



707, 727-787

## STANDARD WIRING PRACTICES MANUAL

### (TYCO) AMP TAB-TERMINAL PRINTED CIRCUIT BOARD CONNECTORS

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### (TYCO) AMP TAB-TERMINAL PRINTED CIRCUIT BOARD CONNECTORS

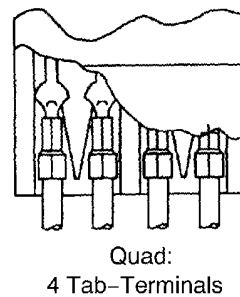
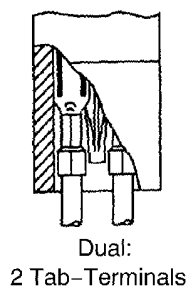
This Subject gives the assembly procedures for AMP dual and quad terminal printed circuit board (PCB) connectors.

#### 1. PART NUMBERS AND DESCRIPTION

##### A. Connector Part Numbers

Table 1  
PCB CONNECTOR PART NUMBERS

Part Number	Connector Configuration	Supplier
582551-1	Dual Terminal	AMP
582583-1	Quad Terminal	AMP
582591-1	Quad Terminal	AMP



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AMP TAB-TERMINAL PCB CONNECTOR CONFIGURATIONS  
Figure 1

##### B. Contact Part Numbers

Table 2  
TAB-TERMINAL CONTACT PART NUMBERS

Contact Type	Part Number	Identifier	Supplier
Gold Plated Tab-Terminal	66168-2	O	AMP
	66161-2	X	AMP

Table 3  
ALTERNATIVE CONTACT PART NUMBERS

Specified Contact		Alternative Contact		Wire Size Range (AWG)	Maximum Wire Insulation Diameter (inch)
Part Number	Supplier	Part Number	Supplier		
66161-2	AMP	66168-2	AMP	26-22	0.053

**NOTE:** Crimp these tab-terminal contacts on stranded wire only.

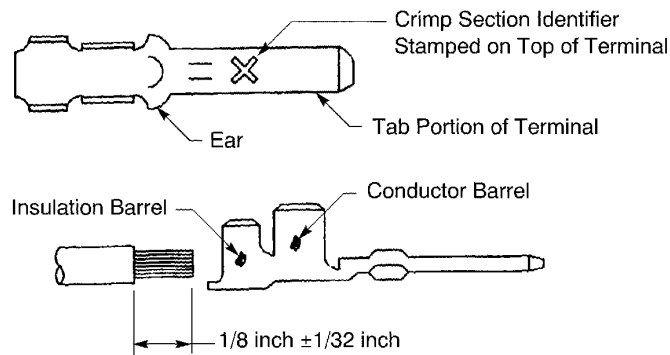
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**Table 4  
FEMALE SPRING CONTACT PART NUMBERS**

Connector Configuration	Part Number	Supplier
Dual Terminal	583337-1	AMP
Quad Terminal	583338-1	AMP



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**TAB-TERMINAL CONTACT  
Figure 2**

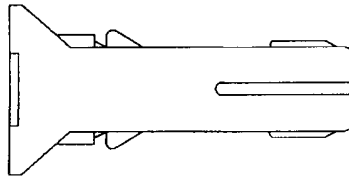
**C. Keying Plug Part Numbers**

**Table 5  
KEYING PLUG PART NUMBERS**

Part Number	Supplier
582507-1	AMP



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**KEYING PLUG**  
**Figure 3**

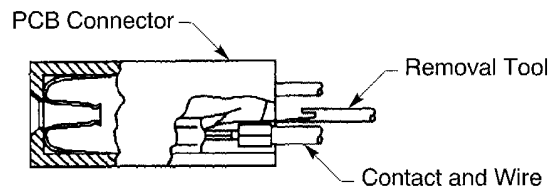
**2. CONNECTOR DISASSEMBLY**

**A. Tab-Terminal Contact Removal**

**Table 6**  
**TAB-TERMINAL CONTACT REMOVAL TOOLS**

Connector Configuration	Removal Tool	Supplier
Dual Terminal	91011-1	AMP
Quad Terminal	91017-3	AMP

- (1) Make a selection of the removal tool from Table 6.
- (2) With longer tip of the removal tool adjacent to the terminal wire to be removed, insert the removal tool between the pair of terminals. Refer to Figure 4.  
Make sure that the removal tool is against the bottom before removing the terminal.
- (3) Hold the wire and removal tool together and pull them from the connector at the same time.



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**TAB-TERMINAL CONTACT REMOVAL**  
**Figure 4**

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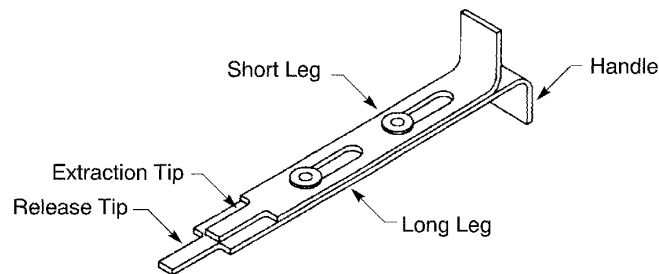
B. Female Spring Contact Removal

Table 7  
SPRING CONTACT REMOVAL TOOLS

Connector Configuration	Removal Tool	Supplier
Dual Terminal	91018-1	AMP
Quad Terminal	91018-2	AMP

- (1) Make a selection of the removal tool from Table 7.
- (2) Move the short leg back so that releasing tip is extended. Refer to Figure 5.

