AMP

FASTIN–FASTON* Tabs, Receptacles, and Housings

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 AMP* FASTIN–FASTON Tabs, Receptacles, and Housings. The connectors are designed to accept a wire size range of 26–8 AWG.

These contacts are used in housings to make simultaneous and quick matings of up to eleven separate circuits. Some housings offer a panel mount option. See Paragraph 3.5, Housings.

Application may be done by hand for replacement loose piece contacts and/or machine reel–mounted contacts.

When corresponding with AMP Personnel, use the terminology provided on this specification to help facilitate your inquiry for information. Basic terms and features of components are provided in Figure 1. This document supersedes Application Specifications 114–2023 and 114–2065.

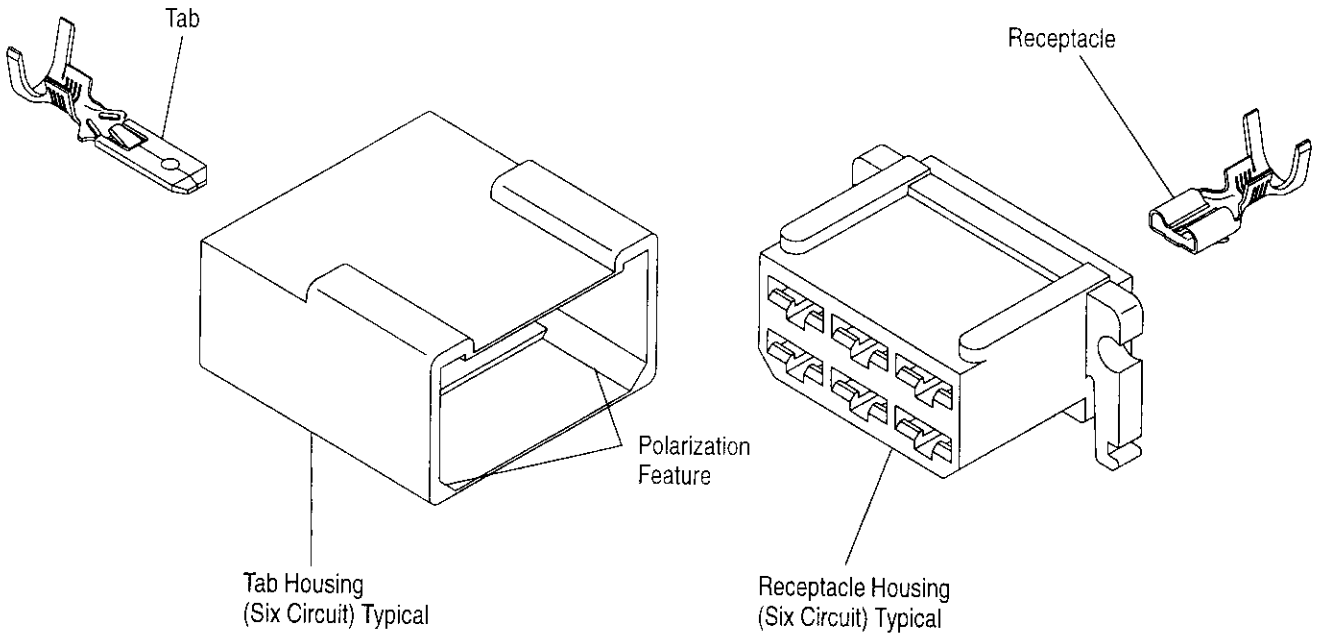


Figure 1

2. REFERENCE MATERIAL

2.1. Revision Summary

This paragraph is reserved for a revision summary of the most recent additions and changes made to this specification which include the following:

Per EC 0710–0153–94:

- Add panel mounting information from CP–15708

Per EC AF 7000

- Changed insulation range in Figure 3

Per EC 0990–0973–95

- Combined 9.52 [.375], 7.92 [.312], 6.35 [.250], 4.75 [.187], and 2.79 [.110] FASTIN–FASTON series and superseded Application Specifications 114–2023 and 114–2065
- Updated format and add Tooling Information Center and Product Information phone numbers
- Add metric dimensions
- Add new figures
- Add new storage and reference material information
- Add new crimp requirement information
- Add new housing information
- Add panel mounting information from CP–22678
- Add qualification information
- Add new tooling, and visual aid information

2.2. Customer Assistance

Reference Part Number 480003 and Product Code 1108 are representative numbers of AMP FASTIN–FASTON Tabs, Receptacles, and Housings. Use of these numbers will identify the product line and expedite your inquiries through an AMP service network established to help you obtain product and tooling information. Such information can be obtained through a local AMP Representative (Field Sales Engineer, Field Applications Engineer, etc) or, after purchase, by calling the Tooling Assistance Center or the AMP FAX/Product Information Center number at the bottom of page 1.

2.3. Drawings

AMP Customer Drawings for specific products are available from the service network. The information contained in Customer Drawings takes priority if there is a conflict with this specification or with any technical documentation supplied by AMP Incorporated.

2.4. Product Specifications

AMP Product Specification 108–2002 provides test and performance requirements for 4.75 [.187] FASTIN–FASTON Series Modular Connectors.

2.5. Instructional Material

The following list includes available AMP instruction sheets (408–series) that provide assembly procedures for product, operation, maintenance and repair of tooling, as well as setup and operation procedures of applicators; and customer manuals (409–series) that provides setup, operation, and maintenance of AMP machines.

Document Number	Document Title
408–3295	Preparing Reel Of Contacts for Application Tooling
408–4138	AMP Double Action Hand Tool 189508–1
408–7424	Checking Terminal Crimp Height or Gaging Die Closure
408–7432	AMP Force Gage 92–100505 for Testing AMP FASTON*, FASTIN–FASTON, PIDG*, and Ultra–Fast Terminals
408–8039	Heavy Duty Quick Change Applicators (End Feed Type)
408–8053	Conversion guide for AMP Miniature Quick–Change Applicators
408–9580	AMP Extraction Tip 465665–1 For Use With Universal Handle Assembly 465629–1
408–9816	Handling Of Reeled AMP Products
408–9866	AMP Terminal Reel Flange Removal Tool 354030–1
409–5128	Basic AMP–O–LECTRIC* Model "K" Terminating Machine, Accessories, and Modified Machines
409–5866	AMPOMATOR* CLS IV Lead–Making Machine
409–5870	AMP Crimp Quality Monitors for AMPOMATOR CLS IV Lead–Making Machines
409–5842	AMP AMP–O–LECTRIC 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 housing material.

B. Reel Storage

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

C. Shelf Life

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.

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	Sulfides Nitrites	Tartrates

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

3.2. Special Characteristics

FASTIN–FASTON Connectors are the multiple circuit connector version of the FASTON* Connector product. They are used primarily as harness connectors. This specification only provides information on housings and contact receptacles accepting tab widths of 9.52 [.375], 7.92 [.312], 6.35 [.250], 4.75 [.187], and 2.79 [.110]. See Figure 2.

