

**SL FLAT FLEX CABLE
TERMINATOR WITH TM42 PRESS
20 Circuit (Maximum)
Instruction Manual
Order No. 62202-0800 (110V)
For 70430 and 70431 Series Connectors**

- Description
- Operation
- Maintenance

WARNING

- NEVER** USE THIS MACHINE WITHOUT THE GUARDS OR SAFETY DEVICES THAT ARE INTENDED TO PREVENT HANDS FROM REMAINING IN THE NEST AREA. RUNNING THIS MACHINE WITHOUT GUARDS, UNDER ANY CIRCUMSTANCES, CAN CAUSE SERIOUS INJURY.
- NEVER** LIFT THIS PRESS WITHOUT THE AID OF MECHANICAL LIFTING DEVICES. SEVERE BACK OR OTHER INJURIES CAN RESULT.
- NEVER** OPERATE, SERVICE, OR ADJUST THIS MACHINE OR INSTALL APPLICATOR DIES WITHOUT PROPER INSTRUCTION AND WITHOUT FIRST READING AND UNDERSTANDING THE INSTRUCTIONS IN THIS MANUAL.
- NEVER** SERVICE THIS MACHINE WHILE IT IS CONNECTED TO ANY ELECTRICAL POWER SOURCE. DISCONNECT POWER BY UNPLUGGING THE PRESS FROM ITS POWER SOURCE.
- CAUTION** MOLEX CRIMP SPECIFICATIONS ARE VALID ONLY WHEN USED WITH MOLEX TERMINALS AND TOOLING.

WORK SAFELY AT ALL TIMES

For Service, Contact Your Local Molex Sales Office

Molex Application Tooling Group
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Section 1

General Description

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- 1.3. Technical Specifications
- 1.4. Delivery Check
- 1.5. Tools

General Description

1.1 Description

The 62202-0800 is the Complete TM42 Press (110V AC Version) with the SL Flat Flex Cable Terminator Kit installed. The 62201-8700 SL Flat Flex Cable Terminator Kit is used in the Molex TM42 Press Order No. 69002-5001. It is designed to terminate the 2 to 20 circuit Flat Flex Cable Connector (70430 and 70431) to Flat Flex Cable. The operator loads a connector(s) into the nest, sets the cable stop, positions, and clamps the cable. The nest is slid into the termination area and the press is activated. When the termination is complete the operator slides the nest out and removes the harness. It is then loaded into the insertion station. The terminals are manually inserted and the carrier strip is broken off. This terminator is ideally suited for medium volume production.

Note: For 220V applications please order the following:

TM42 Terminator (220V AC Version) 69002-5000
SL Flat Flex Cable Terminator Kit 62201-8700

1.2 Features

- TM42 with terminator are easily portable.
- Terminator Kit is quickly installed into the Molex TM42 Press 69002-5001 (110V).
- Bench Mounted operated.
- All electrical, no shop air required.

1.3 Technical Specifications

(Includes TM42 Press)

Dimensions Press with tooling

Height	914mm (36.0")
Width	330mm (13.0")
Depth	483mm (19.0")
Unpacked weight	102.0kg (225lbs)

Electrical

110/220V AC, 5.8/2.9A, 60 Hz, Single Phase.

Production Rate

240 terminations per hour maximum, depending on operator skill.

1.4 Delivery Check

When carefully remove the TM42 Assembly from its shipping container and check to determine if the following items are included in this package.

<u>Description:</u>	<u>Quantity</u>
TM42 Press (110V)	69002-5001
SL FFC Terminator (mounted in press)	62201-8700
Foot Switch Assembly	69018-6263
Power Cord	62500-0113
10mm Hex Wrench	69018-8235
Instruction Manual	ATS-622020800
TM42 Press Manual	ATS-690025099
Terminator Kit Manual	ATS-690018700

Note: These parts below are included with the TM42 Press. They are not used with the 62201-8700 SL FFC Terminator installed in the TM42 Press.

- Locating Plate 11-40-0218
- Bolster Plate Shim 63800-4205
- Feed Finger 69001-0105
- Feed Finger 69001-0106
- And all Feed Arm assembly parts
- Guard Block 69002-5507
- Die Guard 69002-5533
- Hand Rest 69002-5547
- Reel Support assembly parts

1.5 Tools

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

- ✓ Metric hex wrench set
- ✓ Small standard screwdriver
- ✓ Adjustable wrench
- ✓ Needle nose pliers
- ✓ Crimp micrometer
- ✓ Eye loupe (10x)
- ✓ Wire stripper/cutter
- ✓ English hex wrench set for some non-metric tools.

