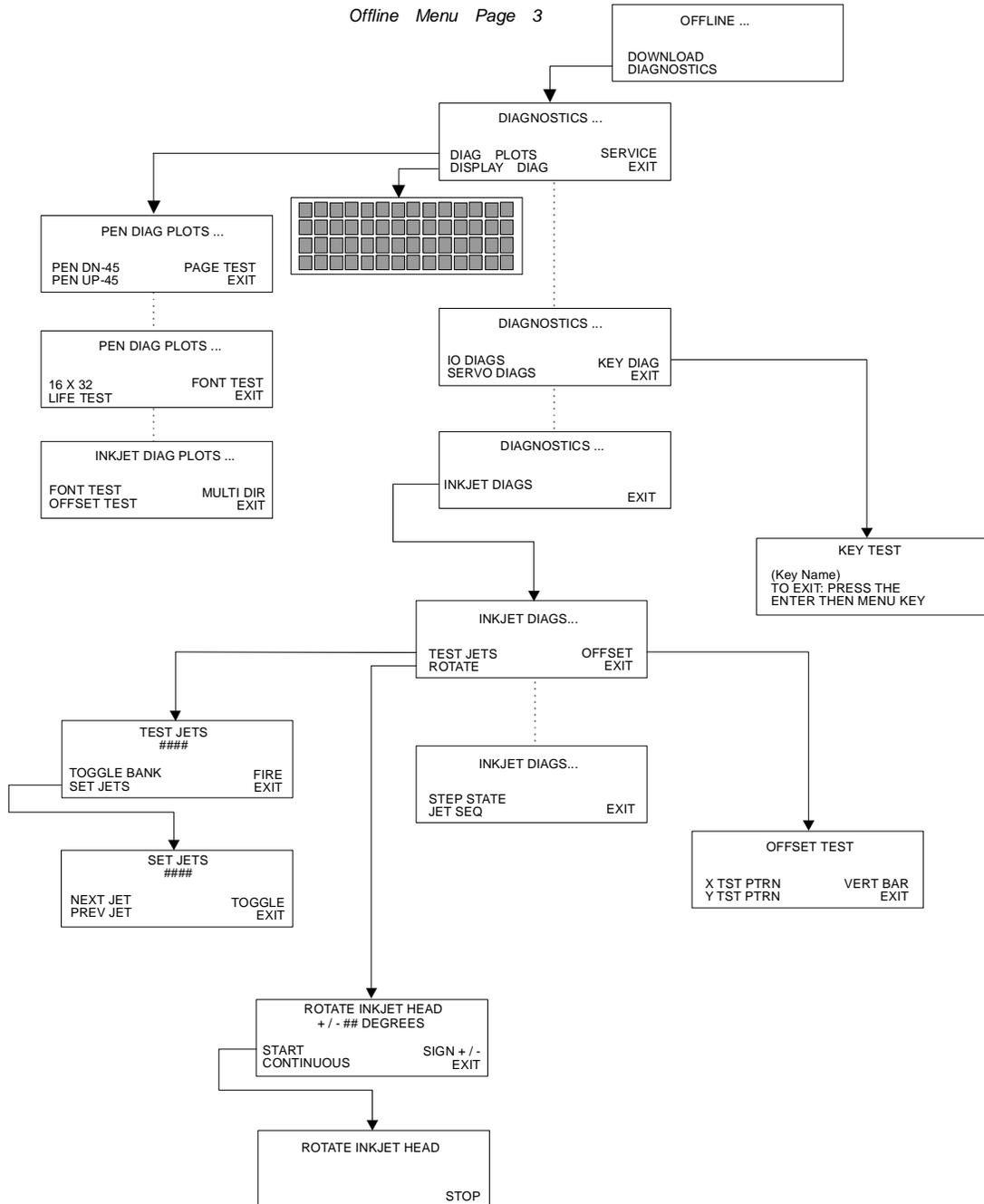
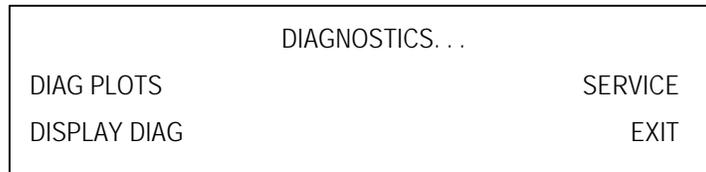


Figure 4-2 Plotter Diagnostics Menu

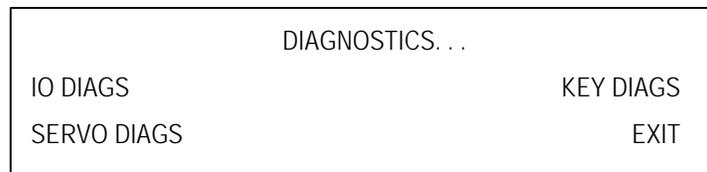
Offline Operation

TO ACCESS THE DIAGNOSTIC MENUS

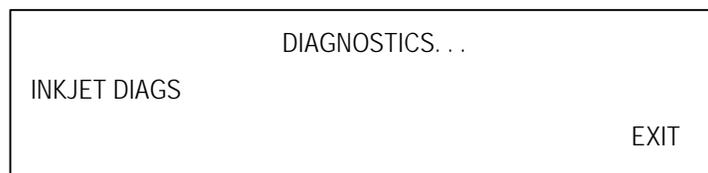
1. From page three of the Offline menu, press **F2**-Diagnostics to display page one of the Diagnostics menu.



2. From page one of the Diagnostics menu, do one of the following:
 - Press **F1**-Diag Plots to run diagnostic plot tests (page 4-29).
 - Press **F2**-Display Diag to test the control panel display screen (page 4-32).
 - Press **F3**-Key Diag to test control panel keys (page 4-33).
 - Press the Menu key to display page two (below). This menu allows you to check control panel keys.



- Press the Menu key twice to display page three of the Diagnostics MENU. Page three provides access to Inkjet tests.



- Press **F4**-Exit to return to the Offline MENU.

Offline Operation

Diagnostic Plots

Diagnostic plots are a series of simple test plots used for troubleshooting. Some of the tests allow you to check plotter accuracy by measuring the printed plots. The Diagnostic Plots menu has three pages. From pages one and two, you can perform pen tests. From page three you can test Inkjets.

TO DISPLAY DIAGNOSTIC PLOTS MENUS

1. From page one of the Diagnostics menu, press **F1**-Diag Plots to display page one of the Diag Plots menu (pen plots).

PEN PLOTS	
PEN DN-45	PAGE TEST
PEN UP-45	EXIT

2. Press the menu key once to display page two (more pen plots).

PEN PLOTS	
16 X 32	FONT TEST
LIFE TEST	EXIT

3. Press the menu key once more to display page three (Inkjet test plots).

INKJET DIAG PLOTS	
FONT TEST	MULTI DIR
OFFSET TEST	EXIT

NOTE: Plot tests are described in Table 4-6 on page 4-31.

Offline Operation

TO PERFORM DIAGNOSTIC PLOTS TESTS

1. From page one of the Diagnostics menu, press **F1**-Diag Plots to display page one of the Diag Plots menu.
2. Press the Menu key to display the Diag Plot page that lists the test you want.
3. Press the function key associated with the test you want to perform. A screen similar to the one shown below displays when you choose a test.

<i>TEST NAME</i>		
START		
CONTINUOUS		EXIT

4. When you have chosen a test, do one of the following:
 - Press **F1**-Start to run this for test one full cycle.
 - OR
 - Press **F2**-Continuous to run this test until you press F4.

