


**molex®**

**ZQSFP+ Heat Sink Clip Install  
Operation Manual  
Order No. 62203-1600**




- Description
- Operation
- Maintenance









## Safety Warnings and Information

	<p><b>Read and understand</b> all of the instructions and safety information in this manual before operating or servicing this tool.</p> <p><u>Keep this manual available when using this tool.</u> Replacement manuals are available at <a href="http://www.molex.com">www.molex.com</a>.</p>
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### SAFETY ALERT SYMBOL

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.

 <b>DANGER</b>	<p><b>DANGER:</b> Indicates an imminently hazardous situation which, if not avoided, could result in death or serious injury.</p>
 <b>WARNING</b>	<p><b>WARNING:</b> Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.</p>
 <b>CAUTION</b>	<p><b>CAUTION:</b> Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. <b>CAUTION</b> may also be used to alert against unsafe practices associated with events that could lead to personal injury.</p>

	<p> <b>WARNING</b></p> <p><b>Always</b> wear proper eye protection when Operating or servicing this tool.</p> <p>Failure to wear eye protection could result in serious eye injury from flying debris during test.</p>		<p> <b>WARNING</b></p> <p><b>Never</b> use this machine without safety devices that are intended to prevent hands from remaining in the tool.</p> <p>Failure to observe this warning could result in severe injury or death.</p>
	<p> <b>WARNING</b></p> <p><b>Never</b> operate, service, install, or adjust this equipment 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> <b>WARNING</b></p> <p><b>Do not use</b> compressed air to clean the equipment. 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>

### CAUTION

**Never** perform any service or maintenance other than as described in this manual.  
**Never** modify, alter or misuse the equipment

Molex crimp specifications are valid only when used with Molex terminals and tooling.

Failure to observe this precaution may result in injury and / or property damage.

## 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 tool. 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 Arbor Terminator Press it is recommended to have the following: a copy of the Operation Manual and a person familiar with the press should be present. The following information is also recommended to supply:

1. Customer name
2. Customer address
3. Person to contact such as (name, title, e-mail, and telephone number)
4. Hand held pull tester number (638019700)
5. Urgency of request
6. Nature of problem

### Application Tooling Support

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Lisle, IL 60532 USA

Phone: +1-402-458-TOOL (8665)

E-mail: [applicationtooling@molex.com](mailto:applicationtooling@molex.com)

Visit our Website at [www.molex.com/applicationtooling](http://www.molex.com/applicationtooling)

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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

## General Description

### 1.1 Description

The Molex Heat Sink Clip Install Press Order No. 62203-1600 is a small bench mounted press. It is designed to assemble a heat sink clip to a zQSFP+ cage assembly. This press can be used with different size cage assemblies with minimal tool change over (1 X 3, 1 X 4, 1 X 5 and 1 X 6). The locating holes in the tooling plate allow the location of the cage assembly for placing the clip on the cage. The toggle clamp features allows operator two handed work usage for ease of final assembly. Each port density of cage has a unique hole pattern for heat sink clip assembly. The press is suited for low to mid-volume production requirements.

### 1.2 Features

- Press can accommodate different heat sink heights.
- One location plate will fit all port density sizes.
- Press size is compact and can be moved to a work station with ease.
- Intended for low volume assemblies
- Manually operated, no shop air or electricity required.
- Bench Mounted operated.

### 1.3 Technical Specifications

Dimensions	Press with tooling
Height	232mm (9.1")
Width	159mm (6.25")
Depth	224.5mm (8.8")

**Unpacked weight**  
12.4kg (27.0 lbs.)

#### Production Rate

Rates are terminated by the operators skill which include:

1. Placing heat sinks on cage assembly
2. Loading a the cage assembly.
3. Positioning the heat sink clip.
4. Lowering the lever.
5. Assembling the heat sink clip onto the cage assembly.
6. Removing a complete assembly.

### 1.4 Delivery Check

Carefully remove the Press from its shipping container. The following items are included in this package:

Decription:

Heat Sink Clip Install Press	62203-1600
Press Manual	TM-622031600

### 1.5 Tools

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

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

## Section 2

### Set Up

- 2.1 Adjustments
- 2.2 Heat Sink and Heat Sink Clip Assembly Placement
- 2.3 Tooling Change Over
- 2.4 Opeartion

## Principal Parts of Press

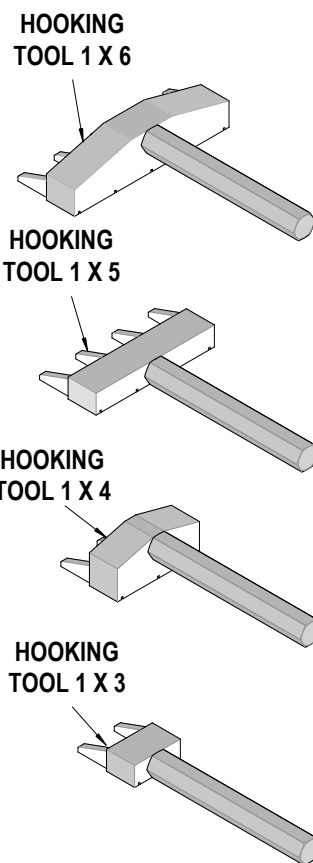
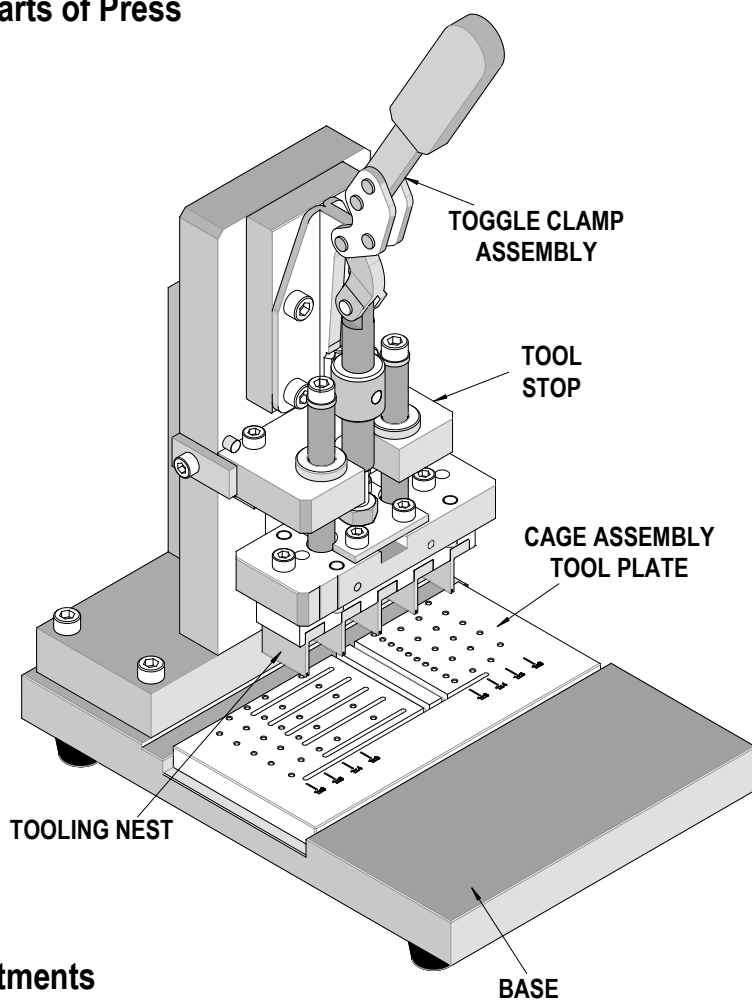


