Pro 200
OPERATION MANUAL

Pro 200 EH

Pro 200

This instruction book contains the operating instructions for the two styles of Pro 200 Lacing Machines. Many of the steps required to operate these machines are similar. However, when necessary these steps will be separated.

Table of Contents

OPERATING INSTRUCTIONS

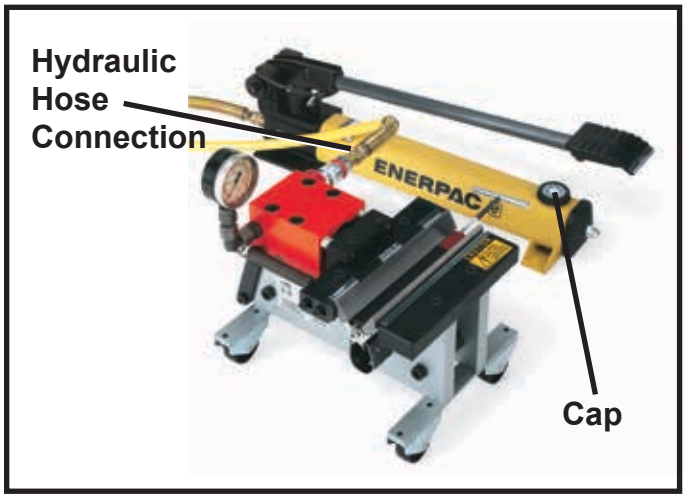
Appendix

Machine Preparation - Foot Pump Setup

- Place the machine on a solid work surface. We recommend that you construct a work bench. Recommendations are made on Pages 10 and 11.

- Remove the cap from the hydraulic fluid reservoir located in the foot pump and fill if necessary.

- Unwrap the hydraulic hose and connect the foot pump to the lacing machine.



- Be careful not to set anything on the hydraulic hose. Doing so can pinch off the hose or rupture it, causing it to leak.

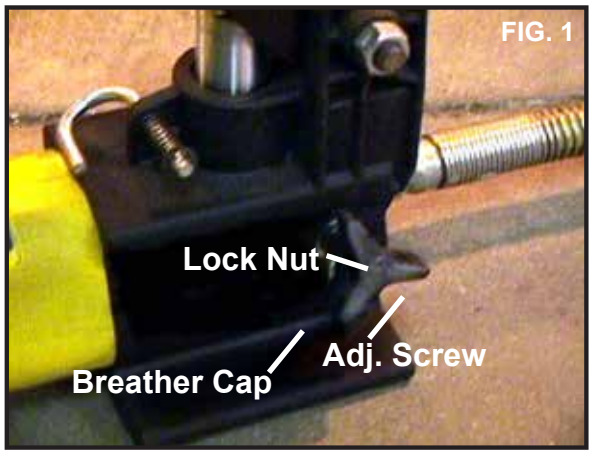
- Do not close the jaws without an adapter in place.

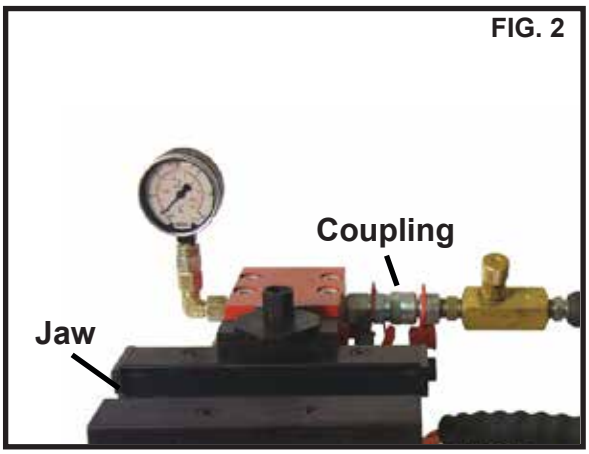
Machine Preparation - Pro 200 EH Pump Setup

- Remove the protective cap from the adjusting screw (Fig. 1).

- Loosen the Breather Cap on pump (Fig. 1).

- Connect the hydraulic pump to the lacer via the quick connect coupling (Fig. 2).





Belt Preparation

1. Cut belt using the center-line cutting method to ensure a square cut. Follow the instructions below:

   a. Prior to any work on your conveyors, make certain that the power has been turned off and the belt is "locked out".
   b. Mark the actual center points in belt width at intervals of 3 to 5 feet, for a distance of 15 to 20 feet back from the intended splice area (Fig. 1).
   c. Using either a steel rule or a chalk line, mark the average center line through the points measured in Step 2 (Fig. 2).
   d. Using a square, draw a line perpendicular to the average center line across the belt width (Fig. 2).
   e. Using the Clipper® 845LD Cutter, cut the belt on the line drawn in Step 4.

2. Skive impression cover off from the belt ends that will be laced, if applicable. Skive back 3/4" (Fig. 3).

3. Select the proper hook for the belt/application. If the belt has an impression cover it is important to select the hook based on the thickness of the skived portion.