Offline Operation

TABLE 4-6 PLOTTER DIAGNOSTIC PLOT TESTS

test	function
<i>page one</i>	
	<i>pen plots</i>
Pen Dn-45 test	This test checks for correct X-axis and Y-axis alignment by drawing a 45-degree angle across the plotter table with the pen in the lowered position. Verify that the lines overlap.
Pen Up-45 test Do not use.	Intended for GGT Field Service use. In this test, the pen assembly moves across the plotter table at a 45-degree angle with the pen in the raised position.
Page test	This test checks the operation of the paper advance system by plotting a repeated geometric pattern. Verify there is not excessive overlapping nor gaps in the lines.
<i>page two</i>	
	<i>pen plots</i>
16 x 32 test	The 16 x 32 test draws a box measuring 16 inches by 32 inches (406.4 mm by 812.8 mm). After the test plot is finished, measure the length of the sides of the plotted box and the length of the diagonals from corner to corner to check plotter accuracy and beam squareness. The diagonals should be equal in length, and all sides of the box should measure within 1/32 inch.
Life test	Intended for GGT Field Service use. The Life test draws a series of star patterns to test plotter performance. The pen should be removed when this test is run for an extended period of time, as it repeats the pattern without advancing the paper.
Pen Plot Font test	This test draws each character of the available plotter font sets. Verify that the characters are not distorted.
<i>page three</i>	
	<i>inkjet plots</i>
Inkjet Font test	This test draws each character of the available annotation font sets. Check that the characters are not distorted.
Offset	This test checks the offset between the pen and the inkjet. A series of boxes are plotted with the pen, then Xs are plotted inside the boxes using the inkjet. The Xs should fit completely within the boxes.
Multi Dir	The multiple direction test prints annotation in several directions. The letter D at the beginning of each line should form an octagon at the center of all the lines, and there should be no overlapping of the lines in the letter D.

Offline Operation

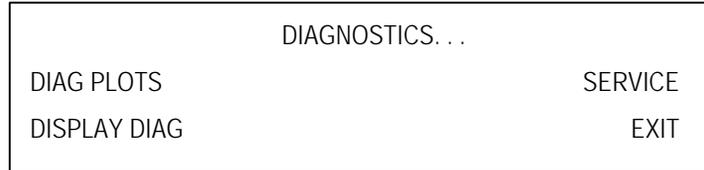
Display Diagnostics

The Display Diagnostic test lights each pixel in the control panel display window.

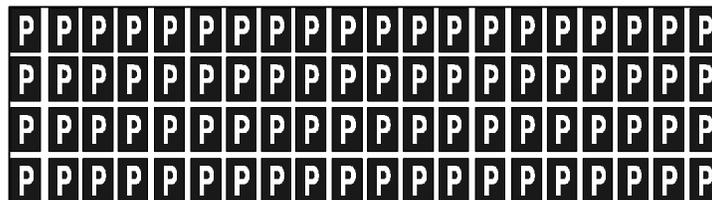
In this test, each pixel is represented by a small rectangular box. During the test, all the pixels in the window illuminate for approximately five seconds.

TO RUN THE DISPLAY DIAG TEST

1. From page three of the Offline menu, press **F2**-Diagnostics to display page one of the Diagnostics menu.



2. Press **F2**-Display Diag. The control panel test screen (similar to the illustration below) displays for approximately 5 seconds. All the boxes should be lit.



The screen automatically returns to the Diagnostics menu at the end of the test.

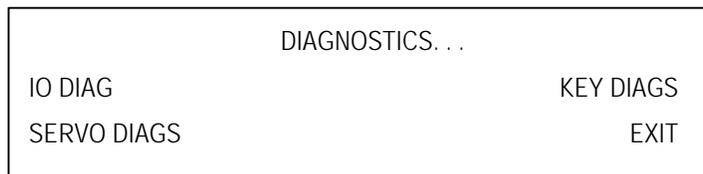
Offline Operation

Key Diagnostics

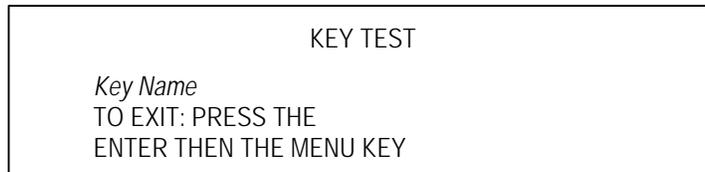
This test checks the operation of the keys on the operator control panel.

TO RUN THE KEY DIAG TEST

1. From page one of the Diagnostics menu, press the Menu key to display page two.



2. Press **F3**-Key Diags.



3. Press each key on the control panel and verify that the name of the key appears in the screen.
4. To exit this test, press the Enter key, then the Menu key.

Inkjet Diagnostics

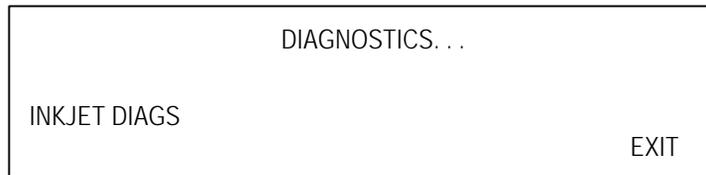
The Inkjet assembly contains two banks of jets. Each bank contains 25 jets.

There are two pages of Inkjet Diagnostics. The first page of Inkjet tests check operation while firing all jets. The tests available from the second page allow you to check one bank at a time or each jet individually.

Offline Operation

TO TEST JETS

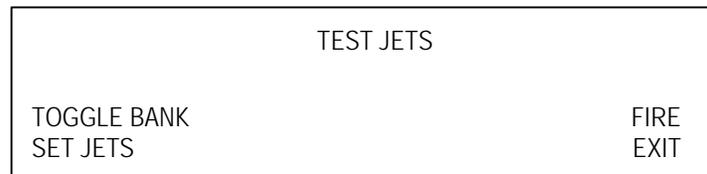
1. From page one of the Diagnostics menu, press the Menu key twice to display page three.



2. Press **F1**-Inkjet Diags.



3. Press **F1**-Test Jets to display the Test Jets menu.



4. Press **F1** to choose a bank of jets.

NOTE: When you press **F1**, the menu item changes to show the bank not currently chosen.

5. Press **F3**-Fire to test the entire bank. Verify the plotter draws a vertical line.
6. Press **F2**-Set Jets to select individual jets. The number of the current jet appears on the screen, just under the menu title.



Offline Operation

7. Press **F3**-Toggle to turn the jet on or off.

TEST JETS	
####	
NEXT JET	TOGGLE
PREV JET	EXIT

8. Press **F1** to move to the next jet. (Press **F2** to move to the previous jet.)
9. Repeat steps 6 through 8 for each jet to be tested.
10. After you have chosen the jets you are going to test, press **F4** to return to the first Test Jets menu.

TEST JETS	
####	
TOGGLE	FIRE
SET JETS	EXIT

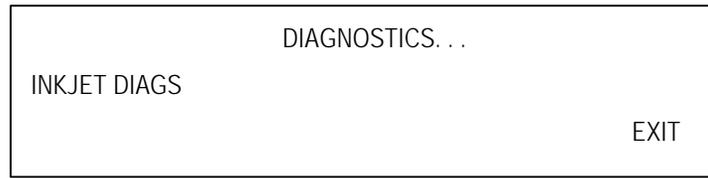
11. Press **F3**-Fire to test the selected jets.
12. Press **F4** to return to page two of the Inkjet Diags menu.

