Size VIII Power Contacts

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 [±.005] and angles have a tolerance of ±2°. Figures and illustrations are for identification only and are not drawn to scale.

1. INTRODUCTION

This application specification covers the requirements for application of Size VIII Power pin and socket contacts. Each contact features a body, retention springs, and a wire barrel with a wire inspection hole. These contacts are available in loose-piece form for terminating with hand-held tools.

Military Certified 24308 Special Series 109 connectors, such as AMPLIMITE* connectors, drawer connectors, and Metrimate connectors, which contain power and coaxial and signal mixed contact cavities, accept these contacts.

When corresponding with 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.

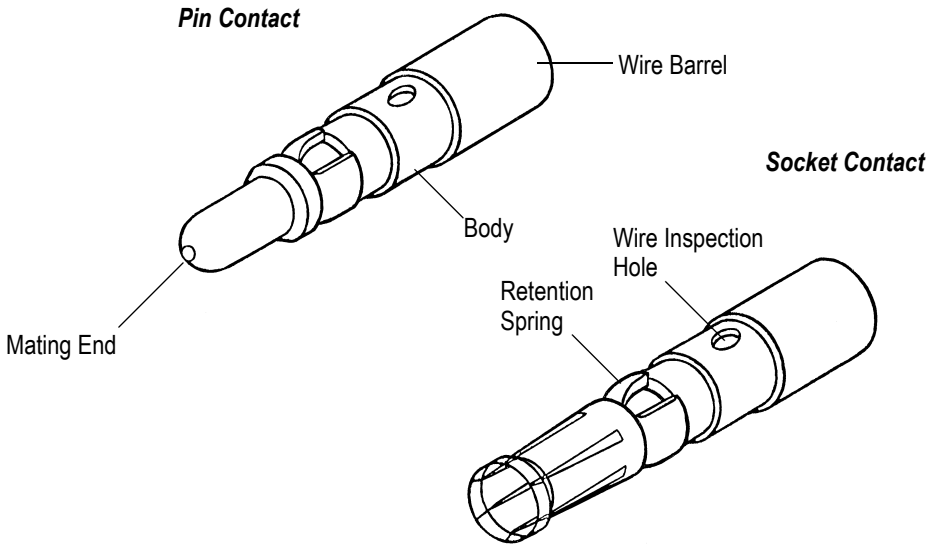


Figure 1

2. REFERENCE MATERIAL

2.1. Revision Summary

Revisions to this application specification include:

- Updated document to corporate requirements.

2.2. Customer Assistance

Reference Product Base Part Number 211159 and Product Code 3127 are representative of Size VIII Power pin and socket contacts. 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 Representative or, after purchase, by calling PRODUCT INFORMATION at the number at the bottom of this page.

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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 page 1.

2.1. Specifications

Product Specification 108-10045 provides product performance requirements and test information.

2.2. 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:

408-6827	Extraction Tool 58095-1 for AMPLIMITE Connectors
408-7424	Measuring Crimp Height and Gaging Die Closure
408-7516	Screw Machine Contacts and Application Tooling
408-9310	Extraction Tool 58095-2 for HDI Hybrid Connector Power and Coaxial Contacts

3. REQUIREMENTS

3.1. Storage

The contacts should remain in the shipping containers until ready for use to prevent deformation to the contact. The contacts should be used on a first-in, first-out basis to avoid storage contamination that could adversely affect signal transmissions. These contacts have a shelf life of 2 years from date of manufacture.

3.2. 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.

3.3. Wire Selection and Preparation

The contacts will accept copper fused-stranded or stranded conductor wire within a wire size range of 18 through 8 AWG.

The wire must be stripped to the dimension provided in Figure 2.

