

**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  $\pm 0.13$  [ $\pm .005$ ] 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 the AMPLIVAR FASTON Tab Contacts. These requirements are applicable to automatic machine crimping tools. For specific CMA (Circular Mil Area) ranges relative to the products covered in this specification, see Figure 2.

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

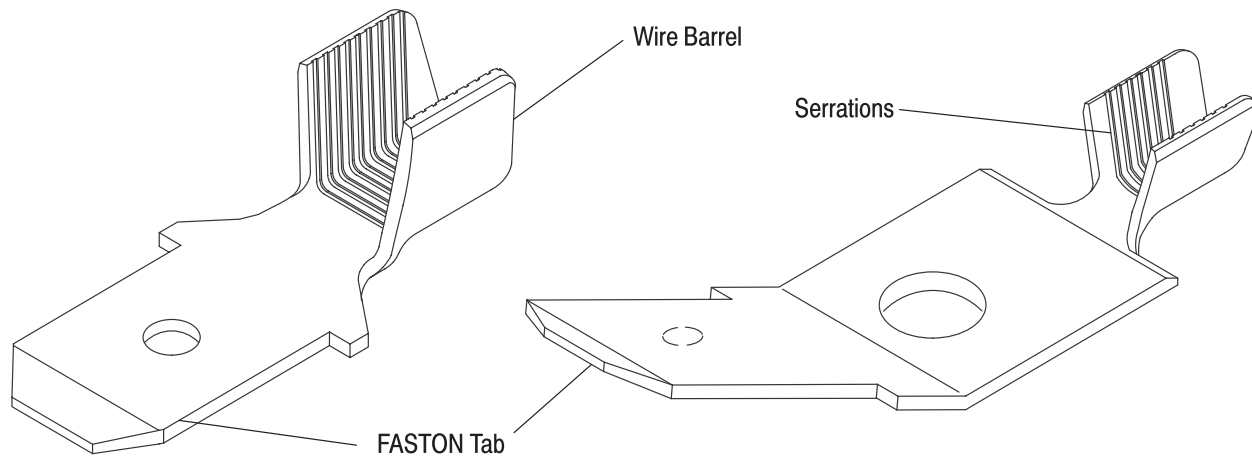


Figure 1

**2. REFERENCE MATERIAL**

**2.1. Revision Summary**

This paragraph is reserved for a revision summary of changes and additions made to this specification. The following changes were made to this revision.

- Updated document to corporate requirements
- Deleted obsolete part numbers and related information
- Complete revision including artwork and text

**2.2. Customer Assistance**

Reference Base Part Number 63136 and Product Code 1100 are representative numbers of AMPLIVAR FASTON Tab Contacts. 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 Product Information number at the bottom of page 1.

**2.3. Drawings**

Customer Drawings for product part numbers are available from the service network.

**2.4. 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.

Document Number	Document Title
408-8039	Heavy Duty Miniature Quick-Change Applicators (End-Feed Type)
408-8040	Heavy Duty Miniature Quick-Change Applicators (Side-Feed Type)
408-9640	Crimp Quality Monitor Applicators for Side-Feed and End-Feed Applications
409-5128	Basic AMP-O-LECTRIC* Model "K" Machine 471273-[ ]
409-5842	AMP-O-LECTRIC Model "G" Terminating Machines 354500-[ ] and 1213127-[ ]
409-10047	3K Terminating Machine 1725950 and 5K Terminating Machine 1725900
409-10078	DT 3000 and DT 5000 Machines with SLE Crimp Quality Monitors

**3. REQUIREMENTS**

**3.1. Material**

The contacts are manufactured from pre-milled 2H brass.

**3.2. Storage**

The contacts should remain in their shipping containers and on the reels until ready for use. The coiled contact reels should be stored horizontally to prevent deformation during storage that could prevent proper feeding through the applicator. The contacts should be used on a first in, first out basis to prevent storage contamination that could occur over an extended period of time.

