MCP-25/MS Control

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This manual was written and designed at Valco Cincinnati, Inc., 411 Circle Freeway Drive, Cincinnati, Ohio 45246.

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CE

CE Declaration of Conformity

(According to EN 45014)

Manufacturer: Valco Cincinnati, Incorporated
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declares that the product:

Product Name: GlueControl
Product Model: MCP-25 MS
Year of Manufacture: 2004

conforms to the following standards:

Safety: EN 60204-1

EMC Emissions: EN 50081-2
EN 55011, Class A

EMC Immunity: EN 50082-2
EN 61000-4-2
EN 61000-4-3
EN 61000-4-4

and complies with the requirements of:

Low Voltage Directive 73/23/EEC
EMC Directive 89/336/EEC

Office of CE Conformance
Cincinnati, Ohio
USA

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Section 1—Introduction

About this Manual

Valco Cincinnati has prepared this manual as an aid for installing, operating, and servicing the MCP-25/MS control. The manual also contains a list of part numbers for replacement parts. If you need more information, please contact your Valco Cincinnati representative.

Description of the MCP-25/MS Control

The MCP-25/MS is a modular microprocessor control system. It is designed to allow users to easily program multiple and complex glue patterns. The control is capable of operating a combination of different styles and types of glue valves and dispensing systems.

Programs or program changes may be made “on-the-fly” with the results immediately occurring on the product. The system maintains precision through machine speeds up to 2000 m/min. (6500 ft./min.).

With user-friendly, multi-language software, valve outputs can be individually compensated and assigned to a selection of scanner and encoder inputs. A two-channel pressure output with programmable curve and integrated bypass functions interfaces with the most complex adhesive delivery systems.

The MCP-25/MS offers unequaled flexibility and performance for the most demanding adhesive dispensing applications.

Section 2—Safety Information

General Information

It is the purchaser's responsibility to ensure that all local, county, state, and national codes, regulations, rules, and laws relating to safety and safe operating conditions are met and followed.

The best safeguard is trained personnel. The purchaser is responsible for providing personnel who are adequately trained to install, operate, and maintain Valco components and systems.

This section contains information that is essential to the safety of personnel. Safety information is included throughout the rest of the manual as well. The following safety conventions are used to indicate potential safety hazards:

WARNING! This symbol indicates the presence of uninsulated dangerous voltage within the product's enclosure. This voltage may cause electrical shock or fire. FAILURE TO OBSERVE WARNING MAY RESULT IN DEATH, PERSONAL INJURY, AND/OR EQUIPMENT DAMAGE.

WARNING! This convention is used to alert the user to important installation, operation, and/or maintenance information. FAILURE TO OBSERVE WARNING MAY RESULT IN DEATH, PERSONAL INJURY, AND/OR EQUIPMENT DAMAGE.

CAUTION! This convention is used to alert the user to important installation, operation, and/or maintenance information. FAILURE TO OBSERVE CAUTION MAY CAUSE EQUIPMENT DAMAGE.

Warnings

All personnel involved with the installation, operation, and maintenance of the equipment must read and thoroughly understand the following warnings:

WARNING! Disconnect all power before opening the control. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR. Only qualified personnel should open and service the control.

WARNING! Promptly repair or replace all worn or damaged electrical wiring and equipment wires. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

WARNING! Properly route all electrical wires. OTHERWISE, DEATH, PERSONAL INJURY, OR DAMAGE TO THE MOVING PARTS OF THE MACHINE MAY OCCUR.

WARNING! When making adjustments or performing checkout procedures, stay clear of any moving mechanical parts and do not touch exposed electrical equipment or electrical connectors. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

WARNING! Keep pump cover and electrical enclosures closed except during setup, service, and checkout procedures. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

WARNING! Promptly repair or replace all worn or damaged parts. OTHERWISE, PERSONAL INJURY OR EQUIPMENT DAMAGE COULD OCCUR.

WARNING! Always wear insulated gloves and proper eye protection when working aound hot-melt equipment. A protective screen around the face is also recommended. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

WARNING! People with respiratory problems (e.g., asthma, bronchitis, etc.) should not work in the vicinity of the molten adhesive. RESPIRATORY PROBLEMS MAY BE AGGRAVATED BY THE FUMES. Do not wear a face mask when working around the molten adhesive. THE MASK MAY TRAP THE FUMES AND DEATH OR PERSONAL INJURY COULD OCCUR.

WARNING! Purge the fluid pressure from the system before disconnecting any part of the system. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

WARNING! Keep the hot-melt hoses away from walkways and the moving parts of the hot-melt system. OTHERWISE, PERSONAL INJURY OR EQUIPMENT DAMAGE COULD OCCUR.

WARNING! The hot-melt unit should be installed so that it can be turned off at a location away from the hot-melt unit.

Cautions

All personnel involved with the installation, operation, and maintenance of the equipment must read and thoroughly understand the following cautions:

CAUTION! Never hose or steam-clean the unit. If the surrounding area is cleaned in this manner, protect the unit by covering it with plastic or other waterproof material. OTHERWISE, DAMAGE TO EQUIPMENT COULD OCCUR.

CAUTION! Do not bend the hot-melt hoses less than an 18-inch (460 mm) radius. OTHERWISE, EQUIPMENT DAMAGE COULD OCCUR.

CAUTION! Place Material Safety Data Sheets for the adhesive near the unit. OTHERWISE, DAMAGE TO EQUIPMENT COULD OCCUR.

What to Do if Contact with Hot Adhesive Occurs

WARNING! The heat that is contained in the hot-melt material will continue to penetrate and deeply burn the skin unless rapidly cooled by external means such as water. Do not attempt to remove the set hot-melt adhesive from the skin.

If hot adhesive comes in contact with the skin**,** do the following:

1. Immediately immerse the contacted area in clean, cold water.

Note! It is recommended that a source of clean, cold water be provided near the hot-melt work area.

2. Cover the affected area with a clean, wet compress and see a physician immediately.

What to Do if Adhesive-Related Fire or Explosion Occurs

During the heating and melting process, the surface of the adhesive will be exposed to air. The mixture of polymer fumes and air can catch fire if the hot-melt is overheated.

WARNING! Poor ventilation, smoking, and open flames can cause overheated hot-melt to ignite. Adequate ventilation must be provided. Smoking should be prohibited in the immediate vicinity of the molten adhesive. Open flames must be kept away from the area around the molten adhesive. OTHERWISE, DEATH, PERSONAL INJURY, OR DAMAGE TO EQUIPMENT COULD OCCUR.

WARNING! Exposed arcing may ignite the fume/air mixture. Shield all electrical equipment from the melt fumes to avoid exposed arcing. OTHERWISE, PERSONAL INJURY OR EQUIPMENT DAMAGE COULD OCCUR.

WARNING! Do not use a water extinguisher to extinguish the fire! OTHERWISE, PERSONAL INJURY OR EQUIPMENT DAMAGE COULD OCCUR.

If the hot-melt adhesive ignites, promptly perform the following steps:

1. Sound a fire alarm.
2. Evacuate the immediate area.
3. Turn off all local electrical equipment at the source.
4. Fight the fire in one of the following ways:
    - Smother the fire with a fire blanket.
    - Aim a CO_2 fire extinguisher at the base of the flames.
    - Aim a dry-powder fire extinguisher at the base of the flames.

What to Do if Inhalation of Adhesive Fumes Occurs

If the adhesive fumes are inhaled, immediately follow these steps:

1. Take the victim away from the immediate work area.
2. Provide the victim with fresh air.
3. Call a qualified medical authority.

Section 3—General Wiring Guidelines

Routing Low-Voltage Leads

WARNING! Electrical installation should be accomplished only by experienced service personnel! OTHERWISE, DEATH, PERSONAL INJURY, OR EQUIPMENT DAMAGE COULD OCCUR.

When routing low-voltage leads, follow these guidelines:

- Do not route low-voltage leads in the same conduit as wires carrying a high-current load.
- Do not route low-voltage leads adjacent to, or across wires carrying a high-current load. If low-voltage leads must cross or run parallel to wires carrying high current, keep the leads at least 6" (152 mm) from high-current wires.
- Do not splice or solder leads.
- Trim leads to the required length. Leads should be only as long as necessary for installation.
- All wiring should be in conduits or wireways.

Connecting the Supply of Electrical Power

WARNING! Electrical connections should be made only by experienced service personnel! OTHERWISE, DEATH, PERSONAL INJURY, OR EQUIPMENT DAMAGE COULD OCCUR.

When connecting the supply of electrical power, follow this guideline:

- Connect the control to a “clean” supply of electrical power. Use a dedicated circuit if possible.

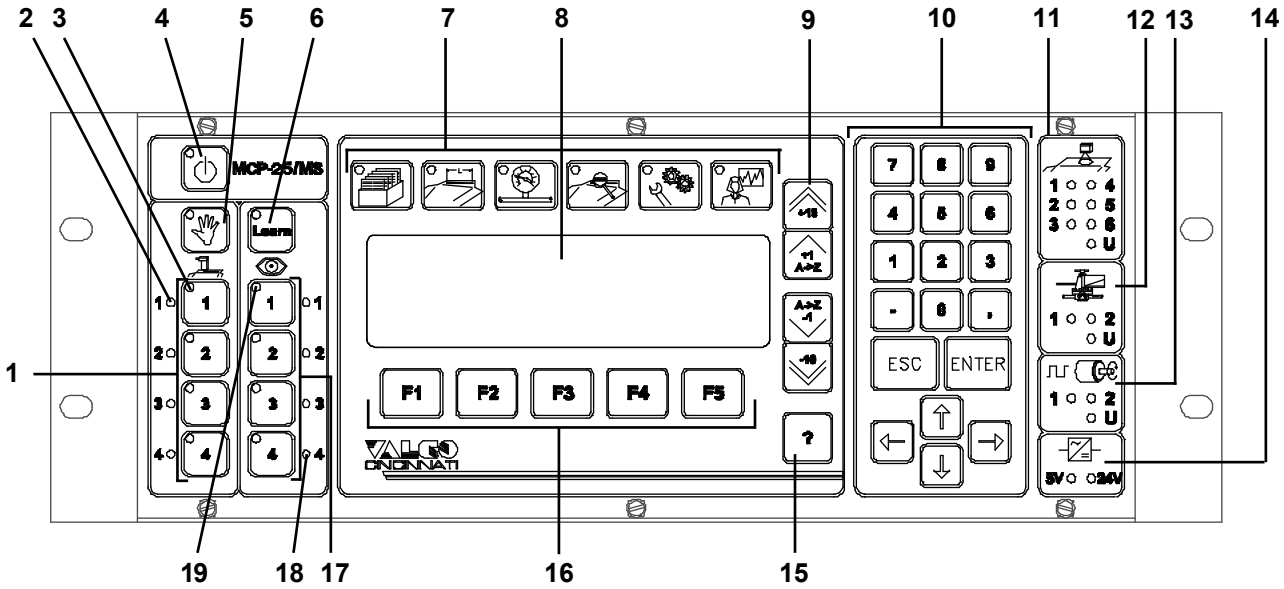
Note! If a dedicated circuit is not available, do not connect the control to a circuit that supplies high-amperage equipment—use another circuit such as a lighting circuit. Otherwise, equipment may not function properly.

Section 4—Basic Features

Introduction

This section describes the basic features of the MCP-25/MS Control.

Front-Panel



Description of Front-Panel Features

1 Valve-selection buttons

- If the control is in the ***purge mode***, pressing and holding a valve-selection button activates the valve. The valve is active as long as the button is pressed. Purge mode can be selected during production (the control continues to apply glue patterns). The green LED illuminates to indicate the valve is activated.
- If the control is in the ***valve-selection mode***, pressing a valve-selection button causes the programmed glue-pattern information to be sent to the valve(s) selected. Pressing the valve-selection button a second time will turn off the selected valve(s).
- The valve-selection buttons have a special function when copying a glue pattern in the "glue-pattern-edit menu." A pattern can be copied to a valve by selecting a valve-selection button with a blinking light.

2 Valve on/off LEDs

The LED next to the valve number illuminates when the valve is open (on). The LED goes out when the valve is closed (off).

3 Valve-selection LEDs

LED off	=	Valve has not been selected.
LED green	=	Valve has been selected.
LED red	=	Fault indicator. Check the fuse, voltage, etc. (see *Section 13—Diagnostic Menu*).

Description of Front-Panel Features (cont.)

4 Standby (power) switch and LED

Orange	=	Standby status
Green	=	Indicates that power is on
Red	=	Indicates a power-supply defect

5 Mode button ( )

The mode button is used to choose the function of valve-selection buttons 1 to 4.

— When the green LED is on, the control is in *purge mode* and the valve-selection buttons function as purge buttons. When the green LED is off, the control is in *valve-selection mode* and the valve-selection buttons function as on/off buttons.

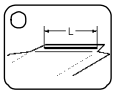
6 Learn button

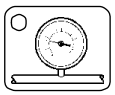
Pressing this button enables the "Learn" function. The "Learn" function allows you to teach glue volume, reference values, and glue-pattern positions to the system (see *Section 7—The Learn Function*).

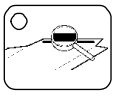
7 Main-menu buttons

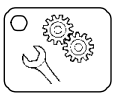
The main-menu buttons are used to select the main menus. A red LED on the button illuminates when the menu has been selected.


Job-Management Menu


Glue-Pattern-Edit Menu


Glue-Pressure-Edit Menu


Inspection Menu


Setup Menu


Diagnostic Menu

Note! The main menu buttons are active in all menus. You can switch to another main menu at any time.

8 LCD display

9 Plus/minus scroll buttons

Use the scroll buttons to enter alpha characters and numeric values by ones or tens.

10 Numeric keypad, escape, enter and arrow buttons

- Use the numeric keypad to enter numbers.
- Press the ENTER button to move the cursor to the next entry field.
- Press the ESC button to return to the original numeric value for the field in which you are working.
- Use the cursor buttons to move the on-screen cursor within a menu.

11 Scanner LEDs (6)

- If LEDs 1 to 6 illuminate, corresponding scanner is detecting product.
- If LED U illuminates, scanner supply voltage is OK.

12 Pressure transducer LEDs (2)

- If LED 1 or 2 illuminates, the corresponding pressure transducer is active. These LEDa get brighter as the glue pressure increases and dimmer as the pressure decreases.
- If LED U illuminates, the pressure transducer supply voltage is OK.

13 Encoder LEDs (2)

- If the LED does not illuminate, the corresponding encoder is idle.
- If the LED illuminates, the corresponding encoder is operating. These LEDs get brighter as the speed of the parent machine increases and dimmer as the speed decreases.
- If the LED U illuminates, the encoder supply voltage is OK. If this LED does not illuminate, there is a fault with either the 15V or 24V supply.

14 Internal supply voltage LEDs (5VDC and 24VDC)

15 Help button

Pressing this button displays information about the current menu shown in the display.

16 Function buttons (F1-F5)

These buttons correlate to the screen information above them.

17 Sensor on/off buttons

The LED next to the sensor number illuminates when the sensor is on. The LED goes out when the sensor is off.

18 Sensor measurement status

- Green = indicates that glue is under the sensor
- Red = indicates that the last product was a fault
- Orange = indicates that glue is under the sensor and that the last product was a fault

19 Sensor status LED

- Off = indicates that the sensor is turned off
- Green = indicates that the sensor is turned on
- Red = indicates that either the sensor is not connected or that there is a sensor defect

Enclosure Options

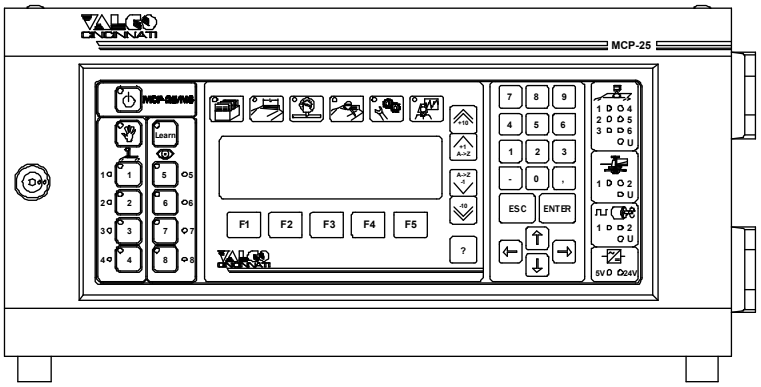


Figure 4-1. Horizontal Mount Enclosure

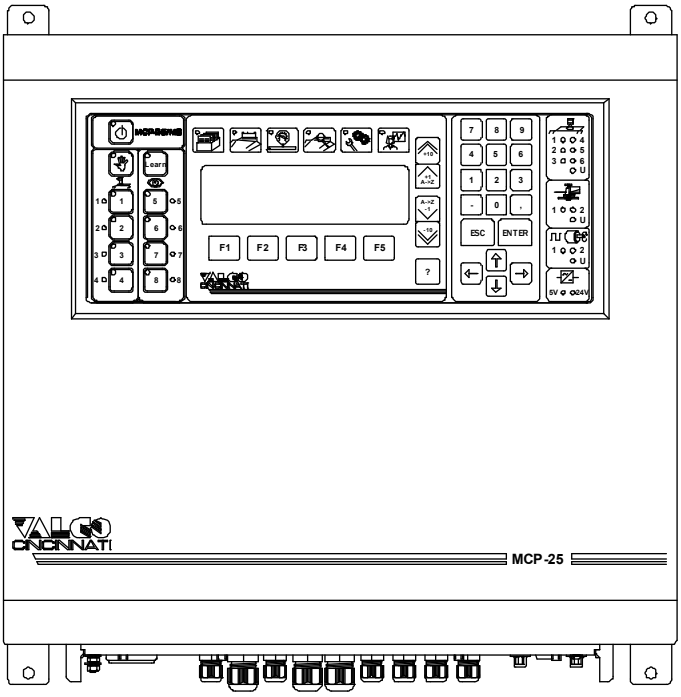
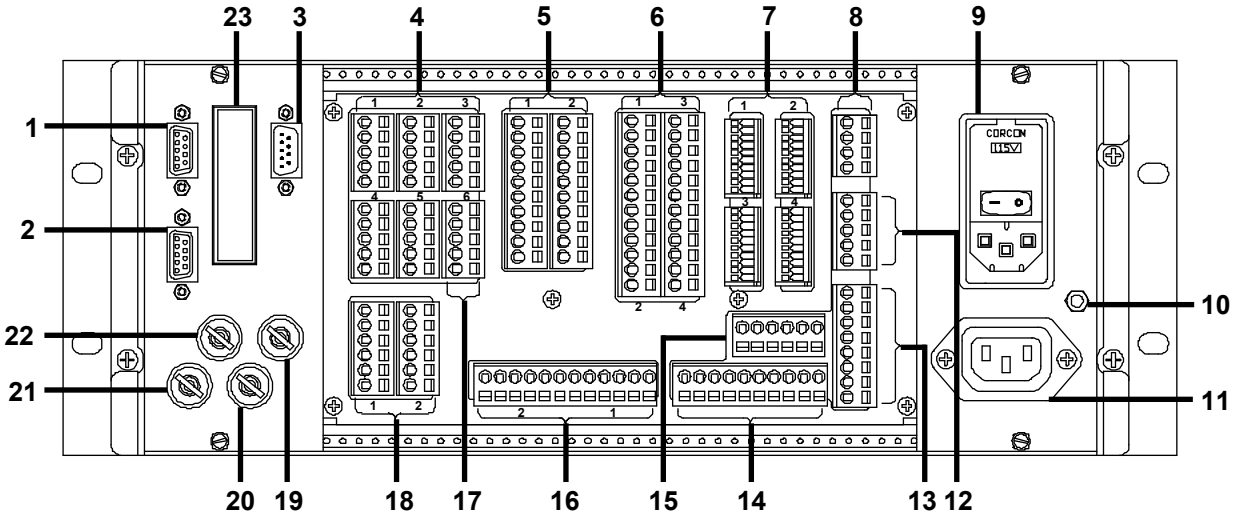


Figure 4-2. Vertical Mount Enclosure

Back Panel of Field-Wirable Control



Description of Back Panel Features

1 **COM 1**
Serial interface (Option: RS232, RS485, or current loop)

2 **COM 2**
Interface for other Valco controls

3 **COM 3**
Diagnostic printer/modem interface

4 **Scanner connections (maximum of 6)**

5 **Encoder connections (maximum of 2)**

6 **Glue valve connections (maximum of 4)**

7 **Sensor connections (maximum of 4)**

8 **Machine stop (jam), feeder stop (alarm)**

9 **Power input (rack-mount version) and fuse holder**
115V/60Hz or 230V/50Hz (2 fuses, 6.3A-GDC)

10 **Ground**
Connects to machine ground with wire >AWG 16 (6 mm^2)

11 **Power output**
115V/60Hz or 230V/50Hz

12 **Scanner for marking valve**

13 **Additional alarm outputs (printer and ejector)**

14 **Relay, alarm, and 24VAC outputs**

15 **Marking valve**

16 **Bypass valve connections (maximum of 2)**

17 **Scanner 6 or level indicator**

18 **Pressure transducer connections (maximum of 2)**

19 **Fuse (F3), 24V encoder (0.5 amp-GDC)**

20 **Fuse (F5), 15V encoder (0.5 amp-GDC)**

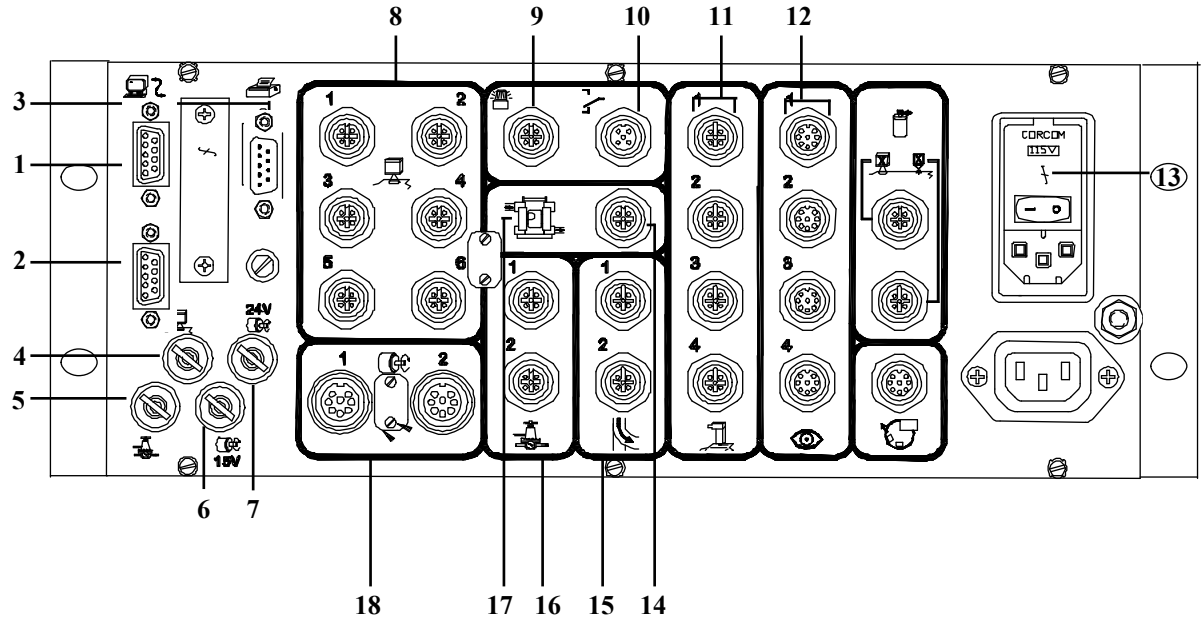
21 **Fuse (F4), flow control (1.6 amp-GDC)**

22 **Fuse (F2), 24V scanner (0.5 amp-GDC)**

23 **Optional fiber optic interface**

WARNING! Turn off the power and unplug the unit before switching the power voltage. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Back Panel of Control with Connector



Description of Back Panel Features

1 **COM 1**
Serial interface
(Option: RS232, RS485, or current loop)

2 **COM 2**
Interface for other Valco controls

3 **COM 3**
Diagnostic printer/modem interface

4 **Fuse (F2), 24V scanner (0.5AT)**

5 **Fuse (F4), 24V pressure transducer (1.6AT)**

6 **Fuse (F5), 15V encoder (0.5AT)**

7 **Fuse (F3), 24V encoder (0.5AT)**

8 **Scanner connections (maximum of 6)**

9 **Alarm, 24V**

10 **Alarm, dry contact**

11 **Glue-valve connections (maximum of 8)**

12 **Glue inspection (maximum of 4)**

13 **Power-entry module**

14 **Marking valve**

15 **Bypass-valve connections (maximum of 2)**

16 **Pressure transducers (maximum of 2)**

17 **Pump**

18 **Encoder connections (maximum of 2)**

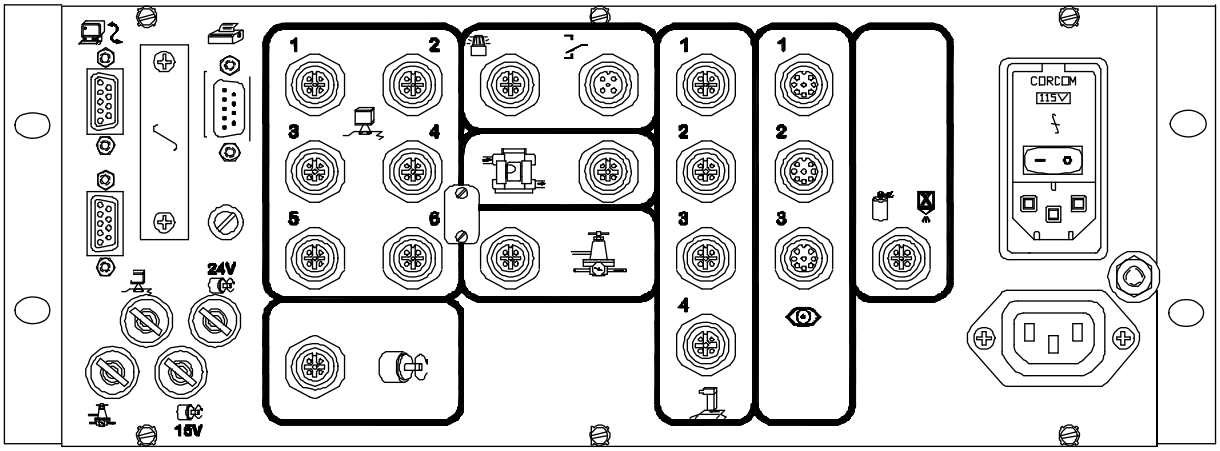
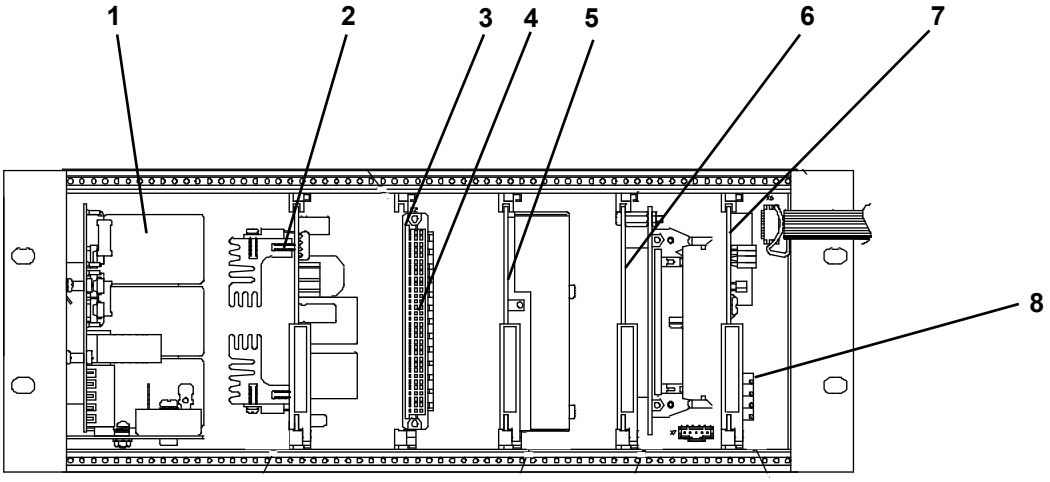


Figure 4-3. Alternate Back Panel for Flexoseal Controls

Note! MCP-25/MS CM Model - Valve connections are standard Key, like scanners.
MCP-25/MS CE Model - Valve connections are non-Key.

Note! The encoder connector is standard Key M12, not 8-pin DIN. Use 155xx310 and scanner cables.

Internal Components



1—Transformer

2—Power supply board

3—Sensor CPU

4—Sensor adapter boards

5—Valve driver board (glue valves 1-4)

6—CPU board

7—I/O board

8—Special-function board (bypass)

Note! On old-style boards, the special-function board attaches to the I/O board in “piggy-back”fashion. On new boards, the special-function board is integrated into the I/O board.

Skew Detection Option

Skew detection is available as an option for your MCP-25/MS control. Skew detection requires the following components:

- Sensor module board
- Sensor to provide the trigger signal
- One or two sensors to detect product length
- A sensor junction box

The skew detection option offers two modes of operation (sensitivity):

- Mode 1 - High sensitivity, two product length sensors and one trigger sensor
- Mode 2 - Low sensitivity, one product length sensor and one trigger sensor

MCP-25 Skew Detection System Components and Options

Refer to the system layout illustration (Figure 4-4) on the following page.

151xx540	Sensor Module Board	098xx039	Sensor Junction Box

Cable Options, Sensor junction box to MCP control

For controls with field-wirable backpanel option:

030xx861	Field-wirable cable, 5m	030xx886	Field-wirable cable, 10m

For controls with connector backpanel option:

030xx862	Connector backpanel cable, 2m	030xx823	Connector backpanel cable, 5m
030xx863	Connector backpanel cable, 10m	030xx864	Connector backpanel cable, 15m
030xx865	Connector backpanel cable, 30m		

Sensor options - (2 or 3 required depending on the level of sensitivity needed)

For most applications, the following laser scanner provides sufficient accuracy.

280xx234 NPN Laser Scanner

The following laser scanner can be selected for situations that require extremely high precision.

280xx209 NPN Laser Scanner, high precision

Sensor Cable options - from sensor to junction box

030xx592	Scanner cable, 1m	030xx593	Scanner cable, 2m
030xx891	Scanner cable, 3m	030xx594	Scanner cable, 4m
030xx873	Scanner cable, 5m	030xx555	Scanner cable, 6m
030xx892	Scanner cable, 7m	030xx595	Scanner cable, 8m
030xx738	Scanner cable, 10m	030xx739	Scanner cable, 15m
030xx740	Scanner cable, 20m		

Product Sensor Mounting Bracket

The following is a typical bracket package that should accommodate most machines. It is important that the skew detection sensors are mounted in line with one another.

Qty.	Part Number	Description
2	578xx527	Mounting Base
2	578xx517	“L” Bar
2	587xx587	Clamp
1	574xx168	Bracket bar, 42”
*	581xx152	Vertical scanner bracket, mounts to 1” bar

* One per sensor

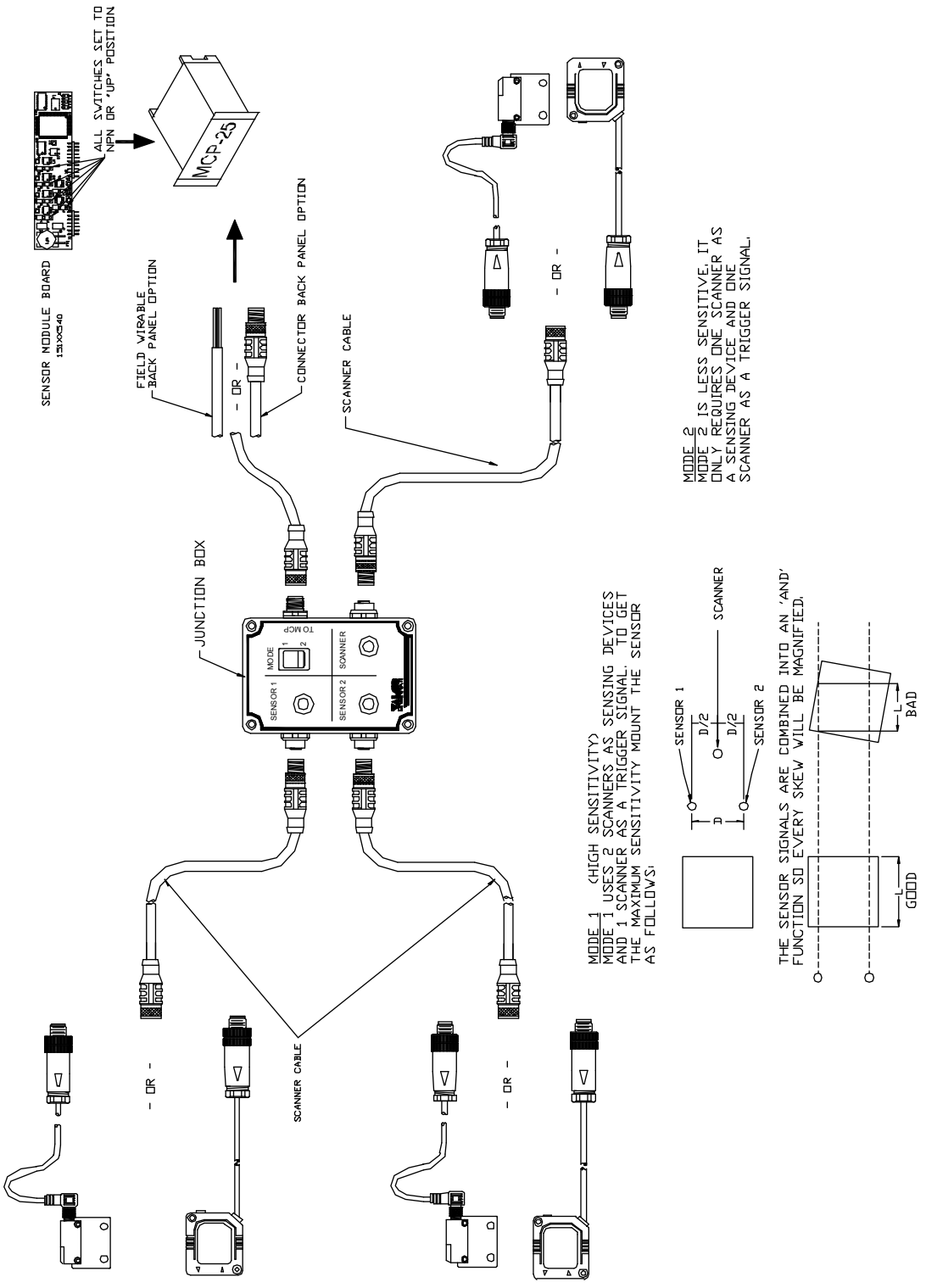


Figure 4-4. Skew Detection System Configuration

Section 5—Installation

Introduction

This section contains mechanical and electrical installation procedures for the MCP-25/MS control.

MCP-25/MS Control Installation

WARNING! Electrical installation should be performed only by experienced service personnel! OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

WARNING! Ensure that the correct operation voltage is selected (see *Connecting the Main Power Supply* below) before turning the unit on. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

WARNING! Turn off the power and unplug the unit before switching the power voltage or making any rear-panel connections. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

The main power supply must be either 115/230 VAC, 50/60 Hz or 100/200 VAC, 50/60 Hz. The 115/230VAC power requirement is field-selectable. The power-entry module accepts a standard IEC power cord, which is supplied.

Connecting the Main Power Supply

To connect the main power supply to the control, follow these steps:

1. ***Select the voltage:***

   1a. Turn off the power switch on the power-entry module (Figure 5-1).

   1b. If the power cord is attached to the power-entry module, remove the power cord.

   1c. Using a small screwdriver, open the hinged door of the fuse holder.

   Note! The fuse holder on the power-entry module contains the fuse drawer (Figure 5-2), which allows for either 115 or 230 VAC operation.

   1d. Remove the fuse drawer, ensuring that the fuse(s) in the holder remain in place.

   1e. *If the control is to be connected to 115VAC*, rotate the drawer so that 115V shows through the door opening. *If the control is to be connected to 230VAC*, rotate the drawer to the 230V position.

CAUTION! The control uses a 2A, 250V, SLO-BLO standard fuse for 115V operation and a 1A, 250V, SLO-BLO standard fuse for 230V operation. No other type of fuse should be used. OTHERWISE, DAMAGE TO EQUIPMENT COULD OCCUR.

WARNING! The setup in step 1f may vary, depending on the country in which the system is being installed. It is the purchaser's responsibility to ensure that all local, county, state, and national codes, regulations, rules, and laws relating to safety and safe operating conditions are met and followed. OTHERWISE, DEATH, PERSONAL INJURY, OR DAMAGE TO EQUIPMENT COULD OCCUR.

1f. ***For line-to-neutral operation***, use the shorting clip and one fuse or two fuses. (The shorting clip must be on the left side of the drawer when rotated to the correct voltage position as shown in Figure 5-2.) ***For line-to-line use***, discard the shorting clip and use two fuses.

1g. Replace the drawer in the fuseholder in the correct voltage position and close the door of fuseholder.

1h. Ensure that the correct operating voltage shows through the window in the fuse drawer.

2. ***Connect the power cord:***

2a. Insert the power cord into the power-entry module.

2b. Attach the power-cord clamp (if provided), using the two screws on either side of the power-entry module.

Note! Only certain controls have a power-cord clamp.

2c. Tighten the power-cord clamp to prevent the cord from working its way out of the module and to provide strain relief for the line cord.

Note! The supplied power cord can either be directly wired to a branch circuit or, with the proper plug type, plugged into an outlet. The wire colors of the supplied power cord are as follows:

Wire Function	International Power-Cord Color	North-American Power-Cord Color
Line Voltage	Brown	Black
Neutral	Blue	White
Protective Earth	Green/Yellow	Green

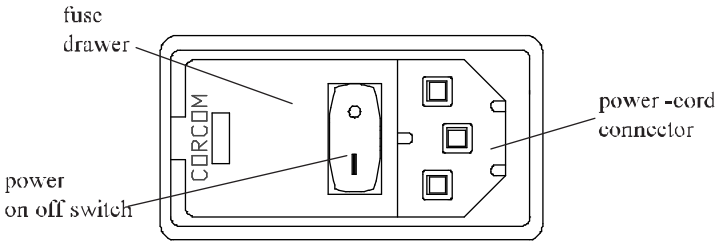


Figure 5-1. Power-Entry Module

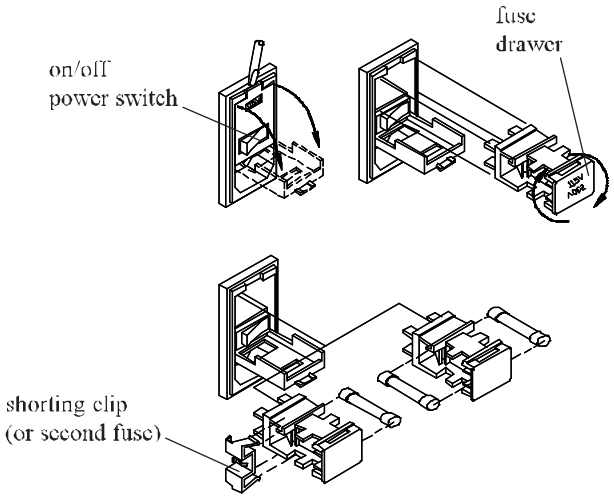


Figure 5-2. 115V 230V Fuse Drawer

Setting the Powerup-Selection Switch

The powerup-selection switch is located on the power-supply board (Figure 5-3). It can be set to either ***standby mode*** or ***direct-on mode***. ***Standby mode*** means that when the unit is turned on, the unit will be in standby until the standby/power button is pressed. Standby mode is indicated by an orange LED on the standby/power button. ***Direct-on mode*** means that the unit will power up as soon as power is supplied. A green LED on the standby/power button indicates that the power is on.

To set the powerup-selection switch, follow these steps:

1. Turn off all power to the unit.
2. Open the door of the unit.
3. Remove the power-supply board.
4. Set the powerup-selection switch.

Jumpers:

Pins 1,2 = ***standby mode***

Pins 2,3 = ***direct-on mode***

Switches:

Switch in up position = ***standby mode***

Switch in down position = ***direct-on mode***

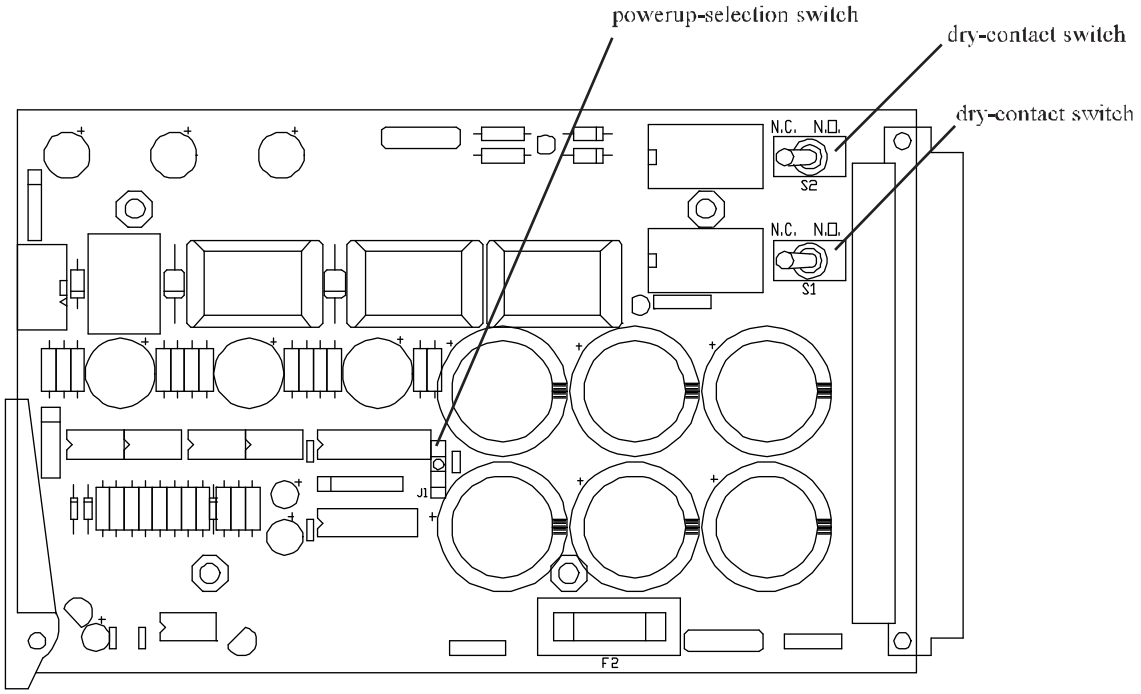


Figure 5-3. Power-Supply Board

Scanner Installation

Mechanical Installation of the Scanner

The product scanner should be installed to detect the leading edge of the carton. Up to four product scanners can be installed. A fifth scanner for the encoder start signal can also be installed. The spacing between scanner and valve should not be too small. For example, the spacing for a slow valve with a turn-on reaction time of Ton = 10 ms depends on the parent machine speed:

up to – 300 m/min = 50 mm

up to – 900 m/min = 150 mm

up to – 1800 m/min = 300 mm

The exact spacing in |mm| calculation:

$$\Delta l = \frac{Vmax\ |m| \cdot Ton\ |ms|}{60\ |s|}\ ;\ [mm]$$

Electrical Installation of the Scanner

Either PNP-type or NPN-type product scanners can be used, depending on rear-panel connections (see Figures 5-4 and 5-5). Supply voltage is 24VDC.

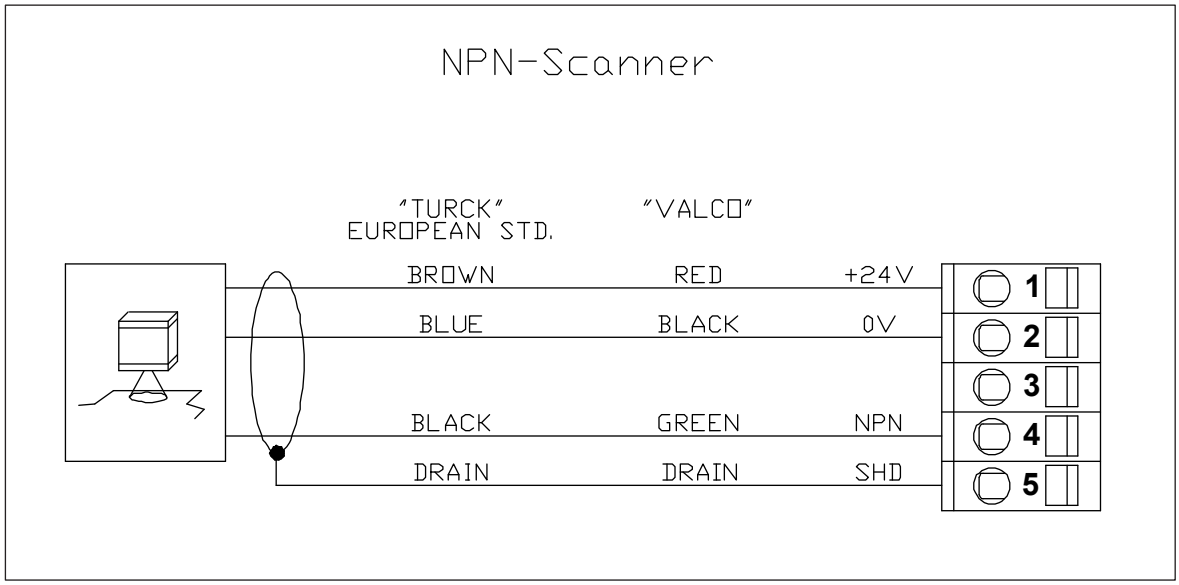


Figure 5-4. NPN Scanner Wiring Diagram
(refer to item 4 of Section 4–Basic Features, Back Panel of Field-Wirable Control)

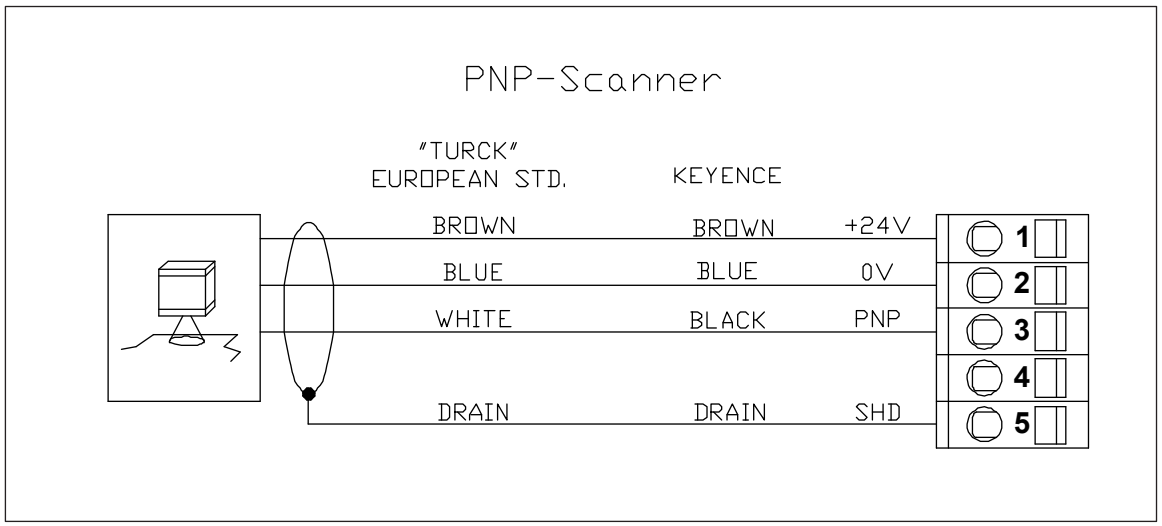


Figure 5-5. PNP Scanner Wiring Diagram
(refer to item 4 of Section 4–Basic Features, Back Panel of Field-Wirable Control)

Encoder Installation

Mechanical Installation of the Encoder

The following types of encoders can be used with the control:

- VDD encoder
- Type 85 encoder
- Type 80 encoder
- Type 30 encoder

One encoder can be installed. A 1:1 ratio (1 impluse = 1 mm) between product travel and encoder impulse output is preferred. A ratio of less than 1:1 (1 impulse = more than 1 mm) should not be used because it will be less accurate. Product travel/impulse ratio can be set in the setup menu. (See *Section 8 Setup Menu* for details about encoder impulses per length traveled, maximum velocity, and direction recognition.)

Note! The direction recognition function cannot be used with a VLD encoder.

The encoder should be installed so that it is synchronized exactly with the machine speed. Ensure that the connection between the encoder and the machine is secure and will not slip.

Note! The contol can accept values in either metric (millimeter) or imperial (inch) measurements. This configuration should be selected when the unit is initially installed (see *Section 8 Setup Menu).* Changing the measuring units after job information has been stored in the control may change the job values. The control does not calculate anything except encoder setup.

Electrical Installation of the Encoder

Supply voltage is either 15VDC or 24VDC, depending on rear panel connections. See Figure 5-6 for encoder output signals. See Figure 5-8 for wiring connections.

The following minimum signal outputs must be available:

A - Signal

A/ - Signal

In some cases, the A signal can be accepted alone if encoder cable length is not more than 10 m (33 ft). See *Section 4—Basic Features.* However, if the encoder direction recognition function is used, then B and B/ signals are required. An encoder start signal (Z-signal 0 and 0/) can be used (see *Section 12—Setup Menu*). The signal length must be 10 microseconds (µs).

