

**RAST 5.0 ARBOR PRESS
TERMINATOR
Order Number 62201-7500
Operation Manual**

- Description
- Operation
- Maintenance

WARNING

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.

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. Set-Up and Operation
3. Maintenance, Perishable Parts, Spare Parts and Troubleshooting
4. Parts List and Assembly Drawings
5. Connector Series Chart

Section 1

General Description

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

Principal Mechanical parts of the RAST 5.0 Terminator 62201-7500

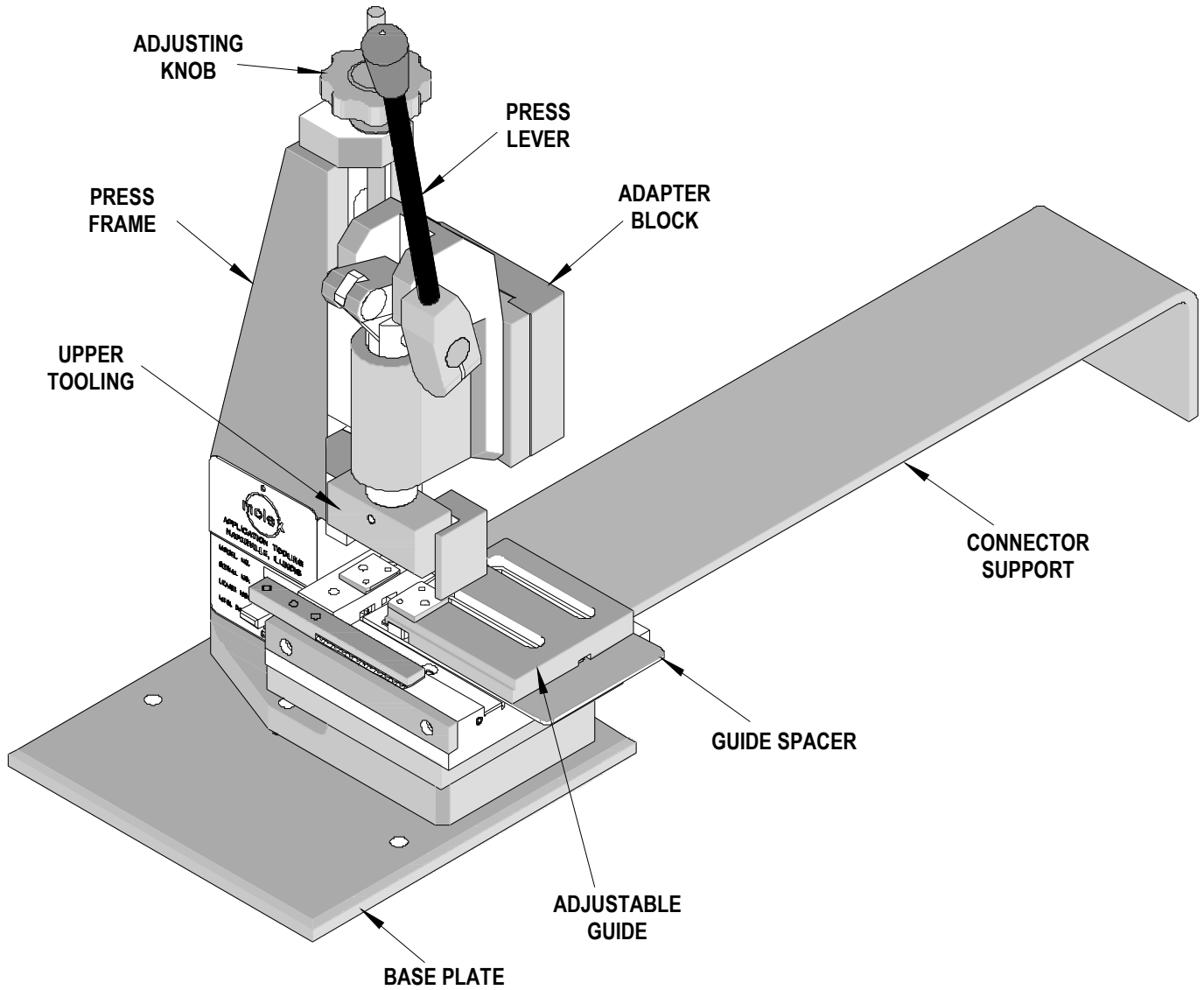


Figure 1-1

General Description

1.1. Description

The 62201-7500 Rast 5.0 Discrete Wire Arbor Press Terminator is designed to terminate the Rast 5.0 connector (90833, 90835, 90888, 91338, 91777, 91778, 91779, 91954 and 92000 Series) onto discrete wires of various sizes (0.35 mm² to 0.38 mm²) for 4A, (0.5 mm² to 0.75 mm²) for 6A and (1.0 mm² to 1.5 mm²) for 16A. These connectors come in long chains or "stacks" that are cut apart during termination. The tooling will accommodate from 1 to 12 circuits. The operator loads a connector into the nest, inserts the wires into position, and operates the press. When termination is complete the operator removes the harness. This terminator is ideally suited for low to medium volume production.