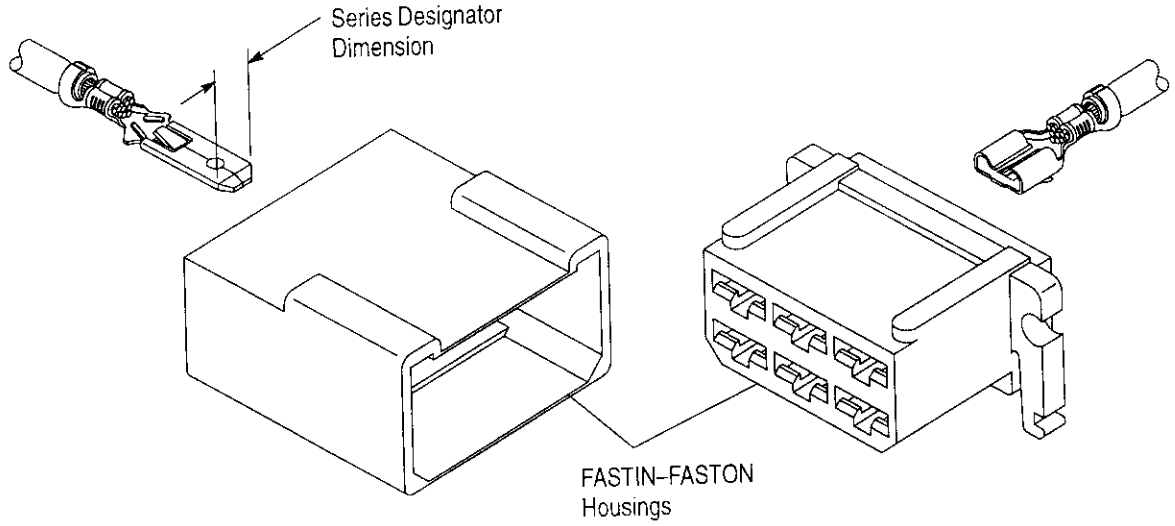


Figure 2

3.3. Wire Selection and Preparation

A. Type

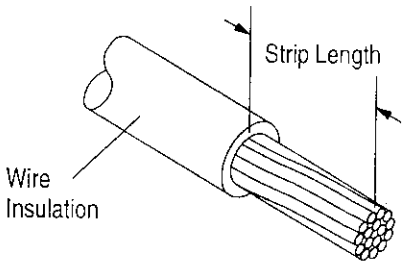
The wire size range for AMP FASTIN–FASTON Tabs and Receptacles is 26 through 8 AWG.

B. Preparation

The wire must be stripped to the dimension provided in Figure 3.

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

The table in Figure 3 also provides insulation strip lengths as determined by the size contact used. Also listed are acceptable wire insulation outside diameters for the contacts.



NOTE: Not to Scale

WIRE SIZE RANGE, AWG	INSULATION DIAMETER	STRIP LENGTH	WIRE BARREL		INSULATION BARREL CRIMP WIDTH
			CRIMP WIDTH	CRIMP HEIGHT	
9.52 [.375] SERIES					
12	3.81–5.08 [.150–.200]	6.35–6.86 [.250–.270]	4.52–4.62 [.178–.182]	2.34–2.44 [.092–.096]	5.54–5.64 [.218–.222]
10	3.81–5.08 [.150–.200]	6.35–6.86 [.250–.270]	4.52–4.62 [.178–.182]	2.59–2.69 [.102–.106]	5.54–5.64 [.218–.222]
	5.08–6.98 [.200–.275]	6.35–6.86 [.250–.270]	6.3–6.4 [.248–.252]	2.31–2.41 [.091–.095]	8.08–8.18 [.318–.322]
8	5.08–6.98 [.200–.275]	6.35–6.86 [.250–.270]	6.3–6.4 [.248–.252]	2.72–2.82 [.107–.111]	8.08–8.18 [.318–.322]
7.92 [.312] SERIES					
16	4.06 [.160] Max.	5.21–5.72 [.205–.225]	2.74–2.84 [.108–.112]	1.7–1.8 [.067–.071]	6.3–6.4 [.248–.252]
(2) 16	4.06 [.160] Max.	5.21–5.72 [.205–.225]	2.74–2.84 [.108–.112]	2.08–2.18 [.082–.086]	6.3–6.4 [.248–.252]
14 or (16 & 18)	4.06 [.160] Max.	5.72–6.22 [.225–.245]	2.74–2.84 [.108–.112]	1.93–2.03 [.076–.080]	6.3–6.4 [.248–.252]
12	4.06 [.160] Max.	5.21–5.72 [.205–.245]	2.74–2.84 [.108–.112]	2.29–2.39 [.090–.094]	6.3–6.4 [.248–.252]
6.35 [.250] SERIES					
26	1.52–3.18 [.060–.125]	4.83–5.33 [.190–.210]	1.35–1.45 [.053–.057]	0.81–0.91 [.032–.036]	3.51–3.56 [.138–.140]
24	1.52–3.18 [.060–.125]	4.83–5.33 [.190–.210]	1.35–1.45 [.053–.057]	0.86–0.97 [.034–.038]	3.51–3.56 [.138–.140]
22	1.52–3.18 [.060–.125]	4.83–5.33 [.190–.210]	1.35–1.45 [.053–.057]	0.94–1.04 [.037–.041]	3.51–3.56 [.138–.140]
	1.52–2.54 [.060–.100]	5.82–6.07 [.229–.239]	2.24–2.34 [.088–.092]	1.17–1.27 [.046–.050]	3.5–3.61 [.138–.142]
	1.52–2.54 [.060–.100]	5.44–5.69 [.214–.224]	2.24–2.34 [.088–.092]	1.02–1.12 [.040–.044]	2.49–2.59 [.098–.102]
	2.16–3.18 [.085–.125]	5.82–6.07 [.229–.239]	2.24–2.34 [.088–.092]	1.17–1.27 [.046–.050]	3.5–3.61 [.138–.142]
	2.16–3.18 [.085–.125]	5.41–5.66 [.213–.223]	2.24–2.34 [.088–.092]	1.02–1.12 [.040–.044]	3.5–3.61 [.138–.142]
20	1.52–2.54 [.060–.100]	6.22–6.48 [.245–.255]	2.24–2.34 [.088–.092]	1.22–1.32 [.048–.052]	2.49–2.59 [.098–.102]
	1.52–2.54 [.060–.100]	5.82–6.07 [.229–.239]	2.24–2.34 [.088–.092]	1.07–1.17 [.042–.046]	2.49–2.59 [.098–.102]
	2.16–3.18 [.085–.125]	6.22–6.48 [.245–.255]	2.24–2.34 [.088–.092]	1.22–1.32 [.048–.052]	3.5–3.61 [.138–.142]
	2.16–3.18 [.085–.125]	5.82–6.07 [.229–.239]	2.24–2.34 [.088–.092]	1.07–1.17 [.042–.046]	3.5–3.61 [.138–.142]

Figure 3 (cont'd)