Offline Operation

Inkjet Head Rotation

TO TEST THE ROTATION OF THE INKJET HEAD

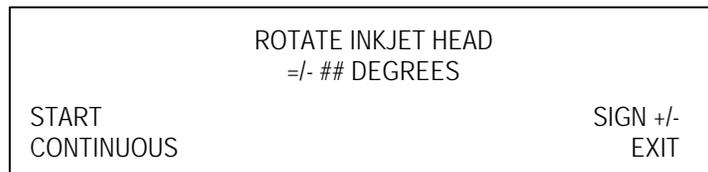
1. From page one of the Diagnostics menu, press the Menu key twice to display page three.



2. Press **F1**-Inkjet Diags.



3. Press **F2**-Rotate.



4. Use the arrow up and arrow down keys to rotate the head to any position from -90 to +90 degrees from its home position. The current rotation appears below the menu title.
5. Press the **F3** key to select a positive (+) or negative (-) rotation.
6. Do one of the following:
 - Press **F1**-Start to rotate the head to the selected angle.
 - Press **F2**-Continuous to cycle the head position between home and the selected angle. You must press **F4**-Stop to discontinue this test and return to the rotate inkjet head menu.
7. Press **F4**-Exit to return to page two of the Inkjet Diag menu.

5 AccuPlot and AccuJet Maintenance

Although AccuPlot and AccuJet plotters require very little maintenance, some routine cleaning and attention is required to keep them operating at peak performance.

A maintenance tool kit is shipped with each plotter. This kit contains the tools you need to change the paper roll. Each plotter is supplied with a cleaning kit, which you can use for routine cleaning. This kit includes lubricating oil, cotton swabs, pipe cleaners, and lint-free cloths. Please use similar products or call GGT for replacements when your kit is used up.

Note: Maintenance tasks not discussed in this chapter should be done only by qualified service personnel.

Plotter Supplies

Plotter supplies are available directly from GGT. Table 5-1 lists supplies and their part numbers. To place an order, call GGT's toll-free number **1-800-321-2448**.

TABLE 5-1 STANDARD ACCUPLLOT/ACCUJET PLOTTER SUPPLIES

GGT Part number	Description
644500112	AccuJet AJ-520 Plotter Paper Roll
052108000	AccuJet AJ-520 Ink
267500004	AccuJet AJ-520 Inkjet Cartridge
644500112	Plotter paper roll for AP-300
644500113	Plotter paper roll for AP-310
644500138	Plotter paper roll for AP-350
055152000	Paper width adapter: supply roll
063528000	Paper width adapter: take-up roll
051065000	Long life pen for AP-300
684500003	Standard pen for AP-300
063192001	Pen and ink cartridges for AP-310 & AP-350

Routine Cleaning

WARNING: FAILURE TO TURN OFF THE MAIN POWER SWITCH AND UNPLUG THE PLOTTER POWER CORD FROM THE ELECTRICAL OUTLET BEFORE BEGINNING ANY MAINTENANCE PROCEDURE COULD RESULT IN INJURY.

Daily — Inspect and clean the AccuJet inkjet cartridge using a cloth. Follow the instructions beginning on page 5-15. Inspect and clean the AccuPlot pen cartridge using the procedure on page 5-18.

Weekly — Clean the beam and linear bearing by wiping them with alcohol on a lint-free cloth. Lubricate the linear bearing with oil applied on a rag.

Clean the interior of the rails on the left and right sides of the table surface by first blowing compressed air beneath them and then wiping beneath them with alcohol on a lint-free cloth.

As Needed — Clean painted portions of the plotter and table surface with a mild soap solution. Clean unpainted surfaces of the plotter with alcohol on a lint-free cloth.

Loading Plotter Paper

The plotters uses plain, standard weight (50 grams per square meter/35 pounds) writing bond paper rolls.

NOTE: The width of the paper roll affects how easily the roll can be handled. To load a wide roll may require two people.

You need the following tools to load a new roll of paper:

- A ¼ inch hex wrench.
- A roll of paper (unpacked from its carton).
- A utility knife.
- An empty cardboard tube to use as the take-up roll. This tube must be the same length as the supply roll. If you are replacing an empty supply roll, you can use that as the new take-up roll.
- Masking tape.

Loading paper requires that you load the new supply roll, load the new take-up roll, and feed the paper through the paper path. Procedures for loading paper on the AccuJet begin on page 5-4. Procedures for the AccuPlot 100/300 Series plotters begin on page 5-9.

Read all the steps in each procedure before beginning. Be sure you understand the steps and that you have all the tools necessary to complete the job.

NOTE: Loading paper requires that you reach across the plotting area. ALWAYS be sure servos are disabled when working on or near the plotting area of any plotter.

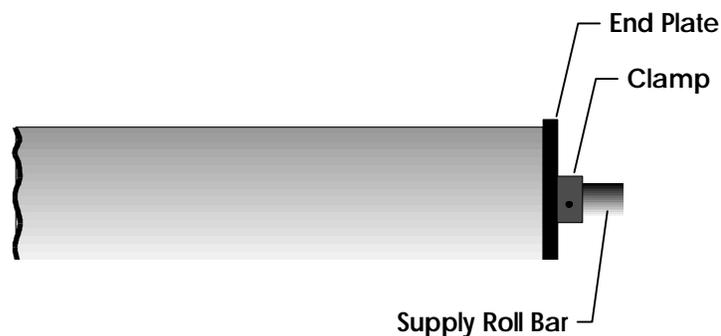
To Load A New AJ-520 Supply Roll

Loading paper requires that you load the new supply roll, load the new take-up roll, and feed the paper through the paper path.

WARNING: FAILURE TO DISABLE SERVO POWER BEFORE PUTTING YOUR HANDS IN OR NEAR THE PLOTTING AREA CAN RESULT IN INJURY.

TO LOAD A NEW PAPER SUPPLY ROLL ON THE ACCUJET AJ-520

1. Verify that the servos are disabled.
2. Remove the supply roll bar:
 - Facing the right side of the plotter, grasp the right end of the bar and shift it toward the right. This depresses the spring-loaded hub at the far end of the plotter and frees the near end from the drive hub.
 - Lift the bar away from the plotter and lay it on the floor.
3. Using a ¼-inch hex wrench, loosen the screw on the holding clamp, then pull the plastic end-plate from the far end of the supply roll bar.

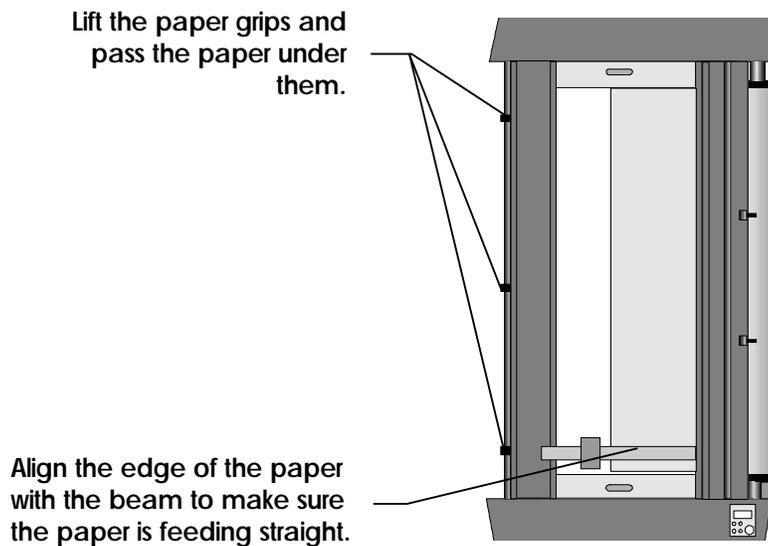


If you are replacing an empty supply roll, pull the cardboard tube off the supply roll bar. You can use this cardboard tube as your new take-up roll. Refer to the procedure on page 5-7.

