

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 requirements for application of Wedge Base Lamp Socket Terminals. The terminals are available in two types: ground terminals and power terminals.

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.

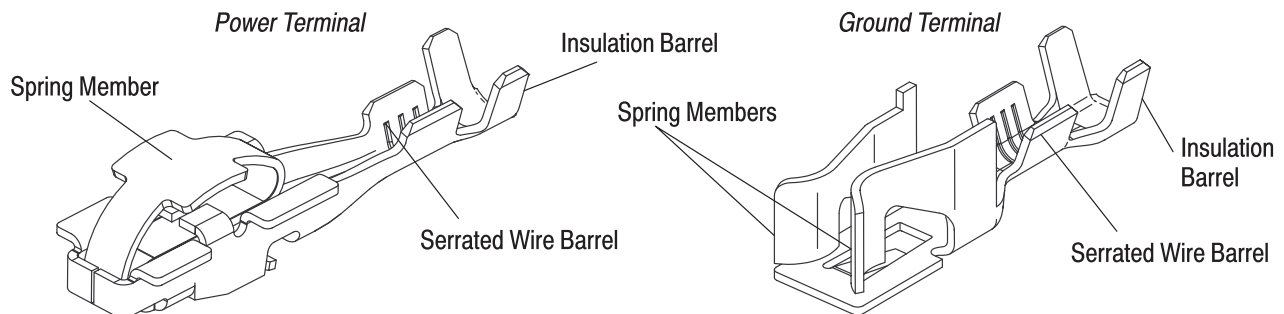


Figure 1

2. REFERENCE MATERIAL

2.1. Revision Summary

- Initial release

2.2. Customer Assistance

Reference Product Base Part Numbers 1742395 (power terminals), and 1742396 (ground terminals), and Product Code L215 are representative of Wedge Base Lamp Socket 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 Product Information at the number at the bottom of page 1.

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, the information contained in the Customer Drawings takes priority.

2.4. Specifications

Design Objective 108-2315 provides expected product performance and test information for the Wedge Base Lamp Socket Terminals.

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 operation procedures. Documents available which pertain to this product are:

| <u>Document Number</u> | <u>Document Title</u> |
|------------------------|--|
| 408-8040 | HD Quick-Change Applicators (Side-Feed Type) with Mechanical Feed System |
| 409-5842 | AMP-O-ELECTRIC* Model "G" Terminating Machine 354500-[] |

3. REQUIREMENTS

3.1. Storage

A. Ultraviolet Light

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

B. Reeled Receptacles

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

C. Shelf Life


The receptacles should remain in the shipping containers until ready for use to prevent deformation to the receptacles. The receptacles 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 receptacles near any chemicals listed below, as they may cause stress corrosion cracking in the receptacles.

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

NOTE *Where the above environmental conditions exist, phosphor-bronze receptacles are recommended instead of brass.*


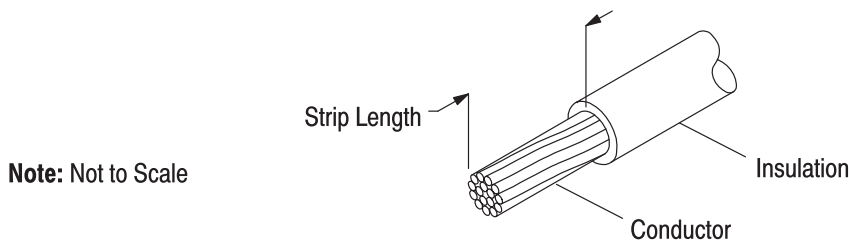


3.2. Wire Selection and Preparation

The terminals will accept wire sizes 20 through 18 AWG with an insulation outside diameter range of 1.78 through 1.98 mm. Wire insulation ranges, wire criteria, and available terminals are provided in Figure 2.

Strip the individual wire insulation according to the dimensions given in Figure 2.