**3.3. Special Characteristics**

The contact wire barrel has serrations designed to penetrate the exterior coating of magnet wire and form a good air-tight termination. There are contacts available for 200 through 7090 CMA. Contacts are available as standard and reverse coil reeled. They are designed to mate with a variety of FASTON Series 187 and 250 Receptacle Contacts. There are mini-applicators and machine power units to accommodate the contact reeling designs and contact crimp requirements.


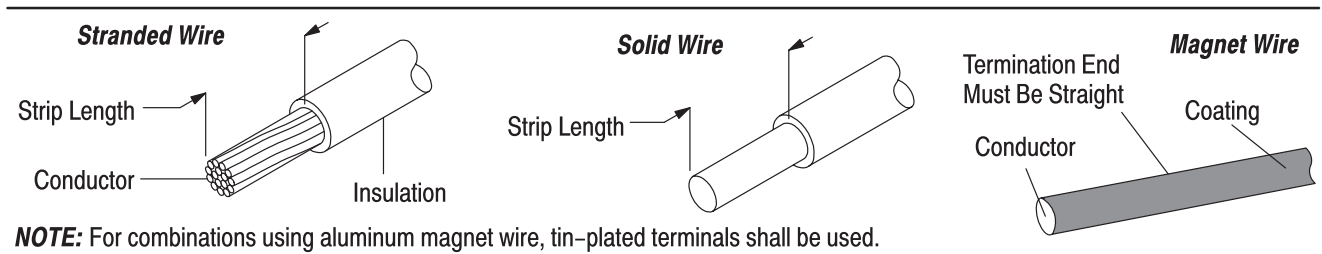
**3.4. Wire**

The wire conductor shall be stranded or solid and evenly covered with a lacquer coating. No special preparation of magnet wire is necessary. The only requirement is that the wire end must be straight and without deformations. There are contact designs for single and multiple wire applications. Individual wire sizes and crimp dimensions for which contact designs are available are provided in Figure 2.

Ratio of magnet wire diameters crimped in any terminal shall not exceed 2:1. This ratio is approximately a range from the largest to the smallest magnet wire of six sizes.

The sum of the diameters of the individual magnet wires plus twice the wire barrel stock thickness shall not exceed the wire barrel crimp width as indicated in Figure 3.

**CAUTION** *The lead wire shall be stripped as indicated but reasonable care shall be taken not to nick, scrape, or cut any strands or the solid wire during the stripping operation.*

**NOTE:** For combinations using aluminum magnet wire, tin-plated terminals shall be used.

WIRE SIZE (CMA)	LEAD WIRE STRIP LENGTH	WIRE BARREL CRIMP		
		HEIGHT	WIDTH	TYPE
200-566	6.35 [.250]	Because of the variety of combinations of lead and magnet wires available for these tab contacts, contact Tyco Electronics for specific wire barrel crimp heights.	1.40 [.055]	F
400-1360	6.35 [.250]		1.78 [.070]	F
4110-7090	6.35 [.250]		3.56 [.140]	F

Figure 2

**3.5. Crimped Contact Criteria**

**A. Crimp Height**

The crimp applied to the wire barrel portion of the contact is measured within the most compressed area, and is most critical in ensuring optimum electrical and mechanical performance of the crimped contact. The contact wire barrel crimp height (contact Tyco Electronics) and crimp width (see Figure 2) must be within the dimensions.

**B. Effective Crimp Length**

The effective crimp length is the area where the optimum crimp pressure is applied over the length of the wire barrel. It does not include the bellmouth area. The crimp should be measured in the area shown in Figure 3.

**C. Bellmouth**

A bellmouth caused by the extrusion of metal during crimping is permissible within the limits provided in Figure 3.

**D. Cutoff Tab and Burr**

The cutoff tab and burr resulting from the contact being cut from the carrier strip must be within limits shown in Figure 3.

