



NOTE

All numerical values are in metric units [with U.S. customary units in brackets]. Dimensions are in millimeters. Unless otherwise specified, dimensions have a tolerance of ± 0.13 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 GET New Generation Female 0.64 mm Socket Contacts. These contacts will accept a wire size range of 0.22 to 1.5 mm² [22-16 AWG] as listed in Figure 2. The application requirements are applicable to automatic machine crimping tools.

When corresponding with TE Connectivity 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.

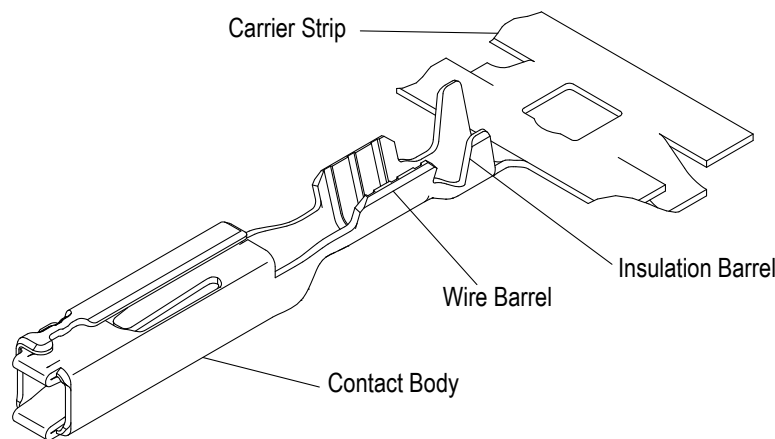


Figure 1

2. REFERENCE MATERIAL

- Updated document to corporate requirements
- Added new information to table in Figure 2

2.1. Customer Assistance

Reference Product Base Part Number 1924878 and Product Code E626 are representative of the GET New Generation Female 0.64 mm Socket Contacts. Use of these numbers will identify the product line and help you to obtain product and tooling information. Such information can be obtained through a local TE Representative, by visiting our website at www.te.com, or by calling PRODUCT INFORMATION or the TOOLING ASSISTANCE CENTER at the numbers at the bottom of page 1.

2.2. Drawings

Customer Drawings for product part numbers are available from the service network. If there is a conflict between the information contained in the Customer Drawings and this specification or with any other technical documentation supplied, call the Product Information Center at the number at the bottom of this page.

2.3. Instructional Material

The following list includes available Instruction Sheets (408-series) which provide assembly procedures for operation, maintenance, and repair of tooling; and Customer Manuals (409-series) that provide machine setup and operation procedures. Documents available which pertain to this product are:

<u>Document Number</u>	<u>Document Title</u>
408-3295	Preparing Reel of Contacts for Application Tooling
408-7424	Checking Terminal Crimp Height or Gaging Die Closure
408-8040	Heavy Duty Miniature Quick-Change Applicators (Side-Feed Type)
408-8053	Conversion Guide for Miniature Quick-Change Applicators
408-8059	General Preventive Maintenance for Applicators
408-8598	GET Market Female Connector Mounting and Dismounting Instructions (Sealed)
408-8599	GET Market Female Connector Mounting and Dismounting Instructions (Unsealed)
408-9816	Handling of Reeled Products
409-5842	AMP-O-ELECTRIC* Model "G" Terminating Machines 354500-[]
409-5866	AMPOMATOR* CLS IV Lead-Making Machine 217500-[]

3. REQUIREMENTS

3.1. Safety

Do NOT store contact reels so high that they buckle or become deformed.

3.2. Storage

A. Ultraviolet Light

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

B. Reeled Contacts

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

C. Shelf Life

The contacts should remain in the shipping containers until ready for use to prevent deformation to the contacts and/or damage to the housings. The contacts should be used on a first in, first out basis to avoid storage contamination that could adversely affect signal transmissions.

D. Chemical Exposure

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

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



NOTE

Where the above environmental conditions exist, phosphor-bronze contacts are recommended instead of brass if available.

