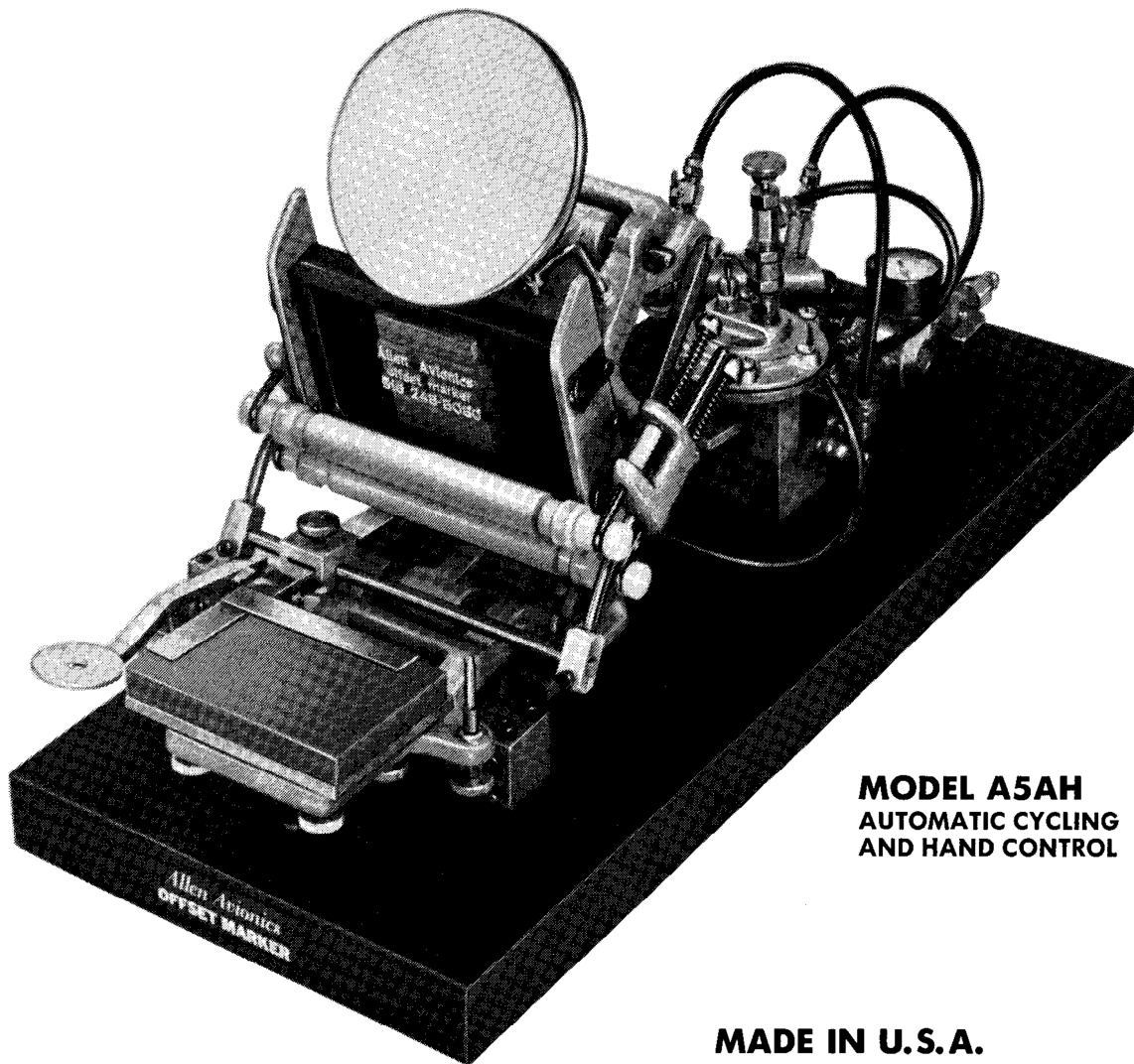


OPERATING INSTRUCTIONS FOR
ALLEN AVIONICS
OFFSET MARKER



MODEL A5AH
AUTOMATIC CYCLING
AND HAND CONTROL

MADE IN U.S.A.

ALLEN AVIONICS
OFFSET MARKER INSTRUCTION MANUAL

MANUAL MODEL

M1HD - Hand Operated

AIR OPERATED MODELS

A2HD - Hand Controlled Valve only

A3FT - Foot Controlled Valve only

A4AC - Automatic Cycling only

A5AH - Automatic Cycling & Hand Controlled Valve Combination

A6AF - Automatic Cycling & Foot Controlled Valve Combination

Your Allen Avionics Offset Marker has been fully tested and pre-adjusted at the factory for many years of trouble-free use. If you require Type Fonts, Furniture or any other accessories, see back page of catalog for a complete list of available items.

All models are pre-set at the factory for American Type (.918" high), if other type (i.e. Foreign .928" high) is to be used, special plastic roller bearings are required and can be ordered.

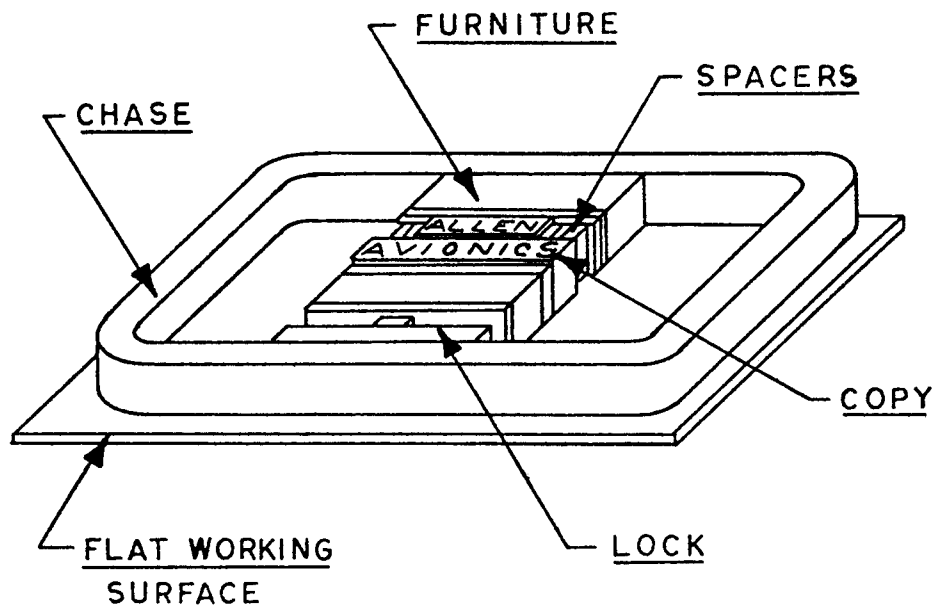
SETTING TYPE (Fig. 1)

For "setting type" a flat surface must be used. A piece of plate glass 4" x 6" will prove to be an excellent choice. The chase should be placed on top of the glass.

