

The latest addition to the ITT Cannon Snap-Lock Environmental series, the Snap-Lock Circular, features high density, small contacts and rapid installation.

How to Order

SERIES PREFIX _____	SLC	-	*	*	*	-	*	*
SIZE/CONFIGURATION _____								
CONNECTOR TYPE _____								
CONTACT TERMINATION _____								
MATERIAL/FINISH MODIFIER _____								
MECHANICAL MODIFIER _____								

SERIES PREFIX SLC – Snap-Lock Circular	CONTACT TERMINATION 5 – 5 Amp 13 – 13 Amp
SIZE/CONFIGURATION 5 – 5 Cavity Housing 10 – 10 Cavity Housing	MATERIAL/FINISH MODIFIER 0 – Standard Assembly
CONNECTOR TYPE R – In-line Rcpt. (Cable) B – P.C.B. Rcpt. P – Plug (Cable) T – Snap-thru Rcpt.	MECHANICAL MODIFIER 0 – Standard Assembly

NOTE: Assemblies are supplied "Less" contacts (except Type "B" connector)

Performance and Material Specifications

ELECTRICAL DATA

Contact Resistance	10 milliohms max.
Insulation Resistance	100 megohms min.
Current Rating	5 or 13 amps
Operating Temperature	40° to +125°C
Applicable ITT Cannon Specification	CS-206

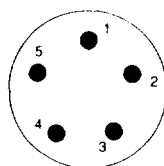
MECHANICAL DATA

Crimp Contacts	Semi-automatic or hand-insertable (Pin for receptacle/Socket for plug)
Wire Size	#16, #18, #20 AWG
Wire Insulation Sealing Range	.095 (2.41) to .130 (3.30) dia.
Contact Insertion	No tool required, suitable for automation
Contact Extraction	Rear removable with approved tool
Contact Retention	10 lbs.
Wire Strip Length (Crimp Contacts)	.210 (5.33) to .220 (5.59)

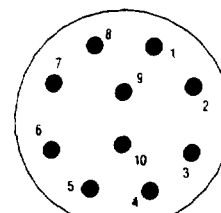
MATERIAL AND FINISHES

Item	Material/Finish
Plug & Receptacle Assemblies	High Temperature Thermoplastic Housing with Silicone Elastomer Sealing
Contacts Pin & Socket	
Material:	Copper Alloy
Finish:	Engaging Area: gold over nickel Crimp/P.C. Tail Area: Tin/Lead over nickel

Contact Arrangements



SLC-5
Face view,
plug side



SLC-10
Face view,
plug side

Test Parameters

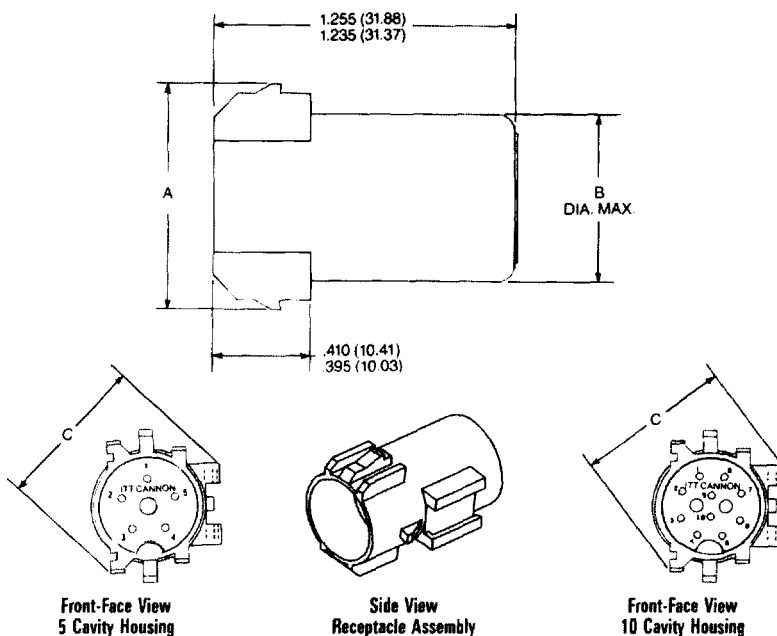
SLC products are designed to meet ITT Cannon specification CS-206. Items of most general interest to users and designers are listed below.