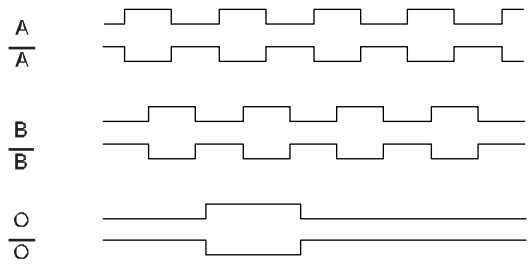


Figure 5-6. Encoder Output Signals

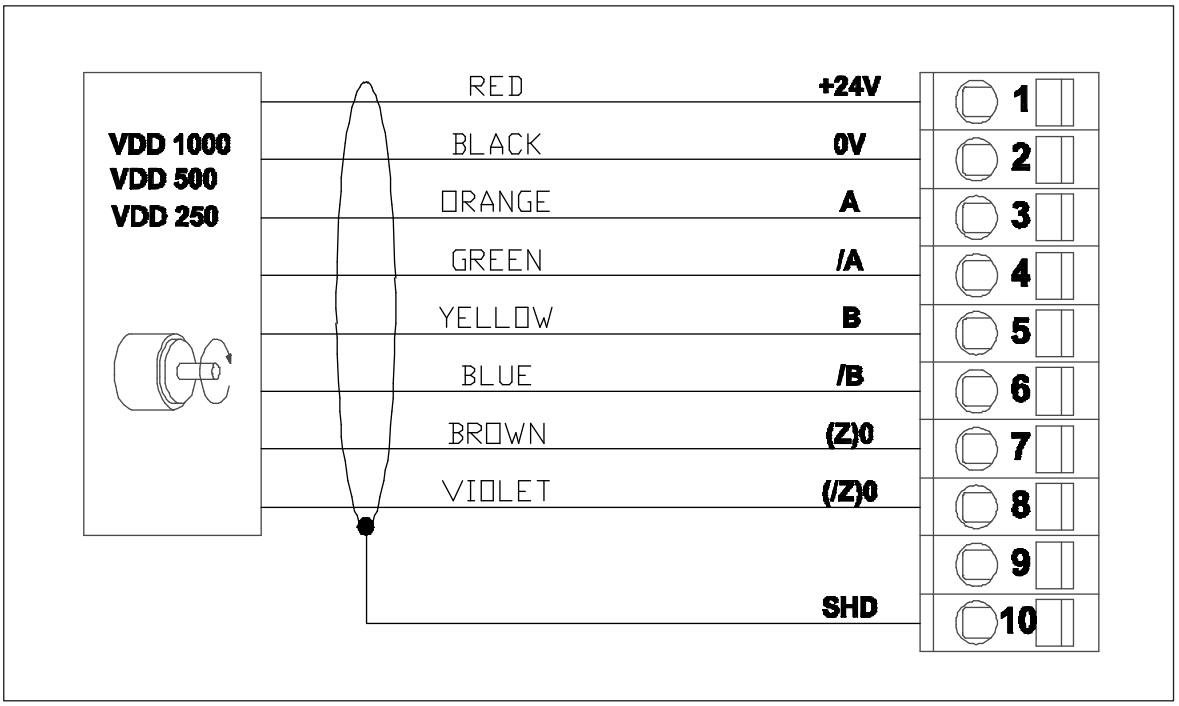


Figure 5-7. Wiring Diagram for VDD Encoder
(refer to item 5 of Section 4–Basic Features, Back Panel of Field-Wirable Control)

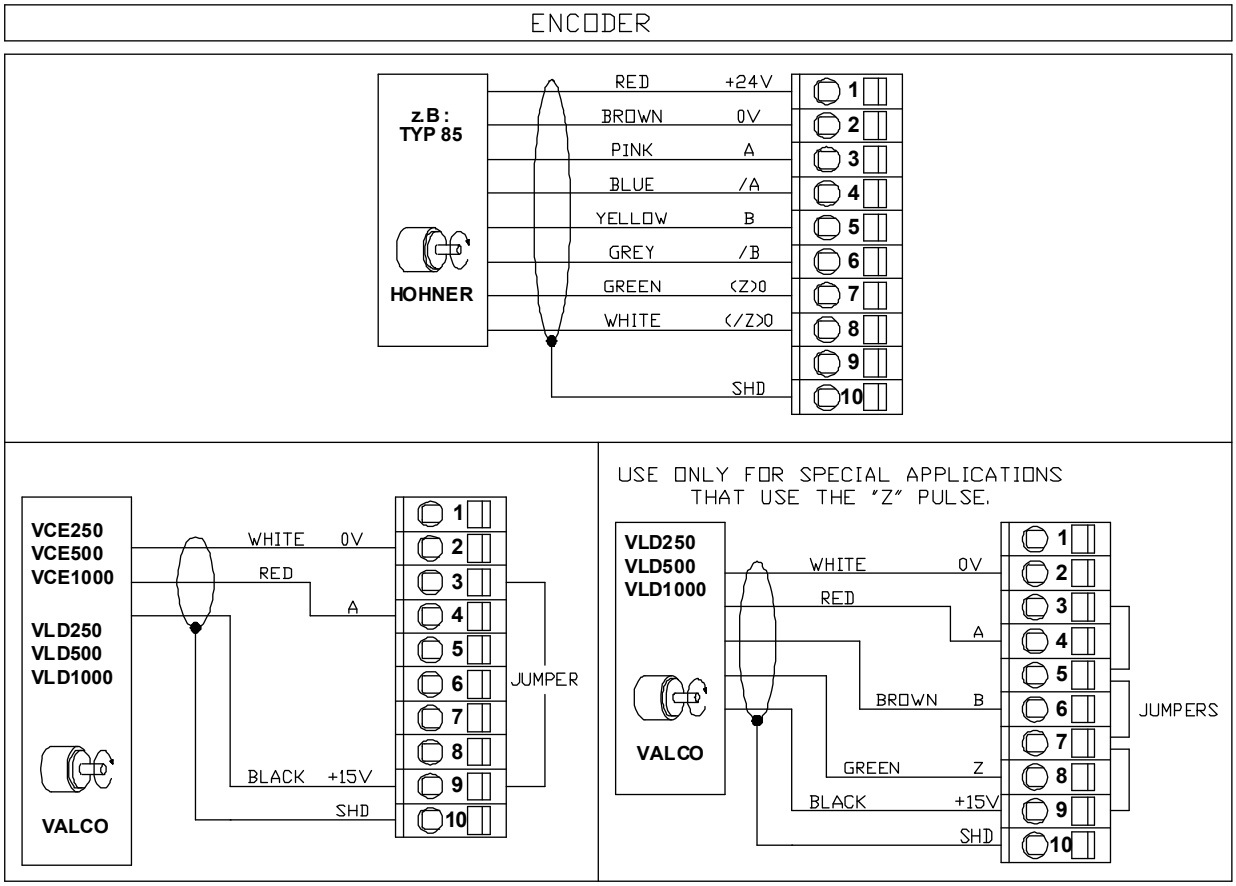


Figure 5-8. Wiring Diagram for Type 85, VCE, and VLD Encoders
(refer to item 5 of Section 4—Basic Features, Back Panel of Field-Wirable Control)

Valve Installation

Mechanical Installation of the Valves

Install the valves in the appropriate locations. (Locations and number of valves will vary depending upon the system.)

Electrical Installation of the Valves

See Figure 5-9 for wiring information. The maximum power per valve driver is 65 watts. The maximum unit power is 160 watts (with standard main power supply). The electrical supply curve can be programmed (see *Section 8—Setup Menu*).

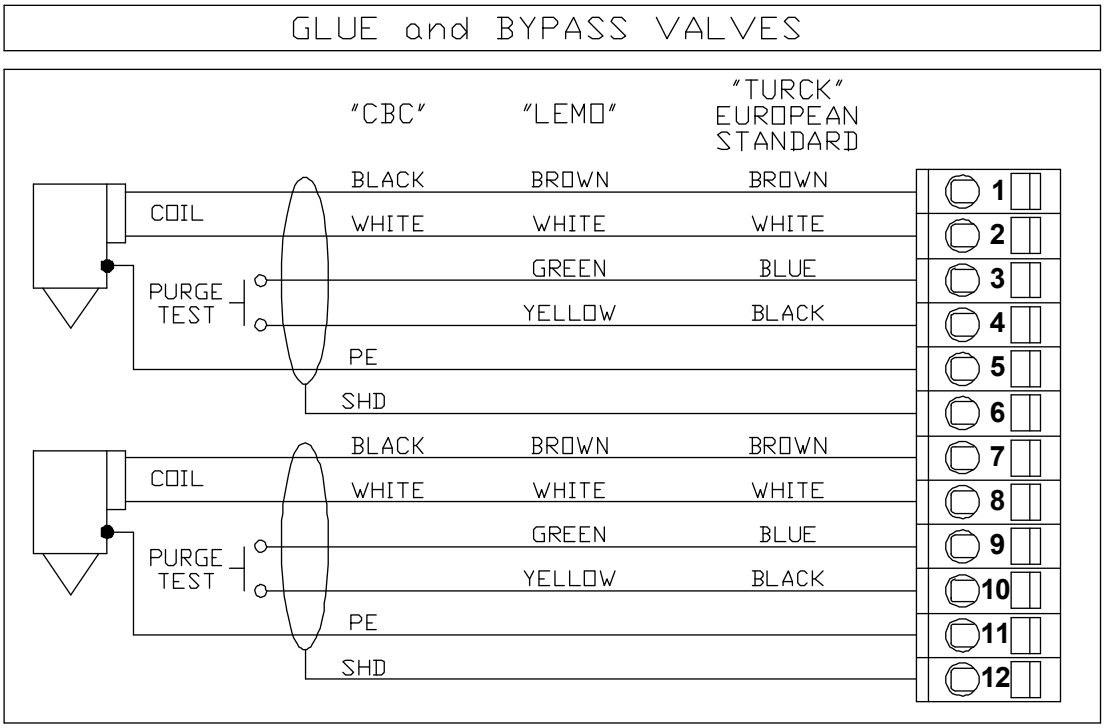


Figure 5-9. Glue-Valve Wiring Connections
(refer to item 6 of Section 4–Basic Features, Back Panel of Field-Wirable Control)

Connections for Relay, Alarm, and 24VAC Outputs

Electrical Installation of the Alarm (Beacon)

The configuration below (Figure 5-10) will turn on the glue-fault light and the buzzer independently. The feeder stop will turn on after a preset number of consecutive faults. A jam will turn on the jam light and the machine stop. A low glue signal will turn on the LLD light.

Note! For wiring information about the jam preventer and the low-level-detection system, contact Valco technical service.

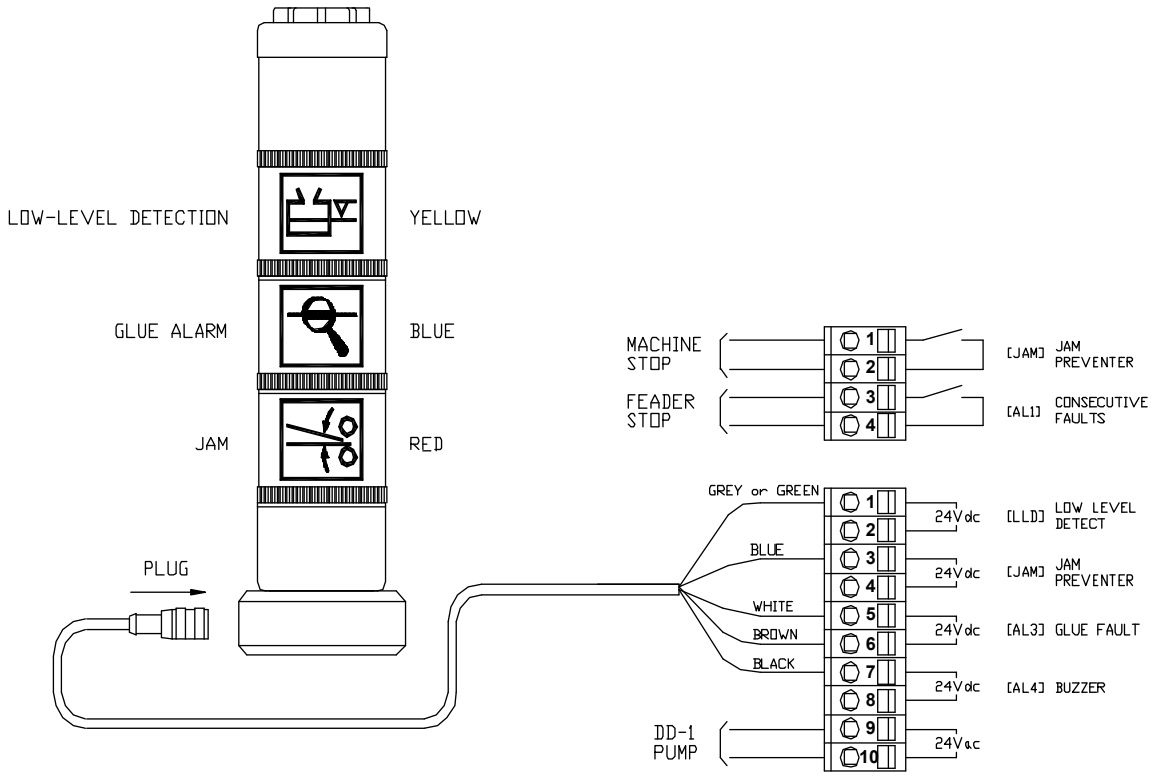


Figure 5-10. Alarm (Beacon) Wiring Connections
(refer to items 8 and 14 of Section 4–Basic Features, Back Panel of Field-Wirable Control)

Electrical Installation of the Machine Stop

CAUTION! Before connecting the machine stop to a machine-stop circuit, contact the machine-stop manufacturer for detailed information about input capacity. OTHERWISE, DAMAGE TO EQUIPMENT COULD OCCUR.

On certain types of systems, the output for the machine stop must be either a normally closed (N.C.) or a normally open (N.O.) contact. This is selectable via a switch on the power-supply board (Figure 5-12).

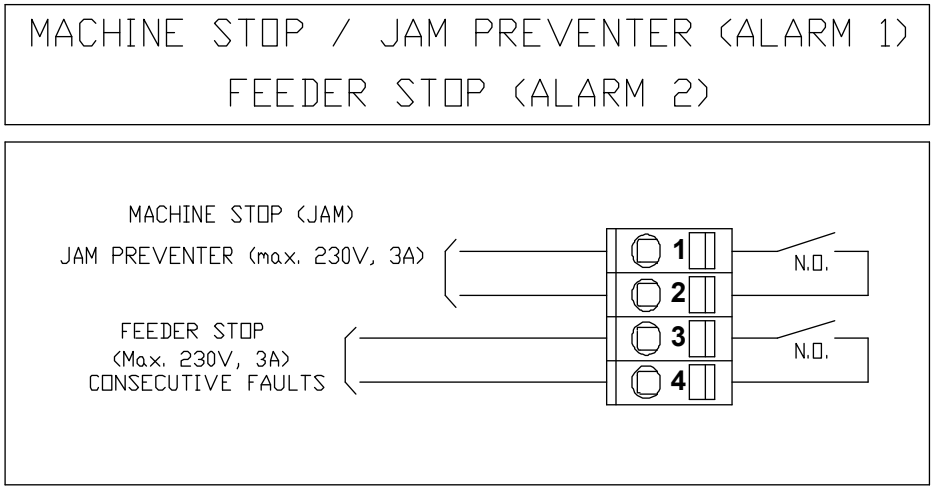


Figure 5-11. Machine-Stop Wiring Connections
(refer to item 8 of Section 4–Basic Features, Back Panel of Field-Wirable Control)

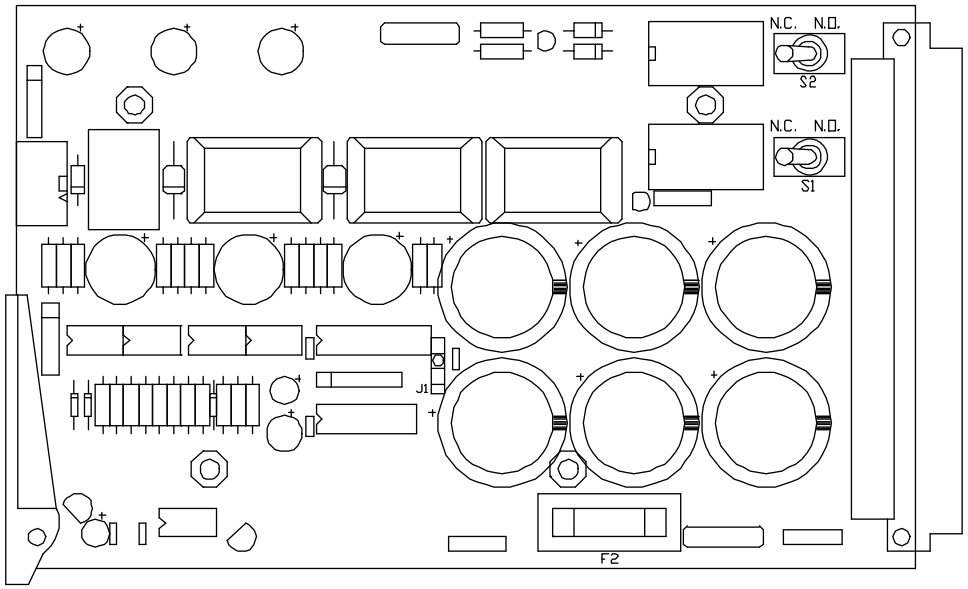


Figure 5-12. Selection Switches for N.C N.O.

Electrical Installation of the DD-1 Pump

See Figure 5-13 for DD-1 Pump wiring connections.

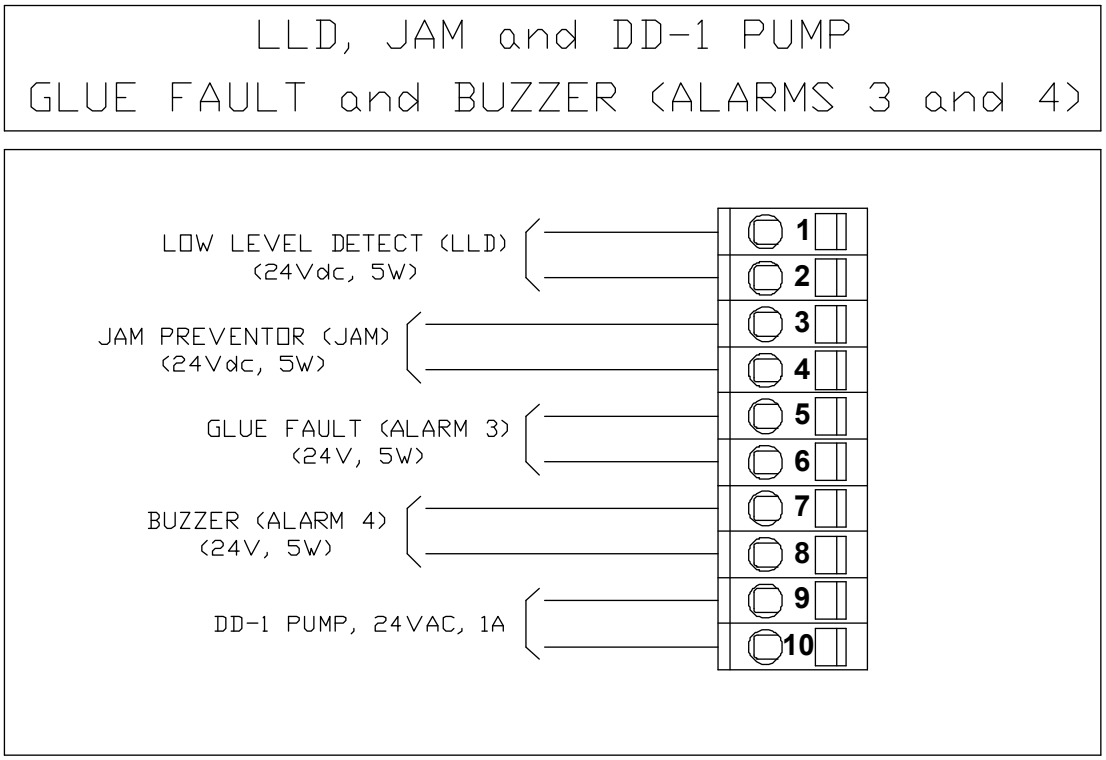


Figure 5-13. DD-1 Pump Wiring Connections
(refer to item 14 of Section 4–Basic Features, Back Panel of Field-Wirable Control)

Low-Level-Detector Installation

If a low-level detector is connected to the MCP-25/MS, an on-screen message will appear if the glue level is too low, and the alarm-signal contact will activate an external alarm if an external alarm is connected.

Mechanical Installation of the Low-Level-Detector

Install the low-level detector in the appropriate location.

Electrical Installation of the Low-Level-Detector

The low-level detector must be connected to scanner input 6. See Figure 5-14 for Low-Level-Detector wiring information.

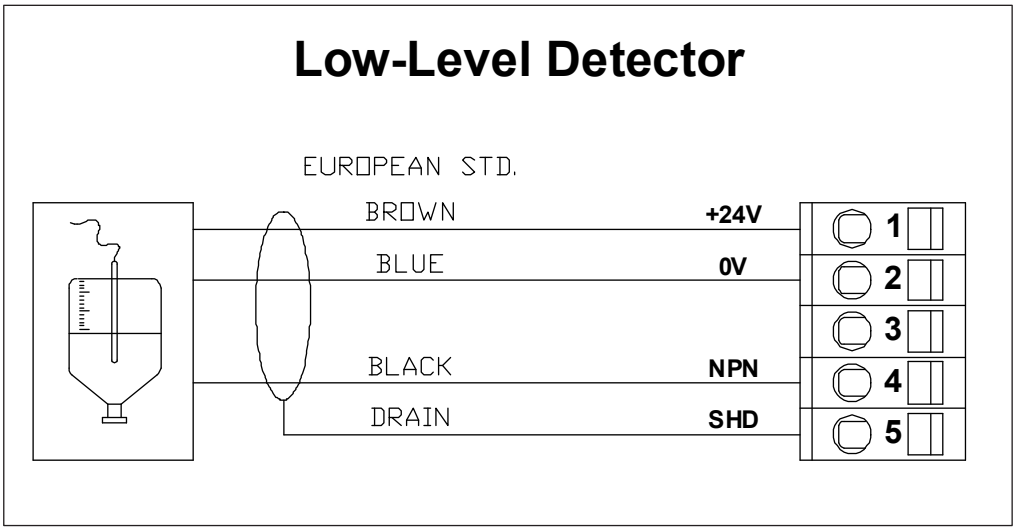


Figure 5-14. Low-Level-Detector Wiring Connections
(refer to item 17 of Section 4–Basic Features, Back Panel of Field-Wirable Control)

Pressure-Transducer Installation

Three types of pressure transducers can be used with the MCP-25/MS:

- EPC-6 pressure transducer (077xx316) (Figure 5-15)
- EPC-J pressure transducer (077xx320) (Figure 5-16)
  - metric version (077xx321) (8-pin DIN connector)
  - imperial version (077xx322) (DIN connector)
  - metric version with M12 connector (077xx324)
  - imperial version with M12 connector (077xx326)
- EPC-M pressure transducer (077xx595 metric, 077xx596 imperial)

The cables for the EPC-6 pressure transducer are:

- 2 m (6-ft.) cable (030xx002)—*for use with field-wireable back panel*
- 10 m (33-ft.) cable (030xx007)—*for use with field-wireable back panel*

The cables for EPC-J pressure transducers 077xx321 and 077xx322 are:

- 5 m (16-ft.) cable (030xx605)—*for use with field-wireable back panel*
- 10 m (33-ft.) cable (030xx614)—*for use with field-wireable back panel*
- 5 m (16-ft.) cable (030xx801)—*for use with connector back panel*
- 10 m (33-ft.) cable (030xx802)—*for use with connector back panel*

The cables for EPC-J pressure transducer 077xx324/077xx326 are:

- 2 m (6-ft.) cable (030xx850)
- 10 m (33-ft.) cable (030xx833)
- OR any standard scanner cable

The cables for the EPC-M pressure transducer 077xx595/077xx596 are:

- Any standard scanner cable

Mechanical Installation of the Pressure Transducer

To install the pressure transducer, follow these steps:

1. Apply Perma-Lok LH150 to all pipe-thread connections.

CAUTION! Do not use Teflon tape on pipe-thread connections.

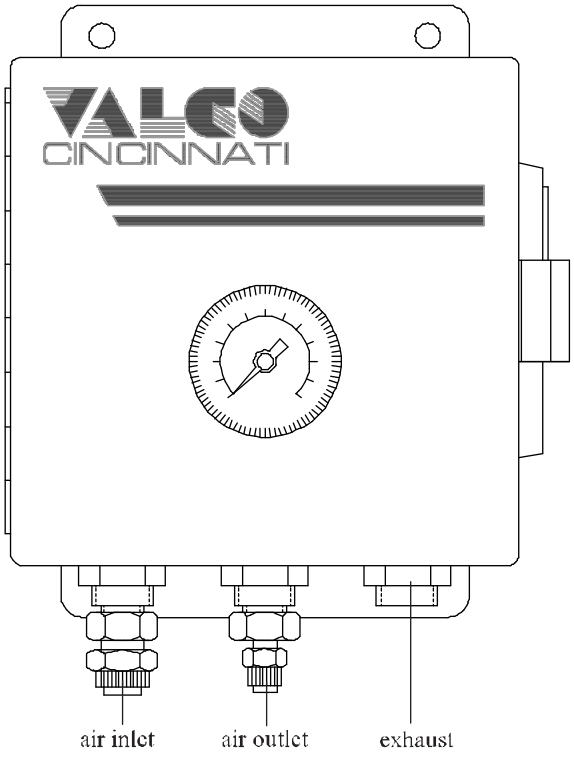
CAUTION! Do not run the EPC-J without air pressure. OTHERWISE, THE EPC-J WILL OVERHEAT.

2. Mount the pressure transducer.

Note! The EPC-J must always be mounted to a metal part of the machine.

Electrical Installation of the Pressure Transducer

See Figure 5-17 for Pressure Transducer wiring connections.



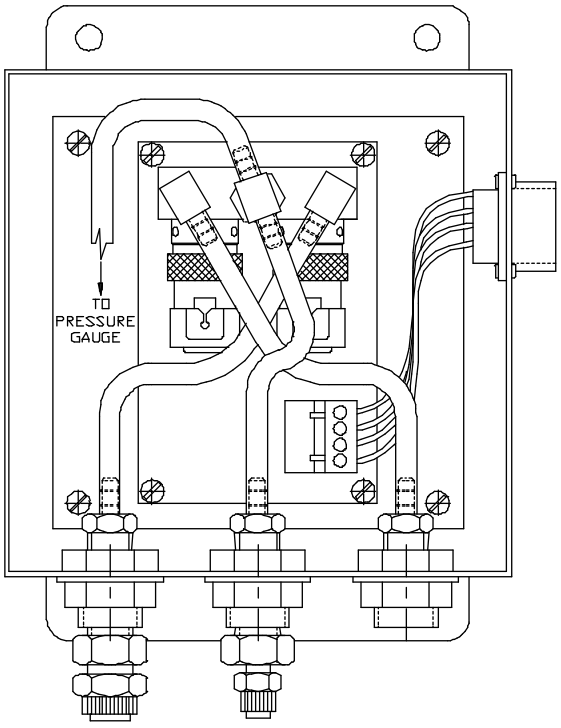


Figure 5-15. EPC-6 Pressure Transducer

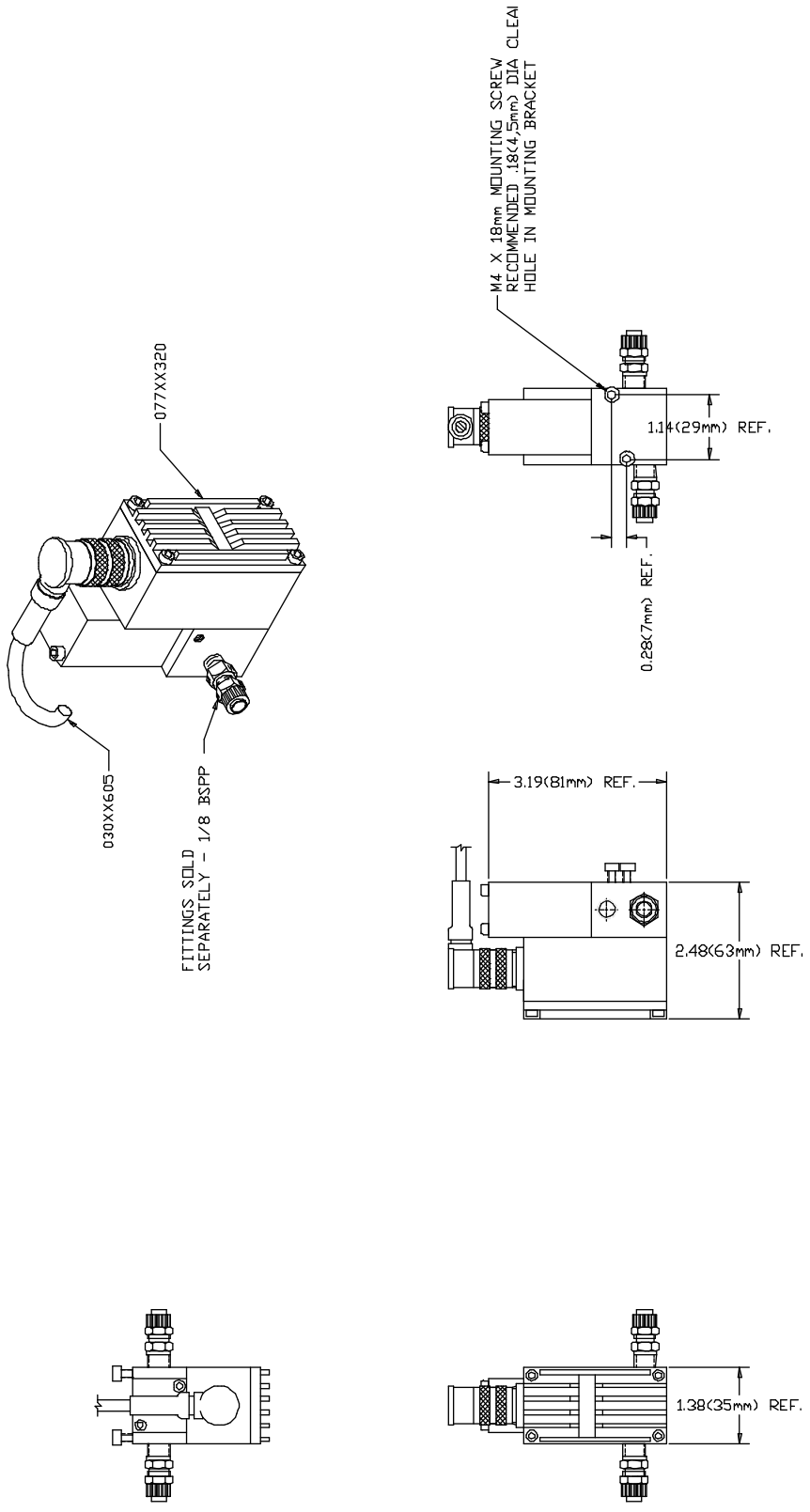
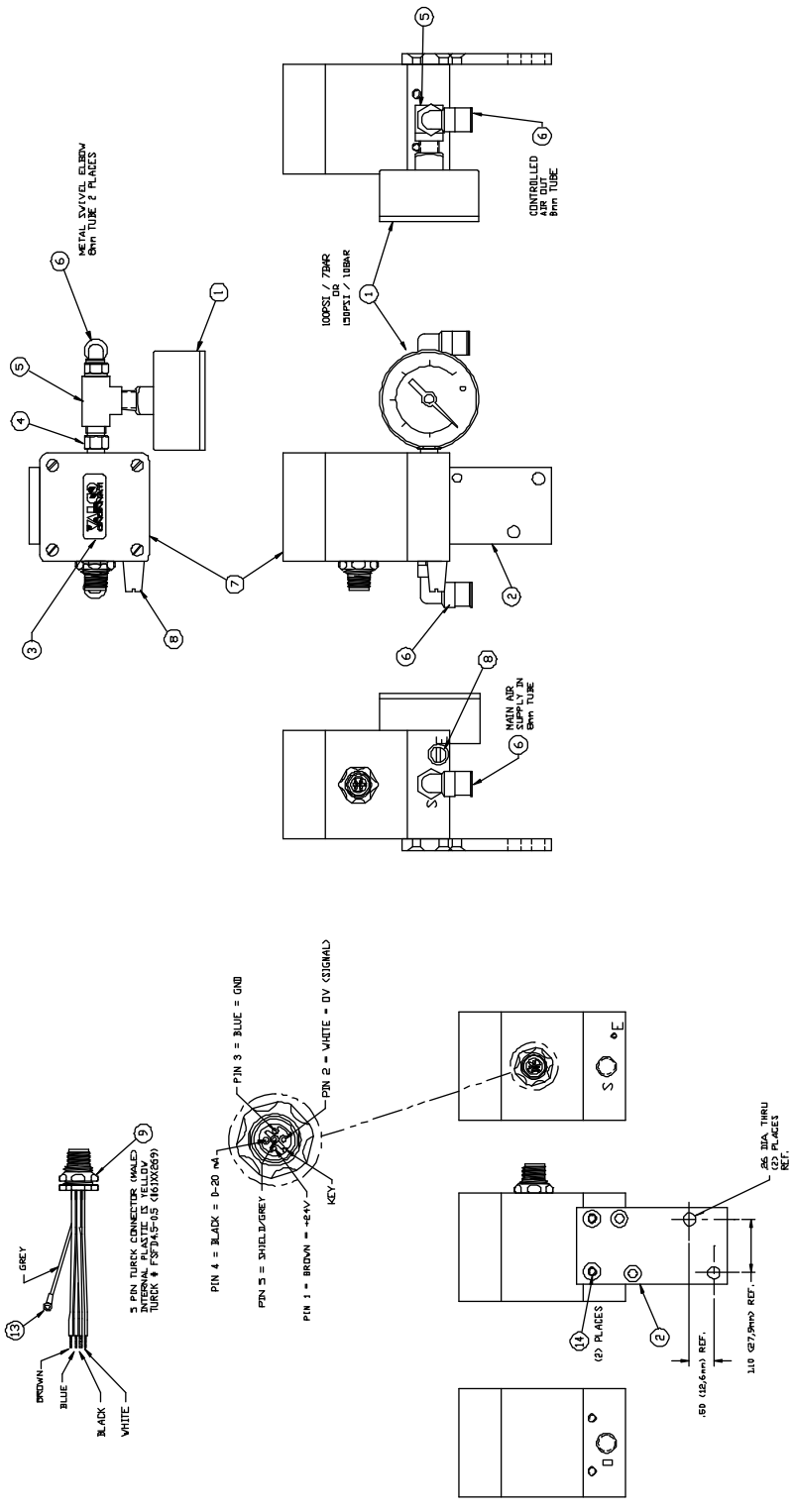
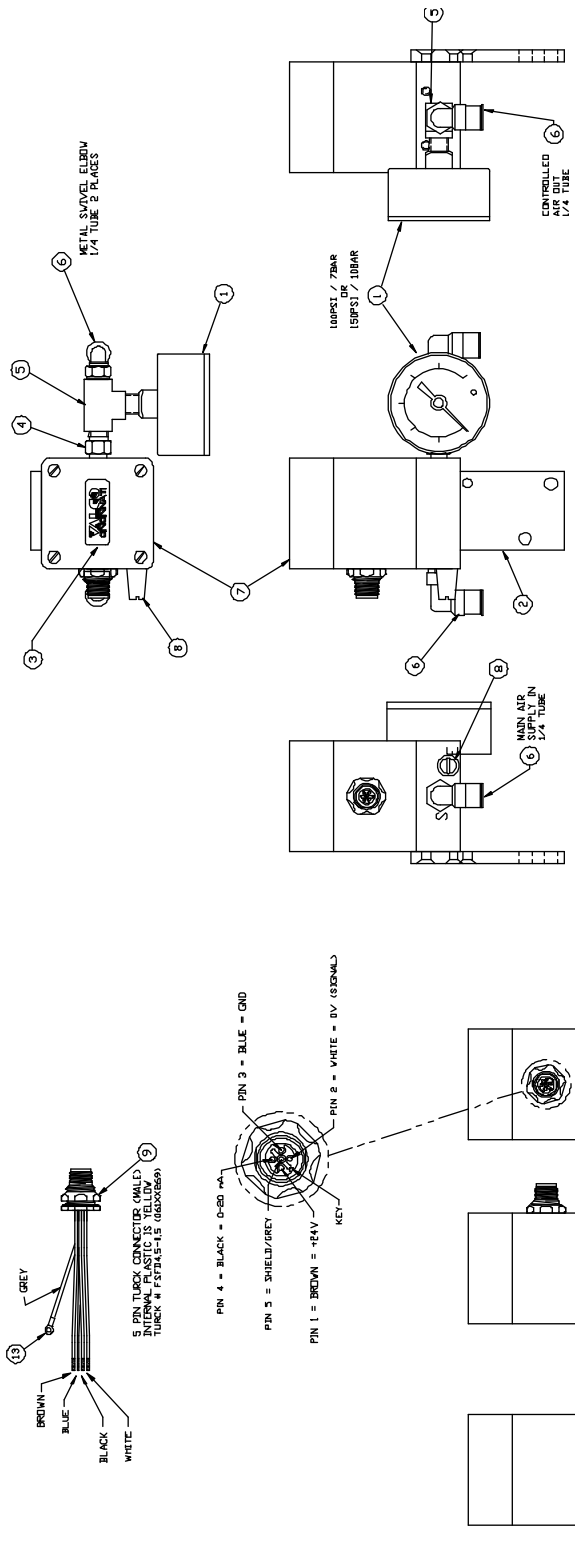


Figure 5-16. EPC-J Pressure Transducer



EPC-M Electronic Pressure Control (metric 077xx595)



EPC-M Electronic Pressure Control (imperial 077xx596)

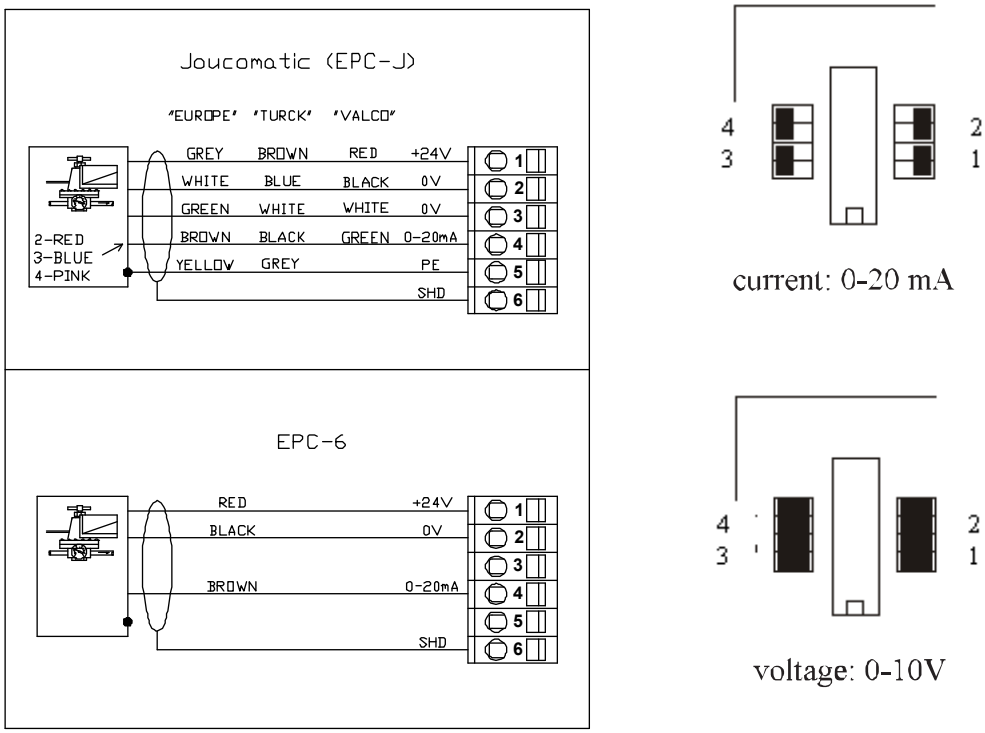


Figure 5-17. Pressure-Transducer Wiring Connections
(refer to item 18 of Section 4–Basic Features, Back Panel of Field-Wirable Control)

see "current" and "voltage"
details in Figure 5-17 above

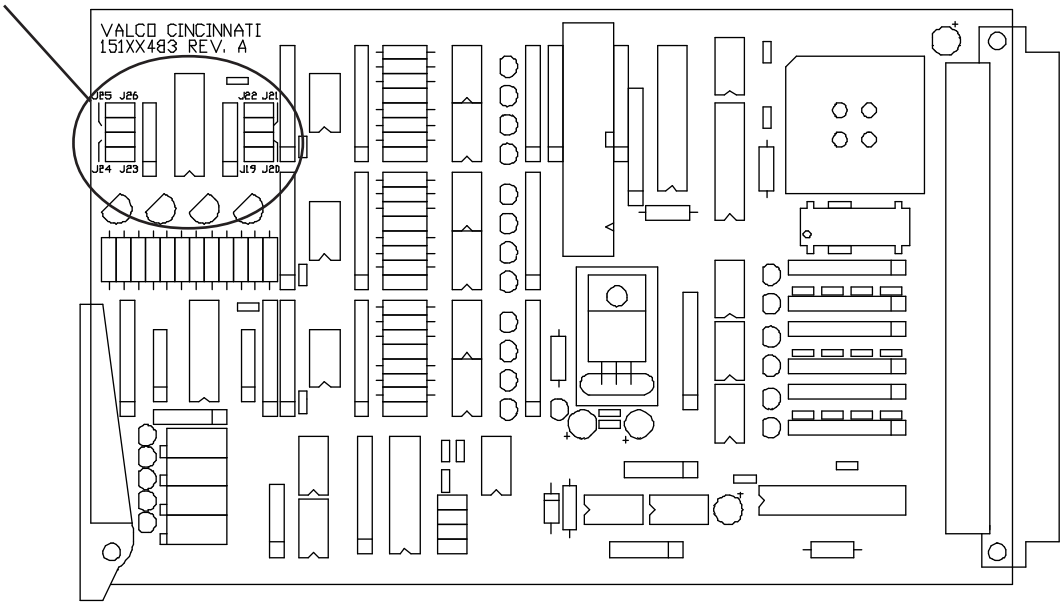


Figure 5-18. I-O Board

Sensor Installation

The MCP-25/MS can utilize up to four sensors. The following types of sensors may be used in any combination:

- AS-301/601/701 sensor (Figures 5-19 and 5-20)
- Gate sensor (CGS-30 Figure 5-23, CGS-40 Figure 5-27)
- D12 sensor (Figure 5-30)
- MW-101 microwave sensor (Figures 5-31 and 5-32)
- Digital PNP/NPN sensor (Figures 5-35 and 5-36)

AS-301/601/701 Sensors

Description

The AS-301/601/701 sensors are optical sensors that have the ability to inspect the following:

- Glue quantity
- Glue position
- Glue interrupts
- Glue dry-up time

The AS-301/601/701 sensors use the moisture, color, and contour of the glue pattern to determine glue quantity and glue position. The light transmitted from the sensor will be absorbed, depending on the volume of the glue line. The sensor converts the reflected signal into a measurement signal, which can be analyzed by the control.

Note! In order for the sensor to function properly, it is necessary to ensure that no other light (neon light, sunlight, light from skylights or flashlights, etc.) interferes with the measuring process.

There are two versions of the AS-601 sensor:

- 90° sensor (280xx196) (Figure 5-19)
- Straight sensor (280xx197) (Figure 5-20)

The cables for the AS-601 sensor are as follows:

- 5m (16-foot) cable (030xx769) (field-wirable)
- 10m (33-foot) cable (030xx770) (field-wirable)
- 15m (50-foot) cable (030xx771) (field wirable)
- 2m (6 1/2 foot) cable (030xx862) (connector)
- 5m (16-foot) cable (030xx823) (connector)
- 10m (33-foot) cable (030xx863) (connector)
- 15m (50-foot) cable (030xx864) (connector)
- 30m (100-foot) cable (030xx865) (connector)

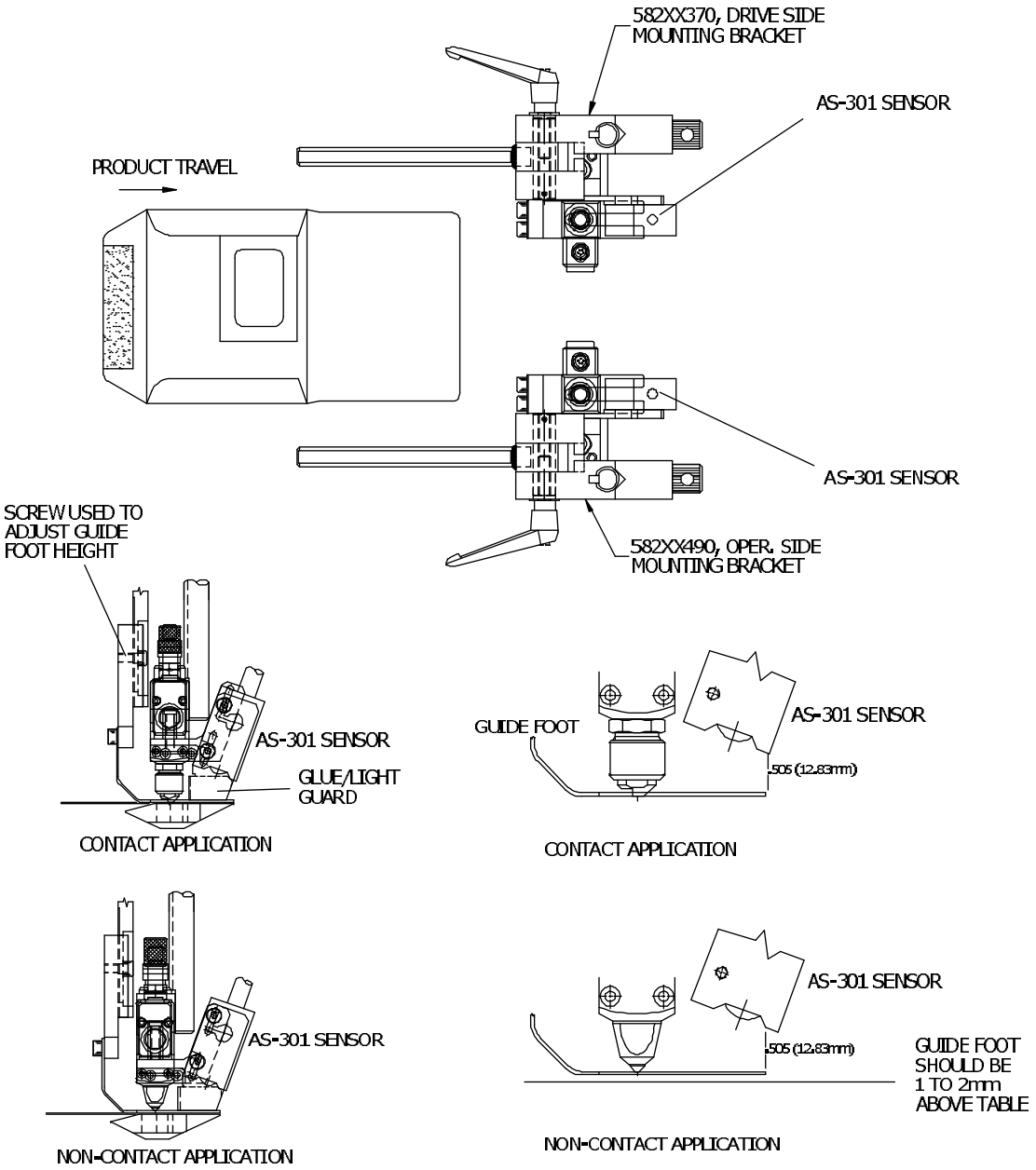
Specifications

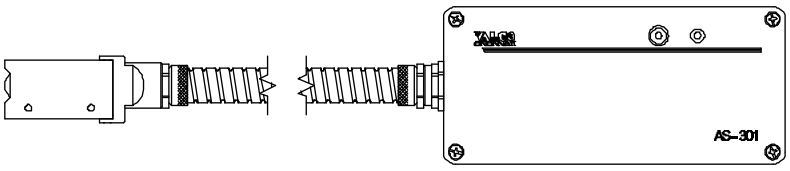
- *Width of pattern:* 1-3 mm
- *Minimum pattern length:* 1 mm
- *Maximum machine speed:* 600 m/min
- *Power:* ±12-15 V

Mounting and Adjusting the AS-301 Sensor

Installation Instructions:

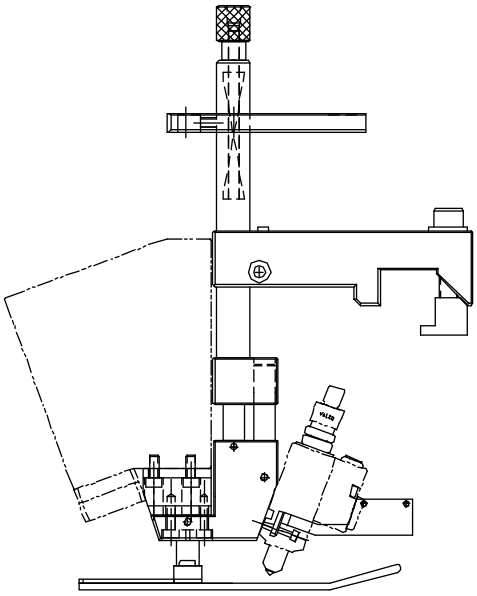
1. Clamp the assembly bracket to an existing crossbar on the parent machine.
2. Adjust the guide foot height by loosening the screw with a 5mm hex key. A distance of 1mm-2mm from the bottom of the guide foot to the table is recommended.
3. Adjust the valve mounting assembly height by loosening the clamp assembly. Set the nozzle height according to the figure below.
4. Adjust sensor height by loosening the two screws using a 3mm hex key. The corner of the sensor should be adjusted from the top of the guide foot as shown in the figure below.
5. Loosen the two knurled nuts and position glue/light guard on top of the guide foot.
6. If the nozzle tip height is re-adjusted by using the micro-adjust knob, the sensor height must be re-adjusted.



