



### 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 the application of TE Connectivity Heavy Duty Burner Connectors. These connectors are designed to be mounted to the chassis of a household appliance. The connectors will satisfy the requirements of appliance ranges with either interchangeable cooking modules or standard burner configurations.

These connectors feature a black phenolic or natural ceramic housing, a snap-in receptacle contact (two per assembly), and a clip. This system is easily assembled by snapping the connector housing into the clip and the receptacle contacts into the housing. The contact design permits a manufacturer to use high-speed application tooling to terminate leads. The metal connector clips are available in difference configurations to satisfy various appliance range and burner designs.

There are two types of contacts: a front entry type for use with standard burner housings (TE supplied) and a side entry type for use with interchangeable cooking module housings (customer supplied). The contacts feature a wire barrel and an insulation support barrel for crimping to a wire and a lead-in ramp to facilitate mating with the burner. The contact is designed to accept 18 – 14 AWG stranded or solid copper wire.

Figure 1 shows the product components and terms of their features. These terms will be used throughout this specification. Use these terms when corresponding with TE representatives to facilitate assistance.

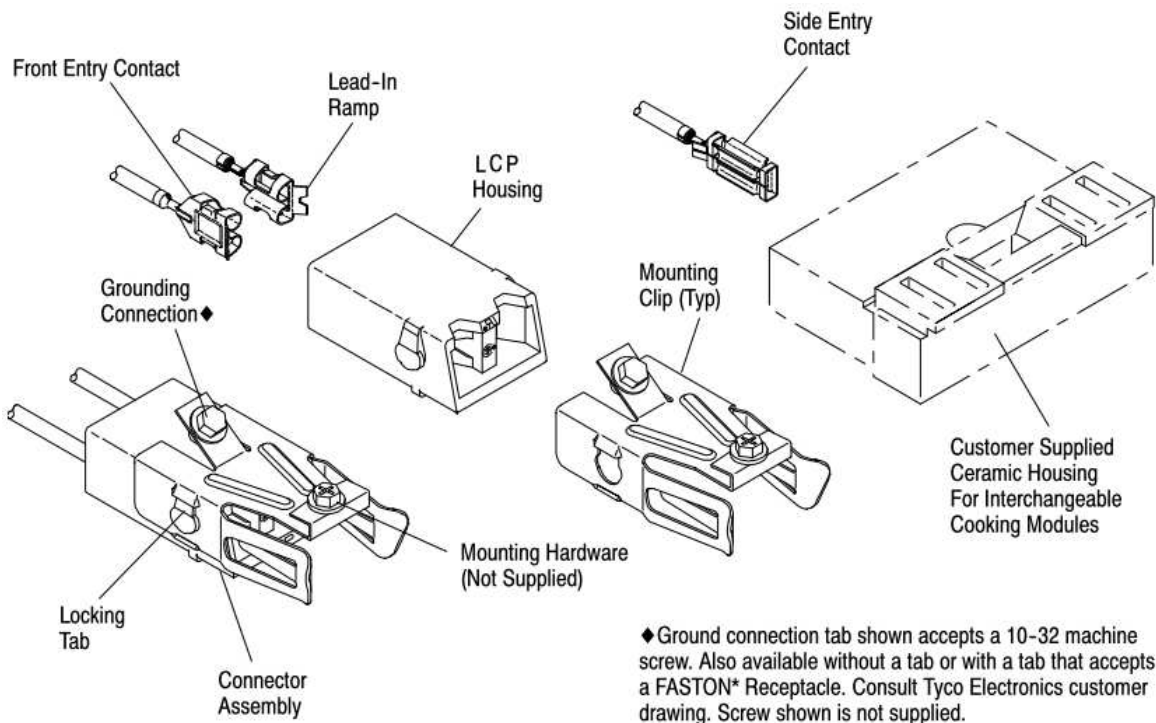


Figure 1

## 2. REFERENCE MATERIAL

### 2.1. Revision Summary

Updates to this release of the application specification include:

- Deleted obsolete tooling and related documentation
- Added new tooling and related documentation
- Updated document to corporate requirements

