

**Manual Press with SEMCONN™ Ferrule Adapter Kit
Instruction Manual
Order No. 11-21-9507
71310 and 71313 series**

- Description
- Operation
- Maintenance

WARNING

NEVER OPERATE, SERVICE, OR ADJUST THIS PRESS OR INSTALL DIES WITHOUT PROPER INSTRUCTION AND WITHOUT FIRST READING AND UNDERSTANDING THE INSTRUCTIONS IN THIS MANUAL.

WORK SAFELY AT ALL TIMES

**For Service, Contact Your
Local Molex Sales Office**

Molex Application Tooling Group
2200 Wellington Court
Lisle, Illinois 60532
Tel: 630-969-4550
Fax: 630-505-0049

Table of Contents

SECTION

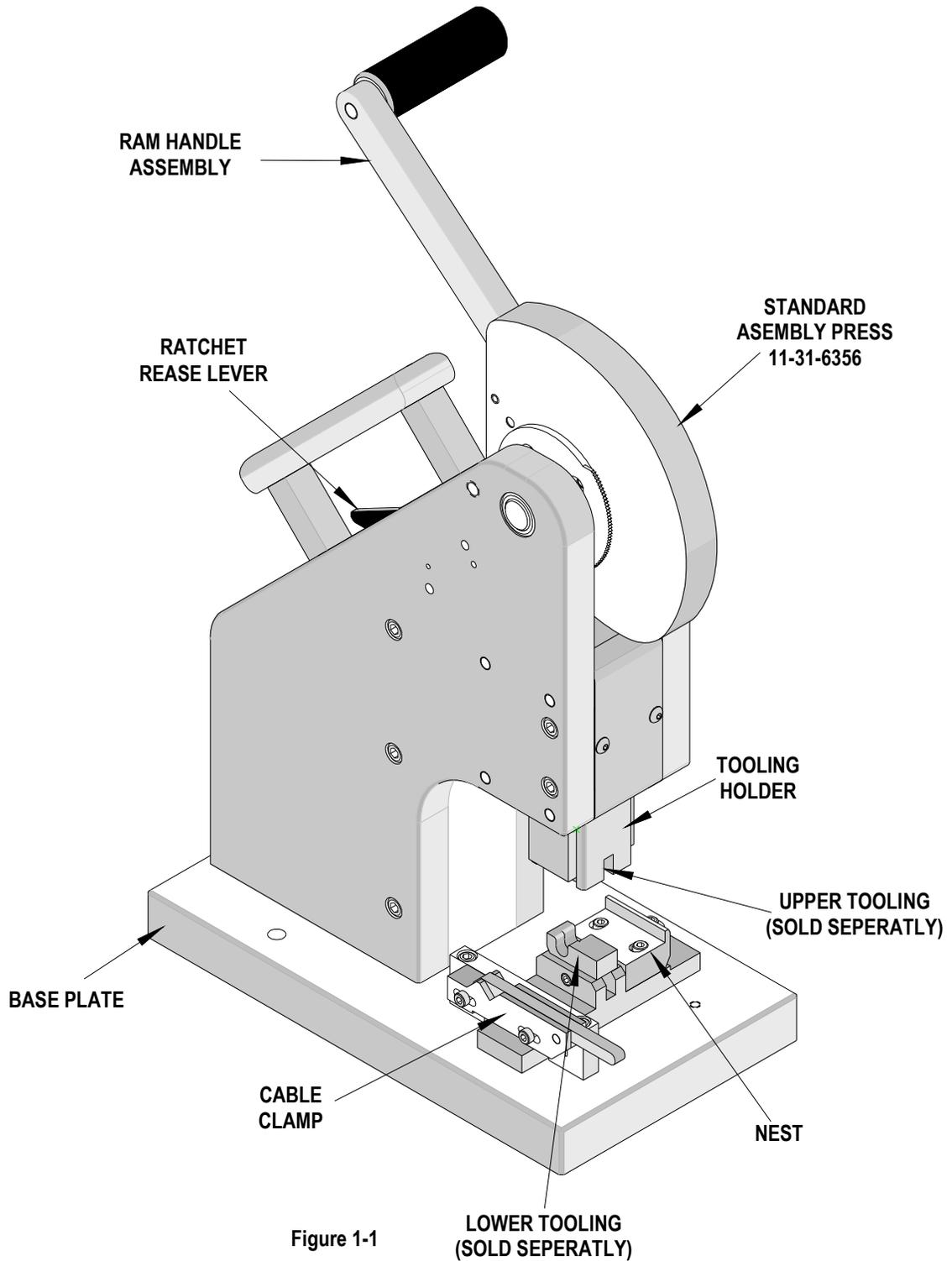
- 1 General Description
- 2 Setup - Operation
- 3 Maintenance and Troubleshooting
- 4 Parts List, Assembly Drawings