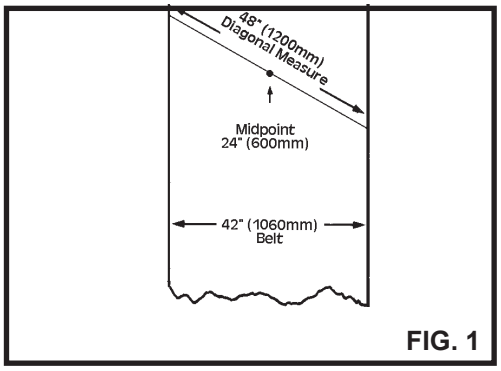


FIG. 1

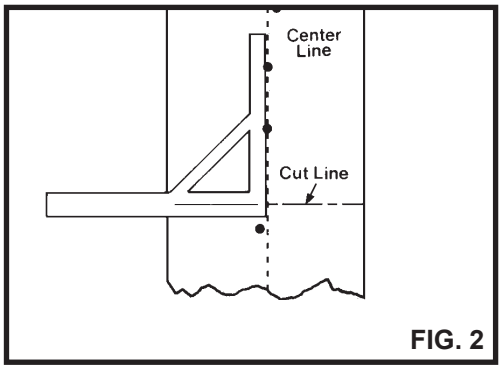


FIG. 2

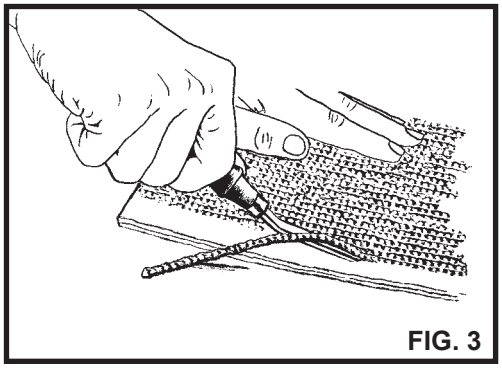


FIG. 3

Selecting and Installing the Proper Adapter/Comb

The adapter you will need is determined by the hook you have selected for your application. Below is a chart displaying hook sizes and their corresponding adapters, gauge pins and hinge pins.

HOOK SIZE	PRO 200 ADAPTER	GAUGE PINS (mm)
#25	P2CLPR25	1.5, 1.8x1.5, 2.0x1.5
#36 / #30	P2CLPR36/30	1.5, 1.8x1.5, 2.0x1.5
#1	P2CLPR1	1.8, 2.0, 2.5x2.0, 3.0x2.0
#2 - #7	P2C2	2.5, 3.5x3.0, 4.0x3.0

Installing the Adapter

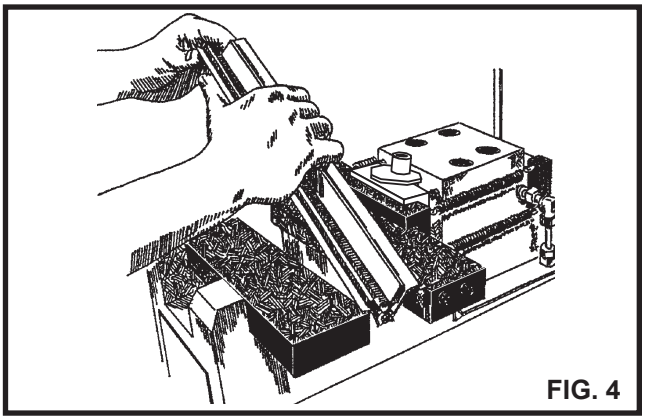


FIG. 4

Insert one end of the adapter into the jaws of the machine, and push down until it bottoms out (Fig. 4). If necessary, squeeze the adapter together slightly while performing this operation. If you prefer to apply lacing to the belt from left to right, position the extra deep slots/transfer section to the left of the machine. Lacing the belt from right to left requires placing the transfer section to the right of the machine.

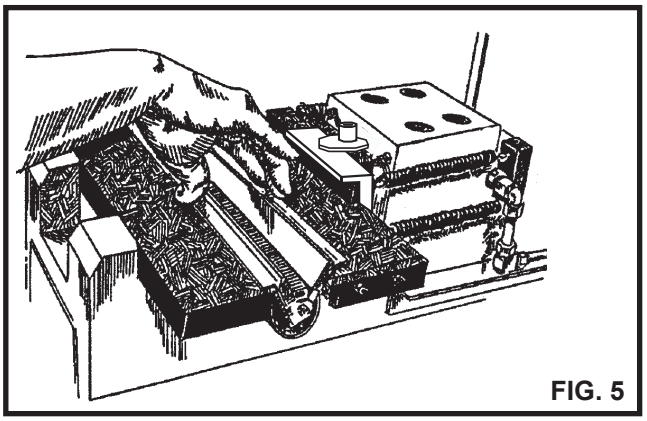


FIG. 5

Drop the remainder of the adapter into place, using caution to avoid pinching fingers (Fig. 5).

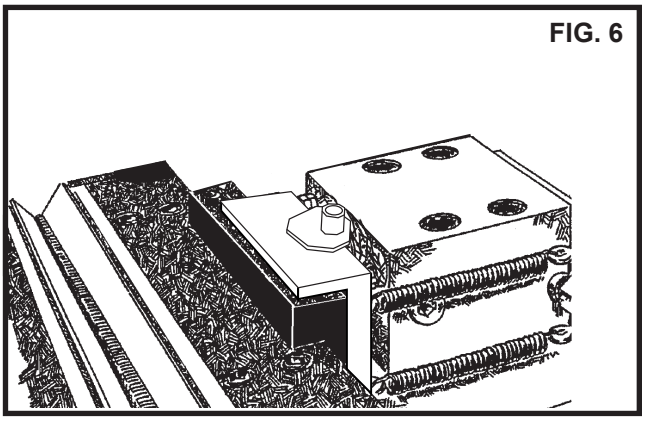


FIG. 6

Adjust the cam if the adapter will not fit into place, or if it is too loose (Fig. 6).

NOTE: When repeated use is called for, the adjusting cam (Pro 200) can be adjusted so that the jaws provide adequate clearance to remove carding paper but are close enough together to reduce jaw cycle time.

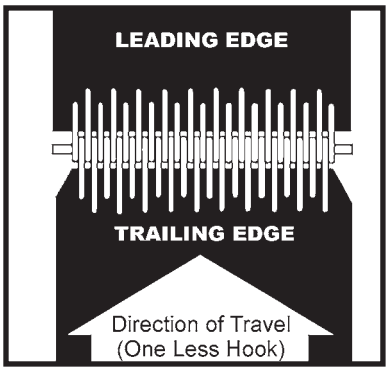
Selecting the Correct Size Gauge Pin

The Pro 200 Lacer offer multiple size gauge pins to achieve an optimal loop profile. Select a gauge pin that is 20% to 30% thinner than your belt thickness.

