TO: ALL HOLDERS OF ENGINE WIRE HARNESS REPAIR INFORMATION COMPONENT MAINTENANCE MANUAL 71-00-20

REVISION NO. 6 DATED JUL 01/02

HIGHLIGHTS

Pages which have been added or revised are outlined below together with the highlights of the revision. Remove and insert the affected pages as listed and enter Revision No. and date on the Record of Revision Sheet.

| CHAPTER/SECTION AND PAGE NO. | DESCRIPTION OF CHANGE |
|---|---|
| REPAIR 6-1<br>603<br>782P,782R-782T,784U | Added tooling and assemble information of BACC63CM and CA66279-102 plugs. |

# ENGINE WIRE HARNESS REPAIR INFORMATION

## PART NUMBERS: NONE

COMPONENT MAINTENANCE MANUAL

REVISION RECORD

- Retain this record in front of manual. On receipt of revision, insert revised pages in the manual, and enter revision number, date inserted and initial.

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TEMPORARY REVISION AND SERVICE BULLETIN RECORD

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*[1] Use applicable procedures and standard industry practices.
*[2] Special instructions not required.

## INTRODUCTION

The instructions in this manual supply the data necessary to do the maintenance functions together with the test, fault isolation, and replacement of defective components.

This manual is divided into separate sections:

1. Title Page
2. Record of Revisions
3. Temporary Revision & Service Bulletin Record
4. List of Effective Pages
5. Table of Contents
6. Introduction
7. Procedures

Refer to the Table of Contents for the page location of applicable sections.

All dimensions, measures, quantities and weights used in the manual are in English units. When metric equivalents are given they will be in the parentheses that follow the English units.

# ENGINE WIRE HARNESS REPAIR INFORMATION

## DESCRIPTION AND OPERATION

### 1. Description

#### A. General

(1) This manual contains maintenance instructions intended to be used in conjunction with specific model engine type manuals as follows:

| MODEL | ENGINE TYPE | CMM |
|---|---|---|
| 737 | CFM 56 | |
| 747 | CF6-80A | |
| | CF6-80C2 | |
| | PW4000 | |
| | JT9D | |
| 757 | PW2000 | |
| 767 | CF6-80A | 71-00-21 |
| | CF6-80C2 | 71-00-22 |
| | PW4000 | |
| | JT9D | |
| 777 | GE90 | 71-51-10 |
| | PW4000 | 71-51-05 |
| | RB211-TRENT 800 | 71-51-15 |

TESTING AND FAULT ISOLATION

1. Testing and Fault Isolation

A. Wire Lists contained in specific model engine type manuals can be used with standard shop multimeter or ohmmeter to verify wire continuity from end-to-end, as necessary.

## CLEANING

1. Cleaning of Electrical Connectors

   A. These processes are intended for use when it is determined by visual examination that a connector interface has excessive contamination but connector replacement is not necessary.

   B. A description and the location of important data is contained in Fig. 401.

      NOTE: The order of preference of the methods for cleaning all electrical connectors is the order in which they are presented in Fig. 401. However, when quick turnaround is required, clean high temperature connectors with the preferred method given in par. 4.B., Cleaning General Purpose Connectors with Acetone.

CAUTION: IF THE STEEL BAYONET PINS ON THE RECEPTACLE SHELL OR THE ELECTRICAL CONTACTS SHOW TOO MUCH WEAR, REPLACE THE CONNECTOR OR CONTACTS OR BOTH.

| TOPIC | DESCRIPTION | LOCATION | |
|---|---|---|---|
| | | Paragraph | Figure |
| General | Safety Practices | 2. | - |
| Cleaning Materials | General Purpose Connectors with Methyl or Isopropyl Alcohol | 3.A. | - |
| | General Purpose Connectors with Acetone | 4.A. | - |
| | General Purpose Connectors with Freon | 5.A. | 402 |
| | Walter Kidde Fire Detection System Connectors | 6.B. | 403 |
| Cleaning Procedure | General Purpose Connectors Using Methyl or Isopropyl Alcohol | 3.B. | - |
| | General Purpose Connectors Using Acetone | 4.B. | - |
| | General Purpose Connectors Using Freon | 5.B. | - |
| | Walter Kidde Connectors Using Grit Blast Method | 6.D. | - |
| | Walter Kidde Connectors Using Acetone | 6.E. | - |
| | Walter Kidde Connectors Using Methyl or Isoproply Alcohol | 6.F. | - |
| | Walter Kidde Connectors Replacement Option | 6.G. | - |

Important Data
Figure 401

2. Safety Practices

A. Personnel Safety and Regulatory Guidelines

(1) Before using any solvent, check with local environmental agencies to ensure compliance with any local environmental regulations.

(2) Check with local agencies for the personnel safety requirements in your area.

(3) Use solvents for authorized or approved purposes only.

(4) Minimize personnel exposure to solvents.

(a) Avoid contact with skin. Wear rubber or neoprene gloves when handling solvents. Other equipment, such as impervious aprons, sleeves, coveralls, and boots may be necessary.

(b) Avoid eye exposure to solvent, vapor, or overspray by wearing chemical goggles or other approved eye protection.

(c) Avoid breathing solvent vapors. Use only in well-ventilated areas. In confined spaces, provide local ventilation or wear respiratory protection.

(5) Minimize fire risks.

(a) All flames, smoking, sparks, and other sources of ignition must be eliminated from areas where solvent is being used. De-energize circuits to prevent electrical sparks in areas where flammable vapors are present.

(b) Use nonsparking tools.

(c) Eliminate or properly ground clothing or processes that create static electricity.

(d) All electrical equipment (lights, motors, wiring, etc.) must meet the electrical and fire codes for use in flammable vapor locations.

(e) Flammable solvents should be kept in closed containers and only in quantities to satisfy immediate use.

(f) Provide adequate ventilation to prevent buildup of vapors.

3. Cleaning General Purpose Connectors with Methyl or Isopropyl Alcohol

A. Materials and Accessories

(1) A small fine brush with bristles impervious to methyl or isopropyl alcohol and long enough to reach the bottom of the connector

(2) Lint-free swabs long enough to reach the bottom of the connector

(3) An appropriate container to catch overflow solvent

(4) Compressed clean, dry air or nitrogen

(5) Methyl or isopropyl alcohol

WARNING: METHYL ALCOHOL AND ISOPROPYL ALCOHOL ARE FLAMMABLE. LIMIT THE QUANTITY ON HAND TO NO MORE THAN WHAT IS SUFFICIENT TO ACCOMPLISH THE CLEANING.

B. Cleaning Procedure

(1) Unmate the connector pair.

(2) Apply the alcohol solvent using a brush or swab.

(3) Brush the connector face until the contaminants have been dissolved.

(4) Wash the connector face with sufficient alcohol to flush out contaminants and ensure that the connector face is clean.

(5) Air dry the connector for one (1) hour to allow the alcohol to dry.

(a) Where possible, tip the connector to allow the solvent to drain.

(b) Reduce drying time with a clean, pressurized air blast.

(6) Mate the connectors as specified by the appropriate maintenance manual.

NOTE: For ease of connector mating, the inner O-ring may be lubricated with Dow Corning 4 lubricant compound.

(7) Perform the required functional tests.

4. Cleaning General Purpose Connectors with Acetone

WARNING: ACETONE IS VERY FLAMMABLE. LIMIT THE QUANTITY ON HAND TO NO MORE THAN 0.25 PINT (0.125 LITER) CONTAINED IN A CLOSED ONE (1) PINT (0.5 LITER) SQUEEZE CONTAINER.

A. Materials and Accessories

(1) A small fine brush with bristles impervious to acetone and long enough to reach the bottom of the connector

(2) Lint-free swabs long enough to reach the bottom of the connector

(3) An appropriate container to catch overflow solvent

(4) Compressed clean, dry air or nitrogen

(5) 0.25 pint (0.125 liter) of acetone

(6) A closed one (1) pint (0.5 liter) squeeze container.

B. Cleaning Procedure

(1) Unmate the connector pair.

WARNING: DO NOT UNCOUPLE CONNECTORS UNTIL THE TEMPERATURE IS LESS THAN 150°F (65°C).

CAUTION: FOR PERSONNEL SAFETY, DO NOT UNCOUPLE CONNECTORS UNTIL THEY ARE COOL ENOUGH TO DO SO WITH BARE HANDS. APPROXIMATELY 100°F (28°C).

(2) Squeeze 3 to 5 cc of acetone into the connector.

WARNING: DO NOT ALLOW ANY ACETONE TO DRIP ONTO THE ENGINE.

(3) Brush the connector face until any stubborn contaminants have been dissolved.

(4) Drain any residual solvent from the connector into a container.

(5) Remove the drained solvent from the area before proceeding.

(6) Flush the residue in the connector; use no more than 5 cc of solvent.

(a) Catch the residual solvent and remove it from the area before proceeding.

(b) Repeat Step 6 as required.

(7) Dry the connector:

(a) Use compressed clean, dry air or nitrogen to speed evaporation.

(b) Make sure the inside of the socket contacts and the inserts around the socket contacts are completely dry.

CAUTION: THE CONNECTOR MUST BE COMPLETELY DRY BEFORE MATING. ANY SOLVENT REMAINING IN THE CONNECTORS CAN HAVE A DETERIORATING AFFECT ON THE CONNECTOR OR THE SYSTEM OR BOTH.

(8) Mate the connectors as specified by the appropriate maintenance manual.

NOTE: For ease of connector mating, the inner O-ring may be lubricated with Dow Corning 4 lubricant compound.

(9) Perform the required functional tests.

5. Cleaning General Purpose Connectors with Freon

A. Materials and Accessories

WARNING: FREON T-P35 MS-160 IS NONTOXIC, BUT IS FLAMMABLE. DO NOT USE WHEN FLAMMABLE CONDITIONS EXIST.

CAUTION: FREON TF MS-180 IS NONFLAMMABLE AND NONTOXIC. HOWEVER, USE WITH ADEQUATE VENTILATION AND AVOID PROLONGED BREATHING OF VAPORS.

| DESCRIPTION | PART NUMBER | SUPPLIER |
|---|---|---|
| Freon TF Degreaser in Aerosol Can | MS-180 | Miller Stephenson Chemical Company |
| Freon T-P35 Solvent in Aerosol Can | MS-160 | Miller Stephenson Chemical Company |
| Extension Hose, Nozzle, Solvent Spray Brush | MS-226 | Miller Stephenson Chemical Company |
| Silicone Compound Lubricant | Dow Corning 4 Compound | Dow Corning Corporation |

Materials for Cleaning
General Purpose Connectors with Freon
Figure 402

B. Cleaning Procedure

(1) Assemble the MS-226 extension hose and brush to the aerosol spray can.

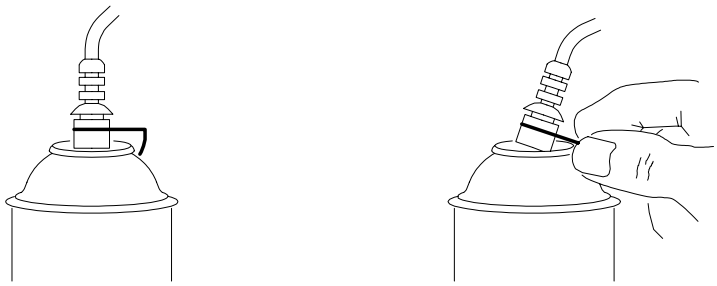
CAUTION: BE VERY CAREFUL WHEN ASSEMBLING THE HOSE ASSEMBLY TO THE AEROSOL CAN AND DURING THE CLEANING OPERATION TO AVOID GETTING SOLVENT IN THE EYES.

(a) Remove the standard valve cap from the aerosol can.

(b) Attach the tube assembly to the aerosol can by pressing it firmly in place.

(c) Pressurize the cleaning brush by engaging the hook assembly onto the lip of the aerosol spray can.

NOTE: The flow of cleaning fluid is controlled by applying side pressure to the brush (Fig. 403).



TUBE ASSEMBLY INSTALLED - VALVE CLOSED

TUBE ASSEMBLY INSTALLED - VALVE OPEN

MS226 Extension Hose Operation
Figure 403

C76209

(2) Uncouple the connector from its mate.

(3) Clean the connector.

(a) Apply the solvent or degreaser using the brush assembly.

(b) Brush the connector face until the contaminants have been dissolved.

(c) Flush the connector face with sufficient solvent or degreaser to flush out contaminants and make sure the connector face is clean.

(4) Air dry the connector for one (1) hour to allow the solvent or degreaser to dry.

(a) Where possible, tip the connector to allow the solvent to drain.

(b) Reduce drying time by applying a clean, pressurized air blast.

(5) Mate the connectors as specified by the appropriate maintenance manual.

NOTE: For ease of connector mating, the inner O-ring may be lubricated with Dow Corning 4 lubricant compound.

(6) Perform the required functional tests.

6. Cleaning WALTER KIDDE Fire Detection System Connectors

A. General Guidelines

(1) Prior to mating any connectors in the sensing element loop, make sure they are clean. If there is any doubt, rinse both connectors with acetone, methyl or isopropyl alcohol and then blow dry with clean, dry air or nitrogen.

(2) Inspect and clean the sensing element connectors whenever the flex cable connector has been disconnected.

(3) If the interior of a connector shows evidence of severe discoloration or corrosion, clean the connector using Method I in par. 6.D.

(4) If the corroded connector is the one connected to the airplane wiring, it may be more economical to replace it with a new one.

(5) If the corroded connector is part of a sensing element, it may be more practical to remove the sensing element, replace it with a serviceable spare, and clean the connector in the repair shop.

(6) If any of the connectors in the fire detection system show evidence of liquid contamination, clean the connector using Method II or Method III in par. 6.E. or 6.F., respectively.

B. Materials

CAUTION: USE ONLY THOSE CLEANERS LISTED IN TABLE III. DO NOT USE OTHER SOLVENTS, PARTICULARLY ANY THAT CONTAIN CHLORIDES.

(1) The material required to accomplish the cleaning process on one unit are listed in Fig. 404. However, the grit blast kit provides enough aluminum oxide abrasive for cleaning approximately ten (10) connectors.

| DESCRIPTION | PART NUMBER | SUPPLIER |
|---|---|---|
| Grease, MIL-S-8660 | DC-4 | Dow Chemical |
| Grit Blast Kit | Model AEC-K or Equivalent | Hunter Assoc., Bridgewater, NJ |
| 100 Mesh Aluminum Oxide Grit | AEX 602 or Equivalent | Hunter Assoc., Bridgewater, NJ |
| Acetone | - | - |
| Hooded Socket Contact | 802508 | Walter Kidde |
| Methyl Alcohol | - | - |
| Isopropyl Alcohol | - | - |

Materials for Cleaning Walter Kidde Connectors
Figure 404

C. Preparation Procedure

(1) Remove the hooded socket contact, when applicable, prior to cleaning the connector.

(a) Use a small pair of needle nose pliers to carefully pull the contact out.

(b) Discard the contact; it cannot be reused.

D. Method I - Grid Blast Cleaning Procedure

(1) This method is for on or off airplane use. It is for cleaning corroded or heavily contaminated connectors using grit blast with an aluminum oxide dust prior to reassemlby.

WARNING: USE A GRIT BLAST GUN IN ONLY WELL-VENTILATED AREAS. DO NOT INHALE ALUMINUM OXIDE DUST. THE USE OF A DUST-FILTER RESPIRATOR AND EYE PROTECTION IS MANDATORY.

(2) Mechanically scrape away most of the corrosion with a fine tool.

(3) Grit blast the connector interior, especially at the bottom and around the base of the pin. Use a grit blast gun with clean, dry air and regulate the air pressure at 20 to 25 psi.

CAUTION: GRIT BLAST DUST IS ABRASIVE. COVER OR REMOVE ACTUATOR RODS OR OTHER POLISHED FINISHES. KEEP THE OIL TANK SCUPPER COVERED TO AVOID CONTAMINATING THE ENGINE OIL SYSTEM.

(4) Rinse the connector with acetone or methyl alcohol and then blow dry with clean, dry air or nitrogen.

(5) If removed in par. 6.C., install a new hooded socket contact.

(6) Blow out any residue with clean, dry air or nitrogen.

WARNING: COMPRESSED GAS CAN BE DANGEROUS. TO AVOID POSSIBLE INJURY, APPLY DRY AIR OR NITROGEN CAREFULLY IN A DIRECTION AWAY FROM THE EYES, FACE, AND OTHER PERSONNEL.

E. Method II - Acetone Solvent Cleaning Procedure

(1) This method is used in the event of oil or a soluble contaminant in the connector cavity.

WARNING: PERFORM ALL CLEANING OPERATIONS IN A WELL-VENTILATED AREA TO MINIMIZE EXPOSURE OF PERSONNEL TO SOLVENT FUMES. AVOID PROLONGED CONTACT WITH SKIN.

WARNING: ACETONE IS EXTREMELY FLAMMABLE. LIMIT THE QUANTITY ON HAND TO NO MORE THAN 0.25 PINT (0.125 LITER). CONTAINED IN A CLOSED 1 PINT (0.5 LITER) SQUEEZE CONTAINER.

(2) Squeeze 3 to 5 cc of acetone into the connector.

(3) Brush the contaminated surface until any stubborn contaminants have been dissolved.

(4) Drain any residual solvent from the connector into a container.

(5) Remove the drained solvent from the area before proceeding.

(6) Flush the residue in the connector using the solvent.

NOTE: Limit the volume of solvent to 5 cc.

(a) Catch the residual solvent and remove it from the area before proceeding.

(b) Repeat step (5) as required.

(7) Dry the connector.

CAUTION: THE CONNECTOR MUST BE COMPLETELY DRY BEFORE MATING. ANY SOLVENT REMAINING IN THE CONNECTORS CAN HAVE A DETERIORATING AFFECT ON THE CONNECTOR OR THE SYSTEM OR BOTH.

(a) Use compressed clean, dry air or nitrogen to speed evaporation.

WARNING: COMPRESSED GAS CAN BE DANGEROUS. TO AVOID POSSIBLE INJURY, APPLY DRY AIR OR NITROGEN CAREFULLY IN A DIRECTION AWAY FROM THE EYES, FACE, AND OTHER PERSONNEL.

(b) Make sure the inside of the connector body is completely dry.

F. Method III - Methyl or Isopropyl Alcohol Solvent Cleaning Procedure

(1) This method is used in the event of oil or a soluble contaminant in the connector cavity.

WARNING: METHYL ALCOHOL AND ISOPROPYL ALCOHOL ARE FLAMMABLE. LIMIT THE QUANTITY ON HAND TO NO MORE THAN WHAT IS SUFFICIENT TO ACCOMPLISH THE CLEANING.

(2) Apply the alcohol solvent using a brush or swab.

(3) Brush the contaminated surface until any stubborn contaminants have been dissolved.

(4) Wash the connector face with sufficient alcohol to flush out contaminants and ensure that the connector face is clean.

(5) Air dry the connector for one (1) hour to allow the alcohol to dissipate.

CAUTION: THE CONNECTOR MUST BE COMPLETELY DRY BEFORE MATING. ANY SOLVENT REMAINING IN THE CONNECTORS CAN HAVE A DETERIORATING AFFECT ON THE CONNECTOR OR THE SYSTEM OR BOTH.

(a) Where possible, tip the connector to allow the solvent to drain.

(b) Reduce drying time with a clean, pressurized air blast.

WARNING: COMPRESSED GAS CAN BE DANGEROUS. TO AVOID POSSIBLE INJURY, APPLY DRY AIR OR NITROGEN CAREFULLY IN A DIRECTION AWAY FROM THE EYES, FACE, AND OTHER PERSONNEL.

G. Method IV - Replacement Procedure

(1) If time constraints or facility limitations do not permit proper connector cleaning as described above, as an alternative, replace the connector and attach to the mating connector as described in par. 6.H.

(2) If the sensing element shows signs of corrosion, replace it with a spare unit until it can be properly cleaned.

H. Reassembly and Test

(1) After cleaning install a new hooded socket contact, if applicable.

(a) Insert the glazed end of the hooded socket contact on a 0.060 maximum diameter pin.

(b) Push the unglazed end onto the connector pin until it bottoms.

(2) Reconnect the mating connectors and provide an invironmental seal.

CAUTION: IT IS ABSOLUTELY NECESSARY TO CREATE AN ENVIRONMENTAL SEAL.

(a) Apply a very light coat of DC-4 silicone grease to the copper sealing gasket on plug connector.

CAUTION: AVOID THE APPLICATION OF GREASE IN THE CONNECTOR CAVITY OR ON THE CONNECTOR CONTACT.

(b) Completely engage the nose of the plug connector into the threaded bushing of the receptacle connector.

(c) Screw the nut onto the threaded bushing.

(d) Torque the nut approximately 50 to 70 inch-pounds using two wrenches to prevent unwanted rotation.

(3) Perform the fire detection cockpit test to ensure system integrity.

REPAIR

1. All repair may be accomplished with standard industry practices and procedures contained in specific model engine type manual as follows:

| Repair | Repair Number |
|---|---|
| Replacement of Wires or Contacts | 1-1 |
| Wire EDP Codes | 1-2 |
| Pigtailing, Dead Ending of Shielded Wires | 1-3 |
| Dual Ground Installation | 1-4 |
| BACT12AC Terminals | 2-1 |
| Solid Nickel Terminals | 2-2 |
| High Temperature Splices | 2-3 |
| Connector Sealing | 3-1 |
| Shrinkable Sleeving | 4-1 |
| Drain Holes in Protective Sleeving | 5-1 |
| Safety Wiring of Electrical Connectors | 6-1 |
| Connector/Backshell Finish | 7-1 |

## REPLACEMENT OF WIRES OR CONTACTS - REPAIR 1-1

1. General

   A. In general, reverse the assembly procedure for connectors to disassemble them to replace wires or contacts. Do not remove grommets or other connector parts by prying with a screwdriver or similar tool. Reassemble in accordance with appropriate assembly instructions given in that Section pertaining to the particular connector.

   B. Obtain tooling information for removal and reinstallation of contacts from assembly process instructions.

WARNING: ON AIRPLANE AND VEHICLES WHICH HAVE BEEN FUELED, SOLDER ONLY WITH APPROVED EQUIPMENT AND WHEN SAFETY CONDITIONS ARE MET.

2. Crimp Type Contact Replacement

   A. Loosen connector cable clamps, endbells, detachable grommets, and grommet followers and slip them back on the wire bundle to allow unrestricted contact removal.

   B. Remove contacts captivated within the connector insert (pushed-in type contacts) using only the specific contact extractor tool designated in the applicable section of this wiring diagram manual.

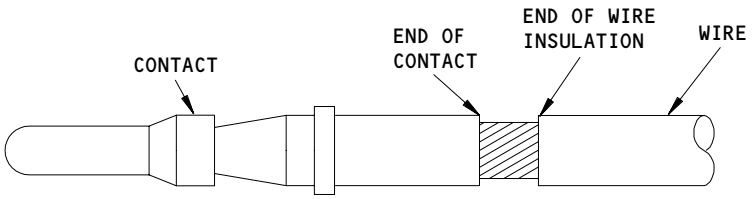
   C. Never remove contacts by pulling on the attached wire.

   CAUTION: DO NOT USE EXTRACTION TOOLS THAT HAVE DAMAGED TIPS. VISUALLY EXAMINE THE TOOL TO ENSURE THAT TOOL TIPS ARE NOT BENT OR OTHERWISE DEFORMED AND ARE FREE OF BURRS, NICKS, AND SHARP EDGES.

   D. Retain as much wire length as possible in removing wire from contact.

   E. Cut the wire at the end of the contact barrel (Fig. 601).

   F. Do not, under any circumstances, crimp over wire which as been crimped previously.




Contact Replacement
Figure 601

C76239

## WIRE EDP CODES - REPAIR 1-2

1. General

   A. This repair provides wire EDP codes and options for 737, 747, 757, and 767 model airplanes. Wire EDP code information is listed twice: Figure 601 is sorted alphanumerically by EDP code and Fig. 602 is sorted alphanumerically by part number. Figure 603 is sorted by EDP code. Use wire options in Fig. 603 only when all attempts to obtain a specified wire listed in Fig. 601 or 602 fails.

2. Wire Part Number/EDP Code Cross-Reference

   A. Figure 601 or 602 Usage

      (1) Find the code or part number.

          NOTE: Some codes or part numbers are listed twice.

      (2) Check the model columns for an X to determine to which model(s) the code applies.

| EDP Code | 737 | 747 | 757 | 767 | 777 | Number of Conductors | Description (Wire Part Number or Vendor Specification) |
|---|---|---|---|---|---|---|---|
| A8 | | | | | X | 3 | 557-392, Thermax |
| B6 | | | | | X | 1 | BMS 13-58, Type V, Class 1 |
| B9 | | | | | X | 1 | BMS 13-58, Type VII, Class 1 |
| BE | | | | | X | 2 | BMS 13-58, Type VII, Class 2 |
| BG | | X | | X | | 1 | BMS 13-31, Type I, Class 1 |
| BJ | | X | | X | | 1 | BMS 13-58, Type I, Class 1 |
| BZ | | | | | X | 3 | BMS 13-58, Type VII, Class 3 |
| CO | | | | | X | 4 | BMS 13-58, Type VII, Class 4 |
| CQ | X | X | X | X | X | 1 | BMS 13-58, Type I, Class 1 |
| CW | | X | | X | | 2 | 72016 Thermax, Shielded |
| D3 | | | | | X | 3 | 551-292 Thermax |
| FL | | X | | X | | 2 | 61-02651, Champlain, Double shield & JKT |
| HA | | X | | X | | 1 | BMS 13-60, Type VII, Class 1 |
| HL | | X | | X | X | 1 | BMS 13-60, Type X, Class 1 |
| HM | | X | | X | X | 2 | BMS 13-60, Type X, Class 2 |
| HN | | X | | X | X | 3 | BMS 13-60, Type X, Class 3 |
| HP | | X | | X | X | 1 | BMS 13-60, Type XI, Class 1 |
| HQ | | X | | X | X | 2 | BMS 13-60, Type XI, Class 2 |
| HR | | X | | X | X | 3 | BMS 13-60, Type XI, Class 3 |

Wire Part Number by EDP Type Code
Figure 601 (Sheet 1)

| EDP Code | 737 | 747 | 757 | 767 | 777 | Number of Conductors | Description (Wire Part Number or Vendor Specification) |
|---|---|---|---|---|---|---|---|
| HS | | X | | X | X | 4 | BMS 13-60, Type XI, Class 4 |
| HT | | X | | X | X | 4 | BMS 13-60, Type X, Class 4 |
| RJ | | X | | X | X | 2 | 65B47866-2, Low Noise Cable |
| RQ | | X | | X | | 2 | 65B47866-5, Low Noise Cable |
| TD | | | | X | | 2 | 852-4206975, Pirelli, Shielded |
| TE | | | | X | | 2 | 852-4985321, Pirelli, Shielded |
| UZ | | X | | X | | 2 | 852-4991980, Specialty, AL-CH |
| WE | | X | | X | | 2 | 65B47866-2, Shielded |
| XV | | X | | X | | 2 | 852-4991980 Specialty Cable, Al-Ch |
| XY | | | | X | | 3 | 852-4985339 Speciality, Al-Ch |
| 43 | X | X | X | X | | 1 | BMS 13-35, Type I, Class 1 |
| 6A | X | X | X | X | | 1 | BMS 13-51, Type XIV, Class 1 |
| 7A | | X | | X | | 1 | BMS 13-31, Type V, Class 1 |
| 7C | | X | | X | | 2 | BMS 13-31, Type V, Class 2 |
| 7D | | X | | | X | 3 | BMS 13-31, Type V, Class 3 |

Wire Part Number by EDP Type Code
Figure 601 (Sheet 2)

| EDP Code | 737 | 747 | 757 | 767 | 777 | Number of Conductors | Description (Wire Part Number or Vendor Specification) |
|---|---|---|---|---|---|---|---|
| 7E | | X | | | X | 4 | BMS 13-31, Type V, Class 4 |
| 7F | | X | | | X | 1 | BMS 13-31, Type VII, Class 1 |
| 7G | | X | | | X | 2 | BMS 13-31, Type VII, Class 2 |
| 7H | | X | | | X | 3 | BMS 13-31, Type VII, Class 3 |
| 9D | X | | | | | 4 | M27500-()-TG-4, MIL-C-27500 |
| 9D | | X | | X | | 3 | 61-02651 Champlain, 2 Shields |
| 9K | | X | | X | | 4 | 61-02783 Champlain, 2 Shields |
| 9L | | | | | X | 1 | BMS 13-55, Type IV, Class 1 |
| 9M | | X | | X | | 1 | 24-00033, Champlain Red |
| 9N | | X | | X | | 1 | 24-00034 Champlain Red |
| 9P | | X | | X | X | 1 | BMS 13-55, Type II, Class 1 |
| 9Q | | | | | X | 2 | BMS 13-55, Type IV, Class 2 |
| 9X | | | | X | | 1 | 85842, Filotex |

Wire Part Number by EDP Type Code
Figure 601 (Sheet 3)

| EDP Code | 737 | 747 | 757 | 767 | 777 | Number of Conductors | Description (Wire Part Number or Vendor Specification) |
|---|---|---|---|---|---|---|---|
| BG | | X | | X | | 1 | BMS 13-31, Type I, Class 1 |
| 7A | | X | | X | | 1 | BMS 13-31, Type V, Class 1 |
| 7C | | X | | X | | 2 | BMS 13-31, Type V, Class 2 |
| 7D | | X | | X | | 3 | BMS 13-31, Type V, Class 3 |
| 7E | | X | | X | | 4 | BMS 13-31, Type V Class 4 |
| 7F | | X | | X | | 1 | BMS 13-31, Type VII, Class 1 |
| 7G | | X | | X | | 2 | BMS 13-31, Type VII, Class 2 |
| 7H | | X | | X | | 3 | BMS 13-31, Type VII, Class 3 |
| 43 | X | X | X | X | | 1 | BMS 13-35, Type I, Class 1 |
| 6A | X | X | X | X | | 1 | BMS 13-51, Type XIV, Class 1 |
| 9L | | | | | X | 1 | BMS 13-55, Type IV, Class 1 |
| 9P | | X | | X | X | 1 | BMS 13-55, Type II, Class 1 |
| 9Q | | | | | X | 2 | BMS 13-55, Type IV, Class 2 |
| CQ | X | X | X | X | X | 1 | BMS 13-58, Type I, Class 1 |
| B6 | | | | | X | 1 | BMS 13-58, Type V, Class 1 |
| B9 | | | | | X | 1 | BMS 13-58, Type VII, Class 1 |
| BE | | | | | X | 2 | BMS 13-58, Type VII, Class 2 |
| BZ | | | | | X | 3 | BMS 13-58, Type VII, Class 3 |
| CO | | | | | X | 4 | BMS 13-58, Type VII, Class 4 |

Wire EDP Codes by Part Number Type
Figure 602 (Sheet 1)

| EDP Code | 737 | 747 | 757 | 767 | 777 | Number of Conductors | Description (Wire Part Number or Vendor Specification) |
|---|---|---|---|---|---|---|---|
| BJ | | X | | X | | 1 | BMS 13-58, Type I, Class 1 |
| HA | | X | | X | | 1 | BMS 13-60, Type VII, Class 1 |
| HL | | X | | X | X | 1 | BMS 13-60, Type X, Class 1 |
| HM | | X | | X | X | 2 | BMS 13-60, Type X, Class 2 |
| HN | | X | | X | X | 3 | BMS 13-60, Type X, Class 3 |
| HT | | X | | X | X | 4 | BMS 13-60, Type X, Class 4 |
| HP | | X | | X | X | 1 | BMS 13-60, Type XI, Class 1 |
| HQ | | X | | X | X | 2 | BMS 13-60, Type XI, Class 2 |
| HR | | X | | X | X | 3 | BMS 13-60, Type XI, Class 3 |
| HS | | X | | X | X | 4 | BMS 13-60, Type XI, Class 4 |
| 9D | X | | | | | 4 | M27500-()-TG-4, MIL-C-27500 |
| FL | | X | | X | | 2 | 61-02651, Champlain, Double Shield & JKT |
| 9M | | X | | X | | 1 | 24-00033 Champlain Red |
| 9N | | X | | X | | 1 | 24-00034 Champlain Red |
| D3 | | | | | X | 3 | 551-292, Double Shielded |
| A8 | | | | | X | 3 | 557-392, Thermax |
| 9D | | X | | X | | 2 | 61-02651 Champlain, 2 Shields |
| 9K | | X | | X | | 3 | 61-02783 Champlain, 2 Shields |

Wire EDP Codes by Part Number Type
Figure 602 (Sheet 2)

| EDP Code | 737 | 747 | 757 | 767 | 777 | Number of Conductors | Description (Wire Part Number or Vendor Specification) |
|---|---|---|---|---|---|---|---|
| WE | | X | | X | | 2 | 65B47866-2, Shielded |
| RJ | | X | | X | X | 2 | 65B47866-2, Low Noise Cable |
| RQ | | X | | X | | 2 | 65B47866-5, Low Noise Cable |
| CW | | X | | X | | 2 | 72016 Thermax, Shielded |
| TD | | | | X | | 2 | 852-4206975, Pirelli, Shielded |
| TE | | | | X | | 2 | 852-4985321, Pirelli, Shielded |
| XV | | X | | X | | 2 | 852-4991980 Specialty Cable, Al-Ch |
| UZ | | X | | X | | 2 | 852-4991980, Specialty, Al-Ch |
| XY | | | | X | | 3 | 852-4985339 Speciality Cable, Al-Ch |
| 9X | | | | X | | 1 | 85842, Filotex |

Wire EDP Codes by Part Number Type
Figure 602 (Sheet 3)

3. Wire Type Options

A. Figure 603 Usage

(1) Find the EDP code of the specified wire in the EDP Code column.

(2) Check the model columns for an X to determine to which model(s) the code applies.

(3) Read the optional wire EDP code and part number in the Optional Code and Optional Code Description columns.

NOTE: Where more than one option is listed for a model, the options are listed in order of preference.

Where wire gages are listed in the Remarks column, only those gages listed are approved for use.

B. If there is question about any wire option, contact Boeing Customer Service Engineering for the most accurate and current information.

| EDP Code | 737 | 747 | 757 | 767 | 777 | Optional Code | Optional Code Description (Wire Part Number or Vendor Specification) | Remarks |
|---|---|---|---|---|---|---|---|---|
| BE | | | | | x | HQ | BMS 13-60 Type XI Class 2 | |
| BG | | X | | X | | HA | BMS 13-60 Type VII Class 1 | |
| BG | | X | | | X | EA | BMS 13-31 Type I Class 1 | |
| BJ | X | | | | | EC | BMS 13-31 Type I Class 3 | |
| BJ | | X | | X | | HA | BMS 13-60 Type VII Class 1 | |
| BZ | | | | | X | HR | BMS 13-60 Type XI Class 3 | |
| CO | | | | | X | HS | BMS 13-60 Type XI Class 4 | |
| EA | X | | X | | | 86 | BMS 13-31 Type I Class 1 | AWG 1/0,2,4,6 |
| EA | X | | X | | | W3 | BMS 13-31 Type I Class 1 | |
| CW | | X | | X | | CW | 65B47866-5 Thermax | Shielded |
| FL | | X | | X | | D2 | 550-292, Thermax | Double shield & Jacketed |
| RJ | | X | | X | X | RJ | 65B47866-4 | Limited to Temp Grade C or Lower |
| RJ | | X | | X | X | RJ | 16833, Endevco | Limited to Temp Grade C or Lower |
| RQ | | X | | X | | RQ | SS72016, Thermax | |
| RQ | | X | | X | | RQ | 72016, Thermax | |

Wire Options by Wire EDP Type Code
Figure 603 (Sheet 1)

| EDP Code | 737 | 747 | 757 | 767 | 777 | Optional Code | Optional Code Description (Wire Part Number or Vendor Specification) | Remarks |
|---|---|---|---|---|---|---|---|---|
| UZ | | X | | X | | UZ | 852-4000303, Specialty | |
| UZ | | X | | X | | UZ | 852-4000311, Pirelli | |
| UZ | | X | | X | | UZ | 252-94102, Galite | |
| UZ | | X | | X | | UZ | WC94102, Revere | |
| WE | | X | | | | WE | 16833 Endevco | Low Noise, AWG 20, Use Limited |
| WE | | X | | X | | WE | 65B47886-4 | Shielded, Use to Temperature Grade C or Lower |
| XV | | X | | X | | XV | WC94102 Revere | Al-Ch |
| XV | | X | | X | | XV | 252-94102 Galite | Al-Ch |
| XV | | X | | X | | XV | 852-4000303 Pirelli | Al-Ch |
| XV | | X | | X | | XV | 852-4000311 Pirelli | Al-Ch |
| XY | | | | X | | XY | 852-4106803 Pirelli | Al-Ch, Shielded |
| 6A | | X | | X | | PA | BMS 13-48 Type X Class 1 | |
| 7A | | X | | X | | HL | BMS 13-60 Type X Class 1 | |
| 7C | | X | | X | | HM | BMS 13-60 Type X Class 2 | |
| 7D | | X | | X | | HN | BMS 13-60 Type X Class 3 | |

Wire Options by Wire EDP Type Code
Figure 603 (Sheet 2)

| EDP Code | 737 | 747 | 757 | 767 | 777 | Optional Code | Optional Code Description (Wire Part Number or Vendor Specification) | Remarks |
|---|---|---|---|---|---|---|---|---|
| 7E | | X | | X | | HT | BMS 13-60 Type X Class 4 | |
| 7F | | X | | X | | HP | BMS 13-60 Type XI Class 1 | |
| 7G | | X | | X | | HQ | BMS 13-60 Type XI Class 2 | |
| 7H | | X | | X | | HR | BMS 13-60 Type XI Class 3 | |
| 9D | | X | | X | | 9D | 13381 Teledyne | AWG 20 |
| 9M | | | | X | | 9M | 24-00517 Champlain | Red, Nonasbestos |
| 9N | | | | X | | 9N | Filotex Type TMF | |
| 9N | | | | X | | 9N | 24-00523 Champlain | Red, Nonasbestos |

Wire Options by Wire EDP Type Code
Figure 603 (Sheet 3)

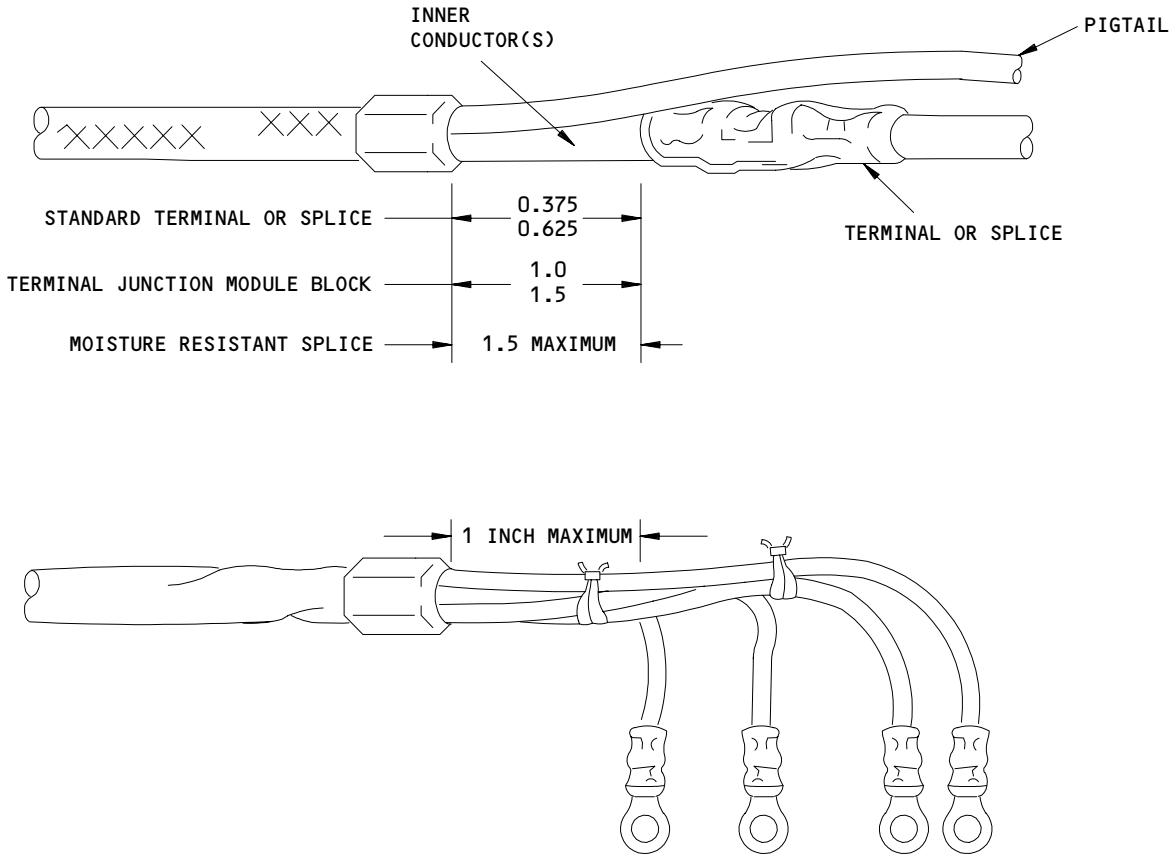
## PIGTAILING, DEAD ENDING OF SHIELDED WIRES - REPAIR 1-3

1. General Requirements

   A. Terminate shielding at connectors, terminal blocks, terminal strips, etc., per requirements of wiring diagrams.

   B. Assemble pigtail breakouts or dead-end termination with the spacing shown in Fig. 601:

      NOTE: For dimensional purposes, the point of shield termination is the point where continuous metallic covering around inner conductors end.




Shield Termination Requirements
Figure 601

C76251

C. Several pigtails grounding at a common point may be commonly terminated in a splice and a pigtail extension of size 20 wire connected between the splice and the ground termination. Make pigtail extensions of the same type wire as the wire.

D. Locate pigtail breakouts and dead-ends within 1-1/2 inches of the connector shell or cable clamp, as applicable, except for connectors with removable grommets. At connectors with removable grommets, which require sliding the grommet back on the wire bundle to allow contacts to be soldered (or inserted), terminate the shielding within 4 inches of the grommet in the assembled connector.

E. Pigtail breakouts should be prepared using the same type, size wire to match the existing pigtails.

F. Mechanical crimp type ferrules shall be used for all wire type shield termination. Solder sleeves may be used optionally on BMS 13-51, BMS 13-16, and BMS 13-48 wire types otherwise noted herein. Where space and/or location prevents the use of solder sleeves on the airplane, mechanical crimp type ferrules shall be used.

G. Solder sleeve may be used on Raychem 44A7620-20 shielded thermocouple wire for shield terminations. Mechanical crimp type ferrules may be used optionally as follows:

(1) Inner Sleeve - BACS13S-149B, Color Code Green

(2) Outer Sleeve - BACS13S-219C, Color Code Blue (Dead-Ending)

(3) Outer Sleeve - BACS13S-232C, Color Code Tin (Pigtailing)

H. For 10-60875 wire, use ferrules as listed below for shield terminations:

(1) Conductor Shield

(a) Inner Sleeve - BACS13S-080B, Color Code Blue

(b) Outer Sleeve - BACS13S-128C, Color Code Blue (Dead-Ending)

(c) Outer Sleeve - BACS13S-156C, Color Code Yellow (Pigtailing)

(2) Overall Shield

(a) Inner Sleeve - BACS13S-219B, Color Code Tin

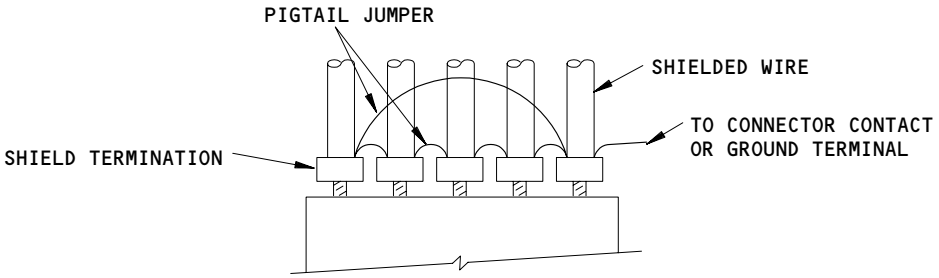
(b) Outer Sleeve - BACS13S-281C, Color Code Purple (Dead-Ending)

(c) Outer Sleeve - BACS13S-297C, Color Code Green (Pigtailing)

I. Where joining of shields with pigtails spliced together, make the connection using closed-end splices per Repair 2-3. Tie the splice breakout axially along the wire bundle.

J. Where joining the wire shields with a pigtail from ferrule to ferrule, terminate each end per par. F. (Fig. 602). For rework, closed end splices per par. I. above may be used.

K. Where five or more shields are joined together by the ferrule-to-ferrule method, add one additional pigtail to make a closed loop (Fig. 602).




Pigtail Jumping
Figure 602

C76259

L. Where pigtail jumpers are required to be grounded directly, as many as six may be crimped in a single ring tongue terminal.

M. When an unshielded twisted cable is connected to a terminal strip, carry the twist of the cable as close to the wire terminals as practicable. On bundles having multiple breakouts to terminal strips, wires of a family should be kept in the same breakout. However, family wires may be divided if routed in adjacent breakouts.

N. When a multiconductor shielded cable is connected to a terminal strip retwist the conductors after the shield has been terminated as close to the wire terminal as practicable and carry the twist as close to the wire terminals as practicable.

O. In-Line Pigtail Breakout

(1) When an in-line shield breakout is required proceed as follows:

(a) Prior to dead-ending the shield at the connector, select a BACS13BH() solder sleeve and slide over the jacketed, shielded wire. Temporarily tape the solder sleeve approximately one foot from the first end connector.

(b) Determine the position of the shield breakout.

(c) Center strip jacket from wire. Exercise care not to damage shield. Strip jacket symmetrically about breakout 1/4 ±1/32 inch to expose shield braid.

(d) Position solder sleeve symmetrically about the centerline of breakout, insert pigtail. Shrink in place.

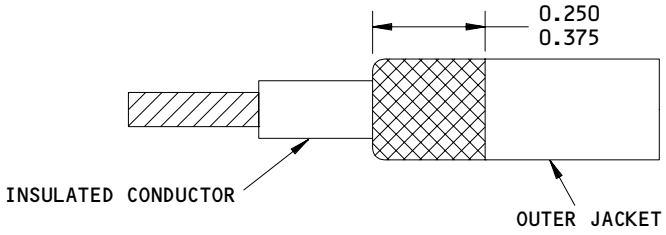
P. When terminating the shield of cable identified with a marker tape, trim the marker tape approximately flush with the cable jacket.

2. Dead-end Shielding of Coaxial Cable, Single or Multiconductor Shielded Cables

A. Remove the outer jacket over the shield braid. Use extreme caution to avoid damage to shielding and inner conductors.

NOTE: A Reon R-720 cable jacket removal tool can be used on BMS 13-51 cable.

B. Fold the shielding back over the cable jacket 1/4 to 3/8 inch (Fig. 603).




ALL DIMENSIONS ARE IN INCHES

Dead-Ending Shield
Figure 603

C76263

C. Insulate the shield dead-end with Raychem RT-876 heat-shrinkable sleeve. Select proper size sleeve to fit diameter of wire (Ref REPAIR 4-1).

3. Pigtail Breakouts of Coaxial Cable and Single or Multiconductor Shielded Cables

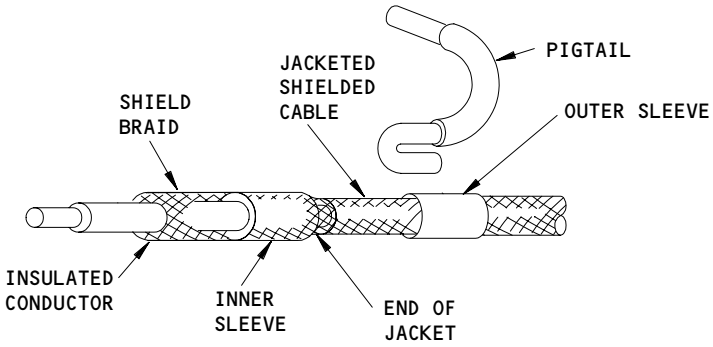
A. Remove the outer jacket over the shield braid. Use extreme caution to avoid damage to shielding and inner conductors.

NOTE: A Reon R-720 cable jacket removal tool can be used on BMS 13-51 cable.

B. Select proper size Thomas and Betts GSB-() inner sleeve and GSC-() outer sleeve to fit size wire being used. See Fig. 607 for GSB, GSC Part Numbers.

C. Slide GSC-() outer sleeve over cable and back beyond the breakout point. Flare out shield braid and slide inner sleeve under the braid to end of the outer jacket (Fig. 604).

D. Pigtail breakouts should be prepared using the same type, size wire to match the existing pigtails.



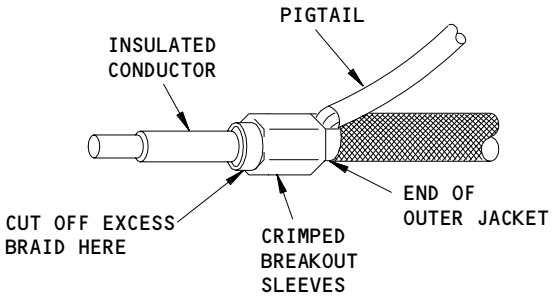

Ferrule Shield Termination Preparation
Figure 604

C80002

E. Slide the GSC-() outer sleeve over the inner sleeve and shielding. Insert the double back end of shield pigtail between shielding and GSC outer sleeve. The doubled shield pigtail must extend the full length of the sleeve to approximately flush with the end of the outer sleeve (Fig. 605).

F. Crimp the sleeves, braid and shield pigtail together using crimping tools shown in Fig. 608 or 609.

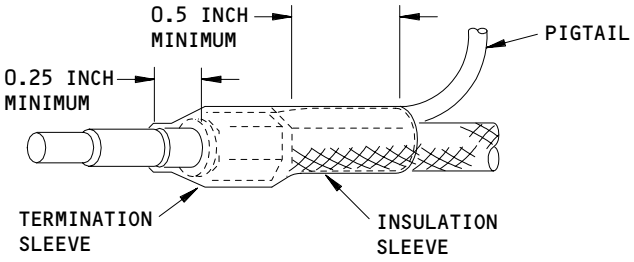
G. Cut off shield braid extending past the forward edge of the outer sleeve. Use the 1/16-inch protrusion of the inner sleeve to back-up the cutting operation.




Ferrule Shield Termination
Figure 605

C76276

H. Insulate the shield breakout with Raychem RT-876 heat-shrinkable sleeve. Select proper size sleeve to fit diameter of shield pigtail breakout (Ref REPAIR 4-1, Fig. 606).