CAUTION

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

Note: Not to Scale

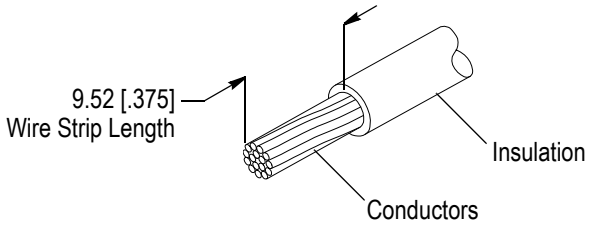


Figure 2

3.4. Crimped Contact Requirements

A. Crimp Length

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

Effective crimp length, defined as that portion of the wire barrel fully formed by the crimping tool, must meet the dimension given in Figure 3.

B. Wire Conductor and Insulation Location

The wire conductors shall be visible through the wire inspection hole. The wire insulation must not enter the contact wire barrel. A slight gap between the wire insulation and the contact wire barrel is permissible.

C. Contact Retention Spring

Contact retention spring shall not be deformed.

D. Mating End

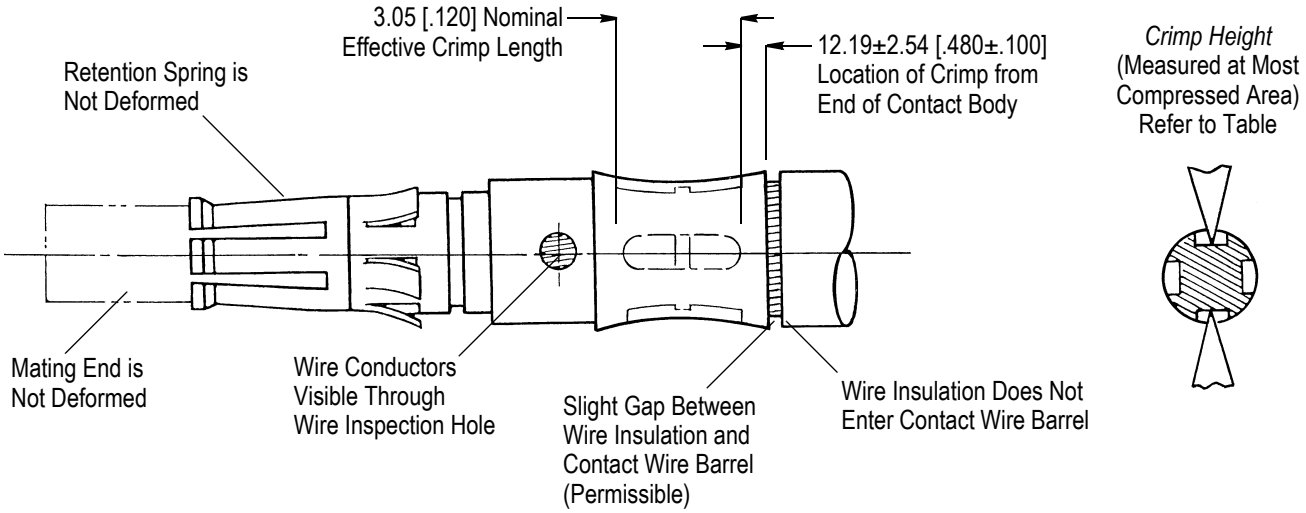
The mating end shall not be deformed.

E. Crimp Height

The crimp height must be within the dimension given in Figure 3.

NOTE

The most compressed area of the crimp must be measured.



WIRE SIZE (AWG)	CONTACT CRIMP HEIGHT
8	3.18+0.18/-0.10 [.125+.007/-.004]
10	2.44±0.10 [.096±.004]
12	2.13±0.10 [.084±.004]
14	
16	1.73±0.10 [.068±.004]
18	1.55±0.10 [.061±.004]

Figure 3

F. Straightness

The body of the crimped contact shall be chucked and rotated to a minimum of 360 degrees. The area of the point of measurement for the total indicator reading (TIR) is shown in Figure 4.

The TIR must not exceed 0.76 [.030].

