

molex[®]


VHDCI TERMINATOR PRESS




Order No. 62200-4500







For Ultra+™ VHDCI Connector Series No. 71425

- Description
- Operation
- Maintenance

Safety Warnings and Information

| | |
|---|---|
|  | <p>Read and understand all of the instructions and safety information in this manual before operating or servicing this tool.</p> <p style="text-align: center;"><u>Keep this manual available when using this tool.</u></p> <p style="text-align: center;">Replacement manuals are available for download at no charge at www.molex.com.</p> |
|---|---|

| | |
|--|--|
| <h3 style="color: red; margin: 0;">SAFETY ALERT SYMBOL</h3> <p>This symbol is used to call your attention to hazards or unsafe practices which could result in an injury or property damage. The signal word, defined below, indicates the severity of the hazard. The message after the signal word provides information for preventing or avoiding the hazard.</p> | |
|  <b style="color: red;">DANGER | <p>DANGER: Indicates an imminently hazardous situation which, if not avoided, could result in death or serious injury.</p> |
|  <b style="color: red;">WARNING | <p>WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.</p> |
|  <b style="color: red;">CAUTION | <p>CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. CAUTION may also be used to alert against unsafe practices associated with events that could lead to personal injury.</p> |

| | | | |
|--|---|---|---|
|  <b style="color: red;">WARNING | <p>Always wear proper eye protection when Operating or servicing this equipment.</p> <p>Failure to wear eye protection could result in serious eye injury from flying debris.</p> |  | <p>WARNING</p> <p>Heavy Object To avoid muscle strain or back injury, use lifting aids and proper lifting techniques when removing or replacing.</p> <p>Failure to observe these precautions may result in injury or property damage.</p> |
|  <b style="color: red;">WARNING | <p>Never operate, service, install, or adjust this machine without proper instruction and without first reading and understanding the instructions in this manual and all applicable press and/or wire processing machine manuals.</p> |  | <p>WARNING</p> <p>Do not use compressed air to clean this equipment.</p> <p>The forces created by compressed air can force debris into the tool.</p> <p>Failure to observe these precautions may result in injury or property damage.</p> |
|  <b style="color: red;">WARNING | <p>Never use this press without guards or safety devices that are intended to prevent hands from remaining in the die space.</p> <p>Failure to observe this warning could result in Severe injury or death.</p> | | |
| <p> <b style="color: red;">CAUTION</p> <p>Never perform any service or maintenance other than as described in this manual.</p> <p>Never modify, alter or misuse the equipment</p> <p>Molex specifications are valid only when used with Molex terminals, applicators and tooling.</p> <p>Failure to observe this precaution may result in injury and property damage.</p> | | | |

Tooling Technical Assistance

Molex offers tooling technical assistance for customers who may need some guidance for tooling adjustments. This support can be obtained by calling either of the two numbers listed below and asking for the Molex Tooling Group.

Call Toll Free 1-800-786-6539 (US) 1-630-969-4550 (Global).

This assistance is limited to the operation and set-up of a customer's Molex Press. Questions with regard to Molex connector products or how to identify the proper tooling and/ or tooling documentation should be directed to your local Molex personnel or Customer Service Representative.

When calling for service on the press a copy of the Tooling Manual and Specific Applicator Tooling Specification Sheet should be present and a person that is familiar with the applicator should be present. Be sure the following information is supplied:

1. Customer name
2. Customer address
3. Person to contact such as (name, title, e-mail, and telephone number
4. Applicator order number (Lease number also if applicable)
5. Serial number (Lease number also if applicable)
6. Molex Connector product order number
7. Urgency of request
8. Nature of problem

Molex Application Tooling Group

2200 Wellington Court
Lisle, IL 60532, USA
Tel: +1 (630) 969-4550
Fax: +1 (630) 505-0049

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

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Section 1

General Description

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

1.1. Description

The Molex 62200-4500 Termination Press was designed as a stand alone unit. It will terminate the wires of a multi-conductor cable to the Molex Ultra+™ VHDCI (Very High Density Cable Interconnect) connector (71425).

An operator hand loads a housing cover into the nest assembly. Wires are loaded into the wire cover grooves. The press ram is lowered to push the wire into the wire cover and cut off the wires. Then the plug assembly is placed in the nest and the ram is brought down again to terminate, completing one side of the connector. The process is then repeated for second half of the connector. This press is ideally suited for low to medium volume, semi-automatic applications.

