

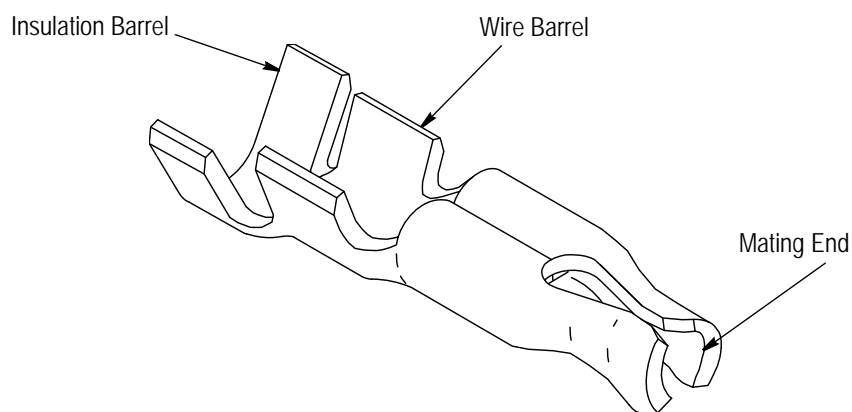
NOTE

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 mm [$\pm .005$ in.] 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 Pin Receptacle Contact. These requirements are applicable to automatic machine crimping tools. For specific wire and insulation ranges relative to the products covered in this specification, refer to Figure 3.

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.



Pin Receptacle Contact

Figure 1

2. REFERENCE MATERIAL

2.1. Revision Summary

- Updated document to corporate requirements
- Complete update
- Added new text throughout document
- Added new figures and tables throughout document

2.2. Customer Assistance

Reference Product Base Part Number 60373 and Product Code 1173 are representative of the Pin Receptacle Contact. 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 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 this page.

2.3. 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 PRODUCT INFORMATION at the number at the bottom of this page.

2.4. Instructional Material

Instruction Sheets (408-series) provide product assembly instructions or tooling setup and operation procedures and Customer Manuals (409-series) provide machine setup and operating procedures. Documents available that pertain to this product are:

408-3295	Preparing (Reel-Wrap) Reel of Contacts for Application Tooling
408-7424	Checking Terminal Crimp Height or Gaging the Die Closure
408-8040	Heavy Duty Miniature Quick-Change Applicators (Side-Feed Type)
408-8059	General Preventative Maintenance for Applicators
408-8322	Heavy Duty Industrial (HD-I) Side-Feed Type Applicator
408-9816	Handling Reeled Product
408-10389	Ocean Side-Feed Applicators
409-5128	Basic AMP-O-LECTRIC* Model "K" Terminating Machines
409-5207	Model "T" Terminating Unit 694620-[]
409-5289	Model "T" Terminating Unit 458000-4
409-5842	AMP-O-LECTRIC Model "G" Terminating Machine 354500-[]
409-10012	AMP-O-MATIC* Side-Feed Stripper-Crimper III Machine 1320895-[]
409-10027	Stripping Module 1490502-[], 1490500-[], and 1725910-[]
409-10029	Stripping Module 1490503-[] and 1490501-[]
409-10042	Direct Drive Terminator (DT)-3000 Machines 1725100-[] and DT-5000 Machines 1725800-[]
409-10047	AMP 3K* Terminating Machine 1725950-[] and AMP 5K* Terminating Machine 1725900-[]
409-10073	AMP-O-LECTRIC Servo Terminator (ST) III 1752200-[]
409-10076	Tyco Electronics -- SLE (CQM) User Manual
409-10088	System III Precision Controller Retrofit Kit 1976800-[]
409-10099	AMP-3K/40* Terminating Machines 2119683-[] and AMP-5K/40* Terminating Machines 2119684-[]
409-10200	Stripping Modules for Use With AMP-3K/40 Terminators 2119685-2 and AMP-5K/40 Terminators 2119685-6

3. REQUIREMENTS

3.1. Safety

Do not stack product shipping containers so high that the containers buckle or deform.

