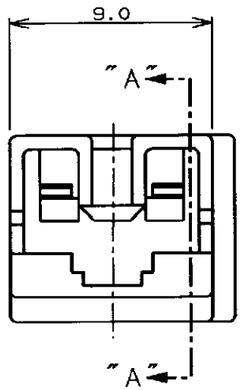
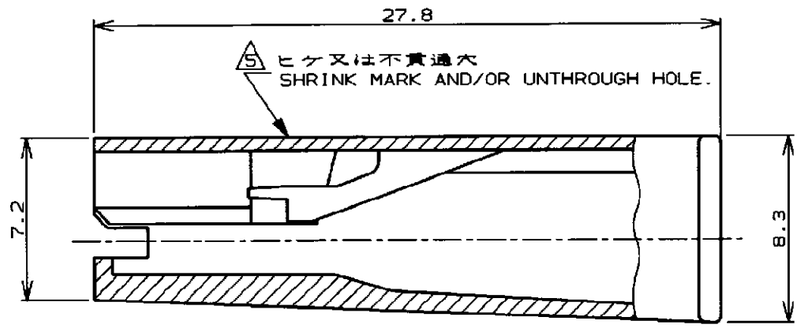
勝特力電材超市-龍山店 886-3-5773766
勝特力電材超市-光復店 886-3-5729570
胜特力电子(上海) 86-21-34970699
胜特力电子(深圳) 86-755-83298787
http://www.100y.com.tw

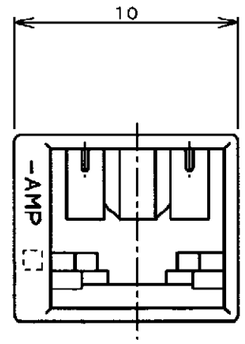
NUMBER C-172076

三角法 (3rd ANGLE PROJECTION)





断面"A"-"A"
(SECT"A"-"A")



NOTES;

1. PRODUCT SPECIFICATION 108-5127
2. APPLICABLE CONTACT
   P/N ; 170327,170328,170329
3. SEE CP78-26023. ABOUT APPLICABLE TAB.

4 MATERIAL ; 6/6 NYLON (94V-0)

5 THERE ARE A FEW CASES THAT SHRINK MARK AND/OR UNTHROUGH HOLE OCCURS IN THIS AREA, BUT NOT INFLUENCE TO CONN,FUNCTION.

6 COMPLY WITH GLOW WIRE REQUIREMENT FOR PARTS OF NON-METALLIC MATERIAL SUPPORTING A CURRENT CARRYING CONNECTION DETAILED IN IEC 60335-1, SECTION 30 (GWT), (GWT, UL94V-0)

7 MATERIAL: PA66, UL94 V-0, GWIT 775℃

	型番 (P/N)	色 (COLOR)	注 (NOTE)
	3-172076-1	NATURAL	7
OBSOLETE	~~7-172076-1~~	NATURAL	6
	2-172076-7	(RED) 赤	4
	2-172076-6	(BLUE) 青	4
OBSOLETE	~~2-172076-5~~	(GREEN) 緑	4
	2-172076-4	(YELLOW) 黄	4
	2-172076-2	(BLACK) 黒	4
	2-172076-1	(NATURAL) 自然色	4
	172076-7	(RED) 赤	
	172076-6	(BLUE) 青	
	172076-5	(GREEN) 緑	
	172076-4	(YELLOW) 黄	
	172076-2	(BLACK) 黒	
	172076-1	(NATURAL) 自然色	

REV	DESCRIPTION	DATE	DWN	APVD
H7	REVISED PER ECR-19-018127	20JUL'20	AA	EW
H6	REVISED PER ECR-19-002938	25FEB'19	BH	E.W

PRINT DIST

単位,mm DIMENSIONS IN MM. DO NOT SCALE PRINT

TE Connectivity

電線導体断面積 (WIRE RANGE)	被覆外径 (INSULATION DIA.)
——mm² (AWG –)	—— mmø
材料 (MATERIAL) 6/6ナイロン (94V-2) 4 6/6 NYLON (94V-2) 4	仕上 (FINISH) ——
DR. 17.JAN.'95 M.SUZUKI	DE. 17.JAN.'95 M.SUZUKI
CHK. 20.JAN.'95 H.TAGUTCH	APP. 20.JAN.'95 H.TAGUTCH

名称 (NAME)
250 シリーズ 1極 ポジティブロック (マークII) ハウジング
250 SERIES 1 Pos POSITIVE LOCK (MK-II) HOUSING

一般公差 (GENERAL TOLERANCE)
10以下 : ±0.2
10を超え 30以下 : ±0.25
30を超え 100以下 : ±0.3
角 度 : ±3°

B	LOC J	番号 (No.) C-172076
尺度 (SCALE) 4-1	REV. H7	SHEET 1 OF 1

(CUSTOMER DRAWING) 参 考 図 面

Series 250 Positive Lock MK 1
Receptacle Connectors

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 specification covers the requirements for the application of Series 250 Positive Lock MK I Receptacle Connectors. These receptacle contacts are designed to accept a wire size range of 20 to 10 AWG.

One- and two position housings are available for your production requirements. The contacts are designed to be mated with tabs containing holes for proper locking. These receptacle contacts are terminated by automatic or semi-automatic machines.

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.