Test Description	Reference Paragraph	Requirements																																							
Environmental Sealing	3.2.3.5 3.2.3.6 3.2.3.7 3.2.3.8 3.2.3.9 3.2.3.2	Sand and Dust MIL-STD-202 Method 110 Test Condition A 5% salt spray 96 hours 10 cycles of 24 hours, 90-98% humidity Steam Cleaning/Pressure Wash 95°C, 375 Cycles 750 PSIG Solvent Resistance/Immersion (see 3.2.3.9) Thermal Shock 100 Cycles -40°C to +125°C + 3°C																																							
Contact Crimp Tensile Strength	3.2.2.1	<div>The minimum tensile load required to separate the wire from the contact, either by pulling the wire out of the crimp joint or breaking the wire within the crimp joint shall not be less than the applicable limits as specified. Wire breakage or contact damage not due to crimping at less than tensile loads shall not constitute a failure.</div> <table><tr><th>Wire Size SWG</th><th>Crimp Tensile Strength, Pounds Minimum</th></tr><tr><td>16</td><td>35</td></tr><tr><td>18</td><td>25</td></tr><tr><td>20</td><td>20</td></tr></table>	Wire Size SWG	Crimp Tensile Strength, Pounds Minimum	16	35	18	25	20	20																															
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Insulation Resistance	3.2.1.1	Mated and wired connectors shall exhibit an insulation resistance greater than 100 megohms between all contacts. This limit shall apply after exposure to each environment including salt solution immersion. Tests shall be performed at 100 VDC + 10%.																																							
Dielectric Withstanding Voltage	3.2.1.2	Wired and mated connectors shall show no evidence of breakdown between adjacent contacts when tested at 1000 VDC + 5%. Connectors shall meet this requirement after exposure to each environment. Current leakage shall be less than 1.0 milliamp.																																							
Low Level Contact Resistance	3.2.1.4	The low level contact resistance of mated contacts shall be less than 10 milliohms when measured across the contacts and crimp joints. The test current shall be a maximum of 100 milliamps with an open circuit test voltage of 20 millivolts maximum.																																							
Mechanical Shock	3.2.3.3	Connectors shall be subjected to three shocks in each direction applied along the three mutually perpendicular axes of the connector test specimen for a total of 12 shocks. Each shock shall consist of a terminal peak sawtooth pulse with a peak value of 100 g's and a duration of 6 milliseconds.																																							
Vibration	3.2.3.4	<div>Connectors shall be subjected to random vibration in accordance with MIL-STD-1344, Method 2005.1, test condition VI, for 20 hours along each of the following three axes:</div> <table><tr><th>Direction</th><th>Grms</th></tr><tr><td>Radial axis of connector (Y)</td><td>10.2</td></tr><tr><td>Longitudinal axis of connector (Z)</td><td>10.2</td></tr></table> <div>Electrical continuity of the connectors shall be monitored during the last 20 minute sweep in each axis with a test current of 100 milliamps or less and a test voltage less than 2 VDC. Electrical discontinuities in excess of 10 microseconds shall be cause of failure.</div>	Direction	Grms	Radial axis of connector (Y)	10.2	Longitudinal axis of connector (Z)	10.2																																	
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Durability	3.2.2.6	Connectors shall be subjected to 25 cycles of mating and unmating at room temperature. Following this test there shall be no evidence of damage to the contacts, contact plating, connector housing or seals which may prove detrimental to reliable performance of the connector.																																							
Contact	3.2.2.2	Contacts shall not be displaced greater than 0.030 inches from the connector body when a force of 10 pounds is applied. When this test follows maintenance aging the same contacts shall be tested.																																							