3.2. Storage

A. Ultraviolet Light

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

B. Shelf Life

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

C. Chemical Exposure

Do not store contacts near any chemical 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

3.3. Reeled Products

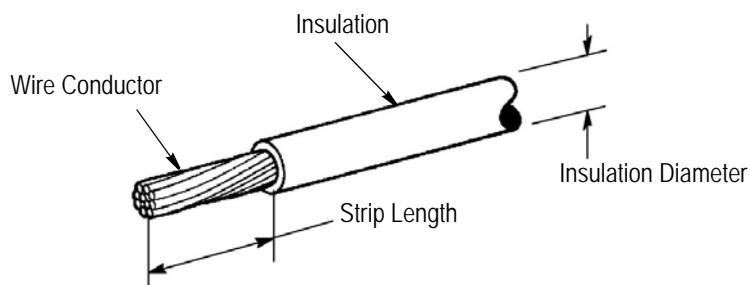
When using reeled contacts, store coil wound reels horizontally and traverse wound reels vertically. When using tape-mounted contacts, care must be taken to prevent stretching, sagging, or other distortion that would prevent smooth feeding of the tape through automatic machine feed mechanisms. Store coil wound reels horizontally and traverse wound reels vertically.

3.4. Wire Selection and Preparation

The contacts will accept wire size ranges provided in Figure 2.

CAUTION


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



NOTE: Not to Scale

AUTOMATIC MACHINE WIRE CRIMP DIMENSIONS

PART NUMBER	WIRE		INSUL DIA	STRIP LENGTH	WIRE BARREL CRIMP			INSUL BARREL CRIMP	
	QTY	SIZE (AWG)			WIDTH	HEIGHT ±0.05 [.002]	TYPE CRIMPER	WIDTH	TYPE CRIMPER
RECEPTACLES FOR 0.76 mm [.030 in.] OR 0.81 mm [.032 in.] DIAMETER PINS									
60373-[] 1742980-[]	1	24	1.22-1.80 [.048-.071]	3.30 [.130]	1.58 [.062]	1.02 [.040]	F	2.03 [.080]	F
	1	22				1.09 [.043]			
	1	20				1.17 [.046]			
1742851-[]	1	24	---	3.30 [.130]	1.58 [.062]	1.02 [.040]	F	---	---
	1	22				1.09 [.043]			
	1	20				1.17 [.046]			
RECEPTACLE FOR 1.02 mm [.040 in.] DIAMETER PIN									
42428-[]	1	24	1.22-1.80 [.048-.071]	3.30 [.130]	1.58 [.062]	1.02 [.040]	F	2.03 [.080]	F
	1	22				1.09 [.043]			
	1	20				1.17 [.046]			
42869-[] 62160-[]	1	24	---	3.30 [.130]	1.78 [.070]	0.91 [.036]	F	---	---
	1	22				0.99 [.039]			
	1	20				1.07 [.042]			
RECEPTACLE FOR 1.27 mm [.050 in.] DIAMETER PIN									
60348-[]	1	24	1.22-1.80 [.048-.071]	3.30 [.130]	1.58 [.062]	1.02 [.040]	F	2.03 [.080]	F
	1	22				1.09 [.043]			
	1	20				1.17 [.046]			
RECEPTACLE FOR 1.40 mm [.055 in.] DIAMETER PIN									
42429-[]	1	24	1.22-1.80 [.048-.071]	3.30 [.130]	1.58 [.062]	1.02 [.040]	F	2.03 [.080]	F
	1	22				1.09 [.043]			
	1	20				1.17 [.046]			

Figure 2

3.5. Crimped Contact Requirements

The contact 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.

CAUTION


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.

