


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

SC CONNECTOR ASSY FOR PUMP WITH SAFECONN (ISOLATED GROUND)



FIRST PAGE REVISION IS THE CURRENT REVISION OF THIS DOCUMENT. REVISION
LETTERS ON SUBSEQUENT PAGES ONLY UPDATE WHEN A CHANGE IS MADE TO THAT PAGE.

PREPARED BY R GOLLA		DATE 9-20-07	CHECKED AND APPROVED BY M CORPRON	DATE 9-20-07
 Gamma Vacuum, LLC 2915 133 rd Street West, Shakopee, MN 55379			SHEET 1 OF 11	
TITLE PROC,CA ASM,SC,310043,BAKE			NUMBER 430062	REV D

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	390079	1	SLEEVE-CRIMP,TIN
3	101138	A/R	HI-TEMP SOLDER (300°C)
4	380052	SEE JOB	CABLE-SAFECONN

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

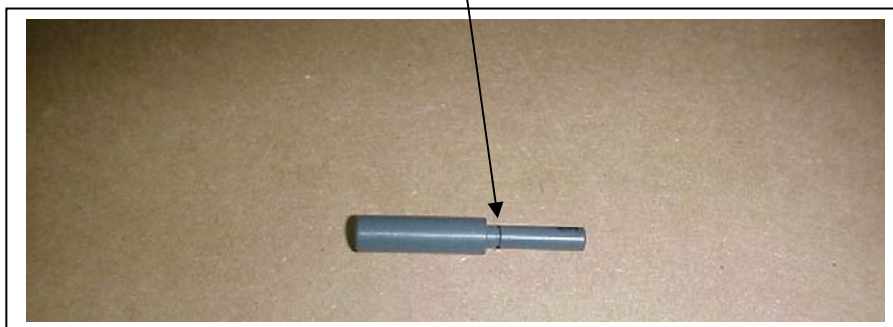
3.0 TOOLS REQUIRED

- Crimper- Sargent Crimper 4156CT.



- SHV10 Pin Depth Gauge with Tolerance Groove

Depth Gauge with depth groove

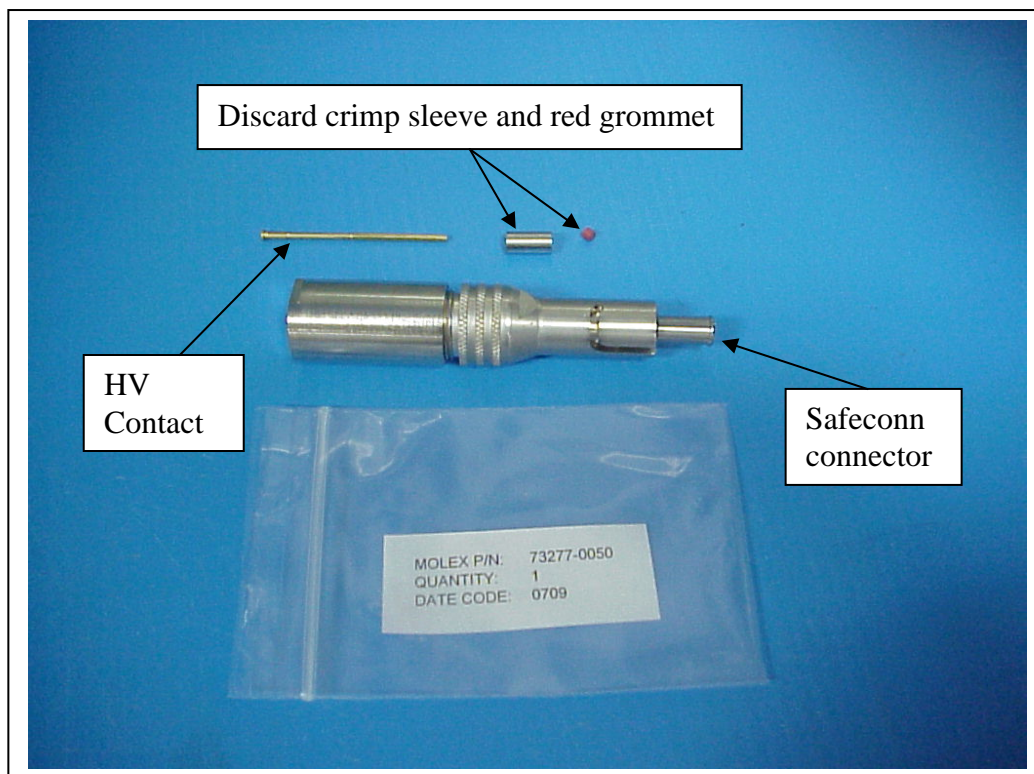


- Wrenches: 7/16" and 1/2"



