

.040 Series Receptacle Contact



NOTE

All numerical values are in metric units [with U.S. customary units in brackets]. Dimensions are in millimeters. Figures and illustrations are for identification only and are not drawn to scale.

1. INTRODUCTION

This specification covers the requirements for application of .040 Series Receptacle Contacts. These requirements are applicable to hand or automatic machine crimping tools using FLRY-A wire.

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.

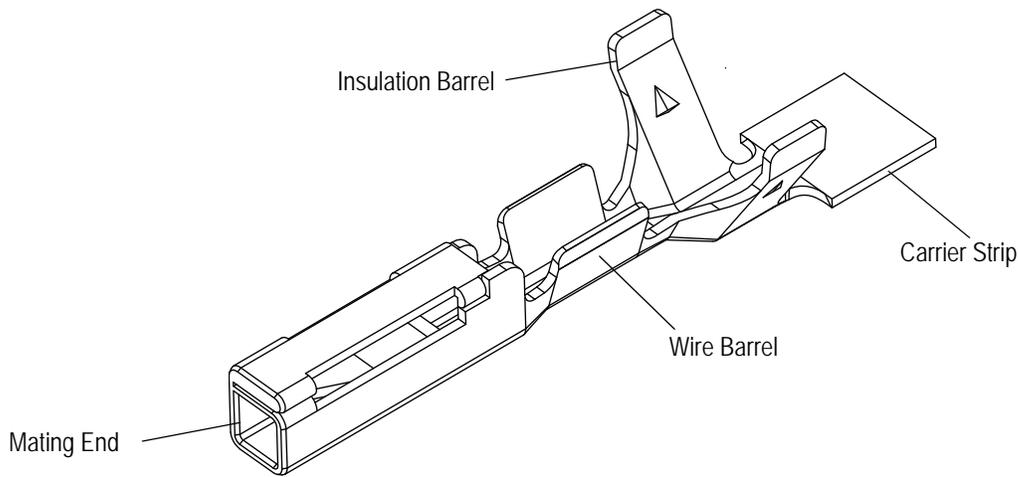


Figure 1

2. REFERENCE MATERIAL

2.1. Revision Summary

- Changed insulation diameter range in table in Figure 2

2.2. Customer Assistance

Reference Product Base Part Numbers 173681 (Strip-Form), 175062 (Loose Piece), and Product Code M017 are representative of .040 Series Receptacle 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 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 the Product Information Center at the number at the bottom of this page.

2.4. Instructional Material

Documents available which pertain to this product are:

<u>Document Number</u>	<u>Document Title</u>
408-7424	Checking Terminal Crimp Height or Gaging Die Closure
408-8059	General Preventive Maintenance for Applicators
408-9816	Handling of Reeled Products

3. REQUIREMENTS

3.1. Storage

A. Safety

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

B. Ultraviolet Light

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

C. Reeled Contacts

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

D. 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.

E. 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

3.2. Material

These contacts are made of phos bronze with either pre-tinned or gold overlay.

3.3. Wire Size and Preparation

The loose-piece and strip-form contacts will accept a wire size range of 0.3 to 0.56 mm² [22 to 20 AWG] and may be terminated to either stranded or solid wire. See Figure 2. This application specification refers to 0.5 mm² nominal FLRY-A type wire only. Refer to Application Specification 114-5094 for other wire options.



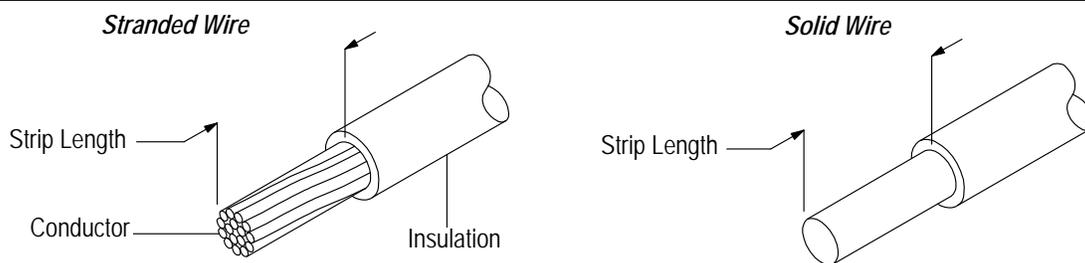
NOTE

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.



