

# APPLICATION SPECIFICATION

## 1. SCOPE

### 1.1. Content

This specification covers the requirements for application of commercial MATE-N-LOK\* pin and socket contacts. 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 Figures 4 and 5.

### 1.2. Reference Specification

For applicable performance requirements see AMP Specification 108-1000.

## 2. NOMENCLATURE

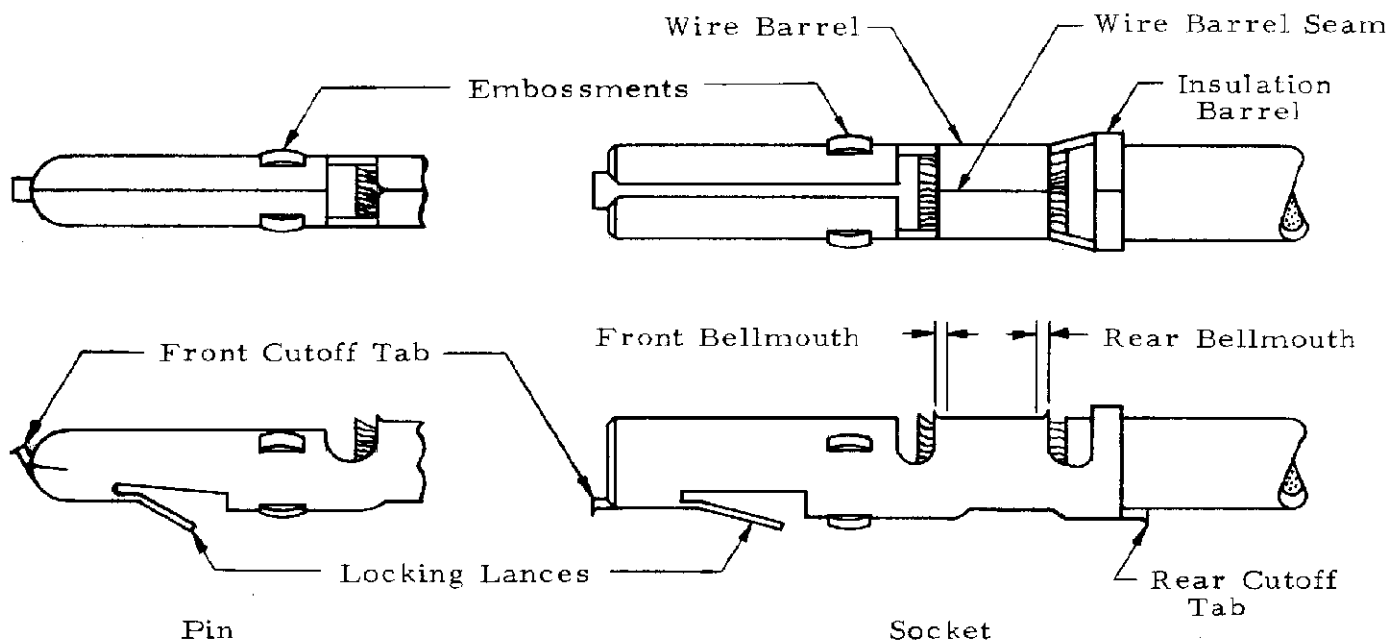


Figure 1

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|     |  |                          |     |                             |                 |                                                            |  |  |
|-----|--|--------------------------|-----|-----------------------------|-----------------|------------------------------------------------------------|--|--|
|     |  |                          |     | DR<br>C.E. Fritz 2-18-77    |                 | <b>AMP</b>   AMP INCORPORATED<br>Harrisburg, Pa. 17105     |  |  |
|     |  |                          |     | CHK<br>A.E. Travis 2-18-77  |                 |                                                            |  |  |
|     |  |                          |     | APP<br>F.J. Maltais 2-18-77 |                 |                                                            |  |  |
| D   |  | Revise per<br>ECN CM-375 | TLC | 3/18/86                     | SHEET<br>1 OF 6 | TITLE<br>CONTACT, PIN AND SOCKET<br>MATE-N-LOK, COMMERCIAL |  |  |
| LTR |  | REVISION RECORD          | APP | DATE                        |                 |                                                            |  |  |

### 3. CRIMP AND DIMENSIONAL REQUIREMENTS

#### 3.1. Wire Preparation

##### A. Strip Length

Insulation shall be stripped as indicated in Figures 4 and 5.

##### 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 Cutoff Tab

A. Front cutoff tab shall not exceed .008 and shall be wiped upward toward the centerline on pin contacts.

B. Rear cutoff tab shall not exceed .015.

#### 3.3. Wire Barrel Crimp

##### A. Crimp Dimensions and Type

Crimp height, width and type shall be as shown in Figures 4 and 5.

##### B. Tensile Strength

Crimp tensile strength shall be as shown in Figure 4.

##### C. 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.

##### D. Bellmouth

(1) Rear bellmouth length shall be .005-.030.

