

NOTE



All numerical values are in metric units [with U.S. customary units in brackets]. Dimensions are in millimeters [and inches]. Unless otherwise specified, dimensions have a tolerance of ± 0.13 [± 0.005] and angles have a tolerance of $\pm 2^\circ$. Figures and illustrations are for identification only and are not drawn to scale.

1. INTRODUCTION

This specification covers the requirements for application of MAG-MATE Poke-In Tab Terminals. These terminals will accept stranded, fused stranded, or solid lead wire and have a wire size range of 22 through 14 AWG and are terminated with automatic machine tooling. MAG-MATE Poke-In Tab Terminals are specifically designed to mate with MAG-MATE Poke-In Terminals used in plastic cavities.

When corresponding with Tyco Electronics Personnel, use the terminology provided in this specification to facilitate your inquiries for information. Basic terms and features of this product are provided in Figure 1.

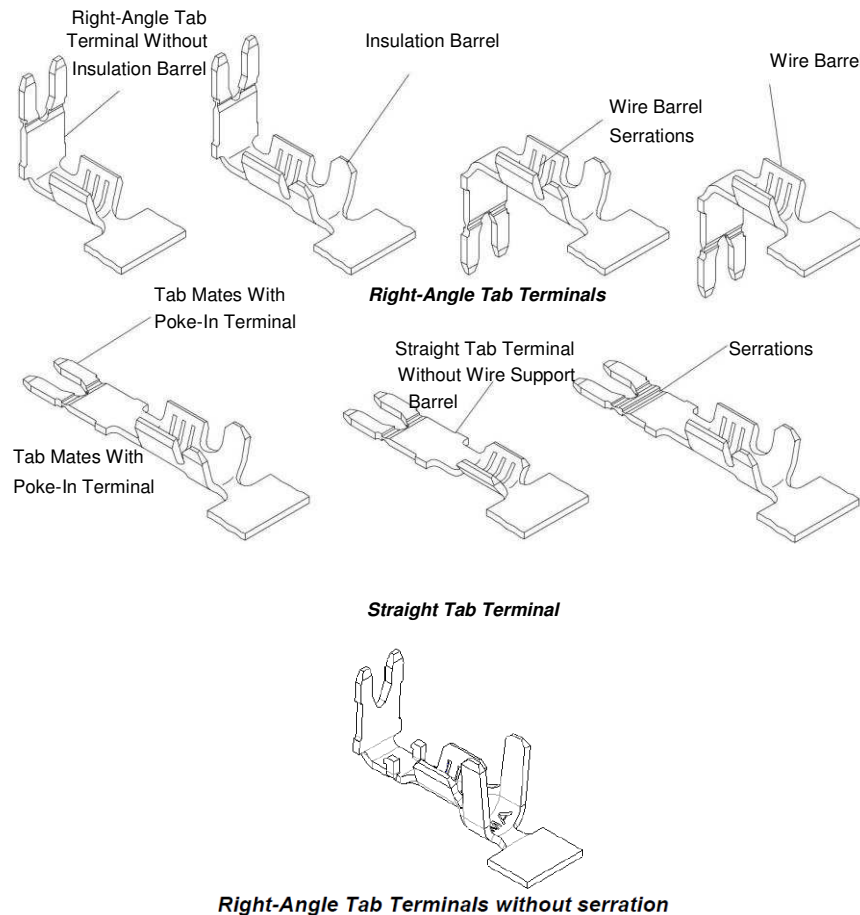


Figure 1

2. REFERENCE MATERIAL

2.1. Revision Summary

This paragraph is reserved for a revision summary of the most recent additions and changes made to this specification which include the following:

- Updated document to corporate requirements
- Added new information to tables in Figures 2 and 7

2.2. Customer Assistance

Reference Part Number 62895 and Product Code 1039 are representative numbers of MAG-MATE Poke-In Tab Terminals. Use of these numbers will identify the product line and expedite your inquiries through a service network established to help you obtain product and tooling information. Such information can be obtained through a local Tyco Electronics Representative or, after purchase, by calling the Tooling Assistance Center or the Product Information Center number at the bottom of page 1.