CAUTION *The wire conductor must not be nicked, scraped, or cut during the stripping operation.*

| TERMINAL | WIRE | | | WIRE BARREL CRIMP | | INSULATION SUPPORT CRIMP WIDTH (Ref) |
|----------|--------|----------------|--------------|-------------------|-------------|--------------------------------------|
| | RANGE | INSULATION DIA | STRIP LENGTH | HEIGHT | WIDTH (Ref) | |
| Power | 20 | 1.78 | 5.59 | 1.22-1.32 | 1.78 | 3.56 |
| | 18 | 1.98 | 5.59 | 1.37-1.47 | | |
| Ground | 18 | 1.98 | 7.00 | 1.42-1.52 | 2.79 | 4.57 |
| | (2) 18 | 1.98 | 7.00 | 1.70-1.80 | | |

Figure 2

3.3. Crimp Requirements

Locate the terminal to be crimped in the appropriate tooling according to the instructions packaged with that tooling. Perform the crimping operation. Figure 3 shows a typical terminal as it should appear after crimping.



Wire insulation must NOT be cut or broken during the crimping operation. Exercise of reasonable care by tooling operators should be sufficient to provide undamaged terminations.

A. Wire Barrel Crimp

The crimp applied to the wire portion of the terminal is the most compressed area and is most critical in ensuring optimum electrical and mechanical performance of the crimped receptacle. The crimp height must be within the dimensions provided in Figure 2.

B. Conductor Extension

The conductor must not extend beyond the wire barrel to the limit given in Figure 3.

C. Wire Barrel Seam

The wire barrel seam must be closed with no evidence of loose wire strands visible in the seam as shown in Figure 3.

D. Effective Crimp Length

Effective crimp length is defined as that portion of the wire barrel, excluding bellmouth(s), fully formed by the crimping tool. For optimum crimp effectiveness, the crimp must be between the bellmouths as shown in Figure 3.

E. Bellmouths

Front and rear bellmouths must be evident and conform to the dimensions given in Figure 3.

F. Cutoff Tab

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

G. Burr

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

H. Wire Barrel Flash

The wire barrel flash must not exceed the dimensions shown in Figure 3.

I. Insulation Support Barrel Crimp

The insulation support barrel must grip the insulation firmly. A slight cut in the insulation by the insulation barrel is permissible as this causes no problems in actual use. Insulation crimp must comply to the width provided in Figure 3.

J. 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.

3.4. Twist and Roll

There must be no twist, roll, deformation, or other damage to the mating portion of the crimped receptacle that will prevent proper mating.

NOTE: Crimp requirements are the same for power and ground terminals. Power terminal shown.