**CAUTION:** DO NOT USE THE SPRING CONTACT AGAIN. THE CONTACT WILL NOT BE SECURED.



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SPRING CONTACT REMOVAL TOOL

Figure 5

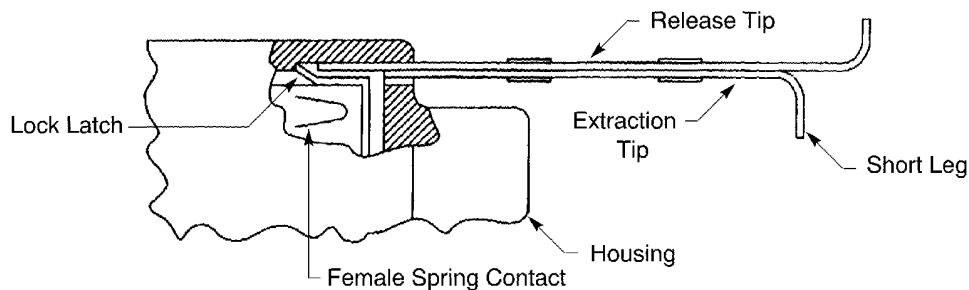
- (3) Insert the releasing tip into the housing. Refer to Figure 6.  
**NOTE:** As the releasing tip hits the bottom of the housing, it releases the locking latch on the female contact.
- (4) Push on handle of the short leg.  
**NOTE:** The socket contact will back out part of the way from the housing.
- (5) Remove the tool from the housing.
- (6) Pull back on the contact to remove it completely from the housing.

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SPRING CONTACT REMOVAL TOOL OPERATION

Figure 6

C. Keying Plug Removal

**CAUTION:** REMOVAL OF THE KEYING PLUG CAUSES DAMAGE TO THE CONTACT. AFTER THE KEYING PLUG IS REMOVED:

- THE OLD TAB TERMINAL CONTACT MUST BE REMOVED; REFER TO PARAGRAPH 2.A.
- A NEW TAB-TERMINAL CONTACT MUST BE ASSEMBLED AND INSTALLED; REFER TO PARAGRAPH 3.A. AND PARAGRAPH 3.C.

- (1) Use a pair a needle nose pliers that have been modified. Refer to Figure 7.
- (2) With the tip of the pliers, squeeze the end of the keying plug.

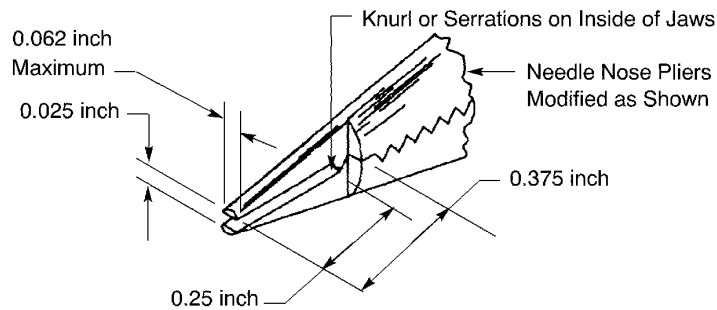
**NOTE:** This will cause the triangular projections to disengage the notches in the connector.

- (3) Pull the keying plug out of the connector with the pliers.

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**KEYING PLUG REMOVAL TOOL - MODIFIED NEEDLE NOSE PLIERS**

Figure 7

**3. CONNECTOR ASSEMBLY**

**A. Tab-Terminal Contact Assembly**

**Table 8**  
**TAB-TERMINAL CONTACT SELECTION**

Wire Size (AWG)	Insulation Diameter (inch)		Contact	
	Minimum	Maximum	Part Number	Identifier
26	0.029	0.060	66168-2	O
24	0.029	0.060	66168-2	O
22	0.029	0.060	66168-2	O
	0.046	0.074	66161-2	X
20	0.029	0.060	66168-2	O
	0.046	0.074	66161-2	X
18	0.046	0.074	66161-2	X

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Table 9  
TERMINAL CRIMP TOOLS

Terminal	Identifier	Crimp Tool	
		Basic Unit	Supplier
66168-2	O	90090-2	AMP
		90090-3	AMP
66161-2	X	90090-2	AMP
		90090-3	AMP

- (1) Make a selection of a contact from Table 8.
- (2) Remove 1/8 inch  $\pm$  1/32 inch of the wire insulation. Refer to Figure 2.
- (3) Make a selection of the crimp tool from Table 8.
- (4) Crimp the contact:
  - (a) Insert the terminal into the back of the tool so that the tab fits in the slot locator. Refer to Figure 8.

Make sure:

    - To use the crimp section that matches the crimp identifier on the contact
    - That the terminal hits the bottom of the locator.
  - (b) Close the handles to raise the lower crimping die to hold the terminal.

The positioner will engage the terminal as the inserts close.

**CAUTION:** DO NOT DEFORM THE WIRE BARREL OR INSULATION BARREL.
  - (c) Push the wire into the terminal barrel until wire hits the wire stop. Refer to Figure 8.
  - (d) Hold the wire in place and close the tool until the crimp tool ratchet releases.

