


REVISIONS				
REV	CO #	DESCRIPTION	DATE	APPROVED
A	89.847	RELEASE	9-20-07	RDG
B	101.909	HV contact does not SNAP in; Add caliper depth	7-31-08	RDG
C	114.396	Molex uses slot G	8-03-09	RDG
D	134.069	ADDED MORE ASSEMBLY DETAILS	3-25-10	MHC
E	405.766	Get rid of Radix cable ferrule/slot G reference	2-19-13	RDG
F	417.025	Test free rotation & adjust if needed	6-12-13	RDG
G	422.769	Fix pics- Molex changed wrench flats	10-08-13	RDG
H	674.356	Changed crimper slot from G to H and updated format	8-27-24	TS

SC CONNECTOR ASSY FOR PUMP WITH SAFECONN (ISOLATED GROUND)



PREPARED BY: TS	DATE: 08/27/2024	CHECKED/APROVED BY: TS	DATE: 8/27/2024
 GAMMA V A C U U M www.gammavacuum.com Gamma Vacuum, Part of the Atlas Copco Group 2700 4th Avenue E, Suite 100 , Shakopee, MN 55379 Tel.: 952 445 4841 E-mail: info@gammavacuum.com		TITLE: PROC,CA ASM,SC,310043,BAKE	
		SHEET: 1 OF 12	NUMBER: 430062
			REV. H

1.0 GENERAL

The purpose of this procedure is to give detailed instructions for the assembly of SC connector 310043 to cable 380052 with safeconn.

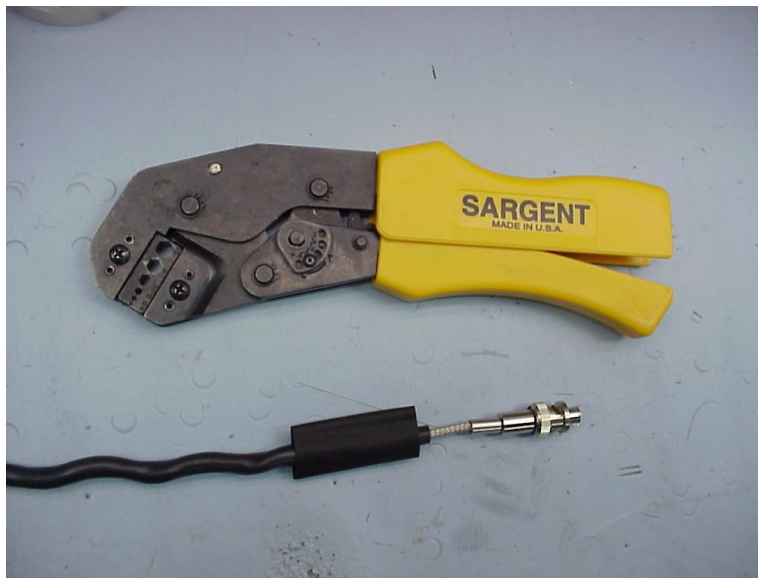
2.0 BILL OF MATERIALS

<u>ITEM</u>	<u>PART NO.</u>	<u>QTY</u>	<u>DESCRIPTION</u>
1	310043	1	CONN-SC, BAKEABLE
2	101138	A/R	HI-TEMP SOLDER (300°C)
3	380052	SEE JOB	CABLE-SAFECONN

NOTE: If this BOM does not match Traveler, the Traveler takes precedence.

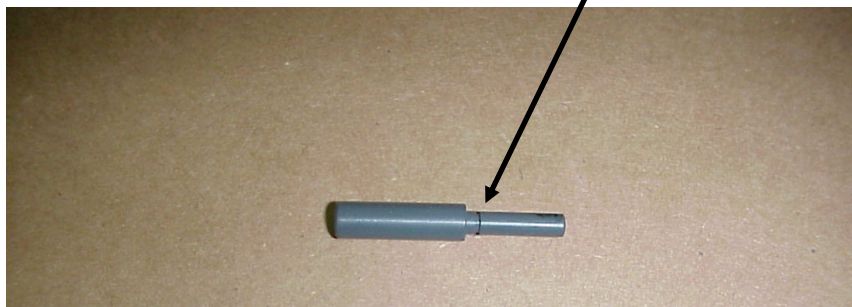
3.0 TOOLS REQUIRED

Crimper- Sargent Crimper 4156CT.