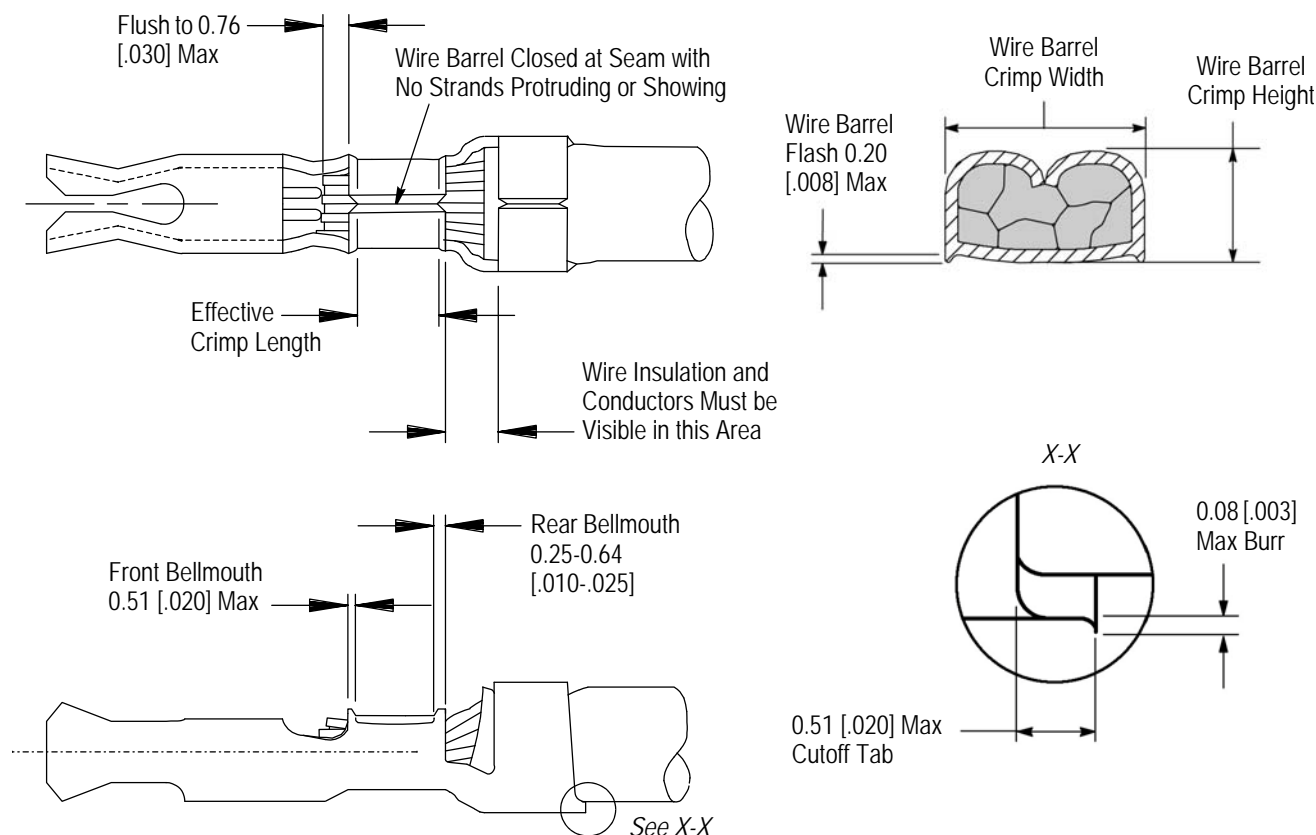


Figure 3

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 3.

B. Effective Crimp Length

For optimum crimp effectiveness, the crimp must be within the area shown and must meet the crimp dimensions provided in Figure 2. 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 front and rear bellmouths shall be as shown and conform to the dimensions given in Figure 3.

D. Burrs

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

E. Cutoff Tab

The cutoff tab shall be as shown in Figure 3.

F. Wire Barrel Flash

The wire barrel flash shall not exceed the dimensions shown in Figure 3, Section X-X.

G. Wire Barrel Seam

The wire barrel seam shall be completely closed and there shall be not evidence of loose wire strands or wire strands visible in the seam.

H. Conductor Location

The end of the wire shall be flush with the front end of the wire barrel or extend to the dimension shown in Figure 3. Both insulation and conductor shall be visible between the insulation barrel and wire barrel.



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

I. Insulation Barrel Crimp

Crimp width and type shall be as shown in Figure 3.



Reasonable care shall be taken not to cut or break the insulation during the crimping operation.

J. 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.

K. 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.

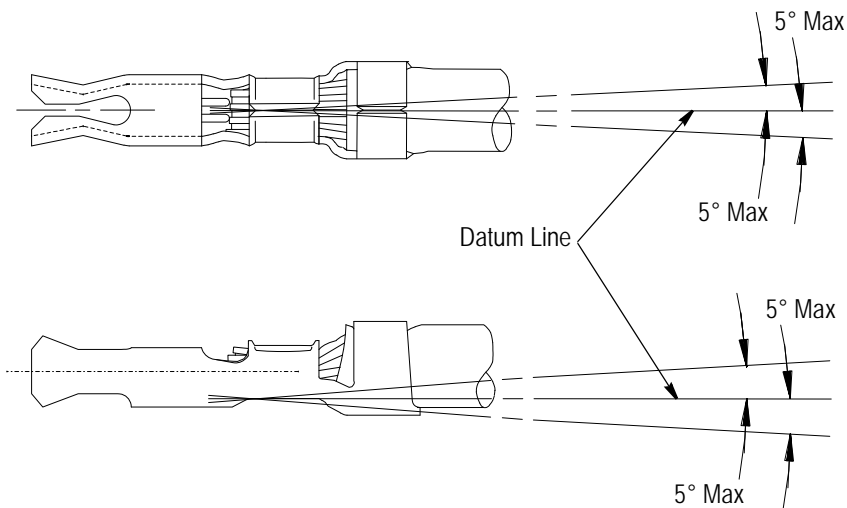
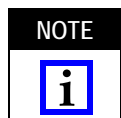