Section 1

General Description

- 1.1. Description
- 1.2. Features
- 1.3. Technical Specifications
- 1.4. Delivery Check
- 1.5. Tools
- 1.6. Products

Principal Mechanical Parts of the 11-21-9507 Press



General Description

Instruction Manual	ATS-011316356	1
Instruction Manual	ATS-011219507	1
Specification Sheet	ATS-011317559	1

1.1 Description

The 11-21-9507 is the 11-31-6356 Manual Press with the 11-31-7559 SEMCONN™ Ferrule Adaptor Kit.

It is designed to terminate round cable into a connector assembly, 71310, and 71313 series. It will accommodate 4 to 16 circuit connectors.

The operator loads a connector and cable assembly, with the ferrule in position on the cable, into the nest pushing it to the right against the stop rail. Then the press is cycled by pulling the press crimping lever forward and down, then returning it to the full up position. The ferrule is now crimped to the cable. This tooling is ideally suited for low to medium volume production. See Section 2.4 for tool listing.

1.2 Features

- Full cycle ratchet assures complete crimp.
- Handle is easily changed to suit right or left handed operators.
- Modular tooling is quickly installed into the Molex Standard Assembly Press 11-31-6356 (AM60026-50).
- Manually operated, no shop air or electricity required.

1.3 Technical Specifications

Dimensions	Press with tooling
Height	533.0mm (21.00")
Width	152mm (6.00")
Depth	267mm (10.50")
Unpacked weight	25kg (55 lbs)

1.4 Delivery Check

The following items are included in this package :

<u>Decription:</u>	<u>Quantity</u>
Molex Standard Assembly Press	
11-31-6356 (AM60026-50)	1
Terminator Tool Kit	1
11-31-7559	1

1.5 Tools

The following tools are recommended for setup and adjustments to the this tool.

- ✓ Inch hex wrench set
- ✓ Small standard screwdriver
- ✓ Adjustable wrench

1.6 Products

SEMCONN™ Shielded Plug Assembly kit for Shielded Round Cable, series 71310 and SEMCONN™ Shielded Plug Assembly, series 71313.

ORDERING INFORMATION

The Table below lists the part numbers for the various ways to order tooling for this press.

SEMCONN™ Ferrule Crimping Die Sets must always be ordered separately.

Order No.	Engineering No.	Description
11-21-9507	AM-60098	Complete Manual Press with Adaptor Kit Installed
11-31-7559	AM-60063	Adaptor Kit
11-31-6382	AM-60041-4	Ferrule Crimping Die Set for 4-Circuit
11-31-6383	AM-60041-6	Ferrule Crimping Die Set for 6-Circuit
11-31-6384	AM-60041-8	Ferrule Crimping Die Set for 8-Circuit
11-31-6385	AM-60041-4	Ferrule Crimping Die Set for 16-Circuit

See Section 3 for detailed parts lists of the press.

Section 2

Installation

- 2.1. Instalation
- 2.2. Set-Up
- 2.3. Operation
- 2.4. Products

2.1 Installation

To secure the press, use a bench capable of supporting at least 150 pounds, with adequate lighting for easy operation. There are two (2) holes for 5/16" screws provided in the press base for fastening the press to the workbench. Be sure there is adequate room around the press to operate easily.