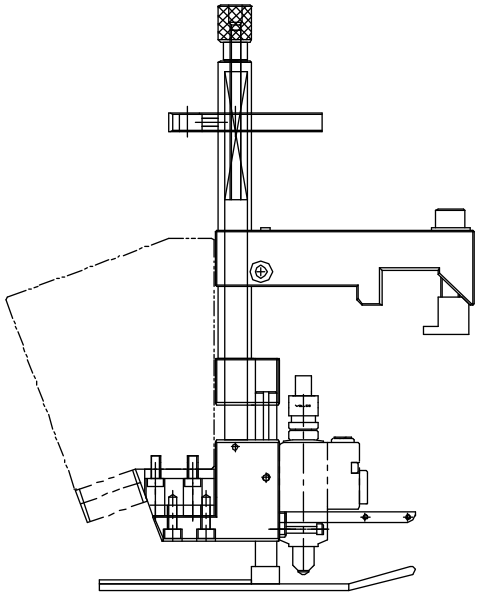


AS-301 Sensor Assembly showing sensor head and optic fibers

AS-701 Sensor and Mounting Brackets



AS-701 Sensor with Mounting Bracket (angled valve mount 582xx342)



AS-701 Sensor with Mounting Bracket (straight valve mount 582xx280)

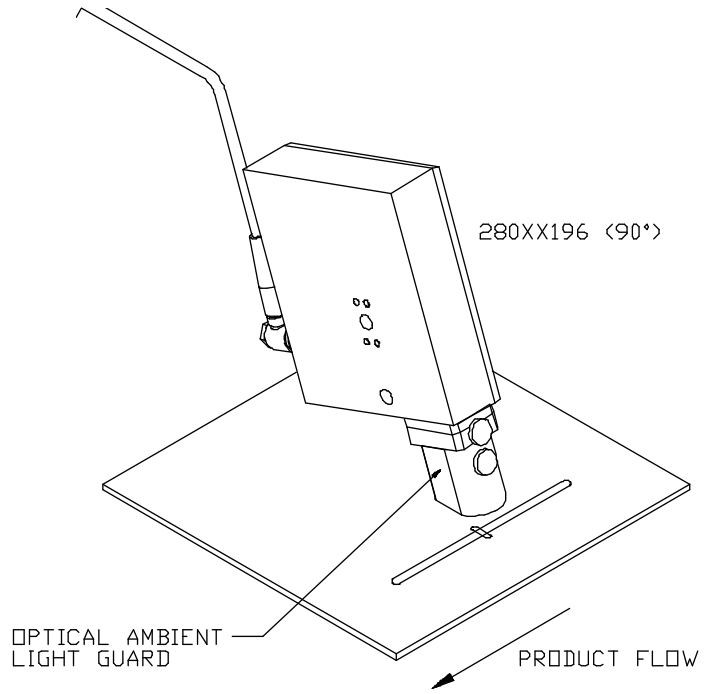


Figure 5-19. AS-601 "90°" Sensor

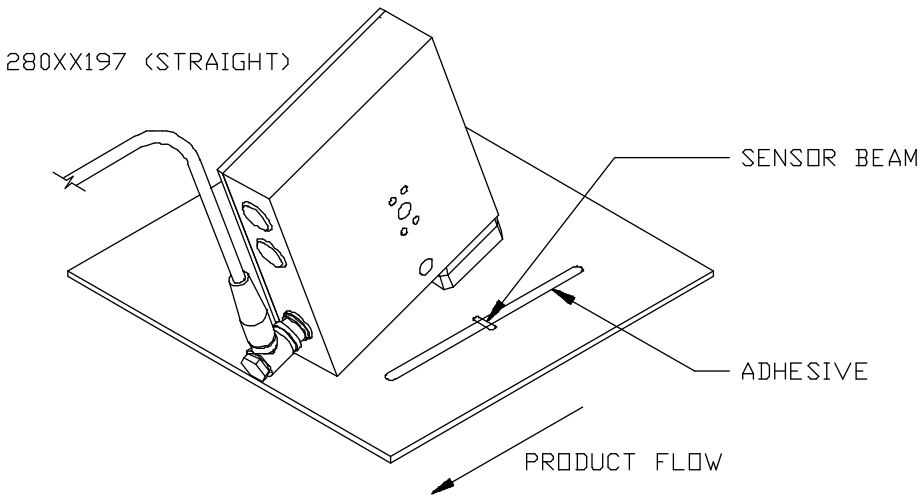


Figure 5-20. AS-601 "Straight" Sensor

Sensor Suitability

- Extruding guns (non-contact valves)
- All colored backgrounds (except black)
- Glue containing moisture

Limitations

- Ambient light (neon light, sunlight, light from skylights or flashlights, etc.)
- Metal laminated carton
- Black carton background
- Dusty, dirty environments

Installing the AS-301/601/701 Sensor

To install the AS-301/601/701 sensor, follow these steps:

1. Mount the sensor (Figure 5-21).

Note! The correct mounting position for the AS-601 sensor is lengthwise with a 20-degree vertical angle at a distance of 54 mm centered in the optical axis of the carton (AS-600-90 across running direction).

Note! The correct mounting position for the AS-701 sensor is a distance of 54 mm to object and lenthwise to the carton's running direction.

2. Connect the sensor cable plug to the sensor socket.
3. Connect the other end of the sensor cable to the control as shown in Figure 5-22. The sensor will emit a visible beam.
4. If necessary, focus the light beam on a carton by raising and lowering the sensor.
5. Adjust the light beam so that it is centered on the glue pattern.
6. Put the light-shield tube on the sensor's object lens and tighten the knurled screw.
7. Adjust the height of the light-shield tube by tightening the knurled screw.

Note! The correct distance between the light-shield tube and the carton is 5 mm.

Note! When using a bracket with the AS-301/601/701 sensor, it is not necessary to adjust the height. However, it is necessary to ensure that the visible beam is adjusted to the center of the pattern and that the tube is placed against the rails.

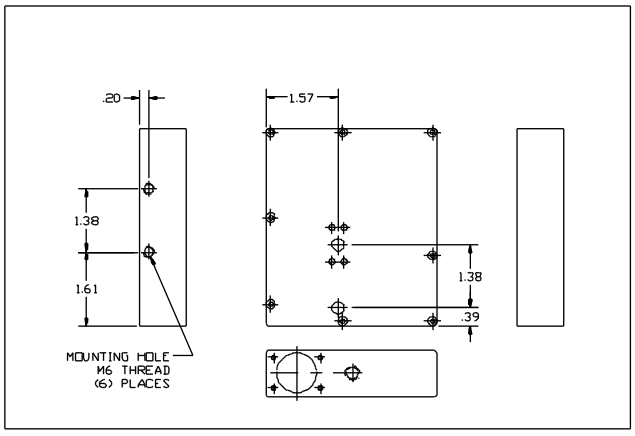
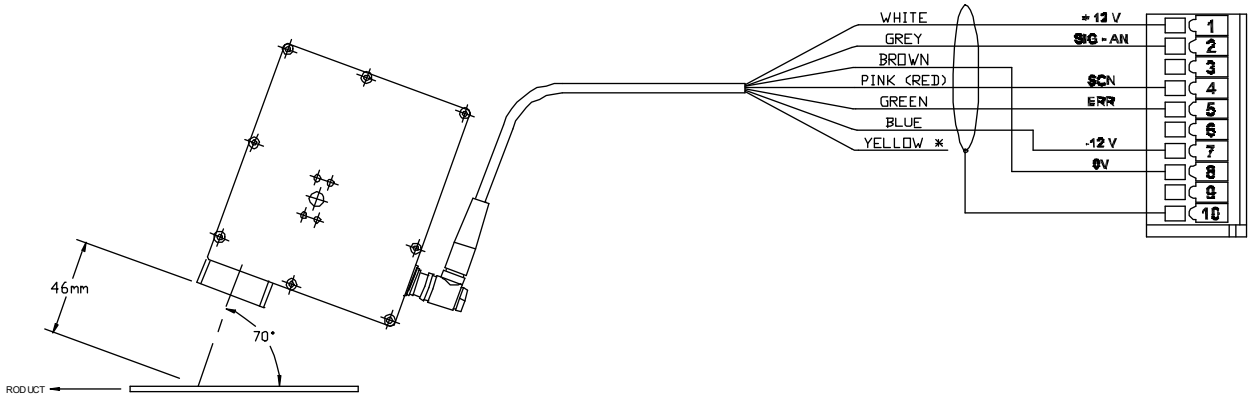
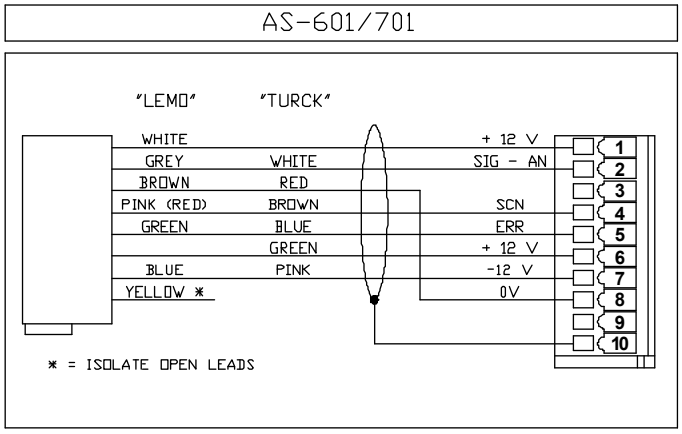


Figure 5-21. Mounting-Hole Dimensions





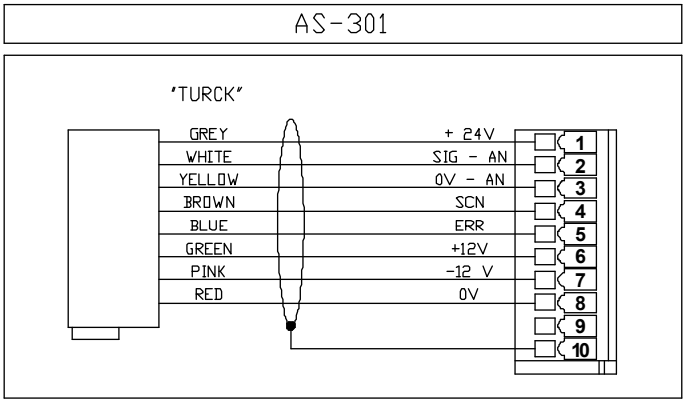


Figure 5-22. AS-601/AS-701 Wiring Connections
(refer to item 7 of Section 4–Basic Features, Back Panel of Field-Wirable Control)

Adjusting the Internal Scanner Signal for the AS-301/601/701 Sensor

The MCP-25/MS control usually uses an *external scanner* to trigger the carton; therefore, the distance from the sensor to the external scanner must be programmed.

The MCU control, and sometimes the MCP-25/MS control, uses an *internal scanner* to trigger the carton, which means the corresponding input must be adjusted.

A green LED on top of the AS-301/601/701 goes on when the sensor "sees" a carton and goes out when there is a carton gap. If the green LED is not performing in this way, the internal scanner signal needs to be adjusted.

To adjust the internal scanner signal, follow these steps:

1. Ensure that there is no carton beneath the sensor.

Note! It is important to ensure that the AS-301/601/701 is not looking onto shiny or glossy parts while a gap (of cartons) is in the sensor's reading range.

2. Turn the potentiometer in the "+" direction until it goes off.

Note! If the LED does not go off, the sensor is "seeing" an unsuitable background (for example, shiny or glossy parts).

3. Put the darkest part of the carton into the visible beam.
4. Turn the potentiometer in the"-" direction until the LED goes on.
5. Turn the potentiometer in the"-" direction another half of a turn.
6. Remove the carton and ensure that the LED goes off.
6. To test the LED, put the carton under the sensor and ensure that the LED is going on and off.

Note! If the LED is still not going on and off, the sensor is "seeing" an unsuitable background.

CGS-30 Gate Sensor

CAUTION! Do not place metal guiding or objects within 1-2" of sensing elements. OTHERWISE, READINGS MAY BE DISRUPTED.

CAUTION! Do not wash sensor or submerge sensor in water. OTHERWISE, DAMAGE TO SENSOR WILL OCCUR.

Description

There are four versions of the CGS-30 gate sensor:

- Tab-side version (280xx198) (Figure 5-24)
- 4th-panel version (280xx190) (Figure 5-25)
- Tab-side version (280xx207)
- 4th-panel version (280xx208)

The cables for the CGS-30 gate sensor are as follows:

- 5m (16-ft.) (030xx762)—*used with 280xx190 and 208xx198 (field-wirable)*
- 10m (33-ft.) (030xx763)—*used with 280xx190 and 208xx198 (field-wirable)*
- 15m (50-ft.) (030xx764)—*used with 280xx190 and 208xx198 (field-wirable)*
- 5m (16-ft.) (080xx823)—*used with 280xx207 or 280xx208 only (connector)*
- 5m (16-ft.) (080xx861)—*used with 280xx207 or 280xx208 only (field-wirable)*
- 10m (33-ft.) (080xx863)—*used with 280xx207 or 280xx208 only (connector)*
- 15m (50-ft.) (080xx864)—*used with 280xx207 or 280xx208 only (connector)*
- 10m (33-ft.) (080xx866)—*used with 280xx207 or 280xx208 only (field-wirable)*

Installing the CGS-30 Gate Sensor

To install the CGS-30 gate sensor, follow these steps:

1. Place sensor in desired location.
2. Connect cable to back of sensor.
3. Connect other end of cable to MCP-25/MS control as shown in Figure 5-23.

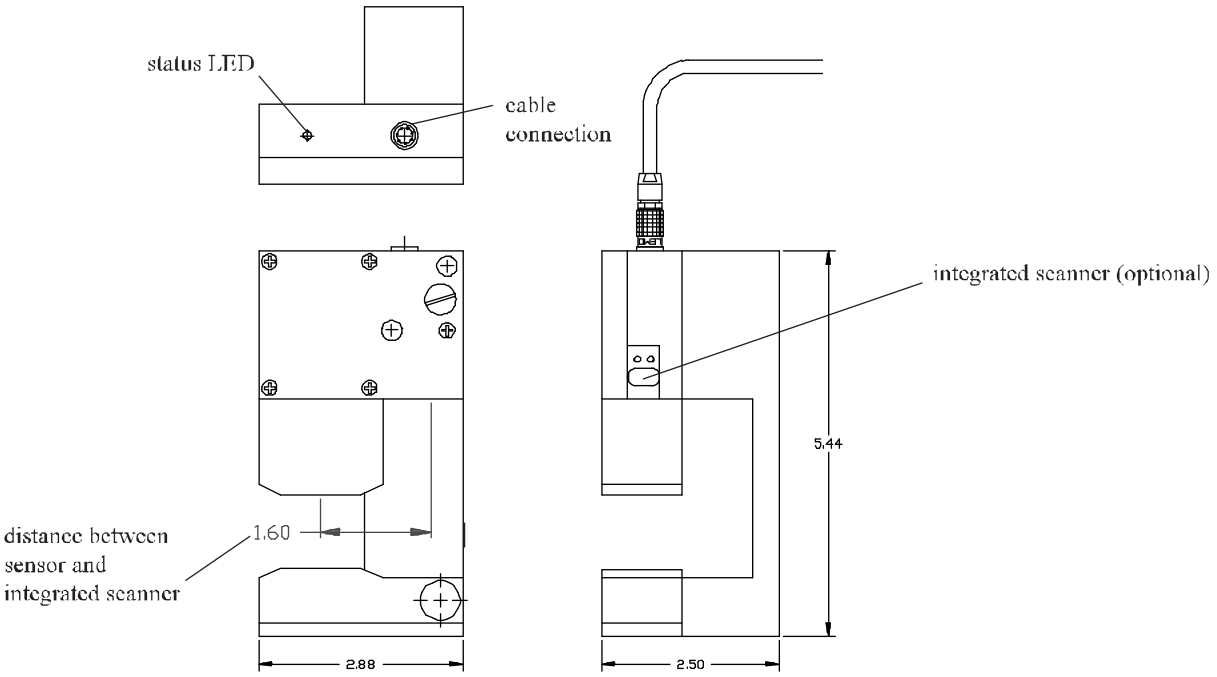
Note! The product must run in the middle of the sensing areas (Figures 5-24 and 5-25) and the glue bead must be under the sensing areas (Figure 5-26).

Cleaning the CGS-30 Gate Sensor

To clean the CGS-30 gate sensor, follow these steps:

1. Usng a slightly damp cloth, clean the sensor at least twice a day.
2. Using a clean towel, dry the sensor.

CAUTION! Do not use a sharp tool to scrape glue off of sensor. OTHERWISE, DAMAGE TO SENSOR WILL OCCUR.



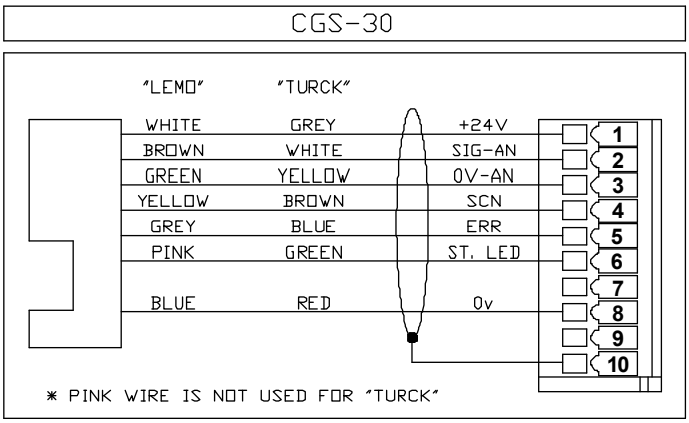


Figure 5-23. CGS-30 Gate Sensor
(refer to item 7 of Section 4—Basic Features, Back Panel of Field-Wirable Control)

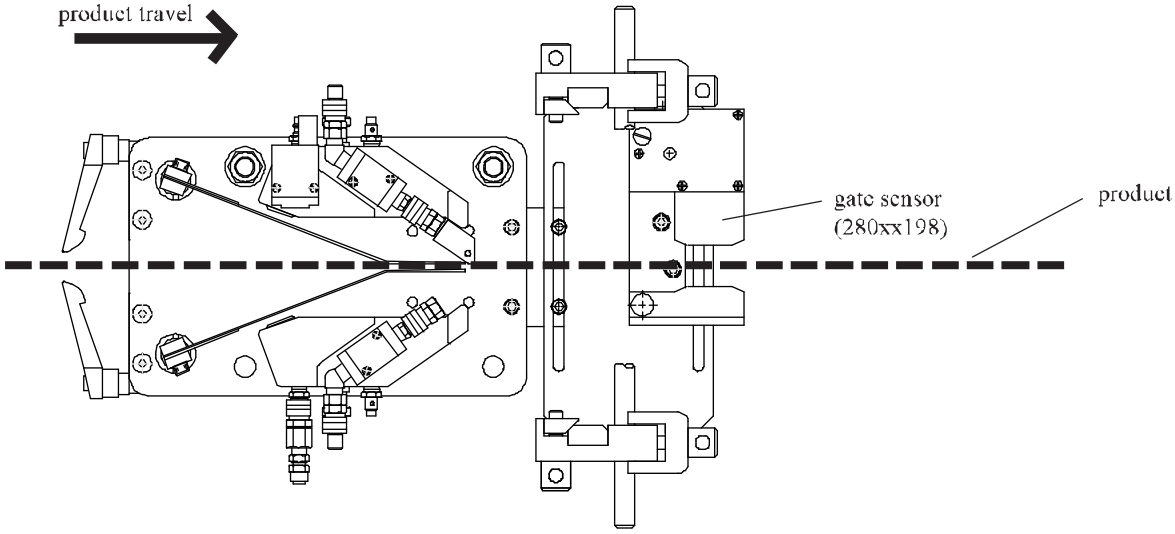


Figure 5-24. Mounting Position for Tab-Side Sensor

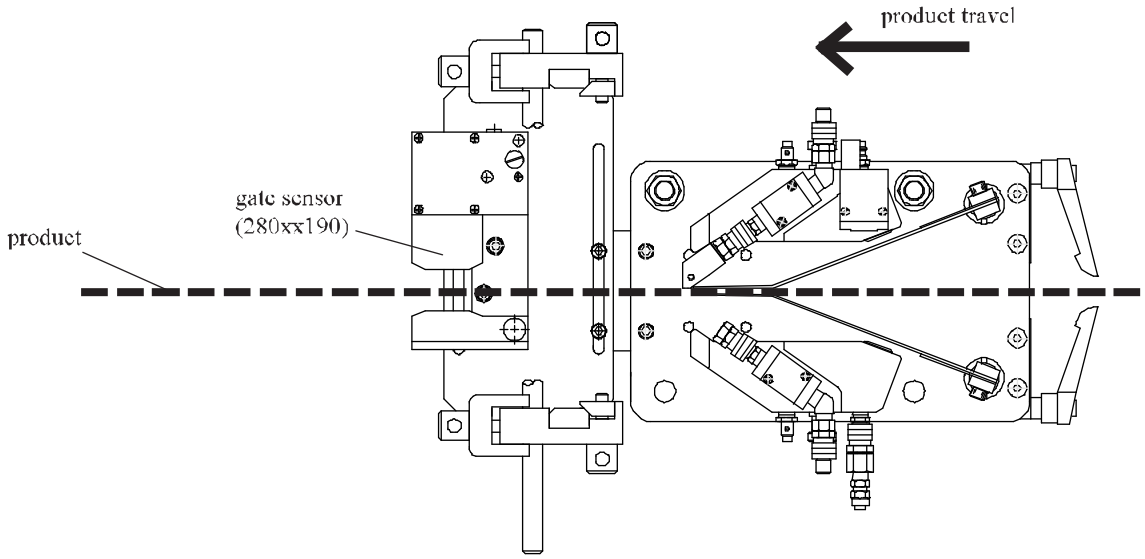


Figure 5-25. Mounting Position for 4th-Panel Sensor

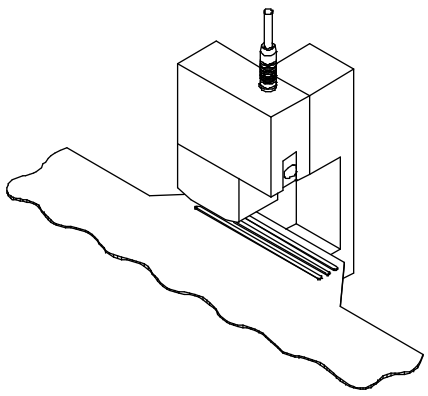


Figure 5-26. Correct Position of Glue Line Under Sensor

CGS-40 Gate Sensor

CAUTION! Do not place metal guiding or objects within 1-2" of sensing elements. OTHERWISE, READINGS MAY BE DISRUPTED.

CAUTION! Do not wash sensor or submerge sensor in water. OTHERWISE, DAMAGE TO SENSOR WILL OCCUR.

Description

CGS-40 gate sensor:

- (Figure 5-27)

The cables for the CGS-40 gate sensor are as follows:

- 5m (16-ft.) (080xx823)—*used with 280xx207 or 280xx208 only (connector)*
- 5m (16-ft.) (080xx861)—*used with 280xx207 or 280xx208 only (field-wirable)*
- 10m (33-ft.) (080xx863)—*used with 280xx207 or 280xx208 only (connector)*
- 15m (50-ft.) (080xx864)—*used with 280xx207 or 280xx208 only (connector)*
- 10m (33-ft.) (080xx866)—*used with 280xx207 or 280xx208 only (field-wirable)*

Installing the CGS-40 Gate Sensor

To install the CGS-40 gate sensor, follow these steps:

1. Place sensor in desired location.
2. Connect cable to back of sensor.
3. Connect other end of cable to MCP-25/MS control as shown in Figure 5-27.

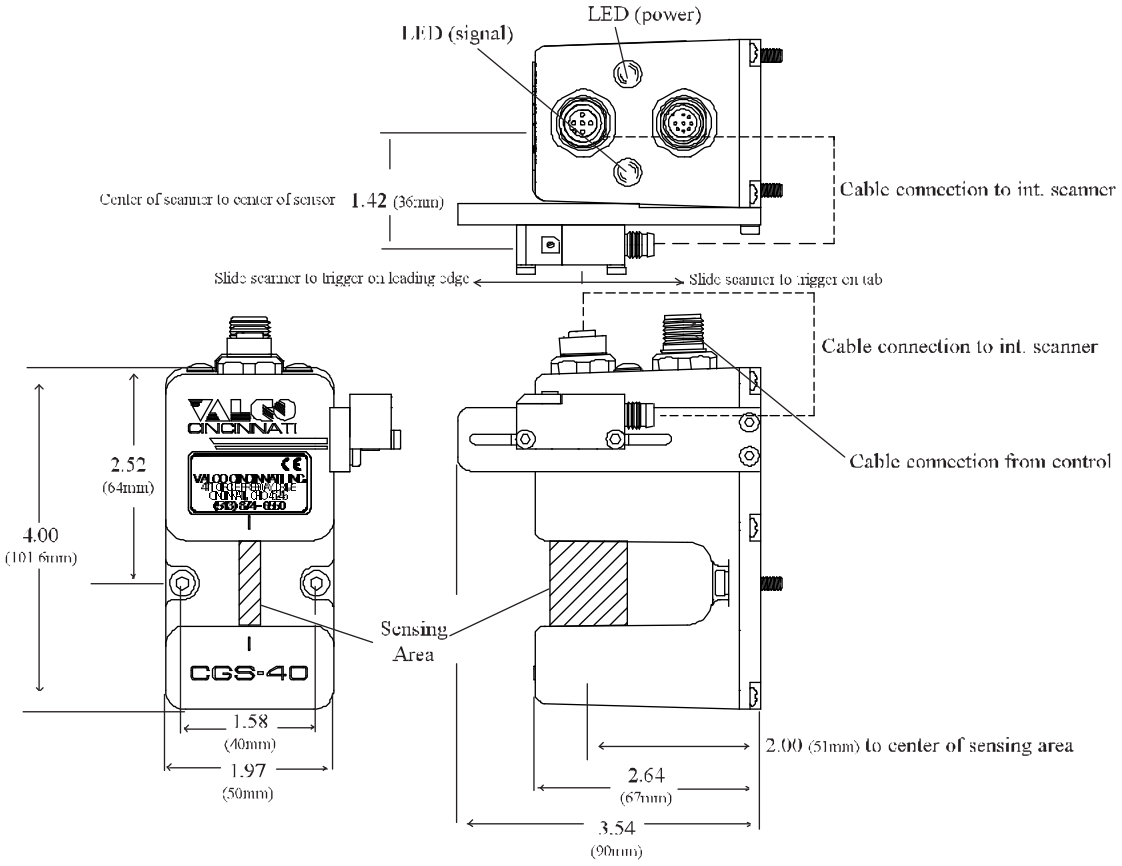
Note! The product must run in the middle of the sensing areas and the glue bead must be under the sensing areas (see Figure 5-30).

Cleaning the CGS-40 Gate Sensor

To clean the CGS-40 gate sensor, follow these steps:

1. Usng a slightly damp cloth, clean the sensor at least twice a day.
2. Using a clean towel, dry the sensor.

CAUTION! Do not use a sharp tool to scrape glue off of sensor. OTHERWISE, DAMAGE TO SENSOR WILL OCCUR.



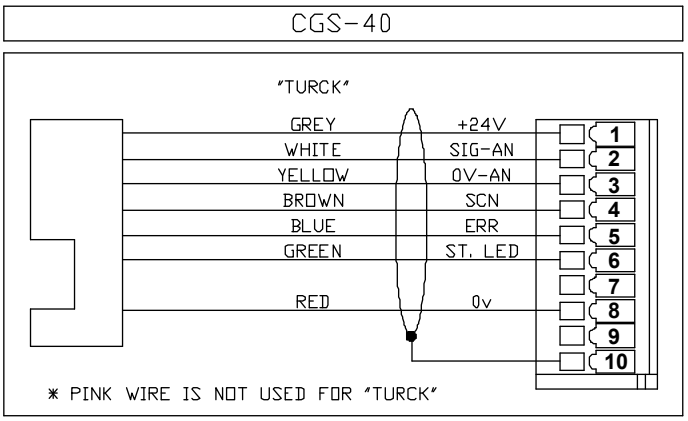


Figure 5-27. CGS-40 Gate Sensor
(refer to item 7 of Section 4—Basic Features, Back Panel of Field-Wirable Control)

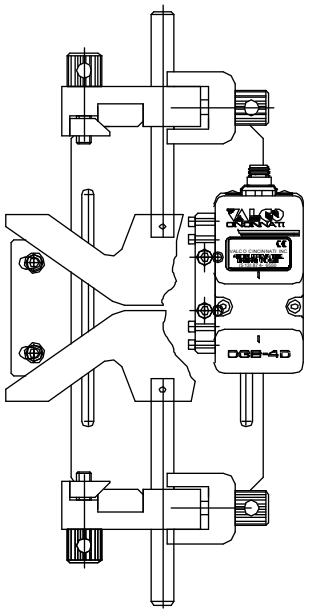


Figure 5-28. CGS-40 Gate Sensor Mounted to 581xx898 Bracket Using Retrofit Kit

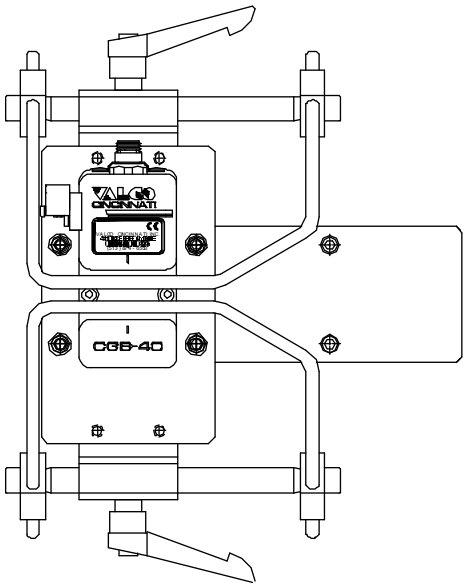


Figure 5-29. CGS-40 Gate Sensor Mounted to Gate Sensor Bracket

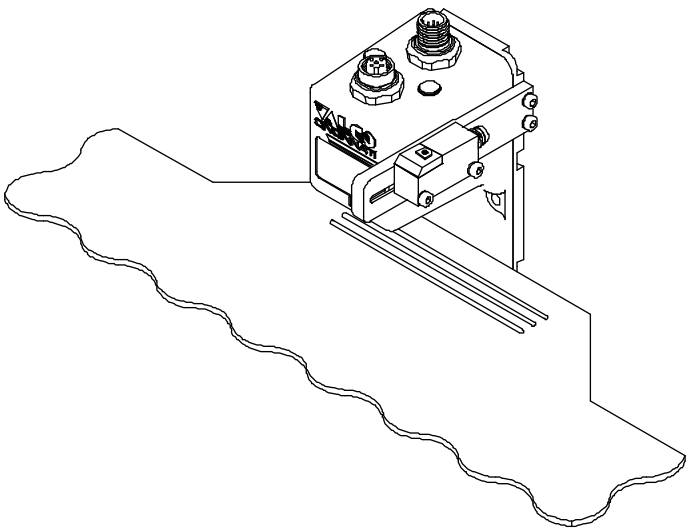


Figure 5-30. Correct position of Glue Line Under Sensor

D-12 Sensor

Description

The cables for the D-12 sensor are:

- 5m (16-ft.) (030xx604)
- 10m (33-ft.) (030xx596)

Installing the D-12 Sensor

To install the D-12 sensor, follow these steps:

1. Place sensor in desired location.

Note! The sensor must be mounted isolated to the machine!

2. Connect cable to back of sensor.
3. Connect other end of cable to MCP-25/MS control as shown in Figure 5-31.

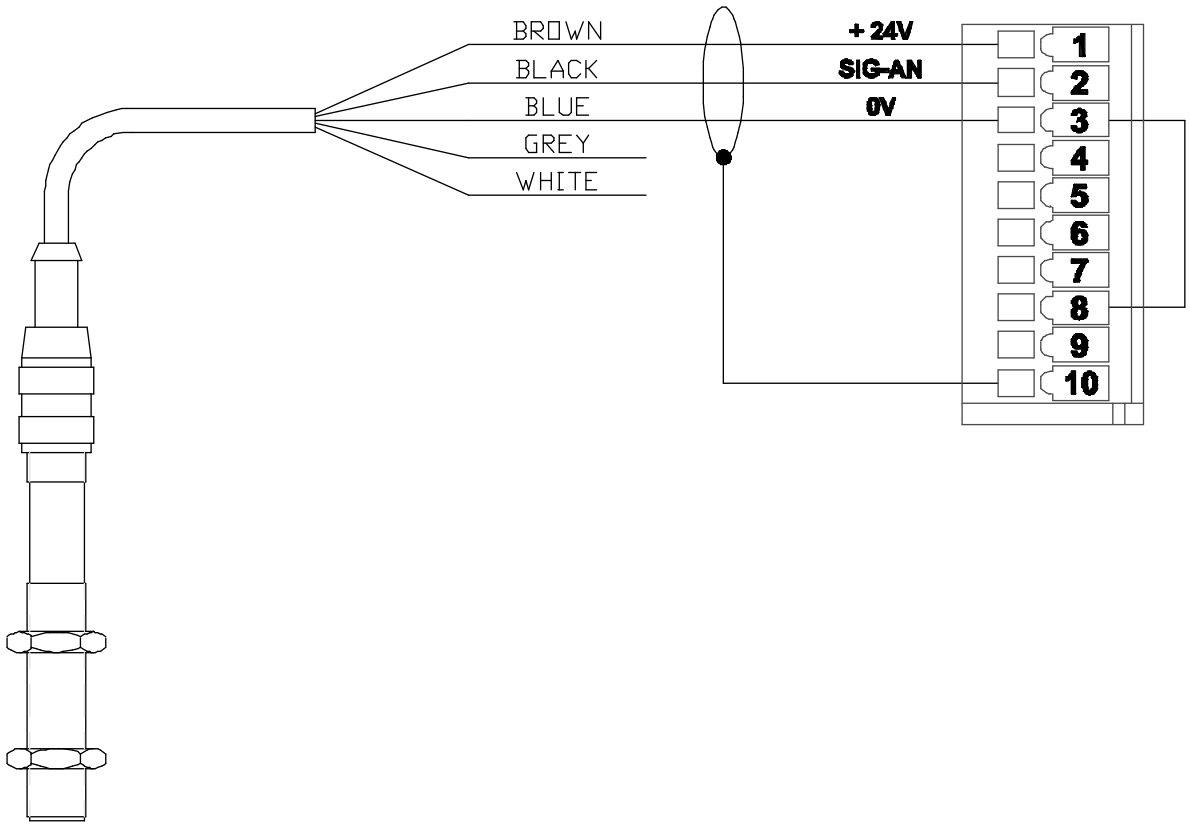


Figure 5-31. D12 Sensor
(refer to item 7 of Section 4–Basic Features, Back Panel of Field-Wirable Control)

MW-101 Microwave Sensor

Description

The MW-101 microwave sensor is an optical sensor that has the ability to inspect the following:

- Glue volume
- Glue position
- Glue interrupts
- Glue dry-up time

Operation of the MW-101 is based on microwaves. The sensor detects the glue volume by the amount of moisture present in the glue. The transmitted microwaves are reflected, depending on the volume of the glue line. The sensor converts the reflected signal into a measurement signal, which can be analyzed by the control.

The MW-101 can be used for either top-down or bottom-up gluing (Figure 5-32 and Figure 5-33).

The cables for the MW-101 microwave sensor are as follows:

- 5m (16-ft.) (030xx765)
- 10m (33-ft.) (030xx766)
- 15m (50-ft.) (030xx767)

Specifications

- *Width of pattern:* 3-6 mm
- *Minimum length of pattern:* 6 mm
- *Maximum machine speed:* 600 m/min
- *Power:* ±12-15 V

Sensor Suitability

- Bottom glue pot
- All colored backgrounds
- Glue containing moisture

Limitations

- Metal laminated carton
- Corrugated material
- Wet cartons
- Metal parts in the detection area

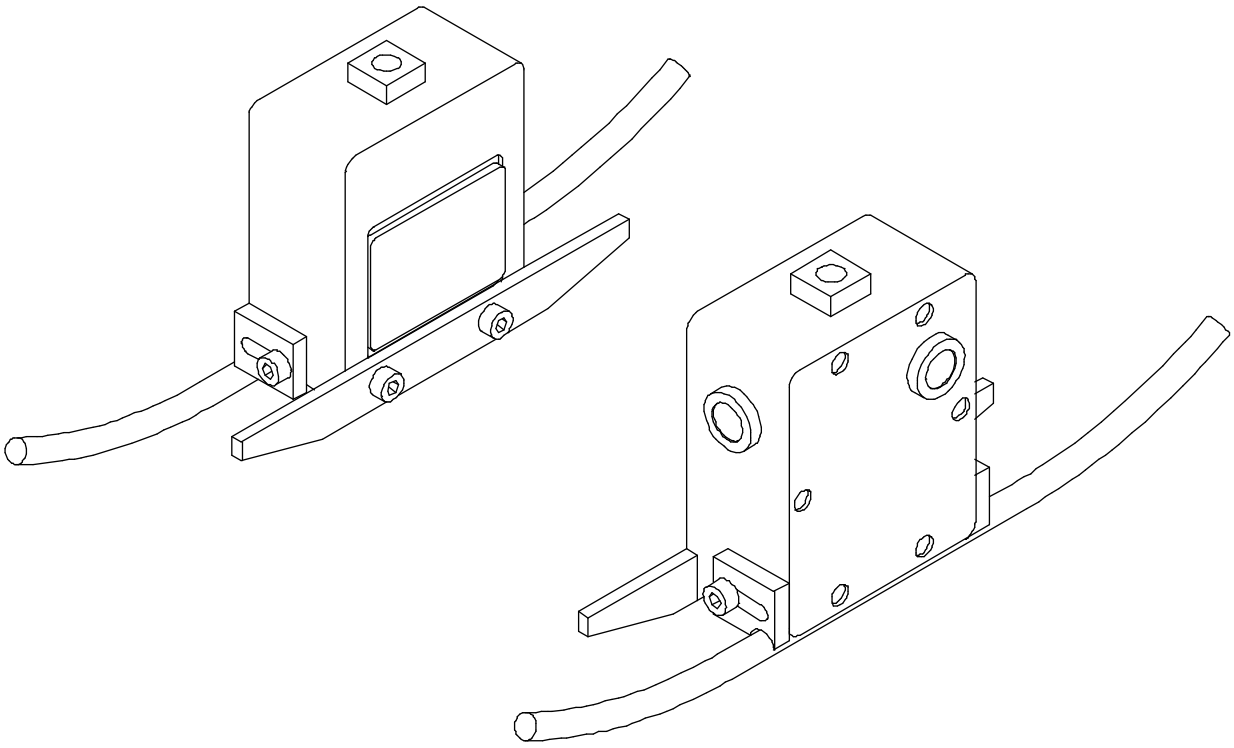


Figure 5-32. MW-101 Microwave Sensor (Top-Down Gluing)

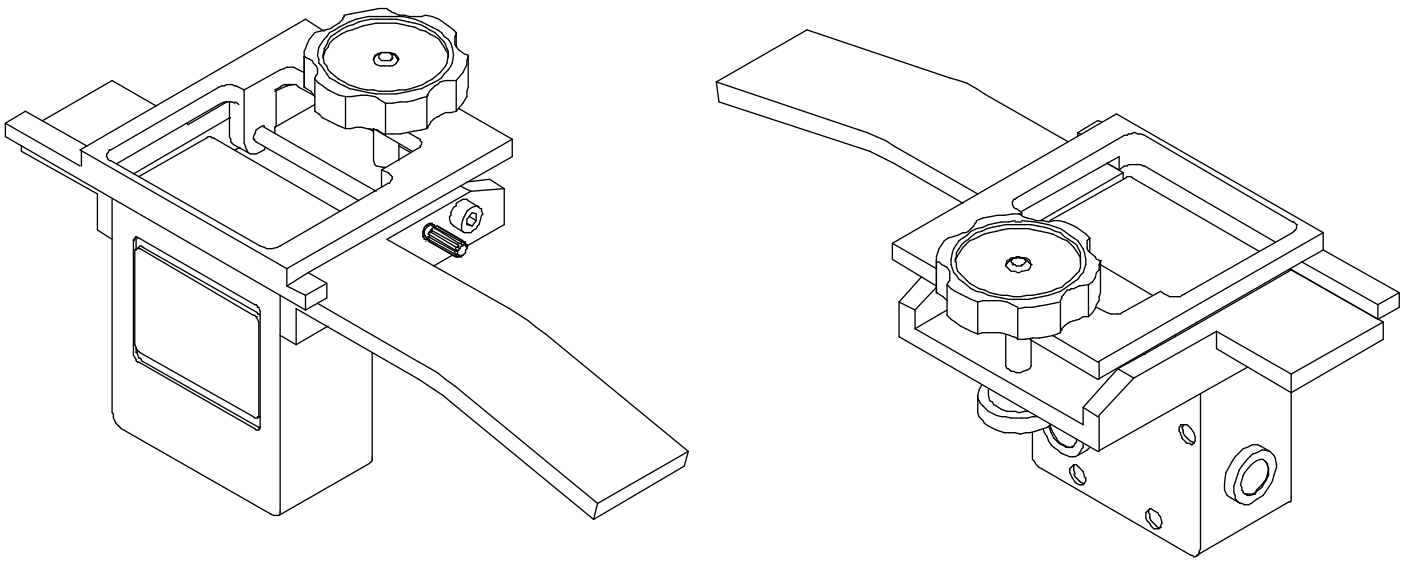


Figure 5-33. MW-101 Microwave Sensor (Bottom-Up Gluing)

Installing The MW-101 Microwave Sensor

To install the MW-101 sensor, follow these steps:

1. Mount the sensor in the desired location.

Notes! The sensor must be placed over the side of the box that does not contain the glue line. The detection area must be exactly in the center of the glue line. The center of the glue line is indicated by the red line on the back of the sensor. There should be a distance of 100 mm between the microwave sensor and the metal parts of the machine.

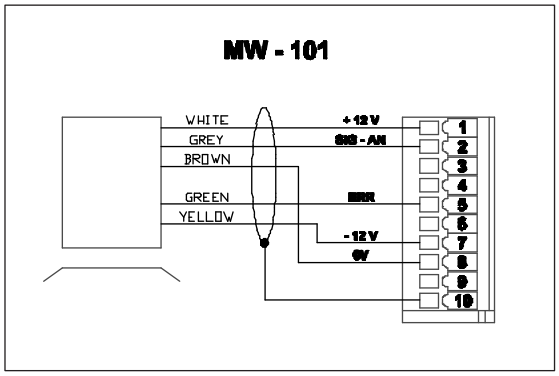


Figure 5-34. MW-101 Microwave Sensor Wiring Connections (refer to item 7 of Section 4—Basic Features, Back Panel of Field-Wirable Control)

2. Adjust the guiding rails so that they are parallel to each other:

   2a. Loosen screw (1, Figure 5-35) and move the sensor to the side.

   2b. Loosen spring-loaded screw (2).

   2c. Use screw (3) to adjust the distance between the rails.

   Note! The gap between the two guiding rails should not be more than twice the thickness of the board.

   2d. Tighten screw (3).

   2e. Return the sensor to its original position.

   2f. Tighten screw (1).

3. Connect cable to back of sensor.

4. Connect other end of cable to MCP-25/MS control as shown in Figure 5-33.

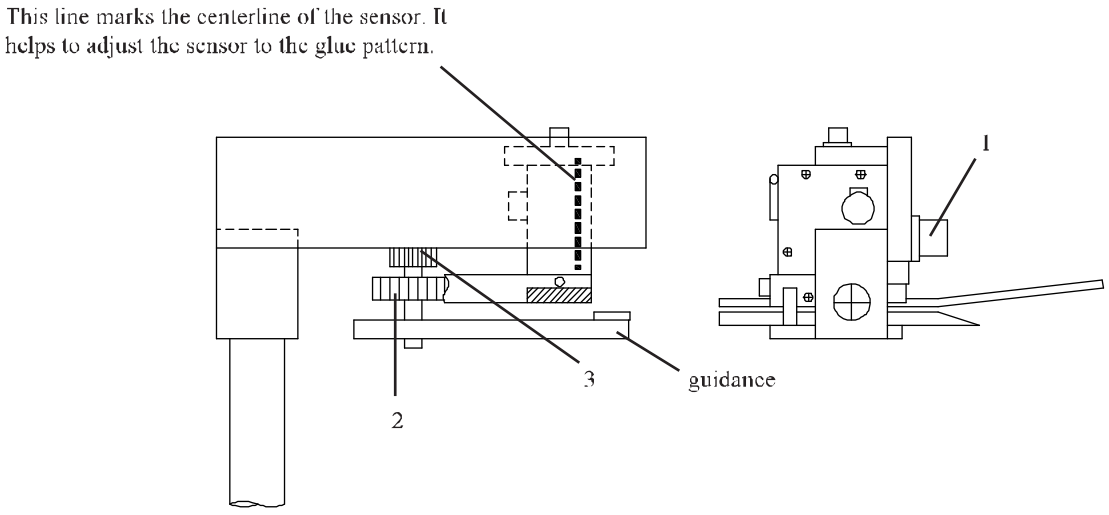


Figure 5-35. MW-101 Microwave Sensor Installation

Digital NPN/PNP Sensor

Description

There are different types of digital NPN/PNP sensors. The Turck (Figure 5-36) and UV-3 (Figure 5-37) sensors are examples of digital NPN/PNP sensors. Consult with your Valco representative for information on other digital PNP sensors.

The cables for the digital NPN/PNP sensor are:

- 5m (16-ft.) (030xx765)
- 10m (33-ft.) (030xx766)
- 15m (16-ft.) (030xx767)

Installing the Digital NPN/PNP Sensor

To install the digital NPN/PNP sensor, follow these steps:

1. Place sensor in desired location.
2. Connect cable to back of sensor.
3. Connect other end of cable to MCP-25/MS control as shown in Figure 5-36 or 5-37.

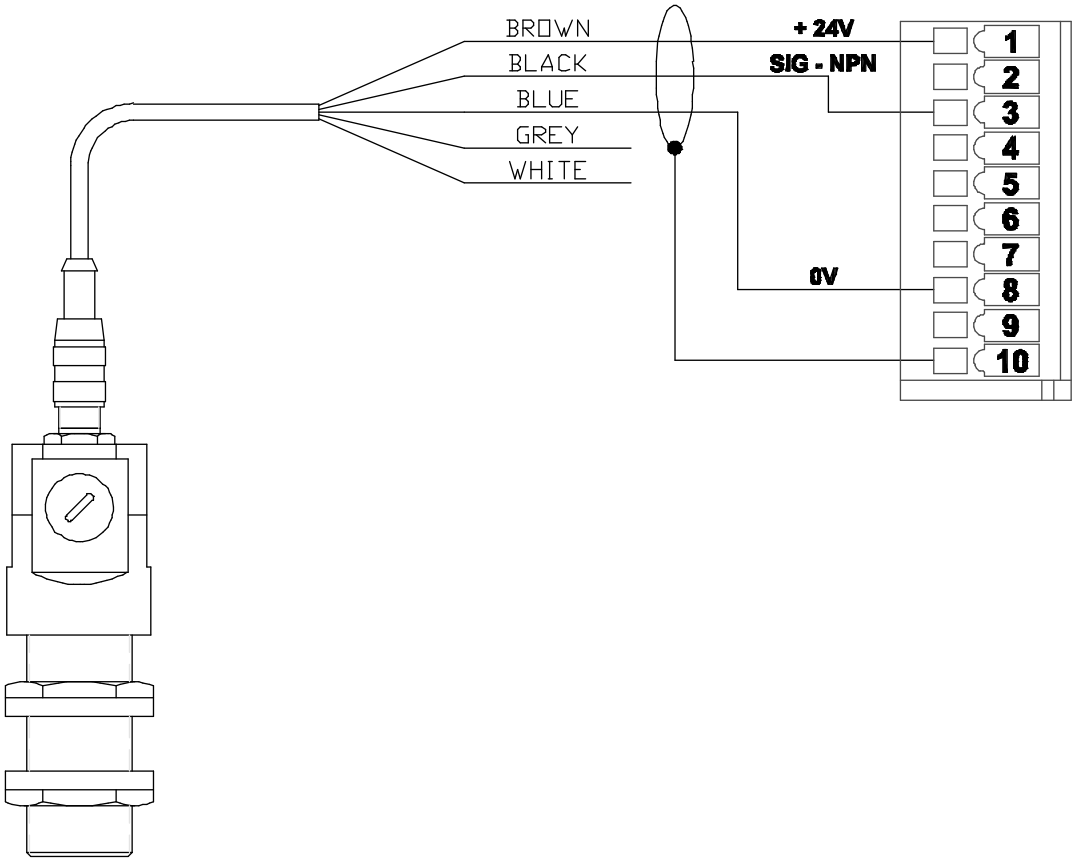


Figure 5-36. "Turck" NPN 30mm Digital-Capacitor Sensor
(refer to item 7 of Section 4–Basic Features, Back Panel of Field-Wirable Control)
(Can also be used with connector back panel controls with the aid of a 029xx035 connector cable)

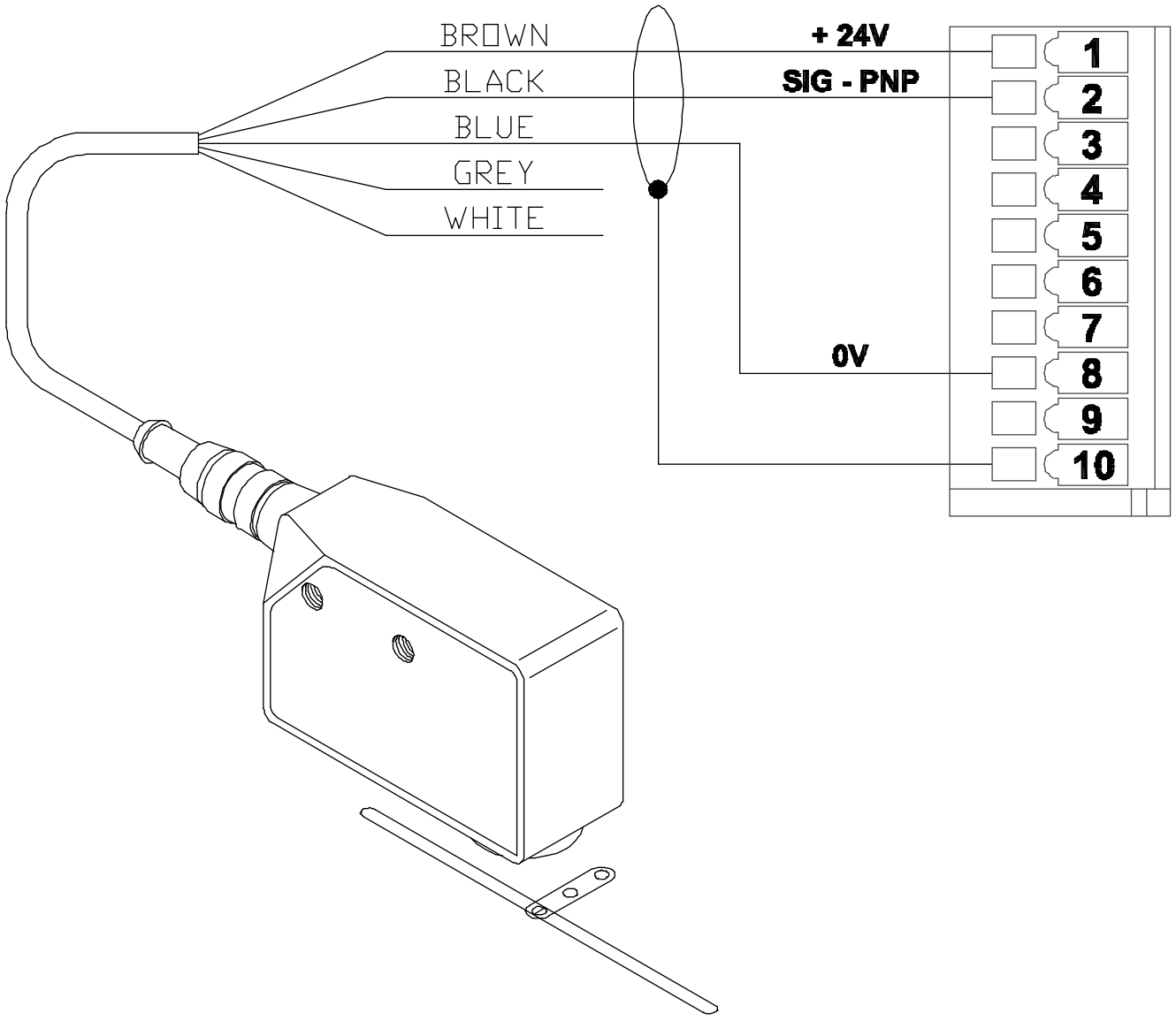


Figure 5-37. UV-3 PNP Sensor
(refer to item 7 of Section 4–Basic Features, Back Panel of Field-Wirable Control)
(Can also be used with connector back panel controls with the aid of a 029xx036 connector cable)

Section 6—Menu Overview

Introduction

This section describes the initial screen, the learn screens, and the six main menus of the MCP-25/MS control.