WIRE SIZE RANGE, AWG	INSULATION DIAMETER	STRIP LENGTH	WIRE BARREL		INSULATION BARREL CRIMP WIDTH
			CRIMP WIDTH	CRIMP HEIGHT	
18	3.05–4.32 [.120–.170]	6.23–6.48 [.245–.255]	2.74–2.84 [.108–.112]	1.5–1.6 [.059–.063]	4.01–4.11 [.158–.162]
	3.05–4.06 [.120–.160]	5.41–5.66 [.213–.223]	2.74–2.84 [.108–.112]	1.5–1.6 [.059–.063]	4.01–4.11 [.158–.162]
	3.05–3.68 [.120–.145]	5.41–5.66 [.213–.223]	2.74–2.84 [.108–.112]	1.5–1.6 [.059–.063]	4.01–4.11 [.158–.162]
	2.54–4.42 [.100–.170]	5.41–5.66 [.213–.223]	2.74–2.84 [.108–.112]	1.37–1.42 [.054–.058]	4.52–4.62 [.178–.182]
	2.54–4.42 [.100–.170]	5.41–5.66 [.213–.223]	2.74–2.84 [.108–.112]	1.47–1.57 [.058–.062]	4.01–4.11 [.158–.162]
	2.16–3.18 [.085–.125]	6.22–6.48 [.245–.255]	2.24–2.34 [.088–.092]	1.35–1.45 [.053–.057]	3.5–3.61 [.138–.142]
	2.16–3.18 [.085–.125]	5.82–6.07 [.229–.239]	2.24–2.34 [.088–.092]	1.17–1.27 [.046–.050]	3.5–3.61 [.138–.142]
	1.52–2.54 [.060–.100]	6.22–6.48 [.245–.255]	2.24–2.34 [.088–.092]	1.35–1.45 [.053–.057]	2.49–2.59 [.098–.102]
	1.52–2.54 [.060–.100]	5.82–6.07 [.229–.239]	2.24–2.34 [.088–.092]	1.17–1.27 [.046–.050]	2.49–2.59 [.098–.102]
	2.2–4.44 [.090–.175]	5.1–6.1 [.200–.240]	2.74–2.84 [.108–.112]	1.42–1.52 [.056–.060]	4.52–4.62 [.178–.182]
16	4.06–5.33 [.160–.210]	5.82–6.07 [.229–.239]	3.0–3.1 [.118–.122]	1.5–1.83 [.059–.072]	6.3–6.4 [.248–.252]
	3.81–4.83 [.150–.190]	5.82–6.07 [.229–.239]	3.0–3.1 [.118–.122]	1.73–1.83 [.068–.072]	5.28–5.38 [.208–.212]
	3.3 [.130] Max.■	5.82–6.07 [.229–.239]	3.0–3.1 [.118–.122]	1.85–2.18 [.073–.086]	6.3–6.4 [.248–.252]
	3.05–4.32 [.120–.170]	6.22–6.48 [.245–.255]	2.74–2.84 [.108–.112]	1.65–1.75 [.065–.069]	4.01–4.11 [.158–.162]
	3.05–4.06 [.120–.160]	5.41–5.66 [.213–.223]	2.74–2.84 [.108–.112]	1.65–1.75 [.065–.069]	4.01–4.11 [.158–.162]
	3.05–3.68 [.120–.145]	5.41–5.66 [.213–.223]	2.74–2.84 [.108–.112]	1.65–1.75 [.065–.069]	4.01–4.11 [.158–.162]
	2.54–4.32 [.100–.170]	5.41–5.66 [.213–.223]	2.74–2.84 [.108–.112]	1.32–1.63 [.052–.064]	4.52–4.62 [.178–.182]
	2.54–4.32 [.100–.170]	5.41–5.66 [.213–.223]	2.74–2.84 [.108–.112]	1.6–1.7 [.063–.067]	4.01–4.11 [.158–.162]
	2.2–4.44 [.090–.175]	5.1–6.1 [.200–.240]	2.74–2.84 [.108–.112]	1.57–1.68 [.062–.066]	4.52–4.62 [.178–.182]
14	4.06–5.33 [.160–.210]	6.22–6.48 [.245–.255]	3.0–3.1 [.118–.122]	1.7–2.03 [.067–.080]	6.3–6.4 [.248–.252]
	3.81–4.83 [.150–.190]	6.22–6.48 [.245–.255]	3.0–3.1 [.118–.122]	1.93–2.03 [.076–.080]	5.28–5.38 [.208–.212]
	3.05–4.32 [.120–.170]	7.01–7.26 [.276–.286]	2.74–2.84 [.108–.112]	1.88–1.98 [.074–.078]	4.01–4.11 [.158–.162]
	3.05–4.32 [.120–.170]	6.60–6.86 [.260–.270]	3.25–3.35 [.128–.132]	1.78–1.88 [.070–.074]	4.52–4.62 [.178–.182]

■ 2 Wires

Figure 3 (cont'd)