3.3. Materials

The socket contact is made from a copper alloy. Contacts are available with tin plating.

3.4. Wire Size and Preparation

The contacts will accept standard metric and AWG wire sizes as shown in Figure 2.



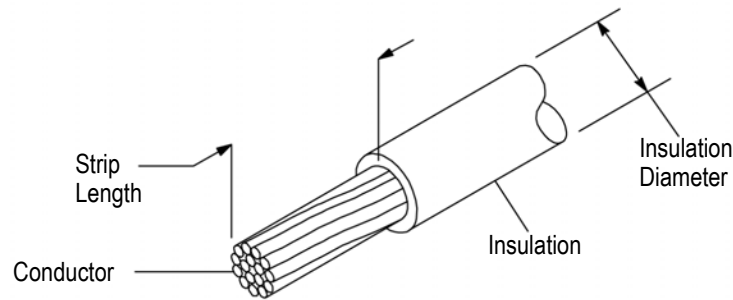
NOTE

The applied crimp dimension (within the functional range of the product) is dependent on the termination tooling being used. Refer to the documentation (applicator logs and instruction sheets) supplied with the termination tooling for the applied crimp height. See Section 5, TOOLING.

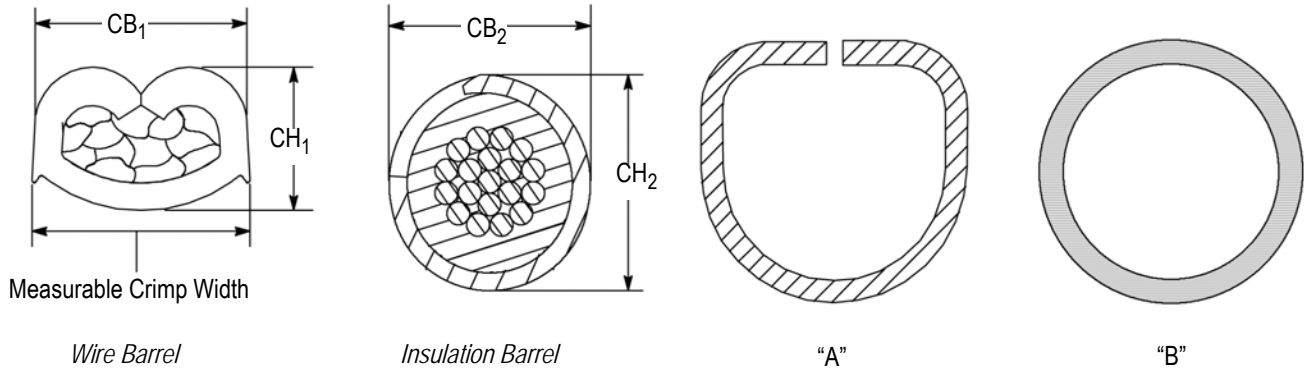


CAUTION

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



Insulation Crimp Shape



WIRE SIZE		NUMBER OF STRANDS	INSUL. DIA	STRIP LENGTH (REF) ◀	FRONT BELLMOUTH	CRIMP DIMENSION						
mm ²	AWG					WIRE BARREL			INSULATION BARREL		SHAPE	
						MEASUREABLE CRIMP WIDTH	CB ₁ ±0.05 (REF)	CH ₁ ±0.03	CB ₂ ±0.05	CH ₂ ±0.05		
2x0.13†	---	7	0.85-1.05	3.5 ±0.2	Allowed	1.31 ±0.05	1.27‡	0.74	1.83 1.93• Max	1.9 Max	B	
0.22	---	7	1.1-1.2	3.5 ±0.2	Allowed	1.31 ±0.05	1.27‡	0.74	1.83 1.93• Max	1.9 Max	B	
0.35	---	7	1.3-1.4					0.82				
---	22	7	1.65 Max					0.80				
0.5	---	7	1.4-1.6			1.64 ±0.05	1.57‡	0.89	1.02	1.83 2.05• Max	2.1 Max	A
0.75	---	19	1.7-1.9									
---	20	19	1.9 Max									
---	18	19	2.06 Max									
1.00	---	19	2.1 Max	4.2 ±0.2	Allowed	1.79 ±0.05	1.73‡	1.12 ±0.05	1.83 2.05• Max	2.1 Max	B	
1.5	---	30	2.4 Max	3.9 ±0.2	Not Allowed	2.03 ±0.05	1.96‡	1.40 ±0.05	2.23 2.29• Max	2.29	B	
1.5	---	19	2.4 Max	3.9 ±0.2	Not Allowed	2.03 ±0.05	1.96‡	1.42 ±0.05	2.23 2.29• Max	2.29	B	
---	16	19						1.31 ±0.05				