The learn function is described in detail in *Section 13—The Learn Function*. The six main menus are described in detail in sections 9-15.

Initial Screen

Pushing the green "power" button on the front panel of the MCP-25/MS causes the initial screen (Figure 6-1) to appear. The initial screen displays the Valco logo. When the "power" button is turned on, the MCP-25/MS is ready to run the job that was operating when the power was turned off.

Note! The initial screen appears *only* when power is turned on. After you access the other menus, you cannot return to the initial screen without turning the unit off and then back on.

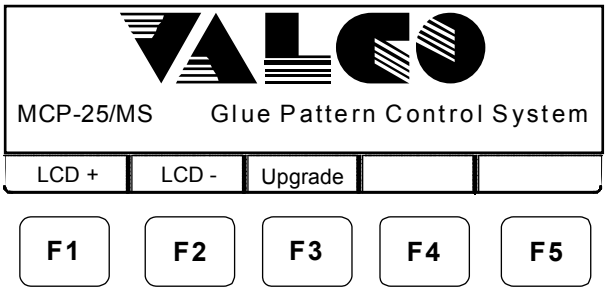


Figure 6-1. Initial Screen

Initial-Screen Function Keys

F1 **LCD+ Contrast Adjustment**—Pressing the F1 function key lightens the display screen.

F2 **LCD- Contrast Adjustment**—Pressing the F2 function key darkens the display screen.

F3 **UPGRADE**—Pressing the F3 function key allows you to upgrade the control's software so that various options such as a level control, jam preventer, or additional valves may be activated.

F4 **Not used**

F5 **Reverse**—Pressing the F5 function key reverses the colors on the screen.

Learn-Function Screens

The learn function allows you to teach glue volume, reference values, and glue-pattern positions to the system. There are four main learn functions:

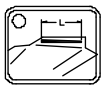
- Learn glue volume
- Learn distance from sensor to ejector/marking valve
- Learn reference values
- Learn glue-pattern position

Main Menu Screens

The MCP-25/MS contains six additional menu screens, which allow various functions to be performed:

Setup Menu

- Valve configuration:
  - Valve time on/off
  - Minimum valve on-time
  - Encoder allocation
  - Speed compensation factor
  - Threshold speed (Vmin)
  - Glue-pattern mode
- Pressure transducer configuration:
  - Encoder allocation
  - Pressure transducer operating mode
  - Glue pressure regulation
  - Maximum pressure settings for a given transducer
  - Bypass opening time
  - Bypass threshold speed
  - Entering values for pressure curve
- Encoder configuration
  - Ratio compensation
  - Direction recognition
  - Z-Signal scanner
- Sensor configuration
- Marking-valve configuration
- Tolerance configuration
- Report-headers configuration
- Section-name configuration
- Time/Date/PIN code selection
- Language, country code, date format, and length-units selection



Glue-Pattern-Edit Menu (Standard and Flexoseal)

- Delete a glue pattern
- Copy a glue pattern
- Cell-to-gun distance
- Glue pattern repeat factor
- Glue pattern start and length
- Start signal
- Mode menu
    - Mode 0 Standard mode
    - Mode 1 Vmin continuous mode
    - Mode 2 Stitch mode
    - Mode 3 Jogging mode
- Scanner lockout/jam

Glue-Pressure Edit Menu

- Delete a pressure table
- Copy a pressure table
- Glue pressure curve
- Pressure-curve learn mode

Inspection Menu

- Glue-inspection menu
- Jam preventer

Job-Management Menu

- Save a job
- Load a job
- Copy a job
- Delete a job
- Create a new current job
- Edit a job
- Prepare a new job (in memory)
- Rename a job

Diagnostic Menu

- Display of the current unit parameters
- Printout of the protocol of the current job and unit setup data
- Information on the program version

Section 7—Operation

Introduction

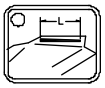
This section of the manual contains job creation and adjustment procedures for MCP-25/MS control operations.

Creating a New Job

To create a new job, follow these steps:

1. After the unit has been turned on, use either the F1 or F2 button to adjust the contrast of the screen.
2. General setup:
   2a. Press the setup menu button. 
   2b. Enter the PIN code.

   Note! The MCP-25 has a default setting for each field in the setup menu. You can use these values or change the values if you like.

   2c. Use the arrow keys to select a field.
   2d. Use the numeric keypad to enter new values. (Refer to *Section 8—Setup Menu* for a description of the setup parameters.)
3. Enter the scanner assignment:
   3a. Press the glue pattern edit menu button. 
   3b. Enter a scanner assignment for glue valve.
   3c. Press the ENTER button. The cursor moves to the cell-to-gun field.
4. Enter the cell-to-gun dimension:
   4a. Enter a cell-to-gun value (the distance from the scanner to the glue valve) for scanner 1/valve 1.

   Note! This value must be entered in either millimeters or 1/100".

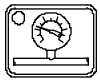
   4b. Press the ENTER button.
5. Enter the repeat factor:

   The repeat factor is the number of identical, consecutive glue patterns to be applied (based on the first glue pattern).

   5a. Enter “1” for one pattern or multiple patterns of different lengths.
   5b. Enter “2,” “3,” “4,” etc. for multiple, identical, consecutive patterns.
6. Enter the pattern-delay information:
   6a. Use the arrow buttons to move the cursor down to the first delay field.
   6b. Enter a value for delay 1 (the distance from the leading edge of the product to the start point of the first glue pattern).

   Note! The delay value must be entered in either millimeters or 1/100", depending on unit configuration.

   6c. Press the ENTER button.

7. Enter the pattern-length information:
   7a. Use the right arrow button to move the cursor one field to the right.
   7b. Enter a pattern length for pattern 1. (The pattern length must be entered in either millimeters or 1/100" depending on which unit of measure was selected in the setup menu.)
   7c. Press the ENTER button.
8. Enter information for additional valves:
   8a. Press F3 (NEXT) to access the glue-pattern menu for the next valve (valve 2). Program additional valves in the same manner as described for valve 1.
   8b. You can use the "COPY" button (F2) to copy valve 1 glue pattern information to another valve.
9. Enter values for the pressure curves:
   9a. Press the glue-pressure-edit-menu icon button. 
   9b. Enter the minimum production speed (at minimum pressure) in the field "V min."
   9c. Enter the maximum production speed (at maximum pressure) in the second field to the right of "V."
   9d. Enter the minimum pressure ("P% min.") (0-100%).
   9e. Enter the maximum pressure in the second field to the right of "P." (This value is normally 100%.)
   9f. Enter other speed and pressure values between the minimum and maximum settings if desired.
   9g. Program other pressure tables (2) if desired. You can use the copy button to copy a pressure table to another location.
10. Complete pressure table 1:
   10a. Return to pressure table 1 after entering values for other pressure tables.
   10b. Operate the parent machine at slow speed (under 10 meters/minute).
   10c. Press F5 (LEARN). The pressure points between the minimum and maximum pressure will automatically be completed by the MCP-25/MS.
11. Save the job:
   11a. Press the job-management menu icon button. 
   11b. Press the "SAVE" button.
   11c. Use the scroll buttons to enter a job name.

Adjustments

Occasionally, adjustments need to be made to the glue volume, glue-pattern position, delay, or pattern length.

Adjusting the Glue-Pattern Position

To adjust the glue-pattern position at low speed, follow these steps:

Note! If possible, standard mode (mode 0) with a pattern length of 100mm (4 inches) or more should be used.

1. While operating the parent machine at slow speed (approximately 10 meters/minute), apply glue to a few products.
2. Stop the parent machine.

3. Measure the delay and glue-pattern length on the product.
4. Compare the measurements with the values displayed in the glue-pattern-edit menu.
5. If the glue pattern is shorter or longer than the value seen in the glue-pattern-edit menu, check the encoder configuration setup (see *Section 8—Setup Menu*).

To adjust the glue-pattern position at high speed, follow these steps:

1. While operating the parent machine at high speed (approximately 300 m/min), apply glue to a few products.
2. Stop the parent machine.
3. Measure the delay and glue pattern length on the products.
4. Compare measurements with the values displayed in the glue-pattern-edit menu and with the previous pattern.

Delay:

If the start of the glue pattern begins later than the value seen in the glue pattern edit menu, increase the "Ton" value (0.1-25 milliseconds) in the valve setup menu.

If the start of the glue pattern begins sooner than the value seen in the glue pattern edit menu, decrease the "Ton" value (0.1-25 milliseconds) in the valve setup menu.

Pattern length:

If the pattern is longer than the value seen in the glue pattern edit menu, increase the "Toff" value (0.1-25 milliseconds) in the valve setup menu.

If the pattern is shorter than the value seen in the glue pattern edit menu, decrease the "Toff" value (0.1-25 milliseconds) in the valve setup menu.

5. If necessary, adjust "Ton" and "Toff" values.

Adjusting the Glue Volume

To adjust the glue volume, follow these steps:

1. Operate the parent machine at slow speed (under 10 meters/minute).
2. Press the  button on the front panel of the MCP-25/MS.
3. Use the front-panel valve-selection keypad to activate glue valve 1.
4. Observe the glue volume on the product.
5. Use the scroll buttons on the right side of the display to increase or decrease the glue volume by adjusting the pressure values in the pressure table.

Section 8—Setup Menu

Introduction

To access the setup menu, follow these steps:

1. Press the setup-menu icon button (Figure 8-1). The "Enter PIN Code:" message displays (Figure 8-2).
2. The control is delivered with a preset PIN code of "123". Enter "123". The setup menu screen displays (Figure 8-3).

Note! Enter the PIN code quickly, using the numeric keypad. A pause in the number sequence can register as an incomplete PIN code.

Note! Press F5 (>>>) to display additional function keys.

Valco recommends that access to the PIN code be given only to service personnel. For information about changing the PIN code, see "Programming Time, Date, and PIN-Code" later in this section.

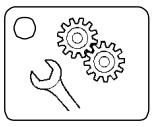


Figure 8-1. Setup-Menu Icon Button

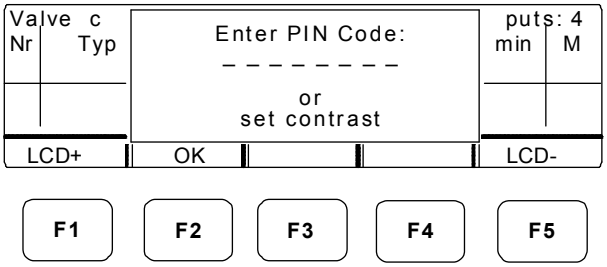


Figure 8-2. Initial Message in Setup Menu

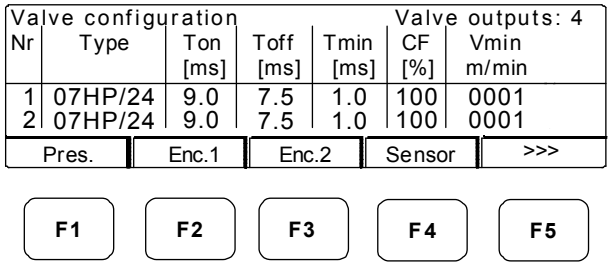


Figure 8-3. Setup Menu

Valve Configuration

Follow these steps to configure a valve:

1. Select a valve type from Valve-Type Parameters table (see *Valve-Type Parameters* in this section).
2. Move the cursor to the "type" column (Figure 8-4).
3. Use the numeric keypad to type the code number of the selected valve, or use the scroll buttons to select a valve type.
4. Either press the ENTER button or wait three seconds. The valve type displays.

Note! Each valve type includes default parameter values.

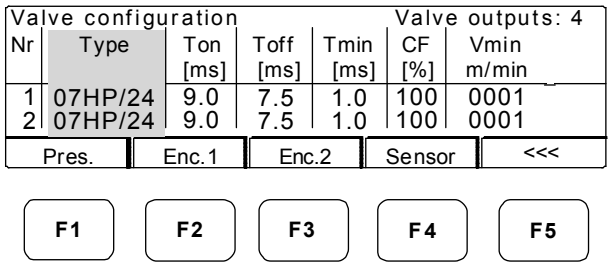
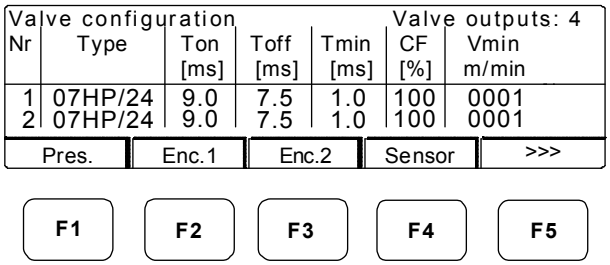


Figure 8-4. Type Column

5. To change parameters, move the cursor to the parameter you want to change (see "Valve Configuration Parameters" on the following page for a description).
6. Use the numeric keypad to type the new parameter value, or use the scroll buttons.
7. Either press the ENTER button or wait 3 seconds. The new parameter value takes effect.

Note! Before the new value takes effect, you can press the ESC button to recover the previous value.

Valve Configuration Parameters



Nr—Channel (valve) number. A maximum of 4 channels (valves) can be displayed on two screens.

Type—Valve type. Code number corresponding to the specific valve. Each valve type includes preset Ton and Toff values (refer to the chart on the following page).

Ton—Valve-specific turn-on reaction (compensation) time. Compensation times of 0.1 to 25 milliseconds can be entered.

Toff—Valve-specific turn-off reaction (compensation) time. Compensation times of 0.1 to 25 milliseconds can be entered.

Tmin—Minimum valve-specific time necessary for the valve to open. Minimum duration that the valve will be forced to stay open. This function is used if the combination of Ton and Toff times produce glue patterns that are too short. The Tmin time allows the valve to stay open for a minimum period of time (0.1-25 milliseconds). This function may override the Toff time.

CF—Correction factor. This function adapts individual valves to variations in parent machine speed (50-150%). The correction factor can be used when valves are placed on a section of the parent machine that experiences variations in web speed. It is often used on right-angle machines.

Note! This factor is for valve-timing correction. Do not use this factor as a general ratio compensation. See "Encoder Configuration" in this section for information about general ratio compensation.

Vmin—Parent machine threshold speed. Gluing will begin above this speed and stop when the parent machine operates below this speed. The manual valve function (MAN test function) is not affected by Vmin. Separate Vmin speeds can be set for each valve.

Valve-Type Parameters

Code #	Valve Type	Specification	Ton (ms)	Toff (ms)	tmin (ms)
01	300-E	Electric glue valve, non-contact, 12VDC	3,0	3,0	0,3
02	400E/EC	Electric glue valve, non-contact/contact, 12VDC	4,0	3,8	1,5
03	585	Electric glue valve, no extension, 12VDC	4,4	4,4	1,5
04	585/2	Electric glue valve, 2" extension, 12VDC	5,0	5,0	1,5
05	585/4	Electric glue valve, 4" extension, 12VDC	5,8	5,8	1,5
06	EL-X/24	Electromatic-X hot-melt drive, 24VDC	4,8	7,3	1,5
07	9020 LE	Electromatic-X hot-melt drive, 24VDC	4,8	7,3	1,5
08	366/24	Pneumatic glue valve w/ 24VDC MAC	15,0	12,0	1,5
09	369/24	Pneumatic glue valve w/ 24VDC MAC	15,0	12,0	1,5
10	05P/24	Pneumatic glue valve w/ 24VDC MAC	20,0	18,0	2,0
11	07HP/24	Pneumatic glue valve w/ 24VDC MAC	7,5	7,0	1,5
12	08HP/24	Pneumatic glue valve w/ 24VDC MAC	8,5	8,5	1,5
13	SP-1/24	Pneumatic glue valve w/ 24VDC MAC	10,0	10,0	1,5
14	SP1MM24	Pneumatic mini-module valve w/ 24VDC MAC	10,0	9,5	1,5
15	EL-XC	Electromatic-X, hot-melt valve, 24VDC	4,6	5,0	2,5
16	400E/24	Electric glue valve, non-contact/contact, 24VDC	4,0	3,8	1,5
17	FST01W5	Pneumatic glue valve with 24VDC FESTO	10,0	19,0	3,0
18	366/12	Pneumatic glue valve with 12VDC MAC	15,0	12,0	1,5
	900	Electric glue valve, solenoid actuated, non-contact/contact, 12VDC	5,4	8,0	1,5
31	MAC3/12	MAC 3-way valve, 12VDC/8,5W	5,0	5,0	2,0
32	MAC3 24	MAC 3-way valve, 24VDC/8,5W	5,0	5,0	2,0
33	MAC4/12	MAC 4-way valve, 12VDC/12,7W	5,0	5,0	2,0
34	MAC4/24	MAC 4-way valve, 24VDC/12,7W	5,0	5,0	2,0
35	M-17324	MAC 3-way valve, 24VDC/17,5W	5,0	5,0	2,0

Note! More valve types may exist. For more information, please contact your Valco Cincinnati representative.

Pressure-Transducer Configuration

F1

To configure the pressure transducer, follow these steps:

1. At the setup menu (Figure 8-5), press F1 (Pres.). The pressure-transducer configuration screen displays (Figure 8-6).
2. Use the arrow keys to move the cursor to the parameter that you want to change (see *Pressure- Transducer Configuration Parameters* on the following page).
3. Use the numeric keypad to enter a value for the parameter, or use the scroll buttons to select a value.
4. Either press the ENTER button or wait 3 seconds. The new value takes effect.

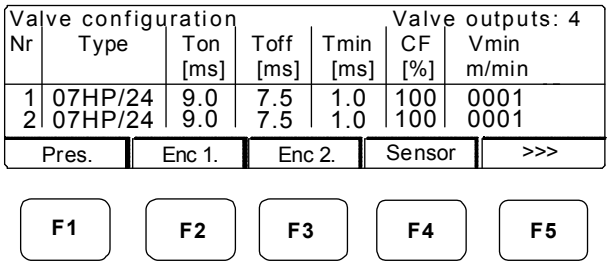


Figure 8-5. Setup Menu

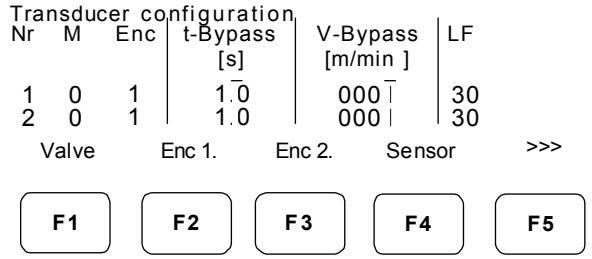
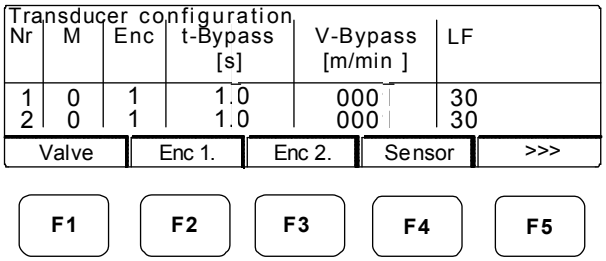


Figure 8-6. Pressure-Transducer Configuration Screen

Pressure-Transducer Configuration Parameters



Nr—Pressure transducer number (1-2)

M—Pressure transducer mode

0	=	Percentage pressure curve. Pressure data entered in % (0-100%)
1	=	Same as mode 0 with a bypass function. T-bypass and V-bypass are programmed in this mode. (A bypass card is required.)
2	=	Same as mode 0 but with a different bypass function. A bypass card is also required.

Enc—Encoder assignment

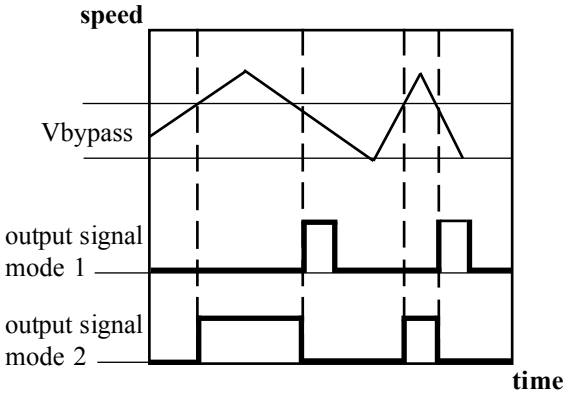
t-bypass—Used only in mode 1. The length of time that the bypass valve remains open when activated (0-10 seconds).

V-bypass—

Mode 1—If parent machine is decelerating and speed drops under V-bypass, the valve opens for the time t-bypass. The valve can only be activated again if the machine speed is increased to higher than the threshhold speed (V-bypass).

Mode 2—The valve opens if the parent machine speed is higher than V-bypass and closes if the speed drops lower than V-bypass (t-bypass has no effect).

LF—Calibration factor. The calibration factor (LF) is used to compensate for differences between the hardware (I/O board) and the software. This value is factory-set and should require no further adjustment. If an I/O board is replaced, make sure the LF values in this menu correspond with the LF values printed on the new I/O board.



V-Bypass

Encoder Configuration

F2 F3

To configure the encoder, follow these steps:

1. At the setup screen (Figure 8-7), press F2 (Enc.1) to configure encoder 1, or press F3 (Enc.2) to configure encoder 2. The encoder-configuration screen displays (Figure 8-8).
2. Use the arrow keys to move the cursor to the parameter you want to change (refer to *Encoder Configuration Parameters* on the following page).
3. Use the numeric keypad to type a value for the parameter, or use the scroll buttons to select a value.
4. Either press the ENTER button or wait 3 seconds. The following message displays: "The change takes effect when the control is turned on again!".
5. Press F3 (OK) to confirm the message.

Notes! If you place an [X] in a field, you must press the ENTER button for the new value to take effect. Before the new value goes into effect, you can press the ESC button to recover the previous value.

6. The control is set by default to minimum speed (Vmin) for the valves. After changing encoder data, check the minimum speed for each valve.

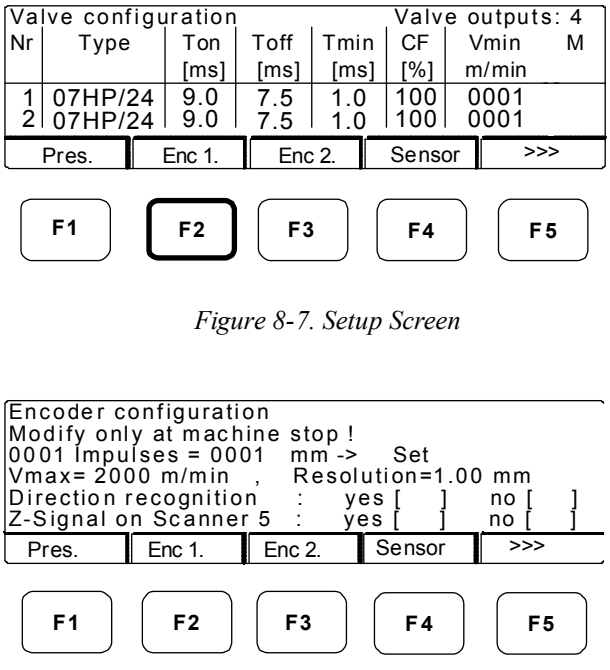
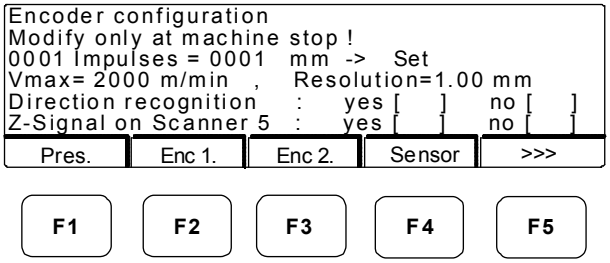


Figure 8-7. Setup Screen

Figure 8-8. Encoder-Configuration Screen

Encoder Configuration Parameters



Impulses—The number of impulses per encoder revolution (encoder-specific). This value must be entered in either millimeters or inches. If this value changes, the unit must be turned off and turned on again to activate the change.

> **Note!** After setting impulses, move the cursor to the "Set" field and press the "ENTER" button. Otherwise, the ratio compensation does not change.

mm (inches)—Enter the travel length per encoder revolution of parent machine. (Optimum: 1 impulse = 1 mm or 1/100 inch of product travel) Changing this setting may alter the maximum speed capacity and resolution of the MCP-25. (If this value changes, turn the unit off and turn it on again to activate the change.)

> **Notes!** After setting travel length and/or impulses, you have to move the cursor to the "Set" field and press the "ENTER" button. Otherwise, the ratio compensation does not change.
>
> The ratio should be as close to 1:1 as possible. If this ratio is obtained, the control can operate at speeds up to 6500 feet/min (2000 m/min). Since the accuracy of the control amounts to 1 impulse or less, the maximum possible deviation is 1 mm or less. This accuracy can be increased if the resolution of the encoder is less than 1 mm (one impulse corresponds to less than 1 mm of product travel). However, the maximum possible speed (Vmax) required with this accuracy reduces the ratio accordingly. The Vmax parameter and the resolution change automatically.

Vmax—The maximum speed at which the accuracy and resolution of the encoder are maintained. (Display only, cannot be edited.) (See the note above.)

Resolution—Resolution of encoder impulses. (Display only, cannot be edited.) (See the note above.)

Direction recognition—If the direction recognition function is activated, gluing is only possible in one direction for the parent machine. Additionally, an encoder with an A+B signal output is required. Note the installation orientation of the encoder.

> **Note**! The direction recognition function is not available when using a VCE/VLD encoder.

Z-signal (start signal)—Allows the encoder to be used as a start signal instead of scanner 5. The Z-signal function requires a 1:1 encoder ratio.

> **Note**! The duration of the start signal should be at least 10 microseconds (ms). Otherwise, the start signal is disregarded.

Sensor and Alarm Configuration

F4

The optional machine-stop relay and alarm/beacon interface are required to indicate a jam condition or glue-inspection fault to the parent machine. To configure the sensor and the alarm, follow these steps:

1. Press F4 (Sensor). The sensor-and-alarm configuration screen displays (Figure 8-9).
2. Use the arrow keys to move the cursor to the parameter (**No**, **Enc**, **CF**) you want to select and change (see *Sensor Configuration Parameters* below). Use the numeric keypad or the scroll buttons to enter and select values.
3. To configure the alarm (see *Alarm Configuration Parameters* below), move the cursor to the Cons. Flts. Max. field and press ENTER (an X appears to show the field has been selected).
3. Enter an X in each 24V field.
4. Move the cursor to the Cons. Flts. Max. field and enter the number of consecutive faults that are acceptable before activating a machine stop.

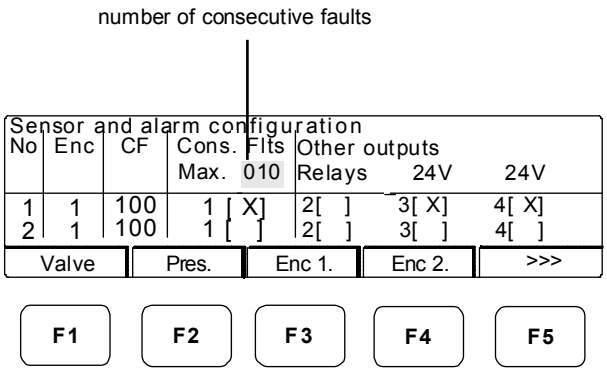


Figure 8-9. Sensor-and-Alarm Configuration Screen

Sensor Configuration Parameters

No—Sensor number

Enc—Encoder number

CF—Correction factor. This function adapts individual valves to variations in parent machine speed (50-150%). The correction factor can be used in cases where valves are placed on a section of the parent machine that experiences variations in web speed. The correction factor can also be used to adjust the placement of the glue pattern. (Refer to the *Operation* section in this manual.)

Alarm Configuration Parameters

Cons. Flts—Activates consecutive faults function

Note! The number of consecutive faults must be entered

Other outputs—Activates other alarm output (2, 3, and 4) functions (refer to wiring diagram alarm outputs).

Marking-Valve Configuration

F1

To configure the marking valve, follow these steps:

1. At the setup screen, press F5 (>>>).
2. Press F1 (Mark.V). The marking-valve configuration screen displays (Figure 8-10).
3. Use the arrow keys to move the cursor to the parameter you want to change (see *Marking-Valve Configuration Parameters* in this section).
4. Use the numeric keypad to type a value for the parameter, or use the scroll buttons to select a value.
5. Either press the ENTER button or wait 3 seconds. The new value takes effect.

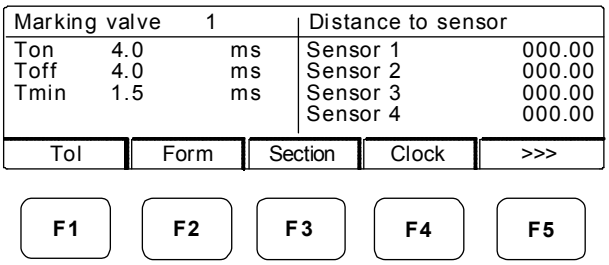


Figure 8-10. Marking-Valve Configuration Screen

Marking-Valve Configuration Parameters

Ton—Valve-specific turn-on reaction (compensation) time. Compensation times of 0.1 to 25 milliseconds can be entered.

Toff—Valve-specific turn-off reaction (compensation) time. Compensation times of 0.1 to 25 milliseconds can be entered.

Tmin—The minimum valve-specific time necessary for the valve to open. Minimum duration that the valve will be forced to stay open. This function is used if the combination of Ton and Toff times produce glue patterns that are too short. The Tmin time allows the valve to stay open for a minimum period of time (0.1-25 milliseconds). This function may override the Toff time.

Sensors 1-4—Distance from sensors to the marking valve (at least one maximum product length)

> **Note!** These values can be learned when an additional scanner is mounted beside the marking valve (or ejector). Refer to *Section 13—The Learn Function, Learning the Distance Between Sensor and Marking Valve/Ejector*.

Tolerance Configuration

F2

To configure tolerance levels, follow these steps:

1. Press F2 (Tol). The "Tolerance level +/- " configuration screen displays (Figure 8-11).
2. Use the arrow keys to move the cursor to the parameter you want to change (see *Tolerance-Level Configuration Parameters* below).
3. Use the numeric keypad to type a value for the parameter, or use the scroll buttons to select a value.
4. Either press the ENTER button or wait 3 seconds. The new value takes effect.

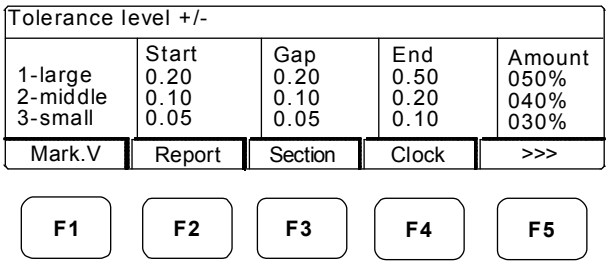


Figure 8-11. Tolerance Level +/- Configuration Screen

Tolerance-Level Configuration Parameters

Start—Tolerances at the beginning of a glue line

Gap—Tolerated gap

End—Tolerance at the end of the glue line

Volume—Volume tolerance (variation to learned glue value)

Report Configuration

The Faults Data Report (see Figure 12-14 on the following page), which is printed from the inspection screen, is configured in the setup menu. The following two components should be configured:

- Report headers
- Section names

The report header and section name can consist of any combination of alphanumeric characters. Use the scroll buttons to enter letters and the "-" sign and the numeric keypad to enter numbers. Press the right arrow key to advance to the next character place. Press the left arrow key to go back to the previous character.

Report Headers F3

A report header is used to identify the report. An example of a report header is a company name and address. To create report headers, follow these steps:

1. Press F3 (Report). The "Report Header" screen displays (Figure 8-12).
2. Use the arrow keys to move the cursor to line 1.
3. Type the report header you want to use.
4. Either press the ENTER button or wait 3 seconds. The new value takes effect.

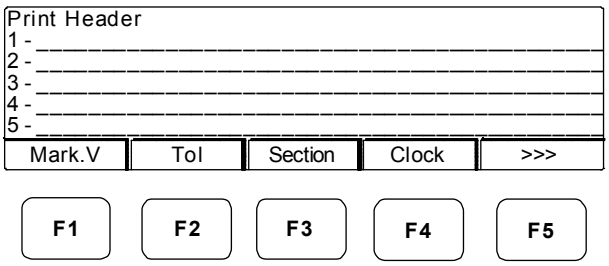


Figure 8-12. "Report Header" Screen

Section Names F4

A section name is used to identify the section in which the fault occurs. An example of a section name is the machine name. To create a section name, follow these steps:

1. Press F4 (Section). The "Name each Section:" screen displays (Figure 8-13).
2. Use the arrow keys to move the cursor to the "Section 1:" field.
3. Type the section name you want to use.

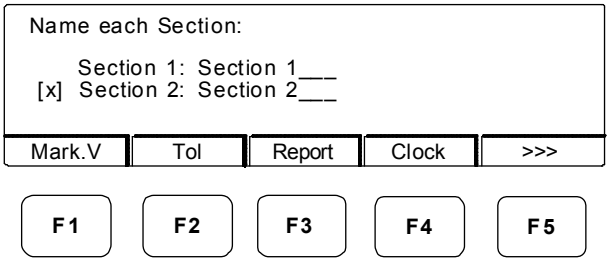
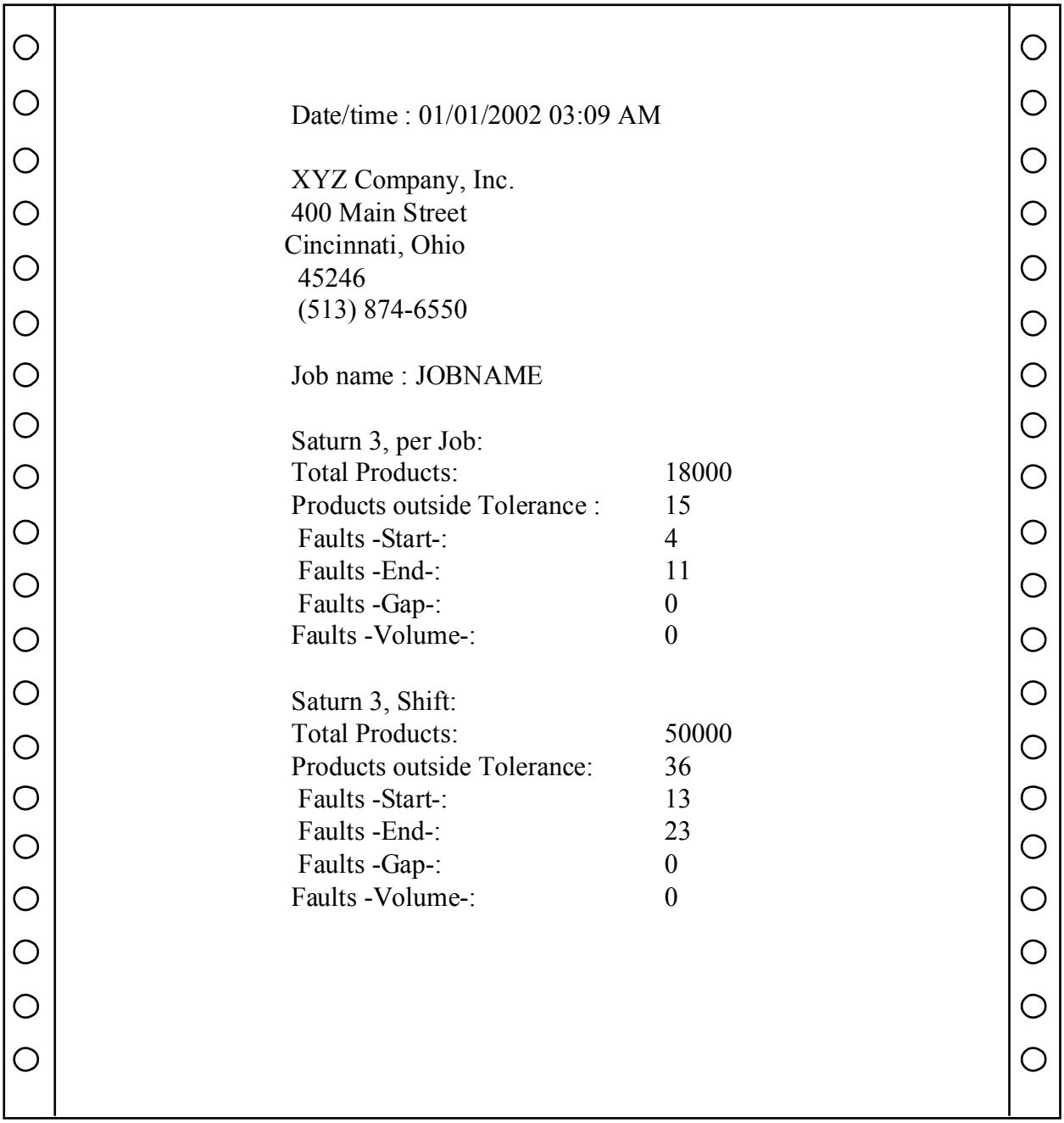


Figure 8-13. "Name each Section:" Screen

4. Either press the ENTER button or wait 3 seconds. The new value takes effect.
5. Repeat steps 2-4 for the "Section 2:" field.

Note! In order to have a second section, the box to the left of the "Section 2:" field must be selected (see Figure 8-13).



Date/time : 01/01/2002 03:09 AM

XYZ Company, Inc.
400 Main Street
Cincinnati, Ohio
45246
(513) 874-6550

Job name : JOBNAME

Saturn 3, per Job:	
Total Products:	18000
Products outside Tolerance :	15
Faults -Start-:	4
Faults -End-:	11
Faults -Gap-:	0
Faults -Volume-:	0
Saturn 3, Shift:	
Total Products:	50000
Products outside Tolerance:	36
Faults -Start-:	13
Faults -End-:	23
Faults -Gap-:	0
Faults -Volume-:	0

Figure 8-14. Example of a Faults Data Report with only One Section Active

Programming Time, Date, and PIN Code

F1

To program time, date, and PIN code, follow these steps:

1. Press F1 (Clock). The time/date/PIN-code configuration screen displays (Figure 8-15).
2. Use the arrow keys to move the cursor to the “New time” field.
3. Use either the numeric keypad or the scroll buttons to enter a new time if necessary.
4. Use the arrow buttons to move the cursor to the “SET” field.
5. Press the ENTER button to enter the new information into memory.
6. Use the arrow keys to move the cursor to the “New date” field.
7. Use either the numeric keypad or the scroll buttons to enter a new date if necessary.
8. Use the arrow buttons to move the cursor to the “SET” field.
9. Press the ENTER button to enter the new information into memory. The cursor automatically moves to the PIN-code field.
10. Use the numeric keypad to type a PIN-code number.

Note! Maximum length of the PIN code is 11 numbers.

11. Press the ENTER button, or press the ESC button to return to previous data.

Note! If someone has changed the PIN code, the factory-set PIN code (123) is obsolete; only the new PIN code is valid.

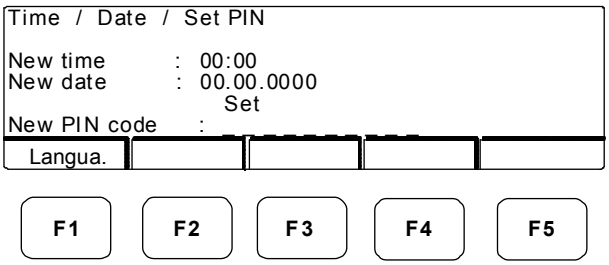


Figure 8-15. Time/Date/PIN-Code Configuration Screen

Selecting Language, Country Code, Date Format, and Length Unit

F2

To select language, country code, date format, and length unit, follow these steps:

1. From the Time/Date/PIN-Code Configuration screen, Press F2 (Langua.). The language-configuration screen displays (Figure 8-16).

Note! Current active parameters are marked with [X].

2. Use the arrow keys to move the cursor to the desired language.
3. Press the ENTER button to select the new language.
4. Use the arrow keys to move the cursor to the desired date format.
   Euro = day.month.year
   USA = month/day/year
5. Press the ENTER button to select the desired date format. [X] displays in the selected field.
6. Use the arrow keys to move the cursor to the desired length unit.
7. Press the ENTER button to select the desired length unit. [X] displays in the selected field.

Note! The length unit must be selected before a job is programmed. Changing measuring units after job information has been stored may change the job information (that is, values will not be calculated). For example, 0048 mm may change to 00,48 inches or vice versa.

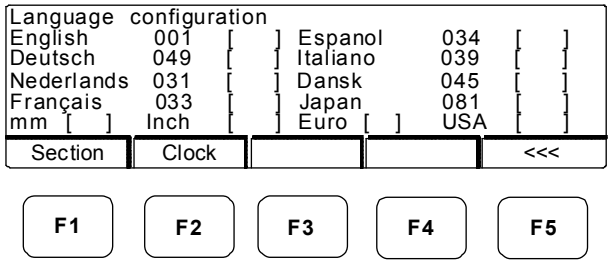


Figure 8-16. Language-Configuration Screen

Section 9—Glue-Pattern-Edit Menu (Standard)

Introduction

The glue-pattern-edit menu allows you to edit glue patterns. To access the glue-pattern-edit menu, follow this step:

1. Press the glue-pattern-edit icon button (Figure 9-1). The glue-pattern-edit menu displays (Figures 9-2 and 9-3).

Note! One of four glue-pattern-edit menus displays, depending on which mode (standard, continuous-gluing, stitch, or jogging) is currently selected in the mode-selection screen. To select a different mode, see *Selecting a Mode* later in this section. Each valve can run in an independent mode.

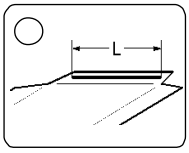


Figure 9-1. Glue-Pattern-Edit Icon Button

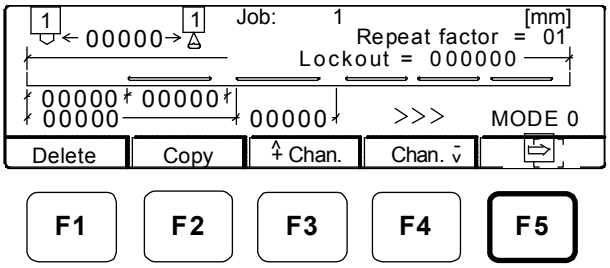


Figure 9-2. Glue-Pattern-Edit Menu with Standard, Stitch, or Jogging Mode Selected (Standard Mode Shown)

Types of Modes

There are four types of gluing operation modes:

- ***Mode 0—Standard Mode***
  Contains programmable glue patterns.
- ***Mode 1—Continuous-Gluing Mode***
  Gluing is activated or deactivated using the Vmin minimum-speed setting. This mode is Vmin dependent—the valve turns on when the parent machine operates above the minimum-speed setting, and turns off when the parent machine operates below the minimum-speed setting.

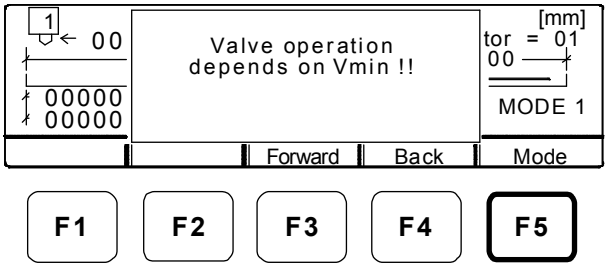


Figure 9-3. Glue-Pattern-Edit Menu with Continuous-Gluing Mode Selected

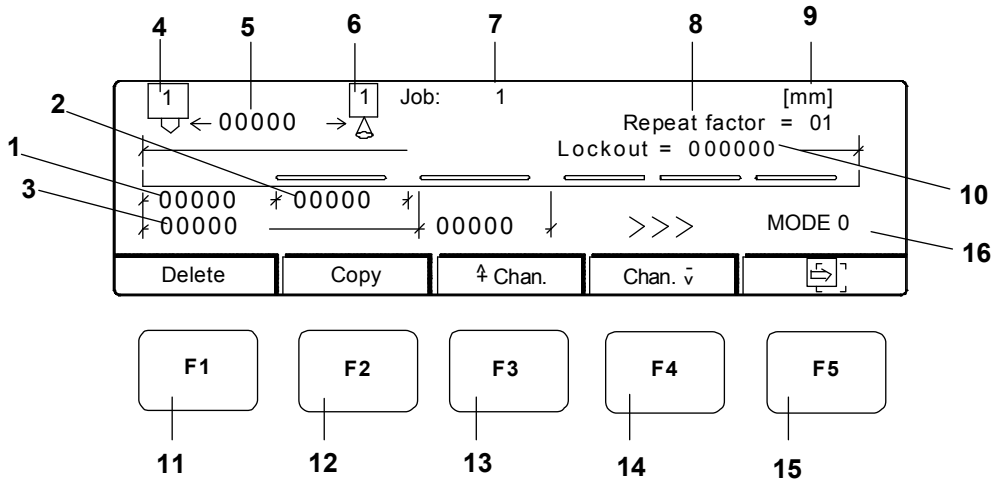
- ***Mode 2—Stitch Mode***
  Stitch mode is used for discontinuous lines. This mode is useful for economical application of long lines of glue. It allows different input possibility of bead length and gap length. Intermittent gluing is also possible. The control will take into account that each pattern ends with applied glue (not with a gap). Be aware that it can cause the gap to deviate slightly from the entered value.
- ***Mode 3—Jogging Mode***
  Jogging mode is used for extremely low speeds. Jog-speed gluing is activated or deactivated by using the V-jogging speed setting (possible inputs of dot size and gap length).

Glue-Pattern-Edit Parameters

Values for the glue-pattern data must correspond to the values chosen in the setup menu (either in millimeters or 1/100 inch).

Example: *Unit of measure selected in the setup menu is millimeters:* 0100 = 100 mm
Unit of measure selected in the setup menu is inch: 01.00 = 1 inch

Note! The information displayed below is an example only.



1 **Start Point of Pattern 1 (Pattern-Delay 1)**
The distance from the leading edge of the product to the start of the first glue pattern. This value must be entered in either millimeters or 1/100 inches, depending on the setup of the control. Maximum allowable delay is 9999 mm or 99.99 inches. Pressing F5 (>>>) displays values for glue patterns 3, 4, and 5.

2 **Glue-Pattern 1**
The length of the first glue pattern. This value must be entered in millimeters or 1/100 inches, depending on the setup of the control. Maximum allowable pattern length is 9999 mm or 99.99 inches. Pressing F5 (>>>) displays values for glue patterns 3, 4 and 5.

3 **Start Point of Pattern 2 (Pattern-Delay 2)**
The distance from the leading edge of the product to the start of the second glue pattern. This value must be entered in either millimeters or 1/100 inches, depending on the setup of the control. Maximum allowable delay is 9999 mm or 99.99 inches. Pressing F5 (>>>) displays values for glue patterns 3, 4, and 5.

4 **Valve Number**
This field indicates the number of the valve to which the information on the screen pertains. Up to 8 valves are available for a job. Press F3 (FORWARD) or F4 (BACK) to select the information for a different valve.

5 **Cell-to-Gun Dimension**
Enter the distance between the glue valve's nozzle opening and the middle of the scanner. Enter this value in millimeters or 1/100 inches depending on the setup of your MCP-25 (see "Setup menu"). Maximum distance = 19999 mm or 199.99 inches.