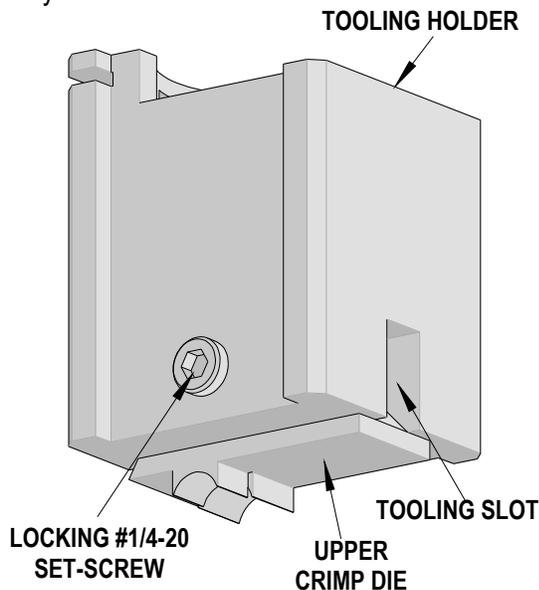


Figure 2-1

The 11-21-9507 Manual Press comes with adaptor kit already installed. See Figure 1-1. The adaptor will have to be removed from the Press when installing the upper and lower crimp dies (sold separately), follow the steps below:

Upper Tooling

1. Loosen the locking #1/4-20 set-screw on the side of the upper tooling holder until it clears the middle slot in the tool holder.
2. Install the upper crimp die into the tooling holder. The crimping area of the crimp die should be facing the back of the press when installed. See Figure 2-1.

NOTE: Lowering the press ram slightly may assist in installing the upper tooling.

3. Slide the upper tooling holder with upper tooling, upward over the ram adjusting screw, until it comes to a stop. See Figure 2-2.

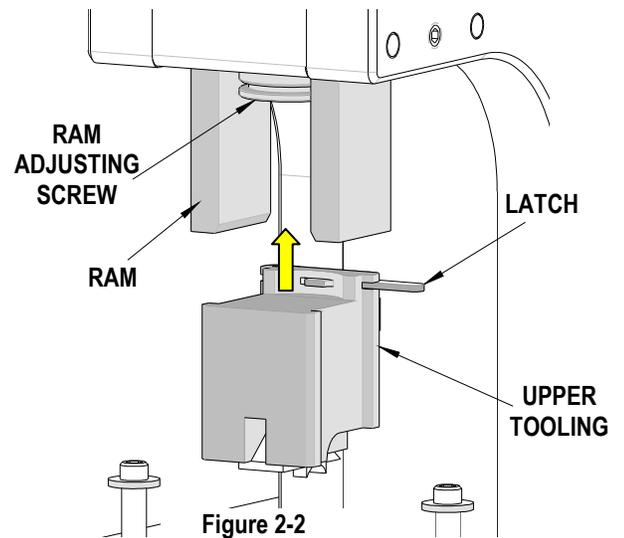


Figure 2-2

4. Push the latch backward (away from the operator). The upper tooling will now slide up onto the ram an additional approximately 4.0mm (0.16").
5. Release the latch, the upper tooling will stay in place.