Furniture is used to space the type vertically and spacers are used to separate the characters horizontally.

Using the chase as a frame, the furniture, type and spacers are "set" as desired.

Once the "copy" is composed the lock is placed between the furniture and the chase. Before the lock is tightened be sure all type, furniture and spacers are pressed flat against work surface. It is then adjusted by wrench, to secure the "copy" firmly in place. Only thumb pressure should be used on the wrench.



REPLACING CHASE

Remove ink plate. Slide chase against chase back plate with downward pressure until firmly seated. Replace ink plate. Machine is ready for inking.

INKING

Place a small amount of ink on the ink plate. With a brayer, spread ink evenly over entire plate surface. Cycle machine a few times.

Too much ink will be indicated by clogging of type and blurring of imprint.

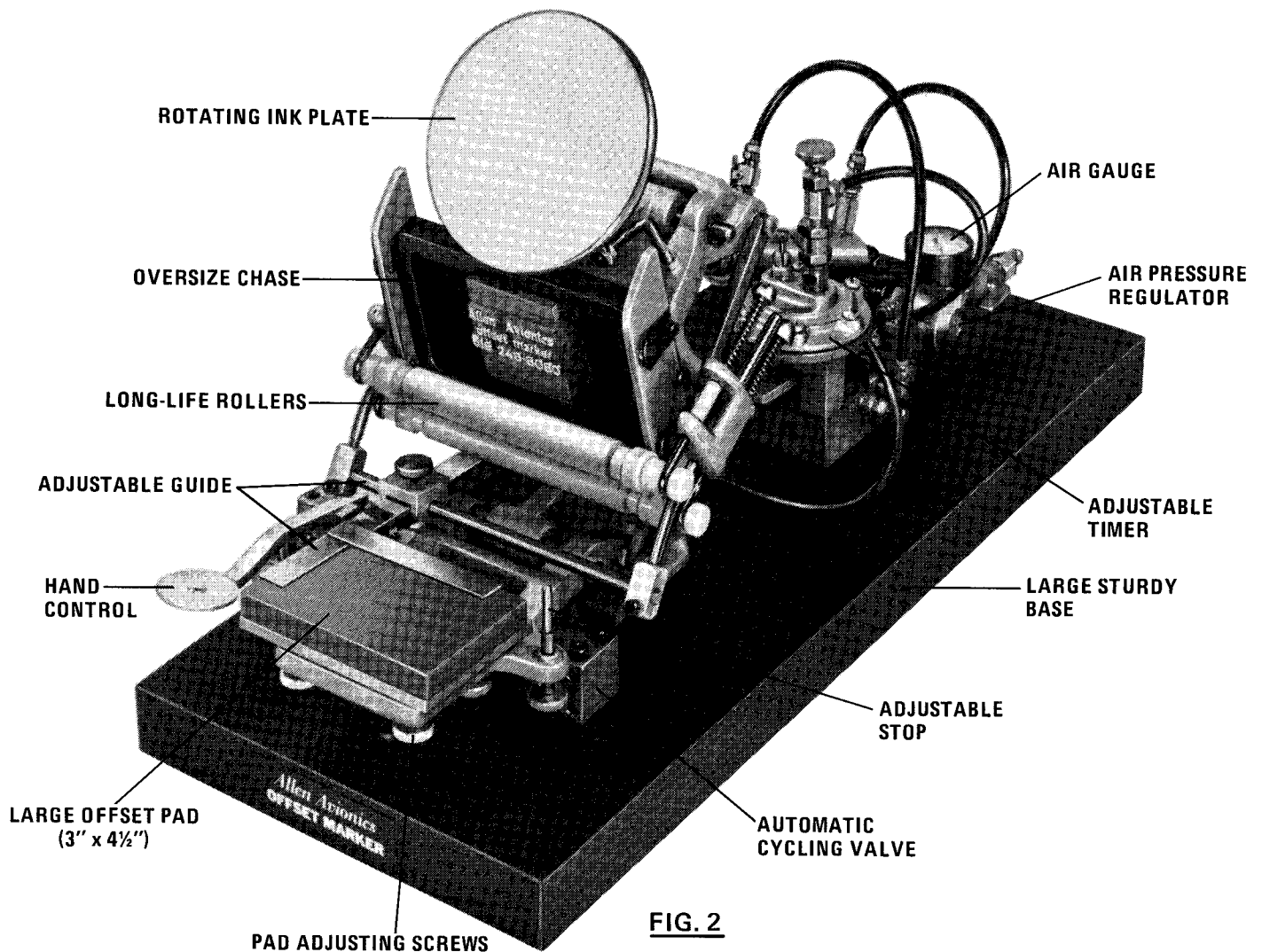
A light impression shows that insufficient ink was used.

The right amount of ink will result in a sharp, well defined, inked impression on the pad. This will produce ideal marking.