6 **Scanner Assignment**
Determine which scanner (or start signal) to use with the glue pattern of a channel (valve). If all scanners are installed, you can choose any one of four scanners for a channel (valve).

Note! Scanner 5 can be used as an encoder start signal (0 signal). (See "Encoder Configuration" in *Section 8—Setup Menu.*)

7 Job Name
This field displays the name of the job. The job name cannot be edited in the glue-pattern-edit screen.

8 Repeat Factor
This field contains the number of identical, consecutive glue patterns (based on the first pattern specified).

If repeat factor = 1, the glue pattern (as entered) will be applied one time (there are a maximum of 5 independent glue lines).

If repeat factor = 2 to 99, the complete glue pattern will be applied by the valve (maximum of 4 glue lines) 2 to 99 times. The pattern startpoint (delay) of the repetition is the last startpoint given in the glue-pattern-edit menu. Therefore, it is important that the corresponding glue pattern length is set to 0. The difference between the first startpoint and the last is the distance between the pattern repetitions.

Note! The repeat factor function will not work unless a startpoint (delay) is entered for the pattern that will follow the entered pattern. (See "Glue-Pattern Example (Standard Mode)" later in this section.) For this reason, up to four identical or non-identical patterns can be used by each valve (maximum of 5 in the case of no repetition). The startpoint of the repetition is the delay after the last glue line.
Example:

2 glue lines: delay 3 = start of repeat, glue length 3 must be "0"

4 glue lines: delay 5 = start of repeat, glue length 5 must be "0"

9 Unit of Measure
This field indicates the unit of measure (millimeters or inches) that has been selected in the setup menu. (See *Section 11—Setup Menu* for information about how to change the unit of measure.)

10 Scanner Lockout
This field contains the lockout length of the scanner signal. The scanner signal is not accepted once a lockout length has been entered. This function can be used to bypass cutouts on the product. The entered lockout length should be 10 mm (0010) or 1/2 inch (00.50) longer than the product cutout. Maximum allowable lockout length is 19999mm or 199.99 inches.

11 F1
Press F1 (DELETE) to delete the glue-pattern information for this channel (valve). (See "Deleting a Glue Pattern" later in this section.)

12 F2
Press F2 (COPY) to copy the glue pattern information for this valve to another valve. (See "Copying a Glue Pattern" later in this section.)

13 F3
Press F3 (+ Chan.) to display the edit screen for the next valve. Up to 8 valves are available in 1 job.

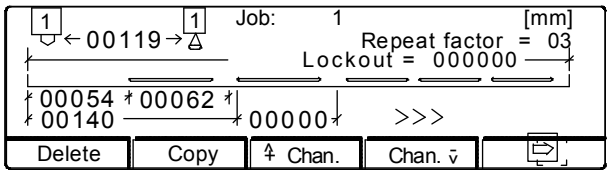
14 F4
Pressing F4 (Chan.) to display the edit screen of the previous valve. Up to 8 valves are available in 1 job.

15 F5
Press F5 ( ) to display the information for glue patterns 3, 4, and 5.

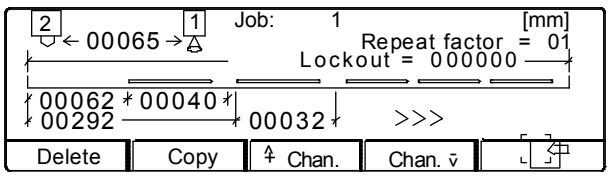
16 MODE
Moving the cursor to the word "MODE" and then pressing the "ENTER" button displays the mode-selection screen (see "Selecting a Mode" in this section").

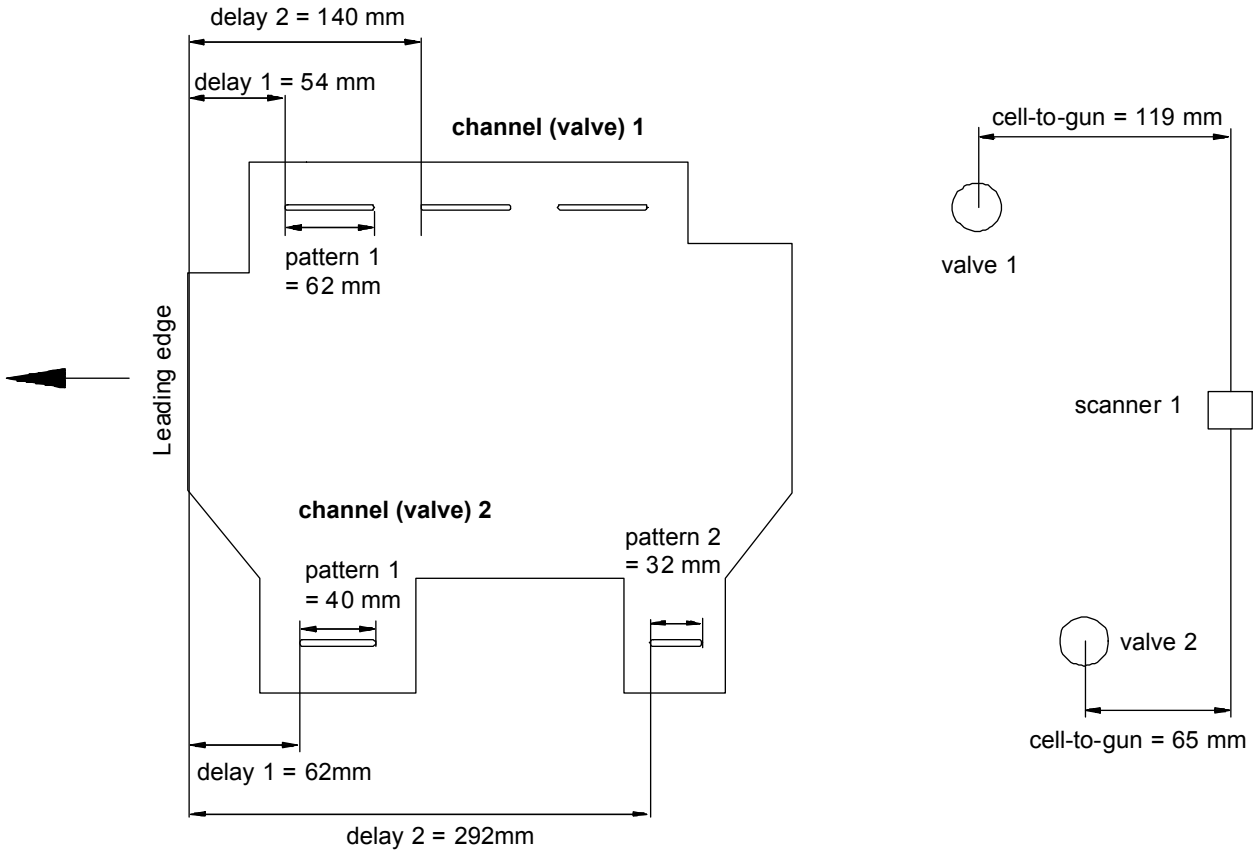
Glue-Pattern-Example (Standard Mode)

Channel (valve) 1



Channel (valve) 2





Selecting a Mode

To select a mode, follow these steps:

1. In the glue-pattern-edit menu, move the cursor to the word "MODE" in the lower right corner of the screen (Figure 9-4).
2. Press the ENTER button. The mode-selection screen displays (Figure 9-5).
3. Move the cursor to the right of the mode you want to select.
3. Press the ENTER button.
4. If you selected either stitch mode or jogging mode, enter the appropriate parameters (see notes below).
5. Press F5 ( ) to return to the glue-pattern-edit menu.

Note! If you selected stitch mode (mode 2) in the mode-selection screen, follow this step:

1. Enter the following parameters by moving the cursor to the field that you want to change and entering the values:

   Length—Length of each dot or bead of the stitch pattern. Maximum allowable is 199mm.
   Gap—Length of each gap between each dot or bead. Maximum allowable is 199mm.
   BatchCount—(optional feature) Enter the number of products to be counted before a product is marked.

Note! If you selected jogging mode (mode 3) in the mode-selection screen, follow this step:

1. Enter the following parameters by moving the cursor onto the field that you want to change and entering the values:

   Vjog—Maximum speed until jogging cycle operates. Over this speed, the gluing becomes standard. Maximum allowable is 300m/min.
   Tjog—The dot size valve opening time in milliseconds. Maximum allowable is 9.9 milliseconds.
   Dot gap—The length of the gap between each single dot. Maximum allowable is 199 mm.
   BatchCount—(optional feature) Enter the number of products to be counted before a product is marked.

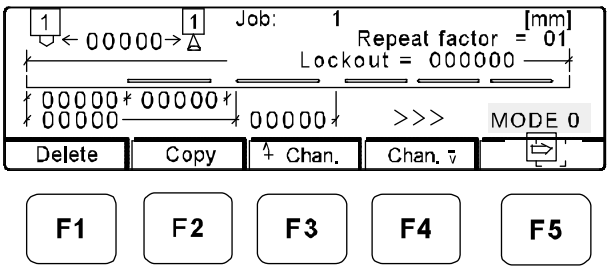


Figure 9-4. "MODE" Field in Glue-Pattern-Edit Menu

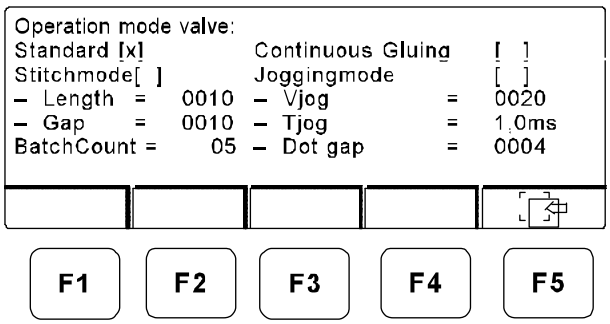


Figure 9-5. Mode-Selection Screen

Entering/Editing a Glue Pattern

To enter or edit a glue pattern in ***standard mode (0)***, ***stitch mode (2)***, or ***jogging mode (3)***, follow these steps:

1. Using the arrow keys, move the cursor to the field you want to change.
2. Using the either the numeric keypad or the scroll buttons (+10, +1, -1, -10), enter a new value for the field.

Note! Newly entered or changed values will be immediately accepted by the control. Therefore, complete values must be entered quickly.

Note! The cursor automatically moves to the next display field when the ENTER button is pressed. Arrow keys can also be used to move to the desired field.

Continuous-gluing mode (1):

In continuous-gluing mode (see Figure 9-7), the operation of the valve depends on the Vmin minimum-speed setting. The valve turns on when the parent machine operates above the minimum-speed setting, and turns off when the parent machine operates below the minimum-speed setting. Therefore, the parameters cannot be changed in the glue-pattern-edit menu. You can press F5 (Mode) to display the mode-selection screen, where you can select a different mode.

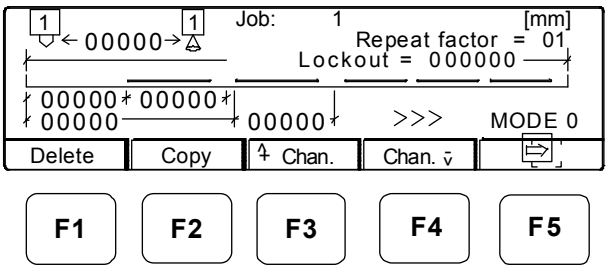


Figure 9-6. Glue-Pattern-Edit Menu with Standard, Stitch, or Jogging Mode Selected (Standard Mode Shown)

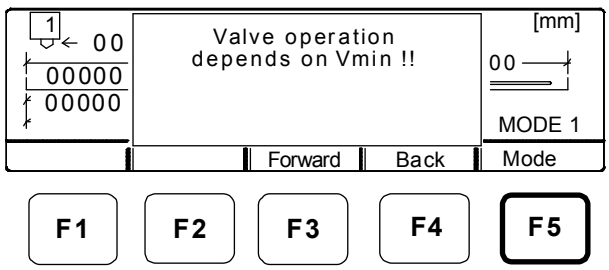


Figure 9-7. Glue-Pattern-Edit Menu with Continous-Gluing Mode Selected

Deleting a Glue Pattern

F1

To delete a glue pattern, follow these steps:

1. Press F1 (Delete) to delete the glue-pattern data for the channel (valve) displayed. The "Delete glue pattern?" message displays.
2. Press F2 (Yes) to delete the glue pattern or F4 (Cancel) to cancel the operation and retain the current glue-pattern data.

Note! If you press F4 (Cancel), all previously entered data will be deleted, including the cell-to-gun distance!

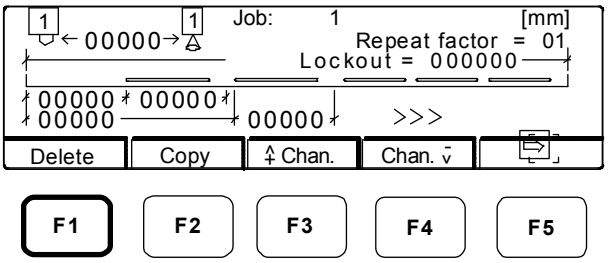


Figure 9-8. Glue-Pattern-Edit Menu

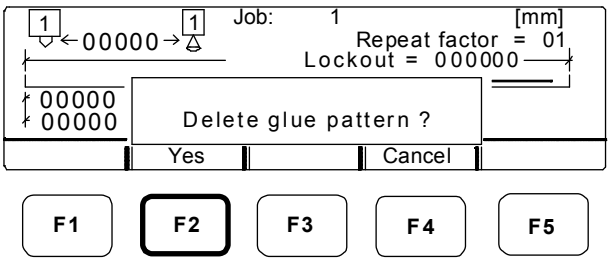


Figure 9-9. Glue-Pattern-Edit Menu with Message

Copying a Glue Pattern

F2

This function allows you to copy a complete glue pattern (with corresponding scanner and cell-to-gun distances) to another channel (valve).

To copy a glue pattern, follow these steps:

1. Press F3 (Forward) or F4 (Back) to select the glue pattern to copy.
2. Press F2 (Copy). The "Copy glue pattern data. Select via the valve selection buttons" message displays (Figure 9-12) and the LEDs on the valve-selection buttons begin to flash.
3. Select a destination for the copied data by pressing one or more valve buttons. The "Begin copy function?" message displays (Figure 9-13) and the LED on the valve-selection button stops flashing and becomes solid green.

Note! If you press the wrong valve-selection button and have not yet copied data, press the button again to deselect it.

4. Press F2 (Yes) to begin copying data or F4 (Cancel) to cancel.

Note! If you press F2 (Yes), the old glue-pattern parameters are overwritten.

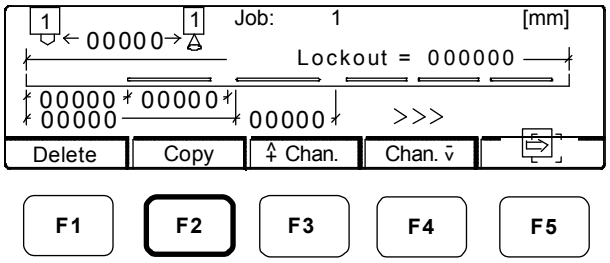


Figure 9-11. Glue-Pattern-Edit Menu

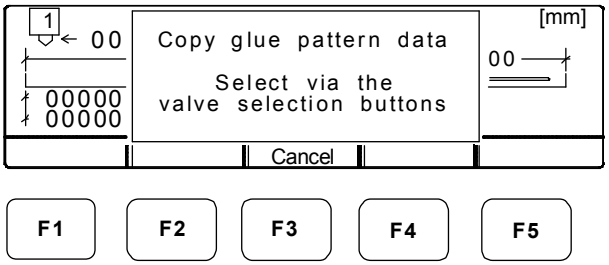


Figure 9-12. Glue-Pattern-Edit Menu with Message

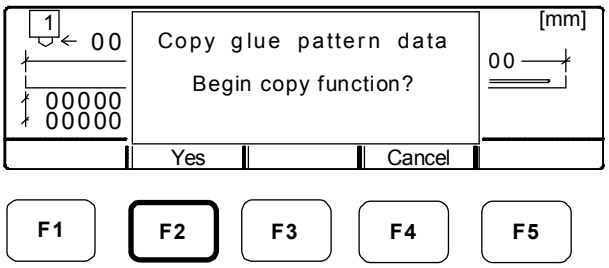


Figure 9-13. Glue-Pattern-Edit Menu with Message

Automatic Gluing Function

This function is available beginning with the March, 2001 release of the software. Automatic gluing uses a scanner to measure the tab length of every box in order to calculate where to apply the glue. With this function, operators do not need to make adjustments on a job change. Additionally, automatic gluing helps avoid machine contamination when glue patterns are not set up correctly or when there are problems with the die cut of the tab.

When the glue inspection is used, the operator must start a "Measure Function" when changing to a new job. This is required to recalculate the glue length for the inspection CPU. From that point forward, the inspection will verify each glue line with this length.

If the Automatic Gluing Function is activated, the Automatic Gluing Function screen (Figure 9-14) displays when the Glue-Pattern-Edit Menu Icon button is pressed.

To change values for Automatic Gluing, follow these steps:

1. Use the arrow keys to move the cursor to the Start Delay field. Use the numeric keypad or the scroll buttons (+10, +1, -1, -10) to enter a value for the delay.
2. Press the ENTER button.
3. Use the arrow keys to move the cursor to the End Gap field. Use the numeric keypad or the scroll buttons (+10, +1, -1, -10) to enter a value for the end gap.
4. Press the ENTER button.

Notes! The Measure Function for the glue inspection can also be started by a remote button. Connect an N.O. push button to an unused scanner input. In the special setup, set parameter 1031 'Ext. learn input' to the number of the scanner input (0 = Disabled).

The Automatic Gluing Function can be activated for one channel as well. Set the parameter 1050 (Glue Wheel Channel) to the valve number to configure the output channel. This function can replace the glue wheel on folding carton machines.

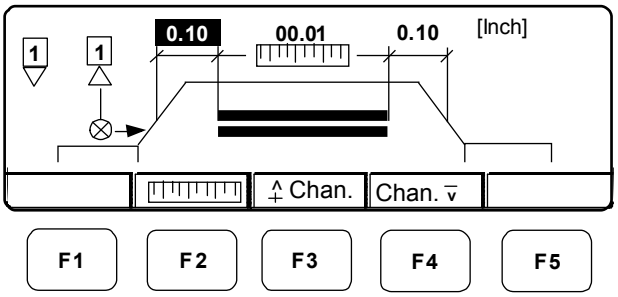


Figure 9-14. Automatic Gluing Function screen

Note! To use automatic gluing, the function must be activated in the special setup process via parameter values. Contact your Valco representative to if you wish to gain access to automatic gluing.

Section 10—Glue-Pattern-Edit Menu (Flexoseal)

Introduction

This appendix contains the screens for the MCP-25/FS control. All of the screens are the same as those of the MCP-25/MS control except for the glue-pattern-edit screens and the glue-pressure-edit screens.

Flexoseal Modes

The MCP-25/FS control can be run in four different modes:

- *Mode 0*—top-down gluing, tab only, one channel (valve 1, sensor 1)
- *Mode 1*—top-down gluing, tab and 4th panel, two channels (valves 1 and 2, sensors 1 and 2)
- *Mode 2*—top-down, bottom-up gluing, tab only, two channels (valves 1 and 2, sensor 1)
- *Mode 3*—top-down, bottom-up gluing, tab and 4th panel, four channels (valves 1 and 2, sensor 1; valves 3 and 4, sensor 3)

Accessing the Glue-Pattern-Edit Main Menu

The glue-pattern-edit screens allow you to edit glue patterns.

To access the glue-pattern-edit main menu, follow this step:

1. Press the glue-pattern-edit icon button (Figure 10-1). One of four glue-pattern-edit screens displays (Figures 10-2, 10-3, 10-4, and 10-5), depending on control mode (0, 1, 2, or 3).

Note! Each valve can run in an independent mode.

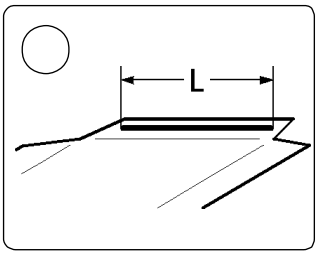


Figure 10-1. Glue-Pattern-Edit Icon Button

Main Screen for Mode 0—Top-Down Gluing, Tab Only

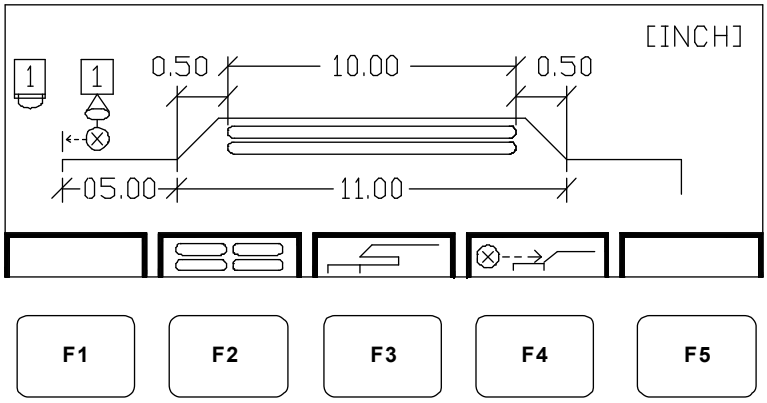


Figure B-2. Glue-Pattern-Edit Main Menu for Mode 0

Main Screen for Mode 1—Top-Down Gluing, Tab and 4th Panel

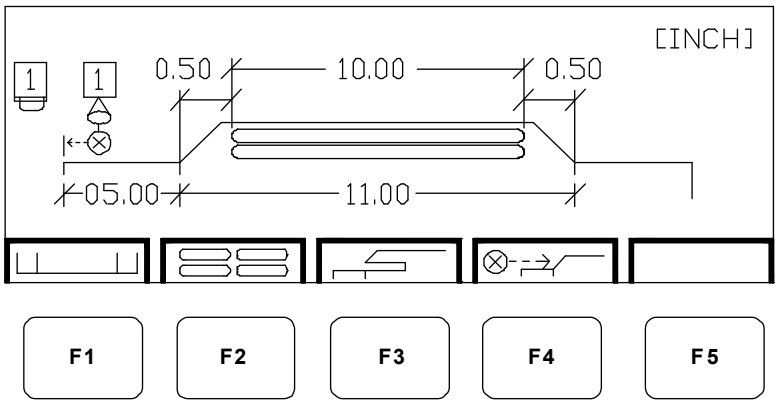


Figure B-3. Glue-Pattern-Edit Main Menu for Mode 1

Main Screen for Mode 2—Top-Down, Bottom-Up Gluing, Tab and 4th Panel

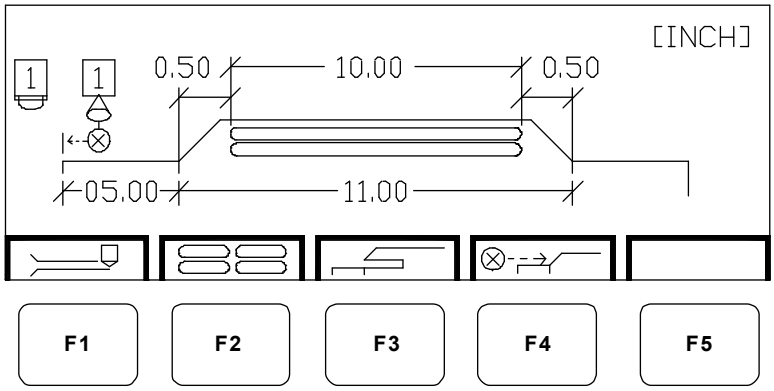


Figure 10-4. Glue-Pattern-Edit Main Menu for Mode 2

Main Screen for Mode 3—Top-Down, Bottom-Up Gluing, Tab Only

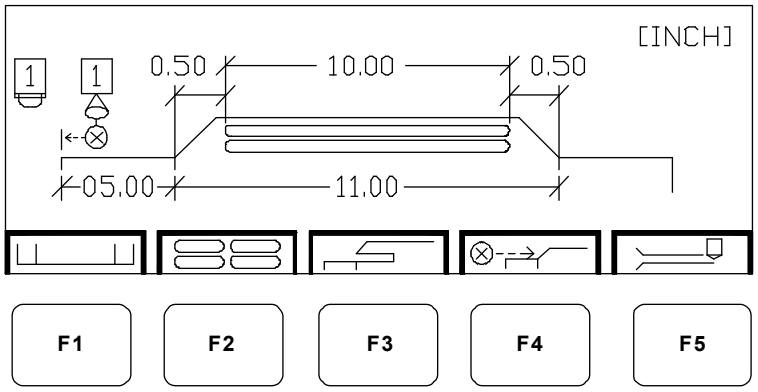


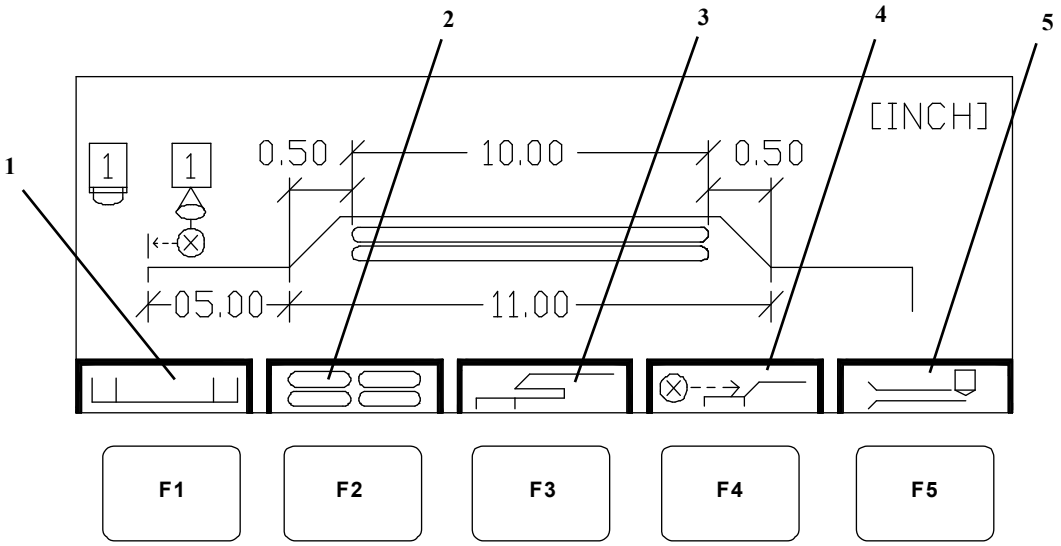
Figure 10-5. Glue-Pattern-Edit Main Menu for Mode 3

Glue-Pattern-Edit Parameters

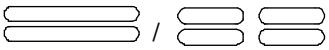
Values for the glue-pattern data must correspond to the values chosen in the setup menu (either in millimeters or 1/100 inch).

Example: *Unit of measure selected in the setup menu is millimeters:* 0100 = 100 mm
Unit of measure selected in the setup menu is inch: 01.00 = 1 inch

Notes! Mode 3 icons are shown in the figure below and the information is an example only. The F5 icon will be in the F1 location when the control is in mode 2. The function buttons (F1-F5) are "go-to" buttons. That is, when you press a button you will *go to* the function pictured on the button.

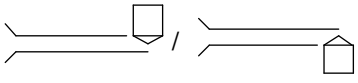


1 **F1—Toggles between 4th-panel gluing and tab gluing** 
This button toggles between 4th-panel gluing and tab gluing for the selected valve.

2 **F2—Toggles between single pattern and pattern/skip/pattern** 
This button toggles between single pattern and pattern/skip/pattern gluing for the selected valve.

3 **F3—Allows you to select either extended-tab or normal-tab gluing**
This button displays the tab-selection screen, which allows you to select either extended-tab or normal-tab gluing.

4 **F4—Allows you to select the scanner position and assignment**
This button displays the scanner-configuration screen, which allows you to select the scanner position and assignment.

5 **F5—Toggles between channels** 

This button toggles between channels on top-down, bottom-up gluing.

Selecting 4th-Panel or Tab Gluing

To select 4th-panel or tab gluing, follow these steps:

1. To select 4th-panel gluing, press F1 ( ). The 4th-panel-gluing screen (Figure 10-6) displays.
2. To return to the tab gluing screen, press F1 ( ). The tab-gluing screen (Figure 10-7) displays.

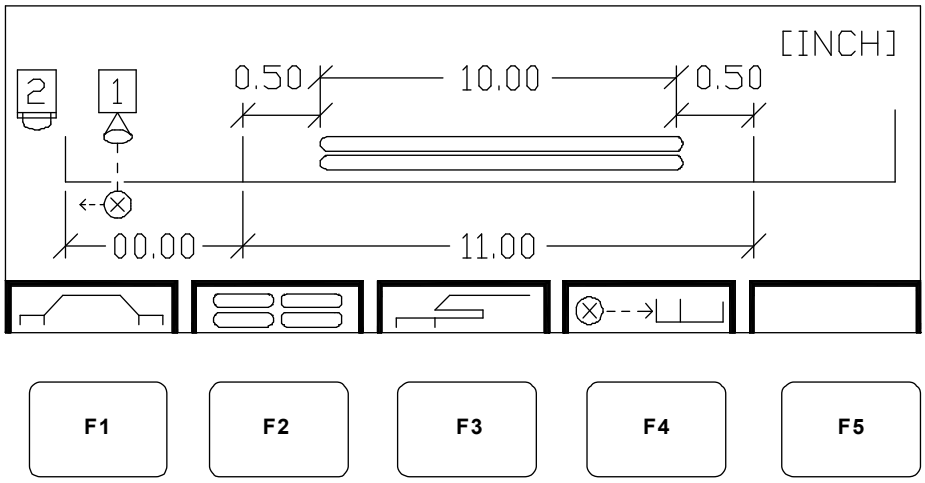


Figure 10-6. 4th-Panel-Gluing Screen

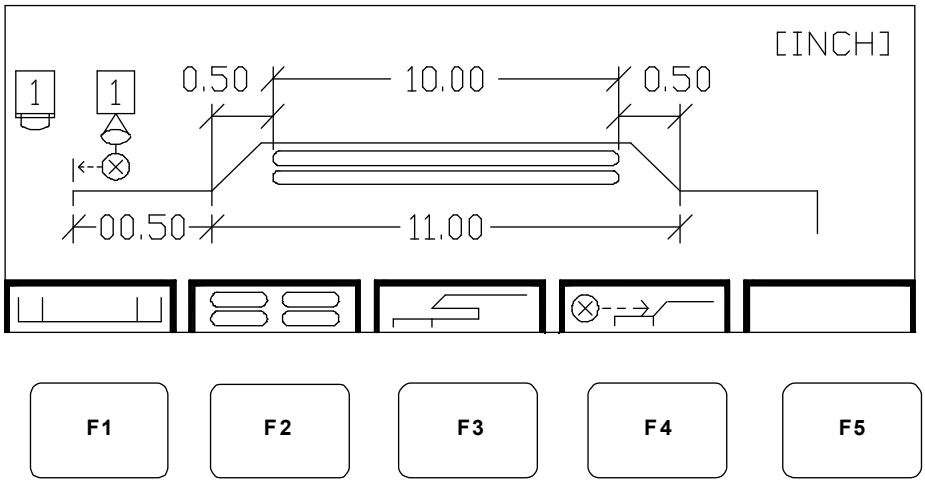


Figure 10-7. Tab-Gluing Screen

Selecting a Glue-Pattern Mode

To select a glue-pattern mode, follow these steps:

1. To select a single glue pattern, press F2 ( ). A single glue pattern is selected and displayed (Figure 10-8).
2. To select a pattern-skip-pattern glue pattern, press F2 ( ). A pattern-skip-pattern glue pattern is selected and displayed (Figure 10-9).

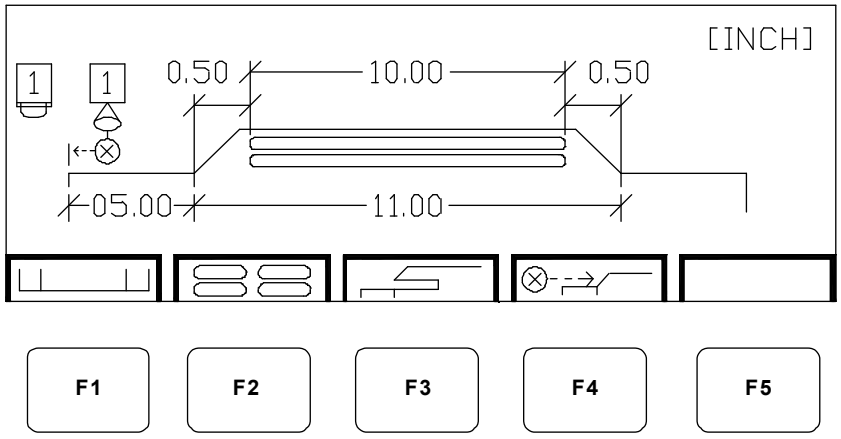


Figure 10-8. Single-Pattern Screen (Tab Side)

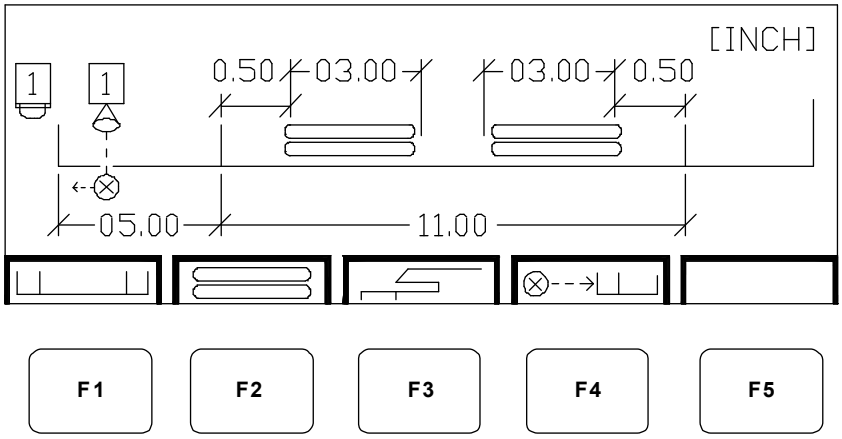


Figure B-9. Pattern-Skip-Pattern Screen (4th-Panel Side)

Selecting Extended-Tab or Normal-Tab Gluing

To select extended-tab or normal-tab gluing, follow these steps:

1. Press F3 ( ). The tab-selection screen displays (Figure 10-10).
2. To select a mode, move the cursor to the appropriate selection field and press the ENTER button.
3. Press F5 ( ) to return to the glue-pattern-edit main menu.

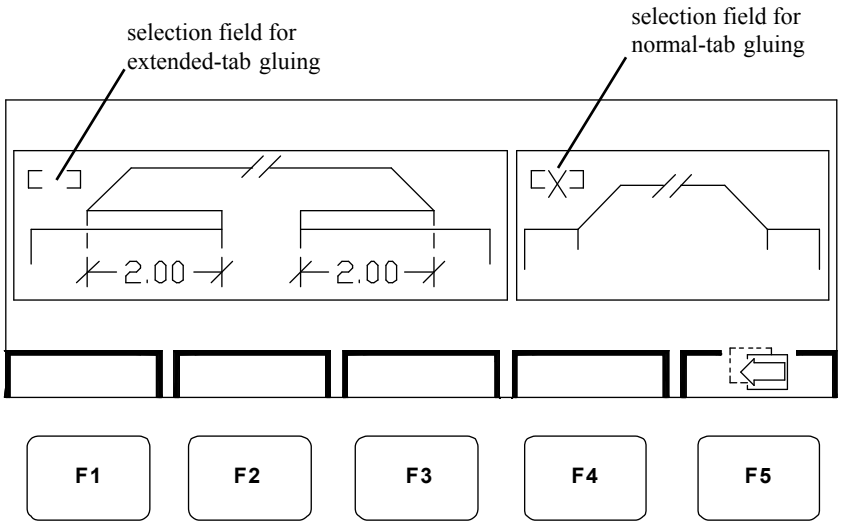


Figure 10-10. Tab-Selection Screen

Selecting Scanner Position and Assignment

To select scanner position and assignment, follow these steps:

1. At the glue-pattern-edit main menu, press F4 ( ). The scanner configuration screen displays (Figure 10-11).
2. Select the scanner position:
   2a. To select leading-edge scanner position, use the arrow keys to move the cursor to the selection field for leading-edge scanner position and then press the ENTER button.
   2b. To select tab scanner position, use the arrow keys to move the cursor to the selection field for tab scanner position and then press the ENTER button.
3. Select the automatic glue function:
   Note! The automatic-glue-function field is available only if the tab scanner position has been selected.
   3a. Use the arrow keys to move the cursor to the automatic-gluing-function field.
   3b. Press the ENTER button.
4. If you are using the scanner-lockout function, enter the scanner lockout value:
   4a. Use the arrow keys to move the cursor to the scanner-lockout-value field.
   4b. Type the scanner lockout value.
   4c. Press the ENTER button.
5. Select the scanner assignment:
   5a. Use the arrow keys to move the cursor to the scanner-assignment selection field.
   5b. Type the number of the scanner you want to assign.
   5c. Press the ENTER button.
6. Change the cell-to-gun dimension.
7. Press F5 ( ) to return to the glue-pattern-edit menu.

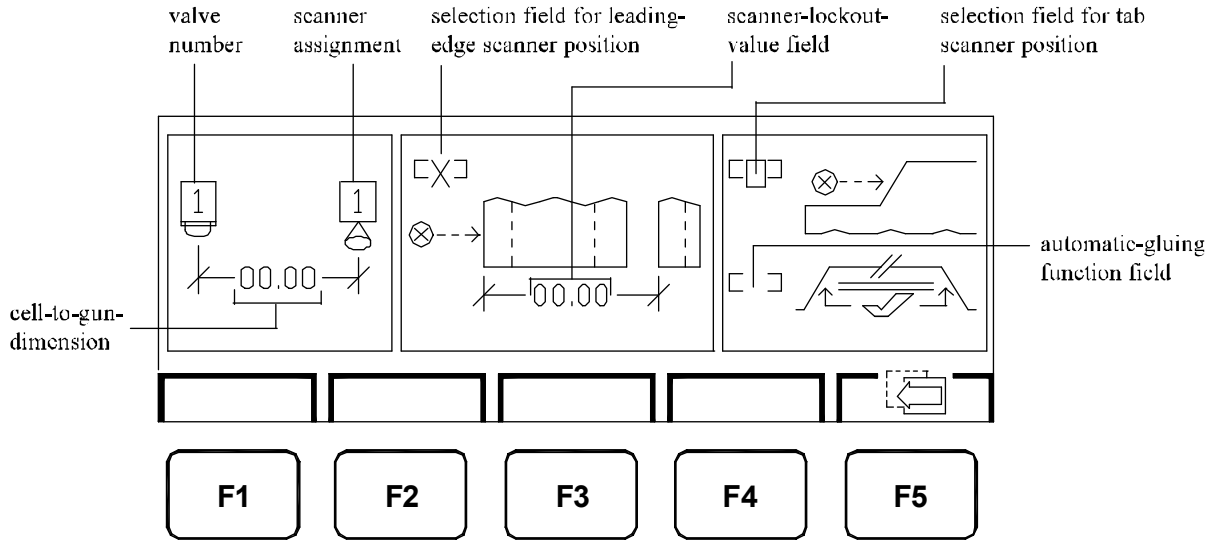


Figure 10-11. Scanner Configuration Screen

Programming the Automatic Gluing Function

The automatic gluing function measures the tab length for every box and gives the dimension to the control so it can calculate where to apply the glue.

To program the automatic gluing function, follow these steps:

1. Press the glue-pattern-edit icon. If the automatic gluing function is selected, the automatic gluing function screen (Figure 10-12) displays. If the automatic gluing function is *not* selected, the glue-pattern-edit screen displays. If the glue-pattern-edit screen displays, complete steps 2-4. Otherwise, go to step 5.
2. Press F4 ( ). The scanner-configuration screen displays (Figure 10-11).
3. Select the tab scanner position:

   3a. Use the arrow keys to move the cursor to the selection field for tab scanner position.

   3b. Press the ENTER button.
4. Select the automatic gluing function:

   Note! The automatic gluing function field is available only if the tab scanner position has been selected.

   4a. Use the arrow keys to move the cursor to the automatic-gluing-function field.

   4b. Press the ENTER button. The automatic-gluing-function screen (Figure 10-12) displays.
5. At the start-length field, enter the start-length dimension.
6. Use the right-arrow button to move the cursor to the end-length field.
7. Enter the end-length dimension. The tab length displays in the glue-pattern-length field.

Glue Inspection

If glue inspection is being used in conjunction with glue application, follow this step:

1. Press F3 ( ) when changing to new job. The “Get new box length! Please wait!” screen displays while the scanner measures the box. When the scanner finishes measuring, the message disappears.

To use a remote button to start the measure function for glue inspection, follow these steps:

1. Connect a normally open pushbutton to an unused scanner input.
2. In special setup, set parameter 1031 (Ext. learn input) to the number of this scanner input (0 = Disabled).

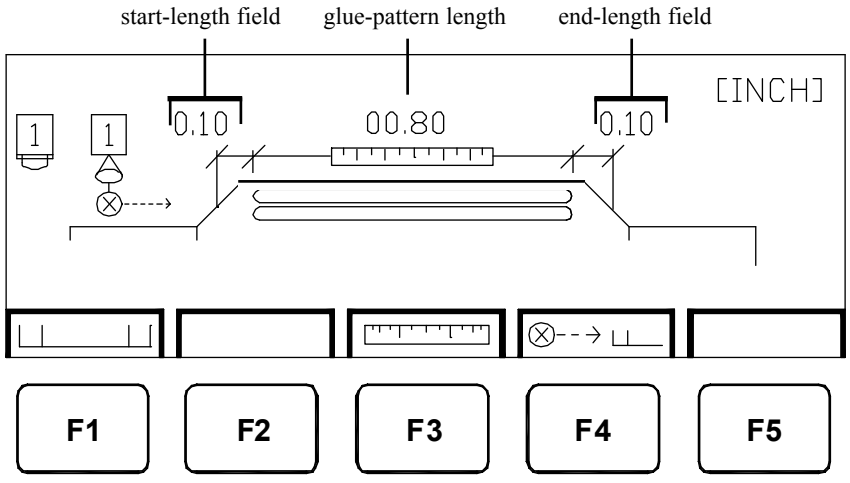


Figure 10-12. Automatic-Gluing-Function Screen

Selecting A Channel

To select a channel, follow these steps:

1. To select channel 2, press F5 ( ) (F1 position in mode 2). The channel-2 screen (Figure 10-13) displays.
2. To return to the channel-1 screen, press F5 ( ) (F1 position in mode 2). The channel-1 screen (Figure 10-14) displays.

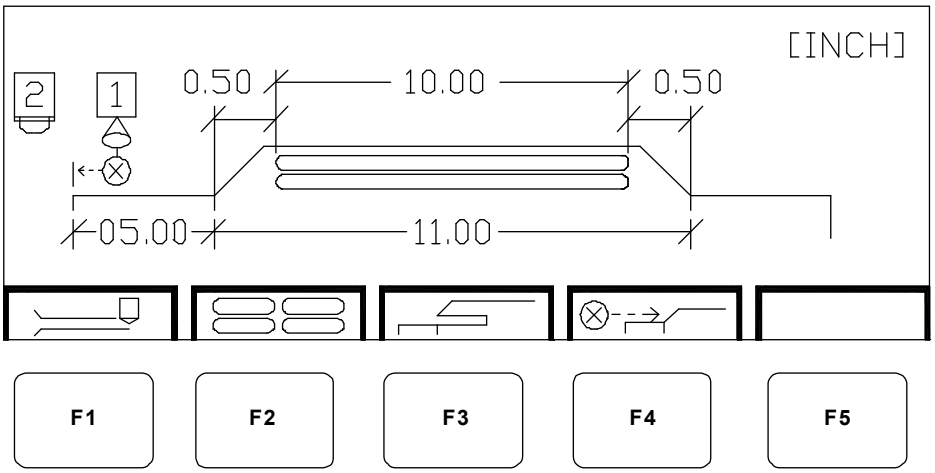


Figure 10-13. Channel-2 Screen

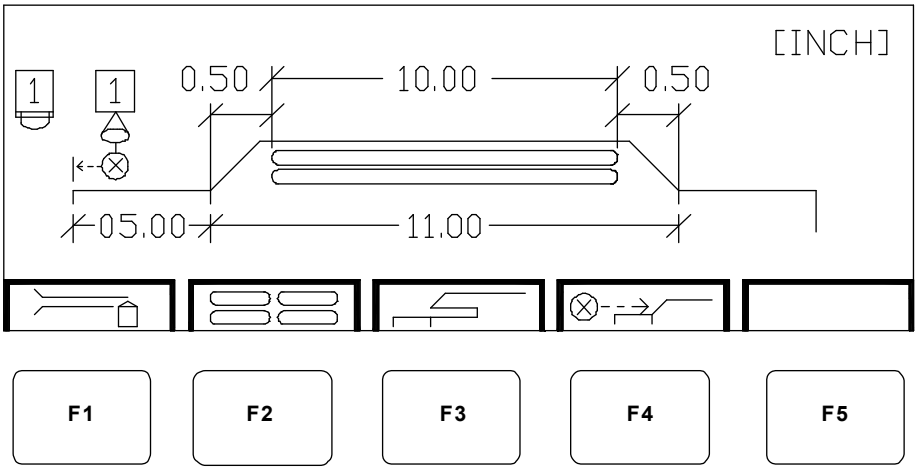


Figure 10-14. Channel-1 Screen

Accessing the Glue-Pressure-Edit Main Menu (see Section 11)

The glue-pressure-edit menu allows you to program the percentage glue-pressure curve. P[%] represents the glue pressure as a percentage of the maximum glue pressure allowed.

To access the glue-pressure-edit menu, follow this step:

1. Press the glue-pressure-edit-menu icon button (Figure 10-15). The glue-pressure-edit menu displays (Figure 10-16). The glue-pressure-edit menu contains the glue-pressure table.

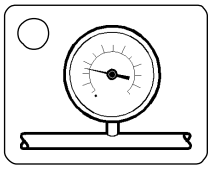


Figure 10-15. Glue-Pressure-Edit-Menu Icon Button

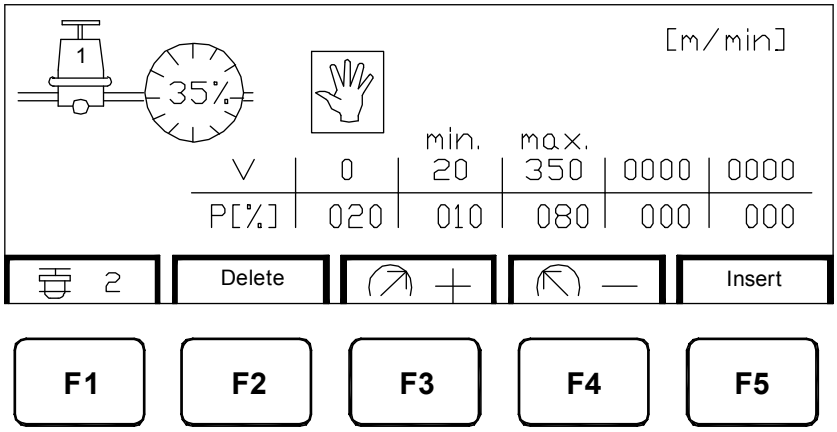
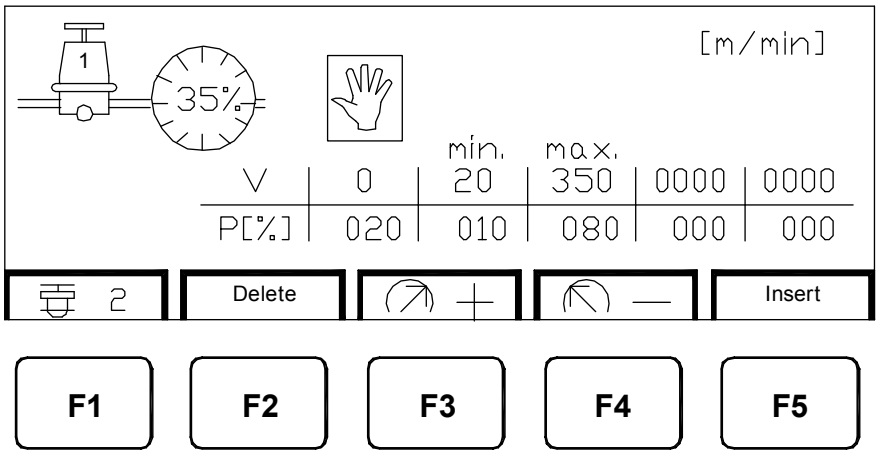


Figure 10-16. Glue-Pressure-Edit Main Menu

Glue-Pressure-Edit Parameters



1 **F1**—Toggles between pressure transducer 1 and pressure transducer 2

Note! This function may not be active when only one transducer has been selected in the setup menu.

2 **F2**—Deletes current pressure table

3 **F3**—Raises values in pressure table (only air-pressure values are incremented, not speed values!)

4 **F4**—Lowers values in pressure table (only air-pressure values are incremented, not speed values!)

5 **F5**—Imports parent machine and glue-pressure values

Pressing F5 (Insert) automatically imports the parent-machine speed and corresponding glue-pressure values into the glue-pressure table. See *Section 11—Glue-Pressure-Edit Menu,* Entering the Glue-Pressure Data with the Insert Function.

Section 11—Glue-Pressure-Edit Menu

Introduction

The glue-pressure-edit menu allows you to program the percentage-glue-pressure curve. P[%] represents the glue pressure as a percentage of the maximum glue pressure allowed.

To access the glue-pressure-edit menu, follow these steps:

1. Press the glue-pressure-edit menu icon button (Figure 11-1). The glue-pressure-edit menu displays (Figure 11-2). The glue-pressure-edit menu contains the glue-pressure table.