4.0 ASSEMBLY INSTRUCTIONS:

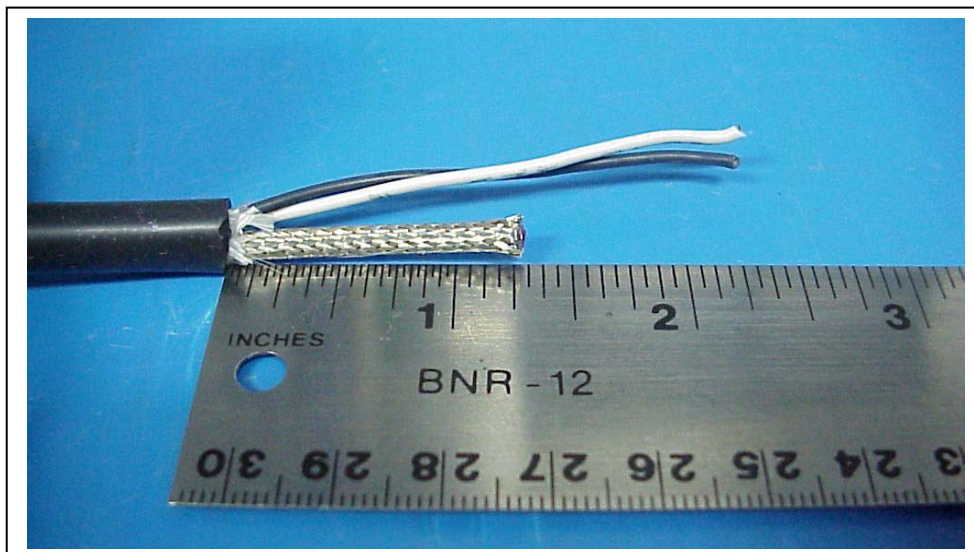
- 4.1 Remove contents from 310043 packaging. Discard the cylindrical crimp sleeve and the small red grommet. Keep all remaining items.



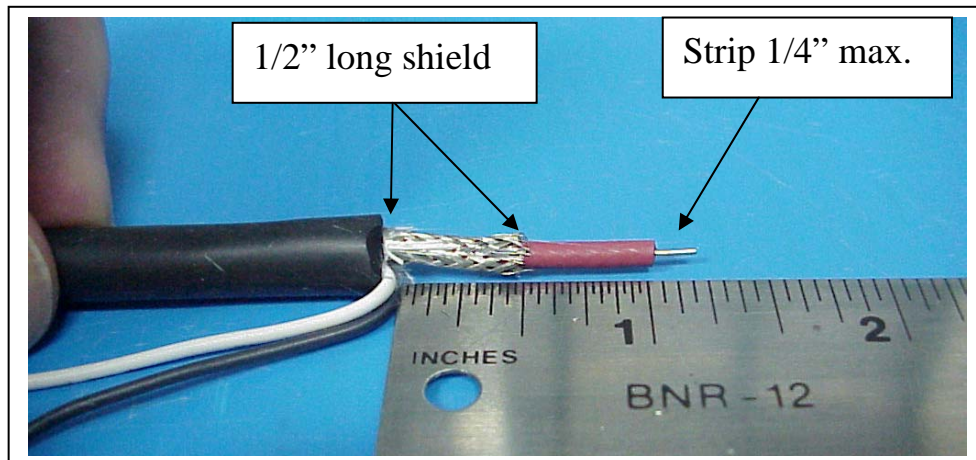
- 4.2 Strip outer cable jacket (Item 4) approximately 2.25" (5.7 cm). Remove fiberglass sheath and remove clear sleeve from braided shield as shown.