Determine the Number of Hooks Required

Lay strips of hooks end-to-end across the entire width of your belt, leaving 1/4" of belt open on each side for notching. When it is necessary to cut a strip of hooks, cut only one strip.

The trailing end of the belt should have one less hook than the leading end. This is to prevent hooks from getting caught on the conveyor framework and pulling out. The trailing end should also be notched/tapered so as to prevent belt rips or tearing.



Inserting Hooks, Gauge Pin and Belt

Practice on a sample piece of belt, making sure the piece is from the same belt you intend to splice. This sample piece should ideally be 6" wide. If your belt is less than 6" wide use the narrower measurement. Install sample splice(s) to determine the proper pressure required to set the hooks. (Lacing procedures begin on page 6). Record your results on the piece of belt and also in the log at the end of this booklet. Refer to this log whenever you splice this belt to avoid repeated experimentation.

Remember, the purpose for offering multiple gauge pin diameters is to eliminate the keyhole shaped loop and to provide the best possible hook set for optimum performance. If a keyhole shaped loop is produced, change the gauge pin to the next smaller size and apply new hooks to your sample.

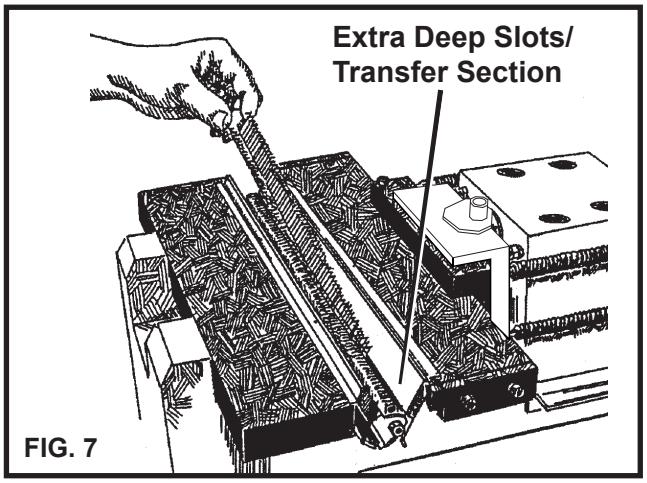
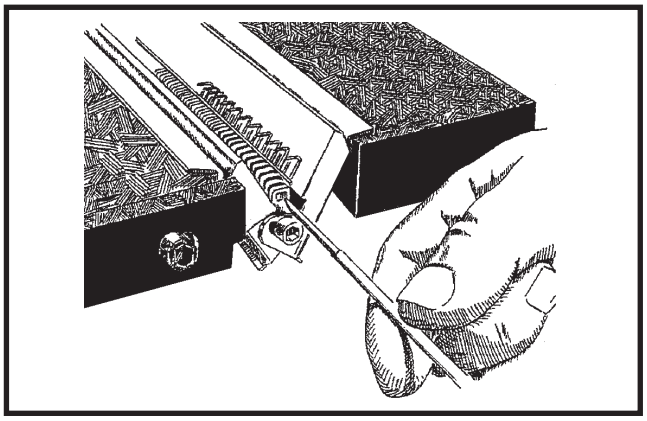


FIG. 7

Center the shortest strip of hooks in the adapter first. Failure to center the strip may cause the machine to apply unequal pressure to the jaws, jamming the machine.

When installing full (6") strips of hooks, place one end hook into the slot adjacent to the transfer section (Fig. 7).

NOTE: Do not place unset hooks in the transfer section at any time.



Insert the gauge pin flat side up (if applicable) into the hole in the comb opposite the transfer section and push it in completely. If using carded hooks as shown in Fig. 8, remove carding paper at this time. If installing Unibar® fasteners as shown in Fig. 9, remove safety strip now. If using carded hooks as shown in Fig. 10, the paper is removed after hooks are installed.

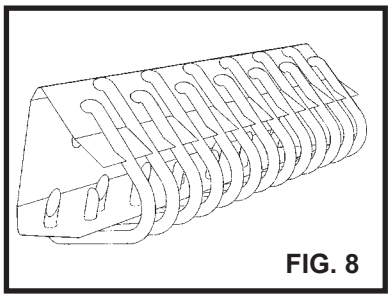


FIG. 8

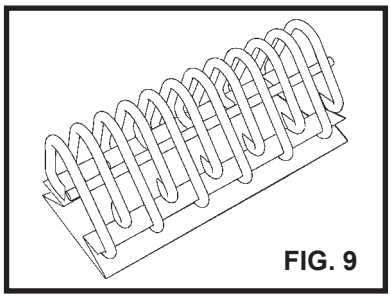


FIG. 9

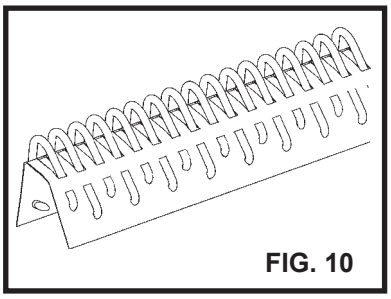


FIG. 10

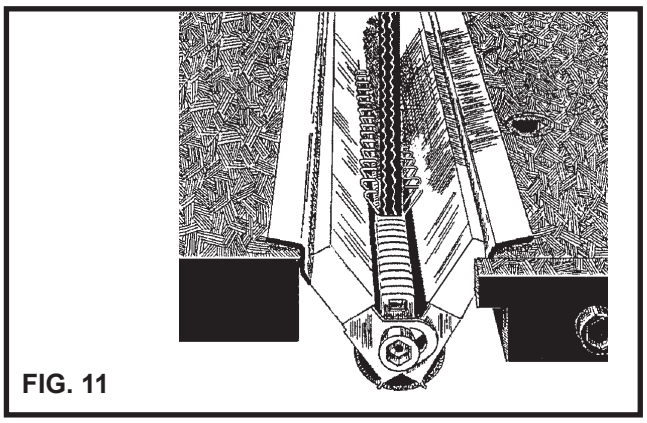


FIG. 11

Insert the belt between the points of the hooks and push it down against the comb (Fig. 11).

