FasTrack™ Cutter

Owner's Guide

FCC WARNING

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own risk.

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicables aux appareils numeriques de la classe B prescrites dans les Reglements sur le brouillage radioelectrique edicte par le Ministere des Communications du Canada.

TABLE OF CONTENTS

INTRODUCTION

Congratulations on purchasing a FasTrack™ cutter, one of the most versatile single-tool cutters on the market. It is fast, reliable, of high quality, and easy to use. You can find information on setting up and operating your FasTrack cutter as follows:

- The *FasTrack Cutter Quick Reference*: a booklet designed to help you get your cutter operating as quickly as possible.

- The *FasTrack Cutter Owner's Guide*: a reference manual that provides more detailed information on the FasTrack cutter. Refer to the *FasTrack Cutter Owner's Guide* for further explanations on certain aspects of your cutter.

This guide contains information on the topics below. For a further listing of topics, please refer to the Table of Contents and the Index.

- Unpacking and setting up the cutter
- Making the necessary power connections
- Learning to use the control panel
- Installing tools and loading material
- Changing cutter settings
- Fine tuning the cutter
- Cleaning and maintaining the cutter
- Troubleshooting

ATTENTIONS AND CAUTIONS

When you see the CAUTION symbol at the left, carefully read the messages next to the symbol. Caution means that you may harm yourself or the cutter by performing or not performing certain actions.

*When you see the **check mark** graphic at the left, read the messages to find helpful information or specific details about the cutter and its functions.*

CUSTOMER SUPPORT

Gerber is pleased to provide you with excellent system support. Refer to the information below to determine which group to call for service. If possible, please use a phone that is close to your system.

For Hardware

If you require assistance installing or operating your FasTrack cutter, contact your Gerber distributor, or contact Gerber Field Service at:

phone: 800-828-5406
fax: 860-648-8376

e-mail: gspservice@gspinc.com

www.gspinc.com

For Software

If you require assistance installing or operating your GRAPHIX ADVANTAGE® system, contact your Gerber distributor, or contact GSP® Technical Systems Support Department at:

phone: 860-528-1028
fax: 860-290-5568

e-mail: gsptech@gspinc.com

www.gspinc.com

Before calling, please have the following information and items available (if applicable):

- Cutter installation date
- Cutter serial number (located at rear of the cutter)
- The graphics package and version number you are using
- MS-DOS® and Microsoft® Windows® version numbers
- GSP System ID number (gasysid)

- GRAPHIX ADVANTAGE serial number (6-digit bolded number on the security block)

- GRAPHIX ADVANTAGE, Windows, MS-DOS, and hardware utilities disks

- GRAPHIX ADVANTAGE, Windows, and MS-DOS user manuals

- The names of any output devices, such as a printer

Note: To find the GSP system ID number and the serial number, open GSP Setup, click on System Information, and select System Id. The system Id number is at the bottom left of the message box; the serial number is at the upper right.

CHAPTER 1
INSTALLATION PROCEDURES

PREPARING THE CUTTER ENVIRONMENT

The location where you set up your equipment is very important. Please ensure that it meets the following conditions:

- Power supply of 100 to 120 VAC 50/60 Hz or 200 to 240 VAC 50/60 Hz.

- Ambient Conditions

  - Operating environment
    - Temperature: 41°F to 104°F (5°C to 40°C)
    - Humidity: 35% - 75% non-condensing

  - Recommended environment
    - Temperature: Room temperature 61°F to 90°F (16°C to 32°C)
    - Humidity: 50% to 65%, non-condensing

  - Variation rate
    - Temperature: 3.6°F (2°C) per hour
    - Humidity: 5% per hour

  - Storage environment
    - Temperature: 32°F to 122°F (0°C to 50°C)

- Protect your cutter from moisture, dust, drafts, and direct sunlight. It is best to keep your machine away from air-conditioners and open windows.

- Ensure that there is an adequate space around the cutter to ensure proper ventilation.

- Avoid unnecessary vibrations and set up your cutter on a level surface.

- When selecting a place for your cutter, leave at least 35.5" (900 mm) in front and 35.5" (900 mm) at the rear, as shown in the illustration on the next page.

900 mm 900 mm 35.5"
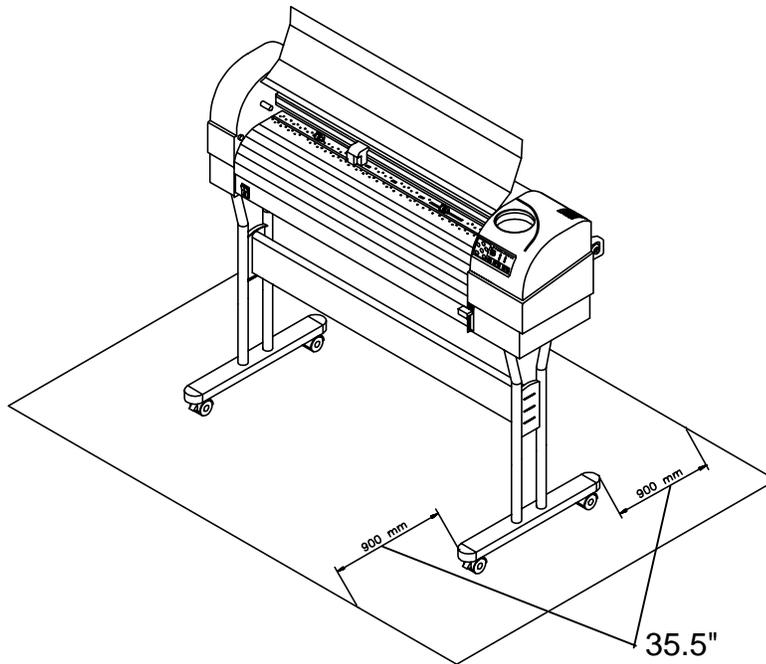
UNPACKING AND SETTING UP THE CUTTER

When unpacking the cutter, check whether all parts described below in *Cutter box contents* are included. Consult your distributor if anything is missing. See Chapter 7 for dimensions.

CAUTION

- Lifting the machine out of the box should be done by two people.
- Protect the cutter from firm shocks.
- Do not dismantle the unit.

Tool Head
(remove foam)
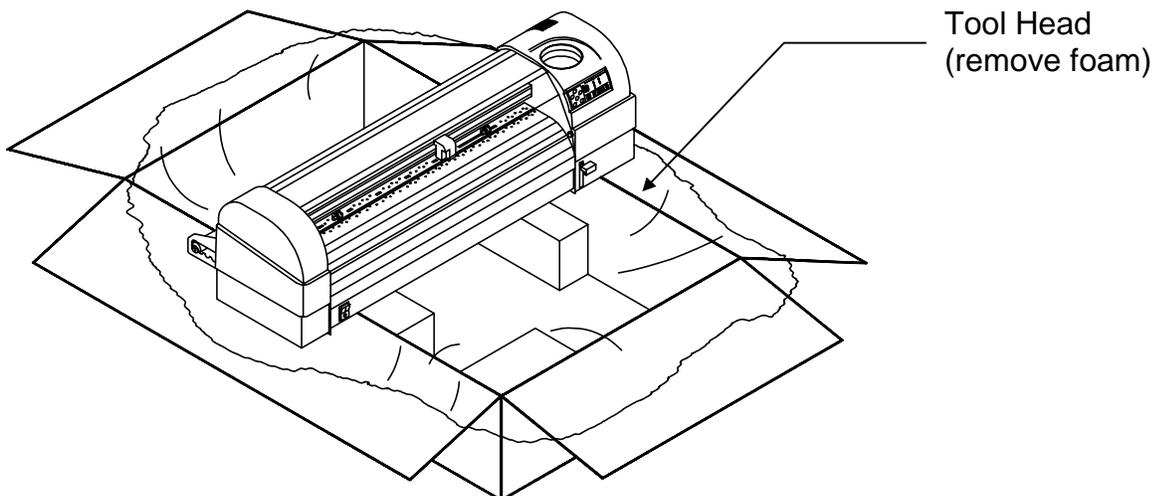
1. Lift the cutter unit out of the box and put it on a flat and stable surface.

2. Remove all plastic wrapping materials.

3. Remove the pieces of foam, which protect the tool head during transportation.

4. If you had your cutter delivered with a stand, please refer to the mounting instructions that came with it.

Cutter box contents

A. Cutter unit with roll support system, conveyor rolls, and small flanges.

B. Owner's Guide and Quick Reference

C. One knife holder

D. Set of 2 blades and 1 spring for cutting jobs (45°/Offset 0.50 mm)

E. Blade for auto-sheet-off (1 pc–installed in tool head)

F. Set of fiber-tip pens (2 pcs)

G. Spare cutting mat (1 pc)

H. Power cord

I. RS-232C serial interface cable
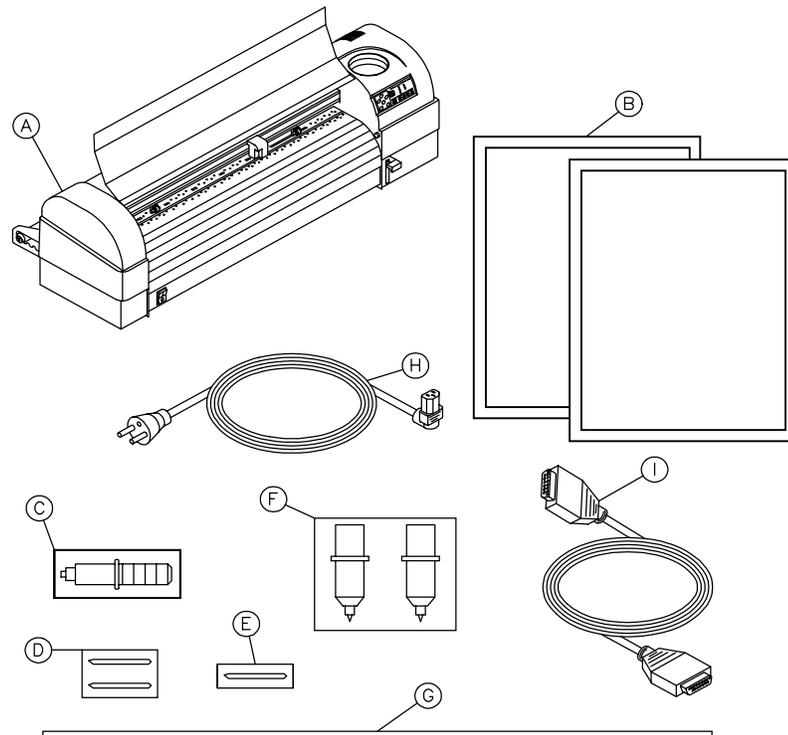
CUTTER PARTS and COMPONENTS
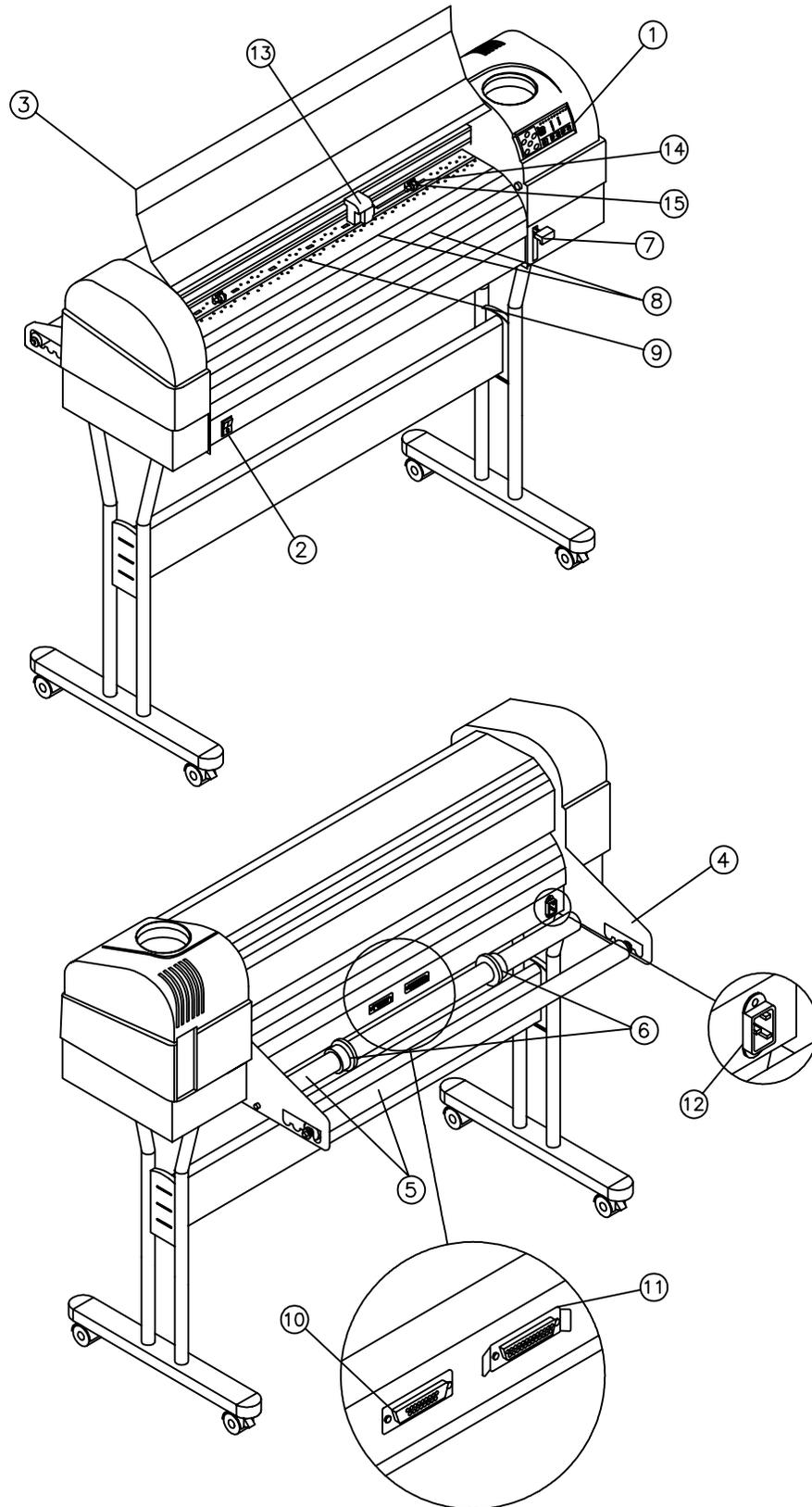
The numbers in the diagram match the parts described below.

1. **Control Panel**: Indicator LEDs and control keys.

2. **Power Switch**: Turns the cutter on or off.

3. **Carriage Cover**: For safety reasons, the cutter will not work with the cover open. The cover also prevents objects from falling into the cutting zone.

4. **Roll Support System**: Carries the conveyor rolls.

5. **Conveyor Rolls**: Hold roll material.

6. **Guiding Flanges**: Located on the conveyor rolls, prevent the roll of material from shifting to the left or right when material is pulled from the roll.

7. **Material Hold Lever**: Raises and lowers the pressure rollers. Lowering the pressure rollers holds the material in place.

8. **Platen and Drive Roller Cover**: Supports the cutting material and guides the movement of the material along the X-axis.

9. **Cutting Mat**: Provides a reliable cutting surface and prevents damage to the knife tip.

10. **Serial Interface Connector**: RS-232C serial interface connector to connect the cutter to the host computer.

11. **Parallel Interface Connector**: Centronics parallel connector to connect the cutter to the host computer's printer port for fast data transfer.