SHV10 Pin Depth Gauge with Tolerance Groove

Depth Gauge with depth groove

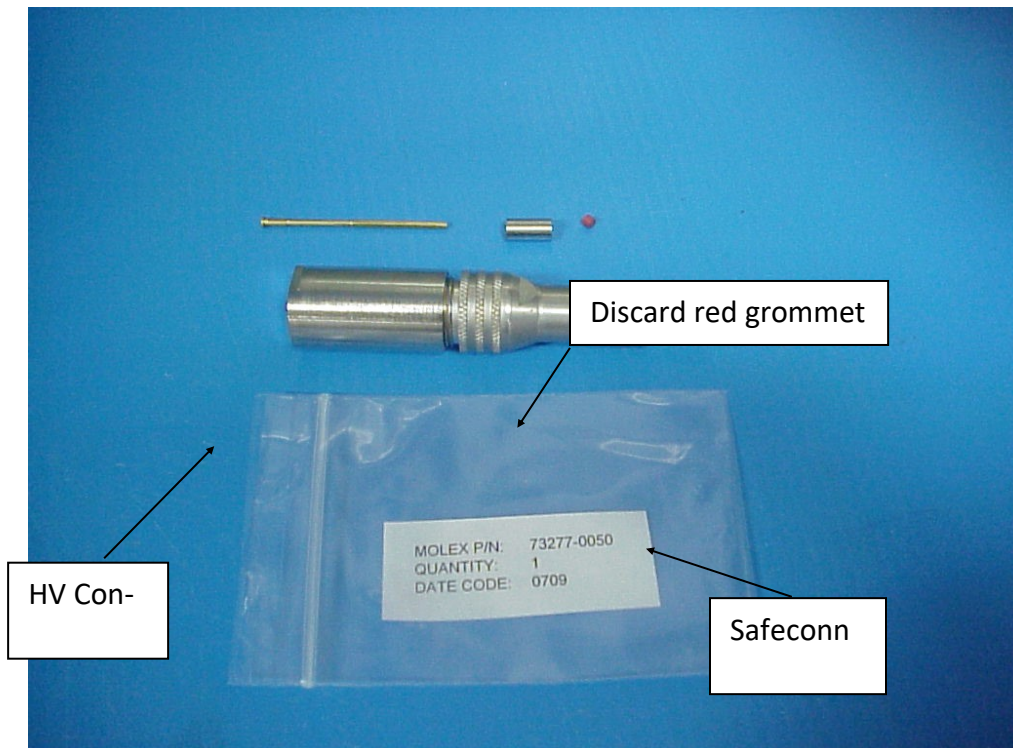


Wrenches: 5/8" and 1/2"



4.0 ASSEMBLY INSTRUCTIONS:

- 4.1 Remove contents from 310043 packaging. Discard the small red grommet. Keep all remaining items.



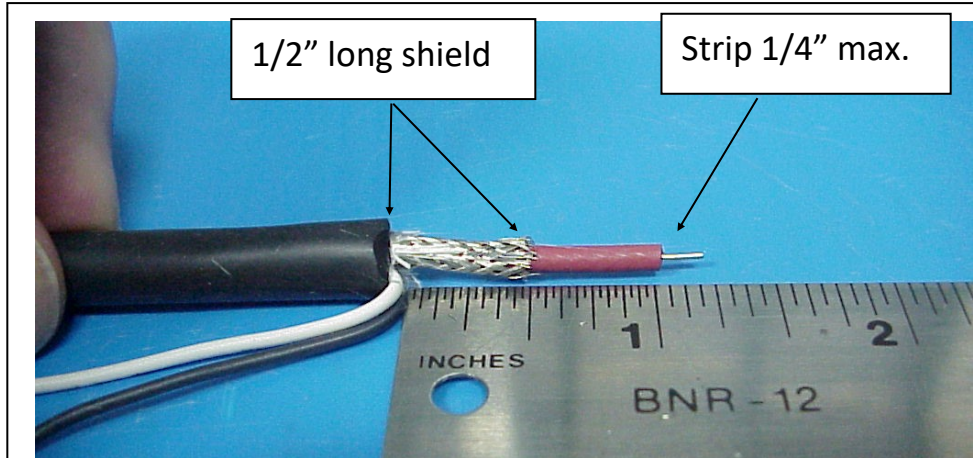
4.2 Strip outer cable jacket (Item 4) approximately 2.25" (5.7 cm). Remove fiberglass sheath and remove clear sleeve from braided shield as shown.