(2) Front bellmouth length shall be .010 maximum.

##### E. Conductor Location

(1) End of the wire shall be flush with the front end of the wire barrel or extend .047 maximum after crimping.

(2) Both insulation and conductor shall be visible between the insulation barrel and wire barrel. Care shall be taken not to allow insulation to be crimped in the wire barrel.

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### 3.4. Insulation Barrel Crimp

#### A. Crimp Dimensions and Type

Crimp width and type shall be as shown in Figures 4 and 5.

#### B. Workmanship

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

### 3.5. Locking Lance

Locking lance shall not be deformed.

### 3.6. Embossments

Embossments on pin contact shall pass through a .113 maximum diameter circle and a .145 maximum diameter circle for socket contacts.

### 3.7. Alignment

#### A. Axial Concentricity

- (1) Crimped insulation barrel shall fall into an area defined by a .160 diameter circle whose center is the centerline of the contact as shown in Figure 2, except PN 60989 which shall fall within a .200 diameter circle.

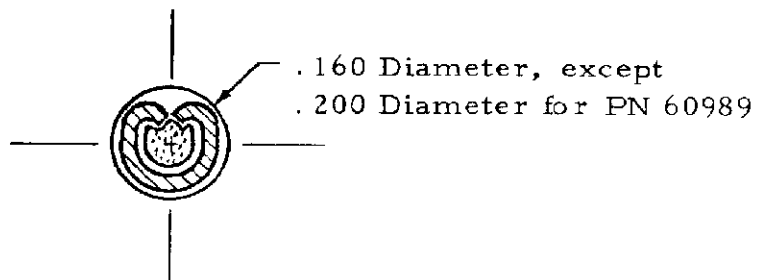


Figure 2

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- (2) Crimped insulation barrel of 2 conductor crimped contacts shall fall into an area defined by a .210 by .155 rectangle whose vertical center is the centerline of the contact and whose horizontal center is .030 above the centerline of the contact as shown in Figure 3.

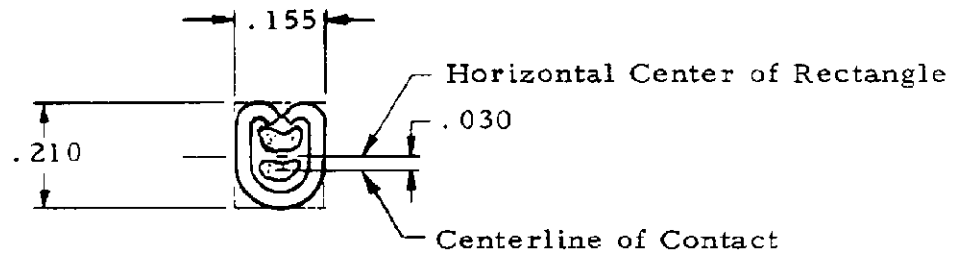


Figure 3

B. Twist or Roll

There shall be no twist or roll in crimped portion that will impair usage of the contact.

| Part Numbers |        | Wires |      | Insulation Diameter, max | Strip Length        | Wire Barrel Crimp |                   |              | Insulation Barrel Crimp  |        |
|--------------|--------|-------|------|--------------------------|---------------------|-------------------|-------------------|--------------|--------------------------|--------|
| Pin          | Socket | Qty   | Size |                          |                     | Width             | Height $\pm .002$ | Type Crimper | Tensile Strength, Pounds | Width  |
| 61091        | 60909  | 1     | 30   | .075                     | $\frac{.187}{.156}$ | .055              | F                 | 2            | .090                     | F or O |
| 60910        | 350078 | 1     | 28   |                          |                     |                   |                   | 3            |                          |        |
| 350079       | 350178 | 1     | 26   |                          |                     |                   |                   | 7            |                          |        |
|              |        | 1     | 24   |                          |                     |                   |                   | 10           |                          |        |
|              |        | 1     | 22   |                          |                     |                   |                   | 15           |                          |        |
| 60907        | 60964  | 1     | 24   | .100                     | $\frac{.187}{.156}$ | .070              | F                 | 10           | .100                     | F or O |
| 60511        | 61115  | 1     | 22   |                          |                     |                   |                   | 15           |                          |        |
| 61116        | 61314  | 1     | 20   |                          |                     |                   |                   | 20           |                          |        |
|              |        | 1     | 18   |                          |                     |                   |                   | 30           |                          |        |
|              |        | 1     | 24   |                          |                     |                   |                   | 10           |                          |        |
| 61010        | 61009  | 1     | 22   | .130                     | $\frac{.187}{.156}$ | .070              | F                 | 15           | .130                     | F      |
| 60528        | 60527  | 1     | 20   |                          |                     |                   |                   | 20           |                          |        |
|              |        | 1     | 18   |                          |                     |                   |                   | 30           |                          |        |
|              |        | 1     | 16   |                          |                     |                   |                   | 30           |                          |        |
|              |        | 1     | 14   |                          |                     |                   |                   | 35           |                          |        |
| 61118        | 60989  | 1     | 18   | .180                     | $\frac{.187}{.156}$ | .090              | F                 | 30           | .170                     | F      |
|              |        | 1     | 16   |                          |                     |                   |                   | 30           |                          |        |
|              |        | 1     | 14   |                          |                     |                   |                   | 35           |                          |        |
|              |        | 1     | 22   |                          |                     |                   |                   | 15           |                          |        |
| 61036        | 61036  | 1     | 20   | .100                     | $\frac{.187}{.156}$ | .062              | F                 | 20           | .100                     | F      |
|              |        | 1     | 18   |                          |                     |                   |                   | 30           |                          |        |
|              |        | 2     | 18   |                          |                     |                   |                   | 30           |                          |        |
|              |        | 1     | 16   |                          |                     |                   |                   | 35           |                          |        |
| 60497        | 60496  | 1     | 18   | .115                     | $\frac{.187}{.156}$ | .090              | F                 | 30           | .130                     | F      |
| 60958        | 350557 | 1     | 18   |                          |                     |                   |                   | 35           |                          |        |
| 350558       |        | 1     | 16   |                          |                     |                   |                   |              |                          |        |

