

## CHAPTER 1

### INTRODUCTION

The Spartanics Model-83 Automatic Registration Punch Press is a fast and accurate press that is designed to punch many different types of materials including:

- \* Printed Circuit Boards (single sided, double sided, multilayer, PTH, and flex circuits)
- \* Disc Calculators, Instrument Dials, and Slide Rules
- \* Nameplates and Appliance Trim
- \* Membrane Switches (in both graphic and circuit layers)
- \* Film Negatives and Positives

The Model-83 Punch Press is accurate because it features an automatic registration system. An automatic registration system is an optical servo-sensing system that senses the position of a target on a sheet of material. Once the position of the target is sensed, the press automatically moves the sheet of material to a position where the press will punch a hole through the target. The Model-83 can punch holes with an accuracy of up to .0005" (.013 mm) relative to the center of a target.

The Model-83 Punch Press is fast because it uses an electrical clutch drive system rather than an old-fashioned clutch dog/flywheel system. The Model-83 can punch up to 60 holes per minute when it is manually fed. The Model-83 Punch Press also features a 10-minute tooling changeover and a 1-minute set-up changeover.

There are six available options for the Model-83 Punch Press. They are as follows:

**Converter:** The converter is used for punching highly reflective material.

**Film Hold-Downs:** The film hold-downs are used for punching photographic film and flex circuits.

**Single-Axis Corrector Table:** The single-axis corrector table is used to punch exactly spaced tooling holes.

**Rotation Control Table:** The rotation control table is used as an aid when punching photographic film.

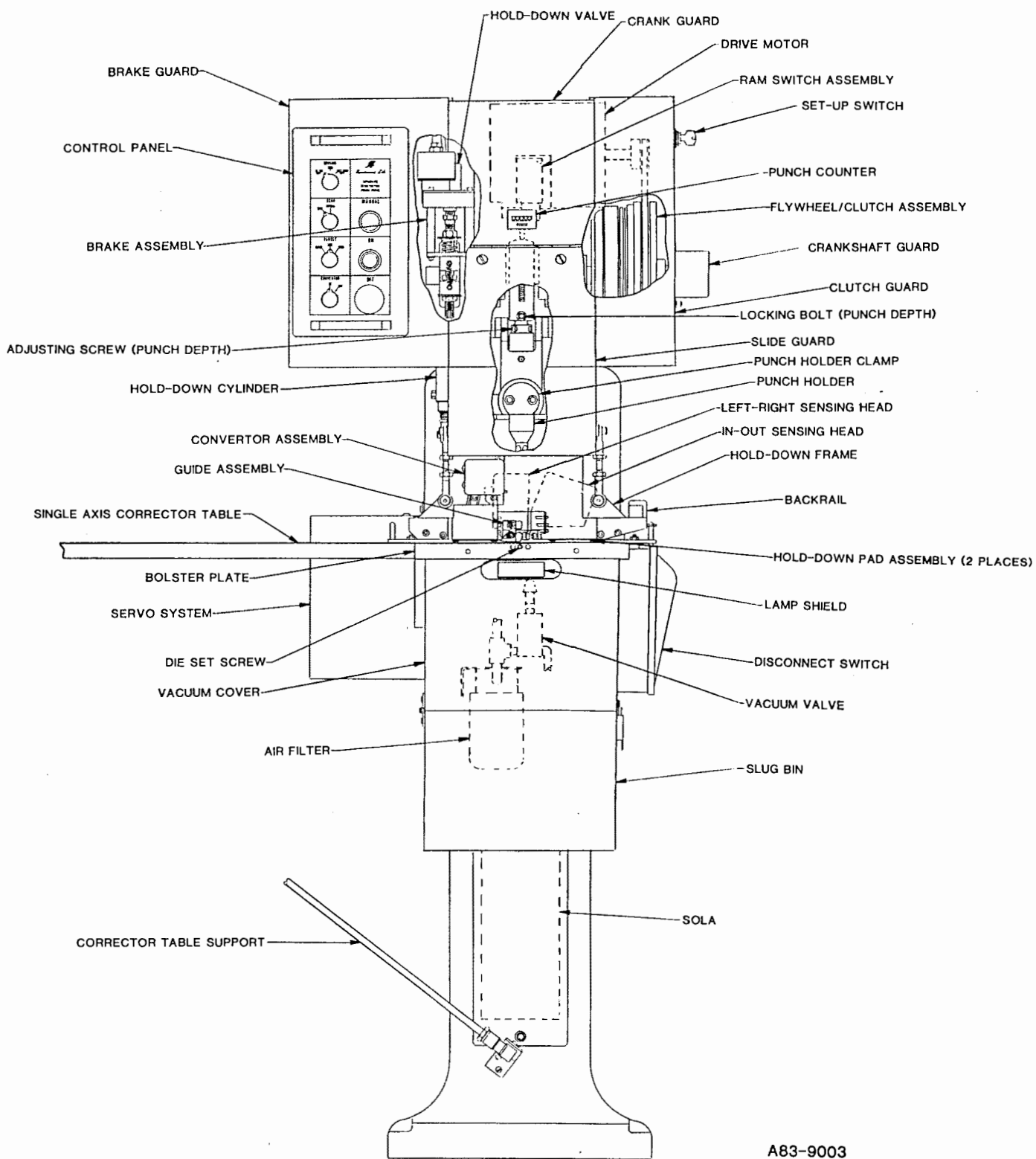
**Sliding Backrail:** The sliding backrail is used as an aid in positioning targets under the punch.