WIRE SIZE RANGE, AWG	INSULATION DIAMETER	STRIP LENGTH	WIRE BARREL		INSULATION BARREL CRIMP WIDTH
			CRIMP WIDTH	CRIMP HEIGHT	
14	3.05–4.06 [.120–.160]	5.82–6.07 [.229–.239]	2.74–2.84 [.108–.112]	1.88–1.98 [.074–.078]	4.01–4.62 [.158–.182]
	3.05–3.68 [.120–.145]	5.82–6.07 [.229–.239]	2.74–2.84 [.108–.112]	1.88–1.98 [.074–.078]	4.01–4.11 [.158–.162]
	2.54–4.32 [.100–.170]	5.82–6.07 [.229–.239]	2.74–2.84 [.108–.112]	1.55–1.85 [.061–.073]	4.52–4.62 [.178–.182]
	2.54–4.32 [.100–.170]	5.82–6.07 [.229–.239]	2.74–2.84 [.108–.112]	1.83–1.93 [.072–.076]	4.01–4.11 [.158–.162]
	2.2–4.44 [.090–.175]	5.1–6.1 [.020–.240]	2.74–2.84 [.108–.112]	1.8–1.9 [.071–.075]	4.52–4.62 [.178–.182]
12	4.06–5.33 [.160–.210]	6.22–6.48 [.245–.255]	3.0–3.1 [.118–.122]	2.03–2.36 [.080–.093]	6.3–6.4 [.248–.252]
	3.81–4.83 [.150–.190]	6.22–6.48 [.245–.255]	3.0–3.1 [.118–.122]	2.26–2.36 [.089–.093]	5.28–5.38 [.208–.212]
	3.05–4.32 [.120–.170]	6.6–6.86 [.260–.270]	3.25–3.35 [.128–.132]	2.08–2.18 [.082–.086]	4.52–4.62 [.178–.182]
10	3.05–4.32 [.120–.170]	6.6–6.86 [.260–.270]	3.25–3.35 [.128–.132]	2.57–2.67 [.101–.105]	4.52–4.62 [.178–.182]
4.75 [.187] SERIES					
22	2.29–3.3 [.090–.130]	3.81–4.32 [.150–.170]	2.24–2.34 [.088–.092]	1.12–1.22 [.044–.048]	3.51–3.61 [.138–.142]
20	2.29–3.3 [.090–.130]	3.81–4.32 [.150–.170]	2.24–2.34 [.088–.092]	1.19–1.3 [.047–.051]	3.51–3.61 [.138–.142]
	2.29–3.3 [.090–.130]	5.33–6.1 [.210–.240]	1.98–2.08 [.078–.082]	1.14–1.45 [.045–.057]	4.52–4.62 [.178–.182]
	2.79 [.110] Max.■	5.33–6.1 [.210–.240]	1.98–2.08 [.078–.082]	1.14–1.68 [.045–.066]	4.52–4.62 [.178–.182]
18	2.29–3.3 [.090–.130]	3.81–4.32 [.150–.170]	2.24–2.34 [.088–.092]	1.3–1.4 [.051–.055]	3.51–3.61 [.138–.142]
	2.29–3.3 [.090–.130]	5.33–6.1 [.210–.240]	1.98–2.08 [.078–.082]	1.27–1.57 [.050–.062]	4.52–4.62 [.178–.182]
16	2.29–3.3 [.090–.130]	3.81–4.32 [.150–.170]	2.24–2.34 [.088–.092]	1.47–1.57 [.058–.062]	3.51–3.61 [.138–.142]
	2.29–3.3 [.090–.130]	5.33–6.1 [.210–.240]	1.98–2.08 [.078–.082]	1.47–1.8 [.058–.071]	4.52–4.62 [.178–.182]
2.79 [.110] SERIES					
22	2.03–3.05 [.080–.120]	3.81–4.32 [.150–.170]	1.73–1.83 [.068–.072]	0.89–0.99 [.035–.039]	3.51–3.61 [.138–.142]
20	2.03–3.05 [.080–.120]	3.81–4.32 [.150–.170]	1.73–1.83 [.068–.072]	0.91–1.07 [.036–.040]	3.51–3.61 [.138–.142]
			2.24–2.35 [.088–.092]		
18	2.03–3.05 [.080–.120]	3.81–4.32 [.150–.170]	1.73–1.83 [.068–.072]	1.02–1.19 [.040–.047]	3.51–3.61 [.138–.142]
			2.24–2.35 [.088–.092]		
16	2.03–3.05 [.080–.120]	3.81–4.32 [.150–.170]	2.24–2.35 [.088–.092]	1.19–1.3 [.047–.051]	3.51–3.61 [.138–.142]

■ 2 Wires

Figure 3 (end)

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.*

A typical receptacle contact as it should appear after crimping is shown in Figure 4. These requirements apply equally to the tab contact.

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 3.

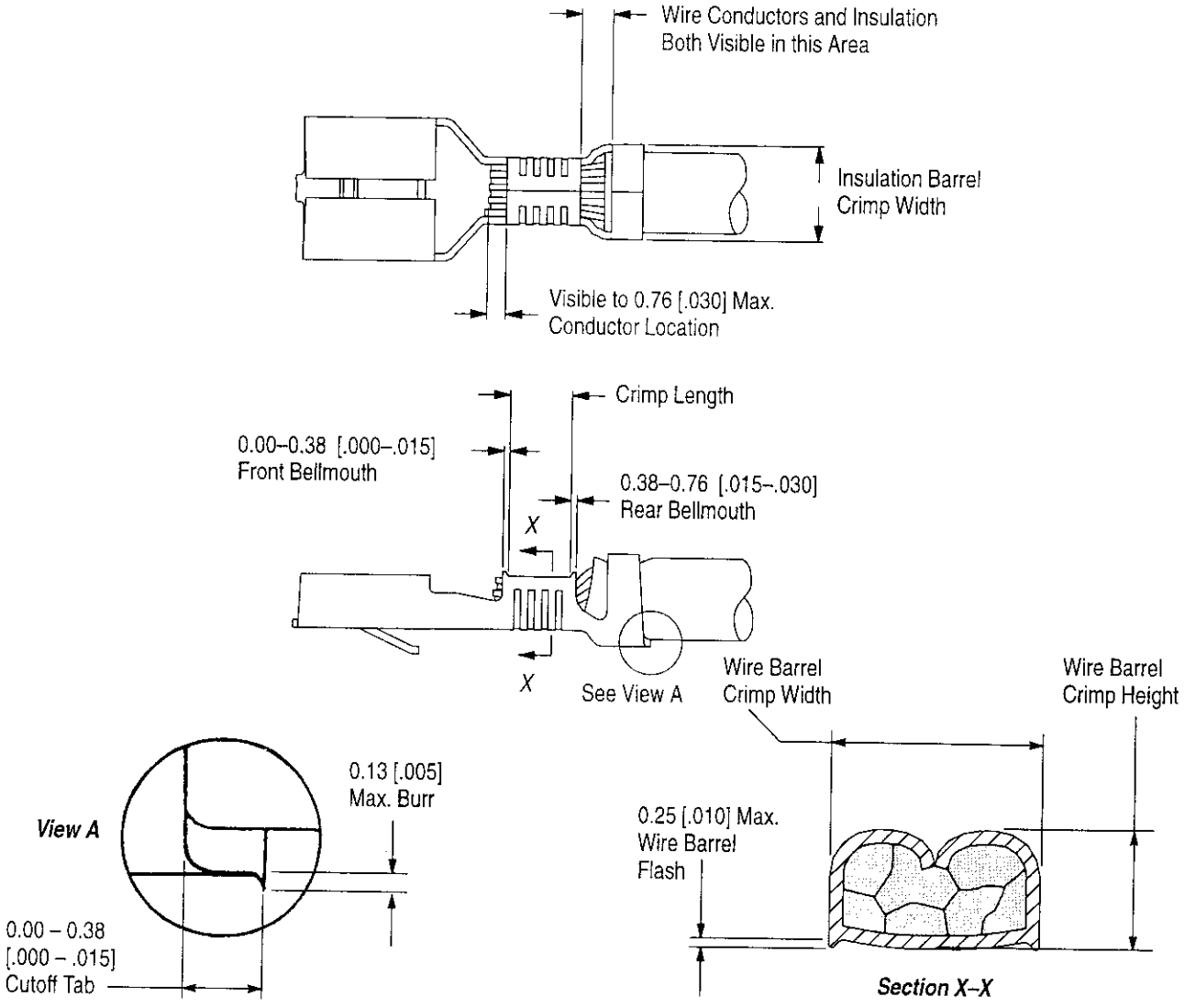


Figure 4

B. Crimp Length

For optimum crimp effectiveness, the crimp must be within the area shown and must meet the crimp dimensions provided in Figure 3. 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 11.

C. Bellmouths

Front and rear bellmouths shall be evident and conform to the dimensions given in Figure 4.

D. Cutoff Tab

The cutoff tab shall be cut to the dimensions shown in Figure 4.

E. Burrs

The cutoff burr shall not exceed the dimensions shown in Figure 4.