Maintenance Aging	3.2.2.3	Consist of subjecting each wired receptacle to 5 cycles of removal and reinsertion of 20% of the contacts or a minimum of 5 per connector with approved tooling.																																							
Mating and Separating Force	3.2.2.4	The maximum force required to mate the plug and receptacle shall be 10 pounds. The maximum force required to separate the plug and receptacle shall be 5 pounds. The rate of travel shall be one inch per minute.																																							
Solvent Resistance Immersion	3.2.3.9	<div>Connectors shall be subjected to the following fluids at the temperature and length of time specified. Following the fluid dip or immersion, the connectors shall be immersed to a depth of 2 to 12 inches in a 5% salt water solution for 24 hours at room temperature. At the completion of the salt water immersion test, while still immersed, the connectors shall meet the insulation resistance requirement specified herein.</div> <table><tr><th>Fluid</th><th>Method</th><th>Temperature</th></tr><tr><td>No. 2 Diesel Fluid</td><td>Immersion (2)</td><td>140°F</td></tr><tr><td>Methyl Alcohol</td><td>Dip (1)</td><td>Room Temperature</td></tr><tr><td>Antifreeze</td><td></td><td></td></tr><tr><td>—Prestone</td><td>Immersion (2)</td><td>180°F</td></tr><tr><td>—50% Water/50% Ethylene Glycol</td><td>Immersion (2)</td><td>180°F</td></tr><tr><td>Degreaser</td><td></td><td></td></tr><tr><td>—Gunk</td><td>Dip (1)</td><td>Room Temperature</td></tr><tr><td>—Mineral Spirits</td><td>Dip (1)</td><td>Room Temperature</td></tr><tr><td>Paint (Oil Base)</td><td>Immersion (2)</td><td>Room Temperature</td></tr><tr><td>Lubricating Oil (SAE 10 W40)</td><td>Immersion (2)</td><td>200°F</td></tr><tr><td>Brake Fluid (Delco Supreme)</td><td>Dip (1)</td><td>Room Temperature</td></tr><tr><td>Transmission Fluid – fully submerged and pressurized @ 7 psi (Dextron)</td><td>Dip (1)</td><td>Room Temperature</td></tr></table> <div>(1) Dip: Connectors shall withstand a one second dip and a three minute air dry for a total of 80 cycles. (2) Immersion: Connectors shall withstand immersion for one hour.</div>	Fluid	Method	Temperature	No. 2 Diesel Fluid	Immersion (2)	140°F	Methyl Alcohol	Dip (1)	Room Temperature	Antifreeze			—Prestone	Immersion (2)	180°F	—50% Water/50% Ethylene Glycol	Immersion (2)	180°F	Degreaser			—Gunk	Dip (1)	Room Temperature	—Mineral Spirits	Dip (1)	Room Temperature	Paint (Oil Base)	Immersion (2)	Room Temperature	Lubricating Oil (SAE 10 W40)	Immersion (2)	200°F	Brake Fluid (Delco Supreme)	Dip (1)	Room Temperature	Transmission Fluid – fully submerged and pressurized @ 7 psi (Dextron)	Dip (1)	Room Temperature
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Temperature Life	3.2.3.1	Connectors shall be subjected to a temperature of 125 ± 3°C for a period of 1000 hours. At the end of the temperature soak period and after removal from the chamber, the connectors shall meet the insulation resistance and dielectric withstanding voltage requirements specified herein. Connectors shall be operated at rated current throughout the duration of the temperature life test. Upon removal from the chamber at the conclusion of the test, the connectors shall show no visual signs of damage which may be detrimental to the performance of the connector.																																							
Thermal Cycling	3.2.3.2	Connectors shall be subjected to 100 thermal cycles from -40° to +125°C. One cycle shall consist of the transitions from room temperature to -40° to +125°C, and from 125°C to room temperature. One cycle shall be accomplished in a three hour period with a minimum stabilization period of 15 minutes at each temperature extreme. The chamber temperature transition rate shall be a minimum of 1.30°C per minute and a maximum of 6.00°C per minute.																																							