1.2. Features

- Bench mounted operation.
- Manual operation, no air or electricity required.
- Easily moved from one location to another.

1.3. Technical Specification

Dimensions

Width: 230mm(11.4")
 Depth: 145mm(5.7") without connector support
 Depth: 480mm(18.9") with connector support
 Height: 525mm(20.7")

Weight

22.71kg (50lbs)

Rate

Approximately 450 discrete wires per hour depending on operator skill.

1.4. Delivery Check

Carefully remove the Terminator from its shipping container and determine that the following items are included in the package.

Description	Quantity
62201-7500 Rast 5.0 Terminator Press	1
62201-7414 Housing Load Platform	1
TM-622017500 Operation Manual	1
62201-7512 16 AMP Top Wire Guide	1
OR	
(one guide or the other is installed in the press)	
62201-7513 6 AMP Top Wire Guide	1

Section 2

Set-Up and Operation

- 2.1. Installation
- 2.2. Set-Up
- 2.3. Operation

2.1 Installation

Set the press on a bench of suitable height and capable of supporting at least 70 kg (155 lbs). Using the two (2) M4 X 12 FSHCs supplied with the press, mount the Housing Load Platform to the press as shown in Figure 1-1. (See also the assembly drawing in Section 4.) There are two (2) clearance holes in the base plate (see Fig, 1-1), for 8 mm or 5/16 in. screws, if it is desired to bolt the press to the bench. Make sure there is adequate room around the press for the operator to load connectors and to store wires and finished harnesses. Make certain there is adequate lighting.

2.2 Setup

2.2.1 Termination Height

Refer to Figure 1-1 and 2-1.

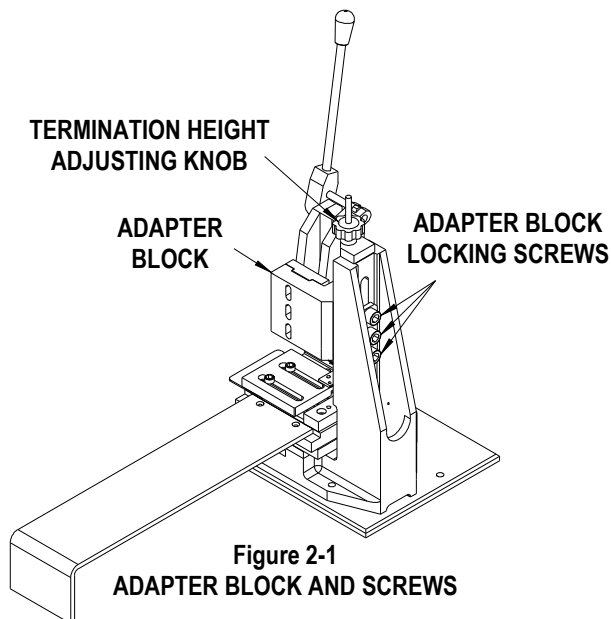


Figure 2-1
ADAPTER BLOCK AND SCREWS

In order to insure the connector top half is correctly seated in the lower half and that the wires are correctly terminated, it may necessary to adjust the termination height. This is done as follows:

1. To adjust the termination height, loosen the three (3) socket head cap screws that lock the adaptor block to the press frame.
2. To decrease the termination height (the height of the connector after termination) turn the

- height adjusting knob counterclockwise. To increase the height, turn the knob clockwise.
3. When the desired height is set, tighten the locking screws. The height of the connector after termination should be as follows:
 - a) 90833, 90888, 91338and 91954 series, height = $23 +0.2 / -0.1$ mm.
 - b) 90835 and 91247 series, height = $25 +0.2 / -0.1$ mm.
 - c) See also sheet 4 of the application specifications #AS-99033-0004.