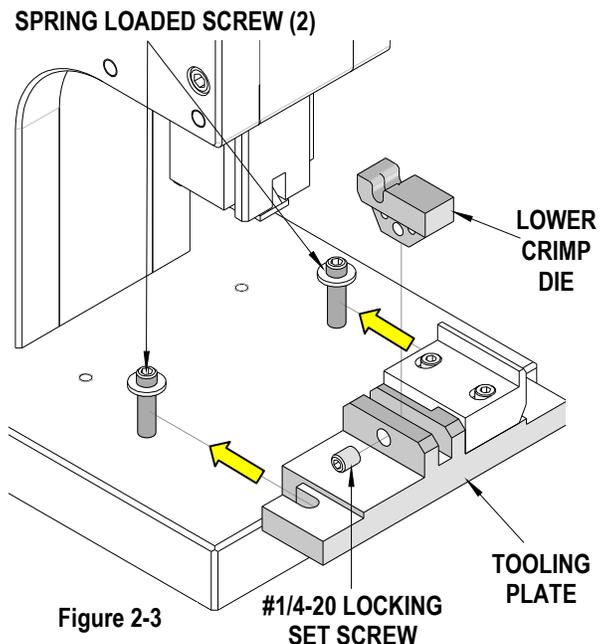
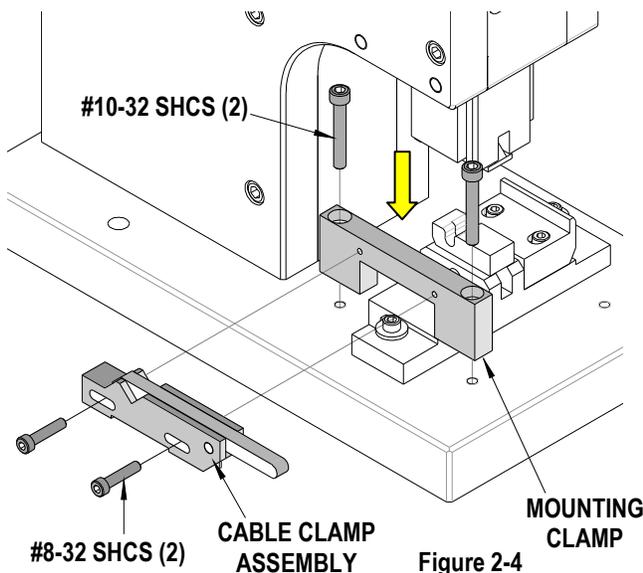


Figure 2-3

Lower Tooling

1. Loosen the two (2) spring loaded screws on the base plate of the Molex Standard Manual Press and remove the lower tooling.
2. Install the lower crimp die in the lower tooling plate. The actual crimp area of the die should be facing the back of the press. See Figure 2-3.
3. Tighten the locking #1/4-20 set screw on the left side of the tooling plate to lock in the lower crimping die.
4. With the press ram in the up position, mount the lower tooling in the press.
5. Slide the tooling plate under the screws. See Figure 2-3. Make sure the two (2) spring loaded screws in the press base plate are up high enough for the tooling plate to slide under the washers.
6. Lower the two (2) spring loaded screws but do not tighten.
7. Slowly lower the press ram by pulling the press lever forward and down.
8. Move the lower tooling in position lining up the lower die with the upper die.
9. Tighten the two spring loaded screws.
10. Return the press ram to the full up position.



11. Install the cable mounting clamp bracket by positioning the bracket over the two mounting holes. See Figure 2-4. Then

insert and tighten the two #10 socket head cap screws.

12. Install the cable clamp assembly as shown in Figure 2-4. Do not tighten the two (2) #8-32 SHCS mounting screws at this time as this clamp assembly can be slid back and forth to suit the cable and connector assembly.

2.2 Set Up

The setup operations required for this tooling are adjusting the cable clamp mount, adjusting the press ram stroke, and adjusting the connector nest.

Cable Clamp

The cable clamp is adjusted as follows:

1. Loosen the two (2) #10-32 SHCS on the clamp mount. See Figure 2-4.
2. Slide the clamp mount forward or back to the desired position aligning the cable to the ferrule crimp dies.
3. Tighten the two (2) #10-32 SHCS.

It may be necessary to adjust the press ram to insure a proper crimping of the ferrule. The stroke is adjusted as follows:

1. Install a cable and connector assembly with a ferrule into the fixture.
2. Crimp the ferrule. See Section 2.3 *Operation* for details.
3. Inspect the crimp per product specifications drawing no.PS-71310 and adjust the ram stroke below.

