molex

Order Number
203702-2500

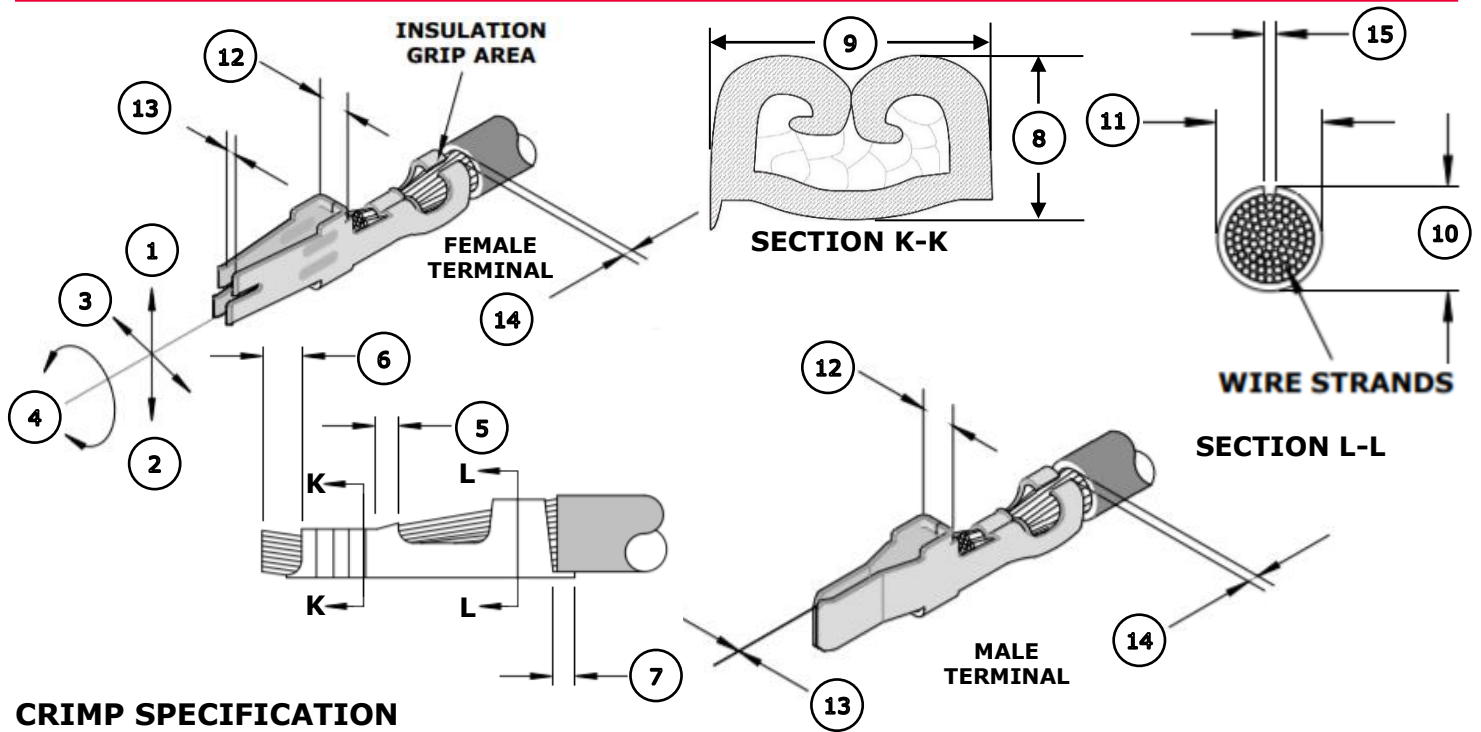## Application Tooling Specification

FEATURES

- Quick punch removal with the push of a button for fast and easy tooling change
- Applicator designed to industry-standard mounting and shut height 135.80mm (5.346")
- Quick setup time; plus, the crimp height, track and feed adjustments can be set without removing the applicator from the press
- Fine adjustment allows users to achieve target with little effort by adjusting in increments of 0.015mm (.0006") for conductor crimp height and 0.063mm (.0025") for insulation height
- Independent adjustment rings allow users to quickly adjust the conductor or insulation crimp height without affecting each other
- Directly adapts to most automatic wire processing machines

SCOPE

Products: Mini-Fit Sr. Male and Female Crimp Terminals, 12+12 AWG and 8 AWG Wire.

