



The Cannon D*D Environmental Series is designed to meet the demand for sealed subminiature rectangular plugs with superior vibration and moisture resistance characteristics for aircraft, missile, and ground support equipment applications.

Featuring a rugged aluminum shell and peripheral seal, the D*D connector meets all applicable requirements of MIL-C-24308. Available in both solder

and crimp versions, all assemblies are provided with nylon potting cups and dust caps.

Solder type contacts are non-removable and are factory-installed. Crimp type connectors utilize the field-proven LITTLE CAESAR® rear insertion, rear-release retention system.

PLEASE NOTE: The D*D Series is not interchangeable with other D Subminiature connectors.

Performance and Material Specifications

Shell	Aluminum, cadmium plated with yellow chromate supplementary coating.
Contacts	Solder pot: Copper alloy, gold plated .00002 (0.0005) over nickel .00004 (0.0010). Crimp type: Copper alloy, gold plated .00002 (0.0005) over nickel .00004 (0.0010)
Insulator	Diallyl phthalate, per MIL-M-14, Type MDG or SDG-F
Contact Termination	Solder pot accommodating up to #20 AWG stranded wire. Crimp type accommodating #20, #22 and #24 AWG stranded wire.
Socket Type	Closed entry
Float Mounting Rivets & Washers	Stainless steel Passivated per QQ-P-35

Test Data

Specifications	
Voltage Rating	All voltage figures are AC (rms). 60 Hz measured at approximately 25.0°C 50% RH
Insulation Resistance (per MIL-C-24308)	Greater than 5,000 megohms, determined in accordance with MIL-STD-202A, Method 302.
Contact Voltage Drop	2.67 millivolts, maximum, per amp.
Contact Separation Force	1 to 8 ounces when tested in accordance with MIL-C-24308.
Air Leakage	When properly wired and potted, 1 cubic inch of air per hour max. when subjected to 30 PSI pressure differential in accordance with MIL-C-5015D, Paragraph 4.5.3.1
Vibration (per MIL-C-24308)	Exceeds test requirements of MIL-STD-202A, Method 204, Condition D.
Corrosion Resistance (per MIL-C-24308)	Exceeds requirements of 50 hour exposure to salt spray in accordance with MIL-STD-202A, Method 101A, Condition B.
Moisture Resistance (per MIL-C-24308)	Exceeds requirements of MIL-STD-202A, Method 106.
Shock	Exceeds requirements of MIL-STD-202A, Method 213, Condition G
Environmental Seal	Effective from full engagement to 1/16 short of full engagement.
Contact Retention Force	(Crimp type) 8 pounds (35.6 newtons) minimum of first cycles: 5 pounds (22.2 newtons) minimum after tenth cycle.
Standard Layout Plugs	Measured from contact-to-contact, and contact-to-shell or unmated condition.

Altitude (Feet)				
	Sea Level	20,000	50,000	70,000
Average Flash-over	1700	1000	650	500
Test	1250	750	475	375

See Commercial D Subminiature catalog for additional Combo D options, including 75 ohm Coax.

How to Order

Solder Cup Terminals

SERIES PREFIX
ITT Cannon Designation

SHELL SIZE
A, B, C, D, E

CLASS
D - Environmental

CONTACT ARRANGEMENT
9, 15, 25, 37, 50

CONTACT TYPE
P - Pin
S -Socket

MOUNTING STYLE
A - Standard mounting holes
B - Float mounts supplied

MODIFICATION
Consult factory

D

A

D - 15

S

A -

Snap-In Crimp Terminals

SERIES PREFIX
ITT Cannon Designation

SHELL SIZE
A, B, C, D, E

CLASS
DA - Enviromental, crimp type

MOUNTING STYLE
No Designator - Standard mounting
F - Float mounts supplied

CONTACT ARRANGEMENT
9, 15, 25, 37, 50

CONTACT TYPE
P - Pin
S - Socket

MODIFICATION
F0 - Connector supplied less contacts, for other modifications consult factory.

D

A

DA

F-

15

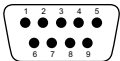
P-

F0

Contact Arrangements

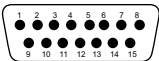
Faces View Pin Insert

Shell Size
Contact Arrangement
Contact Size



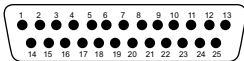
E
9
#20

Shell Size
Contact Arrangement
Contact Size



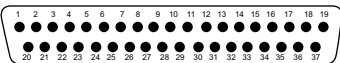
A
15
#20

Shell Size
Contact Arrangement
Contact Size



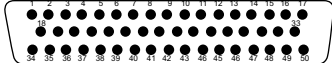
B
25
#20

Shell Size
Contact Arrangement
Contact Size



C
37
#20

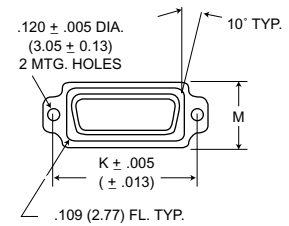
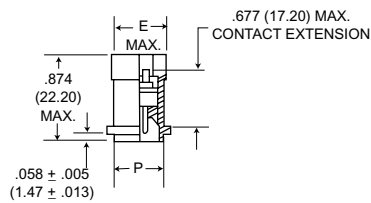
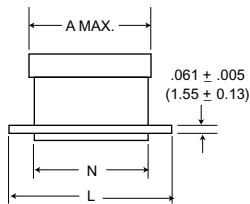
Shell Size
Contact Arrangement
Contact Size