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

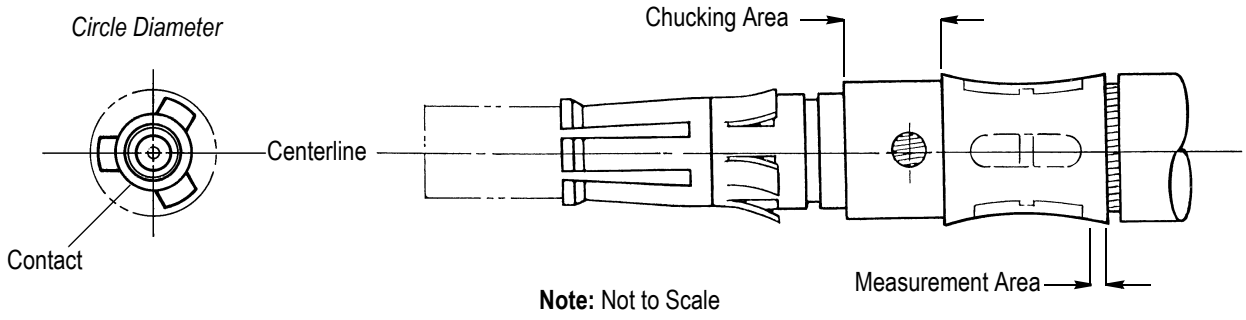


Figure 4

3.5. Repair

Contacts are not repairable after termination. Defective or damaged contacts must not be used. Damaged or defective contacts can be removed from a connector and replaced with a new one.

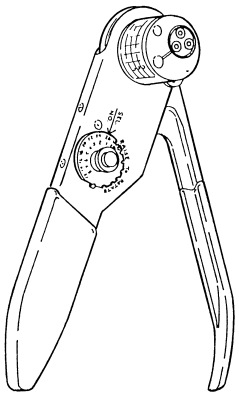
4. QUALIFICATION

Size VIII Power pin and socket contacts are not recognized by Underwriters Laboratories Inc. (UL) or CSA International.

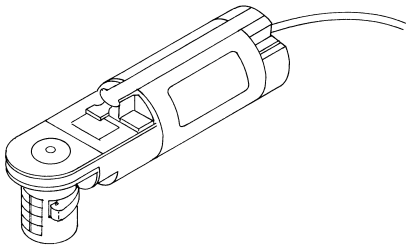
5. TOOLING

Tooling part numbers and instructional material packaged with the tooling are shown in Figure 5.

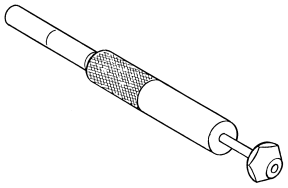
The extraction tool is designed to remove a contact from the connector without deforming the contact.



Manual Hand Tool Frame
(Refer to Table)



Pneumatic Tool
(Refer to Table)



Extraction Tools 58095-1 for AMPLIMITE Connectors (408-6827) or 58095-2 for Connectors with Power/Coaxial and Signal Mixed Contact Cavities (408-9310)

WIRE SIZE (AWG)	CRIMPING TOOLING (Cross-Reference)				
	TE CONNECTIVITY		DANIELSMANUFACTURING COMPANY		SELECTOR SETTING
	POSITIONER OR TURRET HEAD	MANUAL HAND TOOL FRAME	POSITIONER OR TURRET HEAD	HAND TOOL	
8	608651-2	608651-1 (408-7516)	TP1151	Manual Hand Tool Frame M300BT or Pneumatic Tool WA27-300BT-EP	7
	608651-3		SP858 ‡		
10	608651-3		SP858 ‡		3
	608651-2		TP1151		
12	608651-2		TP1151		1
	—		SP867 ‡		
14	608651-2		TP1151		1
	—		SP867 ‡		
16	608651-2	608668-1 (408-7516)	TP731	Manual Hand Tool Frame FT8 or Pneumatic Tool WA27-309-EP	7
	—		SP867 ‡		
18	608651-2		TP731		6
	—		SP867 ‡		

‡ Use with long contacts only.

Figure 5

6. VISUAL AID

The illustration below shows a typical application of Size VIII Power pin and socket contacts. 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.