Connector

| | |
|------------------------|------------|
| Molex Ultra +™ VHDCI | 71425-3001 |
| Shielded Plug Assembly | 71425-0002 |
| Wire Cover | 71424-0001 |

Cable Type

30AWG:

Round, jacketed, twisted-pair cable conforming to the ANSI SCSI specifications; 68 conductors; 30AWG, stranded or solid, with .58/.66mm insulation O.D.

28AWG (Optional):

Round, jacketed, twisted-pair cable conforming to the ANSI SCSI specifications; 68 conductors; 28AWG, stranded or solid, .71/.76mm (.028/.030 in.) insulation O.D. See *Terminating 28 AWG Wire*, Section 2.2 for details.

1.2 Features

- Does all termination steps - No additional tooling required
- Low force required to insert wires and terminate
- No air or electricity needed.

1.3 Technical Specifications

Dimensions

| | |
|--------|------------------|
| Length | 457.2mm (18.0in) |
| Width | 203.2mm (8.0in) |
| Height | 355.6mm (14.0in) |

Weight

18.0kg (40lb)

Rate

Approximately 6 terminated 68ct. plugs per hour depending on the operator skill and speed.

1.4 Delivery Check

Carefully remove the machine from its shipping container and check to determine if the following articles are included in the package.

| <u>Order No.</u> | <u>Description</u> | <u>Quantity</u> |
|------------------|--------------------|-----------------|
| 62200-4500 | VHDCI Terminator | 1 |
| ATS-622004500 | Instruction Manual | 1 |

1.5 Tools

The following tools may be needed to operate and adjust this tooling:

- ✓ Metric Hex Wrench Set
- ✓ Inch Hex Wrench Set
- ✓ 5X Eye Loupe
- ✓ Needle Nose Pliers