◀Strip length is dependent on wire and insulation type used. Actual strip length may vary from the value provided in table as long as the requirements of Figure 7 are met. •Crimp width CB₂ may deviate from the normal dimension up to the values given. ‡Crimp width CB₁ provided as reference as cross-section is necessary to perform measurement. †Qualification completed with Delphi M5647 (CuMg02) wire.

Figure 2

3.5. Crimped Contact Requirements

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

**CAUTION**

Wire insulation shall NOT be fully 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.

**NOTE**

Wire stripping tool jaws may leave corrugated indentions on the surface of the wire insulation. This is especially severe with cross-linked polyethylene (high temperature) insulation.

A. Wire Barrel Crimp

The crimp applied to the wire portion of the contact is 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 must be within the dimension provided in Figure 2.

B. Effective Crimp Length

For optimum crimp effectiveness, the crimp must be within the area shown. Effective crimp length shall be 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 Section 5, TOOLING.

C. Bellmouths

The size of the rear and front bellmouths depends on the wire size range. Permissible dimensions are given in Figure 3.

**NOTE**

For 1.5 mm² [16 AWG] applications, no front bellmouth is permitted. Front bellmouth with 1.5 mm² [16 AWG] crimps may be difficult to insert into plastic housing.

D. Cutoff Tabs

The cutoff tab shall be cut to the dimensions shown in Figure 3.

E. Burrs

The cutoff burr shall not exceed the dimensions shown in Figure 3.

F. Wire Barrel Flash

The wire barrel flash shall not exceed the dimensions shown in Application Specification 114-18022.

G. Insulation Barrel Crimp

The insulation barrel shall grip the insulation firmly without fully cutting into it. Insulation crimp shall comply to width and height provided in Figure 2.

**CAUTION**

Care must be taken to prevent cutting, nicking, or scraping of the insulation.

H. Wire Location

The wire conductor and insulation must be visible in the transition area between the wire and insulation barrels as shown in Figure 3.

I. Conductor Extension

The conductor may extend beyond the wire barrel to the maximum shown in Figure 3. No strands may extrude over the height of the conductor crimp. See Figure 3.

**NOTE**

For sealed (mat seal) applications, the conductor end must not extend more than 0.1 mm beyond the front edge of the conductor crimp.