Receptacle, In-Line* (Type R)



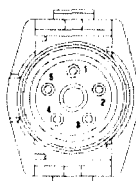
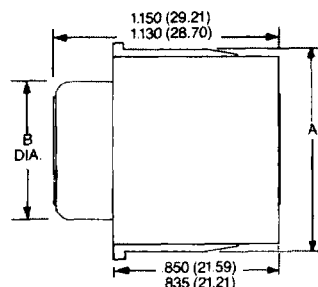
Flange Application
See page 209



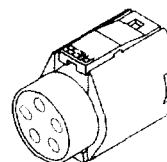
* Contacts/Lead Assemblies are customer terminated and installed. See 110238-0446, 110238-2004.

Size	Rating	Part Number	Description	A	B Dia.	C Ref.
5 Cav.	5 Amp	098530-0000	SLC-5R5-00	.950 (24.13)	.710 (18.03)	.960 (24.38)
	13 Amp	098530-0001	SLC-5R13-00	.935 (23.75)		
10 Cav.	5 Amp	098530-0002	SLC-10R5-00	1.230 (31.24)	.990 (25.15)	1.245 (31.62)
	13 Amp	098530-0003	SLC-10R13-00	1.215 (30.86)		

Plug, In-Line* (Type P)



Front-Face View
5 Cavity Housing

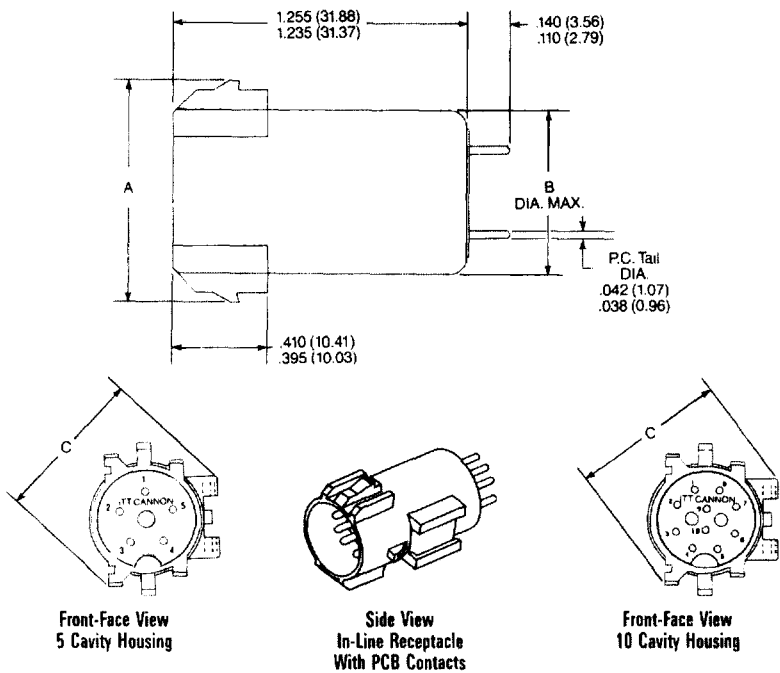
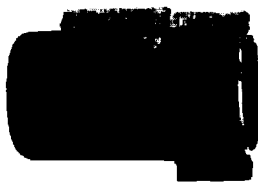


Front-Face View
10 Cavity Housing

* Contacts/Lead Assemblies are customer terminated and installed. See 110238-0488, 110238-2003.

Size	Rating	Part Number	Description	A	B Dia. Max.
5 Cav.	5 Amp	098532-0000	SLC-5P5-00	1.095 (27.81)	.710 (18.03)
	13 Amp	098532-0001	SLC-5P13-00	1.055 (26.80)	
10 Cav.	5 Amp	098532-0002	SLC-10P5-00	1.375 (34.92)	.990 (25.15)
	13 Amp	098532-0003	SLC-10P13-00	1.340 (34.04)	

Receptacle, PC Board (Type B)

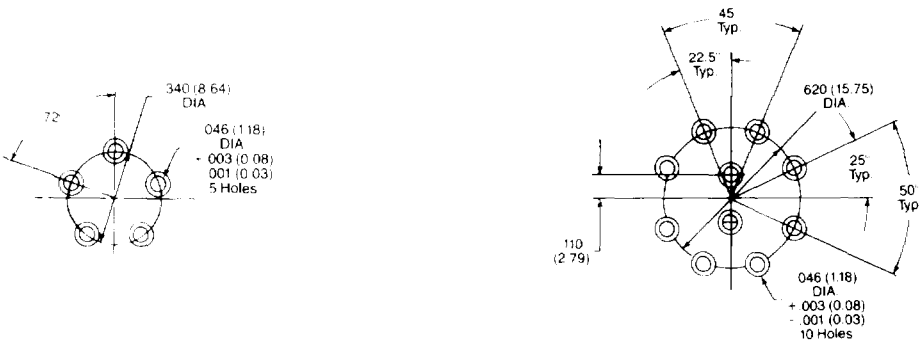


Receptacle, PCB* (Includes Contacts Installed – Mates With SLC “P” Types)