CONTACT TYPE	FLRY-A WIRE			CONTACT				
	SIZE (mm ²) NOMINAL	INSULATION DIAMETER RANGE	STRIP LENGTH	WIRE BARREL CRIMP ("F-CRIMP")		INSULATION BARREL CRIMP		TENSILE STRENGTH N (Min)
				WIDTH	HEIGHT	WIDTH	HEIGHT	
Strip-Fed	0.5	1.4-2.0	4.0-4.5	1.57	0.88 ±0.05	1.78	3.7 ±0.1	88.3

Figure 2

3.4. Crimped Contact Requirements

The contact must be crimped onto the wire according to instructions packaged with applicable tooling. After crimping, the contact should appear as shown in Figure 3.



CAUTION

The wire insulation must not be damaged during the crimping process.

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.

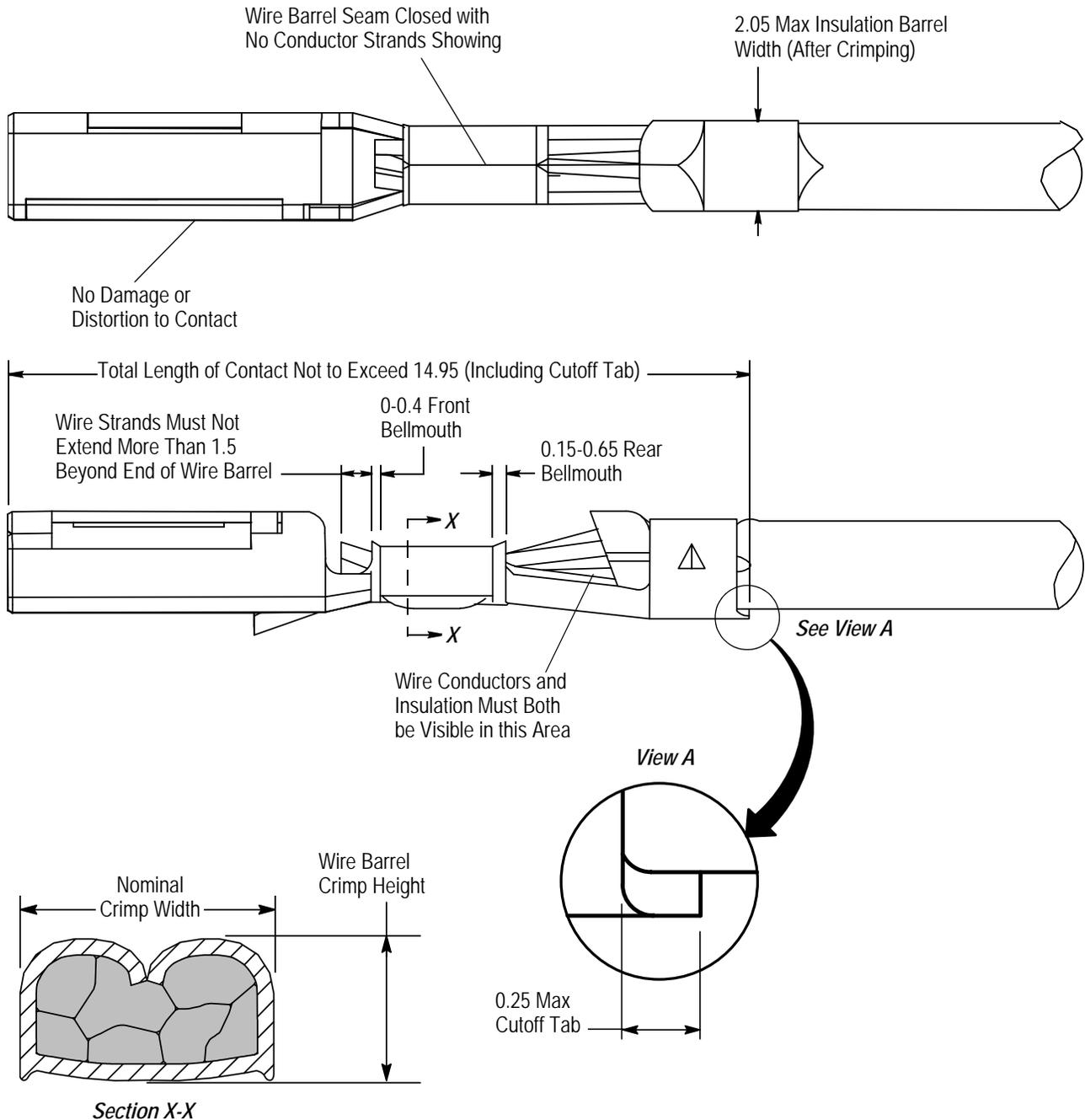


Figure 3

B. Effective Crimp Length

For optimum crimp effectiveness, the crimp must be within the area shown in Figure 3 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

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

D. Cutoff Tabs

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

E. Insulation Barrel Crimp

The insulation barrel shall 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 shall comply to width and height provided in Figure 2.