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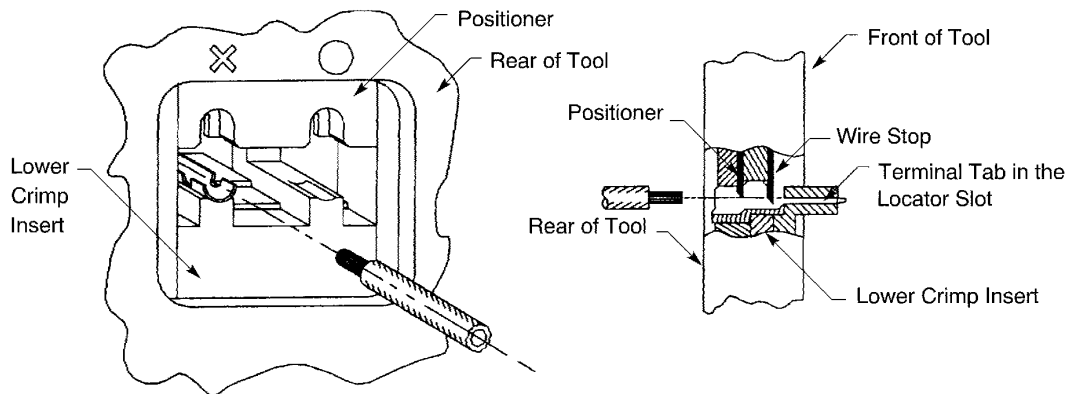




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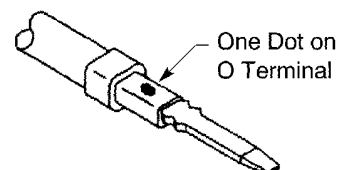


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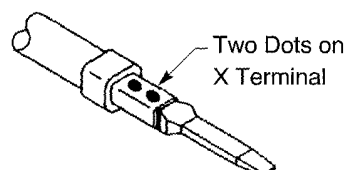
#### POSITION OF THE TERMINAL IN THE CRIMP TOOL

Figure 8

- (e) Open the tool handle and remove the crimped terminal from the tool.
- (f) Examine the raised dots on crimped terminal to make sure that the correct die position has been used. Refer to Figure 9.



66168-2 Terminal Contact



66161-2 Terminal Contact

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#### CRIMPED TERMINAL IDENTIFICATION

Figure 9

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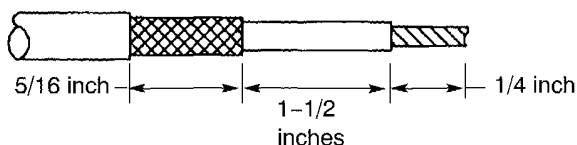


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B. Tab-Terminal Contact Assembly with Raychem 5026D1018 Coax Cable

- (1) Prepare the cable. Refer to Figure 10.
  - (a) Remove 2-1/16 inches of the cable jacket.
  - (b) Remove 1-3/4 inches of the shield.
  - (c) Remove 1/4 inch of the dielectric.



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RAYCHEM 5026D1018 COAX CABLE TRIM DIMENSIONS

Figure 10

- (2) Put a BACS13S-128C outer ferrule over the cable.

**NOTE:** Refer to Subject 20-00-11 for approved suppliers and alternative part numbers for BACS13S ferrules.
- (3) Put a BACS13S-063B inner ferrule:
  - Over the dielectric
  - Under the shield
  - Up to the edge of the jacket.

**NOTE:** Refer to Subject 20-00-11 for approved suppliers and alternative part numbers for BACS13S ferrules.
- (4) Push the outer ferrule over the shield and the inner ferrule.
- (5) Add a 3-inch length of black shield ground wire.
- (6) Crimp the outer ferrule.

Refer to Subject 20-10-15.
- (7) Install an AMP 66168-2 tab-terminal contact. Refer to Paragraph 3.A.
- (8) Put a 1 inch length of 1/4 inch diameter heat shrinkable sleeve over the ferrule.
- (9) Shrink the sleeve into place.

Refer to Subject 20-10-14.

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**C. Tab-Terminal Contact Insertion**

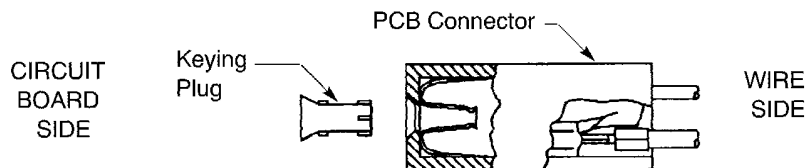
**NOTE:** An insertion tool is not necessary.

- (1) Hold the molded plastic housing in one hand with the wire side up.
- (2) Push the contact into the contact cavity until it clicks.
- (3) If the contact is wired, lightly pull the wire until it slips between the thumb and forefinger to make sure that the terminal is completely inserted.

**D. Keying Plug Installation**

- (1) Install a keying plug into the printed circuit board side of the connector at the specified location. Refer to Figure 11.

Make sure that the keying plug is fully inserted. The triangular projections must engage the notches in the connector so that the plug will not slip from side to side.