Section 2

Installation

2.1 Installation

2.2 Set-Up

2.3 Operation

Principal Mechanical Parts of the 62200-4500 Terminator Press

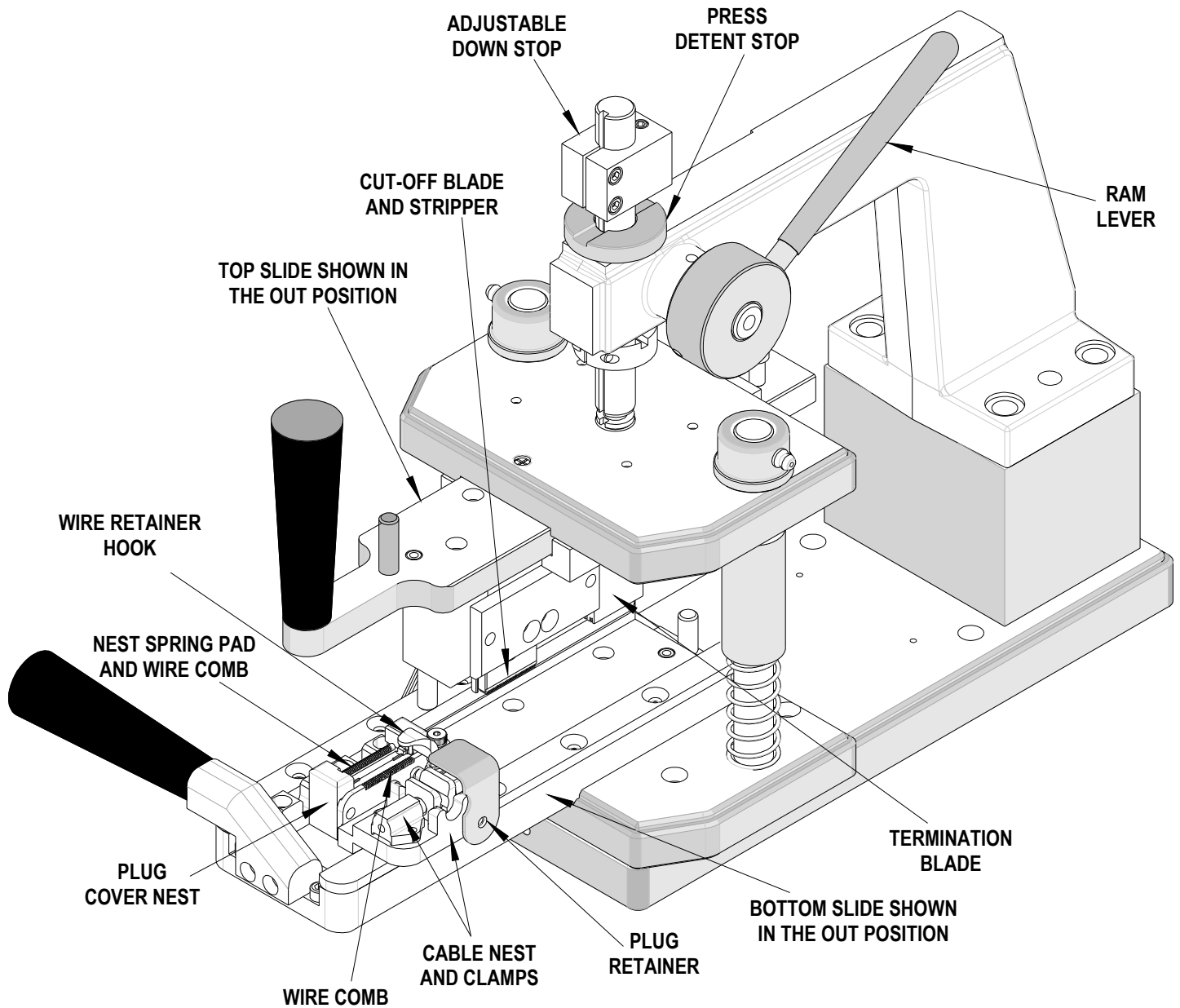


Figure 2-1

2.1 Installation

Place termination press on a solid level surface with enough space around it to allow for operation and easy loading of connectors.

Holes are provided for 1/4in lag bolts to secure the press to work surface if desired.

Make sure there is adequate lighting and enough room around the press to allow easy access to the press and easy handling of cables and connectors.

2.2 Setup

Termination Depth Adjustment

The termination depth can be changed by adjusting the set screws on the Adjustable Down Stop. Turning them clockwise (CW) reduces termination depth, while turning them counter-clockwise (CCW) increases the termination depth. See Figure 2-2. Die blocks should be used to set tool closure height at $4.61 \pm 0.12\text{mm}$ (.182±.005)

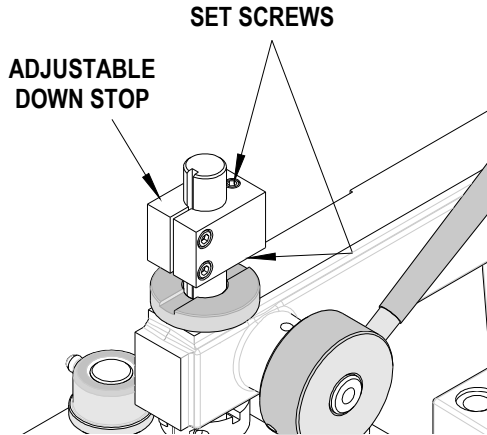


Figure 2-2

Terminating 28 AWG Wire

The Termination Press is furnished with the 30 AWG wire comb and nest spring pad installed.

Terminators using 28 AWG wire require wire comb order no. 62200-4510 and nest spring pad order no.62200-4507.

To change the wire comb and nest spring pad follow the steps below: (see Sheet 2 of the Assembly Drawing.)

1. Remove the (2) #10 screws from the front of the lower slide and pull the lower tooling out of the slide.
2. Turn the lower tooling over. Remove the (4) #8 screws located in the middle of the tooling using a 9/64" hex key.
3. Remove the nest assembly Item numbers (6, 7, 8, and 9) from the lower tooling,
4. Remove the (2) #8 BHCS holding the combs (Item 6).
5. Install the appropriate nest spring pad (Item 7) and springs.
6. Install the appropriate wire comb (Item 6) to the left and right locators (Item 8 and 9).
7. Install the nest assembly on the lower tooling.
8. Put the lower tooling back in its slide.
9. Install the (2) #10 screws in the front of the lower slides.

2.3 Operation

First Side Termination

1. Pull the bottom slide out to access the nest.
2. Load the Wire Cover into the Nest with the wire cover grooves facing up. See Figure 2-3.

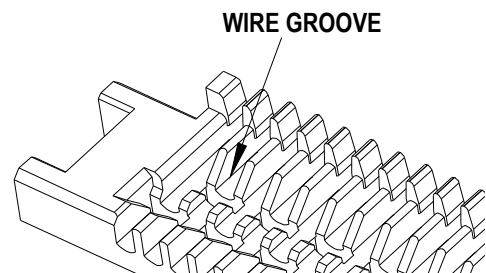


Figure 2-3

3. Place the cable into the Nest and press into the clamp making sure the cable is against the Cable Jacket Stop.
4. Fold the wires under the Wire Retainer Hook to keep wires clear while loading the nest. See Figure 2-4.