Section 2

Installation

2.1. Installation

2.2. Set-Up

2.3. Operation

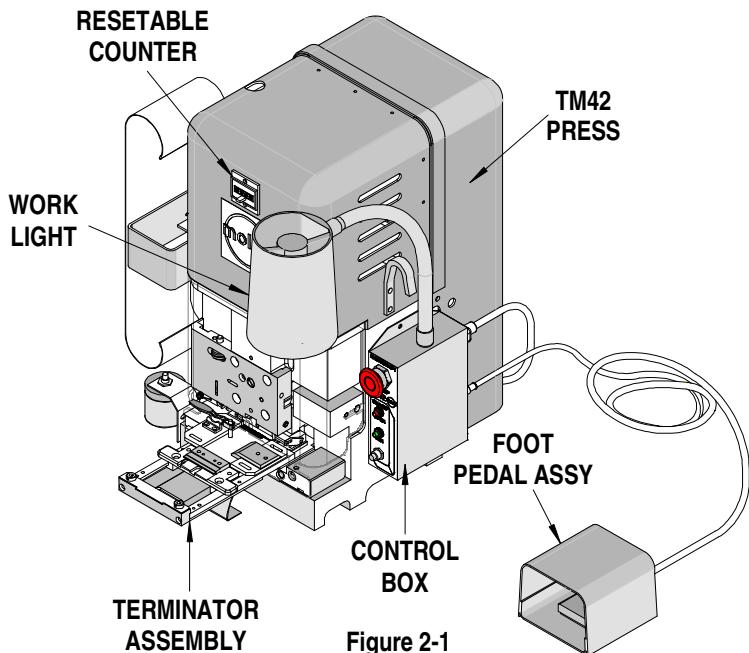


Figure 2-1

- a. Remove the fuse drawer by inserting a small flat screwdriver into the slot and pulling the fuse drawer out. See Figure 2-2.

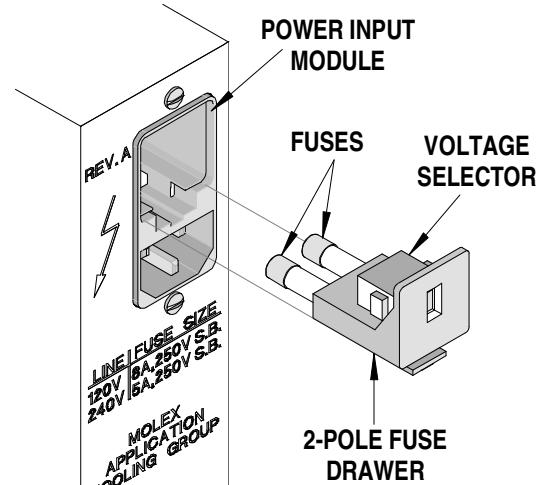


Figure 2-2

2.1 Installation

WARNING: The TM42 Press weighs over 100kg (200lbs); it should not attempt to be lifted by one individual. Mechanical lifting devices should be used. A person lifting the press can sustain severe back or other injuries.

1. Place unit on a sturdy level workbench capable of supporting over 300 pounds, with enough space around it to allow for operation and easy handling of harnesses.
2. Make sure there is adequate lighting.
3. Plug the 4-pin DIN plug on the foot pedal assembly cable into the 4-pin socket on the back of control box.
4. If operating on 110VAC, plug the supplied power cord into the power input module on the back of the control box. Then plug the other end into an adequately grounded, suitable power outlet.
-OR-
5. If 220VAC is to be used, it is necessary to convert the power input module and other components.

NOTE: It is strongly suggested that Molex be notified before hand so that this change can be done at the factory. If this is not possible, follow the procedure listed below very carefully.

- a. Remove the voltage selector by grasping it with two fingers and firmly pulling out.
- c. Rotate the voltage selector until the "220 V" tab is facing out and replace it in the power module.
- d. Replace the two 8A fuses with 5 amp Slow-Blow fuses, reinsert the fuse drawer into the power module.
- e. Use the 220V power cord (62500-0113) that came with the press. Plug the cord into the receptacle on the power module and plug the other end into a suitable power outlet.
- f. The motor must be replaced with a 220 V motor (Molex Part number 69018-5021).
- g. It is also necessary to replace the 110 V bulb in the work light with a 220V bulb.