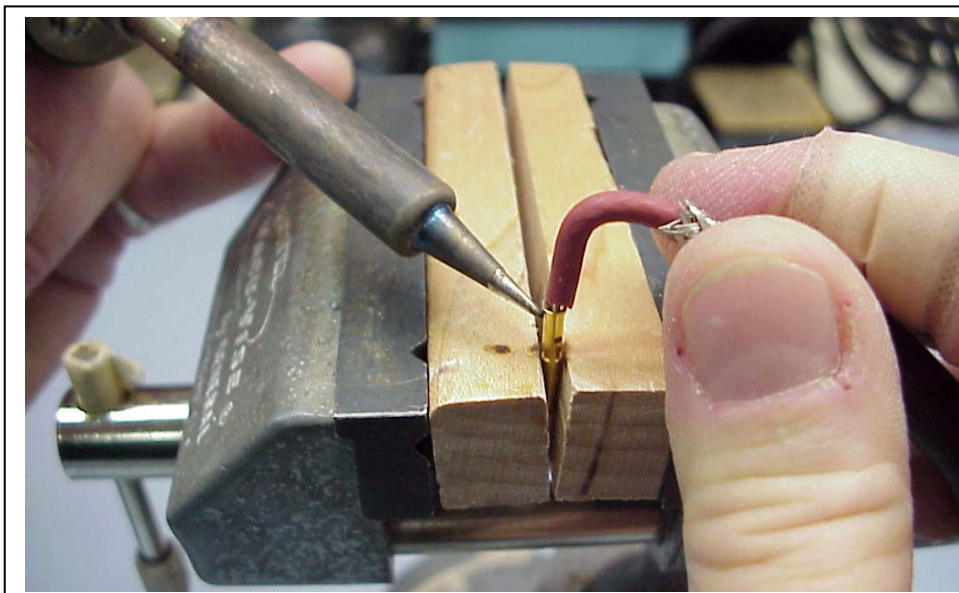
- 4.3 Cut center conductor to about 1.25" (3.2 cm) length shown.



- 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).

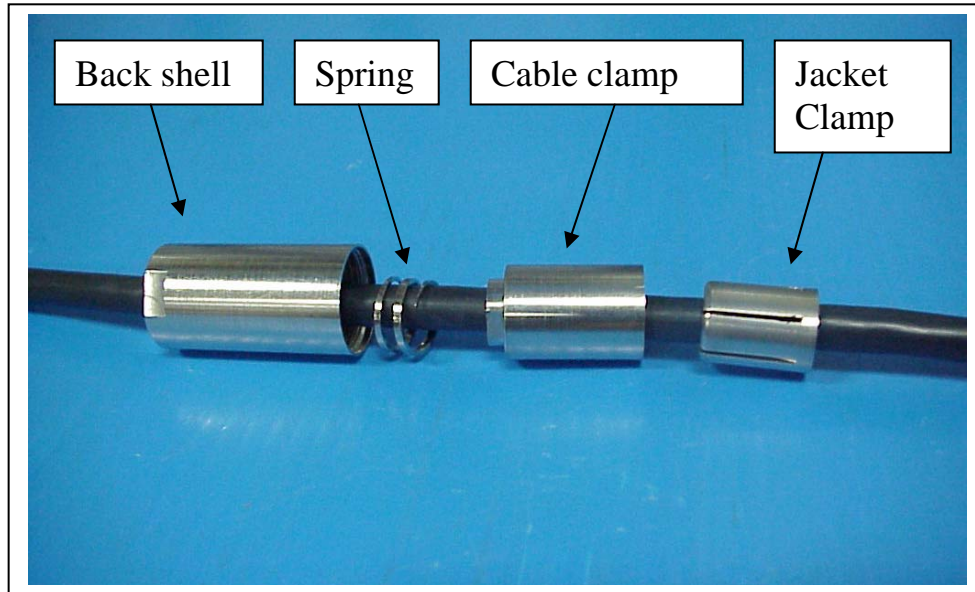


- 4.5 Install center conductor into contact until the shoulder of the contact meets the insulation on the wire. **Use hi-temp solder.** Remove excess flux and excess solder when done. Excess solder can be removed by carefully scraping it with the Exacto knife blade held 90° to the conductor. When done, 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