Completed Ferrule Termination
Figure 606

C76285

| Wire or Cable Specification | Wire Size | Number of Insulated Conductors | Inner Ferrule | | Outer Ferrule | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Dead Ending | | Pigtailing | |
| | | | T&B GSB- | Color | T&B GSC- | Color | T&B GSC- | Color |
| BMS 13-28 | 18 | 1 | 124B | Green | 175C | Blue | 205C | Yellow |
| | | 2 | 225B | Yellow | 287C | Blue | 327C | Tin |
| | | 3 | 261B | Blue | 312C | Yellow | 348C | Orange |
| BMS 13-31 | 20 | 1 | 090 | Orange | 149 | Purple | 156 | Yellow |
| | | 2 | 175 | Green | 225 | Purple | 261 | Yellow |
| | | 3 | 175 | Green | 225 | Purple | 261 | Yellow |
| | | 4 | 219 | Tin | 281 | Purple | 297 | Green |
| | 18 | 1 | 109 | Red | 175 | Blue | 175 | Blue |
| | | 2 | 187 | Yellow | 261 | Yellow | 275 | Tin |
| | | 3 | 187 | Yellow | 261 | Yellow | 275 | Tin |
| | | 4 | 232 | Red | 297 | Green | 312 | Yellow |
| BMS 13-39 | 24 | 1 | 058B | Red | 101C | Tin | 128C | Blue |
| | | 2 | 090B | Orange | 149C | Purple | 187C | Orange |
| | | 3 | 109B | Red | 156C | Yellow | 187C | Orange |
| | | 4 | 109B | Red | 175C | Blue | 187C | Orange |
| | | 1 | 058B | Yellow | 101C | Tin | 128C | Blue |

Ferrule Selection Guide
Figure 607 (Sheet 1)

| Wire or Cable Specification | Wire Size | Number of Insulated Conductors | Inner Ferrule | | Outer Ferrule | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Dead Ending | | Pigtailing | |
| | | | T&B GSB- | Color | T&B GSC- | Color | T&B GSC- | Color |
| BMS 13-39 (Cont) | 22 | 2 | 101B | Yellow | 156C | Yellow | 175C | Blue |
| | | 3 | 109B | Red | 175C | Blue | 187C | Orange |
| | | 4 | 149B | Blue | 205C | Yellow | 232C | Orange |
| | 20 | 1 | 063B | Red | 128C | Blue | 128C | Blue |
| | | 2 | 124B | Green | 175C | Blue | 199C | Tin |
| | | 3 | 134B | Orange | 175C | Blue | 205C | Yellow |
| | | 4 | 165B | Tin | 261C | Yellow | 275C | Tin |
| | 18 | 1 | 071B | Green | 128C | Blue | 149C | Purple |
| | | 2 | 134B | Orange | 205C | Yellow | 205C | Yellow |
| | | 3 | 149B | Blue | 205C | Yellow | 232C | Orange |
| | | 4 | 187B | Yellow | 1261C | Yellow | 297C | Green |
| | 16 | 1 | 080B | Blue | 128C | Blue | 156C | Yellow |
| | | 2 | 149B | Blue | 232C | Orange | 232C | Orange |
| | | 3 | 165B | Tin | 261C | Yellow | 275C | Tin |
| | | 4 | 219B | Tin | 281C | Purple | 297C | Green |

Ferrule Selection Guide
Figure 607 (Sheet 2)

| Wire or Cable Specification | Wire Size | Number of Insulated Conductors | Inner Ferrule | | Outer Ferrule | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Dead Ending | | Pigtailing | |
| | | | T&B GSB- | Color | T&B GSC- | Color | T&B GSC- | Color |
| BMS 13-39 (Cont) | 14 | 1 | 096B | Purple | 156C | Yellow | 199C | Tin |
| | | 2 | 194B | Blue | 261C | Yellow | 281C | Purple |
| | | 3 | 205B | Orange | 281C | Purple | 297C | Green |
| | | 4 | 261B | Blue | 327C | Tin | 375C | Yellow |
| | 12 | 1 | 124B | Green | 175C | Blue | 199C | Tin |
| | | 2 | 232B | Red | 297C | Green | 327C | Tin |
| | | 3 | 250B | Green | 312C | Yellow | 348C | Orange |
| | | 4 | 312B | Purple | 425C | Tin | 460C | Tin |
| BMS 13-42 | 24 | 1 | 058B | Red | 101C | Tin | 128C | Blue |
| | | 2 | 090B | Orange | 149C | Purple | 187C | Orange |
| | | 3 | 109B | Red | 156C | Yellow | 187C | Orange |
| | | 4 | 109B | Red | 175C | Blue | 187C | Orange |
| | 22 | 1 | 058B | Yellow | 101C | Tin | 128C | Blue |
| | | 2 | 101B | Yellow | 156C | Yellow | 175C | Blue |
| | | 3 | 109B | Red | 175C | Blue | 187C | Orange |
| | | 4 | 149B | Blue | 205C | Yellow | 232C | Orange |

Ferrule Selection Guide
Figure 607 (Sheet 3)

| Wire or Cable Specification | Wire Size | Number of Insulated Conductors | Inner Ferrule | | Outer Ferrule | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Dead Ending | | Pigtailing | |
| | | | T&B GSB- | Color | T&B GSC- | Color | T&B GSC- | Color |
| BMS 13-42 (Cont) | 20 | 1 | 063B | Red | 128C | Blue | 128C | Blue |
| | | 2 | 124B | Green | 175C | Blue | 199C | Tin |
| | | 3 | 134B | Orange | 175C | Blue | 205C | Yellow |
| | | 4 | 165 | Tin | 261C | Yellow | 275C | Tin |
| | 18 | 1 | 071B | Green | 128C | Blue | 149C | Purple |
| | | 2 | 134B | Orange | 205C | Yellow | 205C | Yellow |
| | | 3 | 149B | Blue | 205C | Yellow | 232C | Orange |
| | | 4 | 187B | Yellow | 261C | Yellow | 297C | Green |
| | 16 | 1 | 080B | Blue | 128C | Blue | 156C | Yellow |
| | | 2 | 149B | Blue | 232C | Orange | 232C | Orange |
| | | 3 | 165B | Tin | 261C | Yellow | 275C | Tin |
| | | 4 | 219B | Tin | 281C | Purple | 297C | Green |
| | 14 | 1 | 096B | Purple | 156C | Yellow | 199C | Tin |
| | | 2 | 194B | Blue | 261C | Yellow | 281C | Purple |
| | | 3 | 205B | Orange | 281C | Purple | 297C | Green |
| | | 4 | 261B | Blue | 327C | Tin | 375C | Yellow |

Ferrule Selection Guide
Figure 607 (Sheet 4)

| Wire or Cable Specification | Wire Size | Number of Insulated Conductors | Inner Ferrule | | Outer Ferrule | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Dead Ending | | Pigtailing | |
| | | | T&B GSB- | Color | T&B GSC- | Color | T&B GSC- | Color |
| BMS 13-42 (Cont) | 12 | 1 | 124B | Green | 175C | Blue | 199C | Tin |
| | | 2 | 232B | Red | 297C | Green | 327C | Tin |
| | | 3 | 250B | Green | 312C | Yellow | 348C | Orange |
| | | 4 | 312B | Purple | 425C | Tin | 460C | Tin |
| BMS 13-48 | 24 | 1 | 058 | Yellow | 101 | Tin | 128 | Blue |
| | | 2 | 109 | Red | 156 | Yellow | 175 | Blue |
| | | 3 | 109 | Red | 156 | Yellow | 175 | Blue |
| | | 4 | 124 | Green | 175 | Blue | 194 | Red |
| | 22 | 1 | 058 | Yellow | 101 | Tin | 128 | Blue |
| | | 2 | 109 | Red | 175 | Blue | 175 | Blue |
| | | 3 | 109 | Red | 175 | Blue | 175 | Blue |
| | | 4 | 149 | Blue | 205 | Yellow | 194 | Purple |
| | 20 | 1 | 063 | Red | 128 | Blue | 128 | Blue |
| | | 2 | 128 | Tin | 187 | Orange | 199 | Tin |
| | | 3 | 128 | Tin | 187 | Orange | 199 | Tin |
| | | 4 | 175 | Green | 225 | Purple | 261 | Yellow |
| | | 1 | 080 | Blue | 128 | Blue | 149 | Purple |

Ferrule Selection Guide
Figure 607 (Sheet 5)

| Wire or Cable Specification | Wire Size | Number of Insulated Conductors | Inner Ferrule | | Outer Ferrule | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Dead Ending | | Pigtailing | |
| | | | T&B GSB- | Color | T&B GSC- | Color | T&B GSC- | Color |
| BMS 13-48 (Cont) | 18 | 2 | 149 | Blue | 205 | Yellow | 225 | Purple |
| | | 3 | 149 | Blue | 205 | Yellow | 225 | Purple |
| | | 4 | 187 | Yellow | 261 | Yellow | 275 | Tin |
| | 16 | 1 | 090 | Orange | 149 | Purple | 156 | Yellow |
| | | 2 | 175 | Green | 225 | Purple | 261 | Yellow |
| | | 3 | 175 | Green | 225 | Purple | 261 | Yellow |
| | | 4 | 205 | Orange | 281 | Purple | 287 | Blue |
| | 14 | 1 | 109 | Red | 175 | Blue | 175 | Blue |
| | | 2 | 205 | Orange | 281 | Purple | 287 | Blue |
| | | 3 | 205 | Orange | 281 | Purple | 287 | Blue |
| | | 4 | 250 | Green | 312 | Yellow | 327 | Tin |
| | 12 | 1 | 124 | Green | 175 | Blue | 194 | Red |
| | | 2 | 232 | Red | 297 | Green | 312 | Yellow |
| | | 3 | 232 | Red | 297 | Green | 312 | Yellow |
| | | 4 | 297 | Red | 348 | Orange | 325 | Yellow |
| BMS 13-51 | 24 | 1 | 058 | Yellow | 101 | Tin | 128 | Blue |
| | | 2 | 109 | Red | 156 | Yellow | 175 | Blue |
| | | 3 | 109 | Red | 156 | Yellow | 175 | Blue |
| | | 4 | 124 | Green | 175 | Blue | 194 | Red |

Ferrule Selection Guide
Figure 607 (Sheet 6)

| Wire or Cable Specification | Wire Size | Number of Insulated Conductors | Inner Ferrule | | Outer Ferrule | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Dead Ending | | Pigtailing | |
| | | | T&B GSB- | Color | T&B GSC- | Color | T&B GSC- | Color |
| BMS 13-51 (Cont) | 22 | 1 | 058 | Yellow | 101 | Tin | 128 | Blue |
| | | 2 | 109 | Red | 175 | Blue | 175 | Blue |
| | | 3 | 109 | Red | 175 | Blue | 175 | Blue |
| | | 4 | 128 | Tin | 187 | Orange | 199 | Tin |
| | 20 | 1 | 071 | Green | 128 | Blue | 149 | Purple |
| | | 2 | 124 | Green | 175 | Blue | 194 | Red |
| | | 3 | 124 | Green | 175 | Blue | 194 | Red |
| | | 4 | 149 | Blue | 205 | Yellow | 225 | Purple |
| | 18 | 1 | 071 | Green | 128 | Blue | 149 | Purple |
| | | 2 | 149 | Blue | 205 | Yellow | 225 | Purple |
| | | 3 | 149 | Blue | 205 | Yellow | 225 | Purple |
| | | 4 | 175 | Green | 225 | Purple | 261 | Yellow |
| | 16 | 1 | 080 | Blue | 128 | Blue | 149 | Purple |
| | | 2 | 149 | Blue | 225 | Purple | 225 | Purple |
| | | 3 | 149 | Blue | 225 | Purple | 225 | Purple |
| | | 4 | 187 | Yellow | 261 | Yellow | 275 | Tin |

Ferrule Selection Guide
Figure 607 (Sheet 7)

| Wire or Cable Specification | Wire Size | Number of Insulated Conductors | Inner Ferrule | | Outer Ferrule | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Dead Ending | | Pigtailing | |
| | | | T&B GSB- | Color | T&B GSC- | Color | T&B GSC- | Color |
| BMS 13-51 (Cont) | 14 | 1 | 090 | Orange | 149 | Purple | 156 | Yellow |
| | | 2 | 175 | Green | 225 | Purple | 261 | Yellow |
| | | 3 | 175 | Green | 225 | Purple | 261 | Yellow |
| | | 4 | 219 | Tin | 281 | Purple | 297 | Green |
| | 12 | 1 | 109 | Red | 175 | Blue | 175 | Blue |
| | | 2 | 219 | Tin | 281 | Purple | 297 | Green |
| | | 3 | 219 | Tin | 281 | Purple | 297 | Green |
| | | 4 | 281 | Yellow | 327 | Tin | 375 | Yellow |

Ferrule Selection Guide
Figure 607 (Sheet 9)

| Outer Ferrule T&B GSC | Dies (Letters in Parenthesis Indicate Cavity Corresponding to Mean Dimension Across Hexagonal Flats) | | | | | Mean Dimension Across Hexagonal Flats (Ref) |
|---|---|---|---|---|---|---|
| | M22520/5-() Tools | Buchanan 612648 Tools | Buchanan 613214 Tools | T&B WT-440 Tools | T&B WT-540 Tools | |
| 101 | -33 (B) | 612734 | 613812 | 4419 | - | .105 |
| 128 | -35 (B) | 612778 | 613848 | 4401 | - | .128 |
| 149 | -37 (B) | 612981<br>613844 (A) | 613003 | 4401 | - | .151 |
| 156 | -39 (B) | 612661<br>613844 (B) | 613847 | 4402 | - | .160 |
| 175 | -41 (B) | 612742<br>612663 (A) | 613849 | 4403 | - | .178 |
| 187 | -43 (B) | 612746<br>620467 (A) | 613810 | 4406 | - | .197 |
| 194 | -43 (B) | 612746<br>620467 (A) | 613810 | 4406 | - | .197 |
| 199 | -43 (B) | 612746<br>620467 (A) | 613810 | 4406 | - | .197 |
| 205 | -19 (B) | 612763<br>620467 (B) | 613851 | 4408 | - | .213 |
| 219 | -19 (B) | 612763<br>620467 (B) | 613851 | 4408 | - | .213 |

Crimping Tools with Removable Dies for Shield Termination Sleeves
Figure 608 (Sheet 1)

| Outer Ferrule T&B GSC | Dies (Letters in Parenthesis Indicate Cavity Corresponding to Mean Dimension Across Hexagonal Flats) | | | | | Mean Dimension Across Hexagonal Flats (Ref) |
|---|---|---|---|---|---|---|
| | M22520/5-() Tools | Buchanan 612648 Tools | Buchanan 613214 Tools | T&B WT-440 Tools | T&B WT-540 Tools | |
| 225 | -45 (B) | 612971 | 613005 | 4409 | - | .218 |
| 232 | -45 (A) | 612748 | 613846 | 4410 | - | .231 |
| | | 612663 (B) | | | | |
| 261 | -19 (A) | 612766 | 613850 | 4411 | - | .255 |
| 275 | -43 (A) | 612676 | 613009 | 4412 | - | .268 |
| 281 | -41 (A) | 612893 | 613011 | 4414 | - | .290 |
| 287 | -41 (A) | 612893 | 613011 | 4414 | - | .290 |
| 297 | -41 (A) | 612893 | 613011 | 4414 | - | .290 |
| 312 | -39 (A) | 612978 | 613013 | 4415 | - | .309 |
| 327 | -37 (A) | 612899 | - | 4416 | - | .314 |
| 348 | -35 (A) | 612989 | - | 4417 | - | .324 |
| 359 | -33 (A) | 612992 | - | - | 5450 | .343 |
| 375 | -47 | 612969 | - | - | 5451 | .359 |
| 405 | -23 | 612739 | - | - | 5452 | .384 |
| 415 | -23 | 612739 | - | - | 5452 | .384 |
| 425 | -61 | 612807 | - | - | 5454 | .429 |
| 460 | -53 | 612909 | - | - | 5456 | .454 |
| 500 | -21 | 612977 | - | - | 5457 | .475 |

Crimping Tools with Removable Dies for Shield Termination Sleeves
Figure 608 (Sheet 2)

| Outer Ferrule T&B GSC | Thomas & Betts Crimping Tools (Letters in Parenthesis Indicate Cavity Corresponding to Mean Dimension Across Hexagonal Flats) | | | Mean Dimensions Across Hexagonal Flats (Ref) |
|---|---|---|---|---|
| | WT-() | WT-() | WT-() | |
| 101 | _ | 219 | 419 | .105 |
| 128 | 200-12 (A) | 200 | 400 | .128 |
| 149 | 201-03-10 (A) | 201 | 401 | .151 |
| 156 | 202-06-08 (A) | 202 | 402 | .160 |
| 175 | 201-03-10 (B) | 203 | 403 | .178 |
| 187 | 202-06-08 (B) | 20 | 406 | .197 |
| 194 | 202-06-08 (B) | 20 | 406 | .197 |
| 199 | 202-06-08 (B) | 20 | 406 | .197 |
| 205 | 202-06-08 (C) | 208 | 408 | .213 |
| 219 | 202-06-08 (C) | 208 | 408 | .213 |
| 225 | - | 209 | 409 | .218 |
| 232 | 201-03-10 (C) | 210 | 410 | .231 |
| 261 | 211-14 (A) | 211 | 411 | .255 |
| 275 | 200-12 (B) | 212 | 412 | .268 |
| 281 | 211-14 (B) | 214 | 414 | .290 |

Crimping Tools with Fixed Dies for Shield Termination Sleeves
Figure 609 (Sheet 1)

| Outer Ferrule T&B GSC | Thomas & Betts Crimping Tools (Letters in Parenthesis Indicate Cavity Corresponding to Mean Dimension Across Hexagonal Flats) | | | Mean Dimensions Across Hexagonal Flats (Ref) |
|---|---|---|---|---|
| | WT-() | WT-() | WT-() | |
| 287 | 211-14 (B) | 214 | 414 | .290 |
| 297 | 211-14 (B) | 214 | 414 | .290 |
| 312 | 215-16 (A) | 215 | 415 | .309 |
| 327 | 215-16 (B) | 216 | 416 | .314 |
| 348 | 217-18 (A) | 217 | 417 | .324 |
| 359 | 221-22 (A) | 221 | - | .343 |
| 375 | 221-22 (B) | 222 | - | .359 |
| 405 | 217-18 (B) | 218 | - | .384 |
| 415 | 217-18 (B) | 218 | - | .384 |
| 425 | - | 229 | - | .429 |
| 460 | 215-20 (B) | 220 | - | .454 |
| 500 | - | 223 | - | .475 |

Crimping Tools with Fixed Dies for Shield Termination Sleeves
Figure 609 (Sheet 2)

4. Pigtail Breakouts Using Solder Sleeve

A. Select the proper size solder sleeve per Fig. 610. Assemble per Fig. 611, 612 or 613 according to the method selected.

| Solder Sleeve | | | Dimension A Minimum Sleeve ID (inch) | Wire Bundle O.D. Solder Sleeve Will Properly Solder (inch) | |
|---|---|---|---|---|---|
| Boeing Part Number | Raychem Part Number | Remtek Part Number | | Dimension B (Minimum) | Dimension C (Minimum) |
| BACS13BH1 | D-144-00 | RTS144-00 | .110 | .04 | .11 |
| BACS13BH2 | D-144-01 | RTS144-01 | .175 | .08 | .17 |
| BACS13BH3 | D-144-02 | RTS144-02 | .280 | .15 | .28 |

Solder Sleeves
Figure 610

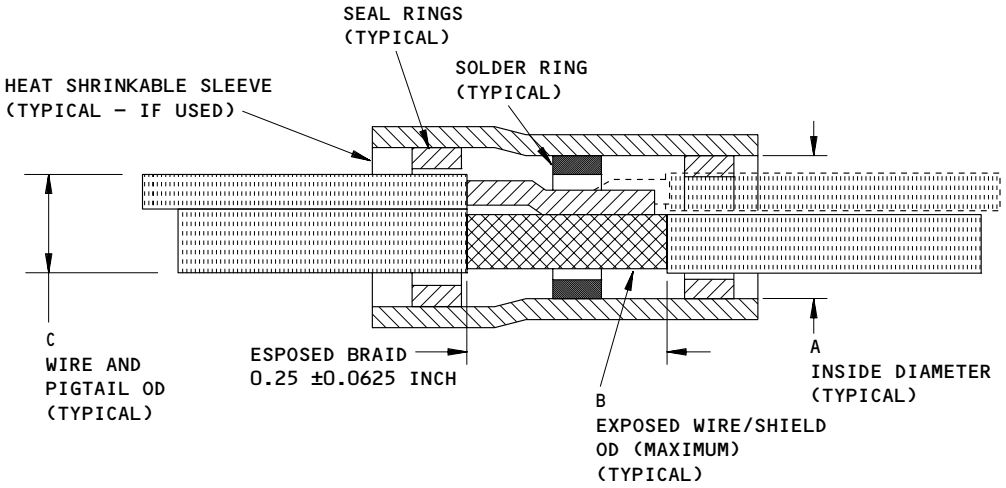
CAUTION: DO NOT ALLOW STRANDS TO PENETRATE THE BRAID, OR A SHORT CIRCUIT MAY DEVELOP.

B. Form the pigtail strands to the exposed braid, if required to allow solder to flow properly or to ensure that pigtail conductor lies flat against the shield braid.

C. Position the solder sleeve over the pigtail and center it over the exposed portion of the braid. To avoid heat concentration which might split or otherwise damage the solder sleeve, the end of the pigtail insulation should be positioned approximately even with the inner edge of the seal ring (Fig. 611, 612 or 613).

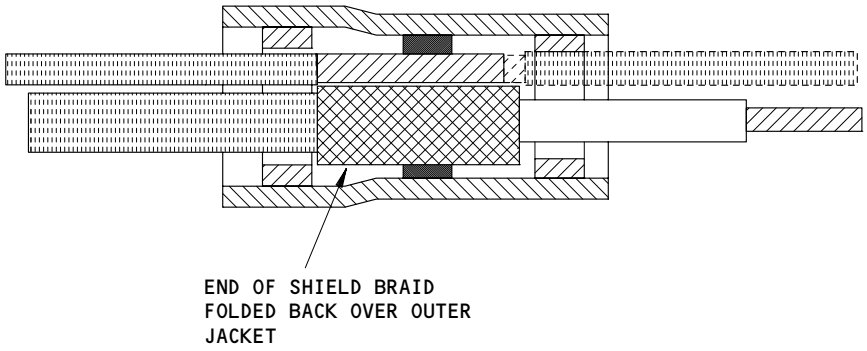
NOTE: Relative position of the solder sleeve, pigtail wire and shield braid must be maintained during assembly.

D. Shrink the solder sleeve.



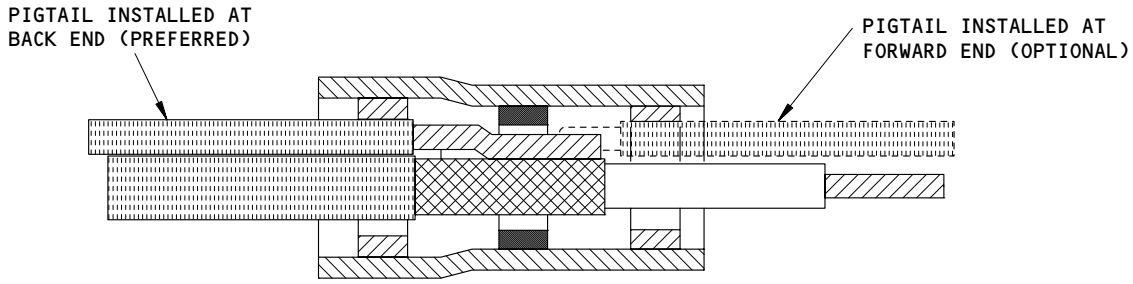

Solder Sleeve Termination Method 1: Center Strip
Figure 611

C80064




Solder Sleeve Termination Method 2: Shield Fold Back
Figure 612

C80067

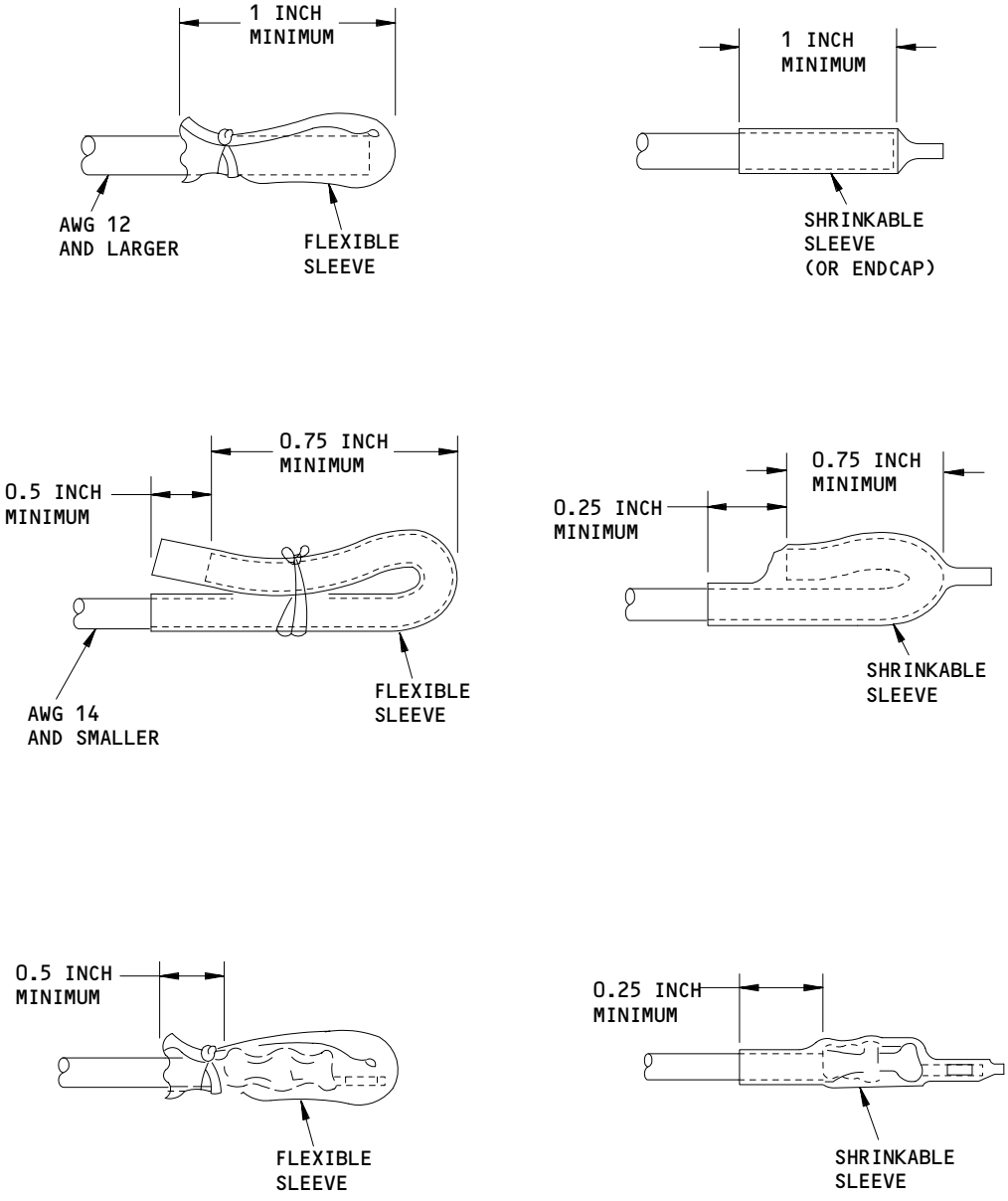



Solder Sleeve Termination Method 3: Basic
Figure 613

C76312

5. Wire Ends and Terminals, Unattached

A. Wires or terminals remaining unconnected must be insulated before any "power on" condition exists (Fig. 614).




Insulation Methods of Unconnected Wires or Terminals
Figure 614

(1) Sleeving depending on temperature and fluid restriction, may be shrunk or tied over wire end or terminal.

(2) End Cap

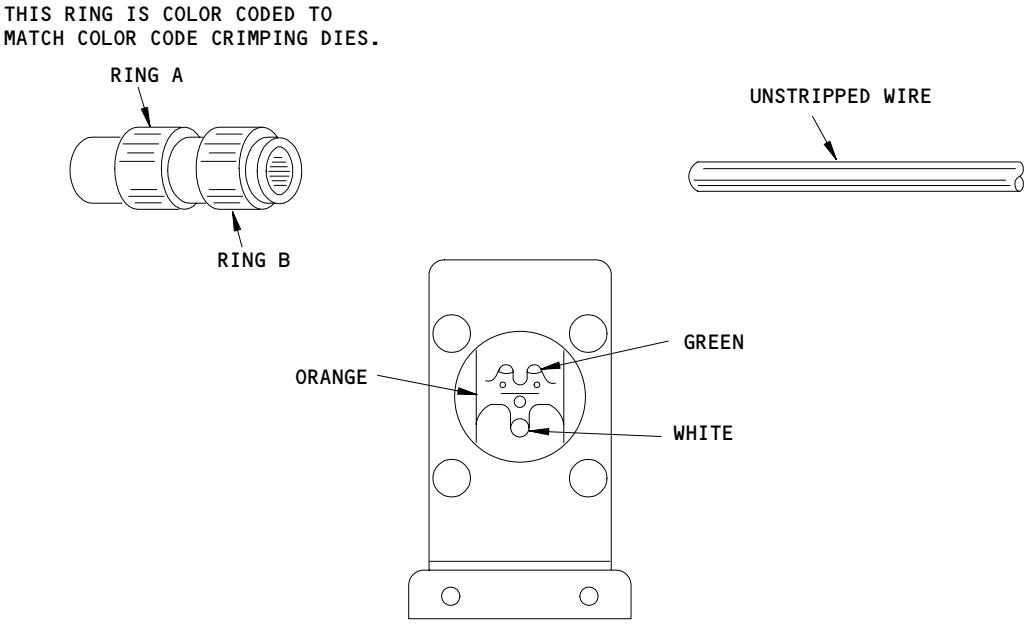
(a) End cap depending on temperature restrictions, may be shrunk in place over the unstripped wire end.

6. AMP 328860 End Cap and 69272-1 Crimp Tool

A. AMP 328860 end cap is for use on unstripped wire in D Temperature Zones.

(1) Open crimping dies by closing handle until ratchet releases.

(2) Place cap in matching color coded dies. Ring "B" on cap must match die color code (Fig. 615 and 616).




CRIMPING DIE
COLOR CODES

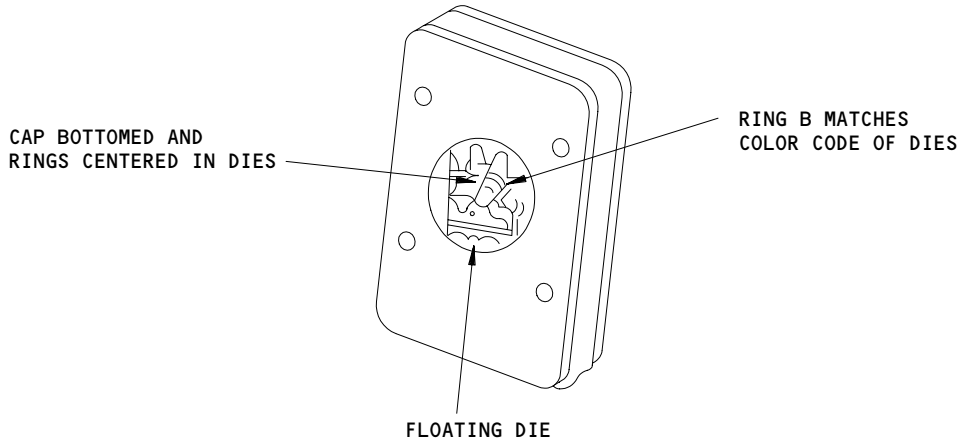
Temperature Zone D Endcap Selection
Figure 615

C80057

(3) Center rings in crimping dies. Close handles until cap is held firmly in place. Do not deform cap (Fig. 616).

(4) Insert unstripped wire all the way into cap.

(5) Close handles until ratchet releases.




Temperature Zone D Endcap Tool Usage
Figure 616

C76390

DUAL GROUND INSTALLATION - REPAIR 1-4

1. Dual grounds are installed per Fig. 601 and as follows:

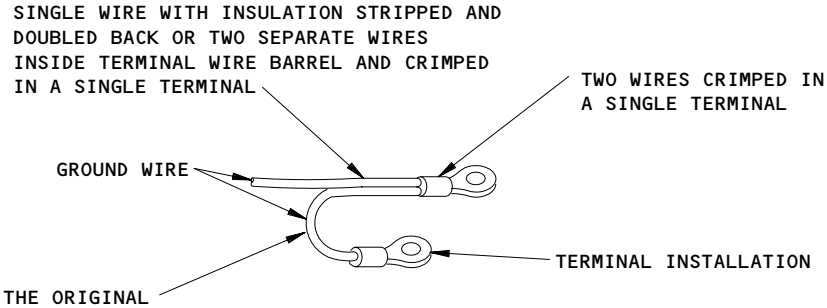
   A. Identification of the jumper wire is not required for jumper wires 6.00 inches or less in length.

   B. Space the two ground point holes 2.75 ±0.06 inches apart wherever possible to standardize the length of jumper.

   C. Identify the two ground points of the dual ground with a single "GD" equipment number indicated by the bundle assembly.

   D. When sleeving is required for the dual ground assembly, sleeve only the primary wire. Sleeving of the jumper or secondary wire is not required.

   E. Two ground wires may be combined into one grounding lug together with the pigtail to achieve a "dual terminated ground" as shown in Fig. 602.



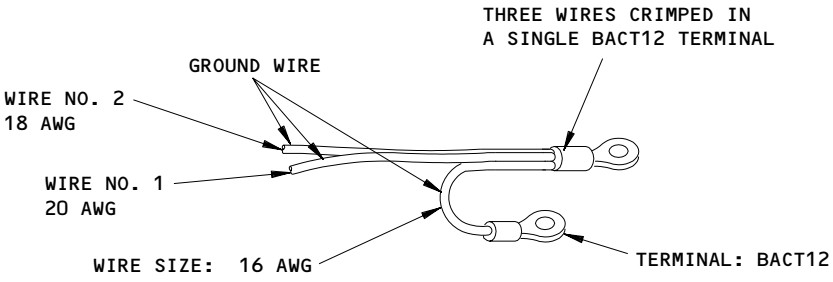

WIRE SIZE: SAME AS THE ORIGINAL WIRE OR ONE SIZE LARGER

WIRE LENGTH: 4.50 ±0.06 INCH UNLESS DIFFERENTLY NOTED ON BUNDLE ASSEMBLY DRAWING

NOTE: USE SAME WIRE TYPE AS ORIGINAL WIRE. IF ORIGINAL WIRE IS SHIELDED WIRE, WIRE TO THE SECOND GROUND STUD SHALL BE SAME AS COMPONENT WIRE OF SHIELDED WIRE. USE OF BMS 13-16 WIRE IS OPTIONAL.

Two Wire Dual Ground
Figure 601

C80080




NOTE: USE SAME WIRE TYPE AS ORIGINAL WIRE. IF ORIGINAL WIRE IS SHIELDED WIRE, WIRE TO THE SECOND GROUND STUD SHALL BE SAME AS COMPONENT WIRE OF SHIELDED WIRE. USE OF BMS 13-16 WIRE IS OPTIONAL.

Three Wire Dual Terminated Ground
Figure 602

C76408

BACT12AC TERMINAL - REPAIR 2-1

1. Select the terminal from Fig. 601 and crimp, using tooling listed in Fig. 602 or 603.

| Crimp Barrel Size | Insulation Color | CAU RANGE Min | CAU RANGE Max | Stud Size | Boeing Standard Number | AMP Part Number | ETC Part Number | Hollingsworth Part Number |
|---|---|---|---|---|---|---|---|---|
| 26-22 | Yellow | - | - | 2 | 43 | 323912 | - | - |
| | | | | 4 | 44 | 323914 | - | - |
| | | | | 6 | 45 | 323915 | - | - |
| | | | | 8 | 46 | 323916 | - | - |
| | | | | 10 | 47 | 324075 | - | - |
| 22-18 | Red | 7 | 24 | 4 | 48 | 320553 | AA-820-04 | R1880SN |
| | | | | 6 | 1 | 36149 | AA-820-06 | R1881SN |
| | | | | 6 | 2 | 51863 | AA-832-06 | R1885SN |
| | | | | 8 | 49 | 320551 | AA-821-08 | R1890SN |
| | | | | 10 | 3 | 361535 | AA-821-10 | R1891SN |
| | | | | 1/4 | 50 | 320571 | AA-822-14 | R1894SN |
| | | | | 5/16 | 4 | 320572 | AA-822-56 | R1895SN |
| | | | | 3/8 | 5 | 320573 | AA-826-38 | R1896SN |
| | | | | 1/2 | 51 | 328975 | - | - |
| 16-14 | Blue | 15 | 51 | 4 | 52 | 324159 | BB-823-04 | R2441SN |
| | | | | 6 | 6 | 320561 | BB-823-06 | R2442SN |
| | | | | 6 | 7 | 51864 | BB-837-06 | R1901SN |
| | | | | 8 | 53 | 51864-1 | BB-837-08 | R1902SN |

BACT12AC Terminals (Small)
Figure 601 (Sheet 1)

| Crimp Barrel Size | Insulation Color | CAU RANGE Min | CAU RANGE Max | Stud Size | Boeing Standard Number | AMP Part Number | ETC Part Number | Hollingsworth Part Number |
|---|---|---|---|---|---|---|---|---|
| 16-14 (Cont) | Blue (Cont) | 15 | 51 | 10 | 8 | 51864-2 | BB-839-10 | R1903SN |
| | | | | 1/4 | 54 | 320563 | BB-825-14 | R1906SN |
| | | | | 5/16 | 9 | 328998 | BB-825-56 | R1907SN |
| | | | | 3/8 | 10 | 320564 | BB-818-38 | R1908SN |
| | | | | 1/2 | 55 | 328849 | - | - |
| 12-10 | Yellow | 43 | 138 | 6 | 11 | 320567 | C-828-06 | R5107N |
| | | | | 8 | 56 | 320568 | C-828-08 | R5108N |
| | | | | 10 | 12 | 36161 | C-828-10 | R5109N |
| | | | | 1/4 | 57 | 320569 | C-830-14 | R5110N |
| | | | | 5/16 | 13 | 320576 | C-830-56 | R5111N |
| | | | | 3/8 | 14 | 320577 | C-840-38 | R5112N |
| | | | | 1/2 | 58 | 331467 | - | R5117N |

BACT12AC Terminals (Small)
Figure 601 (Sheet 2)

| Crimp Barrel Size | Insulation Color | CAU Range Min | CAU Range Max | Stud Size | Boeing Part Number | AMP Part Numebr | Burndy Part Number |
|---|---|---|---|---|---|---|---|
| 8 | Red | 132 | 208 | 8 | 62 | 53041 | YAEV8C-L14 |
| | | | | 10 | 15 | 324043 | YAEV8C-L |
| | | | | 1/4 | 16 | 324082 | YAEV8C-L1 |
| | | | | 5/16 | 17 | 324044 | YAEV8C-L2 |
| | | | | 3/8 | 18 | 324045 | YAEV8C-L3 |
| 6 | Blue | 209 | 331 | 10 | 19 | 324046 | YAEV6C-L1 |
| | | | | 1/4 | 20 | 324047 | YAEV6C-L |
| | | | | 5/16 | 21 | 324048 | YAEV6C-L4 |
| | | | | 3/8 | 22 | 324049 | YAEV6C-L2 |
| 4 | YELLOW | 332 | 526 | 1/4 | 23 | 324050 | YAEV4C-L |
| | | | | 5/16 | 24 | 324051 | YAEVAC-L4 |
| | | | | 3/8 | 25 | 324052 | YAEVAC-L2 |
| | | | | 1/2 | 61 | 324114 | YAEVAC-L5 |
| 2 | Red | 527 | 837 | 1/4 | 26 | 324053 | YAEV2C-L1 |
| | | | | 3/8 | 27 | 324054 | YAEV2C-L |
| | | | | 1/2 | 28 | 324055 | YAEV2C-L4 |
| 1/0 | Blue | 838 | 1195 | 1/4 | 32 | 324056 | YAEV25-G25 |
| | | | | 3/8 | 33 | 324057 | YAEV25-G24 |
| | | | | 1/2 | 34 | 324058 | YAEV25-G26 |

BACT12AC Terminals (Large)
Figure 602 (Sheet 1)

| Crimp Barrel Size | Insulation Color | CAU Range | | Stud Size | Boeing Part Number | AMP Part Numebr | Burndy Part Number |
|---|---|---|---|---|---|---|---|
| | | Min | Max | | | | |
| 2/0 | Yellow | 1196 | 1505 | 5/16 | 35 | 324083 | YAEV26-L2 |
| | | | | 3/8 | 36 | 324084 | YAEV26-L |
| | | | | 1/2 | 37 | 324085 | YAEV26-L3 |
| 4/0 | Blue | 1901 | 2310 | 3/8 | 40 | 324187 | YAEV28-G1 |
| | | | | 1/2 | 41 | 324188 | YAEV28-G2 |
| | | | | 7/8 | 42 | 324189 | YAEV28-G4 |
| | | | | 5/8 | 59 | 329151 | YAEV28-G3 |
| | | | | 3/8 | 60 | 329150 | YAEV28-G5 |

BACT12AC Terminals (Large)
Figure 602 (Sheet 2)

| Crimp Barrel Size | Insulation Color | AMP Tool Part Number |
|---|---|---|
| 26-22 | Yellow | 59275 |
| 22-18 | Red | 59250 |
| 16-14 | Blue | |
| 12-10 | Yellow | 59239 |

Crimp Tools for BACT12AC Terminals (Small)
Figure 603

| Crimp Barrel Size | Insulation Color | AMP Part Number | | Tool Unit |
|---|---|---|---|---|
| | | Die Set | Tool Head | |
| 8 | Red | 47820 | 69051 | Power Pump |
| 6 | Blue | 47821 | | |
| 4 | Yellow | 47822 | | |
| 2 | Red | 47823 | | |
| 1/0 | Blue | 47824 | 69066 | |
| 2/0 | Yellow | 47825 | | |
| 4/0 | Blue | 47918 | | |

NOTE: Use any power pump generating an operating pressure of 6000 psi minimum.

Crimp Tooling for BACT12AC Terminals (Large)
Figure 604

AMP SOLID NICKEL TERMINALS - REPAIR 2-2

1. Select the terminal according to the stud size from Fig. 601 for AMP solid nickel terminals.

2. Strip insulation so that approximately 0.060 inch of conductor is visible when the wire is fully engaged into the terminal as shown in Fig. 602. The conductor should not interfere with the nut and washer.

| Crimp Barrel Size | Stud Size | AMP Part Number | AMP Crimp Tool |
|---|---|---|---|
| 22-16 | 6 | 321892 | 46673 |
| | | | 48830 |
| | 8 | 321893 | 46673 |
| | | | 48830 |
| | 10 | 321894 | 46673 |
| | | | 48830 |
| | 8 | 321897 | 46673 |
| | | | 48830 |
| | 10 | 321898 | 46673 |
| | | | 48830 |
| | 1/4 | 322320 | 46673 |
| | | | 48830 |
| 16-14 | 6 | 322332 | 46988 |
| | | | 59294 |
| | 8 | 322337 | 46988 |
| | | | 59294 |
| | 10 | 322338 | 46988 |
| | | | 59294 |
| | 1/4 | 322341 | 46988 |
| | | | 59294 |

AMP Solid Nickel Terminals
Figure 601 (Sheet 1)

| Crimp Barrel Size | Stud Size | AMP Part Number | AMP Crimp Tool |
|---|---|---|---|
| 12-10 | 8 | 323749 | 59237 |
| | | | 59461 |
| | 10 | 323750 | 59237 |
| | | | 59461 |
| | 1/4 | 323751 | 59237 |
| | | | 59461 |

AMP Solid Nickel Terminals
Figure 601 (Sheet 2)

3. Select the tool listed in Fig. 601 to crimp the lug.

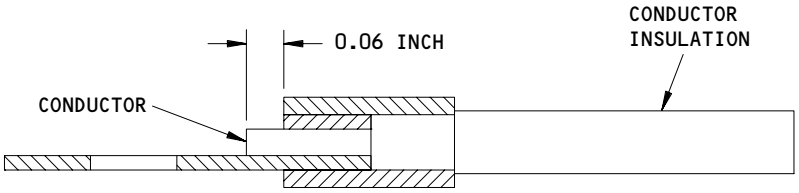
4. Set the insulation grip setting at two (2) for Champlain 24-00034 and 24-00523 wires, and Filotex 85842 (TMF-RA-1-16) wire.

5. Install one (1) inch of Teflon TFE-2X heat-shrink tubing. Position the tubing approximately 0.25 inch from the edge of the hole in the terminal as shown in Fig. 604.

6. Install Sleeving as follows:

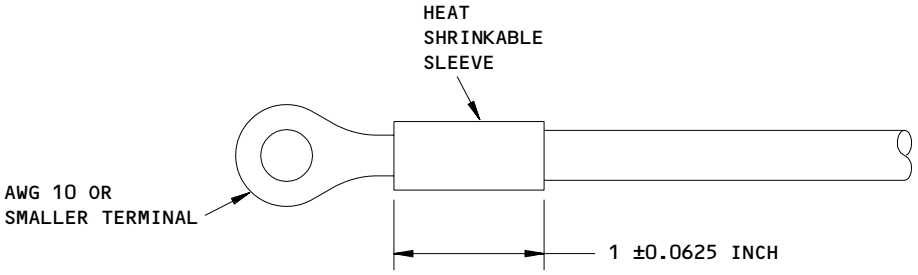
   A. Terminals for AWG 10 wire and smaller; install per Fig. 603.

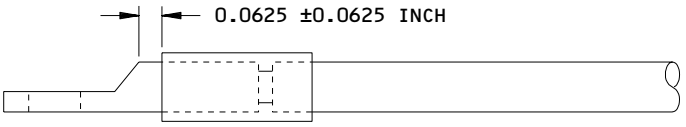
   B. Terminals for AWG 8 and larger: Install per Fig. 604.




Conductor Stripping and Placement Dimensions
Figure 602

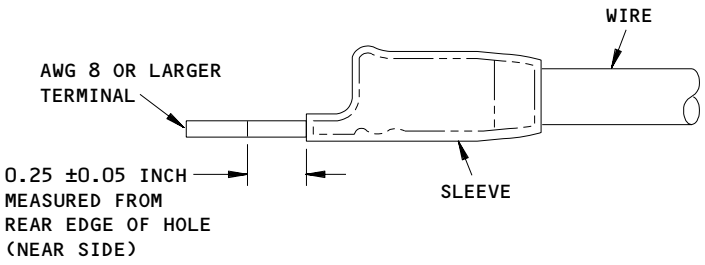
C80085




Post Insulating Terminals (AWG 10 and Smaller)
Figure 603

C76421




Post Insulating Terminals (AWG 8 and Larger)
Figure 604

C76426

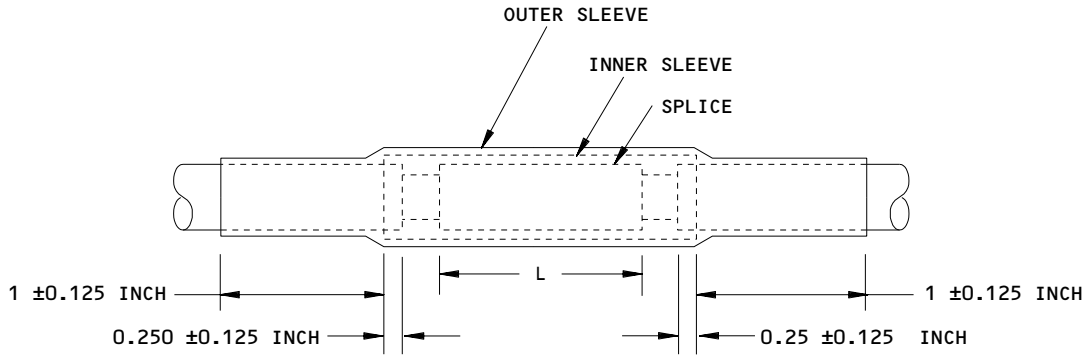
HIGH TEMPERATURE SPLICES - REPAIR 2-3

1. Where high temperature splices are required, use only BACT12C-20, -15, and -11 uninsulated copper permanent splices. Assemble per Fig. 601 and insulate with heat shrinkable sleeve per REPAIR 4-1.

CAUTION: HEAT GUNS ARE NOT EXPLOSIONPROOF. OBSERVE APPLICABLE SAFETY PRECAUTIONS.

A. Large Gage Copper to Copper Unshielded Wire Splice

(1) Where splicing of large conductors (size 8 and larger) is required, assemble and insulate per Fig. 602.




High Temperature Splice
Figure 602

C76443

| Wire Size (AWG) | Splice Part Number | Crimp Tool | Supplier |
|---|---|---|---|
| 18 through 22 | 322823 (BACT12C20) | 46673 | AMP |
| | | Y10MRE-S | Burndy |
| 16 through 14 | 322825 (BACT12C15) | 46988 | AMP |
| | | 59294 | AMP |
| | | Y10MRE-4 | Burndy |
| 10 through 12 | 323757 (BACT12C11) | 59461 | AMP |
| | | Y10MRF-4 | Burndy |

Uninsulated Splices and Crimp Tools
Figure 601

## CONNECTOR SEALING - REPAIR 3-1

1. Unused Contact Cavities

   A. Unused contact cavities shall be sealed per Fig. 601.

      NOTE: In Fig. 601, an environmental connector is one which has a resilient grommet at the rear of the connector for wire sealing.

| Connector Type | Application | | |
|---|---|---|---|
| | Pressurized Area | Unpressurized Area | Firewall |
| Environmentally Sealed | Sealing Plugs in All Grommet Holes | Spare Contacts in All Unused Cavities and Sealing Plugs in All Grommet Holes | Spare Contacts Crimped to Stub Wires in All Unused Cavities |
| Unsealed | Unused Cavities May Remain Vacant | Not Used | Not Used |

Connector Sealing Requirements
Figure 601

2. Grommet Sealing Plugs

   A. Grommet sealing plugs, where required per Fig. 601, shall be installed per this section.

   B. Teflon rod may be used in lieu of MS sealing plugs.

3. Wire Stub Assembly

   A. Wire stub assemblies, where required per Fig. 601, shall be assemblied and installed as follows:

      (1) Make wire stub assembly from BMS 13-31, Type I, Class 1, 16 AWG wire crimped to proper contact. Identification is not required.

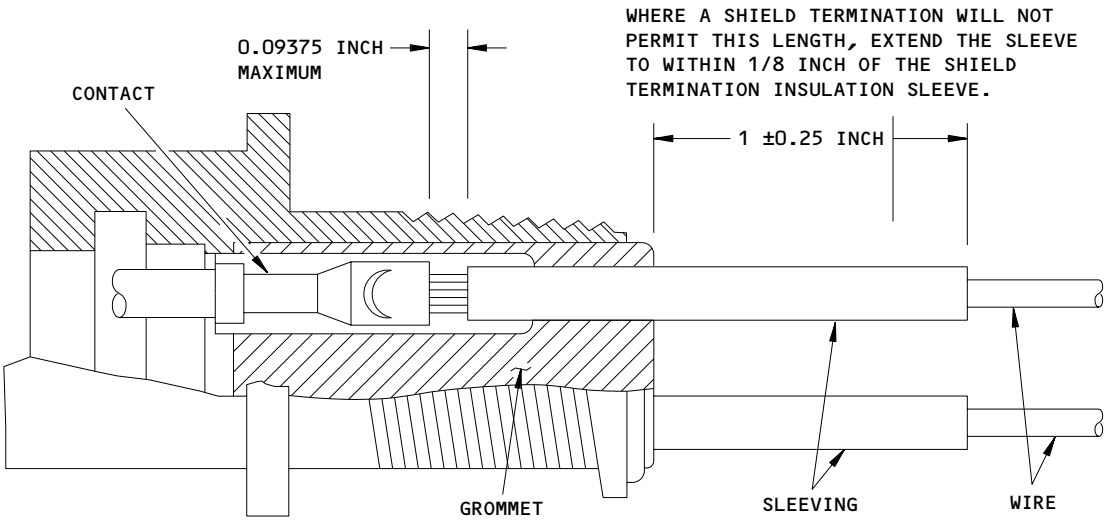
      (2) Protect ends of wire stub per REPAIR 1-3. Make the wire stubs approximately 5 to 10 inches long and, if necessary, stagger groups of stubs to prevent excessive bundle enlargement. Do not locate ends of wire stubs in conduit.

(3) Secure wire stubs within or on the surface of the wire bundle. Place one bundle tie within 3/4 inch from the end of each group of stubs and a minimum of two bundle ties between the connector and end of the shortest group of stubs.

4. Undersized Wire Insulation

A. When so specified, wire with an insulation diameter less than the lower limit of the applicable connector grommet sealing range shall be built up by the addition of heat-shrinkable sleeving.

B. One or more layers of heat-shrinkable tubing shall be applied until the wire diameter is within the grommet sealing range. RT-876 sleeving shall be used in temperature Grade A and B zones and TFE-4X sleeving shall be used in temperature Grade C and D zones. The sleeving shall be positioned as shown in Fig. 602.




Undersize Wire Sealing
Figure 602

C76452

## SHRINKABLE SLEEVING - REPAIR 4-1

1. Heat-Shrinkable Sleeving

   A. Choose a sleeve which, in the unshrunk condition, will fit loosely over the part to be insulated and will fit permanently restrained in place after shrinking.

CAUTION: HEAT GUNS LISTED IN THE MATERIALS SECTION ARE NOT EXPLOSIONPROOF. OBSERVE APPLICABLE SAFETY PRECAUTIONS.

| Ordering Size (inch) | Minimum Expanded Inside Diameter (inch) | Maximum Recovered Inside Diameter (inch) | Nominal Recovered Wall Thickness (inch) |
|---|---|---|---|
| 3/64 | .046 | .023 | .016 |
| 1/16 | .063 | .031 | .017 |
| 3/32 | .093 | .046 | .020 |
| 1/8 | .125 | .062 | .020 |
| 3/16 | .187 | .093 | .023 |
| 1/4 | .250 | .125 | .028 |
| 3/8 | .375 | .187 | .028 |
| 1/2 | .500 | .250 | .028 |
| 3/4 | .750 | .375 | .033 |
| 1 | 1.000 | .500 | .035 |
| 1 1/2 | 1.500 | .750 | .040 |
| 2 | 2.000 | 1.000 | .045 |
| 3 | 3.000 | 1.500 | .050 |
| 4 | 4.000 | 2.000 | .055 |

RT876 Sleeve Dimensions
Figure 601

B. Cut sleeve to required length. The sleeve shall, after shrinking, overlap wiring insulation of cable jacketing 3/16 to 1/2 inch on splices, terminals, connector contacts, shield termination points, dead-ends and breakouts. Allow 10 percent (maximum) additional length when cutting sleeve to make up for longitudinal shrinkage.

C. Shrink sleeving in place using hot air gun.

D. Preheat hot air gun for a minimum of 15 seconds.

E. Protect the wire insulation over which sleeve is being shrunk. Use protective devices of insulating materials, such as split teflon sleeve, or fish paper butted against, but not under, the shrinkable sleeve and covering the wire within one inch of each side of the sleeve.

F. Protect all adjacent wiring with shields such as teflon sleeves, or fish paper.

G. Hold heat gun at least three inches from the shrinkable sleeve and point it at center of sleeve.

H. Apply heat to sleeving until it shrinks into place, but do not exceed 20 seconds. Usually 5 to 10 seconds is adequate.

I. Sleeve must be fully shrunk. If not, allow 5 minutes minimum for cable to cool then repeat shrinking process.

J. Chemplast TFE 2X optional to Raychem TFE (Standard Teflon).

K. Chemplast TFE-4X optional to Raychem TFE-R (Thinwall Teflon).

L. Electronized Chemical ECC-VFP-876 optional to Raychem RT-876:

## DRAIN HOLES IN PROTECTIVE SLEEVING - REPAIR 5-1

1. Drain holes are required in protective sleeving (other than open weave) that exceeds 12 inches in length.

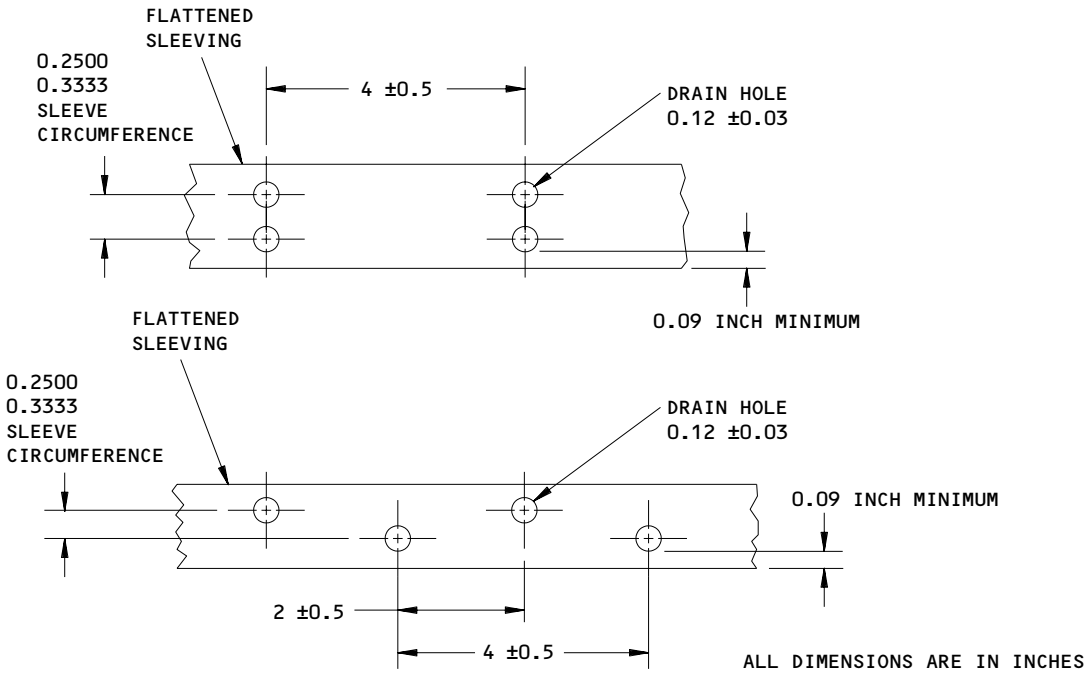
2. Drain holes are not required but are acceptable in protective sleeves 12 inches or less in length.

3. When required, drain holes shall be provided in protective sleeving as follows:

   A. Sleeving with nominal inside diameter of 0.16 inch or less need not have drain holes unless specifically specified. If drain holes are specified they shall be 0.06 inch in diameter, located along the sleeve length. The holes shall be either in pairs diametrically opposite each other with alternate pairs rotated approximately 90 degrees at 2 ±0.50 inch intervals or in groups of 4 evenly spaced around the sleeve circumference at 4 ±0.50 inch intervals.

   B. Sleeving having a nominal inside diameter of 0.19 inch or more shall have drain holes 0.12 inch in diameter, located along the sleeve length. The holes shall be either in pairs diametrically opposite each other with alternate pairs rotated approximately 2 ±0.50 inch intervals or in groups of four, evenly spaced around the circumference at approximately 4 ±0.50 inch intervals.

   C. As an option to B. above, when punching holes in flattened sleeving 0.50 inch and larger, the patterns and tolerances in Fig. 601 may be used.




Flattened Sleeving Hole Pattern
Figure 601

C76463

D. Elongated or irregular-shaped holes formed by round punching dies are acceptable.

## SAFETY WIRING OF ELECTRICAL CONNECTORS - REPAIR 6-1

1. Lockwiring of Connectors

   A. All threaded connectors used in the unpressurized area and not having "self-locking" features must be lockwired. Tighten the coupling ring hand-tight plus 1/8 turn.

   B. Safety wire connector assembly nuts to a hole in the endbell or backshell integral clamp or adapter, using double-twist method.

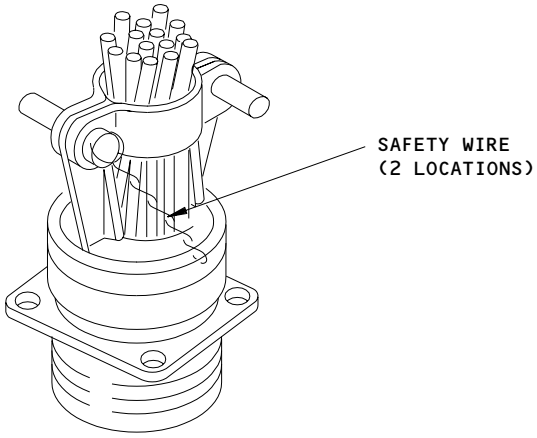
   C. The use of 0.025 inch diameter safety wire is permitted.

   D. Adjacent connector coupling rings shall not be lockwired together.

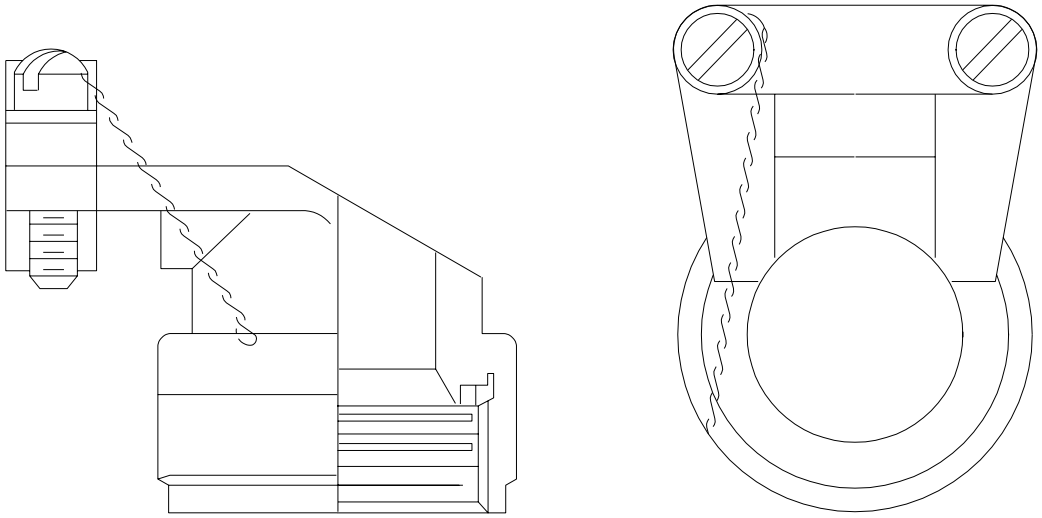
2. Lockwiring of Cable Clamps

   A. Coupling nuts of cable clamps will be lockwired only when the cable clamps are utilized for shield terminations.

   B. Saddle clamp screws on all electrical connectors located on the engine side of firewalls shall be lockwired. The use of 0.025 inch diameter safety wire is permitted (Fig. 601).