PAD ADJUSTMENT

Your new offset marker comes pre-set and tested from the factory. No adjustments should be necessary. However, when pad adjustments are required proceed as follows:

Spread ink on ink plate. Cycle machine a few times so that ink is on the rollers and pad. Then turn the adjustable stop (see Fig. 2) clockwise until the pad no longer picks up ink. Clean the pad. Now adjust for an inked impression by turning adjustable stop counter-clockwise a few degrees. Cycle the machine each time. Repeat this procedure until an inked impression is observed on the pad. Once pad has a partial or complete inked impression, adjust it for a more uniform marking by turning one or more of the four pad adjustment screws clockwise (see Fig. 2) directly under the area where marking is faint or missing. Once machine is adjusted by the above procedure, it is ready for marking.



MARKING

If the part is flat or nearly flat, press it on the pad. If the part is round or nearly round, roll it over the inked impression. It is not necessary to clean the pad after each stamping. Pad cleaning is only required when inked impression is blurred or smeared.

We recommend that the offset marker be cycled after each stamping so that fresh ink is deposited on the pad and ready to be transferred onto the next part.

GUIDE

The machine is supplied with a pad guide to insure the proper registration on the part to be marked. By adjusting one knob and two set screws, the guide can be moved forward, backward and from left to right. If not required, guide can be removed completely.

CLEAN UP

All areas exposed to ink must be thoroughly cleaned after marking operation is completed. Use only Allen Avionics' Cleaner on rollers and pad as other cleaners may damage them.

OILING

Oil all moving parts at least once a week to insure smooth operation and long machine life. A great deal of care must be exercised in preventing oil or oil derivatives from coming in contact with the rollers, pad and ink.

MANUAL OFFSET MARKER MODEL M1HD

MOUNTING

Four mounting holes located in the base have been provided for mounting the machine on the bench.

HANDLE

A special handle, mounted to the pad holder, can be used for either right or left hand operation. To change from right to left, loosen both clamp screws located under pad holder, slide out handle and reposition on the other side.

AIR OPERATED OFFSET MARKERS

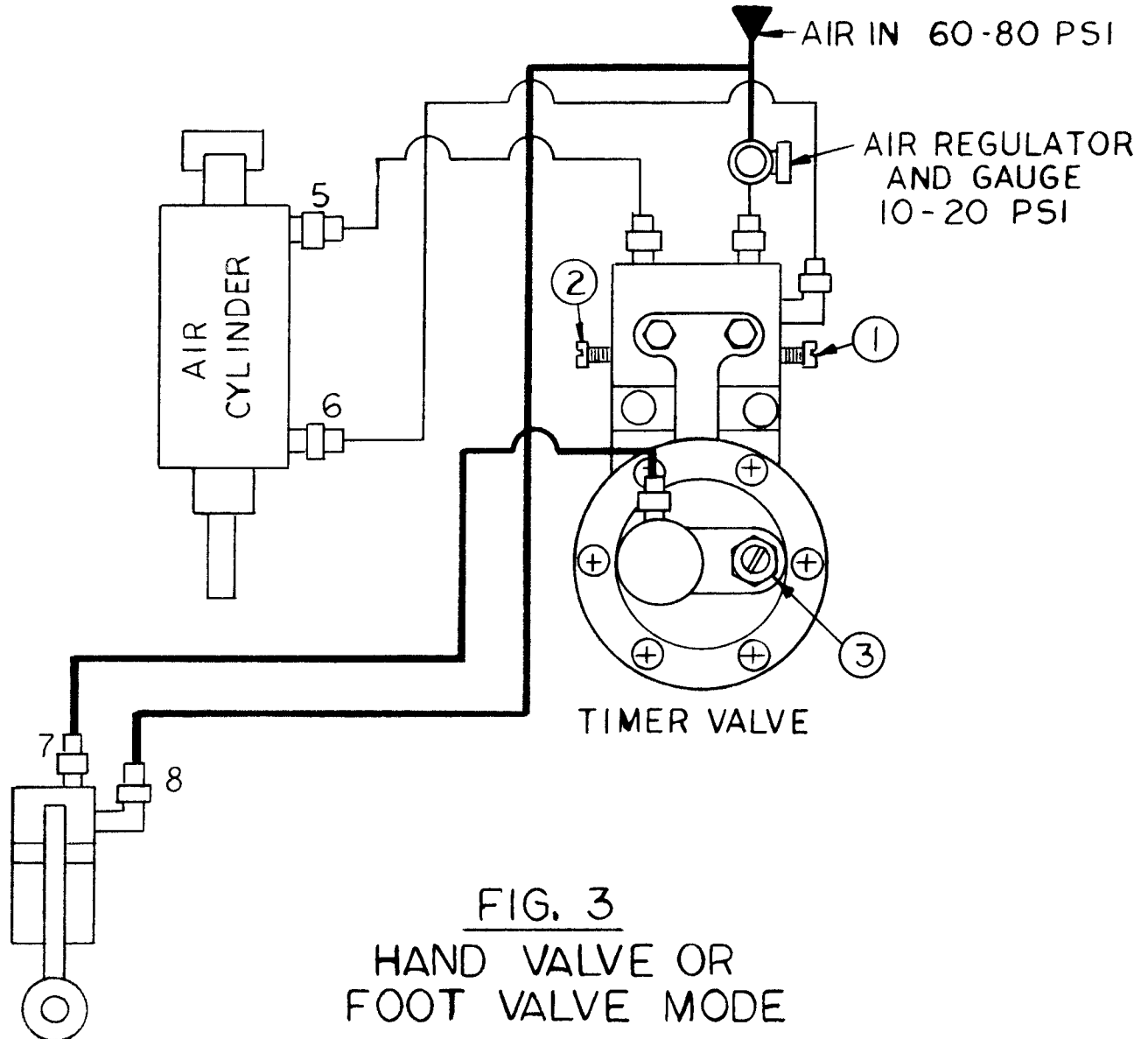
PRESSURE

The air pressure required to operate the machine should be at least 60 P.S.I. and not exceed 80 P.S.I. The pressure indicated on the regulator gauge should be adjusted, by turning the regulator knob, to read 10-20 P.S.I. The air supply should be clean and dry.

HAND VALVE OR FOOT VALVE (A2HD, A3FT) (FIG. 3)

The operation of the offset marker in the hand valve or foot valve mode is determined by the 3 needle valves located on the timer valve.