### 2.2. Customer Assistance

To ensure consistent and high-quality terminations, TE Connectivity (TE) product engineering has analyzed and tested the design factors of numerous terminal crimp connections with varying wire ranges defined by the terminals. As a result, TE product engineering has defined five criteria necessary to achieve a reliable crimp: be sure to 1) use the TE product only for an application it was designed for, 2) always use the TE recommended application tooling, 3) use an appropriately selected and prepared wire, 4) adhere to the application specification described in the associated TE product print and application documentation (such as the TE 114-Application Specification, and TE Applicator “Log Sheet” print), and 5) have the product handled by trained operators only. TE product performance according to TE product specification can be achieved using the methods described in this application specification with the use of the recommended, properly maintained tooling and applicator.

If tooling or termination equipment is used other than what is recommended by TE, where such tooling or equipment was not used for agency validation and/or the product qualification process, TE does not make any representation or warranty, expressed or implied, and disclaims liability for non-performance per TE product specification. Customer accepts the sole responsibility for the evaluation, application, and use of the terminals in such circumstances.

Reference Product Base Part Number 770524 and Product Code 1353 are representative of Heavy Duty Burner Connectors. Use of these numbers will identify the product line and help you to obtain product and tooling information when visiting [www.te.com](http://www.te.com) or calling the number at the bottom of page 1.

### 2.3. Drawings

Customer drawings for product part numbers are available from [www.te.com](http://www.te.com). Information contained in the customer drawing takes priority.

### 2.4. Specifications

Product Specification [108-1056](#) provides product performance and test results.

### 2.5. 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. Instructional material that pertain to this product are:

<a href="#">408-10389</a>	Ocean Side Feed Applicator (Atlantic Style and Pacific Style)
<a href="#">409-5128</a>	AMP-O-LECTRIC* Model “K” Terminating Machine
<a href="#">409-5842</a>	AMP-O-LECTRIC Model “G” Terminating Machine
<a href="#">409-10047</a>	AMP 3K Terminating Machines and AMP 5K Terminating Machine
<a href="#">409-10099</a>	AMP 3K/40 Terminating Machines and AMP 5K/40 Terminating Machine

## 3. REQUIREMENTS

### 3.1. Safety

When selecting a location for the connector, the wire bend radius specified by the wire manufacturer must be considered. Also, to permit attachment of the wire, there should be sufficient slack between the wire end and any strain relief. Reasonable care should be used when handling the connectors.



**DANGER**

*Disconnect equipment from all power sources before performing maintenance or repairs.*

**3.2. Special Characteristics**

The black phenolic housing material will withstand temperatures up to 200°C [392°F]. The LCP housing material is made for temperature ranges up to 240°C [464°F].

**3.3. Storage**

**A. Ultraviolet Light**

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

**B. Shelf Life**

The product should remain in the shipping containers until ready for use to prevent deformation to components. The product 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 product near any chemical listed below as they may cause stress corrosion cracking in the material.

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

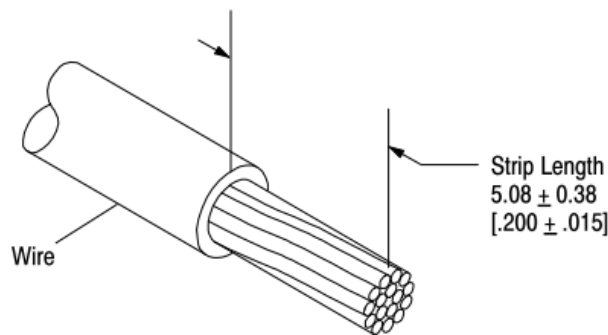
**3.4. Wire Preparation**

The wire crimping barrel is designed to accept 18 – 14 AWG solid or stranded copper wire. See Figure 2.



**CAUTION**

*Do not nick, scrape, or cut the wire while stripping it.*



**Figure 2**

**3.5. Attaching Hardware**

Any commercially available hardware, such as sheet metal screws or other hardware that is compatible with the mounting clip may be used to secure the connector housing and clip to the appliance. See Figure 3.