12. **Power Connector**: Connector for the power cord, which plugs into the main power supply of the cutter.

13. **Tool head with Tool Mounting Bracket**: All available tools such as knife holders, drawing pens, and painting pens can be secured into the tool head using the locking screw. The tool head moves along the Y-axis to the exact cutting position.

14. **Drive Rollers**: Move the cutting material along the X-axis.

15. **Pressure Rollers**: Hold the material against the drive rollers during cutting.

CONTROL PANEL

Use the control panel to access different modes and alter several settings in order to fine tune the cutter for your needs. The numbers in the diagram match the keys described below. For detailed information on the functions of the keys, see *Understanding the Control Panel* on page 18.
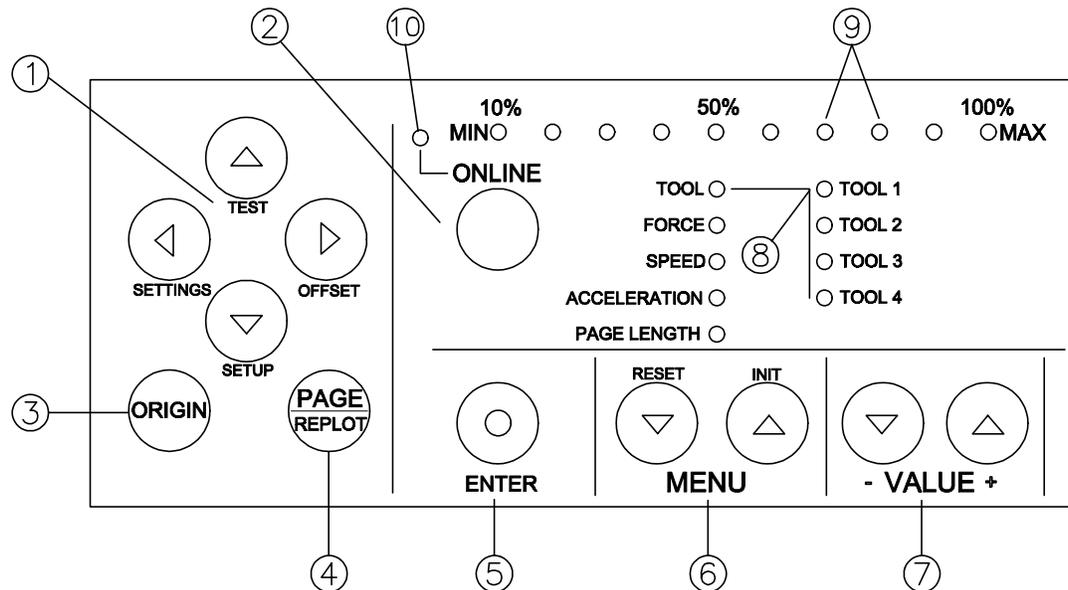
1. **Slew:** Manually move the tool head or the material, slew also has secondary functions when used with enter key.

2. **ONLINE:** Switches between online and offline modes.

3. **ORIGIN:** Sets a new origin at the present location of the tool head.

4. **PAGE:** ■ Performs auto-sheet-off.
   ■ Gives access to the replot/copy function.

5. **ENTER:** ■ Confirms changes and accepts settings.
   ■ Gives access to special functions indicated by the blue text on the control panel. This is what the blue dot on the ENTER key signifies.

6. **MENU Selection:** Selects the parameter you want to change.

7. **VALUE + and –:** Changes a parameter's value or setting.

8. **LED indicators:** Show cutter parameters and tool selections.

9. **LED bar:** Indicates values, error messages, and function confirmation.

10. **ONLINE LED indicator:** Shows cutter mode (lit when cutter is online).

CAUTION

Do not use sharp or pointed tools like pens or pencils to press control panel keys. Press the keys with your fingertips only.

CONNECTING THE CUTTER TO THE COMPUTER

Serial interface

The serial RS-232C interface enables the cutter to be connected to and controlled by an RS-232C compatible host computer system. The cutter is equipped with a standard RS-232C - DB-25P connector on the rear panel and requires a standard RS-232C dB-25S mating connector.
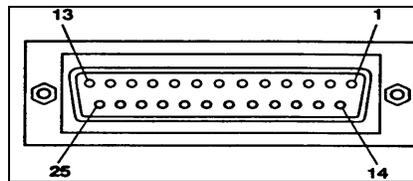
To connect the serial interface

1. Make sure both the cutter and the computer are turned off.

2. Connect one end of the serial interface cable to the serial interface connector at the back of the cutter.

3. Fasten the screws to secure the connector.

4. Connect the other end of the serial cable to your computer.

For proper operation of the serial communication, it is necessary to match the computer settings to the cutter settings. For instructions, refer to Communication Settings, Page 40, in Chapter 3.

Using the serial communication, your cutter will have two-way communication. It can receive data from the computer and also send information to the computer, material size, for example.

CONNECTING THE POWER CABLE
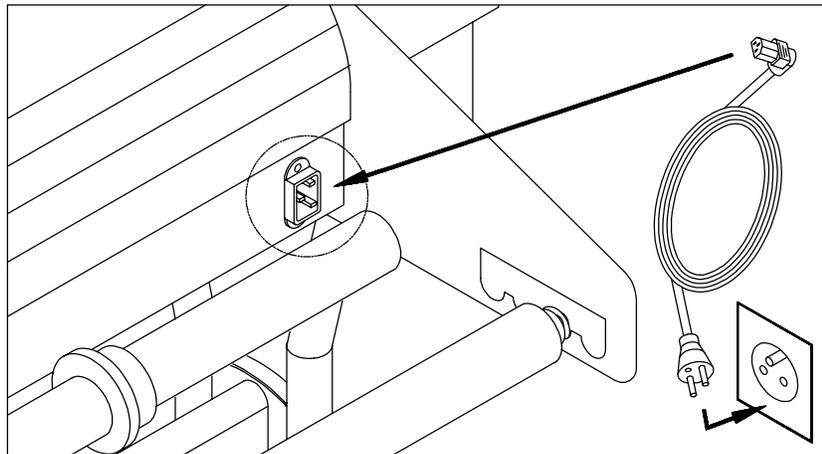
1. Make sure the cutter's power switch is turned off.
2. Plug the cutter end of the power cable into the connector at the back of the cutter.
3. Plug the other end of the power cable into an electrical outlet of the correct voltage and with a proper grounding.

    The illustration above shows an international AC plug.

INSTALLING KNIFE HOLDERS OR PENS

At the right side of the cutter head, you will find a pivoting mounting bracket. Opening this bracket will enable you to install a full range of cutting and drawing tools.

☑ *Because you will be performing a test cut with a knife, make sure that you install a knife with a well-adjusted depth as described in Adjusting the Knife Depth, page 44 in Chapter 4.*

1. Turn the thumbscrew counterclockwise to unlock the tool head mounting bracket (figure 1).

2. Hold back the clip of the tool head and slide the tool into position, making sure that the tool collar fits into the groove just beneath the locking screw (figure 2).

3. Tighten the thumbscrew by turning it clockwise to secure the tool in position (figure 3).
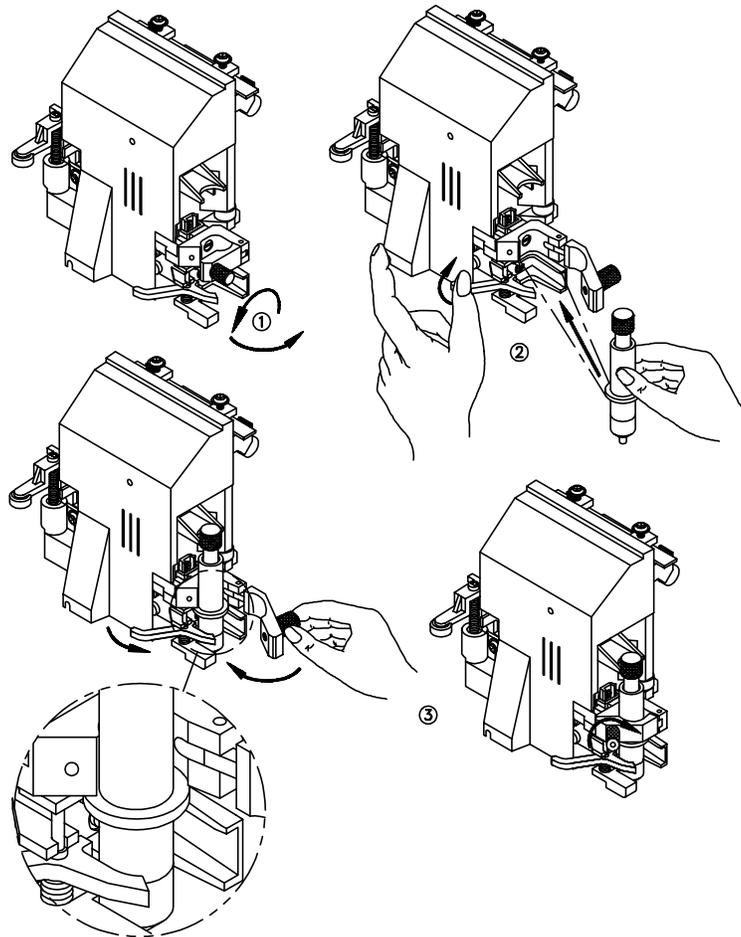
LOADING MATERIAL

You can load either cut-sheet or roll material. Follow the procedure below for the type of material you are loading.

To load cut-sheet material

1. Close the protective cover (1).

2. Make sure the pressure rollers (2) are up. If they are not lift them up using the material hold lever (6).

3. Turn on the power switch (3).

   The cutter performs its start-up routine and moves the tool head to the rightmost position.
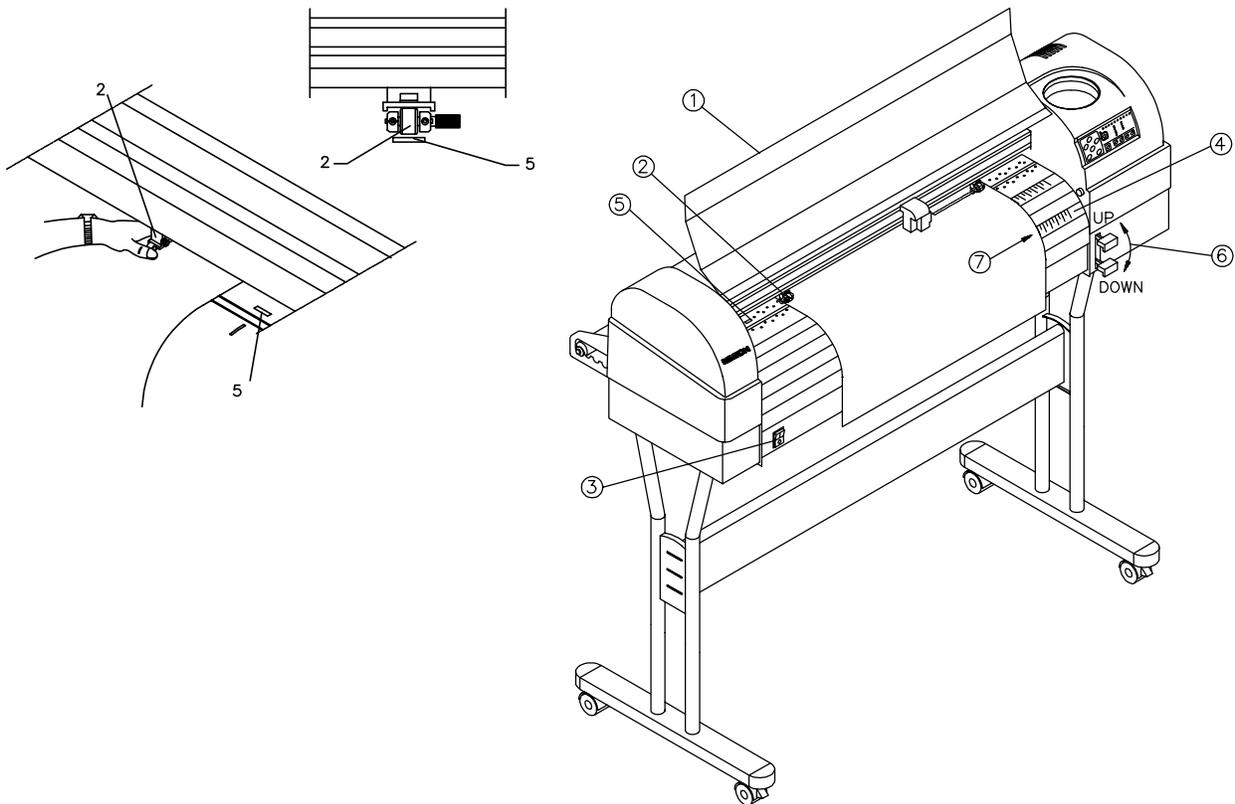
4. Open the protective cover (1).

5. Insert the material into the cutter, using the two sets of alignment markers (4) to make sure the right edge of the material is straight. Position the material so that half of it hangs in front and half of it hangs in back of the cutter.

6. Adjust the position of the pressure rollers (2) so that they align with the drive rollers (5). When the left pressure roller is moved into proper alignment with one of the drive rollers, you will feel and hear it click into

place. The right pressure roller's movement is limited so that it can never be positioned incorrectly.

7. Always make sure that all pressure rollers are completely inside the sheet of material you want to load, so that the rollers do not run on the very edge of the material. When you use a cut-sheet that does not have perfectly square corners, it is best to put the pressure rollers at least ¼" inside the material edge as the width of the sheet may vary.

If you are using a FasTrack 1000 or larger, you have the option of using either two or three pressure rollers, depending on the width of the material you are using. When not using the left pressure roller (i.e. when loading material of a small width), the left pressure roller should be placed at the extreme left of the cutter (not on top of a drive roller).

The middle pressure roller should always be placed on top of a drive roller.

8. Put the material hold down lever (6) down and close the cover.

The material loading sequence begins, during which the cutter will measure the loaded sheet. The cutter shuffles the material back and forth, determining its size and allowing you to ensure that the material moves easily through the cutter.

CAUTION Do not try to move the pressure rollers when the material hold lever is down, as this may damage the system.

After the material loading sequence, the tool head is parked at the origin position and the cutter is *online*, ready to receive data from the host computer.

To load roll material

1. Close the protective cover (1).

✔ *The numbers in parentheses refer to the numbers on the illustration on page 13.*

2. Make sure the pressure rollers (2) are up. If they are not, put them up using the material hold lever (6).

3. Turn on the power switch (3).

   The cutter performs its start-up routine and moves the tool head to the rightmost position.

4. Position the roll of material onto the conveyor rolls. Open the protective cover, pull the material through, and position the material for optimal cutting by locating the right edge of the material over the rightmost drive roller, and the left edge of the material over one of the other drive rollers.