Figure 2-1

## 2.1 Adjustments

### Cage Assembly Backup Plate

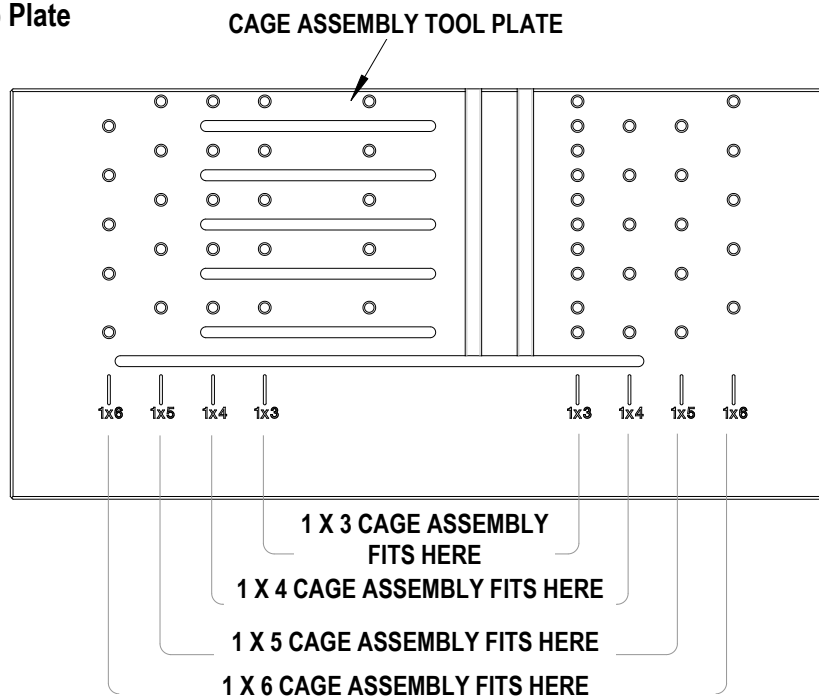


Figure 2-2

The cage assembly tool plate (order no. 62203-1625) is designed for locating 4 different cage assemblies in the press. The desired cage assembly is placed in between the proper markings shown. See Figure 2-2.

## 2.2 Heat Sink and Heat Sink Clip Assembly Placement

**Note:** Place the heatsink components and heat sink clip assemble on the cage assembly before putting into the press.

1. Place Heat Sink down onto cage's light pipe tabs using the slots in the heat sinks to align them onto the cage.
2. Next position the Clip over the heat sink. Be certain when placing the Heat Sink Clip onto the cage assembly that the clip is positioned correctly so it can be pushed underneath the hooking tabs.
3. Push Heat Sink Clip underneath the hooking tabs. Heat sink clip must snap securely onto all latch tabs on both sides of the cage. See Figure 2-3, 1 X 3 Cage Assembly shown.

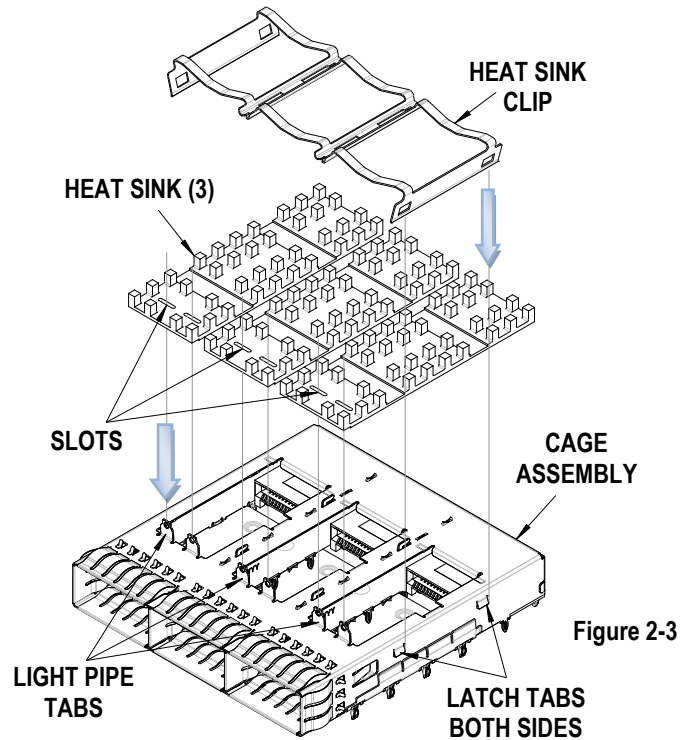


Figure 2-3

## 2.3 Tooling Change Over

### Tooling for the 1 X 3 Cage Assembly

The press comes with the tooling for 1 X 6 installed. To change to another size follow the steps below:

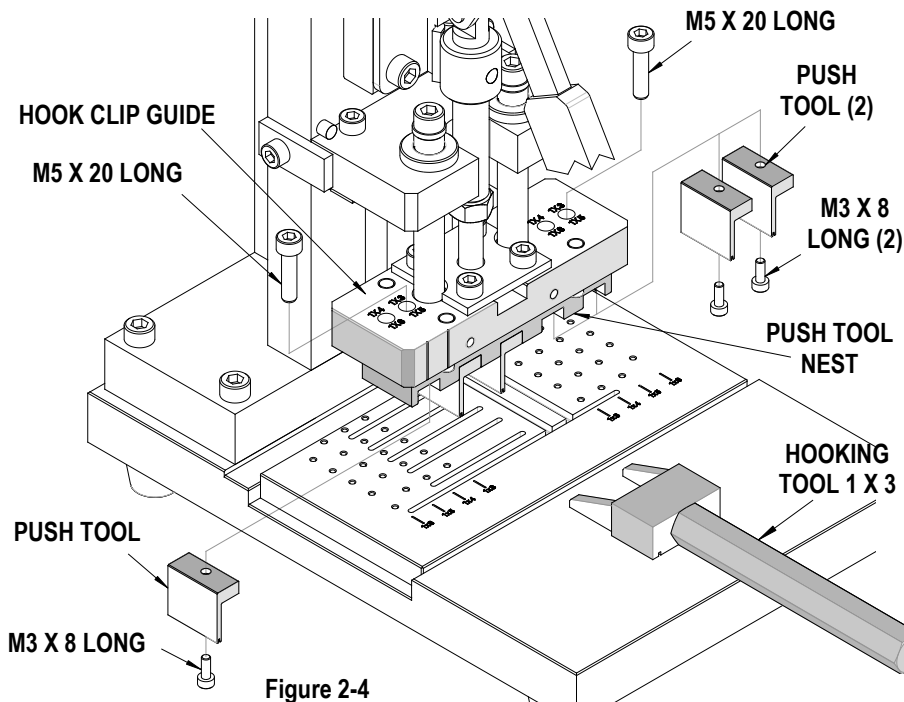


Figure 2-4

1. With the Toggle Clamp in the down position remove the Hook Clip Guide by removing the two (2) M5 screws.
2. Remove two (2) Heat Sink Push Tools and the M3 by 8 screws from right side and one (1) from the left side of the Push Tool Nest. See Figure 2-4.
3. Re-assemble the Push Tool Nest to the Hook Clip Guide. The Push Tool Nest is marked "**FRONT**" and should be facing the operator when assembling the tool nest to the guide. The Push Tool Nest fits between the location dowel pins on the Hook Clip Guide.
4. There is a vertical groove on the Hook Clip Guide and the Push Tool Nest that should be aligned. See Figure 2-5.

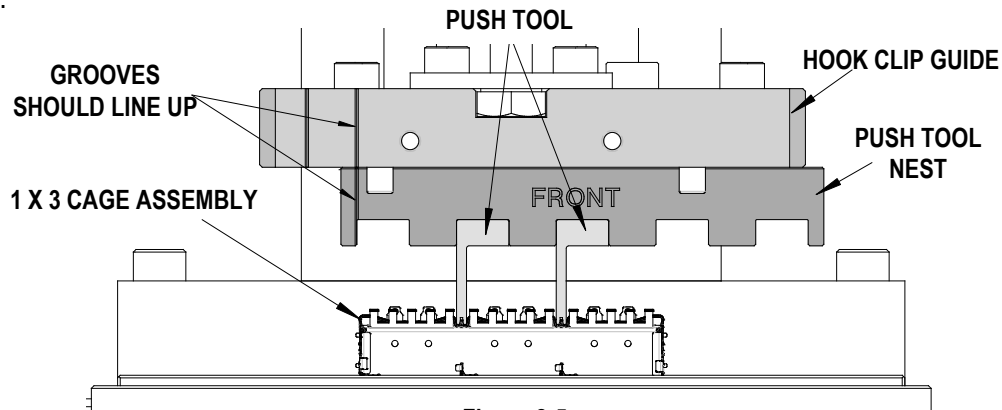


Figure 2-5

5. Re-install the two (2) M5 screws in the next holes that are marked "**1 X 3**" on the top of the Hook Clip Guide.
6. The press is ready to use with 1X 3 cage assemblies.