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**KEYING PLUG INSTALLATION**  
**Figure 11**

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**ASSEMBLY OF AMP (TYCO) 3-582151-() PRINTED CIRCUIT CONNECTORS**

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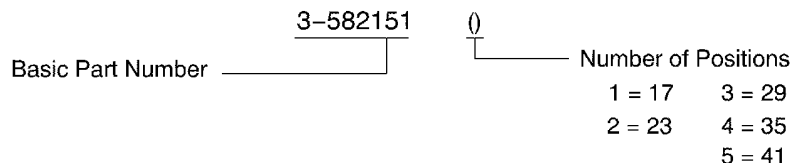
**ASSEMBLY OF AMP (TYCO) 3-582151-() PRINTED CIRCUIT CONNECTORS**

**1. PART NUMBERS AND DESCRIPTION**

**A. Connector Part Numbers**

**Table 1**  
**PRINTED CIRCUIT CONNECTOR PART NUMBERS**

Part Number	Supplier
3-582151-()	AMP



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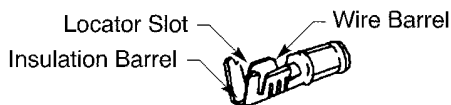
**AMP PRINTED CIRCUIT CONNECTOR PART NUMBER STRUCTURE**

**Figure 1**

**B. Contact Part Numbers**

**Table 2**  
**CONTACT PART NUMBERS**

Part Number	Supplier
66010-1	AMP
66026-2	AMP



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**AMP 66010-1 AND 66026-2 CONTACTS**

**Figure 2**

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**C. Keying Plug Part Numbers**

**Table 3**  
**KEYING PLUG PART NUMBERS**

Part Number	Supplier
1-582156-9	AMP

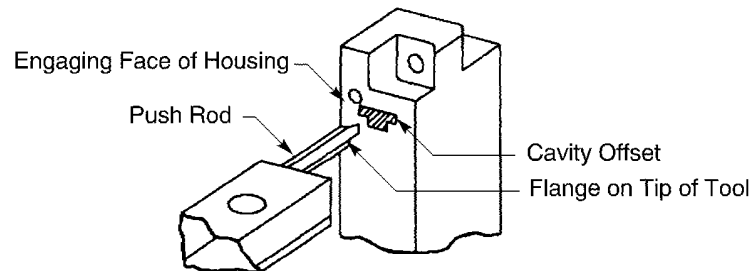
**2. CONNECTOR DISASSEMBLY**

**A. Contact Removal**

**Table 4**  
**CONTACT REMOVAL TOOLS**

Removal Tool	Supplier
465199-1	AMP

- (1) Make a selection of the removal tool from Table 4.
- (2) Insert the tip of the removal tool into the forward face of the connector. Refer to Figure 3.  
Make sure that the flange on the tool tip fits into offset in contact cavity.



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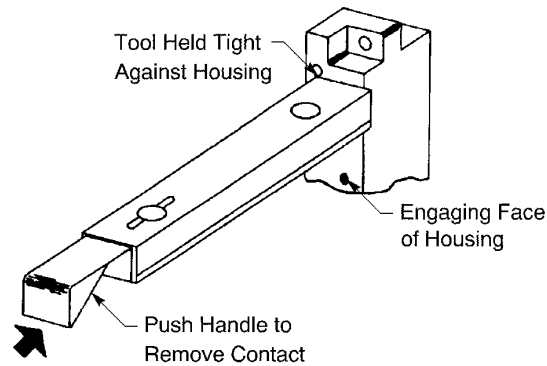
**CONTACT REMOVAL**  
**Figure 3**

- (3) Hold the tool firmly against the connector face.  
Make sure to hold the tool perpendicular to mating face of the contact.
- (4) Push the tool handle to remove the contact from the connector. Refer to Figure 4.
- (5) Release the handle and remove the tool.

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**REMOVAL TOOL OPERATION**

**Figure 4**

**3. CONNECTOR ASSEMBLY**

**A. Contact Assembly**

**Table 5**  
**CONTACT CRIMP TOOLS**

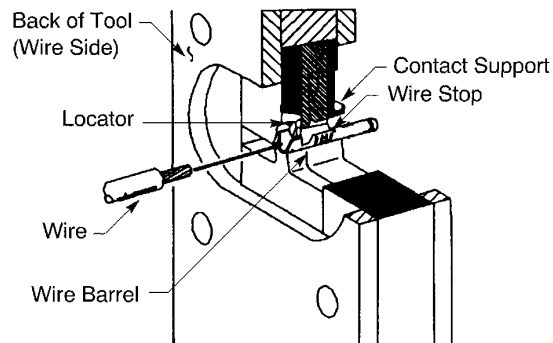
Wire Size (AWG)	Number Of Wires	Contact	Basic Unit	
			Part Number	Supplier
24	1	66010-2	90083	AMP
	2			
22	1	66010-2	59524	AMP
	2	66010-2	90083	AMP
		66026-2	59525	AMP
20	1	66010-2	90083	AMP
	2	66026-2	59525	AMP

- (1) Remove 1/8 inch  $\pm$  1/32 inch of the insulation from the wire or wires.
- (2) Make a selection of the contact and the crimp tool from Table 5.
- (3) Hold the tool so that the front side of the tool points away. Refer to Figure 2.
- (4) Insert the contact, insulation barrel first, into the front of the crimp section. Refer to Figure 5.
- (5) Position the contact so that the locator will enter the locator slot.

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

**Figure 5**

- (6) Close the tool handles until the insulation anvil begins to enter the insulation crimper to hold the contact in place.

**CAUTION:** DO NOT DEFORM THE INSULATION BARREL OR WIRE BARREL.

- (7) Insert the bare wire or wires through the locator and into the contact wire barrel until the wire is against the wire stop.
- (8) Hold the wire in place and close the tool handles until the ratchet releases.
- (9) Open the tool handles completely.
- (10) Remove the wired contact from the tool.

**B. Contact Insertion**

**NOTE:** An insertion tool is not necessary.

- (1) Hold the molded plastic housing in one hand.
- (2) Push the contact into the contact cavity until it clicks.  
Make sure that the contact is completely inserted.
- (3) Install the keying plug into the connector.