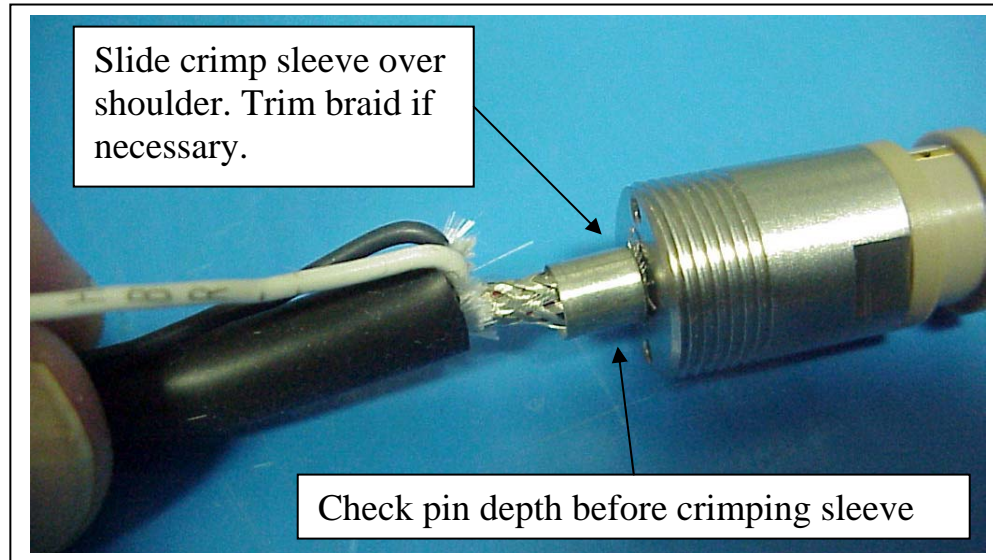


4.7 Slide crimp sleeve (Item 2) over cable as shown. Comb exposed shielding straight if necessary.

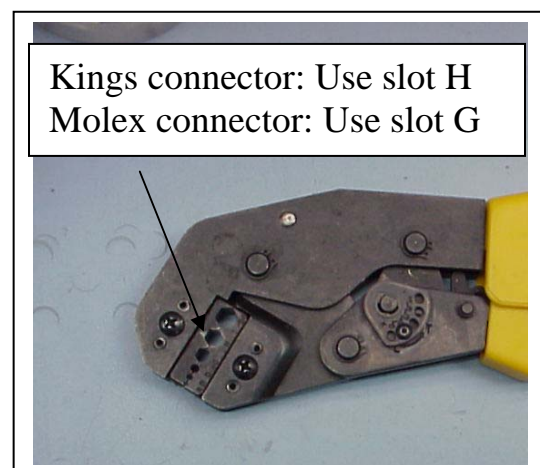
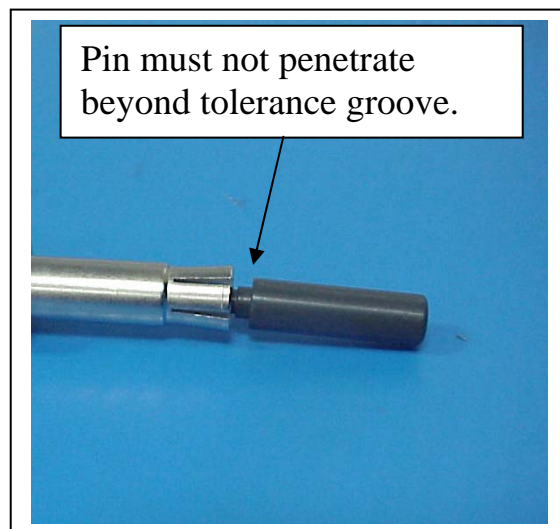


Crimp Ferrule
Use yellow ferrule with Radix cable only.
Use grey ferrule with Advance Wire only.