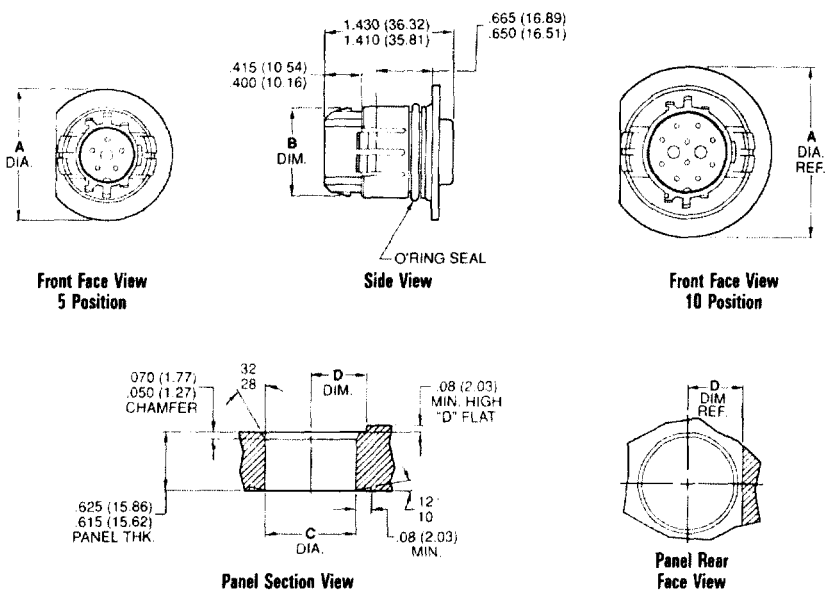
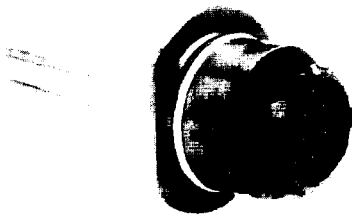
Size	Rating	Part Number	Description	A	B Dia.	C Ref.
5 Cav.	5 Amp	098531-0000	SLC-5B5-00	.950 (24.13)	.710 (18.03)	.960 (24.38)
	13 Amp	098531-0001	SLC-5B13-00	.935 (23.75)		
10 Cav.	5 Amp	098531-0002	SLC-10B5-00	1.230 (31.24)	.990 (25.15)	1.245 (31.62)
	13 Amp	098531-0003	SLC-10B13-00	1.215 (30.86)		

*PCB Contacts are factory installed.

Recommended PC Board Pattern



Snap-Thru Receptacle (Type T)*

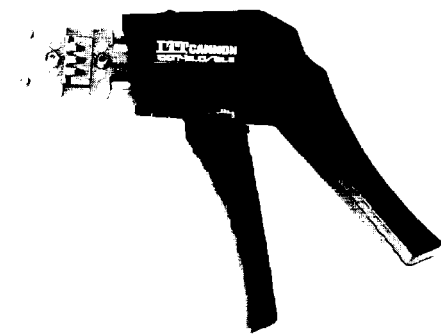


Snap-Thru Receptacle* (Mates with SLC-"P" Types)

Size	Rating	Part Number	Description	A Dia.	B	C Dia.	D
5 Cav.	5 Amp	098533-0000	SLC-5T5-00	1.465 (37.21)	.950 (24.13)	1.008 (25.60)	.615 (15.62)
	13 Amp	098533-0001	SLC-5T13-00	1.455 (36.96)	.935 (23.75)	1.003 (25.48)	.605 (15.34)
10 Cav.	5 Amp	098533-0002	SLC-10T5-00	1.875 (47.62)	1.230 (31.24)	1.380 (35.05)	.795 (20.19)
	13 Amp	098533-0003	SLC-10T13-00	1.865 (47.37)	1.215 (30.86)	1.375 (34.92)	.785 (19.94)

