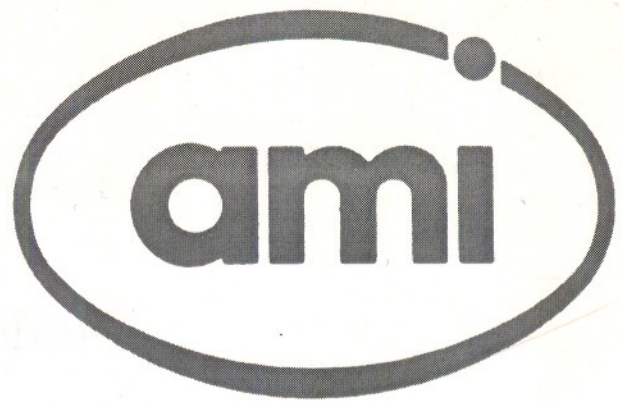


**AFFILIATED
MANUFACTURER'S
INC.**



OPERATOR'S MANUAL

MSP-885

**CUSTOMER: GS ELECTRONICS
ADDRESS: FULDA, GERMANY**

INSTALLATION GUIDE SERIAL #: 773612/06

SETUP GUIDE

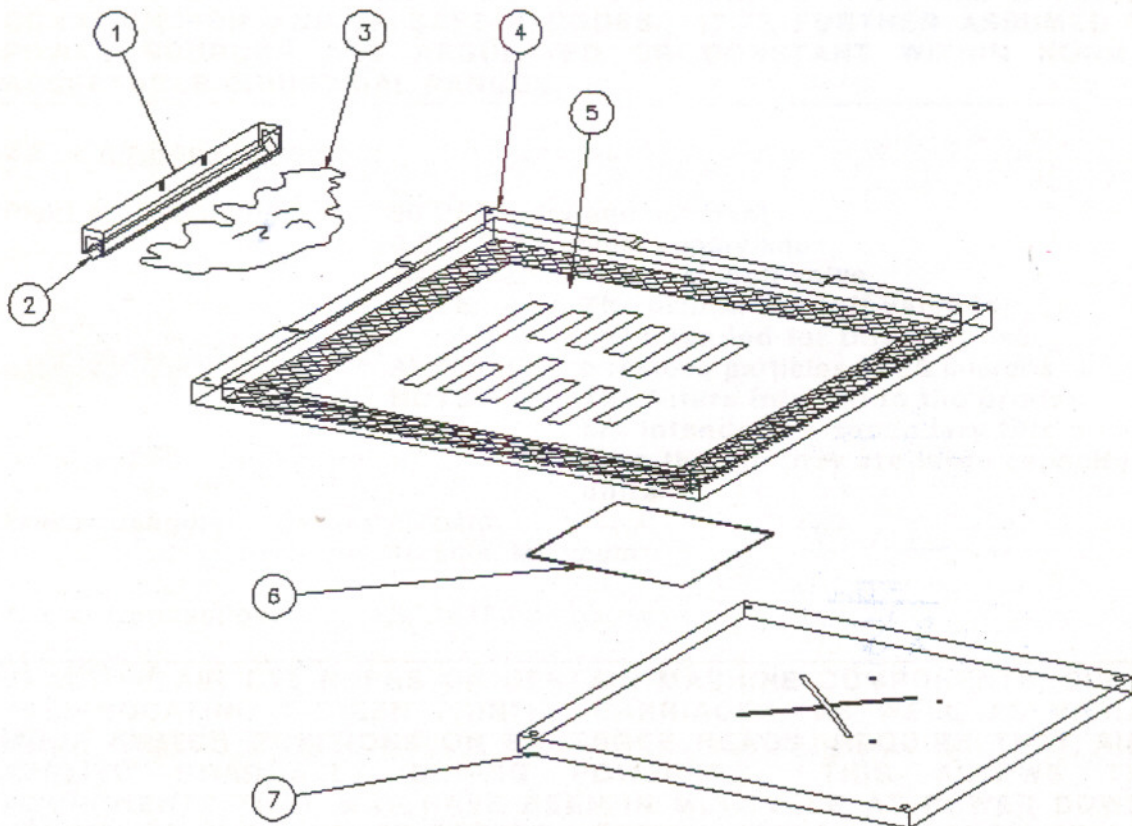
OPERATION

MAINTENANCE

MANUFACTURE DATE: 12/2006

SECTION 1 – INTRODUCTION (continued)

1. Squeegee holder assembly
2. Squeegee blade to apply pressure to stencil when spreading solder/ink.
3. Solder/ink that becomes the printed pads on substrates or boards.
4. Screen frame to which an etched stencil or imaged emulsion screen is attached.
5. Etched stencil or imaged emulsion screen
6. Substrate on board to be printed while positioned on toolplate.
7. Vacuum state, or printing platen, which holds substrate or board in position during the printing cycle.



SECTION 2 – SYSTEM REQUIREMENTS AND INSTALLATION

**READ THIS SECTION IN DETAIL BEFORE
ATTEMPTING TO INSTALL AMI EQUIPMENT**

2.1 Power Requirements

The standard 885 printers are designed to operate at 115 volts, single phase, 50/60 Hz, with the lowest possible power consumption. This printer, however, is available in a full range of non-standard/special voltages, single or 3 phase, upon customer request. Please check the serial number plate on your printer for the proper line voltage.