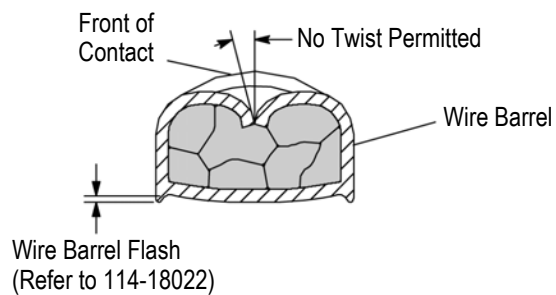
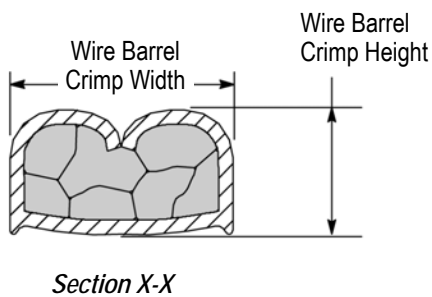
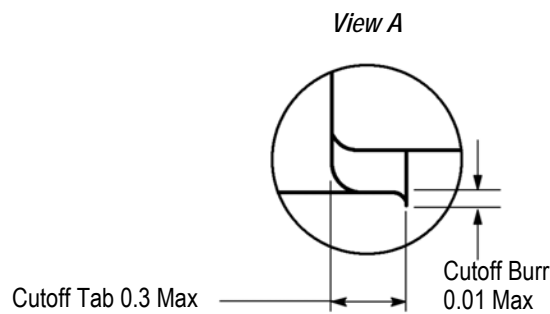
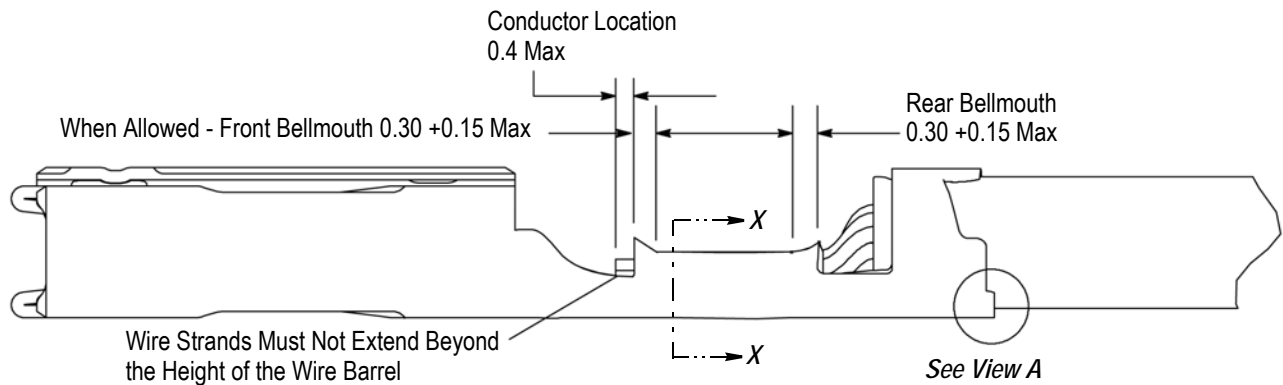
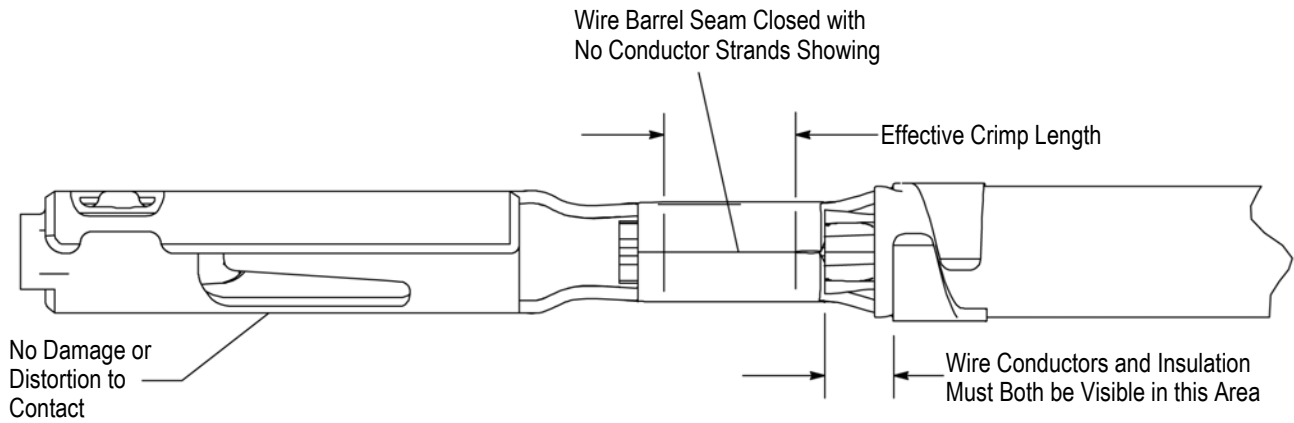