2.2 Set Up

Termination Height

See also Section 3.9 Conductor Crimp Punch (Crimp Height) Adjustment in the TM42 Instruction Manual.

1. To adjust the termination height, load a connector into the nest with the terminals in the guides.
2. Position and clamp a cable in the nest.

3. Move the nest under the press and terminate the cable and connector. See Section 2.3 Operation for additional instructions on terminating.
4. Check the quality of the termination and measure the height in accordance with sheet 5 of drawing PS-70430 of Product Specification. (.038" ± .002" Ref)

CAUTION: Always disconnect power supply before installing or removing tooling.

5. Always power down the press by pressing the emergency stop button located on the front of the control panel. Remove the press guard by unscrewing the four M10 button head screws. Two are located on the front bolster plate and one is located on each side.
6. Loosen the M6 conductor adjustment lock screw located on the front of the punch plate. See Figure 2-3.

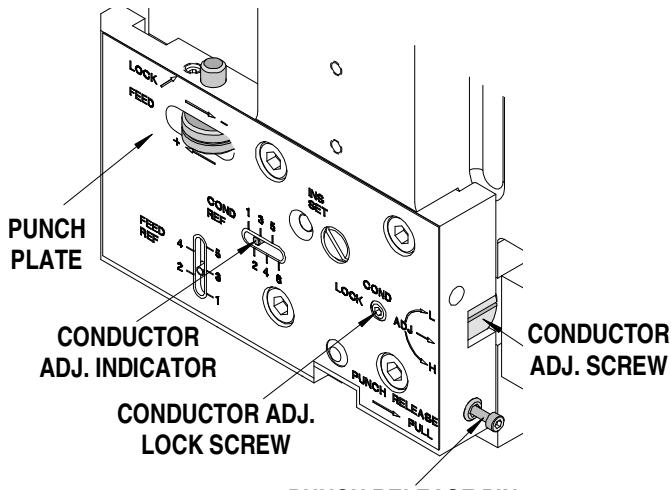


Figure 2-3 PUNCH RELEASE PIN

7. With a screwdriver, turn the conductor adjusting screw, located on the right side of the punch plate. Rotating the adjusting screw clockwise one full turn will lower the crimp height approximately 0.03mm (.001"). Each increment on the Conductor Adjustment Indicator represents approximately 0.13mm (.005") for a total of 0.65mm (.026"). The "1" setting indicates the highest crimp height and the "6" setting is the tightest.
8. Tighten the conductor adjusting locking screw.
9. Reinstall the machine guard and repeat the above steps until the desired crimp height is obtained.

Nest-in-Position Indicator Switch Adjustment

CAUTION: Always disconnect power supply before installing or removing tooling.

There is a miniature limit switch 62500-0518 in the Cable Assembly-62200-7721on the back of the lower tooling. This switch signals the nest in position for termination. See Figure 2-4. If this switch should work loose or has to be replaced, it may be necessary to adjust its position. To do this, follow these instructions:

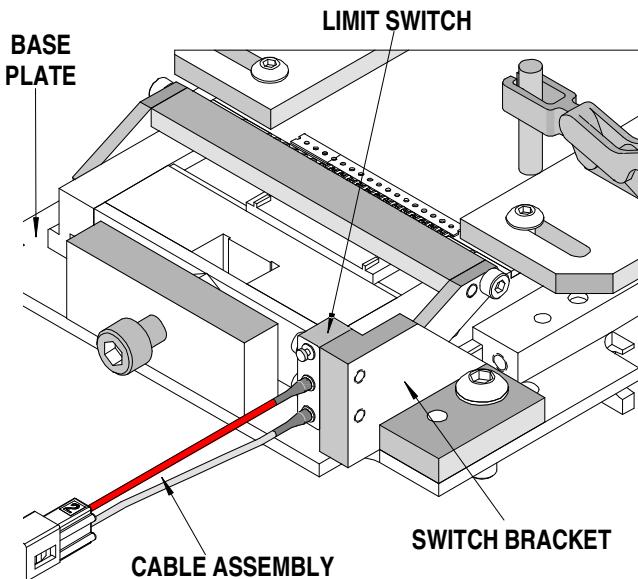


Figure 2-4

1. Unplug the power cord.
2. Remove the back cover from the TM42 press.
3. Push the slide assembly into the press.
4. Manually lower the TM42 ram using the wrench supplied with the press. See TM42 press manual for additional instructions. Lower the ram until the locator in the ram mates with the slide assembly in the lower tooling.
5. Adjust switch toward the slide assembly until the switch is fully actuated but not totally bottomed out.
6. Replace back cover on press.
7. Plug cord into power source.