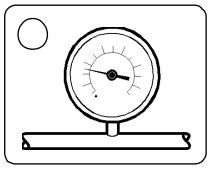


Figure 11-1. Glue-Pressure-Edit-Menu Icon Button

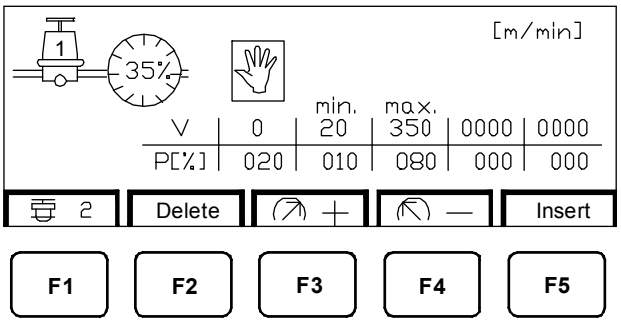
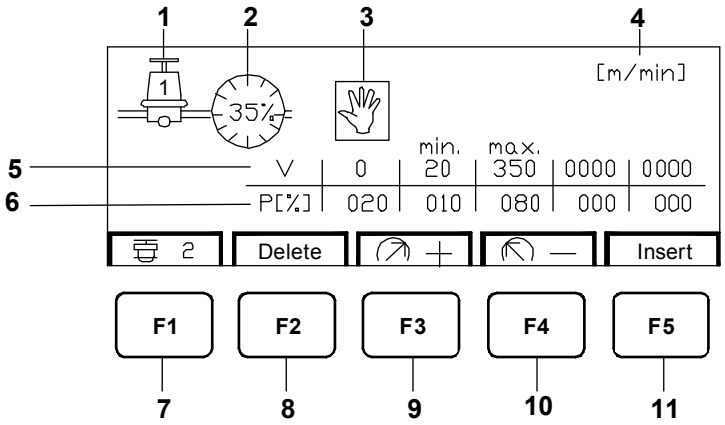


Figure 11-2. Glue-Pressure-Edit-Menu

Glue-Pressure-Edit Parameters



1 Pressure-Transducer Number
This field contains the number of the selected pressure transducer for the displayed glue pattern data.

2 Output-Pressure Percent
This field displays current output pressure (percentage)

3 Purge-Pressure Symbol
This field displays the symbol indicating that the first column is for purge pressure.

4 Unit of Measure
This field indicates the unit of measure (either millimeters or inches) that was selected in the setup menu. (See *Section 8—Setup Menu* for information about how to change the unit of measure.)

5 Velocity
V = product speed (velocity). This value is entered in either meters per minute or feet per minute, depending which unit of measure was selected in the setup menu.

"min." = Parent machine idle
"max." = Maximum parent-machine speed

6 Glue Pressure
P% = glue pressure in percent of the maximum possible glue pressure. If "bar" or "psi" is displayed, the glue pressure is entered in absolute values.

7 F1
Press F1 ( ) to display the glue-pressure curve for pressure transducer 2. Up to two pressure transducers are available in one job.

Note! This function may not be active if only one transducer has been selected in the setup menu.

8 F2
Pressing F2 (Delete) deletes the current pressure table.

Note! This option is not visible if it is not selected in special setup.

9 F3
Pressing F3 ( ) increases the values of the whole pressure table. All points of the pressure table will be increased or decreased proportionally, and the glue-pressure changes take effect immediately.

10 F4
Pressing F4 ( ) decreases the values of the whole pressure table. All points of the pressure table will be increased or decreased proportionally, and the glue-pressure changes take effect immediately.

11 F5
Pressing F5 (Insert) automatically imports the parent-machine speed and corresponding glue-pressure values into the glue-pressure table.

Note! This option is not visible if it is not selected in special setup.

Creating a Glue-Pressure Curve

To create a glue-pressure curve, follow these steps:

1. Press F1 (2) to select the pressure transducer (1 or 2) that you want to program. The selected pressure-transducer number displays in the pressure-regulator symbol.

Note! Up to two independent pressure transducers can be used.

2. Determine the glue pressure (see "Examples of Glue-Pressure Values" below).

Note! The maximum (100%) output pressure of the pressure transducer converts to 72 psi (6 bar) air pressure. This output air pressure can work with the following:

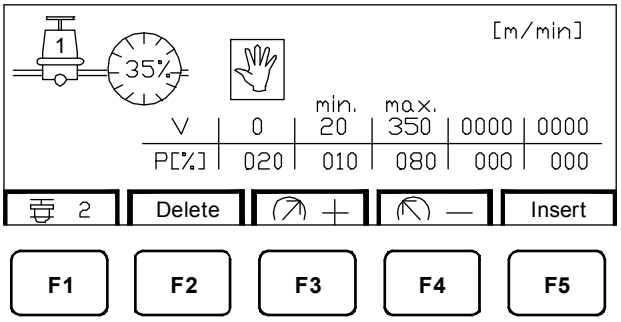


Figure 11-3. Glue-Pressure-Edit Menu

1:1 ratio—Direct from a pressure container, a 1:1 membrane pump (DD-1 pump), or a 1:1 glue-pressure regulator (flow control)

Larger speed increase/decrease ratio—A pump with speed increase/decrease ratio (example: 2:1, 5:1, 7:1, 10:1) or a glue-pressure regulator (flow control) with speed increase/decrease ratio (example: 2:1, 5:1, 7:1, 10:1).

3. Enter the glue-pressure data into the glue-pressure table. The information entered into the glue-pressure table creates the glue-pressure curve.

Note! The glue-pressure data can either be entered manually or with the Learn function (see the following pages for procedures).

Examples of Glue-Pressure Values

		Corresponding Glue Pressure – psi (bar)					
Input in %	**Pressure Transducer Air-Pressure Output – psi (bar)**	**1:1**	**2:1**	**3:1**	**5:1**	**7:1**	**10:1**
100	72 (6)	72 (6)	160 (12)	246 (18)	420 (30)	594 (42)	
75	51 (4.5)	51 (4.5)	116 (9)	181 (13.5)	312 (22.5)	442 (31.5)	683 (45)
50	29 (3)	29 (3)	72 (6)	116 (9)	203 (15)	290 (21)	420 (30)
25	7 (1.5)	7 (1.5)	29 (3)	51 (4.5)	94 (7.5)	138 (10.5)	203 (15)
5	0 (0.3)	0 (0.3)	0 (0.6)	0 (0.9)	7 (1.5)	16 (2.1)	29 (3)

Attention! Note the maximum allowable operation pressure of the pressure container.

Entering the Glue-Pressure Data Manually

To enter the glue-pressure data manually, follow these steps:

1. **Enter the necessary glue pressure (glue amount) at the minimum speed of the parent machine:**

   1a. Operate the parent machine at the slowest (minimum) production speed.

   1b. Read the speed setting in the display of the MCP-25/MS. The speed can be seen in the diagnostic menu.

   Note! If no values are entered in the glue pressure curve, the control provides values for the minimum and maximum speeds of the parent machine. You can change these sample values.

   1c. Move the cursor to the field below "min" in the display.

   1d. Enter the minimum speed of the parent machine in this field.

   Note! The value must be entered in either meters per minute or feet per minute, depending on the unit of measure selected in the Setup menu.

   1e. Move the cursor to the "P" field (under "min").

   1f. Determine the necessary glue pressure required at the minimum speed of the parent machine.

   1g. Enter a pressure and check the amount of glue that is applied.

   1h. Use the numeric keypad to adjust the pressure if necessary.

2. ***Enter the necessary glue pressure at maximum speed of the parent machine:***

   2a. Operate the parent machine at the maximum production speed for product gluing.

   2b. Move the cursor to the field below "max".

   2c. Enter the maximum speed of the parent machine in this field.

   Note! The value must be entered in meters per minute or feet per minute, depending on the units of measure selected in the Setup menu.

   2d. Move the cursor to the "P" field (under "max").

   2e. Determine the necessary glue pressure required at the maximum speed of the parent machine.

   2f. Enter a pressure and check the amount of glue that is applied.

   2g. Use the numeric keypad to adjust the pressure if necessary

   Note! The glue pressure is now synchronized to change with corresponding changes in the speed of the parent machine. Adjustments to the pressure curve may be entered into the speed and pressure fields between the minimum and maximum speed and pressure. The control automatically sorts the entered values numerically.

Entering the Glue-Pressure Data with the Insert Function

F5

The “Insert” function allows you to import the current parent-machine speed and corresponding glue-pressure values into the glue-pressure table. The insert function is available for the current job or when “NEW” is selected from the job-management menu. (The insert function is not available when using “CHANGE” or “PREPARE” in the job-management menu.)

To enter the glue-pressure data with the learn function, follow these steps:

1. While the parent machine is operating at any production speed, make sure that the glue volume being applied is correct.
2. Press F5 (Insert) to import the current parent-machine speed and corresponding glue-pressure values into the glue-pressure-edit table.

Note! The screen cursor is automatically placed in the field that was imported.

Note! The control will sort the other values for speed and pressure numerically.

3. Use either the numeric keypad or the plus/minus scroll buttons to change the pressure value as necessary.

To import other points of the pressure curve, follow these steps:

1. Change the speed of the parent machine.
2. Press F5 (Insert).

Note! You can import up to five values for parent-machine speed and corresponding glue pressure. The values are sorted in numeric order and are valid immediately.

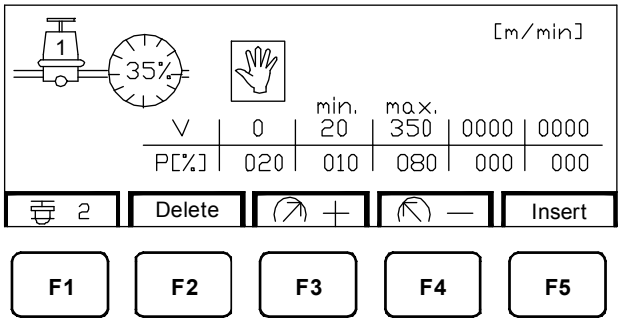


Figure 11-4. Glue-Pressure-Edit Menu

Changing the Glue Pressure

To change the glue pressure values individually, follow these steps:

1. Use the arrow keys to move the cursor to the field that you want to change (see "Glue-Pressure-Edit Parameters" in this section).
2. Use either the numeric keypad or the scroll buttons (+10, +1, -1, -10) to enter new values for the field.
3. Press the ENTER button to enter the new information into memory. (Press the ESC button if you have entered incorrect data.)

To change all of the the glue pressure values between the minimum and maximum columns, follow these steps:

1. Press F3 to increase the pressure values as required.
2. Press F4 to decrease the pressure values as required.

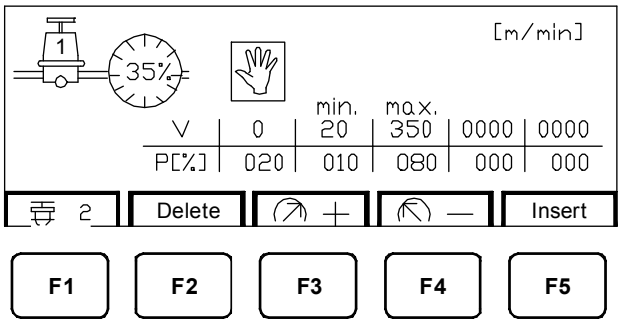


Figure 11-5. Glue-Pressure-Edit Menu

Deleting a Current Glue-Pressure Curve

F2

To delete a current glue-pressure curve, follow these steps:

1. Press F1 to select the glue-pressure curve (table) that you want to delete.

Note! The selected pressure-transducer (1 or 2) is seen in the pressure-transducer symbol at the top left of the screen.

2. Press F2 (Delete). The "Delete pressure table?" message displays (Figure 11-7).
3. Press F2 (Yes). The pressure/speed default values display.

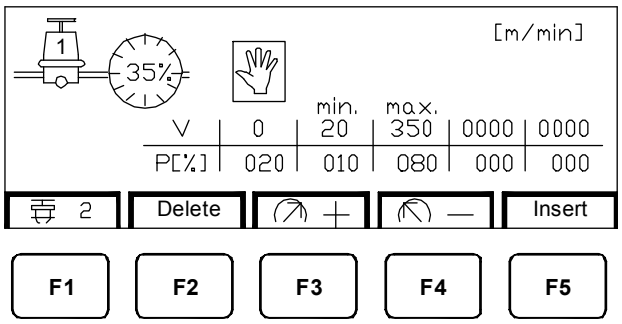


Figure 11-6. Glue-Pressure-Edit Menu

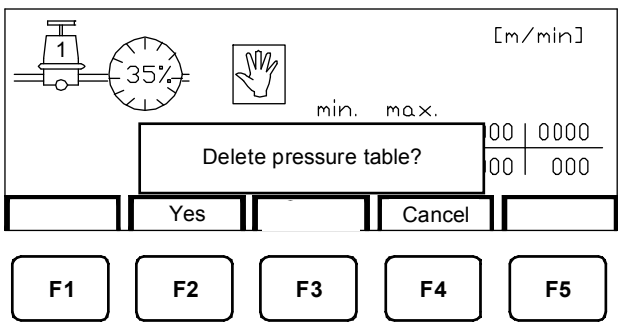


Figure 11-7. Glue-Pressure-Edit Menu with Message

Section 12—Inspection Menu

Introduction

To access the inspection menu, follow this step:

1. Press the inspection-menu icon button (Figure 12-1). Either the *glue-volume* bar graph or the *glue-pattern* bar graph displays (Figures 12-2 and 12-4). If glue volume is turned on, the glue-volume bar graph displays. If glue volume is not turned on, the glue-pattern bar graph displays.

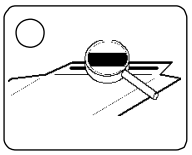


Figure 12-1. Inspection-Menu Icon Button

Notes! If glue volume is turned on, F3 toggles between the glue-volume bar graph and the glue-pattern bar graph. The glue-volume bar graph screen will show a bar graph for each active glue valve (Figures 12-2 and 12-3). Up to four valves can be displayed.

2. To display the inspection screen, press F1 (Config.). The inspection screen displays (Figure 12-5).

Glue-Volume Bar Graph

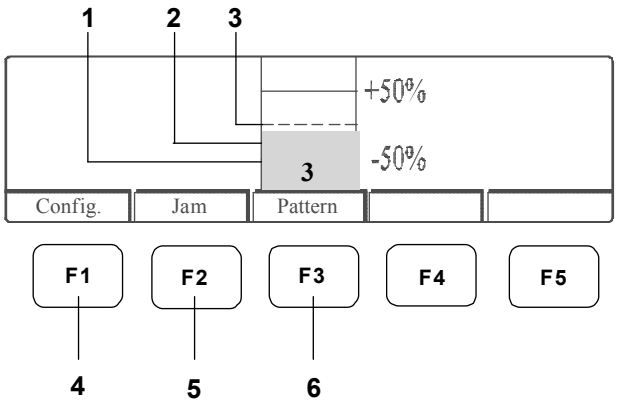


Figure 12-2. Glue-Volume Bar Graph for System with One Valve

1 Valve number
This number indicates the valve on which the display is based.

2 Bar graph
The bar graph shows the actual glue volume compared to 100%.

3 100% base line
This line indicates the learned value.

4 F1
Press F1 (Config.) to display the inspection screen.

5 F2
Press F2 (Jam) to display the jam-preventer setup screen.

6 F3
Press F3 to toggle between the glue-volume bar graph and the glue-pattern bar graph.

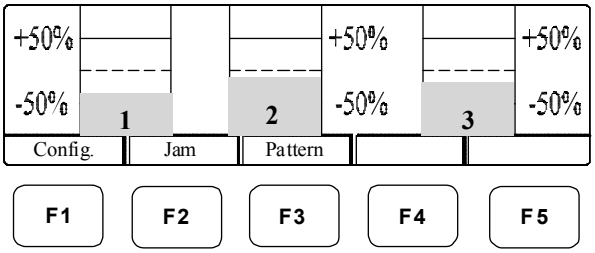


Figure 12-3. Glue-Volume Bar Graph for System with Three Valves

Glue-Pattern Bar Graph

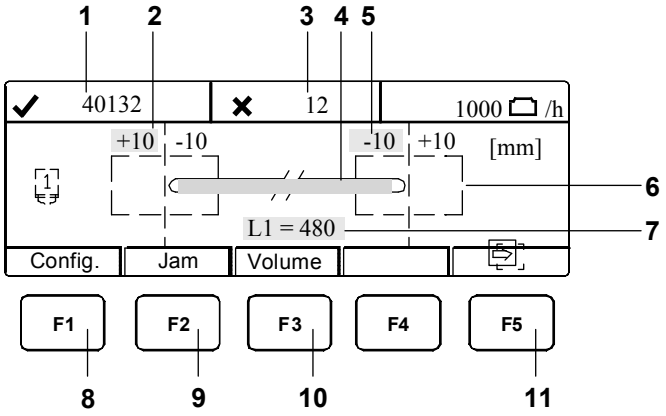


Figure 12-4. Glue-Pattern Bar Graph

1 Number of "good" products
This number indicates the amount of "good" products that have been run.

2 Start tolerance
This value represents the maximum allowable deviation from the programmed start of the glue-pattern position before a glue fault occurs.

3 Number of faulty products
This number indicates the amount of "faulty" products that have been run.

4 Bar graph
The bar graph shows the actual position of the glue pattern.

5 End tolerance
This value represents the maximum allowable deviation from the programmed end of the glue-pattern position after a fault occurs.

6 Baseline
This line indicates the programmed glue position.

7 Length field
This field indicates the length of the glue line.

8 F1
Press F1 (Config.) to display the inspection screen.

9 F2
Press F2 (Jam) to display the jam-preventer setup screen.

10 F3
Press F3 to toggle between the glue-volume bar graph and the glue-pattern bar graph.

11 F5
Press F5 ( ) to display the bar graph for the next valve.

Inspection-Menu Parameters

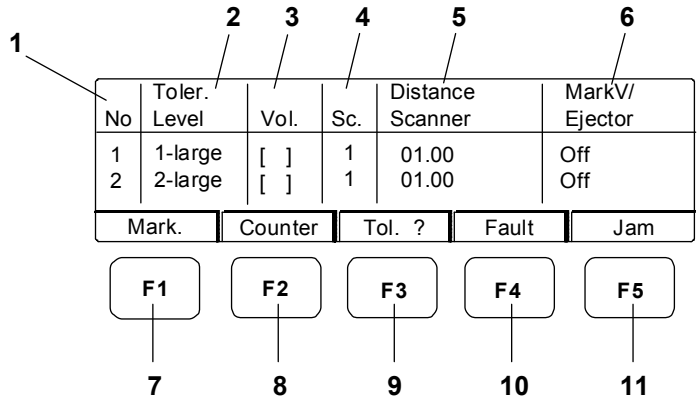


Figure 12-5. Inspection Screen

1 Sensor number
This field contains the number of the sensor.

2 Tolerance level
This field contains the tolerance level, which can be set to small, medium, or large.

3 Volume measurement on/off
This field indicates whether the volume measurement is turned on or off.

4 Assigned scanner
This field contains the number of the assigned scanner distance.

5 Scanner-to-sensor distance
This field contains the distance between the scanner and the sensor.

6 Marking valve/ejector on/off
This field indicates whether the marking valve/ ejector is turned on or off.

7 F1
Press F1 (Mark.) to display the marking-valve data screen.

8 F2
Press F2 (Counter) to diplay the fault-counter data screen.

9 F3
Press F3 (Tol.?) to display the tolerance data screen.

10 F4
Press F4 (Fault) to display detailed information about the last faults.

11 F5
Press F5 (Jam) to display the jam-preventer setup screen.

Changing Inspection-Menu Parameters

To change the tolerance level, follow these steps:

1. Use the arrow keys to move the cursor to the "tolerance level" field.
2. Change the parameter by using one of the following methods:
   - On the numeric keypad, press "1" for large, "2" for medium, or "3" for small. Then, press the ENTER button.
   - Press the plus/minus scroll buttons to enter 1, 2, or 3.

To turn the volume measurement function on/off, follow these steps:

1. Use the arrow keys to move the cursor to the "volume measurement" field.
2. Press the ENTER button.

To change the assigned scanner, follow these steps:

1. Use the arrow keys to move the cursor to the "scanner" field.
2. Change the assigned scanner by using one of the following methods:
   - Use the numeric keypad to type the number of the scanner (1- 7) that you want to assign. Then, press the ENTER button.
   - Press the plus/minus scroll buttons to select and enter the number of the scanner you want to assign.

To change the assigned scanner-to-sensor distance, follow these steps:

1. Use the arrow keys to move the cursor to the "scanner distance" field.
2. Change the assigned scanner distance by using one of the following methods:
   - Use the numeric keypad to type the new scanner distance. Then, press the ENTER button.
   - Press the plus/minus scroll buttons to enter the new scanner distance.

To turn the marking valve/ejector on/off, follow these steps:

1. Use the arrow keys to move the cursor to the "marking valve/ejector" field.
2. Select a marking valve/ejector by using one of the following methods:
   - On the numeric keypad, press "1" for marking valve 1, "2" for marking valve 2, or "3" for stand-alone ejector. Then, press the ENTER button.
   - Press the plus/minus scroll buttons to select and enter 1, 2, or 3.

Marking-Valve Data

F1

To change marking-valve data, follow these steps:

1. At the inspection screen, press F1 (Mark.). The marking-valve data screen displays (Figure 12-6).

Notes! The marking-valve data screen contains information about the marking valve (or ejector). The *delay field* (Figure 12-7) contains the delay of the mark.

The *length field* (Figure 12-8) contains the length of the mark.

When *auto delay* (Figure 12-9) is selected, the control uses the delay of the last entered glue line.

When *auto length* (Figure 12-10) is selected, the control uses the last entered glue length as the length of the mark.

2. To change the delay parameter:
   - 2a. Use the arrow keys to move to the delay field.
   - 2b. Use the plus/minus scroll buttons to enter the new parameter.
3. To select auto delay:
   - 3a. Use the arrow keys to move the cursor to the auto field across from the delay field.
   - 3b. Press the "ENTER" button. Auto is activated.
4. To change the length parameter:
   - 4a. Use the arrow keys to move to the length field.
   - 4b. Use the plus/minus scroll buttons to enter the new parameter.
5. To select auto length:
   - 5a. Use the arrow keys to move cursor to the auto field across from the length field.
   - 5b. Press the "ENTER" button. Auto is activated.
6. Press F5 (Purge 1) if you want to purge the marking valve.
7. Press F1 ( ) to return to the inspection screen.

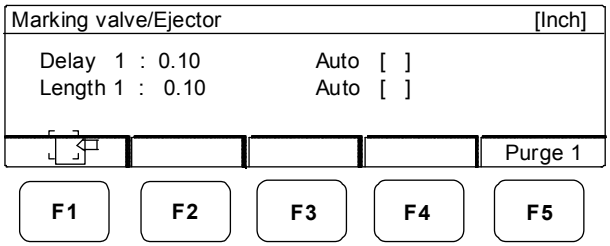


Figure 12-6. Marking-Valve Data Screen

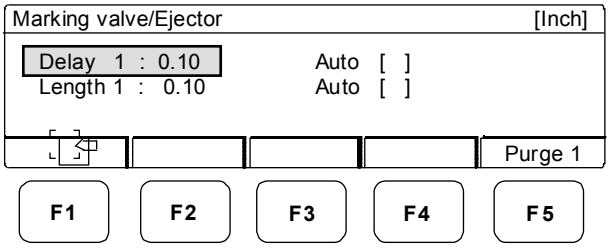


Figure 12-7. Marking-Valve Data Screen Delay Field

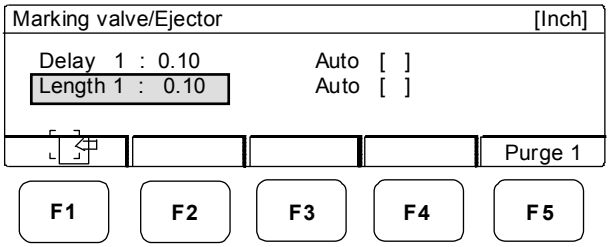


Figure 12-8. Marking-Valve Data Screen Length Field

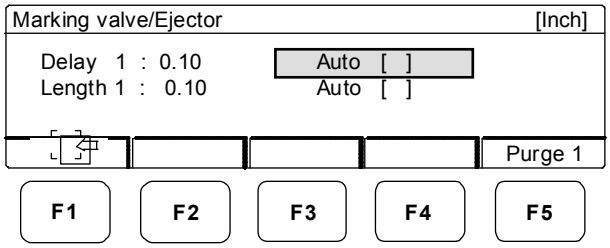


Figure 12-9. Marking-Valve Data Screen Auto-Delay Field

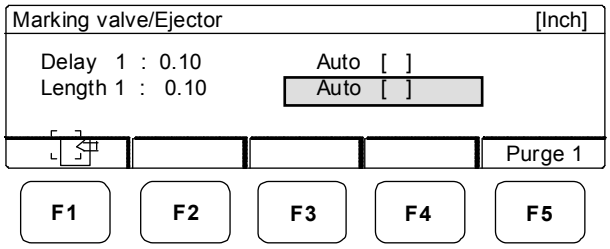


Figure 12-10. Marking-Valve Data Screen Auto-Length Field

Fault-Counter Data F2

To view fault-counter data, follow these steps:

1. At the inspection screen, press F2 (Counter). The fault-counter-data screen displays (Figure 12-11).
2. To see details about the faults, press the ⇨ button. The "details" screen displays (Figure 12-12).

To print a faults data report, follow these steps:

1. Press F2 (Print).

Note! A printer must be connected to your system in order to print information. *Section 8—Setup Menu* contains information about how to configure the faults data report.

To reset the error counter to zero, follow these steps:

1. Press F3 (Delete). The following message displays: "To reset error counter to zero, enter PIN code" (Figure 12-13).
2. Enter the PIN code.
3. Take one of the following actions:
   - Press F3 (OK) if the pin code you entered is correct.
   - Press F4 (Cancel) to return to the counter inspection screen.
   - Press F2 (PIN) to change the PIN code. The Change PIN screen displays (Figure 12-14). Enter the old and new PIN codes. Then, press F1 (OK).

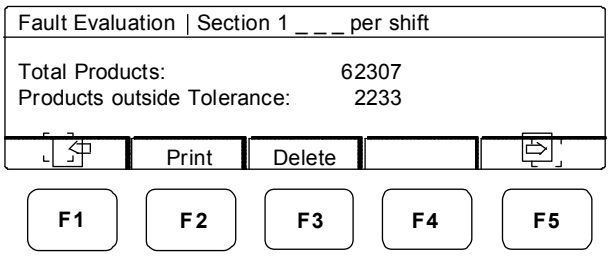


Figure 12-11. Fault-Counter-Data Screen

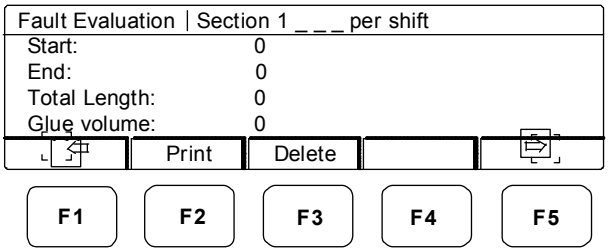


Figure 12-12. Details Screen

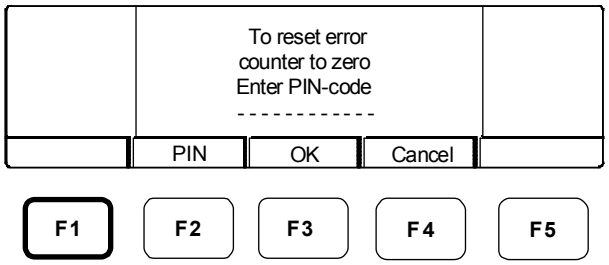


Figure 12-13. Fault-Counter-Data Screen with Message

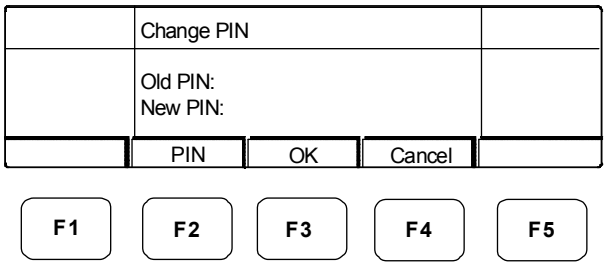


Figure 12-14. Change-PIN Screen

Tolerance Data F3

To inspect tolerance data, follow these steps:

1. At the inspection screen, press F3 (Tol. ?) to display the tolerance-data screen. (Figure 12-15).
2. Press F3 (OK) when you finish viewing the information.

Note! Tolerance levels cannot be changed in the tolerance-data screen. However, they can be changed in either the inspection screen or the setup menu.

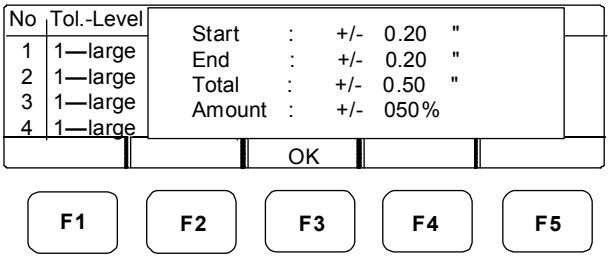


Figure 12-15. Tolerance-Data Screen

Fault Data F4

To inspect fault data, follow these steps:

1. At the inspection screen, press F4 (Fault) to display the fault-data screen. (Figure 12-16).
2. Press F3 (Prev.) to see up to 5 of the last faults for a particular inspection channel.
3. If no fault button appears, there have been no faulty products since the last counter reset.

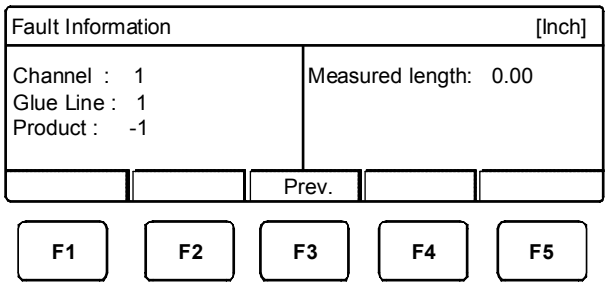


Figure 12-16. Fault-Data Screen

Jam Preventer

F5

The jam-preventer setup screen allows you to transfer scanner lockout values to the jam preventer. (The jam-preventer function is not active when the value is set to "00000.")

To access the jam-preventer setup screen, follow these steps:

1. At the inspection screen, press F5 (Jam) to display the jam-preventer setup screen (Fig. 12-17).
2. Press F2 (On) to activate the jam preventer or F3 (off) to deactivate the jam preventer.
3. Press F4 (Yes) to transfer the scanner lockout values to the jam preventer.

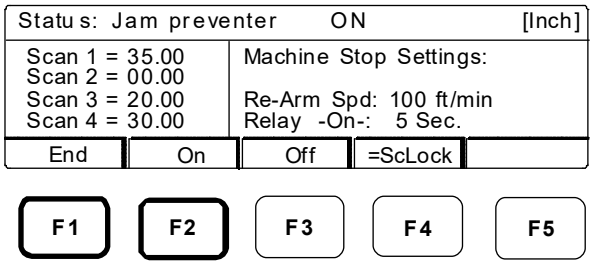


Figure 12-17. Jam-Preventer Setup Screen

Note! If lockout values were not entered in the glue-pattern-edit menu, you must enter the product length plus 0.4 inches (10 mm) for each jam preventer scanner.

The Jam Preventer function is designed to prevent the same jam from stopping the machine again while the operator clears the machine. It also keeps the operator from having to constantly go to the control to clear and re-arm the *JAM Preventer* function.

- If a jam is detected on any of the activated scanners, the outputs defined by parameters 7441 and 7442 are switched on and a message is shown on the screen. By default, parameter 7441 is set to 11 so the *Machine Stop* relay will switch on and the dry contact will either be closed (when selection switch is in N.O. position) or opened (when selection switch is in the N.C. position).
- To reset the relay automatically, the control waits for the machine to stop. Then, after additional time expires, the contact (or any other alarm output defined by parameter 7441) will be released and the 'Jam' message disappears from the screen. The release time is adjustable between 1 and 10 seconds.
- To re-arm the control automatically after a jam, the machine speed has to reach a defined speed threshold. The output defined by parameter 7442 will stay on until the *Jam Preventer* function has been re-armed.
- Besides the automatic release function, the existing manual release (pressing **F3** while the *Jam Message* appears) is still functional.

The speed threshold and the release time are adjustable in the Jam Preventer menu.

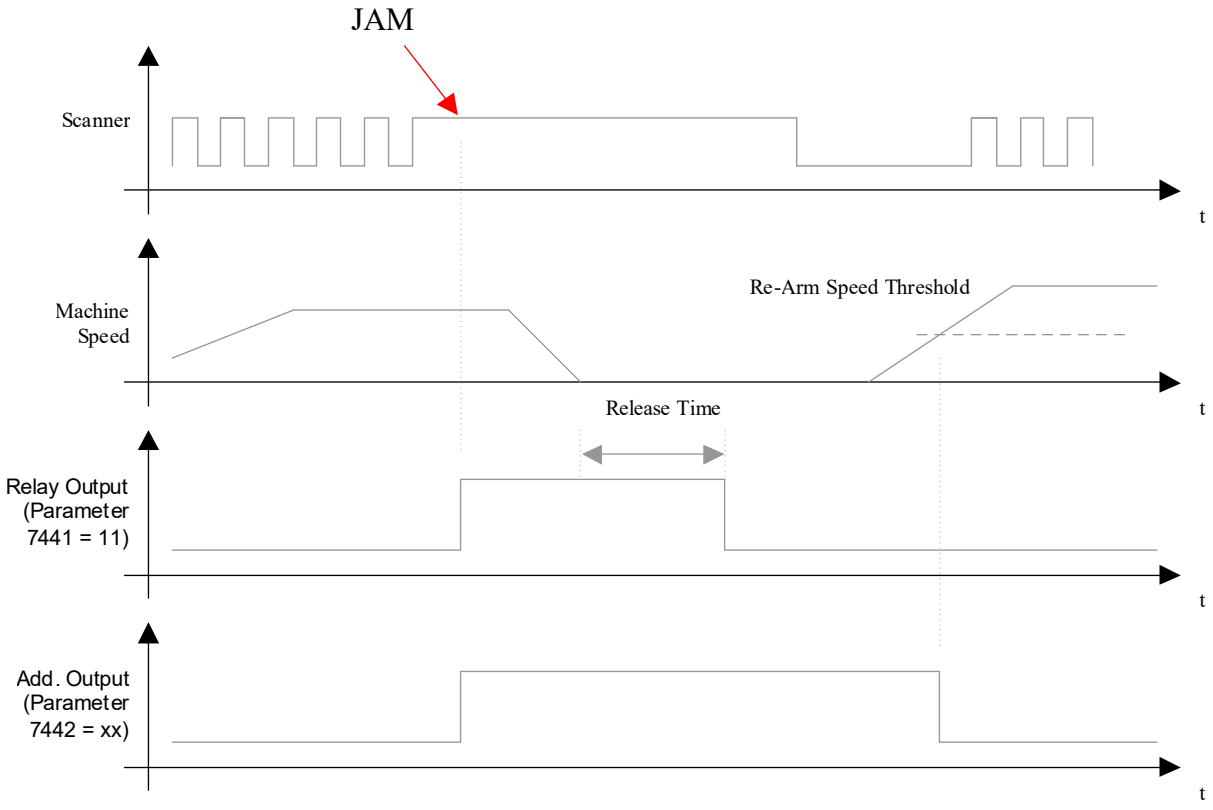
Resetting the Alarm Contact

If the jam-preventer function is active, a screen message displays if a jam occurs, and the alarm-signal contact activates an external alarm if one is connected.

To reset the alarm, follow these steps:

1. Remove the jammed product.
2. Press "OK" to reset the alarm contact. (Press "OFF" if you do not want to use the jam-preventer function.)

Jam Function Overview



Section 13—The Learn Function

Introduction

The Learn Function allows the system to learn the following information:

- Learn glue volume
- Learn distance from sensor to ejector/marking valve
- Learn reference values
- Learn glue-pattern position

Accessing the Learn Function

To access the learn function, follow this step:

1. Press the “Learn” button. The “Learn data” screen displays (Figure 13-1).

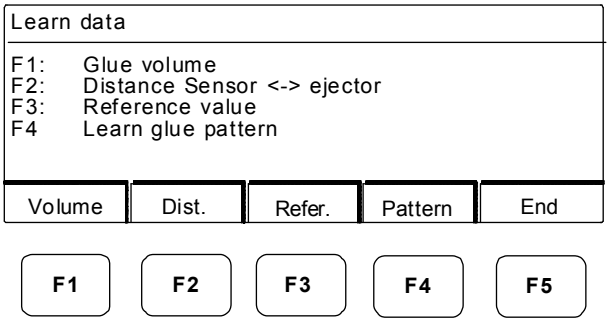


Figure 13-1. Learn data screen

Learn Results Screens

After the learn function has been completed, one of the three following screens displays (Figures 13-2, 13-3, and 13-4).

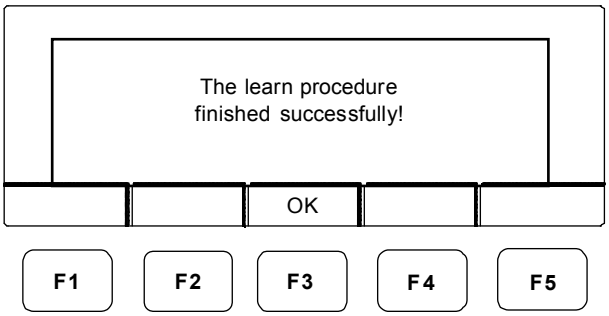


Figure 13-2.

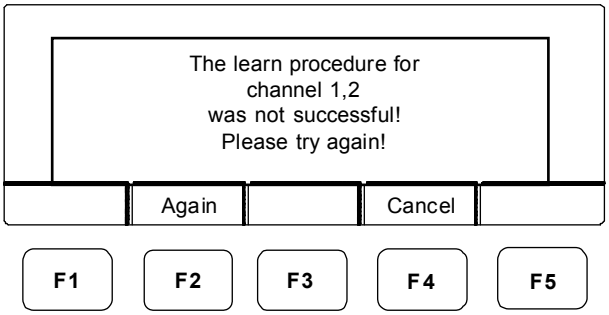


Figure 13-3.

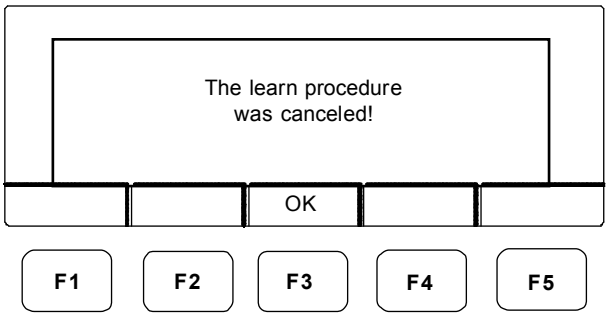


Figure 13-4.

Learning Glue Volume

After the system has learned a glue volume, it will eject (or mark) every product that has a glue volume outside the tolerances of the learned value.

In order to learn glue volume, the following conditions must be met:

- The sensor(s) must be activated
- Volume measurement must be selected in the inspection menu (see *Section 12—Inspection Menu*).

To learn glue volume for one or more sensors, follow these steps:

1. At the "Learn data" screen, press F1 (Volume).

Notes! If the conditions listed above are not met, the screen in Figure 13-6 displays. Press the "OK" button, correct the condition, and repeat step 1. If the conditions above have been met, the screen in Figure 13-7 displays. Go to step 2.

2. Start the machine and gluing.
3. Press F2 (Yes). The measuring cycle starts and the "measuring glue volume values...please wait" message displays (Figure 13-8).

Note! Pressing F4 (Cancel) cancels the learn function.

4. When the learn cycle is complete, one of the learn results screens displays (Figures 13-2, 13-3, or 13-4). If the result was unsuccessful, repeat this procedure.

Note! If the pressure of the system is reduced, the glue volume will be reduced also, which can cause faults to occur. If you change the pressure, the glue-volume learn function must be repeated. Learn when the machine is on production speed if volume is not constant!

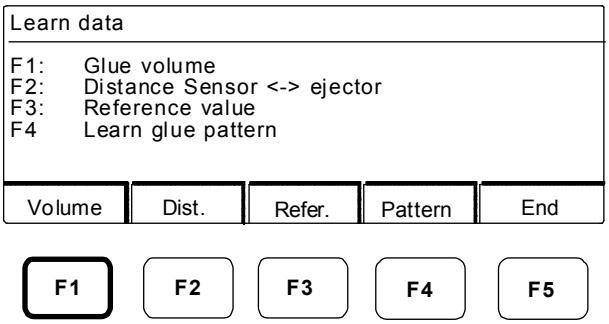


Figure 13-5. The Learn data screen

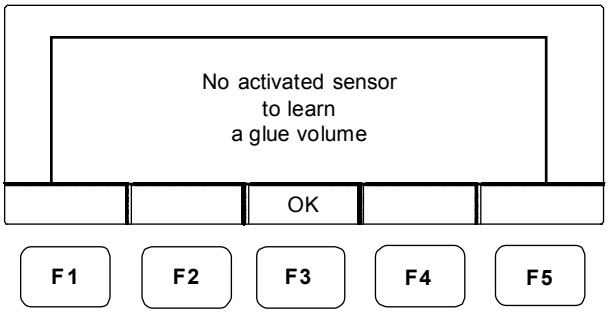


Figure 13-6.

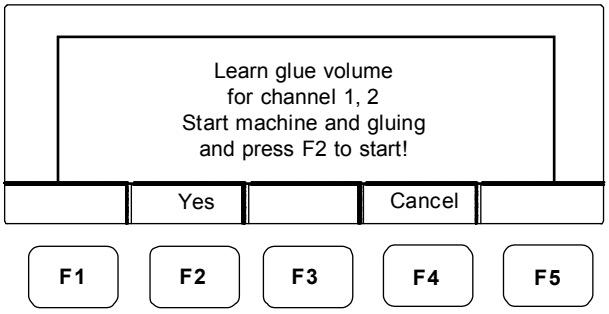


Figure 13-7.

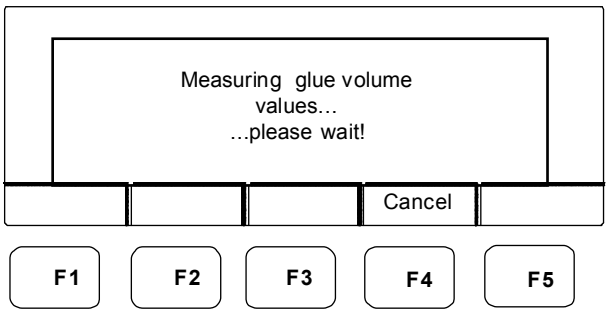


Figure 13-8.

Learning the Distance Between Sensor and Marking Valve/Ejector

To learn the distance between the sensor and the marking valve/ejector, follow these steps:

1. At the "Learn data" screen (Figure 13-9) press F2 (Dist). The screen in Figure 13-10 displays.
2. Run the machine until the folding section is empty.
3. Press F2 (Yes). The measuring cycle starts and the "Measurement started...Please run one box now" message displays (Figure 13-11).
4. Run one box through the system. The distance between the sensor and the marking valve/ejector is updated.

Note! If the distance between the sensor and the marking valve/ejector is not set correctly, good boxes can be ejected and faulty boxes will *not* be ejected!

Note! The distance between the sensor and the marking valve/ejector can also be set in the setup menu (see *Section 8—Setup Menu*).

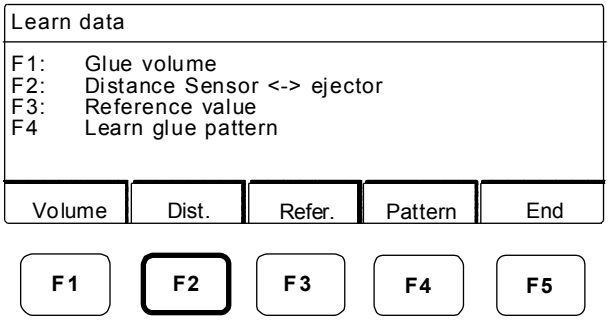


Figure 13-9. The Learn data screen

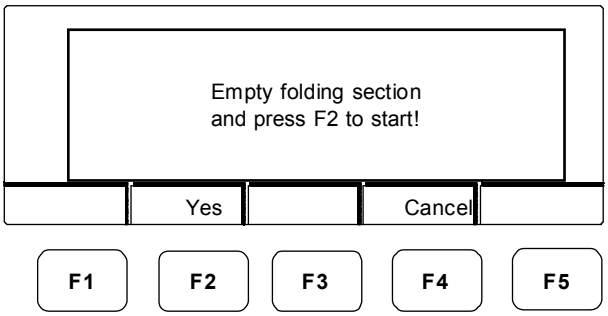


Figure 13-10.

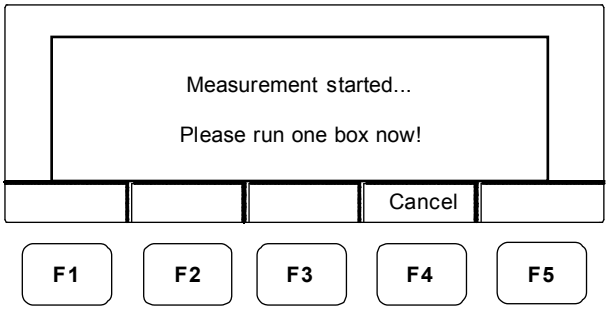


Figure 13-11.

Learning Reference Values

The purpose of teaching reference values is so the system has a baseline value with which to compare glued versus unglued sections. In order to learn reference values, the following conditions must be met:

- D-12, AS-601, or MW-101 sensor(s) must be used.
- The sensor(s) must be activated.

To learn reference values, follow these steps:

1. At the "Learn data" screen (Figure 13-12), press F3 (Refer.). If the conditions listed above are not met, the screen in Figure 13-13 displays. Press the "OK" button, correct the condition, and repeat step 1. If the conditions above have been met, the screen in Figure 13-14 displays. Go to step 2.

   Note! There are two modes within the reference-value learn function—*one-time mode* and *continuous mode*. In order to run continuous mode, there must be an unglued section of at least 2 inches before and after the glue line. Pressing F2 (Contin.) sets the sensor to continous mode and ends this learn function procedure.

2. Press F1 (Onetime) to select one-time mode. The screen in Figure 13-15 displays.
3. Start the machine *without glue* and run one box through the system.
4. Press F2 (Yes). The measuring cycle starts and the "Measuring reference values...please wait" message displays (Figure 13-16).

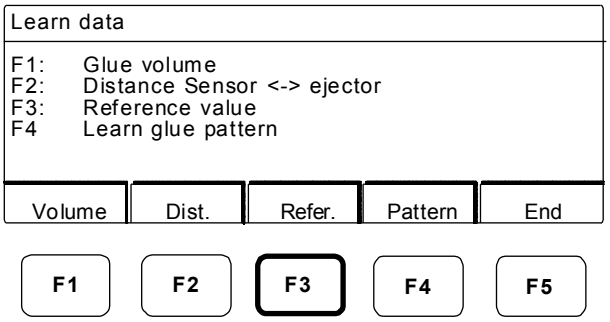


Figure 13-12. The Learn data screen

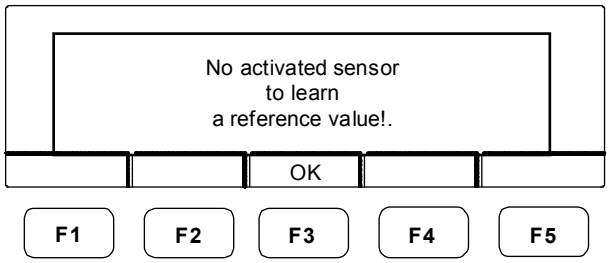


Figure 13-13.

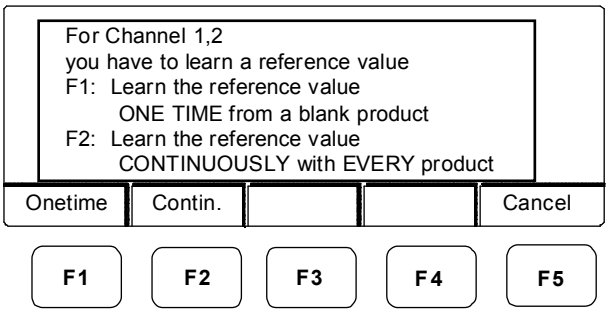


Figure 13-14.

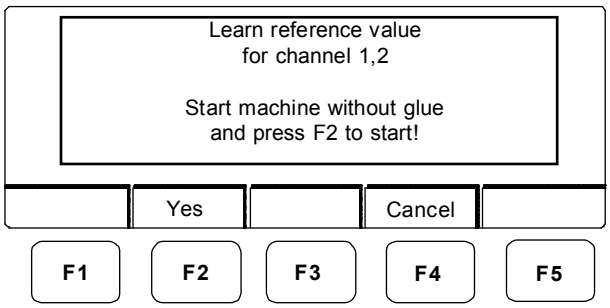


Figure 13-15.

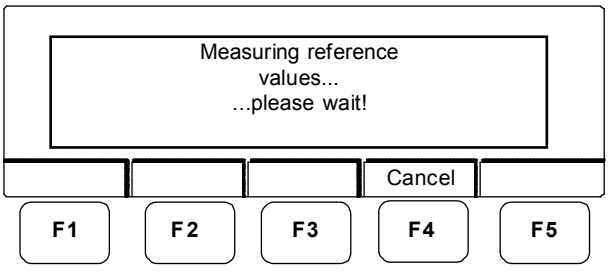


Figure 13-16.

Learning Glue-Pattern Positions

If all the data (ratio comp and/or valve comp) in the setup screen is correct, it should not be necessary to teach the glue-pattern position. However, if these settings are *incorrect* when the machine speed is increased, the glue line will move back, which will cause faults to occur. It is then necessary to adjust the glue-pattern position by using the learn function.

It can also happen that, at a certain speed, the glue position does not match up with the values on the glue-pattern-edit screen. Then, the measured length /position won't be right and the product will be considered a fault.