F. Wire Location

The wire conductor and insulation must be visible in the transition area between the wire and insulation barrels.

G. Conductor Extension

The conductor may extend beyond the wire barrel to the maximum shown in Figure 3.

H. Wire Barrel Seam

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

I. Roll

The maximum amount roll is provided in Figure 4.

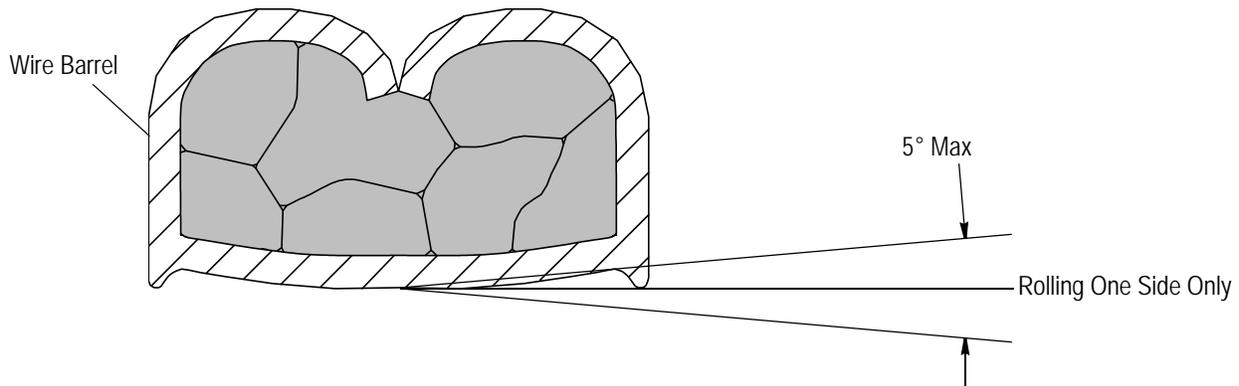


Figure 4

J. Straightness and Twist

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 5.

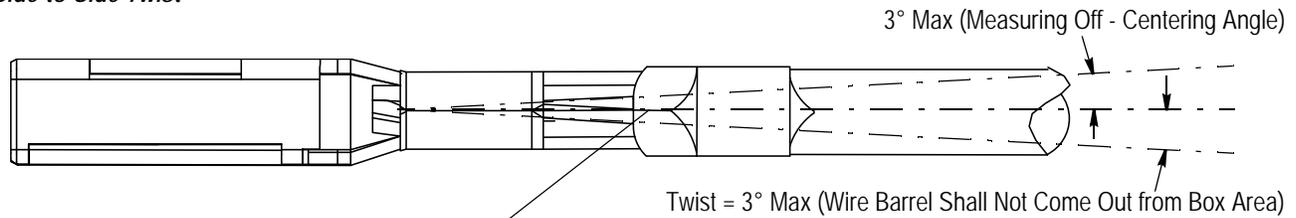
1. The up and down bend of the crimped contact, including cutoff tab and burr, shall not be bent above or below the datum line more than the amount shown.
2. The side-to-side twisting of the contact may not exceed the limits provided.



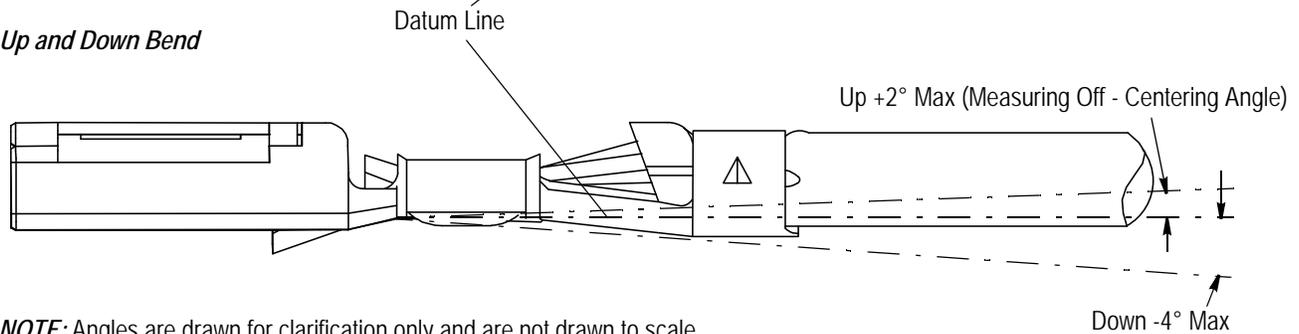
NOTE

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

Side-to-Side Twist



Up and Down Bend



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

Figure 5

3.5. Contact Repair

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

4. QUALIFICATIONS

The .040 Series Receptacle Contact is not required to be agency evaluated or approved.