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## STANDARD WIRING PRACTICES MANUAL

### BACC65K() AND BACC65L() PRINTED WIRING BOARD CONNECTORS

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**BACC65K() AND BACC65L() PRINTED WIRING BOARD CONNECTORS**

This Subject gives the procedures to assemble and disassemble the fixed contact half and the removable contact half of the engaging BACC65K() and BACC65L() printed wiring board (PWB) connectors.

**1. PART NUMBERS AND DESCRIPTION**

**A. Connector Part Numbers**

**Table 1**  
**PWB CONNECTOR PART NUMBERS**

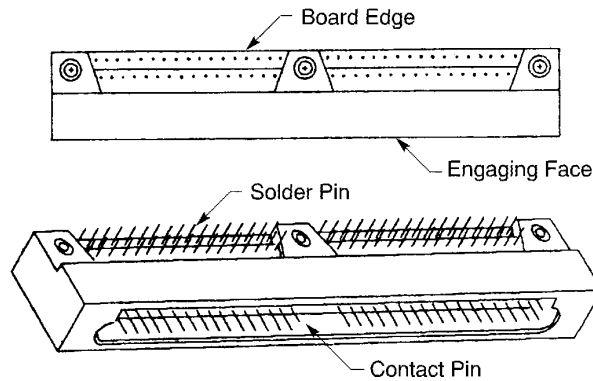
Boeing Standard	Connector		
	Type	Part Number	Supplier
BACC65K41	Plug	191-341-0003	Methode
		300048-004	Incon
BACC65K66	Plug	191-366-0006	Methode
		300044-001	Incon
BACC65K114	Plug	191-314-0001	Methode
		300046-003	Incon
BACC65L41	Receptacle	192-341-0005	Methode
		300055-001	Incon
BACC65L66	Receptacle	192-366-0010	Methode
		300052-001	Incon
BACC65L114	Receptacle	192-314-0007	Methode
		300206-001	Incon

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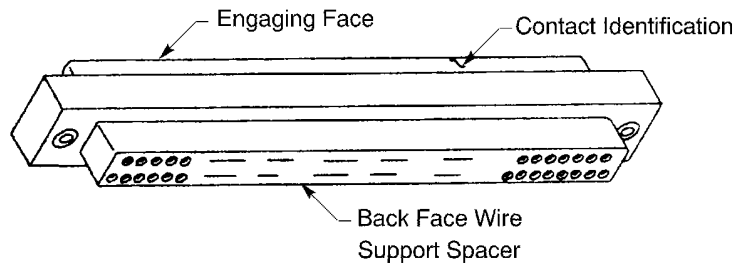
BACC65K() AND BACC65L() PRINTED WIRING BOARD CONNECTORS



2446762 S00061548797\_V1

**BACC65K() CONNECTOR PLUG**

**Figure 1**



2446763 S00061548798\_V1

**BACC65L() CONNECTOR RECEPTACLE**

**Figure 2**

**B. Contact Part Numbers**

**Table 2**  
**CONTACT PART NUMBERS**

Contact Type	Boeing Standard	Part Number	Supplier
Crimp	BACC47EK1	141-150-02	Methode
		200086-002	Incon
		210058-01	Fabri-Tek

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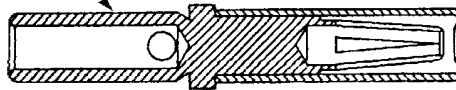
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BACC65K() AND BACC65L() PRINTED WIRING BOARD CONNECTORS

Table 2 CONTACT PART NUMBERS (Continued)

Contact Type	Boeing Standard	Part Number	Supplier
Solder Post	BACC47EL1	200083-001	Incon
		210059-01	Fabri-Tek

Gold Plated  
Crimp Terminal

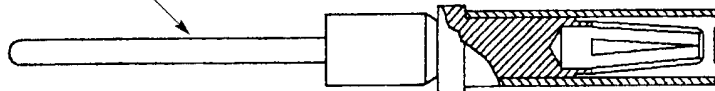


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BACC47EK1 REMOVABLE CRIMP TYPE CONTACT SOCKET

Figure 3

Gold Plated  
Solder Post



2446765 S00061548800\_V1

BACC47EL1 REMOVABLE SOLDER TYPE CONTACT PIN

Figure 4

C. Connector Keying Plug Part Numbers

Table 3  
CONNECTOR KEYING PLUG PART NUMBERS

Boeing Standard	Part Number	Supplier
BACC47EM1	141-1775-01	Methode
	200080-001	Incon
BACC47EM2	200093-001	Incon

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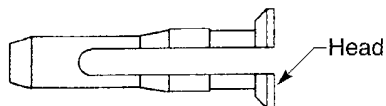
End To Insert Into Connector



2446766 S00061548801\_V1

**BACC47EM1 REMOVABLE CONTACT KEYING PLUG**

**Figure 5**



2446767 S00061548802\_V1

**BACC47EM2 KEYING PLUG**

**Figure 6**

**2. CONNECTOR DISASSEMBLY**

**A. Crimp Contact Removal**

**Table 4**  
**CONTACT REMOVAL TOOLS FOR CRIMP TYPE CONTACTS**

Boeing Standard	Removal Tool		
	Part Number	Description	Supplier
BACC47EK1	710-0020-000	Metal	Incon
	91-021	Plastic, White	Incon
	CIET 22	-	Cannon

- (1) Make a selection of a contact removal tool from Table 4.
- (2) Put the tool on the wire.
- (3) Push the tool into the connector to release the contact.
- (4) Pull the wire and tool out of the contact cavity at the same time.