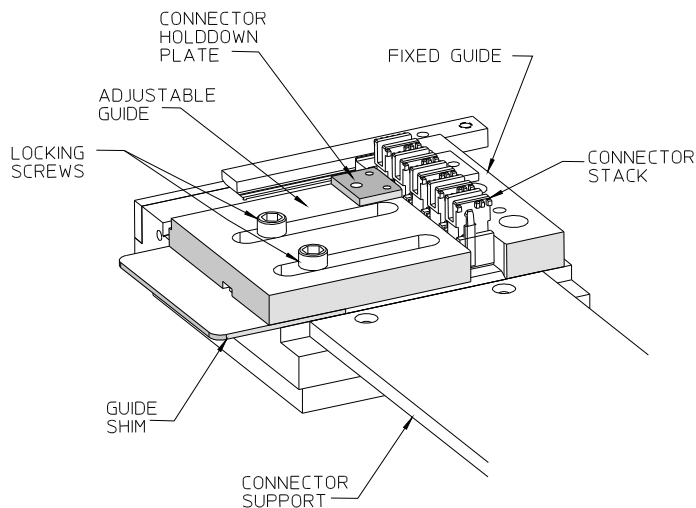


Figure 2-2
SETTING THE CONNECTOR GUIDE

2.2.2 Adjusting for Connector Size

The Rast 5 connectors come in various circuit sizes from 1 to 12, and also in five types, two (2) of which (90835 and 91247 Series) are 16A connectors and are slightly taller and require the removal of a shim. See Section 2.2.3 for details. Adjusting for circuit size is as follows:

1. Place a stack of connectors of the correct size on the connector support and slide it forward until it is between the adjustable guide block and the fixed guide block.
2. Push it up against the fixed guide block.
3. Loosen the two (2) locking screws (See Figure 2-2).
4. Slide the adjustable guide block toward the connector until the connector stack can be slid between the guides with no noticeable side play. The connector holddown plates on both sides should be in far enough that they hold the

connectors from moving up but not enough to interfere with horizontal movement.

NOTE: The guide shim should stay all the way in unless 90835 or 91247 series connectors are being run, See Section 2.2.3

5. Tighten the locking screws.

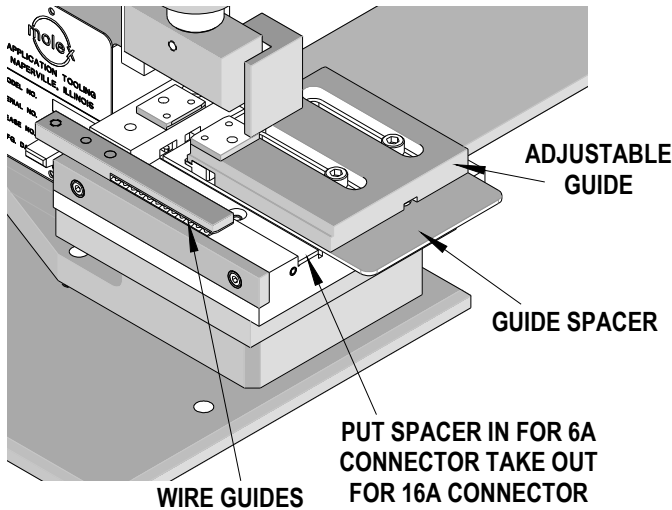


Figure 2-3

2.2.3 Changing To or From The 16 AMP and The 6 AMP Connectors

The Rast 5 connectors come in two different ampere ratings 6 and 16 AMPS. The 16 AMP connectors (90835 91779 and 92000 series) are slightly taller than the 6 AMP connectors (90833, 90888, and 91338 series), therefore the tooling has to be adjusted to accommodate the different heights. That is done as follows:

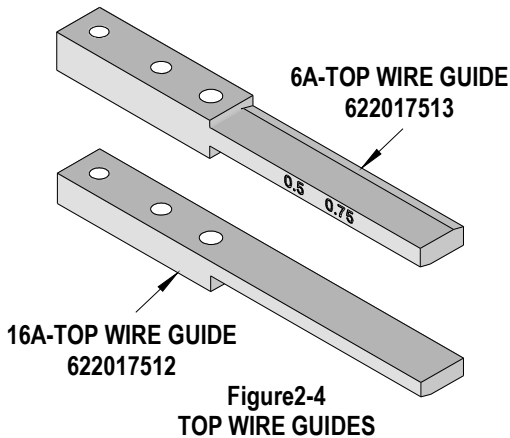


Figure 2-4
TOP WIRE GUIDES

1. Loosen the two (2) adjustable guide locking screws (See Figure 2-2).
2. If changing to the larger 16A connectors, pull the guide shim out until it stops.
- OR** If changing to the smaller 6A connectors, push the shim in until it stops.
3. In the bottom of the groove in between the adjustable guide and the wire guides there is a plate that must be removed if 16A connectors are to be loaded or installed if changing to the 6A connectors. (See Figure 2-3.)
4. Adjust the adjustable guide per Section 2.2.2.
5. Tighten the locking screws.