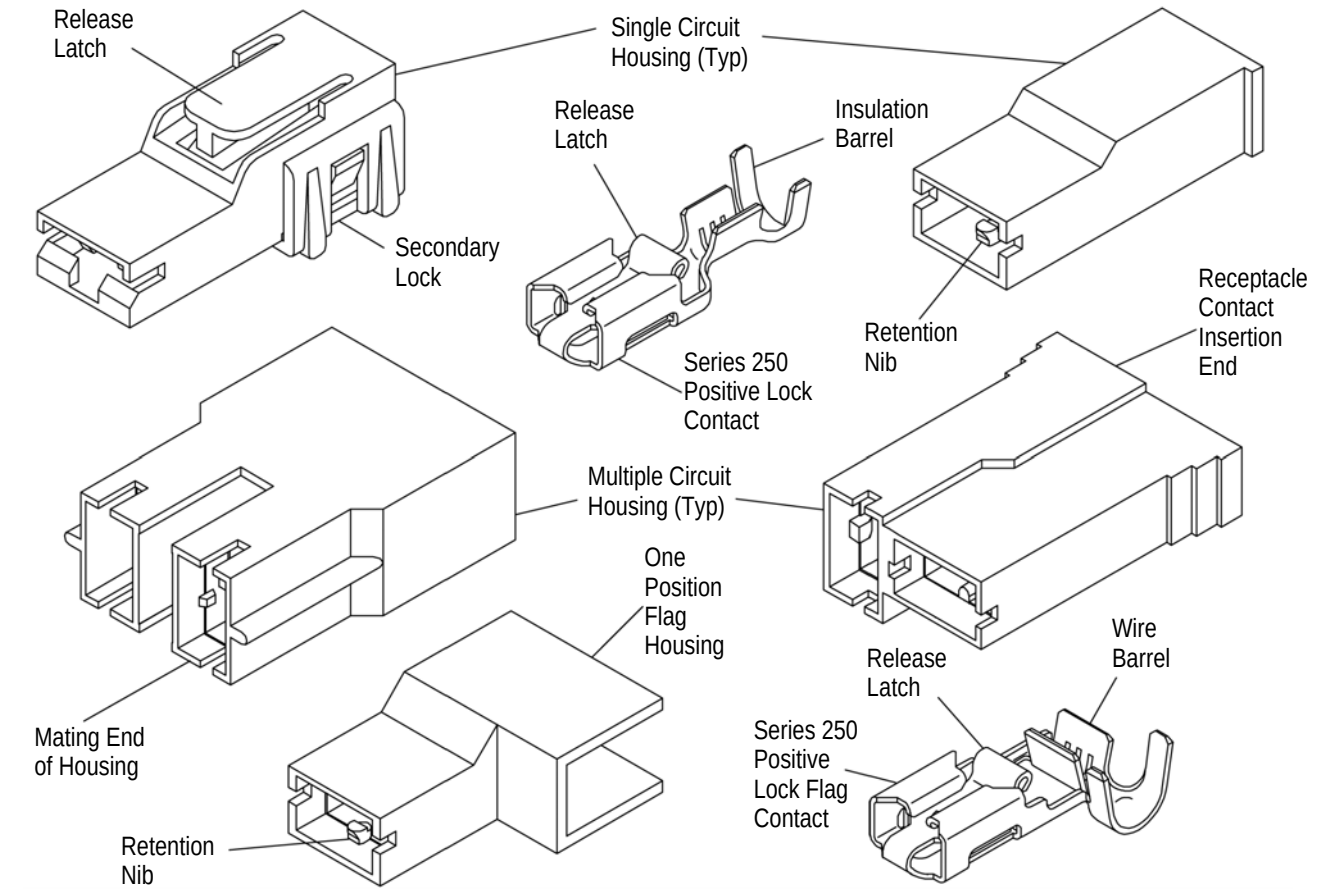


Figure 1

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*Trademark

TE Connectivity, TE connectivity (logo), and TE (logo) are trademarks. Other logos, product and/or Company names may be trademarks of their respective owners.

2. REFERENCE MATERIAL

2.1. Revision Summary

- Changed information in Figure 9

2.2. Customer Assistance

Reference Part Number 154717 and Product Code 1113 are representative of Series 250 Positive Lock MK I Receptacle Connectors. These numbers are used in the network of customer service to access tooling and product application information. This service is provided by your local company representative or, after purchase, by calling the Tooling Assistance Center or the Product Information number at the bottom of page 1.

2.3. Drawings

Customer Drawings for specific products are available from the responsible TE Engineering Department via the service network. The information contained in the Customer Drawing takes priority if there is a conflict with this specification or any other technical documentation supplied by TE.

2.4. Specifications

Product Specification 108-3017 provides product performance requirements and test information.

2.5. .Instructional Material

The following list includes available instruction sheets (408-series) that provide assembly procedures for product, operation, maintenance and repair of tooling, and customer manuals (409-series) that provide setup, operation, and maintenance of machines.

408-3295	Preparing Reel of Contacts for Application Tooling
408-7424	Checking Terminal Crimp Height or Gaging Die Closure
408-8040	Heavy Duty Miniature Quick-Change Applicators (Side-Feed Type)
408-8053	Conversion Guide for Miniature Quick-Change Applicators
408-9816	Handling of Reeled Products
409-5128	Basic AMP-O-LECTRIC* Model “K” Terminating Machines, and Accessories
409-5842	AMP-O-LECTRIC Model “G” Terminating Machine 354500-1

3. REQUIREMENTS

3.1. Storage

A. Ultraviolet Light

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

B. Reel Storage

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

C. Shelf Life

The contacts and housings should remain in the shipping containers until ready for use to prevent deformation to those components. The components 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 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 instead of brass if available.