If several machines, such as a loader, screen printer, dryer and reloader, have been integrated and wired to a common power source or central control system, add the individual machine ratings to determine the line rating. Consult AMI regarding the requirements for custom designed or modified equipment.

AMI ASSUMES THAT ALL FACTORY POWER CONNECTIONS ARE PROPERLY DESIGNED AND INSTALLED AND IN COMPLIANCE WITH ALL APPLICABLE CONSTRUCTION AND/OR SAFETY CODES. IT IS FURTHER ASSUMED THAT POWER SOURCES ARE REGULATED OR CONSTANT WITHIN NORMALLY ACCEPTABLE INDUSTRIAL RANGES.

2.2 Air Requirements

Plant Air Supply:	90 PSIG, dry and constant 0.5" I.D. minimum supply line Maintenance in-line shutoff valve
	NOTE: The printer shutoff valve is not intended for this purpose
	Air filtration to remove particles to 20 microns
	NOTE: The filters integral to the printer are intended as secondary filters even though they are large capacity units.
Printer Usage:	80 psig 10 scfm Minimum
Printer Connections:	½" NPT fittings

BI-ACTIVE AIR CYLINDERS ON CERTAIN MACHINE COMPONENTS, SUCH AS RECIPROCATING SCREEN PRINTER CARRIAGES, AS WELL AS VARIABLE MODE SWITCH POSITIONS ON SQUEEGEE HEADS, REQUIRE THAT AIR BE APPLIED GRADUALLY DURING POWERUP. THIS ALLOWS THESE COMPONENTS THAT MAY HAVE BEEN IN MID-CYCLE AT POWER DOWN TO RETURN TO THEIR START POSITION SLOWLY, WITH THE OPERATOR ALERT TO THE EQUIPMENT MOVEMENT. APPLYING AIR QUICKLY MAY RESULT IN HIGH SPEED EQUIPMENT MOVEMENT, POSSIBLY CAUSING INJURY TO THE OPERATOR OR SERVICE TECHNICIAN.

SECTION 3 – CONTROL AND COMPONENT DESCRIPTIONS
(continued)