2.3. Drawings

Customer Drawings for specific products are available from the service network. The information contained in Customer Drawings takes priority if there is a conflict with this specification or with any technical documentation supplied by Tyco Electronics.

2.4. Specifications

Product Specification 108-22045 provides performance test information and quality requirements for MAG-MATE Poke-In Tab Terminals.

2.5. Instructional Material

The following list includes available instruction sheets (408-series) that provide assembly procedures for product, operation, maintenance and repair of tooling, as well as setup and operation procedures of applicators; and customer manuals (409-series) that provide setup, operation, and maintenance of machines.

<u>Document Number</u>	<u>Document Title</u>
408-3295	Preparing Reel of Contacts for Application Tooling
408-7424	Checking Terminal Crimp Height Gaging Die Closure
408-8039	Heavy Duty Miniature Quick-Change Applicators (End-Feed Type)
408-8040	Heavy Duty Miniature Quick-Change Applicators (Side-Feed Type)
408-9816	Handling of Reeled Products
409-5842	AMP-O-LECTRIC* Model "G" Terminating Machine 354500-[]
409-5852	AMPOMATOR* CLS III-G Lead Making Machine 122500-[]
409-5878	AMPOMATOR CLS IV+ Lead-Making Machine 356500-[]
409-10027	Stripping Module 1490502-[] and 1490500-[]
409-10029	Stripping Module 1490503-[] and 1490501-[]
409-10047	Terminating Machines AMP-3K 1725950 and AMP-5K 1725900

3. REQUIREMENTS

3.1. Storage

A. Ultraviolet Light

Prolonged exposure to ultraviolet light may deteriorate the chemical composition used in the terminals.

B. Reeled Contacts

When using reeled terminals, store coil wound reels horizontally and traverse wound reels vertically.

C. Shelf Life

The terminals should remain in the shipping containers until ready for use to prevent deformation to the terminals. The products should be used on a first in, first out basis to avoid storage contamination that could adversely affect them.

D. Chemical Exposure

Do not store terminals near any chemicals listed below, as they may cause stress corrosion cracking in the terminals.

Alkalies	Ammonia	Citrates	Phosphates	Citrates	Sulfur Compounds
Amines	Carbonates	Nitrites	Sulfur	Nitrites	Tartrates

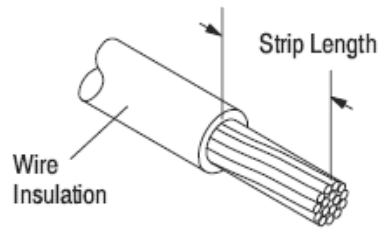
3.2. Wire Size and Preparation

The terminals will accept a wire size range of 22 through 14 AWG and may be terminated to either stranded, fused stranded, or solid lead wire.

Figure 2 lists insulation stripping lengths as determined by the terminal wire size range used. Also listed are acceptable wire insulation outside diameters for the terminals.

CAUTION

DO NOT nick, scrape, or cut the wire conductor during the stripping operation.