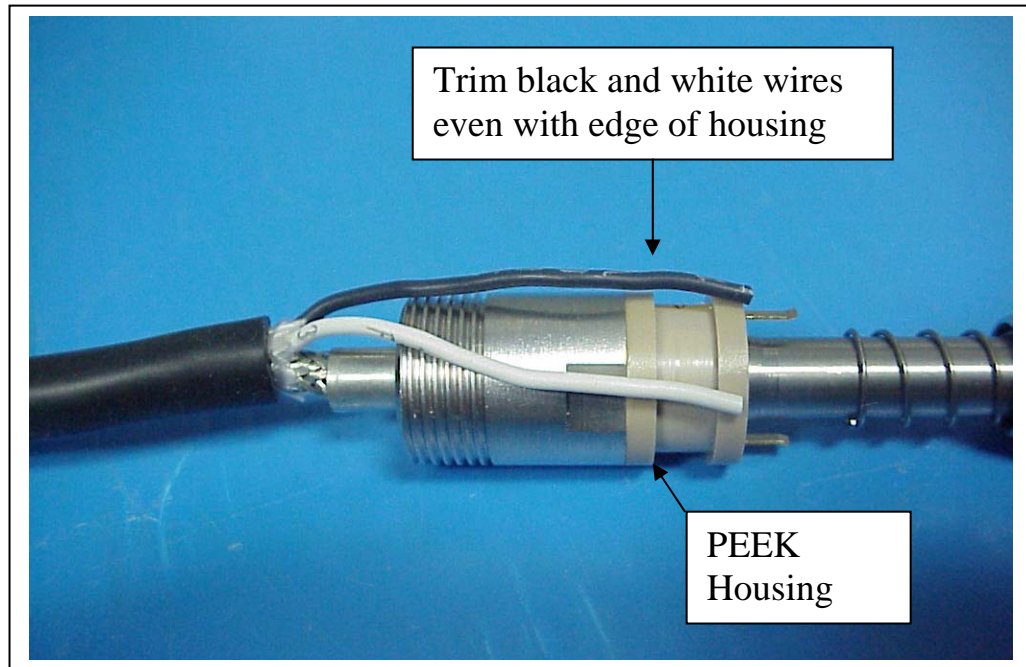
- 4.8 Install HV contact into HV connector. Push it in as far as it will go. Braided shield should cover crimp shoulder on connector. Slide crimp (Item 2) over crimp shoulder as shown. Trim shielding if necessary.



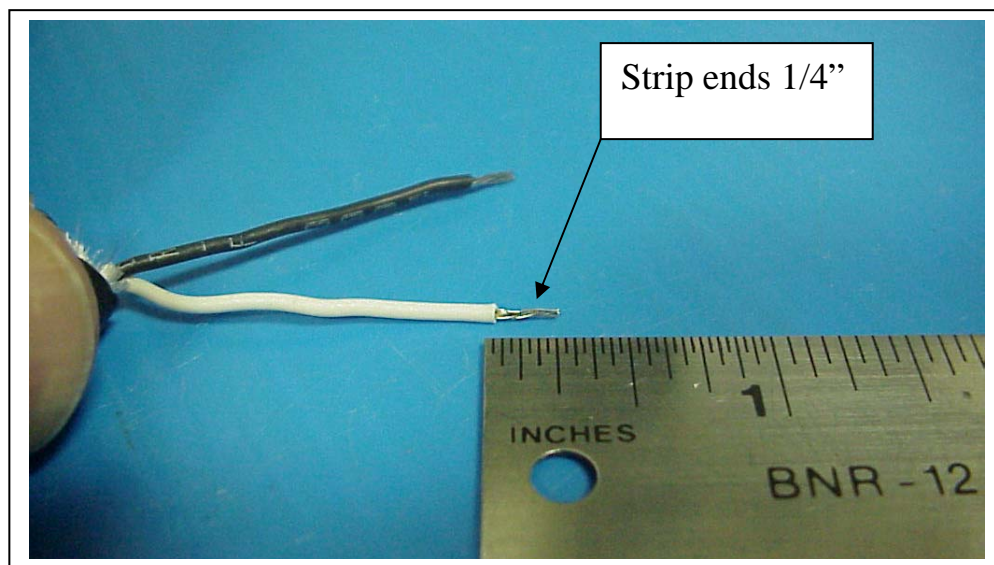
- 4.9 Install the Pin Depth Gauge with tolerance groove. The pin must not penetrate beyond the tolerance groove. (The depth can be checked with a caliper. It must not exceed .582" (14.7mm). If pin depth is correct, crimp the sleeve using proper crimping tool slot as shown below. Make sure the depth gauge (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.