*Contacts/Lead Assemblies are customer terminated and installed. (See 110238-0446, 110238-2004)

Hand Tools



Hand Crimp Tool — CCT-SLC/SLE
Part Number: 995-0002-232

The CCT-SLC/SLE hand crimp tool is designed to crimp individual SLC/SLE contacts on wire sizes 16, 18 and 20 AWG. Each cycle is ratchet-controlled (the tool must be completely closed before it can be re-opened) to assure a satisfactory crimp each time. Over and under crimps are eliminated.

This tool is for use where the requirement is for low to moderate volume quantities, and for on-site applications where semi-automatic tools cannot be practically used.

Contact Extraction Tool
Part Number: 274-7068-001
Tip Part Number: 323-9519-000

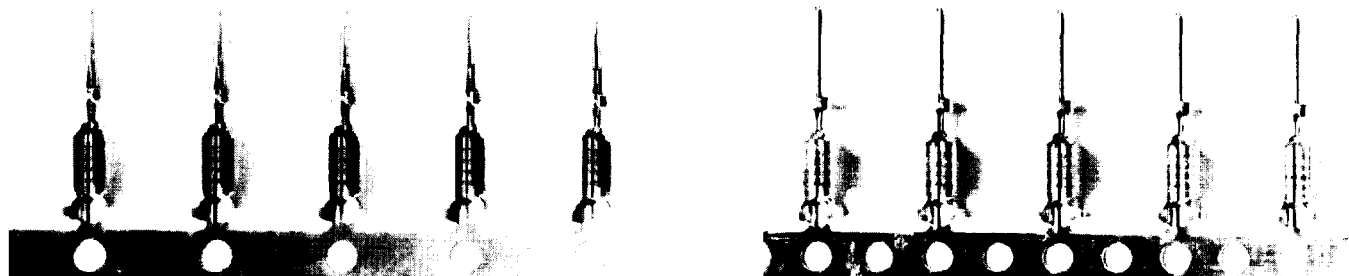


A standard CET-SLE/SLC is available for extraction of the individual crimped contacts. Insertion tool is not required.

Contacts, Stamped

5 and 13 Amp – For Use In 3-5 Contact Body
Socket (Use in plugs)

Pin (Use in receptacles)



Description	Loose*		Reeled		No. of Contacts
	Pin Part Number	Socket Part Number	Pin Part Number	Socket Part Number	
5 Amps	030-2464-000	030-2480-000	110238-0446	110238-0488	4,500
13 Amps	030-2464-003	030-2480-003	110238-2004	110238-2003	4,000

*Loose contact part numbers for reference. Contacts sold on reels only.

Accessories

Sealing Plugs



Thermoplastic, Color: Natural
Part Number: 225-0093-000

Receptacle Mounting Hardware

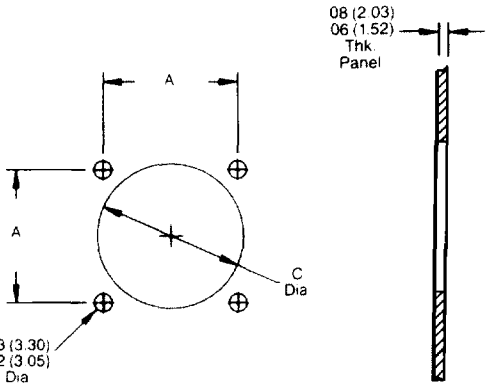
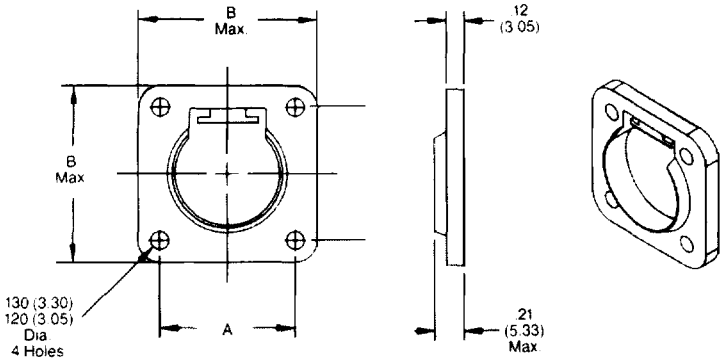
Used on "R" Type Connectors – Fits .250 (6.35) hole
hole .020 (0.51) thick panel.



