



707, 727-787

## STANDARD WIRING PRACTICES MANUAL

### ASSEMBLY OF AMP (TYCO) MATE-N-LOK CONNECTORS

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For training purposes only!

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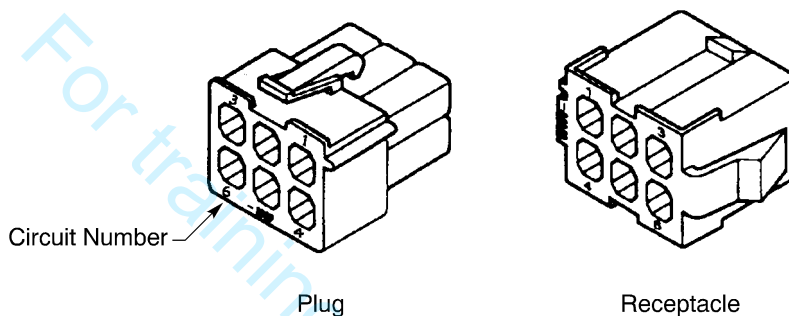
### ASSEMBLY OF AMP (TYCO) MATE-N-LOK CONNECTORS

#### 1. PART NUMBERS AND DESCRIPTION

##### A. Connector Part Numbers

Table 1  
CONNECTOR PART NUMBERS

Part Number	Type	Supplier
172160-1	Receptacle	AMP
172168-1	Plug	AMP



AMP MATE-N-LOK CONNECTORS  
Figure 1

##### B. Contact Part Numbers

Table 2  
CONTACT PART NUMBERS

Wire Size (AWG)	Contact		
	Type	Part Number	Supplier
22	Pin	170364-3	AMP
	Socket	170366-3	AMP
20	Pin	170364-3	AMP
	Socket	170366-3	AMP
18	Pin	170364-3	AMP
	Socket	170366-3	AMP

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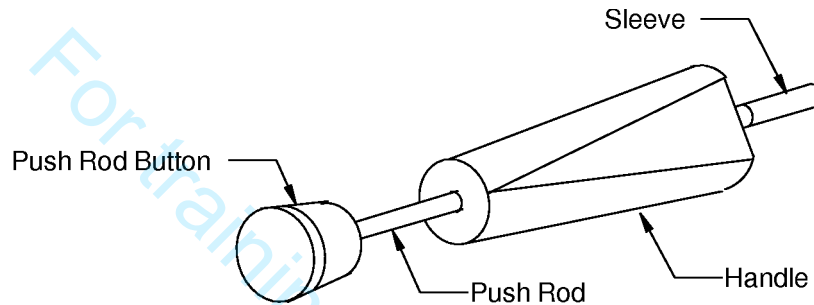
## **ASSEMBLY OF AMP (TYCO) MATE-N-LOK CONNECTORS**

### **2. CONNECTOR DISASSEMBLY**

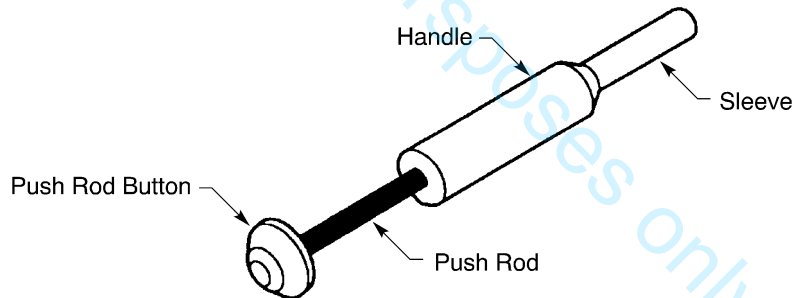
#### **A. Contact Removal**

**Table 3**  
**CONTACT REMOVAL TOOLS**

<b>Removal Tool</b>	<b>Supplier</b>
189727-1	AMP
724668-1	AMP



**189727-1 CONTACT REMOVAL TOOL**  
**Figure 2**



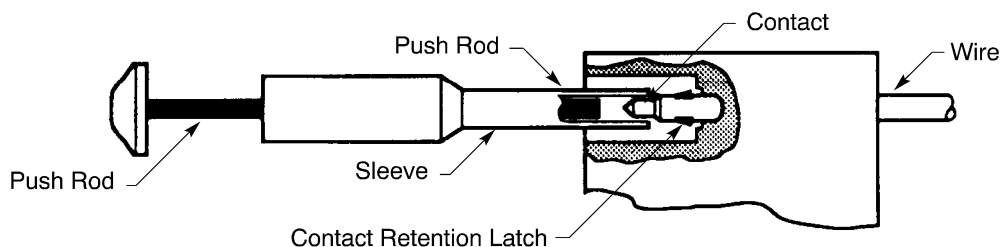
**724668-1 CONTACT REMOVAL TOOL**  
**Figure 3**

- (1) Make a selection of a contact removal tool from Table 3.
- (2) Hold the wire of the contact.
- (3) Put the tool into the contact cavity on the side that is opposite the wire.
- (4) Push the tool into the contact cavity until the contact retention latches are opened. Refer to Figure 4.