NOTE: Not to Scale

STRIP LENGTH	INSULATION DIAMETER	STOCK THICKNESS	WIRE SIZE (AWG)	WIRE BARREL CRIMP HEIGHT	WIRE BARREL CRIMP WIDTH	INSULATION BARREL CRIMP WIDTH			
3.96-4.75 [.156-.187]	— ■	0.46 [.018]	22	1.35-1.24 [.053-.049]	2.29 [.090]	— ■			
			20	1.42-1.32 [.056-.052]					
			18	1.52-1.42 [.060-.056]					
			18	1.68-1.57 [.066-.062]	2.79 [.110]				
			16	1.83-1.73 [.072-.068]					
			14	2.06-1.96 [.081-.077]					
		0.51 [.020]	22	1.42-1.32 [.056-.052]	2.29 [.090]				
			20	1.52-1.42 [.060-.056]					
			18	1.63-1.52 [.064-.060]					
			1.52-2.54 [.060-.100]	0.46 [.018]	22		1.35-1.24 [.053-.049]	2.29 [.090]	3.56 [.140]
					20		1.42-1.32 [.056-.052]		
					18		1.52-1.42 [.060-.056]		
	0.51 [.020]	22		1.42-1.32 [.056-.052]					
		20		1.52-1.42 [.060-.056]					
		18		1.63-1.52 [.064-.060]					
	1.78-3.05 [.070-.120]	0.51 [.020]	22	1.35-1.24 [.053-.049]	2.79 [.110]				
			20	1.42-1.32 [.056-.052]					
			18	1.52-1.42 [.060-.056]					
	2.29-3.56 [.080-.140]	0.51 [.020]	18	1.78-1.68 [.070-.066]	2.79 [.110]	4.57 [.180]			
			16	1.92-1.83 [.076-.072]					
			14	2.16-2.06 [.085-.081]					
		0.46 [.018]	18	1.68-1.57 [.066-.062]					
			16	1.83-1.73 [.072-.068]					
			14	2.06-1.96 [.081-.077]					
2376560-1									
	1.93±0.10 [.076±.004]	0.46[.018]	20single 21*0.18mm	1.26±0.05 [.050±.002]	2.29 [.090]	3.56 [.140]			
	1.58±0.10 [.062±.004]		22single 17*0.16mm	1.20±0.05 [.047±.002]					
❖	1.58±0.10 [.062±.004]		22double 17*0.26mm	1.31±0.05 [.052±.002]					
	1.88±0.10 [.074±.004]		22single 7*0.26mm	1.21±0.05 [.048±.002]					
❖	1.88±0.10 [.074±.004]		22double 7*0.26mm	1.33±0.05 [.052±.002]					

3.96-4.75 [.156-.187]	1.78±0.10 [.070±.004]	0.46Min 0.51Max	22single 7*0.25mm	1.18±0.05[.046±.002]	2.29[.090]	3.56[.140]
	❖ 1.78±0.10 [.070±.004]		22double 7*0.25mm	1.28±0.05[.050±.002]		
3.3-4.0 [.130-.157]	2398997-2/1					
	-	0.50[.018]	22	1.22±0.05[.048±.002]	2.03[.080]	-
			24	1.17±0.05[.046±.002]		
26			1.14±0.05[.045±.002]			

■ Without insulation support barrel.

❖ Double wire crimping

Figure 2

3.3. Crimped Contact Requirements

Terminals shall be located in desired tooling and crimped according to the instructions packaged with that tooling. See Section 5, TOOLING, of this document for details on tooling options and instructional materials.



Wire insulation shall NOT be cut or broken during the crimping operation, nor shall the insulation be crimped into the contact wire barrel. Reasonable care should be taken by tooling operators to provide undamaged wire terminations.

A. Terminal Wire Barrel Configurations

The terminal wire barrel shall be crimped to a configuration as shown in Section X-X of Figure 3. Refer to the table in Figure 2 for crimp height and width dimensions.

B. Terminal Crimp Features

Figure 3 shows a typical terminal as it should appear after crimping.

1. *Crimp Length*

For optimum crimp effectiveness, the crimp must be within the area shown and must meet the crimp requirements provided in Figure 3. Effective crimp length is defined as that portion of the wire barrel, excluding bellmouth(s), fully formed by the crimping tool. Instructions for adjusting, repairing, and inspecting tools are packaged with the tools. See Figure 7.

2. *Conductor Location*

The end of the wire shall be flush with the front end of the wire barrel or extend 0.79 mm [.031 in.] maximum.

3. *Wire Barrel Seam*

The wire barrel seam must be closed with no evidence of loose wire strands visible in the seam.

4. *Bellmouth*

Front and rear bellmouths shall be formed and adhere to the dimensions given.