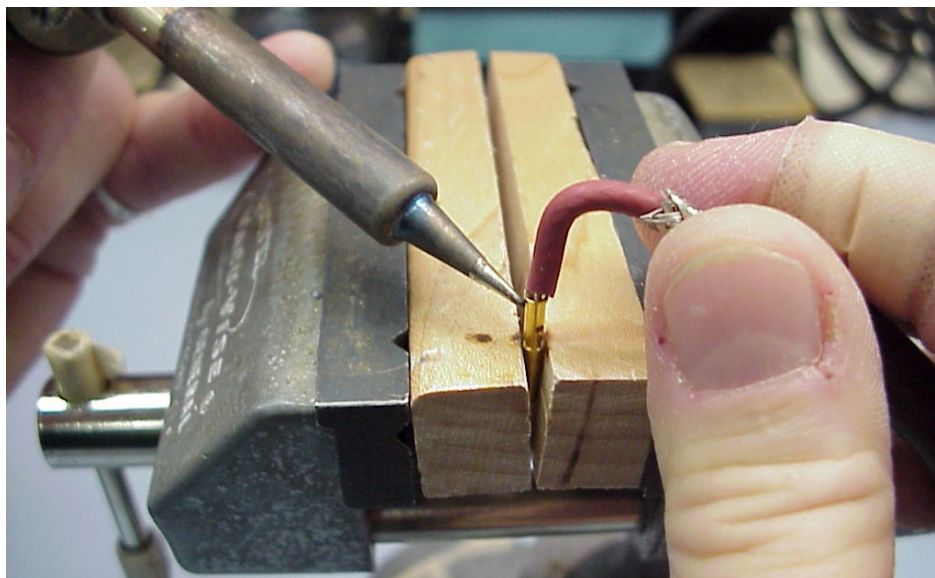
4.3 Cut center conductor to about 1.25" (3.2 cm) length shown.



- 4.4 Strip shield to approximately 1/2" (12.7 mm) long as shown. Use the 20 AWG solid hole on wire stripper 73574 to strip center conductor back approximately, but no more than, 1/4" (6.35 mm).

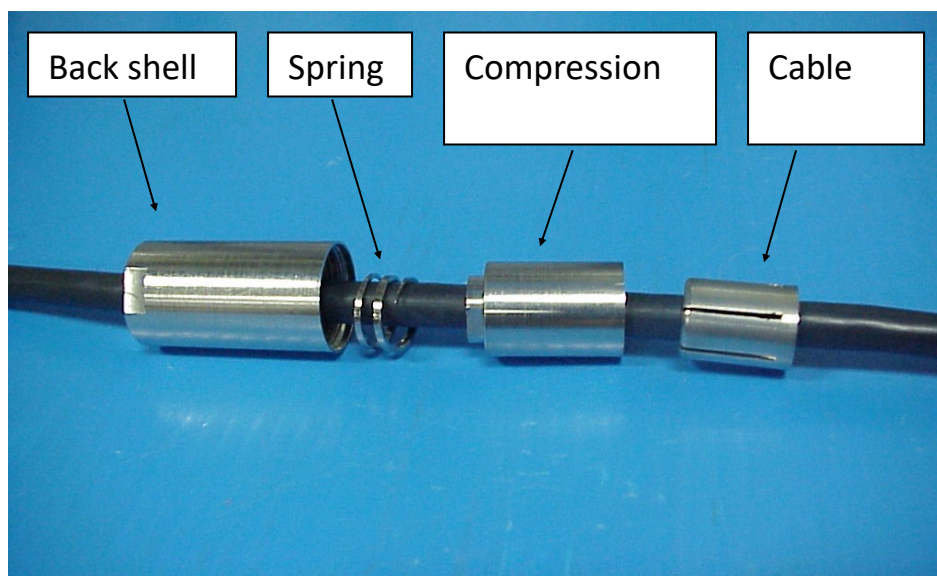


- 4.5 Install center conductor into contact until the shoulder of the contact meets the insulation on the wire. **Use hi-temp solder.** Remove excess flux and excess solder when done. Excess solder can be removed by carefully scraping it with the Exacto knife blade held 90° to the conductor. When done, inspect insulation on all wires. Nicks or cuts are not acceptable.