STRAIGHT CABLE CLAMP



90° CABLE CLAMP

Cable Clamp Lockwire
Figure 601

C. Safety wiring and torquing of backshells is required for the following connector/backshell combinations:

| CONNECTOR | | BACKSHELL |
|---|---|---|
| BACC63BV( ) B | With | BACC10HD( ) A *[1] |
| | or | BACC10HE( ) A *[1] |
| BACC63BV( ) F | With | BACC10HF( ) C |
| | or | BACC10HG( ) C |
| BACC63BP( ) B,D | With | BACC10HD( ) A *[1] |
| | or | BACC10HE( ) A *[1] |
| BACC63BP( ) C | With | BACC10HF( ) C |
| | or | BACC10HG( ) C |
| BACC63CB( ) | With | BACC10HF( ) C |
| | or | BACC10HG( ) C |
| BACC63CC( ) | With | BACC10HF( ) C |
| | or | BACC10HG( ) C |
| BACC63BR( ) B | With | BACC10HD( ) A *[1] |
| | or | BACC10HE( ) A *[1] |
| BACC63BT( ) B | With | BACC10HD( ) A *[1] |
| | or | BACC10HE( ) A *[1] |
| BACC63CM( ) | With | BACC10HD( ) A *[1] |
| | or | BACC10HE( ) A *[1] |
| BACC63CN( ) | With | BACC10HD( ) A *[1] |
| | or | BACC10HE( ) A *[1] |

*[1] Only when shield pigtails are terminated to saddle clamp screws.

D. Safety wiring of all connectors having RFI backshells and all non-BAC connectors having shield pigtails terminated to saddle clamp screws is required.

NOTE: Do not use thread locking compound on any of the combinations listed above, or on any backshell utilized for shield terminations.

CONNECTOR/BACKSHELL FINISH - REPAIR 7-1

1. Scratches or marks caused by tool slippage or similar mishaps severe enough to expose the base metal or underplating on connectors or termination hardware having an olive drab cadmium plated finish, may be touched up with BMS 10-79, Type III primer, provided the area damaged is not larger than 10% of the total area of the device being repaired.

ASSEMBLY

1. Assemble engine wire harness using standard industry practices, specific model engine type manual and procedures as follows:

   A. Assembly of Front Release Contact Type Connectors

   B. Assembly of MIL-C-26500 Front Release Connectors

   C. Assembly of BACC63BD/BE/BW/BY/CD/CE, ITT Cannon FRA, FRF, FVA, FVF, and other Connectors Generally Conforming to MIL-C-5015

   D. Assembly of Walter Kidde Connectors

   E. Assembly of MIL-C-83723 Series III Type Connectors

   F. Assembly of MS 345( ), and Matrix 944( ), 981( ), or 42250 Connectors

2. Assembly of front release contact type connectors

   A. General

      (1) This section contains general technical maintenance information for assembly of front release contact type connectors.

   B. Crimp Tool Operation Procedure

      (1) Select crimp tool and contact locator for contact being used. See specific connector assembly section.

   C. Installing Contact on Wire

      (1) Strip the wire as noted in the specific connector section.

      (2) Select the correct contact. See specific connector section.

      (3) Insert the stripped end of the wire in the crimp barrel of the contact making certain all conductor strands enter the barrel and that they are visible through the inspection hole.

      (4) Insert contact-wire assembly through indentor opening and into contact locator.

      (5) With the contact shoulder seated in the locator and the wire bottomed in the contact, close the handles of the crimp tool until ratchet releases.

(6) Remove the contact-wire assembly from the crimp tool.

D. Inserting Contacts into Connector

(1) Slide the cable clamp or grommet nut, if required, back over the wire bundle. This must be done to prevent damage to the grommet during insertion of contacts.

(2) Examine the contacts for straightness.

(3) Select proper insertion tool for size contact being used. See specific connector section.

CAUTION: MAKE CERTAIN OF THE FOLLOWING:
THE CORRECT CONNECTOR PARTS AND INSERTION TOOLS ARE USED.

THE INSERTION TOOL BIT IS NOT BENT, SPREAD, FLARED, OR OTHERWISE DAMAGED.

THE INSERTION TOOL BIT EDGES THAT COME INTO CONTACT WITH THE CONNECTOR INSERT ARE NOT SHARP.

ON SIZE 20 CONTACTS, THE INSERTION TOOL TIP IS AROUND THE INSULATION SUPPORT BARREL OF THE CONTACT AND NOT ON THE REAR EDGE.

(4) Insert the contact-wire assembly individually as follows:

(a) Grasp the contact, pin or socket, with the insertion tool tip by sliding the contact into the insertion tool tip.

(b) Align the contact at right angles to the back face of the grommet and carefully guide the contact through the grommet cavity until fully seated.

(c) A slight snap and increased resistance to further forward motion will be felt when the contact seats.

NOTE: DC200 or Silastic RTV Thinner may be used to lubricate the tip of the insertion tool or grommet rear face if additional lubrication is required. Do not immerse connector or contact wire assembly in the lubricant.

(5) Withdraw the insertion tool carefully from the connector.

CAUTION: TO MINIMIZE THE POSSIBILITY OF GROMMET DAMAGE, THE OPEN FACE OF THE INSERTION TOOL TIP MUST FACE OUTWARD WHEN CONTACTS ARE INSERTED IN THE OUTER ROW OF CONTACT CAVITIES.

(6) Check for proper seating of the contact by grasping each wire between the thumb and forefinger only and pulling slowly on wire until thumb and forefinger slip.

CAUTION: DO NOT INDENT WIRE WITH FINGERNAILS.

(7) If contact is not properly seated and locked, it must be removed per par. 1.E.(5) and reinstalled.

E. Removing Contacts from the Connector

(1) Remove the cable clamp, grommet nut, or adapter, if used.

(2) Select the correct contact removal tool. See specific connector section.

(3) Place the contact tool tip over the contact and into the insert cavity as follows:

(a) Make certain the removal tool is aligned axially with the contact when inserting.

(b) Do not over insert tool as the internal retention clips may be damaged. Resistance to insertion can be felt when the tool has opened the retention clips.

(c) Make certain the plunger of the tool is in the retracted position, otherwise the connector or contacts may be damaged. A gentle, rotating motion of the tool during insertion may help.

(4) With the removal tool held firmly in this position, rotate the tool slightly to ensure that it is properly seated.

(5) Advance the plunger of the tool with the knob so the contact is ejected out rear of connector. Grasp the contacts with fingers and pull free of connector. Do not use pliers to remove contacts.

NOTE: If difficulty is encountered in removing a contact, observe tool tip for correct edge taper (45 degrees).

F. Sealing Unused Grommet Holes

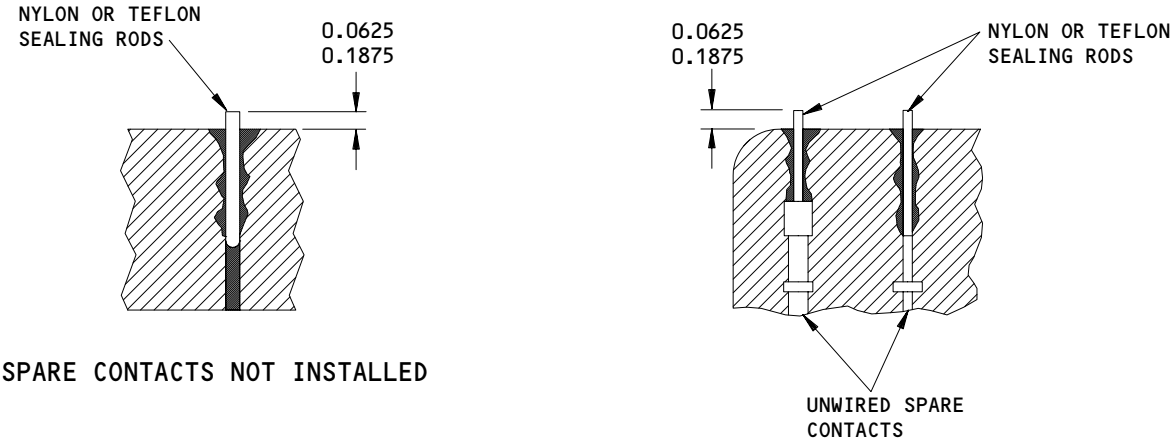
(1) In the absence of specific instructions, seal all unused grommet holes as follows:

(a) Insert grommet sealing rod into all unused grommet holes or those through which spare contacts have been inserted. Cut the rods so that they extend 1/16 to 3/16 inch beyond back surface of grommet when bottomed against the sealing rods to length shown in Fig. 701 and install in connector allowing rod extension as shown in Fig. 702.

CAUTION: DO NOT ALLOW SEALING RODS TO EXTEND TO A LENGTH WHICH INTERFERES WITH THE CABLE CLAMP.

| Contact Size | Rod Diameter (inch) | | Rod Length (inch) | |
|---|---|---|---|---|
| | Minimum | Maximum | Minimum | Maximum |
| 20 | 1/16 | 3/32 | 9/16 | 11/16 |
| 16 | 3/32 | 1/8 | 11/16 | 13/16 |
| 12 | 1/8 | 3/16 | 11/16 | 13/16 |

Sealing Rod Diameters and Lengths
Figure 701




ALL DIMENSIONS ARE IN INCHES

Typical Sealing Rod Installation
Figure 702

C76465

G. Removing Sealing Rod from the Connector

(1) Remove cable support and/or grommet nut if used. Remove sealing rods as follows:

(a) If a spare contact is not installed, grasp the free end of the sealing rod with pliers and gently pull away from the connector, axially to the grommet hole.

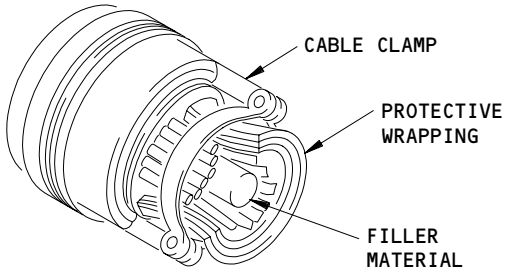
(b) If a spare contact is installed, seal rods may be pushed out by contact removal per par. 1.E.

H. Securing Cable Clamps

(1) Prior to closing the connector, form individual wires with sufficient slack within the endbell so that tightening the cable clamps will not place a strain on the terminations or cause a visible opening between the wire and the grommet sealing webs.

(2) When only a few wires are terminated in some types of miniature connectors, excessive bending of wires may occur when cable clamp is tightened, placing strain on the wires and grommet. When impractical to relieve strain by forming wires, use filler rod, tape, or a combination of both to adapt the wire bundle to the space within the clamp.

(3) The above materials shall be approximately centered beneath the strain relief clamp and shall extend a minimum of 1/16 inch on either side (Fig. 703).




Filler Rod Used Under Cable Clamp
Figure 703

C76466

(4) Protect the wire bundle with a minimum of 2 wraps of the narrowest practicable insulating or protective strip, or insulating or filler tape centered under the cable clamp extending a minimum of 1/16 inch on both sides of the clamp; do not use a spiral wrapping.

(5) For single-leg clamps, install length of PD-70 or CRN, Type I shrinkable sleeving on the leg and shrink in place.

(6) Tighten cable clamps to provide a sufficiently firm grip on the wire bundle so that normal stressing or movement of the installed wire bundle will not strain the contact terminations within the connector. Avoid any over-tightening which may stress or deform wire insulation.

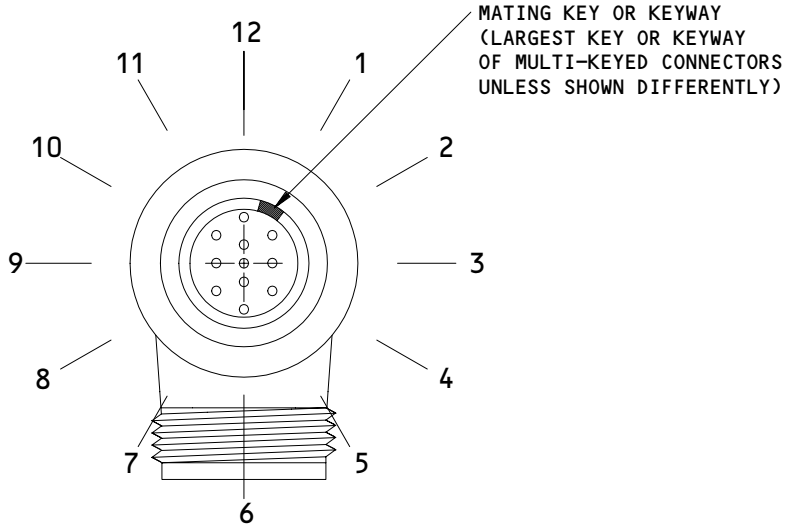
I. Securing Connector Parts

(1) Connector endbells, assembly nuts, and cable clamp adapters must be properly mated, fully seated and securely tightened to ensure reliability in service. Apply one or two drops of thread locking compound Vibratite or Locktite 222 to the attachment threads of all conduit adapter and single leg cable clamps prior to installation on connectors. Avoid any excessive tightening which would damage threads or parts of the connector.

(2) On connectors which have standard threaded assembly nuts, endbells, or separate cable clamps, tighten the parts by hand, then tighten slightly beyond "hand tight" (maximum 1/8 turn) with tool AT 508K, Aircraft Tools, Inc., Los Angeles, California.

(3) On connectors which are to have assembly nuts, endbells, or cable clamps safety wired, tighten securely by hand or per par. 1.I.(2).

(4) Assemble connectors with angle type endbells with the endbell in the correct clocking position ±1 hour (Fig. 704).




Clocking of Angle Endbells and Backshells
Figure 704

C76487

(5) Make checks for tightness of connector parts by hand and only in the direction of tightening. Make checks for tightness before connector parts are safety wired.

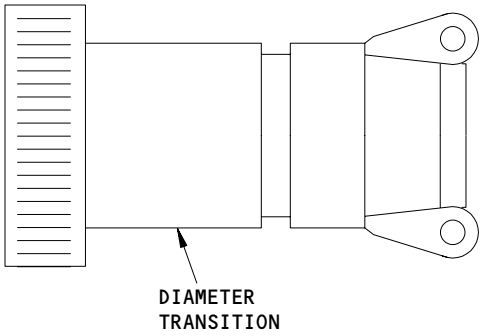
(6) Use the following procedure to tighten the various parts of RFI/EMI backshells, strain relief adapters, and shorting caps, 380-10068-( ) Boeing, on circular connectors:

(a) Torque the various parts of the backshell assemblies using the appropriate Glenair 600-006-( ) backshell assembly tool or equivalent. Hold the connector by using a Glenair 600-005-( ) connector holding tool or equivalent. Install a torque indicator in the connector holding fixture. When the backshell assembly tool does not adapt to a particular diameter, use a Glenair strap wrench TG70 to attach the torque wrench to the connector to the accessory.

(b) Torque the backshell of connector shell sizes 8 thru 18 and all other multi-part threaded backshells less than 1.19 inches in diameter to 50 ±10 inch-pounds.

(c) Torque the backshell of the connector shell sizes 20 thru 40 and all other multi-part threaded backshells of 1.19 inch diameter to 100 ±5 inch-pounds.

CAUTION: TO AVOID DAMAGE TO THE THIN WALL RFI ENDBELLS, USE THE STRAP WRENCH ONLY ON THE STRONGER AREAS OF THE ENDBELL (I.E., THE KNURLED PORTION OR THE SECTION OF THE BARREL ADJACENT TO THE DIAMETER TRANSITION AT THE CABLE CLAMP END). REFER TO FIG. 705 FOR ILLUSTRATION.




RFI Endbell Installation
Figure 705

C76489

3. Assembly of MIL-C-26500 Front Release Connectors

A. The procedures to assemble the noted MIL-C-26500 connectors follow:

| | |
|---|---|
| BACC45DG | BACC63CB |
| BACC45FL | BACC63CC |
| BACC45FM | MS24264 |
| BACC45FN | MS24265 |
| BACC45FP | MS24266 |
| BACC45FR | 10-60479 |
| BACC45FS | 69B41 |
| BACC45FT | 28OTXXXX |
| BACC63X | 28OUXXXX |
| BACC63Y | CNO977 |
| BACC63AE | CNO986 |
| BACC63AF | ZZB-( ) |
| BACC63BN | ZZL-( ) |
| BACC63BP | |
| BACC63BV | |

B. The description and the location of the data in par. 3 is shown in Fig. 706.

| Description | Location | |
|---|---|---|
| | Paragraph | Figure |
| Connector Selection Procedure | 2.C. | - |
| MIL-C-26500 Connector Part Numbers | 2.C.(2) | 707 |
| MIL-C-26500 Connector Configurations | 2.C.(3) | - |
| Contact Selection Procedure | 2.D. | - |
| Contact Part Numbers | 2.D.(4) | 714 |
| Wire Preparation Procedures | 2.E. | - |
| Wire Insulation Removal Length | 2.E.(2) | 740 |
| Special Purpose Wire Preparation | 2.E.(3) | - |
| Crimping Tool Selection Procedures | 2.F. | - |
| Crimping Tool and Locator Part Numbers | 2.E.(4) | 744 thru 749 |
| Contact Insertion and Contact Removal Tool Selection Procedures | 2.G. | - |
| Contact Insertion Tool Part Numbers | 2.G.(1) | 750 |
| | | 751 |
| Contact Removal Tool Part Numbers | 2.G.(2) | 752 |
| | | 753 |
| Shielded Contacts | 2.H. | - |
| Assembly of Size 1 Shielded Contacts | 2.H.(1) | - |
| Assembly of Size 2 Shielded Contacts | 2.H.(2) | - |

Important Data in Paragraph 2
Figure 706 (Sheet 1)

| Description | Location | |
|---|---|---|
| | Paragraph | Figure |
| Installation of Size 1 and Size 2 Shielded Contacts | 2.H.(3) | - |
| Removal of Size 1 and Size 2 Shielded Contacts | 2.H.(4) | - |
| Sealing of Unused Shielded Contact Cavities | 2.I. | - |
| Coupling Ring Polarity Adapters | 2.J. | - |
| Approved Tools and Suppliers | 2.K. | - |

Important Data in Paragraph 2
Figure 706 (Sheet 2)

C. Connector Selection Procedure

(1) Recommended Selection Sequence

(a) To make a selection of a MIL-C-26500 connector to replace an existing connector, or for a new application, use the selection sequence that follows:

1) First Selection

a) The Boeing part number

2) Second Selection

a) A supplier's part number for a MIL-C-26500 connector that is interchangeable with a Boeing part number connector.

This part number gives a Boeing qualified connector that has the same performance as the Boeing part number connector.

3) Third Selection

a) The Military part number for the MIL-C-26500 connector.

(2) Connector Part Numbers

(a) Figure 707 shows the paragraphs that give the details about the part number for the MIL-C-26500 connectors in this Subject. These paragraphs give the part number details that follow:

1) The Boeing part number for a MIL-C-26500 connector

2) The supplier's part numbers for a MIL-C-26500 connector that is interchangeable with a Boeing part number connector.

NOTE: The supplier's part numbers give Boeing qualified connectors that have the same performance as the Boeing part number.

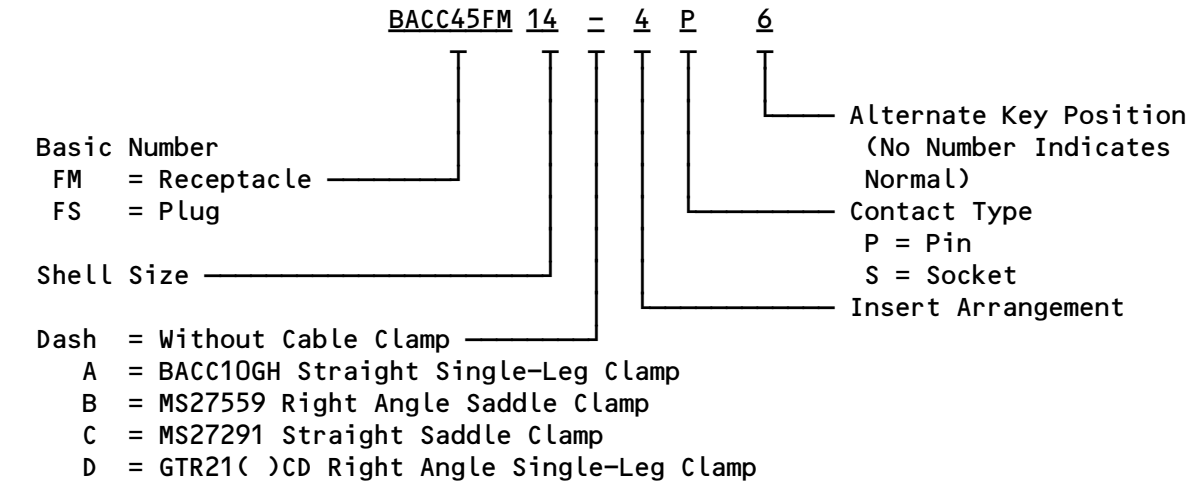
3) The Military part number for a MIL-C-26500 connector

| Boeing Part Number | Description | Paragraph |
|---|---|---|
| BACC45FM( ) | Threaded Coupling Receptacle | 2.C.(2)(b) |
| BACC45FS( ) | Threaded Coupling Plug | 2.C.(2)(b) |
| BACC45FN( ) | Bayonet Coupling Receptacle | 2.C.(2)(c) |
| BACC45FT( ) | Bayonet Coupling Plug | 2.C.(2)(c) |
| BACC63BN( ) | Bayonet Coupling, Vibration Resistant Plug | 2.C.(2)(d) |
| BACC63BP( ) | Self Locking, Threaded Coupling, Vibration Resistant Plug | 2.C.(2)(e) |
| BACC63BV( ) | Self Locking, Threaded Coupling, Vibration Resistant Receptacle | 2.C.(2)(f) |
| BACC63AE( ) | Threaded Coupling Fire Barrier Plug | 2.C.(2)(g) |
| BACC63AF( ) | Threaded Coupling Fire Barrier Receptacle | 2.C.(2)(g) |
| BACC63X( ) | Threaded Coupling Fire Barrier Plug | 2.C.(2)(h) |
| BACC63Y( ) | Threaded Coupling Fire Barrier Receptacle | 2.C.(2)(h) |
| BACC63CB( ) | Bayonet Coupling, Vibration Resistant Plug with Ground Spring | 2.C.(2)(i) |
| BACC63CC( ) | Bayonet Coupling, Vibration Resistant Receptacle | 2.C.(2)(i) |
| 280T | Bayonet Coupling Connectors | 2.C.(2)(j) |
| 280U | Bayonet Coupling Connectors | 2.C.(2)(k) |
| 10-60479( ) | Bayonet Coupling Connectors | 2.C.(2)(l) |
| - | Supplier Part Numbers with no Boeing Equivalent Part Number | 2.C.(2)(m) |

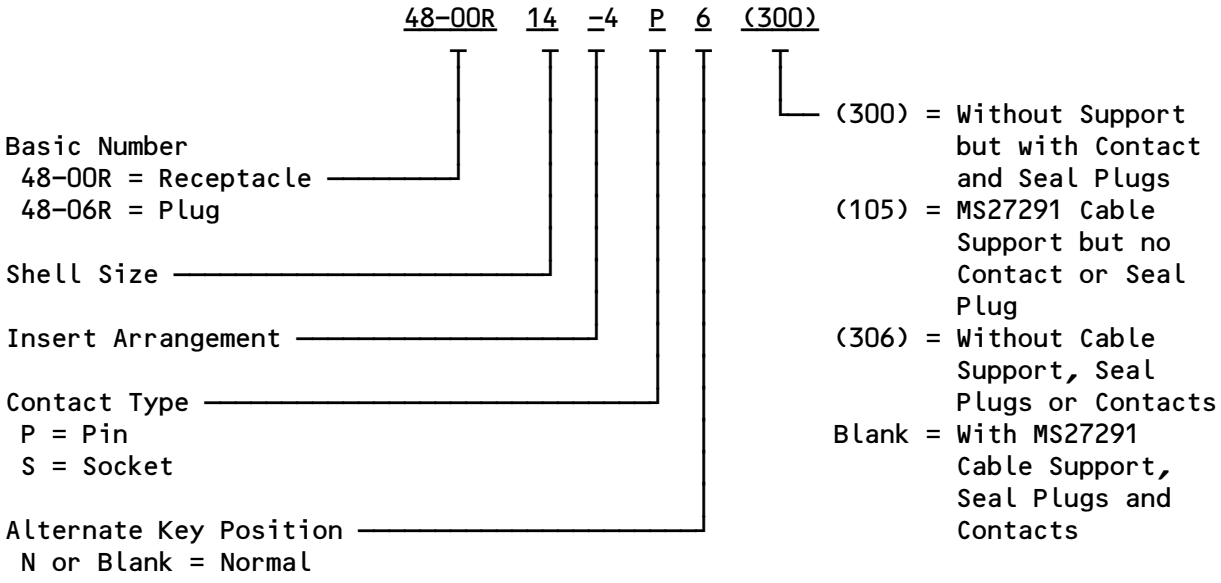
Location of MIL-C-26500 Connectors Part Numbers
Figure 707 (Sheet 1)

(b) BACC45FM and BACC45FS Threaded Coupling Connectors

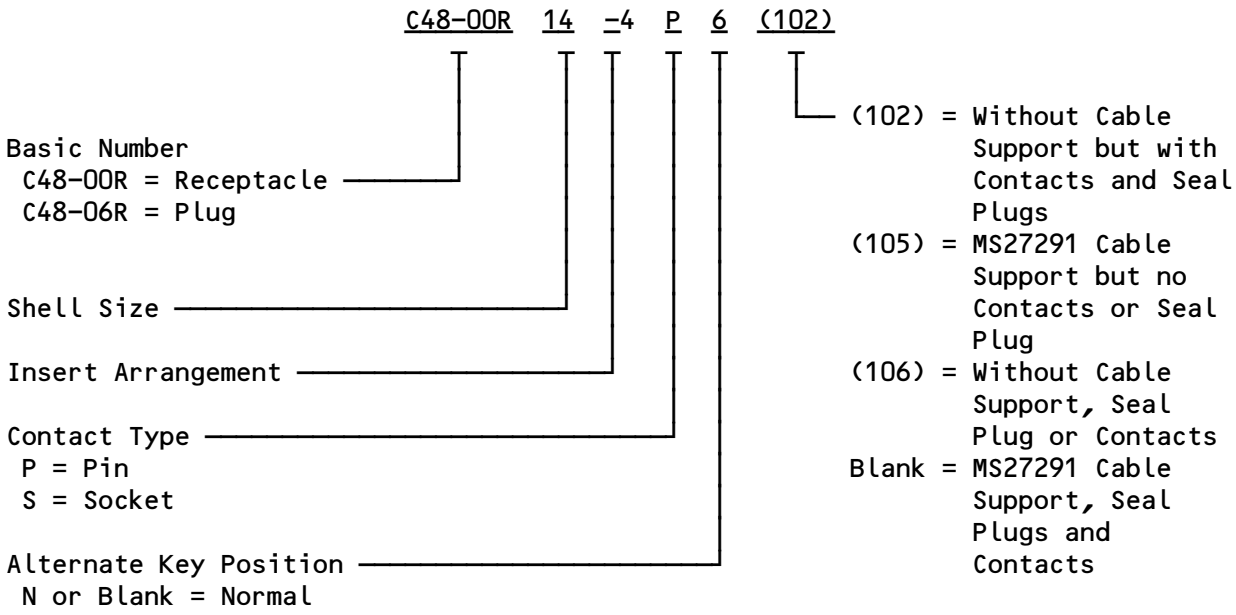
1) Boeing Part Number



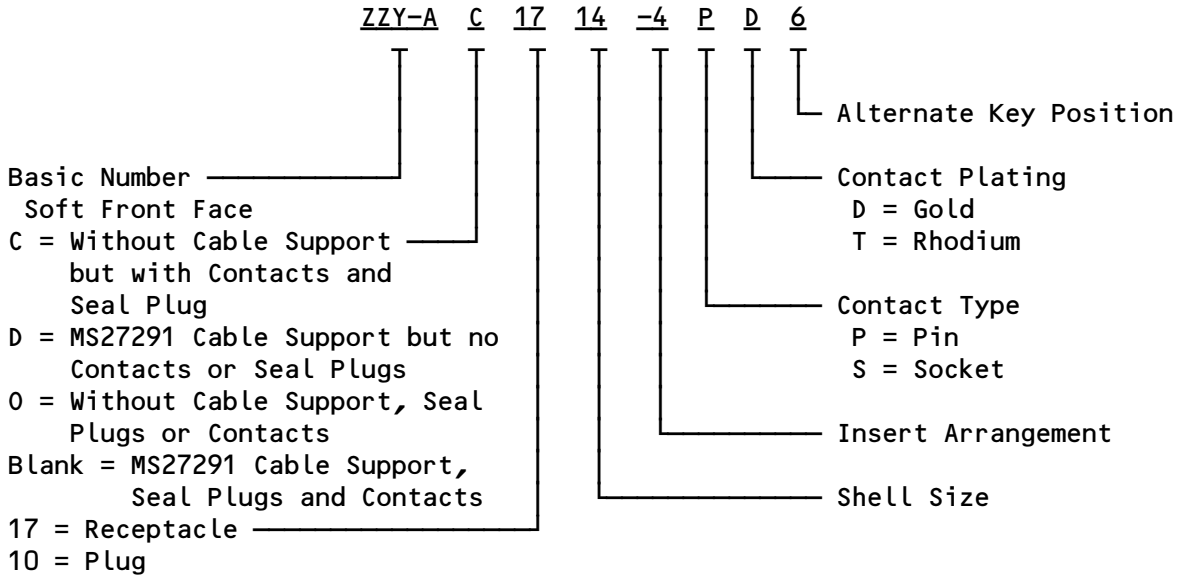

2) Amphenol Part Number



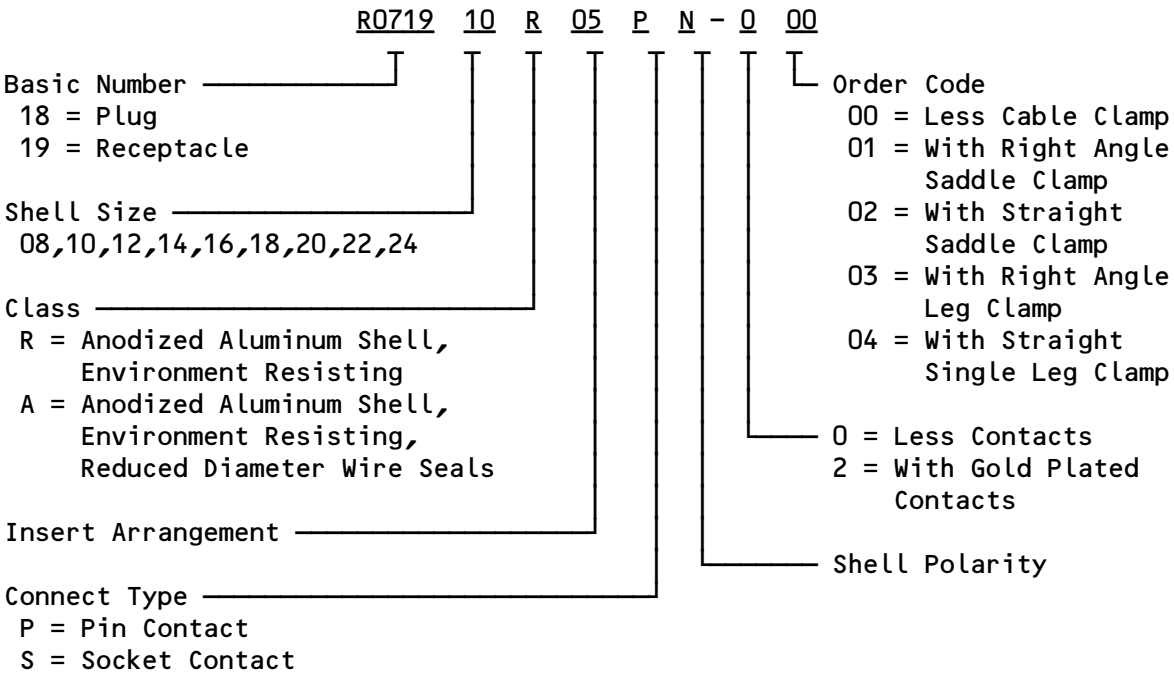
3) Cinch Connector Part Number



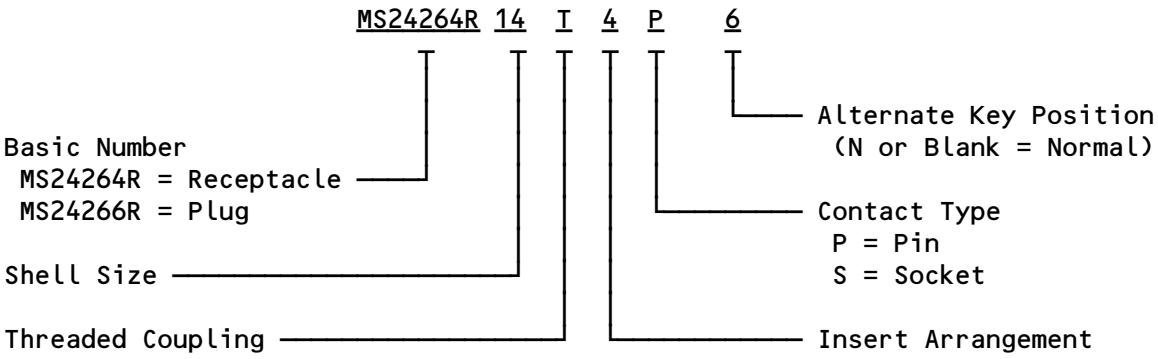

4) Pyle-National Part Numbers



5) RMS Part Number

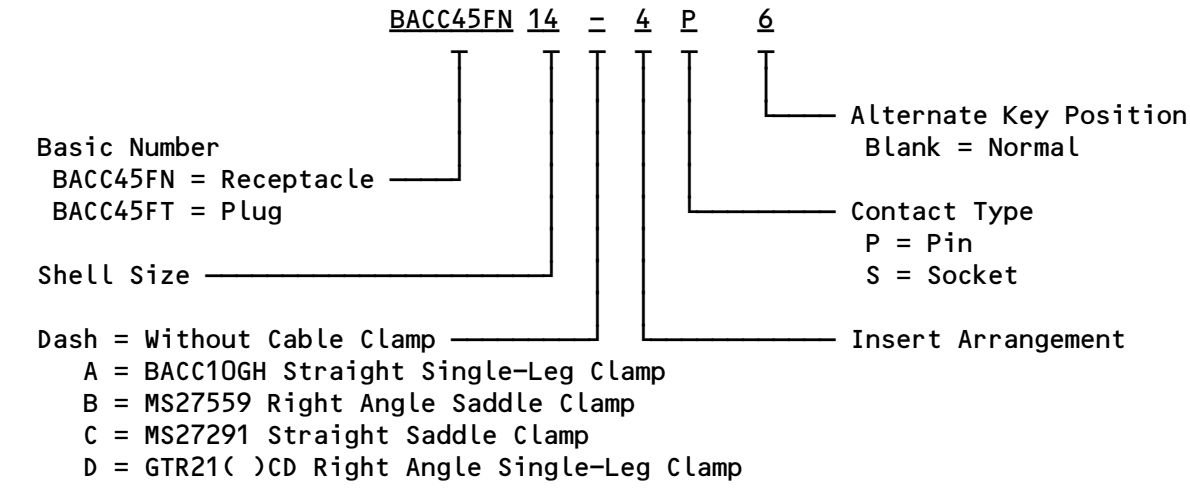



6) Military Part Number

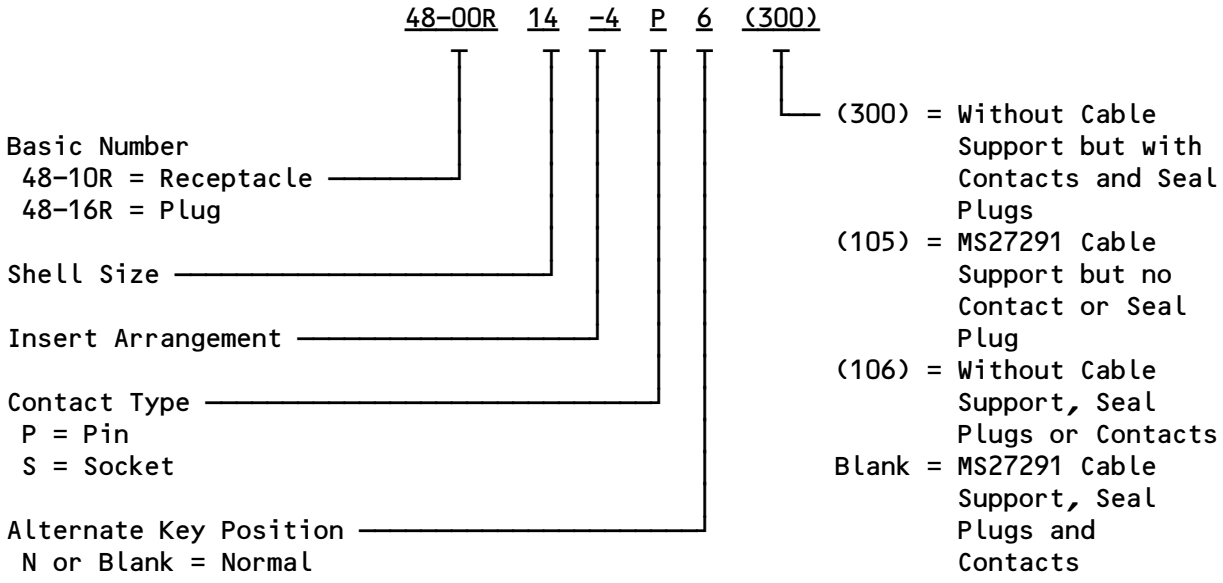


(c) BACC45FN and BACC45FT Bayonet Coupling Connectors

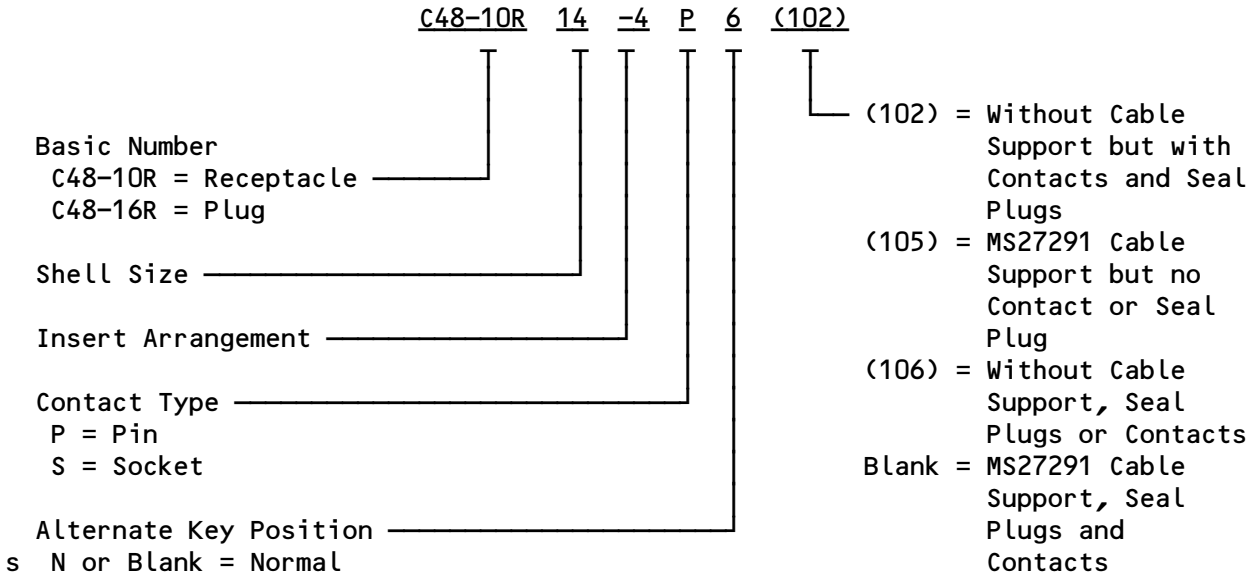
1) Boeing Part Number



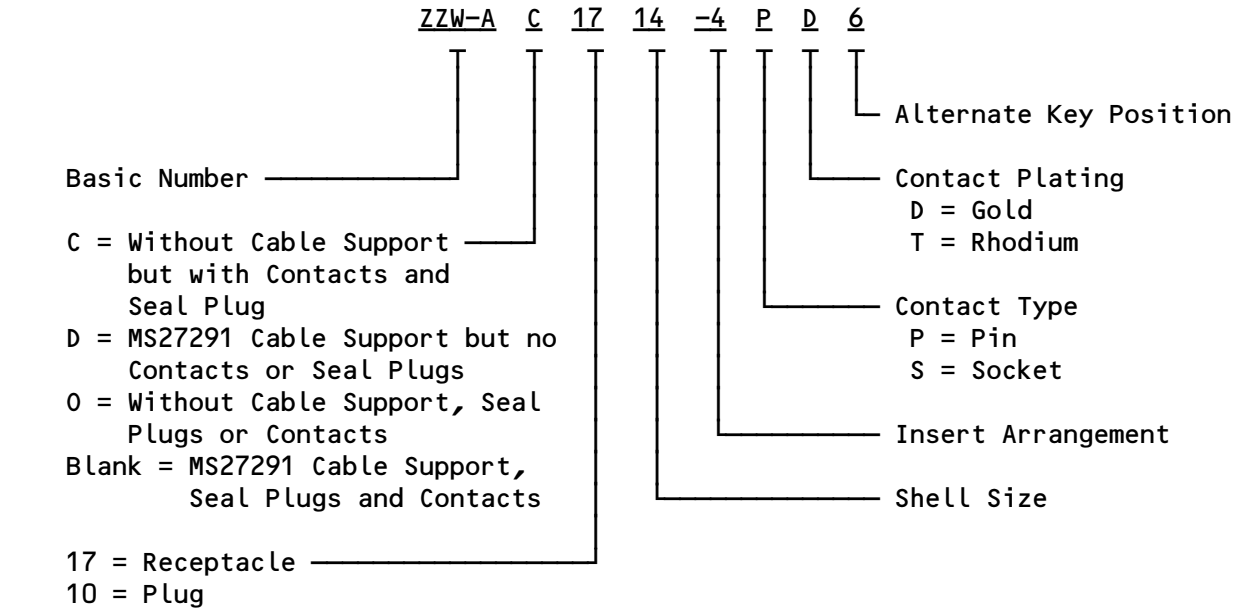

2) Amphenol Part Number



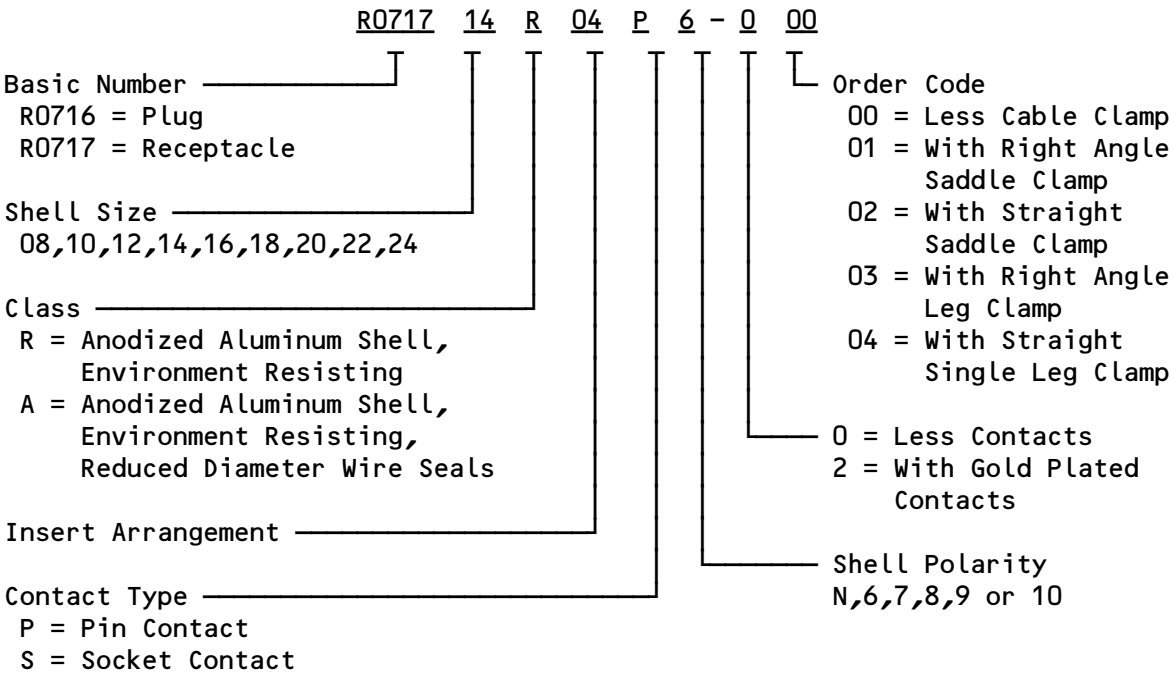
3) Cinch Connector Part Number



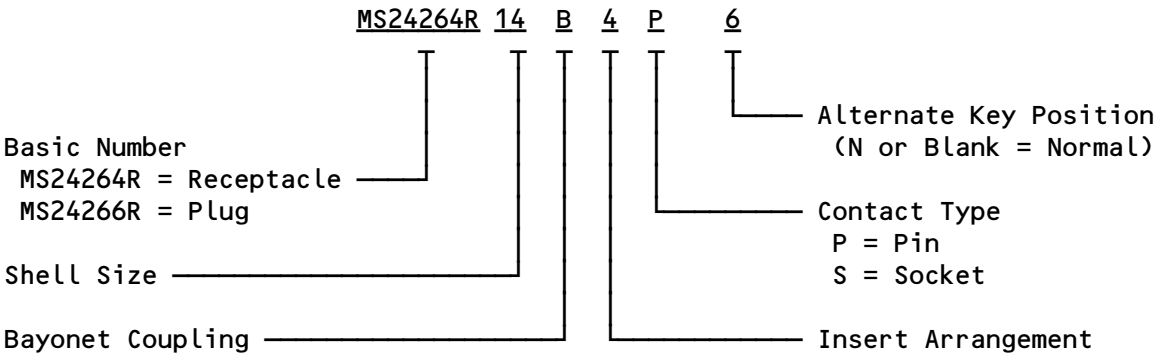

4) Pyle-National Part Number



5) RMS Part Number



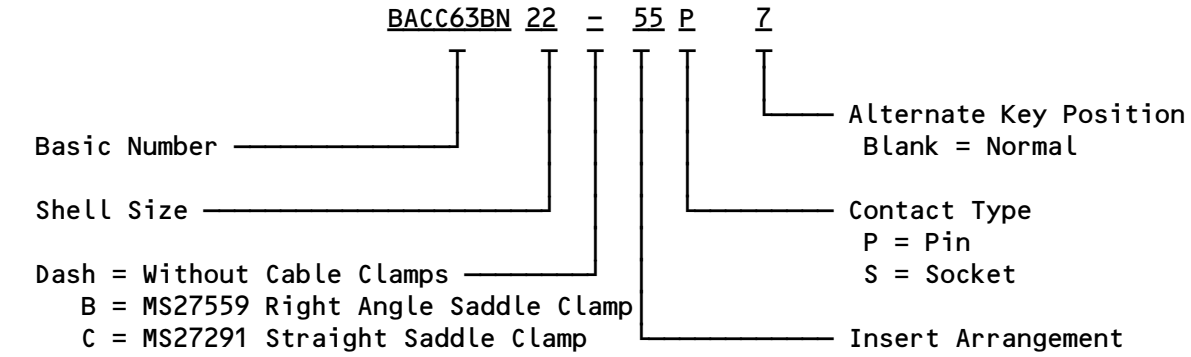

6) Military Part Number



(d) BACC63BN Bayonet Coupling Vibration Resistant Plug

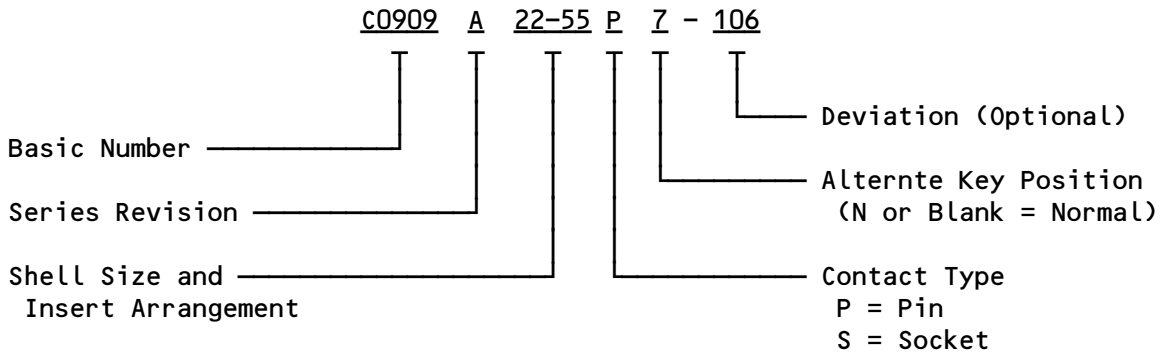
NOTE: The BACC63BN plug is the same as a BACC45FT plug; except for increased vibrational resistance. A BACC63BN plug will mate with all MIL-C-26500 type bayonet receptacles of the same shell size, the same insert arrangement, and the same key position.

1) Boeing Part Number

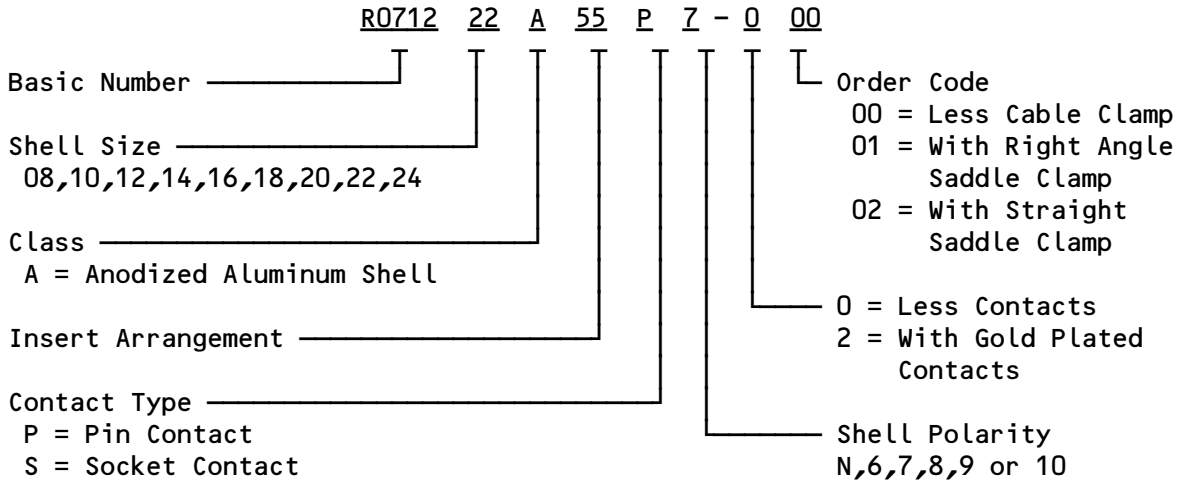



2) Amphenol Part Number

3) Cinch Connector Part Number



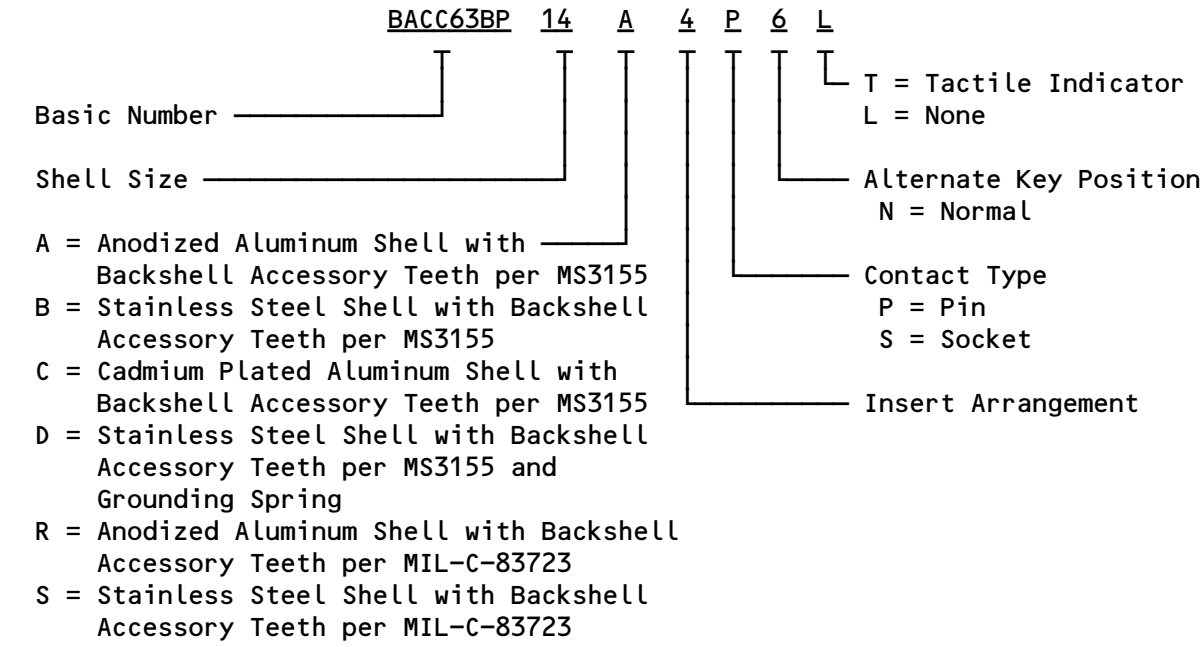

4) RMS Part Number



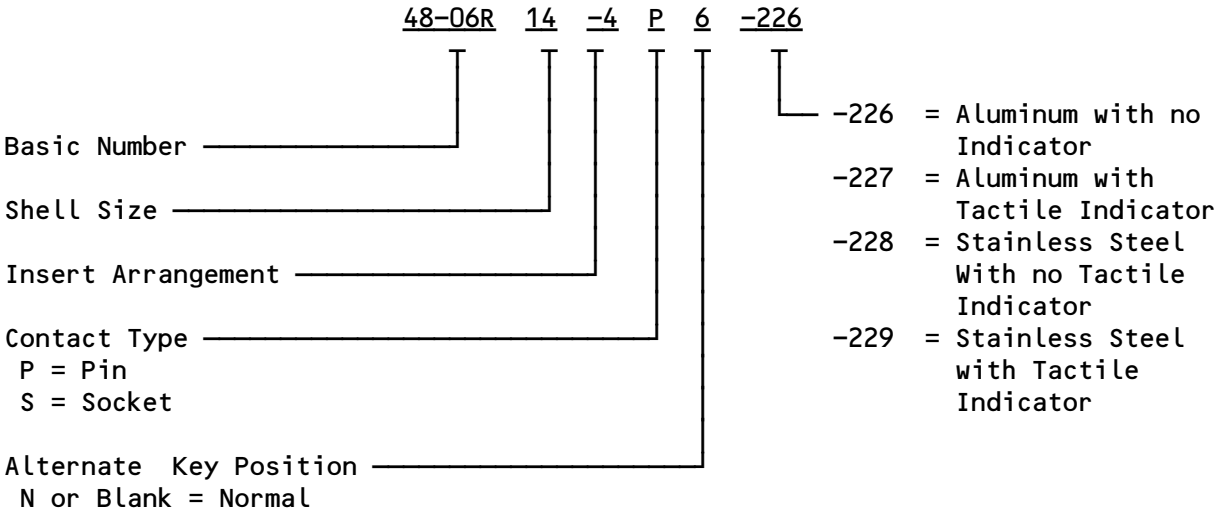
(e) BACC63BP Self-Locking, Threaded Coupling, Vibration Resistant Plug

NOTE: The BACC63BP plug is the same as the BACC45FS, except for increased vibration resistance, MS3155 rear accessory teeth, and a self-locking feature. A BACC63BP plug will mate with all MIL-C-26500 type threaded receptacles of the same shell size, the same insert arrangement and the same key position.