5. *Cutoff Tab*

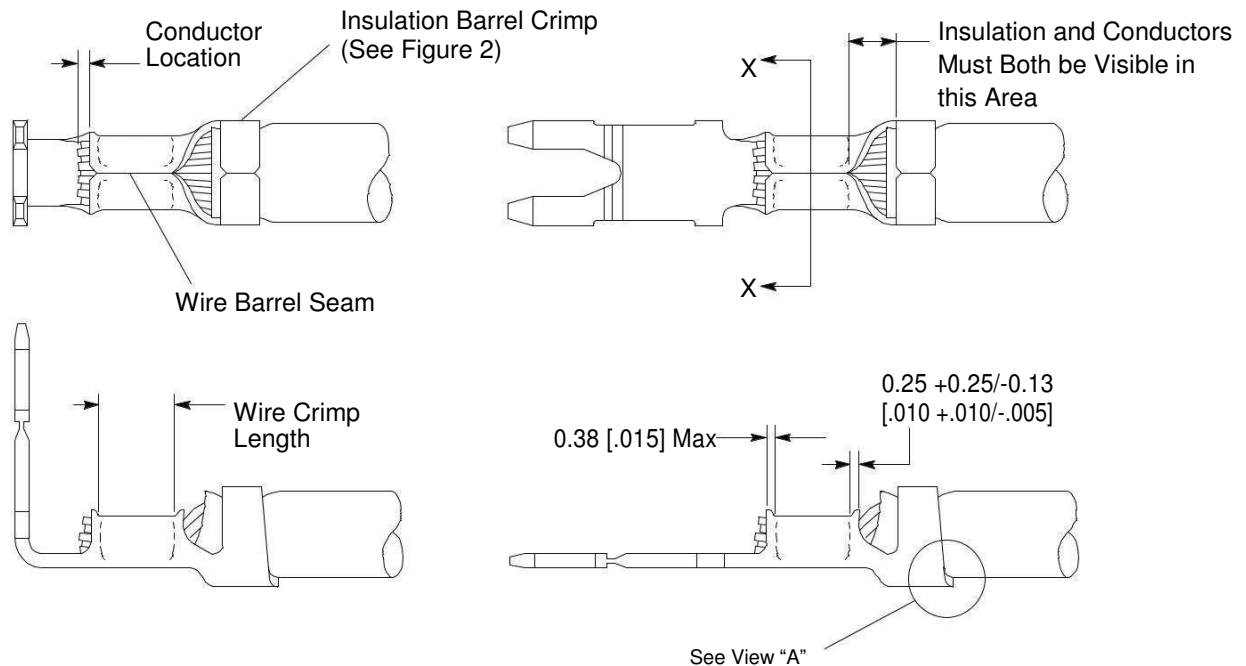
The cutoff tab shall be cut to the dimensions shown.

6. *Burrs*

The cutoff burr shall not exceed the dimensions shown.

7. *Flash*

The wire barrel flash shall not exceed the dimensions shown in Section X-X.



NOTE: Crimp features apply to all MAG-MATE Poke-In Tab Terminals.

Figure 3 (cont'd)

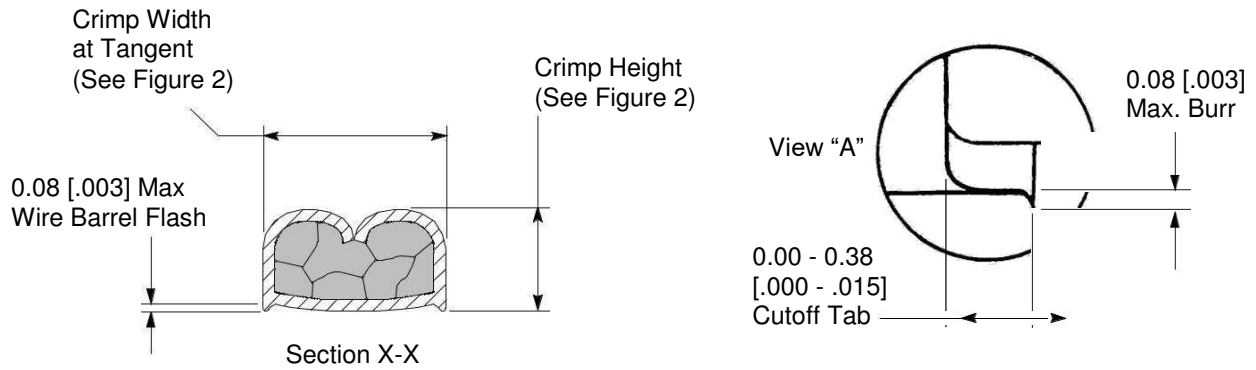


Figure 3 (end)