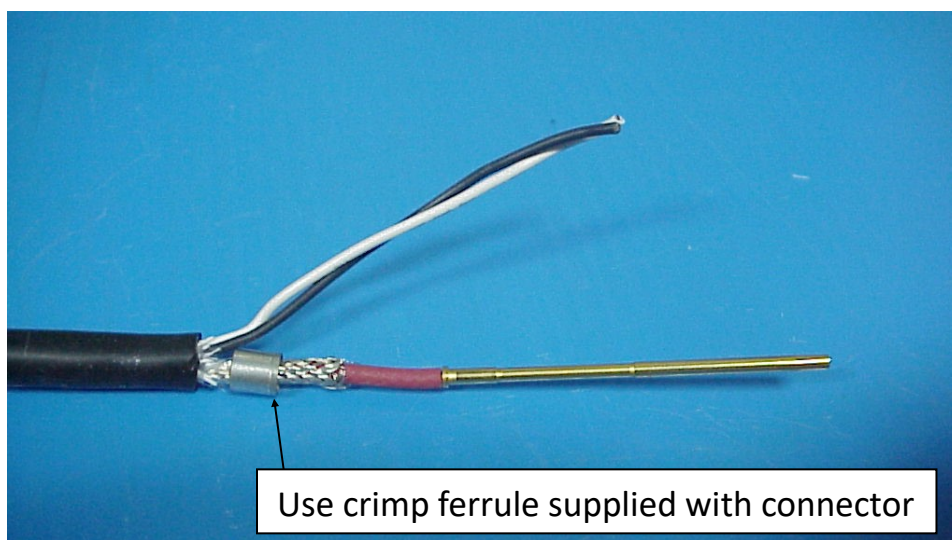


4.6 Dis-assemble HV connector and slide the following four components onto the cable in the order shown.

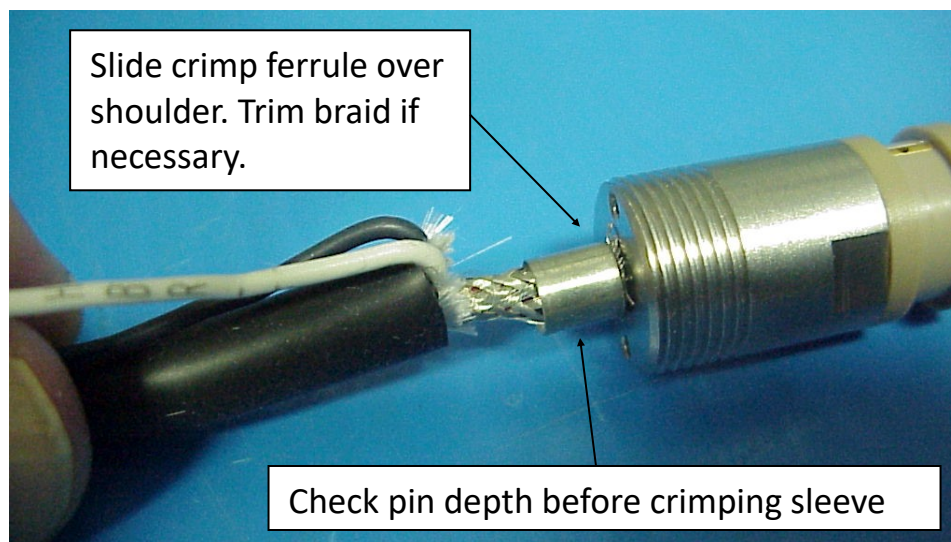
- Back shell
- Spring
- Cable Clamp
- Jacket Clamp