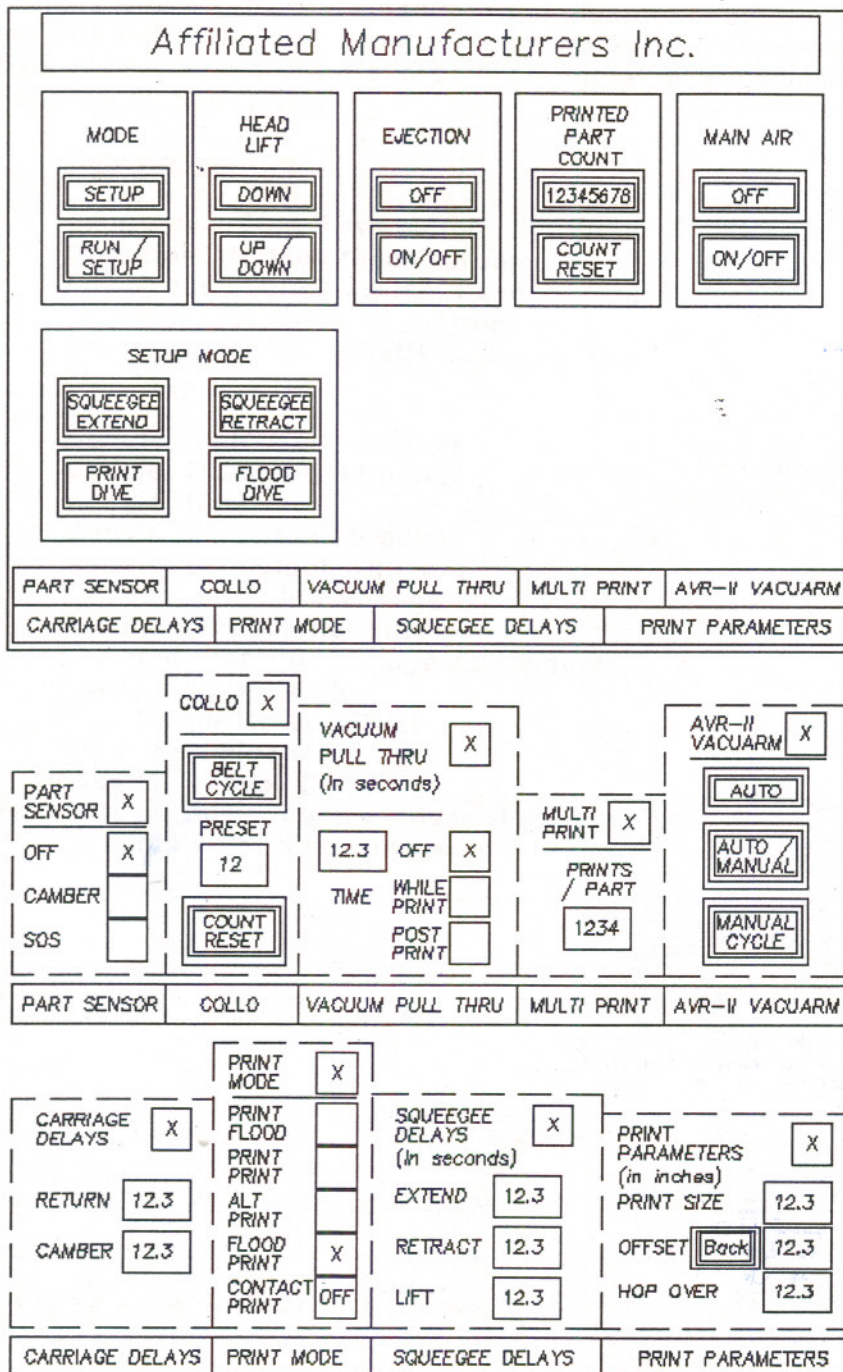


Fig. 3-3

SECTION 3 – CONTROL AND COMPONENT DESCRIPTIONS (continued)

3.4 Electrical Control Assembly

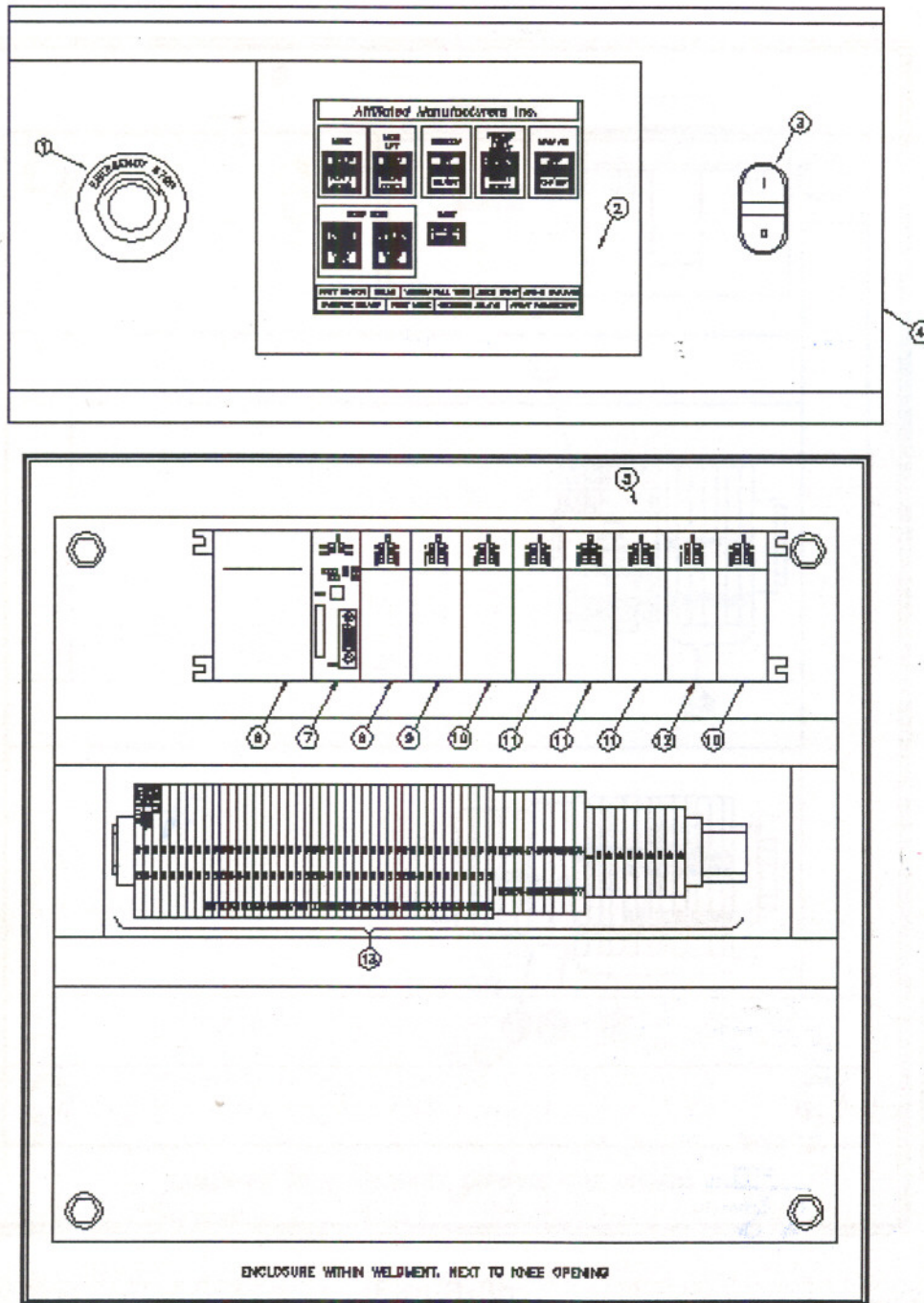


Fig. 3-3a

SECTION 3 – CONTROL AND COMPONENT DESCRIPTIONS (continued)