3.2. Special Characteristics

Positive Lock Receptacles are designed with reduced mating forces and a flexible locking dimple. This unique locking feature acknowledges proper mating with an audible mechanical “snap” of the dimple into the hole in the mating tab. The locking feature enhances safety and reliability of the mated circuit for isolated and hard to reach areas.

3.3. Wire and Receptacle Selection

A. Receptacle Selection

The basic criteria for choosing a receptacle is the width and the thickness of the mating tab. Series 250 Positive Lock MK I will mate with 6.35 x 0.81 mm [.250 x .032 in.] tabs.

B. Wire Selection

Series 250 Positive Lock MK I Contacts will accept wires with insulation diameters, strip lengths, and crimp heights and widths as listed in Figure 2.

CAUTION

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

TERMINAL WIRE SIZE RANGE mm² [AWG]	WIRE APPLIED mm² [AWG]	INSULATION DIAMETER	STRIP LENGTH	INSULATION CRIMP WIDTH (Ref)	WIRE BARREL CRIMP	
					HEIGHT ±0.05 [.002]	WIDTH (Ref)
0.5-1.5 [20-16]	0.5 [20]	2.29-3.30 [.090-.130]	5.46-6.22 [.215-.245]	3.30 [.130]	1.45 [.057]	2.29 [.090]
	0.6 [19]				1.50 [.059]	
	0.7 [18]				1.60 [.063]	
	1.5 [16]				1.65 [.065]	
0.7-2.0 [18-14]	0.7 [18]	2.41-3.94 [.095-.155]		3.94 [.155]	1.50 [.059]	2.79 [.110]
	1.5 [16]				1.65 [.065]	
	2 [14]	3.43-4.95 [.135-.195]		5.33 [.210]	1.88 [.074]	
2.5-4.0 [13.5-11]	2.5 [13.5]	3.56-4.32 [.140-.170]		5.59 [.220]	2.03 [.080]	3.30 [.130]
	3 [12]				2.13 [.084]	
	4 [11]				2.36 [.093]	
3.0-5.0 [12-10]	3 [12]	3.43-5.08 [.135-.200]		5.59 [.220]	2.01 [.079]	4.57 [.180]
	5 [10]				2.39 [.094]	

Figure 2

NOTE

Each crimp dimension represents the functional range of a wire/contact combination. There are tool designs available to meet various application requirements. The developed crimp configuration is unique for each tool design and is acceptable provided the crimp height is within the functional range. For crimp dimensions of a specific tool, refer to the applicator log packaged with power tools.

3.4. Crimped Contact Requirements

Locate the contact to be crimped in the appropriate tooling according to the instructions packaged with that tooling. Detailed instructions covering the placement of contacts in the tooling and the use of such tooling is packaged with each tool.

Terminate the contact according to the directions shipped with the appropriate tooling. See Section 5, TOOLING.

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.

NOTE

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

A. Crimp Height

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 crimp height must be within the dimensions provided in Figure 2.