Thermoplastic, Color: Natural
Part Number: 980-0008-279

Square Flange

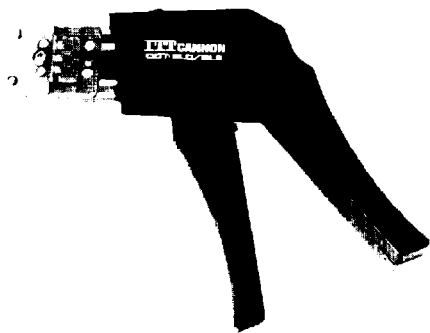
Snaps onto "R" and "B" type connectors
Thermoplastic, color black.



Panel Cutout

Housing Size	Part Number	A BSC	B Max.	C Dia.
5	066-9504-000	.920 (23.37)	1.23 (31.24)	1.00 (25.40)/ .97 (24.64)
10	066-9504-001	1.120 (28.45)	1.43 (36.32)	1.28 (32.51)/1.25 (31.75)

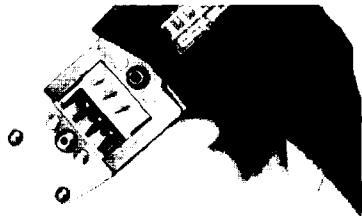
Hand Crimp Tool Operation



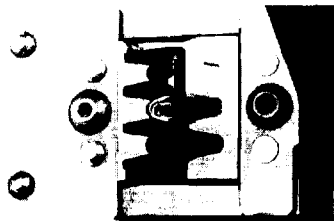
Hand Crimp Tool — CCT-SLC/SLE
Part Number: 995-0002-232

The CCT-SLC/SLE hand crimp tool is designed to crimp individual SLC/SLE contacts on wire sizes 16, 18 and 20 AWG. Each cycle is ratchet-controlled (the tool must be completely closed before it can be re-opened) to assure a satisfactory crimp each time. Over and under crimps are eliminated.

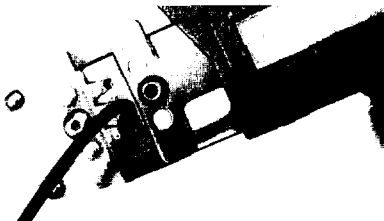
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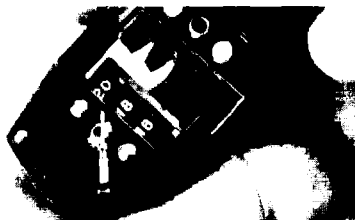
1. Cycle the CCT-SLC/SLE hand tool to the open position.



3. When correctly positioned the contact should be located beyond flush with the edge of the CCT-SLC/SLE and positioned on the concave polished split level crimp areas.

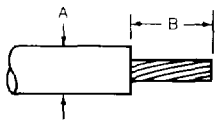


5. Insert the prestripped wire into the crimp area of the contact and completely cycle the tool.

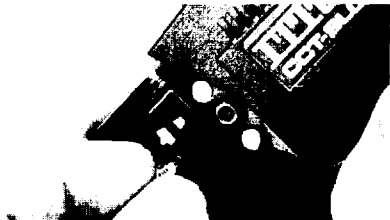


7. The result will be a perfect termination.

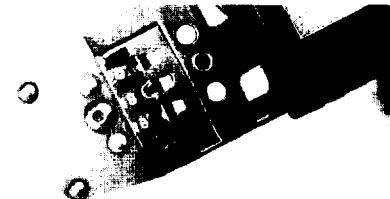
WIRE STRIPPING



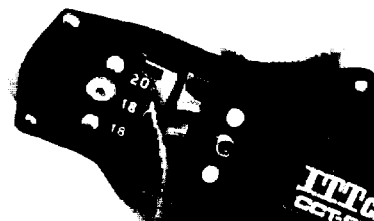
Contact Size	A	B
5 & 13 Amp	.095 (2.41) .130 (3.30)	.210 (5.33) .220 (5.59)



2. While pressing upward on the locator spring, insert the contact with tails upward completely into the locator.



4. Partially (usually the first click) cycle the hand tool assuring that the upward thrusting tails of the contact has started engaging with the top jaw of the tool. (There is a slight tendency for the contact to roll out of vertical alignment.)