3.4.1 Electrical Control Assembly

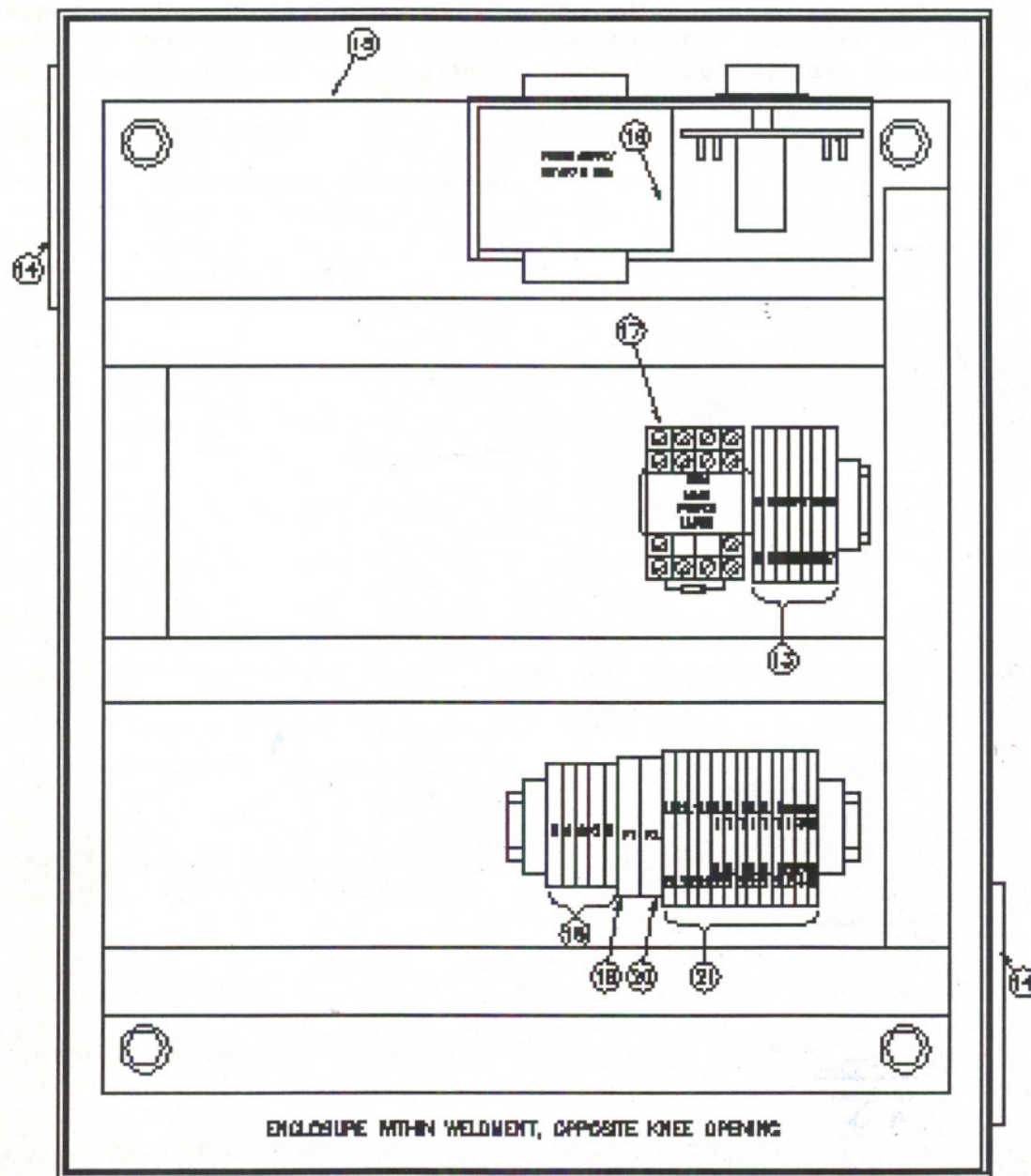


Fig. 3-3b

3.5 Pneumatic Controls

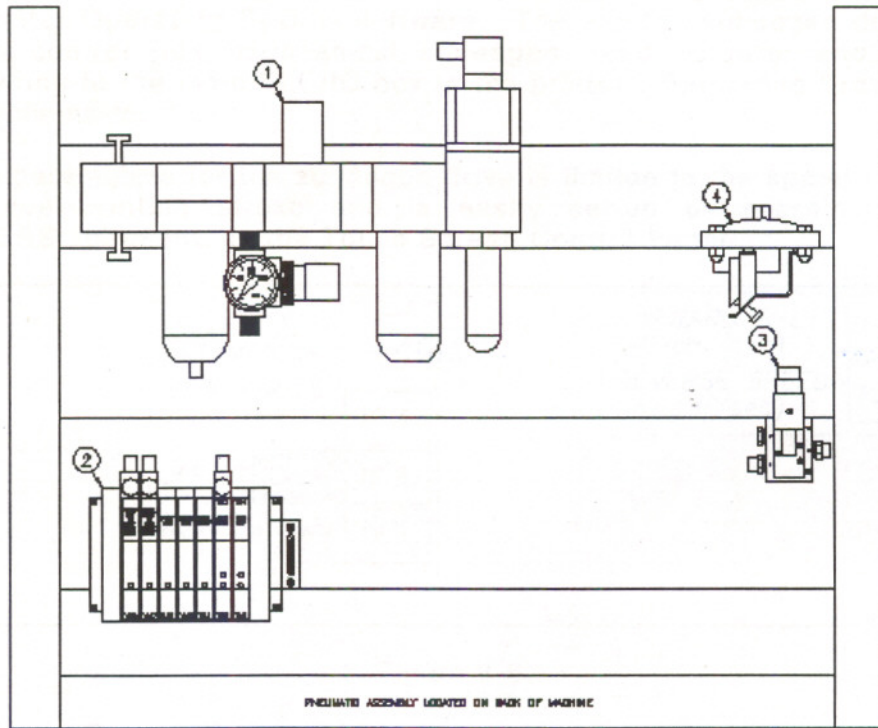


Fig. 3-5a

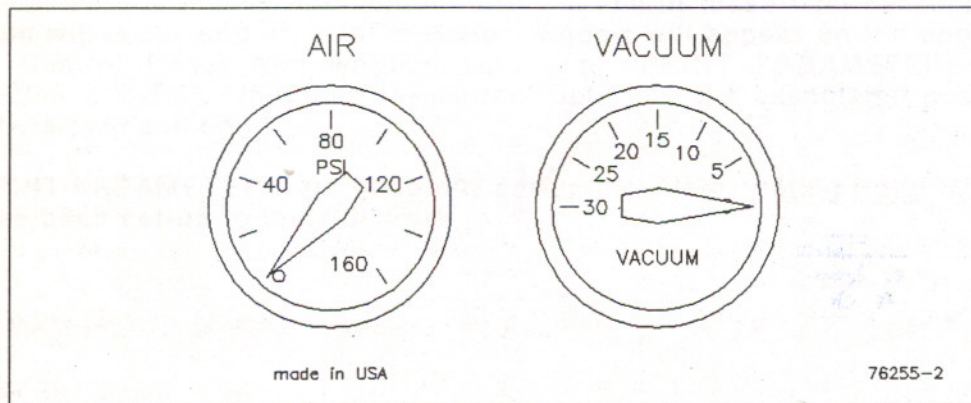


Fig. 3-4b

SECTION 3 – CONTROL AND COMPONENT DESCRIPTIONS (continued)

3.6 Electric Squeegee Drive

The Model MSP-885 is equipped with an Electric Servo Squeegee Drive integrated into the Printer Operating System software. The electric squeegee drive consists of its own control box, mechanical squeegee head actuator and, associated interface wiring to the main PLC/IO box in the printer. Reference Drawing B44151 for wiring schematic.

The set-up parameters for the squeegee drive is limited to the speed and length of the squeegee printing stroke and is easily set-up by pressing the PRINT PARAMETERS sub-menu on the Touch Screen Control Panel.

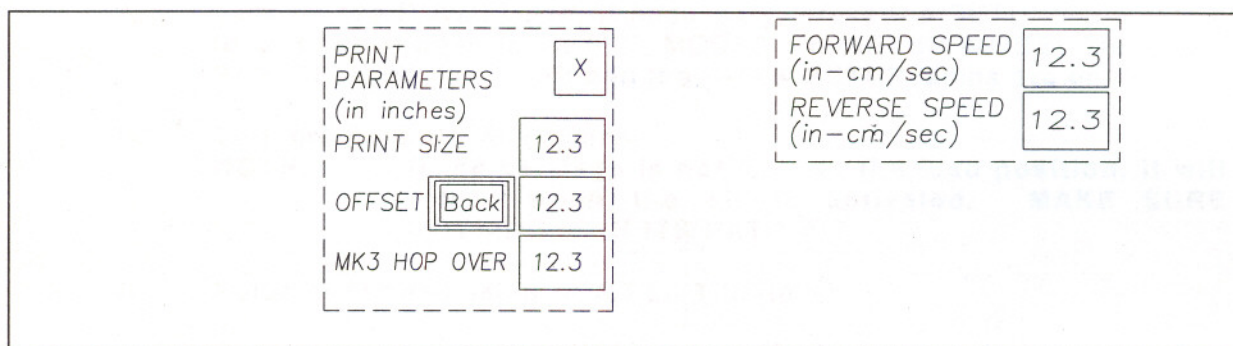


Figure 3-6

Located on the Squeegee Drive Actuator are two magnetically activated sensors for over-travel limits. (Reference Dwg B44151, PX-8 and PX-9) These 2 sensors are adjusted at the factory for the maximum travel allowable for the screen holder that was ordered with the printer. These positions eliminate the possibility of the squeegee head crashing with the screen frame holder. It is good practice to have these sensors adjusted to the specific screen size being used, especially if the new screen that is being set up is smaller than the previous one.

If the squeegee is moved into contact with the one of these limit sensors, an error condition will occur and an error message window will appear on the upper portion of the Control Panel with wording similar to "PRINT PARAMETERS EXCEED AVAILABLE LIMITS". Inputting the correct data into the associated positions will clear the error condition.

The PRINT PARAMETERS are generally set-up after the Printing Head (MKIII, DSII etc.) has been set-up to the substrate.