Conveyor rolls

Roll material

Guiding flange
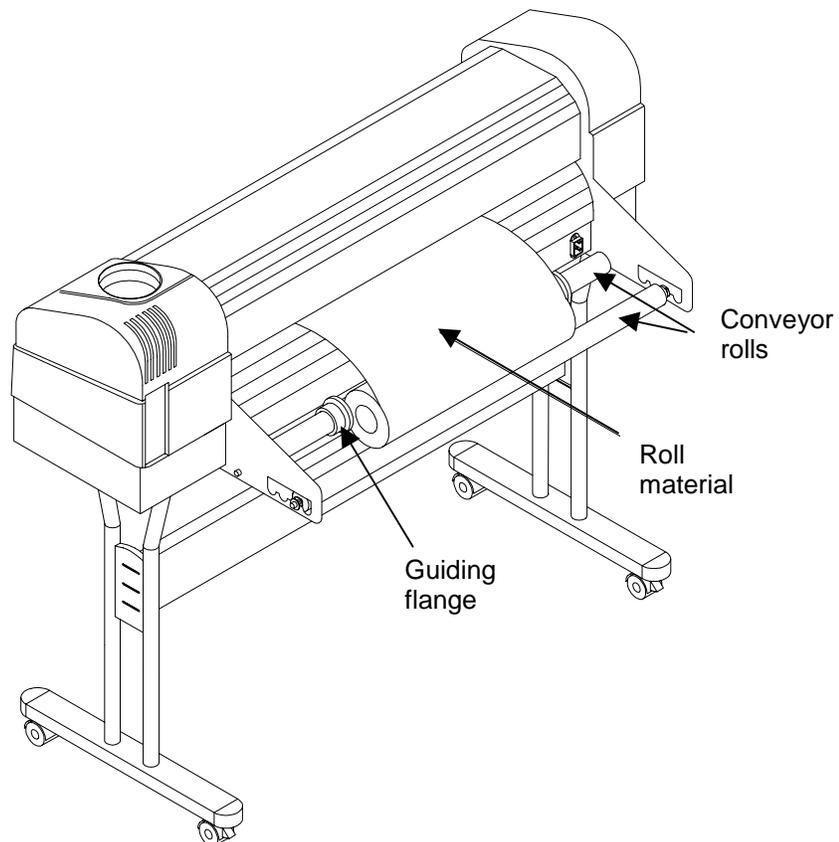
5. Adjust the position of the pressure rollers (2) so that they align with the drive rollers (5) and can accommodate the roll of material. When the left pressure roller is moved into proper alignment with one of the drive

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rollers, you will feel and hear it click into place. The right pressure roller's movement is limited so that it can never be positioned incorrectly. Always make sure that both pressure rollers are at least 0.2" (5 mm) inside the edge of the material. Do not let the rollers run on the very edge of the material.

Do not use the marker lines to align a roll of material! They are for use with cut-sheets only! Rolls can only be correctly installed using the EQUAL TENSION METHOD!

If you are using a FasTrack 1000 or larger, you can use either two or three pressure rollers, depending on the width of the material used. When not using the left pressure roller (i.e. when loading material of a small width), the left pressure roller should be placed at the extreme left of the cutter (not on top of a drive roller).

The middle pressure roller should always be placed on top of a drive roller.

6. Hold the front edge of the material in the middle with one hand and with the other hand, the roll itself. As you are holding the roll firmly in position, pull the front edge of the material forward so that there is an even tension across the whole width of the roll (= Equal Tension method.)

The material must be rolled tightly and not telescoped.

7. Adjust the position of the guiding flanges so that they are just alongside the roll of material, but not directly against it.

8. Close the protective cover.

9. This action starts the material loading sequence, during which the cutter shuffles a pre-set length of material. The material will be shuffled back and forth allowing you to make sure the material moves easily through the cutter. The shuffle length is factory-set to 40" (1 m), but you can adjust the setting if desired. (See *Page Length,* page 27, in Chapter 2).

10. After the material loading sequence, the tool head is parked at the origin position and the cutter is *online*, ready to receive data from the host computer.

To straighten the material edge using the auto-sheet-off utility

The auto-sheet-off mechanism of the cutter can easily cut the front edge of a new roll of material straight as well as cut off a sheet of material from a roll, to be used as a separate sheet.

To do this, proceed as follows:

1. Insert the material to be cut (straight) into the cutter as if you were loading either a roll or a cut sheet, as described above.

2. Make sure the material hold lever is up.

3. Press the PAGE key to request a sheet-off sequence. You will get visual confirmation of your request by the LED bar, which shows a flashing sequence of LEDs.

4. Lower the material hold lever and close the cutter's cover to start the sequence.

   The cutter sheets off the material, producing a neat edge.

The default FORCE used for automatic sheet-off is 300 grams. To adjust this force, see Force Selection, page 25, in Chapter 2.

CHAPTER 2
CUTTER CONTROLS

UNDERSTANDING THE CONTROL PANEL

The control panel contains 12 keys that perform one or more functions, such as positioning the tool head, selecting online mode, performing test cuts, changing settings, and more. All of the keys and their functions are described in detail below.

There are also 20 LEDs that provide information about the status of the cutter. Ten of them constitute the LED bar on top of the control panel, indicating values or showing error messages. All the other LEDs show the online status of the cutter, which tool selection is in use and which parameter has been selected.
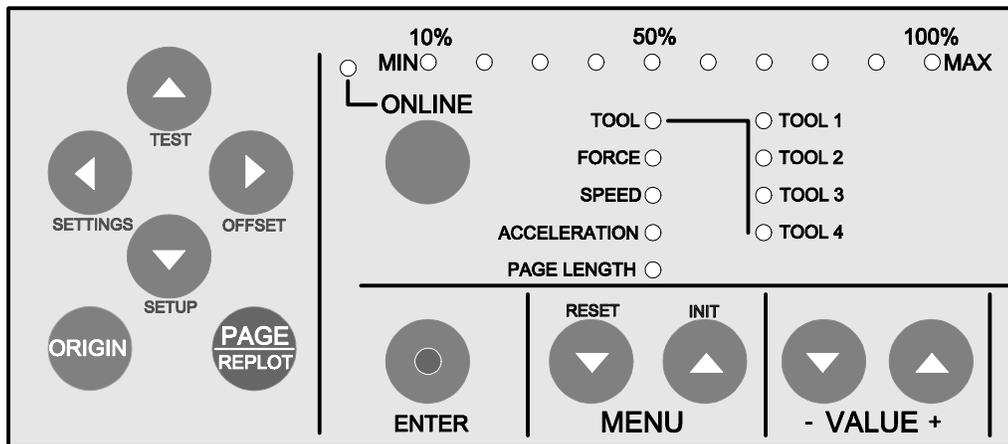
Online and Offline modes

The ONLINE key is used to switch between the online and the offline modes of your cutter. Each operating mode allows you to perform a different set of tasks from the control panel as described below.

When you first switch the cutter on

- with no material loaded, the cutter is in offline mode and the ONLINE LED is off.

- with material already loaded, the cutter is automatically in online mode and the ONLINE LED is lit.

After you load material, the cutter automatically goes online.

In online mode you can:

- Set a new origin

- Initiate a sheet-off action

- Browse through the parameter settings without changing them

In offline mode, you are in control of the cutter and can alter the cutter settings such as

| Tool | Force | Speed |
| Accelerations | Page Length | Origin |

Slew keys
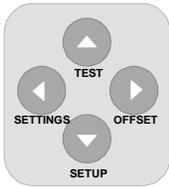
With the slew keys, you can move the tool head and the material so you can examine specific details of the job or set a new origin (start point). The slew keys are always active, whether the cutter is online or offline.

When you press the ◁ (left) or ▷ (right) slew key, the tool head moves in the Y-axis, slowly for 2 seconds and then speeds up.

When you press the ▵ (up) or ▿ (down) slew key, the material (if loaded) moves in the X-axis, slowly for 2 seconds and then speeds up.

ORIGIN key

The ORIGIN key allows you to register a new origin (start) point if material has been loaded. A new origin point can be set in offline as well as in online mode.

To register a new start point

1. Using the slew keys, place the tool head at the desired origin point.

2. Press the ORIGIN key. LEDs on the LED bar will flash to confirm your action.

If the tool head Is located beyond the borders of the material, the new origin point will be rejected.

PAGE key

PAGE
REPLOT

The PAGE key is available only in online mode. It has two functions:

- **Function 1:** To perform the Auto-Sheet-Off function. The position where the auto-sheet-off occurs depends on the situation. If no design has been cut at the spot where the tool head is parked when pressing the PAGE key, the cutter will auto-cut at the present location. When a design has already been cut, the tool head will move to a location 0.2" (5 mm) beyond the job and will perform an auto-cut.

- **Function 2:** To start the automatic replot/sheet-off function of the last file that was sent to the cutter—all data that was sent since the last INITIALIZATION ("IN") command. Proceed as follows:

  1. Press the PAGE key for about two seconds.

     On the LED bar, an LED will start blinking. Its position in the bar indicates the number of copies to be cut. For example, 60% means 6 copies.

  2. Using the VALUE +/- keys, select the desired number of copies. The factory default settings allow a maximum of 10 copies.

  3. Press ENTER.

     The cutter starts cutting. A new part of the material will be loaded automatically after every replot.

✓ *It is possible to request up to 100 copies by changing the REPLOT MULTIPLICATION FACTOR in the cutter setup. (See Replot Factor, page 38, in Chapter 3.*

ENTER key
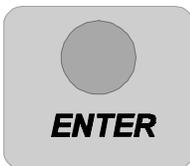
ENTER

You must press the ENTER key to confirm requested changes to the cutter settings. A requested change will always be shown by one or more flashing LEDs for the parameter to be changed. Pressing ENTER will stop the flashing, indicating that the new setting has been accepted.

The ENTER key also carries a blue dot, indicating it can be pressed together with another key to access one of the special functions indicated in blue on the control panel.

Menu keys

The MENU selection keys allow you to cycle through the various cutter parameters to view or change them.

The parameters that can be modified are TOOL, FORCE, SPEED, ACCELERATION, and PAGE LENGTH. Each is listed on the control panel. The selected parameter is shown with an LED.

In online mode, pressing the MENU selection keys allows you to verify the actual settings, though you will not be able to change them

In offline mode, you can select a parameter and then change the value or the tool selection using the VALUE keys.

VALUE keys

Use the VALUE keys to change either settings or parameter values.

To change tools or values:

1. Switch to *offline* mode.

2. Select the parameter you wish to change.

3. Press one of the value keys once to change the parameter.

   The LED bar or LED indicating the value or the tool will blink.

4. Press the ENTER key to save the new setting. (Pressing one of the menu keys again before pressing ENTER will exit without saving the change.)

GENERAL PROCEDURE TO CHANGE SETTINGS ON THE CUTTER

1. Make sure you have power to the cutter and that the cutter is in the *offline* mode.

    If you start with the cutter off (no power),

    - and there is no material loaded, the cutter will be in *offline* mode, which is indicated by the ONLINE LED being off.

    - and there is material loaded, the cutter will be in *online* mode, which is indicated by the ONLINE LED being lit. Press the ONLINE key to take the cutter *offline*, which will be indicated by the ONLINE LED going out.

    If you start with the cutter on (power to the cutter), look at the ONLINE LED,

    - if it is lit, press the ONLINE key to put the cutter in the *offline* mode. The ONLINE LED will go off.

    - if it is off, the cutter is already in the *offline* mode.

2. Using the MENU keys, select one of the five different parameters (TOOL, FORCE, SPEED, ACCELERATION, or PAGE LENGTH).

3. Using the VALUE keys, adjust the settings for the selected parameter. The + key increases the value or selects the next parameter. The - key decreases the value or selects the previous parameter. A requested change is indicated by one or several blinking LEDs.

4. Press ENTER to confirm the requested change. (To exit without a change, press one of the menu keys.)

    The blinking stops, indicating that the new setting has been saved.

TOOL SELECTION

The four tools listed on the control panel are actually four different sets of tool parameters. For each of the four tools you can register and store specific values for

> TOOLKIND (knife, drawing pen, or pounce)
> FORCE
> SPEED
> ACCELERATION
> OFFSET (knives only)
> POUNCING GAP (pouncing only).

Switching from tool to tool allows you to switch from one complete setup to another without having to change any individual value.

Furthermore, to fit your application, you can change the settings in each of the four setups. This allows you to save the settings for your most popular material or job types. Then you can swiftly change to a different material type or application without having to change any of the settings.

(Offset values and correction routines are applied only if a tool is selected that is defined as a knife. The pouncing gap is only adjustable and active if a tool is selected that is defined as a pouncing tool.)

There is a fifth tool parameter, TOOL-UP, which is not listed on the control panel. When tool-up is selected, you can adjust speed and acceleration for tool-up movements as well as the force used to perform automatic sheet-off. (The force and acceleration settings included in the four tool settings are for tool-down movements.)

The procedure below tells you how to choose the tool (setup). The following sections explain how to change the settings in the setup.

To select which set of tool parameters to use or change

1. Switch the cutter *offline*.

2. Using the MENU selection keys, select the TOOL option.

   The LED next to TOOL must go on.

3. Using the VALUE + or – key, select TOOL 1, TOOL 2, TOOL 3, TOOL 4 or TOOL-UP.

   TOOL-UP is selected when all TOOL LEDs are out. The other tools are indicated by blinking of the associated LED.

4. Press ENTER to confirm your selection or press one of the menu keys to exit. To access the TOOL-UP status, you also need to press ENTER, although no flashing LED is visible at that time!

CAUTION

- For cutting jobs, use **only** tools set to KNIFE.

- For plotting jobs, use **only** tools set to PEN.

- For pouncing jobs, use **only** tools set to POUNCE.

- When TOOL-UP is selected, the FORCE adjustment refers to the FORCE that will be used for automatic sheet-off.

TOOLKIND SELECTION

Your cutter has 3 different types of tools: knives, drawing pens and a pouncing (punching) tool. The TOOLKIND selection makes it possible to change the type of tool that is linked to a specific set of tool parameters (Tool 1–Tool 4). This is possible using the setup sheet.

The factory default toolkind selection setup is:

> TOOL 1 acts as a KNIFE
> TOOL 2 acts as a KNIFE
> TOOL 3 acts as a PEN
> TOOL 4 acts as a PEN

Note that you can always verify the toolkind of the selected tool. When the tool menu is selected (LED next to Tool is ON), the Led bar on top shows the current tool type

	10	20	30%
Drag Knife	✸	❍	❍
Pen	❍	✸	❍
Pounce	❍	❍	✸

To change the TOOLKIND

See setup sheet   (page 35) Toolkind Selection

FORCE SELECTION

Force is the amount of downward pressure applied by a tool. You are able to adjust the amount of tool pressure applied by an individual tool so that you can cut varying thicknesses of material correctly or set the correct amount of pressure for a pen.

1. Switch the cutter *offline.*

2. Using the MENU selection keys, select the FORCE option (LED next to FORCE must be on).

   The actual FORCE setting for the selected tool will now be shown on the LED bar. You can view the value in both offline and online modes.

3. Using the VALUE +/- keys, you can now alter the FORCE settings.

   The force is adjustable in three ranges:

   15-100 grams, 110-190 grams, and 200-500 grams.
   (See explanation on the next page.)

4. Press ENTER to confirm and store, or press one of the menu keys to exit.

For the procedure to test the force, see Cutting a Test Square To Test Cutting Pressure (Force), page 49, in Chapter 4.

Force settings are shown by one LED for the first range and combinations of LEDs for the second and third ranges. Since the actual numbers are not on the control panel, consult these tables to find the numerical equivalent of the LEDs shown.

First Range (15 - 100 grams)

Force settings in the first range are indicated by one blinking LED to indicate the cutting force. The example below shows 80 grams.

15	20	30	40	50	60	70	80	90	100
○	○	○	○	○	○	○	✳	○	○

Second Range (110 - 190 grams)

Force settings are indicated by blinking of the **last** LED of the LED bar in combination with one of the other LEDs. The example below shows a setting of 150 grams.