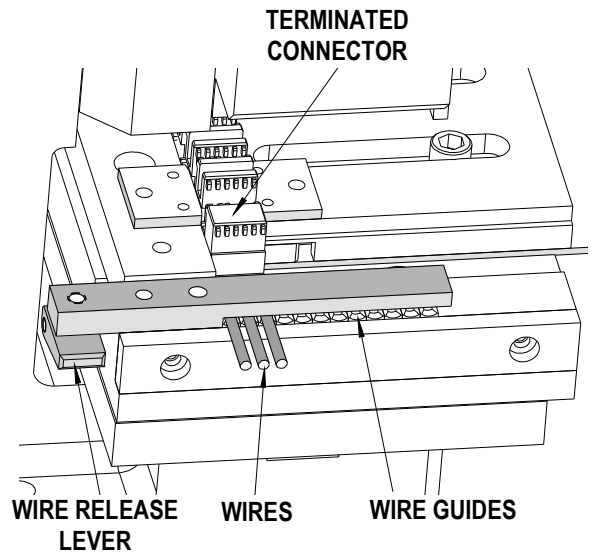


Figure 2-5
CONNECTOR / WIRE ASSEMBLY
READY TO BE REMOVED

2.2.4 Setup For Wire Size

There are two (2) wire top guides, one for 6A wire and one for 16A wire (See Figure 2-4). These must be changed depending on the wire being used.

1. Remove the hold-down screw.
2. Remove one part, put the other part in place and replace the screw.

NOTE: The 6A guide has two stops—one for .50mm² / .75mm² and one for .35mm² / .38mm². Install the guide with the desired wire size marking facing the operator.

2.2.5 Adjusting the Wire Tension

It is necessary to make an adjustment to the wire stop when changing from one wire size to another. Refer to Figure 2-5.

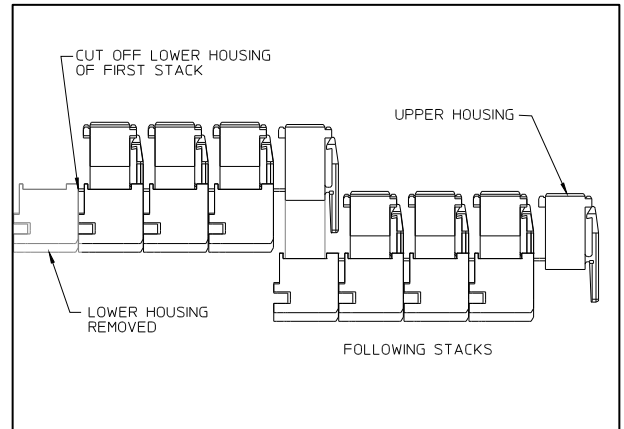
1. Turn the stop screw clockwise (CW) to decrease the tension or counterclockwise (CCW) to increase the tension applied to the wire. Adjust the tension so the wire can be pushed through the guides, into the connector, and held firmly in place upon release.

2.3 Operation

1. Load a stack of connectors in between the guide blocks as shown in Figure 2-2.
2. Push the connector stack forward until the first connector “clicks” into position (there are detents that prevent the connectors from backing up).
3. Load the wires individually by inserting them in the wire guides then pushing them through the holes in the connector and up against the stop (See Figure 2-4).
4. When the wires are loaded, cycle the press by pulling forward and down on the press lever. This will press the two halves of the connector

together terminating the wires and latching the connector halves together. It will also cut the connector from the stack.

5. Return the press lever to the up position.
6. Remove the connector and wire or cable assembly from the terminator by pressing down on the wire release lever to the left of the wire guides and sliding the assembly out to the right. (See Figure 2-5.) Reference sheet 4 of Application Specification #ES-990033-0004 to determine if termination is correct.