**CAUTION:** MAKE SURE THAT DAMAGE TO THE WIRE OR CONTACT WITH THE REMOVAL TOOL OR THE FINGERS DOES NOT OCCUR.

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**B. Solder Contact Removal**

**Table 5**  
**CONTACT REMOVAL TOOLS FOR SOLDER TYPE CONTACTS**

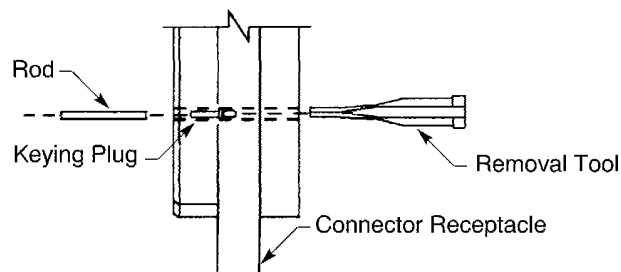
Boeing Standard	Removal Tool		
	Part Number	Description	Supplier
BACC47EL1	710-0020-000	Metal	Incon
	91-021	Plastic, White	Incon
	CIET 22	-	Cannon

- (1) Make a selection of a contact removal tool from Table 5.
- (2) Push tool straight into the contact cavity.
- (3) Lightly move the end of the tool around the contact until it is against the bottom of the cavity.
- (4) Push the contact and the tool out of the cavity with a smooth rod with a maximum diameter of 0.030 inch.

**C. Keying Plug Removal**

**Table 6**  
**KEYING PLUG REMOVAL TOOLS**

Keying Plug	Removal Tool		
	Part Number	Description	Supplier
BACC47EM1	710-0020-000	Metal	Incon
	91-021	Plastic, White	Incon
	CIET 22	-	Cannon



2446768 S00061548804\_V1

**BACC47EM1 KEYING PLUG REMOVAL**  
**Figure 7**

Refer to Figure 7.

- (1) Make a selection of a removal tool from Table 6.
- (2) Push the tool straight into the contact cavity until it hits the bottom.
- (3) Push the contact and the tool out of the cavity with a smooth rod with a maximum diameter of 0.030 inch.

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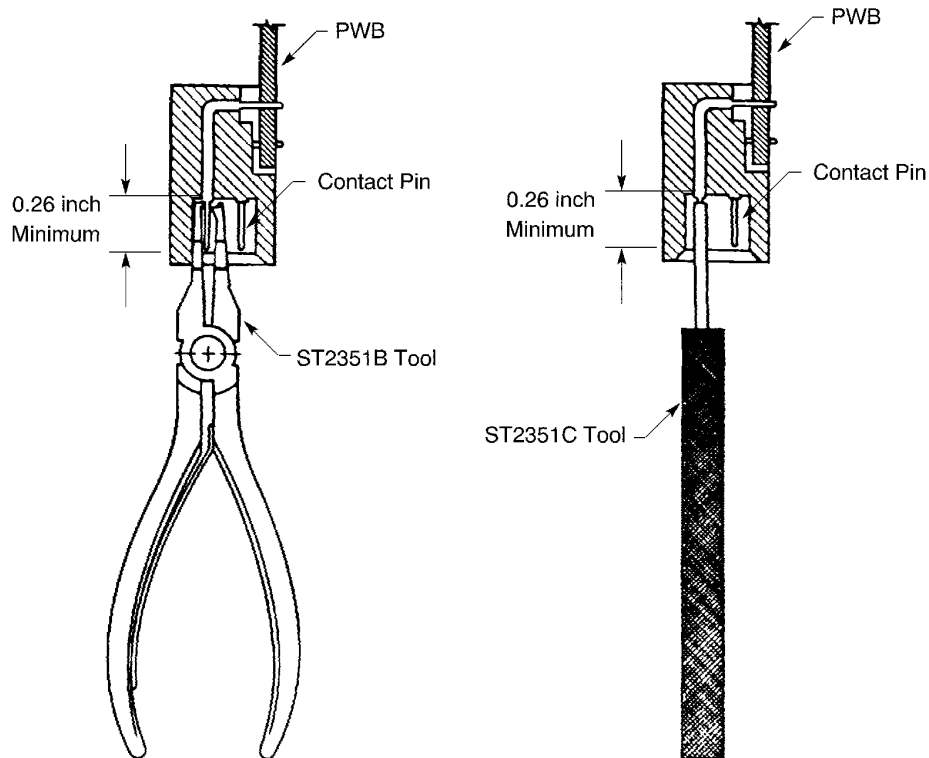
**3. CONNECTOR PLUG ASSEMBLY**

**CAUTION:** IT IS IMPORTANT THAT THE CONNECTOR IS KEYED CORRECTLY BEFORE IT IS INSTALLED ON THE PRINTED WIRING BOARD. IF THE CONNECTOR IS NOT KEYED CORRECTLY, THE CONNECTOR MUST BE DISCARDED.

**A. Connector Plug Keying**

**Table 7  
CONNECTOR PLUG KEYING TOOLS**

Keying Tool	Supplier
ST2351B	Boeing
ST2351C	Boeing



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**BACC65K() CONNECTOR PLUG KEYING TOOLS**

**Figure 8**

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### BACC65K() AND BACC65L() PRINTED WIRING BOARD CONNECTORS

Refer to Figure 8.