110	120	130	140	150	160	170	180	190	
○	○	○	○	✳	○	○	○	○	✳

Third Range (200 - 500 grams)

Force settings are indicated by blinking of the **first four** LEDs of the LED bar in combination with other LEDs in 50-gram increments.

Example showing a 200-gram setting.

200	200	200	200	250	300	350	400	-	-
✳	✳	✳	✳	○	○	○	○	○	○

Example showing a 250-gram setting.

200	200	200	200	250	300	350	400	-	-
✳	✳	✳	✳	✳	○	○	○	○	○

Example showing a 400-gram setting.

200	200	200	200	250	300	350	400	450	500
✳	✳	✳	✳	✳	✳	✳	✳	○	○

✔ *All available values are shown in the tables at the end of this chapter.*

✔ *When TOOL-UP is selected, the force adjustment refers to the force that will be used for the automatic sheet-off.*

SPEED SELECTION

The speed selection allows you to set the tool-down speed, the speed at which the tool moves through the material.

1. Switch the cutter *offline*.

2. Using the MENU selection keys, select the SPEED option (LED next to SPEED must be on).

   The current SPEED setting for the selected tool is shown on the LED bar. You can view the value both offline as and online modes.

3. Use the VALUE +/- keys to change the SPEED setting.

4. Press ENTER to confirm and store, or press one of the menu keys to exit.

The indicated value only refers to the tool-down speed of the selected tool. The tool-up speed can be set separately (See Tool Selection page 23, in this Chapter.

All values being used or available are shown in the tables at the end of this chapter.

ACCELERATION SELECTION

1. Switch the cutter *offline*.

2. Using the MENU selection keys, select the ACCELERATION option (LED next to ACCELERATION must be on).

   The current ACCELERATION setting for the selected tool is shown on the LED bar. You can view the value in both offline and online modes.

3. Use the VALUE +/- keys to change the ACCELERATION settings.

4. Press ENTER to confirm and store, or press one of the menu keys to exit.

All values being used or available are shown in the tables at the end of this chapter.

PAGE LENGTH

This parameter is related to loading roll material. The PAGE LENGTH must be set before a roll is loaded. Set the PAGE LENGTH to a value at least as large as the job you are going to cut.

There are three reasons for using a PAGE LENGTH:

■ The length of material set for the PAGE LENGTH is pulled off the roll before the cutting job starts, thus preventing material from being pulled off the roll at high speed and acceleration. High speed movements— up to 40 ips, (1000 mm/s) and 4.0 G—can be achieved only when the material can move freely without having to be pulled off the roll during a job.

■ Before cutting starts, the complete length of the material is shuffled back and forth through the cutter, ensuring that the pressure rollers have a clear path while you have the time to verify that the material moves easily through the cutter

■ The Auto-Sheet-Off feature automatically cuts off material at the end of a cutting sequence. Following an automatic PAGE command or a manual PAGE command from the control panel, the cutter shuffles through the pre-set PAGE LENGTH of material to ensure that there is enough material left for a possible replot. If there is not enough material left, the cutter will stop before the end of the assigned material length.

To set the PAGE LENGTH

1. Switch the cutter *offline*.

2. Using the MENU selection keys, select the PAGE LENGTH option (LED next to PAGE LENGTH must be on).

   The current PAGE LENGTH setting is shown on the LED bar. You can view the value in both offline and online modes.

3. Use the VALUE +/- keys to change the PAGE LENGTH settings. Set the PAGE LENGTH to a value that is at least as large as the sign you want to cut. The available values for PAGE LENGTH are:

in	0	16	24	32	40	80	120	160	200	400
cm	0	40	60	80	100	200	300	400	500	1000

   Each value corresponds with the indications shown on the LED bar. The default PAGE LENGTH is 40" (1 m).

4. Press ENTER to confirm and store, or press one of the menu keys to exit.

The use of the PAGE LENGTH should not be regarded as a waste of time. If the shuffle movement completes without difficulty, the job to be cut will be executed with very little risk of material tracking problems. In the long run, this saves time because you won't have to re-cut a complex design because of bad material alignment.

The cutting range is not limited by the Page Length that you have set. If a design that exceeds the shuffle length is sent to the cutter, it will react as follows:

- *The first vector that exceeds the limit will be cut using reduced speed for the distance exceeding the limit.*

- *An additional 8" (20 cm) of material will be pulled from the roll in order to eliminate any possible snagging at the roll.*

- *After the additional 8" (20 cm) pre-feed, the cutter will continue at the requested speed until the new limit is exceeded.*

These protective measures should not be a reason to avoid changing the page length, since by not changing it, you will be unable to check the full material transport before the job is launched.

RESET and CLEAR FUNCTION

In some cases it might be necessary to reset your cutter and/or clear its buffer while a cutting job is in progress. To do this:

1. Cancel the cutting job in your cutter software so that the data flow is stopped.

2. Press the ENTER and the MENU down key (RESET) at the same time for about two seconds.

   A sequence of flashing LEDs on the LED bar will indicate that the cutter has cancelled the current job. The buffer is now empty and the cutter has stopped cutting.

This reset procedure reinstalls the default original.

AVAILABLE VALUES/SETTINGS FOR PARAMETERS - IMPERIAL SYSTEM

All speeds are given in inches per second.									
SPEED	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
TOOL 1	4	8	12	16	20	24	28	32	36	40
TOOL 2	4	8	12	16	20	24	28	32	36	40
TOOL 3	2	4	6	8	10	12	14	16	18	20
TOOL 4	4	8	12	16	20	24	28	32	36	40
Tool-Up	4	8	12	16	20	24	28	32	36	40

All accelerations are given in G (m/s²).									
ACCEL.	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
TOOL 1	0.5	1	1.5	2	2.5	3.0	3.5	4	-	-
TOOL 2	0.5	1	1.5	2	2.5	3.0	3.5	4	-	-
TOOL 3	0.5	1	1.5	2	2.5	3.0	3.5	4	-	-
TOOL 4	0.5	1	1.5	2	2.5	3.0	3.5	4	-	-
Tool-Up	0.5	1	1.5	2	2.5	3.0	3.5	4	-	-

All forces are given in grams (1 g = 0.01 Newton)									
FORCE	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Range 1	15	20	30	40	50	60	70	80	90	100
Range 2	110	120	130	140	150	160	170	180	190	N/A
Range 3	200	200	200	200	250	300	350	400	450	500

Defaults: TOOL 1 (Knife1) (100 g)   TOOL 2 (Knife2) (100 g)
TOOL 3 (Pen1) (20 g)   TOOL 4 (Pen2) (80 g)   Sheet-Off (300 g)

All distances are given in inches									
SHUFFLE	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Length	0	16	24	32	40	80	120	160	200	400

Factory Default Settings: TOOL 1 = Knife 1   TOOL 2 = Knife 2
TOOL 3 = Pen 1   TOOL 4 = Pen 2

[ ] = Factory default

AVAILABLE VALUES/SETTINGS FOR PARAMETERS, METRIC SYSTEM

All speeds are given in centimeters per second.									
SPEED	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
TOOL 1	10	20	30	40	50	60	70	80	90	100
TOOL 2	10	20	30	40	50	60	70	80	90	100
TOOL 3	5	10	15	20	25	30	35	40	45	50
TOOL 4	10	20	30	40	50	60	70	80	90	100
Tool-Up	10	20	30	40	50	60	70	80	90	100

All accelerations are given in G (m/s²).									
ACCEL.	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
TOOL 1	0.5	1	1.5	2	2.5	3.0	3.5	4	-	-
TOOL 2	0.5	1	1.5	2	2.5	3.0	3.5	4	-	-
TOOL 3	0.5	1	1.5	2	2.5	3.0	3.5	4	-	-
TOOL 4	0.5	1	1.5	2	2.5	3.0	3.5	4	-	-
Tool-Up	0.5	1	1.5	2	2.5	3.0	3.5	4	-	-

All forces are given in grams (1 g = 0.01 Newton)									
FORCE	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Range 1	15	20	30	40	50	60	70	80	90	100
Range 2	110	120	130	140	150	160	170	180	190	N/A
Range 3	200	200	200	200	250	300	350	400	450	500

Defaults: TOOL 1 (Knife1) (100 g)   TOOL 2 (Knife2) (100 g)
TOOL 3 (Pen1) (20 g)   TOOL 4 (Pen2) (80 g)   Sheet-Off (300 g)

All distances are given in centimeters									
SHUFFLE	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Length	0	40	60	80	100	200	300	400	500	1000

Factory Default Settings: TOOL 1 = Knife 1   TOOL 2 = Knife 2,
TOOL 3 = Pen 1   TOOL 4 = Pen 2

[ ] = Factory default

CHAPTER 3
CUTTER SETTINGS and SPECIAL FUNCTIONS

INTRODUCTION

Most of the frequently-used settings are available directly from the keyboard. However, when setting up the cutter, you must fine tune it to match the computer setup. Furthermore, the MENU mode operation gives you access to the setup sheet, allowing you to change special functions that are not used frequently.

This chapter contains information on how to enter the MENU mode, plot the setup sheet, and use it to change 32 different settings.

CHANGING THE USER LANGUAGE

It is possible to change the user language of your cutter, thus changing the setup sheet language. This can be done by pressing two keys simultaneously during power-up. The combinations are:

LANGUAGE	KEY COMBINATION
American (Default)	**ENTER + SLEW DOWN**
German	**ENTER + SLEW UP**
French	**ENTER + SLEW RIGHT**
English	**ENTER + SLEW LEFT**
Japanese	**ENTER + ONLINE**

MENU MODE OPERATION

1. Install a PEN in the tool head.
2. For optimum plot quality, set the tool selection to a PEN (factory default TOOL3 and 4).
3. Load a B-size (11" X 17") sheet of paper or larger into the cutter with the short side on the Y-axis.
4. Switch the cutter to *offline* by pressing the ONLINE key.

    The ONLINE LED indicator should go off.
5. Enter the MENU mode by pressing ENTER and slew ∀ (SETUP).

The cutter now plots a menu selection line (example below).

MENU: xx.xx:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 SHOW

You can now plot a complete setup sheet with all the settings and options or any of the 32 lines, each showing a single setting and its options. See the next page for a sample setup sheet.

To plot a complete setup sheet

1. Using the ◁ or ▷ (left or right slew) key, park the tool head above the SHOW function.

2. Press ENTER.

   After your selection is plotted, the tool head is returned to the menu selection line.

To plot a single line and change settings

The column of 32 numbers at the left of the sample setup sheet correspond to the row of 32 numbers in the menu selection line.

1. Using the ◁ or ▷ (left or right slew) key, park the tool head above your selection in the menu selection line.

2. Press ENTER.

   After the line is plotted, the tool head is parked above the current setting, which is also underlined in the plot.

3. To keep the current setting, use the ▲ or ▼ (up or down) slew key to return to the menu selection line.

4. To change the setting, use the ◁ or ▷ (left or right slew) key to position the tool head above the desired setting.

5. Press ENTER to save the new setting.

   The tool then returns to the menu selection line.

6. To return the cutter to its normal operating mode, put the material hold lever up and remove the setup sheet from the cutter.

Switching the machine off will not undo any changes that have already been saved, even if the cutter is still in MENU mode operation when you switch it off.

To reset the cutter to factory defaults, there is a special key code sequence. See Reset to Factory Defaults, page 43, in this chapter.

When you view a parameter in the setup sheet, the current selection of that particular parameter is underlined when ENTER is pushed or exit is chosen via the slew keys.

Example of a FasTrack Cutter Setup Sheet

1. Toolkind Tool 1:   <u>Knife</u>   Pen   Pounce

2. Toolkind Tool 2:   <u>Knife</u>   Pen   Pounce

3. Toolkind Tool 3:   Knife   <u>Pen</u>   Pounce

4. Toolkind Tool 4:   Knife   <u>Pen</u>   Pounce

5. SheetOff/Pgmode: On/PMO On/PM1 <u>On/PM2</u> Off/PMO Off/PM Off/PM2

6. Replot factor : <u>x1</u>   x2   x5   x10

7. Smoothing :   Off   <u>On</u>

8. Communication :

    Default 1 <u>Default 2</u> Default 3 Default 4 Default 5 User Def.

```
 9. Baudrate:        1200      2400      4800        9600  19200bps
10. Data Bits:       7 bits    8 bits
11. Parity:          None      Odd       Even
12. Stop Bits:       1 bit     2 bits
13. Handshake:       Off       Xon       Ack
14. DTR Control:     Off       On
15. CTS Control:     Off       On
16. RTS Pin:         On        Off       RTS
```

17. Command Set: <u>MH-GL2</u>   MC-GL

```
18. Origin:     Center      L. Rght      L. Lft    U. Rght    U. Lft
19. Plot Unit:              0.025mm      0.01mm
20. VS, AS, FS:            Ignore        Accept
```

```
21. Format:             907        PCI
22. Plot Unit:          0.010mm    0.0125mm      0.025mm
23. SYNC Count:         1     2
24. SYNC Code Hundred:  0     1
25. SYNC Code Ten:      0 1 2 3 4 5 6 7 8 9
26. SYNC Code One:      0 1 2 3 4 5 6 7 8 9
27. Sum Check:          No    Yes
28. Radix Hundred:      0     1      2
29. Radix Ten:          0 1 2 3 4 5 6 7 8 9
30. Radix One:          0 1 2 3 4 5 6 7 8 9
31. EOB Code Ten:       0 1 2 3
32. EOB Code One:       0 1 2 3 4 5 6 7 8 9
```

<u>MENU</u>:   Firmware Version xx.xx

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 SHOW

GENERAL SETTINGS

The general setting parameters, lines 1 through 7 on the setup sheet, influence the cutter's reactions to commands given by the computer or initiated at the control panel. In the general settings menu, you can set TOOLKIND, PAGE MODE, REPLOT FACTOR and SMOOTHING. Here's an example from the setup sheet on the previous page:

1. Toolkind Tool1:   <u>Knife</u>   Pen   Pounce
2. Toolkind Tool2:   <u>Knife</u>   Pen   Pounce
3. Toolkind Tool3:   Knife   <u>Pen</u>   Pounce
4. Toolkind Tool4:   Knife   <u>Pen</u>   Pounce
5. SheetOff/Pgmode: On/PM0   On/PM1   <u>On/PM2</u>   Off/PM0   Off/PM1 Off/PM2
6. Replot Factor: <u>x1</u>   x2   x5   x10
7. Smoothing: Off   <u>On</u>

TOOLKIND SELECTION

Lines 1 to 4 of the setup sheet allow you to redefine the toolkind for each of the four tools. By factory default TOOLS 1 and 2 are defined as knives, while TOOLS 3 and 4 are defined as pens.

For an explanation of the complete setup for the four tools, which is done from the control panel, see *Tool Selection, Force Selection, Speed Selection, and Acceleration Selection,* starting on page 23, in Chapter 2.

To select a TOOLKIND

The example is for Tool 1.

1. Using the ◁ and ▷ (left and right slew) keys, position the pen above selection 1, 2, 3, or 4 in the menu selection line.

2. Press ENTER to confirm this choice.

   The cutter plots the following line

      1. Toolkind Tool1:   <u>Knife</u> Pen   Pounce

   after which the tool head parks above the current setting.

3. To keep the current setting, use the ◿ and ⩔ (up and down) slew keys to return to the menu selection line.

4. To change the setting, use the ◁ and ▷ (left and right slew) keys to position the tool head above the desired setting.

5. Press the ENTER key to save the new setting into memory.

   At the same time, the tool head returns to the menu selection line, allowing a new selection.