**Figure 2-6
ADDING CONNECTOR STACKS**

Section 3

- 3.1 Maintenance
- 3.2 Perishable Parts
- 3.3 Spare Parts
- 3.4 Troubleshooting

CAUTION: Always disconnect power supply before all maintenance

3.1 Maintenance

(See Chart below for maintenance scheduling,)

Cleaning

The Rast 5.0 Manual Terminator should be cleaned at least once a day with a soft brush to remove dust and debris.

CAUTION: Using compressed air to clean the Terminator is not recommended as debris could become jammed in the tooling and/or come flying out at the operator.

Lubrication

The press needs regular lubrication on a monthly basis. Place a small amount of lubricant with Teflon, such as Permatex "Superlube", on the sliding surfaces.

An example of a maintenance chart is shown below. Copy and use this chart to track the maintenance of your Terminator 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 3.1.

CHECK SHEET MONTH _____ YEAR _____

Week	Daily Cycles	Daily Clean	Days of the Week							Solution
			MON	TUE	WED	THU	FRI	SAT	SUN	
1										
2										
3										
4										
Cleaning Reapply grease Reapply oil										Soft Brush Industrial Degreaser
Inspect all tooling, feed fingers etc. for wear										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.

3.2 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 kits in stock at all times. This will reduce the amount of production down time. These parts are identified in the Parts List in Section 4.

3.3 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.

3.4 Troubleshooting

Symptom	Cause	Solution
Termination height is too high / too low.	<ul style="list-style-type: none"> ▪ Termination punch height not set correctly 	Readjust the termination height. See Section 2.2.1. <i>Termination Height.</i>
Wire not sliding easily into position	<ul style="list-style-type: none"> ▪ Wire guide spring tension set too high 	Readjust the spring tension, See Section 2.2.5 <i>Adjusting the Wire Tension.</i>
	<ul style="list-style-type: none"> ▪ There is debris in the openings 	Check both the tooling and the connector for debris and clean as required.
	<ul style="list-style-type: none"> ▪ Connector is partly closed. 	Inspect the connector chain for damage.
Wire not staying in position when loaded	<ul style="list-style-type: none"> ▪ Wire guide spring tension set too low 	Readjust the spring tension per Section 2.2.5 <i>Adjusting the Wire Tension.</i>

Section 4

4.1 Parts Lists and Assembly Drawings

Parts List and Assembly Drawings (See Figure 4-1)

Item No.	Order No.	Description	Qty
1	62201-7409	Lever, Pivot	1
2	62201-7412	Base, Mounting	1
3	62201-7414	Platform, Housing Load	1
4	62201-7420	Shaft, Ram	1
5	62201-7425	Guard, Ram	1
6	62201-7426	Nameplate, Molex	1
7	62201-7427	Plate, Base	1
8	62201-7428	Spacer, Locator	1
9	62201-7430	Press, Toggle	1
10	62201-7501	Base, Tool	1
11	62201-7502	Blade, Cutoff PP	1
12	62201-7503	Block, Ram	1
13	62201-7504	Guide, Right Housing	1
14	62201-7507	Guide, Housing Front	1
15	62201-7508	Guide, Left Housing	1
16	62201-7509	Locator, Housing Right	1
17	62201-7510	Locator, Housing Left	1
18	62201-7511	Spacer, Housing (6 AMP)	1
19	62201-7512	Guide, Top Wire (16 AMP)	1
20	62201-7513	Guide, Top Wire (6 AMP)	1
21	62201-7514	Guide, Wire RSP	12
22	62201-7516	Hold-down, Spring	1
23	62201-7517	Key, Shaft	1
24	62201-7518	Cover, Guide	1
25	62201-7521	Spacer, Right Guide	1
26	62201-7522	Shaft, Pivot	1
27	62201-7523	Angle, Guard	1
28	63600-0939	Spring, Wire Guide RSP	12
29	63600-0947	Spring, Locator RSP	2
30	69808-1204	Washer, Fender	2
31	N/A	M5 by 20 Long SHCS	2**
32	N/A	M8 by 45 Long SHCS	1**
RSP - Part is a Molex Recommended Spare Part.			
PP - Part is a Perishable Part.			