Terminal Series No.	Terminal Order No.	Wire Size	Insulation Diameter		Strip Length	
		AWG	mm	In.	mm	In.
42815	42815-0030 42815-0031 42815-0032 42815-0134	8	5.00-6.75	.197-.266	9.00-10.00	.354-.394
		12+12	3.50-4.00	.138-.157	11.00-12.00	.433-.472
42817	42817-0030 42817-0031 42817-0032 42817-0130 42817-0131 42817-0132 42817-1034 42817-1134	8	5.00-6.75	.197-.266	9.00-10.00	.354-.394
		12+12	3.50-4.00	.138-.157	11.00-12.00	.433-.472

DEFINITION OF TERMS

CRIMP SPECIFICATION

Feature	Requirement				
1. Bend Up	3° Max				
2. Bend Down	3° Max				
3. Twist	4° Max				
4. Roll	8° Max				
5. Bell Mouth Rear	0.50-1.00mm (.020-.039")				
6. Conductor Brush	2.10-3.10mm (.083-.122")				
7. Cut-Off Tab ✱	0.50mm (.020") Max, no burrs				
Conductor Crimp	**Wire Size**	**8. Crimp Height**		**9. Crimp Width (Ref)**	
	8 AWG	3.20-3.30mm	.126-.130 in.	4.10mm	.161 in.
	8 AWG Hi-Flex	3.40-3.50mm	.134-.138 in.	4.13mm	.163 in.
	12+12 AWG	3.20-3.30mm	.126-.130 in.	4.10mm	.161 in.
Insulation Crimp	**Wire Size**	**10. Crimp Height (Ref)**		**11. Crimp Width (Ref)**	
	8 AWG	4.65mm	.183 in.	4.87mm	.192 in.
	8 AWG Hi-Flex	4.75mm	.187 in.		
	12+12 AWG	4.85mm	.191 in.		
Pull Force	**Wire Size**	**Minimum Force**			
	8 AWG	400.3 N	90 lb.	To be measured with no influence from the insulation crimp	
	8 AWG Hi-Flex	400.3 N	90 lb.		
	12+12 AWG	311.4 N	70 lb.		
12. Box Width	3.55-3.95mm (.140-.156")				
13. Contact Gap	**Male Terminal**		**Female Terminal**		
	0.00-0.05mm	.000-.002 in.	0.80-1.20mm	.032-.047 in.	
14. Insulation Offset	0.00-1.00mm (.000-.039")				
15. Insulation Grip Gap	An open seam is allowed as long as all stands are contained under insulation grips.				
✱It is recommended to have a cut-off tab length of larger than 0.30mm (.012"). A cut-off tab length shorter than 0.30mm (.012") can result in a box width dimension that is out of spec.					

Wire Presentation Note

12+12 AWG wires should be presented vertically into the terminal. See the image below.
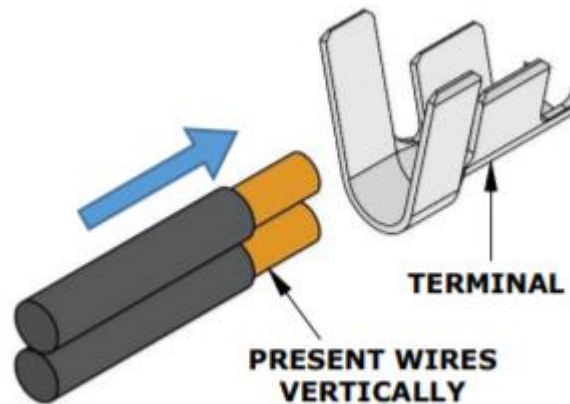
Tool Qualification Notes

1. Crimp terminals to stranded copper wire only.
2. Pull force should be measured with no influence from the insulation crimp.
3. The above specifications are guidelines to an optimum crimp.
4. Oiler (63801-7240) required to crimp terminals to improve tooling life and minimize the crimp extrusions. See 63800-4900 FineAdjust manual.
5. The insulation crimp for 8 AWG terminals is not typical. The insulation grips will encircle the wire strands and not the wire insulation as on a typical insulation crimp, see Section L-L in the Definition Of Terms on Page 2.
6. This applicator is designed to crimp 8AWG Hi-Flex wire (665 strands). Due to the very fine strands extra precautions are necessary during the stripping operation to prevent cutting or nicking strands. Cut or nicked strands may result in lower pull force strength and possible short circuits.