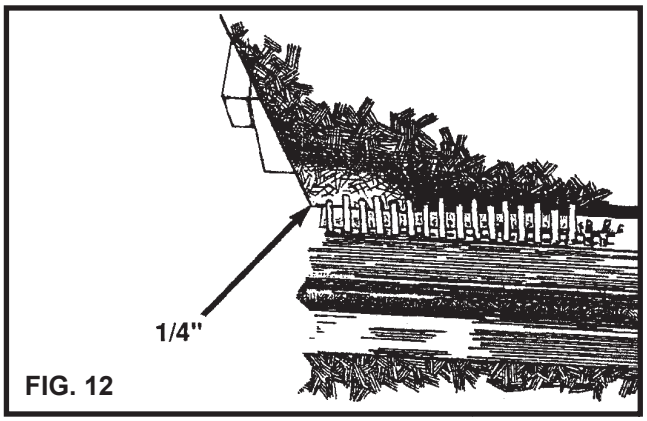


FIG. 12

When installing hooks in belts 6" wide or less be sure to center the hooks on the belt leaving 1/4" protruding from each end of the strip of hooks. This allows for notching the trailing end of the belt (Fig. 12).

When installing hooks into a belt wider than 6" (requiring two or more strips of hooks), leave 1/4" of belt protruding past the last hook near the transfer section.

PRO 200 USERS:
Determine the correct pressure and gauge pin required for your application

Pump the footpump until the jaws of the machine first come in contact with the belt. Note the pressure reading on the pressure gauge.

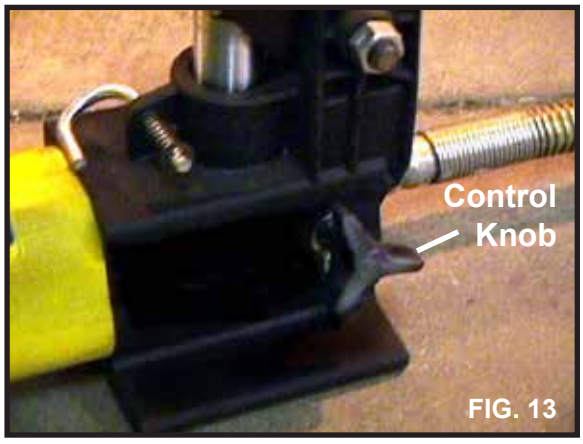


FIG. 13

Release the pressure by turning the control knob of the release valve counterclockwise until the jaws retract completely. Turn the control clockwise until snug. Do not overtighten this valve (Fig. 13).

Inspect lace for proper set down. (See Page 7). If splice is not installed enough, repeat process, bring pressure up higher. Continue process until proper setdown is achieved.

PRO 200 EH USERS:

1) Press the foot pedal to cycle the machine while observing the pressure gauge on the Pro 200 lacer (Fig. 14).

2) Loosen the lock nut (Fig. 15).

3) Adjust to the desired pressure by turning the adjusting screw. Turn the adjusting screw clockwise to increase the pressure and counter clockwise to decrease the pressure. The maximum pressure attainable by the pump is pre-set to 6500 PSI (Fig. 15).

4) Once the desired pressure is achieved, tighten the lock nut to hold the setting (Fig. 15).

Note: The Pro 200 Electric Hydraulic lacer is factory set at the maximum speed. If a slower speed is desired, a flow control valve can be placed in the hydraulic line that connects the electric hydraulic pump to the Pro 200 lacer.

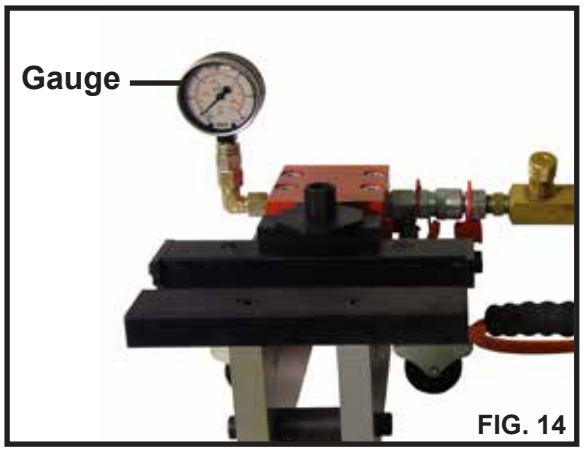


FIG. 14

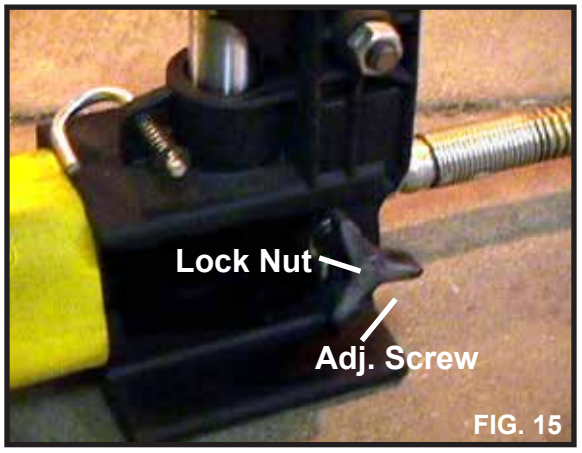
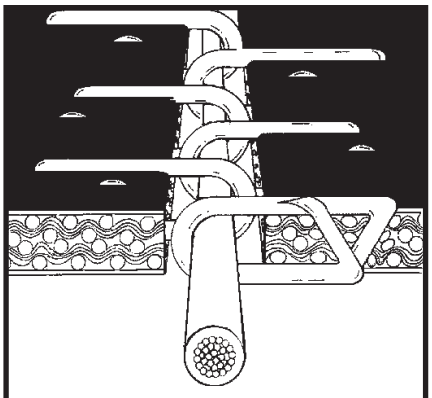


FIG. 15



Optimal Splice

FIG. 14

Correct set is achieved when one half to one third of the wire diameter of the hook is imbedded into the belt surface without a keyhole shaped loop and the points are just visible from the opposite side of the belt (Fig. 14).