B. 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 Figure 12.

C. Bellmouths

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

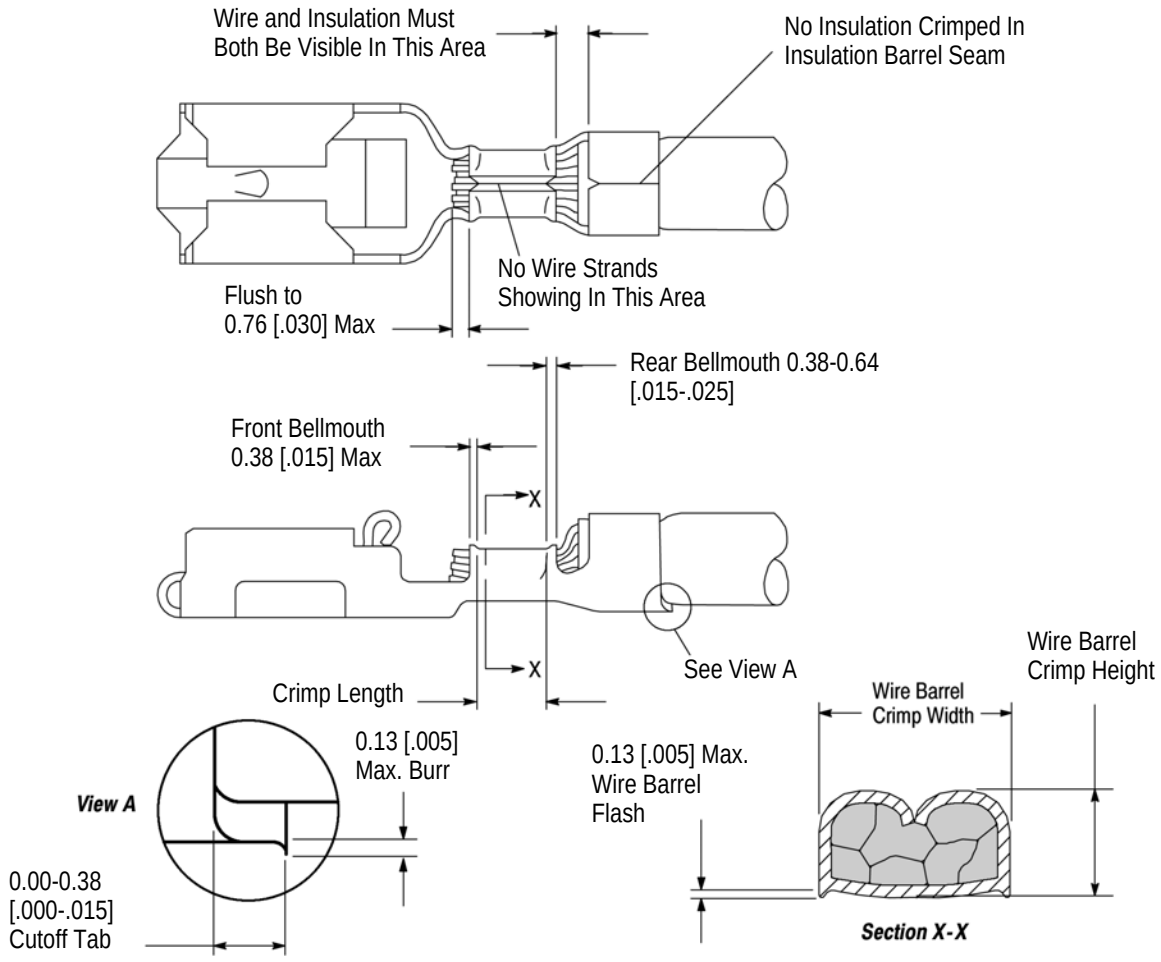


Figure 3

D. Cutoff Tab

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

E. Burrs

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

F. Wire Barrel Flash

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

G. Wire Location

After crimping, the wire conductor and insulation must be visible in the transition area between the wire and insulation barrels.

H. .Conductor Location

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

I. Wire Barrel Seam

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

J. Twist and Roll

There shall be no twist, roll, deformation, or other damage to the mating portion of the crimped contact that will prevent proper mating. See Figure 4.

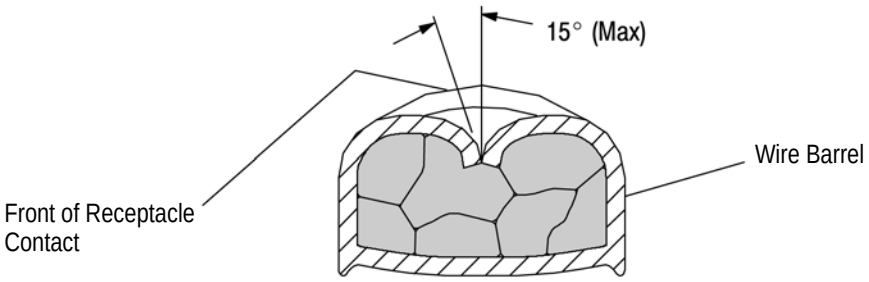


Figure 4

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 following limits.

1) Up and Down
The crimped contact, including cutoff tab and burr, shall not be bent above or below the datum line more than the amount shown in Figure 5.

2) Side to Side
The side-to-side bending of the contact may not exceed the limits provided in Figure 6.

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

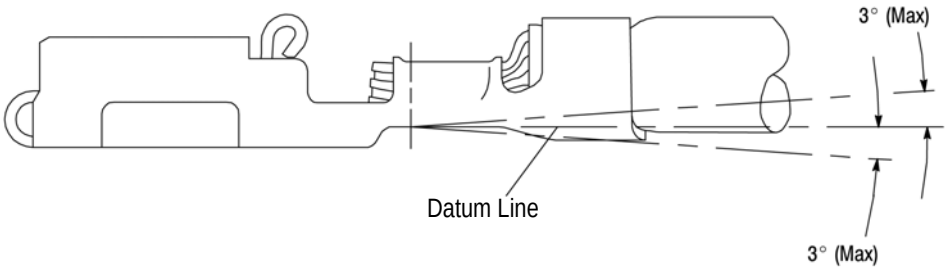


Figure 5

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

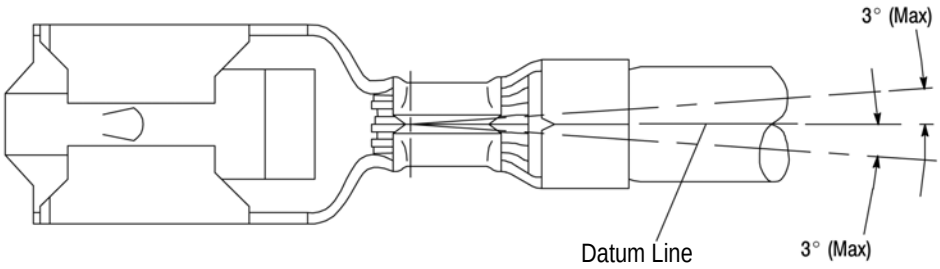


Figure 6

3.5. Tensile Strength

Crimped contacts should hold the wire firmly and have a crimp pull-out test value meeting that specified in the table in Figure 7.

NOTE

Adjust tensile testing machine for head travel of 25.4 mm [1 in.] per minute. Directly and gradually apply force for one minute.