- (1) Controls the speed at which the pad goes up.
- (2) Controls the speed at which the pad comes down.
- (3) Controls the amount of time pad stays in contact with the metal type.



HAND VALVE OR
FOOT VALVE

MODEL A2HD & A3FT

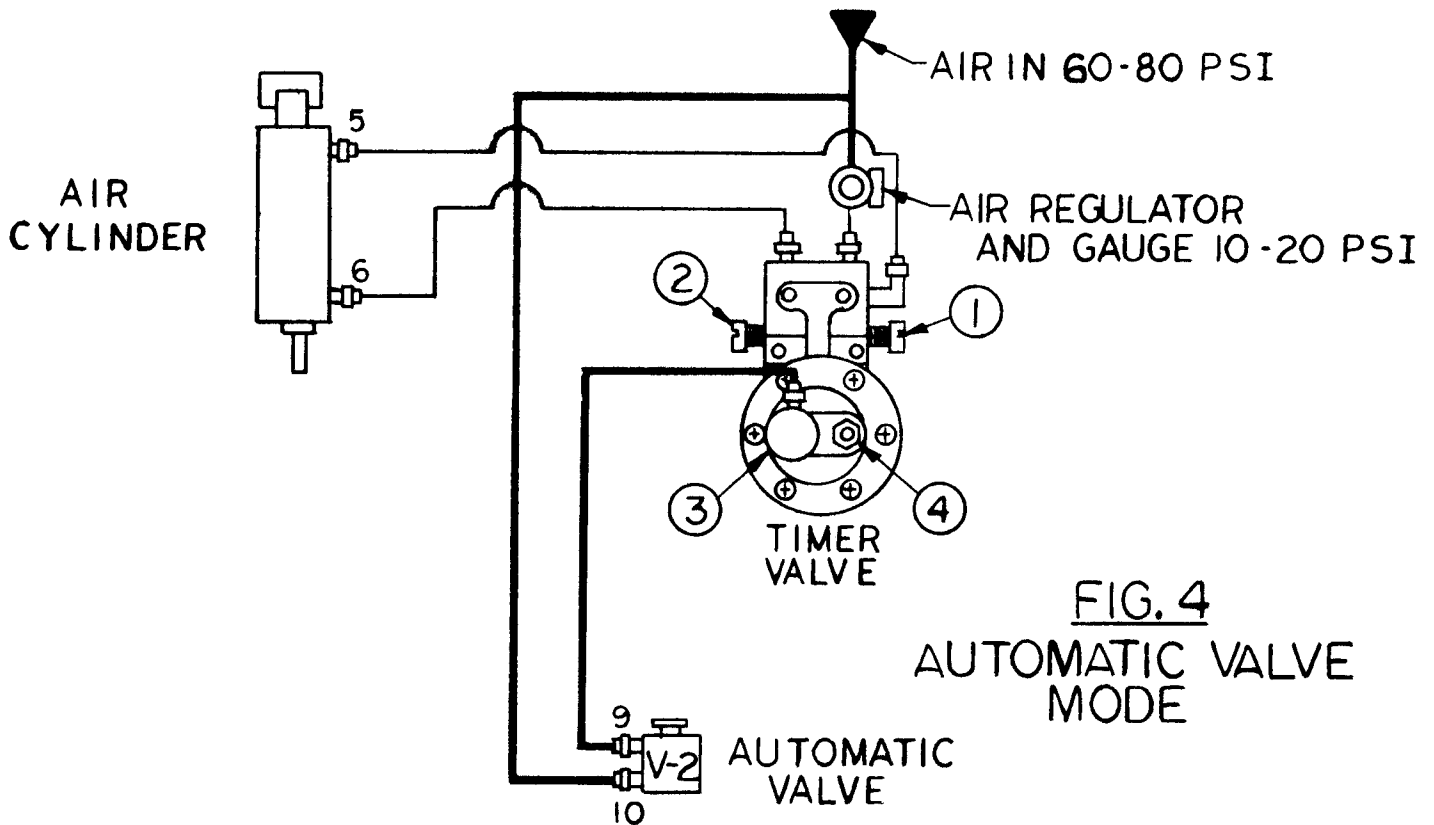
Model A2HD has been provided with a hand operated air valve located on the left side of the machine. If right hand control is required, transfer to opposite side using holes provided.

Model A3FT is supplied with an air operated foot control valve.

AUTOMATIC VALVE OPERATION (FIG. 4)
(A4AC)

The speed at which the offset marker will operate is determined by the four needle valves located on the timer valve.

- (1) Controls the speed at which the pad comes down.
- (2) Controls the speed at which the pad goes up.
- (3) Controls the amount of time the pad stays in contact with the metal type.
- (4) Controls the amount of time that pad is stationary and available for transferring of inked impression.



MODEL A4AC

With the model A4AC a two way valve V-2 is supplied to control automatic cycling.

VALVE ADJUSTMENTS

For V-2 valve actuation see figure 7. For automatic control adjustments on model A4AC, see figures 4 and 9.

DUAL CONTROL OPERATION (FIG. 5)

Models A5AH & A6AF

Operation of the marking machine is determined by the following (Ref. Fig. 5):