Ram Stroke Adjustment

1. Loosen the #8-32 set screw in the Ram which locks the Ram Adjusting Screw into place. See Figure 2-5.
2. There is an indicator engraved on the ram just above the Ram Adjusting Screw. Turn the Ram Adjusting Screw clockwise (CW) toward the "+" sign to increase the ram stroke. To decrease the stroke, turn the Ram Adjusting Screw counterclockwise (CCW) toward the "-" sign. Stroke adjustment controls the shut height of the connector assembly. Ram stroke is set so that the connector measures a specific shut height

when terminated. See Product Specifications for proper shut height dimensions and related information.

3. Once the correct stroke is set, tighten the #8-32 set screw.

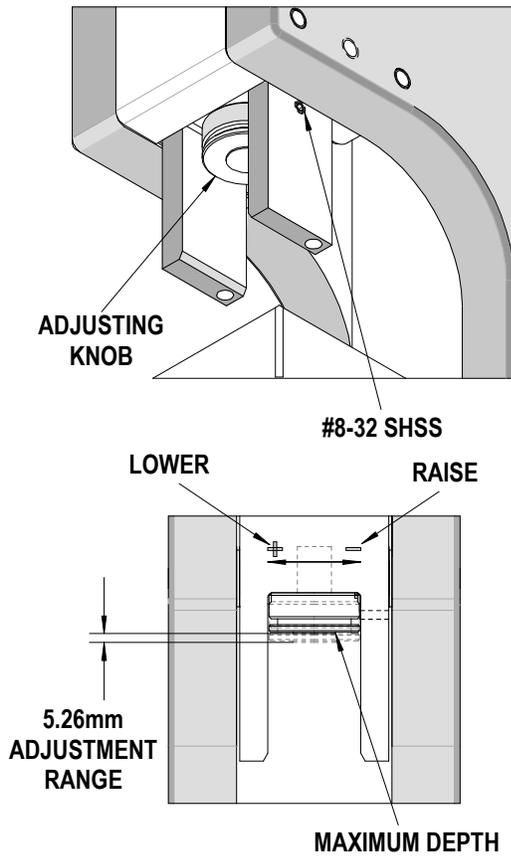


Figure 2-5

Connector Nest

The connector nest is located just to the right of the lower crimp die. See Figure 1-1. It is adjusted as follows:

1. Loosen the two (2) #8-32 SHCS that lock the nest in position.
2. Slide the nest to the left or right for proper position, making sure that the crimp portion of the ferrule is located directly over the lower crimping die when the connector is pushed up against the connector nest.
3. Tighten the two (2) #8-32 SHCS.

2.3 Operation

Press Operation

Once the tooling is set up in (Section 2.2) see product specifications drawing no.PS-71310 for cable preparation. Follow the steps below:

1. Push down on the upper wire clamp and hold the front end to open it.
2. Install the cable and the connector assembly, with the ferrule, in position in the nest. Make sure the connector is pushed against the connector nest.
3. Position the cable into the notch of the lower wire clamp.
4. Release the upper wire clamp.

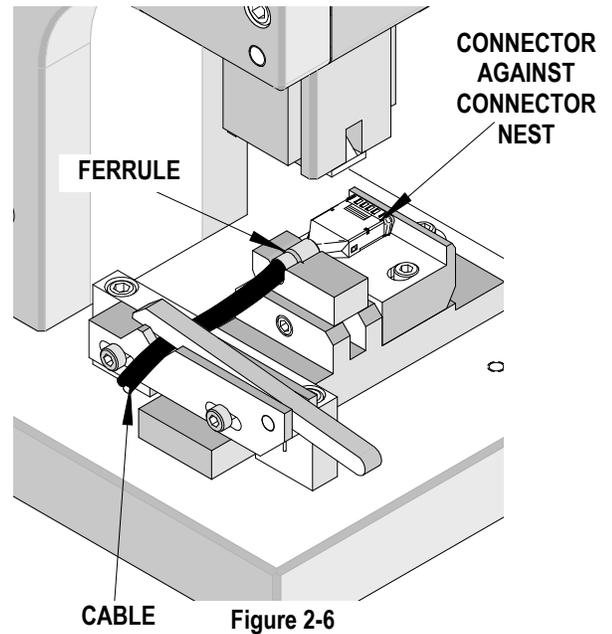


Figure 2-6

5. Cycle the press by pulling the press crimp lever forward and down.
6. Return the press lever to the full up position.
7. Open the cable clamp.
8. Remove the terminated assembly.