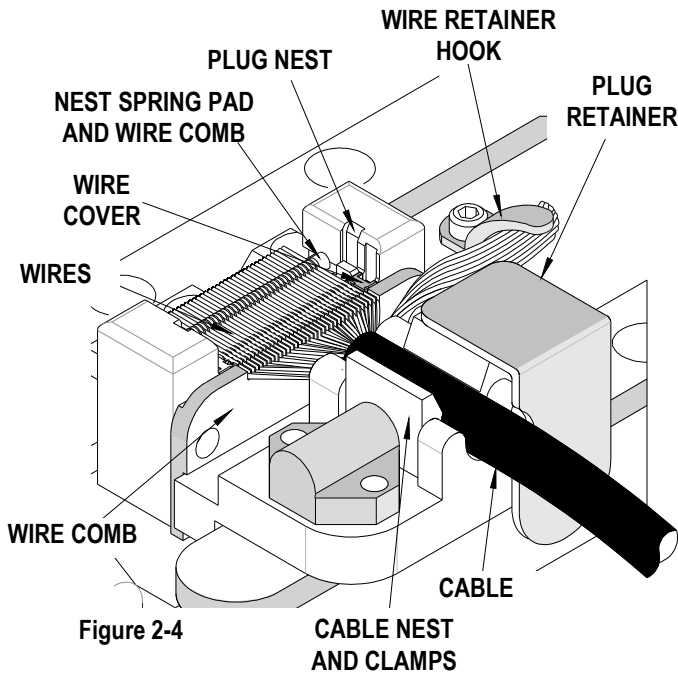


Figure 2-4

5. String the first 34 wires through the Wire Comb and into the Nest Spring Pad Comb making sure they are positioned in the appropriate circuit locations.
6. Rotate the Press Detent Stop to the "OUT" position. See Figure 2-5. **(The groove in the stop must be in-line with the stop screw in the press ram.)**
7. Push the Bottom Slide in.
8. Push the Top Slide in.
9. Lower the Press Ram to insert the wires into the wire cover and cut them to the proper length. Return the Press Ram to full up position.
10. The Press Detent Stop should remain in the "OUT" position. See Figure 2-5.

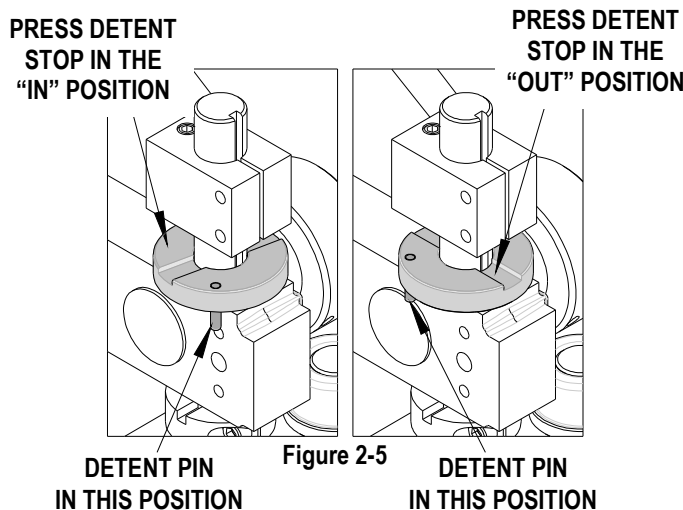


Figure 2-5

11. Pull Bottom Slide out.
12. Load the plug into the Plug Nest making sure the appropriate side of the plug is facing down. See Figure 2-6.
13. Push the Bottom Slide in.
14. Pull the Top Slide out.
15. Lower the Press Ram to complete first side termination. Return the Press Ram to the full up position.