SHEET-OFF / PAGE MODE

This is a combination of two parameters: sheet-off and page mode. You can select any one of three page modes with the auto sheet-off feature turned on or off.

- With the auto-sheet-off part, you can enable or disable the automatic sheet-off facility. When the auto-sheet-off function is disabled, no sheeting off will occur.

- The page mode part determines the cutter's reaction to a PAGE command as sent by the cutting software. The PAGE command is used to relocate the origin after a job is finished and can take control remotely of the cutter's automatic sheet-off feature. Sheeting-off automatically, without user intervention, is a unique feature of FasTrack cutters that enhances the cutter's versatility and overall performance enormously.

Page commands

A PAGE command is sent to the cutter by the host computer software as either a "PG;", or "Pgn;", where "n" is a number in millimeters.

If the PAGE command "PG;" is sent, the cutter will automatically sheet off regardless of the Page Mode, minimizing the loss of material.

If the PAGE command "Pgn;" is sent, the number after the PG command will be interpreted differently, depending on the page mode you have chosen:

- Page Mode 0 (PM0): The number after the PAGE command is ignored. The material will be cut 0.2" (0.5 cm) after the furthest vector and the new cutting limit will be located 0.2" (0.5 cm) from the lower material border.

- Page Mode 1 (PM1): The new origin is located "n" millimeters beyond the last vector that was sent.

- Page Mode 2 (PM2) = default: The new origin is located "n" millimeters beyond the previous origin position.

Refer to the manual for your software to find out what kind of page mode your software sends to the cutter.
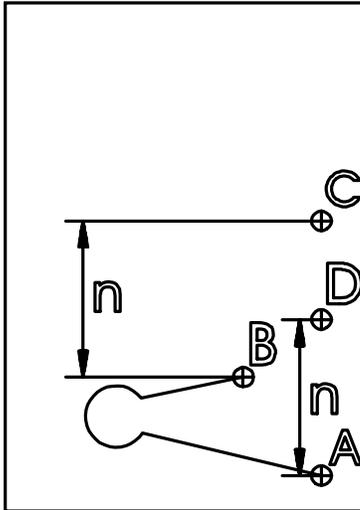
A: Original origin.

B: End point last vector

C: New origin with **Page Mode 1**

D: New origin with **Page Mode 2**

To set the SHEET-OFF / PAGE MODE

1. Using the ◁ and ▷ (left and right slew) keys, position the pen above selection 5 in the menu selection line.

2. Press ENTER to confirm this choice.

    The cutter will plot the following line:

    > 5 SheetOff / PGmode: PM0   PM1   <u>PM2</u>

    after which the tool head will park above the current setting. The factory default is Page Mode 2.

3. To keep the current setting, use the ⋏ and ⋎ (up and down) slew keys to return to the menu selection line leaving the original setting unchanged.

4. To change the setting, use the ◁ and ▷ (left and right slew) keys to position the tool head above the desired setting.

5. Press the ENTER key to save the new setting into memory.

    At the same time, the new selection is underlined and the tool head returns to the menu selection line, allowing a new selection.

REPLOT FACTOR

If you want to make multiple copies of a design, the easiest way is to send the job from your computer. However, you can also use the replot factor in the cutter. Using the replot factor, it is possible to request more than 10 copies when the automatic replot utility is used. The replot factor indicates the multiplication factor (2,5, or 10) that the cutter will use to determine how many copies are requested.

EXAMPLE: If the replot factor is (times) 5 and the third LED is selected to indicate the number of copies, a total of 15 copies will be generated.

To set the replot factor

1. Using the ◁ and ▷ (left and right slew) keys, position the pen above selection 6 in the menu selection line.

2. Press ENTER to confirm this choice.

   The cutter will plot line 6.

   6) Replot Factor: <u>x1</u>   x2   x5   x10

   after which the tool head will park above the current setting. The factory default is times 1.

3. To keep the current setting, use the ⋏ and ⋎ (up and down) slew keys to return to the menu selection line leaving the original setting unchanged.

4. To change the setting, use the ◁ and ▷ (left and right slew) keys to position the tool head above the desired setting.

5. Press the ENTER key to save the new setting into memory.

   At the same time, the new selection is underlined and the tool head returns to the menu selection line.

SMOOTHING

Smoothing rounds sharp corners. It can be set on or off. Depending on your choice, the cutter cuts obtuse angles differently.

If the complementary angle (n) between two consecutive vectors A and B is larger than the smoothing angle, the cutter will slow down and cut a sharp corner (1). If the angle is smaller, the cutter will maintain its speed and cut a rounded corner (2). The optimum smoothing angle is calculated internally.
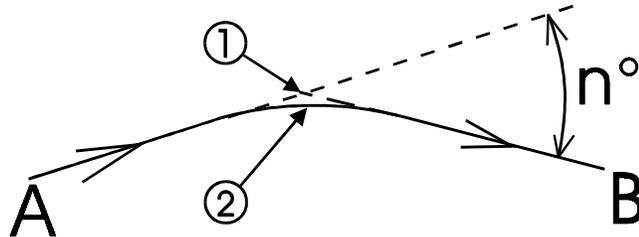
When smoothing is turned off, all corners will be cut sharply. The time difference between cutting a job with smoothing on and cutting it with smoothing off is negligible.

To change the smoothing settings

1. Using the ◁ and ▷ (left and right slew) keys, position the pen above selection 7 in the menu selection line.

2. Press ENTER to confirm this choice.

   The cutter plots line 7:

       7) SMOOTHING: Off   <u>On</u>

   after which the tool head parks above the current setting. The factory default is on.

3. To keep the current setting, use the ◚ and ⋎ (up and down) slew keys to return to the menu selection line.

4. To change the setting, use the ◁ and ▷ (left and right slew) keys to position the tool head above the desired setting.

5. Press the ENTER key to save the new setting into memory.

   At the same time the new selection is underlined and the tool head returns to the menu selection line, allowing a new selection.

COMMUNICATION SETTINGS

For your cutter to communicate with your host computer, the communication settings on both machines must match exactly. In the Setup sheet, they can be found in lines 8 to 16:

8	Communication:	Default 1	Default 2	Default 3	Default 4	Default 5	User Def
9	Baudrate:	1200	2400	4800	9600	19200 bps	
10	Data Bits:	7 bits	8 bits				
11	Parity:	None	Odd	Even			
12	Stop Bits:	1 bit	2 bits				
13	Handshake:	Off	Xon	ACK			
14	DTR Control:	Off	On				
15	CTS Control:	Off	On				
16	RTS Pin:	On	Off	RTS			

In the factory, several commonly used sets for items 9 through 16 have been preinstalled. (See below.) Refer to your software manual to determine if you can use the default setting (in which case you don't have to make any changes), use one of the other preinstalled sets, or need to make changes to some of the items in lines 9 through 16.

☑ *Menu selection options 9 to16 are only available if the parameter User Defined is selected in line 8. If you use one of the default settings, all other communication parameters are automatically set.*

Factory default

	DEFAULT 1	DEFAULT 2	DEFAULT 3	DEFAULT 4	DEFAULT 5
BAUDRATE	9600	9600	9600	9600	9600
DATABITS	7	8	7	8	8
PARITY	EVEN	NONE	EVEN	NONE	EVEN
STOPBITS	1	1	1	1	2
HANDSHAKE	OFF	OFF	X-ON	X-ON	OFF
DTR	ON	ON	OFF	OFF	ON
CTS	OFF	OFF	OFF	OFF	OFF
RTS	ON	ON	ON	ON	ON

To change the serial communication settings

In line 8, choose one of the preinstalled sets or the User Defined selection. If you need to use the User Defined option, alter the settings one by one until they match the desired values.

6. Using the ◁ and ▷ (left and right) slew keys, position the tool head above the desired selection (between 8 and 16) in the menu selection line.

7. Press ENTER to confirm this choice.

    The cutter plots the corresponding line and the tool head parks above the current setting. The factory default setting is default 2.

8. To keep the current setting, use the ⋀ and ⋁ (up and down) slew keys to return to the menu selection line leaving the original setting unchanged.

9. To change the setting, use the ◁ and ▷ (left and right slew) keys to position the tool head above the desired setting.

10. Press the ENTER key to save the new setting into memory.

    At the same time, the new selection is underlined and the tool head returns to the menu selection line, allowing a new selection.

LANGUAGE SETTINGS

Your cutter can understand two different graphic languages, MH-GL/2 (HPGL™/2 - compatible) and MC-GL (Calcomp Compatible). So that you can fully use them, settings for them are available in the cutter setup mode. In the setup sheet, the language settings are in lines 17 to 32.

17)	Command Set:	MH-GL/2	MC-GL			

18	Origin:	Center	L. Right	L. Left	U. Right	U. Left
19	Plot Unit:	0.025mm	0.010mm			
20	VS-AS-FS:	Ignore	Accept			

21	Format:	907	PCI							
22	Plot Unit:	0.010mm	0.0125mm	0.025mm						
23	SYNC Count:	1	2							
24	SYNC Code Hundred:	0	1							
25	SYNC Code Ten:	0	1	2	3	4	5	6	7	8	9
26	SYNC Code One:	0	1	2	3	4	5	6	7	8	9
27	Sum Check:	No	Yes							
28	Radix Hundred:	0	1	2						
29	Radix Ten:	0	1	2	3	4	5	6	7	8	9
30	Radix One:	0	1	2	3	4	5	6	7	8	9
31	EOB Code Ten:	0	1	2	3					
32	EOB Code One:	0	1	2	3	4	5	6	7	8	9

✔️ *When MH-GL/2 is activated in menu option 17, the menu options 21-32 will NOT be available.*

When MC-GL is activated in menu option 17, menu-options 18-20 will NOT be available.

The first choice to make is the language type: MH-GL/2 or MC-GL. The factory default is MH-GL/2.

When using MH-GL/2, three settings are available:

1. Origin: Center, Lower Right, Lower Left, Upper Right and Upper Left. Lower Right is factory default.

2. Plot Unit: 0.025 mm or 0.01 mm. Factory default is 0.010mm. If these values are not set correctly, all your jobs will be too large or too small.

3. VS-AS-FS: Several cutting software packages enable your to send SPEED, ACCELERATION and FORCE commands to the cutter from

the software. The cutter can be set up to ACCEPT or IGNORE these commands.

When using MC-GL, twelve settings are available. Please refer to your software manual to look for the necessary values if this language is needed.

To change language settings

1. Using the ◁ and ▷ (left and right slew) keys, position the pen above one of the selections 17 to 32 in the menu selection line.

2. Press ENTER to confirm this choice.

   The cutter plots the corresponding line and the tool head parks above the current setting.

3. To keep the current setting, use the ⋏ and ⋎ (up and down slew) keys to return to the menu selection line.

4. To change the setting, use the ◁ and ▷ (left and right slew) keys to position the tool head above the desired setting.

5. Press the ENTER key to save the new setting into memory.

   At the same time, the new selection is underlined and the tool head returns to the menu selection line, allowing a new selection.

RESET TO FACTORY DEFAULTS

If it is necessary to reset your cutter to its factory default settings, switch the cutter on while pressing the ORIGIN and the PAGE keys at the same time.

The LED bar confirms this action. The LEDs display a running light from the outside to the inside several times.

Using this function will fully re-initialize your unit. All previously stored language and communication settings will be reset.

In case of doubt, first plot out a setup sheet using the show option of the menu selection line.

It is also possible to set the factory default settings when in "STANDALONE MODE" by pressing the ENTER + MENU up keys. An LED sequence confirms the settings to factory default. This procedure is equivalent to pressing the ORIGIN and PAGE keys during startup.

CHAPTER 4
FINE TUNING THE CUTTER

The FasTrack cutter provides a step-by-step method to help beginning users achieve excellent cutting quality. Once you have more experience with your cutter, you will be able to fine tune your cutter quickly and accurately.

There are several knife types available, each designed for cutting specific material.

	Cutting Blade 1	Cutting Blade 2	Cutting Blade 3
Top Angle	45º	30º	60º
Typical Offset	0.50 mm	0.50 mm	0.50 mm
Default Speed	50 cm/s (20"/s)	50 cm/s (20"/s)	50 cm/s (20"/s)
Default Force	100 g	100 g	100 g
Default Acceleration	3.0 G	3.0 G	3.0 G

There are three factors to consider when setting up your cutter for a demanding cutting job:

- The knife depth
- The cutting pressure
- The offset

This section covers

- Adjusting the knife depth
- Setting the cutting pressure
- Adjusting the offset
- Performing a test cut

ADJUSTING THE KNIFE DEPTH

Two types of high quality knife holders are available for FasTrack cutters, a standard knife holder, and an optional knife holder with a vernier to adjust the depth.

Regardless of which type of knife holder you use, adjusting the knife depth is very important to ensure high quality outputs. Always make sure that the knife blade protrudes from the holder enough to cut through the material and adhesive, but not the backing.
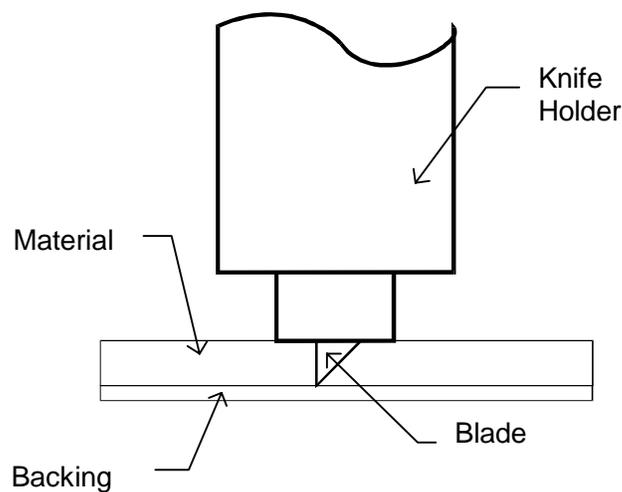

To adjust the knife depth of the standard tool holder

1. Hold the body in one hand and adjust the depth by using the set screw. Turning the set screw clockwise will make the blade protrude out of the edge of the base. Turning the set screw counterclockwise will retract the blade.
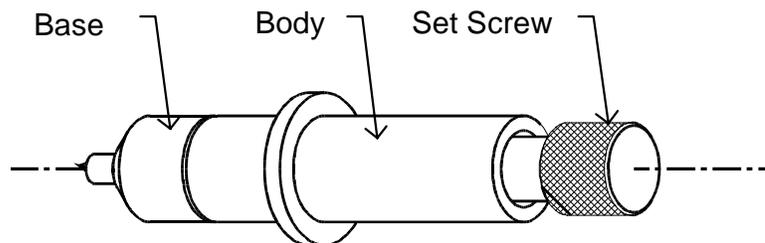
2. For a first test, turn out the blade until it protrudes only a very small amount (about 0.008" (0.2mm) out of the base.)

3. Make a manual test cut on a small piece of material of the same type that you will be using.

4. Examine the test cut.

   The top layer should be cut completely and you should be able to see a slight scratch on the backing when peeling it off, but no scratches from the underside of the backing.
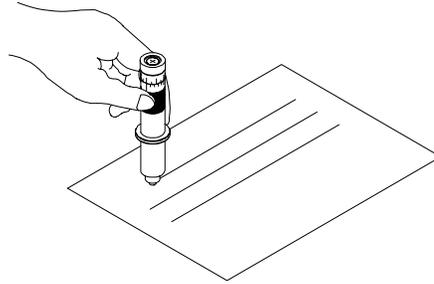

5. Adjust the blade and make manual test cuts until you obtain the correct depth.

CAUTION Excessive blade exposure will adversely affect cutting quality, accelerate blade wear, and possibly damage the cutter.