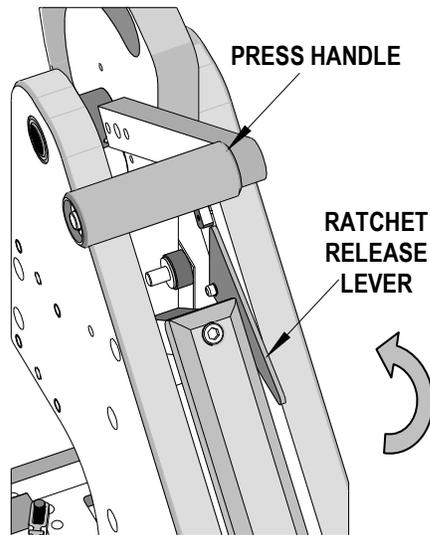


Figure 2-7

Warning: Once the press ram handle has started to descend, it cannot be returned to the up position until the full stroke of the press has been completed. In case of a jam or some other problem, should the press ram ever need to be returned to the up position before completing the full stroke, pull up on the ratchet release lever and raise the press ram handle. The ratchet release lever is located on the upper left side of the press frame. See Figure 2-7.

Section 3

Maintenance

- 3.1. Cleaning
- 3.2. Lubrication
- 3.3. Perishable Parts
- 3.4. Spare Parts
- 3.5. Troubleshooting
- 3.6. Glossary of Terms

3.1 Cleaning

This press should be cleaned daily. Use a soft bristle brush to remove debris from critical areas such as the housing nest. See the Chart on next page for recommended Preventive Maintenance Schedule.

NOTE: Using compressed air to clean tooling is *not* recommended. Chips can wedge in the tooling and/or fly at an operator.

3.2 Lubrication

1. Grease the ram including the cam follower groove.
2. Oil all moving parts of the press.
3. Lubricate with multipurpose synthetic lubricant with Teflon or an equivalent. Molex ships its presses pre-greased with Permatex multi-purpose synthetic grease with Teflon No. 82329. A SAE 30WT non-detergent oil or light spindle oil or 3-in-1 oil should be used on pivot points.

WARNING: Never use penetrants such as WD40 for any lubrication on the press.