Assembly

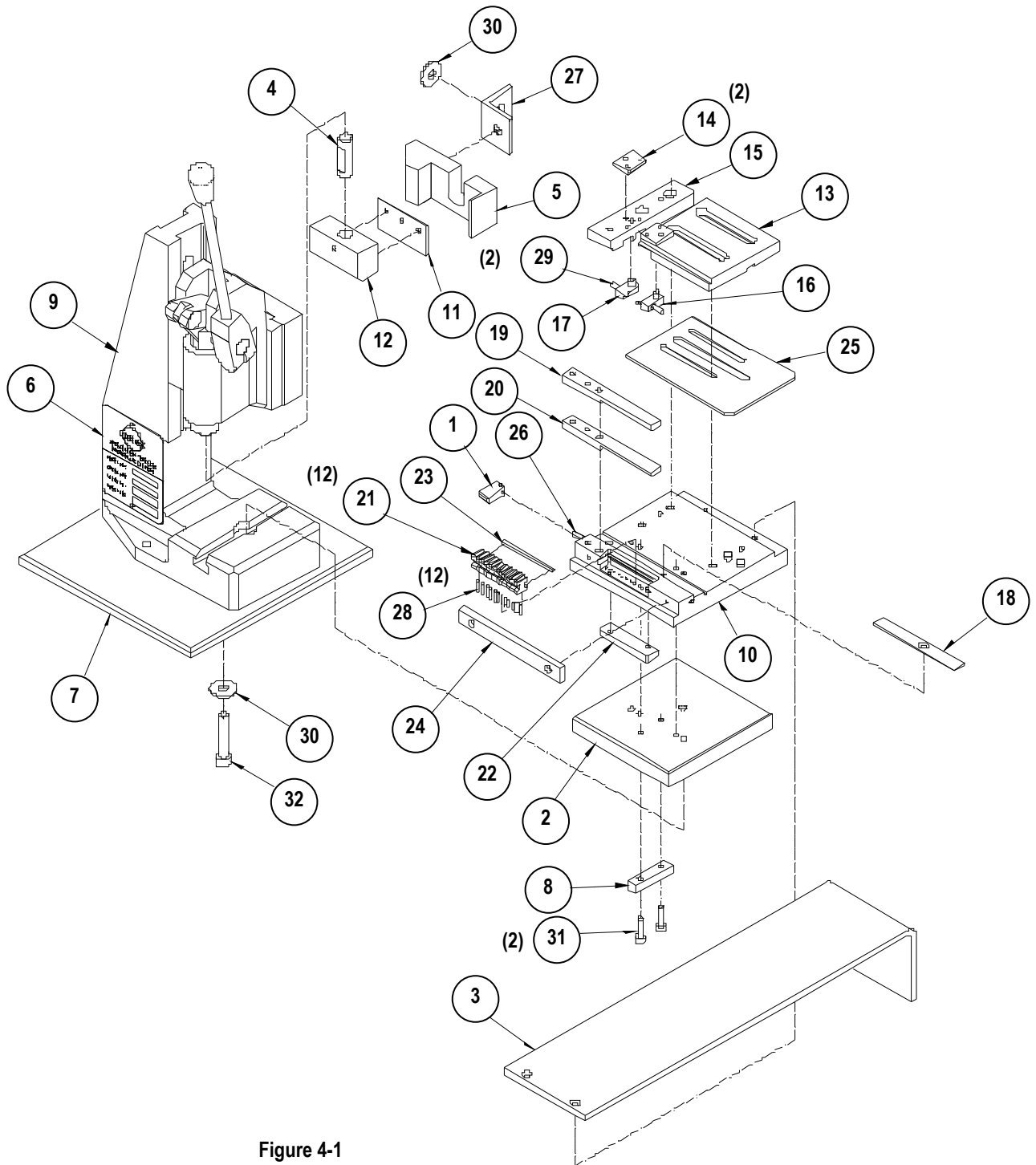


Figure 4-1

Section 5

5.1 Connector Series Chart

Products: 5.00mm (.197") Pitch Appli-Mate™ RAST 5.0 IDT Connector Assemblies 1 thru 12 Circuits.