2.3 Operation

See 62201-8700 Instruction Manual for additional information.

CAUTION: Molex recommends that the operator and observers wear eye protection when the press is in operation or being serviced.

CAUTION: DO NOT use the TM42 press without guards.

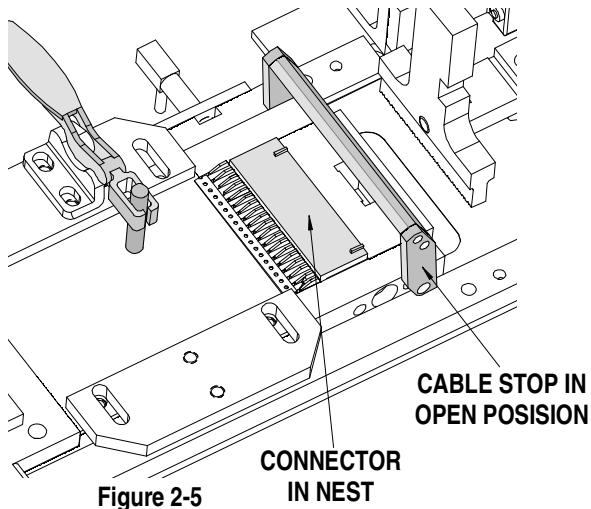


Figure 2-5

the cable over the carrier strip, squeeze the insertion nest toward the insertion bar. The carrier strip should drop into the slot in the insertion bar.

10. Continue to squeeze the insertion nest toward the insertion bar until the terminals are fully seated in the housing.
11. While holding the cable and connector back against the insertion bar, slide the nest and slide assembly away.
12. Push down on the connector to break the carrier strip off. The cable will spring the connector back up.
13. Remove the completed harness.
14. Remove the carriers from the insertion bar by pushing the upper insertion bar forward.

1. Load a connector (70430 or 70431) into the respective nest, making sure the terminals are in the terminal guides. See Figure 2-5.
2. Lower the cable stop onto the connector.
3. Place a cable between the guides and adjust the guides if necessary. Then slide the cable up to the stop.
4. Close the cable clamp located on the left side of the slide.
5. Slide the nest into the press until the interlock clicks in. The nest position switch will not let the press fire unless the nest is in the proper position.
6. Actuate the foot pedal to trigger the press and terminate the connector(s) and the cable.
7. On the left side of the slide is the slide interlock. Pull this out and hold while sliding the nest out of the press.
8. Remove the connector assembly from the termination nest and load it into the insertion nest on the front of the slide with the cable draped over the insertion bar.
9. Place the second and third fingers of each hand around the handles on the insertion nest. Put the thumbs on the front of the insertion bar. While applying a light pressure with the index fingers on

Section 3

Maintenance

- 3.1. Cleaning
- 3.2. Lubrication
- 3.3. Perishable Parts
- 3.4. Spare Parts
- 3.5. Troubleshooting

3.1 Cleaning

For efficient operation, the SL Flat Flex Cable Terminator should be cleaned daily. Use a soft bristle brush to remove debris from critical areas such as the crimp tooling. For best results, remove the crimp forms from the press. Brush and then use a clean cloth to wipe off the upper and lower tooling mounting areas. Before reinstalling tooling, wipe all sides of the forms with a clean cloth.

See Chart 3.1 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. Oil all moving parts of the press.
2. 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 30 non-detergent oil or light spindle oil or 3-n-1 oil should be used on pivot points.
3. Semi-Annual (every 2 years maximum depending on hours of operation) re-grease flywheel bearing.

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

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 your 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 SL Flat Flex Cable Terminator and TM42 Press. 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.