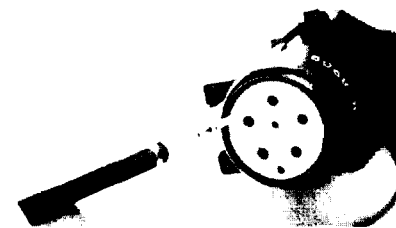
6. While pressing upward on the locator spring withdraw the crimped termination.



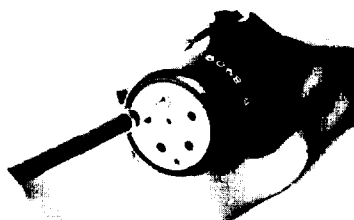
8. Note that there are no unterminated wire strands, and that some strand ends can be seen at the forward edge of the crimp. Also note the insulation is gripped by the smaller secondary crimp. Distortion is at a minimum, both axially and laterally — no sharp edges.

Assembly Instructions

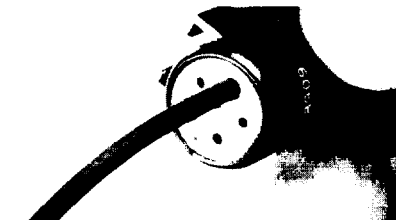
INSERTION



1. Move to the rear of the connector so that the contact cavities can be identified.



2. Insert a crimped terminated assembly into a selected cavity.



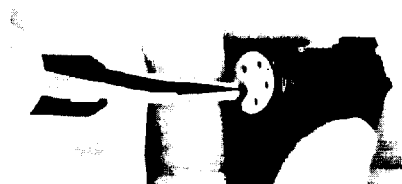
3. Continue the forward movement until an audible snap can be felt and heard. Slight pull in the opposite direction will confirm complete insertion.

EXTRACTION

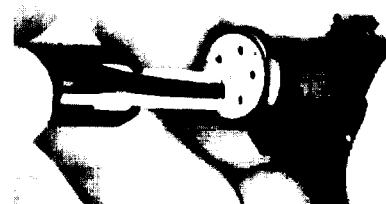


Contact Extraction Tool
Part Number: 274-7068-001
Tip Part Number: 323-9519-000

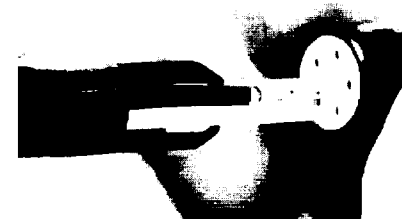
A standard CET-SLE/SLC is available for extraction of the individual crimped contacts. Insertion tool is not required.



1. Open the CET-SLE/SLC extraction tool and place it over the insulation of the wire.



2. Using a straight motion forward insert the tool along the wire until it bottoms against the connector. (Do not use a screwing motion — damage will result.)

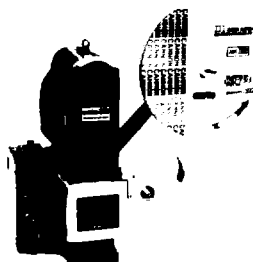


3. While the CET-SLE/SLC is bottomed, simple pull the wire/contact assembly out.



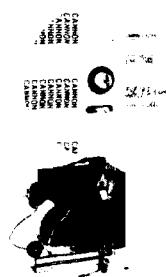
4. Remove the CET-SLE/SLC. Extraction is complete.

Semi-Automatic Tooling

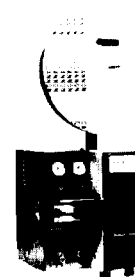


ATB-500-UCCS
Strip-Crimp Machine

(See pages 223-224)



ABT-607
Pneumatic Crimp Machine



ABT-620-UCCS
Strip-Crimp Machine