Connector Series No.	Circuit Size	4A Connector Assembly Order No.						
		91954	2	91954-0001	91954-0002	91954-0003	91954-0004	91954-0005
91954-0008	91954-0009			91954-0010	91954-0011	91954-0012	91954-0013	91954-0014
91954-0015	91954-0016			91954-0017	91954-0018	91954-0019	91954-0020	91954-0021
91954-0022	91954-0023			91954-0024	91954-0025	91954-0026	91954-0027	91954-0028
91954-0029								
3	91954-0100		91954-0101	91954-0102	91954-0103	91954-0104	91954-0105	91954-0106
	91954-0107		91954-0108	91954-0109	91954-0110	91954-0111	91954-0112	91954-0113
	91954-0114		91954-0115	91954-0116	91954-0117	91954-0118	91954-0119	91954-0120
	91954-0121		91954-0122					
4	91954-0201		91954-0202	91954-0203	91954-0204	91954-0205	91954-0206	91954-0207
	91954-0208		91954-0209	91954-0210	91954-0211	91954-0212		
5	91954-0301		91954-0302	91954-0303	91954-0304	91954-0305	91954-0306	91954-0307
	91954-0308		91954-0309	91954-0310	91954-0311	91954-0312	91954-0313	91954-0314
6	91954-0401		91954-0402	91954-0403	91954-0404	91954-0405	91954-0406	91954-0407
	91954-0408		91954-0409					
7	91954-0501		91954-0502	91954-0503	91954-0504	91954-0505	91954-0506	91954-0507
	91954-0508		91954-0509					
8	91954-0601		91954-0602	91954-0603	91954-0604	91954-0605	91954-0606	91954-0607
	91954-0608							
9	91954-0701		91954-0702	91954-0703	91954-0704	91954-0705	91954-0706	
10	91954-0801		91954-0802	91954-0803	91954-0804	91954-0805	91954-0806	91954-0807
	91954-0808		91954-0809					
11	91954-0901		91954-0902					
12	91954-1001		91954-1002					

Connector Series No.	Circuit Size	6A Connector Assembly Order No.						
		90833	2	90833-0001	90833-0002	90833-0003	90833-0004	90833-0005
90833-0008	90833-0009			90833-0010	90833-0011	90833-0012	90833-0013	90833-0014
90833-0015	90833-0016			90833-0017	90833-0018	90833-0019	90833-0020	90833-0021
90833-0022	90833-0025			90833-0026	90833-0027	90833-0028	90833-0032	90833-0047
90833-0048	90833-0050			90833-0051	90833-0052	90833-0053	90833-0054	90833-0056
90833-0057	90833-0058			90833-0059	90833-0060	90833-0061	90833-0062	90833-0063
90833-0064	90833-0065			90833-0066	90833-0069	90833-0070	90833-0071	90833-0072
90833-0073	90833-0074							
3	90833-0500		90833-0501	90833-0502	90833-0503	90833-0504	90833-0505	90833-0506
	90833-0507		90833-0508	90833-0509	90833-0510	90833-0511	90833-0513	90833-0524
	90833-0526		90833-0528	90833-0529	90833-0530	90833-0531	90833-0532	90833-0533
	90833-0534		90833-0535	90833-0536	90833-0537	90833-0538	90833-0539	90833-0540
	90833-0541		90833-0542					
4	90833-1251		90833-1252	90833-1253	90833-1254	90833-1255	90833-1256	90833-1257
	90833-1258		90833-1259	90833-1260	90833-1261	90833-1262	90833-1264	90833-1267
	90833-1271		90833-1272	90833-1273	90833-1276	90833-1277	90833-1279	90833-1282
	90833-1283		90833-1284					
5	90833-2001		90833-2002	90833-2006	90833-2007	90833-2008	90833-2010	90833-2011