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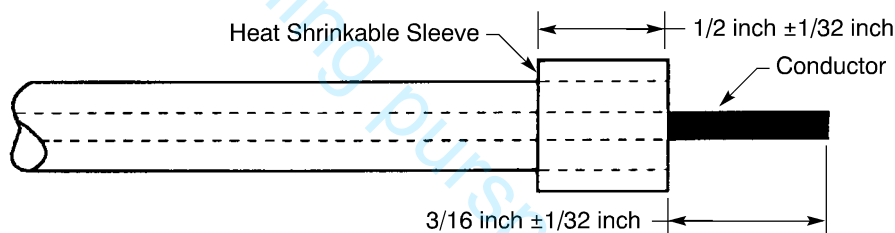
#### CONTACT REMOVAL

Figure 4

- (5) Turn the handle of the tool until the contact retention latches are released.  
Make sure that the tool stays fully inserted in the contact cavity.
- (6) Push the push rod button on the tool to eject the contact.
- (7) Pull the contact from the contact cavity.

### 3. CONNECTOR ASSEMBLY

#### A. Wire Preparation



#### WIRE PREPARATION

Figure 5

- (1) Make a selection of a Grade B, Class 1 heat shrinkable sleeve from Subject 20-00-11.
- (2) Put a  $1/2 \text{ inch} \pm 1/32 \text{ inch}$  length of the heat shrinkable sleeve on the wire.
- (3) Remove  $3/16 \text{ inch} \pm 1/32 \text{ inch}$  of insulation from the end of the wire. Refer to Figure 5.
- (4) Move the heat shrinkable sleeve so that the end of the sleeve is aligned with the end of the wire insulation. Refer to Figure 5.

Make sure that:

- The end of the sleeve is within  $1/32 \text{ inch}$  of the end of the insulation
  - The sleeve does not make an overlap with the conductor.
- (5) Shrink the sleeve into position. Refer to Subject 20-10-14.

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### B. Contact Assembly

**Table 4**  
**CONTACT CRIMP TOOLS (HAND CRIMP TOOLS)**

Contact Part Number	Wire Size (AWG)	Crimp Tool			
		Basic Unit (Hand Crimp Tool)	Die	Recommended Insulation Grip Setting	Supplier
170364-3	22	90711-2	22-20	1	AMP
	20	90711-1	22-20	2	AMP
		90711-2	22-20	2	AMP
	18	90711-1	18	1	AMP
		90711-2	18	1	AMP
170366-3	22	90711-2	22-20	1	AMP
	20	90711-1	22-20	2	AMP
		90711-2	22-20	2	AMP
	18	90711-1	18	1	AMP
		90711-2	18	1	AMP

**Table 5**  
**CONTACT CRIMP TOOLS (POWER CRIMP TOOLS)**

Contact Part Number	Wire Size (AWG)	Crimp Tool			
		Basic Unit (Power Crimp Tool)	Die	Recommended Insulation Grip Setting	Supplier
170364-3	22	1213805-3 with 91522-3 Crimp Head	22-20	3	AMP
		1213805-4 with 91522-3 Crimp Head	22-20	3	AMP
	20	1213805-3 with 91522-3 Crimp Head	22-20	3	AMP
		1213805-4 with 91522-3 Crimp Head	22-20	3	AMP
	18	1213805-3 with 91522-3 Crimp Head	18	2	AMP
		1213805-4 with 91522-3 Crimp Head	18	2	AMP
170366-3	22	1213805-3 with 91522-3 Crimp Head	22-20	3	AMP
		1213805-4 with 91522-3 Crimp Head	22-20	3	AMP
	20	1213805-3 with 91522-3 Crimp Head	22-20	3	AMP
		1213805-4 with 91522-3 Crimp Head	22-20	3	AMP
	18	1213805-3 with 91522-3 Crimp Head	18	2	AMP
		1213805-4 with 91522-3 Crimp Head	18	2	AMP

**NOTE:** The insulation grip settings in Table 4 and Table 5 are recommended. Due to differences in wire insulation thicknesses, the insulation grip setting can be changed to get the correct grip.