3.4. Crimped Contact Straightness

A. Twist or Roll

There shall be no twist or roll in the crimped portion that will impair usage of the tab terminal.

B. Straightness

The force applied during crimping may cause some bending between the crimped wire barrel and the uncrimped mating portion of the terminal. Such deformation is acceptable within the following limits.

1. Up and Down

The crimped terminal, including cutoff tab and burr, shall not be bent above or below the datum line more than the amount shown in Figure 4.

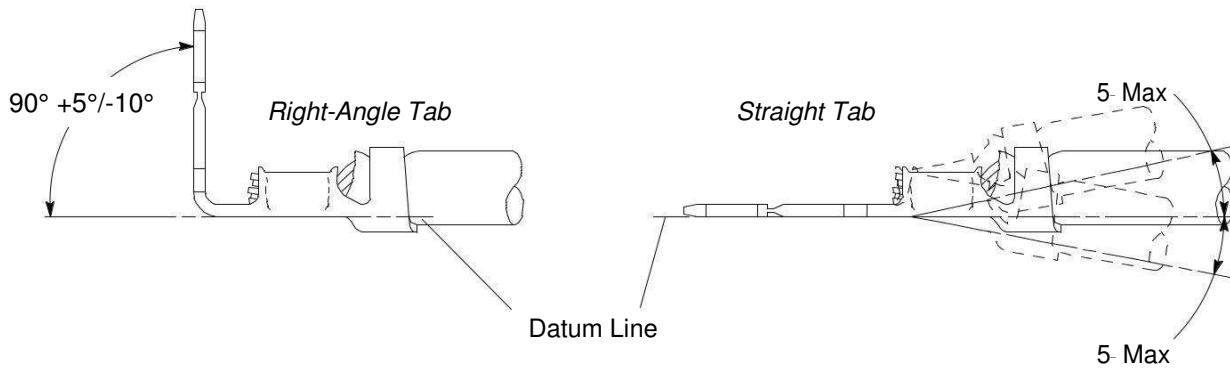


Figure 4

2. Side-to-Side

The side-to-side bending of the terminal may not exceed the limits provided in Figure 5.

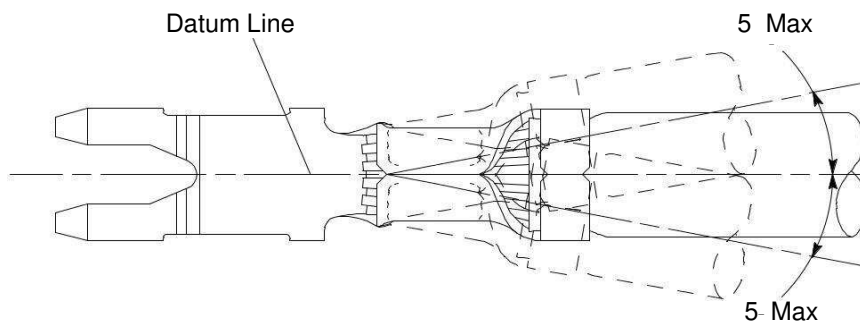


Figure 5

3.5. Terminal Retention

When using MAG-MATE Poke-In Tab Terminals with MAG-MATE Poke-In Terminals, one of the serrations shall be engaged with the edge of the leaf for optimum retention. See Figure 6.



DO NOT pick up or carry MAG-MATE Poke-In Assemblies by the wires. Doing so could cause stress and potentially damage the Poke-In interface connection. Strain relief is recommended for the Poke-In wires.

