

Application Specification

1.0 SCOPE

1.1 Content

This specification covers the requirements for application of AMP Multi-Lock .040 Series Receptacle contacts to thin wall automotive cable. These requirements are applicable to hand or automatic machine crimping tools. For specific wire and insulation ranges relative to the products covered in this specification see figure 3 and 4.

1.2 Applicable Documents

Crimp inspection sheet GB3006.

For performance requirements see AMP Specification 108-.....

1.3 Applicable Contacts

See figure 3 and 4.

2.0 NOMENCLATURE

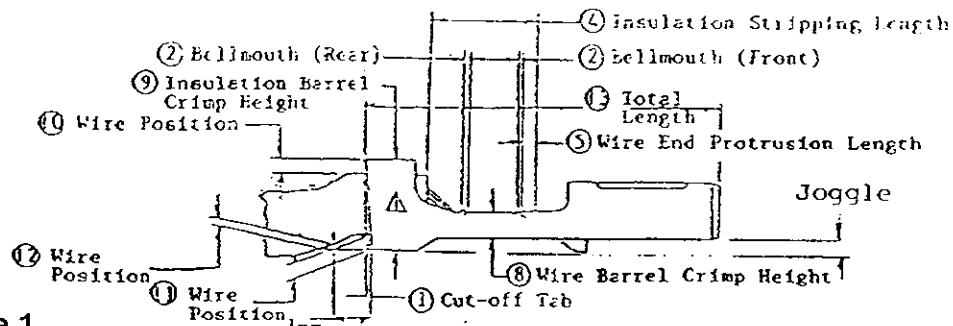
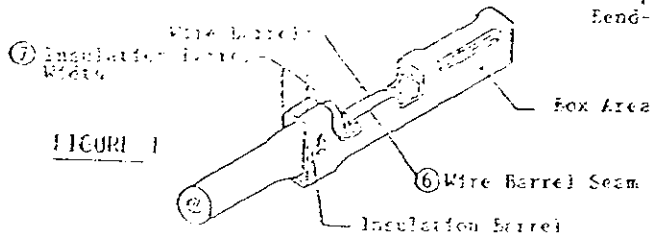
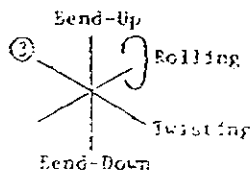


Figure 1

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| | | | | | | | | |
|-----|-----------------|-----|------|--------------------|--|---------------------|-------------------------------|-----------------|
| | | | | DR M.Mistry | AMP TERMINAL HOUSE, STANMORE, MIDDLESEX. of Great Britain Ltd | LOC E | NO 114-3122 | REV B |
| | | | | CHK D.A.Barratt | | | | |
| | | | | B A 0 | EB00 0045 97 EB00 0055 96 Rel for Prodn. EB00 0543 93 | MM MM MM " | 11/2/97 5/2/96 22/12/98 | APP M.Mistry |
| LTR | REVISION RECORD | APP | DATE | SHEET 1 OF 6 | TITLE Application specification crimping .040 series receptacle contact. | | | |

02-11-97

3.0 CRIMP AND DIMENSIONAL REQUIREMENTS

3.1 Wire Preparation

A. Strip Length

Insulation shall be stripped as indicated in figure 3 and 4.

B. Workmanship

Reasonable care shall be taken not to nick, scrape or cut any strands or the solid wire during the stripping operation.

3.2 Carrier Cut-off Tab and Burr

A. Cut-off tab

Cut-off tab shall not exceed 0.13.

B. Burr

Burr on cut-off tab shall not exceed 0.10.

3.3 Wire Barrel Crimp

A. Crimp Dimensions and Type

Crimp height width and type shall be as shown in figure 3 and 4.

B. Tensile Strength

Minimum crimp tensile strength shall be as shown in figure 2.

| Wire Size mm ² | Tensile (N) |
|---------------------------|-------------|
| 0.3 & 0.35 | 41 |
| 0.5 | 65 |
| 0.2 | 50 |

Figure 2

| | | | | | |
|-------------------------------------|--|----------|-------|----|-----|
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| | | E | | | |

C. Effective Crimp Length

Effective crimp length shall be 1.95 minimum and is defined as that portion of the barrel, excluding bellmouth, fully formed by the crimping tool.

D. Wire Barrel Flash

Wire barrel flash shall not exceed 0.25.

E. Wire Barrel Seam

The wire barrel seam shall be closed adequately to confine all strands of the wire. There shall be no loose wire strands or wire strands embedded in the outside of the wire barrel.