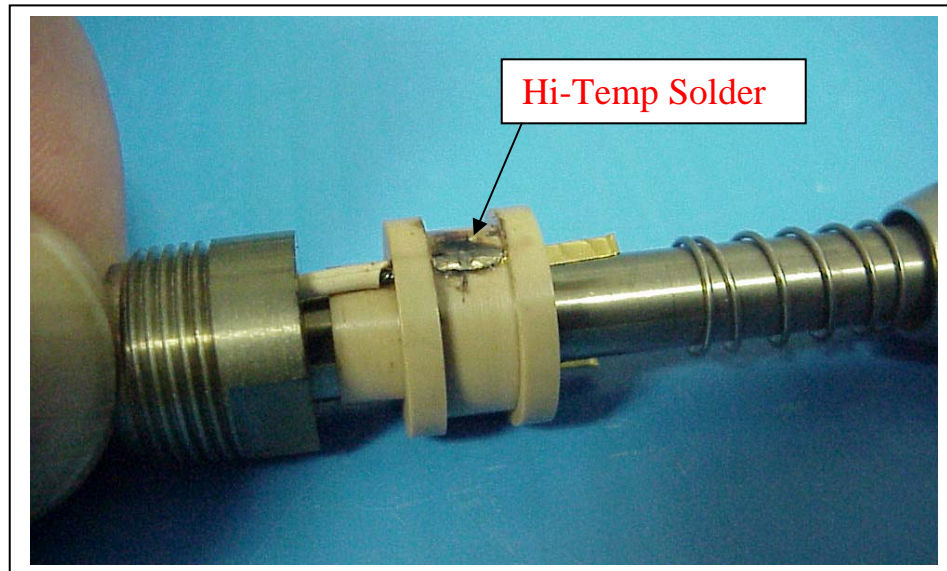
- 4.10 Lay black and white wires over connector. Take care to not damage the insulation on the sharp edges of the metal body. Trim both wires even with the end of the PEEK housing as shown.



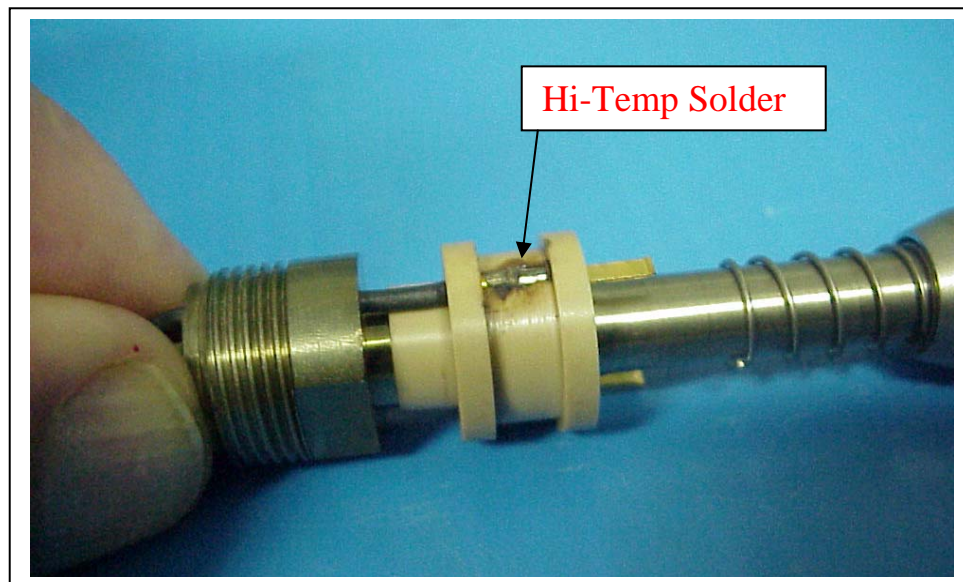
- 4.11 Use the 22 AWG stranded hole on wire stripper 73574 to strip the ends of the black and white wires 1/4" (6.35 mm).



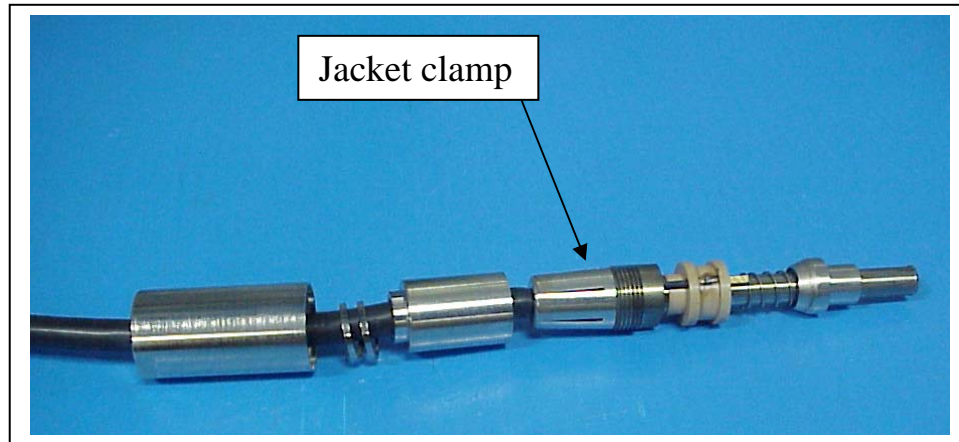
- 4.12 Very carefully slide the white wire thru the hole in the connector body and into the spring contact housing. The strands of wire must remain parallel and held tightly together in order to fit properly. Be sure that the insulation does not get cut on the metal body. **Solder with Hi-Temp solder.**