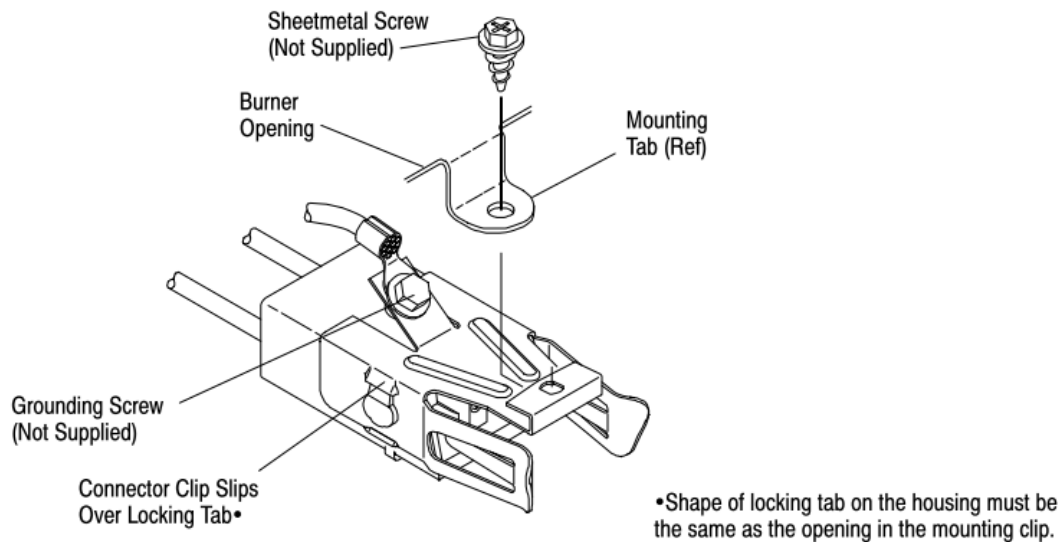


Figure 3

### 3.6. Crimp Requirements

#### A. Spring Retention Feature

The contacts are terminated to the cable wires by crimping, then inserted into the housing cavities where they are held in place by a contact design spring retention feature.

#### B. Crimp Height

The crimp height must be within the dimensions provided in Figure 4.

#### C. Cutoff Tab

The cutoff tab shall not exceed 0.51 [.020]. See Figure 4.

#### D. Burrs

The cutoff burr shall not exceed 0.13 [.005]. See Figure 4.

#### E. Wire Barrel Flash

The wire barrel flash shall not exceed 0.13 [.005]. See Figure 4.

#### F. Wire Barrel Seam

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

#### G. Bellmouths

Front bellmouth shall not exceed 0.25 [.010]. Rear bellmouth shall be 0.25-0.51 [.010-.020] in length. Bellmouths shall be evident and conform to given dimensions.

#### H. Conductor Location

The conductor may extend beyond the wire barrel to a maximum length of 1.09 [.043] after crimping.

CMA	REFERENCE SIZE [AWG]	WIRE BARREL CRIMP (D)				INSULATION BARREL CRIMP WIDTH(H)		WIRE INSULATION DIAMETER (MAX)	
		HEIGHT		WIDTH		mm +0.20 -0	[in.] +0.010 -0.000	mm	[in.]
		mm ±0.05	[in.] ±0.002	mm +0.17 -0	[in.] +0.007 -0.000				
1600	18	1.47	0.058	2.79	0.11	4.57	0.18	3.96	0.156
2600	16	1.65	0.065						
4100	14	1.88	0.074						