- (1) Make a selection of a keying tool from Table 7.
- (2) If the selection is the ST2351B tool, cut the contact pin 0.26 inch minimum below the outer surface of the connector shell.

**CAUTION:** DO NOT BEND OR CAUSE ANY DAMAGE TO THE ANY ADJACENT PINS OF THE INSERT FACE OF THE CONNECTOR.

- (3) If the selection is the ST2351C tool, break the contact pin 0.26 inch minimum below the outer surface of the connector shell.

**CAUTION:** DO NOT BEND OR CAUSE ANY DAMAGE TO THE ANY ADJACENT PINS OF THE INSERT FACE OF THE CONNECTOR.

#### B. Connector Plug Assembly

- (1) Examine the surfaces of the printed wiring board and the plug that are adjacent when the plug is installed.
- (2) If either surface has any contamination:
  - (a) Apply the necessary quantity of either of these cleaners to the surface with a bristle brush:
    - Isopropyl alcohol
    - Solvent cleaner.

- (b) Let the cleaner evaporate.

**NOTE:** As an alternative, the cleaner can be dried with compressed air.

- (3) Align the connector solder pins with the correct holes in the printed wiring board.
- (4) Push the connector into the printed wiring board until the surface of the plug is against the surface of the board.

**CAUTION:** DO NOT USE FORCE. DAMAGE TO THE CONNECTOR OR THE PRINTED WIRING BOARD, OR BOTH CAN OCCUR.

- (5) Install the screws:
  - (a) Apply a drop of Loctite 242 on a minimum of two threads on the opposite sides of one of the screws.
  - (b) Put the screw one of the mount holes.
  - (c) Do Step (a) and Step (b) again for the other screw.
  - (d) Torque the screws approximately 4 inch-pounds to 6 inch-pounds.
- (6) Solder the connector pins to the PWB.
- (7) Clean the assembly.
- (8) Apply a layer of conformal coating on the printed wiring assembly (PWA).
- (9) If a layer of conformal coating cannot be put on the assembly within 24 hours, put the assembly:
  - In a clean, dry polyethylene bag

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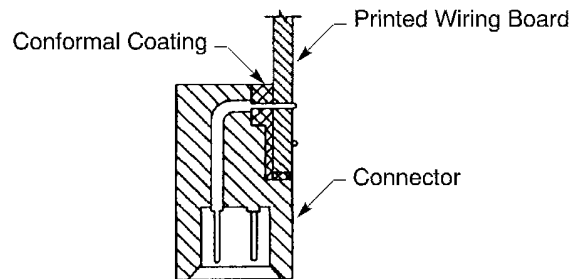
### BACC65K() AND BACC65L() PRINTED WIRING BOARD CONNECTORS

- In an area where the relative humidity is no higher than 50 percent

**NOTE:** A satisfactory alternative is to clean assembly again.

- (10) Apply the same conformal coating to the opening between the connector and the PWB so that any bare conductors or any bare solder pins have a layer of the coating.

Refer to Figure 9.



2446770 S00061548809\_V1

#### CONFORMAL COATING BETWEEN THE PWB AND THE CONNECTOR BODY

Figure 9

#### 4. CONNECTOR RECEPTACLE ASSEMBLY

**CAUTION:** IT IS IMPORTANT THAT THE CONNECTOR IS KEYED CORRECTLY BEFORE IT IS INSTALLED ON THE PRINTED WIRING BOARD. IF THE CONNECTOR IS NOT KEYED CORRECTLY, THE CONNECTOR MUST BE DISCARDED.

##### A. BACC65L41 or BACC65L66 Receptacle Connector Keying

Table 8  
KEYING PLUG INSERTION TOOLS

Keying Plug	Insertion Tool		
	Part Number	Description	Supplier
BACC47EM1	710-0021-000	Metal	Incon
	91-023	Plastic, Green	Incon
	CIET 22	-	Cannon

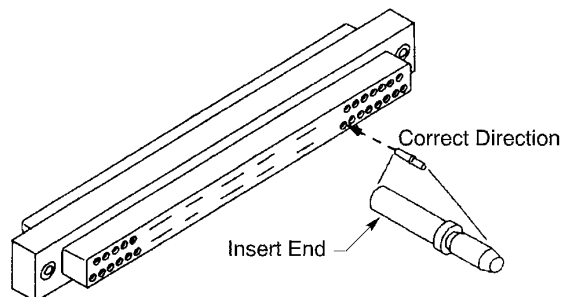
- (1) Make a selection of the insertion tool from Table 8.
- (2) Put the BACC47EM1 keying plug into the correct contact cavity at the rear face of the receptacle. Refer to Figure 10.

**CAUTION:** IF THE KEYING PLUG IS PUT IN BACKWARDS, IT IS LOCKED INTO POSITION AND CANNOT BE REMOVED.

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**INSERTION OF THE BACC47EM1 KEYING PLUG**

**Figure 10**

- (3) Manually push the keying plug into the connector cavity until the end of the plug is aligned with the wire support spacer on the rear face of the connector.
- (4) Push the plug into the contact cavity with the insertion tool until it makes a click.
- (5) Mark the connector with the keying part number.