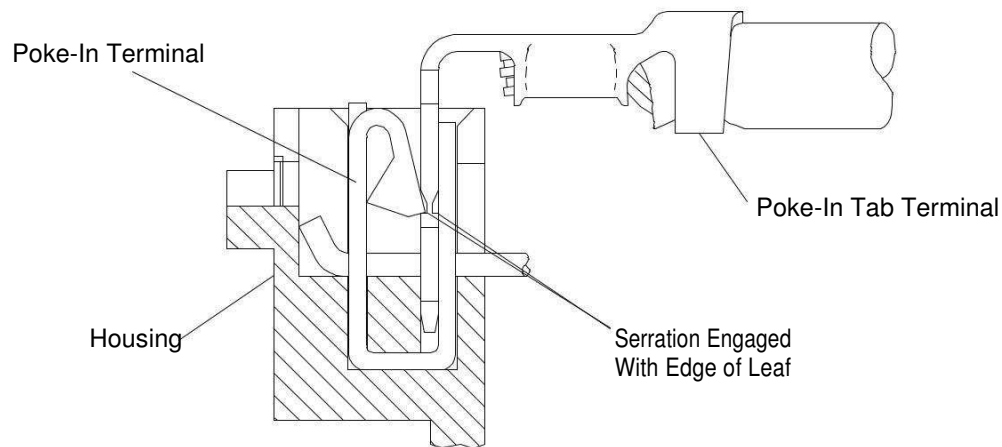


Figure 6

3.6. Repair/Replacement

Terminals are not replaceable once a termination has been made. Any defective or damaged terminal must be removed and replaced with a new one.

4. QUALIFICATION

Some part numbers within the MAG-MATE Poke-In Tab Terminals are Recognized under the Component Program of Underwriters Laboratories, Inc., (UL). Contact the Product Information number at the bottom of page 1 for specific information on these part numbers.

5. TOOLING

These terminals are terminated using semi-automatic crimping tools. Recommended tooling and related instructional material is provided in Figure 7.



Tool Engineers have designed machines for a variety of application requirements. For assistance in setting up prototype and production line equipment, contact Tyco Electronics Tool Engineering through your local Tyco Electronics Representative or call the Tooling Assistance Center number at the bottom of page 1.

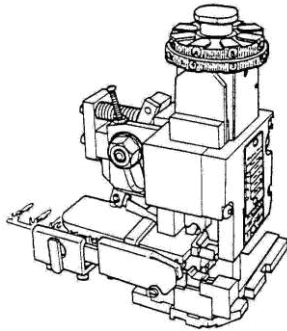
- Applicators are designed for the full wire size range of strip-fed, precision formed contacts, and provide for high volume, heavy duty, production requirements. The applicators can be used in bench or floor model power units.



Each applicator is shipped with a metal identification tag attached. DO NOT remove this tag or disregard the information on it. Also, a packet of associated paperwork is included in each applicator shipment. This information should be read before using the applicator; then it should be stored in a clean, dry area near the applicator for future reference. Some changes may have to be made to the applicators to run in all related power units. Contact the Technical Assistance Center number located at the bottom of page 1 for specific changes.

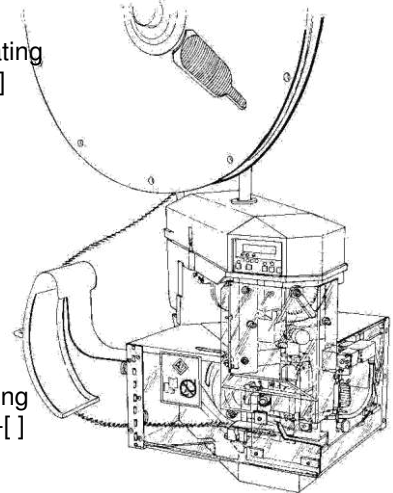
- Power Units are an automatic or semi-automatic device used to assist in the application of a product. Power units include the power source used to supply the force or power to an applicator.