To adjust the knife depth of the optional knife holder

1. Loosen the base of the cutting knife. To do this, take the base in your left hand and twist the ring slightly.
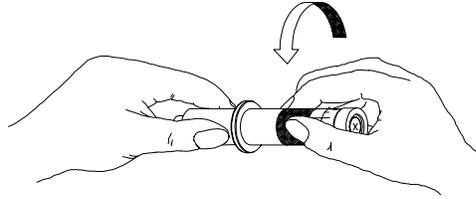
2. Take the base and the ring in your left hand and twist the shaft until the knife point protrudes only a very small amount, about 0.008" (0.2 mm) out of the edge of the base.
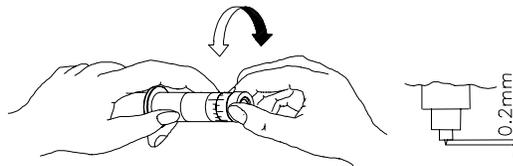
3. Tighten the ring firmly against the base. This will prevent the cutting blade from coming loose during cutting.

4. Make a manual test-cut on a small piece of material of the same type that you will be using.
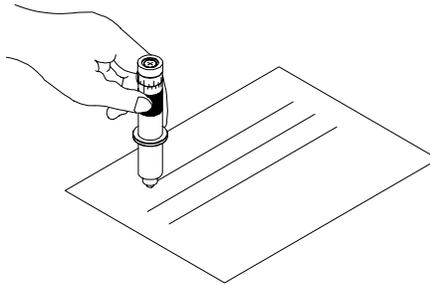
5. Examine the test cut.

   The top layer should be cut completely and you should see a slight scratch on the backing when peeling it off, but not on the underside of the backing.

6. Adjust the blade depth and make test cuts until you obtain the correct depth.

CAUTION   Excessive blade exposure will adversely affect cutting quality, accelerate blade wear, and possibly damage the cutter.

FEATURES OF THE OPTIONAL KNIFEHOLDER

For some applications more precise adjustment in the depth of the knife blade is helpful. For those applications, Gerber can provide you with an optional knife holder featuring a vernier that allows you to adjust the depth of the knife in increments of 0.0004" (0.01 millimeter). For more information on the optional knife holder, please contact your Gerber distributor.

- The upper scale lines make it possible to change the knife depth over 0.002" (0.05 mm).

- The lower scale (vernier) makes it possible to change the knife depth over 0.0004" (0.01 mm).

knife depth
− 0.05mm

knife depth
+ 0.05mm

knife depth
− 0.01mm

knife depth
+ 0.01mm
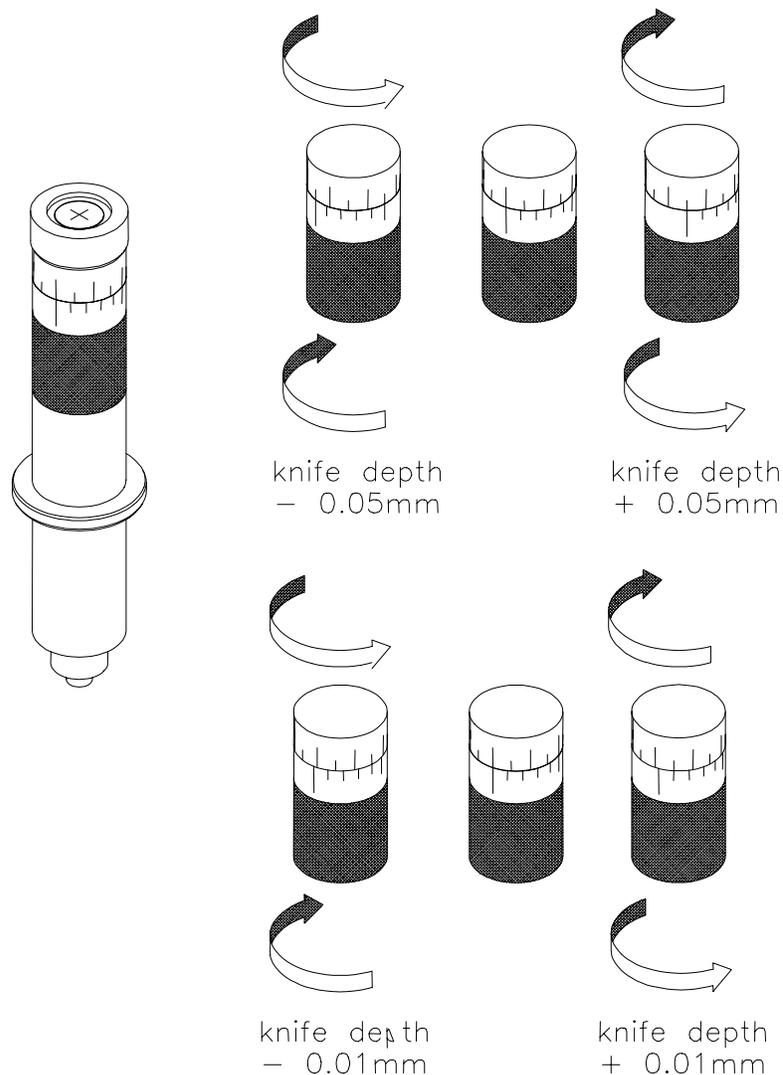
SETTING THE CUTTING PRESSURE / TEST SQUARES

You are cutting a test square to see if you need to adjust the cutting pressure as described in *Force Selection,* page 25, in Chapter 2. You should cut your design with the lowest possible pressure that permits easy weeding. Some cast material requires only 15 grams to be cut completely through. In that case there is no need to apply 100 grams of pressure. Too much pressure can cause a decrease of quality, premature blade wear, and may damage the cutter.

You can cut a small test square using the current force settings as follows:

1. Make sure the cutter is *offline*. Online LED should be off.

2. Select the FORCE menu by pressing MENU ⋀/⋎ keys until the FORCE LED is on.

3. Using the slew keys, select the position where you want to cut the test square.

4. Press the ENTER key for about two seconds.

   The cutter will cut a test square.

SETTING THE OFFSET

One of the most important factors to obtain good cutting quality is the offset. The knife offset is the distance between the knife center and the knife tip. Because accurate measurement off the offset is very difficult, you should adjust the offset by checking cutting results on the material to be used. Your FasTrack cutter provides an offset adjustment feature to help you set an accurate offset.
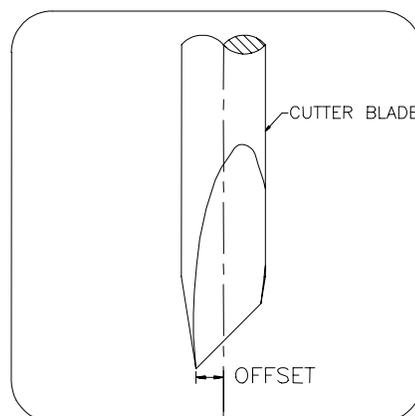
The diagrams below illustrate the results of incorrectly measured offsets.

Pointed corners: The offset is larger than the actual knife offset.

In this case, a square corner will look like the example to the right.

The cutting direction is indicated by the arrow. The corners are not well formed because the cutter cuts too far beyond the corner.
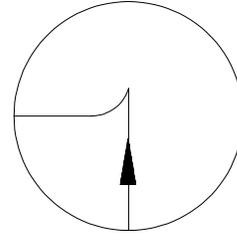
Rounded corners: The Offset is smaller than the actual knife offset.

In this case, a square corner will look like the example to the right.

The cutting direction is indicated by the arrow. The corners are not well formed because the cutter did not cut far enough before turning the corner.
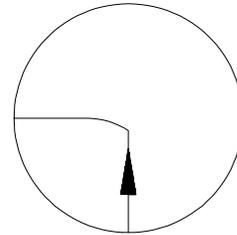
ADJUSTING THE OFFSET

To obtain good quality, you should perform this routine each time you change cutting blades or switch to another type of material.

1. Make sure the cutter is switched on.

2. Load a sheet of material about 10" (25 cm) wide.

3. Select a tool that is defined as a KNIFE (factory default: TOOL 1 is Knife 1, TOOL 2 is Knife 2).

   If you select a TOOL that is defined as a PEN (factory default: TOOL 3 is Pen 1, TOOL 4 is Pen 2), the cutter will not react, as this function is only active for knife settings.

4. Switch the cutter *offline* by pressing the ONLINE key. The ONLINE LED indicator should then go off.

5. Press the ENTER and OFFSET (➢) keys simultaneously. This will put the cutter into the OFFSET test mode.

The flashing LED on the LED bar now shows the BASE OFFSET VALUE. Depending on the LED which is flashing, the base value can range from 0.004" (0.1 mm) to 0.04" (1 mm) as shown below.

◯	◯	◯	◯	✸	◯	◯	◯	◯	◯
0.1mm	0.2mm	0.3mm	0.4mm	0.5mm	0.6mm	0.7mm	0.8mm	0.9mm	1mm
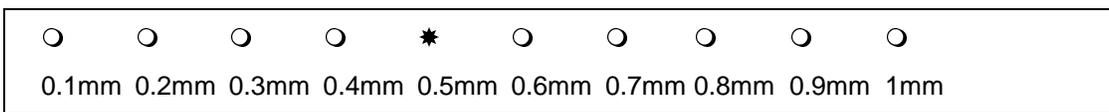
6. Using the VALUE +/- keys, adjust the base value to match the offset value of the blade installed in your knife holder. The base offset value is indicated on the box in which the blades are packed. For the blades that come with the cutter, this value is 0.02" (0.5 mm).

7. Press ENTER to confirm the BASE OFFSET value.

   The cutter will now be *offline*, indicated by the ONLINE LED indicator not lit. This gives you the opportunity to adjust any settings necessary (SPEED, ACCELERATION, FORCE).

8. Press the ONLINE key to switch the cutter *online*.

   The cutter will now generate a set of test patterns, each of them with a different offset.
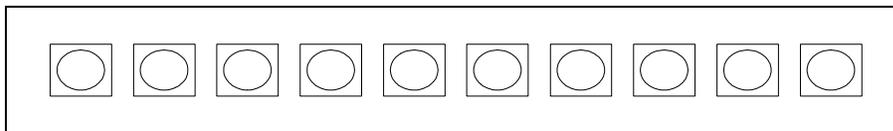
   If the base offset is set to 0.02" (0.5 mm), the generated offsets will vary from 0.018" (0.46 mm) up to 0.022" (0.55 mm). When the test cuts are completed, the cutter will advance the material.

9. Check the patterns and determine which of them gives best quality. Look for optimum quality of the corners, closure of the circles, and easy weeding.

   After the machine has drawn the 10 squares to select the best offset, the head is no longer positioned above the most left one. It is now positioned above the square belonging to the base offset.

10. You can now use the test cut squares the same way you use the menu selection line to select and enter your choice for blade offset. Using the ◁ and ▷ (left and right slew) keys, move the tool head to the square with the best quality. You will see an LED on the LED bar move according to your choice. When the tool head is moved, the material is partially retracted, but in such a way that the test squares remain visible.

11. Press ENTER to confirm your choice.

    The cutter is now in LOCAL mode.

12. If needed, you can now restart the offset adjustment routine to experiment with a different force, speed and/or acceleration. (Step 5)

13. When you are satisfied with the new setting, set the cutter *online* by pressing the ONLINE key. The ONLINE LED should then come on.

14. Press PAGE to sheet-off the test squares.

✓ *If you have 2 knife holders available, you can adjust each one for a different type of material and save the settings as KNIFE 1 and KNIFE 2. This will allow you to switch quickly from one material or job type to the other.*

An inaccurate offset setting may cause poor cutting quality and difficult weeding.

If the offset adjustment routine is aborted, the cutter will continue working with the value it had prior to starting the adjustment routine.

SETTING UP FOR POUNCING (PUNCHING) APPLICATIONS

Your FasTrack cutter can very easily be set up to perform pouncing applications.

✓ *For optimum quality, Gerber recommends using the optionally available soft cutting mat for pouncing applications. This cutting mat allows a better penetration of the pyramid-shaped pouncing pin.*

To perform a pouncing job use one of the following two methods:

Method 1. Pen-Up / Pen-Down sent by cutting software

1. Set the tool settings to a PEN.

2. Set the FORCE to produce acceptable results within the range of 15 to 500 grams.

Method 2. Use the incorporated pouncing (punching) capability of the cutter

1. In the cutter set up, set the TOOLKIND of the tool of your choice to POUNCE

2. Press ENTER and ➢ (slew right).

3. Select the desired gap (distance between punch marks) using the VALUE + /- keys.

10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
1 mm	2 mm	3 mm	4 mm	5 mm	6 mm	7 mm	8 mm	9 mm	10 mm

4. Press ENTER to confirm your choice.

5. The FORCE can be varied in the range of 15 - 500 grams.

The factory defaults are:

1) Toolkind Tool1:	*Knife*	*Pen*	*Pounce*	
2) Toolkind Tool2:	*Knife*	*Pen*	*Pounce*	
3) Toolkind Tool3:	*Knife*	*Pen*	*Pounce*	
4) Toolkind Tool4:	*Knife*	*Pen*	*Pounce*	

For more details refer to Toolkind Selection, page 24 in Chapter 2 and page 35 in Chapter 3.

To adjust the pouncing tool

1. Turn the positioning screw until the pouncing tool is about to protrude from the holder.
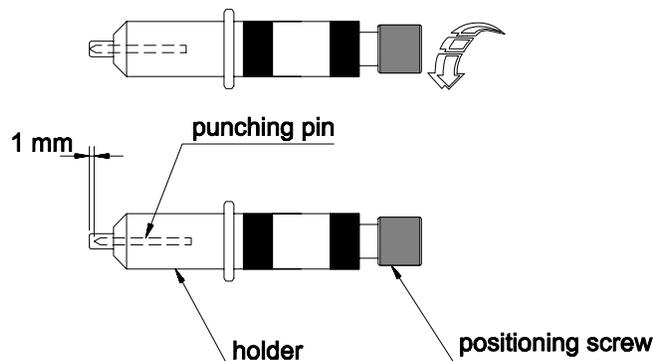
2. Turn back the positioning screw one full turn. The punching pin will then be about .039" (1 mm) inside the holder.

PERFORMING A TEST CUT

To check if the cutter is fully functional, there is an integrated demonstration test cut routine, which can be done without using a computer. To perform this demo cut:

1. Load some material (cut-sheet or roll) into the cutter.

2. Set TOOLKIND to KNIFE 1 or KNIFE 2, if not already set.

3. Make sure that a knife with well adjusted depth is mounted into the tool head.

4. If you have not yet adjusted the offset for the current knife and/or material, do so now to obtain perfect quality. (See *Adjusting the Offset,* page 50, in this chapter).