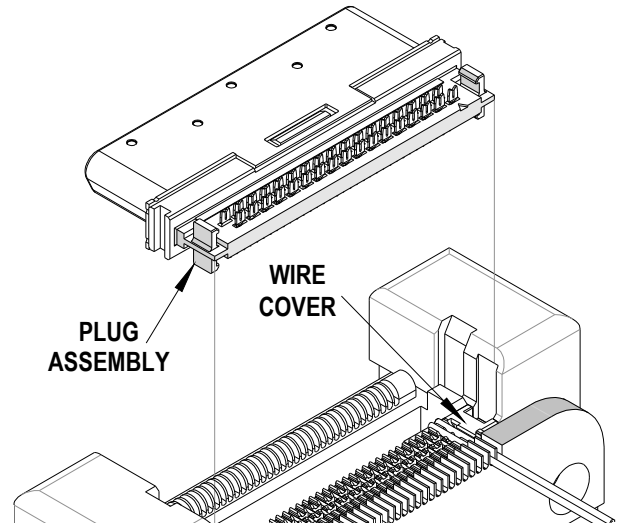


Figure 2-6

Note: For the first termination the Press Detent Stop must be in the OUT position before the ram is lowered. See Figure 2-5.

16. Push the Top Slide in.
17. Pull the Bottom Slide out.

Second Side Termination

1. Remove the cable assembly. Turn it over and reload it into the Cable Nest and the Cable Clamps making certain the cable is against the Cable Jacket Stop.
2. Fold the plug backwards and rotate the Plug Retainer over the plug to keep it clear while loading wires.
3. Place the remaining 34 wires under the Wire Retainer Hook to keep wires clear while loading wires.
4. Load the second wire cover into the Nest with wire cover grooves facing up.
5. String the remaining 34 wires through the Wire Comb and into the Nest Spring Pad Comb making sure the wires are positioned in the appropriate circuit locations.

6. Make sure the Press Detent Stop is OUT.
7. Push the Bottom Slide in.
8. Lower the Press Ram down to insert the wires into the wire cover then cut them to the proper length. Return the Press Ram to the up position.
9. **Rotate the Press Detent Stop to the IN position (the raised area of the stop must be under the stop screw in the press ram).** See Figure 2-5.

NOTE: The Press Detent Stop must be at the IN position for the second side termination.

10. Pull the Bottom Slide out.
11. Rotate the Plug Retainer to free the plug and then fold it forward and load it into the Plug Nest.

12. Push the Bottom Slide in.
13. Pull the Top Slide out.
14. Lower the Press Ram until it stops against the Press Detent Stop to complete second side termination. Return the Press Ram to full up position.

NOTE: The Press Detent Stop must be at the IN position before lowering the ram. See Figure 2-5.

15. Push the Top Slide in.
16. Pull the Bottom Slide out.
17. Remove the completed cable assembly.

Section 3

Maintenance

- 3.1. Maintenance
- 3.2. Perishable Parts
- 3.3. Spare parts
- 3.4. Preventive Maintenance
- 3.5. Troubleshooting
- 3.6. Fault Messages

3.1 Maintenance

Cleaning

See Chart for recommended Preventive Maintenance Schedule

For efficient operation, the VHDCI Terminator Press should be cleaned daily with a soft brush to remove any debris and plating dust from the tooling area. For continuous operation this may need to be done several times a day.

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

When it is necessary to change tooling, care should be taken to remove any debris from the tapped holes or the mounting surfaces. Debris can prevent the tooling from being properly locked into position.

Lubrication

Springly lubricate the sliding parts approximately every month with a synthetic based lubricant with Teflon such as Permatix "SUPERLUBE".

3.2 Perishable Parts

Perishable parts are parts that contact the connector and can wear over time. The customer is responsible for maintaining these parts and Molex recommends that they keep at least one set on hand at all times. The perishable parts are identified in the Parts List in Section 4.

3.3 Spare Parts

Spare Parts are parts that are available to support the VHDCI terminator press in service. They are moving or otherwise functioning parts that could be damaged or malfunction. It is suggested that the customer may want to keep some or all of them on hand to reduce down time. These parts are identified in the Parts List in Section 4

3.4 Preventive Maintenance

DAILY: Clean, See Section 3.1

MONTHLY: Lubricate, See Section 3.2

CHECK SHEET MONTH _____ YEAR

| Week | Daily Use | Days of the Week | | | | | | | Solution |
|-----------|-----------|------------------|-----|-----|-----|-----|-----|-----|----------|
| | | MON | TUE | WED | THU | FRI | SAT | SUN | |
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| Cleaning | Daily | | | | | | | | |
| Lubricate | Monthly | | | | | | | | |