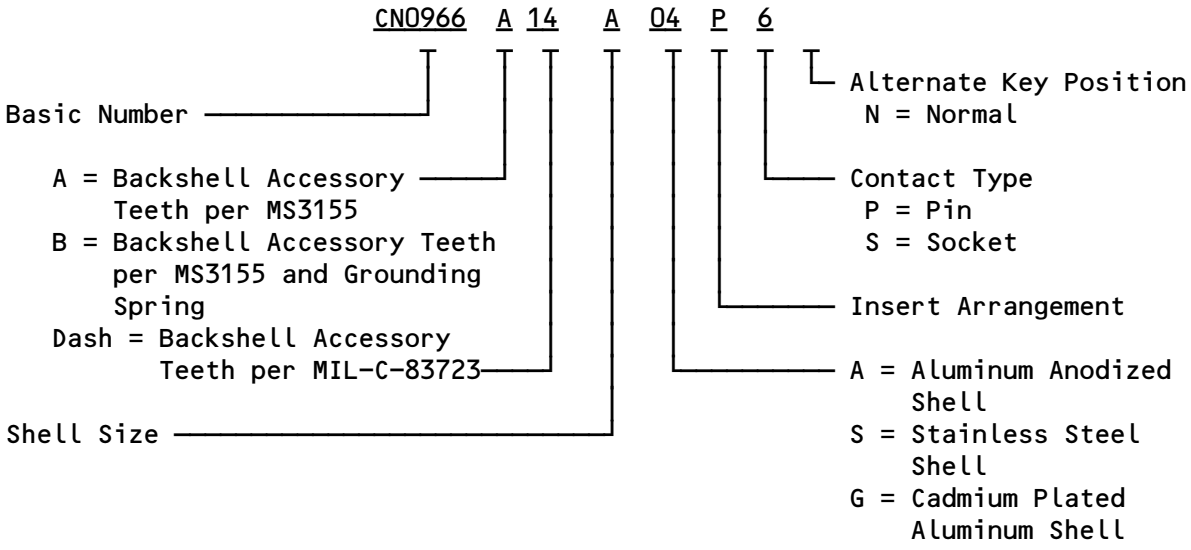
1) Boeing Part Number



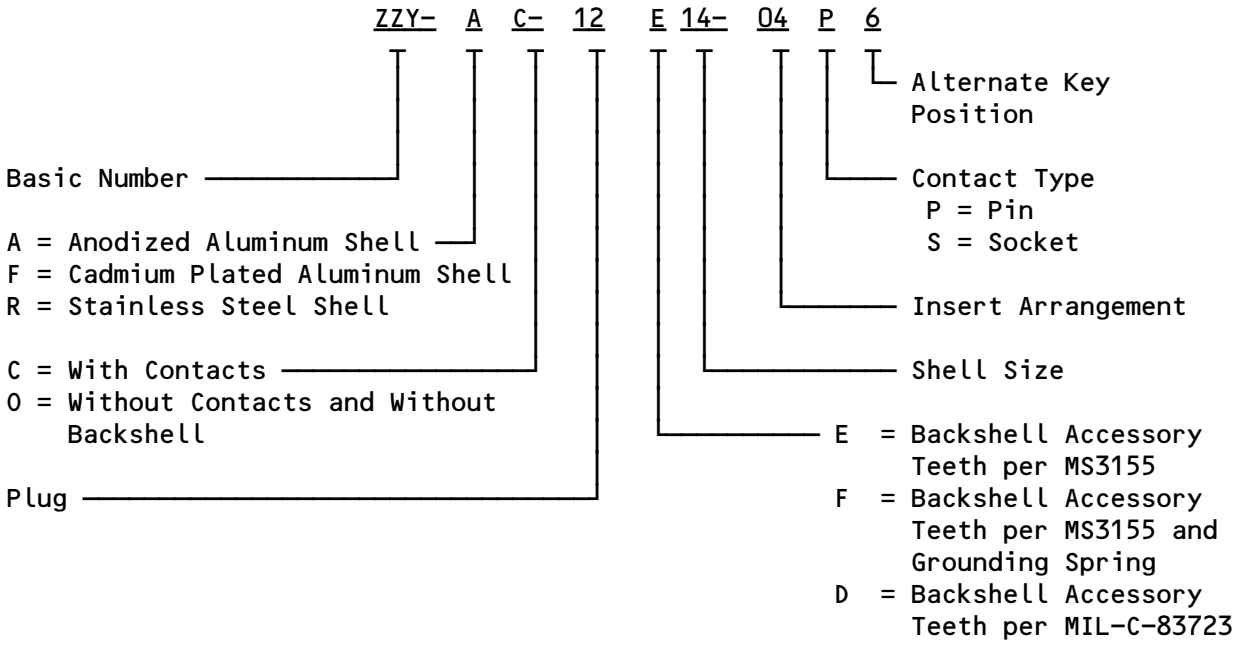

2) Amphenol Part Number



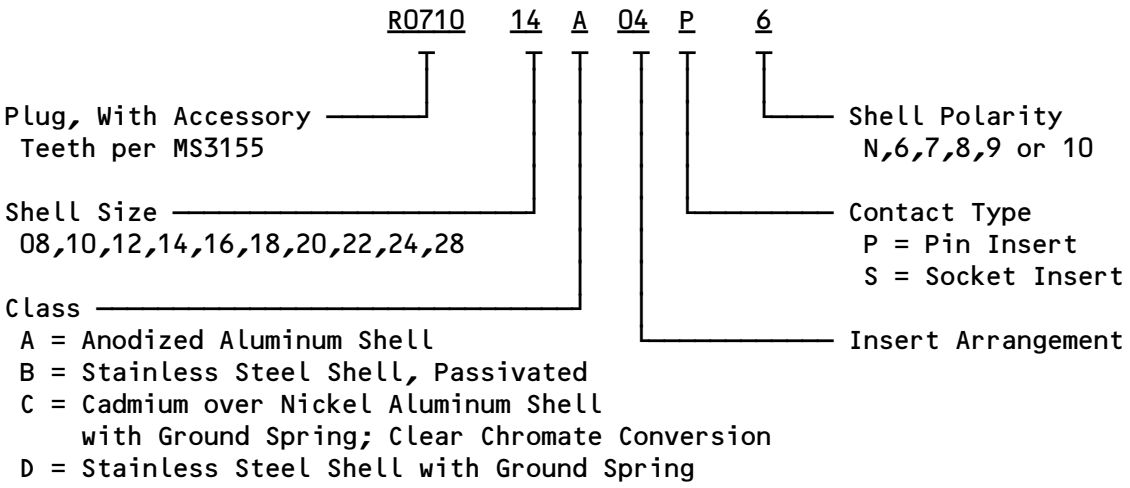
3) Cinch Connector Part Number




4) Pyle-National Part Number



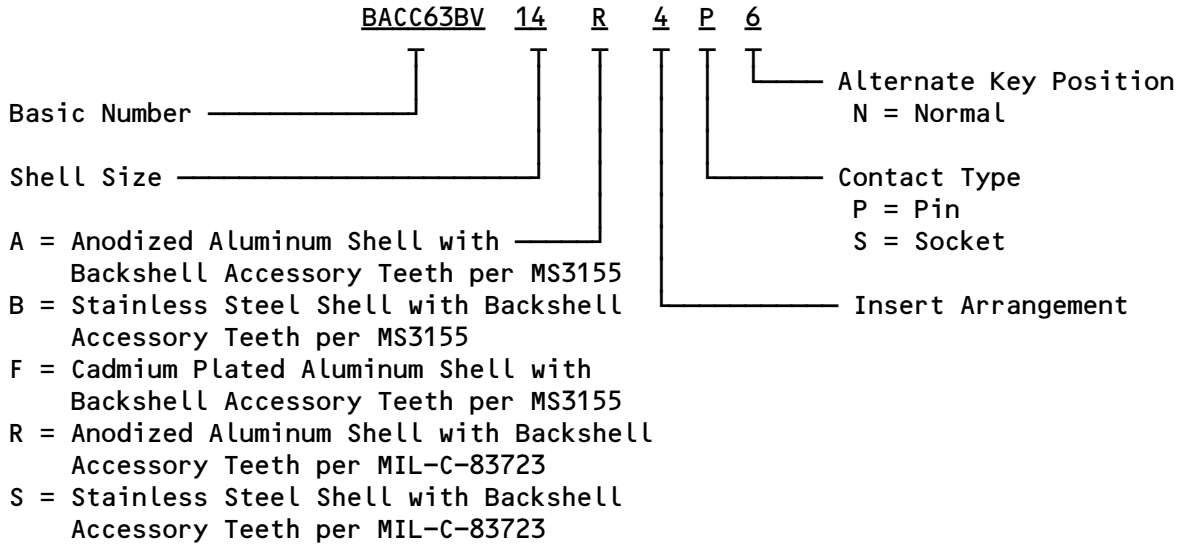
5) RMS Part Number



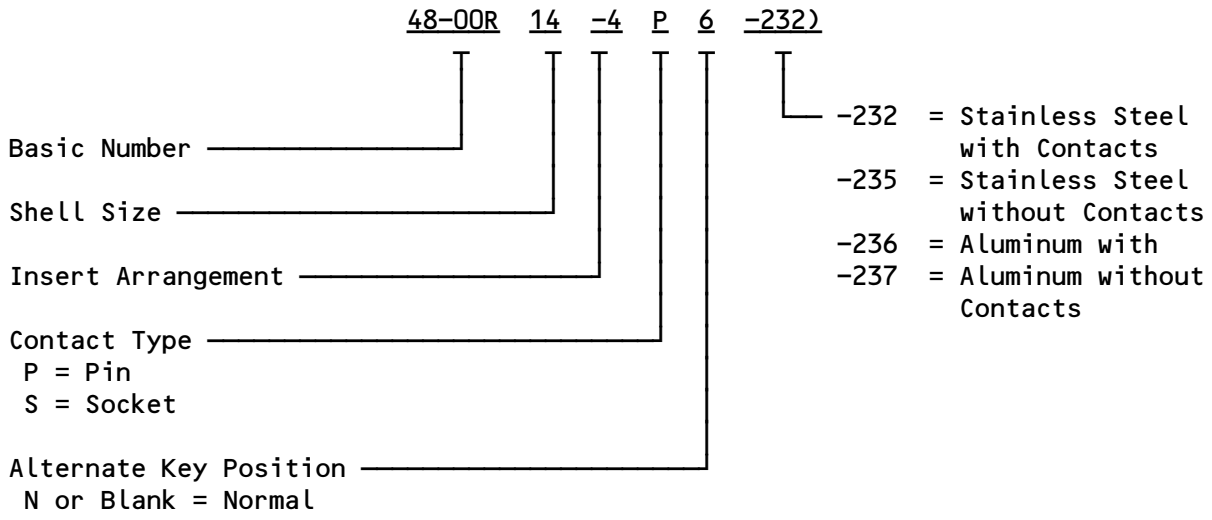

(f) BACC63BV Threaded Coupling Vibration Resistant Receptacles

NOTE: The BACC63BV receptacle is the same as the BACC45FM receptacle, except for a stainless steel shell, MIL-C-83723 rear accessory dimensions, MS3155 rear accessory teeth, and MIL-C-83723 wire sealing member dimensions. A BACC63BV receptacle with mate with all MIL-C-26500 and BACC63BP type threaded plugs of the same shell size, the same insert arrangement and the same key position.

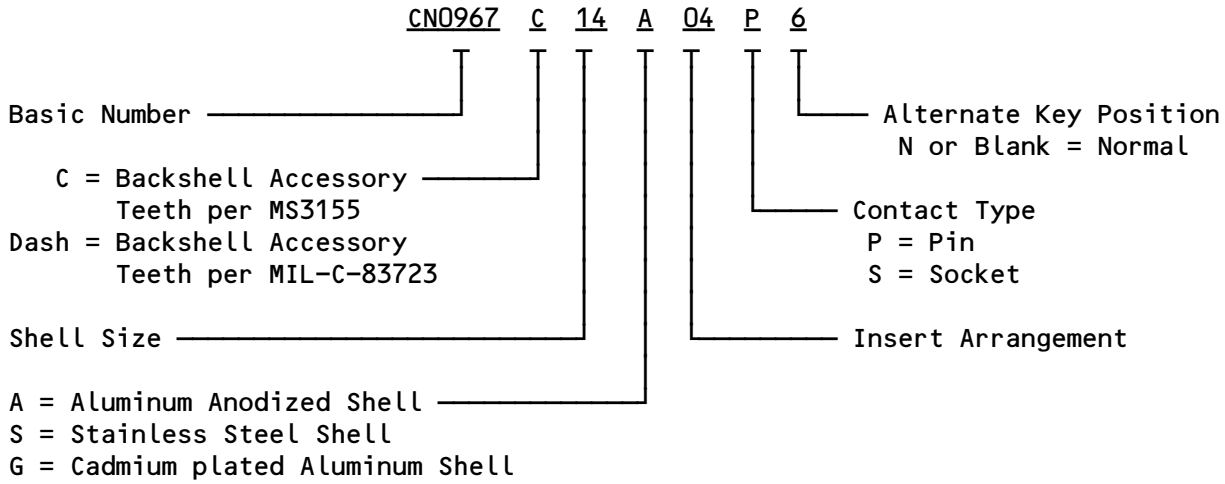
1) Boeing Part Number



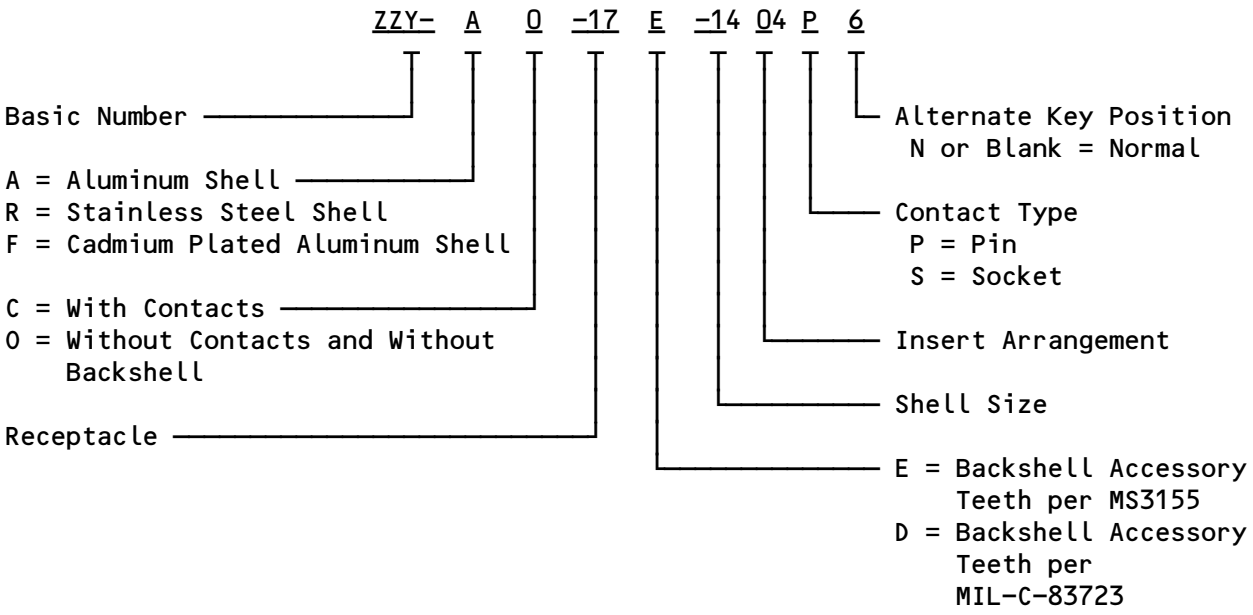
2) Amphenol Part Number



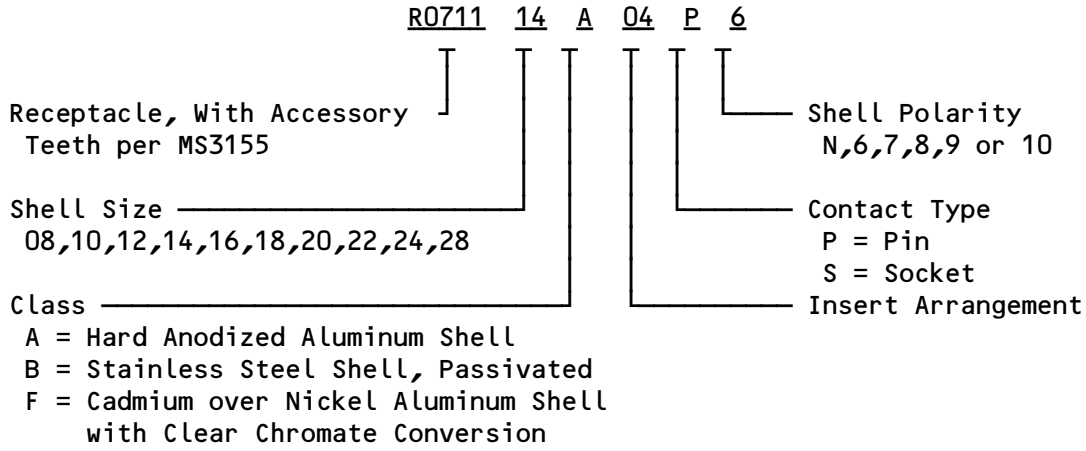

3) Cinch Connector Part Number



4) Pyle-National Part Number

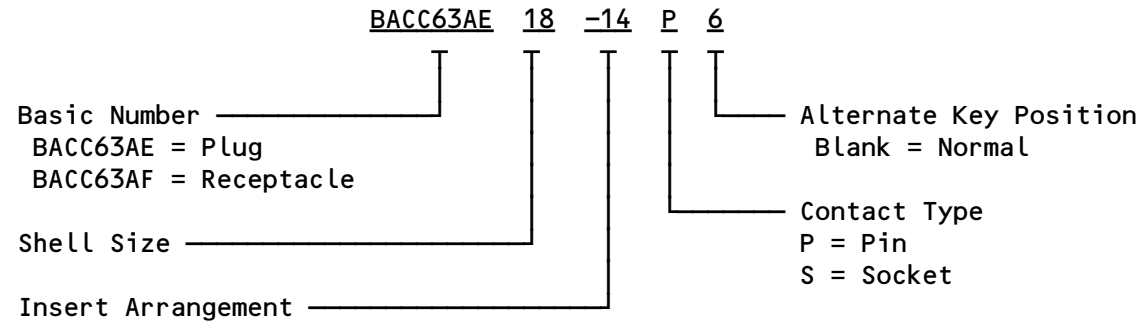



5) RMS Part Number

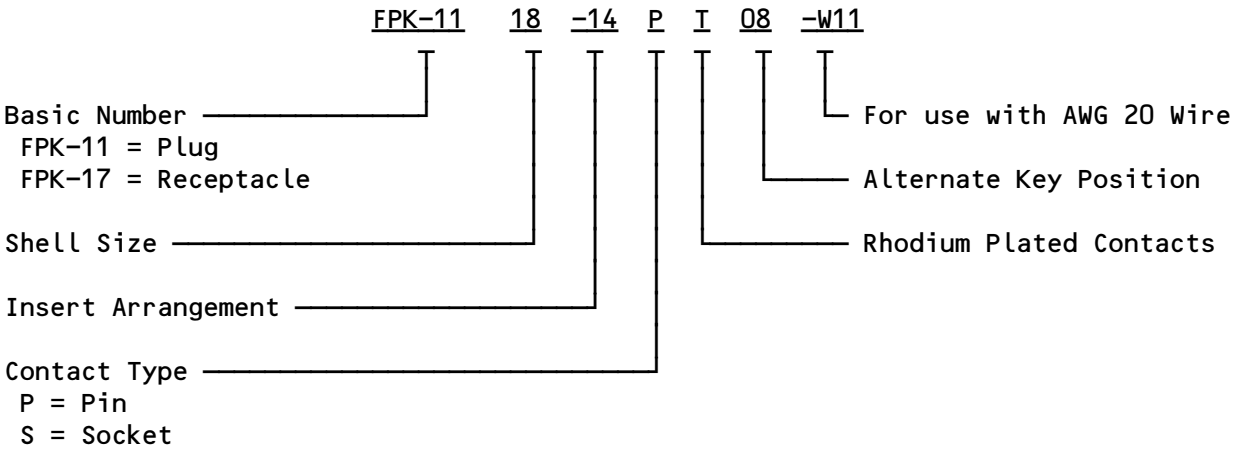


(g) BACC63AE and BACC63AF Threaded Coupling Fire Barrier Connectors

1) Boeing Part Number

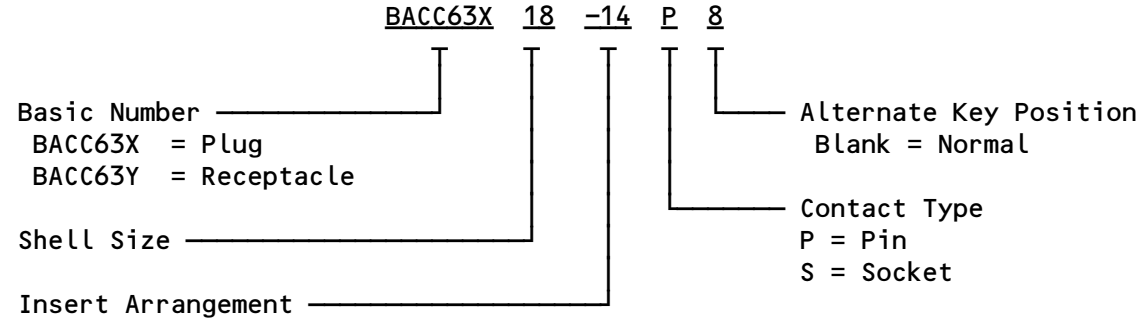



2) Pyle-National Part Number

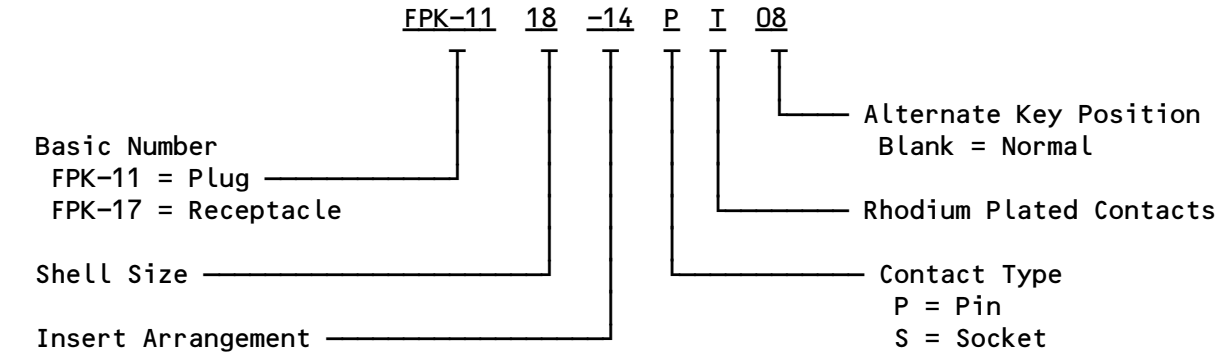



(h) BACC63X and BACC63Y Threaded Coupling Fire Barrier

1) Boeing Part Number

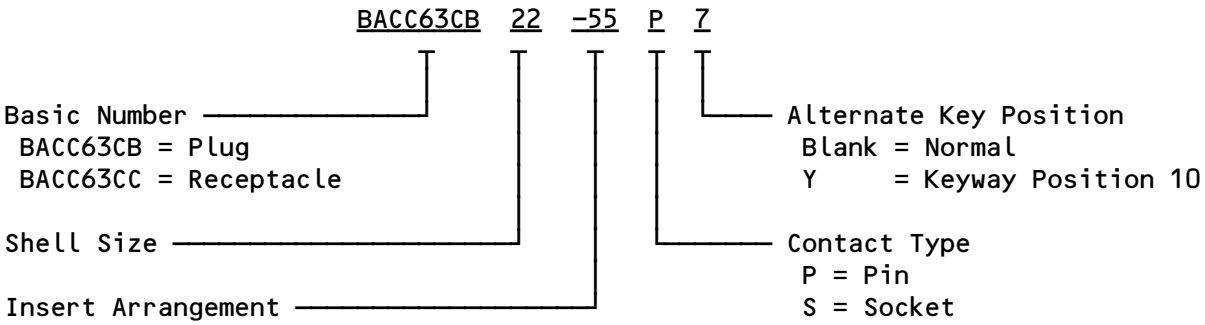


2) Pyle-National Part Number

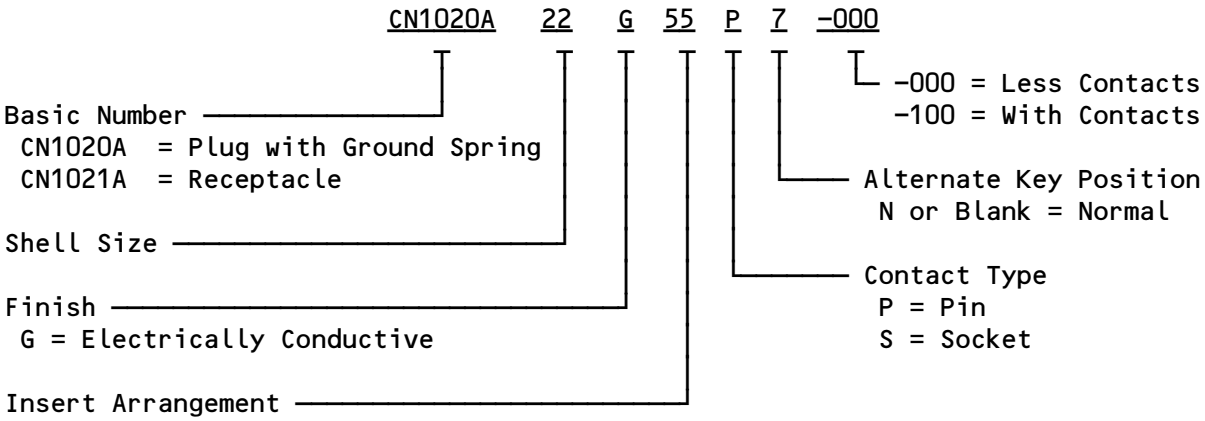



(i) BACC63CB and BACC63CC Bayonet Coupling, Vibration Resistant Connectors

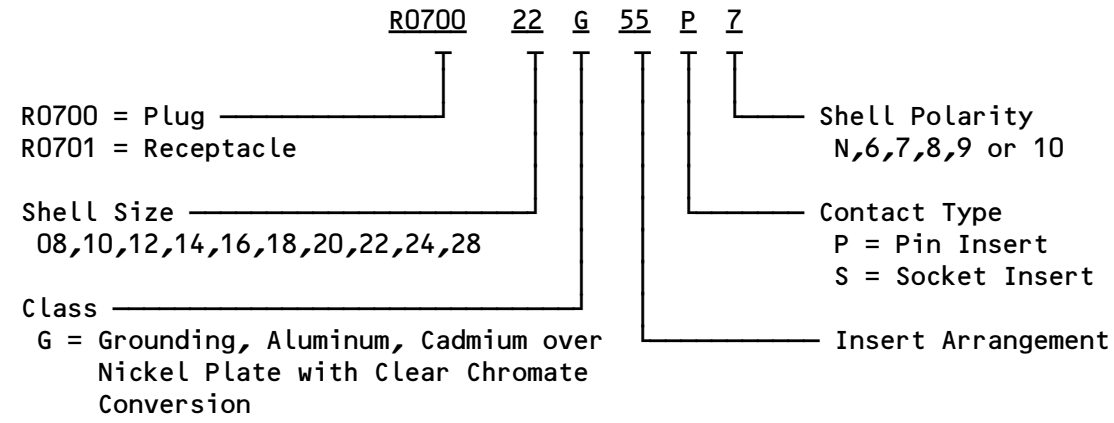
1) Boeing Part Number




2) Cinch Connector Part Number

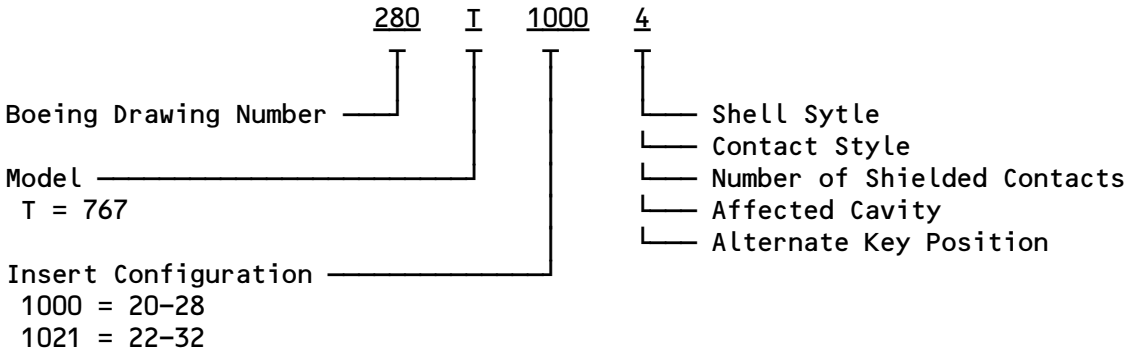


3) RMS Part Number



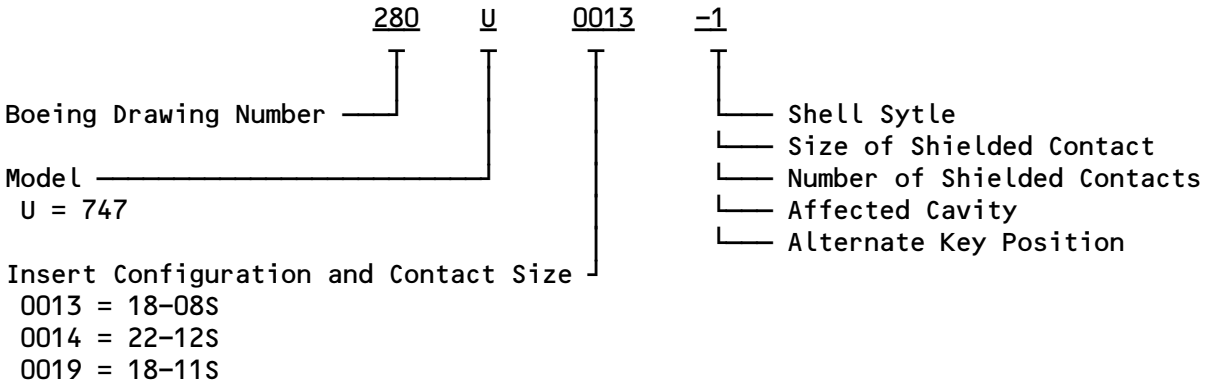

(j) Boeing 280T Series, Bayonet Coupling connectors

NOTE: 280T10XX-( ) connectors are modified BACC45FN and FT connectors. In a 280T10XX-( ) connector, one or more size 1 shielded contacts replace one or more size 12 contacts.



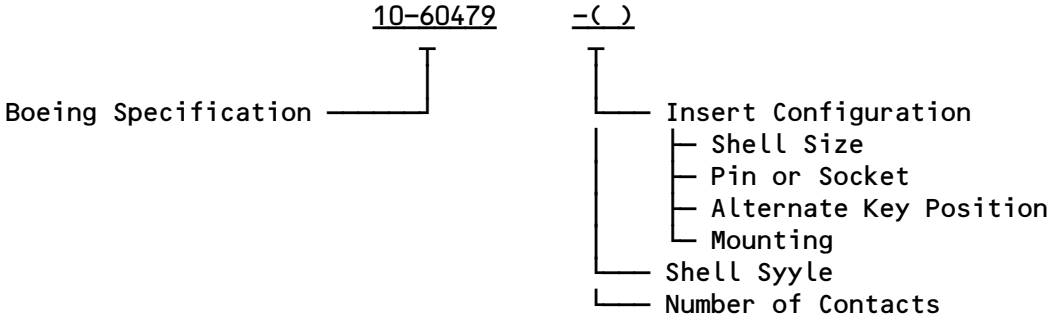
(k) Boeing 280U Series, Bayonet Coupling Connectors

NOTE: 280U00XX-( ) connetors are modified BACC45FN and FT connectors. In a 280U00XX-( ) connector, one or more size 1 shielded contacts replace one or more size 12 contacts. Size 2 shielded contacts also replace size 8 contacts in some 280U00XX-( ) connectors.




(l) 10-60479 Series, Bayonet Coupling Connectors

NOTE: 10-60479-( ) series connectors are modified MIL-C-26500 connectors. In a 10-60479-( ) connector, one or more 10-60479-41 or 10-60479-44 size 2 shielded contacts replace the size 8 contacts or the M39029/54-343 and M39029/55-345 contacts.



NOTE: Figures 708 and 709 have the details about the dash numbers in the 10-60479 connectors.

| Boeing Dash Number | Insert Configuration | Shell Style | Size 2 Shielded Contact Part Number | Number of Contacts | |
|---|---|---|---|---|---|
| | | | | Size 2 | Size 16 |
| -1 | 14-3S | Plug | 10-60479-44 | 1 | 2 |
| -6 | 14-3P | Receptacle | 10-60479-41 | 1 | 2 |
| -12 | 18-11S | Plug | 10-60479-44 | 1 | 10 |
| -16 | 14-3S6 | Plug | 10-60479-44 | 1 | 2 |
| -18 | 14-3S8 | Plug | 10-60479-44 | 1 | 2 |
| -19 | 14-3S | Plug | 10-60479-44 | 1 | 2 |
| -66 | 14-3P | Receptacle | 10-60479-41 | 1 | 2 |
| -67 | 14-3P | Receptacle | 10-60479-41 | 1 | 2 |
| -68 | 14-3P | Receptacle | 10-60479-41 | 1 | 2 |
| -69 | 14-3P | Receptacle | 10-60479-41 | 1 | 2 |
| -126 | 18-11S | Plug | 10-60479-44 | 1 | 10 |
| -127 | 18-11S | Plug | 10-60479-44 | 1 | 10 |
| -128 | 18-11S | Plug | 10-60479-44 | 1 | 10 |
| -129 | 18-11S | Plug | 10-60479-44 | 1 | 10 |

10-60479-( ) Part Number Details
Figure 708

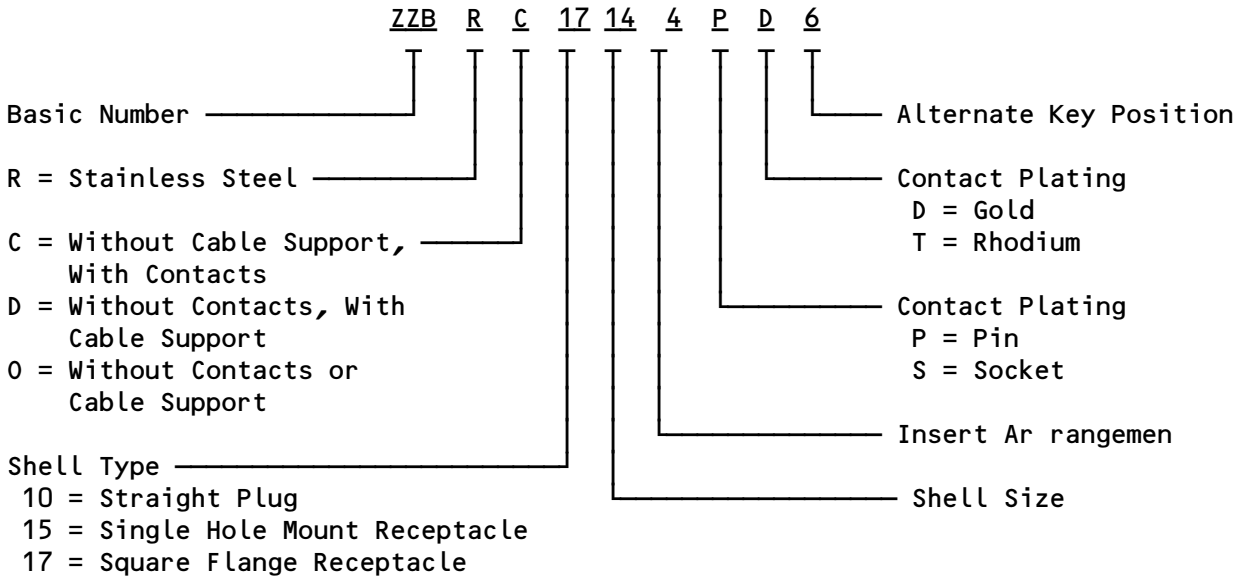
| Boeing Part Number | Amphenol Part Number | Cinch Part Number |
|---|---|---|
| 10-60479-1 | 48-16R14-2/1S | CNO9040-1 |
| 10-60479-6 | 48-16R14-2/1P | CNO9040-6 |
| 10-60479-12 | 48-16R18-10/1S | CNO9040-12 |
| 10-60479-16 | 48-16R14-2/1S6 | CNO9040-16 |
| 10-60479-17 | 48-16R14-2/1S7 | CNO9040-17 |
| 10-60479-18 | 48-16R14-2/1S8 | CNO9040-18 |
| 10-60479-19 | 48-16R14-2/1S9 | CNO9040-19 |
| 10-60479-66 | 48-16R14-2/1P9 | CNO9040-66 |
| 10-60479-67 | 48-16R14-2/1P7 | CNO9040-67 |
| 10-60479-68 | 48-16R14-2/1P8 | CNO9040-68 |
| 10-60479-69 | 48-16R14-2/1P9 | CNO9040-69 |
| 10-60479-126 | 48-16R18-10/1S6 | CNO9040-126 |
| 10-60479-127 | 48-16R18-10/1S7 | CNO9040-127 |
| 10-60479-128 | 48-16R18-10/1S8 | CNO9040-128 |
| 10-60479-129 | 48-16R18-10/1S9 | CNO9040-129 |

Supplier Part Numbers for Boeing 10-60479-( ) Connectors
Figure 709

(m) Supplier Part Numbers With No Boeing Equivalent Part Number

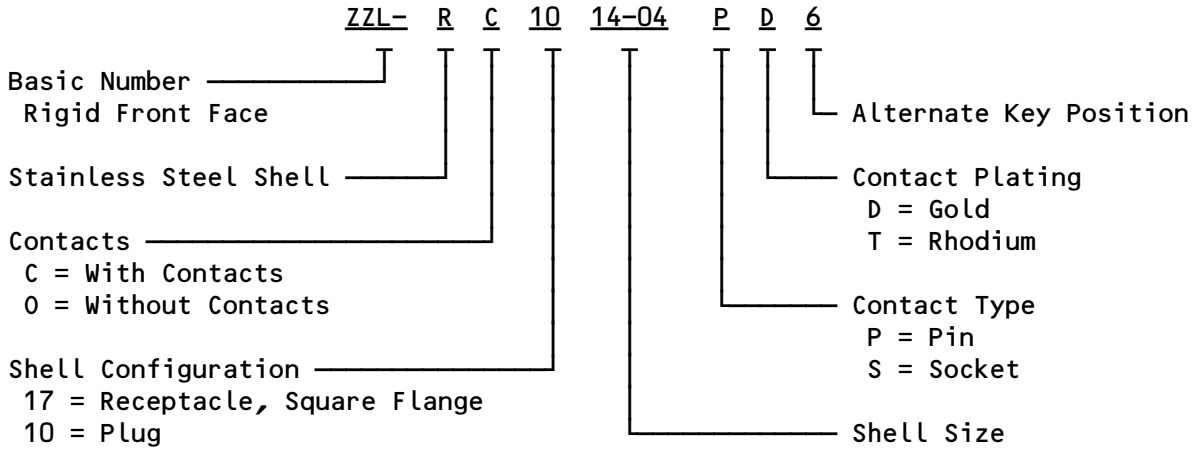
1) Pyle-national ZZB( ) Series

NOTE: The Pyle National ZZB series is the same as BACC45FN and BACC45FT, except for a stainless steel shell and a rigid pin front.



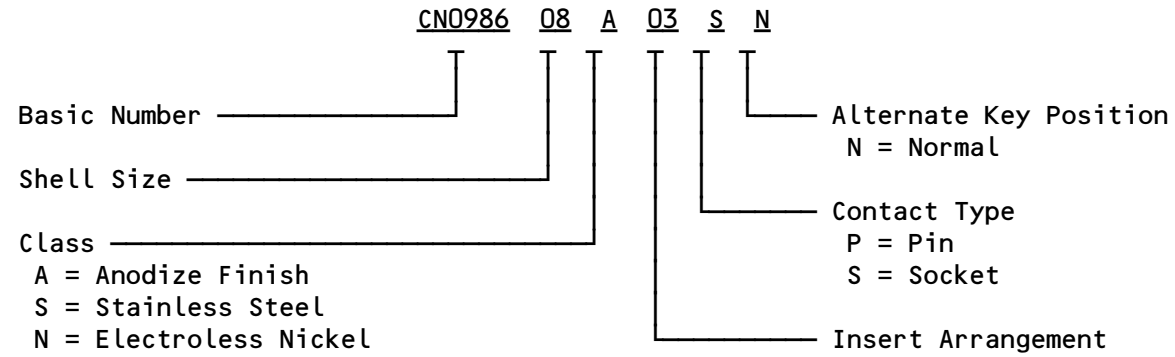

2) Pyle National ZZL( ) Series

NOTE: The Pyle National ZZL series is the same as the BACC45FM and BACC45FS connectors, except the stainless steel shell and the rigid front face.



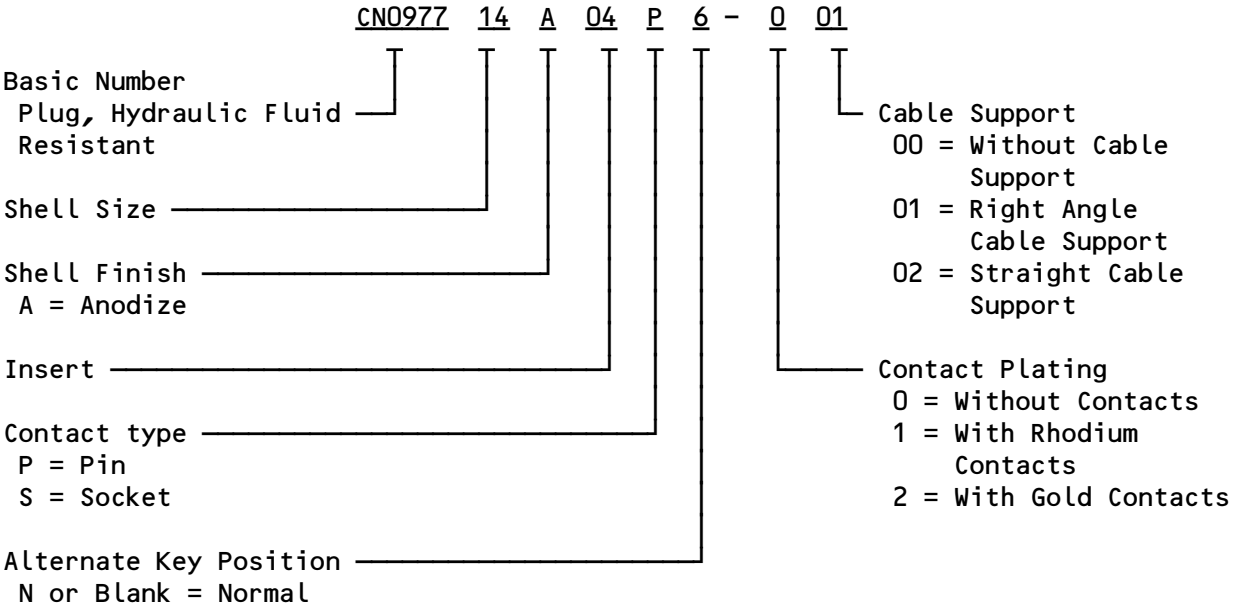
3) Cinch connector Part Number CN0986( )

NOTE: This connector is a plug with a threaded coupling and ethylene-propylene elastomer grommets that resist hydraulic fluid.




4) Cinch Connector Part Number CN0997( )

NOTE: This connector is a plug with a bayonet coupling and ethylene-propylene elastomer grommets that resist hydraulic fluid.



(3) Standard Insert Configurations for MIL-C-26500 Connectors

(a) Figure 710, 711, 712 and 713 show the configuration and the location of the contacts in the MIL-C-26500 connector shell sizes that follow:

1) Figure 710 relates to Shell Size, 8, 10, 12, 14 and 16.

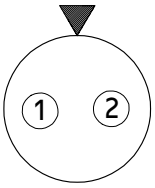
2) Figure 711 relates to Shell Sizes 18 and 20.

3) Figure 712 relates to Shell Size 22 and 24.

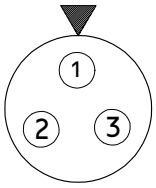
4) Figure 713 relates to Shell Size 28.

NOTE: These figures give a view of the front face of an insert that contains sockets. The view of an insert that contains pins in a mirror image of the view in these figures.

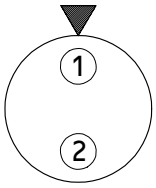
(b) The triangle at the top of each insert configuration in Fig. 710, 711, 712 and 713 shows the location of the major polarizing key in the MIL-C-26500 connectors related to the location of the contacts.



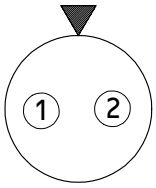

8-2 INSERT
2 SIZE 20
CONTACTS



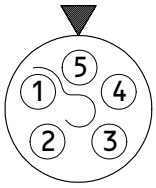

8-3 INSERT
3 SIZE 20
CONTACTS



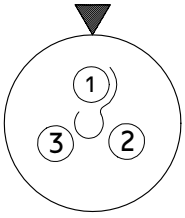

10-2 INSERT
2 SIZE 20
CONTACTS



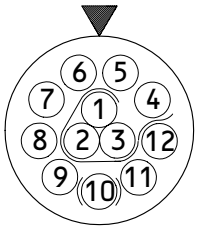

10-20 INSERT
2 SIZE 16
CONTACTS



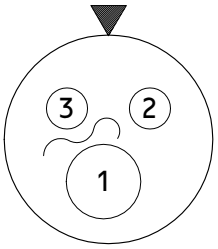

10-5 INSERT
5 SIZE 20
CONTACTS



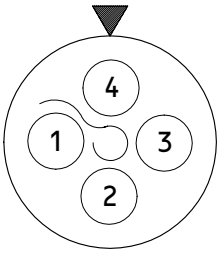

12-3 INSERT
3 SIZE 16
CONTACTS



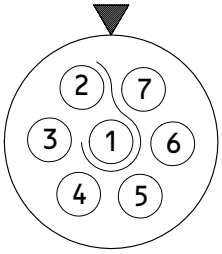

12-12 INSERT
12 SIZE 20
CONTACTS



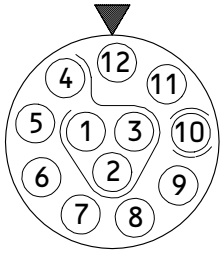

14-3 INSERT
2 SIZE 16 CONTACTS
1 SIZE 2 SHIELDED CONTACT



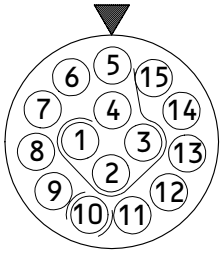

14-4 INSERT
4 SIZE 12
CONTACTS



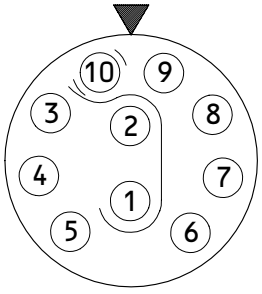

14-7 INSERT
7 SIZE 16
CONTACTS



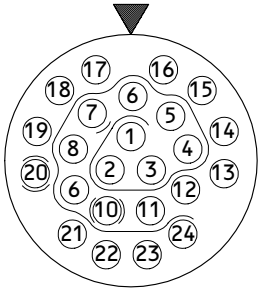

14-12 INSERT
3 SIZE 16 CONTACTS
9 SIZE 20 CONTACTS




14-15 INSERT
15 SIZE 20 CONTACTS

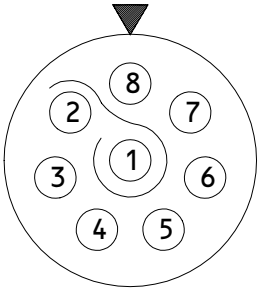



16-10 INSERT
10 SIZE 16 CONTACTS

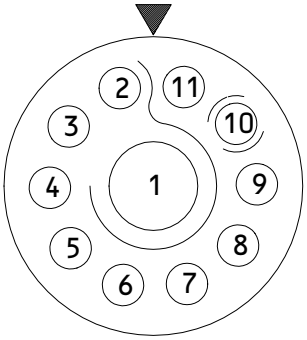



16-24 INSERT
24 SIZE 20 CONTACTS

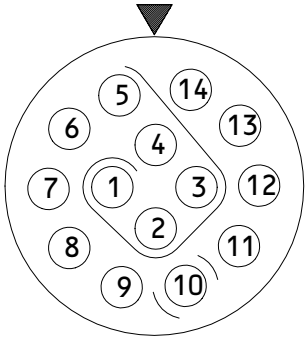
MIL-C-26500 Insert Configurations for Shell Sizes 8,10,12,14, and 16 Connectors
Figure 710



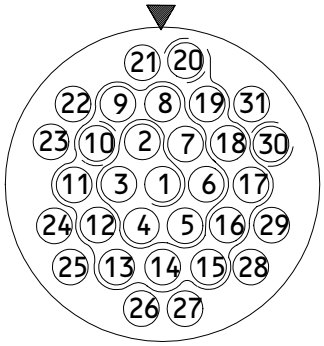

18–8 INSERT
8 SIZE 12 CONTACTS



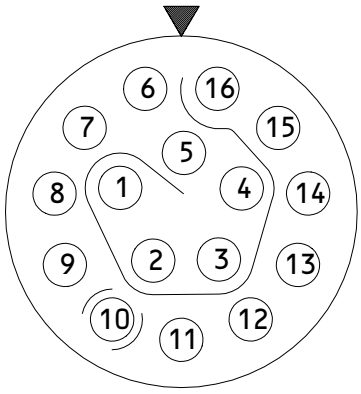

18–11 INSERT
10 SIZE 16 CONTACTS
1 SIZE 2 CONTACTS



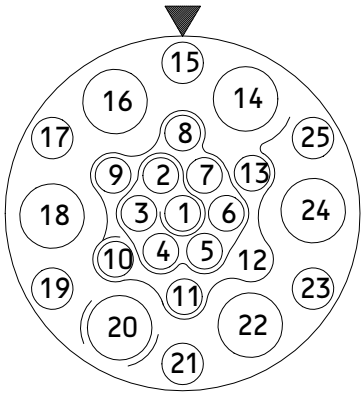

18–14 INSERT
14 SIZE 16 CONTACTS



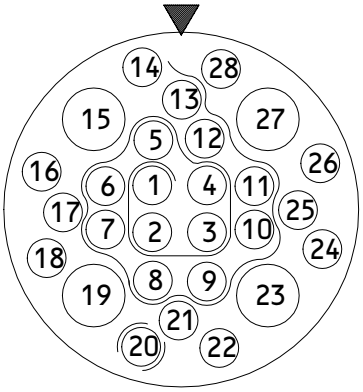

18–31 INSERT
31 SIZE 20 CONTACTS



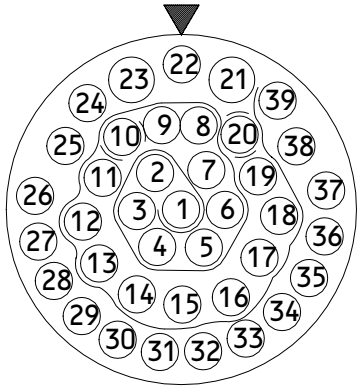

20–16 INSERT
16 SIZE 16 CONTACTS



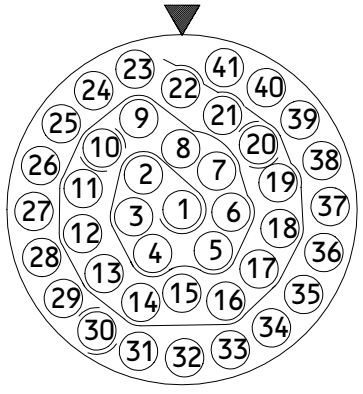

20–25 INSERT
19 SIZE 20 CONTACTS
6 SIZE 12 CONTACTS




20–28 INSERT
24 SIZE 20 CONTACTS
4 SIZE 12 CONTACTS



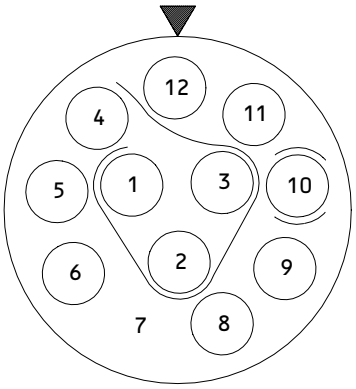

20–29 INSERT
36 SIZE 20 CONTACTS
2 SIZE 16 CONTACTS



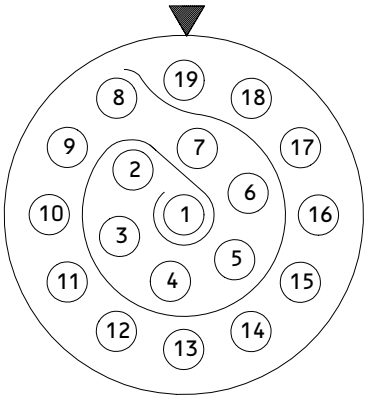

20–41 INSERT
41 SIZE 20 CONTACTS

MIL-C-26500 Insert Configurations for Shell Sizes 18 and 20 Connectors
Figure 711

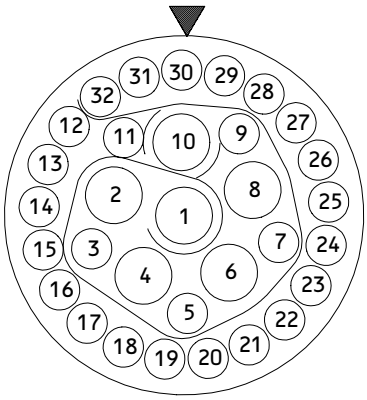
C76584



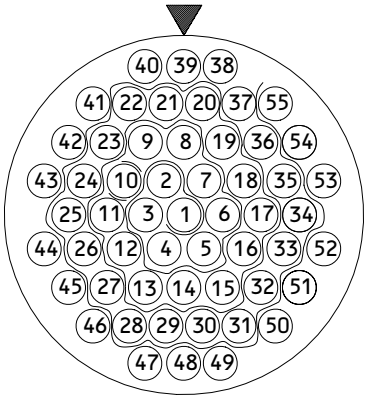

22-12 INSERT
12 SIZE 12 CONTACTS



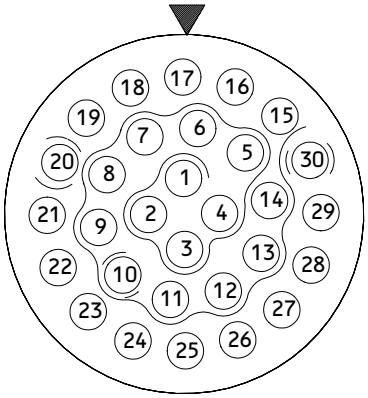

22-19 INSERT
19 SIZE 16 CONTACTS



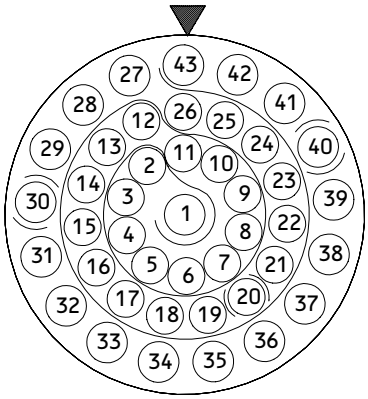

22-32 INSERT
26 SIZE 20 CONTACTS
6 SIZE 12 CONTACTS



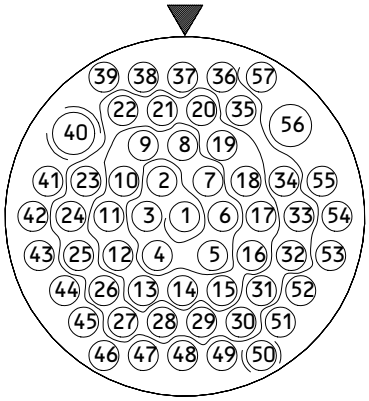

22-55 INSERT
55 SIZE 20 CONTACTS



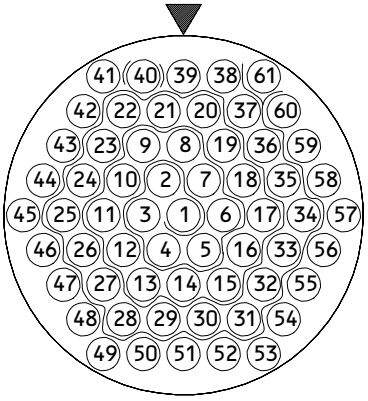

24-30 INSERT
30 SIZE 16 CONTACTS




24-43 INSERT
23 SIZE 20 CONTACTS
20 SIZE 16 CONTACTS




24-57 INSERT
5 SIZE 20 CONTACTS
2 SIZE 12 CONTACTS




24-61 INSERT
61 SIZE 20 CONTACTS

MIL-C-26500 Insert Configurations for Shell Sizes 22 and 24 Connectors
Figure 712



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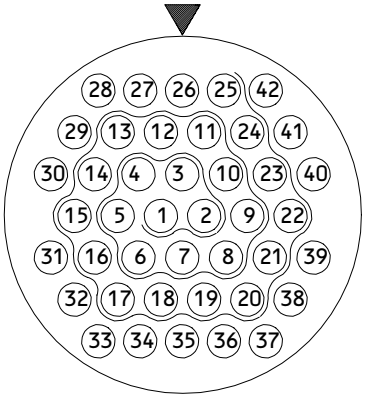
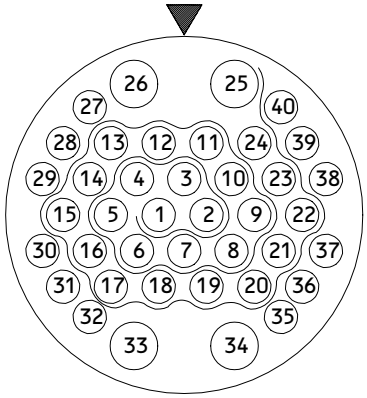



28-42 INSERT
42 SIZE 16 CONTACTS




28-40 INSERT
36 SIZE 16 CONTACTS
4 SIZE 12 CONTACTS

MIL-C-26500 Insert Configurations for Shell Size 28 Connectors
Figure 713

C76603

D. Contact Selection Procedure

(1) MIL-C-26500 Connectors Contacts

(a) Standard Contacts
These standard contacts have the finishes that follow:

1) Rhodium

2) Gold

3) Localized Gold

NOTE: These contact finishes are interchangeable and are applicable for all installations.