5. Switch the cutter *offline* by pressing the ONLINE key. The ONLINE LED should go off.

6. Start the test-cut by pressing ENTER and ∧ (up) slew simultaneously.

   The test cut is not scaled automatically to fit the material size. In case of a roll of material, only the width of the roll is taken into account. The cutter assumes that there is enough material on the roll to perform a full- width test cut. You can determine the size of the test cut by adjusting the position of the pressure rolls.
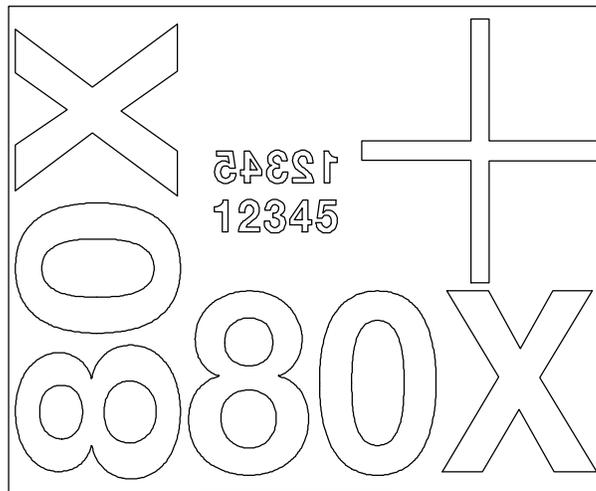
GENERATING A PARAMETER SETTINGS PLOT

1. You can plot out all of your cutter's internal information (machine type, EPROM and EEPROM versions) as well as all the user definable settings, such as tool speeds, acceleration, forces, offset values, etc. This information is useful if you need to contact your Gerber distributor or technical support

2. Load a sheet of B-size (11" X 17") paper or larger into the cutter.

3. Set the tool selection to pen for optimum plot quality. By factory default, TOOL 3 and TOOL 4 are defined as being PENS.

4. Mount a pen in the tool head.

5. Switch the cutter *offline* by pressing the ONLINE key. The ONLINE LED should then go off.

6. Start the plot by pressing ENTER and ◁ (left slew) simultaneously.

   The cutter plots a display similar to the one below.

FasTrack Settings Plot

Machine　　　　　　　: FasTrack-650

Version　EPROM　　:
　　　　　　　　　　XX.XX

　　　　EEPROM　　:
　　　　　　　　　　XX.XX

Tool	: Tool1	Tool2	Tool3	Tool4	Pen-Up
Force (g)	: 100	100	20	80	---
Speed (in/s)	: 24	24	16	24	39
Acceleration (G)	: 2.5	2.5	4.0	4.0	4.0

Page Length　　　　: 40 in

Toolkind　　Tool1　: Knife 0.021 in

　　　　　　Tool2　: Knife 0.021 in

　　　　　　Tool3　: Pen

　　　　　　Tool4　: Pen

User Language　　　: American

CHAPTER 5
# CUTTER MAINTENANCE and TROUBLESHOOTING

In this chapter, you will learn:

- How to keep your cutter in good shape and prevent problems by regularly performing some easy, daily maintenance.

- How to pinpoint and correct problems that might occur.

CLEANING and DAILY MAINTENANCE

Your cutter, knives, and pens will work better and last longer if you keep them clean and perform a few simple daily maintenance tasks.

To clean the pressure rollers and drive rollers

The figure below shows you this part of the cutter that might require your attention.
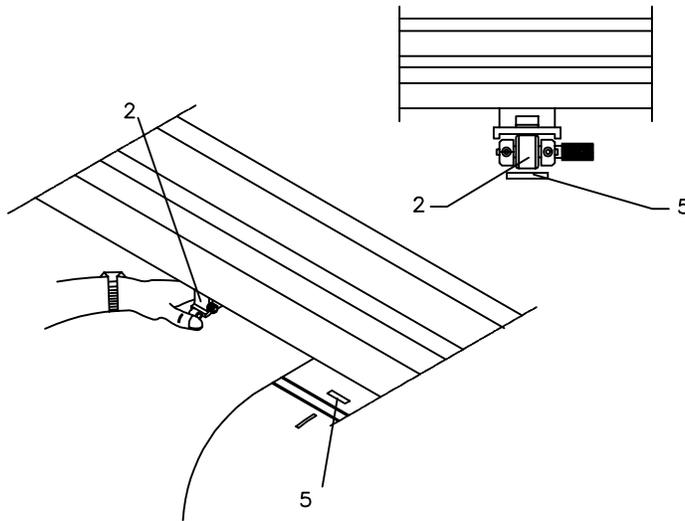
Pressure rollers

Always leave the pressure rollers in the up position when they are not in use.

- Make it a habit to clean the pressure rollers regularly with an alcohol-moistened swab or rag to keep them smooth and level.

Drive rollers

The pressure rollers (2) press the material firmly against the friction drive rolls (5), which have a gritty surface that enables them to grip the back of the material and drive it through the cutter. Because of this, the friction drive rolls (5) can become clogged with residue from cutting material. This

can cause the material to slip, resulting in inaccurate cuts or incorrect material transport.

- For a light cleaning, brush them with a soft-bristle brush, such as a paintbrush or toothbrush. While brushing, rotate the rollers manually to make sure they are clear of paper dust and thoroughly clean.

- For a more thorough cleaning, run an 18" long piece of 1½ " masking tape between each drive roller and a pressure roller (in the down position) with the adhesive side towards the drive roller.

To remove material particles from the cutter blade in a standard knife holder

Use following procedure to remove small material particles in the base of the cutting blade holder.

1. Take the body (2) into one hand and unscrew the base (1).
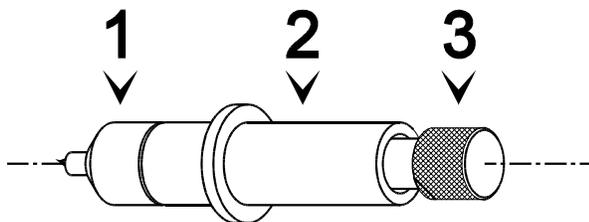
2. Blow away the material particles accumulated in the top of the base.

3. Remove the spring from the cutting blade and remove any residual material from the blade tip.
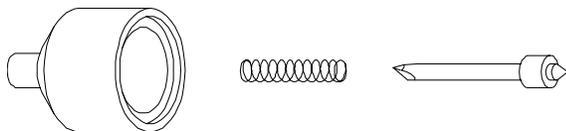
4. Place the spring back over the cutting blade and tightly screw the base on the holder.

To remove material particles from the cutter blade in an optional knife holder with vernier

1. Take the ring in your hand and remove the base.
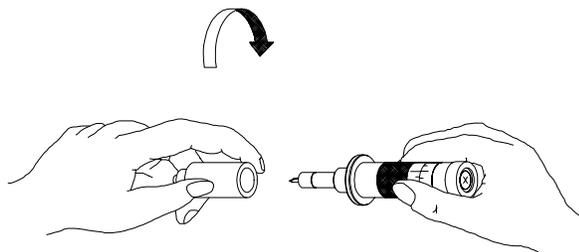
2. Blow away the material particles accumulated in the top of the base.

3. Remove any residual material from the blade tip.
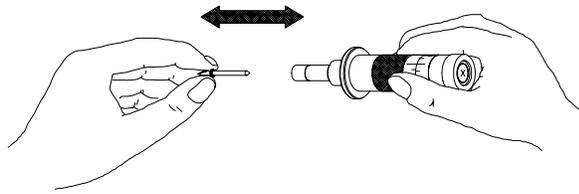
4. Place the base back on the holder and twist it tightly.

To clean the cutter

- Use a soft cloth to clean paper dust and particles off the platen, the drive roller cover, the cutting mat, the Y-axis rail, and the protective cover. (See *Cutter Parts and Components,* page 7, in Chapter 1 for part identification.)

- Use a cotton swab to clean the two round material sensors located on either side of the cutting mat near the right end of the platen. You may moisten the swab with alcohol if necessary.

- Make sure there is no material or other material stuck to the material transport areas.

PARTS REPLACEMENT

Although the cutter has been constructed of high quality materials, in order to maintain high quality output, you will periodically have to replace some parts that are subject to wear and tear.

To replace the cutting mat

1. Remove the worn cutting mat by pulling it out, together with the underlying strip of vinyl.
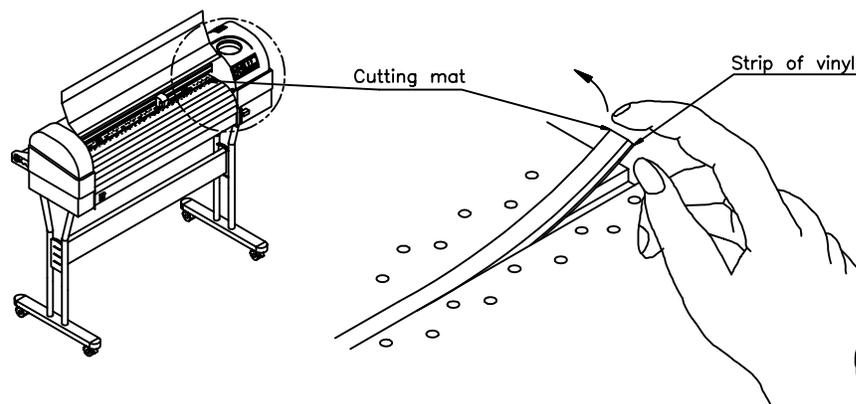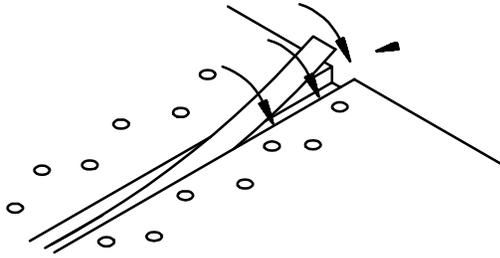
2. Cut a strip of vinyl 0.3" (8 mm) wide and its length depending on the size of your cutter. Stick this strip into the cutting groove.

Cutting mat

Strip of vinyl
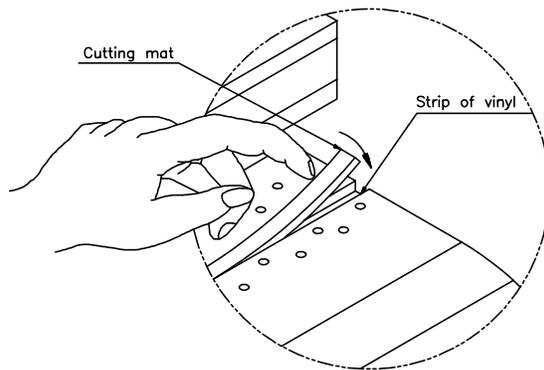
3. Complete this procedure by sticking the new cutting mat into the cutting groove.

To replace the knife blade in the standard knife holder

1. Hold the body (2) in one hand and unscrew the base (1).


3   4   1   2
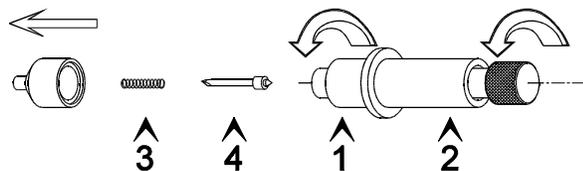
2. Remove the spring (3) and the cutting blade (4).

3. Slide the spring over the new cutting blade.

4. Place the new blade with its spring into the base and screw the whole assembly onto the body.

To replace the knife blade in the optional knife holder with vernier

1. Take the body in one hand and unscrew the base until it comes completely off.
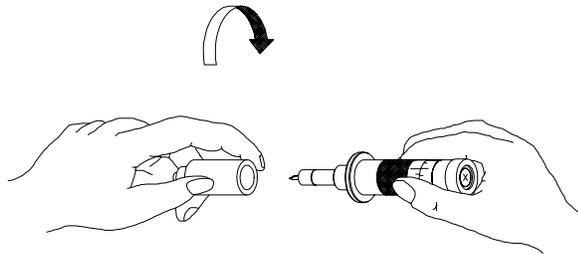
2. Pull the old blade out of the holder and insert a new one.
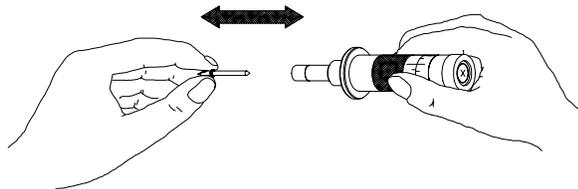
3. Place the base on top of the holder assembly and twist it tightly.
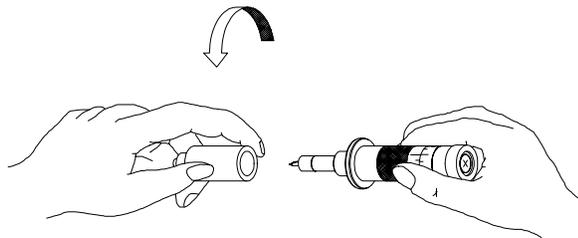
To replace the auto-sheet-off knife

When you frequently use the auto-sheet-off utility, it is a good practice to regularly clean the knife and to replace it when it starts to wear.

1. Unscrew the ring (1) that secures the auto-sheet-off knife.

2. Take off the ring (1) and take the knife assembly (2) out of the tool head.

3. Make sure to leave the spring (3) located in the tool head in place.

4. Clean the sheet-off knife, removing any material residues that might be adhering to the blade. If the blade is worn, use a new knife assembly.

5. Place a new (or the cleaned) knife assembly (2) into the tool head. The knife assembly has a flat side. Make sure that it is correctly oriented with the flat side to the right. See the figure below. You can easily check this by trying to push the knife downward manually until it touches the cutting mat. This should be possible without any trouble.

6. Screw the ring (2) back on the tool head, over the knife assembly, to secure the knife into place.

7. Check again if the knife can be moved smoothly and if it returns into its original "up" position when you release it.
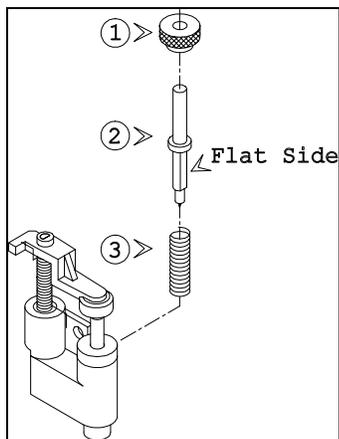
TROUBLESHOOTING

This section gives a summary of problems that might occur during day-to-day use of your cutter and some hints how to determine the cause of the problem.

1. Power switch is turned on, but the cutter does not operate.

    - Is the cutter's protective cover closed?

    - Is the power cable connected to the cutter?

    - Is the cutter connected to a power outlet with the specified voltage?

2. Material is loaded, but the cutter does not operate.

    - Is the cutter's protective cover closed?

    - Is the material hold lever lowered?

    - Is the material properly loaded?

    - Are the paper sensors clean?

3. Data is being sent from the computer, but the cutter does not react.

    - Is there a proper interface cable connected?

    - Is the cutter in online mode?

    - Do the interface settings on the host computer match those set on the cutter? (See *Communications Settings,* page 40, in Chapter 3.)

4. Data is sent from the computer but errors occur on the cutter's side.

    - Are the output settings correct on the host computer and in the cutting software?

    - Do the interface settings on the host computer match those set on the cutter? (See *Communications Settings,* page 40, in Chapter 3.)

    - Does the command mode on the host computer match the command mode on the cutter? (See *Language Settings,* page 42, in Chapter 3.)

5. Some parts of the design are not well cut.

    - Check whether the knife tip is clogged with material residues.

    - Examine the knife blade with a magnifier to see if the tip is damaged or broken.

    - Perform the offset adjustment routine to check cutting quality. (See *Adjusting the Offset,* page 49, in Chapter 4.)

    - Perform the internal test cut and check its quality. (See *Performing a Test Cut* page 54, in Chapter 4.)

To check the communication settings

4. Communication problems are the most frequent errors. Therefore, we have included a step-by-step procedure for you to use to reset the computer's serial communication settings to match the cutter's factory default settings and run a test cut.