F. Wire Barrel Flash

The wire barrel flash shall not exceed the dimensions shown in Figure 4 in Section X–X.

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 4.

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 5.

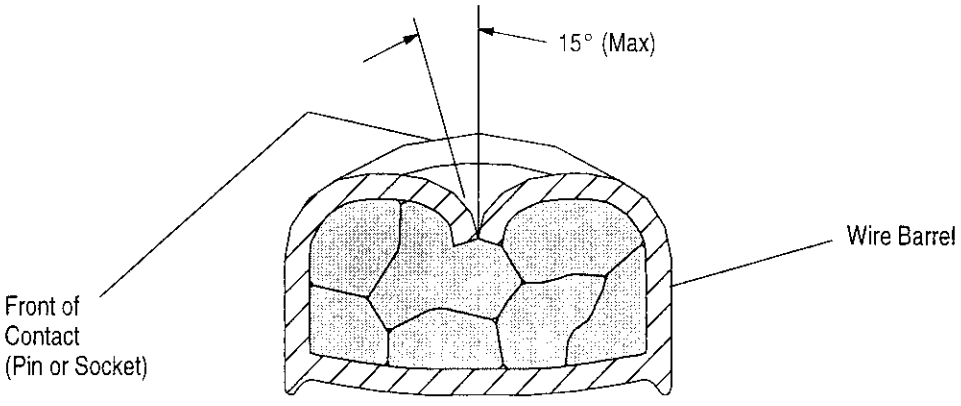


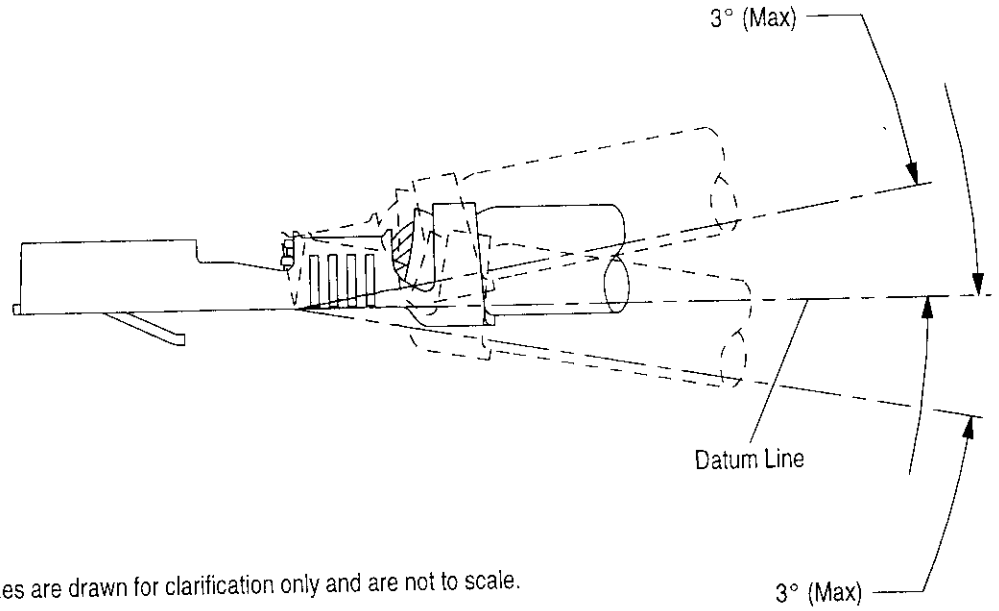
Figure 5

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 6.



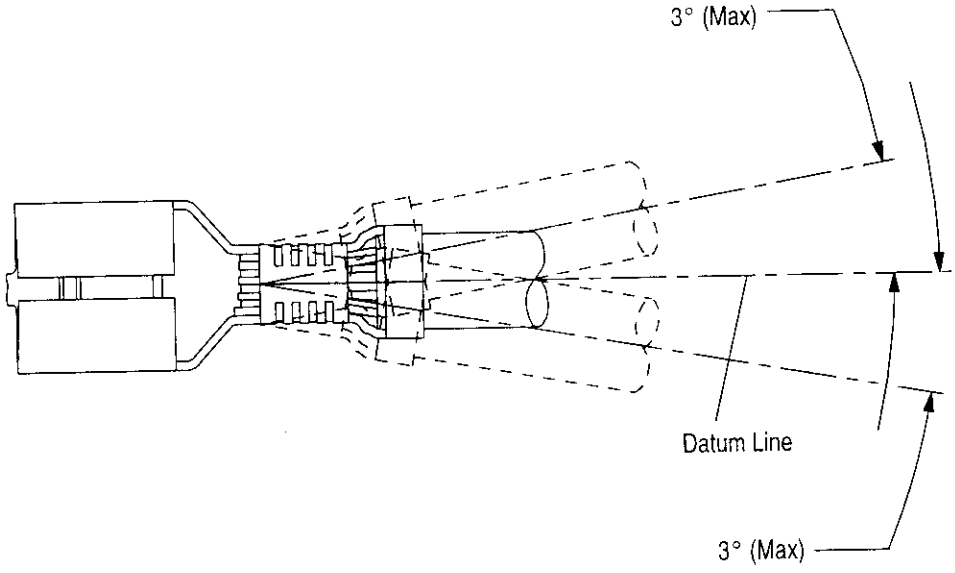
NOTE: Angles are drawn for clarification only and are not to scale.

Figure 6

2. Side to Side

The side–to–side bending of the contact may not exceed the limits provided in Figure 7.

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



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

Figure 7

3.5. Tensile Inspection

Crimped contacts should hold the wire firmly and have a pull–test tensile value meeting that specified in the chart in Figure 8.

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

CRIMP PULL–OUT TEST		
Wire Size [AWG]	Minimum Force	
	Newtons	Pounds
26	17.8	4
24	26.7	6
22	35.6	8
20	57.8	13
18	89.0	20
16	133.4	30
14	222.4	50
12	311.4	70
10	355.9	80
8	400.3	90

Figure 8

3.6. Housings

Housings are available in 1, 2, 3, 4, 6, 8, 10, and 11 circuit positions for your production requirements. Figure 9 shows some typical housings. For specific housing requirements, contact the Product Information number at the bottom of page 1 for more information. The temperature range of these housings is rated at up to 125° [256°F] to permit use in areas of relatively high temperatures.