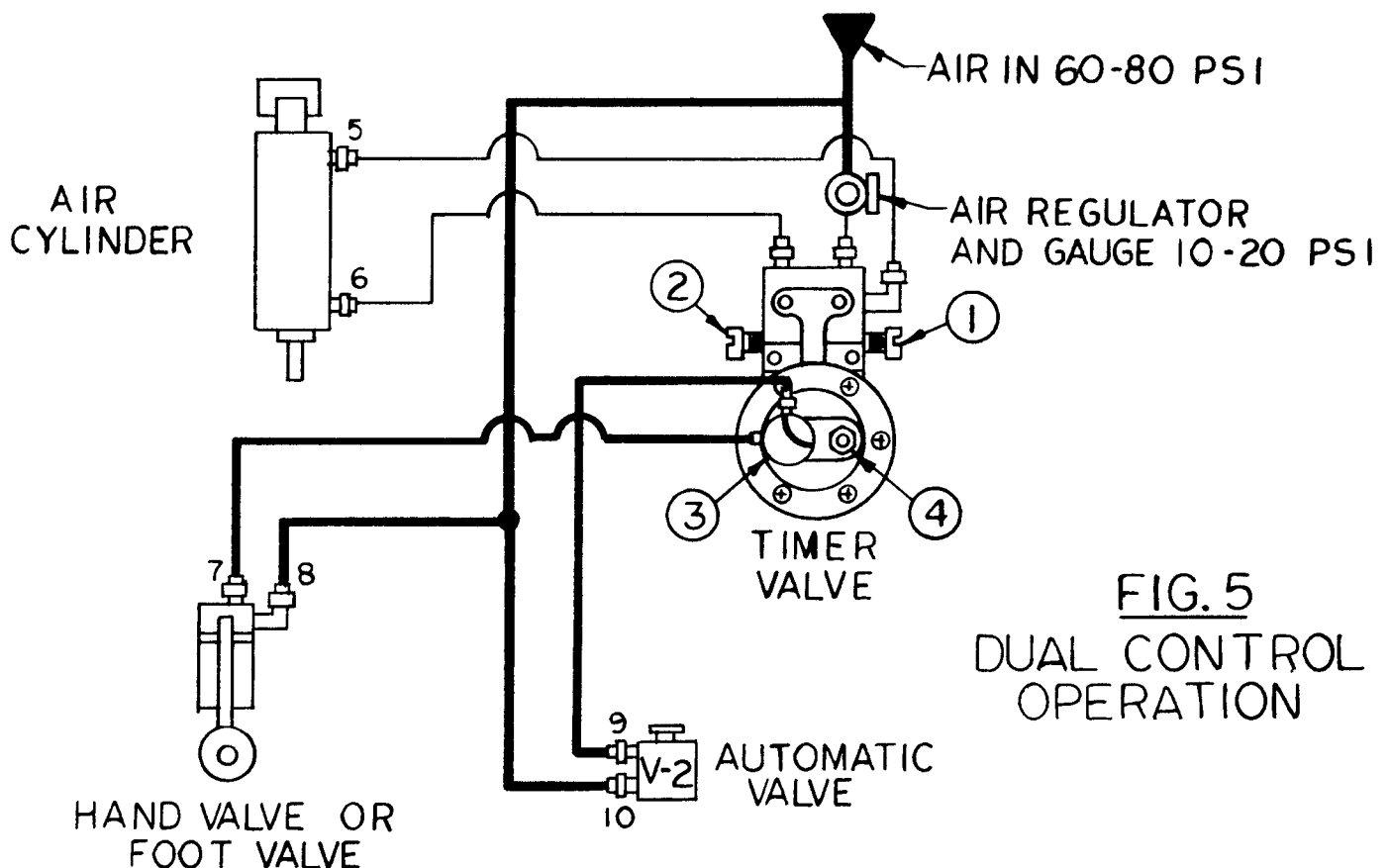
(3) Selects automatic or manual mode.

In automatic mode:

- (1) Controls the speed at which the pad comes down.
- (2) Controls the speed at which the pad goes up.
- (3) Controls the amount of time pad stays in contact with metal type.
- (4) Controls the amount of time that pad is stationary and available for transferring of inked impression.

In manual mode:

- (1) Controls the speed at which the pad goes up.
- (2) Controls the speed at which the pad comes down.
- (4) Controls the amount of time pad stays in contact with metal type.



MODEL A5AH, A6AF

In models A5AH and A6AF, a hand or foot valve (air operated) is supplied in addition to the V-2 Valve and dual control mode valve.

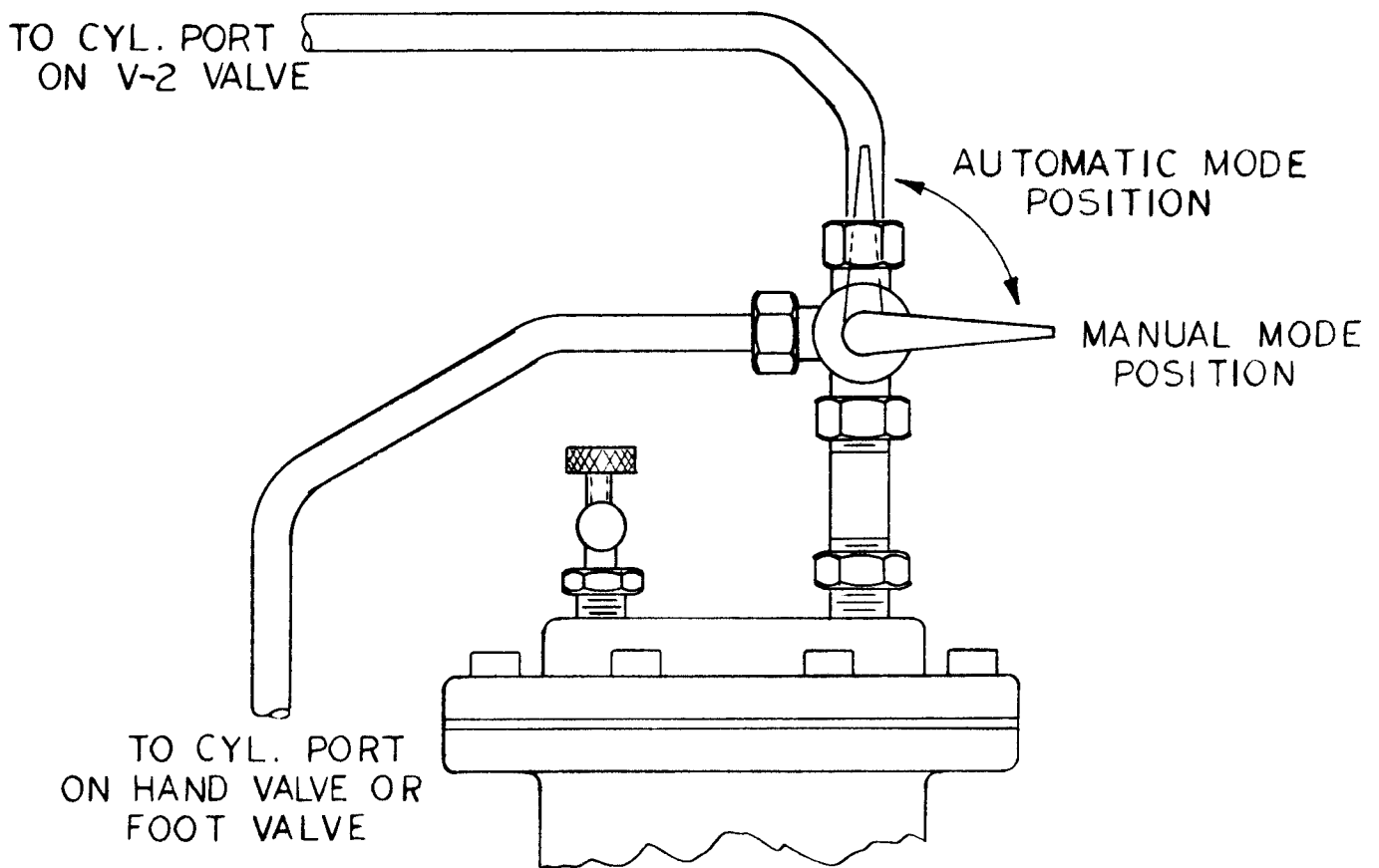
The A5AH and A6AF are provided with quick couplers to enable user to switch from hand or foot operation to automatic operation.