CRIMP PULL-OUT TEST		
WIRE SIZE mm² [AWG]	MINIMUM FORCE	
	NEWTONS	POUNDS
0.5 [20]	58	13
0.7 [18]	89	20
1.5 [16]	133	30
2 [14]	222	50
3 [12]	311	70
5 [10]	356	80

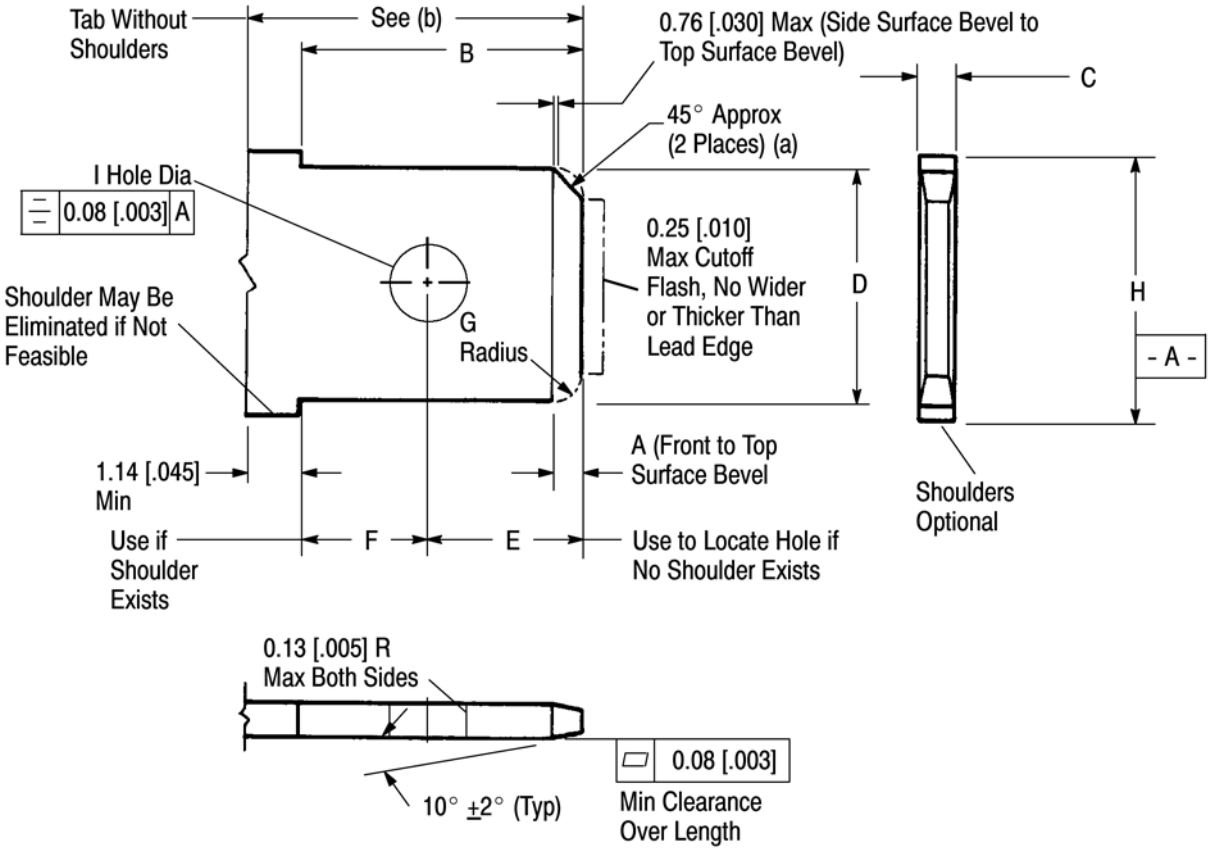
Figure 7

3.6. Mating Tab Dimensions

Figure 8 shows features and dimensional requirements for tab terminals intended for mating with Series 250 Positive Lock MK I Receptacle Contacts.

NOTE

Testing may be done using a gage as described in Residential Controls--Quick-Connect Terminals, ANSI/NEMA No. DC2--1982. Test tabs shall have dimensions as shown in Figure 8.



TAB SIZE	A± 0.13 [.005]	B± 0.13 [.005]	C± 0.03 [.001]	D± 0.08 [.003]	E± 0.20 [.008]	F± 0.08 [.003]	G± 0.13 [.005]	H (MIN)	I DIA
6.35 x 0.81 [.250 x .032]	0.89 [.035]	7.92 [.312]	0.81 [.032]	6.35 [.250]	4.52 [.178]	3.40 [.134]	1.27 [.050]	8.26 [.325]	1.65-2.03 [.065-.080]

NOTE (a) Bevel need not be a straight line if within confines as shown, or a radius of G± 0.13 mm [.005 in.] may be substituted.

NOTE (b) Min Clearance is 9.78 mm [.385 in.] w/o Insulator; 10.03 mm [.395 in.] w/Insulators 154719 and 962522; and 12.06 mm {475 in.] w/Insulators 520961 and 520910.

NOTE Dimensional measurements shall not include plating, burrs, or flatness tolerance. Hole must be symmetrical with no burrs.

Figure 8

3.7. Mating and Testing

The forces required to mate and unmate a test mating tab and receptacle shall be as specified in Figure 9. Measure the force using a testing device capable of holding the reading. It must also provide accurate alignment with slow and steady mating and unmating of the test tab and receptacle.

FORCE (NEWTONS [LBS]) FOR TEST TABS AND RECEPTACLES			
FIRST MATING (MAX)	FIRST UNMATING (MIN)		SIXTH UNMATING (MIN) (UNLOCKED)
	(LOCKED)	(UNLOCKED)	
27 [6]	111 [25]	6.7 [1.5]	4.448 [1]

Figure 9

3.8. Housings

Series 250 Positive Lock MK I Housings are available in one or two positions. These housings perform an insulation function as well as protecting the mating tabs and receptacles. See Figure 10.