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

3.5 Troubleshooting

| Symptom | Cause | Solution |
|--|---|--|
| Wires cut by the IDT terminal | ▪ More than one wire per groove. | Replace wires |
| | ▪ Termination set too deep. | Adjust termination depth. See Section 2.2. |
| | ▪ Press down stop not in. | Rotate the Press Down Stop to the in position. |
| Poor wire retention | ▪ Wrong wire size. | Check product specifications. |
| Wrong cable position | ▪ More than one wire per groove or groove missed. | Replace wires. |
| Does not cut wires or poor quality cut | ▪ Dull cutting edge. | Sharpen or replace cut-off .blade. |
| | ▪ Termination depth not set properly. | Adjust termination depth See Section 2.2. |
| | ▪ Wrong tooling position. | Review operating instructions. |
| Termination Backwards | ▪ Plug put in backwards. | Review operating instructions. |
| Covers not seated | ▪ Termination set too shallow. | Adjust termination depth. See Section 2.2. |
| Damaged plug | ▪ Wrong tooling. | Review operator's manual. |
| | ▪ Tooling hits. | Check alignment. |
| | ▪ Plug jammed in nest. | Remove and scrap and check for debris |

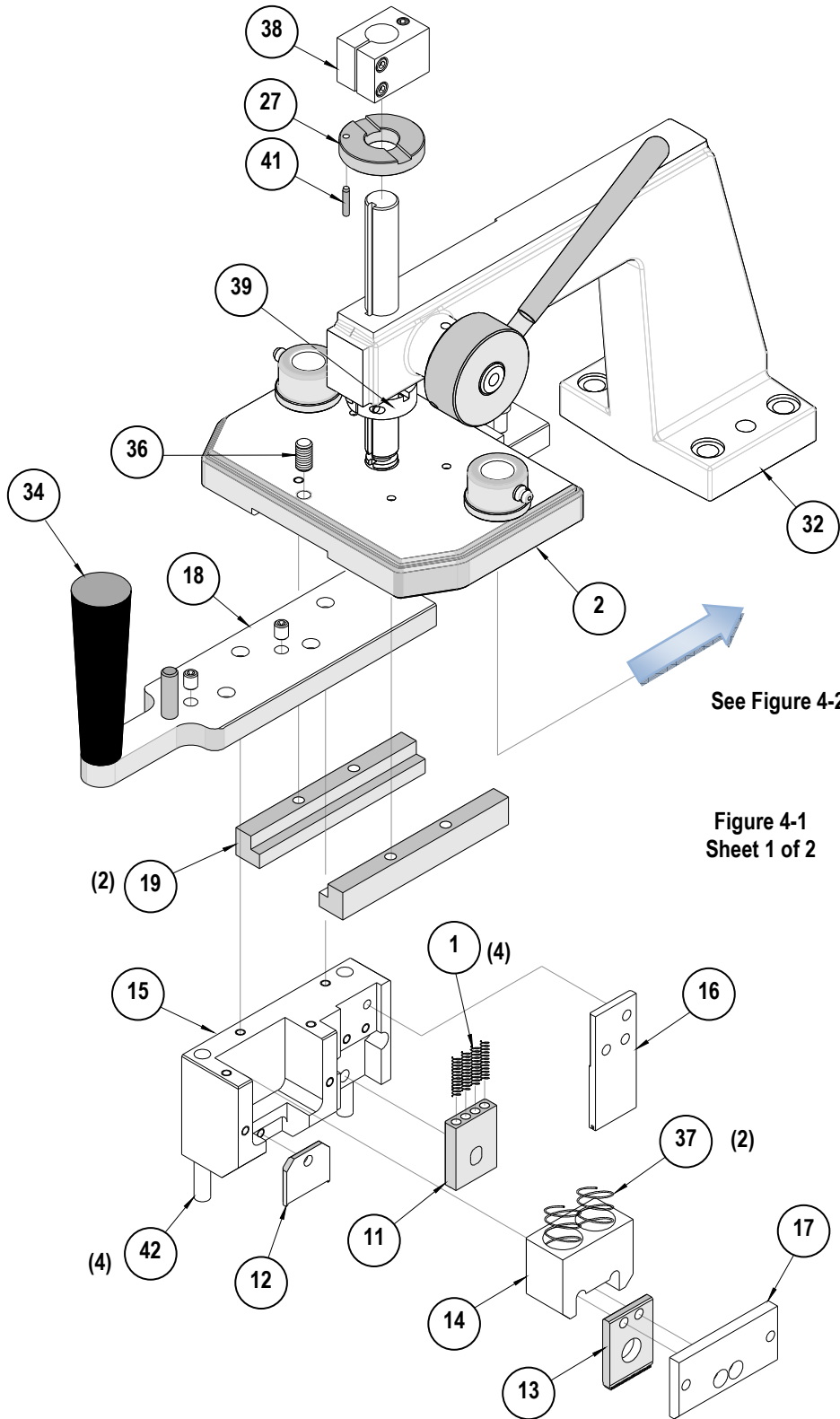
Section 4

- 4.1 Parts Lists
- 4.2 Assembly Drawings

4.1 Parts List

| 62200-4500 VHDCI Terminator Press Figure 4-1 and 4-2 | | | | |
|--|------------|-------------------------------|----------------|----------|
| Item | Order No | Description | RSP / PP Parts | Quantity |
| 1 | 11-21-6859 | Top Clamp Spring | RSP | 4 |
| 2 | 62200-4503 | Top Die Plate (Modified) | | 1 |
| 3 | 62200-4504 | Bottom Die Plate (Modified) | | 1 |
| 4 | 62200-4507 | Nest Spring Pad (28 AWG) | PP | 1 |
| 5 | 62200-4510 | Wire Comb (28 AWG) | PP | 1 |
| 6 | 62200-4511 | Wire Comb (30 AWG) | PP | 1 |
| 7 | 62200-4513 | Nest Spring Pad (30 AWG) | PP | 1 |