Figure 3

J. Wire Barrel Seam

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

K. Twist and Roll

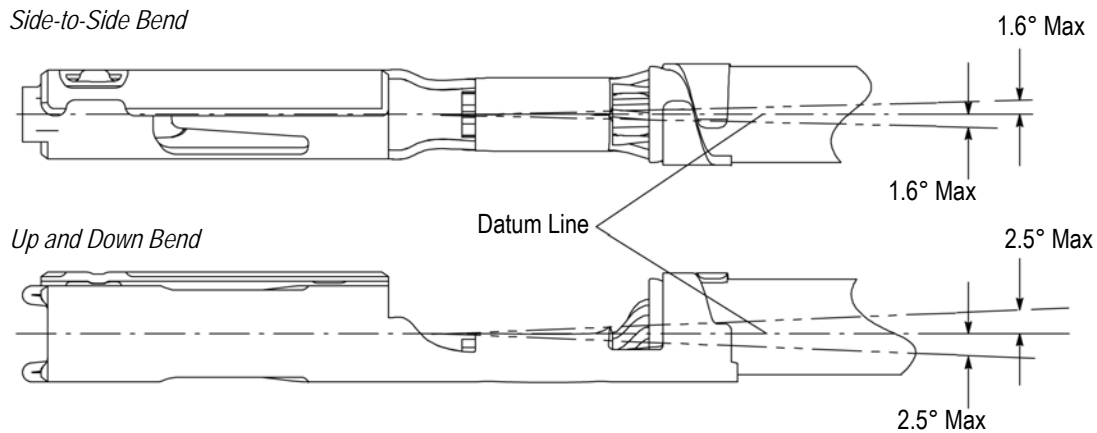
There shall be no twist, roll, deformation or other damage to the mating portion of the crimped contact that will impair usage of the contact. See Figure 3.

L. Straightness

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

1. The up and down bend of the crimped contact, including cutoff tab and burr, shall not be bent above or below the datum line more than the amount shown.
2. The side-to-side bend of the contact may not exceed the limits provided.

i **NOTE**
 Periodic inspections must be made to ensure crimped contact formation is consistent as shown.



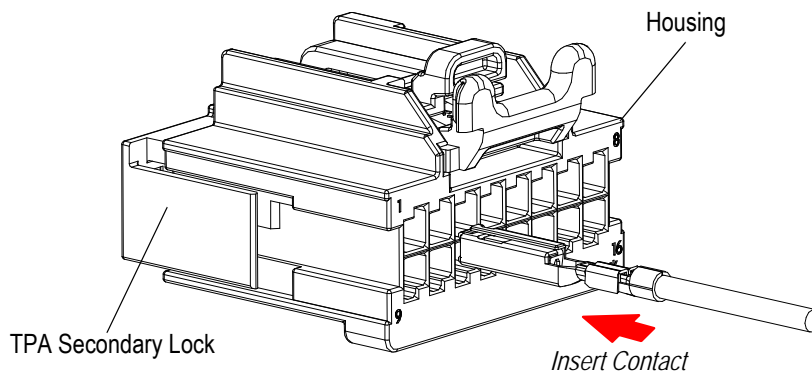
NOTE: Angles are drawn for clarification only and are not drawn to scale.

Figure 4

3.6. Contact Insertion/Removal

Refer to the TE instruction sheet for the connector housing assembly. The information provided herein is for general reference only. If there is a conflict between the information contained in the instruction sheets listed in this document and the connector specific instruction sheet, then the connector instruction sheet shall be used. See Figure 5.

To extract the contact from the housing, use Extraction Tool 3-1579007-6. Refer to Section 5, TOOLING.



i **NOTE**
 Refer to Instruction Sheet 408-8598 for Sealed Applications and 408-8599 for unsealed applications.