PARTS LIST

		Fine Adjust Applicator 203702-2500		
Item	**Order No.**	**Engineering No.**	**Description**	**Quantity**
		Perishable Tooling		
	203702-2570	203702-2570	Tool Kit (All "Y" Items)	Ref
1	200220-4802	200220-4802	Insulation Punch	1 Y
2	200216-3905	200216-3905	Conductor Punch	1 Y
3	200221-4801	200221-4801	Insulation Anvil	1 Y
4	200217-4003	200217-4003	Conductor Anvil	1 Y
5	63443-0162	63443-0162	Cut-Off Plunger	1 Y
6	63443-0038	63443-0038	Front Plunger Retainer	1 Y
7	63443-1172	63443-1172	Blade-Wire Hold Down	1 Y
		Non-Perishable Components		
8	63821-0012	63821-0012	Feed Guide	1
9	63700-0539	63700-0539	Cut-Off Plunger Spring	1
10	63443-0009	63443-0009	Front Scrap Chute	1
11	63443-0024	63443-0024	Key	1
12	200213-7506	200213-7506	Anvil Mount	1
13	63821-0015	63821-0015	Wire Stop	1
14	11-18-4456	60739A109	Hold Down Spring	1
15	203045-0056	203045-0056	Mini Rod	1
16	63443-3106	63443-3106	Front Plunger Striker	1
17	63830-0118	63830-0118	Rear Cover	1
18	63830-0117	63830-0117	Terminal Lead-In	2
		Frame		
19	63800-4901	63800-4901	Top	1
20	63801-3281	63801-3281	Base	1
21	63801-4650	63801-4650	Track	1
		Hardware		
22	—	—	M3 x 5 FHCS	1*
23	—	—	M3 x 6 SHCS	2*
24	—	—	M4 Hex Nut	1*
25	—	—	M4 x 6 SHCS	5*
26	—	—	M4 x 12 BHCS	2*
27	—	—	M4 x 25 FHCS	1*
28	—	—	M4 x 50 SHCS	2*
29	—	—	M5 x 12 SHCS	1*
30	—	—	M5 x 10 Long Flat Point SSS	1*
31	—	—	M5 Hex Nut	1*
	*Fastener parts can be purchased through most industrial suppliers by using the description in the table above.			