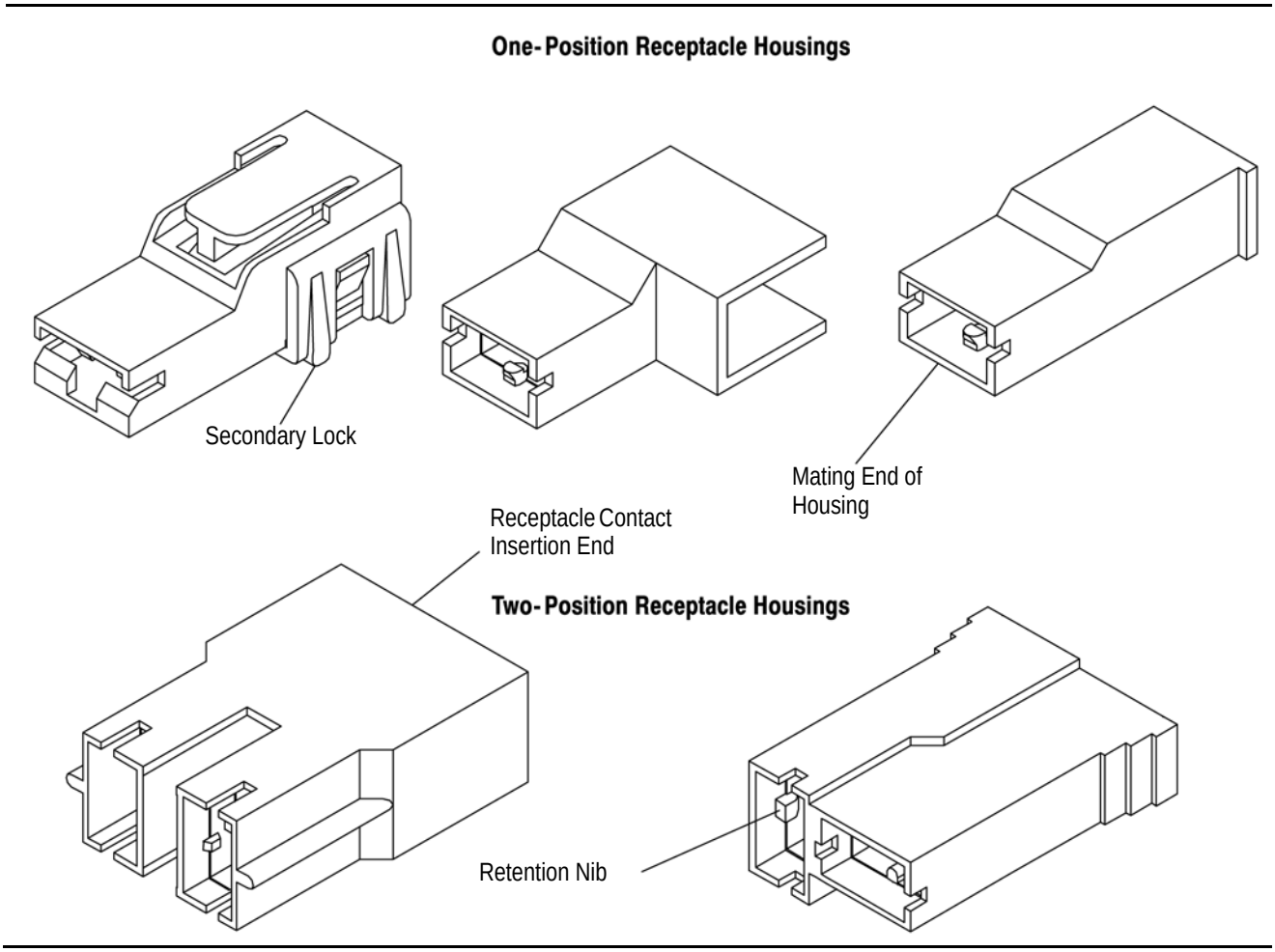


Figure 10

3.9. Assembly/Disassembly Procedures

A. Assembling Connector

The contacts are retained in the housings by a window in the bottom of the contact that straddles a raised nib in the housing. See Figure 11B and C. To achieve the straddle position, the nib must be displaced by the receptacle when inserted into the housing. See Figure 11D. To achieve this displacement, the housing must flex. It is important that housings remain in the closed plastic shipping bag to retain the proper moisture content until assembled.

B. Unmating Connector

To release the lock, an integrally-designed release latch must be depressed. See Figure 11A. This is accomplished either with a thumb (Figure 11A and B), or a cam surface (Figure 11C), inside the housing. Unless the release latch is depressed either manually or with the optional designated area of the housing, the receptacle cannot be removed without damage force being applied.

Tabs for use with Positive Lock MK I Receptacle Connectors must have a hole in the mating area. The proper tab configuration for mating with Positive Lock MK I Receptacle Connectors is shown in Figure 8. The basic tab dimensions are also found in UL Specification 310.