4. Lubricate all points shown in Figures 3-1 with the specified oil and grease (or equivalent).

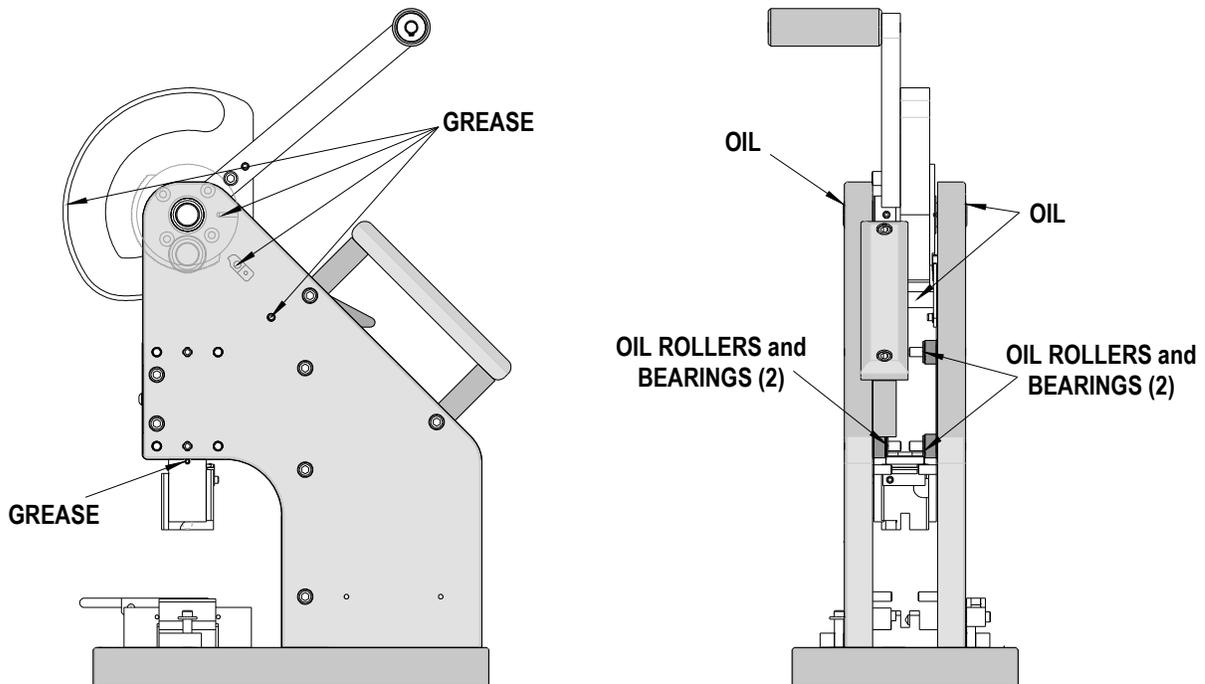


Figure 3-1

An example of a maintenance chart is shown below. Copy and use this chart to track the maintenance of your Press or use this as a template to create you own schedule or use your company’s standard chart, if applicable.

Preventive Maintenance Chart

Daily: Clean. See Section 3.1.

As Required: Lubricate. See Section 3.2.

CHECK SHEET MONTH _____ YEAR _____

Week	Daily Clean	Days of the Week							Solution
		MON	TUE	WED	THU	FRI	SAT	SUN	
1									
2									
3									
4									
Cleaning Reapply greasing Reapply oil	Yes								Soft Brush Industrial Degreaser
Inspect all tooling for wear	Yes								Replace if signs of wear.

Schedule should be adjusted up or down depending on usage. Molex recommends that a log of preventive maintenance be kept with the press.

3.3 Perishable Parts

Customers are responsible for maintaining the Complete Manual Press and with the Adaptor Kit Assembly. Perishable parts are those parts that come in contact with the product and will wear out over time. Molex recommends that all customers keep at least one set of the perishable tool kit in stock at all times. This will reduce the amount of production down time.

For the proper perishable tool kit information, refer to the Specification Sheet supplied with the Press.

3.4 Spare Parts

Customers are responsible for maintaining the Complete Manual Press and with the Adaptor Kit Assembly. Spare parts are available. Moving and functioning parts can be damaged or wear out over time and will require replacement. Molex recommends that the customer keep some or all of them in stock to reduce production down time. These parts are identified in the Parts List. See Section 4.

3.5 Troubleshooting

Symptom	Cause	Solution
Ram goes down but will not go back up	<ul style="list-style-type: none"> ▪ Sticking ratchet pawl or debris in mechanism 	Clean and lubricate pivot points.
	<ul style="list-style-type: none"> ▪ Ram set too low 	Release ram with release lever and adjust ram stroke. See Section 2.2, <i>Ram Stroke Adjustment</i> .
Full stroke ratchet mechanism not engaging	<ul style="list-style-type: none"> ▪ Sticking ratchet pawl or debris in mechanism 	Clean and lubricate pivot points
	<ul style="list-style-type: none"> ▪ Broken ratchet pawl spring or damaged pawl 	Repair or Replace.
	<ul style="list-style-type: none"> ▪ Worn anti-backup sprocket. 	Replace.
Crimp section of ferrule damaged.	<ul style="list-style-type: none"> ▪ Damaged upper and/or lower crimp die 	Replace die(s).
	<ul style="list-style-type: none"> ▪ Ferrule not positioned correctly over die 	Connector nest not positioned correctly. See Section 2.2, <i>Connector Nest</i> .
	<ul style="list-style-type: none"> ▪ Upper and lower dies not properly aligned 	Read Section 2.1, <i>Upper Tooling and Lower Tooling</i> , to realign the dies.
Ferrule not fully crimped	<ul style="list-style-type: none"> ▪ Press ram stroke too short 	Adjust the press stroke. See Section 2.2. <i>Ram Stroke Adjustment</i>
Consult Press Manual order number ATS-011316356 for any press problems.		