ASSEMBLY DRAWING

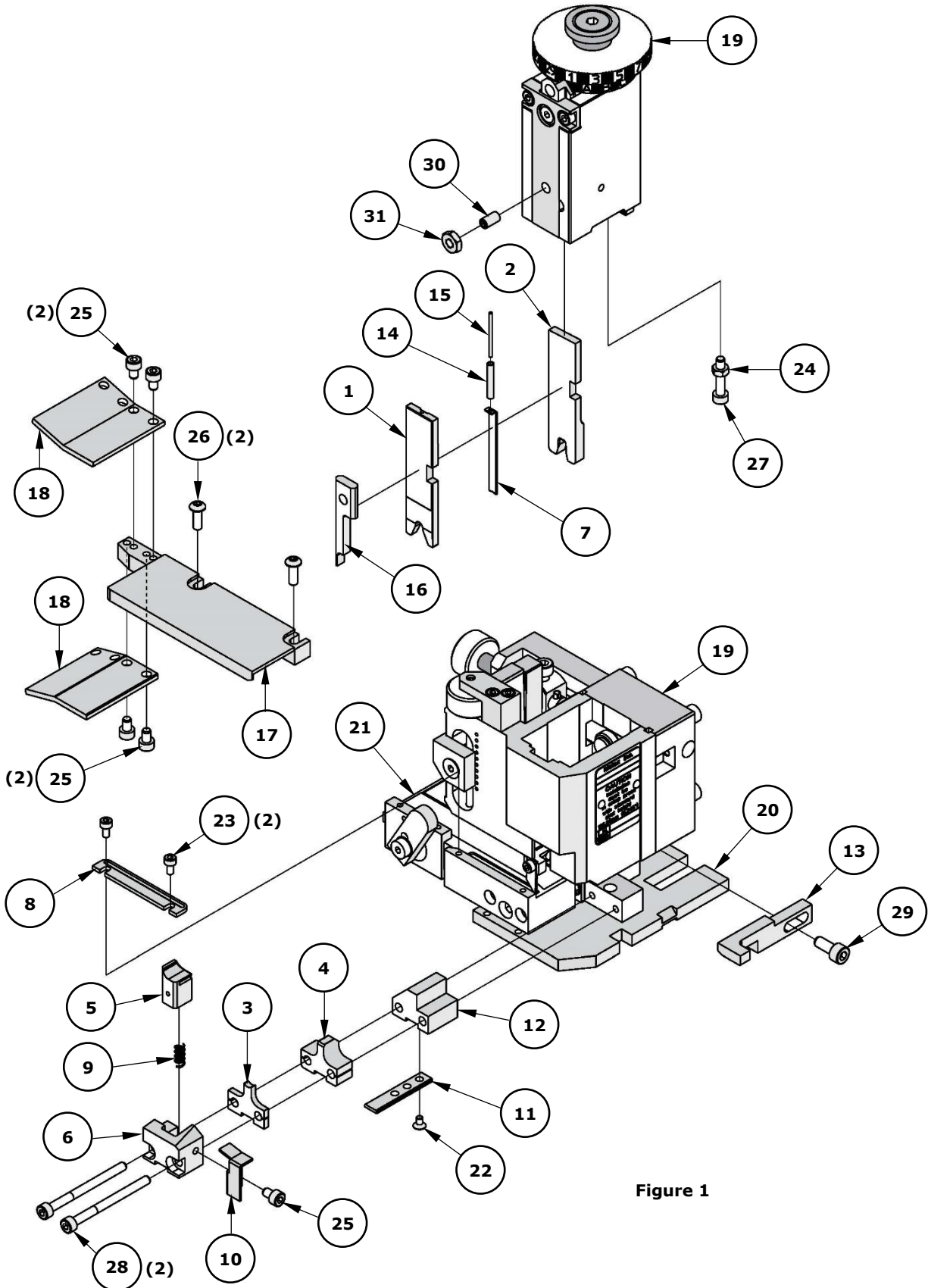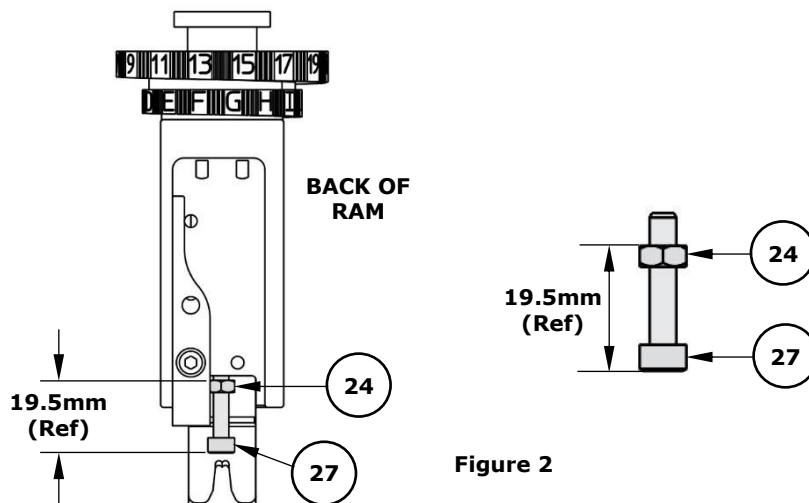**Figure 1**

FACTORY SETTINGS

Ram Assembly/Terminal Nose Hold Down

( ) Indicates item number on the Parts List and Assembly Drawing

Figure 2

Note: The above dimensions were measured during setup and are included as a reference only. Additional adjustments may be required before crimping for production.

NOTES

1. Molex recommends that an extra perishable tooling kit be maintained at your facility.
2. Verify tooling alignment by manually cycling the press and applicator before crimping under power. Check that all screws are tight.
3. Slugs, terminals, dirt and oil should be kept clear of the work area.
4. Wear safety glasses at all times.
5. For recommended maintenance, refer to the FineAdjust manual.

CAUTION: This applicator should only be used in a press with a shut height of 135.8mm (5.346"). Tooling damage could result at a lower setting.

CAUTION: To prevent injury, never operate this applicator without the guards supplied with the press or wire-processing machine in place. Reference the press or wire processing manufacturer's instruction manual.

CAUTION: Molex crimp specifications are valid only when used with Molex terminals, applicators and tooling.

Application Tooling Support

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