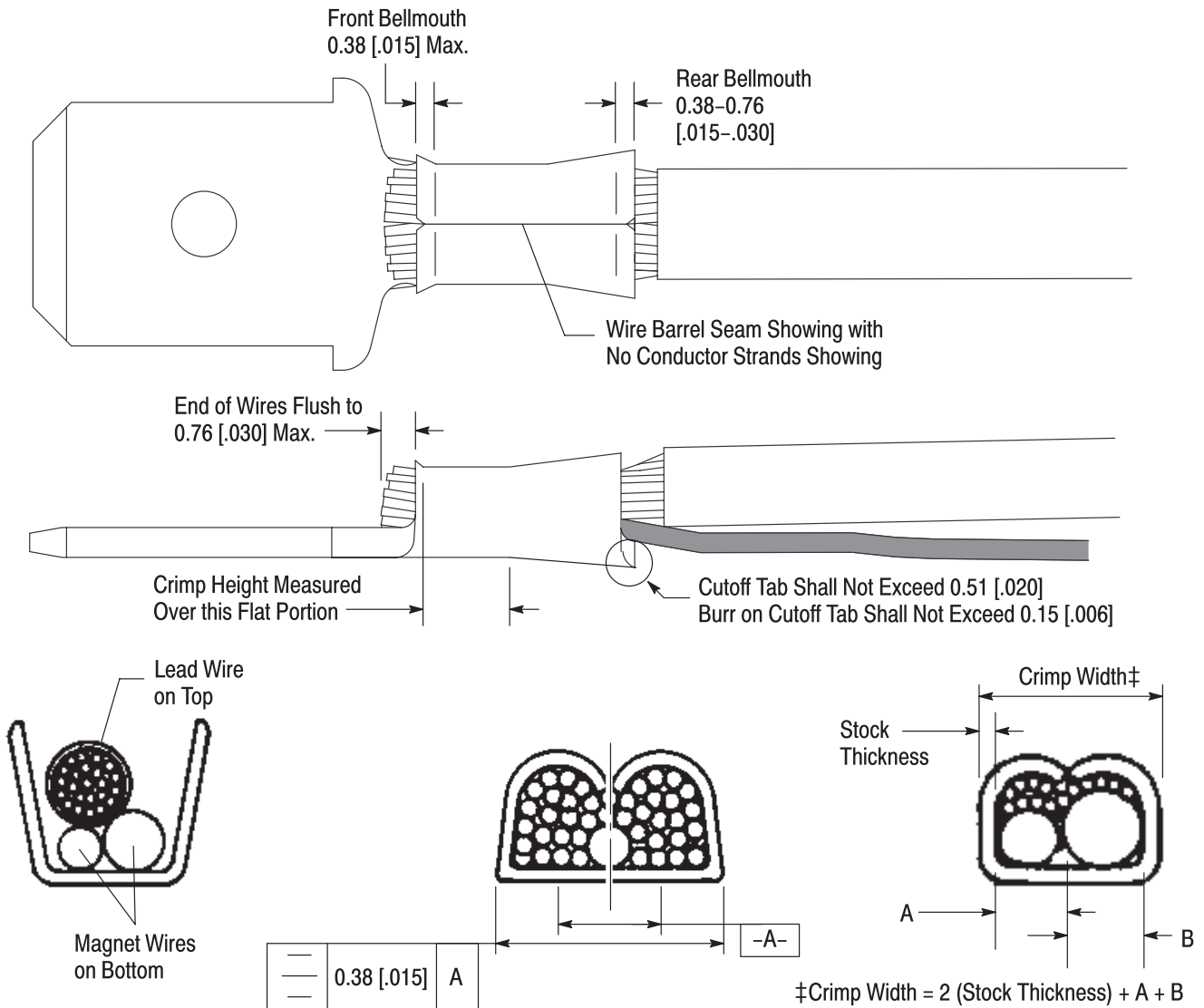


Figure 3

**E. Wire Location**

After crimping, the end of the magnet wire must be at least flush with the end of the wire barrel. It may extend beyond the end of the wire barrel. The extension from the end of the wire barrel will depend on your application requirements. See Figure 3.