If the situation cannot be corrected by adjusting the ratio compensation and valve compensations, the glue-pattern learn function can be used to "capture" the glue pattern which is correct. After the pattern has been captured, all boxes will be compared with the position of the "learned" box.
To learn the glue-pattern position, follow these steps:

1. At the "Learn data" screen (Figure 13-17) press F4 (Pattern). The screen in Figure 13-18 displays.
2. Start the machine and gluing.
3. Press F2 (Yes). The measuring cycle starts and the "Measuring glue-pattern values...please wait" message displays (Figure 13-19).

Note! If the machine speed is increased, the glue line will move back, which will cause faults to occur. If you change the pressure, the glue-volume learn function must be repeated!

Note! The glue-pattern-edit screen values will not match the actual inspected values. If the values in the glue-pattern-edit screen are changed, the learned values will be overwritten.

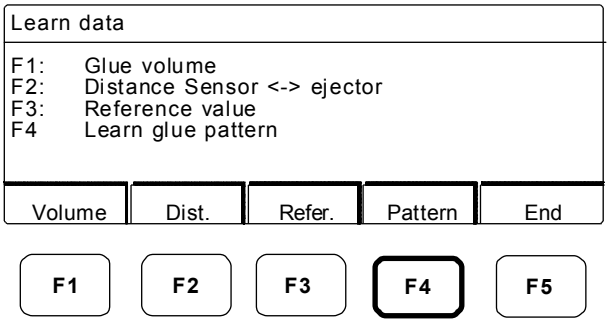


Figure 13-17. The Learn-Data Screen

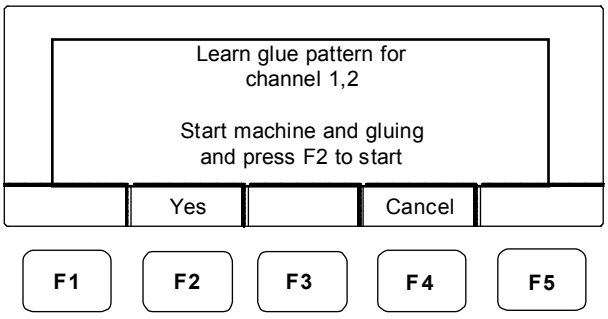


Figure 13-18.

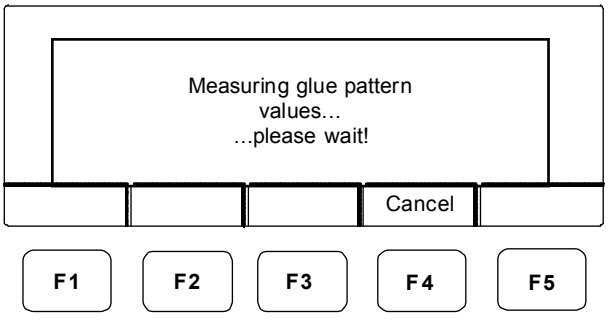


Figure 13-19.

Section 14—Job-Management Menu

Introduction

The job-management menu allows you to save and maintain the parameters of glue patterns and glue pressure curves. You can save up to 100 different jobs in memory.

To access the job-management menu, follow this step:

1. Press the job-management icon button (Figure 14-1). The first page of the job-management menu displays.

Note! The job-management menu contains three screens—Screen 1 (Figure 14-2), Screen 2 (Figure 14-3), and Screen 3 (Figure 14-4).

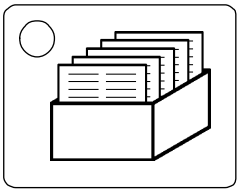


Figure 14-1. Job-Management Icon Button

Function Keys on Screen 1

F1 Save the current job to memory

F2 Load a job from memory

F3 Copy a job from memory

F4 Delete a job previously saved in memory

F5 Go to screen 2 of the job-management menu to see more options

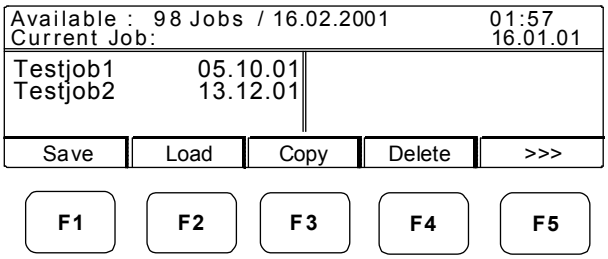


Figure 14-2. Function Keys, Screen 1

Function Keys on Screen 2

F1 Create a new current job

F2 Edit a job located in memory

F3 Prepare a new job in memory

F4 Rename a job in memory

F5 Go to screen 3 of the job-management menu

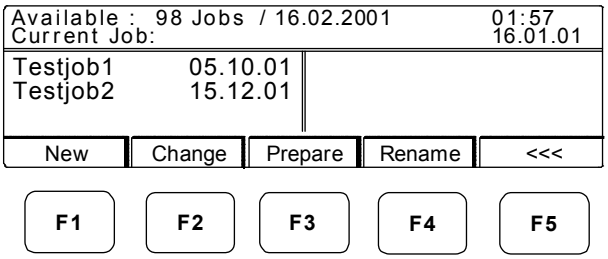


Figure 14-3. Function Keys, Screen 2

Function Keys on Screen 3

F1 Start a backup

F2 Start a restore

F5 Go back to screen 1 of the job-management menu

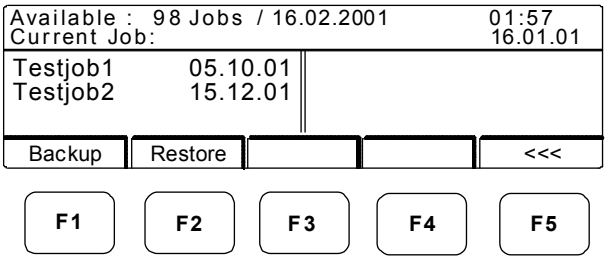


Figure 14-4. Function Keys, Screen 3

Saving a Job F1

The current job is highlighted on the job-management menu screen (Figure 14-4). To save the current job to memory, follow these steps:

1. Press F1 (Save).

Note! If the job has already been named, the job name displays. If the current job has not yet been named, the "To save this job, enter a job name:" message displays.

2. Enter a name if the job has not yet been named.

Note! The job name can consist of any combination of alphanumeric characters. You use the scroll buttons to enter letters and the "-" sign and the numeric keypad to enter numbers. Pressing the right arrow key advances you to the next character place; pressing the left arrow key takes you back to the previous character.

3. Press F2 (Yes) to answer yes to the "Save job?" message.

To save a current job that was loaded from memory and then modified:

1. Press F1 (Save). The "Data have been changed" message displays (Figure 14-5).
2. Either press F2 (Yes) to replace the previous job (all data that was saved under the old job will be overwritten) ***or*** press F3 (Name?) to save the current job under a new name (old job remains in memory).

Note! An asterisk next to the current job name indicates that some changes to the current job data have been made; (i.e., it differs from the stored version).

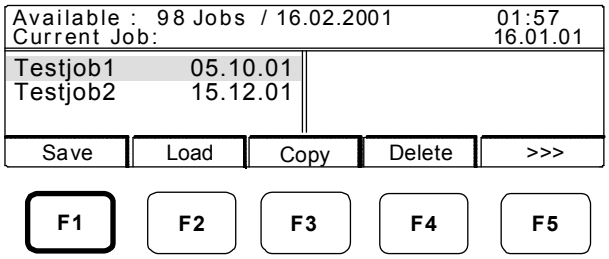


Figure 14-4. Job-Management Menu

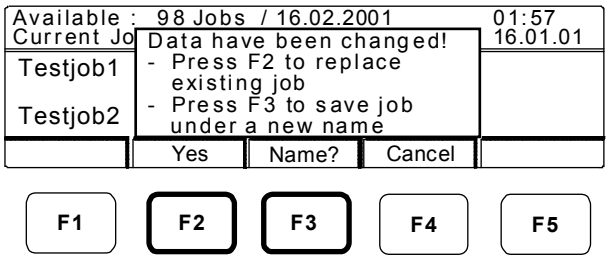


Figure 14-5. Job-Management Menu with Message

Loading a Job F2

To load a job from memory, follow these steps:

1. Using the arrow keys, select the desired job from the list displayed.
2. Press F2 (Load). The loaded job is now the current job.

Note! If the job has not been saved to memory, the "Current job data have not been saved! Save now?" message displays (Figure 14-7). Complete steps 3-6.

If the job has been saved to memory, the "ATTENTION: Overwrite current job data?" message displays (Figure 14-8). Complete step 6.

3. Press F2 (Yes). The "To save this job, enter a job name:" message displays.
4. Enter the job name.

Note! The job name can consist of any combination of alphanumeric characters. You use the scroll buttons to enter letters and the "-" sign and the numeric keypad to enter numbers. Pressing the right arrow key advances you to the next character place; pressing the left arrow key takes you back to the previous character.

5. Press F2 (Yes) to answer yes to the "Save job?" message. The "ATTENTION: Overwrite current job data?" message displays.
6. Press F2 (Yes). The current job data will be overwritten by the new information.

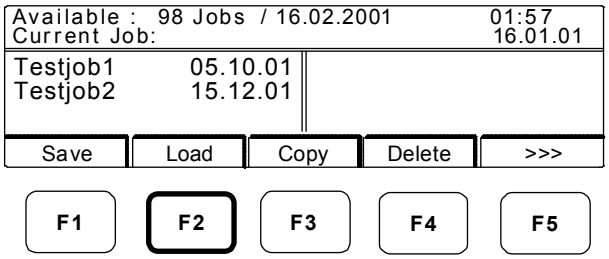


Figure 14-6. Job-Management Menu

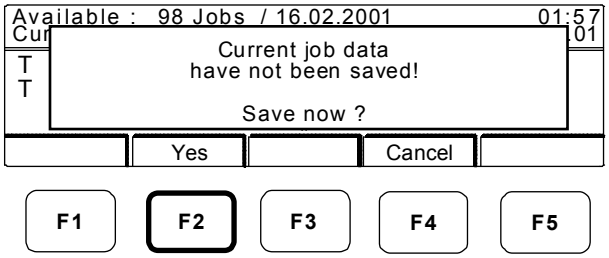


Figure 14-7. Job-Management Menu with Message

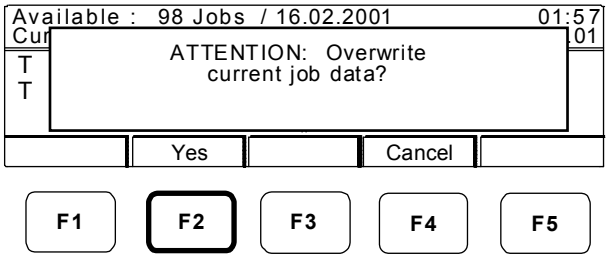


Figure 14-8. Job-Management Menu with Message

Copying a Job F3

To copy a job to another memory location under a new name, follow these steps:

1. Using the arrow keys, select the job that you wish to copy from the list displayed.
2. Press F3 (Copy). The "Copy from selected job to: ------- Job name must be changed!" message displays (Figure 14-10).
3. Enter a new job name.

Note! The job name can consist of any combination of alphanumeric characters. You use the scroll buttons to enter letters and the "-" sign and the numeric keypad to enter numbers. Pressing the right arrow key advances you to the next character place; pressing the left arrow key takes you back to the previous character.

4. Press F2 (Yes) to copy the job.

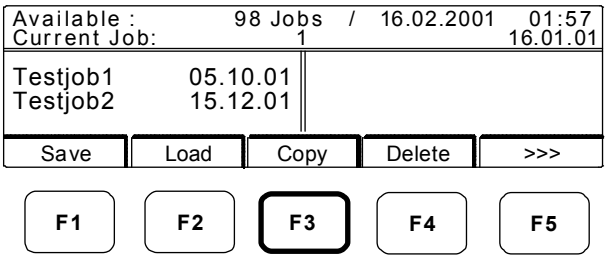


Figure 14-9. Job-Management Menu

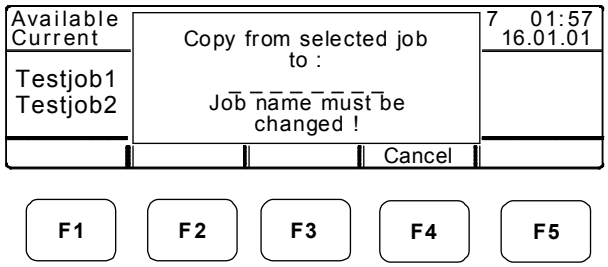


Figure 14-10. Job-Management Menu with Message

Deleting a Job F4

To delete a job, follow these steps:

1. Using the arrow keys, select the job from the list displayed.
2. Press F4 (Delete) to delete the job. The "Delete job data?" message displays (Figure 14-12).
3. Press F2 (Yes).

Go to Screen 2 F5

To go to the second page of the job-management menu, follow this step:

1. Press F5 (>>>). Screen 2 of the job-management menu displays.

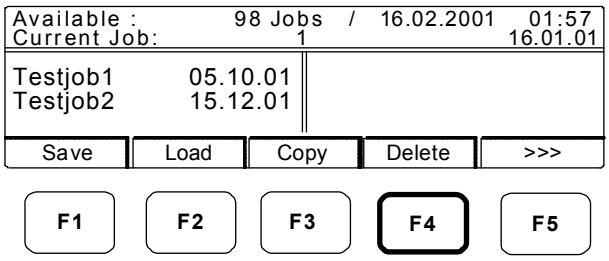


Figure 14-11. Job-Management Menu

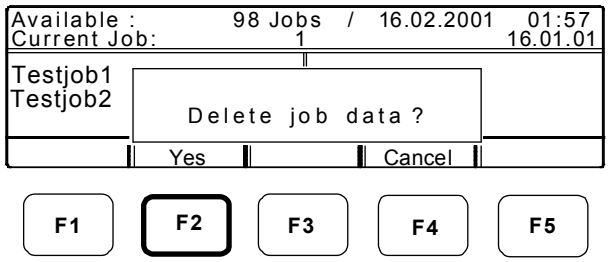


Figure 14-12. Job-Management Menu with Message

Creating a New Current Job F1

This function is used when you want to replace the current job with a new current job. To create a new current job, follow these steps:

1. Press F1 (New).

Note! If the previous job has not been saved in memory, the "Current job data have not been saved! Save now?" message displays (Figure 14-14). Complete steps 2 and 3.

If the previous job has been saved in memory, The "ATTENTION: Overwrite current job data?" message displays. Complete steps 4 and 5.

2. Press F2 (Yes).
3. Enter the new job name.

Note! The job name can consist of any alphanumeric characters. You use the scroll buttons to enter letters and the "-" sign and the numeric keypad to enter numbers. Pressing the right arrow key advances you to the next character place; pressing the left arrow key takes you back to the previous character.

4. Press F2 (Yes). The glue-pattern-edit menu displays (Figure 14-15). The new job contains default values that can be used or changed to create your new job:
   - Cell-to-gun values, scanner assignments and the pressure tables are copied from the last active job (current job).
   - Delay and glue pattern lengths are set to 0.
5. Enter new values as necessary.

Note! You can operate the new job without saving it. If you want to save the new job, see "Saving a Job" at the beginning of this section.

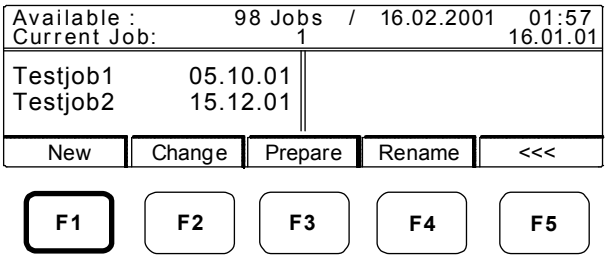


Figure 14-13. Job-Management Menu

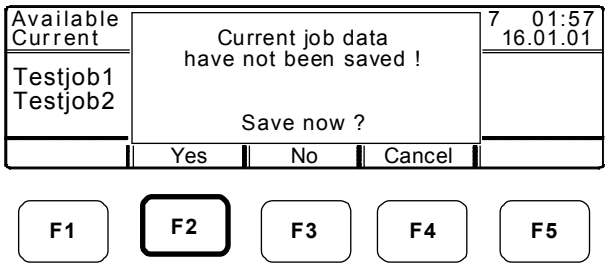


Figure 14-14. Job-Management Menu with Message

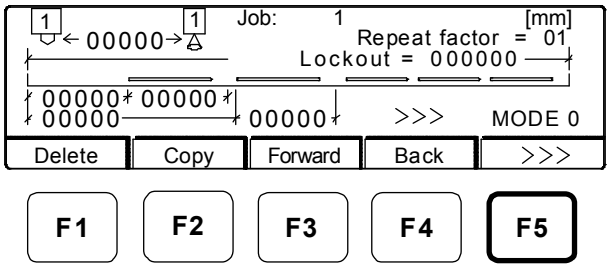


Figure 14-15. Glue-Pattern-Edit Menu

Editing a Job in Memory F2

To edit a job in memory, follow these steps:

1. Using the arrow keys, select the desired job from the list displayed.
2. Press F2 (Change). The glue-pattern-edit menu displays (Figure 14-17).

Note! The glue-pattern-edit menu that appears depends on which mode is selected in the setup menu (see *Section 8—Setup Menu*). To select a new mode, see *Section 9—Glue-Pattern-Edit Menu*, *Selecting a Mode*.

3. Using the arrow keys, move the cursor to the desired field.
4. Using either the scroll buttons or the numeric keypad, enter the new value.

Note! Press F2 (Press.) (menu page 1) to change the glue-pressure values, F2 (Delete) (menu page 2) to delete glue-pattern data, and F3 (Copy) (menu page 2) to copy glue-pattern data to another channel. (See *Section 9—Glue-Pattern-Edit Menu* and *Section 11—Glue-Pressure-Edit Menu* for parameter descriptions.)

5. Press F1 (End) when you have finished editing a job in memory. The job-management menu displays.

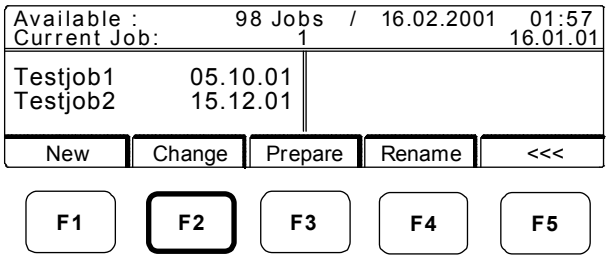


Figure 14-16. Job-Management Menu

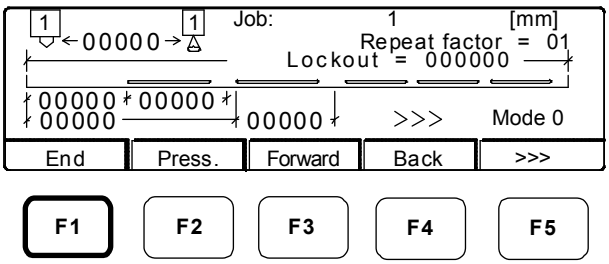


Figure 14-17. Glue-Pattern-Edit Menu

Preparing a New Job In Memory

F3

This function is used when you want to prepare a new job while the current job is operating (for example, during product changeover).

To prepare a new job in memory, follow these steps:

1. Press F3 (Prepare). The "Enter a job name:" message displays.
2. Enter a name for the new job.

Note! The job name can consist of any combination of alphanumeric characters. You use the scroll buttons to enter letters and the "-" sign and the numeric keypad to enter numbers. Pressing the right arrow key advances you to the next character place; pressing the left arrow key takes you back to the previous character.

3. Press F2 (Yes) to answer yes to the "Name OK?" message. The glue-pattern-edit menu displays (Figure 14-19).
4. Enter the values for the glue pattern (see *Section 9—Glue Pattern Edit Menu*).
5. Press F2 (Press.). The glue-pressure-edit menu displays (Figure 14-20).

Note! When the "Prepare" function is used, the glue-pressure-edit menu provides the following default values:

Metric (V = meters per minute):

V	= 0020	0100	0000	0000
P (%)	= 010	035	000	000

Imperial (V = feet per minute):

V	= 0080	0400	0000	0000
P (%)	= 010	035	000	000

6. Enter the values for the glue-pressure curve (see *Section 11—Glue-Pressure-Edit Menu*).
7. Press F1 (END). The job-management menu displays.

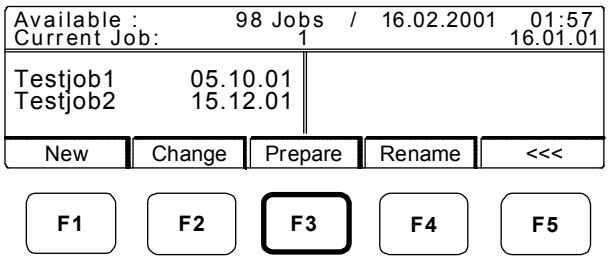


Figure 14-18. Job-Management Menu

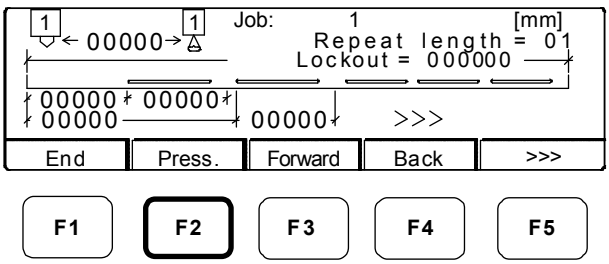


Figure 14-19. Glue-Pattern-Edit Menu

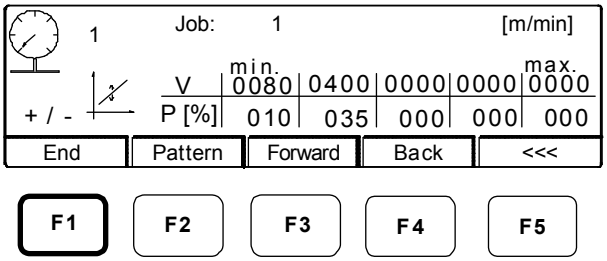


Figure 14-20. Glue-Pressure-Edit Menu

Renaming a Job F4

To rename a job, follow these steps:

1. Using the arrow keys, select the job from the list displayed.
2. Press F4 (Rename). The "Enter a new job name: _ _ _ _ _ Rename job?" message displays (Figure 14-22).
3. Overwrite the old job name by entering a new job name.

Note! The job name can consist of any combination of alphanumeric characters. Use the scroll buttons to enter letters and the "-" sign and the numeric keypad to enter numbers. Pressing the right arrow key advances you to the next character place; pressing the left arrow key takes you back to the previous character.

4. Press F2 (Yes) to enter the new job name. The old name is replaced with the new name.

Note! F2 (Yes) appears only if the name has been changed.

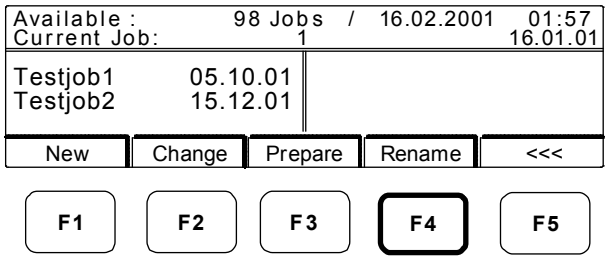


Figure 14-21. Job-Management Menu

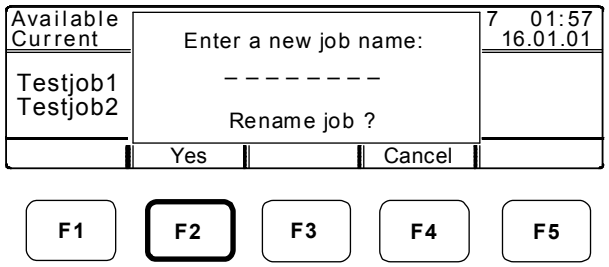


Figure 14-22. Job-Management Menu with Message

Go to Screen 3 F5

To go to screen 3 of the job-management menu, follow this step:

1. Press F5 (<<<). Screen 3 of the job-management menu displays.

Backup and Restore Functions (only available w/new CPU 151xx515)

The MCP-25/MS control with new CPU (151xx515) is equipped with 8Mbytes of Flash memory. In addition to the ability to store a program, flash memory provides the capability to back up (and restore) job storage (up to 100 jobs) and all setup parameters. This capability offers the following advantages:

- All jobs and setup parameters can be recovered, even when the backup battery has been discharged (70 days w/o power).
- After a software update, all settings can be restored immediately.

Note! We strongly recommend that customers perform frequent backups (weekly) to ensure accurate and current job data. We also recommend that backups be performed before a control is shipped, after a control is installed and adjusted, and whenever significant changes are made to setup parameters.

Back up to Flash memory

F1

To initiate a backup via the job-management menu, complete the following steps:

1. Press F5 (>>>) until the function 'Backup' appears above function key F1 in screen 3 of the job-management menu (see Figure 14-23).
2. Press F1 to start the Backup function. If a backup is already stored in Flash memory, a message will display (see Figure 14-24).
3. Make sure that the old backup can be over-written and press F2 to confirm. Press F4 if you do not wish to overwrite the existing backup.

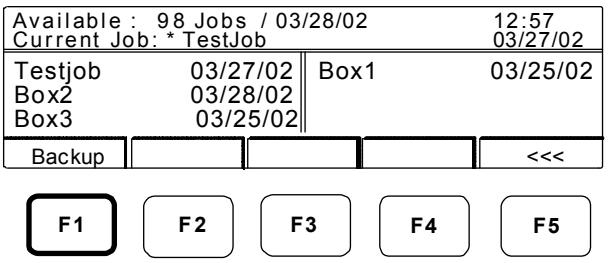


Figure 14-23. Job-Management Menu, screen 3

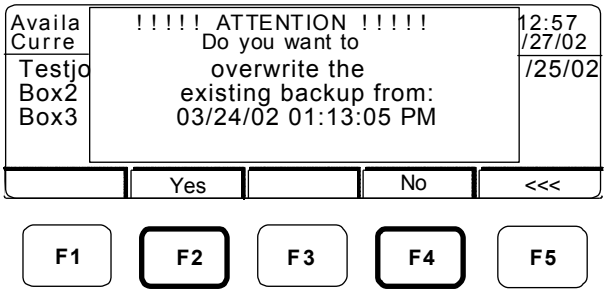


Figure 14-24.

ATTENTION: Stop the machine before using the Backup Function.
All valves will be switched off during the procedure.
The previous backup cannot be restored after it has been overwritten.

Restore Data from Flash memory

To begin a restore via the job-management menu, complete the following steps:

1. Press F5 (>>>) until the function 'Restore' appears above function key F2 in screen 3 of the job-management menu (see Figure 14-25). If there is no valid backup stored in Flash memory, the 'Restore' does not appear and the function cannot be executed.
2. Press F2 to start the Restore function. Two warning messages display to confirm your intentions (see Figures 14-26 and 14-27).
3. Make sure that everything can be overwritten. When the first message displays (Figure 14-26), press F2 to confirm that you want to restore ALL data with the backup.
4. When the second warning message displays (Figure 14-27), press F4 to confirm that you want to overwrite ALL job and setup data.
5. Switch the unit off and then switch it back on.

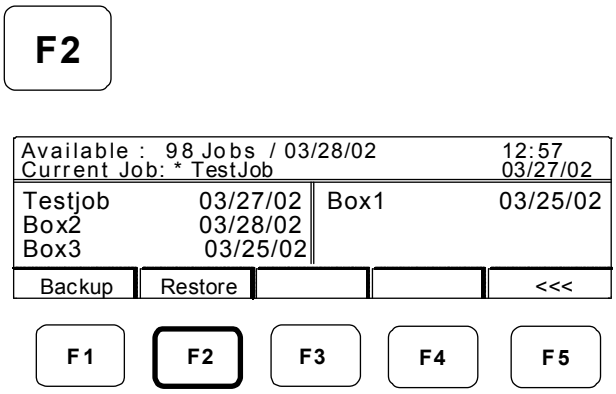


Figure 14-25. Job-Management Menu, screen 3

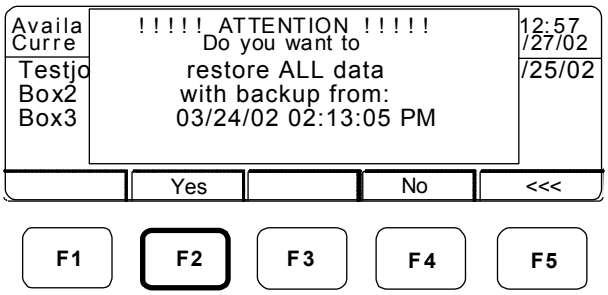


Figure 14-26.

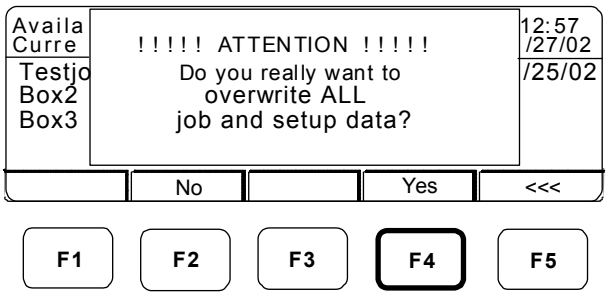


Figure 14-27.

ATTENTION: Stop the machine before using the Restore Function.
All valves will be switched off during the procedure.
All current settings will be overwritten after a restore.

Restore Data from Flash memory after Software Update

After installing a new version of software or after a unit has been powered down for more than 70 days, the initialization screen to the right displays (see Figure 14-28) when you reboot the system for the first time.

If no valid backup is stored in Flash memory, the option 'Restore Backup Data' does not appear on the screen and the function cannot be executed. If the option appears on the screen, complete the following steps:

1. Move the cursor down to the 'Restore Backup Data [ ]' field and press ENTER to select or deselect the option. If this option is selected, all other options marked as selected (such as MCP-25 or MCP-25/MS) are ignored.
2. Press F5 to start up the system. If the Restore Backup option has been selected, the system will be configured with the stored settings.

Note! If the option EMBA or MARTIN is selected, the parameter will be preset for a system with 900E valve(s) and CGS-40 sensor(s) in metric or imperial mode.

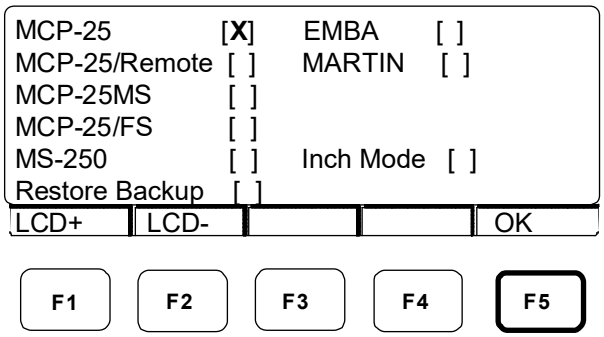


Figure 14-28.

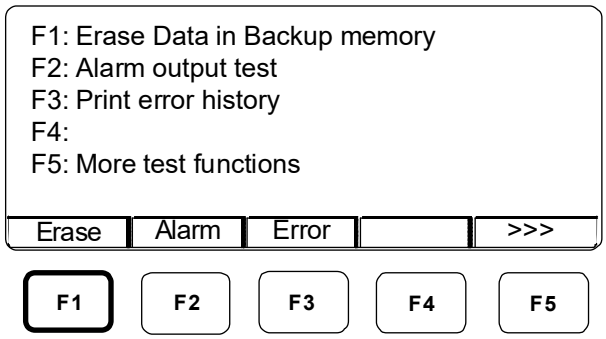


Figure 14-29.

Erase the Flash memory

Typically, the erase function is not needed. It is only available in the 'Special Diagnostic Function.' Refer to the *Service Manual for MCP-25/MS and FS Controls* (MC052) for information about accessing this function. When you access the 'Special Diagnostic Function,' the screen to the right displays (see Figure 14-29). To erase the data from Flash memory, complete the following steps:

1. Press F1 to start the 'Erase' function. Two warning messages display to confirm your intentions (see Figures 14-30 and 14-31).
2. Make sure everything can be overwritten. When the first message displays (Figure 14-30), press F2 to confirm that you want to erase ALL data from backup memory.
3. When the second warning message displays (Figure 14-31), press F4 to confirm that you want to erase ALL backup memory.

ATTENTION: This function should only be used by trained personnel. The previous backup cannot be restored.

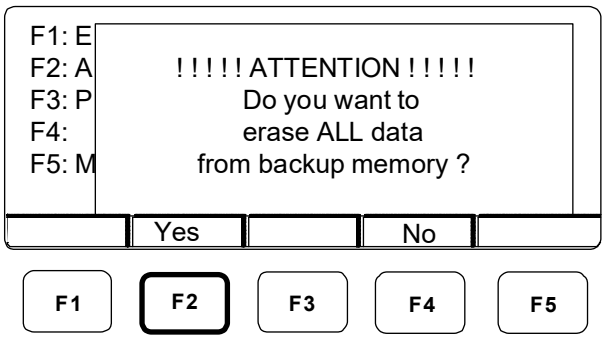


Figure 14-30.

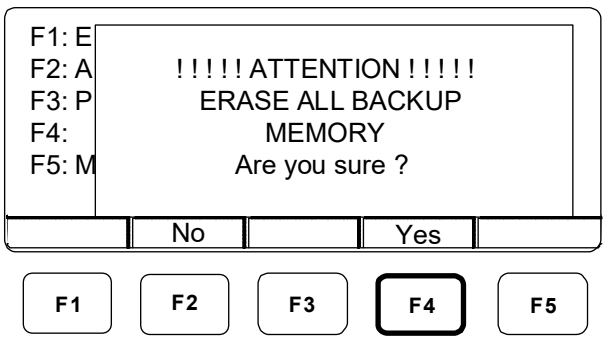


Figure 14-31.

Section 15—Diagnostic Menu

Introduction

The diagnostic menu allows you to print a diagnostic report. To access the diagnostic menu, follow this step:

1. Press the diagnostic-menu icon button (Figure 15-1). The diagnostic menu displays (Figure 15-2).

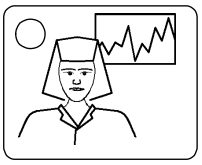


Figure 15-1. Diagnostic-Menu Icon Button

Printing a Diagnostic Report

F1

The "PRINT" command allows you to generate a printout of important control data and current job information. The data can then be evaluated by your service personnel or Valco technical service personnel.

Note! The printout is only available in English.

To print a diagnostic report, follow these steps:

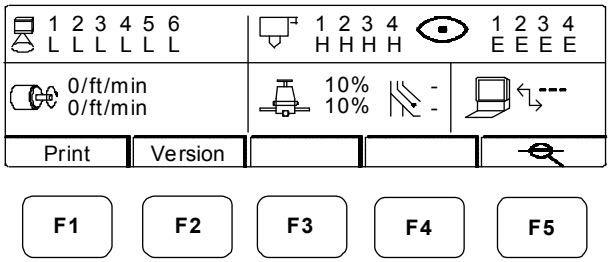


Figure 15-2. Diagnostic Menu

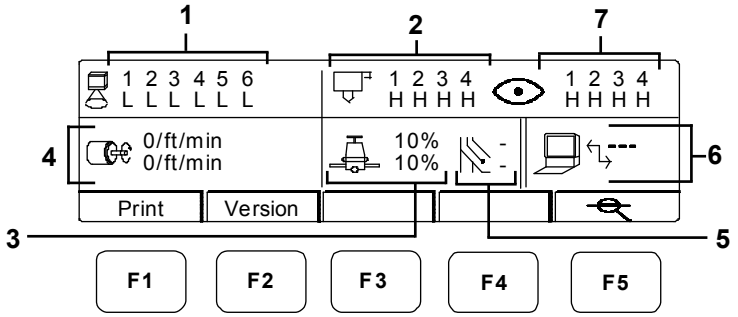
1. Connect a printer (IBM character-set-compatible with a serial connection) to the rear-panel printer connection (COM 3) (see *Section 5—Installation*).

Note! Either a laptop or a desktop PC with terminal emulation software can be used to enter setup parameters into a file (serial interface). Options: TTY-emulation, 9600, 8, 1, N. (9600bps, 8 Data bits, 1 Stop bit, no parity)

2. Load paper into the printer.
3. Make sure that the printer is online.
4. Press F1 (PRINT).
5. Press F2 (YES) to confirm the print function. (Press F4 to cancel the print function.)

Note! Refer to the following page for diagnostic menu parameter descriptions.

Diagnostic Parameters



1 Scanners 1-6

L	=	Low (not active)
H	=	High (active)
E	=	Error (One scanner has been assigned to two encoders.)
J	=	Jam

Note! This diagnostic scanner menu is used when testing the scanner signal by placing your hand under the scanner. When the parent machine is operating, use the front-panel LEDs for diagnostics.

2 Valves

L	=	The valve has not been selected for the current job.
H	=	The valve has been selected for the current job.
E	=	Error (The valve driver is defective or has been removed.)
-	=	The valve driver has not been installed.

3 Pressure transducers 1 and 2
Percent of output pressure

4 Encoders 1 and 2
Machine speed (feet or meters per minute)

5 Bypass valves 1 and 2

L	=	Not active
H	=	Active
E	=	Error
-	=	The bypass valve has not been configured (see *Section 8—Setup Menu,* Pressure-Transducer Configuration)

6 Com 1 and Com 2
Computer communications interface 1 and 2

7 Sensors 1-6

L	=	Low (not active)
H	=	High (active)
E	=	Error (The scanner is defective or has been removed.)

Obtaining CPU Version Number

F2

To obtain the version number of the CPU, follow this step:

1. From the Diagnostic Menu screen, press F2 (Version). The version numbers of the main and sensor CPUs display.

Viewing Sensor Diagnostics

F5

To view sensor diagnostics, follow this step:

1. From the Diagnostic Menu screen, press the F5 ( ) button. The diagnostic details screen displays (Figure 15-3).

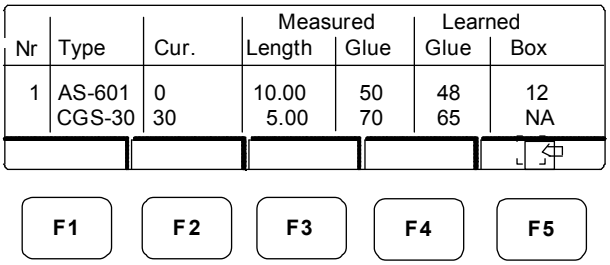


Figure 15-3. Diagnostic Details Screen

Section 16—Troubleshooting

Introduction

This section of the manual contains troubleshooting information and procedures for the MCP-25/MS control.

Problem	Possible Cause	Possible Solution
1. The valve and scanner do not function.	Valve and scanner cable connections are missing or incorrect.	Make sure the valve and scanner cable connections are present and correct.
	Encoder is not functioning correctly.	Make sure the encoder light on the front panel is working.
	Fuse is bad	Check the power supply lights on the front panel. Replace fuse if necessary.
	Valve is assigned to wrong scanner.	Make sure the scanner assignment to the valves is correct (glue-pattern-edit menu).
	Incorrect CPU boards and/or valve-driver boards in place.	Make sure the correct CPU boards and valve-driver boards are in place (diagnostics).
2. The scanner is operating, but the valve(s) is (are) not operating.	Valve driver is not available for the selected valve(s).	Upgrade the unit with additional Valve drivers.
	Valve cable is not connected properly.	Connect valve cable properly.
	Scanner assignment to the valves is incorrect (glue-pattern-edit menu).	Assign the proper scanner to the valve (glue-pattern-edit menu).
	The 24V power supply light is not illuminated (front panel).	Replace fuse if necessary.
	Control is not configured with the correct power supply (12V or 24V).	Configure the control with the correct power supply.
	Glue-pattern data has not been entered (glue-pattern-edit menu).	Enter glue-pattern data.

Problem	Possible Cause	Possible Solution
3. The valves are operating, but the glue pattern is not stable.	Incorrect distance between the valve's nozzle and the product.	Make sure the distance between the valve's nozzle and the product is as small as possible.
	Product is misaligned when entering glue station.	Make sure the product is guided properly into the glue station.
	Product bounce occurs or product is unstable at glue station.	Make sure the product is stable when glue is applied.
	Encoder slips or is not representing machine speed.	Make sure the encoder is mounted correctly.
	Partially clogged valve or nozzle.	Make sure the glue valve is clean.
	Area between scanner and product is obstructed.	Make sure the area between the scanner and the product is not obstructed.
	Scanner is mounted incorrectly.	Mount scanner correctly.
4. The valves are operating, but the glue volume is not correct.	Check the pressure table(s).	Make sure there is an increase in pressure as the speed of the parent machine increases.
	Size of valve nozzle incorrect	Increase the nozzle size if the glue volume is insufficient. Decrease the nozzle size if there is too much glue being applied to the product.
	Pressure transducer not operating properly.	Make sure the pressure-transducer mode is set correctly (setup menu) for the transducer being used in your system. Ensure that the transducers have been connected properly.
	Check the operation of the fluid regulators.	Do not over tighten the regulator handles.
	Bypass valve duration time is too long.	Make sure the bypass valve activation is set for the proper duration (setup menu).
	Pump is not operating correctly.	Make sure the pump is operating correctly.
	Obstructions in glue-supply hoses.	Check filter and clean the glue-supply hosees.
	Thickened glue in glue-supply hoses.	Check the glue-supply hoses. Flush the system if necessary.

Problem	Possible Cause	Possible Solution
5. The glue pattern length is correct, but the pattern is not in the correct position.	Cell-to-gun setting is incorrect (glue-pattern-edit menu).	Enter proper cell-to-gun setting (glue-pattern-edit menu).
	Pattern-delay settings are incorrect (glue- pattern-edit menu).	Enter proper pattern-delay settings (glue-pattern-edit menu).
	Valve's turnon and/or turnoff times are incorrect (setup menu).	Enter proper turnon and turnoff times for the valves (setup menu).
	Nozzle is too far from product.	Adjust the valve so that the nozzle is closer to the product.
	Scanner assignments are incorrect.	Assign proper scanner to the valve(s).
	Scanner lockout value is too small.	Increase the scanner lockout value (glue-pattern-edit menu).
	Ratio compensation is incorrect.	Enter proper ratio compensation (setup menu).
6. Length and position of the glue pattern are not correct.	Ratio compensation is incorrect.	Enter proper ratio compensation (setup menu).
	Correction factor is incorrect.	Make sure the correction factor is correct (setup menu).
	Incorrect glue mode is selected.	Select the correct glue mode (glue-pattern-edit menu).
	Incorrect repeat factor is entered.	Make sure the repeat factor is correct (glue-pattern-edit menu).
	Incorrect unit of measure is being used.	Make sure the proper measuring units (either metric or imperial) have been entered for the glue patterns.
	Scanner assignments are incorrect.	Make sure the scanner assignment to the valves is correct (glue-pattern-edit menu).
	Incorrect encoder is assigned to valve(s).	Make sure the encoder assignment is correct (setup menu).
	Incorrect "Ton" and "Toff" values have been entered.	Make sure the "Ton" and "Toff" values are correct (setup menu).

Problem	Possible Cause	Possible Solution
7. The valves apply glue only when the parent machine operates above a certain speed.	Incorrect "Vmin" (minimum threshold speed) entered	Make sure the "Vmin" has been entered correctly (setup menu).
	Improper pressure-table(s)	Make sure the pressure table(s) are correct. Increase the minimum-speed pressure setting.
8. The glue patterns shift or disappear as the speed of the parent machine increases.	Incorrect "Ton" and "Toff" values entered	Make sure the "Ton" and "Toff" values have been entered correctly.
	Improper "Tmin" setting entered	Increase the "Tmin" (setup menu) until the patterns reappear. (The patterns may become longer at slower speed when the Tmin is increased.)
	Improper pressure-table(s)	Make sure the pressure table(s) are correct. Check the pressure table(s) for extreme pressure variations as machine speed changes.
9. Only some of the valves are operating.	Valve not enabled	Make sure the valve-selection button on the front panel has been pressed. (A LED on the button will illuminate when a valve has been selected.)
	Check the scanner assignment(s) (glue-pattern-edit menu).	Check the scanner assignment(s) (glue-pattern-edit menu).
	Check the encoder assignment(s) (setup menu).	Check the encoder assignment(s) (setup menu).
	Check the valve cable connections.	Check the valve cable connections.
	Incorrect glue mode for valve in question	Make sure the glue mode is correct for the valve in question (setup menu).
10. The valves remain on continuously.	Control not in "AUTO" mode.	Make sure the control is in the proper mode ("MAN" or "AUTO"). The valves will activate continuously in the "MAN" mode.
	Glue pattern entered incorrectly	Make sure the glue pattern lengths have been entered correctly (glue-pattern-edit menu).
	Glue mode incorrect	Check the glue mode (glue-pattern-edit menu).
	Valve faults (indicated by a red LED on the valve-selection button on the front panel)	Check for valve faults, which are indicated by a red LED on the valve-selection button (left side of front panel).

Problem	Possible Cause	Possible Solution
11. The front-panel valve LEDs are red.	The number of valve outputs in the setup menu exceed the number of available outputs (see "Valve Configuration").	Call Valco (see *Section 18—Service* for information)
12. The glue pressure does not decrease as the speed of the parent machine is reduced.	Incorrect Vbypass setting in setup menu	Increase the bypass valve's threshhold (Vbypass)
	Incorrect Tbypass setting in setup menu	Increase the bypass valve's activating duration (Tbypass).
	Bypass valve not operating properly	Make sure the bypass valve is operating correctly.
	Obstructions in the bypass valve's hoses.	Make sure the bypass valve's hoses are free from obstructions.
	Fluid regulators not adjusted properly	Make sure fluid regulators are adjusted properly.
13. The encoder signal is not accepted by the control.	Direction-recognition function improperly set up.	Make sure the direction-recognition function in the setup menu is correct. (If the direction-recognition function is selected, the encoder must have an A/B signal.)

Section 17—Specifications

Introduction

This section of the manual contains specifications for the MCP-25/MS control.