(b) Special Purpose Contacts

1) These contacts have crimp barrels that will accept wire conductor that is one, two, or four wire gage sizes more than the equivalent AWG of the engaging end. For example, a size 20 contact with a size 18 crimp barrel.

(c) Thermocouple Contacts

(d) Shielded Contacts

(2) Recommended Contact Selection Sequence

(a) To make a selection of a contact for new application, or a contact to replace an existing contact, use the sequence that follows:

1) First Selection:

a) The Boeing part number

2) Second Selection:

a) The supplier part number for a contact for MIL-C-26500 connectors that is interchangeable with a Boeing part number.

3) Third Selection:

a) The Military part number for a contact for a MIL-C-26500 connectors.

(3) Contact Selection Guidelines

(a) Make a selection of the contact part number that you will assemble to a wire segment. Use the numbers that follow to make the selection:

1) The connector insert configuration

2) The size of connector cavity that will hold the contact; for example, 20, 16, or 12

3) The contact style; for example, pin or socket

4) The contact application; for example, standard, thermocouple, or shielded

5) The wire size; for example, AWG 24, 20, or 16

(4) Matrix for Contact Part Number Figures

(a) Figure 714 lists the figures that give the contact part number details, related to the names that follow:

1) Contact Name: Standard, Thermocouple, Special Purpose, Shielded

2) Contact Style: Pin, Socket

3) Specification: Boeing, Military, Supplier

| Contact Type | Specification | Contact Style | Reference Figure |
|---|---|---|---|
| Standard | Boeing | Pins | 715 |
| | | Sockets | 716 |
| | Supplier | Pin | 717 |
| | | Sockets | 718 |
| | Military | Pins | 719 |
| | | Sockets | 720 |

Contact Part Number Tables
Figure 714 (Sheet 1)

| Contact Type | Specification | Contact Style | Reference Figure |
|---|---|---|---|
| Thermocouple | Supplier | Alumel Pins | 721 |
| | | Alumel Sockets | 722 |
| | | Chromel Pins | 723 |
| | | Chromel Sockets | 724 |
| | | Constantan Pins | 725 |
| | | Constantan Sockets | 726 |
| | Military | Alumel Pins | 727 |
| | | Alumel Sockets | 728 |
| | | Chromel Pins | 729 |
| | | Chromel Sockets | 730 |
| | | Constantan Pins | 731 |
| | | Constantan Sockets | 732 |
| Special Purpose | Boeing | Pins | 733 |
| | | Sockets | 734 |
| Shielded | Boeing | Pins | 735 |
| | | Sockets | 736 |
| | Supplier | Pins | 737 |
| | | Sockets | 738 |

Contact Part Number Tables
Figure 714 (Sheet 2)

(5) Contact Part Numbers

(a) Figure 715 thru 728 list the details about the contact part numbers that follow:

1) The Boeing part number for a contact for MIL-C-26500 connectors

2) The Supplier part number for a contact for MIL-C-26500 connectors that are interchangeable with Boeing part numbers

This part number gives a Boeing qualified contact that has the same performance as the Boeing part number.

3) The Military part number for a contact for MIL-C-26500 connectors

(b) Standard Contacts

1) Figure 715 lists the basic Boeing part numbers for the standard pin contacts for MIL-C-26500 connectors.

| Contact Size | | Part Number | Color Band | Finish |
|---|---|---|---|---|
| Engaging End | Crimp Barrel | | | |
| 20 | 20 | BACC47CN1 | Red | Rhodium |
| | | BACC47CN1A | Red | Gold |
| | | BACC47CN1S | Red and Black | Localized Gold |
| 16 | 16 | BACC47CN2 | Blue | Rhodium |
| | | BACC47CN2A | Blue | Gold |
| | | BACC47CN2S | Blue | Localized Gold |
| 12 | 12 | BACC47CN3 | Yellow | Rhodium |
| | | BACC47CN3A | Yellow | Gold |
| | | BACC47CN3S | Yellow | Localized Gold |

Boeing Part Numbers for Standard Pin Contacts
Figure 715

2) Figure 716 lists the basic Boeing part numbers for the standard socket contacts for MIL-C-26500 connectors.

| Contact Size | | Part Number | Color Band | Finish |
|---|---|---|---|---|
| Engaging End | Crimp Barrel | | | |
| 20 | 20 | BACC47CP1T | Red | Rhodium |
| | | BACC47CP1A | Red | Gold |
| | | BACC47CP1S | Red and Black | Localized Gold |
| 16 | 16 | BACC47CP2T | Blue | Rhodium |
| | | BACC47CP2A | Blue | Gold |
| | | BACC47CP2S | Blue | Localized Gold |
| 12 | 12 | BACC47CP3T | Yellow | Rhodium |
| | | BACC47CP3A | Yellow | Gold |
| | | BACC47CP3S | Yellow | Localized Gold |

Boeing Part Numbers for Standard Socket Contacts
Figure 716

3) Figure 717 lists the supplier part numbers for pin contacts for MIL-C-26500 connectors. These part numbers give Boeing qualified pin contacts that have the same performance as the Boeing part number.

| Contact Size | | | Pin Contact Part Number | | |
|---|---|---|---|---|---|
| Engaging End | Crimp Barrel | Supplier | Gold Finish | Localized Gold Finish | Rhodium Finish |
| 20 | 20 | Boeing | BACC47N1A | BACC47N1S | BACC47CN1 |
| | | Amphenol | 48-2335-09 | -- | 48-2335-02 |
| | | Burndy | LRM20W-16DJ5 | -- | LRM20W-16F74 |
| | | Cinch | -- | -- | C48-2335-02 |
| | | Pyle National | ZZL4020-36LD-H139 | ZZL4020-36LD-H148 | ZZL-4020-36LT |
| | | Tri-Star | 317-2020-901 | 317-2020-901-L | 417-2020-901 |
| 16 | 16 | Boeing | BACC47CN2A | BACC47CN2S | BACC47CN2 |
| | | Amphenol | 10-807100-165 | -- | 48-1825-02 |
| | | Burndy | LRM16M-16DJ5 | -- | LRM16M-15F74 |
| | | Pyle National | ZZL4016-36LD-H139 | ZZL4016-36LD-H148 | ZZL-4016-36LT |
| | | Tri-Star | 317-1616-902 | 317-1616-902-L | 417-1616-902 |
| 12 | 12 | Boeing | BACC47N3A | BACC47CN3S | BACC47CN3 |
| | | Amphenol | 10-807100-125 | -- | 48-1827-02 |
| | | Burndy | LRM12Z-16DJ5 | -- | LRM12Z-15F74 |
| | | Pyle National | ZZL4012-36LD-H139 | ZZL4012-36LD-H148 | ZZL-4012-36LT |
| | | Tri-Star | 317-1212-903 | 317-1212-903L | 417-1212-903 |

Supplier Part Numbers for Standard Pin Contacts
Figure 717

4) Figure 718 lists the supplier part numbers for socket contacts for MIL-C-26500 connectors. These part numbers give Boeing qualified socket contacts that have the same performance as the Boeing part number.

| Contact Size | | Supplier | Socket Contact Part Number | | |
|---|---|---|---|---|---|
| Engaging End | Crimp Barrel | | Gold Finish | Localized Gold Finish | Rhodium Finish |
| 20 | 20 | Boeing | BACC47CP1A | BACC47CP1S | BACC47CP1T |
| | | Amphenol | 248-136-2002S-09 | LP807105-205 | 248-136-2007S-02 |
| | | Burndy | LRC20W-15DJ5 | -- | LRC20W-15F74 |
| | | Pyle National | ZZL4120-36LD-H139 | ZZL1020-36LD-H148 | ZZL-4120-36LT |
| | | Tri-Star | 318-2020-901 | 318-2020-901-L | 418-2020-901 |
| 16 | 16 | Boeing | BACC47CP2A | BACC47CP2S | BACC47CP2T |
| | | Amphenol | 10-807103-165 | LP-807103-165 | 248-136-1600S-02 |
| | | Burndy | LRC16M-15DJ5 | -- | LRC16M-15F74 |
| | | Pyle National | ZZL4116-36LD-H139 | ZZL4116-36LD-H148 | ZZL-4116-36LT |
| | | Tri-Star | 318-1616-902 | 318-1616-902-L | 418-1616-902 |
| 12 | 12 | Boeing | BACC47CP3A | BACC47CP3S | BACC47CP3T |
| | | Amphenol | 10-807103-125 | LP807103-125 | 248-136-1200S-02 |
| | | Burndy | LRC12Z-16DJ5 | -- | LRC12Z-15F74 |
| | | Pyle National | ZZL4112-36LD-H139 | ZZL4112-36LD-H148 | ZZL-4112-36LT |
| | | Tri-Star | 318-1212-903 | 318-1212-903L | 412-1212-903 |

Supplier Part Numbers for Standard Socket Contacts
Figure 718

5) Figure 719 lists the basic Military part numbers for the standard pin contacts for MIL-C-26500 connectors.

| Contact Size | | Part Number | Color Band | | | Finish |
|---|---|---|---|---|---|---|
| Engaging End | Crimp Barrel | | 1st | 2nd | 3rd | |
| 20 | 20 | MS24254-20P | Red | -- | -- | Rhodium |
| | | M39029/31-241 | Red | Yellow | Brown | Gold |
| 16 | 16 | MS24254-16P | Blue | -- | -- | Rhodium |
| | | M39029/31-229 | Red | Red | White | Gold |
| 12 | 12 | MS24254-12P | Yellow | -- | -- | Rhodium |
| | | M39029/31-235 | Red | Orange | Green | Gold |

Military Contact Pin Part Numbers
Figure 719

6) Figure 720 lists the basic Military part numbers for the standard socket contacts for MIL-C-26500 connectors.

| Contact Size | | Part Number | Color Band | | | Finish |
|---|---|---|---|---|---|---|
| Engaging End | Crimp Barrel | | 1st | 2nd | 3rd | |
| 20 | 20 | MS24255-20S | Red | -- | -- | Rhodium |
| | | M39029/32-260 | Red | Blue | Black | Gold |
| 16 | 16 | MS24255-16S | Blue | -- | -- | Rhodium |
| | | M39029/32-248 | Red | Yellow | Gray | Gold |
| 12 | 12 | MS24255-12S | Yellow | -- | -- | Rhodium |
| | | M39029/32-254 | Red | Green | Yellow | Gold |

Military Contact Socket Part Numbers
Figure 720

(c) Thermocouple Contacts

1) Figure 721 lists the supplier part numbers for the Alumel thermocouple pin contacts for MIL-C-26500 connectors.

| Contact Size | | Part Number | Supplier |
|---|---|---|---|
| Engaging End | Crimp Barrel | | |
| 20 | 20 | 48-2247(AL) | Amphenol |
| | | LRM20W-9 | Burndy |
| | | ZZL-4020-10R | Pyle National |
| 16 | 16 | 48-2358(AL) | Amphenol |
| | | LRM16M-9 | Burndy |
| | | ZZL-4016-10R | Pyle National |
| 12 | 12 | 48-2244(AL) | Amphenol |
| | | ZZL-4012-10R | Pyle National |

Supplier Part Numbers
For Alumel Thermocouple Pin Contacts
Figure 721

2) Figure 722 lists the supplier part numbers for the Alumel thermocouple socket contacts for MIL-C-26500 connectors.

| Contact Size | | Part Number | Supplier |
|---|---|---|---|
| Engaging End | Crimp Barrel | | |
| 20 | 20 | 48-2233(AL) | Amphenol |
| | | LRC20W-9 | Burndy |
| | | ZZL-4120-10R | Pyle National |
| 16 | 16 | 48-2359(AL) | Amphenol |
| | | LRC16M-9 | Burndy |
| | | ZZL-4116-10R | Pyle National |
| 12 | 12 | 48-2095(AL) | Amphenol |
| | | ZZL-4112-10R | Pyle National |

Supplier Part Numbers
For Alumel Thermocouple Socket Contacts
Figure 722

3) Figure 723 lists the supplier part numbers for the Chromel thermocouple pin contacts for MIL-C-26500 connectors.

| Contact Size | | Part Number | Supplier |
|---|---|---|---|
| Engaging End | Crimp Barrel | | |
| 20 | 20 | 48-2178(CH) | Amphenol |
| | | LRM20W-10 | Burndy |
| | | ZZL-4020-10P | Pyle National |
| 16 | 16 | 48-2180(CH) | Amphenol |
| | | LRM16M-10 | Burndy |
| | | ZZL-4016-10P | Pyle National |
| 12 | 12 | 48-2184(CH) | Amphenol |
| | | ZZL-4012-10P | Pyle National |

Supplier Part Numbers
For Chromel Thermocouple Pin Contacts
Figure 723

4) Figure 724 lists the supplier part numbers for the Chromel thermocouple socket contacts for MIL-C-26500 connectors.

| Contact Size | | Part Number | Supplier |
|---|---|---|---|
| Engaging End | Crimp Barrel | | |
| 20 | 20 | 48-2176(CH) | Amphenol |
| | | LRC20W-10 | Burndy |
| | | ZZL-4120-10P | Pyle National |
| 16 | 16 | 48-2182(CH) | Amphenol |
| | | LRC16M-10 | Burndy |
| | | ZZL-4116-10P | Pyle National |
| 12 | 12 | 48-2096(CH) | Amphenol |
| | | ZZL-4112-10P | Pyle National |

Supplier Part Numbers
For Chromel Thermocouple Socket Contacts
Figure 724

5) Figure 725 lists the supplier part numbers for the Constantan thermocouple pin contacts for MIL-C-26500 connectors.

| Contact Size | | Part Number | Supplier |
|---|---|---|---|
| Engaging End | Crimp Barrel | | |
| 20 | 20 | LRM20W-12 | Burndy |
| | | ZZL-4020-10N | Pyle National |
| 16 | 16 | LRM16M-12 | Burndy |
| | | ZZL-4016-10N | Pyle National |
| 12 | 12 | 48-2185(CN) | Amphenol |
| | | ZZL-4012-10N | Pyle National |

Supplier Part Numbers
For Constantan Thermocouple Pin Contacts
Figure 725

6) Figure 726 lists the supplier part numbers for the Constantan thermocouple socket contacts for MIL-C-26500 connectors.

| Contact Size | | Part Number | Supplier |
|---|---|---|---|
| Engaging End | Crimp Barrel | | |
| 20 | 20 | LRC20W-12 | Burndy |
| | | ZZL-4120-10N | Pyle National |
| 16 | 16 | LRC16M-12 | Burndy |
| | | ZZL-4116-10N | Pyle National |
| 12 | 12 | 48-2186(CN) | Amphenol |
| | | ZZL-4112-10N | Pyle National |

Supplier Part Numbers
For Constantan Thermocouple Socket Contacts
Figure 726

7) Figure 727 lists the Military part numbers for the Alumel thermocouple socket contacts for MIL-C-26500 connectors.

| Contact Size | | Part Number | Color Band | | |
|---|---|---|---|---|---|
| Engaging End | Crimp Barrel | | 1st | 2nd | 3rd |
| 20 | 20 | M39029/31-226 | Red | Red | Blue |
| 16 | 16 | M39029/31-232 | Red | Orange | Red |
| 12 | 12 | M39029/31-238 | Red | Orange | Gray |

Military Part Numbers
For Alumel Thermocouple Pin Contacts
Figure 727

8) Figure 728 lists the Military part numbers for the Alumel thermocouple socket contacts for MIL-C-26500 connectors.

| Contact Size | | Part Number | Color Band | | |
|---|---|---|---|---|---|
| Engaging End | Crimp Barrel | | 1st | 2nd | 3rd |
| 20 | 20 | M39029/31-245 | Red | Yellow | Yellow |
| 16 | 16 | M39029/31-251 | Red | Green | Brown |
| 12 | 12 | M39029/31-257 | Red | Green | Violet |

Military Part Numbers
For Alumel Thermocouple Socket Contacts
Figure 728

9) Figure 729 lists the Military part numbers for the Chromel thermocouple pin contacts for MIL-C-26500 connectors.

| Contact Size | | Part Number | Color Band | | |
|---|---|---|---|---|---|
| Engaging End | Crimp Barrel | | 1st | 2nd | 3rd |
| 20 | 20 | M39029/31-225 | Red | Red | Blue |
| 16 | 16 | M39029/31-231 | Red | Orange | Brown |
| 12 | 12 | M39029/31-237 | Red | Orange | Violet |

Military Part Numbers
For Chromel Thermocouple Pin Contacts
Figure 729

10) Figure 730 lists the Military part numbers for the Chromel thermocouple socket contacts for MIL-C-26500 connectors.

| Contact Size | | Part Number | Color Band | | |
|---|---|---|---|---|---|
| Engaging End | Crimp Barrel | | 1st | 2nd | 3rd |
| 20 | 20 | M39029/32-244 | Red | Yellow | Yellow |
| 16 | 16 | M39029/32-250 | Red | Green | Black |
| 12 | 12 | M39029/32-256 | Red | Green | Blue |

Military Part Numbers
For Chromel Thermocouple Socket Contacts
Figure 730

11) Figure 731 lists the Military part numbers for the Constantan thermocouple pin contacts for MIL-C-26500 connectors.

| Contact Size | | Part Number | Color Band | | |
|---|---|---|---|---|---|
| Engaging End | Crimp Barrel | | 1st | 2nd | 3rd |
| 20 | 20 | M39029/32-227 | Red | Red | Violet |
| 16 | 16 | M39029/32-233 | Red | Orange | Orange |
| 12 | 12 | M39029/32-239 | Red | Orange | White |

Military Part Numbers
For Constantan Thermocouple Pin Contacts
Figure 731

12) Figure 732 lists the Military part numbers for the Constantan thermocouple socket contacts for MIL-C-26500 connectors.

| Contact Size | | Part Number | Color Band | | |
|---|---|---|---|---|---|
| Engaging End | Crimp Barrel | | 1st | 2nd | 3rd |
| 20 | 20 | M39029/32–246 | Red | Yellow | Blue |
| 16 | 16 | M39029/32–252 | Red | Green | Red |
| 12 | 12 | M39029/32–258 | Red | Green | Gray |

Military Part Numbers
For Constantan Thermocouple Socket Contacts
Figure 732

(d) Special Purpose Contacts

1) Figure 733 lists the supplier part numbers for the Special Purpose pin contacts for MIL-C-26500 connectors.

| Contact Size | | Part Number | Supplier |
|---|---|---|---|
| Engaging End | Crimp Barrel | | |
| 20 | 18 | 48-100-5014P-02 | Amphenol |
| 20 | 18 | P-209553P | Pyle National |
| 20 | 16 | 48-100-5012P-02 | Amphenol |
| 20 | 16 | 31A-2016-035 | Tri-Star |
| 16 | 14 | 48-100-5021P-02 | Amphenol |
| 16 | 14 | P-208575P | Pyle National |
| 12 | 10 | 48-100-5020P-02 | Amphenol |
| 12 | 10 | P204540P | Pyle National |

Supplier Part Numbers
For Special Purpose Pin Contact
Figure 733

2) Figure 735 lists the supplier part numbers for the Special Purpose socket contacts for MIL-C-26500 connectors.

| Contact Size | | Part Number | Supplier |
|---|---|---|---|
| Engaging End | Crimp Barrel | | |
| 20 | 18 | 248-136-2018S-02 | Amphenol |
| 20 | 18 | P-209541S | Pyle National |
| 20 | 16 | 248-136-2016S-02 | Amphenol |
| 20 | 16 | 318-2016-035 | Tri-Star |
| 16 | 14 | 248-136-1614S-02 | Amphenol |
| 16 | 14 | P-208575S | Pyle National |
| 12 | 10 | 248-136-1210S-02 | Amphenol |
| 12 | 10 | P204541S | Pyle National |

Supplier Part Numbers
For Special Purpose Socket Contact
Figure 734

(e) Shielded Contacts

1) Figure 735 lists the Boeing part numbers for the shielded pin contacts used in MIL-C-26500 connectors.

| Contact Size | | Boeing Part Number | Contact Finish | Contact Configuration |
|---|---|---|---|---|
| Shielded | Center | | | |
| 1 | 22 | BACC47EX1 | Gold | Standard |
| 2 | 20 | BACC47EX2 | Gold | Standard |
| | | 10-60479-41 | Rhodium | Standard |
| | | 60B40037-16 | Rhodium | Standard |
| | | 60B40147-16 | Rhodium | Non-Standard |

CAUTION: THE 60B40147-16 PIN IS NON-STANDARD. IT IS INTERMATEABLE WITH THE OTHER SOCKET CONTACTS IN FIG. 735 BUT IT IS NOT INTERCHANGEABLE. IT SHOULD NOT BE USED AS A REPLACEMENT FOR THE OTHER FOUR SOCKET CONTACTS. THE 60B40147-16 IS DESIGNED TO BE POTTED IN THE CONNECTOR. IT WILL NOT LATCH IN THE CONNECTOR RETAINING CLIPS.

Boeing Part Numbers
For Shielded Pin Contacts
Figure 735

2) Figure 736 lists the Boeing part numbers for the shielded socket contacts used in MIL-C-26500 connectors.

| Contact Size | | Boeing Part Number | Contact Finish | Contact Configuration |
|---|---|---|---|---|
| Shielded | Center | | | |
| 1 | 22 | BACC47EZ1 | Gold | Standard |
| 2 | 20 | BACC47EZ2 | Gold | Standard |
| | | 10-60479-44 | Rhodium | Standard |
| | | 60B40037-15 | Rhodium | Standard |
| | | 60B40147-15 | Rhodium | Non-Standard |

CAUTION: THE 60B40147-15 PIN IS NON-STANDARD. IT IS INTERMATEABLE WITH THE OTHER SOCKET CONTACTS IN FIG. 736 BUT IT IS NOT INTERCHANGEABLE. IT SHOULD NOT BE USED AS A REPLACEMENT FOR THE OTHER FOUR SOCKET CONTACTS. THE 60B40147-15 IS DESIGNED TO BE POTTED IN THE CONNECTOR. IT WILL NOT LATCH IN THE CONNECTOR RETAINING CLIPS.

Boeing Part Numbers
For Shielded Socket Contacts
Figure 736

3) Figure 737 lists the supplier part numbers for the shielded pin contacts used in MIL-C-26500 connectors.

| Contact Size | | Supplier | Shielded Pin Contact Part Number | | Contact Configuration |
|---|---|---|---|---|---|
| Shielded | Center | | Gold Finish | Rhodium Finish | |
| 1 | 22 | Boeing | BACC47EX1 | -- | Standard |
| | | Amphenol | 21-33500-3 | -- | |
| | | Cinch | C48-1226-03 | -- | |
| | | Tri-Star | 319-12CX-547 | -- | |
| 2 | 20 | Boeing | BACC47EZ1 | 10-60479-41 | |
| | | | | 60B40037-16 | |
| | | Amphenol | 21-33504-60 | 48-1292-02 | |
| | | Cinch | C48-2187-03 | CN0940-41 | |
| | | Tri-Star | 319-08CX-548 | -- | |
| | | Boeing | -- | 60B40147-16 | Non-Standard |
| | | Cinch | -- | CN0958-16 | |

Supplier Part Numbers
For Shielded Pin Contacts
Figure 737

4) Figure 738 lists the supplier part numbers for the shielded socket contacts used in MIL-C-26500 connectors.

| Contact Size | | Supplier | Shielded Pin Contact Part Number | | Contact Configuration |
|---|---|---|---|---|---|
| Shielded | Center | | Gold Finish | Rhodium Finish | |
| 1 | 22 | Boeing | BACC47EZ1 | -- | Standard |
| | | Amphenol | 21-33501-3 | -- | |
| | | Cinch | C48-1227-03 | -- | |
| | | Tri-Star | 310-12CX-547 | -- | |
| 2 | 20 | Boeing | BACC47EZ2 | 10-60479-44 | |
| | | | | 60B40037-15 | |
| | | Amphenol | 21-33505-60 | 48-2979-01 | |
| | | Cinch | C48-2188-03 | CN0940-44 | |
| | | Tri-Star | 310-08CX-548 | -- | |
| | | Boeing | -- | 60B40147-15 | Non-Standard |
| | | Cinch | -- | CN0958-15 | |

Supplier Part Numbers
For Shielded Socket Contacts
Figure 738

E. Wire Preparation Procedures for Standard, Thermocouple and Special Purpose Contacts

(1) Use the procedures in Par. 1 to remove the insulation from the end of the wire.

(2) Use the procedures that follow to make a selection of the length of the insulation to remove.

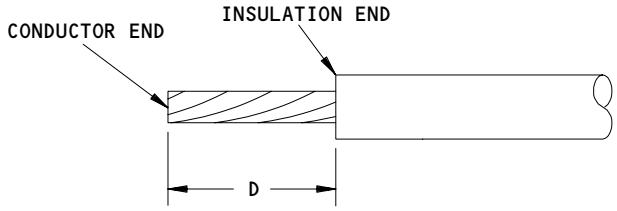
(a) Figure 739 lists the distance, D, from the end of the conductor to the end of the remaining insulation. Figure 740 shows the distance, D.

| Contact Size | | Conductor (AWG) | Distance, D (inch) | | | Special Instructions |
|---|---|---|---|---|---|---|
| Engaging | Crimp | | Lower | Target | Upper | |
| 20 | 20 | 24 | 0.17 | 0.19 | 0.21 | ----- |
| | | 22 | 0.17 | 0.19 | 0.21 | |
| | | 20 | 0.17 | 0.19 | 0.21 | |
| | 18 | 18 | 0.23 | 0.25 | 0.27 | |
| | 16 | 16 | 0.23 | 0.25 | 0.27 | |
| | | 15 | 0.23 | 0.25 | 0.27 | |
| 16 | 16 | 24 | 0.47 | 0.50 | 0.53 | Fold the conductor back on itself so that the finished length, L, is 0.25 inch. See Fig. 741. |
| | | 22 | 0.47 | 0.50 | 0.27 | Fold the conductor back on itself so that the finished length, L, is 0.25 inch. See Fig. 741. |
| | | 20 | 0.23 | 0.25 | 0.27 | ----- |
| | | 18 | 0.23 | 0.25 | 0.27 | |
| | | 16 | 0.23 | 0.25 | 0.27 | |
| | 14 | 14 | 0.23 | 0.25 | 0.27 | |
| | | 13 | 0.23 | 0.25 | 0.27 | |

Distance of the End of the Conductor to the End of the Insulation
for Standard Thermocouple, and Special Purpose Contacts
Figure 739 (Page 1)

| Contact Size | | Conductor (AWG) | Distance, D (inch) | | | Special Instructions |
|---|---|---|---|---|---|---|
| Engaging | Crimp | | Lower | Target | Upper | |
| 12 | 12 | 20 | 0.47 | 0.50 | 0.53 | Fold the conductor back on itself so that the finished length, L, is 0.25 inch. See Fig. 741. |
| | | 18 | 0.47 | 0.50 | 0.53 | Fold the conductor back on itself so that the finished length, L, is 0.25 inch. See Fig. 741. |
| | | 16 | 0.23 | 0.25 | 0.27 | ----- |
| | | 15 | 0.23 | 0.25 | 0.27 | |
| | | 14 | 0.23 | 0.25 | 0.27 | |
| | | 13 | 0.23 | 0.25 | 0.27 | |
| | | 12 | 0.23 | 0.25 | 0.27 | |

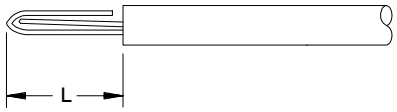
Distance of the End of the Conductor to the End of the Insulation
for Standard Thermocouple, and Special Purpose Contacts
Figure 739 (Page 2)




Preparation of Wire Before Crimping
Figure 740

C76609

(b) If Fig. 739 gives instructions to fold the conductor back on itself, use the procedures in Par. 1 to fold back the conductor. Figure 741 shows the finished length, L, of the folded back conductor and Fig. 739 gives the finished length, L.




Folded Back Conductor
Figure 741

C80187

(3) Special Purpose Wire and Cable Preparation Procedures

(a) To remove insulation materials from Champlain 24-00034 Firezone wire.

1) Use the procedures in Par. 2 to remove a 1.5 ±0.03 inch length of the outer Teflon jacket and the layer of asbestos braid from the end of the wire.

2) Make sure you do not cut the silicone rubber dielectric layer under the asbestos braid.

3) Use the procedures in Par. 2 to remove a 0.3 ±0.15 inch length of the silicone rubber dielectric layer and the Kapton tape insulation from the end of the wire.

4) Push a 1.4 ±0.13 inch length of 0.190 (3/16) inch diameter TFE 4X heat shrinkable Teflon sleeving along the wire.

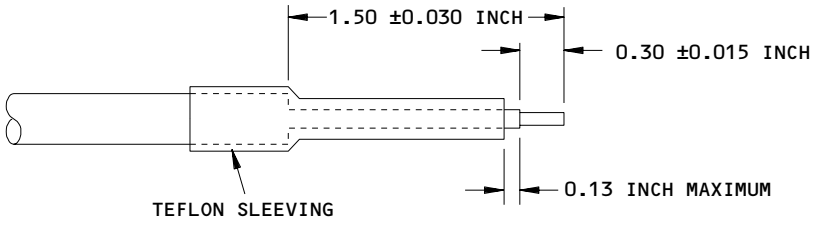
5) Make sure that the end of the Teflon sleeving touches the end of the silicone rubber dielectric layer. Figure 742 shows the position of the Teflon sleeving related to the silicone rubber dielectric layer.

6) Use the procedures of REPAIR 4-1 to shrink the Teflon sleeving in place.

7) Make sure the end of the Teflon sleeving is within 0.13 inches of the end of the silicon rubber dielectric layer.

8) Make sure that the end of the Teflon sleeving does not overlap the silicone rubber dielectric layer.

9) Figure 742 shows the wire after this procedure.




Preparation of Champlain 24-00034 Firezone Wire
Figure 742

C76623

(b) To Remove Insulation Materials From AWG 18 Cerro H22-4000 Fire Resistant Wire

1) Use the procedures in Par. 2 to remove a 1.5 ±0.03 inch length of the outer braid material and the clear Teflon inner tape from teh end of the wire.

2) Make sure you do not cut the inner dielectric lay under the Teflon tape.

3) Use the procedures in Par. 2 to remove a 0.3 ±0.15 inch length of the inner dielectric material fromthe end of the wire.

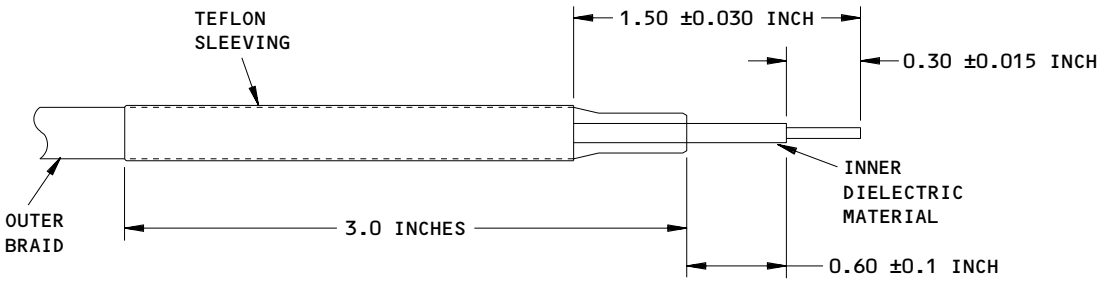
4) Push a 3.0 ±0.25 inch length of 0.25 (1/4) inch diameter TFE 4X heat shrinkable Teflon sleeving along the wire.

5) Make sure that the end of the Teflon sleeving is 0.60 ±0.1 inches from the end of the inner dielectric material from the end of the wire.

6) Use the procedures of REPAIR 4-1 to shrink the Teflon sleeving in place.

7) Make sure the end of the Teflon sleeving is not more than 0.7 inches from the end of the inner dielectric material.

8) Figure 743 shows the wire after this procedure.




Reducing the Diameter of Firezone Wire
Figure 743

C76639

(c) To Remove Insulation Materials From Belden 8787 Cable

1) Remove a 1.5 ±0.1 inch length of the outer jacket from the end of the cable.

CAUTION: MAKE SURE THAT YOU DO NOT DAMAGE THE INSULATION ON THE INNER WIRES.

CAUTION: MAKE SURE THAT YOU DO NOT DAMAGE THE UNINSULATED SHIELD DRAIN WIRES.

2) Cut the red foil tape and the green foil tape so that the end of these foil tapes in not more than 0.06 inch from the end of the outer jacket.

3) Cut the clear Mylar tape that is below the red foil tape and the green foil tape so that the clear Mylar tape is not more than 0.06 inch from the end of the outer jacket.

CAUTION: DO NOT CUT THE DRAIN WIRES AT THIS TIME. YOU WILL TERMINATE THE DRAIN WIRES SUBSEQUENTLY, AS A PART OF THIS PROCEDURE.

4) Push a 1.5 ±0.2 inch length of 0.38 (3/8) inch diameter PD (MS-70) heat shrinkable sleeving over the outer jacket. Do not shrink the heat shrinkable sleeving.

5) If the wiring diagram shows that a drain wire attaches to a contact, do the procedure in Steps 6), 7), and 8). If the wiring diagram shows that a drain wire does not attach to a contact or to the connector, do the procedure in Step 10).

6) Push a 1.2 ±0.06 inch length of 0.06 (1/16) inch diameter RT-876 heat shrinkable sleebing along the drain wire.

7) Make sure that the end of the heat shrinkable sleeving touches the end of the outer jacket.

8) Use the procedures of REPAIR 4-1 to shrink the heat shrinkable sleeving on the drain wire.

9) Go to Step 11).

10) If the wiring diagram shows that a drain wire does not attach to a contact or to the connector, cut the drain wire so that the end of the drain wire is not more htan 0.06 inches from the end of the outer jacket.

11) Use the procedures of 2.E.(2) and Par. 1 to remove the insulation from the wires.

(d) Use the procedures of 2.E.(1) and 2.E.(2) to remove the insulationf rom the wires of the S280T007-1 coil cable.

(e) Use the procedures of 2.E.(1) and 2.E.(2) to remove the insulation from the wires of the Champlain 51-04569 cable.

(f) Use the procedures of Par. 2.E.(1) and 2.E.(2) to remove the insulation from the wires of the Champlain 51-04570 cable.

F. Crimping Tool Selection Procedures for Standard, Thermocouple and Special Purpose Contacts

(1) Contact Crimping Procedure

(a) Use the procedure in Par. 1 to crimp standard, thermocouple, and special purpose contacts.

(2) Crimping Tool Selection Procedure

(a) Select the crimping tool:

1) Make a selection of the correct part number for the crimping tool and locator combination from the recommended tool and locator combinations in Fig. 744, 745, or 746.

2) If the crimping tools in Fig. 744, 745 or 746 are not available, make the selection of the correct crimping tool and locator combination from those alternative crimping tool and locator combinations in Fig. 744, 745, or 746.

(b) Use the numbers that follow to make the selection of the crimping tool and locator combination:

1) The contact engaging end size

a) For the size 20 contacts, make the selection from Fig. 744 or 747.

b) For the size 16 contacts, make the selection from Fig. 745 or 748.

c) For the size 12 contacts, make the selection from Fig. 746 or 749.

2) The contact crimp barrel size

3) The conductor AWG

(c) Make a selection of the correct locator adjustment for the crimp tool locator from those in Fig. 744, 745, or 746, or Fig. 747, 748, or 749.

(d) Use the numbers that follow to make the selection of the crimp tool locator adjustment:

1) The contact engaging end size

a) For the size 20 contacts, make the selection from Fig. 744 or 747.

b) For the size 16 contacts, make the selection from Fig. 745 or 748.

c) For the size 12 contacts, make the selection from Fig. 746 or 749.

2) The contact crimp barrel size

3) The conductor AWG

4) The crimping tool part number

5) The locator part number

(e) Set the locator adjustment at this position

(3) Crimping Tool Combination Equivalency Number

(a) The Crimping Tool Combination is an identification number for each recommended crimping tool combination in Fig. 744, 745 and 746. A Crimping Tool Combination is a special combination of the numbers that follow:

1) The crimping tool part number

2) The locator tool part number

3) The locator dial and color setting

(b) Use the Crimping Tool Combination Equivalency Number to identify mechanically equivalent crimping tool combinations in Fig. 744 and 747, Fig. 745 and 748, and Fig. 746 and 749.

(c) For example, to crimp and AWG 24 wire in a size 20 contact with a size 20 crimp barrel, a recommended Crimping Tool Combination in Fig. 744 is as follows:

1) M22520/02-01 Crimping Tool

2) M22520/01-02 Locator Tool

3) Locator Die Setting of 2

4) Locator Color Setting of Red

NOTE: This crimping tool combination has a Crimping Tool Combination Equivalency Number of 2.

(d) Use the process that follows to make a selection of a machanically equivalent crimping tool combination in the alternative tool in Fig. 747.

1) Make a selection of a crimping tool combination equivalency number in Fig. 744.

2) Identify the crimping tool combinations in Fig. 747 that has the same crimping tool combination equivalency number as the number in Fig. 744.

(e) In this example, the crimping tool combinations in Fig. 747 that have a Crimping Tool Combination Equivalency Number of 2 are as follows:

1) 85-550 Crimping Tool

2) M22520/01-02 Locator Tool

3) Locator Dial Setting of 2

4) Locator Color Setting of Red

5) WA27F Crimping Tool

6) M22520/01-02 Locator Tool

7) Locator Dial Setting of 2

8) Locator Dial Setting of Red

(4) Crimping Tools and Locator Part Numbers

(a) Figure 744 lists the part number for the recommended contact crimping tools and locators for crimping size 20 Standard, Thermocouple, and Special Purpose contacts for MIL-C-26500 connectors.

(b) Figure 744 also lists the locator setting for the different conductor gauges and the crimp barrel sizes.

| Contact Size | | Conductor (AWG) | Crimp Tool Part Number | Locator Tool Part Number | Locator Part Number | | Crimping Tool Combination Equivalency Number |
|---|---|---|---|---|---|---|---|
| Engaging End | Crimp Barrel | | | | Dial | Color | |
| 20 | 20 | 24 | M22520/2-01 | M22520/2-02 | 5 | - | 01 |
| | | | M22520/1-01 | M22520/1-02 | 2 | Red | 02 |
| | | 22 | M22520/2-01 | M22520/2-02 | 6 | - | 03 |
| | | | M22520/1-01 | M22520/1-02 | 3 | Red | 04 |
| | | 20 | M22520/2-01 | M22520/2-02 | 7 | - | 05 |
| | | | M22520/1-01 | M22520/1-02 | 4 | Red | 06 |
| | 18 | 18 | M22520/2-01 | M22520/2-02 | 8 | - | 07 |
| | | | M22520/1-01 | M22520/1-02 | 5 | Red | 08 |
| | 16 | 16 | M22520/2-01 | M22520/2-02 | 8 | - | 07 |
| | | | M22520/1-01 | M22520/1-02 | 6 | Red | 08 |

Recommended Contact Crimping Tools
For Size 20 Standard Thermocouple, and
Special Purpose Contacts for MIL-C-26500 Connectors
Figure 744

(c) Figure 745 lists the part number for the recommended contact crimping tools and locators for crimping size 16 Standard. Thermocouple, and Special Purpose contacts for MIL-C-26500 connectors.

(d) Figure 745 also lists the locator setting for the different conductor gauges and the crimp barrel sizes.

| Contact Size | | Conductor (AWG) | Crimp Tool Part Number | Locator Tool Part Number | Locator Part Number | | Crimping Tool Combination Equivalency Number |
|---|---|---|---|---|---|---|---|
| Engaging End | Crimp Barrel | | | | Dial | Color | |
| 16 | 16 | 24 | M22520/1-01 | M22520/1-02 | 4 | Blue | 09 |
| | | 22 | M22520/1-01 | M22520/1-02 | 5 | Blue | 10 |
| | | 20 | M22520/1-01 | M22520/1-02 | 4 | Blue | 09 |
| | | 18 | M22520/1-01 | M22520/1-02 | 5 | Blue | 10 |
| | | 16 | M22520/1-01 | M22520/1-02 | 6 | Blue | 11 |
| | 14 | 15 | M22520/1-01 | M22520/1-02 | 7 | Blue | 12 |
| | | 14 | M22520/1-01 | M22520/1-02 | 7 | Blue | 12 |
| | | 13 | M22520/1-01 | M22520/1-02 | 7 | Blue | 12 |

Recommended Contact Crimping Tools
For Size 16 Standard Thermocouple, and
Special Purpose Contacts for MIL-C-26500 Connectors
Figure 745

(e) Figure 746 lists the part number for the recommended contact crimping tools and locators for crimping size 12 Standard, Thermocouple, and Special Purpose contacts for MIL–C–26500 connectors.

(f) Figure 746 also lists the locator setting for the different conductor gauges and the crimp barrel sizes.

| Contact Size | | Conductor (AWG) | Crimp Tool Part Number | Locator Tool Part Number | Locator Part Number | | Crimping Tool Combination Equivalency Number |
|---|---|---|---|---|---|---|---|
| Engaging End | Crimp Barrel | | | | Dial | Color | |
| 12 | 12 | 24 | M22520/1-01 | M22520/1-02 | 6 | Yellow | 13 |
| | | 18 | M22520/1-01 | M22520/1-02 | 7 | Yellow | 14 |
| | | 16 | M22520/1-01 | M22520/1-02 | 6 | Yellow | 13 |
| | | 15 | M22520/1-01 | M22520/1-02 | 7 | Yellow | 14 |
| | | 14 | M22520/1-01 | M22520/1-02 | 7 | Yellow | 14 |
| | | 13 | M22520/1-01 | M22520/1-02 | 7 | Yellow | 14 |
| | | 12 | M22520/1-01 | M22520/1-02 | 8 | Yellow | 15 |
| | 10 | 10 | M22520/1-01 | M22520/1-02 | 7 | Yellow | 14 |

Recommended Contact Crimping Tools
For Size 12 Standard, Thermocouple, and
Special Purpose Contacts for MIL-C-26500 Connectors
Figure 746

(g) Figure 747 lists the part number for the alternative contact crimping tools and locators for crimping size 20 Standard, Thermocouple and Special Purpose contacts for MIL-C-26500 connectors.

(h) Figure 747 also lists the locator setting for the different conductor gages and the crimp barrel sizes.

| Contact Size | | Conductor (AWG) | Crimp Tool Part Number | Locator Tool Part Number | Locator Part Number | | Crimping Tool Combination Equivalency Number |
|---|---|---|---|---|---|---|---|
| Engaging End | Crimp Barrel | | | | Dial | Color | |
| | 20 | 24 | 85-220 | M22520/2-02 | 5 | - | 01 |
| | | | WA22 | M22520/2-02 | 5 | - | 01 |
| | | | WA22LC | M22520/2-02 | 5 | - | 01 |
| | | | 85-550 | M22520/1-02 | 2 | Red | 02 |
| | | | WA27F | M22520/1-02 | 2 | Red | 02 |
| | | | M10S-5 | SL-3 | - | - | - |
| | | 22 | 85-220 | M22520/2-02 | 6 | - | 03 |
| | | | WA22 | M22520/2-02 | 6 | - | 03 |
| | | | WA22LC | M22520/2-02 | 6 | - | 03 |
| | | | WA27F | M22520/1-02 | 3 | Red | 04 |
| | | | M10S-6 | SL-3 | - | - | - |
| | | 20 | 85-220 | M22520/2-02 | 7 | - | 05 |
| | | | WA22 | M22520/2-02 | 7 | - | 05 |
| | | | WA22LC | M22520/2-02 | 7 | - | 05 |
| | | | 85-550 | M22520/1-02 | 4 | Red | 06 |
| | | | WA27F | M22520/1-02 | 4 | Red | 06 |
| | | | M10S-6 | SL-3 | - | - | - |
| | 18 | 18 | WA22 | M22520/2-02 | 8 | - | 07 |
| | | | WA27F | M22520/1-02 | 5 | Red | 08 |
| | 16 | 16 | M22520/2-01 | K977 | 8 | - | - |

Alternative Contact Crimping Tools
For Size 20 Standard, Thermocouple, and
Special Purpose Contacts for MIL-C-26500 Connectors
Figure 747

(i) Figure 748 lists the part number for the alternative contact crimping tools and locators for crimping size 16 Standard. Thermocouple, and Special Purpose contacts for MIL-C-26500 connectors.

(j) Figure 748 also lists the locator setting for the different conductor gages and the crimp barrel sizes.

| Contact Size | | Conductor (AWG) | Crimp Tool Part Number | Locator Tool Part Number | Locator Part Number | | Crimping Tool Combination Equivalency Number |
|---|---|---|---|---|---|---|---|
| Engaging End | Crimp Barrel | | | | Dial | Color | |
| 16 | 16 | 24 | 85-550 | M22520/1-02 | 4 | Blue | 09 |
| | | | WA27F | M22520/1-02 | 4 | Blue | 09 |
| | | 22 | 85-550 | M22520/1-02 | 5 | Blue | 10 |
| | | | WA27F | M22520/1-02 | 5 | Blue | 10 |
| | | 20 | 85-550 | M22520/1-02 | 4 | Blue | 09 |
| | | | WA27F | M22520/1-02 | 4 | Blue | 09 |
| | | | M10S S-7 | SL-2 | - | - | - |
| | | 18 | 85-550 | M22520/1-02 | 5 | Blue | 10 |
| | | | WA27F | M22520/1-02 | 5 | Blue | 10 |
| | | | M10S S-7 | SL-2 | - | - | - |
| | | 16 | 85-550 | M22520/1-02 | 6 | Blue | - |
| | | | WA27F | M22520/1-02 | 6 | Blue | - |
| | | | M10S S-7 | SL-3 | - | - | - |
| | 14 | 15 | WA27F | M22520/1-02 | 7 | Blue | - |
| | | 14 | WA27F | M22520/1-02 | 7 | Blue | - |
| | | 13 | WA27F | M22520/1-02 | 7 | Blue | - |

Alternative Contact Crimping Tools
For Size 16 Standard, Thermocouple, and
Special Purpose Contacts for MIL-C-26500 Connectors
Figure 748

(k) Figure 749 lists the part number for the alternative contact crimping tools and locators for crimping size 12 Standard, Thermocouple, and Special Purpose contacts for MIL-C-26500 connectors.

(l) Figure 749 also lists the locator setting for the different conductor gages and the crimp barrel sizes.

| Contact Size | | Conductor (AWG) | Crimp Tool Part Number | Locator Tool Part Number | Locator Part Number | | Crimping Tool Combination Equivalency Number |
|---|---|---|---|---|---|---|---|
| Engaging End | Crimp Barrel | | | | Dial | Color | |
| 12 | 12 | 20 | 85-550 | M22520/1-02 | 6 | Yellow | 13 |
| | | | WA27F | M22520/1-02 | 6 | Yellow | 13 |
| | | 18 | M22502/1-01 | M22520/1-02 | 7 | Yellow | 14 |
| | | | 85-550 | M22520/1-02 | 7 | Yellow | 14 |
| | | | WA27F | M22520/1-02 | 7 | Yellow | 14 |
| | | 16 | 85-550 | M22520/1-02 | 6 | Yellow | 13 |
| | | | WA27F | M22520/1-02 | 6 | Yellow | 13 |
| | | 15 | 85-550 | M22520/1-02 | 7 | Yellow | 14 |
| | | | WA27F | M22520/1-02 | 7 | Yellow | 14 |
| | | 14 | MS10S S-8 | SL-4 | - | - | - |
| | | | 85-550 | M22520/1-02 | 7 | Yellow | 14 |
| | | | WA27F | M22502/1-02 | 7 | Yellow | 14 |
| | | 13 | 85-550 | M22520/1-02 | 7 | Yellow | 14 |
| | | | WA27F | M22520/1-02 | 7 | Yellow | 14 |
| | | 12 | M10S S-8 | SL-4 | - | - | - |
| | | | 85-550 | M22520/1-02 | 8 | Yellow | 15 |
| | | | WA27F | M22520/1-02 | 8 | Yellow | 15 |
| | | | WA27F | M22520/1-02 | 6 | Yellow | - |
| | 10 | 10 | WA27F | M22520/1-02 | 7 | Yellow | 14 |

Alternative Contact Crimping Tools
For Size 12 Standard, Thermocouple, and
Special Purpose Contacts for MIL-C-26500 Connectors
Figure 749

G. Contact Insertion and Removal Tool Selection Procedure for Standard, Thermocouple and Special Purpose Contacts

(1) Contact Insertion Tools for Standard, Thermocouple and Special Purpose Contacts

(a) Use the procedures in Par. 1 to insert standard, thermocouple and special purpose contacts in MIL-C-26500 connectors.

(b) Figure 750 lists the recommended contact insertion tools to use to insert a Size 20, 16, and 12 contacts in a MIL-C-26500 connector.

| Contact Size | | Insertion Tool Part Number | Selection Preference Rating |
|---|---|---|---|
| Engaging End | Crimp Barrel | | |
| 20 | 20 | M81969/17-03 | 1 |
| 16 | 16 | M81969/17-04 | 1 |
| 12 | 12 | M81969/17-05 | 1 |

Recommended Contact Insertion Tools
For Size 20, 16, and 12 Contacts for MIL-C-26500 Connectors
Figure 750

(c) Figure 751 lists the alternative contact insertion tools to use to insert Size 20, 16, and 12 contacts in a MIL-C-26500 connector.

CAUTION: INSERT THESE TOOLS INTO THE CONTACT CAVITIES IN THE REAR GROMMET OF MIL-C-26500 CONNECTORS. IF YOU TRY TO INSERT THE TOOLS INTO THE CONTACT CAVITIES IN THE FRONT FACE OF THE CONNECTOR YOU CAN DAMAGE THE TOOL AND THE CONNECTOR.

(d) Make a selection of the contact insertion tool from the recommended contact insertion tools in Fig. 750 or the alternative contact insertion tools in Fig. 751. Use the numbers that follow to make the selection:

1) The outside diameter of the wire

2) The contact engaging end size

3) The selection preference number

WARNING: DO NOT OPERATE AN INSERTION TOOL THAT HAS A BENT TIP OR BIT. THE BENT TIP OR BIT CAN BREAK AND CAUSE INJURY TO THE OPERATOR'S HAND.

| Contact Size | | Insertion Tool Part Number | Selection Preference Rating |
|---|---|---|---|
| Engaging End | Crimp Barrel | | |
| 20 | 20 | 294-88 | 2 |
| | | AT1020 | 2 |
| | | ZZL-R-9510-20 | 2 |
| | | MS24256A20 | 3 |
| 16 | 16 | 294-96 | 2 |
| | | AT 1016 | 2 |
| | | ATB01108 | 2 |
| | | ATB01108-16 | 2 |
| | | ATB01108-90 | 2 |
| | | RTM16-2 | 2 |
| | | ZZL-R-9510-16 | 2 |
| | | MS24256A16 | 3 |
| 12 | 12 | 294-72 | 2 |
| | | AT 1012 | 2 |
| | | RTM12-5 | 2 |
| | | ZZL-R-9510-12 | 2 |
| | | MS24256A12 | 3 |

Alternative Contact Insertion Tools
For Size 20, 16, and 12 Contacts for MIL-C-26500 Connectors
Figure 751

(2) Contact Removal Tools for Standard, Thermocouple, and Special Purpose Contacts

(a) Use the procedures in Par. 1 to remove the standard, thermocouple, and special purpose contacts for MIL-C-26500 connectors.

(b) Figure 752 lists the recommended contact removal tools to use to remove Size 20, 16, and 12 contacts from MIL-C-26500 connectors.

(c) Figure 753 lists the alternative contact removal tools to use to remove Size 20, 16, and 12 contacts from MIL-C-26500 connectors.

CAUTION: INSERT THESE TOOLS INTO THE CONTACT CAVITIES IN THE REAR GROMMET OF MIL-C-26500 CONNECTORS. IF YOU TRY TO INSERT THE TOOLS INTO THE CONTACT CAVITIES IN THE FRONT FACE OF THE CONNECTOR YOU CAN DAMAGE THE TOOL AND THE CONNECTOR.

(d) Make a selection of the contact insertion tool from the recommended contact removal tools in Fig. 752 or the alternative contact removal tools in Fig. 753. Use the numbers that follow to make the selection:

1) The outside diameter of the wire

2) The contact engaging size

3) The selection preference number

WARNING: DO NOT USE A REMOVAL TOOL THAT HAS A BENT TIP OR BIT. THE BENT BIT OR TIP CAN BREAK AND CAUSE INJURY TO THE OPERATOR'S HAND.

CAUTION: INSERT THESE TOOLS CAREFULLY INTO THE CONTACT CAVITIES IN THE FRONT FACE OF THE CONNECTOR. IF YOU INSERT THESE TOOLS INTO THE CONTACT CAVITIES IN THE REAR GROMMET, YOU WILL DAMAGE THE CONNECTOR.

| Contact Engaging End Size | Removal Tool Number | Selection Preference Rating |
|---|---|---|
| 20 | M81969/19-06 | 1 |
| 16 | M81969/19-01 | 1 |
| 12 | M81969/19-02 | 1 |

Recommended Contact Removal Tools
For Size 20, 16, and 12 Contacts in MIL-C-26500 Connectors
Figure 752

| Contact Engaging End Size | Removal Tool Number | Selection Preference Rating |
|---|---|---|
| 20 | 294-89 | 2 |
| | AT2020 | 2 |
| | RX20-24V5 | 2 |
| | ZZL-R-9515-20 | 2 |
| | MS24256R20 | 3 |
| 16 | AT2016 | 2 |
| | RX16-8 | 2 |
| | 294-97 | 2 |
| | ZZL-R-9511-16 | 2 |
| | MS24256R16 | 3 |
| 12 | 294-73 | 2 |
| | AT2012 | 2 |
| | RX12-7 | 2 |
| | ZZL-R-9511-12 | 2 |
| | MS24256R12 | 3 |

Alternative Contact Removal Tools
For Size 20, 16, and 12 Contacts in MIL-C-26500 Connectors
Figure 753

H. Shielded Contacts

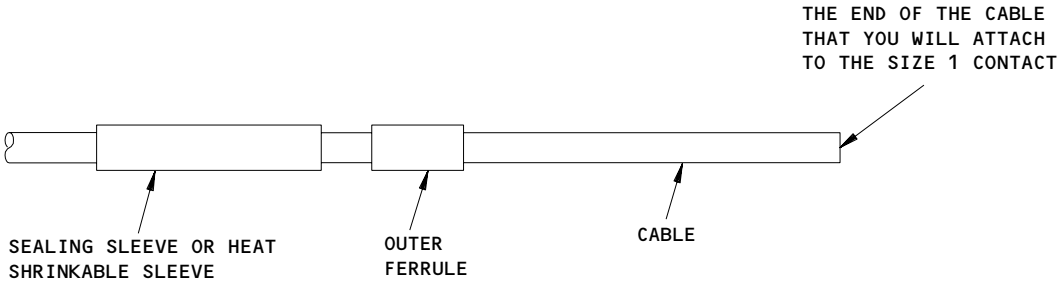
(1) Assembly of Size 1 Shielded Contacts

(a) Put the sealing sleeve or a one inch length of heat shrinkable sleeving on the cable.

NOTE: Use the procedures in REPAIR 4-1 to prepare the one inch length of heat shringable sleeving.

(b) Put the outer ferrule on the cable.

NOTE: Figure 754 shown the position of the sealing sleeve or the heat shrinkable sleeve and the outer ferrule on the cable.