4. Lay the new supply roll on the floor beside the plotter, positioned so the paper feeds counterclockwise when viewed from the operator control panel. Remove the plastic inserts from both ends of the cardboard spool.

AccuPlot and AccuJet Maintenance

5. Insert the supply roll bar into the new supply roll.
6. Install the plastic end-plate on the far end of the supply roll bar:
 - Make sure that the knurled hub on each end-plate is wedged firmly inside the cardboard roll (this prevents the roll from spinning on the roll bar).
 - Tighten the end-plate holding clamp screw with the 1/4 inch hex wrench.
7. Reinstall the supply roll:
 - Lift the supply roll bar up, and insert the right end of the supply roll bar into the spring-loaded hub.
 - Shift the bar toward the right until your helper can insert the left end into the near (drive hub) end.
 - Rotate the supply roll bar until it engages with the drive hub.
8. Feed the edge of the paper up and across the surface of the table to the opposite side of the plotter and over the drive roller. Lower the grippers to secure the paper in the machine.



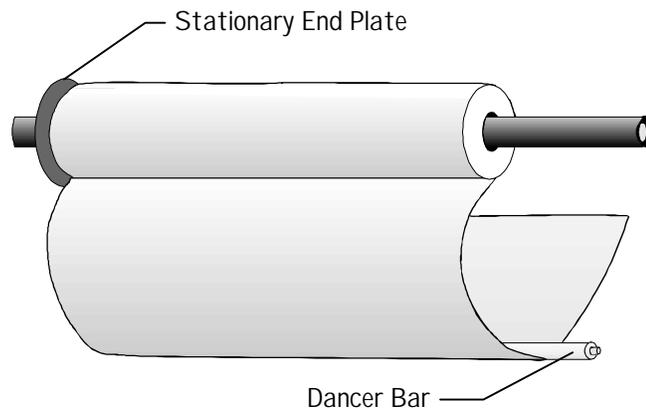
AccuPlot and AccuJet Maintenance

9. Install the dancer bar:

- Rotate the supply roll to create a pocket of paper between the supply roll and the plotter table.
- Lay the dancer bar in the pocket across the width of the paper.
- Rotate the supply roll to lower the dancer bar (in the pocket) until it lines up with the holders at both ends of the bar.
- Connect one side of the dancer bar by inserting the pin at the end of the bar into the hole in the end of the holder. Repeat to connect the other side of the dancer bar.

10. Adjust the tension on the dancer bar:

- Lower the dancer bar until the paper loses tension, then bring the paper back until the slack disappears.

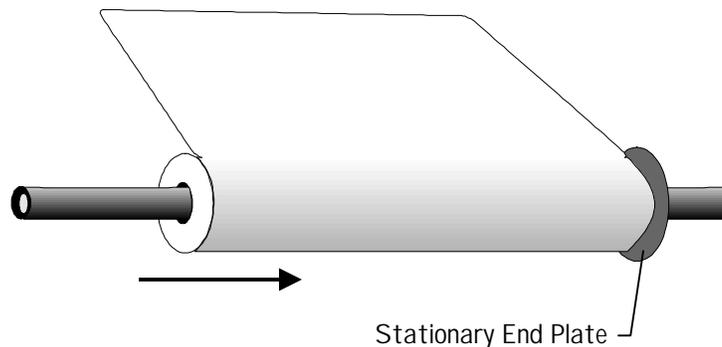


Load New AccuJet Take-up Roll

You will need an empty paper roll cardboard tube.

TO LOAD THE NEW TAKE-UP ROLL ON THE AJ-520 PLOTTER

1. Facing the left side of the plotter, raise the hinged guard.
2. Remove the take-up roll bar from the plotter:
 - Grasp the middle of the take-up roll and shift it toward the left. This depresses the spring loaded hub at the far end of the plotter and frees the near end of the take-up roll bar.
3. Remove the take-up roll bar from the plotter and lay it on the floor:
 - Remove the plastic end-plate from the far end by using a ¼-inch hex wrench to loosen the screw on the holding clamp.
4. Remove the bar from the take-up roll.



5. Insert the take-up roll bar into the cardboard tube and replace the plastic end-plate.
6. Reinstall the take-up roll bar:
 - Lift the take-up roll bar up and insert the left end of the bar into the spring-loaded hub.
 - Shift the bar toward the left until you can insert the right end of the bar into the drive hub end.
 - Rotate the take-up roll bar until it engages with the drive hub.

AccuPlot and AccuJet Maintenance

7. Attach the paper to the take-up roll:

- Unfold the point of the paper and trim the end with a utility knife.
- Fasten the paper to the cardboard take-up tube with masking tape in three places: center, left, and right.
- Turn the take-up roll bar to take up any slack. Lower the paper grips.

8. Restart the plotter and advance the paper:

- Make sure the sliding covers are closed. Also, check that the carriage is not all the way to either end of the beam or table.
- Press **F2-Resume** from the Servo Disable menu to restart the plotter. Use the Menu key to display page one of the Offline menu.
- From page one of the Offline menu, press **F3-Paper Adv** to display the Paper Advance menu.
- Press **F1** two times to advance the paper onto the take-up roll.

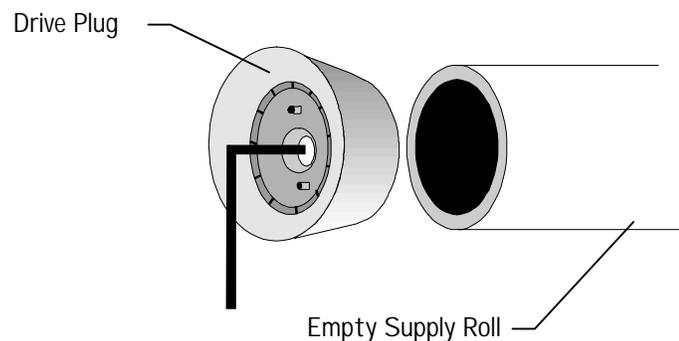
Loading Paper on the AP-100/AP-300

Loading paper requires that you load the new supply roll, load the new take-up roll, and feed the paper through the paper path.

WARNING: FAILURE TO DISABLE SERVO POWER BEFORE PUTTING YOUR HANDS IN OR NEAR THE PLOTTING AREA COULD RESULT IN INJURY.

TO LOAD A NEW ACCU PLOT 100/300 SUPPLY ROLL

1. Verify that the servos are disabled.
2. Remove the empty paper supply roll:
 - Facing the right side of the plotter, grasp the empty supply roll and shift it to your right. This depresses the spring-loaded hub at the far end of the plotter and frees the closer end of the paper roll bar from the drive hub.
 - Lift the bar away from the plotter and lay it on the floor. Remove the empty supply paper roll.
3. Use the hex wrench to loosen the drive plug in the near end of the roll. Remove the plug and set it aside.



The empty roll can be used as your new take-up roll.