SECTION 4 - SETUP
(continued)

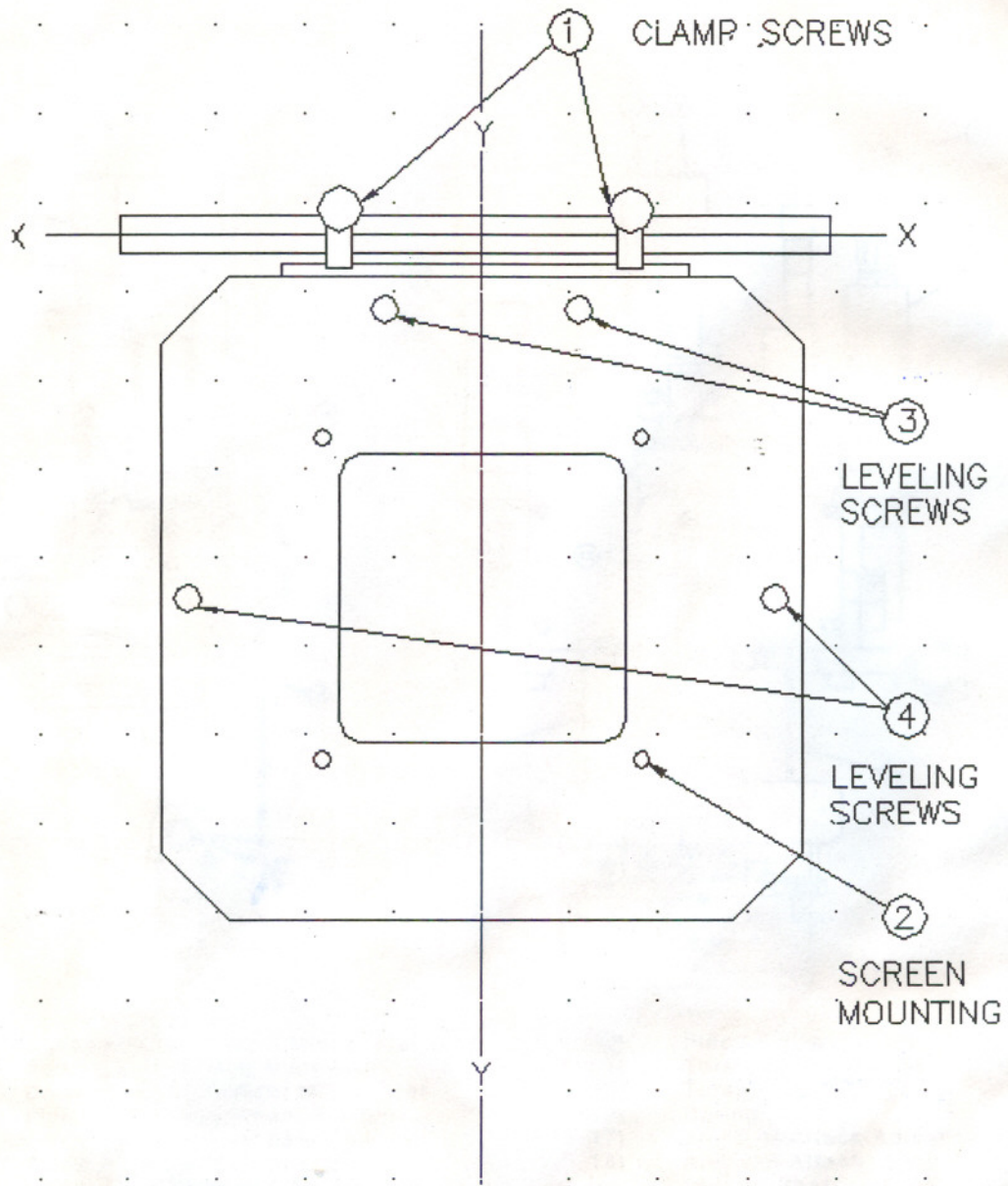
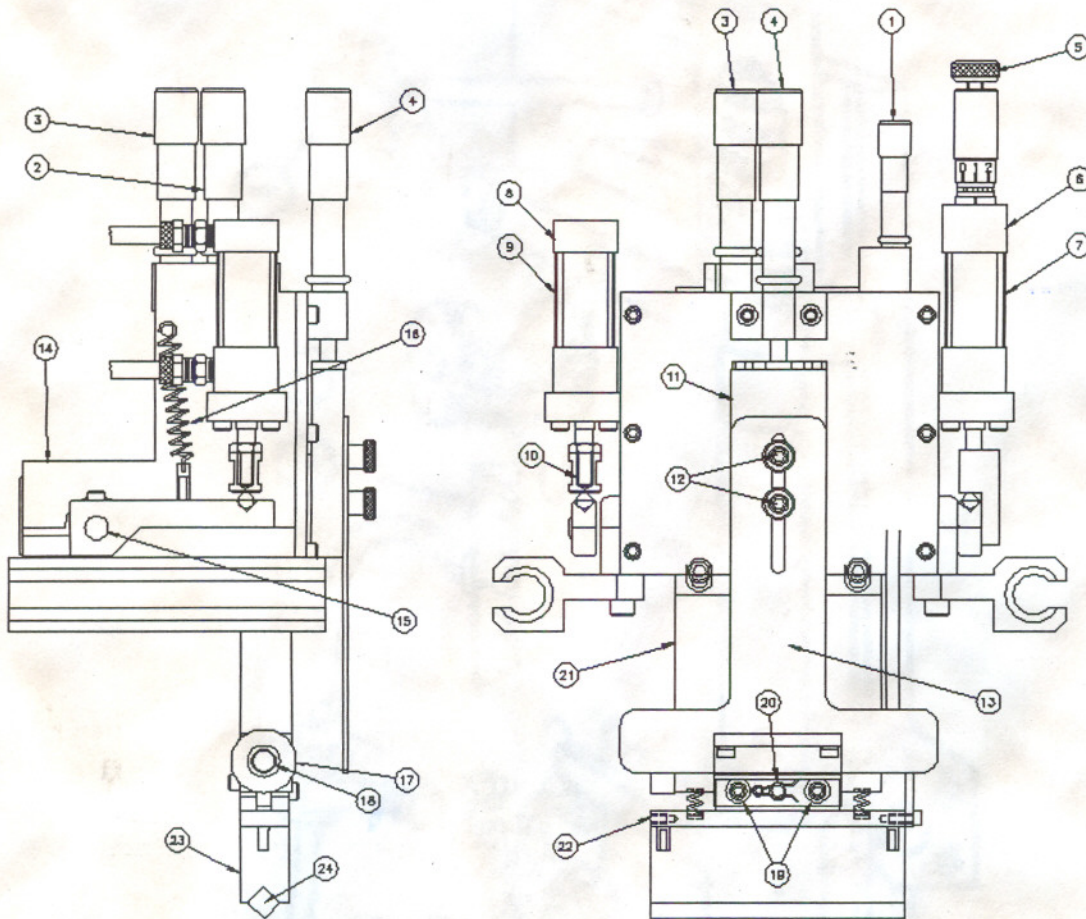