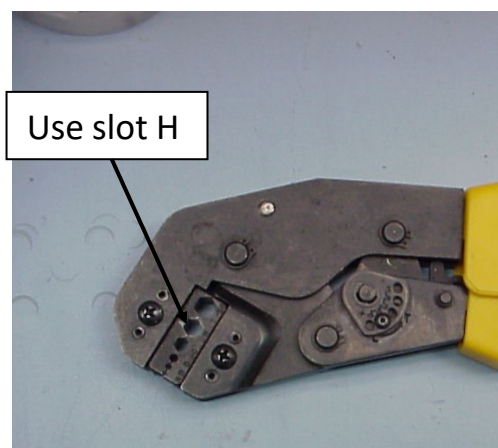
4.7 Slide crimp sleeve (Item 2) over cable as shown. Comb exposed shielding straight if necessary. If no crimp ferrule is supplied with the connector, use part 390079.



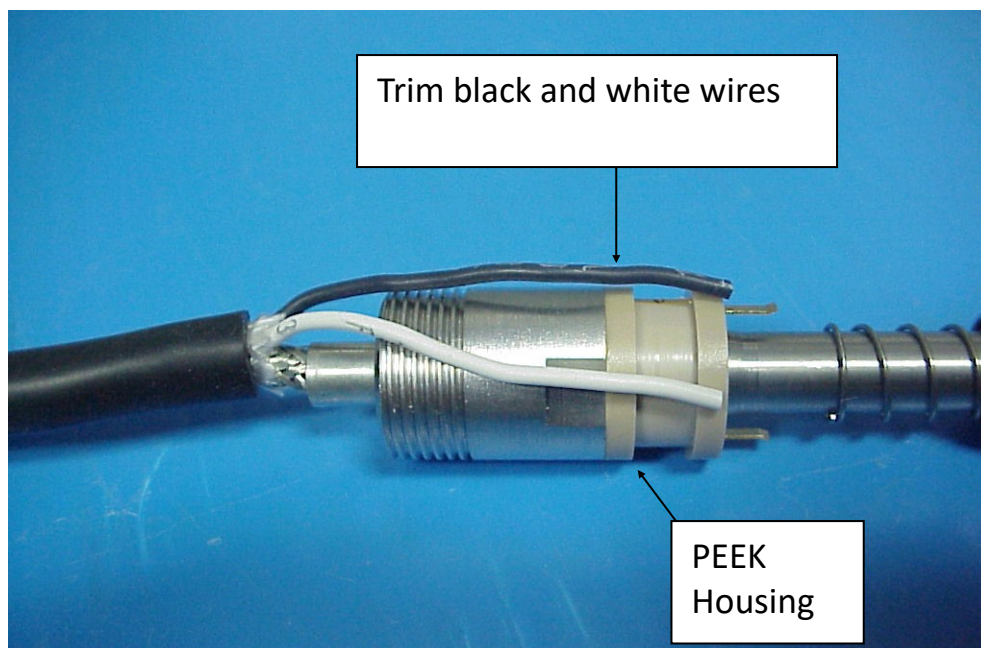
- 4.8 Install HV contact into HV connector. Push it in as far as it will go. Braided shield should cover crimp shoulder on connector. Slide crimp (Item 2) over crimp shoulder as shown. Trim shielding if necessary.