Repeat the above procedures, increasing the pressure slightly until proper set is achieved.

If the loop has a keyhole shape, reapply new hooks using the next smaller gauge pin.

The hook points should be slightly visible on the opposite side of the belt. If the points are protruding through and curling over excessively, the hook is too large. Resplice using a smaller hook size.

Once you have determined the correct requirements for your belt, further experimentation becomes unnecessary. Enter this data in your log book and use it as a reference when splicing this belt in the future.

Removing Belt/Hook Assembly from Machine

Pull the gauge pin completely out of the comb by pulling it straight out **without bending or twisting it. Twisting the gauge pin can break the handle off the gauge pin.** If necessary, push the belt back and forth to loosen the gauge pin.

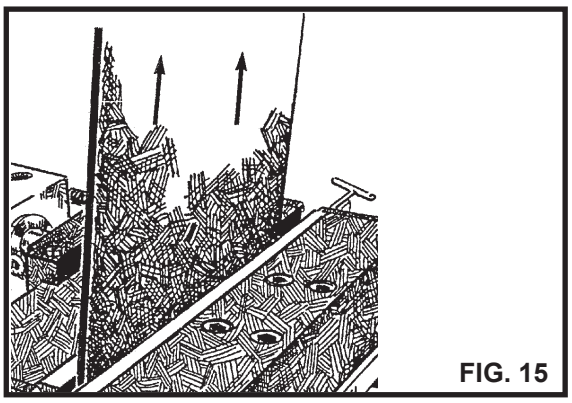


FIG. 15

Pull the belt straight up and out of the machine. **Do not twist the belt as it is removed** (Fig. 15)**.**

Do not change the pressure setting if you will be making additional splices on the same belt. The pressure setting as well as the gauge pin will be used on future applications to this belt. However, splicing a different width piece of the same belt may require changing the pressure.

Example: You find that one 6" strip of hooks requires 250 bars pressure to properly set in a particular belt. Applying one 3" strip of hooks of the same size in the same belt requires that the pressure be reduced 50%, to 125 bars.

Carding Paper Removal

If you installed carded hooks as shown in Fig. 16, remove the paper at this time by simply peeling it away after setting the hooks and removing the splice from the machine. The paper will separate from the hooks in one continuous piece (Fig. 17).

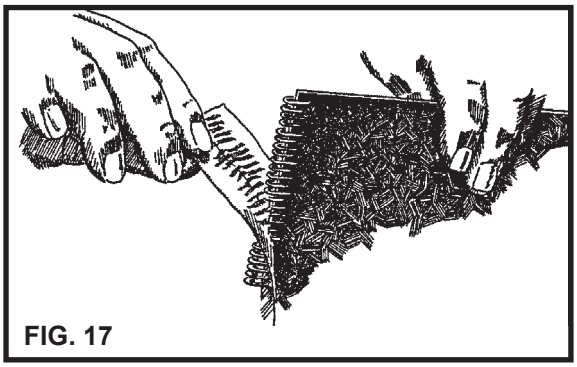


FIG. 17

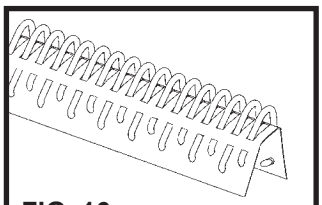


FIG. 16

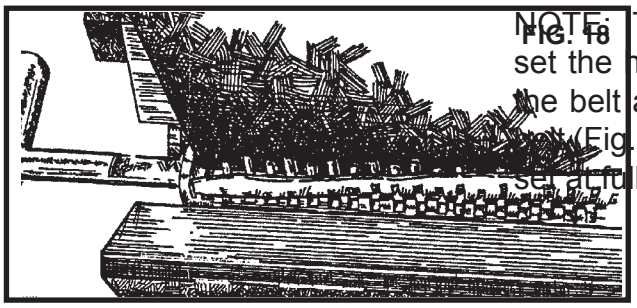


FIG. 18

NOTE: To ease paper removal on #30 hooks, partially set the hooks, slit the paper lengthwise on one side of the belt and pull the paper away from each side of the belt (Fig. 18). Remove the paper before making the final set at full pressure.

Installing Hooks on Belt Ends Requiring More Than One Strip of Hooks

After removing the belt with the first strip of hooks applied, insert the second strip of hooks into the comb. Make sure that an end hook is in the first slot adjacent to the transfer section and all the unset hooks are in the standard section of the comb (Fig. 19).

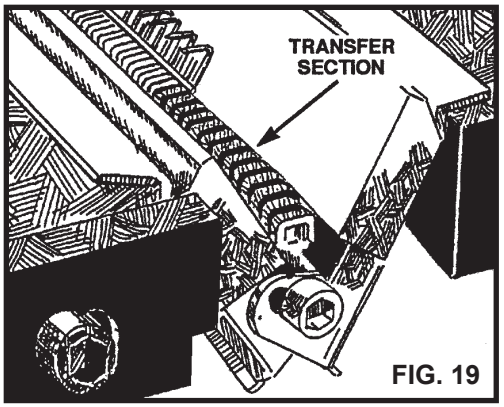


FIG. 19

Insert the appropriate gauge pin, starting from the end of the comb opposite the transfer section, making sure the pin does not enter the transfer section. Remove carding paper from hooks, if applicable.

Insert the previously installed hooks into the transfer section. Fill the transfer section with applied hooks only.

Push the gauge pin completely into the comb.

Continue with installation as with a single strip of hooks.

Repeat the application procedure on the second belt end. There is no need to repeat the "experimenting" section when splicing several pieces of the same belt.

Maintain a log containing the belt name, hook size, gauge pin used, hinge pin and the pressure setting for future use. Use this log and you will avoid "experimenting" every time you splice a belt. Log pages are included at the end of this booklet.