4. Position the new paper supply roll so that it can be mounted on the right side of the plotter and unrolled **counterclockwise**. (The paper should pass over the roll.) Remove any shipping inserts from the ends of the new roll.

AccuPlot and AccuJet Maintenance

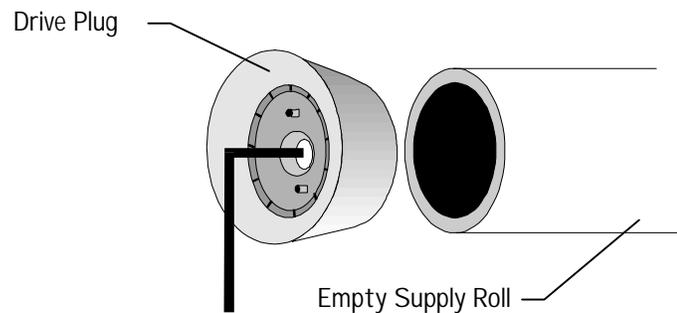
5. Insert the drive plug (removed in Step 3) into the new paper supply roll until the plug is flush with the end of the roll. Tighten the drive plug set screw with the hex wrench.

Note: If your paper roll is narrower than the standard width, you must install paper width adapters. See page 5-13 for the procedure.

6. Insert the paper supply roll bar into the new paper roll.
7. Install the new paper roll on the right side of the plotter:
 - Pressing the far end (the end **without** the drive plug assembly) of the bar against the spring-loaded hub at the far end of the plotter.
 - Raise the near end of the paper roll bar until it slips in to the near end hub. Rotate the paper roll until the drive plug assembly engages with the drive hub pins.
8. Feed the paper through the paper path:
 - Fold the end of the plotter paper to form a point. Insert the point of the paper under the beam and across the table surface.
 - Pull the paper across the table surface to the opposite side of the plotter. Lift the pinch roller and pass the paper under it.
9. Attach the paper to the take-up roll:
 - Unfold the point of the paper and trim the end with a utility knife.
 - Fasten the paper to the cardboard take-up tube with masking tape in three places: center, left, and right.
 - Turn the take-up roll bar to take up any slack. Lower the paper grips.
10. Restart the plotter:
 - Be sure the carriage is not positioned at the extreme ends of either the beam or the table.
 - Press **F2-Resume** on the Servo Disable menu. Move to page one of the Offline menu.
 - Press **F3-Paper Adv.** to pull up the Paper Advance submenu.
 - Press **F1** two times to advance the paper onto the take-up roll.

TO LOAD A NEW AP-100/AP-300 TAKE-UP ROLL

11. Facing the left side of the plotter, grasp the take-up roll and shift it to your **left**. This depresses the spring-loaded hub at the far end of the plotter and frees the near end of the paper roll bar.
12. Remove the take-up roll and paper roll bar from the plotter. Remove the paper roll bar from the take-up roll.
13. Use the hex wrench to loosen the drive plug in the near end of the roll. Remove the plug and set it aside.



14. Put the take-up drive plug into the end of the empty cardboard tube and insert the roll bar.
15. Install the new take-up roll assembly on the left side of the plotter by pressing the far end (the end **without** the drive plug assembly) against the spring-loaded hub at the far end of the plotter.
16. Raise the near end of the paper roll bar until it slips in to the near end hub.
17. Rotate the paper roll bar until the drive plug assembly (with two pins) engages with the drive hub (with four pins).

Switching to the Second Paper Roll

If your AP-300 Series plotter is equipped with a second paper roll, you can have two paper rolls of different widths loaded on your plotter at the same time. Follow these instructions when you need to switch between the two paper widths.

WARNING: FAILURE TO DISABLE SERVO POWER BEFORE PUTTING YOUR HANDS IN OR NEAR THE PLOTTING AREA COULD RESULT IN INJURY.

TO SWITCH TO THE SECOND PAPER ROLL

1. Using a utility knife, cut the paper at the point where it rolls off the main supply roll. Manually turn the take-up roll to pull the paper across the table.
2. Pull the free end of the paper from the second paper supply roll around the main supply roll.
3. Feed the paper under the beam and across the table surface to the other side of the plotter. On an AP-310/320 or AP/350/360 lift the pinch roller and pass the paper under it.
4. Using masking tape, secure the edge of the supply paper to the paper on the take-up roll. Turn the take-up roll bar manually to take up the slack.
5. Restart the plotter:
 - Be sure the carriage is not positioned at the extreme ends of either the beam or the table.
 - Press **F2-Resume** on the Servo Disable menu. Move to page one of the Offline menu.
 - Press **F3-Paper Adv**, to pull up the Paper Advance submenu.
 - Press **F1** two times to advance the paper onto the take-up roll.

Using Paper Width Adapters

To use a paper roll that is less than the maximum width for a plotter, you must install paper width adapters on both the supply roll and the take-up roll.

TO INSTALL PAPER WIDTH ADAPTERS

1. Slide the adapter onto the supply roll bar and adjust it so that the **larger** diameter is flush with the edge of the paper roll. Secure the supply roll adapter by tightening the set screw with a 3 mm hex wrench.
2. Slide the adapter onto the take-up roll bar so that the **smaller** diameter is flush with the paper core. **Secure the adapter by tightening the set screw with a 3 mm hex wrench.**

Plotter Pen Maintenance

The AccuPlot AP-100 and AP-300 series plotters all use the same pen cartridge assembly. Maintenance on these assemblies includes cleaning as necessary, refilling ink reservoirs, and replacing pens. AccuJet AJ-520 plotters include an inkjet cartridge which should be cleaned whenever the AJ-520 has been inactive for a period of time, including overnight.

You will need the following equipment to perform basic pen maintenance:

- A clean, soft cloth
- Ink
- Replacement pens or inkjet cartridges
- Pipe cleaner
- Pump or syringe to pressurize pen assemblies

Refilling either of the long life pen assemblies requires that the assemblies be pressurized to start and maintain the flow of ink to the pen. Procedures for pressurizing both assemblies are provided.

Read all the steps in each procedure before beginning. Be sure you understand the steps and that you have all the tools necessary to complete the task.

Note: Pen maintenance requires that you reach into the plotting area. ALWAYS be sure servos are disabled when working on or near the plotting area of any plotter.

AJ-520 Pen Maintenance

Figure 5-1 illustrates the AJ-520 longlife pen assembly.

WARNING: FAILURE TO DISABLE SERVO POWER BEFORE PUTTING YOUR HANDS IN OR NEAR THE PLOTTING AREA CAN RESULT IN INJURY.