#### For 1 X 4 Cage Assembly:

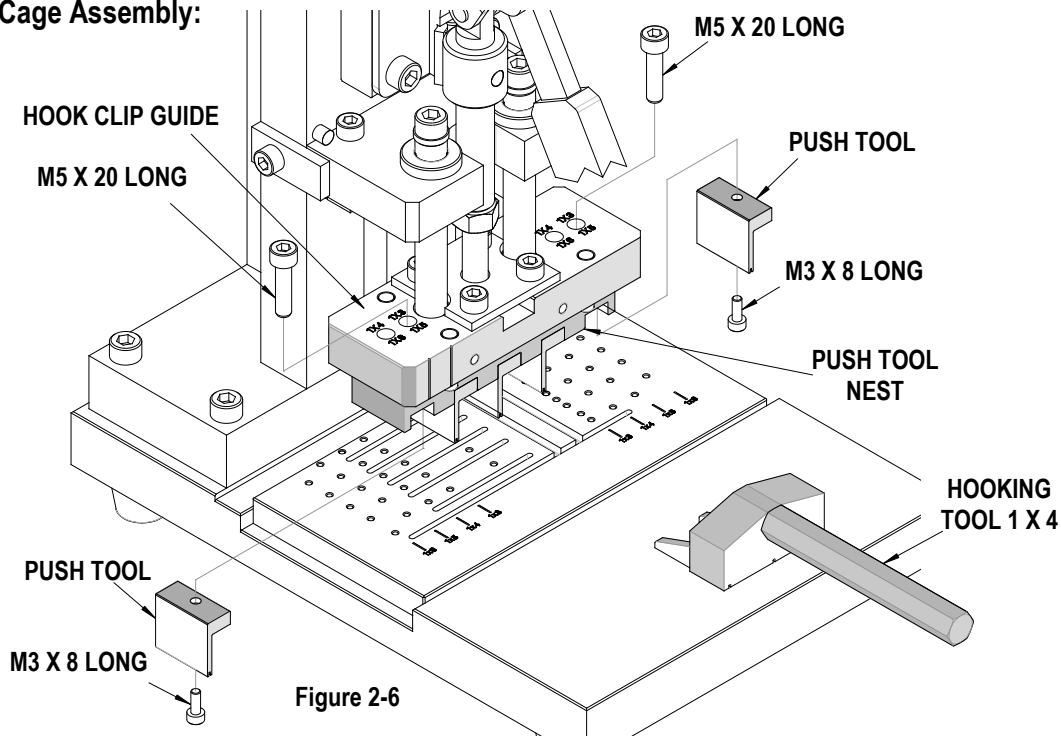


Figure 2-6

1. With the Toggle Clamp in the down position remove the Hook Clip Guide by removing the two (2) M5 screws.
2. Remove one (1) Heat Sink Push Tools and the M3 by 8 screws from right side and (1) one from the left side of the Push Tool Nest. See Figure 2-6.

3. Re-assemble the Push Tool Nest to the Hook Clip Guide. The Push Tool Nest is marked "**FRONT**" and should be facing the operator when assembling the tool nest to the guide. The Push Tool Nest fits between the location dowels pins on the Hook Clip Guide.
4. There is a vertical groove on the Hook Clip Guide and the Push Tool Nest that should be aligned. See Figure 2-7.

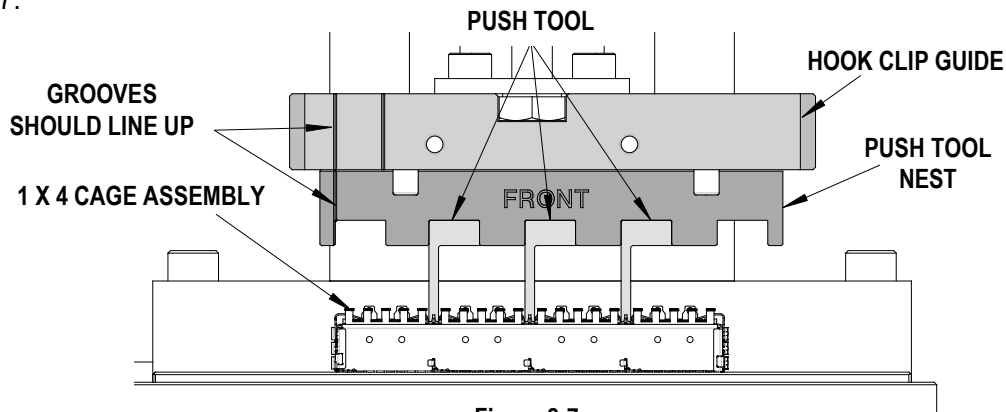


Figure 2-7

5. Re-install the two (2) M5 screws in the next holes that are marked "**1X 4**" on the top of the Hook Clip Guide.
6. The press is ready to use with 1X 4 cage assemblies.

#### For 1 X 5 Cage Assembly:

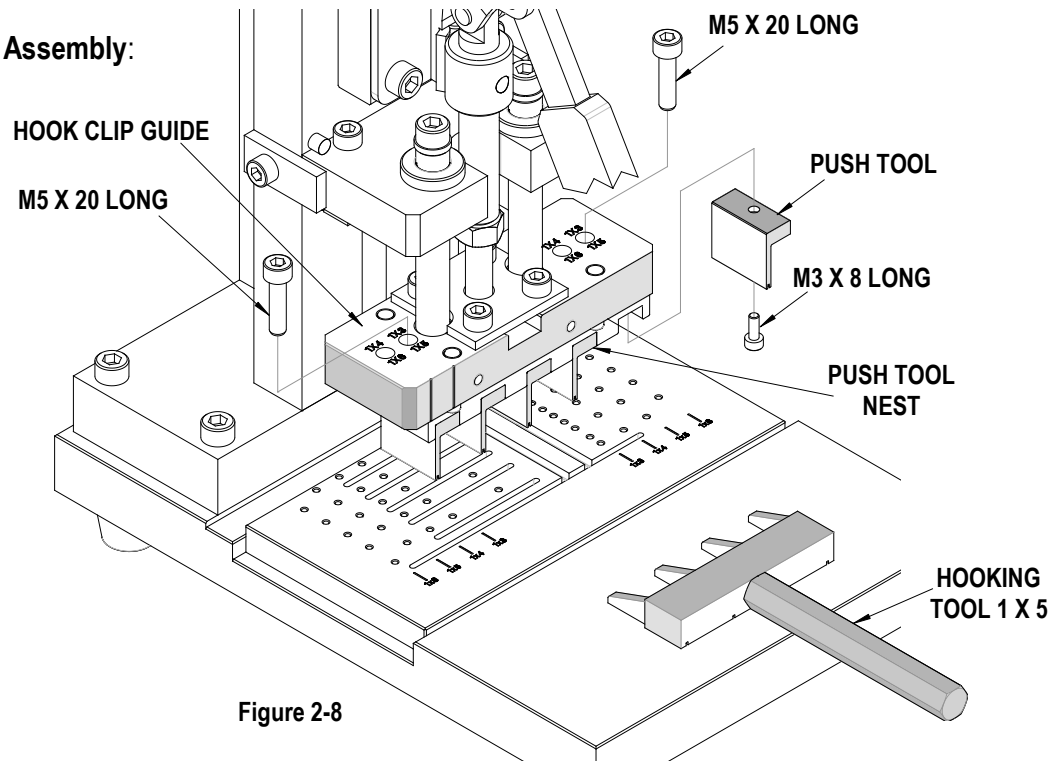


Figure 2-8

1. With the Toggle Clamp in the down position remove the Hook Clip Guide by removing the two (2) M5 screws.
2. Remove one (1) Heat Sink Push Tools and the M3 by 8 screw from right side of the Push Tool Nest. See Figure 2-8.
3. Re-assemble the Push Tool Nest to the Hook Clip Guide. The Push Tool Nest is marked "**FRONT**" and should be facing the operator when assembling the tool nest to the guide. The Push Tool Nest fits between the location dowels pins on the Hook Clip Guide.
4. There is a vertical groove on the Hook Clip Guide and the Push Tool Nest that should be aligned. See Figure 2-9.