Fig. 4-2 Screen Frame Mounting Assembly

SECTION 4 - SETUP (continued)



- | | | | |
|-----|--|-----|-----------------------------------|
| 1) | Squeegee Parallelism Micrometer | 13) | Flood Blade |
| 2) | Squeegee Pressure Micrometer | 14) | Torsion Bar Housing |
| 3) | Down Stop Adjustment Micrometer | 15) | Torsion Bar |
| 4) | Flood Blade Adjustment Micrometer
(Fine Adjustment) | 16) | Spring |
| 5) | Flood Dive Adjustment Knob | 17) | Angle of Attack Adjustment Knob |
| 6) | Flood Cylinder Speed Adjustment | 18) | Angle of Attach
(Swivel Shaft) |
| 7) | Flood Cylinder | 19) | Squeegee Pivot Lock Screws |
| 8) | Print Cylinder Speed Adjustment | 20) | Squeegee Pivot Pin & Clip |
| 9) | Print Cylinder | 21) | Squeegee Holder Assembly |
| 10) | Pusher | 22) | Squeegee Holder Retainer |
| 11) | Flood Blade Holder | 23) | Squeegee Holder |
| 12) | Flood Blade Adjustment (Coarse Adjustment) | 24) | Squeegee |

Fig. 4-1 Mark III Torsion Bar Squeegee Head

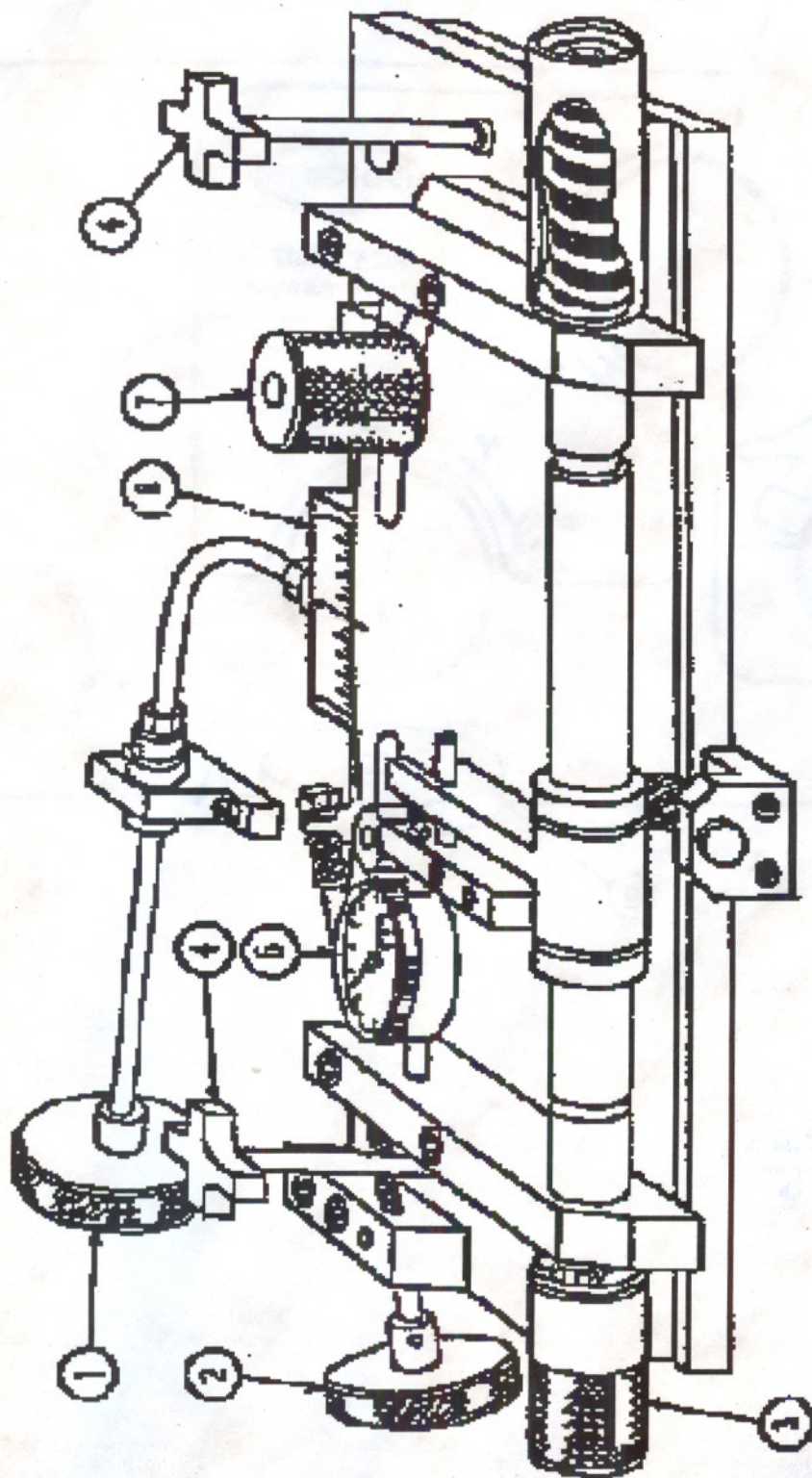


Fig. 4-3a Axis' Adjustments

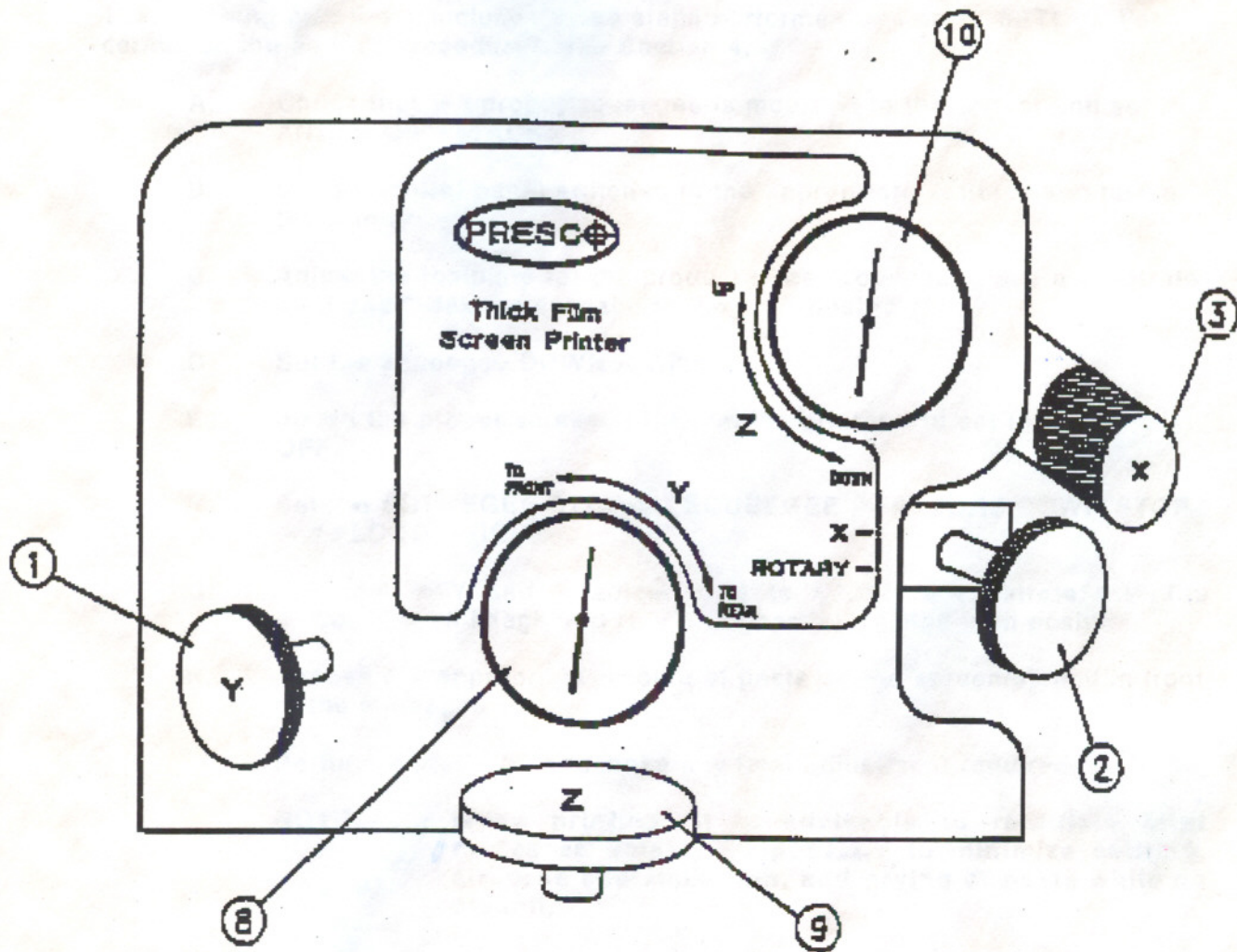


Fig. 4-3b Axis' Adjustment Readout Plate