These machines are supplied from the factory in hand or foot valve mode. When changing from either of the modes to automatic, set dual control valve 3 to automatic and see figure 6, reverse cylinder couplers 5 and 6. (See figures 5 and 9).

For V-2 valve actuation, see figure 7.

FIGURE 6

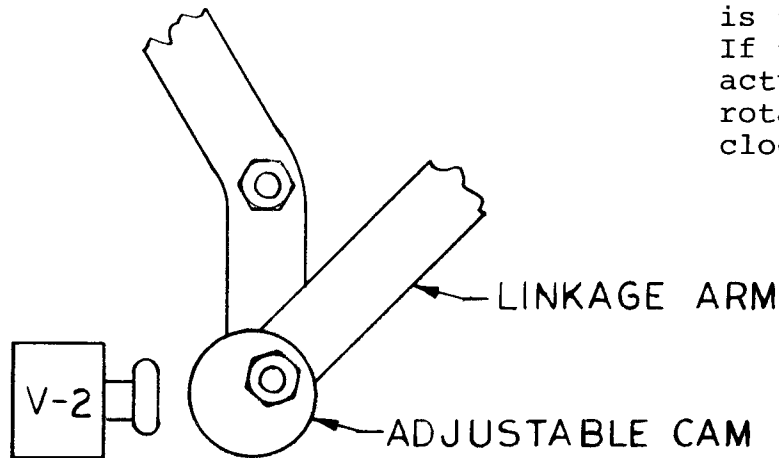
DUAL CONTROL VALVE (A5AH & A6AF)



In automatic mode, to increase the time the pad is in contact with the type, move the automatic lever very slightly towards the manual position.

NOTE: Adjust cam so that it triggers V-2 when pad is touching type. If the valve does not actuate, loosen nut and rotate cam slightly clockwise.

FIG. 7



HAND VALVE KITS

The H1HD kit is used on model A3FT to add hand valve control. The kit includes a hand valve, hose, fittings and hardware.

Mount hand valve on left or right side of machine. Connect couplers 7 and 8 to hand valve as shown in Fig. 3.

The H2HD kit is used on model A4AC to convert to model A5AH. The kit contains a hand valve, dual control valve, hose, couplers and hardware.

Mount hand valve on left or right side. Referring to Fig. 3, remove existing fittings and install quick couplers on air cylinder, 5 and 6, install dual control valve. Refer to Fig. 3 for hand valve or foot valve mode. Refer to Fig. 4 for automatic mode.

FOOT VALVE KITS (H3FT & H4FT)

The instructions for the foot valve kit are the same as above except that a foot valve is used and placed on the floor.

AUTOMATIC KIT

The H5AC kit is used on model A2HD or A3FT to convert to model A5AH or A6AF. The kit consists of a 2 way air valve, dual control valve, couplers, needle valve and miscellaneous hardware. Remove existing fittings and install quick couplers on air cylinder 5 and 6. Put on adjustable cam, refer to Fig. 7. Install dual control valve, refer to Fig. 5 and 6.

Refer to Fig. 3 for hand or foot valve mode.

Refer to Fig. 4 for automatic mode.

HOW YOUR ALLEN AVIONICS
HAND VALVE OR FOOT VALVE AIR OPERATED
SYSTEM WORKS (Fig. 8)

A two stage air system is used on the air operated offset marker. The Control Pressure System (60-80 PSI), is shown in dark lines while the Low Pressure System (10-20 PSI) is shown in light lines.