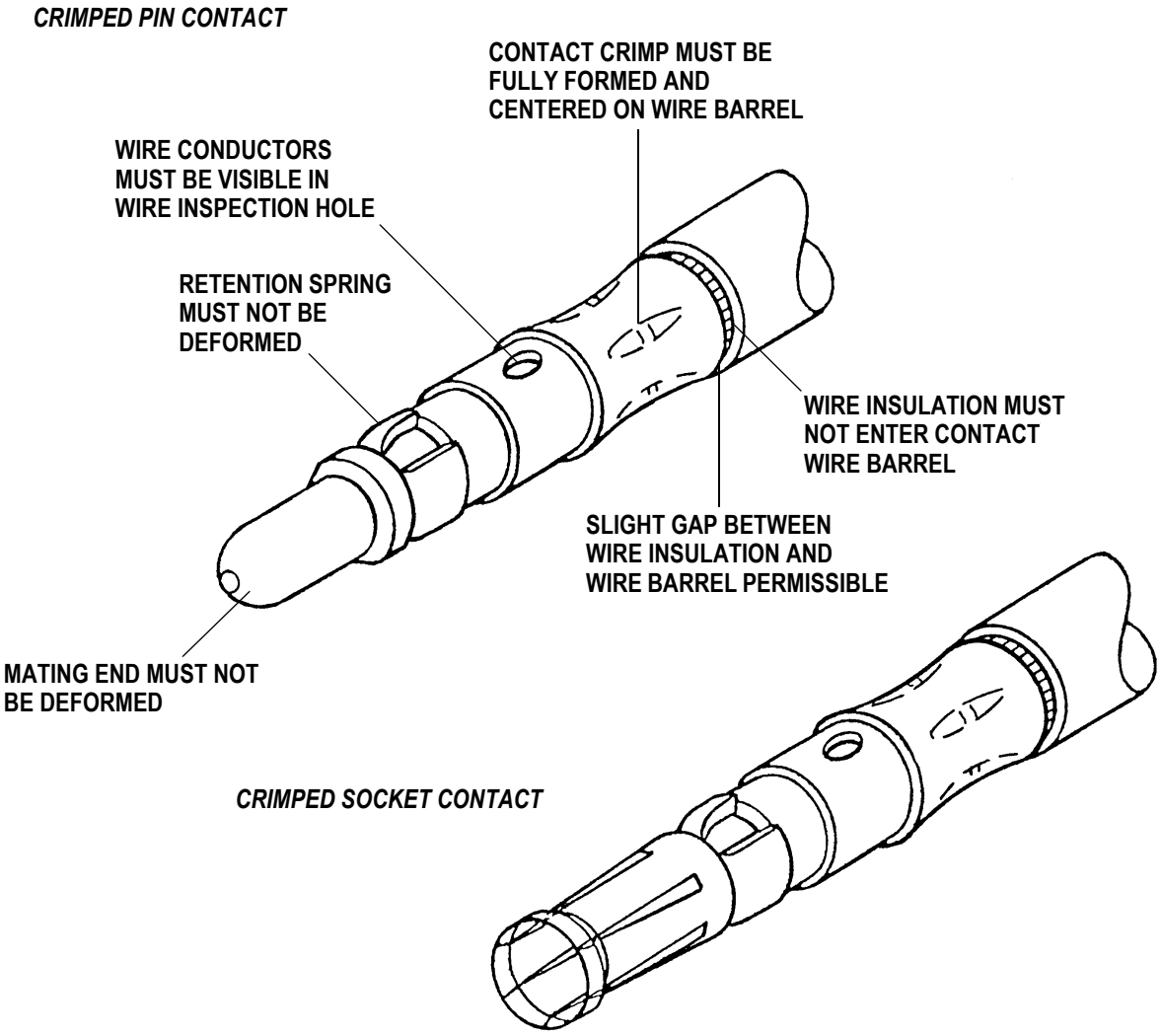


Figure 6. VISUAL AID