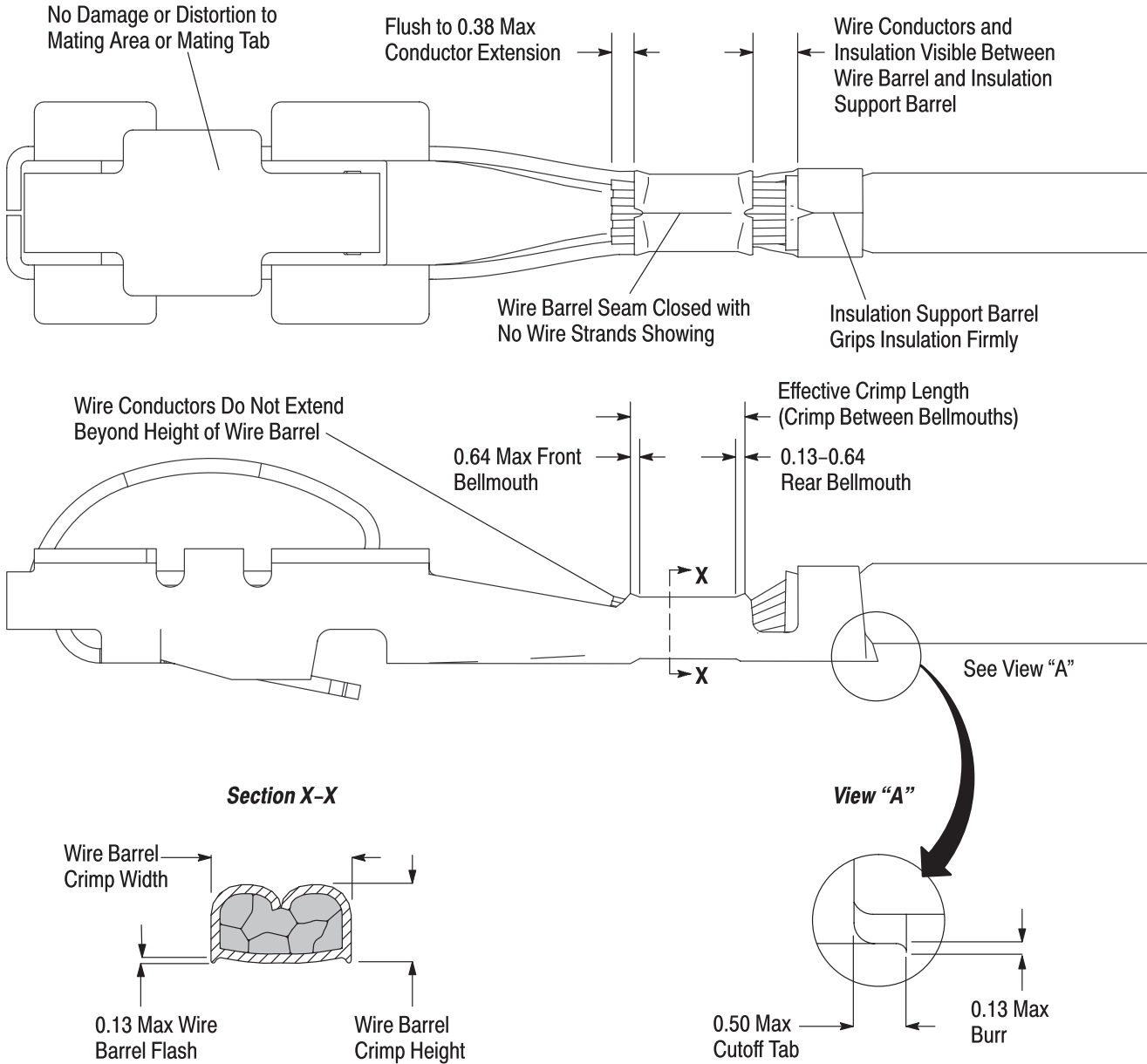


Figure 3

3.5. Straightness

The force applied during crimping may cause some bending between the wire barrel and wire. Such deformation is acceptable within the following limits.

1. Up and Down

The crimped portion excluding the cutoff tab and burr must not be bent beyond the limits shown in Figure 4.

2. Side-to-Side

The crimped portion excluding the cutoff tab and burr must not be bent from one side to the other beyond the limits shown in Figure 4.