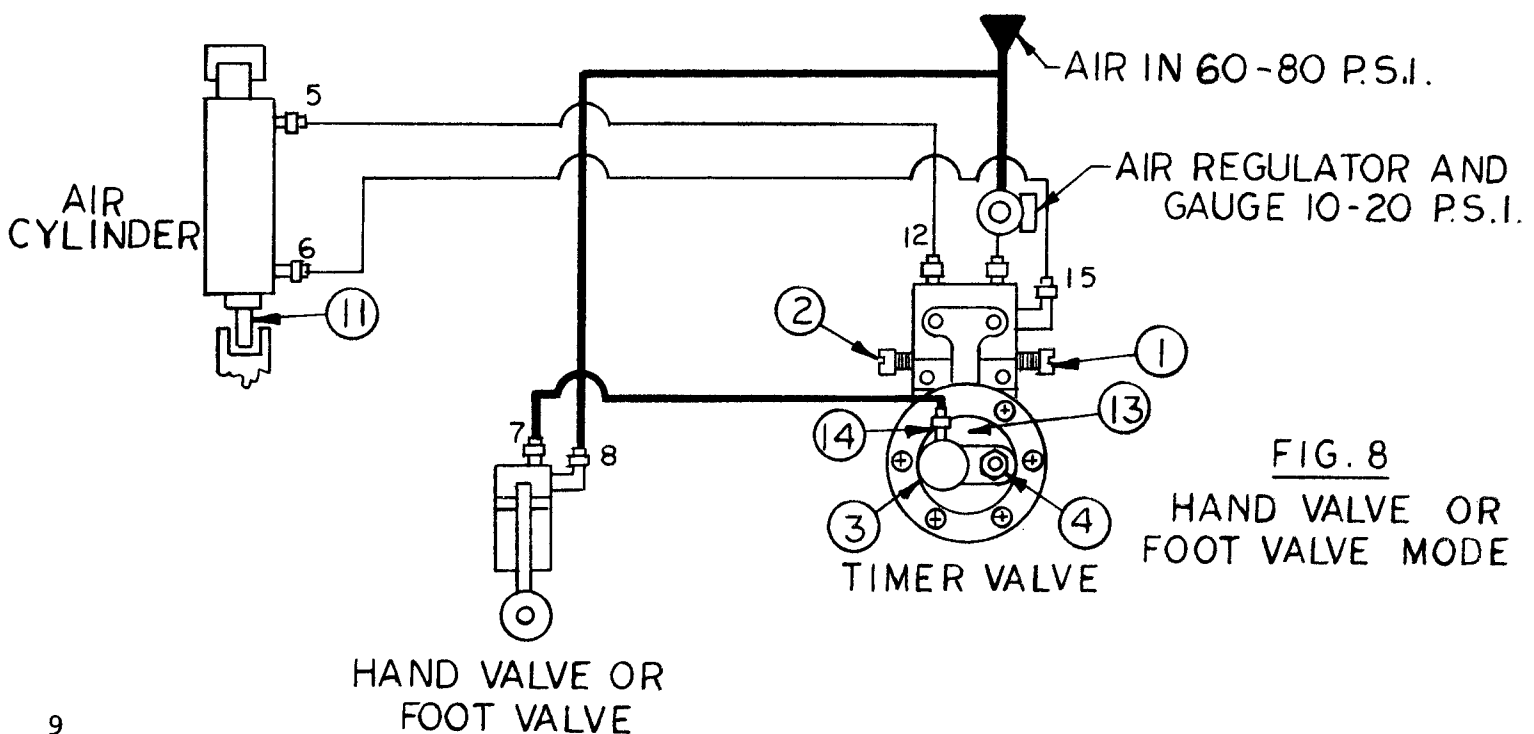
The system incorporates an air operated hand or foot valve, which triggers a timer valve, sequentially actuating the air cylinder, which in turn cycles the offset marker.

Control Pressure (60-80) is brought directly to the hand or foot valve, and to the air regulator. The air regulator lowers the pressure to 10-20 PSI, enabling safe operation of the marking machine. The hand or foot valve has a higher pressure 60-80 PSI which provides positive control of timer valve.

When the hand or foot valve is depressed, a pulse of air is sent from (7) thru a check valve (14) to the pilot chamber (13) depressing a valve lever. This causes air to pass thru port 12 to port 5 on air cylinder, simultaneously exhausting port 6 thru port 15, causing the rod (11) to extend outward. Since the marker is attached to this rod, it will now start its upward cycle.

In order to lower the speed at which the cylinder extends its rod, we must limit the amount of air escaping out of (port 6) on the cylinder. This is done by an adjustable Bleed Screw (1). Turning the screw clockwise lowers the rod speed.

When the cylinder rod is fully extended, the pad touches the type. The air in the pilot chamber (13) now begins to escape thru Bleed Screw (4). The speed at which the air escapes thru (4) determines the amount of time the pad stays up. When all the air is out of the chamber, the valve lever returns to its original position. When this happens, the air proceeds to go from port 15 on timer valve to port 6 on cylinder, simultaneously exhausting port 5 thru port 12, causing the rod to retract and return the pad down to its original position. The speed at which the rod retracts depends on the adjustment of Bleed Screw (2).



HOW YOUR ALLEN AVIONICS AUTOMATIC CYCLING

OR DUAL CONTROL AIR SYSTEM WORKS (Fig. 9)

When the offset marker is set for automatic cycling (Fig. 6) and the air is turned on, a flow of air comes thru port (15) into port (5). This causes the air cylinder rod to extend which moves the pad to meet the type. At the same time the V-2 automatic valve is triggered forcing a pulse of air from port 9 to pass thru the check valve (14) and the needle valve (3). It then fills the pilot chamber (13) which depresses a valve lever. This causes air to come thru port (12) into port (6) on the air cylinder, simultaneously exhausting port 5 thru port 15, resulting in retraction of the rod. The air in the pilot chamber (13) is bled out thru bleed screw (4). This screw (4) determines how long the pad will be at rest for the marking operation. When all the air is exhausted, the plunger returns and causes the valve lever to switch position. This starts the automatic cycle over again. To change over to hand or foot valve control, switch couplers 5 and 6, turn dual control valve to manual mode position (Fig. 6).

Bleed Screw (2) controls down stroke, Bleed Screw (1) controls up stroke and Bleed Screw (3) is used to control the amount of time pad stays in contact with type. For dual control see Fig. 6.