Figure 5

3.7. Contact Repair

**CAUTION**

Once a contact has been damaged, it cannot be used. If a damaged contact is evident, it must be cut from the wire and removed and replaced with a new contact. Do NOT reterminate contacts.

4. QUALIFICATIONS

The GET New Generation Female 0.64 mm Socket Contact is USCAR2/USCAR21 Qualified. They are not required to be agency approved.

5. TOOLING

This section provides a selection of tools for various application requirements. Modified designs and additional tooling concepts may be available to meet other application requirements. A list of tooling recommendations and instructional material packaged with the tooling covering the full wire size range is provided in Figure 6.

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 TE Representative or call the Tooling Assistance Center number at the bottom of page 1.

5.1. 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.

**NOTE**

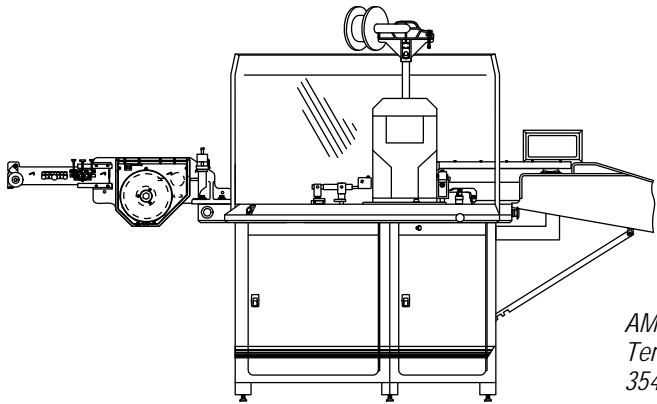
Each applicator is shipped with a metal identification tag attached. DO NOT remove this tag or disregard the information on it. Also, a packet of associated paperwork is included in each applicator shipment. This information should be read before using the applicator; then it should be stored in a clean,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

5.2. Power Units

A power unit is an automatic or semi-automatic machine used to assist in the application of a product. Power units provide the force required to drive the applicator.

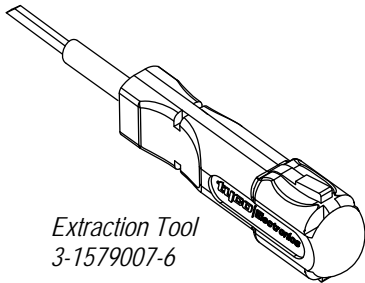
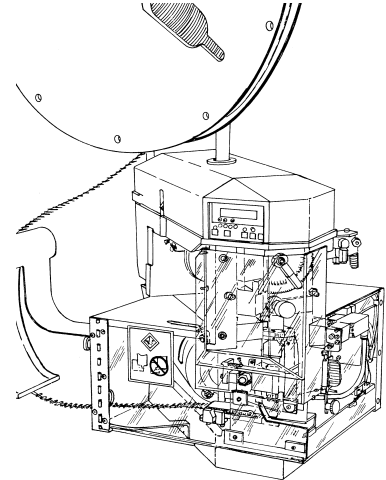
5.3. Extraction Tool

The extraction tool is used to release the contacts inside the connector housings without damaging the housing or contacts.

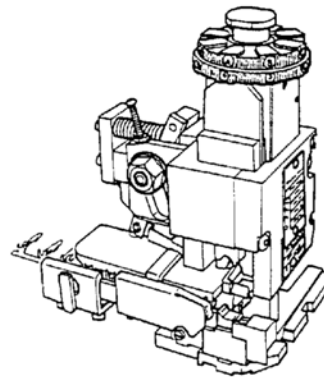


AMPOMATOR CLS IV
Lead-Making Machine
217500-[] (409-5866)

AMP-O-LECTRIC Model "G"
Terminating Machine
354500-[] (409-5842)



Extraction Tool
3-1579007-6



HD Quick Change
Applicators (408-8040)