| 8 | 62200-4514 | Left Housing Locator | | 1 |
| 9 | 62200-4515 | Right Housing Locator | | 1 |
| 10 | 62200-4516 | Pilot Locator | | 2 |
| 11 | 62200-4519 | Top Clamp | | 1 |
| 12 | 62200-4520 | Cut-Off Blade | PP | 1 |
| 13 | 62200-4521 | Stripper | | 1 |
| 14 | 62200-4522 | Stripper Mount | | 1 |
| 15 | 62200-4523 | Stripper Slide | | 1 |
| 16 | 62200-4524 | Termination Blade | PP | 1 |
| 17 | 62200-4525 | Slide Cover Stripper | | 1 |
| 18 | 62200-4526 | Top Tooling Slide | | 1 |
| 19 | 62200-4527 | Top Slide Rails | | 2 |
| 20 | 62200-4530 | Platen | | 2 |
| 21 | 62200-4531 | Lower Tooling Slide | | 1 |
| 22 | 62200-4532 | Lower Slide Cover | | 2 |
| 23 | 62200-4533 | Handle Mount Platen | | 1 |
| 24 | 62200-4537 | Cable Nest | | 1 |
| 25 | 62200-4538 | Cable Clamp (Modified) | | 2 |
| 26 | 62200-4541 | Ram Return Spring Spacer | | 2 |
| 27 | 62200-4553 | Detent Stop | | 1 |
| 28 | 62200-4547 | Wire Retainer Hook | | 1 |
| 29 | 62200-4548 | Plug Retainer | | 1 |
| 30 | 62200-4551 | Cut-off Die and Nest | | 1 |
| 31 | 63600-0482 | Ball Detent | | 4 |
| 32 | 63700-0869 | Press | | 1 |
| 33 | 63700-0870 | Nest Spring | RSP | 2 |
| 34 | 63700-0871 | Handle | | 2 |
| 35 | 63700-0872 | Ram Spring Return | RSP | 2 |
| 36 | 63700-0874 | Ball Plunger | | 2 |
| 37 | 63700-0875 | Stripper Spring | RSP | 2 |
| 38 | 63700-0876 | Adjustable Down Stop | | 1 |
| 39 | 63700-0877 | Up Stroke Limiter | | 1 |
| 40 | 63700-1042 | Wire Retainer Hook Spring | RSP | 1 |
| 41 | N/A | 1/8 by 5/8 in. Diameter Dowel | | 1** |
| 42 | N/A | .312 Diameter Dowel | | 4** |
| 43 | 63700-4629 | Shoulder Screw | | 1** |
| RSP - Part is a Molex Recommended Spare Part. | | | | |
| PP - Part is a Perishable Part. | | | | |
| ** Available from an industrial supply company such as MSC (1-800-645-7270). | | | | |