Magnet wire(s) shall lie in the bottom of the wire barrel as indicated in Figure 3, with the lead wire on top.



*Care shall be taken not to allow the lead wire insulation to be crimped in the wire barrel.*

**F. Wire Barrel Seam**

Wire barrel seam shall be completely closed with no loose wire strands or wire strands visible in the wire barrel seam. See Figure 3.

**G. Twist or Roll**

The crimped wire must be aligned with uncrimped portion of contact to within the limit shown in Figure 3.

**H. Straightness**

The force applied during crimping may cause some bending between the crimped wire barrel and the uncrimped portion of the contact. Such deformation is acceptable within the up and down, and side to side limits provided in Figure 4.

**1. Up and Down**

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

**2. Side-to-Side**

The side-to-side bending of the contact may not exceed the limits provided in Figure 4.

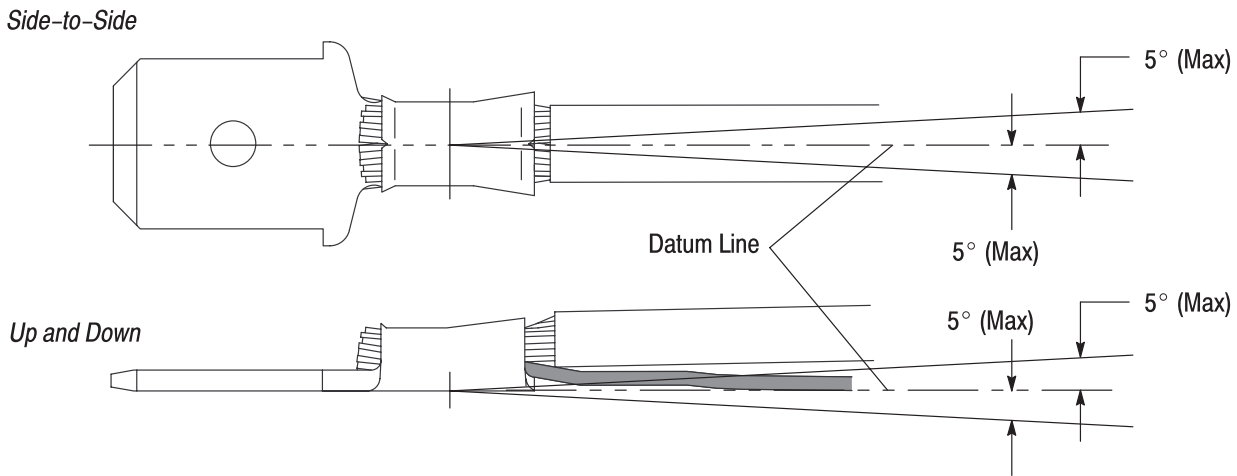


Figure 4

**3.6. Repair**



*Damaged product should not be used. If a damaged contact is evident, it should be cut from the wire and replaced with a new one.*

**4. QUALIFICATION**

AMPLIVAR FASTON Tab Contacts are not required to be agency approved.

5. TOOLING

Contacts are designed to be crimped with Miniature Quick-Change Applicators, which can be used in Machine Power Units. The recommended tooling and instructional material is provided in Figure 5.



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

• **Applicators**

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.