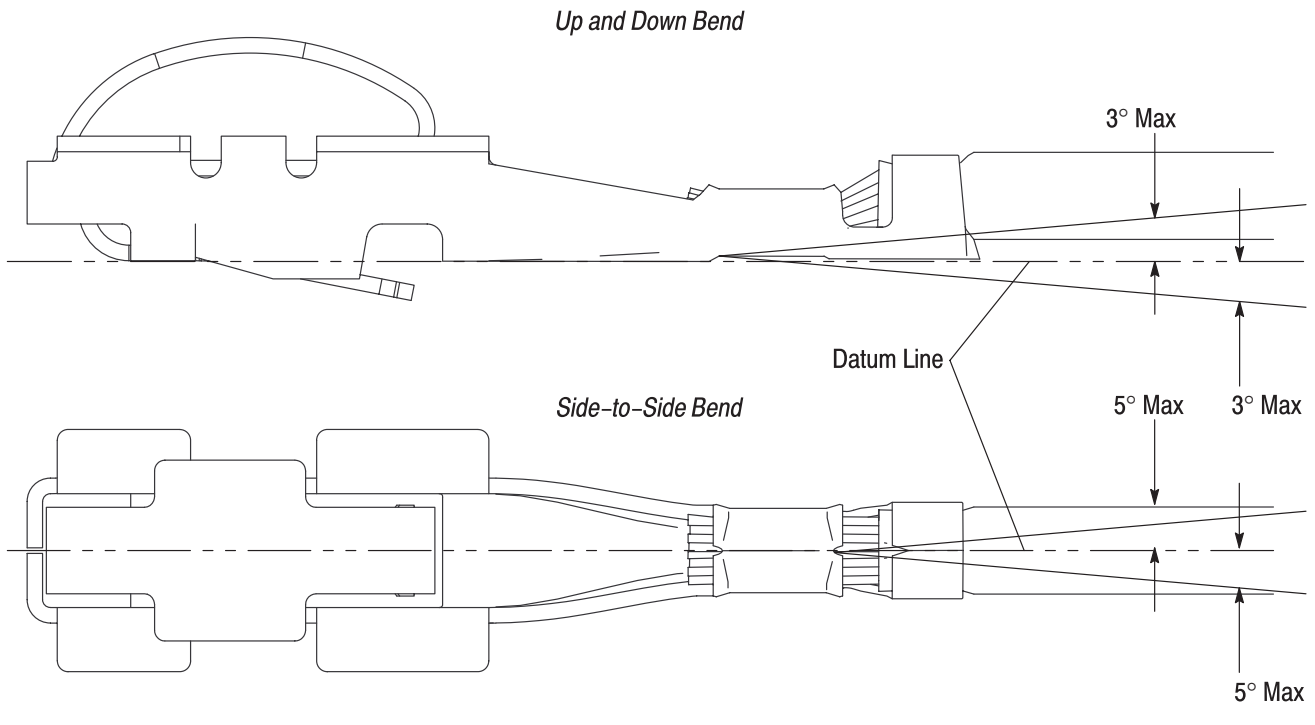


Figure 4

3.6. Crimp Pull-Out Test

Crimped receptacles must not be separated from their wires when subjected to forces specified in Figure 5.



Tensile testing machine must be adjusted for head travel of 25.4 mm per minute. Force must be applied directly and gradually for 1 minute.

| WIRE SIZE | MINIMUM FORCE (N [lb]) |
|-----------|------------------------|
| 20 | 57.82 [13] |
| 18 | 88.96 [20] |

Figure 5

3.7. Repair/Replacement



Damaged terminals are not repairable. If a damaged terminal is evident, it should be cut from the wire and replaced with a new one. Terminals are NOT to be re-terminated.

4. QUALIFICATIONS

Wedge Base Lamp Socket Terminals are not required to be agency evaluated or 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.



For assistance in setting up prototype and production line equipment, contact Tooling Assistance Center at the number at the bottom of page 1.

5.1. Applicator

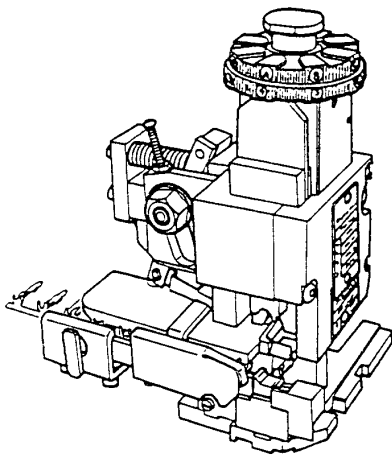
Applicators are designed for the full wire size range of strip-fed, precision formed receptacles, and provide for high volume, heavy duty production requirements. The applicators can be used in bench or floor model power units.



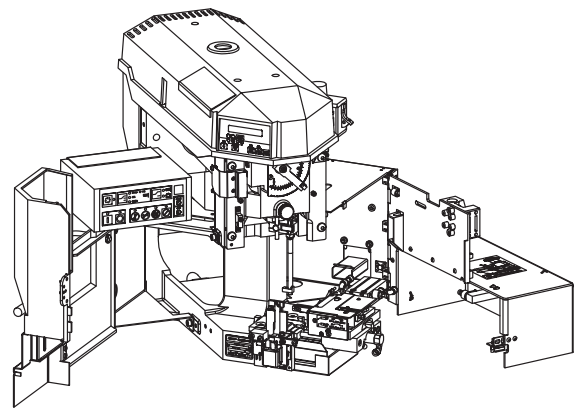
Each applicator is shipped with a metal identification tag attached. DO NOT remove this tag or disregard the information on it. Also, a packet of associated paperwork is included in each applicator shipment. This information should be read before using the applicator; then it should be stored in a clean,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

5.2. Power Unit

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.



Typical Heavy Duty Mini (HDM) Side-Feed Applicator



AMP-O-ELECTRIC Model "G" Terminating Machine 354500-[]

| TERMINAL | WIRE | | APPLICATOR (408-8040) | POWER UNIT (409-5842) |
|----------|---------------------|------------------------|--------------------------|--------------------------|
| | SIZE RANGE (AWG) | INSULATION DIAMETER | | |
| Power | 20-18 | 1.78-198 | 1852546-1 | 354500-1 |
| Ground | 18-(2)18 | 1.98 | 1852547-1 | 354500-1 |

Figure 6

6. VISUAL AID

Figure 7 shows a typical application of a Wedge Base Lamp Socket 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.