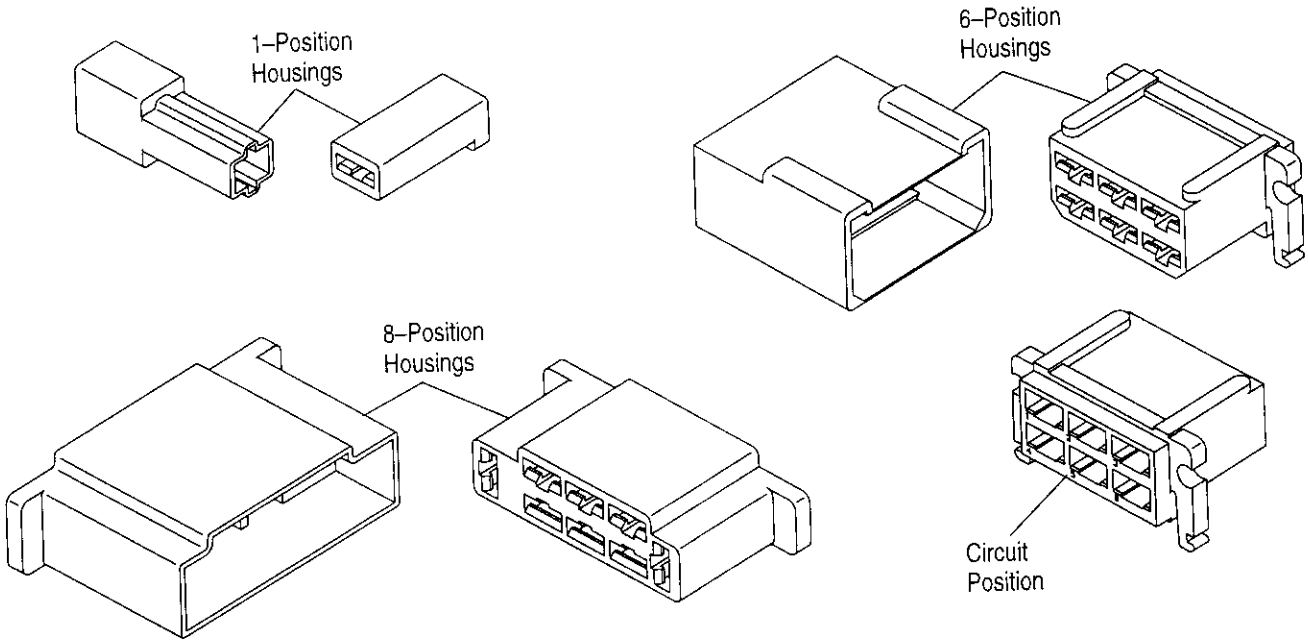
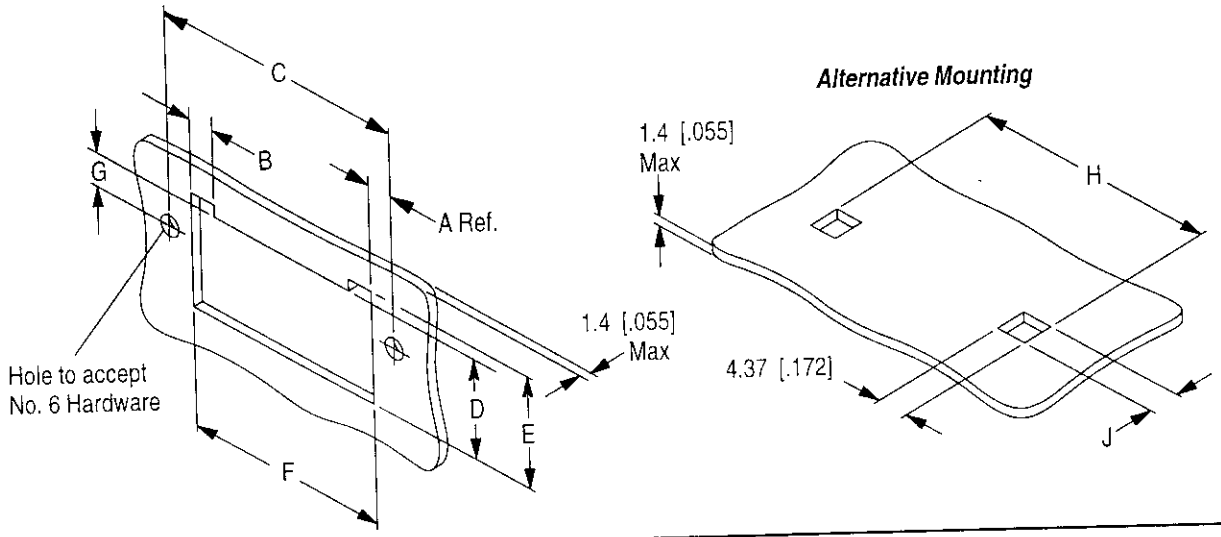


Figure 9

Some 6.35 [.250] and 4.75 [.187] housings have optional panel mounts. See Figure 10 for panel mounting dimensions.



6.35 [.250] Series Panel Cutout

Size	A	B	C	D	E	F	G	H	J
4	2.31 [.091]	—	29.77 [1.172]	15.88 [.625]	—	25.15 [.990]	6.73 [.265]	28.58 [1.125]	6.35 [.250]
6	3.43 [.135]	3.56 [.140]	35.86 [1.412]	14.22 [.560]	15.88 [.625]	29.01 [1.142]	4.7 [.185]	34.42 [1.355]	3.96 [.156]
8	4.39 [.173]	6.1 [.240]	47.52 [1.871]	16.76 [.660]	18.42 [.725]	38.74 [1.525]	6.6 [.260]	46.23 [1.820]	6.35 [.250]

4.75 [.187] Series Panel Cutout

Number of Modules	Circuits	K	L
1	3	8.51 [.335]	—
2	6	16.64 [.655]	8.13 [.320]
3	9	24.76 [.975]	16.26 [.640]
4	12	32.89 [1.295]	24.38 [.960]
5	15	41.02 [1.615]	32.51 [1.280]

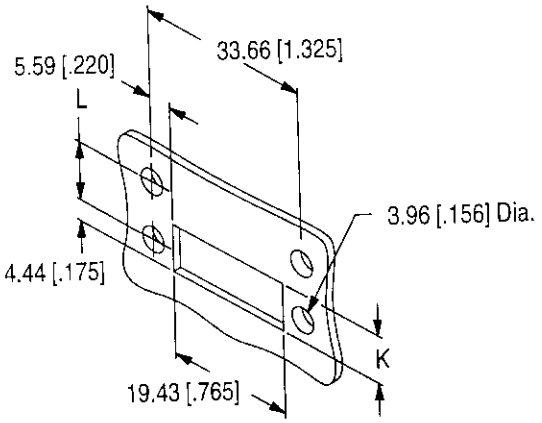


Figure 10

3.7. Repair

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

NOTE *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. QUALIFICATION

AMP FASTIN–FASTON Connectors are recognized under the component program of Underwriters' Laboratories, Inc. (UL) under File Number E98476 and certified by the Canadian Standards Association (CSA) under File Number LR7189.

5. TOOLING

Figure 11 provides tool part numbers and instructional material related to wire size.

NOTE *AMP Tool Engineers have designed machines for a variety of application requirements. For assistance in setting up prototype and production line equipment, contact AMP Tool Engineering through your local AMP Representative or call the Tooling Assistance Center number at the bottom of page 1.*

- **Hand Crimping Tool**

  Hand crimping tools that accommodate the full wire size range are designed for prototype and low–volume applications such as repair of damaged contacts.

- **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 located 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.