WIRE SIZE RANGE, AWG	INSULATION DIAMETER	STOCK THICKNESS	APPLICATOR (DOCUMENT)	POWER UNIT (DOCUMENT)
22-18	---	0.51 [.020]	466856-1 (408-8040)	122500-2, -3 (409-5852) 356500-1, -2 (409-5878) 354500-1 (409-5842) 1725950-3, -4, -8 (409-10047)
		0.46-0.51 [.018-.020]	466856-2 (408-8040) 466856-3 (408-8040)	
		0.46 [.018]	567165-2 (408-8040)	
	1.52-2.54 [.060-.100]	0.46-0.51 [.018-.020]	466870-2 (408-8040)	
18-14	2.29-3.56 [.090-.140]	0.51 [.020]	567271-2 (408-8039) 567470-2 (408-8040)	354500-1, -9, -10, -11 (409-5842) 1490501-1, -9, -11 (409-10029) 1725910-1, -3, -4 (409-10027) 1725950-1, -2, -5, -6, -7, -9 (409-10047) 354500-1 (409-5842)
	---	0.51 [.020]	680084-2 (408-8040)	
			680084-3 (408-8040)	
	2.29-3.56 [.090-.140]	0.46 [.018]	1852393-3 (408-8040)	
	---	0.46 [.018]	2836654-X	
2836655-X				

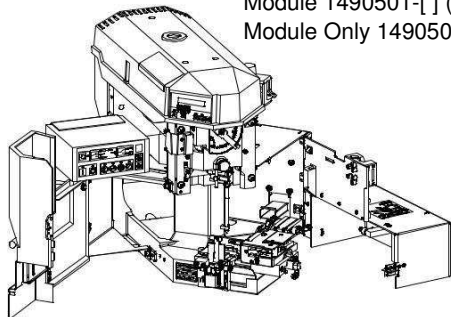


Applicator (Typical)

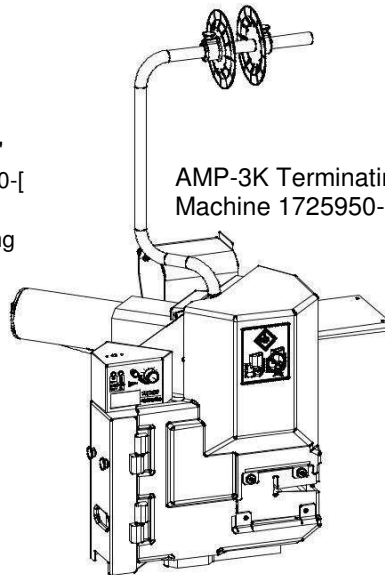
AMP-O-LECTRIC Model •G" Terminating Machine 354500-[]



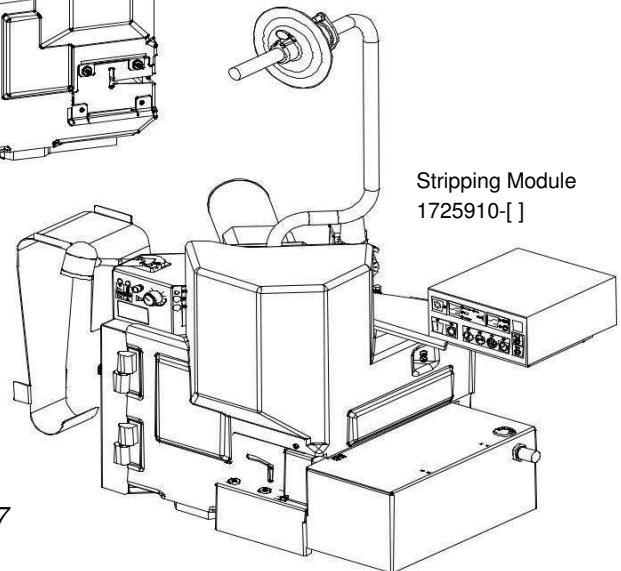
AMP-O-LECTRIC Model •G" Terminating Machine 354500-[] with Optional Stripping Module 1490501-[] (Stripping Module Only 1490503-[])



AMP-3K Terminating Machine 1725950-[]



