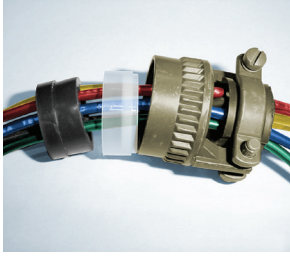
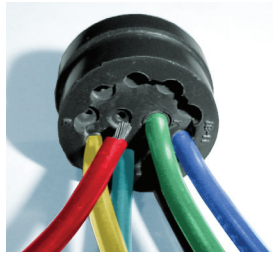


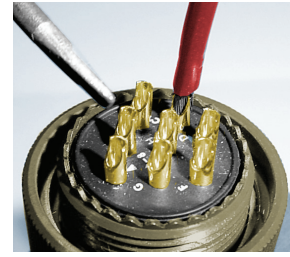
## SOLDER ASSEMBLY INSTRUCTIONS



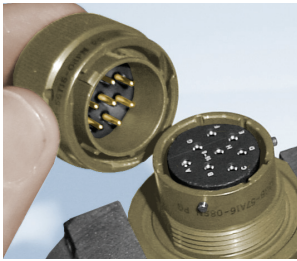
**STEP 1:** Slide the back-end accessories over the wire bundle in the proper sequence for reassembly: cable clamp and/or endbell first, then ferrule/follower and coupling nut (if used).



**STEP 2:** Pre-tin the wire ends and insert the individual wires through the proper holes in the grommet.



**STEP 3:** Solder the wires to the appropriate contacts on the rear of the connector.



**STEP 4:** Place the connector in the fixture for reassembly using the endbell assembly tool or a mating connector with the contacts installed.

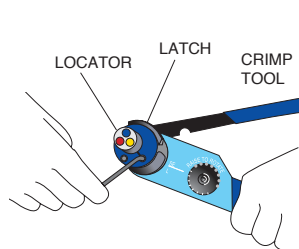
**STEP 5:** Slide the grommet down the wires – lubricating the grommet with isopropyl alcohol will help.

**STEP 6:** Fill each unused cavity in the grommet with a wire hole filler to maintain the sealing integrity of the connector.

**Step 7:** Slide ferrule and endbell accessories over the rear of the connector and tighten.

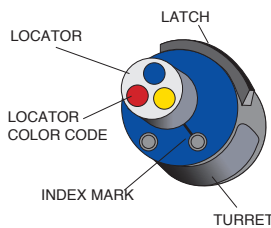
All dimensions in inches (millimeters in parenthesis)

**CRIMP TOOL OPERATION** NOTE: Hand-crimp tools can be used with size 20, 16 and 12 contacts.



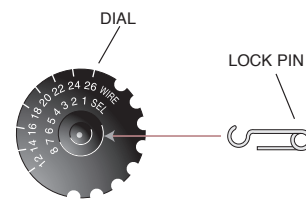
**STEP 1:** Strip the wires to the appropriate length. See strip lengths on the Contact Selection Guide, → page 162.

**STEP 2:** Open the crimp tool by squeezing the handles. Push the latch on the turret to release the locator. Attach the turret to the crimp tool using the two captive hex bolts in the turret.

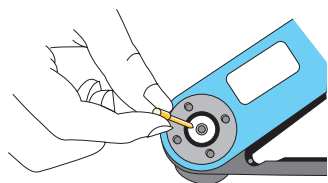


**STEP 3:** Select the proper locator position for your contact by rotating the locator until the proper color is aligned with the index mark. Push locator down until it snaps into position.

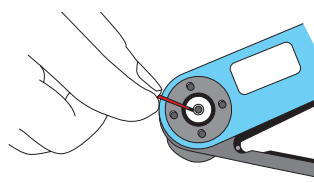
CONTACT SIZE	LOCATOR COLOR
20	Red
16	Blue
12	Yellow



**STEP 4:** Adjust dial for proper wire gauge. To change the dial setting, remove the lock pin and lift center of dial. Turn to the desired wire gauge. Replace lock pin on dial.

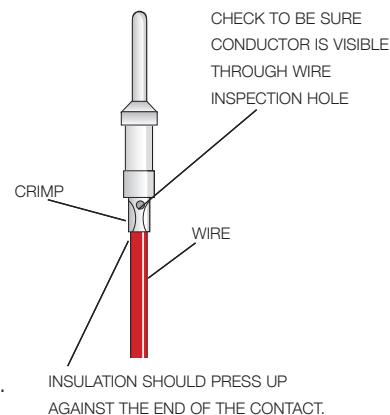


**STEP 5:** Cycle the tool before inserting the contact to be sure the tool is in the open position. Drop the contact, mating end first, into the crimp cavity of the tool. Squeeze the tool handle just enough to grip the contact without actually crimping it.



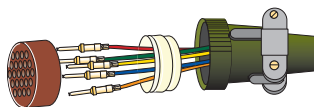
**STEP 6:** Insert the stripped wire into the contact with a slight twisting motion. Be sure all wire strands are inside the contact. Squeeze the handle to cycle the tool. The handle will not release until the contact is completely crimped.