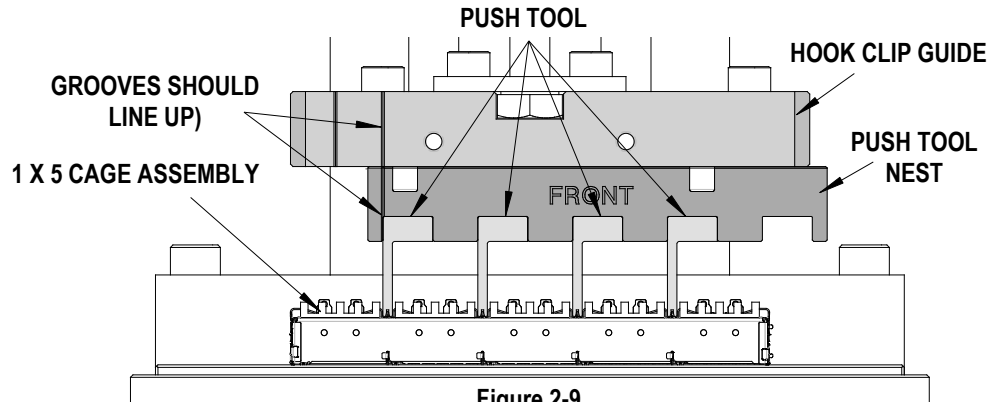


Figure 2-9

5. Re-install the two (2) M5 screws in the next holes that are marked "1X 5" on the top of the Hook Clip Guide.
6. The press is ready to use with 1X 5 cage assemblies.

#### For 1 X 6 Cage Assembly:

1. The press comes with the tooling for 1 X 6 installed.
2. For the 1 X 6 assembly make sure that all five (5) push tools are properly installed and the Push Tool Nest that is marked "FRONT" and is facing the operator when assembling the tool nest to the guide. See Figure 2-10.
3. There is a vertical groove on the Hook Clip Guide and the Push Tool Nest that should be aligned. See Figure 2-11.
4. Make sure the two (2) M5 screws are placed into holes that are marked "1X 6" on the top of the Hook Clip Guide.
5. The press is ready to use with 1X 6 cage assemblies.