WIRE SIZE		INSULATION DIAMETER	APPLICATOR (408-8040) FOR POWER UNIT	
mm ²	AWG		CLS 217500 (409-5866)	MODEL "G" 354500-[] (409-5842)
0.22	---	1.1-1.2	1855372-1	1855372-2, -3
0.34	---	1.3-1.4		
---	22	1.65 Max	1855371-1	1855371-2, -3
0.5	---	1.4-1.6		
0.75	---	1.7-1.9		
---	20	1.9 Max		
---	18	2.06 Max	1855368-1	1855368-2, -3
1.0	---	2.1 Max		
1.5	---	2.1 Max		
---	16	2.4 Max	1855369-1	1855369-2, -3

Figure 6

6. VISUAL AID

The illustration below shows a typical application of this product. 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.

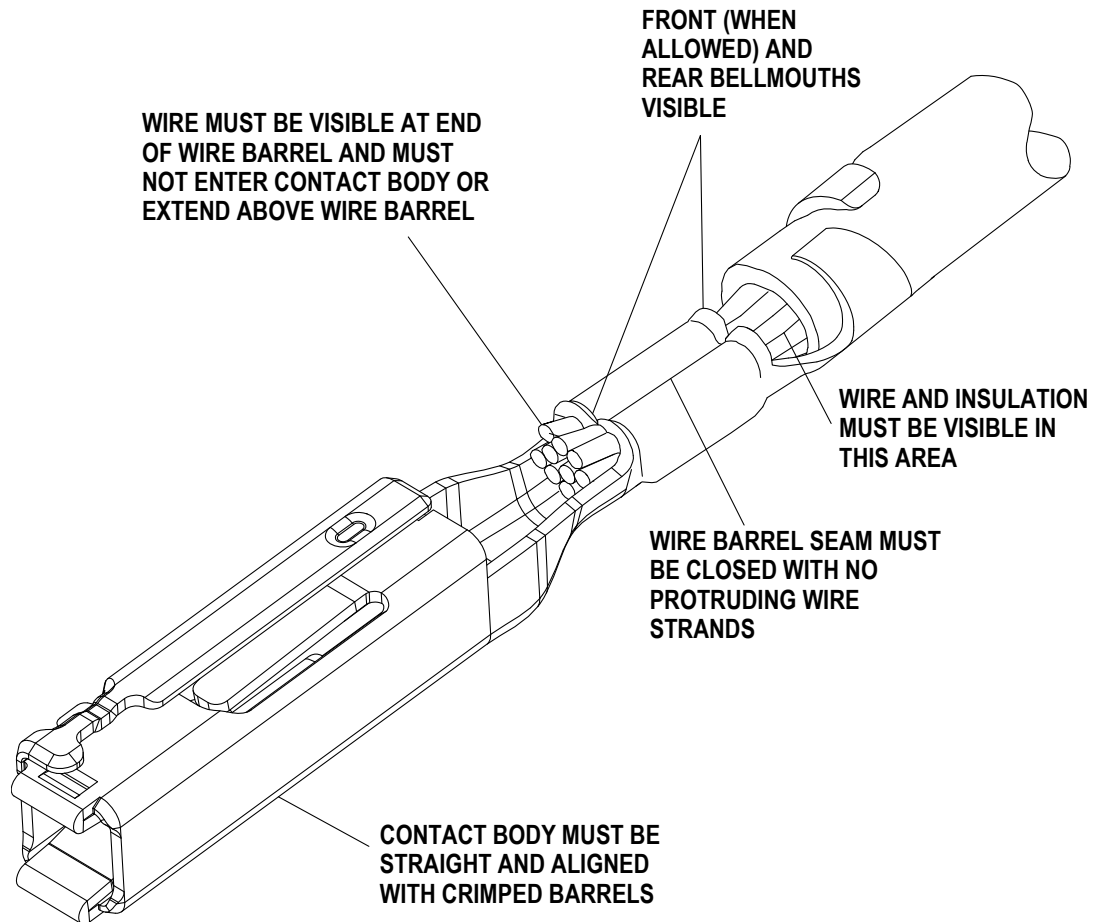


FIGURE 7. VISUAL AID