When finished applying hooks be sure to release any pressure built up in the foot pump. Make certain that the machine cannot roll off the workbench.

TROUBLESHOOTING

1. Machine will not operate.

PRO 200 Foot Pump

A. Is the foot pump connected to the machine?
B. Is the release valve closed?

Pro 200 EH

A. Is the machine plugged in and the power switch on?
B. Check power supply. Is there electricity at the outlet?
C. Check the troubleshooting section of the included instructions sheet for the Hydraulic Pump.

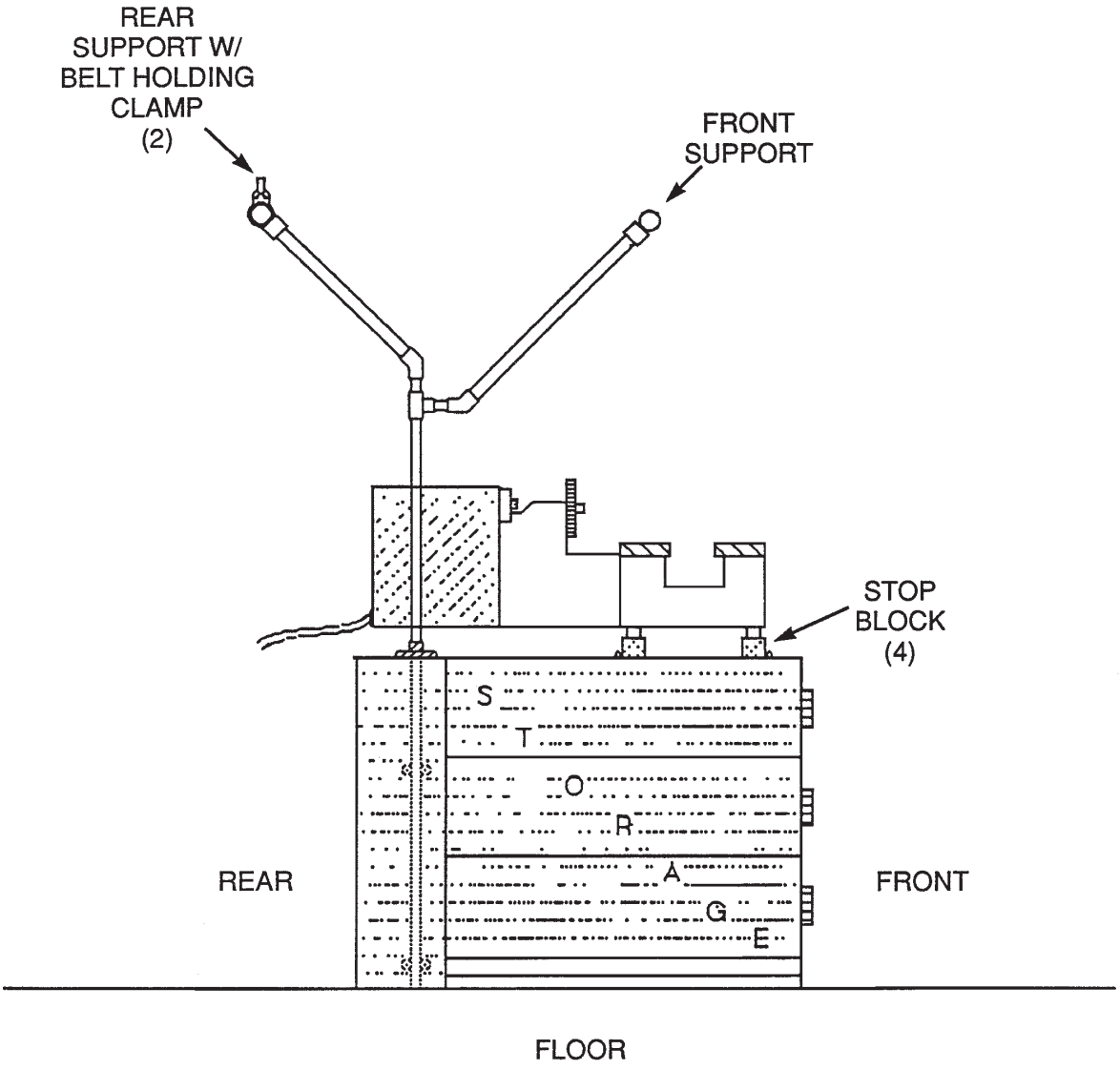
2. EH Pump operates but the jaws do not move