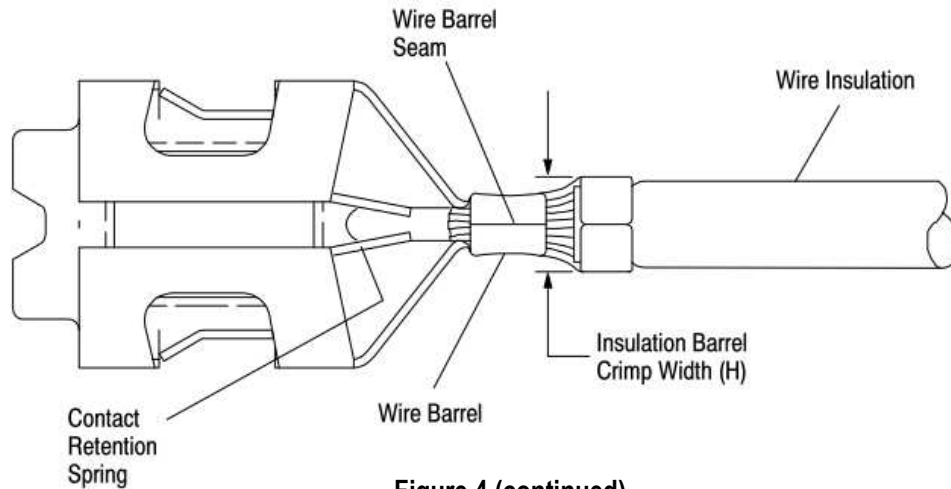


Figure 4 (continued)

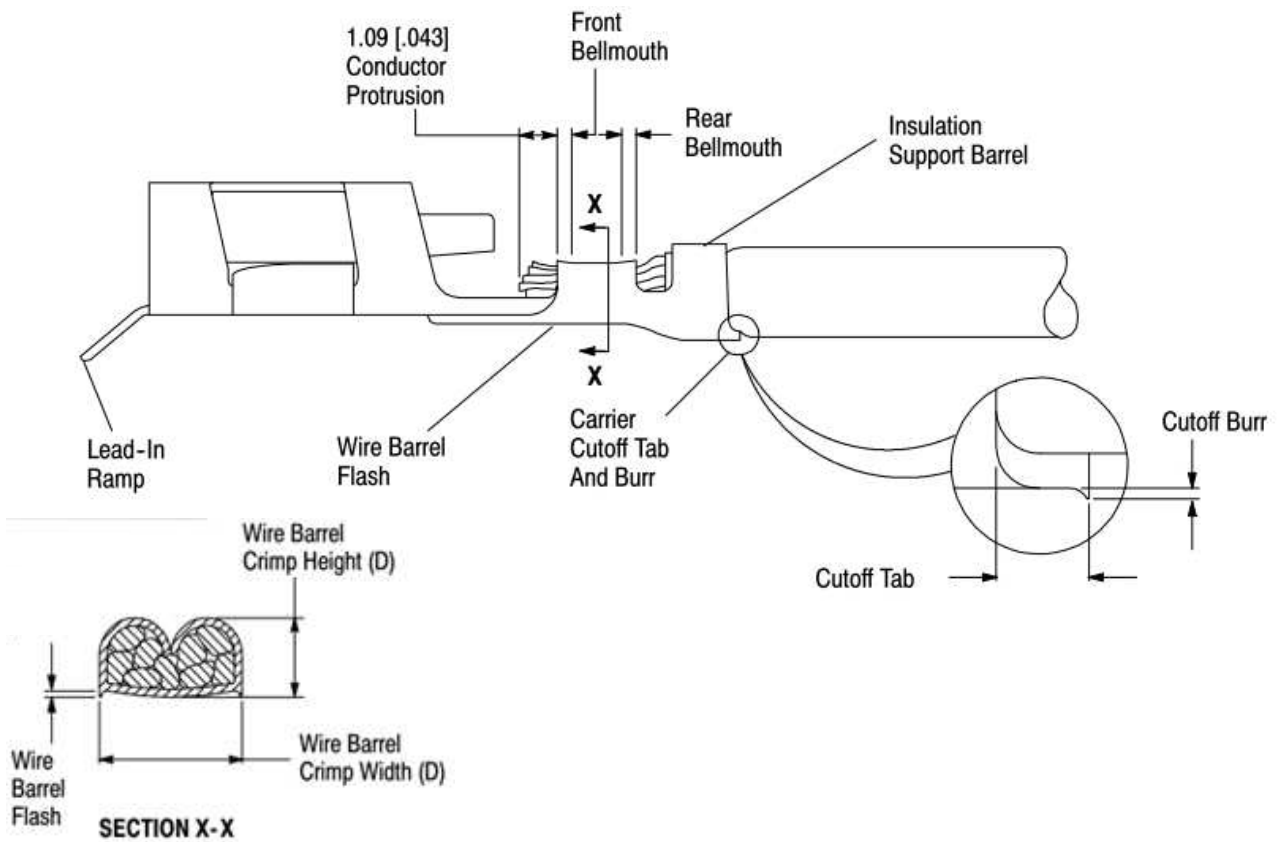


Figure 4 (end)

**I. Wire Location**

Both the 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.