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Figure 4  
Automatic Machine Wire Crimp Dimensions

Figure 4

Automatic Machine Wire Crimp Dimensions

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| Part Numbers                                   |                 | Wires |      | Insulation Diameter | Strip Length<br>±.015 | Wire Barrel Crimp |                          | Insulation Barrel Crimp |       | Hand Tool Part No |                |
|------------------------------------------------|-----------------|-------|------|---------------------|-----------------------|-------------------|--------------------------|-------------------------|-------|-------------------|----------------|
| Pin                                            | Socket          | Qty   | Size |                     |                       | Width             | Height                   | Type Crimper            | Width |                   | Type Crimper   |
| 61174                                          | 61173<br>350182 | 1     | 30   | .040-.075           | .187                  | .055              | .0335±.0020              | F                       | .070  | O                 | 90066-5        |
|                                                |                 | 1     | 28   |                     |                       |                   |                          |                         |       |                   |                |
|                                                |                 | 1     | 26   |                     |                       |                   |                          |                         |       |                   |                |
|                                                |                 | 1     | 24   |                     |                       |                   |                          |                         |       |                   |                |
|                                                |                 | 1     | 22   |                     |                       |                   |                          |                         |       |                   |                |
| 60618                                          | 60617<br>61473  | 1     | 24   | .060-.100           | .187                  | .080              | .0385±.0020<br>.049±.002 | F                       | .100  | F                 | 90123-2<br>(a) |
|                                                |                 | 1     | 22   |                     |                       |                   |                          |                         |       |                   |                |
|                                                |                 | 1     | 20   |                     |                       |                   |                          |                         |       |                   |                |
|                                                |                 | 1     | 18   |                     |                       |                   |                          |                         |       |                   |                |
|                                                |                 | 1     | 16   |                     |                       |                   |                          |                         |       |                   |                |
| 61109                                          | 61108           | 1     | 24   | .100-.130           | .187                  | .070              | .0385±.0020<br>.049±.002 | F                       | .130  | F                 | 90123-4        |
|                                                |                 | 1     | 22   |                     |                       |                   |                          |                         |       |                   |                |
|                                                |                 | 1     | 20   |                     |                       |                   |                          |                         |       |                   |                |
|                                                |                 | 1     | 18   |                     |                       |                   |                          |                         |       |                   |                |
|                                                |                 | 1     | 16   |                     |                       |                   |                          |                         |       |                   |                |
| 60620                                          | 60619           | 1     | 20   | .100-.130           | .187                  | .090              | .053±.002                | F                       | .130  | F                 | 90124-2        |
|                                                |                 | 1     | 18   |                     |                       |                   |                          |                         |       |                   |                |
|                                                |                 | 1     | 16   |                     |                       |                   |                          |                         |       |                   |                |
|                                                |                 | 1     | 14   |                     |                       |                   |                          |                         |       |                   |                |
|                                                |                 | 2     | 18   |                     |                       |                   |                          |                         |       |                   |                |
| 350639                                         | 350638          | 1     | 18   | .115 max            | .187                  | .090              | .064±.003                | F                       | .130  | F                 | 90124-2        |
|                                                |                 | 1     | 16   |                     |                       |                   |                          |                         |       |                   |                |
| (a) 90123-5 for .043-.075 insulation diameter. |                 |       |      |                     |                       |                   |                          |                         |       |                   |                |

Figure 5

Hand Tool Wire Crimp Dimensions

|            |                                           |     |        |    |          |     |
|------------|-------------------------------------------|-----|--------|----|----------|-----|
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Figure 5

Hand Tool Wire Crimp Dimensions

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