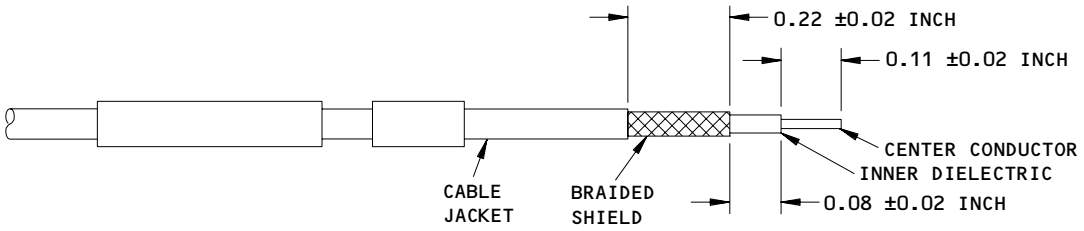

Position of the Sealing Sleeve or Heat Shrinkable Sleeve
and the Outer Ferrule on the Cable
Figure 754

C80225

(c) Use the procedures in Par. 1 to remove a length of the cable jacket, the braided shield, and the inner dielectric from the cable you will attach to the Size 1 shielded contact.

CAUTION: DURING THE INSULATION REMOVAL PROCEDURE, BE CAREFUL NOT TO CUT OR MAKE A NICK IN THE BRAIDED SHIELD, THE INNER DIELECTRIC, OR THE CENTER CONDUCTOR. DAMAGE TO THE CABLE WILL CAUSE UNSATISFACTORY CABLE PERFORMANCE AND UNSATISFACTORY CABLE RELIABILITY IN THE AIRPLANE.

NOTE: Figure 755 gives the dimensions of the completed cable end.




Cable Preparation for Size 1 Shielded Contact
Figure 755

C76647

(d) Make sure that there are no frayed center conductor strands.

NOTE: If the center conductor strands are frayed, twist the center conductor strands in the direction of the center conductor lay until the center conductor strands are together.

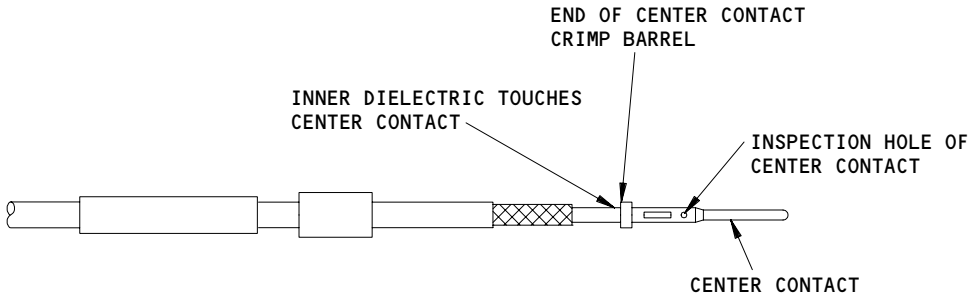
(e) Push the center conductor into the center contact crimp barrel until the end of the inner dielectric touches against the end of the center contact crimp barrel

NOTE: Figure 756 shows the position of the inner dielectric and the end of the center contact crimp barrel.

(f) Make sure that all the center conductor strands are in the center cntact crimp barrel.

(g) Make sure that you can see the center conductor strands when you look through theinspection hole.

(h) Make sure the inner dielectric touches the center contact.




Position of Center Contact on Cable for Crimping
Figure 756

C76655

(i) Make a selection of the crimping tool and the crimping tool locator and selector setting from those in Fig. 757.

| Crimping Tool | Crimping Tool Locator | Selector Setting |
|---|---|---|
| M22520/2-01 | M22520/02-33 | 6 |
| | K74S-1 | 6 |
| | 294-1631 | 5 |

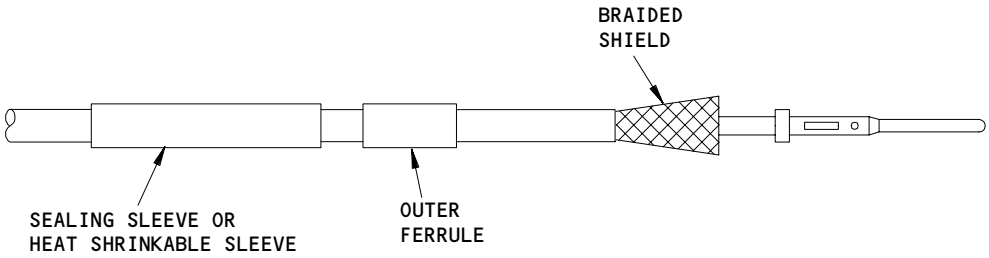
Crimping Tool and Crimping Tool Locators for
Size 2222 Center Contacts on AWG 22 Conductors
Figure 757

(j) Use the procedures in Par. 1 to crimp the center contact.

(k) Open the end of the braided shield, to let the inner ferrule of the body assembly go between the braided shield and the inner dielectric.

NOTE: Do not comb the braided shield to isolate the braided shield strands.

NOTE: Figure 758 shows the opened braided shield.

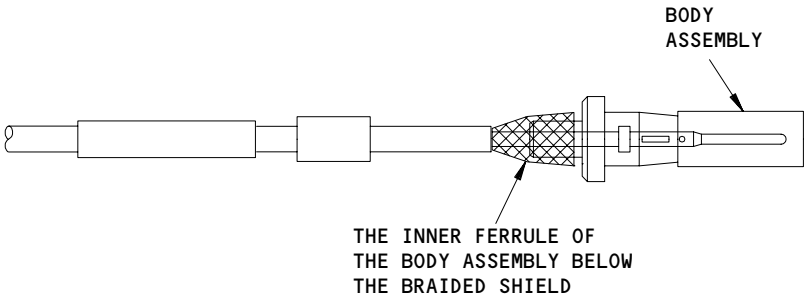



Flared Braided Shield
Figure 758

C76693

(l) Push the center contact into the inner ferrule of the body assembly.

NOTE: Figure 759 shows the related position of the body assembly, the center contact, the shield, and the cable.




Body Assembly Installed on the Center Contact
Figure 759

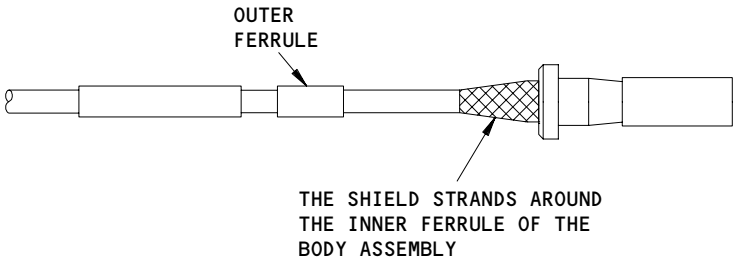
C80239

(m) Push the body assembly along the cable until the center contact locks into the body assembly.

(n) Pull lightly on the cable to make sure that the center contact locks. If the center contact moves out of the body assembly, repeat Step (m).

(o) Push the shield over the inner ferrule. Put the shield strands symmetrically around the inner ferrule.

NOTE: Figure 760 shows the shielded strands in position around the inner ferrule.

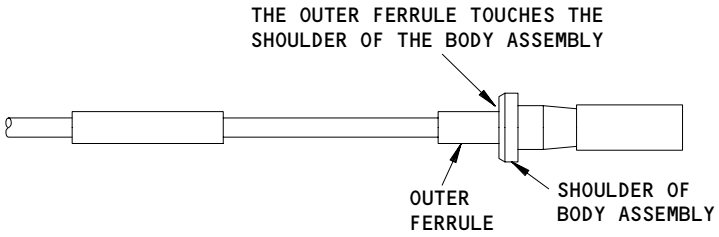



Position of the Body Assembly Locked in Place on the Center Contact
Figure 760

C80266

(p) Push the outer ferrule over the shield until the end of the outer ferrule touches the end of the body assembly.

NOTE: Figure 761 shows the position of the outer ferrule after the procedure.




Position of the Outer Ferrule for Crimping
Figure 761

C80270

(q) Make a selection of the outer ferrule crimping tool and the crimping tool locator from thost in Fig. 761A.

| Crimping Tool | Crimping Tool Die |
|---|---|
| M22520/5-01 | M22520/5-08 |
| M22520/5-01 | M22520/5-35 |
| WT-200 | -- |

Size 1 Outer Ferrule Crimping Tools
Figure 761A

(r) Use the procedures in Par. 1 to crimp the outer ferrule and the body assembly to the braided shield.

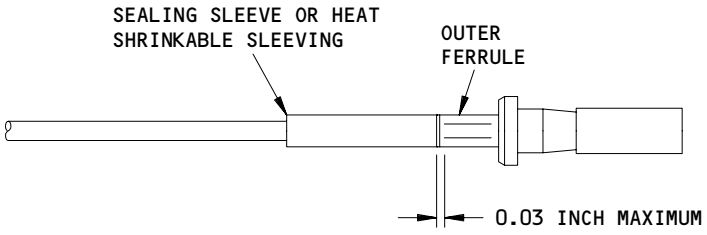
(s) Use one of the procedures that follow to put the sealing sleeve or the heat shrinkable sleeve in the correct position:

1) Sealing Sleeve

a) Push the sealing sleeve along the cable until the front end of the sealing sleeve touches the back end of the outer ferrule.

b) Make sure that the distance between the end of the outer ferrule and the sealing sleeve is less than or equal to 0.03 inch.

NOTE: Figure 762 shows the position of the sealing sleeve.




Position of Sealing Sleeve
Figure 762

C76695

2) Heat Shrinkable Sleeving

a) Push the heat shrinkable sleeving along the cable until the heat shrinkable sleeving touches the back end of the outer ferrule.

b) Use the procedures in REPAIR 4-1 to shrink the heat shrinkable sleeving in the correct position.

c) Make sure that the distance between the finished heat shrinkable sleeving and the back end of the outer ferrule is less than or equal to 0.03 inch.

NOTE: Figure 762 shows the position of the heat shrinkable sleeving.

(2) Assembly of Size 2 Shielded Contacts

(a) If you do not use the sealing boot, put the heat shrinkable sleeving assembly that follows on the cable.

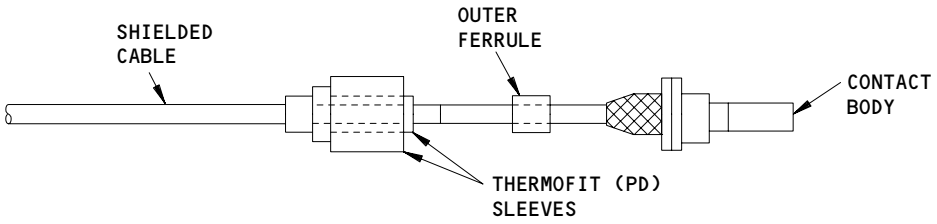
NOTE: Figure 763 shows the position of the heat shrinkable sleeving on the cable.

1) A 1.3 ±0.1 inch length of 0.13 (1/8) inch diameter RT-876 heat shrinkable sleeving

2) A 0.5 ±0.1 inch length of 0.25 (1/4) inch diameter Thermofit PD heat shrinkable sleeving

3) A 0.75 ±0.2 inch length of 0.19 (3/16) inch diameter Thermofit PD heat shrinkable sleeving

NOTE: If you use a Raychem 55A6087 cable, do not use the 1.3 inch length of RT-876 heat shrinkable sleeving.




Position of Heat Shrinkable Sleeving on Cable
Figure 763

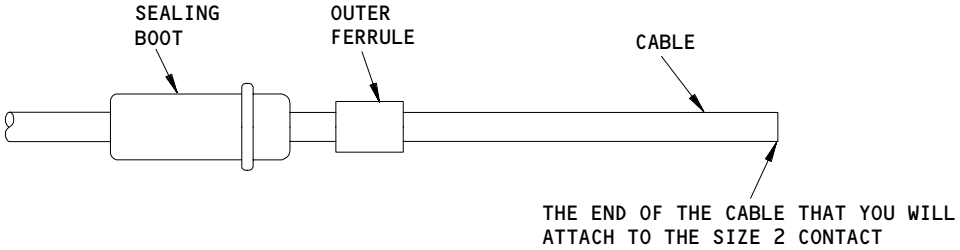
C76703

(b) If you use the sealing boot, put the sealing boot on the cable.

NOTE: Figure 764 shows the correct position of the sealing boot.

(c) Put the outer ferrule on the cable. Figure 764 shows the position of the sealing boot and the outer ferrule on the cable.

NOTE: If you use MS27184-20P or MS27185-20S contacts with an Amphenol 48-1540-02 outer ferrule, the BACS13C-156C ferrule is a satisfactory alternative ferrule to use.



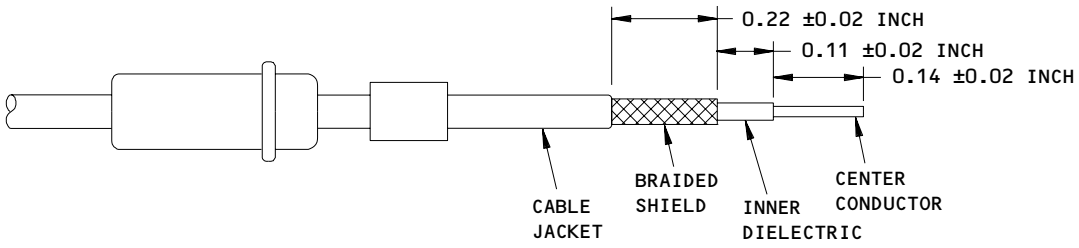

Position of Sealing Boot and Outer Ferrule on Cable
Figure 764

C80308

(d) Use the procedures in Par. 1 to remove a length of the cable jacket, the braided shield and the inner dielectric from the cable you will attach to the Size 2 shielded contact.

CAUTION: DURING THE REMOVAL PROCEDURE, BE CAREFUL NOT TO CUT OR MAKE A NICK IN THE BRAIDED SHIELD, THE INNER DIELECTRIC, OR THE CENTER CONDUCTOR. DAMAGE TO THE CABLE WILL CAUSE UNSATISFACTORY CABLE PERFORMANCE AND UNSARISFACTORY CABLE RELIABILITY IN THE AIRPLANE.

NOTE: Figure 765 gives the dimensions of the completed cable end.




Cable Preparation for Size 2 Shielded Contacts
Figure 765

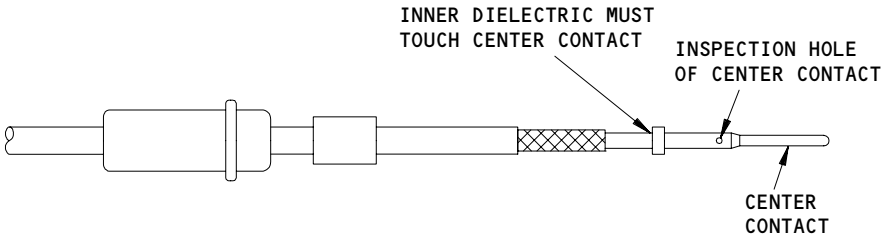
C80309

(e) Make sure that there are no frayed center conductor strands.

NOTE: If the center conductor strands are frayed, twist the center conductor strands in the direction of the center conductor lay, until the center conductor strands are together.

(f) Push the center conductor into the center contact crimp barrel until the end of the inner dielectric touches against the end of the center contact crimp barrel.

NOTE: Figure 766 shows the position of the inner dielectric and the end of the center contact crimp barrel.




Position of Center Contact on Cable for Crimping
Figure 766

C76714

(g) Make sure that all the center conductor strands are in the center contact crimp barrel.

(h) Make sure that you can see the center conductor strands when you look through the inspection hole.

(i) Make sure the inner dielectric touches the center contact.

(j) Make a selection of the crimping tool and the crimping tool locator from those in Fig. 767.

| Crimping Tool | Crimping Tool Locator | Selector Setting |
|---|---|---|
| M22520/2-01 | M22520/2-24 | 7 |
| | K755-1 | 7 |

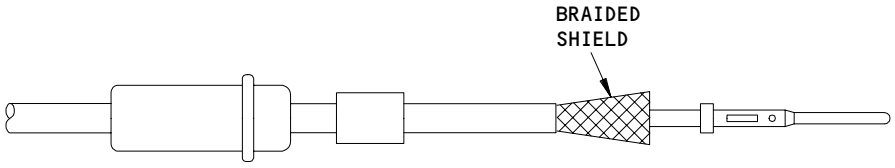
Crimping Tool and Crimping Tool Locators
for Size 20 Center Contacts for AWG 20 Conductors
Figure 767

(k) Use the procedures in Par. 1 to crimp the center contact.

(l) Open the end of the braided shield to let the inner ferrule of the body assembly go between the braided shield and the inner dielectric.

NOTE: Do not comb the braided shield to isolate the braided shield strands.

NOTE: Figure 768 shows the open braided shield.



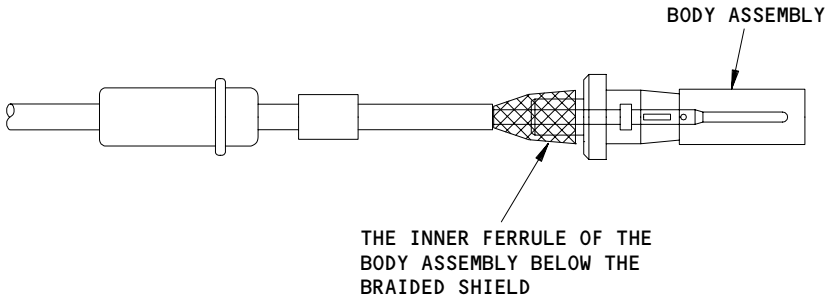

Flared Braided Shield
Figure 768

C80310

(m) Put the center contact into the inner ferrule of the body assembly.

(n) Push the body assembly along the cable until the center contact locks into the body assembly.

NOTE: Figure 769 shows the related position of the body assembly, the center contact, the shield and the cable.



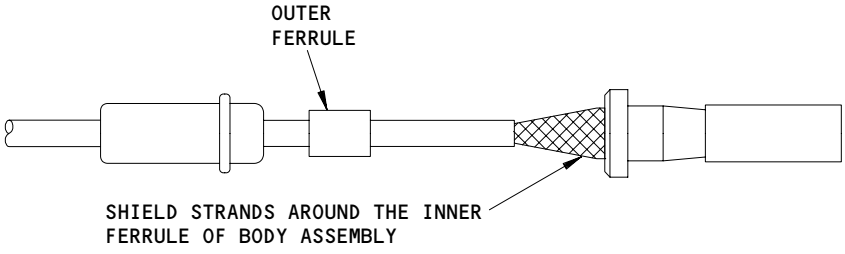

Body Assembly Installed on the Center Contact
Figure 769

C76736

(o) Pull lightly on the cable to make sure that the center contact locks. If the center contact moves out of the body assembly, repeat Step (m).

(p) Push the shield over the inner ferrule. Put the shield strands around the inner ferrule.

NOTE: Figure 770 shows the shield strands in position around the inner ferrule.

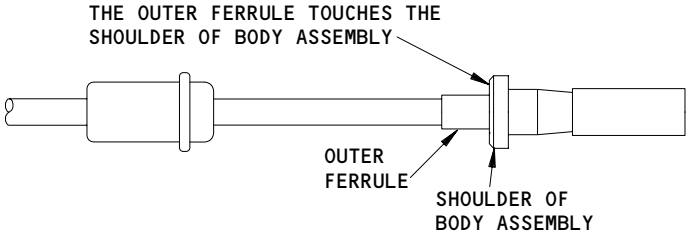



Body Assembly Locked in Place on the Center Contact
Figure 770

C80313

(q) Push the outer ferrule over the braided shield until the end of the outer ferrule touches the end of the body assembly.

NOTE: Figure 771 shows the position of the outer ferrule after this procedure.




Position of the Outer Ferrule for Crimping
Figure 771

C76739

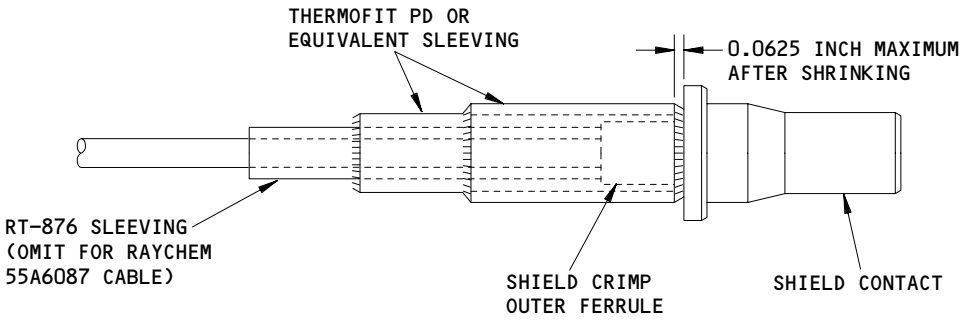
(r) Make a selection of the outer ferrule crimping tool and the crimping tool locator from those in Fig. 772.

| Crimping Tool | Crimping Tool Die |
|---|---|
| M22520/5-01 | M22520/5-10 |
| M22520/5-01 | M22520/5-39 |
| WT-202-06-08 | 5 |

Size 2 Outer Ferrule Crimping Tools
Figure 772

(s) Use the procedures in Par. 1 to crimp the outer ferrule and the body assembly to the cable shield.

(t) If you use the heat shrinkable sleeving assembly use the procedures of REPAIR 4-1 to shrink the heat shrinkable sleeving in the correct position. Figure 773 shows the correct position of the heat shrinkable sleeve.




Correct Position of Heat Shrinkable Sleeving
Figure 773

C80315

(3) Procedure to Assemblie Potted Shielded Contacts

(a) Remove a 0.57 ±0.06 inch length of the jacket from the end of the cable you will attach to the connector.

(b) Remove a 0.45 ±0.05 inch length of the braid from the end of the cable you will attach to the connector.

(c) Remove a 0.45 ±0.05 inch length of the insulation from the end of the conductor you will attach to the connector.

(d) Push the conductor into the center contact crimp barrel. Make sure that you can see the end of the conductor through the inspection hole.

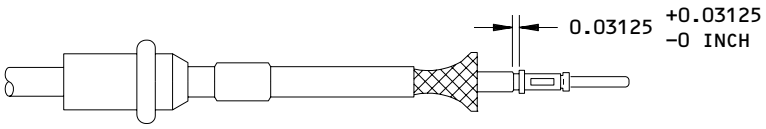
(e) Make a selection of the correct crimping tool to crimp the conductor in the center contact.

1) Use Fig. 752 to make the selection for the crimping tools for the Size 1 shielded contacts.

2) Use Fig. 753 to make the selection for the crimping tools for the Size 2 shielded contacts.

(f) Crimp the contact to the conductor.

NOTE: See Fig. 774.




Crimped Center Contact Assembly
Figure 774

C76741

(g) Clean the center contact assembly with Standard 265 Thinner.

(h) Apply A-4094 primer to the center contact assembly.

CAUTION: DO NOT APPLY A-4094 PRIMER TO THE ENGAGING END OF CENTER CONTACT, OR LET ANY A-4094 PRIMER GET ONTO THE ENGAGING END OF THE CENTER CONTACT. A-4094 PRIMER WILL CONTAMINATE THE CENTER CONTACT AND WILL PREVENT THE CONTACT FROM OPERATING STAISFACTORILY.

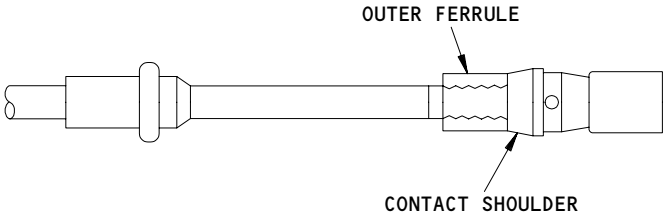
(i) Let the A-4094 primer dry.

(j) Push the center contact assembly into the shielded contact body assembly until the center contact locks in the body assembly.

(k) Pull lightly on the cable to make sure that the center contact locks in the body assembly. If the center contact assembly moves out of the body assembly, repeat Step (j).

(l) Push the cable braid over the inner ferrule. Put the braid strands around the inner ferrule.

(m) Push the outer ferrule over the braided shield until the end of the outer ferrule touches the end of the body assembly. Figure 775 shows the position of the outer ferrule.




Crimped Outer Ferrule
Figure 775

C77129

(n) Make a selection of the correct crimping tool to crimp the outer ferrule to the body assembly.

1) Use Fig. 752 to make the selection for the crimping tools for the Size 1 shielded contacts.

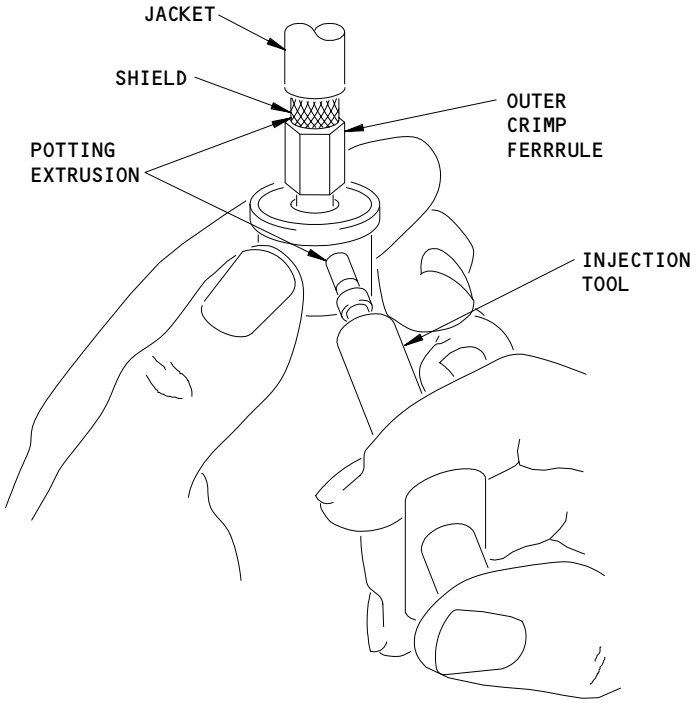
2) Use Fig. 753 to make the selection for the crimping tools for the Size 2 shielded contacts.

(o) Crimp the outer ferrule to the body assembly.

(p) Set the shielded contact assembly in a vertical position so that the engaging end of the contact points down.

(q) Put the end of the injection tool that contains RTV 11 or RTV 3110 into one of the potting filler holes in the contact body assembly.

NOTE: Figure 776 shows the location of the potting filler hold and the position of the end of the injection tool.




Shielded Contact Potting
Figure 776

C77132

(r) Push the injector of the injection tool until the potting material starts to flow out of the other potting filler hole.

(s) Cause a blockage of this hole to stop the release of the potting material from this hole.

(t) Continue to push the potting material into the contact until the potting material starts to flow out between the shield braid and the outer ferrule.

(u) Remove the injection tool and remove the blockage from the other potting filler hole.

(4) Installation Of Shielded Contacts Into the Connector

(a) Make a selection of the insertion tools from those tools in Fig. 777. Use the numbers that follow to make the selection:

1) Shielded contact size

2) Connector cavity size

(b) Examine the insertion tool.

WARNING: DO NOT USE AN INSERTION TOOL THAT HAS A BENT TIP OR BIT. THE BENT TIP CAN BREAK AND CAUSE INJURY TO THE OPERATOR'S HAND.

| Shielded Contact Size | Connector Cavity Size | Insertion Tool Number |
|---|---|---|
| 1 | 12 | 294-72 |
| | | MS24256A12 |
| | | M81969/17-05 |
| 2 | 8 | 294-128 |
| | | M81969/17-06 |

Insertion Tools for
Size 1 and 2 Shielded Contacts
Figure 777

(c) Push the shielded contact into the correct connector cavity.

(d) Put the tip of the insertion tool over the end of the shielded contact assembly.

(e) Push the insertion tool straight into the contact cavity, until the insertion tool stops.

NOTE: Make sure that the connector lock the contact. Pull lightly on the wire by the thumb and the forefinger until your fingers slip on the cable.

CAUTION: DO NOT PULL ON THE WIRE WITH A STRONG OR A SUDDEN FORCE. YOU MAY DAMAGE THE CONTACT AND THE CONNECTOR.

CAUTION: DO NOT INDENT THE WIRE INSULATION WITH FINGERNAILS. DAMAGE TO THE WIRE INSULATION WILL CAUSE UNSATISFACTORY WIRE PERFORMANCE AND UNSATISFACTORY WIRE RELIABILITY IN THE AIRPLANE.

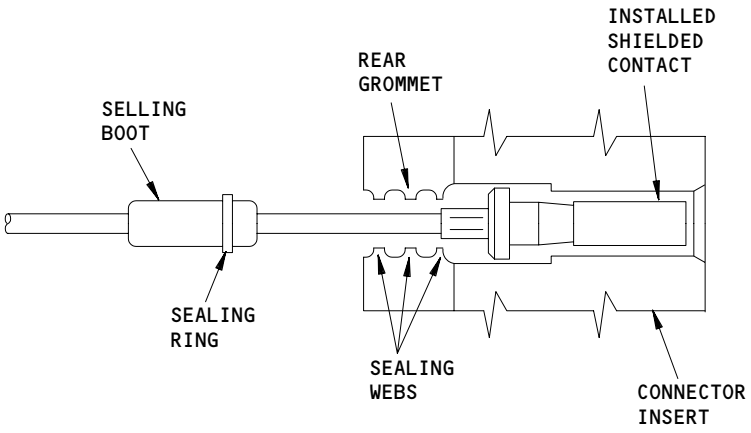
(f) If the shielded contact assembly moves out of the connector cavity, gently pull the contact out of the cavity to remove the shielded contact assembly from the connector.

(g) Use steps (c) through (e) to install the shielded contact assembly in the connector again.

(h) Use procedure that follows to install Size 2 Shielded Contacts.

1) Push the sealing boot into the connector cavity of the rear grommet.

NOTE: Figure 778 shows the position of the sealing web and the sealing ring before installation.

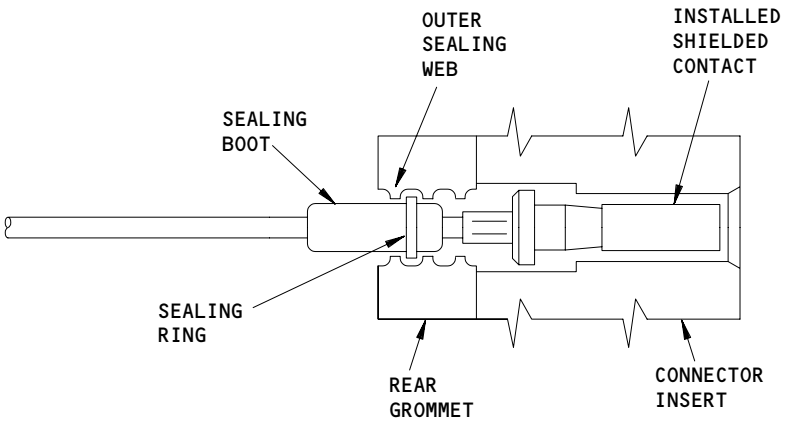



Position of the Sealing Web and the Sealing Ring
Before Insertion of the Sealing Boot
Figure 778

C80323

2) Make sure that the outer sealing web in the rear grommet catches the sealing ring on the sealing boot.

NOTE: Figure 779 shows the position of the sealing web and the sealing ring after installation.




Position of the Sealing Web and the Sealing Ring
After Insertion of the Sealing Boot
Figure 779

C77160

(5) Removal Of Shielded Contacts

CAUTION: DO NOT TRY TO REMOVE THE CENTER CONTACT FROM A SHIELDED CONTACT. IF YOU TRY TO REMOVE THE CENTER CONTACT YOU WILL CAUSE DAMAGE TO THE SHIELDED CONTACT AND THE CONNECTOR.

(a) If the shield connector has any backshell components, use the procedures in Par. 1 to remove the backshell components from the connector.

CAUTION: DO NOT TRY TO REMOVE THE REAR GROMMET FROM THE CONNECTOR. YOU WILL CAUSE DAMAGE TO THE CONNECTOR.

(b) Push the backshell components from the connector, along the wire bundle.

(c) For Size 2 shielded contacts, pull the sealing boot out of the rear grommet. Move the sealing boot along the wire away from the connector.

(d) Make a selection of the correct contact removal tool from those in Fig. 780

1) Use the numbers that follow to make the selection:

a) The shielded contact size

b) The connector cavity size

| Contact Size | Connector Cavity Size | Removal Tool Number | Supplier |
|---|---|---|---|
| 1 | 12 | M81969/19-02 | Amphenol |
| | | 294-73 | QPL |
| | | MS24256R12 | QPL |
| 2 | 8 | M81969/19-03 | Amphenol |
| | | 294-127 | QPL |

Contact Removal Tools for Shielded Contacts
Figure 780

(e) Use the removal procedures of Par. 1 to release and remove the shielded contact from the connector.

I. Sealing of Unused Shielded Contact Cavities

(1) 10-60479 Circular Connector Installation Without Using Shielded Wire

(a) Pot the shielded contact supplied with the connector with Dow Corning RTV 3110. Do not install center contact. See Fig. 776.

(b) After potting has cured, insert shielded contact into the Size 1 or shielded contact cavity until it is seated and locked in place. Use the insertion tool listed in Fig. 777.

(c) Insert the sealing boot for shielded contact into grommet.

(d) After the sealing boot is in place insert size 16 seal plug or rod in wire hole of boot until it bottoms on the contact.

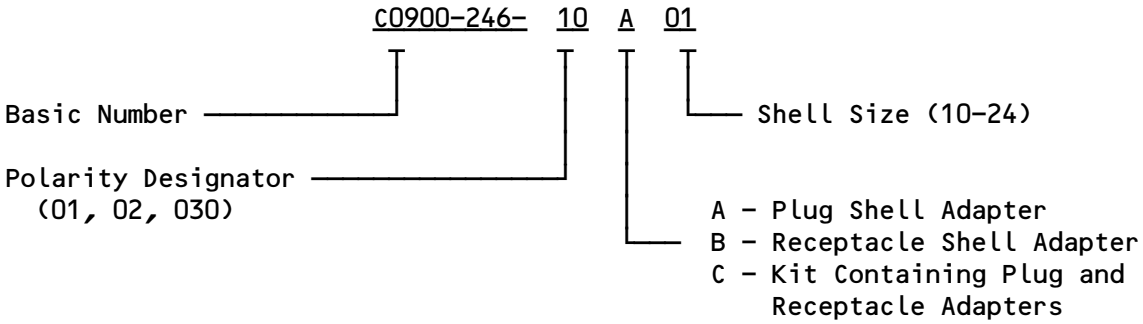
(2) Amphenol 217-2026 Sealing Plug Used in Lieu of a Potted Shielded Contact

(a) Insert the sealing plug, grooved end first, into the shielded contact cavity until it locks in place. Sealing boots are not required.

(b) Use the removal tools in Fig. 778 to remove the plug for shielded contacts.

J. Assembly of Cinch Connector C0900-246-() Coupling Ring Polarity Adapters

(1) Cinch Connector Part Number




(2) Cinch C0900-246()A() Plug Shell Adapter Installation

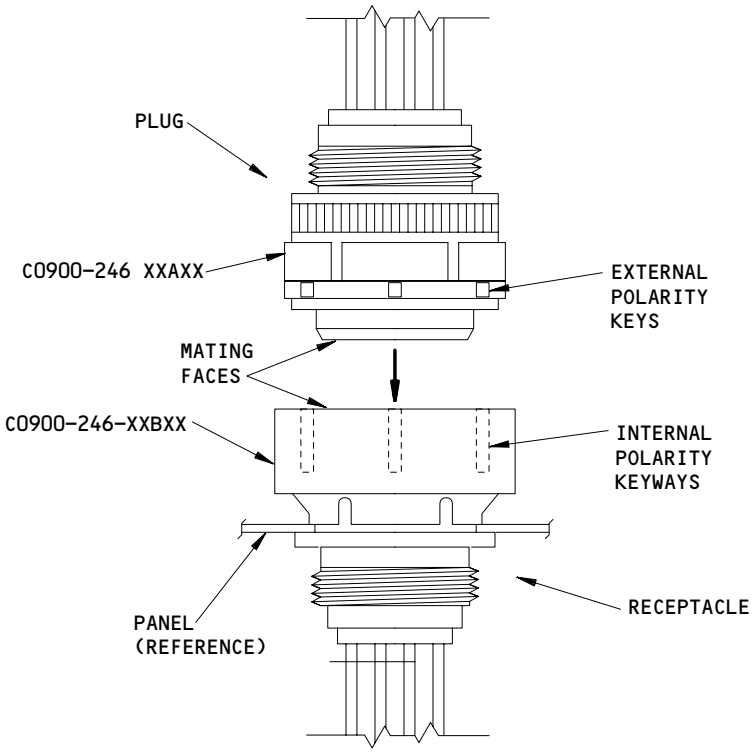
(a) Position the adapter with the slotted end towards the mating face of the plug.

(b) Slide the adapter over the plug coupling ring until the retention device engages. See Fig. 781.

(3) Cinch C0900-246-()N() Receptacle Shell Adapter Installation

(a) Position the adapter with the slotted end towards the mating face of the receptacle.

(b) Slide the adapter over the receptacle until the adapter retention device engages or the adapter comes in contact with the panel of the mounted receptacle. See Fig. 781.




Coupling Ring Polarity Adapters
Figure 781

C77178

K. Approved Tools and Suppliers

(1) Buy the crimping tools, the contact insertion tools, and the contact removal tools only from approved suppliers. Figures 782 through 785 give the approved tools and tool suppliers.

(a) Contact Crimping Tools

| Crimping Tools | Supplier |
|---|---|
| 85-220 | Balmar |
| 85-550 | |
| 85-555 | |
| 11148 | Buchanan |
| 614019-1 | |
| AMK-25 | Bandomatic |
| AMKIVI | Burndy |
| M10S S-5 | |
| M10S S-6 | |
| M10S S-7 | |
| M10S S-8 | |
| M22520/1-01 | QPL |
| M22520/2-01 | |
| M22520/5-01 | |
| TAC VII | Tri-Star |
| WA22 | Daniels |
| WA22LC | |
| WA27F | |
| WA27XB | |
| WT-200 | Thomas & Betts |
| WT-202 | |

Approved Crimping Tools and Suppliers
Figure 782

(b) Contact Crimping Tool Locators

| Crimping Tool Locators | Supplier |
|---|---|
| K977 | Daniels |
| K74S | |
| M22520/1-02 | QPL |
| M22520/2-02 | |
| M22520/2-24 | |
| M22520/2-33 | |
| M22520/5-08 | |
| M22520/5-10 | |
| M22520/5-39 | |
| SL-2 | Burndy |
| SL-3 | |
| SL-4 | |
| TP901 | Daniels |
| Blue Block | Buchanan |
| Red Block | |
| Yellow Block | |

Apprived Crimping Tool Locators and Suppliers
Figure 783

(c) Contact Insertion Tools

| Insertion Tools | Suppliers |
|---|---|
| 294-72 | Amphenol |
| 294-88 | |
| 294-96 | |
| 294-128 | |
| 120601 | Pico |
| ATB1067 | Astro |
| AT1016 | |
| AT1020 | |
| ATB01108 | |
| ATB01108-16 | |
| ATB01108-90 | |
| DAK379 | Daniels |
| MS24256A12 | QPL |
| MS24256A16 | |
| MS24256A20 | |

Approved Insertion Tools and Suppliers
Figure 784 (Page 1)

| Insertion Tools | Suppliers |
|---|---|
| ST220-2 | Boeing |
| ST2220-2-1 | |
| ST2220-2-4 | |
| ST2220-2-4A | |
| ST2220-2-5 | |
| ST2220-2-11 | |
| ST2220-2-11A | |
| ST2220-2-12 | |
| M81969/17-03 | QPL |
| M81969/17-04 | |
| M81969/17-06 | |
| M81969/17-06 | |
| ZZL-R-9510-12 | Pyle National |
| ZZL-R-9510-16 | |
| ZZL-R-9510-20 | |

Approved Insertion Tools and Suppliers
Figure 784 (Page 2)

(d) Contact Removal Tools

| Removal Tools | Supplier |
|---|---|
| 294-73 | Amphenol |
| 294-89 | |
| 294-97 | |
| 294-127 | |
| AT2012 | Astro |
| AT2016 | |
| AT2020 | |
| M81969/19-03 | QPL |
| M81969/19-07 | |
| M81969/19-08 | |
| M81969/19-09 | |
| MS24256R12 | |
| MS24256R16 | |
| MS24256R20 | |
| RX12-7 | Burndy |
| RX16-8 | |
| RX20-24V5 | |
| ST2220-3-15 | Boeing |
| ST2220-3-20 | |
| ZZL-R-9511-12 | Pyle-National |
| ZZL-R-9511-16 | |
| ZZL-R-9511-20 | |

Approved Removal Tools and Suppliers
Figure 785

4. Assembly of BACC63BD/BE/BW/BY/CD/CE, ITT Cannon FRA, FRF, FVA, FVF, and other Connectors generally conforming to MIL-C-5015

A. Figure 786 provides a description and the location of key information for this procedure.

| Topic | Description | Location | |
|---|---|---|---|
| | | Paragraph | Figure |
| Connector Part Number Breakdown | Boeing Standard BACC63CD/CE | 3.B.(1) | -- |
| | Cannon WFBO/6 Equivalent to BACC63CD/CE | 3.B.(2) | -- |
| | IPI SF3440/3446 Equivalent to BACC63CD/CE | 3.B.(3) | -- |
| | Flight FC3400/3406 Equivalent to BACC64CD/CE | 3.B.(4) | -- |
| | Boeing Standard BACC63BW/BY | 3.C.(1) | -- |
| | Flight FC3400/3406 Equivalent to BACC63BW/BY | 3.C.(2) | -- |
| | Cannon WFBO/6 Equivalent to BACC63BW/BY | 3.C.(3) | -- |
| | Boeing Standard BACC63BD/BE | 3.D.(1) | -- |
| | Flight FC3400/3406 Equivalent to BACC63BD/BE | 3.D.(2) | -- |
| | Amphenol Equivalent to BACC63BD/BE | 3.D.(3) | -- |
| | ITT Cannon FR() and FV() | 3.E | -- |
| | ITT Cannon Special 28-22 Firewall Feeder Disconnect | 3.F. | -- |

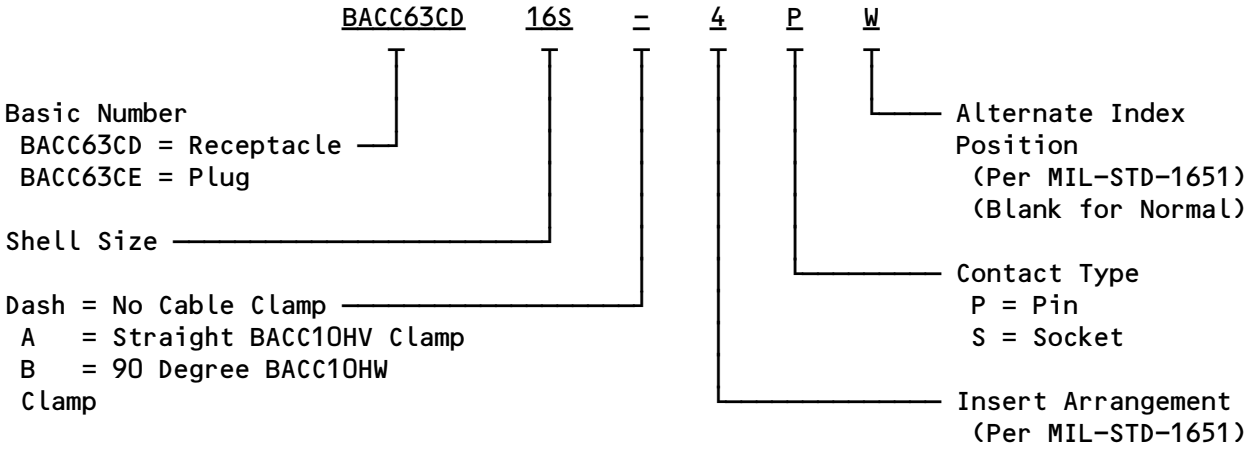
Important Data in Paragraph 3
Figure 786 (Page 1)

| Topic | Description | Location | |
|---|---|---|---|
| | | Paragraph | Figure |
| Inserts | Boeing Standard BACC63CD/CE | 3.G. | -- |
| Contact Part Numbers | Thermocouple Contacts | 3.H.(1) | 788 |
| | Special Contacts for Firewall Feerer Disconnect | 3.H.(1) | 789 |
| | BACC47DR DP Contacts | 3.H.(1) | 790 |
| Misc. Parts | Adapter Sleeves for Undersized Wire | 3.H.(1)(C) | 792 |
| Tools | Crimp Tools for Size 16 and Size 12 Contacts | 3.H.(1)(D) | 793 |
| | Crimp Tools for Size 8, 4, and 1/0 Contacts | 3.H.(1)(D) | 794 |
| | Contact Insertion/Removal Tools | 3.H.(2) | 795 |
| | M22520/1 Tool Settings and Wire Strip Lengths | 3.H.(1)(B) | 791 |
| Assembly Procedures | Installation of Contacts on Wire | 3.H.(1) | -- |
| | Insertion/Removal of Contact into Connector | 3.H.(2) | -- |
| | Installation of Spare Contacts/Filler Rods | 3.H.(3) | -- |
| | Assembly of Champlain 24-00033 or 24-00034 Firezone Wire | 3.H.(4) | -- |
| | Assembly of Cerro H22-4000 Fire Resistance Wire, AWG 18 | 3.H.(3) | -- |

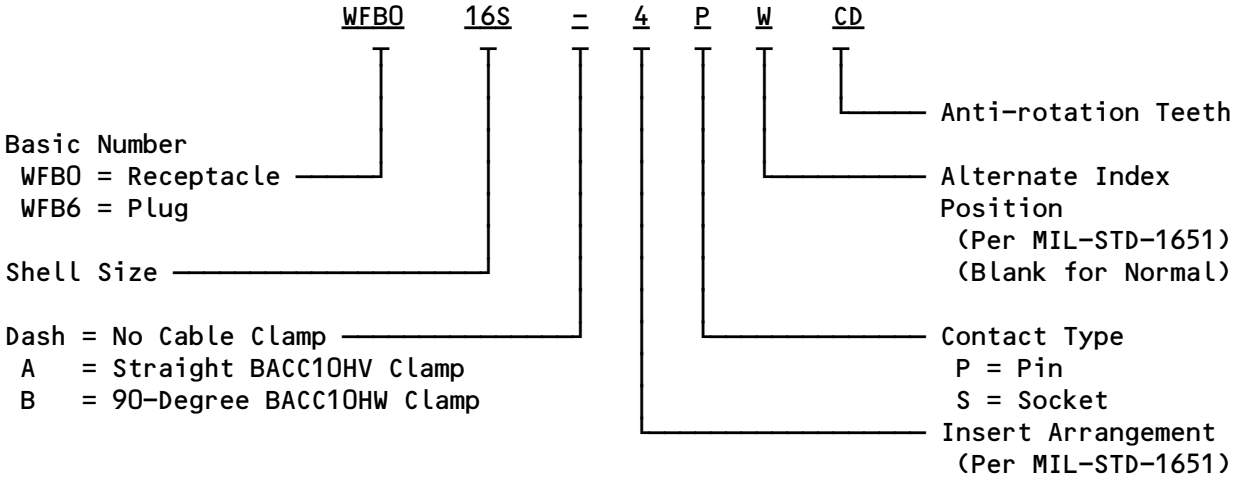
Important Data in Paragraph 3
Figure 786 (Page 2)

B. BACC63CD/CE and Vendor Equivalent Part Number, Threaded Coupling Connectors with Anti-rotational Backshell Teeth

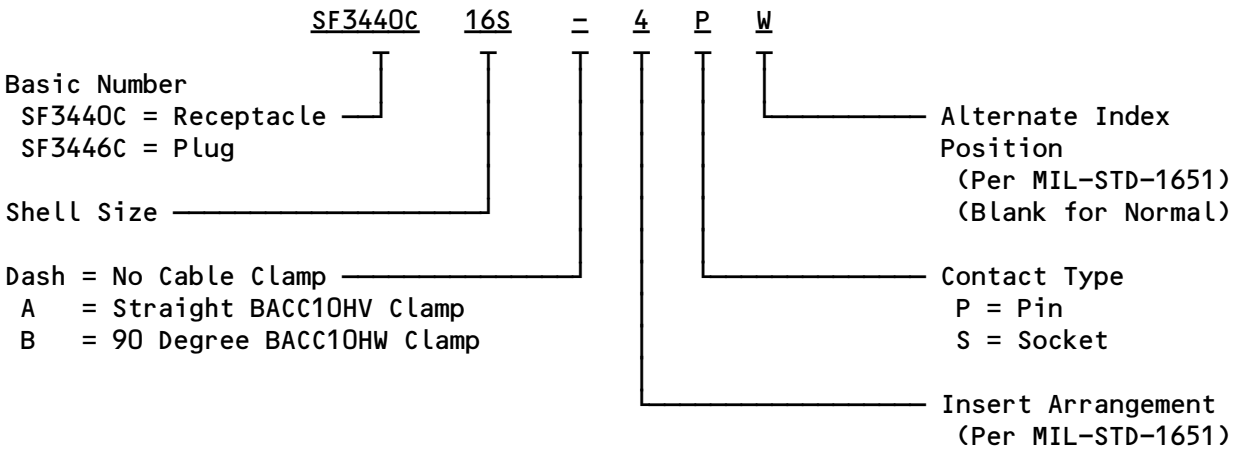
(1) Boeing Part Number



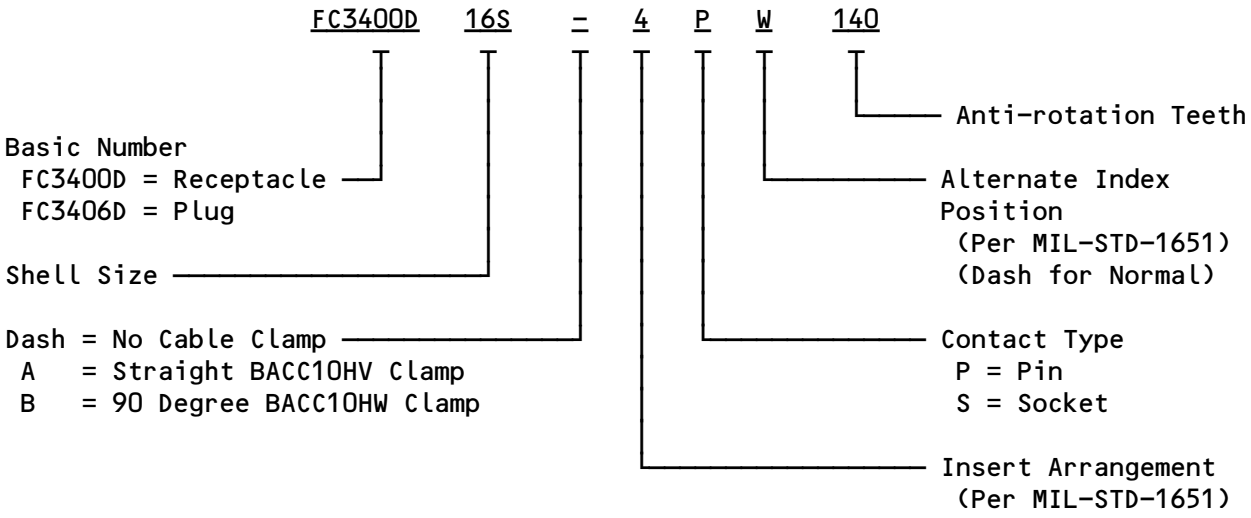

(2) ITT Cannon Part Number



(3) IPI Part Number



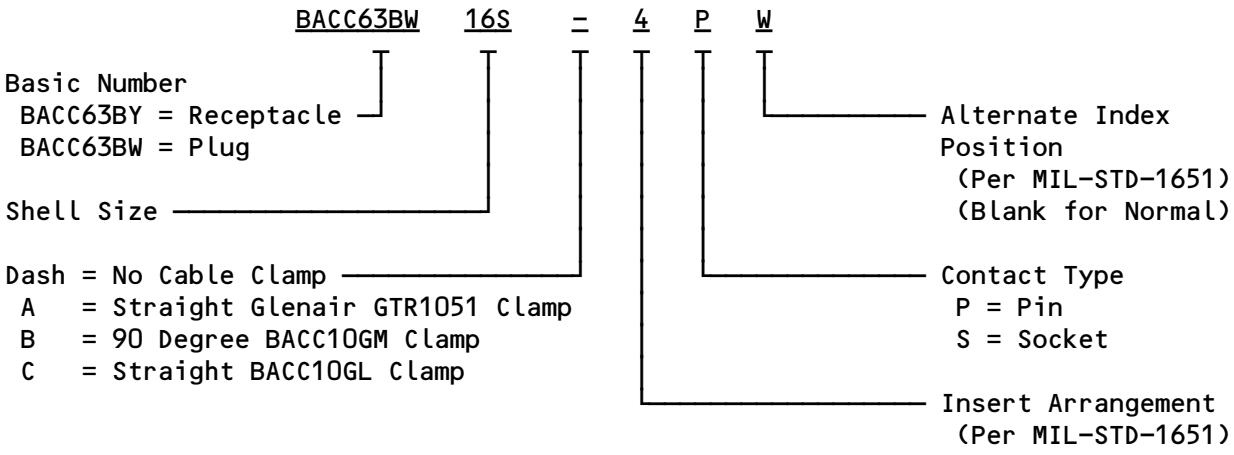

(4) Flight Part Number



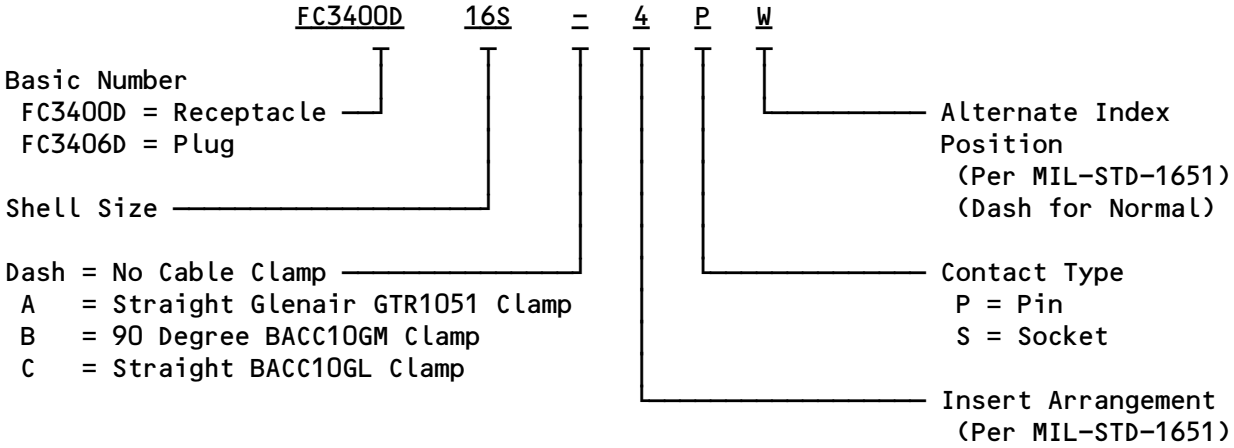

NOTE: Flight Connector Corp. was removed as a qualified source to BACC63CD and BACC63CE connector specifications effective November 1990. When replacing Flight manufactured connectors, be certain to use a qualified manufacturer.