NOTE *The Model "K" AMP–O–LECTRIC Terminating Machine PN 565435–5 has been superseded by the Model "G" Terminating Machine PN 354500–1 (409–5842) for new applications. For existing applications, the Model "K" is still recommended because of the large number of installed machines.*

- **Extraction Tools**

  Extraction Tools are designed to release the locking lance inside the connector housing without damaging the housing or contacts.

WIRE SIZE, AWG	INSULATION DIAMETER	HAND TOOL (DOCUMENT)	APPLICATOR (408–8039)	POWER UNIT (DOCUMENT)
(2) 28	1.52–3.18 [.060–.125]	—	567487–2●	354500–1 (409–5842)
				565435–5 (409–5128)
26–24	1.52–3.18 [.060–.125]	—	567487–2	354500–1 (409–5842)
				565435–5 (409–5128)
22–18	1.52–2.54 [.060–.100]	—	687979–3●	354500–1 (409–5842)
				565435–5 (409–5128)
			687979–1	217500–1, –2 (409–5866)
	2.16–3.18 [.085–.125]	—	687981–1	354500–1 (409–5842)
				217500–1, –2 (409–5866)
			687981–2	565435–5 (409–5128)
	2.03–3.05 [.080–.120]	—	567135–1	217500–1 –2 (409–5866)
			567135–2●	354500–1 (409–5842)
				565435–5 (409–5128)
22–16	2.29–3.3 [.090–.130]	—	466683–1	217500–1, –2 (409–5866)
			466683–2●	354500–1 (409–5842)
				565435–5 (409–5128)

● Applicator will require minor modification for "G" Terminating Machine 354500–1. See Instruction Sheet 408–8053.

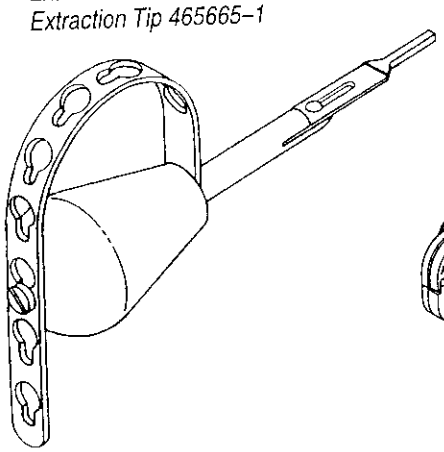
Figure 11 (cont'd)

WIRE SIZE, AWG	INSULATION DIAMETER	HAND TOOL (DOCUMENT)	APPLICATOR (408–8039)	POWER UNIT (DOCUMENT)
20–16	2.03–3.05 [.080–.120]	—	466737–1	217500–1, –2 (409–5866)
			466737–2	565435–5 (409–5128)
			466737–3	354500–1 (409–5842)
	—	—	567326–1	217500–1, –2 (409–5866)
			567326–2●	354500–1 (409–5842)
				565435–5 (409–5128)
18–14	2.2–3.1 [.090–.120]	189508–1 (408–4138)	—	—
	3.05–4.06 [.120–.160]	—	687839–1	354500–1 (409–5842)
				217500–1, –2 (409–5866)
			687839–2	565435–5 (409–5128)
			687932–1	354500–1 (409–5842)
				217500–1, –2 (409–5866)
			687932–2	565435–5 (409–5128)
18–14 OR (2) 18	3.05–4.32 [.120–.170]	—	687940–1	217500–1, –2 (409–5866)
				354500–1 (409–5842)
			687940–2	565435–5 (409–5128)
16–12	4.06–5.59 [.160–.220] OR (2) 3.3 [.130] Max.	—	466057–4	354500–1 (409–5842)
			466057–2	565435–5 (409–5128)
			466057–1	217500–1, –2 (409–5866)
16–12 OR (2) 16	4.06–5.33 [.160–.210] OR (2) 3.3 [.130] Max.	—	466058–1	217500–1, –2 (409–5866)
			466058–2●	354500–1 (409–5842)
				565435–5 (409–5128)
16–12 OR (2) 16 OR 14 OR (16 & 18)	4.06 [.160] Max.	—	687944–1	217500–1, –2 (409–5866)
				354500–1 (409–5842)
			687944–2	565435–5 (409–5128)
14–10	3.05–4.32 [.120–.170]	—	466092–1	217500–1, –2 (409–5866)
			466092–2	565435–5 (409–5128)
			466092–4	354500–1 (409–5842)
12–10	3.43–5.08 [.135–.200]	—	466331–1	354500–1 (409–5842)
				217500–1, –2 (409–5866)
	3.43–5.08 [.135–.200]	—	466331–2	565435–5 (409–5128)
	3.81–5.08 [.150–.200]	—	466848–2●	354500–1 (409–5842)
				565435–5 (409–5128)
10	5.08–6.98 [.200–.275]	—	466875–2●	354500–1 (409–5842)
				565435–5 (409–5128)
8	5.08–6.98 [.200–.275]	—	466875–2	354500–1 (409–5842)
				565435–5 (409–5128)

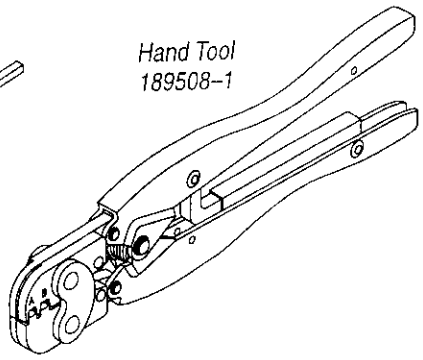
● Applicator will require minor modification for "G" Terminating Machine 354500–1. See Instruction Sheet 408–8053.

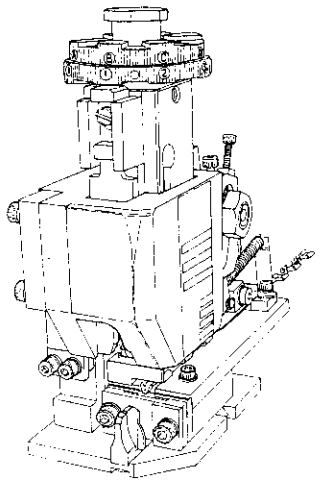
Figure 11 (cont'd)