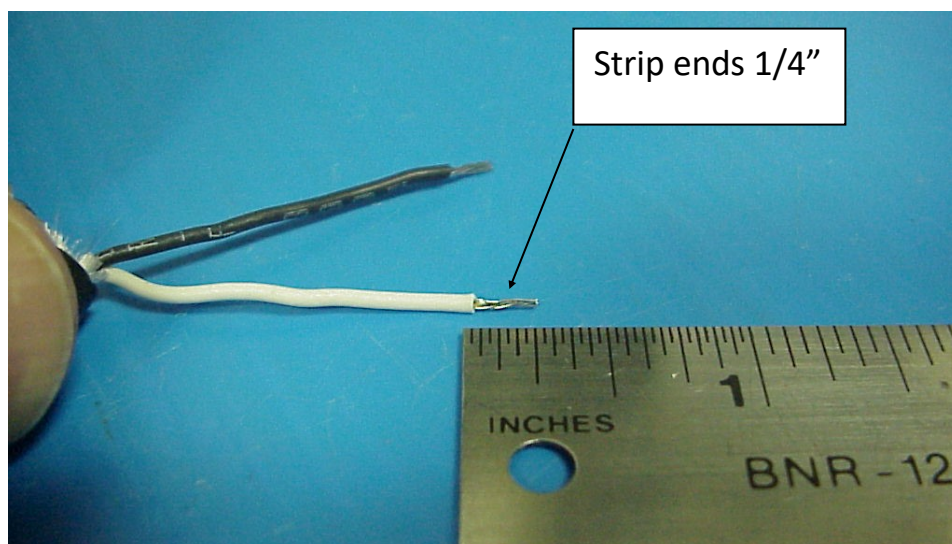
- 4.9 Install the Pin Depth Gauge with tolerance groove. End of connector must lie within tolerance groove. (The depth can be checked with a caliper. It must not exceed .582" (14.7mm). If pin depth is correct, crimp the sleeve using proper crimping tool slot as shown below. Make sure the depth gauge (or caliper) continues to show proper depth. (It is best if the screws holding the crimp jaws face away from the connector so they don't interfere. Slide cable jacket forward again after crimping and recheck pin depth.



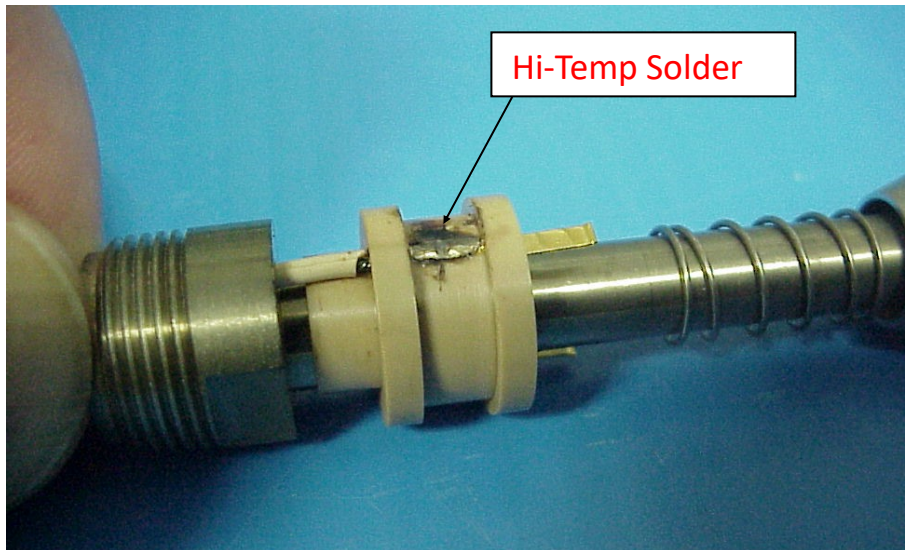
- 4.10 Lay black and white wires over connector. Take care to not damage the insulation on the sharp edges of the metal body. Trim both wires even with the end of the PEEK housing as shown.



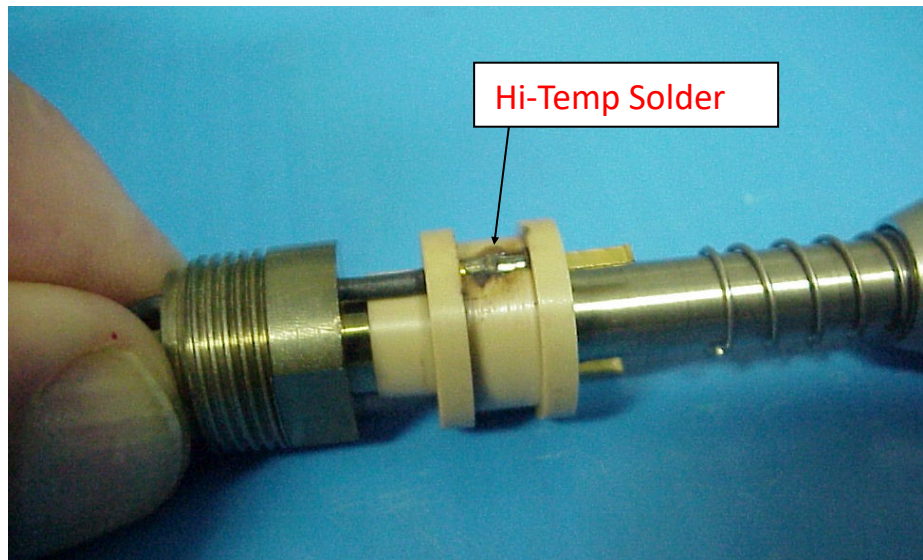
- 4.11 Use the 22 AWG stranded hole on wire stripper 73574 to strip the ends of the black and white wires 1/4" (6.35 mm).