Stripping Module 1725910-[]



AMPOMATOR CLS Lead-Making Machines 122500-[]; 356500-[]

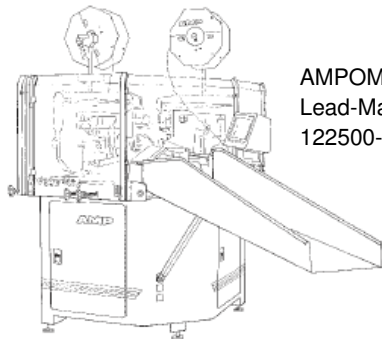


Figure 7

6. VISUAL AID

Figure 8 shows a typical application of a MAG-MATE Poke-In Tab Terminal. This illustration should be used by production personnel to ensure a correctly applied product. Applications which DO NOT appear correct should be inspected using the information in the preceding pages of this specification and in the instructional material shipped with the product or tooling.

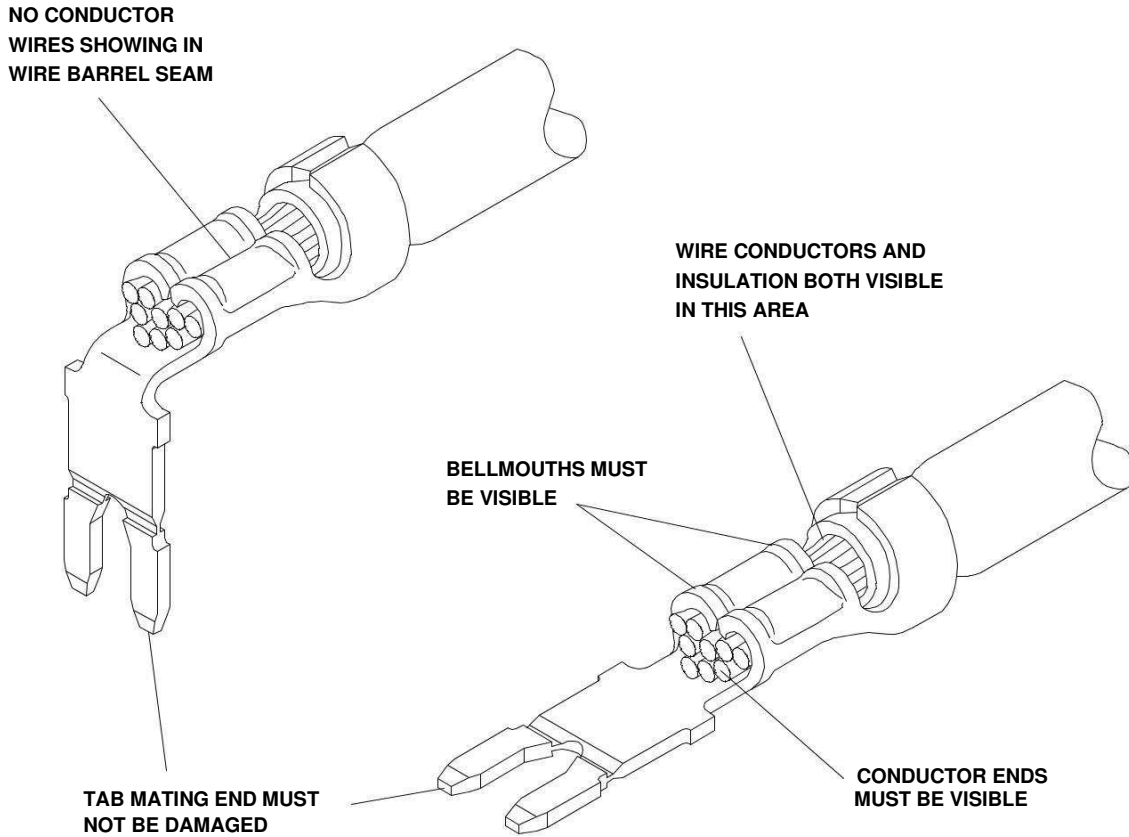


FIGURE 8. VISUAL AID