4.2 Assembly Drawings (Sheet 1 of 2)



4.2 Assembly Drawings (Sheet 2 of 2)

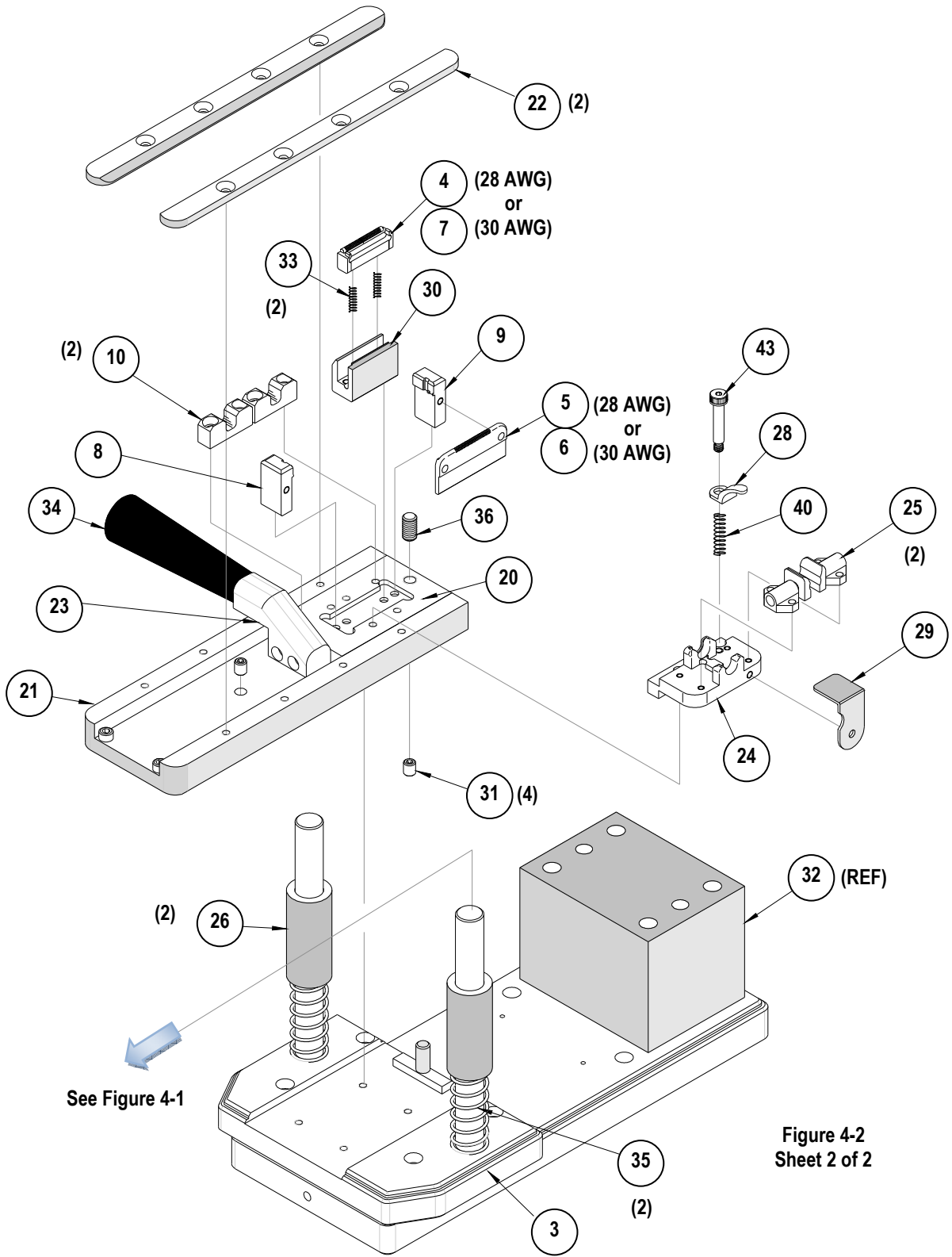


Figure 4-2
Sheet 2 of 2

Section 5

Glossary Of Terms

| | |
|----------------------|--|
| Termination | Device at the end of a transmission line that completes a circuit. |
| Plug Assembly | An electrical connector intended to be attached to the free end of a conductor, wire, cable or bundle, which couples or mates to a receptacle connector. |
| ULTRA+™ | Molex trademark for VHDCI connector. |
| VHDCI | Very High Density Cable Interconnect |
| Wire Cover | The part of a VHDCI connector that the wires are pressed into for alignment purposes prior to be terminated. The covers serve to protect the terminations. |

Contact Information

For more information on Molex application tooling please contact Molex at 1-800-786-6539.

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