**B. BACC65L114 Receptacle Connector Keying**

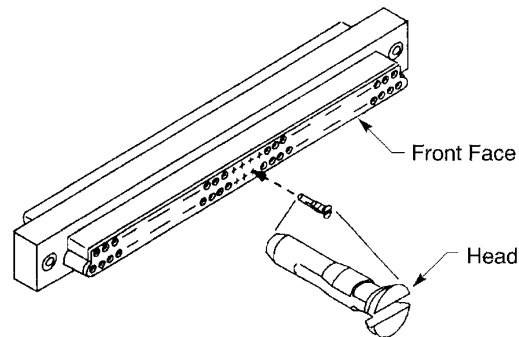
- (1) Put the BACC47EM2 keying plug in the contact cavity from the front face of the connector. Refer to Figure 11.

**CAUTION:** ONCE THE KEYING PLUG HAS BEEN INSTALLED, IT CANNOT BE REMOVED.

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**INSERTION OF THE BACC47EM2 KEYING PLUG**

**Figure 11**

- (2) Manually push the keying plug into the contact cavity until the surface of the head is aligned with the face of the connector.
- (3) Mark the connector with keying part number.

**C. Contact Assembly With Stranded Conductor Wire**

**Table 9**  
**CRIMP TOOLS FOR CONTACTS WITH STRANDED CONDUCTORS**

Wire Size (AWG)	Crimp Tool				
	Basic Unit		Locator	Depth Adjustment (inch)	
	Part Number	Setting		Minimum	Maximum
26	M22520/2-01	5	M22520/2-21	-	-
	612118	-	612827	0.025	0.031
24	M22520/2-01	6	M22520/2-21	-	-
	612118	-	612827	0.030	0.035
22	M22520/2-01	6	M22520/2-21	-	-
	612118	-	612827	0.030	0.035

- (1) Make a selection of a crimp tool from Table 9.
- (2) Remove 0.18 inch  $\pm$  0.03 inch of the insulation from the end of the wire.
- (3) Crimp the contact.

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**D. Contact Assembly With Solid Conductor Wire**

**Table 10**  
**CRIMP TOOLS FOR CONTACTS WITH SOLID CONDUCTORS**

Solid Conductor Wire (AWG)	Stranded Filler Wire (AWG)	Crimp Tool		
		Basic Unit		Locator
		Part Number	Setting	
30	24	M22520/2-01	6	M22520/2-21
28	24	M22520/2-01	6	M22520/2-21
26	-	M22520/2-01	6	M22520/2-21
24	-	M22520/2-01	6	M22520/2-21

- (1) Make a selection of a crimp tool from Table 10.
- (2) Remove 0.18 inch  $\pm$ 0.03 inch of insulation from the end of the solid conductor wire.
- (3) If a stranded filler wire is necessary, remove 0.18 inch  $\pm$ 0.03 inch of insulation from the end of the filler wire.
- (4) Put the end of the wire or wires in the crimp barrel of the contact.
- (5) Crimp the contact.
- (6) If a filler wire is used, install the necessary insulation on the free end of the filler wire. Refer to Subject 20-10-11.

**E. Contact Insertion for Crimped Contacts**

**Table 11**  
**INSERTION TOOLS FOR CRIMPED CONTACTS**

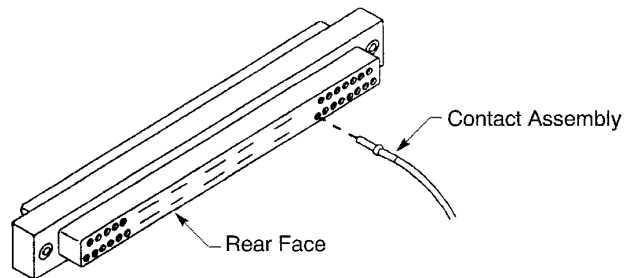
Contact	Insertion Tool	
	Part Number	Description
BACC47EK1	710-0021-000	Metal
	91-023	Plastic, Green
	CIET 22	-

- (1) Make a selection of an insertion tool from Table 11.
- (2) Put the tool on the wire of the contact assembly.
- (3) From the rear of the receptacle, push the contact assembly straight into the contact cavity. Refer to Figure 12.

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**CONTACT INSERTION**

**Figure 12**

- (4) Push the tool until the contact seats or clicks to indicate complete insertion.
- (5) Install unwired contacts in all unused contact cavities.

**NOTE:** Installation of seal rods in the unwired contacts is not necessary.

**F. Contact Insertion for Soldered Contacts**

**Table 12**  
**INSERTION TOOLS FOR SOLDERED CONTACTS**

Contact	Insertion Tool	
	Part Number	Description
BACC47EL1	710-0021-000	Metal
	91-023	Plastic, Green
	CIET 22	-

- (1) Make a selection of an insertion tool from Table 12.
- (2) From the rear of the connector, put the contact into the contact cavity.
- (3) Push the contact into the contact cavity until it makes a click.

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**5. APPROVED TOOL SUPPLIERS**

**A. Crimp Tools**

**Table 13  
CRIMP TOOL SUPPLIERS**

<b>Crimp Tool</b>	<b>Supplier</b>
612118	Buchanan
612827	Buchanan
M22520/2-01	QPL
M22520/2-21	QPL

**B. Insertion Tools**

**Table 14  
INSERTION TOOL SUPPLIERS**

<b>Insertion Tool</b>	<b>Supplier</b>
710-0021-000	Incon
91-023	Incon
CIET 22	Cannon

**C. Removal Tools**

**Table 15  
REMOVAL TOOL SUPPLIERS**

<b>Removal Tool</b>	<b>Supplier</b>
710-0021-000	Incon
91-023	Incon
CIET 22	Cannon

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