- F. (1) Rear bellmouth length shall be 0.15 - 0.60.
(2) Front bellmouth permissible.

G. Conductor Location

- (1) End of the wire shall be flush with the front end of the wire barrel or extend 1.00 maximum after crimping.
(2) Both insulation and conductor shall be visible between the insulation and wire barrel. Care shall be taken not to allow insulation to be crimped in the wire barrel.

3.4 **Insulation Barrel Crimp**

A. Crimp Dimensions and Type

Crimp height, width and type shall be as shown in figure 3 and 4. Insulation crimp width after crimping shall not exceed 2.05 at widest point.

- B. Special design insulation crimp provides secondary locking with the anti-backout on the moulding. The wire position shown in figure 1 must meet the following requirements.

| | | |
|----------------------|-----------------|----------|
| Wire Position | Upper side (10) | 0.35 min |
| | Lower Side (11) | 0.35 min |
| | Lower Side (12) | 0 min |

C. Workmanship

Reasonable care shall be taken not to cut or break the insulation during the crimping operation.

D. Joggle

Wire to insulation barrel joggle 0.45-0.55, no lean back permissible (see figure 1).

3.5 Contact Length

A. The total length of the contact (including cut-off tab), as shown in figure 1 must not exceed 14.50.

3.6 Alignment

A. Bending

Bending up and down as shown in figure 1 shall be zero degrees, plus or minus one degree.

B. Twisting

Twisting as shown in figure 1 shall be within 3 degrees and the wire barrel area shall not come outside of the box area.

C. Rolling

Rolling as shown in figure 1 shall be within 5 degrees.

3.7 Checking Gauge

The items in 3.6 plus cut-off tab and insulation crimp can also be checked using gauge no. 347783-1. To achieve inspection with the gauge, the crimped product must be fully inserted into the gauge. For the product to be acceptable full insertion must occur without resistance.

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4 OF 6

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4.0 Applicable Wire

Thin wall automotive cable classified as HT1 and HT2 as follows:-

| Nominal CSA (mm ²) | Strand / Diameter Number (mm) | Temp Class | Ins. Dia. Range mm |
|-----------------------------------|-------------------------------------|------------|-----------------------|
| 0.50 | 7 / 0.30 | HT2 | 1.6 - 1.8 |
| | 19 / 0.20 | HT1 | 1.6 - 1.8 |
| 0.35 | 7 / 0.26 | HT2 | 1.2 - 1.3 |
| *0.22 | 7 / 0.2 | - | 1.6 - 1.8 |
| 0.30 | 7 / 0.23 | - | 1.2 - 1.5 |

* Thermocouple cable as classified by Jaguar specification JDS.02.06.

| Strip Part Number | Wire Size mm ² | Insulation Diameter Range mm | Strip Length Pre Crimp mm | Wire Barrel Crimp | | | Insulation Crimp | | | Log No. |
|-------------------|---------------------------|------------------------------|---------------------------|-------------------|-------------|------|------------------|------------------|---------|------------|
| | | | | Height ±0.05 | Width (ref) | Type | Height ±0.1 | Width (ref) | Type | |
| 345160 | 0.35 | 1.2-1.3 | 4.0-4.5 | 0.91 (0.036") | 1.57 | 'F' | 3.7 | 1.78 See 3.4A | Special | 8-576047-3 |
| | 0.5 | 1.6-1.8 | | 0.99 (0.039") | | | | | | |
| | **0.2 | 1.6-1.8 | | 0.84 (0.033") | | | | | | |
| | 0.3 | 1.2-1.5 | | 0.89 (0.035") | | | | | | |

Automotive Machine Wire Crimp Dimensions - Figure 3

| Loose Piece Part Number | Wire Size mm ² | Insulation Diameter Range mm | Strip Length Pre Crimp mm | Wire Barrel Crimp | | | Insulation Crimp | | | Hand Tool Part Number |
|-------------------------|---------------------------|------------------------------|---------------------------|-------------------|-------------|------|------------------|------------------|---------|-----------------------|
| | | | | Height ±0.05 | Width (ref) | Type | Height ±0.1 | Width (ref) | Type | |
| *175062 | 0.5 | 1.6-1.8 | 4.0-4.5 | 0.99 (0.039") | 1.57 | 'F' | 3.7 | 1.78 See 3.4A | Special | 525338-1 |

Hand Tool Wire Crimp Dimensions - Figure 4

* Note: Only pre-formed loose piece product is to be used with hand tools

** For Jaguar thermocouple cable only.

* Extraction tool part number 755430-1 (IS 288J)