**STEP 7:** Remove the crimped contact. Pull on the wire slightly to be sure it is properly crimped. Be sure the contact is not bent or damaged in any way. Visually inspect the crimp.

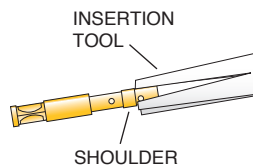


**MICRO-SECTIONS:** Enlargement of micro-section permits a final inspection of crimp quality. This test is recommended whenever new tools or new types of wire or contacts are used.

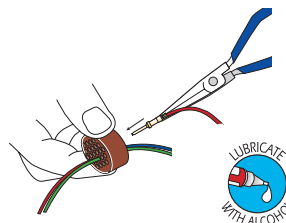
**INSERTION OF CONTACTS**



**STEP 1:** Slide the rear accessories over the wire bundle in the proper sequence for re-assembly: cable clamp and/or endbell first, then ferrule, and coupling nut.



**STEP 2:** Use the proper insertion tool from the Contact Selection Chart on → page 162. Place the contact in the tool. The tool should press against the shoulder of the contact. Contact sizes 20, 16, and 12 use a pliers-style tool.



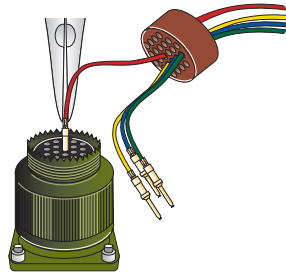
**STEP 3:** Lubricate the grommet with isopropyl alcohol (do not use any lubricant other than isopropyl alcohol). Insert the contact through the appropriate cavity in the grommet.

**STEP 4:** Place the connector into an assembly fixture (fixtures are available for production use, contact us for information.)

## INSERTION OF CONTACTS (CONTINUED)

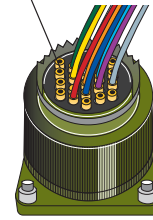


**STEP 5:** Lubricate the contact cavities of the connector insulator with isopropyl alcohol (do not use any other type of lubricant).

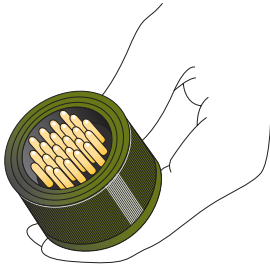


**STEP 6:** Using guide pins where necessary, push straight down with a firm, even pressure until the contact snaps into position in the proper cavity. Start at the center of the pattern and work toward the outer edges.

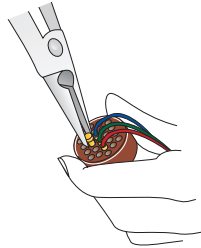
UNCRIMPED CONTACTS



**STEP 7:** Fill any unused cavities with contacts.



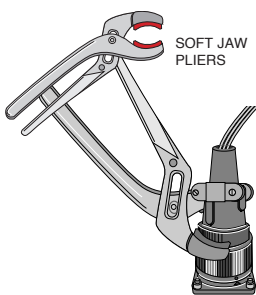
**STEP 8:** Check the mating face of the connector to ensure that all the same-sized contacts are on the same plane (fully inserted); If not, the contact is not fully inserted. Remove the contact using the proper extraction tool and procedure and reinsert. Do not attempt to reinsert the insertion tool to correct the problem.



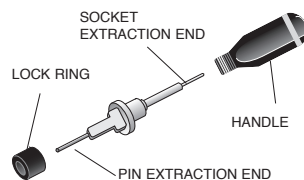
**STEP 9:** A wire hole filler must be inserted into the grommet behind the unused contacts to maintain the sealing integrity of the connector. See the Contact Selection Chart on [page 162](#) for wire hole fillers.

**STEP 10:** Place the connector back in the fixture for re-assembly. Slide the connector accessories down the cable over the rear of the connector and tighten. Use the appropriate endbell tools.

## EXTRACTION OF CONTACTS

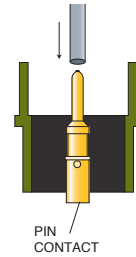


**STEP 1:** Remove the endbell accessories and slide them back over the wires. Use the appropriate endbell tools.



**STEP 2:** Use the proper extraction tool from the Contact Selection Chart on [page 162](#). The extraction tool can be used for both pin and socket contacts by removing the shaft from the handle and reversing it for pin or socket extraction.

CROSS-SECTION OF CONNECTOR



PIN CONTACT

CROSS-SECTION OF CONNECTOR



SOCKET CONTACT

**STEP 3:** On the mating face of the connector, insert the tool over the pin contact or into the socket contact until the tool reaches bottom. Apply a slow, continuous pressure to push the contact through the rear of the connector. When the shoulder of the tool hits against the insulator, the contact is extracted.

**STEP 4:** Carefully remove the extraction tool from the connector to avoid damage to the insulator.