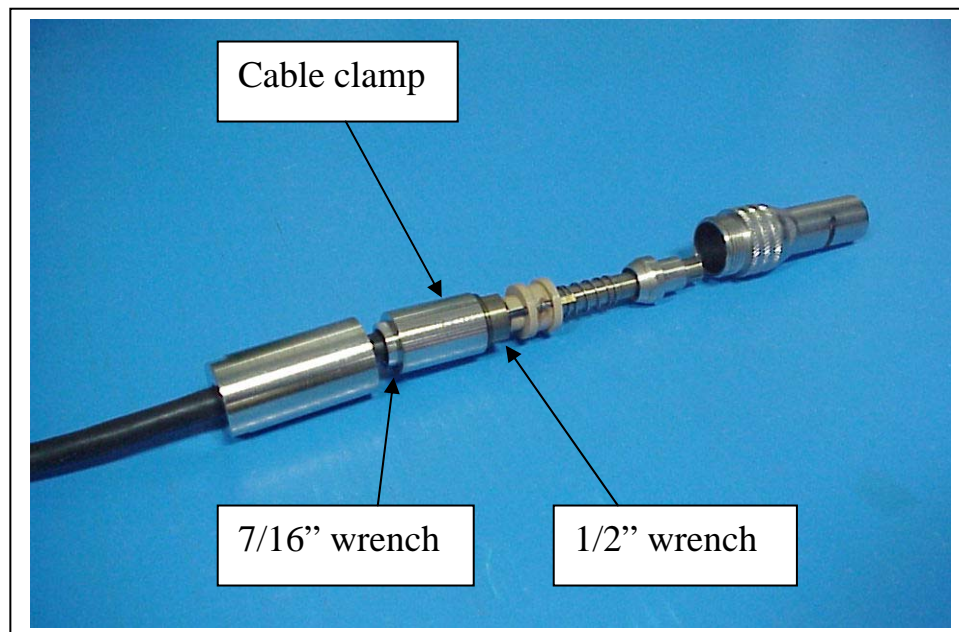
- 4.13 Again, with great care and patience, slide the black wire through the hole in the connector body and into spring contact housing. Solder with Hi-Temp solder.



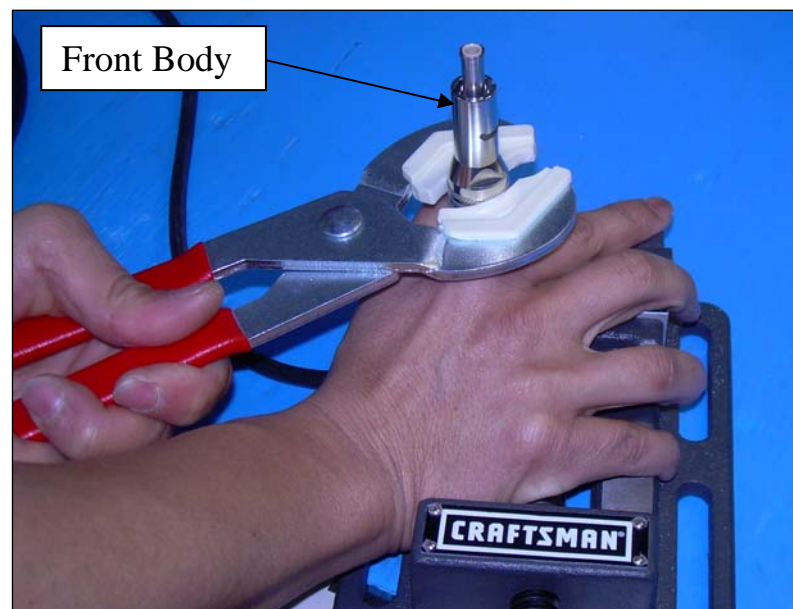
- 4.14 Carefully install jacket clamp as shown. Take care to avoid damaging the insulation on the black and white wires.



- 4.15 Thread the cable clamp onto the connector assembly and tighten by hand. Use 7/16" 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 overtighten.



- 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