**Special Bolster Plate:** The special bolster plate is used for punching noncircular holes.

This manual includes installation, operation, troubleshooting, and maintenance instructions for the Model-83 Punch Press. An illustrated parts list and target specification sheets are also included to ease parts ordering and give your company's art department proper guidelines for drawing targets on artwork.

This manual also includes an illustrated dictionary of tools. This can be used as an aid to maintenance personnel in identifying tools used for maintaining the press.

CHAPTER 1  
INTRODUCTION (cont.)



TYPICAL M-83 PUNCH PRESS  
(SOME PARTS ARE OPTIONAL)

A83-9003

Figure 1 A

**1.1 SPECIFICATIONS**

<b>MODELS</b>	M-83 (PC) -- For printed or drilled targets on translucent or transparent material.  M-83 (NP) -- For printed targets on opaque material.  M-83 (VM) -- Combination of PC and NP models.  M-83 (SAS) -- For Punching Tooling Holes.
<b>SIZE</b>	2 tons (1.8 metric tons), 10" (254mm) Throat.
<b>ACCURACY</b>	Up to .0005" (.012mm) relative to the center of the target.
<b>SPEED</b>	60 punches per minute max.(manual feed)
<b>SHEET SIZE</b>	20" (508mm) maximum width.
<b>PUNCH SIZE</b>	Maximum -- .375" (9.5 mm)  Minimum -- Determined by type and thickness of material.
<b>TARGET SPECIFICATIONS</b>	Refer to Chapter 4.
<b>SHIPPING WEIGHT</b>	925 lbs. (420 kg.)
<b>DIMENSIONS</b>	Height -- 60" (1524mm) Width -- 25" (635mm) Depth -- 32" (813mm) Table Height -- 35" (889mm)
<b>POWER REQUIREMENTS</b>	120 to 600 VAC, 50 or 60 Hz, 1 or 3-Phase 600 Volt-Amps. The press is wired for customer's power supply at Spartanics.
<b>AIR SUPPLY</b>	75 - 125 psi. (3880 - 6500 mmHg.) .4CFM @ 75psi. (11.3 liters/min @ 3880mmHg)
<b>PEAK NOISE LEVEL</b>	76 dB

\* Specifications are subject to change without notice.