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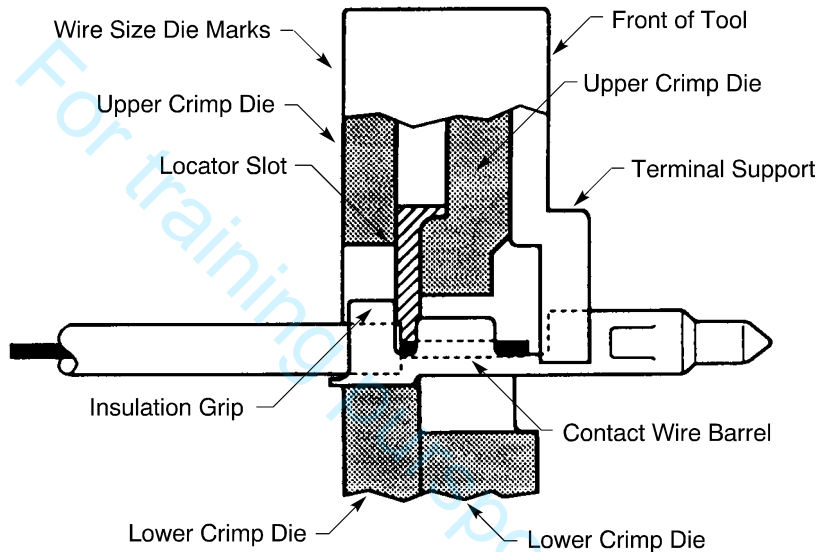
**STANDARD WIRING PRACTICES MANUAL****ASSEMBLY OF AMP (TYCO) MATE-N-LOK CONNECTORS**

- (1) Make a selection of a contact crimp tool from Table 4 or Table 5.
- (2) Put the contact in the crimp tool.

Make sure that:

- The insulation grip of the contact is against the locator
- The end of the contact is in the locator slot of the tool.
- The contact is in the correct tool die.

Refer to Figure 6.



**POSITION OF THE CONTACT IN THE CRIMP TOOL**

**Figure 6**

- (3) Lightly close the handles of the tool so that the contact stays in the die.
- (4) Push the wire into the crimp barrel of the contact until the wire insulation is against the contact insulation stop. Refer to Figure 7.

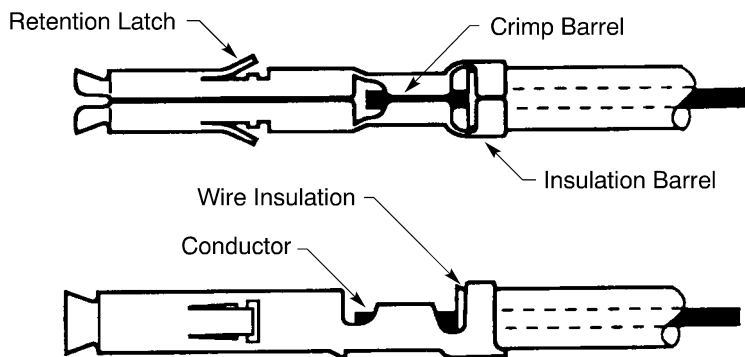
Make sure that:

- All of the strands of the conductor are in the crimp barrel
- The end of the conductor can be seen in the contact inspection hole.

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### ASSEMBLY OF AMP (TYCO) MATE-N-LOK CONNECTORS



#### POSITION OF THE CONTACT ON THE WIRE

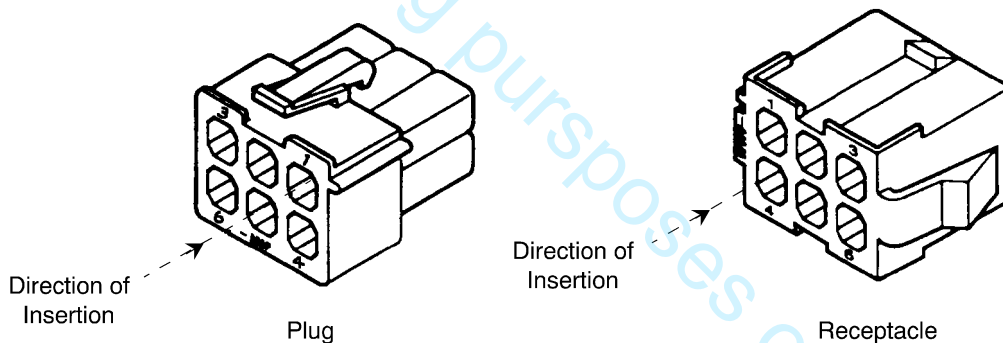
Figure 7

- (5) Close the handles of the tool until the ratchet is released.

#### C. Contact Insertion

NOTE: It is not necessary to use a contact insertion tool.

- (1) Put the contact into the contact cavity from the wire side of the connector. Refer to Figure 8.



#### CONTACT INSERTION

Figure 8

- (2) To make sure that the contact is fully inserted, lightly pull on the wire.