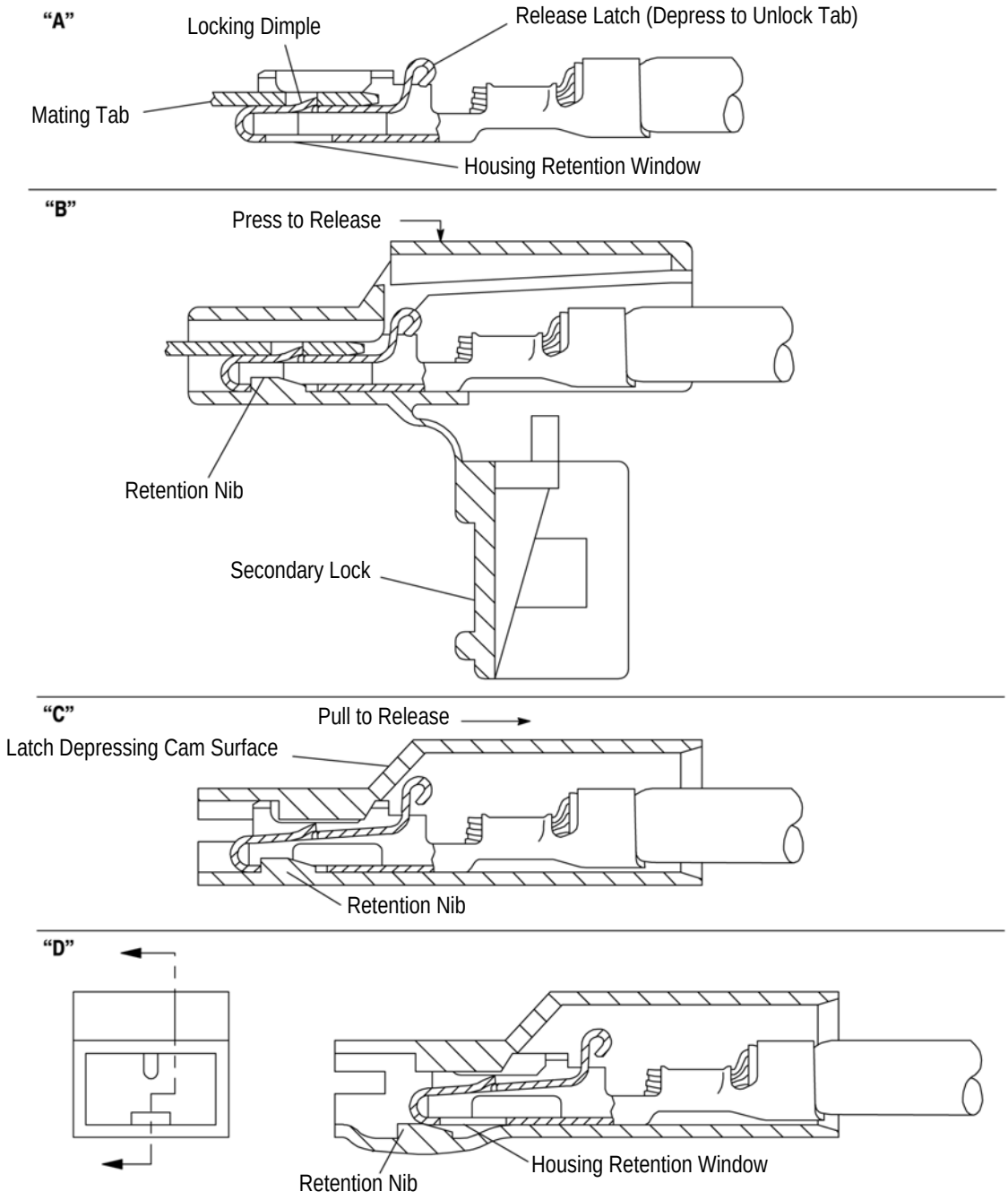


Figure 11

3.10. Repair/Replacement

Damaged crimped contacts or housings must be removed, discarded, and replaced with new components.

CAUTION

If a damaged contact is apparent before the contacts are inserted into the housing, cut the wire in back of the contact and reterminate the wire end. If contacts or housing are damaged after insertion, the wire must be cut directly in back of the housing and reterminated with new contacts and housing. See Section 5, TOOLING.

4. QUALIFICATIONS

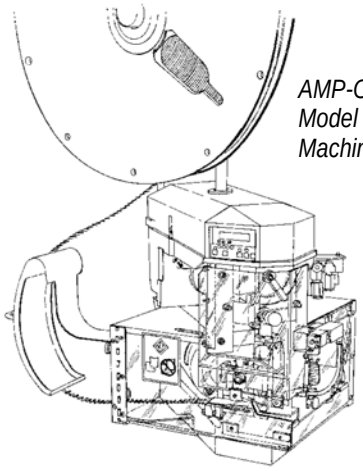
Series 250 Positive Lock MK I Receptacle Connectors are Component Recognized by Underwriters Laboratories Inc. (UL) in File E66717 and E28476. They are also Certified by CSA International in File LR7189A.

5. TOOLING

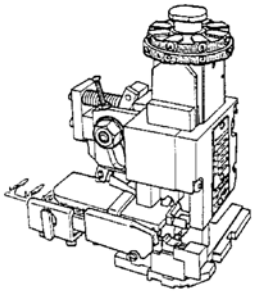
This section provides a selection of tools for various application requirements. They include semi-automatic and automatic machines for power-assisted application of strip form contacts. Modified designs and additional tooling concepts may be available to meet other application requirements. For additional information, contact one of the service group numbers at the bottom of page 1. A listing of tooling recommendations covering the full wire size range is provided in Figure 12.

NOTE

TE tooling 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 at the bottom of page 1.