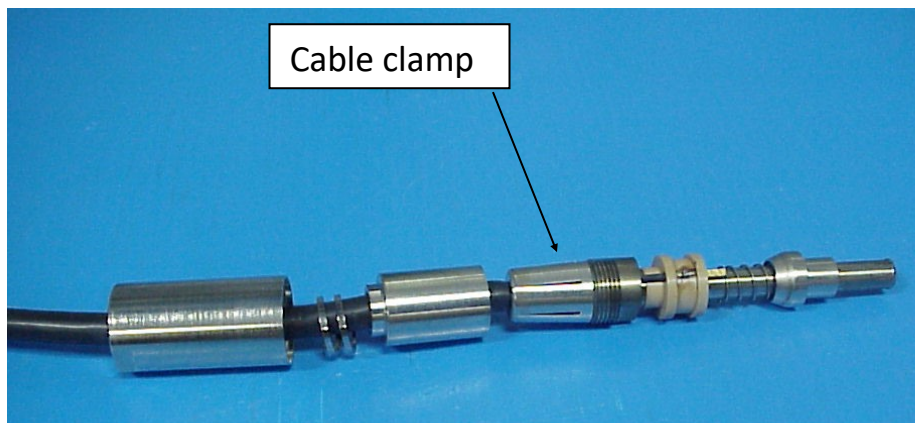
- 4.12 Very carefully slide the white wire thru the hole in the connector body and into the spring contact housing. The strands of wire must remain parallel and held tightly together in order to fit properly. Be sure that the insulation does not get cut on the metal body. **Solder with Hi-Temp solder.**



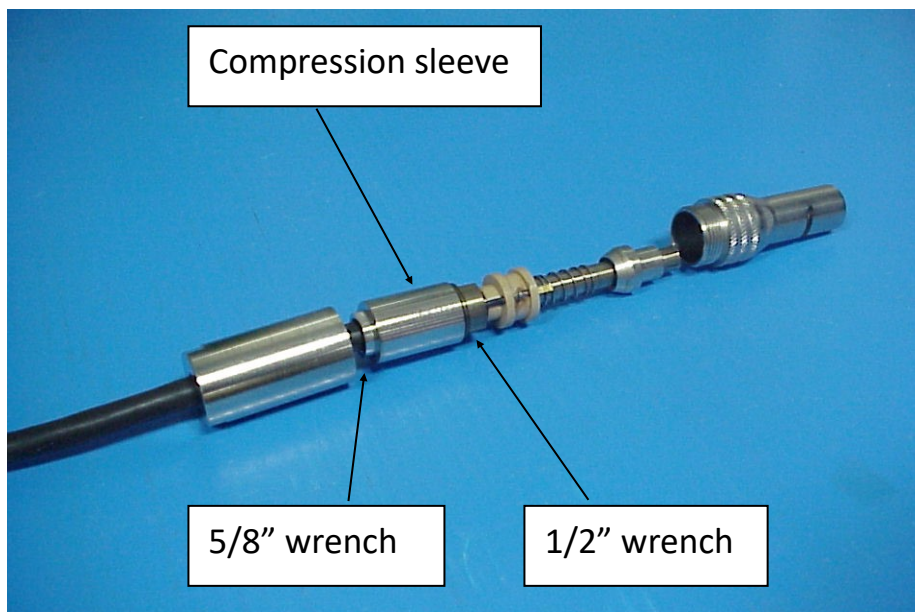
- 4.13 Again, with great care and patience, slide the black wire through the hole in the connector body and into spring contact housing. Solder with Hi-Temp solder.