Connector Series No.	Circuit Size	6A Connector Assembly Order No.						
		90833	5	90833-2012	90833-2019	90833-2023	90833-2024	90833-2025
		90833-2028	90833-2029					
	6	90833-2750	90833-2751	90833-2752	90833-2764	90833-2765	90833-2773	90833-2776
		90833-2777	90833-2778	90833-2779	90833-2780	90833-2781		
	7	90833-3500	90833-3501	90833-3502	90833-3503	90833-3513	90833-3514	90833-3518
		90833-3520	90833-3521	90833-3522	90833-3523	90833-3524		
	8	90833-4250	90833-4251	90833-4254	90833-4255	90833-4256	90833-4261	90833-4264
		90833-4266						
	9	90833-5000	90833-5001	90833-5004	90833-5010	90833-5012		
	10	90833-6000	90833-6001	90833-6005	90833-6006	90833-6007	90833-6008	90833-6023
		90833-6024	90833-6025					
	11	90833-7000	90833-7001					
	12	90833-8000	90833-8001					
90888	2	90888-0001	90888-0003	90888-0005	90888-0006	90888-0011	90888-0023	90888-0024
		90888-0028	90888-0031	90888-0033	90888-0034			
91338	1	91338-0102	91338-0103	91338-0104	91338-0105	91338-0403	91338-0501	91338-0507
		91338-0601	91338-0607	91338-0700	91338-0801	91338-3102	91338-3103	91338-3104
		91338-3105	91338-3403	91338-3501	91338-3507	91338-3601	91338-3607	91338-3700
		91338-3801						
91777	1	91777-0102	91777-0103	91777-0104	91777-0105	91777-0106	91777-0107	91777-3102
		91777-3103	91777-3104	91777-3105	91777-3106	91777-3107		
91778	2	91778-0001	91778-0002	91778-0003	91778-0004	91778-0005	91778-0006	91778-0007
		91778-0008	91778-0009	91778-0010	91778-0011	91778-0012	91778-0013	91778-0014
		91778-0015	91778-0016	91778-0017	91778-0018	91778-0019	91778-0020	91778-0021
		91778-0022	91778-0023	91778-0024	91778-0025	91778-0026	91778-0027	91778-0028
		91778-0029	91778-0030					
	3	91778-0101	91778-0102	91778-0103	91778-0104	91778-0105	91778-0106	91778-0107
		91778-0108	91778-0109	91778-0110	91778-0111	91778-0112	91778-0113	91778-0114
		91778-0115	91778-0116	91778-0117	91778-0118	91778-0119	91778-0120	91778-0121
		91778-0122	91778-0123	91778-0124	91778-0125	91778-0126		
	4	91778-0201	91778-0202	91778-0203	91778-0204	91778-0205	91778-0206	91778-0207
		91778-0208	91778-0209	91778-0210	91778-0211	91778-0212		
	5	91778-0301	91778-0302	91778-0303	91778-0304	91778-0305	91778-0306	91778-0307
		91778-0308	91778-0309	91778-0310	91778-0311	91778-0312	91778-0313	91778-0314
	6	91778-0401	91778-0402	91778-0403	91778-0404	91778-0405	91778-0406	91778-0407
		91778-0408	91778-0409					
	7	91778-0501	91778-0502	91778-0503	91778-0504	91778-0505	91778-0506	91778-0507
		91778-0508	91778-0509	91778-0510	91778-0511	91778-0512		
	8	91778-0601	91778-0602	91778-0603	91778-0604	91778-0605	91778-0606	91778-0607
		91778-0608	91778-0609					
	9	91778-0701	91778-0702	91778-0703	91778-0704	91778-0705	91778-0706	91778-0707
		91778-0708	91778-0709					
	10	91778-0801	91778-0802	91778-0803	91778-0804	91778-0805	91778-0806	91778-0807
		91778-0808	91778-0809					
	11	91778-0901	91778-0902					
	12	91778-1001	91778-1002					

Connector Series No.	Circuit Size	16A Connector Assembly Order No.						
		90835	2	90835-0001	90835-0003	90835-0019	90835-0034	90835-0035
90835-0038	90835-0039			90835-0040	90835-0041	90835-0042	90835-0043	90835-0044
90835-0045	90835-0046			90835-0047	90835-0048	90835-0057	90835-0058	
90835-9001	90835-9002			90835-9003	90835-9004	90835-9005	90835-9006	
3	90835-0500		90835-0501	90835-0502	90835-0518	90835-0519	90835-0520	90835-0521
	90835-0522		90835-0523	90835-0534	90835-0536	90835-0537		
3	90835-9021		90835-9022	90835-9023	90835-9024	90835-9025	90835-9026	90835-9027
4	90835-1251		90835-1254	90835-1268	90835-1269	90835-1273	90835-1281	90835-1283
	90835-1284	90835-1285	90835-9101	90835-9102	90835-9103	90835-9104		
91779	2	91779-0001	91779-0002	91779-0003	91779-0004	91779-0005	91779-0006	917790007
		91779-0008	91779-0009	91779-0010	91779-0019			
		91779-9001	91779-9002	91779-9003	91779-9004			
	3	91779-0101	91779-0102	91779-0103	91779-0104	91779-0105	91779-0106	91779-0107
		91779-0108	91779-0109	91779-0110	91779-0111	91779-0112	91779-0113	91779-0114
		91779-0115	91779-0116	91779-9101	91779-9102	91779-9103	91779-9104	91779-9105
		91779-9106	91779-9201	91779-9202	91779-9203	91779-9204	91779-9205	91779-9206
	4	91779-0201	91779-0202	91779-0203	91779-0204	91779-0205	91779-0206	
92000	2	92000-0001	92000-0002	92000-0003	92000-0004	92000-0005	92000-0006	92000-0007
	3	92000-0101	92000-0102	92000-0103	92000-0104	92000-0105	92000-0106	92000-0107
		92000-0108						
	4	92000-0201	92000-0202	92000-0203	92000-0204			

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>