**J. Insulation Barrel Crimp**

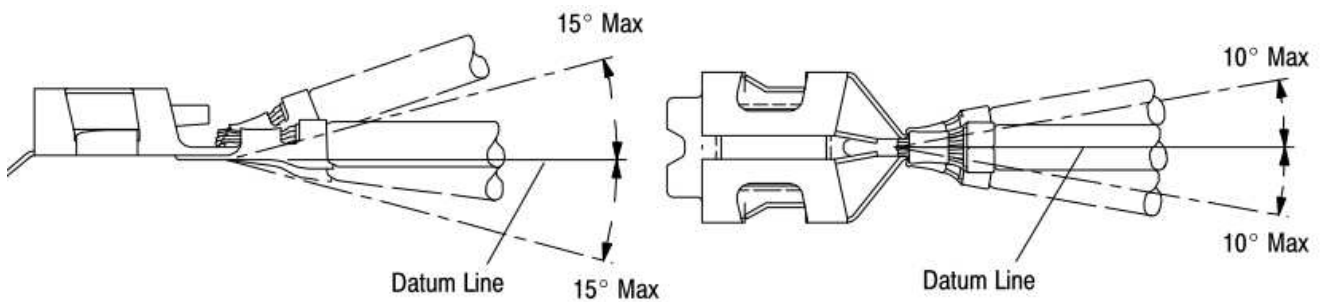
Reasonable care shall be taken not to cut or break the insulation during the crimping operation.

**K. Lead-In Ramp**

The lead-in ramp shall not be deformed.

**L. Twist and Roll**

The contact, including the cutoff tab and burr, shall not be bent above or below the datum line beyond the specification. The side-to-side bending of the contact shall not exceed the limits specified. There shall be no twist or roll in the crimped portion that will impair the usage of the contact. See Figure 5.



**Figure 5**

**4. QUALIFICATION**

Heavy Duty Bruner Connectors are recognized by Underwriters Laboratories Inc. (UL) in File E36851 and certified by CSA International in File LR7189.

**5. TOOLING**

Tooling part numbers and instructional material packaged with the tooling are given in Figure 6.

**5.1. Machine (Power Unit)**

The machine provides the force required to drive an applicator for crimping the contacts. These machines can be set up to automatically measure, cut, strip, and terminate the wire.

**5.2. Applicator**

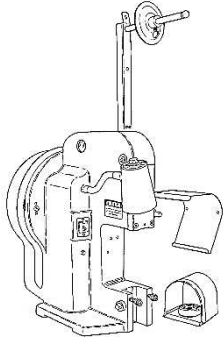
The applicators are designed to crimp tape-mounted contacts onto pre-stripped wire. The applicators accept interchangeable die assemblies and must be installed onto a power unit.



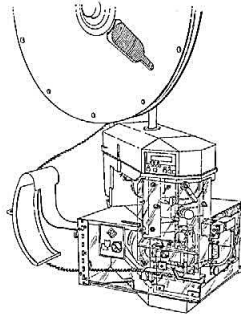
Ocean Side-Feed Applicators (Atlantic Style and Pacific Style) 2151741-1, 2151742-1, 2151743-1, 2151744-1, 2151745-1, and 2151746-1 (408-10389)



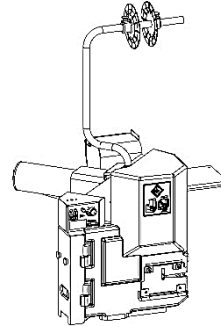
AMP 3K/40 Terminating Machines 2119683-[ ] and AMP 5K/40 Terminating Machines 2119684-[ ] (409-10099)



AMP-O-LECTRIC Model "K"  
Terminator Machine  
1-471273-2 (409-5128)



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



AMP 3K Terminating Machines  
1725950-[ ] and AMP 5K  
Terminating Machines  
1725900-[ ] (409-10047)

CONTACT TYPE	WIRE SIZE (AWG)	WIRE INSULATION DIAMETER (MAX) mm [in.]
Heavy Duty Burner Contacts	18-14	3.96 [.156]

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.