A. Is the pressure gauge set above zero?
B. Hydraulic fluid level okay?
C. Are the jaws cocked at an angle?

3. Jaws close unevenly.

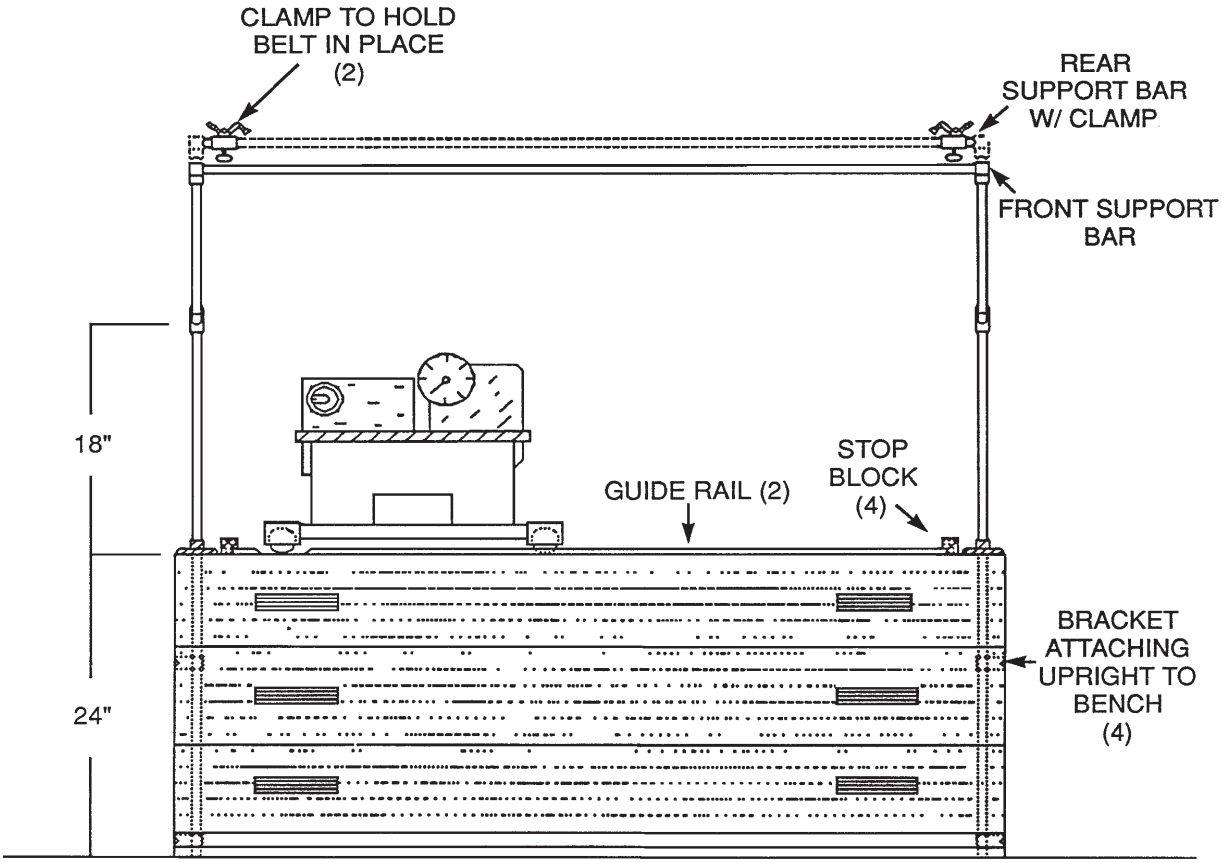
Insert the retainer in the PRO 200. Close the jaws 3-4 times without hooks or a belt inserted between the jaws. This should straighten the jaws out.

Suggested Workbench Setup:

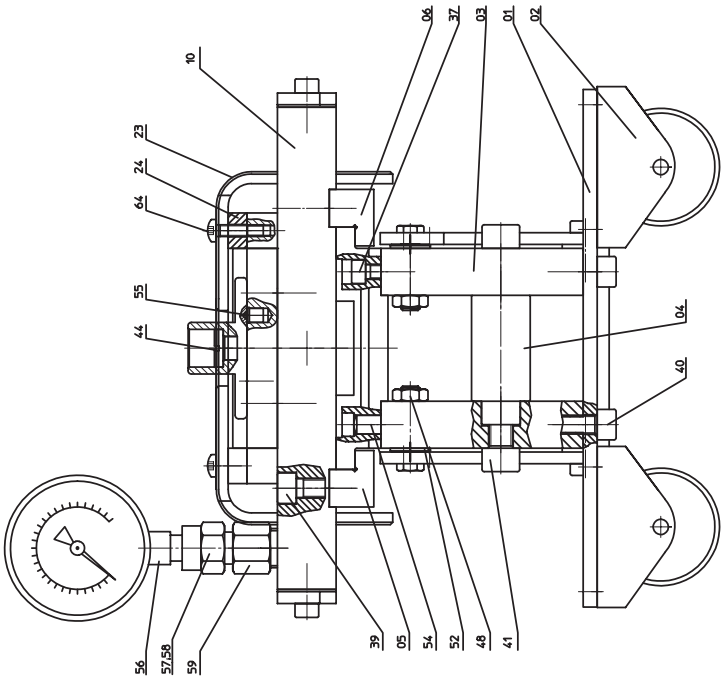


SIDE VIEW

Suggested Workbench Setup:



FRONT VIEW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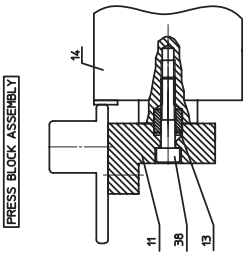
PRESS BLOCK ASSEMBLY
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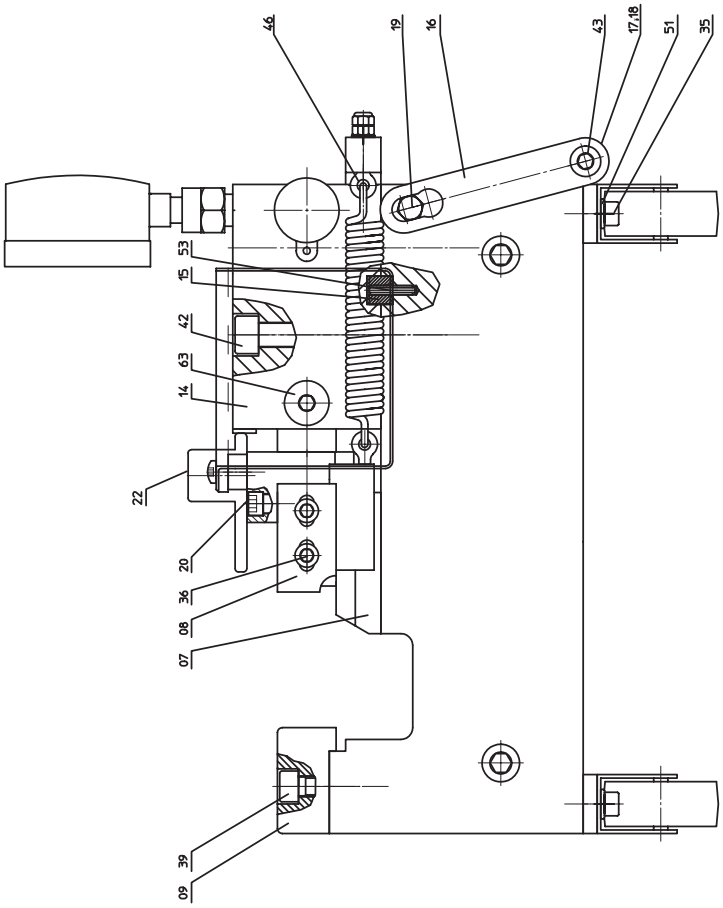
PRO 200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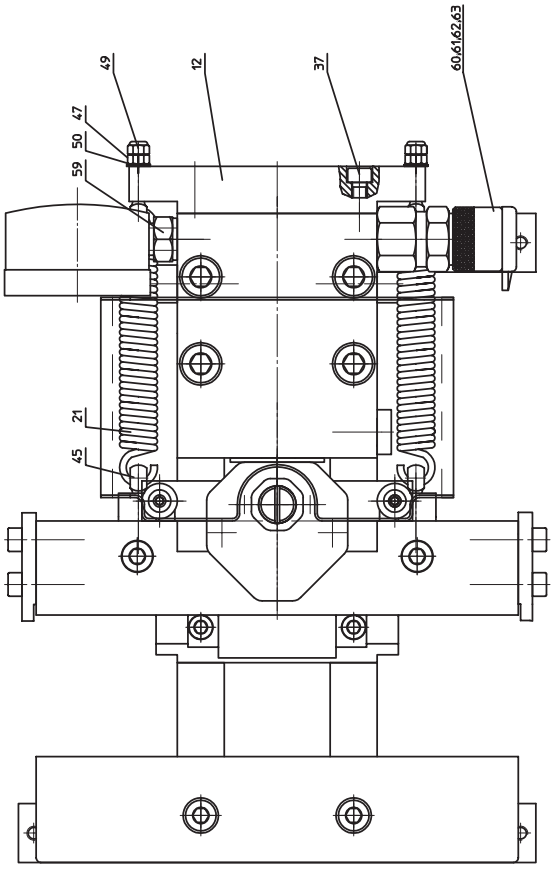
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SPARE PART LIST PRO 200

POS	QTY.	DESCRIPTION	Draw.-No.
01	2	WHEEL BRACKET	ARK-1F-001
02	4	WHEEL	ARK-1F-002
03	2	SiDE PLATE LEFT AND RIGHT	ARK-1F-003
04	2	SIDE PLATE SPACER	ARK-1F-004
05	1	SLIDING JAW GUIDE TRACK LEFT	ARK-1F-005
06	1	SLIDING JAW GUIDE TRACK RIGHT	ARK-1F-024
07	1	SLIDING JAW GUIDE PLATE	ARK-1F-006
08	2	SIDE LAY	ARK-1F-007
09	1	FIXED JAW	ARK-1F-008
10	1	SLIDING JAW	ARK-1F-009
11	1	PRESS BLOCK	ARK-1F-010
12	2	SPRING HOLDER	ARK-1F-011
13	1	BUSHING	ARK-1F-012
14	1	CYLINDER 60 KN	ARK-1F-013
15	2	PASSING	ARK-1F-014
16	2	HANDLE PART 1	ARK-1F-015
17	1	HANDLE PART 2	ARK-1F-016
18	1	HANDLE PART 2	ARK-1F-017
19	2	SCREW	ARK-1F-018
20	2	WASHER HEAD BOLT	ARK-1F-025

SPARE PART LIST PRO 200

POS	QTY.	DESCRIPTION	Draw.-No.
21	4	SPRINGS	ARK-1F-027
22	1	SPACER WASHER	ARK-1F-028
23	1	CYLINDER COVER	ARK-1F-029
24	2	SPACER	ARK-1F-030
35	8	HSHC SCREW DIN 912 M6X10	
36	4	HSHC SCREW DIN 912 M6X16	
37	4	HSHC SCREW DIN 912 M6X20	
38	1	HSHC SCREW DIN 912 M6X30	
39	4	HSHC SCREW DIN 912 M8X25	
40	4	HSHC SCREW DIN 912 M8x20	
41	4	HSHC SCREW DIN 912 M10x25	
42	4	HSHC SCREW DIN 912 M10X80	
43	2	HSHC SCREW DIN 7984 M8X20	
44	1	SLOTTED PAN HEAD SCREW DIN 923 M8x10-5.8	
45	2	EYE BOLTS DIN 444 M5X20	
46	2	EYE BOLTS DIN 444 M5X30	
47	4	HEXAGON NUT DIN 934 M5	
48	2	HEXAGON NUT DIN 439 M8	

SPARE PART LIST PRO 200

POS	QTY.	DESCRIPTION	Draw.-No.
49	2	SELF LOCKING HEXAGON NUT DIN 985 M5	
50	2	WASHERS DIN 125-B-5.3 ZINC PLATED	
51	8	WASHERS DIN 125-B-6.4 ZINC PLATED	
52	2	WASHERS DIN 125-B-8.4 ZINC PLATED	
53	2	SPRING TYPE PIN DIN 7346 4x20	
54	2	PARALLEL PIN DIN 6325 8X20	
55	2	SPRING PLUNGER	
56	1	GLYCERIN HIGH PRESSURE GAUGE	
57	1	GAUGE FITTING MAVE08SRA3C	
58	1	SEAL RING DKI1/4A3CX	
59	1	HYDRAULIC FITTING EW08SA3C	
60	1	HYDRAULIC FITTING GE08SRA3C	
61	1	TREDO SEAL RING	
62+63	1	COUPLING WITH ADAPTOR R1/4"	
64	2	BUTTON HEAD SOCKET SCREW ISO 7380 M5X20	
	2	WRENCH 13/17	
	1	SCREW DRIVER DIN 911 TM 8 D	
	1	PACKING CASE	

LOG

CONV. NO.	BELT STYLE/ IDENTIFICATION	BELT THICKNESS	HOOK SIZE	GAUGE PIN USED	PRESSURE SETTING	HINGE PIN USED	COMMENTS

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