5. TOOLING

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. Modified designs and additional tooling concepts may be available to meet other application requirements. Applicator 2151184 will terminate this product line.



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. Contact TE for information on available hand tools and power units.



NOTE

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.

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.

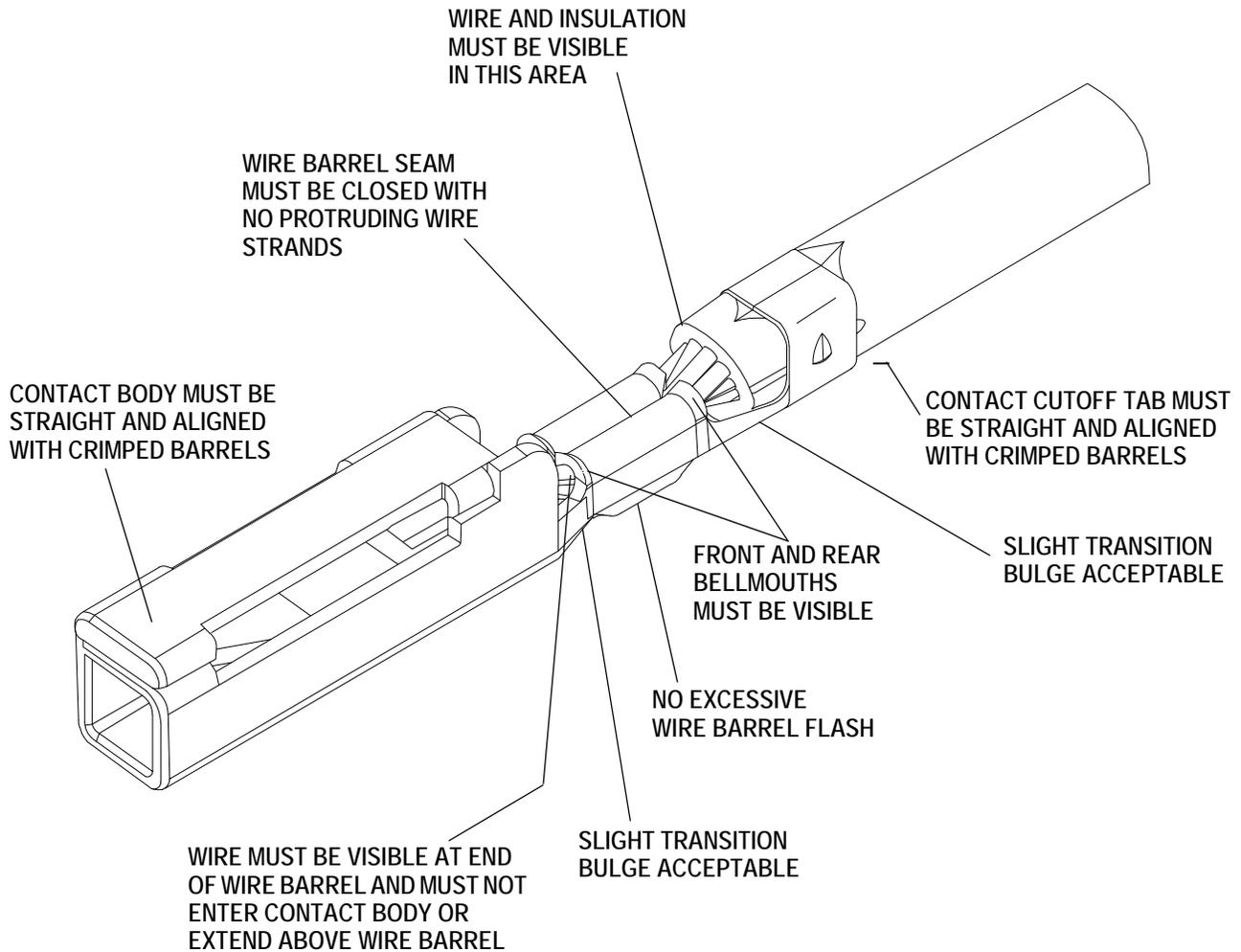


FIGURE 6. VISUAL AID