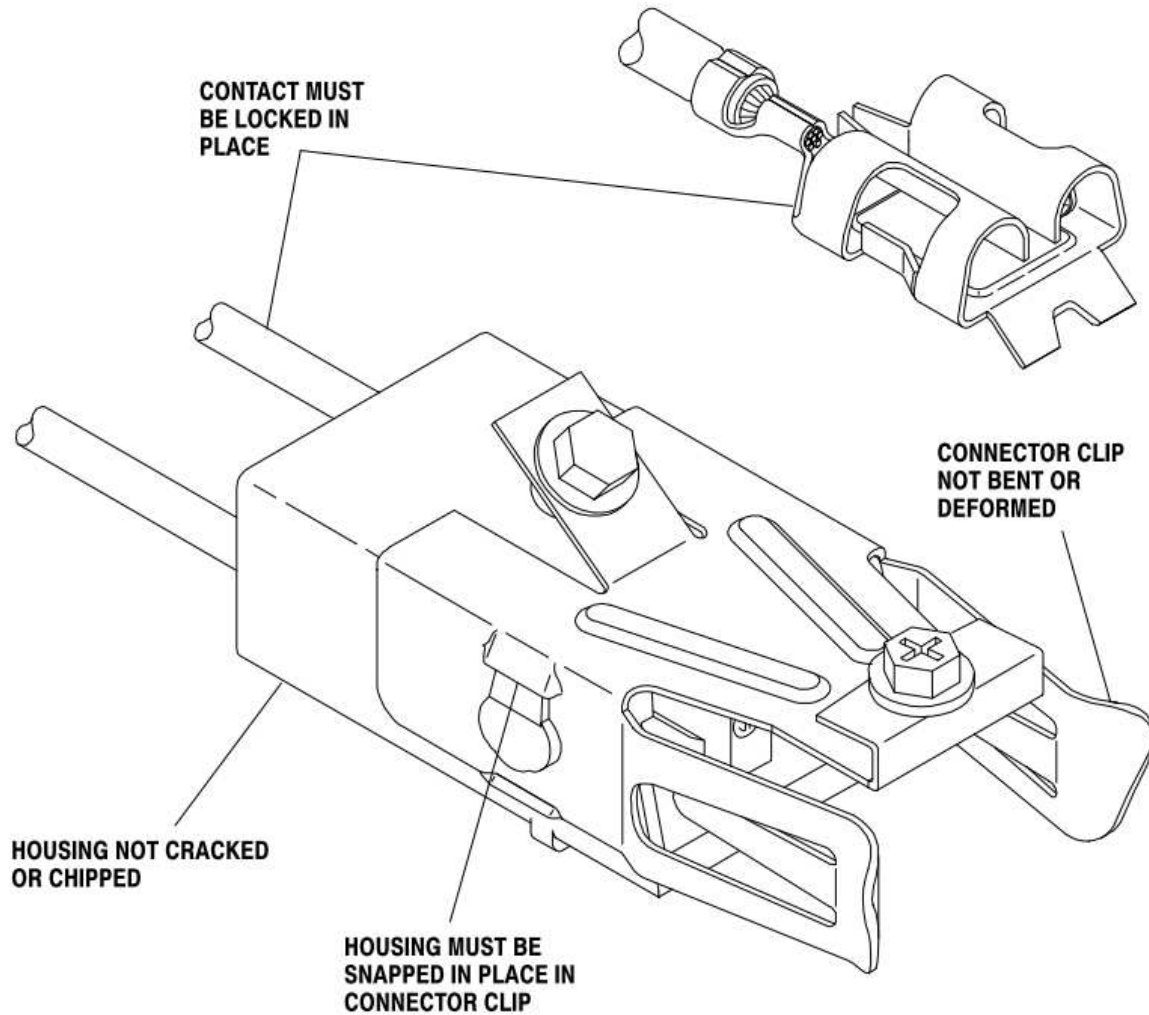


Figure 7: Visual Aid