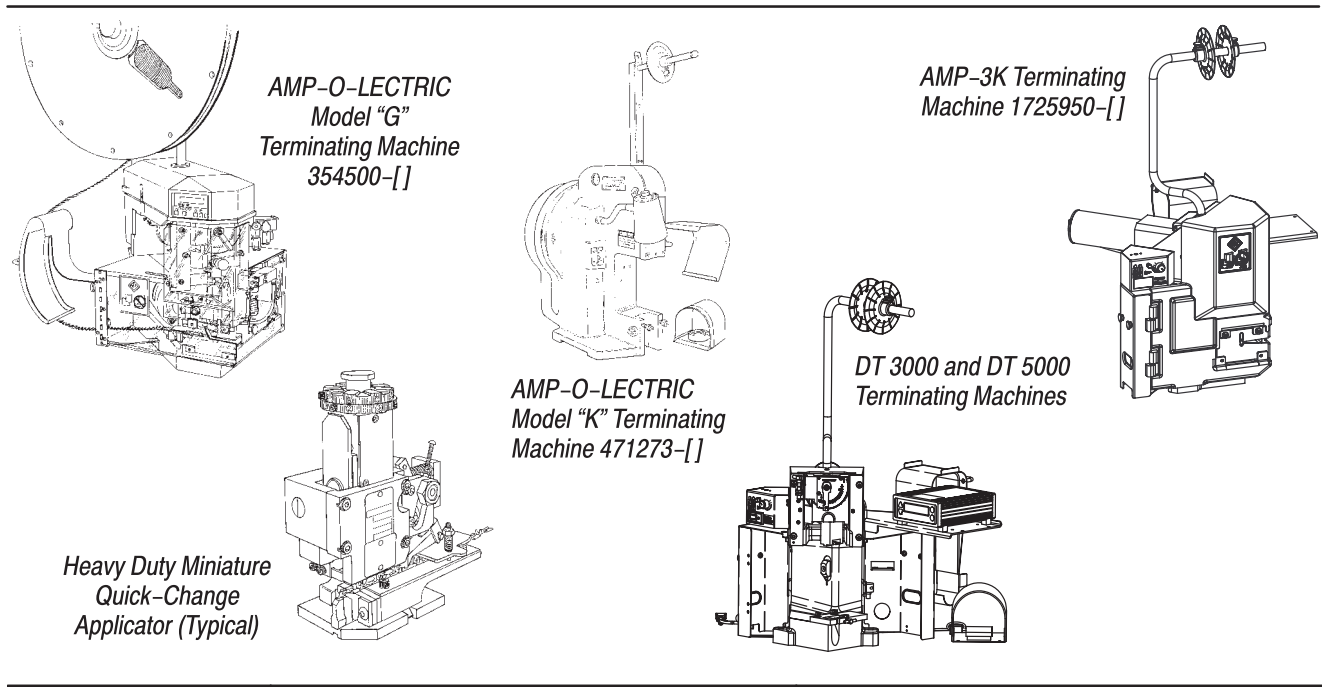
*Each applicator is shipped with a metal identification tag attached. DO NOT remove this tag or disregard the information on it. Also, a packet of associated paperwork is included in each applicator shipment. This information should be read before using the applicator; then it should be stored in a clean, 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 Tooling Assistance Center number at the bottom of page 1 for specific changes.*

• **Power Units**

A power unit is an automatic or semi-automatic device used to assist in the application of a product. Power unit includes the power source used to supply the force or power to an applicator.



*The Model "K" AMP-O-LECTRIC Terminating Machine 565435-5 has been superseded by the Model "G" Terminating Machine 354500-1 for new applications. For existing applications, the Model "K" is still recommended because of the large number of installed machines.*