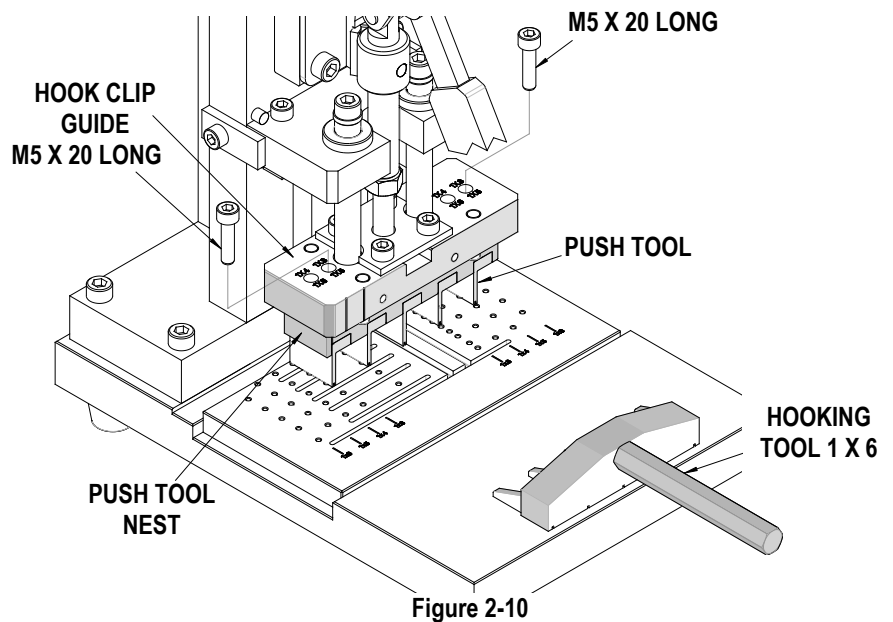


Figure 2-10

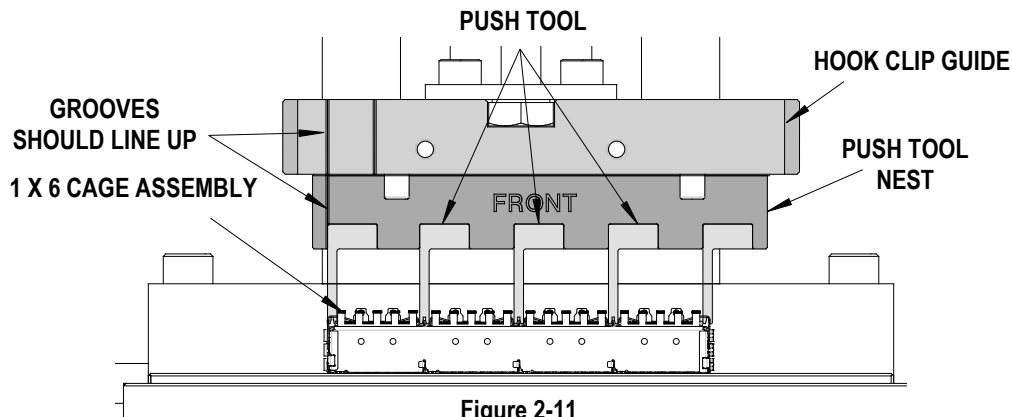


Figure 2-11

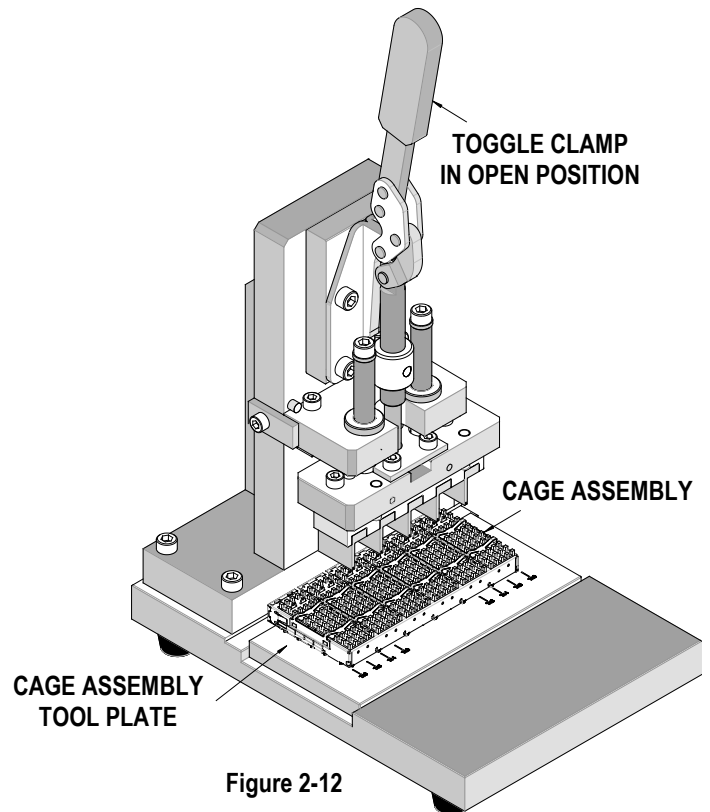
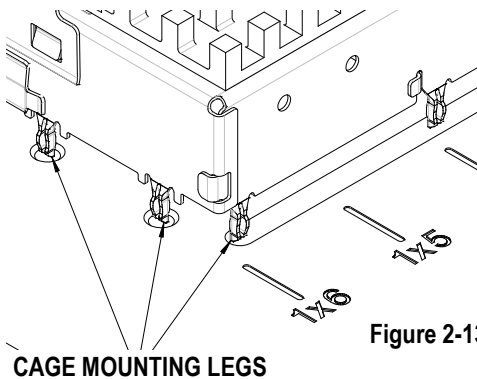
## 2.4 Operation

1. With the toggle clamp assembly in the upright position carefully place the cage assembly (1 X 6 shown) onto the cage assembly tool plate in between the correct markings. See Figure 12. Make sure the front opening of the cage is facing the back of the press.

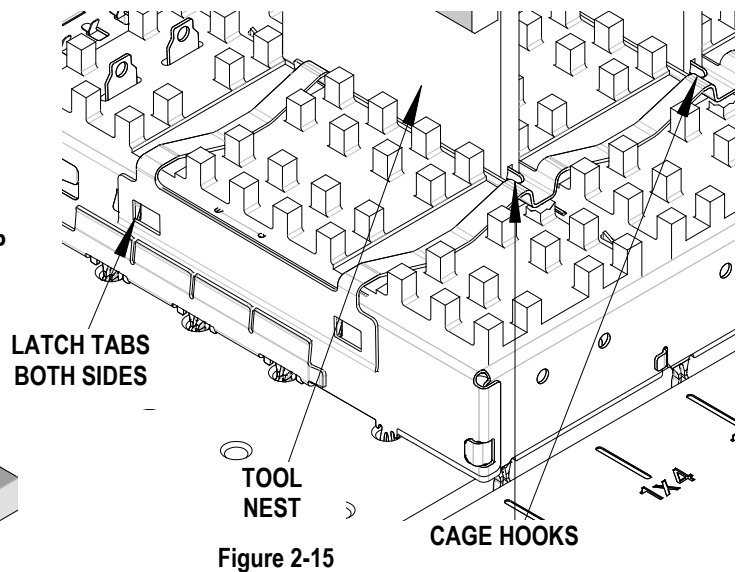
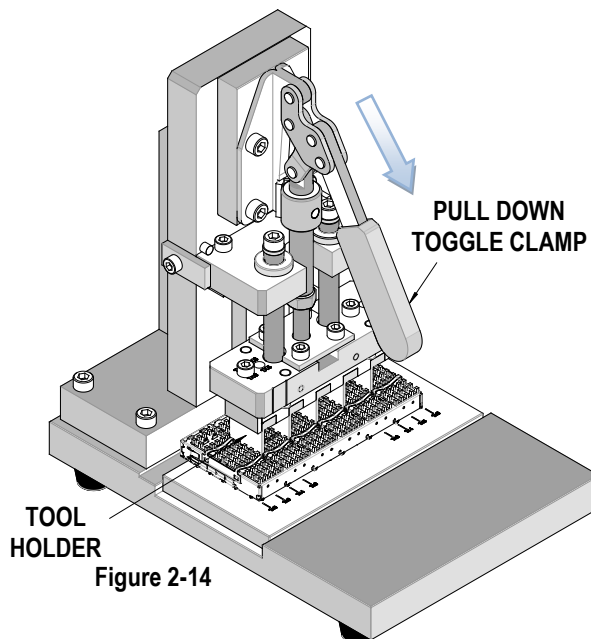
**Caution:** While placing the cage assembly into press, be careful not to bend or damage the cage mounting legs. See Figure 2-13.



**CAUTION:** Before doing the next step, make sure all fingers are out of the assembly area!



2. Pull the toggle clamp lever on the press down to hold the heat sink clip in place against the cage assembly. See Figure 2-14 and 2-15.



3. Use the correct Hand Hooking Push Tool to push the heat sink clip forward under the hooks on the top inner walls of the cage to lock in place. See Figure 2-16 and 2-17.
4. Push down on ends of heat sink clip to snap clip onto tabs on cage assembly.
5. Heat slip clip must snap securely onto all four (4) tabs on both side of cage.
6. When heat sink clip is assembled and secured to cage raise handle on toggle clamp to release tooling from cage.
7. Remove cage assembly from fixture.
8. Use these similar steps for other cage sizes. See Section 2.3 for correct tool set-up.