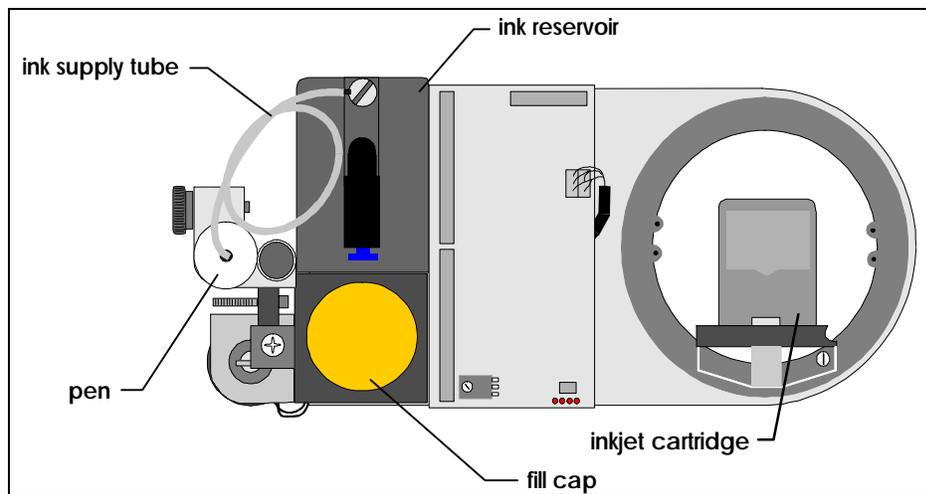


Figure 5-1 AJ-520 Longlife Pen Assembly

TO REPLACE THE AJ-520 LONGLIFE PEN

1. Turn Servo Power off.
2. Open a sliding cover so that you can reach the carriage.
3. Loosen the pen cartridge clamping screw and lift the old pen out of the pen holder. Discard the old pen.
4. Insert the new pen into the pen holder and tighten the pen cartridge clamping screw.
5. Close the sliding cover to begin plotting.

TO REFILL THE AJ-520 LONGLIFE PEN

WARNING: FAILURE TO DISABLE SERVO POWER BEFORE PUTTING YOUR HANDS IN OR NEAR THE PLOTTING AREA CAN RESULT IN INJURY.

1. Turn Servo Power off.
2. Unscrew the ink reservoir cover. Do not allow dirt or other contaminants into the reservoir.
3. Fill to about 10 mm from top. Do not cover the top of the small tube inside the well. Use a towel or cloth to prevent ink from dripping as you remove the supply bottle from the reservoir opening.
4. Replace the reservoir cover tightly.
5. Insert pressure pump tube into pressure fitting.
6. Pump just until green button pops up.
7. Press the release button and quickly remove pump tube from pressure fitting. Removing the tube slowly can allow air to escape from the reservoir.

AccuPlot and AccuJet Maintenance

TO CLEAN THE INKJET CARTRIDGE

WARNING: FAILURE TO DISABLE SERVO POWER BEFORE PUTTING YOUR HANDS IN OR NEAR THE PLOTTING AREA CAN RESULT IN INJURY.

1. Open a sliding cover so that you can reach the carriage and remove the assembly cover.
2. Grasp the inkjet cartridge at the top and gently pull it outward until the cartridge disengages from the spring retainer.
3. Wipe the cartridge jets with a dry cloth or paper towel.
4. Angle the base of the cartridge into the cartridge holder. Gently push the top of the cartridge (in the direction of the arrow on top of the cartridge) until it snaps into place in an upright position.

TO REPLACE THE INKJET CARTRIDGE

WARNING: FAILURE TO DISABLE SERVO POWER BEFORE PUTTING YOUR HANDS IN OR NEAR THE PLOTTING AREA CAN RESULT IN INJURY.

1. Open a sliding cover so that you can reach the carriage and remove the assembly cover.
2. Grasp the old cartridge at the top and gently pull it outward until the cartridge disengages from the spring retainer. Discard the old inkjet cartridge.
3. Angle the base of the new cartridge into the cartridge holder. You may have to reach under the head cover and raise the cartridge holder unit slightly.
4. Gently push the top of the new cartridge (in the direction of the arrow on top of the cartridge) until it snaps into place in an upright position.

AccuPlot Longlife Pen Maintenance

After filling the pen, the reservoir must be pressurized. Loss of pressure may result in the pen not writing. Whenever you replace the pen and ink cartridge, clean the inside of the pen holder with a pipe cleaner.

TO REMOVE THE ACCU PLOT CARTRIDGE PEN

1. Unscrew the pen retaining cap.
2. Twist the ink cartridge one quarter turn counterclockwise.
3. Lift the pen and ink assembly out of the pen holder.

An AccuPlot Longlife Pen kit is available from GGT. This kit includes three pen cartridge/ink reservoir assemblies and one syringe. The syringe is used to pressurize, or activate, the pen cartridge. Activating the cartridge starts the ink flow through the assembly. The syringe provided may be used to activate all three cartridges.

NOTE: Repeated use of the syringe may cause wear between the plunger and the inner surface of the syringe tube. Use of the syringe to activate more than three cartridges is not recommended.

TO PRESSURIZE THE AP-100/AP-300 PEN CARTRIDGE

1. Remove the plug from the bottom of the ink reservoir and the cap from the tip of the pen.
2. Pull the syringe plunger back to fill the plunger tube with air, then insert the syringe tip into the opening at the bottom of the ink reservoir.
3. Brace the plunger against a flat, hard surface. Push the ink reservoir down toward the plunger so that the air in the syringe forces the ink into the tube that connects the reservoir to the pen.

NOTE: Lifting the plunger off the surface before removing the plunger from the reservoir can cause a loss of pressure in the pen assembly.

4. With the plunger still braced against the surface, disconnect the ink reservoir from the syringe. The ink will continue to fill the connecting tube.
5. When the tube is filled, try to write with the pen tip. This helps ensure a constant flow of ink to the pen.

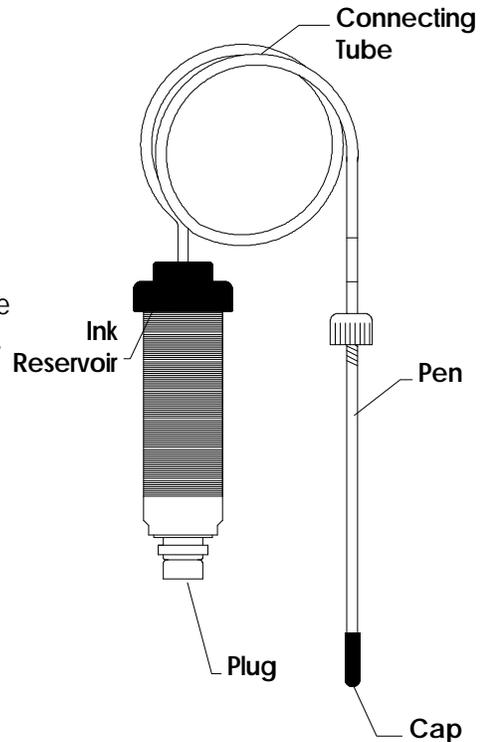


Figure 5-2 AccuPlot Longlife Pen & Ink Reservoir

If the tube does not fill, or if the pen does not write, repeat the procedure.

NOTE: Although unlikely, it is possible that the charge applied in step 3 will not hold. If this happens, install the pen assembly in the plotter and do several page advances. The GGT pump system is a closed air system, and advancing the pages will generate enough pressure to ensure proper operation of the pen.

TO INSTALL THE CARTRIDGE IN YOUR PLOTTER

WARNING: FAILURE TO DISABLE SERVO POWER BEFORE PUTTING YOUR HANDS IN OR NEAR THE PLOTTING AREA COULD RESULT IN INJURY.

1. Insert the pen into the pen holder.
2. Insert the ink reservoir into the large round opening in the cover. Line up the guide on the side of the ink reservoir with the notch in the large round opening.
3. Hold the beam assembly to keep it from bending and press the reservoir down firmly. This will secure the reservoir.
4. Turn the reservoir 90 degrees clockwise by one-quarter turn to lock the reservoir in place.
5. Thread, by turning, the pen holder cap to the top of the pen holder. Installation is complete.

G Glossary

Acceleration

The rate at which an object increases its speed, expressed in Gs (G is a measure of acceleration.). Acceleration parameters can be set for plotting and annotation.