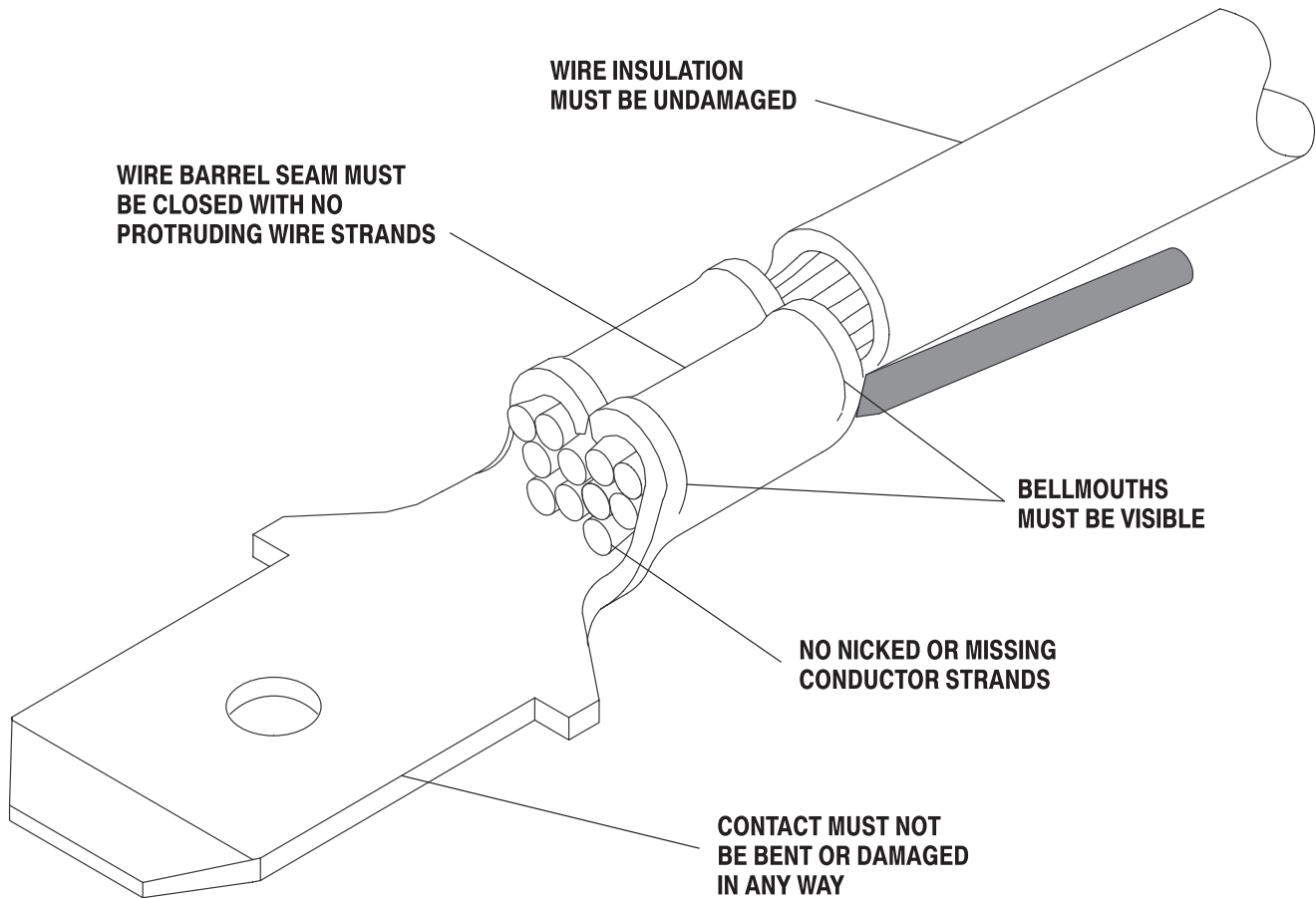


WIRE SIZE RANGE (CMA)	APPLICATOR		POWER UNIT	
	PART NUMBER	DOCUMENT	PART NUMBER	DOCUMENT
200-566	567076-1	408-8040	354500-1	409-5842
400-1360	567075-1		1725950-3, -4	409-10047
4110-7090	466510-1	408-8039	1901700-[]	409-10078
	566221-1	(---)	1-471273-3	409-5128

Figure 5

## 6. VISUAL AID

Figure 6 shows a typical application of an AMPLIVAR FASTON Tab Contact. 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 6. VISUAL AID**