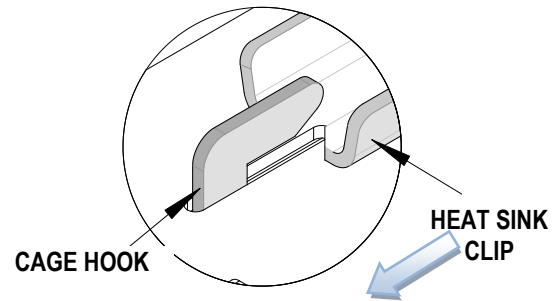
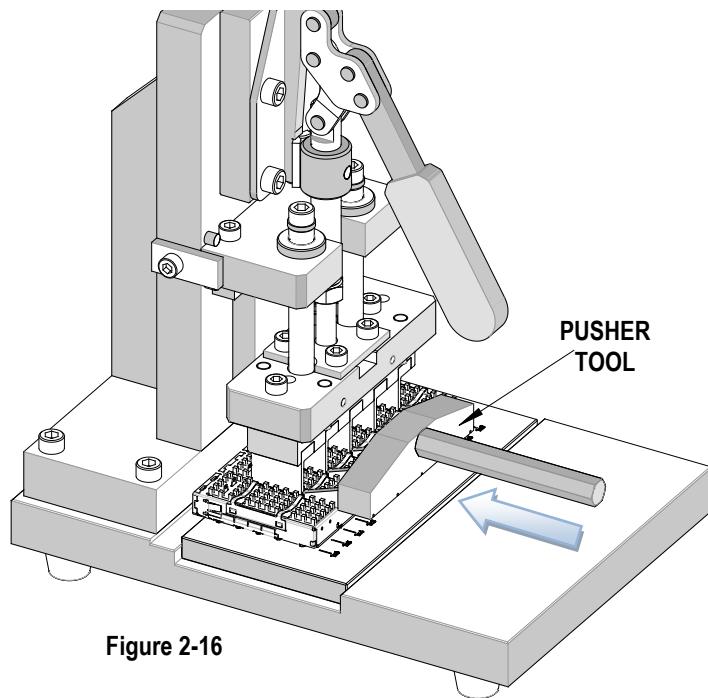
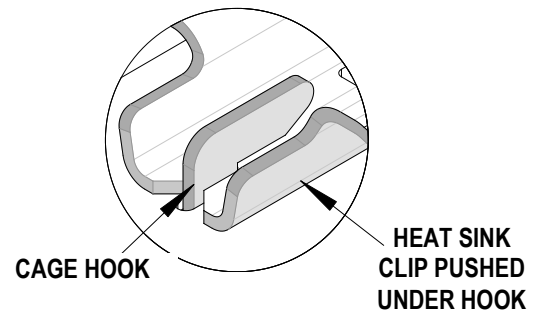


Figure 2-17



## Section 3

### Maintenance

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

### 3.1 Cleaning

This Press should be cleaned daily. Use a soft bristle brush to remove debris from critical areas such as the crimp tooling.

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 press ram.
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.



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

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	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 this 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. These parts are identified in the Parts List. See Section 4.

### 3.4 Spare Parts

Customers are responsible for maintaining this 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.

## Section 4

### Parts List and Assembly

- 4.1      Parts List
- 4.2      Assembly Drawings

## 4.1 Parts List

Heat Sink Clip Install Press 62203-1600				
Item	Order No.	Engineering No.	Description	Quantity
1	62203-1603	62203-1603	Hook Clip Guide	1
2	62203-1604	62203-1604	HS Clip Push Tool Nest	1
3	62203-1605	62203-1605	Tool Stop	1
4	62203-1606	62203-1606	Cage Assembly Backup Plate	1
5	62203-1607	62203-1607	Base Plate	1
6	62203-1608	62203-1608	Clamp Mount	1
7	62203-1609	62203-1609	Spacer Plate	1
8	62203-1610	62203-1610	Cover Plate	1
9	62203-1613	62203-1613	HS Assembly Stop	1
10	62203-1618	62203-1618	HS Clip Hooking Tool 1X5	1
11	62203-1619	62203-1619	HS Clip Hooking Tool 1X6	1
12	62203-1620	62203-1620	HS Clip Hooking Tool 1X4	1
13	62203-1621	62203-1621	HS Clip Hooking Tool 1X3	1
14	62203-1622	62203-1622	Cage Locating Key	2
15	62203-1624	62203-1624	HS Clip Push Tool	5
16	62203-1625	62203-1625	Cage Assembly Tool PL A	1
Hardware				
17	63600-4392	63600-4392	MC07-3 Toggle Clamp Misumi	1**
18	63600-4394	63600-4394	Bushing Misumi JBHD10-15	1**
19	63600-4395	63600-4395	Shaft Misumi	2**
20	63600-4396	63600-4396	Rubber Feet Misumi	4**
21	63600-4397	63600-4397	Hex Post Misumi	4**
22	63600-4401	63600-4401	Gusset Misumi	1**
23	N/A	69901-1308	M3 by 8 Long SHCS	5**
24	N/A	69901-1412	M4 by 12 Long SHCS	12**
25	N/A	69901-1510	M5 by 10 Long SHCS	6**
26	N/A	69901-1520	M5 by 20 Long SHCS	2**
27	N/A	69901-1525	M5 by 25 Long SHCS	2**
28	N/A	69901-1610	M6 by 10 Long SHCS	2**
29	N/A	69901-1620	M6 by 20 Long SHCS	4**
30	N/A	69901-1625	M6 by 25 Long SHCS	2**
31	N/A	69901-1630	M6 by 30 Long SHCS	10**
32	N/A	69904-1410	M4 by 10 Long Set Screw	4**
33	N/A	69908-9520	M5 Flat Hard Washer	2**
34	N/A	69809-1520	M5 by 20 Long Dowel	4**
35	N/A	69809-1525	M5 by 25 Long Dowel	4**
36	N/A	69809-1625	M6 by 25 Long Dowel	2**
** Available from an industrial supply company such as MSC (1-800-645-7270).				