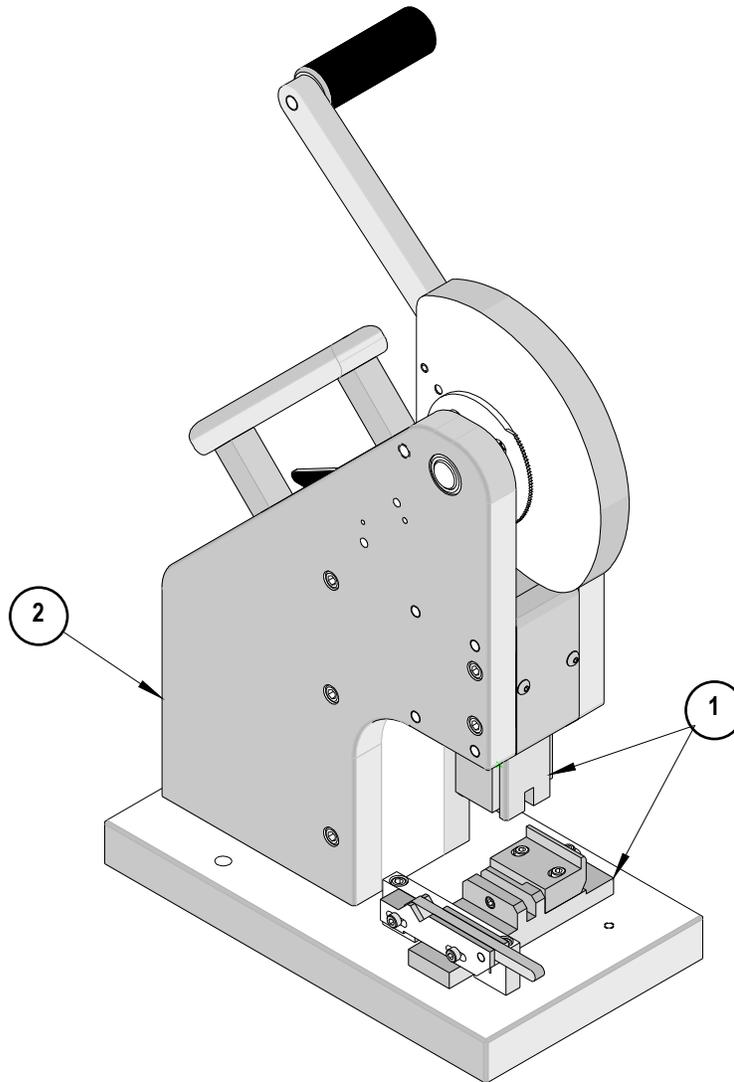
Section 4

- 4.1 Parts List
- 4.2 Assembly Drawings

4.1 Parts List

Manual Press with SEMCONN™ Ferrule Adapter Kit 11-21-9507				
Item	Order No.	Engineering No.	Description	Quantity
1	11-21-9507	AM60098	SEMCONN™ Ferrule Adapter Kit	1
2	11-31-6356	AM60026-50	Molex Standard Manual Press	1

4.2 Assembly



Americas Headquarters
Lisle, Illinois 60532 U.S.A.
1-800-78MOLEX
amerinfo@molex.com

Far East North Headquarters
Yamato, Kanagawa, Japan
81-462-65-2324
feninfo@molex.com

Far East South Headquarters
Jurong, Singapore
65-6-268-6868
fesinfo@molex.com

European Headquarters
Munich, Germany
49-89-413092-0
eurinfo@molex.com

Corporate Headquarters
2222 Wellington Ct.
Lisle, IL 60532 U.S.A.
630-969-4550
Fax: 630-969-1352

Visit our Web site at <http://www.molex.com>