AccuMark

Gerber Garment Technology's workstation-based system for marking, grading, and pattern design. You send plotting data from the AccuMark workstation to the plotter.

Annotation

Text that is plotted on a piece or marker. It can be the marker or piece name, size, or the date, and so on.

Arrow Key

Four keys (up, down, left, and right) on the control panel that allow you to move the beam and carriage over the table and to change values in the menus displayed on the control panel.

Beam

The beam spans the width of the plotter table and is where the carriage assembly is located. The plotter pen moves to any location on the table as the beam moves up and down, and the carriage rides left and right on the beam.

Carriage

The device that travels left and right on the beam carrying the pen and inkjet assemblies.

Control Panel

The place where you operate the plotter. It consists of a display window and pressure-sensitive keys that allow you to input commands. The emergency stop switch is also located on the control panel.

Dancer Bar

The bar positioned under the paper supply roll. Used to keep even tension on the paper as it is drawn across the plotter table.

Default Settings

The factory-set values for the various parameters that control the operation of the plotter. These are usually set at the maximum value. You can change any of the default settings to tailor the plotter's actions to your needs, and you can easily change them back if you need to.

Diagnostics

A group of tests that can be run to determine if the plotter is functioning correctly. You can run some of the diagnostic tests yourself, but others are intended for GGT Field Service personnel.

Display Window

The area on the control panel that displays menus and messages. This liquid crystal display measures approximately 1 inch by 3 inches.

Download

To update the firmware on the Plotter by transmitting a new version from your marking and grading system terminal to the plotter.

Emergency Stop Switch

The round knob on the control panel that you twist to turn on power to the plotter motors. It is marked with three arrows. By pushing this switch down, you can quickly stop the plotter in an emergency.

Enter Key

The key on the control panel that lets you verify changes you make on the menus. It is marked with a dot.

Eprom

A memory device that holds the plotter's operating parameters.

Firmware

The set of computer software that controls the plotting operations. When a new version of the firmware is released, you can update your own plotter by downloading the new firmware.

Function Key

The keys on the control panel that you press to select menu options. The four function keys are F1, F2, F3 and F4.

Grippers

Three clamps positioned to hold paper evenly across the drive roll.

Initialize

To clear the plotter's controls and reset the pen to the defined origin. This is done each time you power up the plotter and when you want to permanently save changes to parameters.

Inkjet Assembly

The device that rides on the carriage and holds the inkjet cartridge.

Marker

A group of pattern pieces laid out for plotting. You can send a marker to an Plotter to be plotted.

Marking and Grading System

The workstation that you use to create the patterns, pieces and markers that you send to the plotter to be plotted.

Menu

The list of choices that you can make to control the plotter operation. Menus appear in the display window of the control panel. The primary Plotter menu is the Offline menu.

Menu Key

A key located on the control panel that lets you move through the different pages of the Plotter menus. For instance, the Offline menu has three pages that you can move through by pressing the Menu key.

Offline

The status of the plotter when it will not move in response to data received from the marking and grading system. When the plotter is offline, you can do a number of functions to get the plotter ready to plot, such as reset the origin, move the tool with the arrow keys, change parameters and run diagnostic tests.

Online

The status of the plotter when it can move in response to data received from the marking and grading system. Be careful when you put the plotter online, because if you have already sent data to the plotter, it will immediately begin to plot.

Operator Messages

Messages that appear in the display window telling you to take an action before the plotter can continue to operate.

Origin

The position of the pen tip when plotting begins. The default value is 0,0. You can change this temporarily by using the Reset Origin option on the Offline menu, or you can change it permanently by changing the Origin parameter, saving it and reinitializing.

Parameters

The settings that control the performance and operation of the Plotter plotter. There are parameters for the plotting operation, the table, paper advance function and others. You can change the parameter settings either temporarily or permanently.

Pen Assembly

The device that rides on the carriage and holds the pen.

Piece

An individual portion of a pattern that can be sent to the Plotter to be plotted.

Pinch Roller

The roller that runs along the left edge of the plotter table on the Plotter. It holds the paper in place as you plot and advance the paper across the table.

Pixel

One of the small rectangular areas in the display window that lights up to create text. Pixel is an abbreviation of picture element.

Plot

To draw the data sent to the Plotter from the marking, grading, or pattern design system.

Plot File

The file that contains the plotting information sent from the marking and grading system to the Plotter. Once the plotter is initialized, this data is plotted.

Power Up / Power Down

To turn the plotter on and off. You power up by pressing the main power switch and twisting the emergency stop switch. You power down by pushing the emergency stop switch down, and pressing the main power switch.

Servo Motors

The motors that provide motion to the beam and carriage.

Supply Roll

The roll bar on the right side of the plotter table that holds the roll of unused paper.

Take-Up Roll

The roll bar on the left side of the plotter table that winds up the used paper after it has traveled across the table.

Toggle

An option that provides only two choices (for example, on or off, yes or no, up or down).

Tool

Another term for the pen that does the plotting or the inkjet cartridge that does the annotation.

Velocity

The rate of speed at which an object moves, expressed in inches per second (ips). Velocity parameters can be set for plotting, annotation and paper advancing.

Window Size

The length and width that can be plotted at one time on the surface of the table before the material must be advanced. You set these dimensions in your marking and grading system or at the plotter (table size in the table parameters); the lower values take effect.

Index

—A—

Acceleration, 4-15, 4-18
 annotation, 4-15, 4-18
 inkjet, 4-15, 4-18
 pen up, 4-15, 4-18
 plot, 4-15, 4-18
AccuJet Plotters
 AJ-520 overview, 1-1
AccuPlot Plotters
 AP-100 overview, 1-1
 AP-300 overview, 1-1
Advance Paper. *See* Paper
Advance Parameters. *See* Parameters
Annotation, 1-1
 acceleration, 4-15, 4-18
 velocity, 4-15, 4-18
 with inkjet parameter, 4-18
Arrow Keys, 3-6
Axis, 3-8

—C—

Carriage and Pen Assembly, 3-5
Change Origin. *See* Origin
Change Parameters. *See* Parameters
Character Set, 4-17
Cleaning. *See* Maintenance
Control Panel, 3-6
 arrow keys, 3-6, 3-7
 display window, 3-6, 3-7
 emergency stop, 3-6
 function keys, 3-6, 3-7
 menu key, 3-6, 3-7
Covers, 1-2

—D—

Dancer Bar, 3-5, 5-6
Default Parameters. *See* Parameters
Description, Plotters, 3-1
Diagnostics, 4-26
 display, 4-32
 inkjet, 4-31
 jets, 4-34
 key, 4-33
 menu, 4-27

 pen plots, 4-31
 plot tests, 4-30
 rotation of inkjet head, 4-36
Disable Servo Power, 4-8
Display Diagnostics, 4-32
Display Window, 3-6
Download Firmware. *See* Firmware

—E—

Emergency Power Switch, 1-2
Emergency Stop, 1-2, 2-4, 3-6
Enable Servo Power, 4-8, 4-9
Enter Key, 3-6
E-Stop. *See* Emergency Stop
EPROM
 download firmware. *See* Firmware

—F—

Firmware
 download, 4-24
 overview, 4-23
Font, 4-17
Function Keys, 3-6

—G—

GGT Defaults
 origin, 3-8
 parameters, 4-14

—H—

Hardware Summary, 3-1

—I—

Initializing. See Plotter

Inkjet

- acceleration, 4-18
- cartridge cleaning, 5-17
- cartridge replacing, 5-17
- diagnostics, 4-31
- jets, 4-18
- offset, 4-18
- parameters, 4-18
- strike count setting, 4-18
- timer, 4-21 - 4-22
- velocity, 4-18
- X pivot offset, 4-18
- Y pivot offset, 4-18