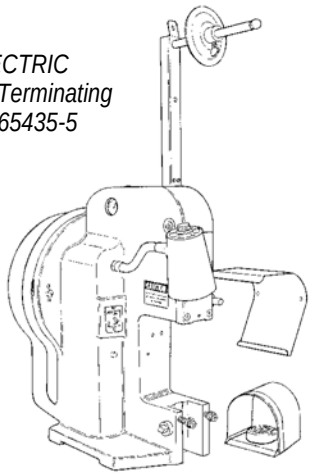


AMP-O-LECTRIC Model "G" Terminating Machine 354500-1



Typical Heavy Duty Miniature Applicator (Side-Feed Type)

AMP-O-LECTRIC Model "K" Terminating Machine 565435-5



WIRE SIZE		INSULATION DIAMETER	APPLICATOR (DOCUMENT)	POWER UNIT (DOCUMENT)
mm²	AWG			
0.5-1.5	20-16	2.29-3.30 [.090-.130]	567181-2 (408-8040)	354500-1 (409-5842) 565435-5 (409-5128)
0.7-2.0	18-14	2.41-3.18 [.095-.125]	466542-3 (408-8040)	
2.6-4.0	13-11	3.56-4.32 [.140-.170]	466883-2 (408-8040)	
3.0-5.0	12-10	3.43-5.08 [.135-.200]	567417-2 (408-8040)	

Figure 12

- *Applicator* -- 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.

6. VISUAL AID

Figure 13 shows a typical application of Series 250 Positive Lock MK 1 Connectors. 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.

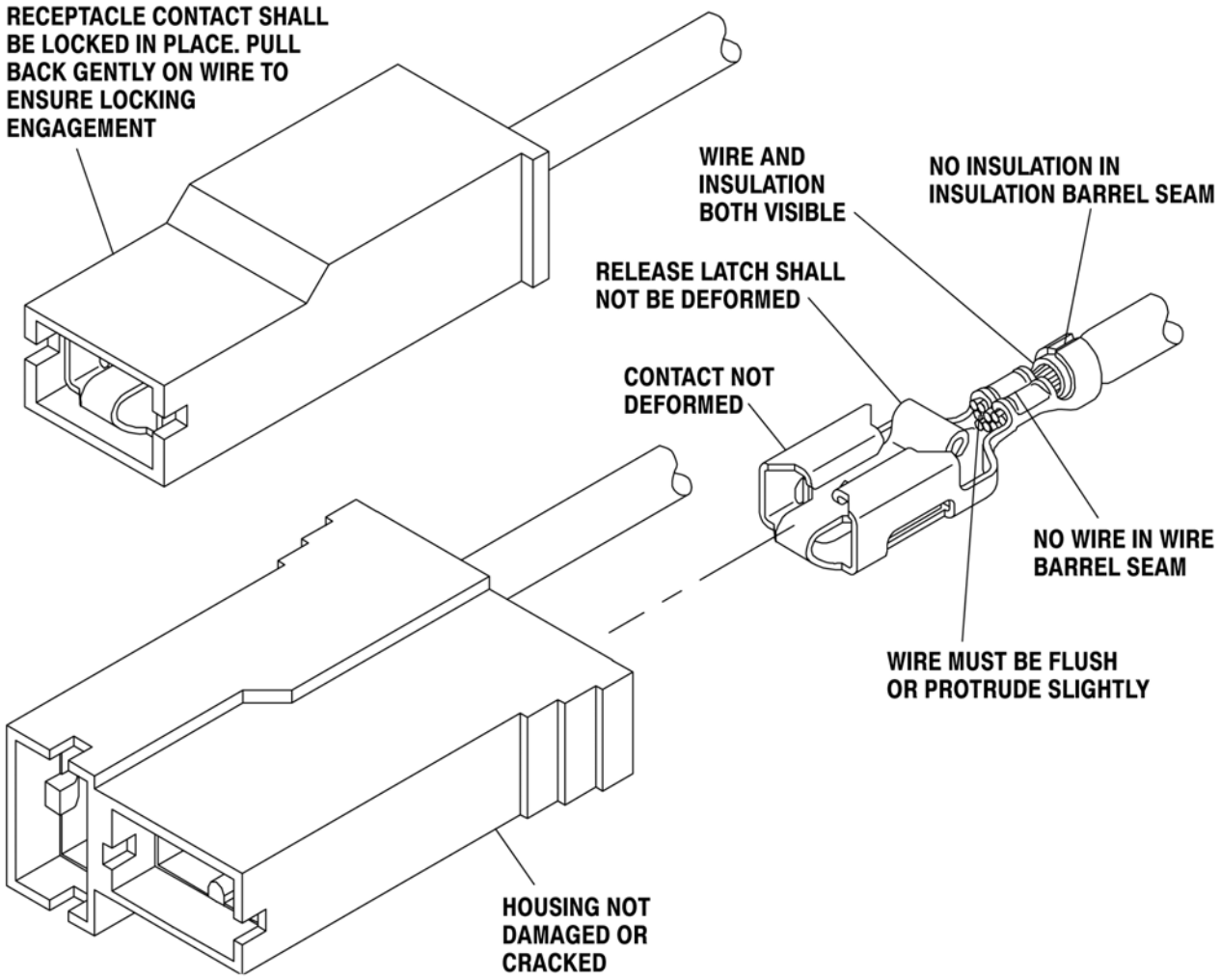


FIGURE 13. VISUAL AID