Figure 4



Periodic inspections must be made to ensure crimped contact information is consistent as shown.

3.6. Contact Repair

Once a contact has been damaged, it cannot be used. It must be cut from the wire and replaced with a new contact.

4. QUALIFICATIONS

Contact TE for agency evaluation and approval information for specific product part numbers.

5. TOOLING

Refer to the table in Figure 5 for related tooling and termination information.

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 range is provided in Figure 5.

NOTE


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

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 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.

• Hand Tools

Hand crimping tools are designed for prototype, low-volume applications, and repair. Contact TE for information on available hand tools for this product line.

RECEPTACLE TYPE	PART NUMBER	WIRE SIZE RANGE (AWG)	INSULATION DIAMETER	TOOLING (DOCUMENT)	
				APPLICATOR	POWER UNIT GROUP
Receptacles for 0.76 mm [.030 in.] or 0.81 mm [.032 in.] Diameter Pins	60373-4	24-20	1.22-1.80 [.048-.071]	466388-1 (408-8040) 1426215-1 (408-8322) 1426215-6 (408-8322) 7-1426215-1 (408-8322) 7-1426215-6 (408-8322)	USO
				466388-2 (408-8040)	USK
				466388-3 (408-8040)	USG
				567954-1 (409-10012)	USS
				1426215-2 (408-8322) 7-1426215-2 (408-8322)	USH
	1742980-1	24-20	1.22-1.80 [.048-.071]	2151753-1 (408-10389)	354500-[] (409-5842) 458000-4 (409-5289) 471273-[] (409-5128) 565435-[] (409-5128) 694620-[] (409-5207) 1725900-[] (409-10047) 1725950-[] (409-10047)
	1742851-1	24-20	---	2151754-1 (408-10389)	
Receptacles for 1.02 mm [.040 in.] Diameter Pins	42428-2	24-20	1.22-1.80 [.048-.071]	482409-1 (N/A)	N/A
	42428-5	24-20	1.22-1.80 [.048-.071]	466388-1 (408-8040) 1426215-1 (408-8322) 1426215-6 (408-8322) 7-1426215-1 (408-8322) 7-1426215-6 (408-8322)	USO
				466388-2 (408-8040)	USK
				466388-3 (408-8040)	USG
				567954-1 (409-10012)	USS
				1426215-2 (408-8322) 7-1426215-2 (408-8322)	USH

Figure 5 (Cont'd)

RECEPTACLE TYPE	PART NUMBER	WIRE SIZE RANGE (AWG)	INSULATION DIAMETER	TOOLING (DOCUMENT)	
				APPLICATOR	POWER UNIT GROUP
Receptacles for 1.02 mm [.040 in.] Diameter Pins	42428-8	24-20	1.22-1.80 [.048-.071]	466388-1 (408-8040) 1426215-1 (408-8322) 1426215-6 (408-8322) 7-1426215-1 (408-8322) 7-1426215-6 (408-8322)	USO
				466388-2 (408-8040)	USK
				466388-3 (408-8040)	USG
				567954-1 (409-10012)	USS
				1426215-2 (408-8322) 7-1426215-2 (408-8322)	USH
	42869-6 62160-1	24-20	1.22-1.80 [.048-.071]	466374-5 (408-8040)	USK
	62160-3	24-20	1.22-1.80 [.048-.071]	1426487-1 (N/A) 1426487-6 (N/A) 7-1426487-1 (N/A) 7-1426487-6 (N/A)	USO
				1426487-2 (N/A) 7-1426487-2 (N/A)	USH
Receptacles for 1.27 mm [.050 in.] Diameter Pins	60348-4	24-20	1.22-1.80 [.048-.071]	466388-1 (408-8040) 1426215-1 (408-8322) 1426215-6 (408-8322) 7-1426215-1 (408-8322) 7-1426215-6 (408-8322)	USO
				466388-2 (408-8040)	USK
				466388-3 (408-8040)	USG
				567954-1 (409-10012)	USS
				1426215-2 (408-8322) 7-1426215-2 (408-8322)	USH
Receptacles for 1.40 mm [.055 in.] Diameter Pins	42429-2	24-20	1.22-1.80 [.048-.071]	482409-1 (N/A)	N/A