—J—

Jet

- See also Inkjet
- X pivot offset, 4-18
- Y pivot offset, 4-18

—K—

Key Diagnostics, 4-33

—L—

Language, 4-17

Load

- AJ-520 supply roll, 5-4 - 5-6
- AJ-520 take-up roll, 5-7 - 5-8
- AP-100 supply roll, 5-9 - 5-10
- AP-100 take-up roll, 5-11
- AP-300 supply roll, 5-9 - 5-10
- AP-300 take-up roll, 5-11
- plotter paper, 5-3
- switching to second roll, 5-12

Load Default Parameters. See Parameters

Lower Pen. See Pen

—M—

Main Power Panel, 3-4

Maintenance

- AJ-520 pen, overview, 5-15
- AJ-520 pen, refill, 5-16
- AJ-520 pen, replacement, 5-15
- AP-100 pen, installation, 5-20

- AP-100 pen, overview, 5-18
- AP-100 pen, pressurize, 5-19
- AP-100 pen, removal, 5-18
- AP-300 pen, installation, 5-20
- AP-300 pen, overview, 5-18
- AP-300 pen, pressurize, 5-19
- AP-300 pen, removal, 5-18
- cleaning, 5-2
- inkjet cartridge cleaning, 5-17
- inkjet cartridge replacing, 5-17
- load new paper. See Load paper. See Paper
- part numbers, 5-1
- pen, 5-14
- routine cleaning, 5-2
- supplies, 5-1

Maximum Paper Width. See Paper

Menu

- diagnostics, 4-27
- offline, 4-26
- pages, 4-26
- structure, 4-2

Menu Key, 3-6, 3-7

Miscellaneous Parameters, 4-17

—N—

New Pen. See Maintenance

—O—

Offline, 2-4

- menu, 4-1
- page one, 4-1
- page three, 4-1
- page two, 4-1

Online, 2-3, 4-3

Orientation, Table. See Table

Origin, 3-8, 4-6

- GGT default location, 3-8
- overview, 4-6
- set new, 4-6
- set temporary, 4-6

—P—

Page

- advance delay, 4-16

Paper

- advance, 4-4, 4-16
- advance parameters, 4-16

- load. See Load
- maximum width, 1-1
- supply roll, 3-5, 5-4
- switching to second roll, 5-12
- take-up roll, 5-7, 5-11
- transport system, 3-5
- width adapters, 5-13
- width, maximum 1-1
- window length, 4-4
- Parameters, 4-11
 - annotate with inkjet, 4-17
 - annotation acceleration, 4-15
 - annotation velocity, 4-15
 - change, 4-12
 - character set, 4-17
 - default, 4-14 - 4-18
 - flat PWM command, 4-16
 - font type, 4-17
 - IJ C axis home state, 4-18
 - inkjet acceleration, 4-18
 - inkjet strike count, 4-18
 - inkjet velocity, 4-18
 - inkjet, 4-18
 - language, 4-17
 - load default, 4-20
 - miscellaneous, 4-17
 - offset parameter values, 4-18
 - offset test DIM A, 4-18
 - offset test DIM B, 4-18
 - offset test DIM C, 4-18
 - offset test DIM D, 4-18
 - overview, 4-11
 - page advance delay, 4-16
 - paper advance, 4-16
 - pen down delay, 4-15
 - pen up acceleration, 4-17
 - pen up delay, 4-15
 - pen up velocity, 4-17
 - plot acceleration, 4-15
 - plot velocity, 4-15
 - plot, 4-15
 - rev flat PWM command, 4-16
 - rev ramp down period, 4-16
 - rev ramp up period, 4-16
 - save, 4-19
 - table, 4-14
 - view current settings, 4-13
 - X jet 1 offset, 4-18
 - X origin position, 4-14
 - X pivot offset, 4-18
 - X step size, 4-14
 - X table size, 4-14
 - Y jet 1 offset, 4-18
 - Y origin position, 4-14
 - Y pivot offset, 4-18
 - Y step size, 4-14
 - Y table size, 4-14
- Part Numbers, 5-1
- Pen
 - diagnostic plots, 4-31
 - lower, 4-7
 - maintenance, 5-14
 - new. See Maintenance
 - parameters. See Parameters
 - raise, 4-7
 - replacing. See Maintenance
 - timer, 4-21
- Plot
 - parameters. See Parameters
- Plotter
 - description, 1-1, 3-1
 - diagnostics, 4-26
 - initializing, 2-2, 4-3
 - maintenance. See Maintenance
 - menu structure, 4-2
 - parameters. See Parameters
 - part numbers, 5-1
 - physical characteristics, 3-1
 - plot tests, 4-30
 - power down, 2-4
 - power off, 2-4
 - power on, 2-1
 - power up, 2-1
 - reset, 4-10
 - starting, 2-1
 - stopping, 2-4
 - supplies, 5-1
 - tests, diagnostic 4-30
 - turn off, 2-4
 - turn on, 2-1
- Power
 - Off. See Plotter
 - On. See Plotter
 - Servo, 4-8-4-9
- Product Support, iv

—R—

Raise Pen. *See* Pen
Reset Plotter. *See* Plotter
Reverse Take-up Roll, 4-5
Routine Cleaning. *See* Maintenance

—S—

Safety
 design features, 1-2
 guidelines, 1-2
Servos
 disable, 4-8
 enable, 4-8, 4-9
Set Origin. *See* Origin
Shutdown, 2-4
Sliding Covers, 1-2
Spare Parts, 5-1
Starting the Plotter. *See* Plotter
Stopping the Plotter. *See* Plotter
Supplies, 5-1
Supply Roll. *See* Paper
Support, iv

—T—

Table
 orientation, 3-8
 parameters, 4-14
Take-up Roll
 reversing, 4-5
 See also Paper
Technical Support, iv
Tests. *See* Diagnostic
Timers
 inkjet. *See* Inkjet
 pen. *See* Pen
Tool
 down, 4-7
 up, 4-7
Transport System, Paper. *See* Paper
Troubleshooting. *See* Diagnostics
Turn on, 2-1

—V—

Velocity
 annotation, 4-15
 inkjet, 4-18
 pen up, 4-17
 plot, 4-15

—W—

Width Adapters, Paper. *See* Paper

—X—

X Axis, 3-8
X Origin, 4-14
X Step Size, 4-14
X Table Size, 4-14

—Y—

Y Axis, 3-8
Y Origin, 4-14
Y Step Size, 4-14
Y Table Size, 4-14

USA/CANADA

Gerber Technology, Inc.
WORLD HEADQUARTERS
P.O. Box 769
24 Industrial Park Road West
Tolland, Connecticut 06084 USA
TEL: (860) 871-8082
FAX: (860) 871-6007

INTERNATIONAL

Gerber Technology, Inc.
INTERNATIONAL DIVISION
P.O. Box 769
24 Industrial Park Road West
Tolland, Connecticut 06084 USA
TEL: (860) 871-8082
WEB: <http://www.gerbertechnology.com>
FAX: (860) 871-6007

EUROPE

GGT Europe N.V/S.A.
Excelsiorlaan 55
B-1930 Zaventem, BELGIUM
TEL: (32) (2) 716 03 11
FAX: (32) (2) 716 03 22