Width	435 mm (17.25")
Height	210 mm (8.25")
Depth:	460 mm (18.2")
Power requirements	115/230VAC, 50/60 Hz (switchable on rear panel) or 100/200VAC, 50/60 Hz
Optional external power supply	115/230VAC, 200W
Valve output	Up to 4 valves
Coil voltage	Up to 65W per channel (maximum 160 for the entire unit)
Job storage capacity	100 jobs
Scanner inputs	6 PNP or NPN scanners, 24VDC (plus a fifth encoder start signal input, zero signal)
Pressure transducer	2 transducers, 0-10V or 0-20mA
Computer hardware interface	RS232 and fiber-optic (other optional interfaces are available)
Bypass valve output	Maximum 2 valves, 24VDC
Encoders	Up to 2 encoders, 15VDC or 24VDC
Maximum gluing speed (with a 1:1 encoder impulse/product travel ratio)	1800 meters (5900 feet) per minute

Section 18—Part-Number List

How to Order Parts

To order parts from Valco, please contact one of the following offices:

Valco Cincinnati Incorporated
411 Circle Freeway Drive
Cincinnati, Ohio 45246
TEL: (513) 874-6550
FAX: (513) 874-3612

Valco Cincinnati Limited
Hortonwood 32
Telford, TF1 7YN, England
TEL: (+44) 1952-677911
FAX: (+44) 1952-677945

Valco Cincinnati GmbH
Storkower Str.
15749 Gallun, Germany
TEL: (+49) 337 648 700
FAX: (+49) 337 648 7070

MCP-25/MS Spare Parts List

Description	Part Number
PCB assembly, CPU	151xx515
PCB assembly, I/O board	151xx483
PCB assembly, power supply	151xx456
PCB assembly, valve driver	151xx484
Module assembly, display/keyboard	080xx859
PCB assembly, sensor CPU	151xx487
Sensor adapter board, digital (Lut-3)	151xx459
Sensor adapter board, MW-101	151xx507
Sensor adapter board, CGS-30/CGS-40	151xx460
Sensor adapter board, D-12	151xx461
Sensor adapter board, AS-601	151xx501
Sensor adapter board, AS-301	151xx512
Installation kit	091xx441

MCP-25 Installation Kit (091XX441)

Description	Qty.	Part Number
Fuse, 500MA	2	085xx219
Fuse, 2.0 AMP	2	085xx220
Fuse, 6.3 AMP	2	085xx221
Fuse, 4A, SLO-BLO	2	085xx181
Connector tool, wire insertion	2	070xx267
Connector, PC card	2	070xx011
Cable, power IEC320/US plug	1	030xx493
Cable, power IEC320/EURO leads	1	030xx422
Label set, MCP-25 control	1	781xx531
Fuse, 1.6A, 250V, time-lag	2	085xx209
Connector tool, wire insert	1	070xx439

Accessories

Encoders

Description	Part Number
Encoder, VDD-100	155xx300
Encoder, VDD-250	155xx301
Encoder, VDD-360	155xx302
Encoder, VDD-500	155xx303
Encoder, VDD-1000	155xx304
Encoder, Type 30/500	155xx075
Encoder, Type 85, 800 pulses per revolution, 12 mm bore	155xx073
Encoder, Type 85, 630 pulses per revolution, 12 mm bore	155xx085
Encoder, Type 85, 1400 pulses per revolution, 12 mm bore	155xx086
Encoder, Type 85, 2000 pulses per revolution, 12 mm bore	155xx087

Encoder Cables

Description	Part Number
Encoder cable, VDD, 2 m (6 ft.) – for connector back-panel option	030xx630
Encoder cable, VDD, 4 m (13 ft.) – for connector back-panel option	030xx631
Encoder cable, VDD, 8 m (26 ft.) – for connector back-panel option	030xx632
Encoder cable, VDD, 16 m (49 ft.) – for connector back-panel option	030xx633
Encoder cable, VDD, 2 m (6 ft.) – for field-wireable back-panel option	030xx810
Encoder cable, VDD, 4 m (13 ft.) – for field-wireable back-panel option	030xx811
Encoder cable, VDD, 8 m (26 ft.) – for field-wireable back-panel option	030xx812
Encoder cable, VDD, 16 m (49 ft.) – for field-wireable back-panel option	030xx813
Encoder cable, Types 30 and 85, 10 m (33 ft.) – for field-wireable back-panel option	030xx495
Encoder cable, Types 30 and 85, 15 m (49 ft.) – for field-wireable back-panel option	030xx496
Encoder cable, Types 30 and 85, 25 m (82 ft.) – for field-wireable back-panel option	030xx497
Encoder cable, Types 30 and 85, 5 m (16 ft.) – for connector back-panel option	030xx797
Encoder cable, Types 30 and 85, 10 m (33 ft.) – for connector back-panel option	030xx798
Encoder cable, Types 30 and 85, 15 m (49 ft.) – for connector back-panel option	030xx799
Encoder cable, Types 30 and 85, 25 m (82 ft.) – for connector back-panel option	030xx800

Sensors

Description	Part Number
AS-601 “straight” sensor	280xx197
AS-601 “90°” sensor	280xx196
CGS-30 gate sensor (for orientation along machine, 4th-panel side, without internal scanner)	280xx208
CGS-30 gate sensor (for orientation along machine, tab side, without internal scanner)	280xx207
CGS-40 gate sensor	280xx910
D-12 sensor	280xx193
MW-101 microwave sensor	280xx204
Digital Turck NPN sensor	280xx152
UV-3 PNP sensor	280xx132
UV-3 PNP sensor 90° lens adapter	280xx133
Color sensor and amplifier	280xx220 280xx221

Sensor Cables

Description	Part Number
AS-601 sensor cable, 5m (16 ft.)	030xx769
AS-601 sensor cable, 10m (33 ft.)	030xx770
AS-601 sensor cable, 15m (50 ft.)	030xx771
CGS-30 gate-sensor cable, 5m (16 ft.)	030xx762
CGS-30 gate-sensor cable, 10m (33 ft.)	030xx763
CGS-30 gate-sensor cable, 15m (50 ft.)	030xx764
D-12 sensor cable, 5m (16 ft.)	030xx604
D-12 sensor cable, 10m (33 ft.)	030xx596
MW-101 microwave-sensor cable, 5m (16 ft.)	030xx765
MW-101 microwave-sensor cable, 10m (33 ft.)	030xx766
MW-101 microwave-sensor cable, 15m (50 ft.)	030xx767
Digital NPN/PNP sensor, 5m (16 ft.)	030xx765
Digital NPN/PNP sensor, 10m (33 ft.)	030xx766
Digital NPN/PNP sensor, 15m (50 ft.)	030xx767
Cable (connector backpanel option) for digital NPN sensor, 5m (16 ft.)	029xx035
Cable (connector backpanel option) for digital PNP sensor, 5m (16 ft.)	029xx036
Cable, 2m, for connector backpanel option	030xx862
Cable, 5m, for connector backpanel option	030xx823
Cable, 10m, for connector backpanel option	030xx863
Cable, 15m, for connector backpanel option	030xx864
Cable, 30m, for connector backpanel option	030xx865
Cable, 5m, field wirable	030xx861
Cable, 10m, field wirable	030xx866

Pressure Transducers

Description	Part Number
EPC-6 pressure transducer	077xx316
EPC-J pressure transducer without fittings, DIN connector	077xx320
EPC-J pressure transducer, metric, DIN connector	077xx321
EPC-J pressure transducer, imperial, DIN connector	077xx322
EPC-J pressure transducer, metric with 5-pin M12 connector	077xx324
EPC-J pressure transducer, imperial with 5-pin DIN connector	077xx326
EPC-J without fittings, M12 connector	077xx325
EPC-M pressure transducer, metric	077xx595
EPC-M pressure transducer, imperial	077xx596

Pressure-Transducer Cables

Description	Part Number
EPC-6 connector cable, 2 m (6 ft.)—*for use with field-wirable back panel*	030xx002
EPC-6 connector cable, 10 m (33 ft.)—*for use with field-wirable back panel*	030xx007
EPC-J connector cable, 5 m (16 ft.)—*for use with field-wirable back panel*	030xx605
EPC-J connector cable, 10 m (33 ft.)—*for use with field-wirable back panel*	030xx614
EPC-J connector cable, 5 m (16 ft.)—*for use with connector back panel*	030xx801
EPC-J connector cable, 10 m (33 ft.)—*for use with connector back panel*	030xx802
EPC-J connector cable, 2 m (6 ft.)—*for use with 5-pin M12 connector*	030xx850] OR any scanner cable
EPC-J connector cable, 10 m (33 ft.)—*for use with 5-pin M12 connector*	030xx833]

Section 19—Warranty

Warranty Information

Valco Cincinnati, Inc. warrants its equipment worldwide against defects in material and workmanship as outlined in this section.

Cold-Glue Equipment and Electronic Controls

One (1) year from the date of shipment by Valco Cincinnati.

Hot-Melt Units, Hoses, Valves, and Related Equipment

All components except cast-in heating elements are warranted for a period of six (6) months from the date of shipment by Valco Cincinnati. Cast-in heaters carry an additional, prorated warranty not to exceed three (3) years from the date of shipment by Valco Cincinnati.

Liability of the company is limited to repair of the product or replacement of any part shown to be defective, and does not extend to defects caused by accidents, misuse, abuse, neglect, tampering or deterioration by corrosion. This warranty does not cover those items determined by Valco Cincinnati, Inc. to be normal wear items such as seals, O-rings, diaphragms, springs, etc.

Reconditioned equipment, unless specified otherwise at the time of purchase, will be warranted as described above for a period of ninety (90) days from the date of shipment by Valco Cincinnati.

Components purchased by Valco Cincinnati, Inc. from others for inclusion in its products are warranted only to the extent of the original manufacturer's warranty. In no event shall Valco Cincinnati, Inc. be liable for indirect or consequential damages arising out of the use of Valco Cincinnati products.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to Valco Cincinnati, Inc. for examination and verification. If claimed defect is verified, repairs or replacements will be made F.O.B. Cincinnati, Ohio, U.S.A. or ex-works Telford, U.K. If the inspection of the equipment does ***not*** disclose any defect of workmanship or material, any necessary repairs will be made at a reasonable charge and return transportation will be charged.

This is the only authorized Valco Cincinnati, Inc. warranty and is in lieu of all other expressed or implied warranties, representations or any other obligations on the part of Valco Cincinnati, Inc.

Section 20—Service

Service Needs

If you have problems with your system, please contact your Valco Cincinnati representative. If your need is urgent, we encourage you to contact our corporate office in Cincinnati, Ohio, U.S.A. at (513) 874-6550, or Valco Europe in the United Kingdom at (+44) 1952-677911. If the problem cannot be resolved on the telephone, Valco will promptly arrange to have a technical representative visit your facility. Any charges for a service call will be quoted at that time. Any part that fails during the warranty period shall be returned prepaid to Valco Cincinnati by the customer for disposition.

Note! Upon request, Valco Cincinnati personnel are available to repair or replace such parts at the customer's facility. Charges for this service include travel time and expenses.

If an equipment problem is the result of customer abuse, improper installation or operation, all travel time, labor, parts, and expenses will be charged to the customer.

If the responsibility for a problem cannot be absolutely determined, the customer will be charged for travel time and expenses only. No charge will be made for parts and labor.

Appendix A—Maintenance Procedures

Introduction

This appendix contains recommended daily, weekly, 3-month, 6-month, and 12-month maintenance procedures for the MCP-25/MS system.

The maintenance procedures contained in this appendix are to be used for cold-glue systems only. OTHERWISE, DAMAGE TO EQUIPMENT COULD OCCUR.

Daily Maintenance

Action	Date	Shift	Initials
1. Clean the exterior portion of the glue valves, nozzle tips, glue heads, etc.			
2. Purge the glue valves if necessary, and ensure proper glue flow.			
3. Ensure that air and glue pressure settings are correct.			
4. If using glue inspection:			
Ensure that sensor is clean. (Lens must be clean and clear with no scratches.)			
Check sensor for proper height adjustment.			
Adjust for proper sensitivity if necessary.			

Weekly Maintenance

Actions	Date	Shift	Initials
1. Clean the glue filter thoroughly with water.			
2. *For electric-coil non-contact valves only*—disassemble the fluid section of the glue valve, and clean the section thoroughly with water.			
3. If you are using a 585 valve, replace the valve spring.			
4. *For non-contact valves only*—lubricate the valve with Teflon oil (supplied with maintenance kit).			
5. Reassemble the fluid section.			
6. Using the 3-way purge valve on the output of the glue filter, purge all air from the system.			
7. Purge each valve in the system. (Approximately 1-2 ounces of glue should be purged for proper glue flow.)			
8. Check for any glue leakage on the needle seat. Replace the needle/plunger assembly and seat if leaks or dripping occurs.			
9. *For non-contact valves only*—Apply a small amount of lithium grease to the nozzle seat area before attaching the retaining nut.			
10. Check all quick-disconnect fittings for any dried glue or swelling that may restrict the glue flow.			
11. Lubricate each quick-disconnect fitting with lithium grease or equivalent.			

3-Month Maintenance

Actions	Date	Shift	Initials
1. Encoder mounting:			
a. Check timing belt, gear and pulley teeth, and proper timing belt tension..			
b. If using measuring wheel, check for wear and proper wheel tension on machine belt.			
c. If using direct-drive encoder, check coupling and rotation of shaft for proper alignment.			
2. Perform the “Weekly Maintenance” procedure.			

6-Month Maintenance

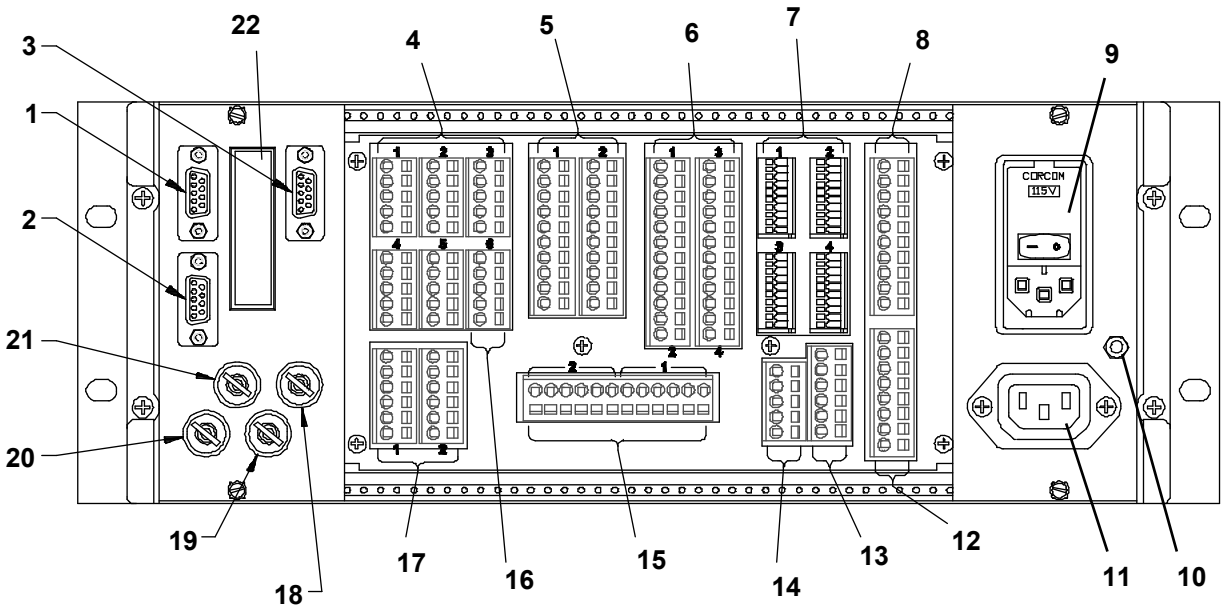
Actions	Date	Shift	Initials
1. Flush entire glue system, *except for the central pumping system*, with a vinegar and water solution (1 gallon of vinegar to 10 gallons of water). 2. Perform the "Weekly Maintenance" procedure.			

12-Month Maintenance

Actions	Date	Shift	Initials
1. Flush the entire glue system, *including the central pumping system*, with a vinegar and water solution (1 gallon of vinegar to 10 gallons of water). 2. Disassemble, thoroughly clean, and rebuild each fluid-regulator assembly and glue valve. 3. Perform the "Weekly Maintenance" procedure.			

Appendix B—Wiring Information (Older Generation Controls)

Back Panel of Field-Wirable Control



Description of Back-Panel Features

1 **COM 1**
Serial interface (Option: RS232, RS485, or current loop)

2 **COM 2**
Interface for other Valco controls

3 **COM 3**
Diagnostic printer/modem interface

4 **Scanner connections (maximum of 6)**

1	=	24 volt (US = red)
2	=	0 volt (US = black)
3	=	PNP signal
4	=	NPN signal (US = green)
5	=	Shield

5 Encoder connections (maximum of 2)

1	=	24 volt
2	=	0 volt
3	=	A signal
4	=	A signal
5	=	B signal
6	=	B signal
7	=	Impulse start signal 0
8	=	Impulse start signal 0
9	=	15 volt
10	=	Shield

6 Glue valve connections (maximum of 4)

1	=	Coil voltage (individually programmable for each channel)
2	=	Coil voltage (individually programmable for each channel)
3	=	0V, purge button input (connect position 3 and 4)
4	=	Purge input signal
5	=	Earth
6	=	Shield

7 Sensor connections (maximum of 4)

Based on type of sensor

8 Relay, alarm, and 24VAC outputs

1	=	Dry contact, jam preventer (maximum 230V, 3A)
2	=	Dry contact, jam preventer (maximum 230V, 3A)
3	=	Dry contact, low-level detector (maximum 230V, 3A)
4	=	Dry contact, low-level detector (maximum 230V, 3A)
5	=	Alarm signal, level control (24V, maximum 5W)
6	=	Alarm signal, level control (24V, maximum 5W)
7	=	Alarm signal, jam preventer (24V, maximum 5W)
8	=	Alarm signal, jam preventer (24V, maximum 5W)
9	=	Constant output, 24VAC, 1A (DD-1 pump)
10	=	Constant output, 24VAC, 1A (DD-1 pump)

9 Power input (rack-mount version) and fuse holder

115V/60Hz or 230V/50Hz (2 fuses, 6.3A-GDC)

WARNING! Turn off the power and unplug the unit before switching the power voltage. OTHERWISE, PERSONAL INJURY OR DEATH COULD OCCUR. Only qualified personnel should open and service the control.

10 Ground

Connects to machine ground with wire >AWG 16 (6 mm^2)

11 Power output

115V/60Hz or 230V/50Hz

12 Not used

13 Marking valve

1	=	Coil voltage (24V)
2	=	Coil voltage (24V)
3	=	Purge button input
4	=	Purge button input
5	=	Earth
6	=	Shield

14 Scanner for marking valve

1	=	24 volt (US=red)
2	=	0 volt (US=black)
3	=	PNP signal
4	=	NPN signal (US=green)
5	=	Shield

15 Bypass valve connections (maximum of 2)

1	=	Coil voltage (24V)
2	=	Coil voltage (24V)
3	=	Purge button input
4	=	Purge button input
5	=	Earth
6	=	Shield

16 Scanner 6 or level indicator

1	=	+24V
2	=	0V
3	=	PNP
4	=	NPN
5	=	Shield

17 Pressure transducer connections (maximum of 2)

1	=	24 volt
2	=	0 volt
3	=	(-) Signal output (0-10V or 0-20mA)
4	=	(+) Signal output (0-10V or 0-20mA)
5	=	Earth
6	=	Shield

18 Fuse (F3), 24V encoder (0.5 amp-GDC)

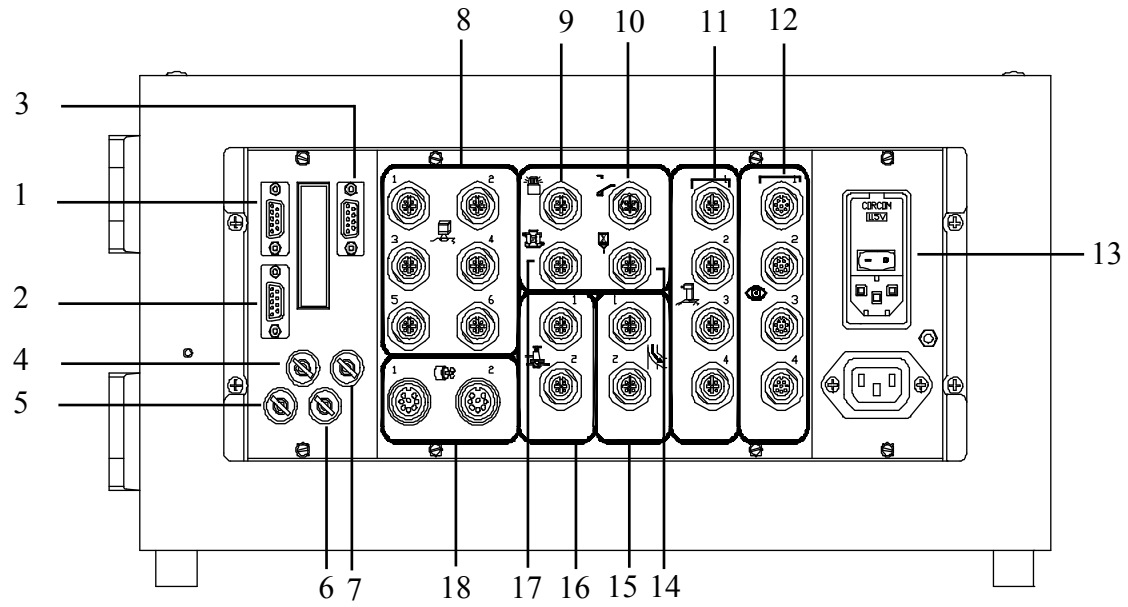
19 Fuse (F5), 15V encoder (0.5 amp-GDC)

20 Fuse (F4), flow control (1.6 amp-GDC)

21 Fuse (F2), 24V scanner (0.5 amp-GDC)

22 Optional fiber optic interface

Back Panel of Control with Connector



Description of Back Panel Features

1 **COM 1**
Serial interface
(Option: RS232, RS485, or current loop)

2 **COM 2**
Interface for other Valco controls

3 **COM 3**
Diagnostic printer/modem interface

4 **Fuse (F2), 24V scanner (0.5AT)**

5 **Fuse (F4), 24V pressure transducer (1.6AT)**

6 **Fuse (F5), 15V encoder (0.5AT)**

7 **Fuse (F3), 24V encoder (0.5AT)**

8 **Scanner connections (maximum of 6)**

9 **Alarm, 24V**

10 **Alarm, dry contact**

11 **Glue-valve connections (maximum of 8)**

12 **Glue inspection (maximum of 4)**

13 **Power-entry module**

14 **Marking valve**

15 **Bypass-valve connections (maximum of 2)**

16 **Pressure transducers (maximum of 2)**

17 **Pump**

18 **Encoder connections (maximum of 2)**

The connector back panel cables for alarm/beacon 481xx037 are as follows:

- 10m (33-ft.) cable (030xx741)
- 15m (50-ft.) cable (030xx742)
- 20m (66-ft.) cable (030xx743)

The field-wirable cable for alarm/beacon 481xx037:

- 10m (33-ft.) cable (030xx627)

The connector back panel cables for alarm/beacon 481xx039 are as follows:

- 10m (33-ft.) cable (030xx738)
- 15m (50-ft.) cable (030xx739)
- 20m (66-ft.) cable (030xx740)

The field-wirable cable for alarm/beacon 481xx037:

- 10m (33-ft.) cable (030xx596)

Alarm/Beacon Wiring Connections

See the following pages for alarm/beacon wiring connections.

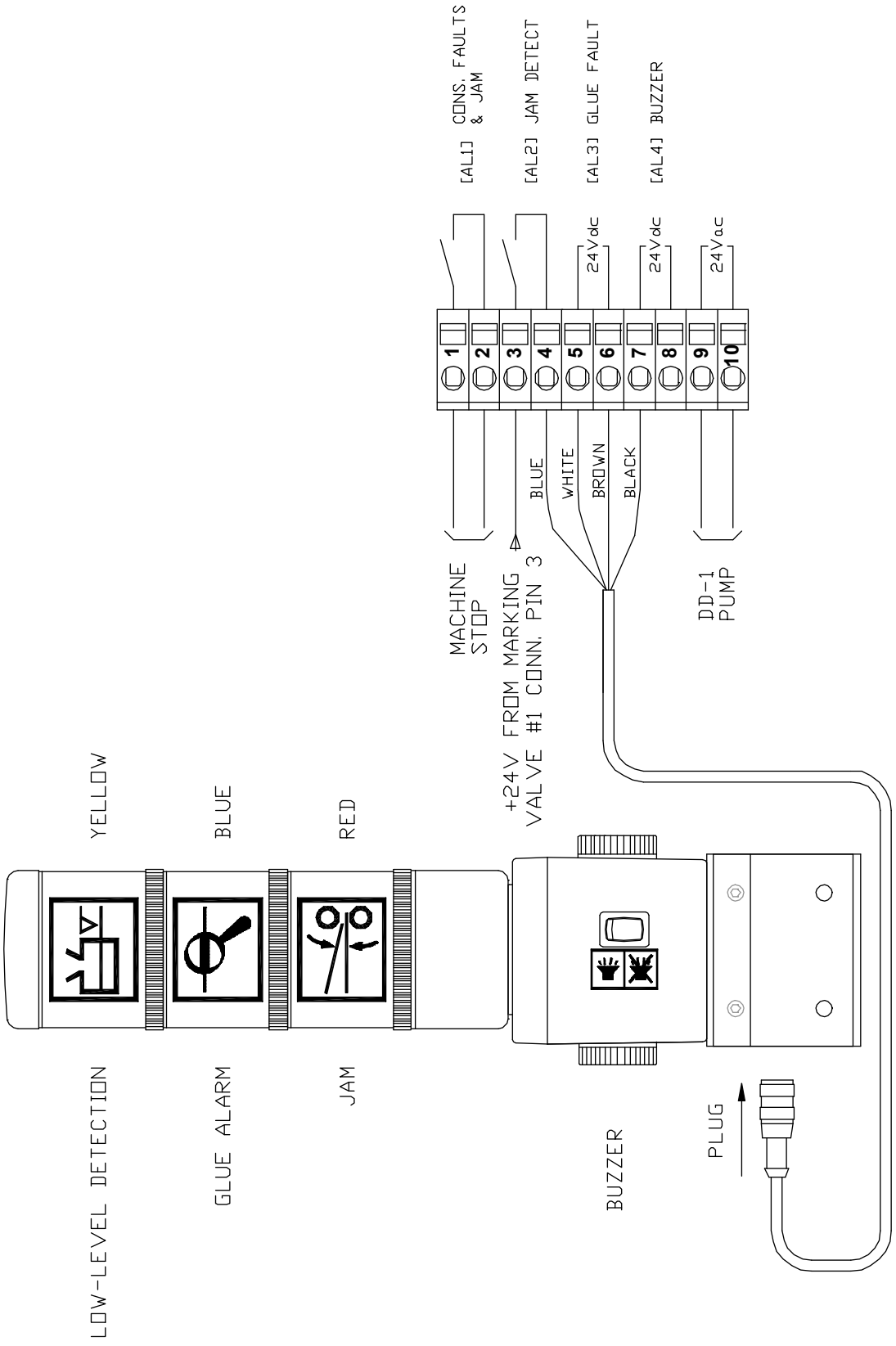


Figure B-1. Alarm/Beacon 481xx037 Wiring Connections—Configuration #1
(refer to item 8 of Back Panel of Field-Wirable Control on page B-1)

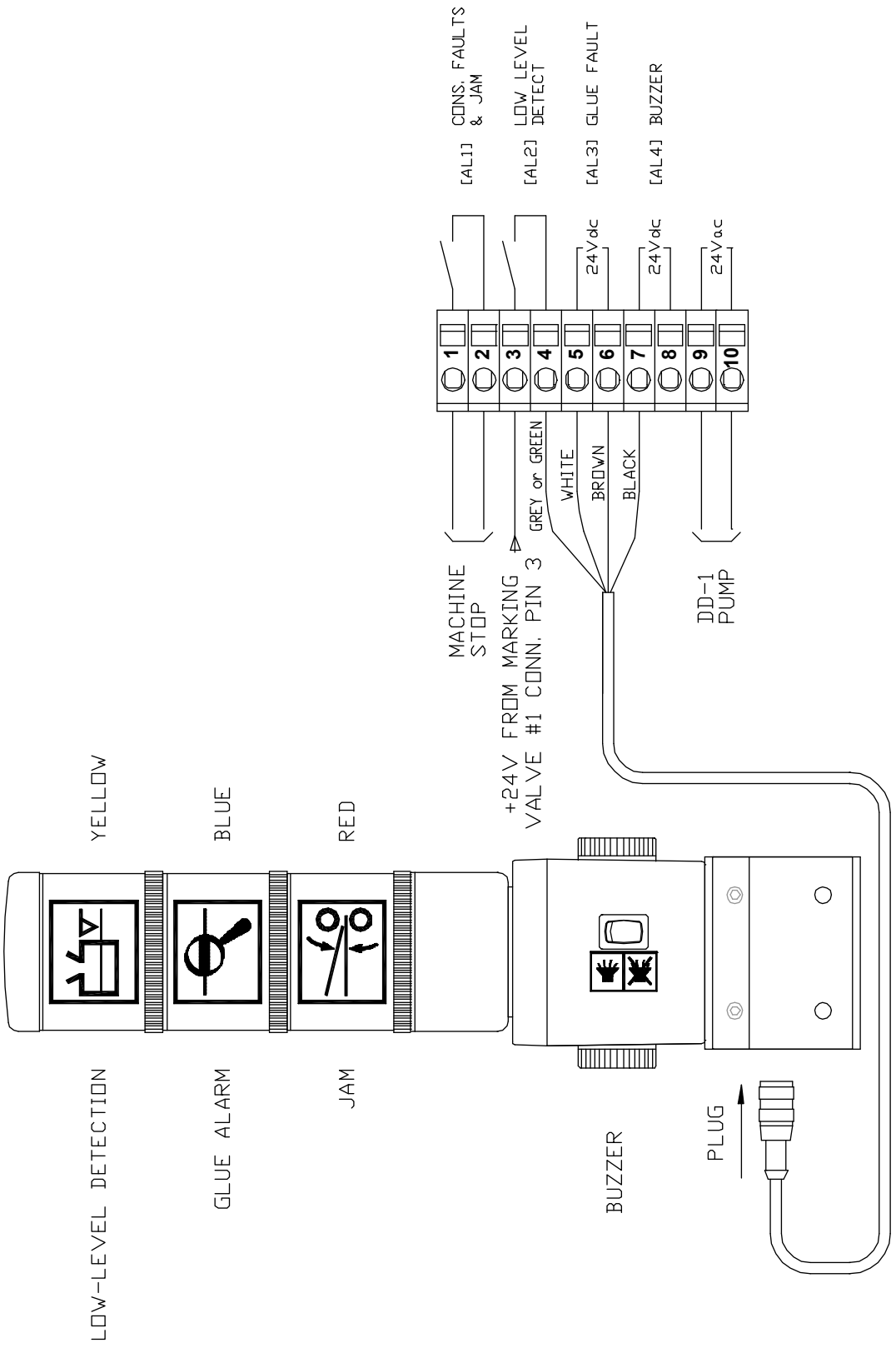


Figure B-2. Alarm/Beacon 481xx037 Wiring Connections—Configuration #2
(refer to item 8 of Back Panel of Field-Wirable Control on page B-1)

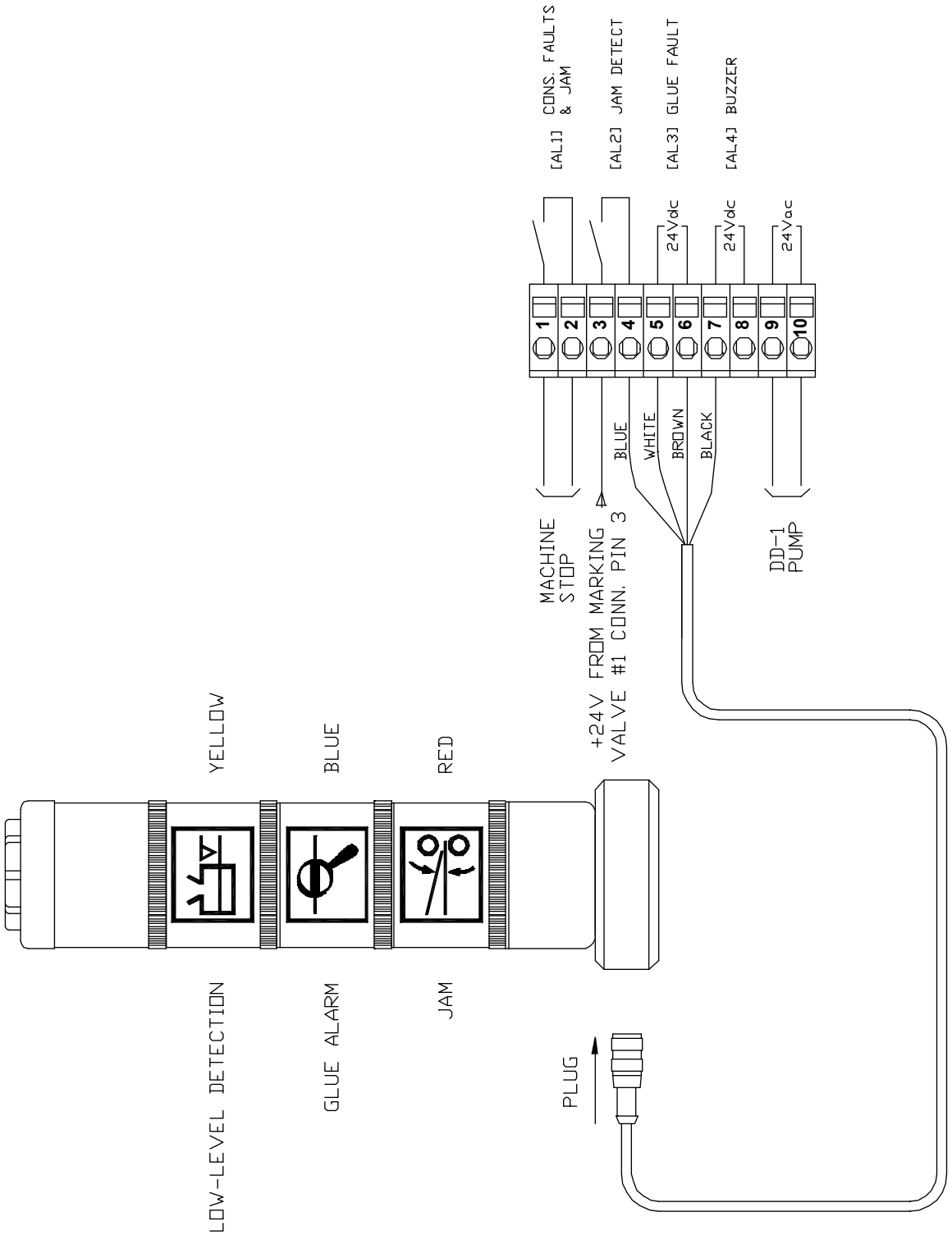


Figure B-3. Alarm/Beacon 481xx039 Wiring Connections—Configuration #1
(refer to item 8 of Back Panel of Field-Wirable Control on page B-1)

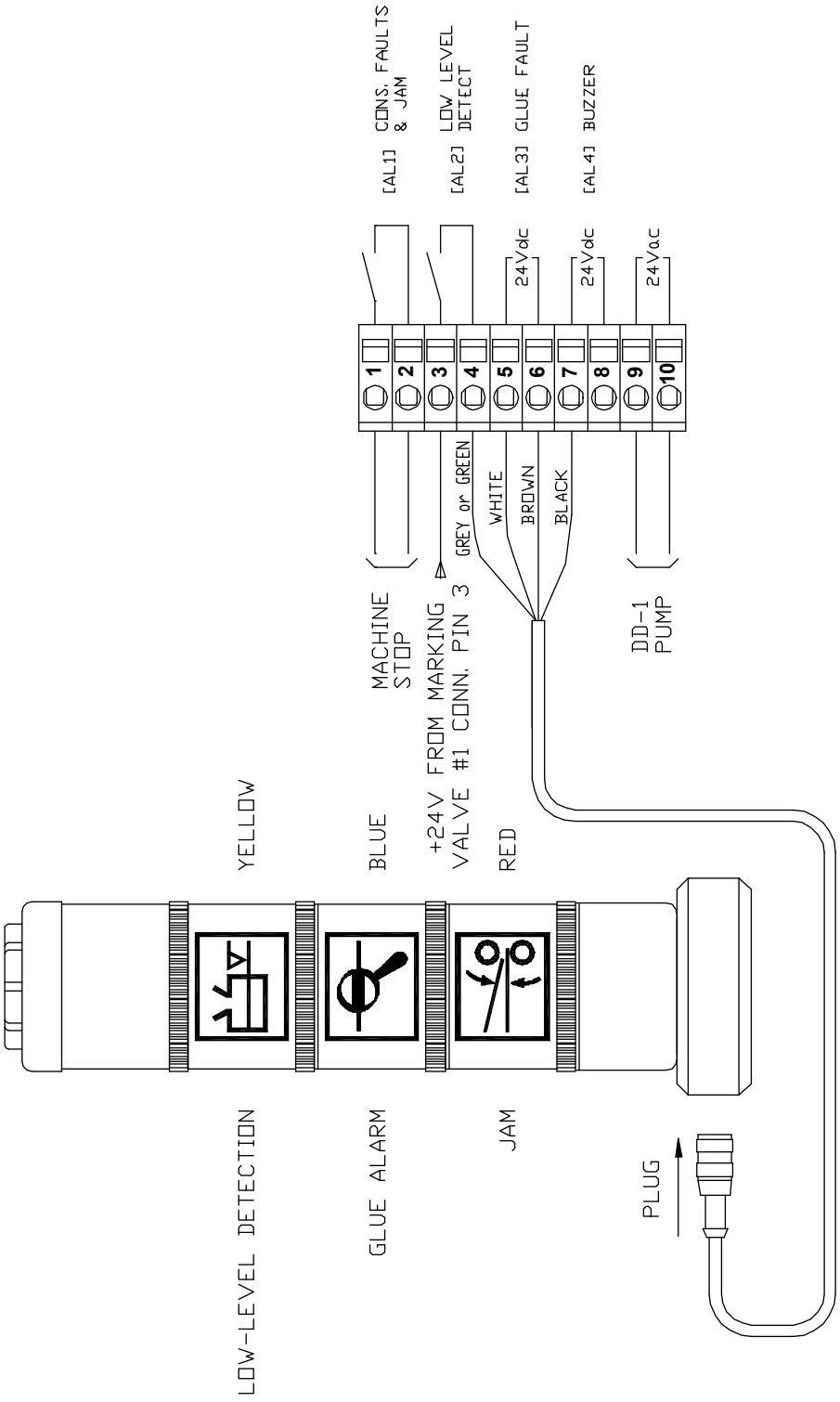


Figure C-4. Alarm/Beacon 481xx039 Wiring Connections—Configuration #2
(refer to item 8 of Back Panel of Field-Wirable Control on page C-1)

Appendix C—Glue-Pressure Software (Older Generation Controls)

Glue-Pressure-Edit Menu

The glue-pressure-edit menu allows you to program the percentage glue-pressure curve. P[%] represents the glue pressure as a percentage of the maximum glue pressure allowed.

Accessing the Glue-Pressure-Edit Menu

To access the glue-pressure-edit menu, follow these steps:

1. Press the glue-pressure-edit menu icon button (Figure C-1). The glue-pressure-edit menu displays (Figure C-2). The glue-pressure-edit menu contains the glue-pressure table.

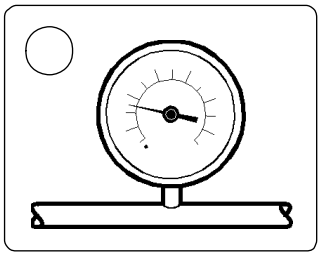


Figure C-1. Glue-Pressure-Edit-Menu Icon Button

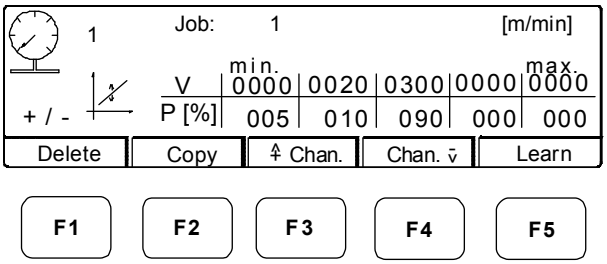
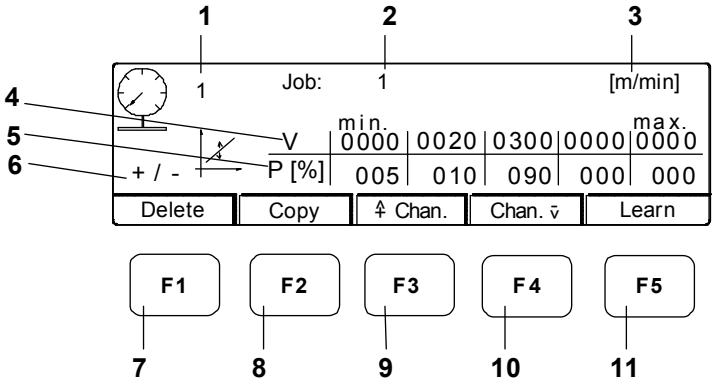


Figure C-2. Glue-Pressure-Edit Menu

Glue-Pressure-Edit Parameters



1 Pressure-Transducer Number
This field contains the number of the selected pressure transducer for the displayed glue pattern data.

2 Job Name
This field displays the name of the job. The job name cannot be edited in the glue-pattern-edit screen.

3 Unit of Measure
This field indicates the unit of measure (either millimeters or inches) that was selected in the setup menu. (See *Section 8—Setup Menu* for information about how to change the unit of measure.)

4 Velocity
V = product speed (velocity). This value is entered in either meters per minute or feet per minute, depending which unit of measure was selected in the setup menu.

"min." = Parent machine idle
"max." = Maximum parent-machine speed

5 Glue Pressure
P% = glue pressure in percent of the maximum possible glue pressure. If "bar" or "psi" is displayed, the glue pressure is entered in absolute values.

6 +/-
This field allows you to increase or decrease the values of the whole pressure table. All points of the pressure table will be increased or decreased proportionally, and the glue-pressure changes take effect immediately.

7 F1
Pressing F1 (Delete) deletes the glue pressure information for this pressure transducer.

8 F2
Pressing F2 (Copy) copies the glue-pressure information from this pressure transducer to another pressure transducer.

9 F3
Pressing F3 (Chan.) displays the glue-pressure curve for the next pressure transducer. Up to two pressure transducers are available in one job.

Note! This function may not be active if only one transducer has been selected in the setup menu.

10 F4
Pressing F4 (Chan.) displays the glue-pressure curve for the previous pressure transducer. Up to two pressure transducers are available in one job.

Note! This function may not be active if only one transducer has been selected in the setup menu.

11 F5
Pressing F5 (Learn) automatically imports the parent-machine speed and corresponding glue-pressure values into the glue-pressure table.

Creating a Glue-Pressure Curve

To create a glue-pressure curve, follow these steps:

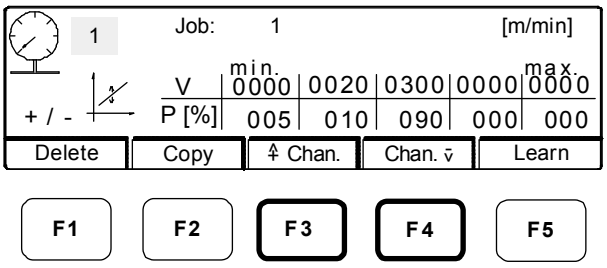
1. Using either the F3 (↟ Chan.) or F4 (Chan. ↡) keys, select the pressure transducer (1 or 2) that you want to program. The selected pressure-transducer number displays in the top left part of the screen next to the pressure-regulator symbol.

Note! Up to two independent pressure transducers can be used.

2. Determine the glue pressure (see "Examples of Glue-Pressure Values" below).

Note! The maximum (100%) output pressure of the pressure transducer amounts to 72 psi (6 bar) air pressure. This output air pressure can work with the following:

Step 1—Glue-Pressure-Edit Menu



- **1:1 ratio**—Direct from a pressure container, a 1:1 membrane pump (DD-1 pump), or a 1:1 glue-pressure regulator (flow control)
- **Larger speed increase/decrease ratio**—A pump with speed increase/decrease ratio (example: 2:1, 5:1, 7:1, 10:1) or a glue-pressure regulator (flow control) with speed increase/decrease ratio (example: 2:1, 5:1, 7:1, 10:1).

3. Enter the glue-pressure data into the glue-pressure table.

Notes! The glue-pressure data can be entered either manually or with the Learn function (see the following pages for procedures). The information entered into the glue-pressure table creates the glue-pressure curve.

Examples of Glue-Pressure Values

		Corresponding Glue Pressure – psi (bar)					
Input in %	**Pressure Transducer Air-Pressure Output – psi (bar)**	**1:1**	**2:1**	**3:1**	**5:1**	**7:1**	**10:1**
100	72 (6)	72 (6)	160 (12)	246 (18)	420 (30)	594 (42)	
75	51 (4.5)	51 (4.5)	116 (9)	181 (13.5)	312 (22.5)	442 (31.5)	683 (45)
50	29 (3)	29 (3)	72 (6)	116 (9)	203 (15)	290 (21)	420 (30)
25	7 (1.5)	7 (1.5)	29 (3)	51 (4.5)	94 (7.5)	138 (10.5)	203 (15)
5	0 (0.3)	0 (0.3)	0 (0.6)	0 (0.9)	7 (1.5)	16 (2.1)	29 (3)

Attention! Note the maximum allowable operation pressure of the pressure container.

Entering the Glue-Pressure Data Manually

To enter the glue-pressure data manually, follow these steps:

1. Enter the necessary glue pressure (glue amount) at the minimum speed of the parent machine:

   1a. Operate the parent machine at the slowest (minimum) production speed.

   1b. Read the speed setting in the display of the MCP-25/MS. The speed can be seen in the diagnostic menu.

   Note! If no values are entered in the glue pressure curve, the control provides values for the minimum and maximum speed of the parent machine. You can change these sample values.

   1c. Move the cursor to the field on the right of "V" and below "min" in the display.

   1d. Enter the minimum speed of the parent machine in this field.

   Note! The value must be entered in either meters per minute or feet per minute, depending on the unit of measure selected in the Setup menu.

   1e. Move the cursor to the first "P" field (under "min").

   1f. Determine the necessary glue pressure required at the minimum speed of the parent machine.

   1g. Enter a pressure and check the amount of glue that is applied.

   1h. Using the numeric keypad, adjust the pressure if necessary.

2. Enter the necessary glue pressure at maximum speed of the parent machine:

   2a. Operate the parent machine at the maximum production speed for the product to be glued.

   2b. Move the cursor to the second field on the right of "V" in the display.

   2c. Enter the maximum speed of the parent machine in this field.

   Note! The value must be entered in meters per minute or feet per minute depending on the units of measure selected in the Setup menu.

   2d. Move the cursor to the second "P" field.

   2e. Determine the necessary glue pressure required at the maximum speed of the parent machine.

   2f. Enter a pressure and check the amount of glue that is applied.

   2g. Using the numeric keypad, adjust the pressure if necessary

   Note! The glue pressure is now synchronized to change with any corresponding changes in the speed of the parent machine. Adjustments to the pressure curve may be entered into the speed and pressure fields between the minimum and maximum speed and pressure. The control automatically sorts the entered values numerically.

Entering the Glue-Pressure Data with the Learn Function

F5

The "Learn" function allows you to import the current parent-machine speed and corresponding glue-pressure values into the glue-pressure table. The learn function is available for the current job or when "NEW" is selected from the job-management menu. (The learn function is not available when using "CHANGE" or "PREPARE" in the job-management menu.)

To enter the glue-pressure data with the learn function, follow these steps:

1. While the parent machine is operating at any production speed, make sure the glue volume being applied is correct.
2. Press F5 (Learn) to import the current parent-machine speed and corresponding glue-pressure values into the glue-pressure-edit table. The cursor is automatically placed in the field that was imported.

Note! The control will sort the other values for speed and pressure in numeric order.

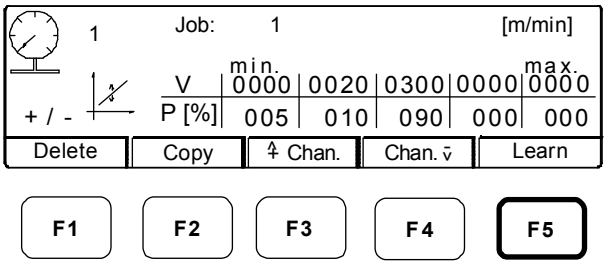
3. Using either the numeric keypad or the plus/minus scroll buttons, change the pressure value as necessary.

To import other points of the pressure curve, follow these steps:

1. Change the speed of the parent machine.
2. Press F5 (Learn).

Note! You can import up to five values for parent-machine speed and corresponding glue pressure. The values are sorted in numeric order and are immediately valid.

Step 2—Glue-Pressure-Edit Menu



Changing the Glue Pressure

To change the glue pressure, follow these steps:

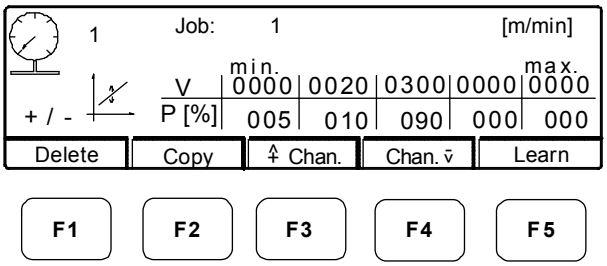
1. Using the arrow keys, move the cursor to the field you want to change (see "Glue-Pressure-Edit Parameters" in this section).
2. Using either the numeric keypad or the scroll buttons (+10, +1, -1, -10), enter new values for the field.
3. Press the ENTER button to enter the new information into memory. (Press the ESC button if you have entered incorrect data.)
4. Using the arrow keys, move the cursor to the "+/-" symbol on the screen.

Note! All points of a pressure table can be increased or decreased proportionally.

5. Using the scroll buttons, increase or decrease the values of the whole pressure table.

Note! This action will change the pressure table at all speeds of the parent machine. The changes to the glue pressure take place immediately.

Changing The Glue Pressure, Step 1
(Glue-Pressure-Edit Menu)



Deleting a Current Glue-Pressure Curve

F1

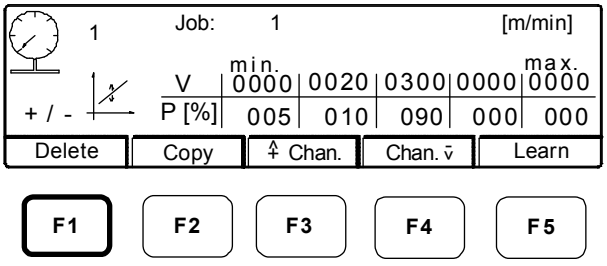
To delete a current glue-pressure curve, follow these steps:

1. Using the F3 (Chan.) or F4 (Chan.) keys, select the glue-pressure curve (table) that you want to delete.

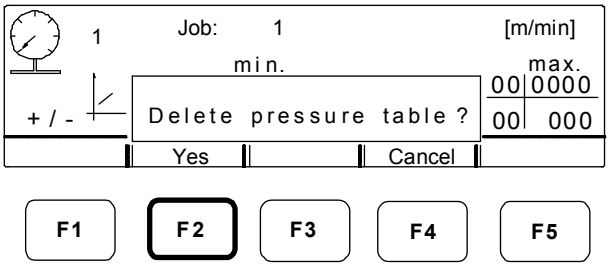
Note! The selected pressure-transducer (1 or 2) is seen in the top left section of the display.

2. Press F1 (Delete). The "Delete pressure table?" message displays.
3. Press F2 (Yes). The pressure/speed default values display.

Deleting a Current Glue-Pressure Curve, Step 2
(Glue-Pressure-Edit Menu)



Deleting a Current Glue-Pressure Curve, Step 3



Copying a Glue-Pressure Curve

F2

To copy a glue-pressure curve to another pressure transducer within a job, follow these steps:

1. Using the F3 (↟ Chan.) or F4 (Chan. ↡) keys, select the job from which the glue-pressure curve is to be copied. The selected pressure transducer (1 or 2) is displayed in the top left section of the screen.

Note! The copying function will not be active if only one transducer has been selected in the setup menu.

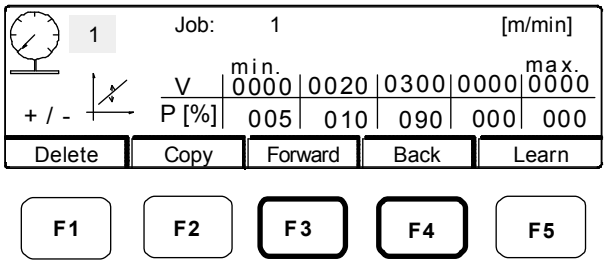
2. Press F2 (Copy). The "Copy pressure table to press. transducer: x. Begin copy function?" message displays.

Note! The cursor in the message highlights a suggested pressure transducer.

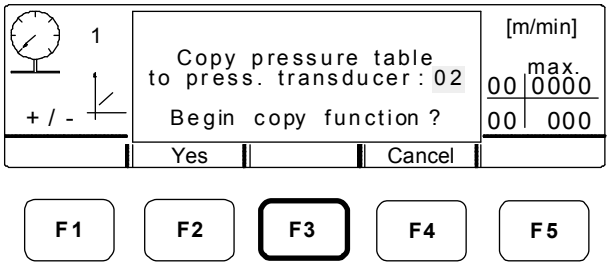
3. If the highlighted pressure transucer is not the one you want, use the numeric keypad to select a different pressure transducer.

4. Press F2 (Yes) to copy the glue-pressure curve.

Step 1—Glue-Pressure-Edit Menu



Step 2—Glue-Pressure-Edit Menu with Message



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