C. BACC63BW/BY and Vendor Equivalent Part Number, Threaded Coupling Connectors

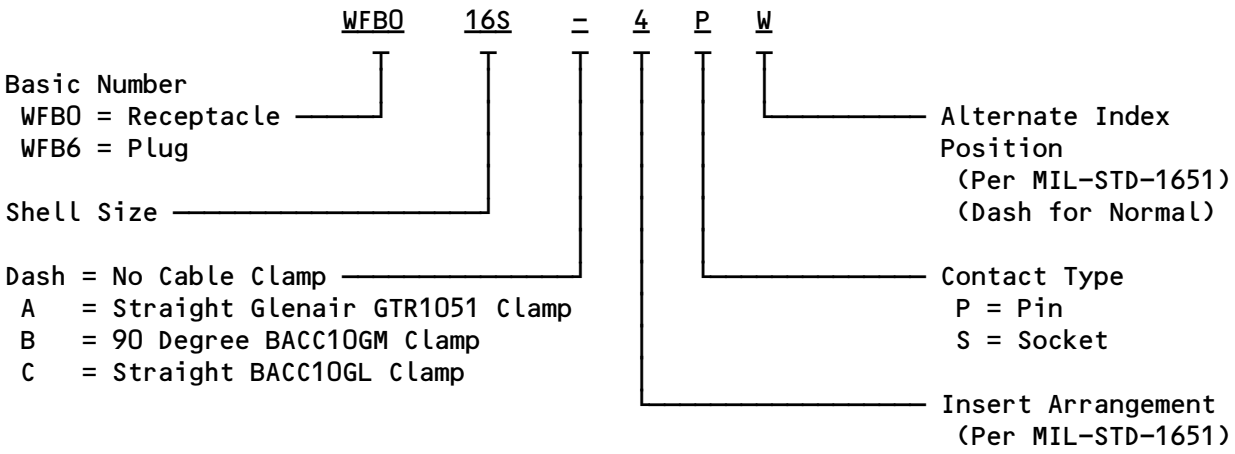
(1) Boeing Part Number




(2) Flight Part Number

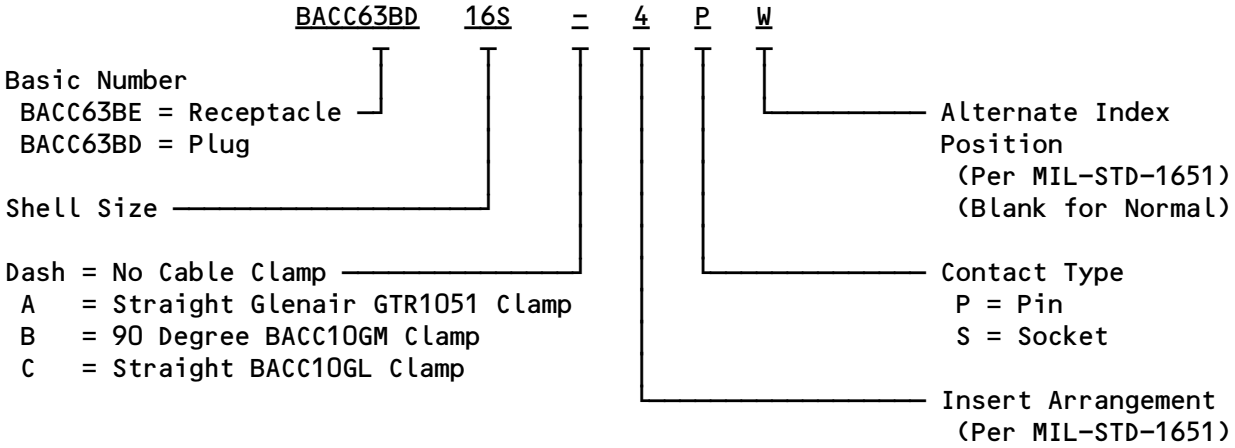


(3) ITT Cannon Part Number

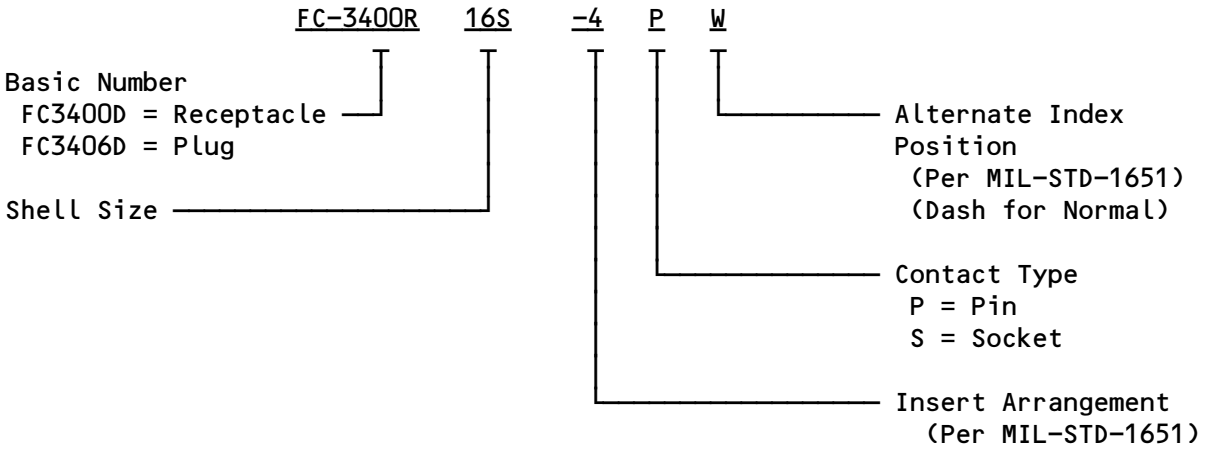



D. BACC63BD/BE and Vendor Equivalent Part Number, Threaded Coupling Connectors

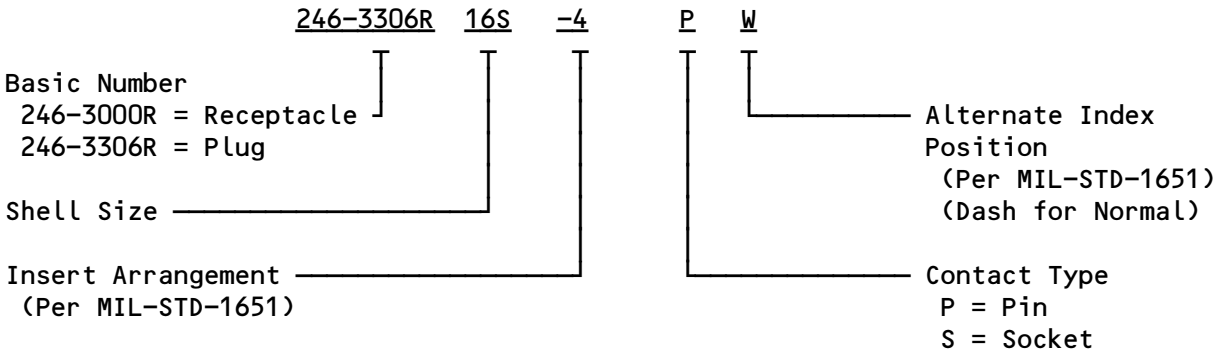
(1) Boeing Part Number



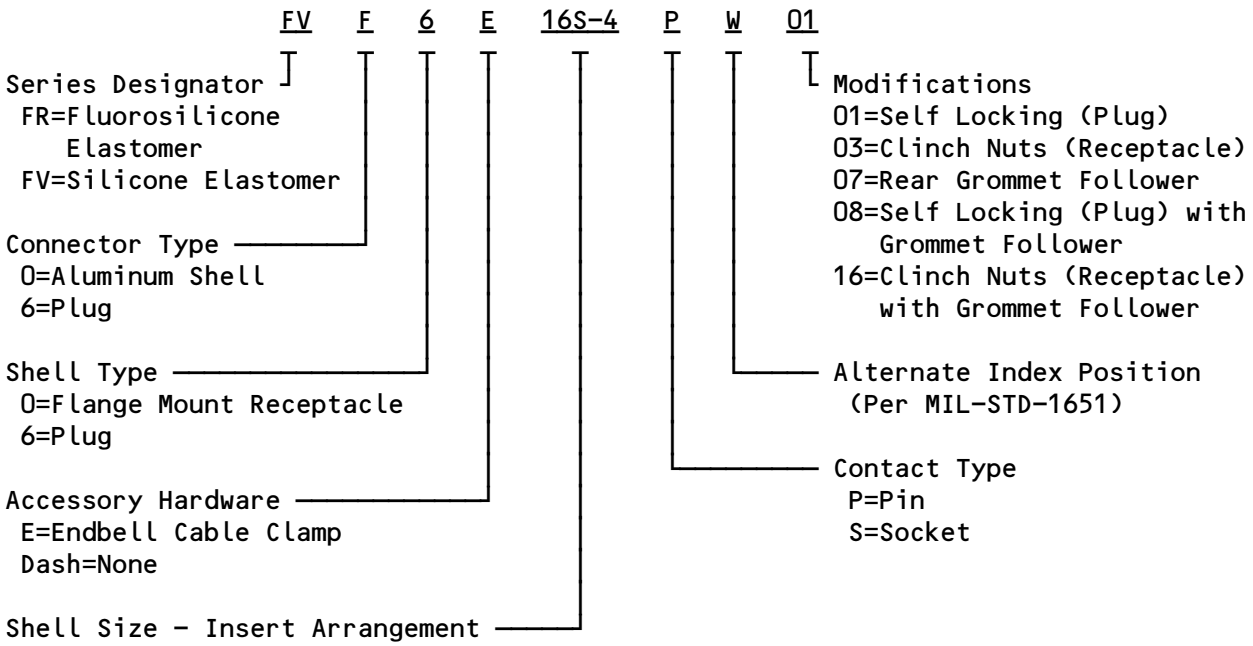
(2) Flight Part Number




(3) Amphenol Part Number



E. ITT Cannon FR() and FV() Part Number




F. ITT Cannon Special 28-22 Firewall Feeder Disconnect Part Number

NOTE: These connectors require special size 4 AWG ITT Cannon contact part numbers shown in Fig. 789.

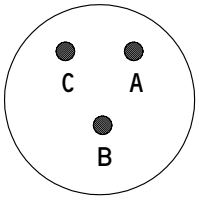
(1) CA66279-94 Plug with socket contacts

(2) CA66278-93 Receptacle with pin contacts

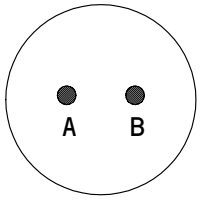
G. Insert Configurations for MIL-C-5015 Connectors

(1) In addition to what is shown below in Fig. 787, insert arrangements for MIL-C-5015 connectors are given in MIL-STD-1651.

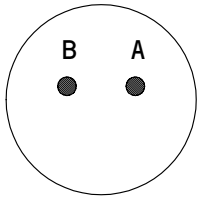
NOTE: View shown is front face of the pin insert: socket insert is opposite.



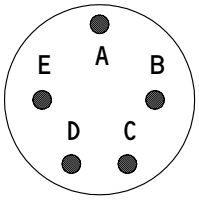

10SL-3
3 SIZE 16 CONTACTS



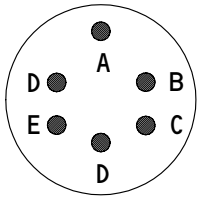

10SL-4
2 SIZE 16 CONTACTS



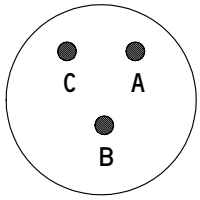

12S-3
2 SIZE 16 CONTACTS



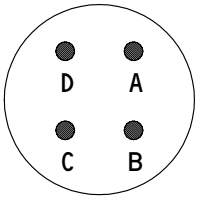

14S-5
5 SIZE 16 CONTACTS



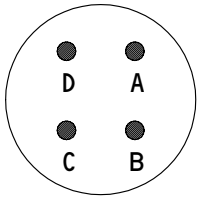

14S-6
6 SIZE 16 CONTACTS



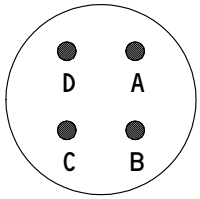

14S-7
3 SIZE 16 CONTACTS



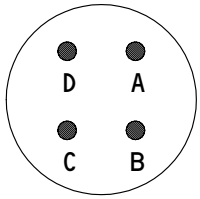

18-4
4 SIZE 16 CONTACTS



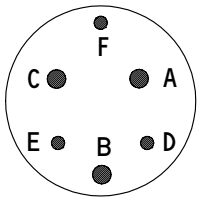

20-4
4 SIZE 12 CONTACTS



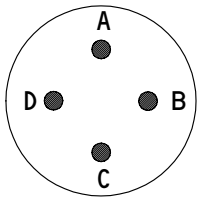

24-22
4 SIZE 8 CONTACTS




32-17
4 SIZE 4 CONTACTS




28-22
3 SIZE 16 CONTACTS
3 SIZE 4 CONTACTS




36-5
4 SIZE 0 CONTACTS

MIL-C-5015 Insert Configurations
Figure 787

H. Assembly Procedures

(1) Installation of Contacts on Wire

(a) Select the contacts for the connector.

NOTE: ITT Cannon contact part numbers 030-1881-737 and 031-1043-737 are special contacts for use in ITT Cannon CA66279-94 and CA66278-93 connectors. Do not use standard BACC47DR/DP4 contacts in CA66279-94, CA66279-102 and CA66278-93 connectors.

1) Select thermocouple contacts from Fig. 788.

| Contact | | | Crimp Barrel Color Code | Contact | |
|---|---|---|---|---|---|
| Size | Type | Material | | Part Number | Manufacturer |
| 16 | Pin | Alumel | Blue Blue Green | 030-1878-007 | ITT Cannon |
| | | | | 016-0007-106 | Flight |
| | | Chromel | Blue Blue White | 030-1878-006 | ITT Cannon |
| | | | | 016-0007-107 | Flight |
| | Socket | Alumel | Blue Blue Green | 031-1040-003 | ITT Cannon |
| | | | | 016-1007-206 | Flight |
| | | Chromel | Blue Blue White | 031-1040-004 | ITT Cannon |
| | | | | 016-1007-207 | Flight |
| 12 | Pin | Alumel | Yellow Yellow Green | 030-1879-009 | ITT Cannon |
| | | | | 012-0008-106 | Flight |
| | | Chromel | Yellow Yellow White | 030-1879-010 | ITT Cannon |
| | | | | 012-0008-107 | Flight |
| | Socket | Alumel | Yellow Yellow Green | 031-1041-009 | ITT Cannon |
| | | | | 012-1008-206 | Flight |
| | | Chromel | Yellow Yellow White | 031-1041-010 | ITT Cannon |
| | | | | 012-1008-207 | Flight |

Thermocouple Contacts
Figure 788

2) Select contacts for the ITT Cannon Special 28-22 Firewall Feeder Disconnect from Fig. 789.

| Contact | | | Used In Part Number |
|---|---|---|---|
| Part Number | Size (AWG) | Type | |
| 031-1043-737 | 4 | Socket | CA66279-94 |
| 030-1881-737 | 4 | Pin | CA66278-93 |

Special Contacts for Use In
CA66279-94 and CA66278-93 Connectors
Figure 789

3) Select contacts for the ITT Cannon P/N CA66279-102 from Fig. 789A.

| Connector P/N | Contac Size | Contact Type | Contact P/N |
|---|---|---|---|
| CA66279-102 | 4 | Socket | 031-1043-777 |
| CA66279-102 | 4 | Pin | 030-1881-777 |

Contact for Use in CA66279-102 Connector
Figure 789A

4) Assemble ITT Cannon 030-1881-777 and 031-1043-777 contacts:

a) Remove 0.50 ±0.03 inch of the insulation from the end of the wire.

b) Crimp the contacts on the wire with the crimp tools and filler sleeves in Fig. 789B.

| Wire Size (AWG) | Filler Sleeve | Crimp Tool | Die | Locator |
|---|---|---|---|---|
| 10 | ITT Cannon P/N 252-1231-000 | 400B | 414DA-8N | 4112 |
| 8 | ---- | 400B | 414DA-8N | 4112 |
| 10 | ITT Cannon P/N 252-1231-000 | M22520/23-01 | WA23-09 | WA23-02 |
| 8 | ---- | WA23 | WA23-09 | WA23-02 |

ITT Cannon 030-1181-777 and 031-1043-777 Contact Assembly
Figure 789B

c) M81969/17-07 or Amphenol 294-236 insertion tools can be used to insert contacts with size 04 engaging end in the connector.

d) Assemble CA66279-102 connector after the contacts are inserted into the connector:

1. Install the ferrule (grommet follower) and backshell. Lubricate the grommet with alcohol to aid the ferrule installation.

2. Tighten the cable clamp onto the connector per SOPM 20-11-02.

3. Wind one of these tapes around the BACS45A115 spacer the number of times specified.

a. Permacel P212HD tape 8 times around.

b. Permacel P440 tape 14 times around.

e) Put the spacer with tape between the wires and against the connector grommet.

f) Insert another BACS45A115 spacer between the wires and under the backshell cable clamps.

g) Wind Permacel P212HD tape 2 to 3 times around the wires and spacer.

h) Tighten the cable clamp saddles and safety wire the screws per SOPM 20-50-02.

5) Select basic contacts from Fig. 790

| Contact Size | Pin Contact Part Number | | Socket Contact Part Number | |
|---|---|---|---|---|
| | Boeing | ITT Cannon | Boeing | ITT Cannon |
| 16 | DP1 | 030-1878-001 | DR1 | 031-1040-001 |
| 12 | DP2 | 030-1879-003 | DR2 | 031-1041-003 |
| 8 | DP3 | 030-1880-001 | DR3 | 031-1042-001 |
| 4 | DP4 | 030-1881-001 | DR4 | 031-1043-001 |
| | - | 030-1881-737 | - | 031-1043-737 |
| 1/0 | DP5 | 030-8011-747 | DR5 | 031-8012-747 |

BACC47DR/DP Contact Part Numbers
Figure 790

(b) Strip the conductors according to contact size.

1) For size 16 and 12 contacts, strip the conductors according to Fig. 791.

2) For size 8 and 4 contacts, strip the conductors 1/2 ±1/32 inch.

3) For size 1/0 contacts, strip the conductors 5/8 ±1/32 inch.

| Contact Size | Wire Size (AWG) | Crimp Tool Setting | Wire Strip Length | | Double Back |
|---|---|---|---|---|---|
| | | | Target | Tolerance | |
| 16 | 24 | 4 | 9/16 | ±1/32 | Yes |
| | 22 | 5 | 9/16 | | Yes |
| | 20 | 4 | 1/4 | | No |
| | 18 | 5 | 1/4 | | No |
| 12 | 20 | 6 | 9/16 | | Yes |
| | 18 | 7 | 9/16 | | Yes |
| | 16 | 6 | 1/4 | | No |
| | 14 | 7 | 1/4 | | No |
| | 12 | 8 | 1/4 | | No |

M22520/1 Tool Settings and Wire Strip Lengths
Based on Wire Gauge Size 16 and 12 Contacts
Figure 791

(c) Select filler sleeves and build-up sleeves, if required, from Fig. 792.

| Contact Size | Wire Size (AWG) | Adaptor Sleeve Part Number |
|---|---|---|
| 8 | 12 | 252-0146-000 |
| | 10 | 252-1231-001 |
| 4 | 10 | 252-0128-001 *[1] |
| | 8 | 252-0128-001 |
| | 6 | 252-0318-001 |
| 1/0 | 4 | 252-0130-001 |
| | 2 | 252-1230-001 |

*[1] Plus 12 AWG filler wire

ITT Cannon Adaptor Sleeves
For Undersized Wire
Figure 792

(d) Select the Crimp tool from the contact size and crimp the contact.

1) For size 16 and 12 contacts, select from the tools listed in Fig. 793.

| Contact Size | Basic Tool | Locator | |
|---|---|---|---|
| | | Part Number | Color Code |
| 16 | MS3191-1 | MS3191-16A | Blue |
| | 294-126 | -- | -- |
| | ST2220-1-Y | ST2220-1-2 | -- |
| | M22520/1-01 | M22520/1-02 | Blue |
| 12 | MS3191-1 | MS3191-12A | Yellow |
| | 294-126 | -- | -- |
| | ST2220-1-Y | ST2220-1-3 | -- |
| | M22520/1-01 | M22520/1-02 | Yellow |

Crimping Tools For Size 16 and 12 Contacts
Figure 793

2) For size 8, 4, and 1/0 contacts, select from the tools listed in Fig. 794.

| Contact Size | Basic Tool | Crimp Die | | | |
|---|---|---|---|---|---|
| | | Primary | Supplier | Secondary | Supplier |
| 8 | 13642 | ST2354-5 *[1] | Boeing | 11732 | T&B |
| | Y29BH | ST2354B-5 | | --- | --- |
| 4 | 13642 | ST2354-2 *[1] | | 11734 | T&B |
| | Y29BH | ST2354B-2 | | --- | --- |
| 1/0 | 13642 | 11738 *[1] | T&B | 11737 | T&B |

*[1] Double crimp contacts using the die part numbers shown. See Paragraph 3.H.(1)(e).

Crimping Tools for Size 8, 4, and 1/0 Contacts
Figure 794

(e) When using the ST2354-() dies on size 8, 4, and 1/0 contacts, double crimp the contacts using the die part number shown in Fig. 794.

1) Position the wire end of the contact 1/64 to 1/32 inch into the crimp die to prevent flaring the contact crimp barrel.

2) Crimp the contact with the primary crimp die first, then crimp using the secondary crimp die in the identical location.

3) Remove any flashing by rotating the contact one flat in the secondary crimp die and recrimping.

(2) Insertion/Removal of Contacts

(a) Insert or remove contacts using the applicable tooling specified in Fig. 795.

| Contact Size | Insertion | Removal | Manufacturer |
|---|---|---|---|
| 16 | 294-192 | 294-219 | Amphenol |
| | MS90455-1 *[1] | MS90456-1 *[1] | QPL |
| | MS90455-16 *[1] | MS90456-16 *[1] | |
| | M81969/17-01 | M81969/19-01 | |
| 12 | 294-229 | 294-230 | Amphenol |
| | MS90455-2 *[1] | MS90456-2 *[1] | QPL |
| | MS90455-12 *[1] | MS90456-12 *[1] | |
| | M81969/17-02 | M81969/19-02 | |
| 8 | 294-237 | 294-240 | Amphenol |
| | MS90455-3 *[1] | MS90456-3 *[1] | QPL |
| | MS90455-8 *[1] | MS90456-8 *[1] | |
| | M81969/17-06 | M81969/19-03 | |
| 4 | 294-236 | 294-239 | Amphenol |
| | MS90455-4 *[1] | MS90456-4 *[1] | QPL |
| | M81969/17-07 | M81969/19-04 | |
| 1/0 | 294-235 | 294-241 | Amphenol |
| | MS90455-0 *[1] | MS90456-0 *[1] | QPL |
| | MS90455-5 *[1] | MS90456-5 *[1] | |
| | M81969/17-08 | M81969/19-05 | |

*[1] Obsolete for future procurement

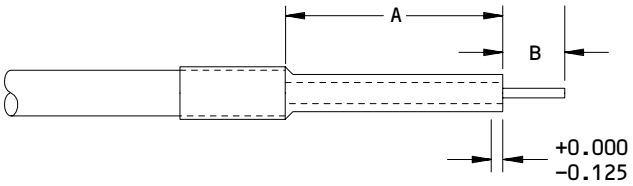
Contact Insertion and Removal Tools
Figure 795

(3) Spare Contacts/Sealing Plugs

(a) Install spare contacts/sealing plugs per Par. 1.

(4) Assembly of Champlain 24-00033 or 24-00034 Firezone Wire

(a) Remove 1.5 ±0.03 inch outer Teflon jacket and asbestos yarn braid per dimansion A in Fig. 796. Avoid cutting the extruded silicone rubber dielectric material.




ALL DIMENSIONS ARE IN INCHES

Reducing Wire Diameter
Figure 796

C80330

(b) Strip 0.30 ±0.015 inch extruded silicone rubber and Kapton tape insulation materials from conductor per dimension B in Fig. 796.

(c) Slide a 1-3/8 inch ±1/8 inch length of 3/16 inch diameter TFE 4X shrinkable Teflon sleeving over the wire.

(d) Crimp applicable connector contact to conductor.

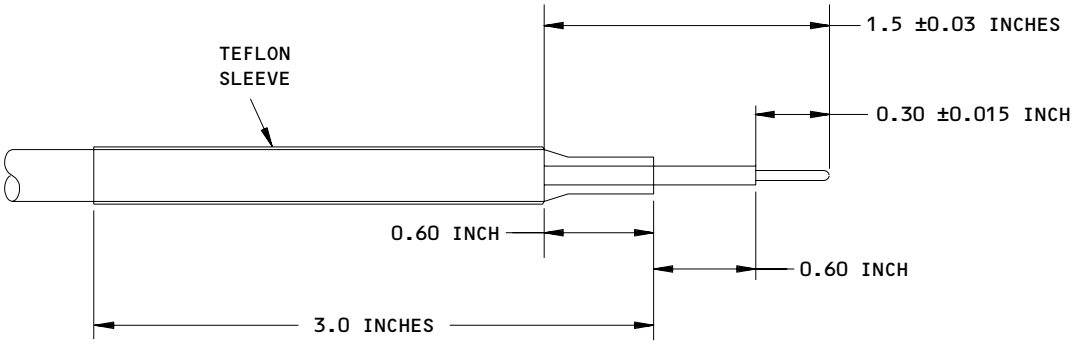
(e) Shrink Teflon sleeve in place per Fig. 796.

(f) Insert contact into the connector in accordance with the applicable connector assembly process.

(5) Assembly of Cerro H22-4000 Fire Resistance AWG 18 Wire

(a) Assemble Cerro H22-4000 AWG 18 Wire to connectors as follows:

1) Remove 1.5 ±0.03 inches outer braid and clear Teflon inner wrap from wire. Make sure to avoid cutting dielectric material.




Reducing Wire Diameter
Figure 796A

C773349

2) Strip 0.30 ±0.015 inch inner insulation from the conductor.

3) Slide 3.0 inch length of 1/4 inch diameter TFE 4X (thinwall) shrinkable Teflon sleeve over wire.

4) Select proper contact for connector and crimp in place.

5) Position Teflon sleeve per Fig. 796A and shrink in place.

6) Insert contact into connector by hand making certain contact is seated in connector or use the applicable insertion tools called out in Fig. 795.

5. Assembly Of Walter Kidde Connectors

A. General Notes

The following general instructions are provided for sealants used in this section.

(1) Sauereisen Cement No. 32 or No. 1

(a) Mix together equal parts by weight of binder and filler.

(b) Mix together to make creamy mixture.

(c) Apply to connector as required.

(d) Remove excess cement from connectors.

NOTE: A minimum of 48 hours at 70 degrees F (room temperature) is required for cement to build up to adequate handling strength. Optional method is oven drying at 125 degrees F to 150 degrees F for eight hours minimum.

(2) Dow Corning R-7002 Silicone Foaming Potting Compound

(a) Weigh out 10 grams of compound (for approximately 25 assemblies).

(b) Add 4 grams of Acetone.

(c) Mix to attain wet powder.

(d) Seal and allow one hour for powder to dissolve.

(e) Date potting compound.

(f) Re-stir prior to use.

(g) Keep jar sealed when not in use.

(h) During extended use, add small amounts of Acetone to maintain working consistency.

NOTE: Do not use mix more than two weeks old.

(i) Remove excess potting compound from connectors.

CAUTION: SOLVENT VAPORS ARE POTENTIALLY EXPLOSIVE.

B. Assembly of Walter Kidde 875564 and 876288 Connectors Using BMS 13-8A, Type I, Class A, AWG 18 Wire

(1) Strip insulation back 11/32 ±1/32 inch.

(2) Refer to Fig. 797. In order, slip spring (A), gland nut (L), crimp sleeve (M), and spacer (J), over wire (K) insulation.

(3) Slide insulator (H) over exposed conductor until it butts against the wire insulation.

(4) Use crimp tool MS3191A with Buchanan Locator 3630-2 for Walter Kidde 875564 pin contact (I) and same tool with Buchanan Locator 3630-4 for Walter Kidde 876288 socket contact (G).

(5) Position crimp tool so that the contact or contact wire well opening is facing upward. Insert wire into contact as far as possible and crimp.

(6) Slip coupling nut (D) over threaded end of shell and apply Sauereisen Cement No. 32 or No. 1 to first three rear threads of shell. Insert front insulator (E) and rear insulator (F) into shell making certain that the counterbore in rear insulator can receive flange of pin contact or socket contact.

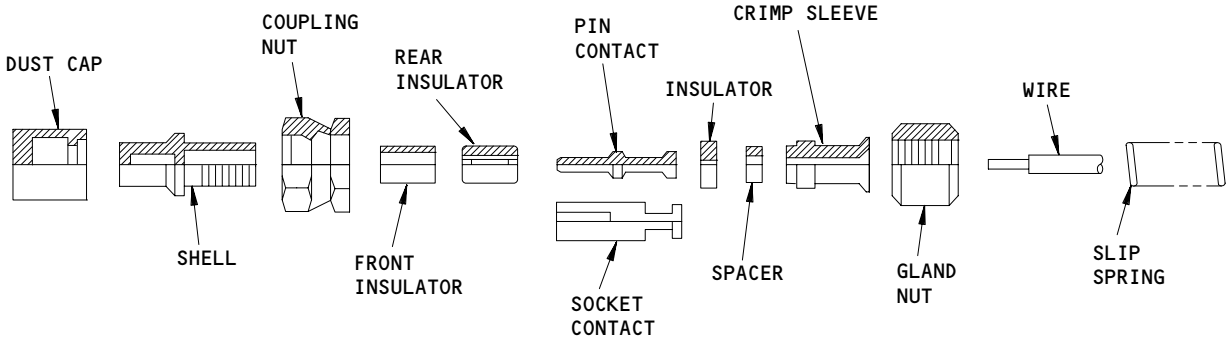
(7) Insert crimped contact assembly into rear insulator (F) and shell (C).

(8) Fill space at rear of insulator inside shell with potting compound RTV 881 or RTV 882 and slide spacer forward.

(9) Place gland nut over sleeve and tighten to shell. Grip gland nut with padded pliers and turn gland nut on to shell using 10 to 15 inch-pounds of torque. Use a Walter Kidde 209592 or equivalent brass washer to protect the pin-plug-shell-sealing surface during torquing. Remove washer after torquing. Remove excess cement.

(10) Turn spring on to sleeve until it butts against gland nut.

(11) Place dust cap (B) over shell end.




Walter Kidde 875564 and 876288 Connectors
Figure 797

C77400

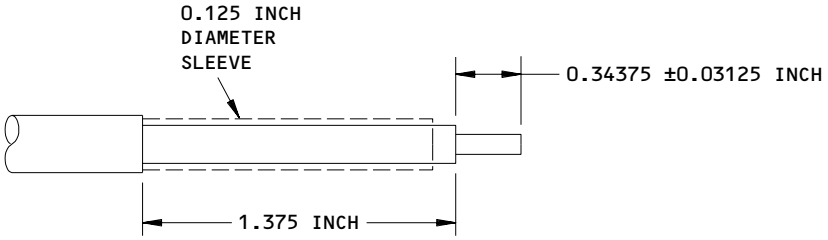
C. Assembly of Walter Kidde 875564 and 876288 Connectors Using Cerro H22-4000 Fire Resistant, AWG 18 Wire

NOTE: Walter Kidde Part No. Substitutions - 877535 for 876288; 877536 for 875564.

(1) Remove 1-3/8 inches of braid and inner teflon tape from wire. Use caution to avoid cutting dielectric material. Remove 11/32 ±1/32 inch of insulation material from end of wire. See Fig. 797A.

(2) Slide 1 inch length of 1/8 inch diameter TFE4X (thinwall) sleeving over dielectric butt up against braid, and shrink in place per REPAIR 4-1.

(3) In order, slide 1 inch long piece of 1/4 inch diameter TFE4X (thinwall) shrinkable sleeve, spring (A), gland nut (C), crimp sleeve (D), and spacer (E), over wire insulation. See Fig. 797B.




Wire Strip Dimensions
Figure 797A

C80354

(4) Slide insulator (F) over exposed conductor until it butts against the wire insulation.

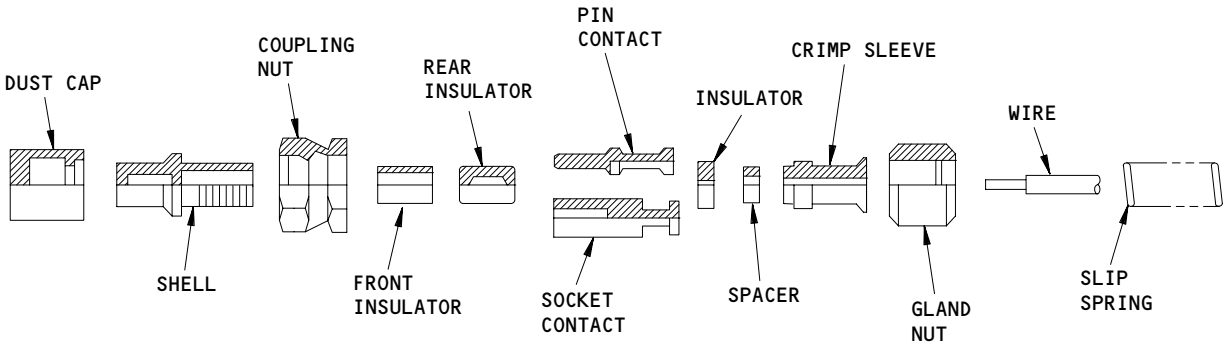
(5) Use crimp tool MS3191A with Buchanan Locator 36302 for pin contact (G), Part No. 875564 and same tool with Buchanan Locator 36304 for socket contact (H), Part No. 876288.

(6) Position crimp tool so that the contact wire well opening is facing upward. Insert wire into contact as far as possible and crimp.

(7) Slip coupling nut (K) over threaded end of shell (L) and apply Sauereisen Cement No. 32 or No. 1 to first three rear threads of shwll (L). Insert front insulator (J) and rear insulator (I) into shell (L) making certain that counterbore in rear insulator (J) and can receive rear flange of pin contact (G) or socket contact (H).

(8) Insert crimped contact assembly into rear insulator (I) and shell (L).

(9) Fill space at rear of insulator (F) inside shell (L) with potting compound RTV 881 or RTV 882 and slide spacer (E) forward.




Walter Kidde 875564 and 876288 Connectors
Figure 797B

C77407

(10) Place gland nut (C) over sleeve (D) and tighten to shell (l) by mating the connector with the ST2575 torque adapter, making sure that coupling nut (K) is tightened on the adapter to a minimum torque of 30 inch-pounds.

(11) Grip gland nut (C) with padded pliers and turn gland nut (C) on to shell (L) using 10 to 15 inch-pounds of torque. Use a Walter Kidde 209592 or equivalent brass washer to protect the pin-plug-shell-sealing surface during torquing. Remove washer after torquing. Remove excess cement.

(12) Slide teflon sleeve towards connector until it butts against sleeve (D), then shrink into place.

(13) Turn spring (A) on to sleeve (D) until it butts against gland nut (C).

(14) Place dust cap (M) over shell end (L).

D. Assembly of Walter Kidde 877535 and 877536 Connectors Using Cerro H22-4000 Fire Resistant, AWG 18 Wire

(1) Slide spring (A) and sleeve (B) over wire. Remove 11/32 ±1/32 inch wire insulation from end of wire. See Fig. 797D.

(2) Slide a 1-1/2 ±1/16 inch length of 1/4 inch I.D. TFE-4X (thinwall) shrink tubing over wire.

(3) Slide insulator (C) over exposed conductor and butt against wire insulation.

(4) Locate contact, socket (E) for 877535 or pin (D) for 877536, in applicable crimp tool noted in Fig. 797C. Position crimp tool so the contact wire well is facing upward. Insert wire into contact as far as possible and crimp.

| Connector | Contact | Locator | Crimp Tool |
|---|---|---|---|
| 877535 | Socket | ST2220-1-58 *[1] | ST2220-1-Y |
| | | ST2220-1-30 | |
| 877536 | Pin | ST2220-1-33 | |

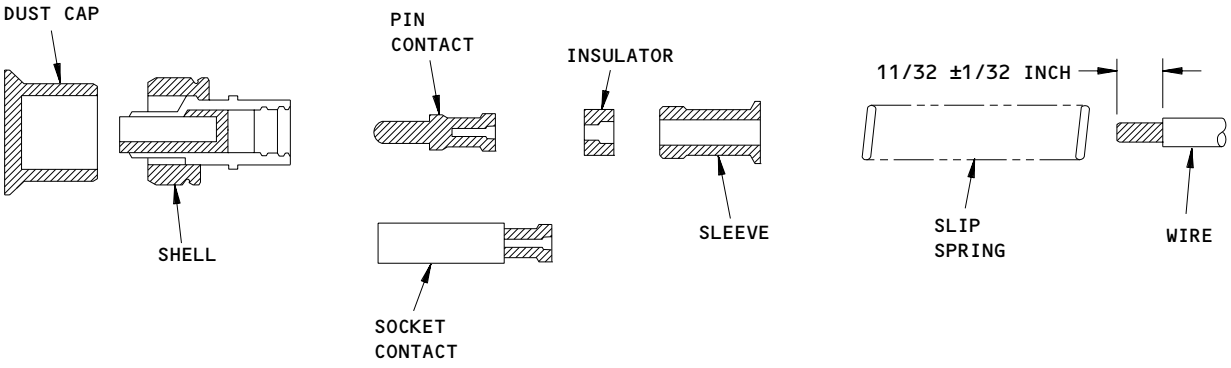
*[1] An ST2220-1-30 locator modified by using a a metal stop 0.125 to 0.140 inch diameter and 0.035 to 0.045 inch thich in the bottom of contact cavity.

Walter Kidde Connector Crimp Tooling
Figure 797C

(5) Apply a small amount of Dow Corning Type R-7002 Silicone Foaming Potting Compound around wire where it enters insulator (C). Slide contact insulator (C) and wire into shell assembly (F), seating contact flange in insulator counterbore.

(6) Apply a small amount of Dow Corning Type R-7002 Silicone Foaming Potting Compound to first three threads of sleeve and slide sleeve forward into shell. Screw sleeve in tightly by hand.

NOTE: This is a left-hand thread. Do not use pliers. The thread end of the sleeve (B) will line up with the rear face of the shell (F) when properly assembled.




Walter Kidde 877535 and 877536 Connectors
Figure 797D

C80455

(7) Crimp sleeve using hex crimping tool, Buchanan 612648 using hex die assembly 616229 or ST965-4. Crimp sleeve to form around wire with approximately 0.175 to 0.181 inch across hex flats.

(8) Slide TFE-4X shrinkable tubing until it butts against crimped sleeve and shrink into place per REPAIR 4-1.

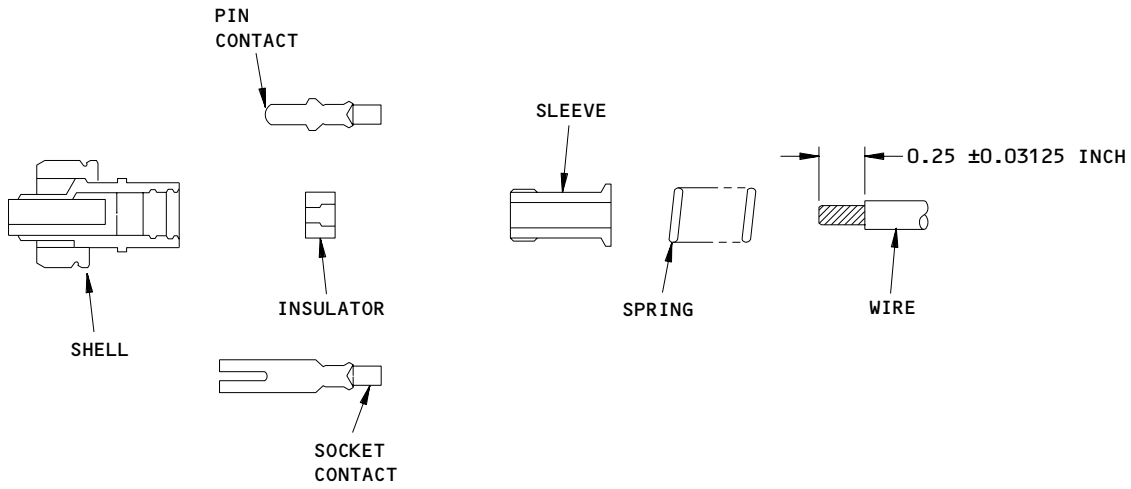
(9) Slide spring forward and screw (lefthand) over flared position of sleeve. A fair amount of force must be used to start the first coil over the flare: Screw spring forward to shell.

(10) Cure potted connector for 3 minutes minimum at approximately 300 to 350°F using hot air gun or equivalent.

E. Assembly of Walter Kidde 876633 and 876635 Connectors

(1) Strip cable 0.250 ±0.03 inch per Fig. 797E.

(2) Slide spring (A), sleeve (B) and insulator (C) over cable.




Walter Kidde 876633 and 876635 Connectors
Figure 797E

C77415

(3) Insert stripped conductor into pin (D), or socket (E), contact and crimp using an MS27828/1-01 crimp tool with an MS27828-1 die, or am M22520/1-01 tool with an M22520/1-02 locator.

(4) Apply a small amount of potting compound Dow Corning type R-7002 around first three threads of sleeve.

(5) Slide together shell (F), pin/socket and unsulator (C) and screw sleeve in tightly by hand (left-handed thread). Do not use pliers.

(6) Crimp sleeve using MS3191A crimp tool with MS3191-1 die.

(7) Cure potted connector for 3 minutes at 150 degrees C (302 degrees F) using a Raychem CV1509 hot air gun.

(8) Slide spring (A) and screw (left-handed thread) over flared portion of sleeve.

NOTE: The information contained herein is applicable to Rolly-Royce engine harnesses and has been extracted from data published by Rolly-Royce. This data is provided for airline convenience and will be mainteined up to date as revised data is provided to Boeing from Rolls-Royce.

F. Assembly of Walter Kidde 876633 and 876635 Connectors to Filotex TMF, Haveg 24-00033 or 10-60816-17 Wire

(1) Discard spring.

(2) Strip jacket, Teflon tapes, or braided layer from wire for a length of 1-1/2 inches. Do not nick or cut rubber tape or glass wrapped layer.

(3) Slide a 1-1/8 inch length of Penntube WTF #1241 sleeving over wire.

(4) Position both inner and outer layers of sleeving against end of outer jacket and shrink in place per REPAIR 4-1.

NOTE: WTF sleeving requires a 750 degrees F heat source.

(5) Strip conductor 11/32 ±1/32 inch.

(6) Cut 3/4 inch length of Penntube WTF 1206, 1212, and a 1-1/4 inch length of 1241 sleeving and slide on wire in that order.

(7) In order, slide lseeve (A) and insulator (B), in that order, over conductor. See Fig. 797F.

(8) Insert stripped wire into pin contact (C) of 876633 assembly or socket contact (D) of 876635 assembly as far as possible.

(9) Crimp contact with a M22520/1-01 tool with a Daniels TH302 or Balmar 56-302 locator for the pin (C) or the socket (D) contact using a dial setting of 6 Red or a ST2220-1-Y with a Buchanan 3630-2 locator for the pin contact and a 3630-4 for the socket contact.

(10) Mix Dow Corning RTV 3112 with 5 percent catalyst S.

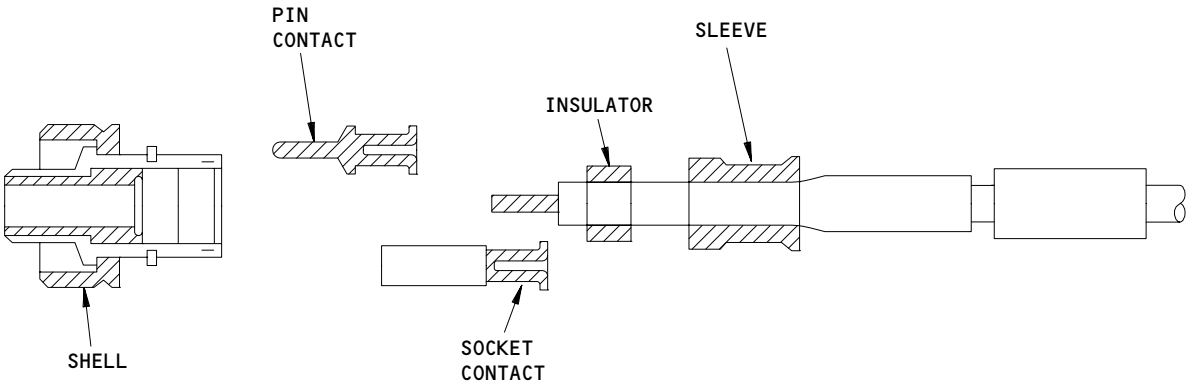
(11) Apply compound around bare wire and where wire enters contact. Do not allow compound to extend across contact flange.

(12) Insert contact fully into connector body, holding sleeve (A) and insulator (B) away from shell (E).

(13) While holding contact in position, fill rear of connector body with RTV 3112 using a syringe.

(14) Push insulator (B) into body and thread sleeve (A) into connector.

NOTE: This is a left-hand thread. Do not allow contact to slip back while tightening sleeve (A).




Walter Kidde 876633 and 876635 Connectors
Figure 797F

C77417

(15) Tighten sleeve finger tight and wipe off excess compound.

(16) Allow compound to cure for 24 hours at room temperature.

(17) Push WTF 1241 sleeving against the flare on connector sleeve and shrink in place.

(18) Push WTF 1212 sleeving over flare on sleeve and against connector body and shrink in place.

(19) Push WTF 1206 sleeving over connector body and against coupling nut retainer ring and shrink in place. After assembly, the center contact nust float or be centered in the connector body.

(20) Tie envelope containing 209592 sealing gaskets to connector. One gasket is to be installed when coupling connector to sensing element. Follow instructions on 241833 envelope. Spare gaskets are to be tied to cable assembly with high temperature tying cord. If connector uncoupling is necessary, install a new gasket.

G. Assembly Walter Kidde 877535 and 877536 Connectors Using BMS 13-55 Fire Resistant, AWG 18 Wire

(1) Slide spring (A) and sleeve (B) over wire. Remove 11/32 ±1/32 inch of wire insulation from end of wire. See Fig. 797G.

(2) Slide four 1-1/2 ±1/16 inch lengths of 1/4 inch ID. TFE-4X thinwall shrink tubing over wire.

(3) Slide insulator (C) over exposed conductor and butt against wire insulation.

(4) Locate contact, socket (E) for 877535 or pin (D) for 877536 in applicable crimp tool listed in Table 1. Position crimp tool so the contact wire well is facing upward. Insert wire into contact as far as possible and crimp.

(5) Butt sleeves against crimped contact and shrink in place per REPAIR 4-1.

(6) Apply a small amount of Dow Corning Type R-7002 Silicone Foaming Potting Compound around wire where it enters insulator (C). Slide contact insulator (C) and wire into shell assembly (F), seating contact flange in insulator counterbore.

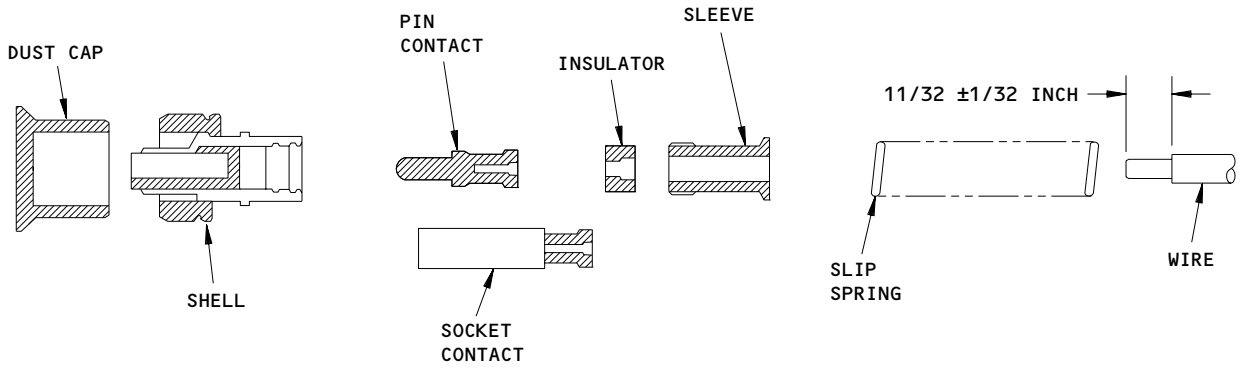
(7) Apply a small amount of Dow Corning Type R-7002 Silicone Foaming Potting Compound to first three threads of sleeve and lside sleeve (B) forward into shell (F). Screw sleeve in tightly by hand.

NOTE: This is a lefthand thread. Do not use pliers. The thread end of the sleeve (B) will line up with the rear face of the shell (F) when properly assembled.

(8) Crimp sleeve using hex crimping tool, Buchanan 612648 using hex die assembly number 616229 or ST965-4. Crimp sleeve to form around wire with approximately 0.175-0.181 inch across hex flats.

(9) Slide spring (A) forward and screw (lefthand) over flared position of sleeve. A fair amount of force must be used to start the first coil over the flare. Screw spring forward to shell (F).

(10) Cure potted connector for 3 minutes minimum at approximately 300 to 350°F using hot air gun or equivalent.




Walter Kidde 877535 and 877536 Connectors
Figure 797G

C771211

H. Assembly of Walter Kidde 878238-() and 878239-() Connectors to AWG Wire 16 or 18 (Overall Diameter - 0.119 Minimum to 0.150 Inch Maximum)

(1) For 878238-01 and 878239-01 connectors, see Fig. 797H.

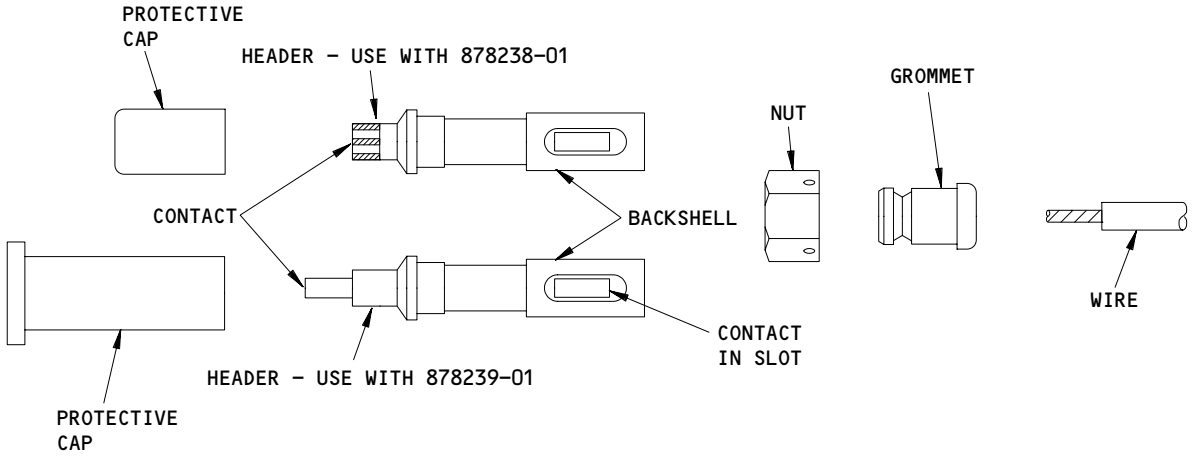
(a) Prepare the wire by stripping insulation back 5/16 ±1/64 inch.

(b) Slide the grommet (A) overh the wire.

(c) Slide nut (B) forward onto header (C) or (D).

(d) Insert wire into header contact and butt insulation against crimp barrel. Crimp the contact using Buchanan 612648 frame with 620770 die. The crimp is made through the slots in the header backshell. Position tool hard against ceramiv face to ensure proper longitudinal crimp location.

(e) Install protective cap (E) or (F).




Walter Kidde 878238-01 and 878239-01 Connectors
Figure 797H

C77424

(2) For 878238-02 and 878239-02 Connectors, see Fig. 797I.

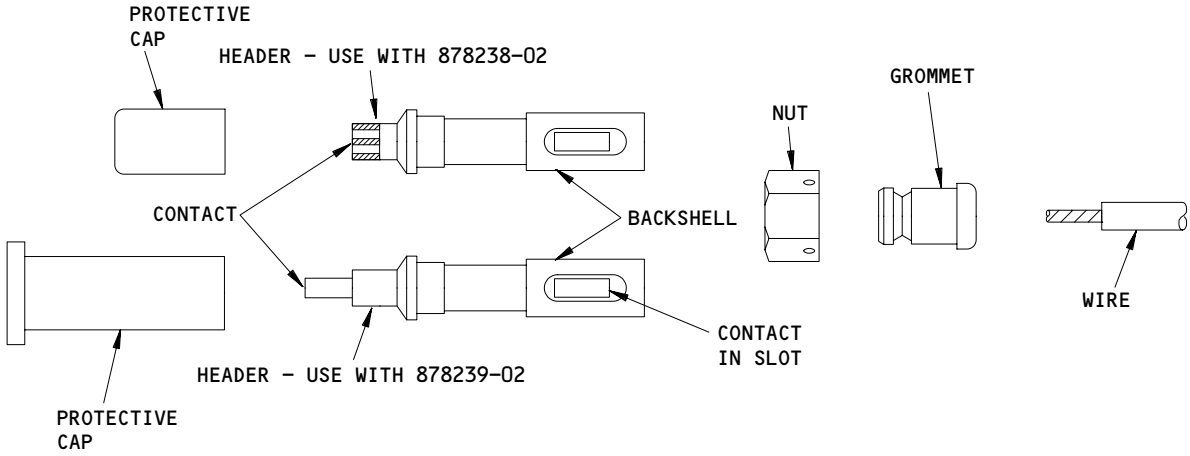
(a) Prepare the wire by stripping insulation back 5/16 ±1/64 inch.

(b) Slide the grommet (A) over the wire.

(c) Slide nut (B) forward onto header (C) or (D).

(d) Insert wire into header contact and butt insulation against crimp barrel. Crimp the contact using Buchanan frame 612648 with 620770 die. The crimp is made through the slots in the header backshell. Position tool hard against ceramic face to ensure proper longitudinal crimp location.

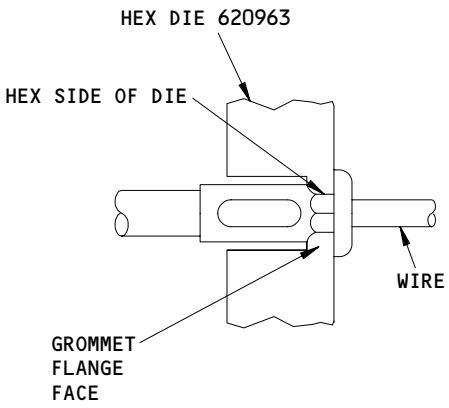
(e) Slide grommet (A) forward into header backshell until face of grommet flange bottoms firmly against end of backshell.




Walter Kidde 878238-02 and 878239-02 Connectors
Figure 797I

C80555

(f) Hex crimp backshell using Buchanan 612648 frame with 620963 die. With face of grommet flange against backshell position hex side of die against flange face as shown in Figure 10 and close crimp jaws.




Crimp Connector
Figure 797J

C77428

(g) Install protective cap (E) or (F).

(3) Installation of Walter Kidde 878238-() and 878239-() Connectors

(a) Coat the copper sealing gasket located inside the coupling nut on the connector interface with a light uniform coating of Dow Corning DC-4 silicone grease. Take care not to get grease on connecrtor center contact area.

(b) Mate the plug with its mating receptacle and torque the plug coupling nut to 60 ±10 inch-pounds.

I. Assembly of Walter Kidde 878581-01 and 878582-01 Connectors to BMS 13-8 (Type 1, Class A, AWG 18), Filotex TMF, or Champlain 24-00033 Wire

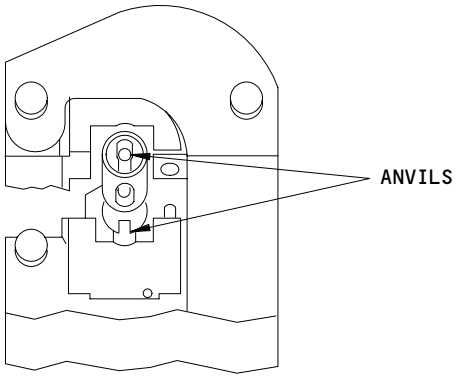
(1) Thread Teflon grommet over wire, large end first.

NOTE: WIres with braided jackets may be cut at an angle to facilitate threading of Teflon grommet. Conductor must then bu cut square before stripping.

(2) Strip wire 5/16 ±1/32 inch.

(3) Slide coupling nut over wire, small unthreaded end first, with threaded end toward the stripped wire end.

(4) Place the connector body into the Astro-Buchanan 620770 crimp die installed in a M22910/7-1 or M22520/5-01 crimp tool frame. See Fig. 797K. The die anvils should protrude through the slots in the metal shell. The top anvil should be flush against the ceramic body. Close tool just enough to hold the connector in place. The anvils should close around the contact crimp barrel.




Crimping Center Contact
Figure 797K

C80566

(5) Insert the stripped wire into the contact crimp barrel.

(6) Close tool handles until ratchet releases.

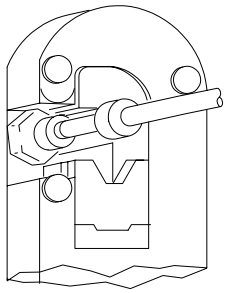
(7) Open tool and remove connector.

(8) Inspect contact crimp for no loose strands outside the crimp barrel.

(9) Slide the coupling nut onto the connector body.

(10) Slide the teflon grommet along the wire and into the connector shell.

(11) Place the connector body into and Astro-Buchanan 620963 die set installed in a M22910/7-1 tool with the hex portion against the shoulder onthe Teflon grommet. Rotate the connector so the slots are lined up with the parting line of the die. See Fig. 797L.



Crimping Connector Shell
Figure 797L

C77431

(12) Check that grommet is fully inserted in connector shell and against crimp die.

(13) Close tool handles until ratchet releases.

(14) Open tool and remove connector.

J. Cleaning of Walter Kidde Connectors

(1) Refer to Cleaning Par. 6. E. for cleaning procedures for Walter Kidde connectors.