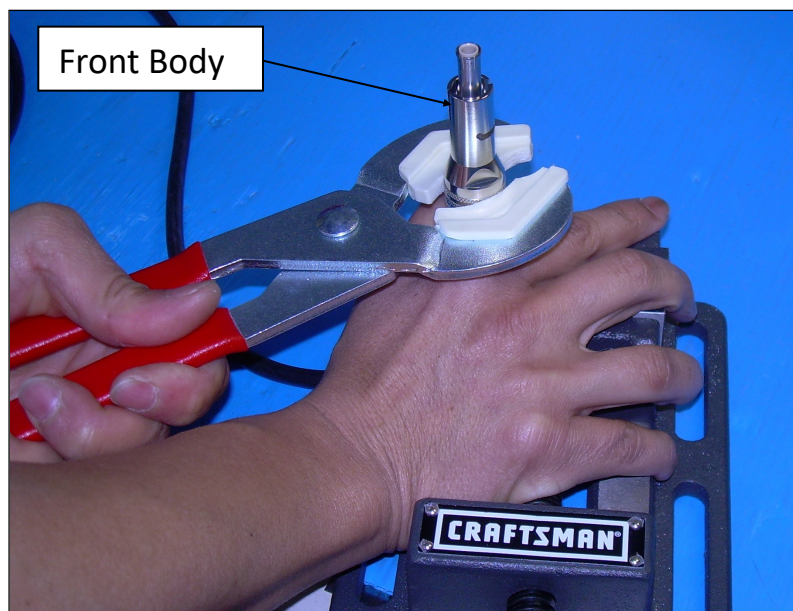
- 4.14 Carefully install jacket clamp as shown. Take care to avoid damaging the insulation on the black and white wires.



- 4.15 Thread the compression sleeve onto the connector assembly and tighten by hand. Use 5/8" and 1/2" open end wrenches to tighten the clamp a little more so it will squeeze the jacket clamp onto the cable. Do not over-tighten.

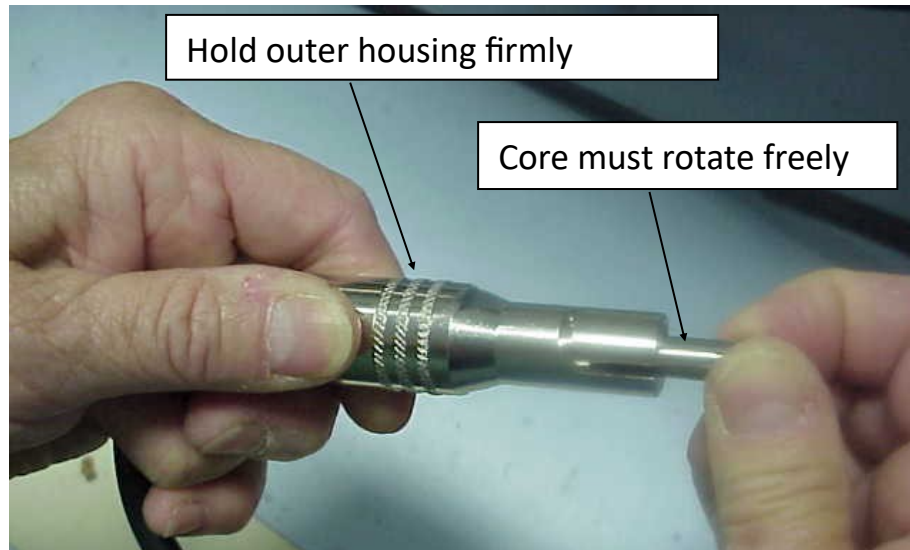


- 4.16 Slide Front Body over connector assembly and thread Back Shell onto front body until it is snug. Tighten the back shell by holding the front body with soft jawed pliers while holding the back shell as shown in the following series of photos.



Assembly complete

- 4.17 Test to make sure core of connector will rotate freely within outer housing. If core does not rotate freely, the compression sleeve is too tight and must be fixed. Proceed to next paragraph.



- 4.18 Remove outer housing. Use 5/8" and 1/2" open end wrenches to loosen the compression sleeve a little, but it must not be loose. It should remain snug. Re-assemble and re-test for free rotation. Also, make sure the cord is firmly strain relieved. If strain relief is lost, cable is no good.