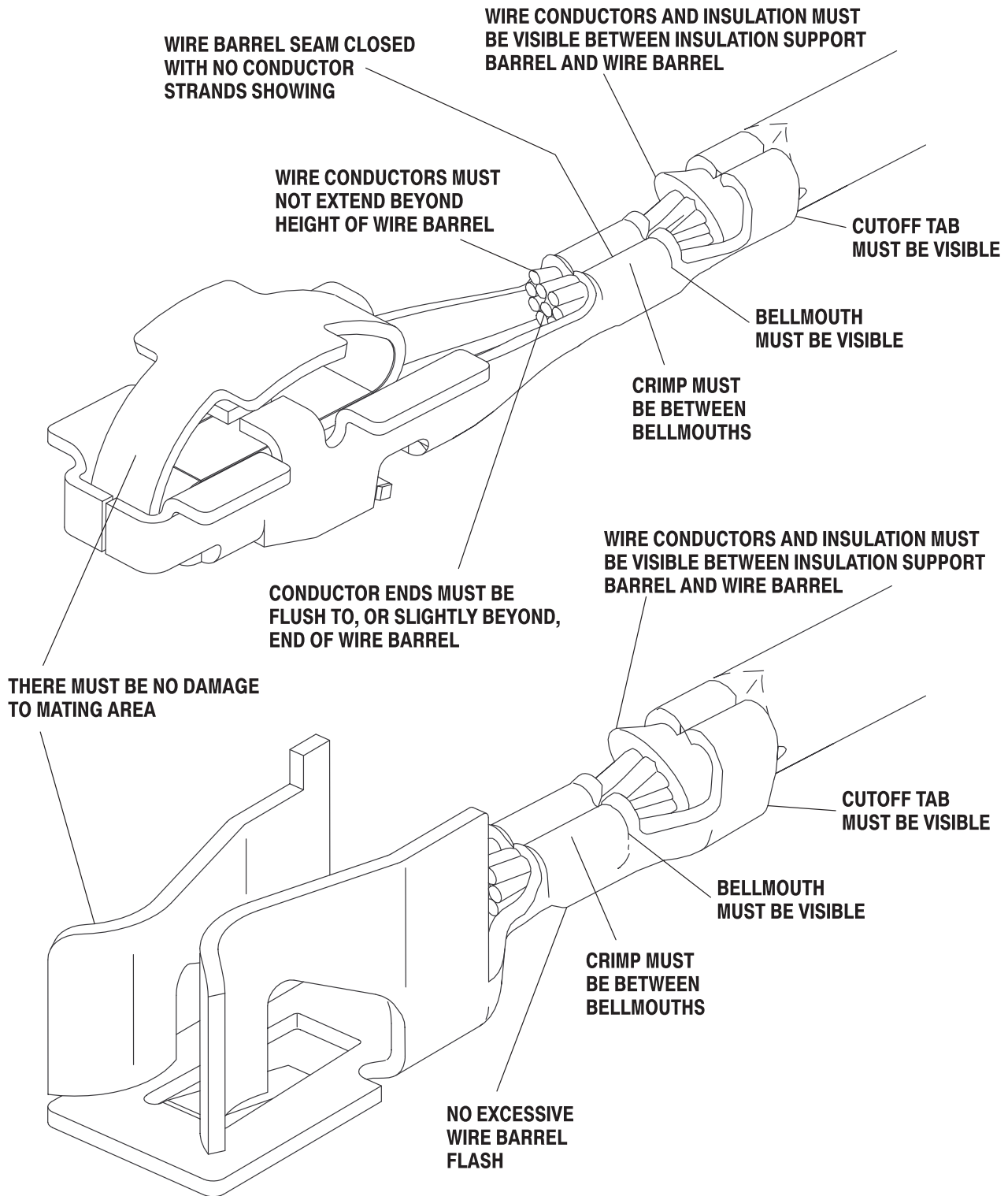


FIGURE 7. VISUAL AID