Extraction Tool 465629–1 with
Extraction Tip 465665–1



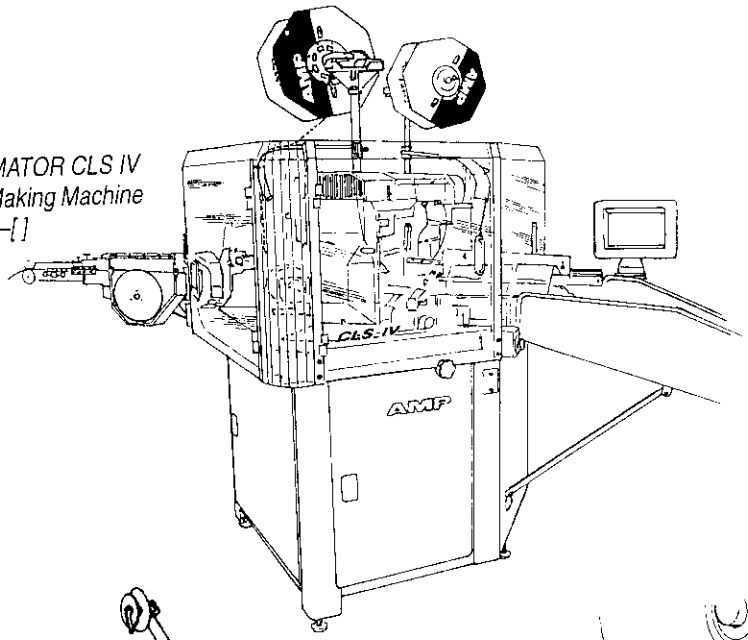
Hand Tool
189508–1



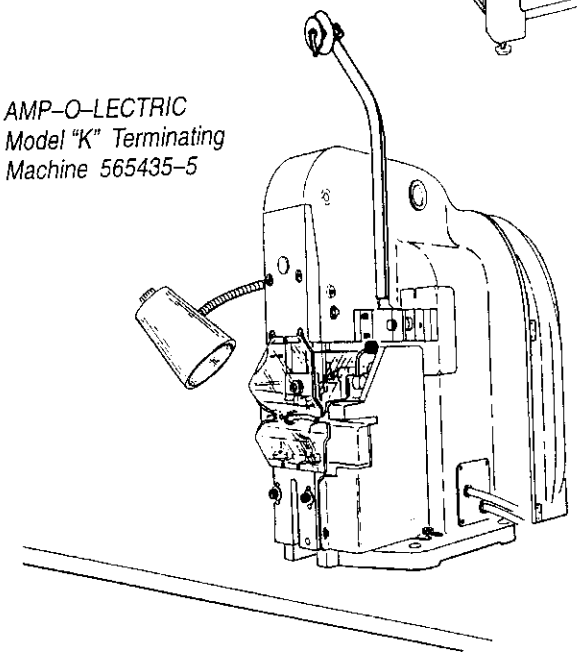


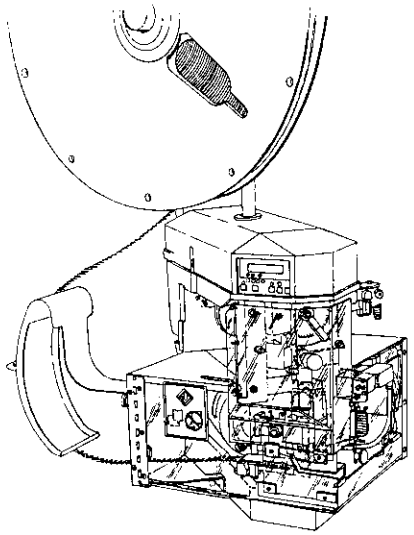
Applicator (Typ)

AMPOMATOR CLS IV
Lead–Making Machine
217500–[ ]



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





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

Figure 11 (end)

71–190A, 93–279, 94–101, 94–243, 90–109, 96–5

6. VISUAL AID

Figure 12 shows a typical application of FASTIN–FASTON Tab and Receptacle Contacts and Housings. 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.

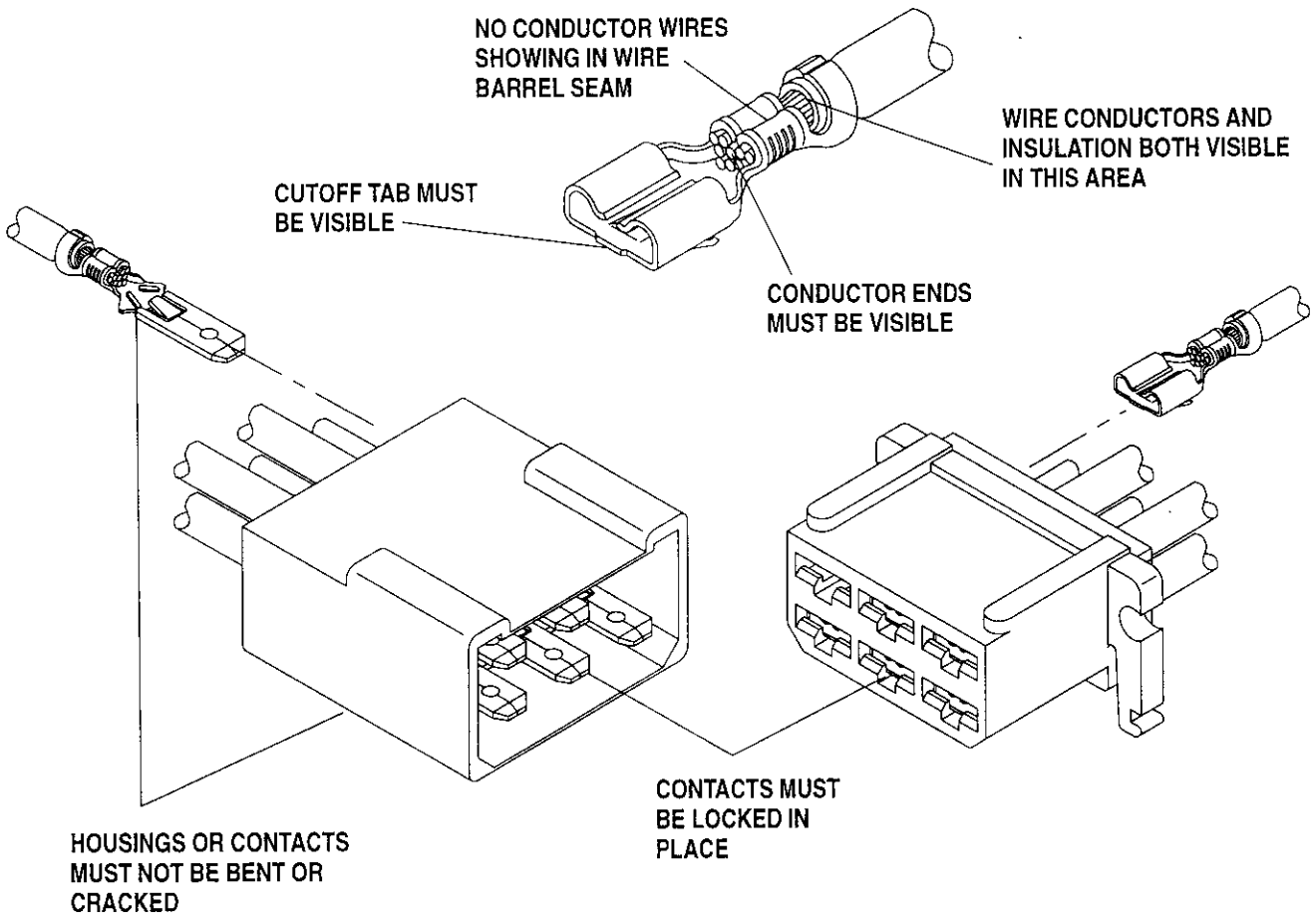


FIGURE 12. VISUAL AID