K. Additional Strain Relief

(1) If strain relief beyond that provided by the grommet insert is desires, proceed as follows:

(a) Build-up diameter of wire at the exit from the connector with TFE tape, Grade D as illustrated. Diameter of wire shall be built up as shown in Fig. 797M from one or two layers approximately 1-1/2 inches behind the connector to a diameter just smaller than the collar of the Teflon insert. Install tape so taper is even and smooth.

(b) As a second operation, apply a piece of Teflon tubing with a diameter just large enough to fit over the Teflon insert. A 0.50 inch inside diameter is suitable.

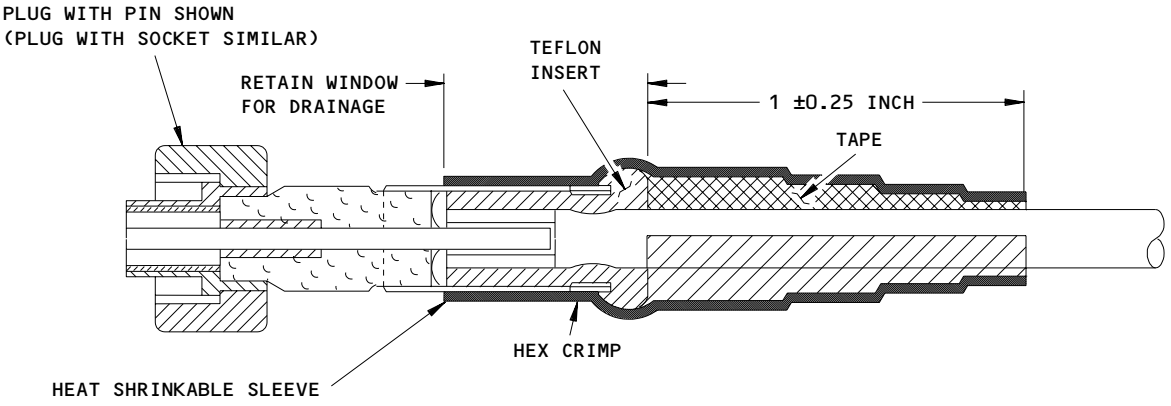
(c) Install as shown in Fig. 797M.

(d) Heat shrink sleeve in place per REPAIR 4-1.

(e) Care must be taken not to heat-damage wire; protective wrapping of unsleeved portion of wire (approximately 4 to 6 inches) is recommended.

NOTE: Do not use wire buildup without sleeve. Stress concentration at connector end will actually aggravate condition. Application of two or three successive sleeves is mandatory if TFE 4X is used.

NOTE: Connector may have circumferential groove crimp.




Additional Strain Relief
Figure 797M

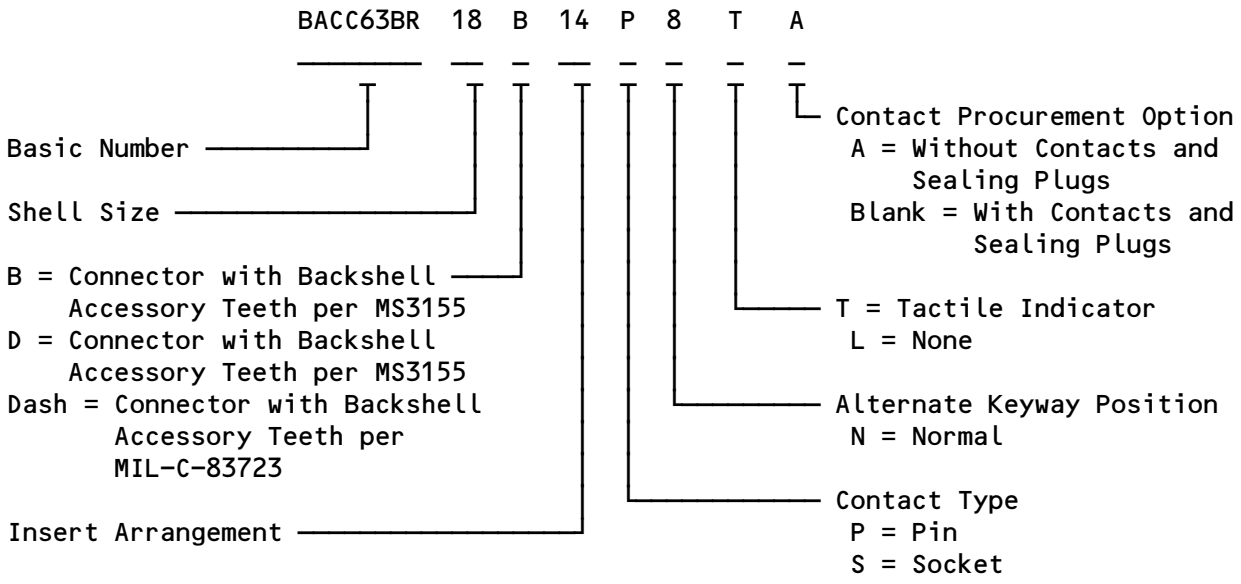
C80641

6. Assembly of MIL-C-83723 Series III Type Connectors

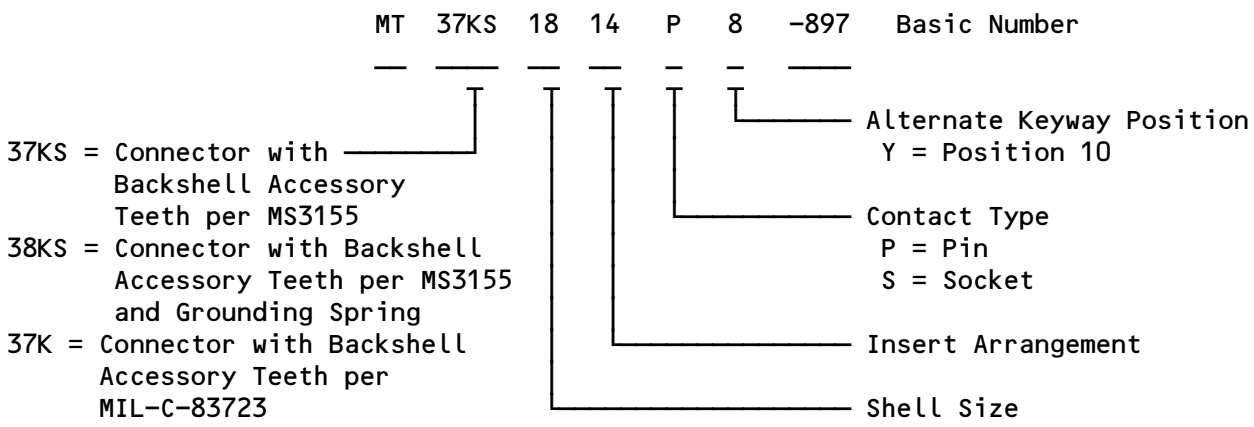
A. Connector Part Numbering

(1) Plug, Straight, Threaded Coupling, Self-Locking, Firewall

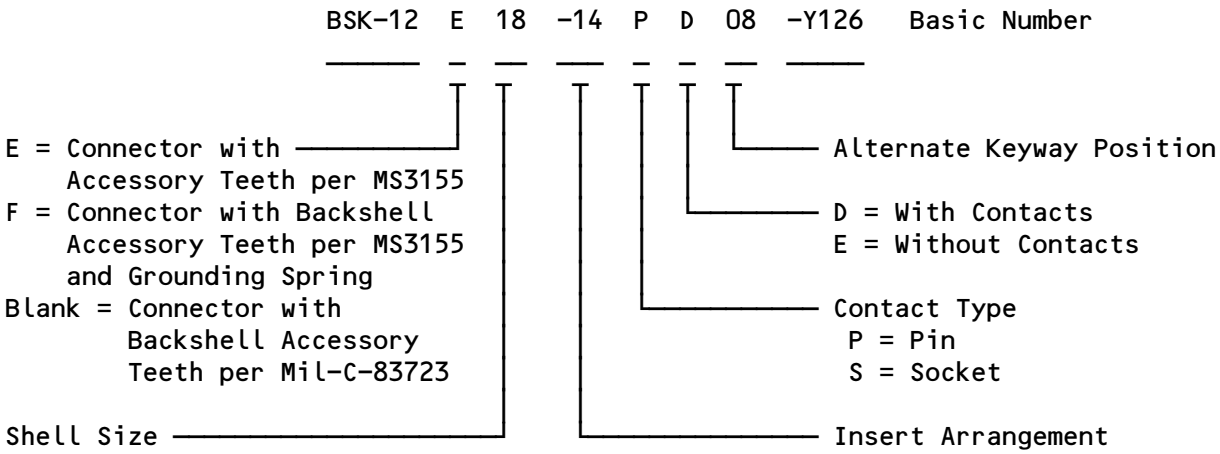
(a) Boeing Part Number



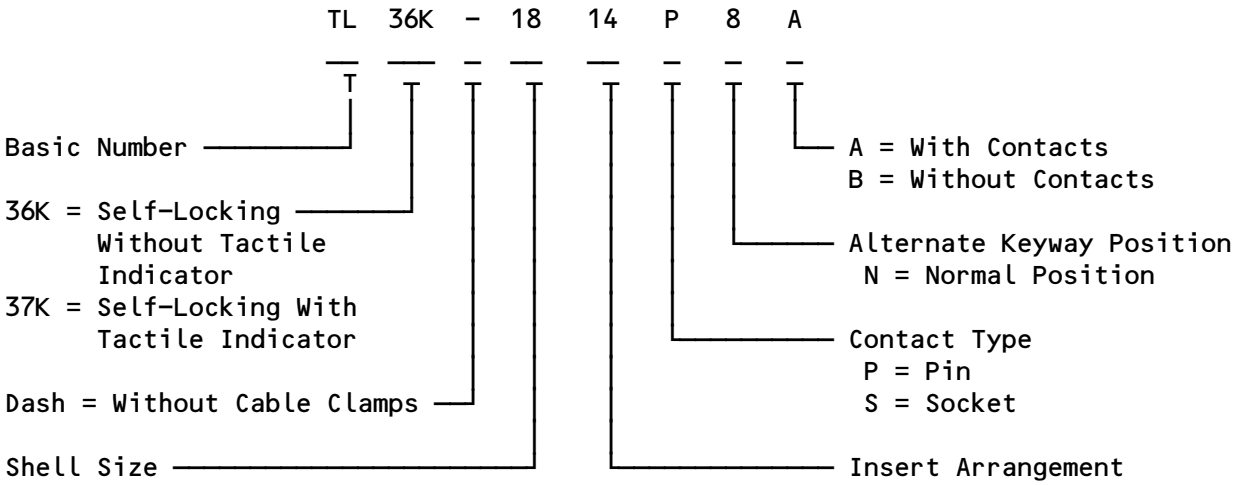

(b) Matrix Part Number



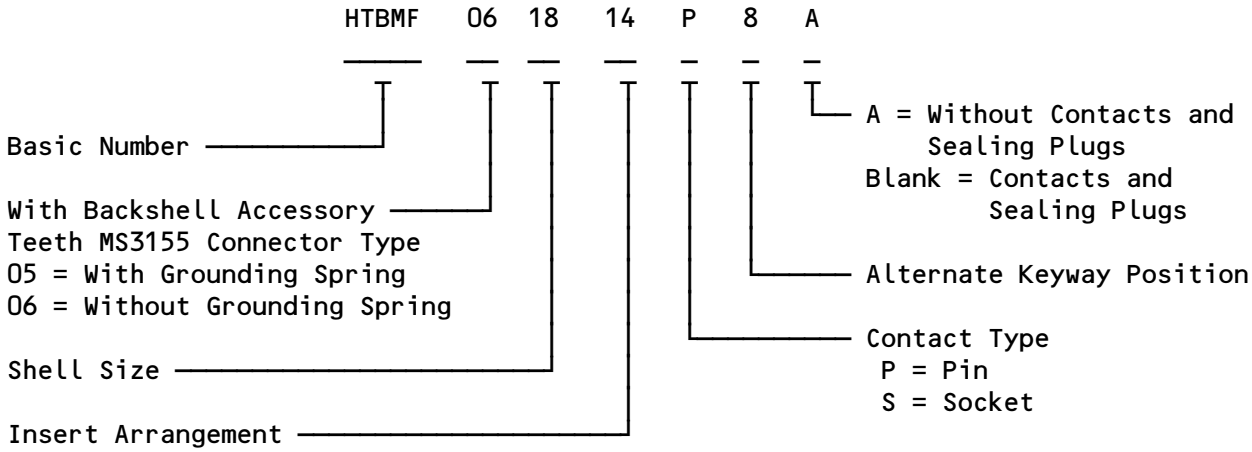
(c) Pyle-National Part Number



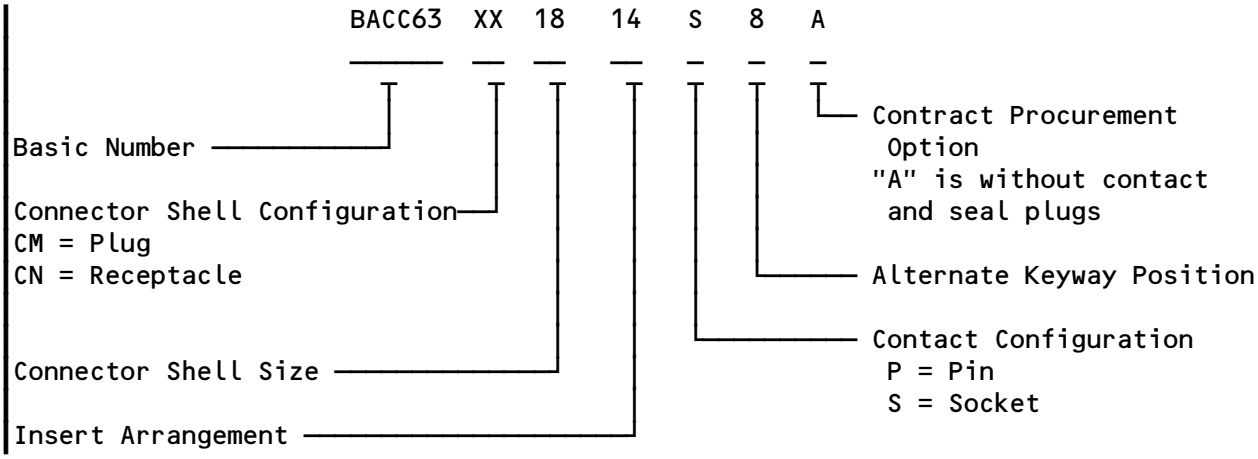

(d) T.J. Electronics Part Number



(e) ITT Cannon (GB) Part Number




(f) Boeing Part Number



(2) Receptacle, Flange Mount, Threaded Coupling, Firewall

(a) Boeing Part Number

BACC63BT 18 B 14 P 8 A

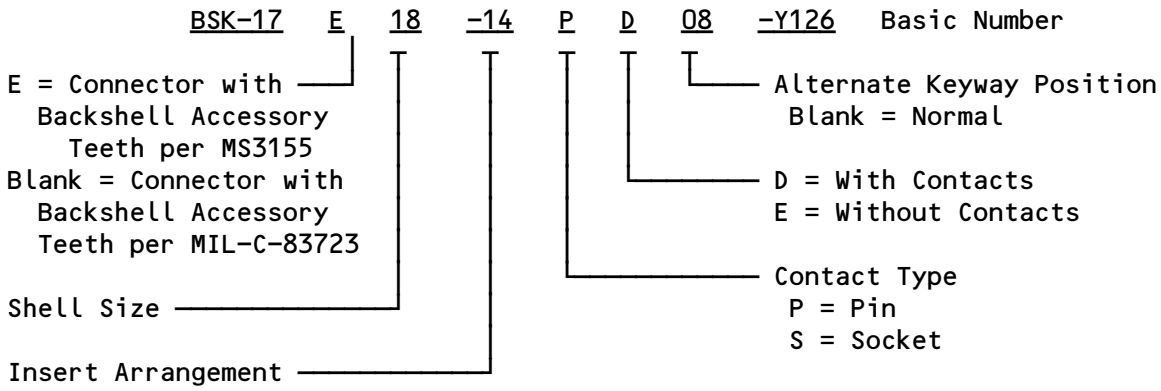
- BACC63BT — Basic Number
- 18 — Shell Size
- B — B = Connector with Backshell Accessory Teeth per MS3155; Dash = Connector With Backshell Accessory Teeth per MIL-C-83723
- 14 — Insert Arrangement
- P — Contact Type: P = Pin, S = Socket
- 8 — Alternate Keyway Position: N = Normal
- A — Contact Procurement Option: A = Without Contacts and Sealing Plugs; Blank = With Contacts and Sealing Plugs

(b) Matrix Part Number

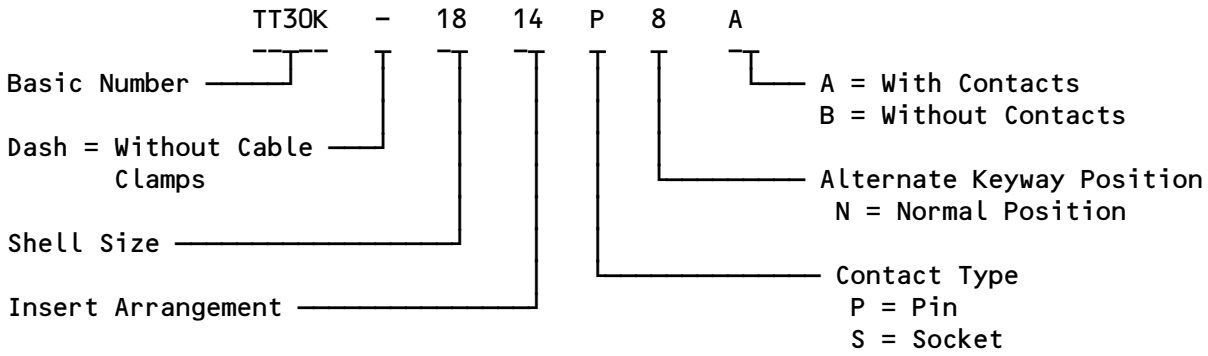
MT 3OKS 18 14 P 8 -897 Basic Number

- MT 3OKS — 3OKS = Connector with Backshell Accessory Teeth per MS3155; 3OKS = Connector with Backshell Accessory Teeth per MIL-C-83723
- 18 — Shell Size
- 14 — Insert Arrangement
- P — Contact Type: P = Pin, S = Socket
- 8 — Alternate Keyway Position: Y = Position 10
- -897 — Basic Number

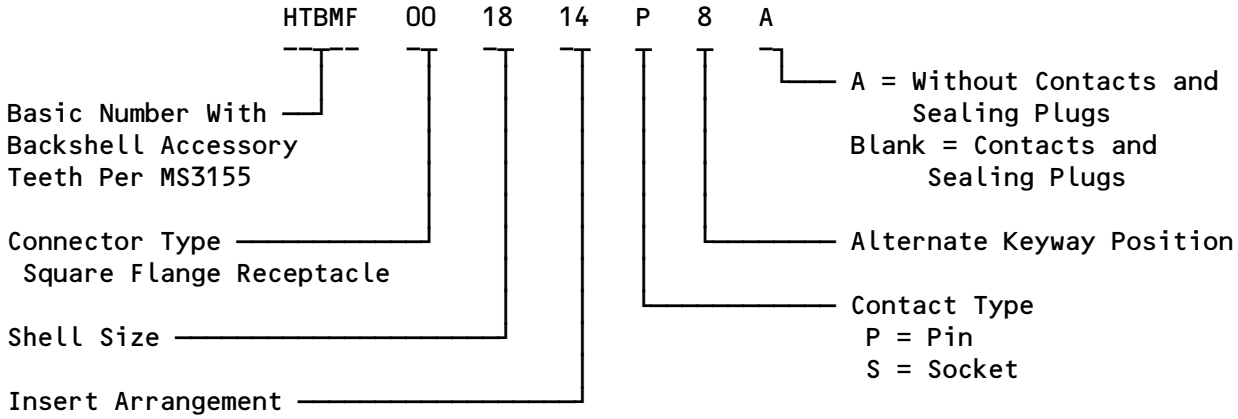
(c) Pyle-National Part Number




(d) T.J. Electronics Part Number




(e) ITT Cannon (GB) Part Number



(3) Matrix 52752(), 52753(), and 62761() Type Connectors

NOTE: These connectors are similar to MT type connectors, but have the coupling ring set back to prevent possible interference with the mounting thread of a jam nut mounting receptacle.

(a) Matrix 52752(), Plug, Self-Locking, Threaded Coupling

52752 - 18 31 S 6

- Basic Number — MIL-C-83723, Series III, Threaded Class KS, Stainless Steel, Firewall
- Shell Size
- Insert Arrangement
- Contact Type — P = Pin, S = Socket
- Alternate Keyway Position — Blank = Normal

(b) Matrix 52753(), Plug, Self-Locking, Threaded Coupling, RFI Grounding

52753 - 18 31 S 6

- Basic Number — MIL-C-83723, Series III, Threaded Class KS, Stainless Steel, Firewall
- Shell Size
- Insert Arrangement
- Contact Type — P = Pin, S = Socket
- Alternate Keyway Position — Blank = Normal

(c) Matrix 52761(), Plug, Self-Locking, Threaded Coupling, RFI Grounding

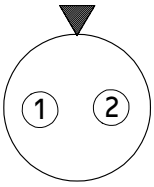
52761 - 18 31 P 6 -001

- Basic Number — MIL-C-83723, Series III Threaded Class KS, Stainless Steel, Firewall
- Shell Size
- Insert Arrangement
- Contact Type — P = Pin, S = Socket
- Alternate Keyway Position — Blank = Normal
- Modification Code — 001 = Without Contacts, Blank = With Contacts

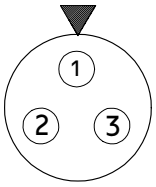
B. Insert Configurations for MIL-C-83723 Series III Electrical Connectors

(1) View shown is front face of socket insert. See Fig. 798.

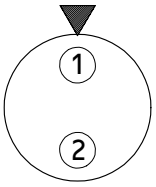
NOTE: Triangle indicates location of major polarizing keyway.



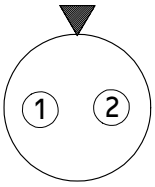

8–2 INSERT
2 SIZE 20 CONTACTS



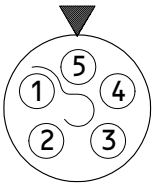

8–3 INSERT
3 SIZE 20 CONTACTS



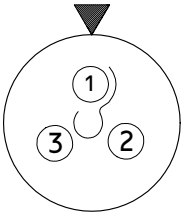

10–2 INSERT
2 SIZE 20 CONTACTS



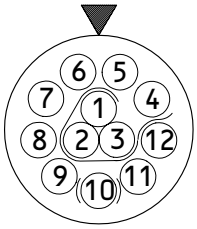

10–20 INSERT
2 SIZE 16 CONTACTS



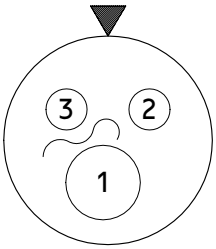

10–5 INSERT 5
SIZE 20 CONTACTS



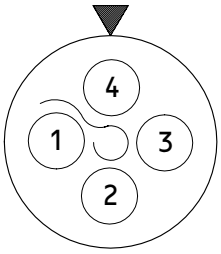

12–3 INSERT
3 SIZE 16 CONTACTS



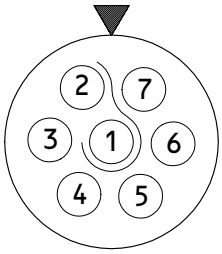

12–12 INSERT
12 SIZE 20 CONTACTS



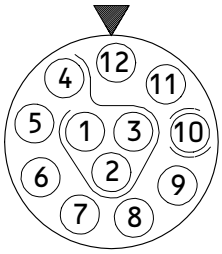

14–3 INSERT
2 SIZE 16 CONTACTS 1
SIZE 2 SHIELDED CONTACT



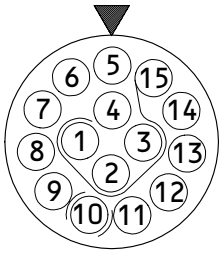

14–4 INSERT
4 SIZE 12 CONTACTS



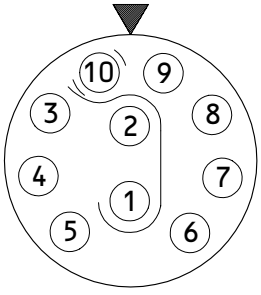

14–7 INSERT
7 SIZE 16 CONTACTS



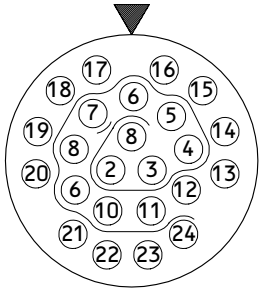

14–12 INSERT
3 SIZE 16 CONTACTS
9 SIZE 20 CONTACTS



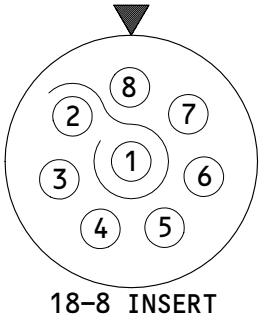

14–15 INSERT
15 SIZE 20 CONTACTS




16–10 INSERT
10 SIZE 16 CONTACTS




16–24 INSERT
24 SIZE 20 CONTACTS

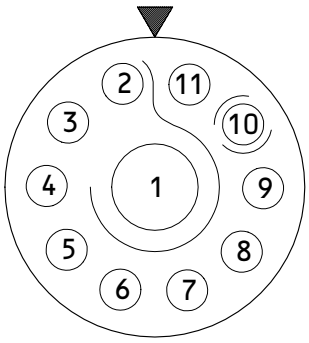



18–8 INSERT
8 SIZE 12 CONTACTS

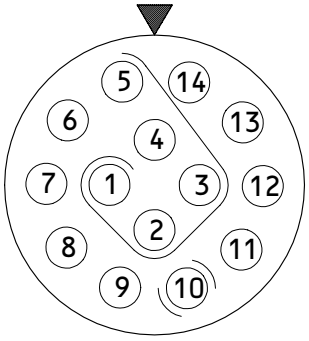
MIL–C–83723 Series III Connector Insert Configurations
Figure 798 (Sheet 1)



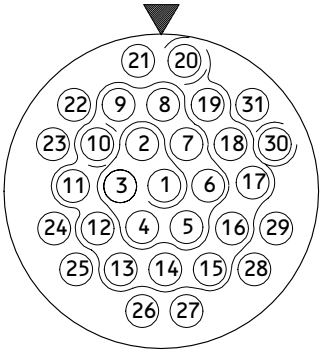
C77531



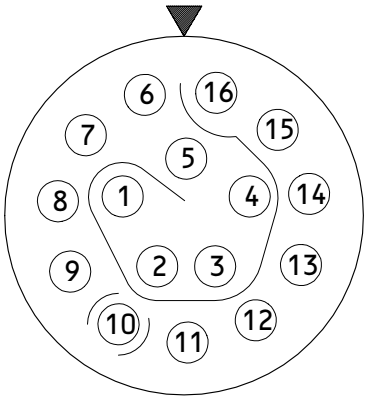

18–11 INSERT
10 SIZE 16 CONTACTS
1 SIZE 2 CONTACTS



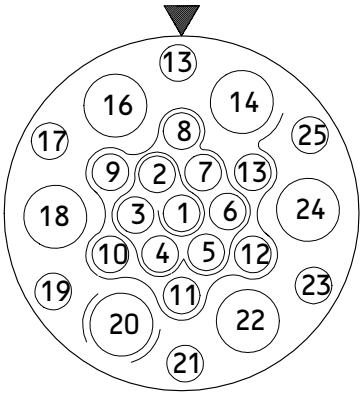

18–14 INSERT
14 SIZE 16 CONTACTS



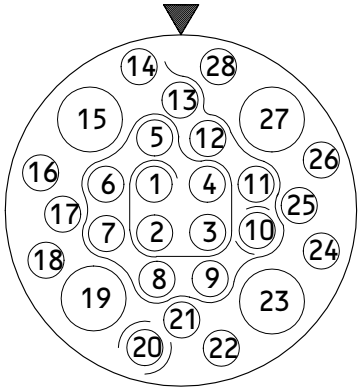

18–31 INSERT
31 SIZE 20 CONTACTS



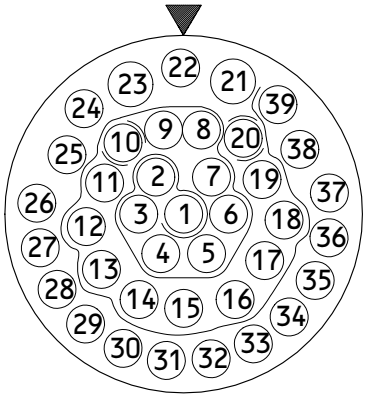

20–16 INSERT
16 SIZE 16 CONTACTS



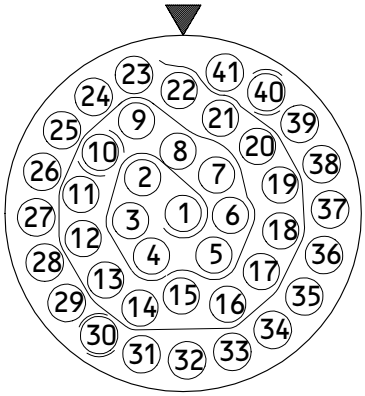

20–25 INSERT
19 SIZE 20 CONTACTS
6 SIZE 12 CONTACTS



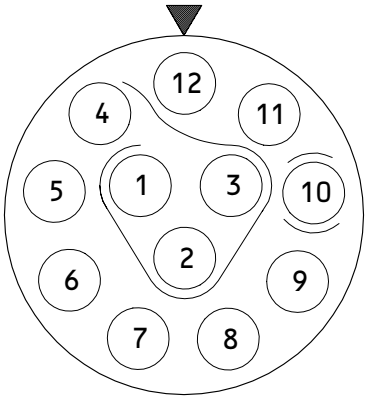

20–28 INSERT
24 SIZE 20 CONTACTS
4 SIZE 12 CONTACTS




20–39 INSERT
36 SIZE 20 CONTACTS
2 SIZE 16 CONTACTS




20–41 INSERT
41 SIZE 20 CONTACTS

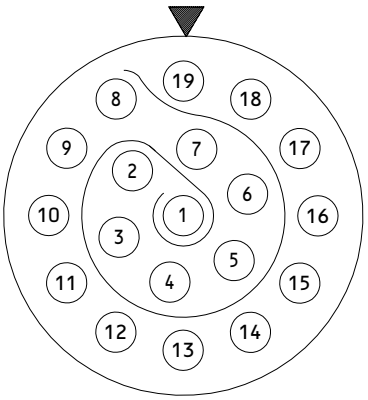



22–12 INSERT
12 SIZE 12 CONTACTS

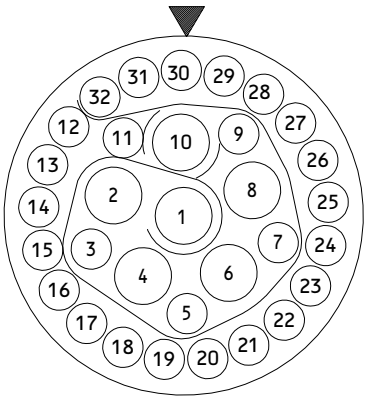
MIL-C-83723 Series III Connector Insert Configurations
Figure 798 (Sheet 2)



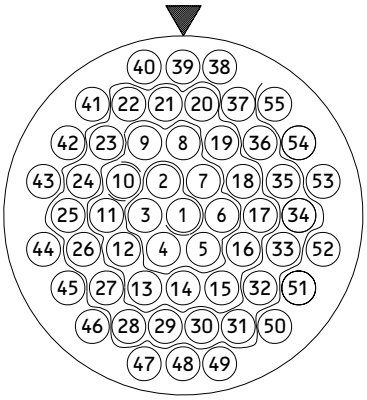
C77554



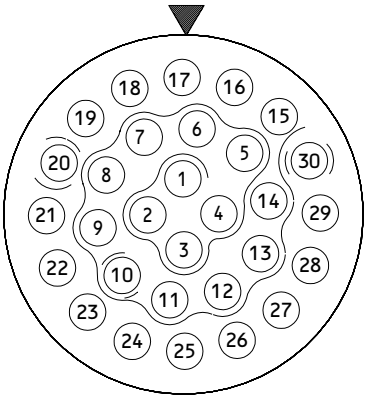

22–19 INSERT
19 SIZE 16 CONTACTS



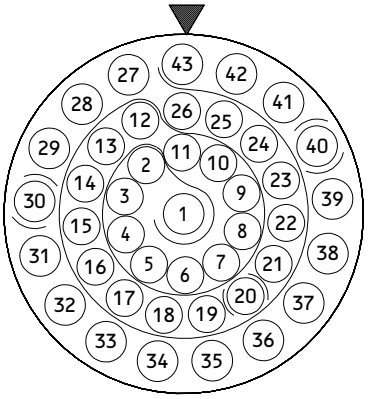

22–32 INSERT
26 SIZE 20 CONTACTS
6 SIZE 12 CONTACTS



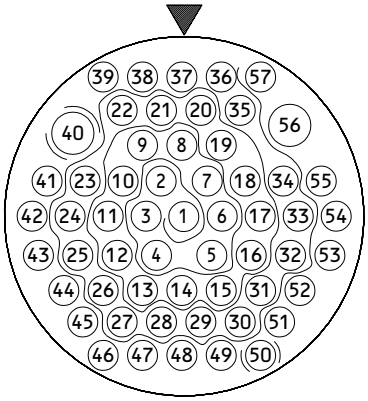

22–55 INSERT
55 SIZE 20 CONTACTS



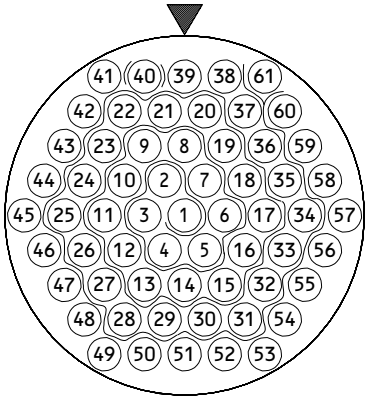

24–30 INSERT
30 SIZE 16 CONTACTS



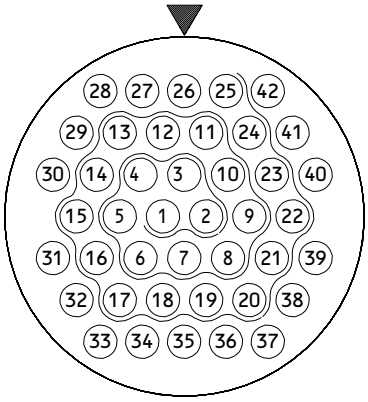

24–43–INSERT
23 SIZE 20 CONTACTS
20 SIZE 16 CONTACTS



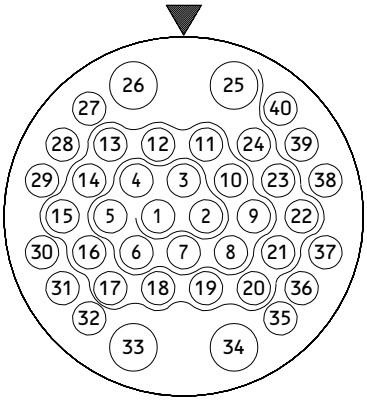

24–57 INSERT
55 SIZE 20 CONTACTS
2 SIZE 12 CONTACTS




24–61 INSERT
61 SIZE 20 CONTACTS




28–42 INSERT
42 SIZE 16 CONTACTS




28–40 INSERT
36 SIZE 16 CONTACTS
4 SIZE 12 CONTACTS

NOTE: TRIANGLE INDICATES LOCATION OF MAJOR POLARIZING KEYWAY.

MIL–C–83723 Series III Connector Insert Configurations
Figure 798 (Sheet 3)

C. Contact Part Numbers

| BACC47ES() | Size | Supplier Part Number | | | |
|---|---|---|---|---|---|
| | | Matrix | Pyle National | T.J. Electronics | Military (QPL) |
| 1 | 20 | 5000-126-0020 | BA-4020-36LD-Y126 | 107226-20 | M39029/4-110 |
| 2 | 16 | 5000-126-0016 | BA-4016-36LD-Y126 | 107226-16 | M39029/4-111 |
| 3 | 12 | 5000-126-0012 | BA-4012-36LD-Y126 | 107226-12 | M39029/4-113 |

BACC47ES Pin Contact Part Numbers
Figure 798A

| BACC47ET() | Size | Supplier Part Number | | | |
|---|---|---|---|---|---|
| | | Matrix | Pyle National | T.J. Electronics | Military (QPL) |
| 1 | 20 | 5000-232-0020 | BA-4120-36LD-Y126 | 107227-20 | M39029/5-115 |
| 2 | 16 | 5000-232-0016 | BA-4116-36LD-Y126 | 107227-16 | M39029/5-116 |
| 3 | 12 | 5000-232-0012 | BA-4112-36LD-Y126 | 107227-12 | M39029/5-118 |

BACC47ET Socket Contact Part Numbers
Figure 798B

| Contact | | Matrix Part Number | |
|---|---|---|---|
| Size | Type | Alumel | Chromel |
| 20 | Pin | 5000-070-120 | 5000-080-220 |
| | Socket | 5100-108-120 | 5100-108-220 |
| 16 | Pin | 5000-070-116 | 5000-070-216 |
| | Socket | 5100-108-116 | 5100-108-216 |
| 12 | Pin | 5000-070-112 | 5000-070-212 |
| | Socket | 5100-108-112 | 5100-108-212 |

Thermocouple Contact Part Numbers
Figure 798C

D. Installation of Contact on Wire

(1) Strip the wire 0.25 ±0.03 inch.

(2) Place the contact in the correct locator and crimp tool as specified in Fig. 798D.

(3) Insert the stripped end of the wire in the crimp barrel of the contact, making certain that all conductor strands enter the barrel and are visible through the inspection hole. The insulation on general purpose wire should butt against rear of the contact. Thick wall insulated wire will have a spacing of approximately 1/8 inch between the insulation and the contact.

NOTE: As an alternate method, the wire may be inserted into the contact before placing in the crimp tool.

(4) With the contact shoulder seated in the locator, and the wire bottomed in the contact, close the handles of hand tools until the ratchet releases.

(5) Remove the contact-wire assembly from the crimp tool.

E. Crimp Tools

| Contact Size | Wire Size | Crimp Tool | | | |
|---|---|---|---|---|---|
| | | Basic Unit Part Number | Locator | | |
| | | | Part Number | Setting | Color |
| 20 | 24 | M22520 1-01 | M22520/1-02 | 2 | Red |
| | 22 | | | 3 | |
| | 20 | | | 4 | |
| | 24 | M22520/2-01 | M22520/2-02 | 5 | — |
| | 22 | | | 6 | — |
| | 20 | | | 7 | — |
| | 22 | MS3191-1 | MS3191-20A | – | — |
| | 20 | | | – | — |
| 16 | 20 | M22520 1-01 | M22520/1-02 | 4 | Blue |
| | 18 | | | 5 | |
| | 16 | | | 6 | |
| | 16 | MS3191-1 | MS3191-16A | – | — |
| 12 | 16 | M22520/1-01 | M22520/1-02 | 6 | Yellow |
| | 14 | | | 7 | |
| | 12 | | | 8 | |
| | 12 | MS3191-1 | MS3191-12A | – | — |

Contact Crimp Tools
Figure 798D

F. Connector Assembly

(1) Slide the backshell over the wire bundle.

(2) Lubricate the rear grommet with denatured alcohol. Do not immerse the connector grommet or contact assembly in the lubricant.

(3) Select the proper insertion tool per Fig. 798E.

| Contact | Insertion Tool Part Number | | | Removal Tool Part Number | | |
|---|---|---|---|---|---|---|
| | Military (QPL) | ITT Cannon | Matrix | Military (QPL) | ITT Cannon | Matrix |
| 20 | M83723/31-20 | CIET-20 | 6500-00-20 | M82723/31-20 | CIET-20 | 6500-001-20 |
| 16 | M83723/31-16 | CIET-16 | 6500-001-16 | M82723/31-16 | CIET-16 | 6500-037-16 |
| 12 | M83723/31-12 | CIET-12 | 6500-01-12 | M82723/31-12 | CIET-12 | 6500-01-12 |

NOTE: CIET-16 cannot be used for removal of thick wall insulated engine wire - Use other tool.

Contact Insertion and Removal Tools
Figure 798E

(4) Slide the contact and wire assembly into the proper end of the insertion tool. Grasp the contact and the insertion tool tip and guide the contact and wire assembly carefully through the proper rear grommet hole. Push the tool straight into the cavity until the contact is fully seated.

CAUTION: MAINTAIN AXIAL ALIGNMENT OF TOOL WITH CONTACT CAVITY AND AVOID ROTATING REMOVAL TOOL ANY TIME TOOL IS IN THE CAVITY.

(5) Carefully withdraw the insertion tool from the grommet. Pull gently on each wire to assure the contact has seated.

(6) Install spare (unwired) contacts in all unused connector cavities followed by seal plugs. The seal plugs shall butt against the rear of the spare contact. See Fig. 798F for sealing plug selection.

| Contact Size | Seal Plug Color | Supplier Part Number | | |
|---|---|---|---|---|
| | | ITT Cannon | Matrix | Military (QPL) |
| 20 | Red | 225-0070-000 | 3400-043-20 | M83723/28-20 |
| 16 | Blue | 225-0071-000 | 3400-043-16 | M83723/28-16 |
| 12 | Yellow | 225-0072-000 | 3400-043-12 | M83723/28-12 |

Connector Seal Plugs
Figure 798F

(7) Slide cable clamp forward, orient the clamp to the required position and tighten the coupling nut to hand-tight plus 1/8 turn. Apply two wraps minimum of Scotch 64 tape (or equivalent) around wires under clamp. Assemble and tighten clamp hardware.

G. Connector Disassembly

(1) Loosen saddle clamp screws and remove clamp hardware as required. Unscrew clamp coupling nut from connector and slide along bundle until clear.

(2) Remove wired contacts.

(a) Snap removal tool selected from Table V over the wire to be removed.

(b) Carefully slide tool into rear of contact cavity and over rear of contact until tool bottoms.

(c) Press wire against the tool and pull both tool and wired contact straight out of contact cavity.

(3) Remove unwired contacts:

(a) Manually remove seal plug.

(b) Carefully push Cannon CET 16-21 unwired contact removal tool into rear of contact cavity and over rear of contact until bottomed. Apply no pressure to plunger of tool.

(c) Pull both tool and unwired contact out of contact cavity.

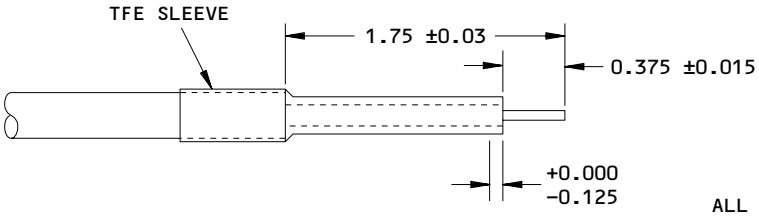
(d) Depress plunger to free unwired contact from tool.

H. Connector Mating

(1) Engage connectors and tighten coupling ring hand tight plus 1/8 turn.

I. Termination of Haveg 24-00034 Firezone Wire

(1) Remove 1.75 ±0.03 inch of outer Teflon jacket and asbestos yarn braid. Avoid cutting the extruded silicone rubber dielectric material. See Fig. 798G.




Reducing Wire Diameter
Figure 798G

C77712

(2) Strip 0.375 ±0.015 inch of extruded silicone rubber and Kapton tape insulation materials from conductor.

(3) Slide a 2.0 ±0.03 inch length of 3/16 inch diameter TFE 4X shrinkable Teflon sleeving over the wire.

(4) Crimp applicable connector contact to conductor.

(5) Shrink Teflon sleeve in place per Fig. 798G.

(6) Insert contact into the connector in accordance with the applicable connector assembly process except as follows:

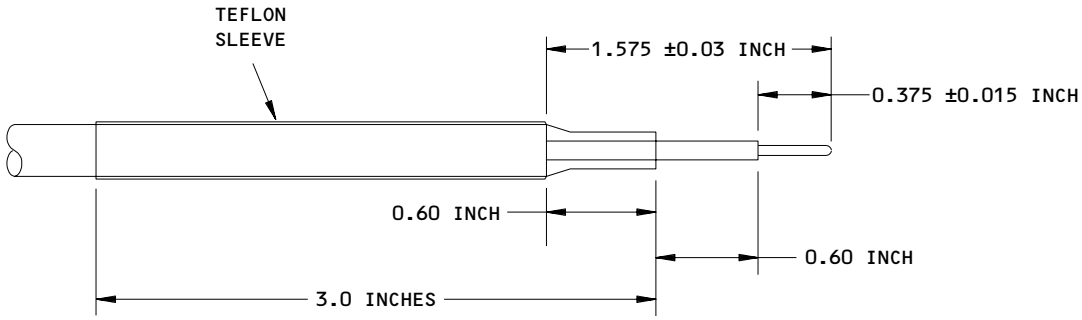
(a) Use Astro tool ATR 1105 for inserting contacts into MIL-C-83723 connectors.

(b) Use Astro tool ATR 2112 for removing contacts from MIL-C-83723 connectors.

J. Assembly Cerro H22-4000 Fire Resistant, AWG 18 Wire

(1) Assembly of Cerro H22-4000, AWG 18 Wire to MIL-C-83723 Connector

(a) Remove 1.575 ±0.03 inch of outer braid and clear Teflon inner wrap from wire. See Fig. 798H. Use caution to avoid cutting dielectric material.




Reducing Wire Diameter
Figure 798H

C77705

(b) Strip inner insulation from the conductor 0.375 ±0.015 inch.

(c) Slide 3.0 inch length of 1/4 inch diameter TFE 4X (thinwall) shrinkable Teflon sleeve over wire.

(d) Select proper contact for connector and wire gage being used and crimp in place.

(e) Shrink Teflon sleeve into place per Fig. 798H.

(f) Insert contact into connector by hand, making certain contact is seated in connector, or use the applicable insertion tools called out in the respective subject connector assembly.

K. Termination of Vibro-Meter 50-116-00 and 80-116-00 Cables

(1) Remove white outer jacket, yellow Polymide wrap, braided shield, black outer graphite tape wrap, fiberglass binder and filler, and individual conductor black graphite tape wrap.

(2) Remove all residue of carbon from primary insulation of conductors by brushing with a fiberglass eraser or sandblasting. Clean with acetone or other suitable solvent.

(3) Dead end shield REPAIR 1-3.

(4) Strip conductors 1/2 ±1/64 inch.

(5) Install an 1/8 inch ID TFE-4X build-up sleeve over each wire and shrink in place per REPAIR 4-1.

(6) Double back stripped conductor, insert in contact, and crimp.

(7) Insert contact into connector and assemble connector.

7. Assembly of MS345(), and Matrix 944(), 981() or 42250 Connectors

A. Connector Part Numbering

(1) Military Part Number

MS345 () (L) () (18) -(10) (P) (W)

Connector Series Designator

Connector Style
0 = Receptacle, Wall Mounting
1 = Receptacle, Cable Connecting
2 = Receptacle, Box Mounting
4 = Receptacle, Jamnut Mounting
6 = Plug, Cable Connecting
9 = Plug, Self-locking Coupling Nut

Class
KT = Firewall
L = High Temp, Fluid Resistant
W = General Purpose

Material Designator
S = Stainless Steel
T = Ferrous Alloy
Blank = Aluminum Alloy, Ferrous Alloy, Wrought Aluminum

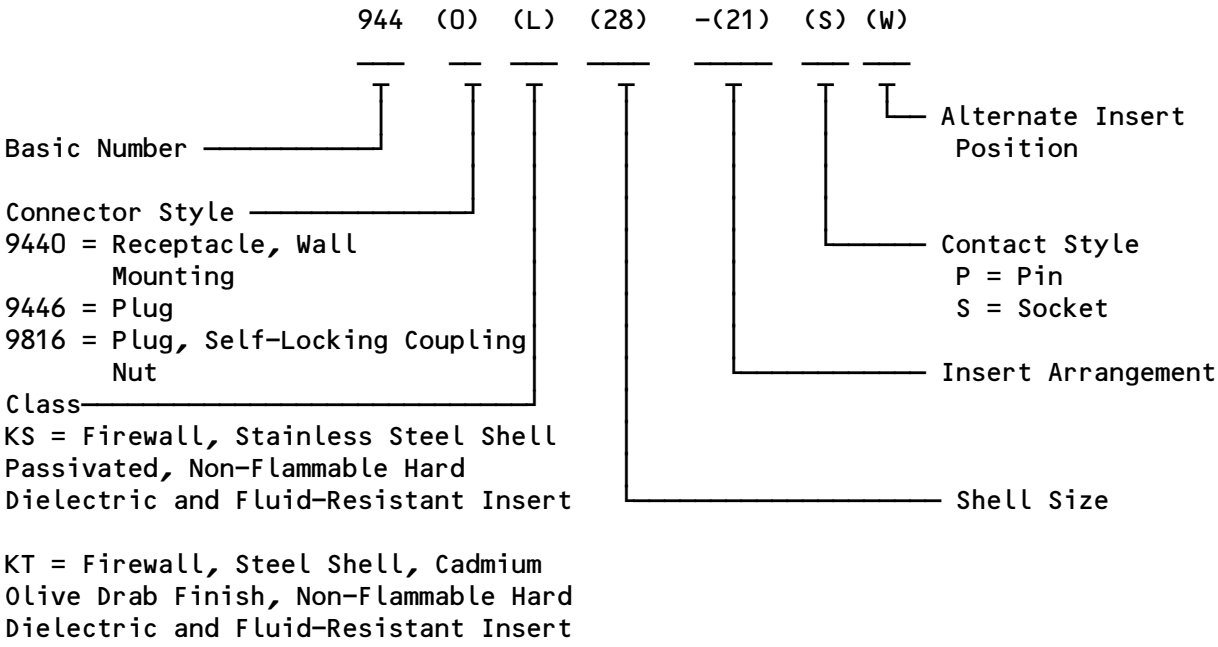
Shell Size

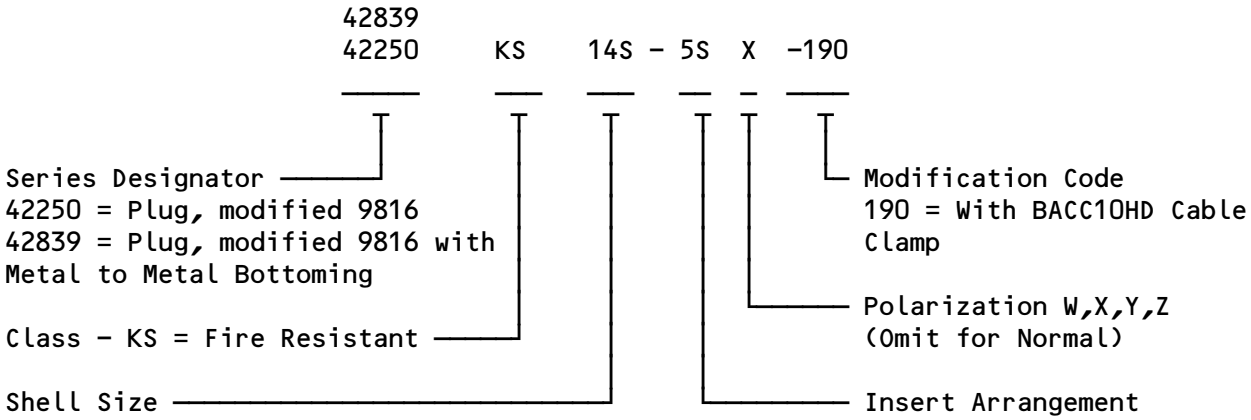
Insert Arrangement

Contact Style
P = Pin
S = Socket

Alternate Insert Position
Blank = Normal

(2) Matrix Part Number




B. Insert Configurations for MIL-C-5015 Connectors

(1) Refer to par. 3.

C. Contact Part Numbers

| Contact | | Part Numbers | | Wire Strip Dimensions (inch) | |
|---|---|---|---|---|---|
| Size | Type | Military (QPL) | Matrix | Length | Tolerance |
| 16 | Socket | M39029/30-217 | 5100-033-16-1 | 9/32 | ±1/32 |
| | | | 5100-179-16-1 *[1] | | |
| 16 | Socket | M39029/30-218 | 5100-033-16-2 | | |
| 16 | Pin | M39029/29-212 | 5100-029-16 | | |
| 12 | Socket | M39029/30-219 | 5100-033-12 | | |
| 12 | Pin | M39029/29-213 | 5000-029-12 | | |
| 8 | Socket | M39029/30-220 | 5100-033-08 | 1/2 | ±1/16 |
| 8 | Pin | M39029/29-214 | 5000-029-08 | | |
| 4 | Socket | M39029/30-221 | 5100-033-04 | | |
| 4 | Pin | M39029/29-215 | 5000-029-04 | | |
| 1/10 | Socket | M39029/03-222 | 5100-033-0 | 5/8 | ±1/16 |
| 1/10 | Pin | M39029/29-216 | 5000-029-0 | | |

*[1] High Engaging force Version

Contact Part Numbers
Figure 799

D. Installation of Contacts on Wire

(1) Select appropriate contact and strip conductor per the dimensions shown in Fig. 799.

(2) Crimp contacts using tools specified in Fig. 799A.

E. Contact Crimp Tools

| Contact Size | Crimp Tool | | Locator | | |
|---|---|---|---|---|---|
| | Basic Unit | Supplier | Part Number | Die Set | Color |
| 16 | M22520/1–01 | – | M22520/1-02 | – | Blue |
| | MS3191–1 | – | MS3191-16A | – | Blue |
| | 294–126 | Amphenol | MS3191-16A | – | Blue |
| 12 | M22520/1–01 | – | M22520/1-02 | – | Yellow |
| | MS3191–1 | – | MS3191-12A | – | Yellow |
| | 294–126 | Amphenol | MS3191-12A | – | Yellow |
| 8 | M22520/23-01 | – | M22520/23-09 | M22520/23-02 | – |
| | 13642 | T&B | – | ST2354-5 *[2] | – |
| | Y29BH | Burndy | – | ST2354B-5 *[2] | – |
| 4 | M22520/23-01 | – | M22520/23-11 | M22520/23-04 | – |
| | 13642 | T&B | – | ST2354-2 *[2] | – |
| | Y29BH | Burndy | – | ST2354B-2 *[2] | – |
| 1/0 | M22520/23-01 | – | M22520/23-13 | M22520/23-05 | – |
| | 13642 | T&B | – | 11738 *[3] | – |

*[2] Numbers are tool identifications of The Boeing Company.
*[3] Code 45

Contact Crimp Tools
Figure 799A

F. Contact Insertion and Removal Tools

| Contact Size | Insertion/Removal Tool | Supplier |
|---|---|---|
| 16 | 6500-001-16 | Matrix |
| | MS3447-16 | Military (QPL) |
| 12 | 6500-001-12 | Matrix |
| | MS3447-12 | Military (QPL) |
| 8 | 6500-018-08 | Matrix |
| | MS3165-8 | Military (QPL) |
| 4 | 6500-018-04 | Matrix |
| | MS3165-4 | Military (QPL) |
| 1/0 | 6500-018-0 | Matrix |
| | MS3165-0 | Military (QPL) |

Contact Insertion/Removal Tool
Part Numbers
Figure 799B

G. Insertion/Removal of Contacts

(1) Insert or remove contacts using the applicable tooling specified in Fig. 799B.

H. Spare Contacts/Sealing Plugs

(1) Install spare contacts/sealing plugs per REPAIR 3-1.

I. Assembly of Champlain 24-00033 and 24-00034, and BMS 13-8 or BMS 13-55 Wire

(1) Remove 1-1/2 ±1/32 inches of outer Teflon jacket and asbestos yarn braid (See Fig. 799C). Avoid cutting the extruded silicone rubber dielectric material.

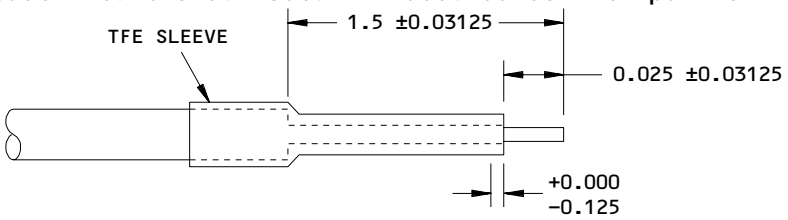
(2) Strip 1/4 ±1/32 inch of extruded silicone rubber and Kapton tape insulation materials from conductor.

(3) Slide a 2 ±1/8 inch length of 3/16 inch diameter TFE 4X shrinkable Teflon sleeving over the wire.

(4) Crimp applicable connector contact to conductor.

(5) Shrink Teflon sleeve in place per Fig. 799C.

(6) Insert contact into the connector in accordance with par. 6.D.




ALL DIMENSIONS ARE IN INCHES

Reducing Wire Insulation Diameter
Figure 799C

C77721