3.4. Spare Parts

Customers are responsible for maintaining the SL Flat Flex Cable Terminator and TM42 Press. 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
When foot pedal is pressed, counter counts but press does not fire.	▪ Limit switch is out of position	Adjust limit switch position. See Section 2.2
	▪ Nest is not all the way in	Make sure the nest is completely under The termination upper tooling and latch has "clicked" in.
	▪ Limit switch is damaged or not connected properly	Test Switch with continuity tester. Replace, if necessary. If switch is functional, check and repair the electrical wiring. See Section 2.2.
Crimp height is not right	▪ Crimp punch height not set correctly. ▪ Medium count circuit size should be centered.	Readjust the crimp height. See Section 2.2

Section 4

4.1 Parts List

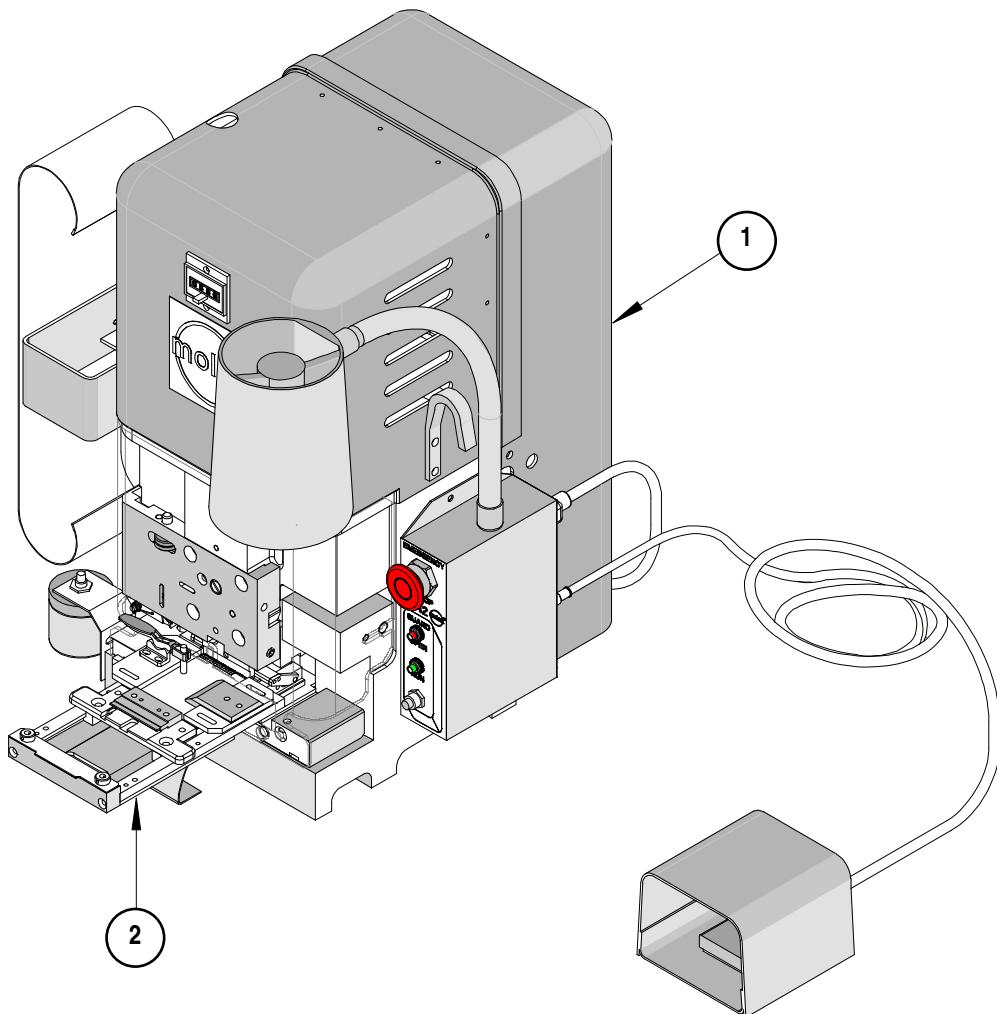
4.2 Assembly Drawings

4.1 Parts List

SL Flat Flex Cable Terminator Assembly 62202-0800				
Item	Order No.	Engineering No.	Description	Quantity
1	69002-5001	69002-5001	Tm42 Terminator (110 V)	1
2	62201-8700	62201-8700	SL Flat Flex Cable Terminator	1

Refer to the individual assemblies for greater detail.

4.2 Assembly



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