7. Boot-up your computer.

8. Switch on the cutter.

9. After the start-up routine is finished, install a knife or pen in the tool head, select the proper tool and load a sheet of material which is at least 4.75" X 4.75" (12 x 12 cm).

10. Make sure the cutter shuffles the material and verify that the cutter is *online*.

11. On the host computer go to the MS-DOS prompt (c:\>).

   If another environment (for example: Windows) is automatically loaded after booting up, quit this application before continuing.

12. Verify to which of the host computer's communication ports your cutter is connected (COM1, COM2).

13. If your computer and cutter are linked with a serial interface (COM1 or COM2), type the following command.

   MODE COM1: 96,n,8,1,p   (If your cutter is connected to COM1)

   or

   MODE COM2: 96,n,8,1,p   (If your cutter is connected to COM2)

   then press <ENTER>

✔ *The command above will change your computer's serial communication settings to match the cutter's factory default communication settings. These settings are: 9600 BAUD, NONE parity, 8 data-bits, 1 stop bit.*

14. Using any text editor, create a file called TEST.PLT with the following contents

   (To start the DOS editor you can type: edit TEST.PLT <ENTER>):

   IN;
   SP1;
   PA0,0;
   PD0,4000,4000,4000,4000,0,0,0;
   PU2000,2000;
   CI2000;
   SP0;

15. Save this file onto a floppy diskette or your hard-drive.

16. Exit the text editor and return to the MS-DOS prompt.

17. Make sure you are in the directory where the file is located.

18. Type following command:

    copy TEST.PLT COM1 (If your cutter is connected to COM1)

    copy TEST.PLT COM2 (If your cutter is connected to COM2)

19. Press ENTER.

    The file you have created will now be sent to the cutter, causing it to cut/draw a square 3.94" by 3.94" (10 cm by 10 cm) and a circle with a radius of 1.97" (5 cm).

ERROR MESSAGES

Unrecoverable system errors

Unrecoverable errors may be caused by some part of the cutter that is malfunctioning. In case of an unrecoverable error, most of the time the cutter will be completely blocked and all the LEDs will be flashing. Press ENTER to display an error code on the LED bar.

To return your cutter to normal operation, switch it off and then on. If you still get the same error message, please contact your Gerber distributor and be prepared to give the following information: serial number, type, error message displayed, and a description of the malfunction.

ERROR CODE										
	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
ERROR CODE 0	✳									
WATCH DOG TIME OUT		✳								
BUS TRAP ERROR	✳	✳								
ADDRESS TRAP ERROR			✳							
ILLEGAL INSTRUCTION(MC68020)	✳		✳							
ZERO DIVIDE		✳	✳							
GENERAL PROCESSOR FAILURE	✳	✳	✳							
EPROM CHECKSUM ERROR				✳						
KANJI ROM CHECKSUM ERROR	✳			✳						
SRAM FAILED I/O TEST		✳		✳						
DRAM FAILED I/O TEST	✳	✳		✳						
INTERRUPT FAILURE			✳	✳						
X IS OUT OF SYNC	✳		✳	✳						
Y IS OUT OF SYNC		✳	✳	✳						
INPOSITION TIME OUT FOR X	✳	✳	✳	✳						
INPOSITION TIME OUT FOR Y					✳					
OVER CURRENT X	✳				✳					
OVER CURRENT Y		✳			✳					
X ENCODER FAILED	✳	✳			✳					
X ENCODER FAILED			✳		✳					

ERROR CODE										
	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
POSITION TIME OUT MOVING COIL	✳		✳		✳					
POSITION TIME OUT PEN MOTOR		✳	✳		✳					
OVER CURRENT MOVING COIL	✳	✳	✳		✳					
OVER CURRENT PEN MOTOR				✳	✳					
OVER FORCE MOVING COIL	✳			✳	✳					
OVER FORCE PEN MOTOR		✳		✳	✳					
MOVING COIL A/D FAILURE	✳	✳		✳	✳					
PEN MOTOR A/D FAILURE			✳	✳	✳					
CURRENT TIME OUT MOVING COIL	✳		✳	✳	✳					
CURRENT TIME OUT PEN MOTOR		✳	✳	✳	✳					
POWER FAILURE	✳	✳	✳	✳	✳					
DRIVER IS OVER HEATED						✳				
FAN FAILURE	✳					✳				
MATERIAL BROKEN		✳				✳				
Y ORIGIN NOT FOUND	✳	✳				✳				
REFILL TANK FAILED			✳			✳				
LOST HEAD	✳		✳			✳				
1010 CPU ERROR		✳	✳			✳				
1111 CPU ERROR	✳	✳	✳			✳				
PEN CHANGE ERROR				✳		✳				
EEPROM ERROR	✳			✳		✳				
CUTTER ERROR		✳		✳		✳				
EXTENDED RAM ERROR	✳	✳		✳		✳				
Y EDGE ERROR			✳	✳		✳				
MATERIAL HANGER ERROR	✳		✳	✳		✳				
X OVER LOAD ERROR		✳	✳	✳		✳				
Y OVER LOAD ERROR	✳	✳	✳	✳		✳				
UNKNOWN ERROR					✳	✳				
UNKNOWN ERROR	✳				✳	✳				

ERROR CODE										
	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
UNKNOWN ERROR		✲			✲	✲				
INTERLOCK ERROR	✲	✲			✲	✲				
MOVING COIL ENCODER FAILURE			✲		✲	✲				
PEN MOTOR ENCODER FAILURE	✲		✲		✲	✲				
DRIVER FAILURE		✲	✲		✲	✲				
ILLEGAL MAIN BOARD REVISION	✲	✲	✲		✲	✲				
ILLEGAL PANEL BOARD REVISION				✲	✲	✲				
MAINBOARD TYPE ERROR	✲			✲	✲	✲				
ILLEGAL OPTIONAL I/F BOARD REVISION		✲		✲	✲	✲				
UNKNOWN OPTIONAL I/F BOARD	✲	✲		✲	✲	✲				
ILLEGAL MECHANICAL REVISION			✲	✲	✲	✲				
MECHANICAL TYPE ERROR	✲		✲	✲	✲	✲				
XY CONNECT FAILED		✲	✲	✲	✲	✲				
PROM TYPE MISMATCH							✲			
EEPROM IS NOT RESPONDING	✲						✲			

Recoverable system errors

Use the Error Code chart below to determine the error code being displayed by the LED bar. Then use the chart at the bottom of the page to determine the possible cause and corrective action.

ERROR CODE										
	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
IMPOSSIBLE AUTO-ONLINE RECOG. (S02)		✳								
G. LANGUAGE NOT CORRESPONDING (S03)	✳	✳								
MATERIAL DETECT ERROR (S05)	✳		✳							
ROLL MATERIAL END (S06)		✳	✳							
CANNOT AUTO-CONNECT (S07)	✳	✳	✳							
AUTO CUT ERROR (S08)				✳						
CHANGE MATERIAL (S28)			✳	✳	✳					
KANJI ROM SUM ERROR (S29)	✳		✳	✳	✳					

POSSIBLE CAUSE and SUGGESTED ACTION	
S02	Communication difficulties - Check cables.
S03	Select other graphics language. (See *Language Settings* page 42, in Chapter 3.)
S05	Material detection impossible. Too much or too little light, incorrect pressure roller position.
S06	Load a new sheet or roll.
S07	Communication difficulties - Check cables.
S08	Error during auto-sheet-off sequence. Check material and auto-cut knife
S28	Change or reload material.

Communication errors

Communication errors are caused by a problem in the communication between the cutter and the host computer. They can be caused by errors related to the communication settings, errors due to a defective handshake, or command format errors in the ESCAPE sequences.

Use the Error Code chart below to determine the error code being displayed by the LED bar. Then use the chart on the next page to determine the possible cause and corrective action.

ERROR CODE										
	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
ERROR ONLINE FRAME C01	✹					✹				
ERROR ONLINE OVERRUN C02		✹				✹				
ERROR ONLINE PARITY C03	✹	✹				✹				
ERROR BIAS VALUE C04			✹			✹				
ERROR SUM CHECK C05	✹		✹			✹				
ERROR DATA BLOCK C06		✹	✹			✹				
FEW PARAMETER ESC C07	✹	✹	✹			✹				
FEW PARAMETER ESC C08	✹			✹		✹				
COMMUNICATION BUSY C09		✹		✹		✹				
UNDEFINED ESC C10	✹	✹		✹		✹				
ILLEGAL ESC C11			✹	✹		✹				
ERROR VALUE ESC C12	✹		✹		✹	✹				
MANY PARAMETERS ESC C13		✹	✹	✹		✹				
COMMUNICATION ERROR C14	✹	✹	✹	✹		✹				
BUFFER OVERFLOW C15					✹	✹				

POSSIBLE CAUSE and SUGGESTED ACTION		
C01	Framing error.	Check the *Communication Settings,* page 40, in Chapter 3.
C02	Overrun error.	
C03	Parity error.	
C04	Bias is less than EOB code.	
C05	Check-sum difference cutter vs. host.	
C06	Data between bias and EOB too large.	
C07	Not enough ESC-parameters.	
C08	Not enough ESC-parameters.	
C09	Change the computer program to prevent the cutter from returning double data.	
C10	Undefined ESCAPE sequence.	Check the ESCAPE command setup.
C11	Illegal character used for MH-GL/2 ESC-sequence.	
C12	Illegal character in ESC-sequence parameter.	
C13	Too many ESC-sequence parameters.	
C14	Communication error.	Restart the cutter.
C15	Buffer overflow.	

Language errors

Language errors occur when command data from the host computer does not match the data format of the command mode currently activated on the cutter's side. The error can be caused by a difference in command type or by a syntax error.

Use the Error Code chart below to determine the error code being displayed by the LED bar. Then use the chart at the bottom of the page to determine the possible cause and corrective action.

ERROR CODE										
	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
UNDEFINED XX E01	✸						✸			
ERROR PARAMETER E02		✸					✸			
ERROR VALUE E03	✸	✸					✸			
UNKNOWN CHAR E05	✸		✸				✸			
BUFFER OVERFLOW E07	✸	✸	✸				✸			

POSSIBLE CAUSE and SUGGESTED ACTION		
E01	Undefined MH-GL/2 command.	Verify computer and cutter language settings.
E02	Incorrect number of parameters was transmitted.	
E03	Parameter out of range was transmitted.	Verify computer and cutter language settings.
E05	Character unknown to MH-GL/2 was sent.	
E07	Polygon and character buffer overflow.	

CHAPTER 6
CUTTER OPTIONS and ACCESSORIES,

OPTIONS and ACCESSORIES FOR FasTrack CUTTERS

Cutting Mat (Set - 3 pcs)

Standard knife holder without depth indication including one blade angle 45°, offset 0.5 mm and one spring

High-Quality, Long-Life Blades (Tungsten Carbide) for Standard Knife Holder

Blades 30° (set of two - including one spring)

Blades 45° (set of two - including one spring)

Blades 60° (set of two - including one spring)

Sheeting-Off Knife Assembly (one/pc)

Knife holder with Depth Indication including one blade, angle 45°, offset 0.5 mm

High-Quality, Long-Life Blades (Tungsten Carbide) for Knife Holder with Vernier Graduation, offset 0.5 mm

Cutting Knife Blades 30° (Set of Two)

Cutting Knife Blades 45° (Set of Two)

Cutting Knife Blades 60° (Set of Two)

Conveyor Flanges (for all models)

Conveyor Flange Core 3" (Set of Two)

Punching tool assembly including punch pin

Spare punch pin assembly

Cutting mat for punching applications (Set - 3 pcs)

Basket for Media Collection

All FasTrack cutters include cutter stand (except for FT-650 desktop model), set of conveyor rolls with small plastic rings to prevent roll shifting, operation manual in English, set of 3 knives (45° for vinyl), one knife holder, two marking pens, serial cable, power cable, spare cutting and 1 Mb buffer.

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CHAPTER 7
MATERIAL COMPATIBILITY and DIMENSIONS

MATERIAL COMPATIBILITY

FasTrack-650
- ➢ Desktop Model (Stand available)
- ➢ Maximum Material width: 30 inch Roll / 34 inch Cut-Sheet
  750 mm Roll / 850 mm Cut-Sheet
- ➢ Maximum cutting width : 25 inch
  630 mm

FasTrack-750
- ➢ Stand Model
- ➢ Maximum Material width: 34 inch Roll / 40 inch Cut-Sheet
  850 mm Roll / 1000 mm Cut-Sheet
- ➢ Maximum cutting width : 31 inch
  780 mm

FasTrack-1000
- ➢ Stand Model
- ➢ Maximum Material width: 43 inch Roll / 49 inch Cut-Sheet
  1100 mm Roll / 1250 mm Cut-Sheet
- ➢ Maximum cutting width : 41 inch
  1030 mm

FasTrack-1300
- ➢ Stand Model
- ➢ Maximum Material width: 52 inch Roll / 56 inch Cut-Sheet
  1320 mm Roll / 1420 mm Cut-Sheet
- ➢ Maximum cutting width : 47 inch
  1200 mm

PHYSICAL DIMENSIONS FasTrack Series

Imperial dimensions in inches and pounds (*Desk-Top model)

	FasTrack-650	FasTrack-750	FasTrack-1000	FasTrack-1300
Length	47	53	63	70
Width	21 (DT*) / 26	26	26	26
Height	13 (DT*) / 46	46	46	46
Weight	80	82	93	99

Metric dimensions in millimeters and kilograms (*Desk-Top model)

	FasTrack-650	FasTrack-750	FasTrack-1000	FasTrack-1300
Length	1205	1355	1605	1775
Width	535 (DT*) / 670	670	670	670
Height	335 (DT*) / 1175	1175	1175	1175
Weight	35 kg	37 kg	42 kg	45 kg

INDEX

FasTrack User's Manual
Comment Card

Please take a moment to complete this questionnaire and mail it to Gerber Scientific Products or fax to 860-290-5568. We are working hard to produce documentation that will meet your needs. We value your comments.

Name:_____ Phone: _____

Address:_____

		1 2 3 4 5	
1.	How many years of experience do you have with personal computers?	**none**	( ) ( ) ( ) ( ) ( )	**over 5 yrs experience**
2.	How often do you refer to the manual?	**never**	( ) ( ) ( ) ( ) ( )	**frequently**
3.	Was the manual easy to use?	**difficult**	( ) ( ) ( ) ( ) ( )	**easy**
4.	Did you learn what you needed to know?	**no**	( ) ( ) ( ) ( ) ( )	**yes**
5.	Was the manual well organized?	**poorly organized**	( ) ( ) ( ) ( ) ( )	**very well organized**
6.	Was the manual clearly written?	**not clear**	( ) ( ) ( ) ( ) ( )	**very clear**
7.	Were there enough illustrations?	**not enough**	( ) ( ) ( ) ( ) ( )	**enough**
8.	Did the illustrations support the procedures?	**no**	( ) ( ) ( ) ( ) ( )	**yes**
9.	What is your overall rating of the manual?	**poor**	( ) ( ) ( ) ( ) ( )	**excellent**
10.	How often do you refer to Online Help?	**never**	( ) ( ) ( ) ( ) ( )	**frequently**
11.	What is your overall rating of Online Help?	**poor**	( ) ( ) ( ) ( ) ( )	**excellent**
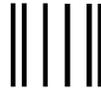
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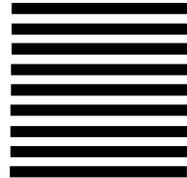
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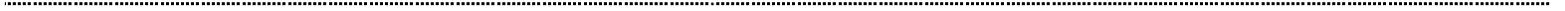
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