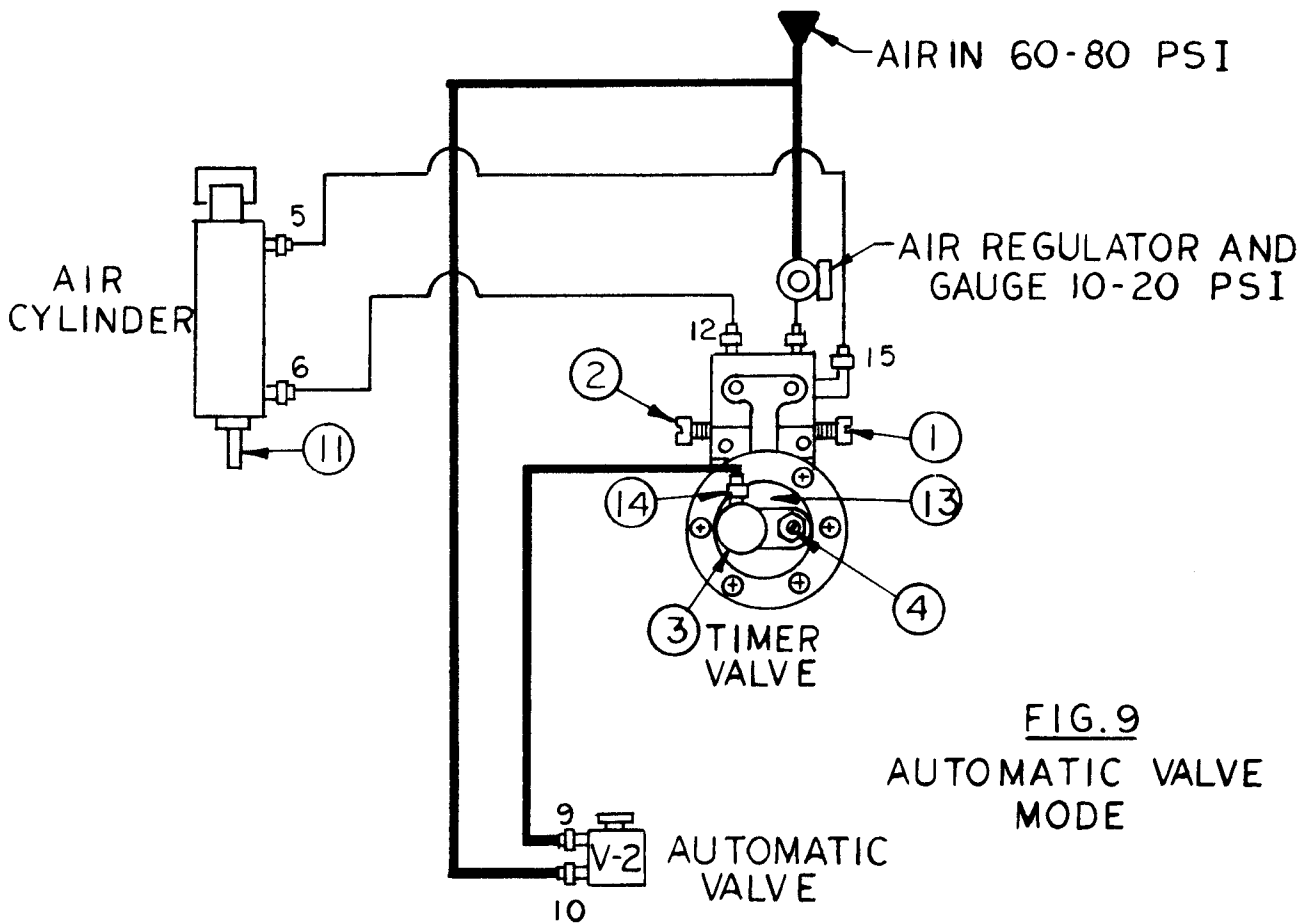
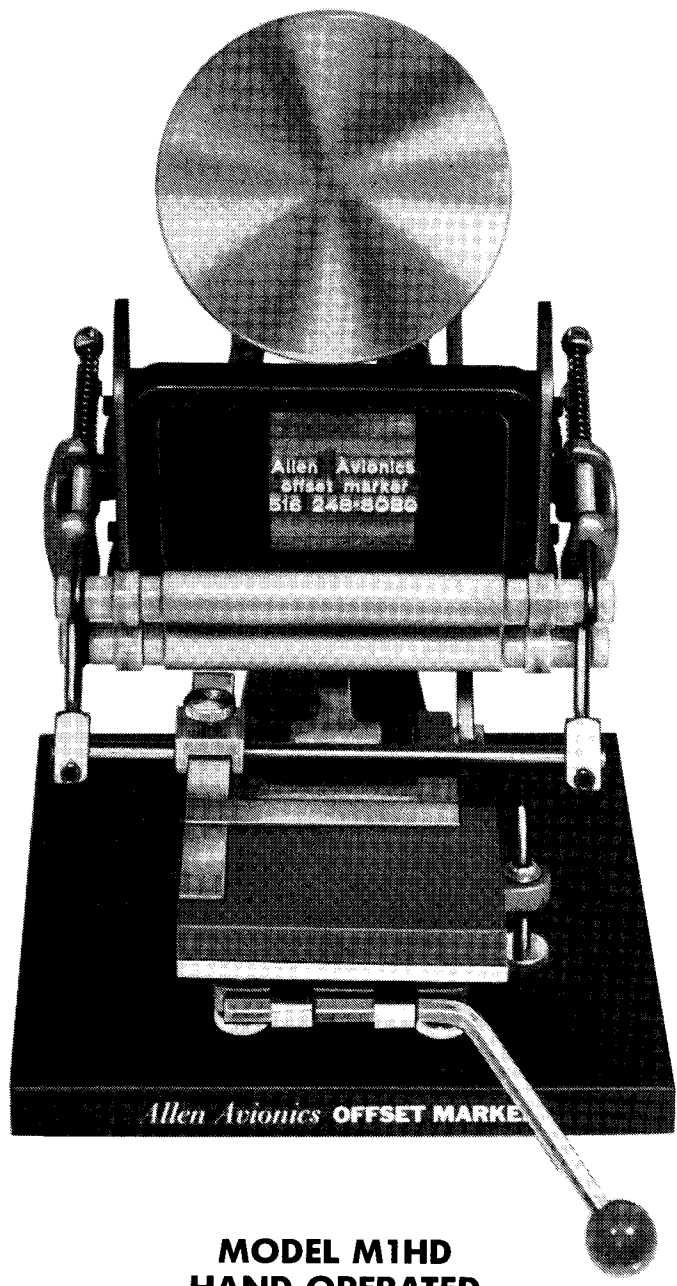


FIG. 9
AUTOMATIC VALVE
MODE



**MODEL M1HD
HAND OPERATED**