POWER UNIT GROUPS

GROUP	POWER UNIT (DOCUMENT) (CONTACT THE TOOLING ASSISTANCE CENTER FOR SPECIFIC MACHINES TO MEET YOUR PRODUCTION REQUIREMENTS)
USG	354500-[] (409-5842) 1490501-[] (409-10029) 1725100-[] (409-10042) 1725800-[] (409-10042) 1725900-[] (409-10047) 1725910-[] (409-10027) 1725950-[] (409-10047) 2014000-[] (N/A) 2031300-[] (N/A) 2031500-[] (N/A) 2119683-[] (409-10099) 2119684-[] (409-10099) 2119685-[] (409-10200)

Figure 5 (Cont'd)

POWER UNIT GROUPS	
GROUP	POWER UNIT (DOCUMENT) (CONTACT THE TOOLING ASSISTANCE CENTER FOR SPECIFIC MACHINES TO MEET YOUR PRODUCTION REQUIREMENTS)
USH	354500-[] (409-5842) 565435-[] (409-5128) 1490501-[] (409-10029) 1725100-[] (409-10042) 1725800-[] (409-10042) 1725900-[] (409-10047) 1725910-[] (409-10027) 1725950-[] (409-10047) 2014000-[] (N/A) 2031300-[] (409-10088) 2031500-[] (409-10088) 2119683-[] (409-10099) 2119684-[] (409-10099) 2119685-[] (409-10200)
USK	565435-[] (409-5128) 1725800-[] (409-10042) 1725900-[] (409-10047) 1725950-[] (409-10047) 2014000-[] (N/A)
USO	122500-[] (N/A) 1752500-[] (409-10076) 1752502-[] (409-10073) 1752503-[] (409-10076) 1752565-[] (N/A)
USS	1320895-[] (409-10012)

Figure 5 (End)

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.

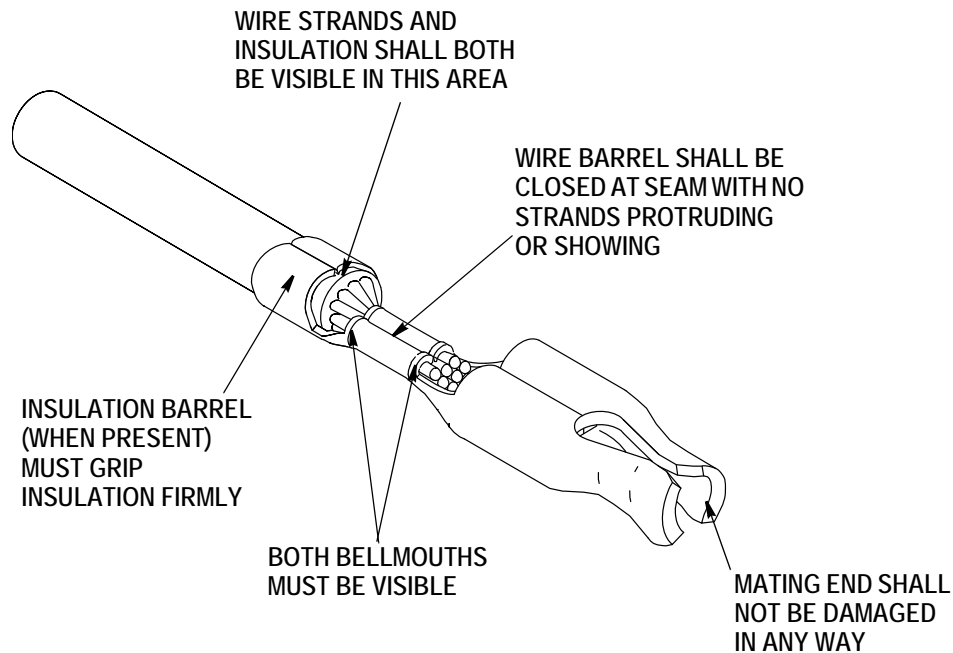


FIGURE 6. VISUAL AID