## 4.2 Assembly

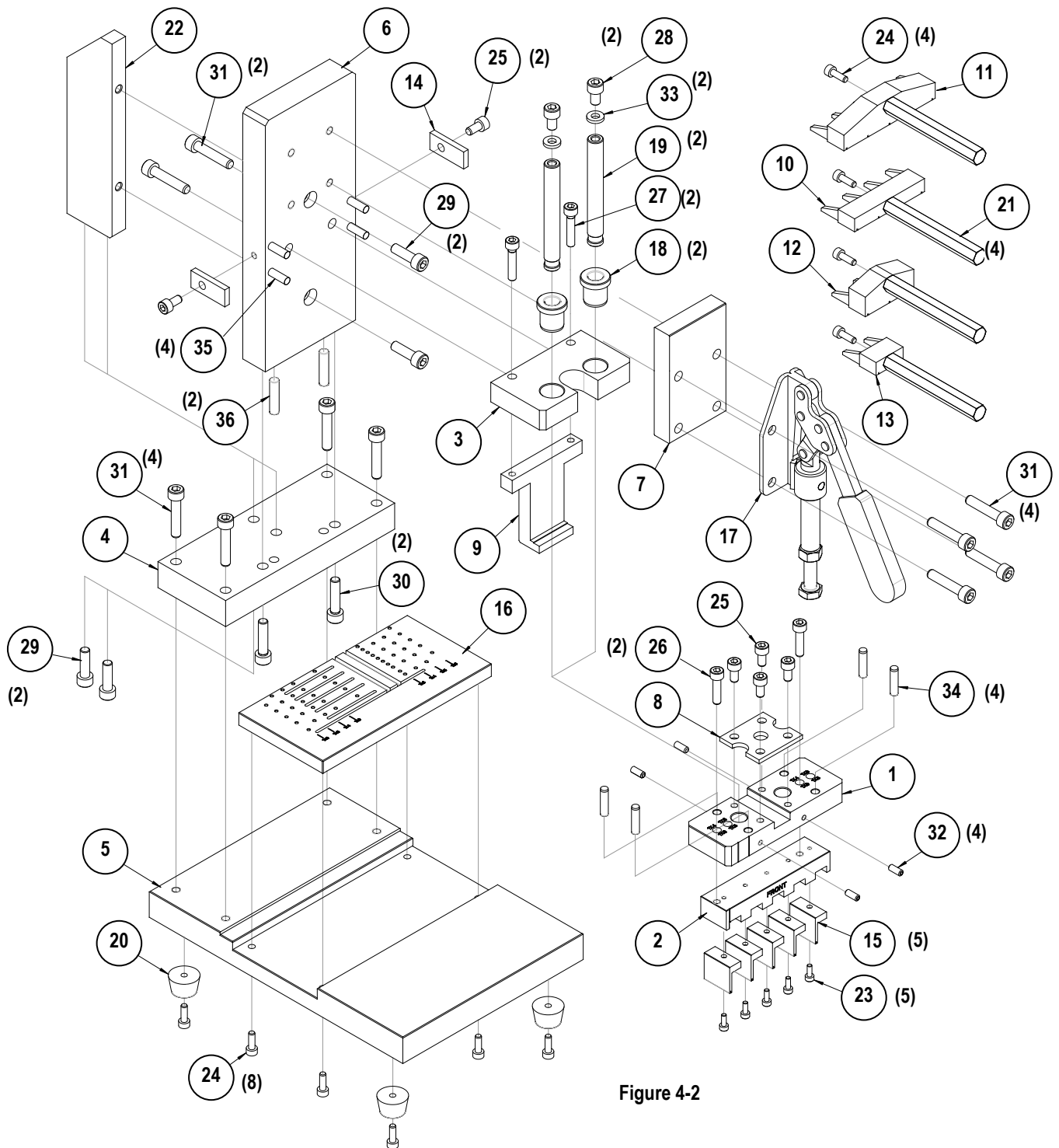



Figure 4-2

## Section 5

## Connector Series Chart

Series No	Size	Connector Assembly Order No.					
100016	1 x 3	100016-0340	100016-0341	100016-0342	100016-0343	100016-0344	100016-0345
		100016-0440	100016-0441	100016-0442	100016-0443	100016-0444	100016-0445
		100016-0446	100016-0447	100016-0448			
		100016-0540	100016-0541	100016-0542	100016-0543	100016-0544	100016-0545
		100016-0546	100016-0547	100016-0548			
100017	1 x 4	100017-0340	100017-0341	100017-0342	100017-0343	100017-0344	100017-0345
		100017-0440	100017-0441	100017-0442	100017-0443	100017-0444	100017-0445
		100017-0446	100017-0447	100017-0448			
		100017-0540	100017-0541	100017-0542	100017-0543	100017-0544	100017-0545
		100017-0546	100017-0547	100017-0548			
100019	1 x 5	100017-0340	100017-0341	100017-0342	100017-0343	100017-0344	100017-0345
		100019-0440	100019-0441	100019-0442	100019-0443	100019-0444	100019-0445
		100019-0446	100019-0447	100019-0448			
		100019-0540	100019-0541	100019-0542	100019-0543	100019-0544	100019-0545
		100019-0546	100019-0547	100019-0548			
100086	1 x 6	100086-0340	100086-0341	100086-0342	100086-0343	100086-0344	100086-0345
		100086-0440	100086-0441	100086-0442	100086-0443	100086-0444	100086-0445
		100086-0446	100086-0447	100086-0448			
		100086-0540	100086-0541	100086-0542	100086-0543	100086-0544	100086-0545
		100086-0546	100086-0547	100086-0548			

 <b>CAUTION</b>	<p><b>CAUTION:</b></p> <p>Molex tooling crimp specifications are valid only when used with Molex terminals and tooling manufactured by Molex and sold by Molex or authorized distributors ("Molex Tooling"). When using tooling other than Molex Tooling with Molex specific connector systems listed in our ATS documents, the Molex tooling qualification does not apply and the responsibility for full qualification of the connector system is that of the customer.</p> <p>Molex accepts no liability for connector performance or tooling support where tooling other than Molex Tooling is used or where Molex Tooling is modified.</p>
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Visit our Website at [www.molex.com/applicationtooling](http://www.molex.com/applicationtooling)