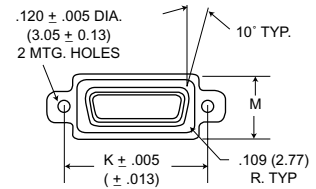
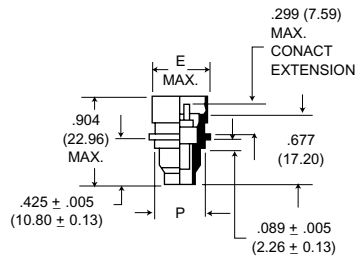
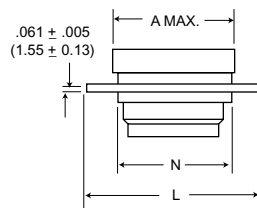
D
50
#20

Shell Dimensions, Standard Mount

Receptacle

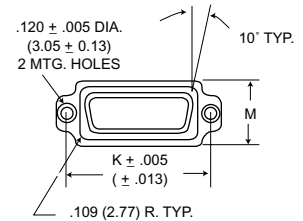
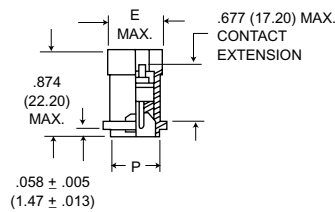
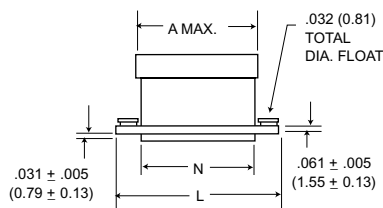


Plug

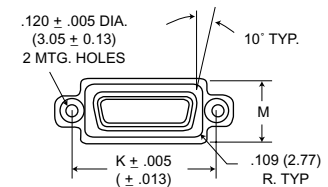
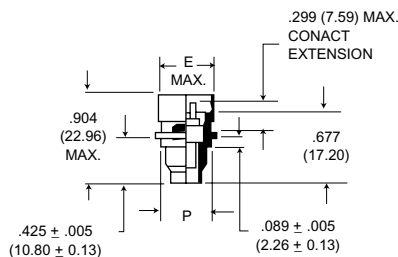
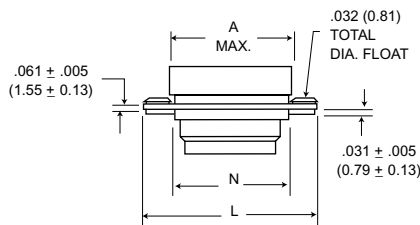


Float Mount Dimensions

Receptacle



Plug



NOTE: All D*D Environmental plugs and receptacles are provided with dust caps and removable potting cups.

Shell Size	A Max.	E Max.	K ± .005 (0.13)	L ± .010 (0.25)	M ± .010 (0.25)	N ± .010 (0.25)	P ± .010 (0.25)
DED-9P	.915 (23.24)	.596 (15.14)	1.125 (28.58)	1.442 (36.63)	.614 (15.60)	.825 (20.86)	.483 (12.27)
DED-9S	.915 (23.24)	.596 (15.14)	1.125 (28.58)	1.442 (36.63)	.614 (15.60)	.825 (20.86)	.483 (12.27)
DAD-15P	1.233 (31.32)	.596 (15.14)	1.437 (36.50)	1.755 (44.58)	.614 (15.60)	1.143 (29.03)	.483 (12.27)
DAD-15S	1.233 (31.32)	.596 (15.14)	1.437 (36.50)	1.755 (44.58)	.614 (15.60)	1.143 (29.03)	.483 (12.27)
DBD-25P	1.786 (45.36)	.596 (15.14)	1.993 (50.62)	2.295 (58.29)	.614 (15.60)	1.683 (42.75)	.483 (12.27)
DBD-25S	1.786 (45.36)	.596 (15.14)	1.993 (50.62)	2.295 (58.29)	.614 (15.60)	1.683 (42.75)	.483 (12.27)
DCD-37P	2.458 (62.43)	.567 (14.40)	2.625 (66.68)	2.937 (74.60)	.614 (15.60)	2.343 (59.51)	.483 (12.27)
DCD-37S	2.458 (62.43)	.567 (14.40)	2.625 (66.68)	2.937 (74.60)	.614 (15.60)	2.343 (59.51)	.483 (12.27)
DDD-50P	2.390 (60.71)	.680 (17.27)	2.531 (64.29)	2.859 (72.62)	.735 (18.67)	2.251 (57.18)	.596 (15.14)
DDD-50S	2.390 (60.71)	.680 (17.27)	2.531 (64.29)	2.859 (72.62)	.735 (18.67)	2.251 (57.18)	.596 (15.14)

All tolerances are ± .010 (0.24) unless noted otherwise.

Mounting Dimensions

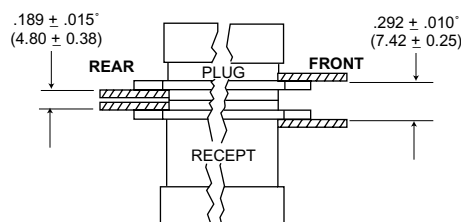


Figure 1

Figure 2

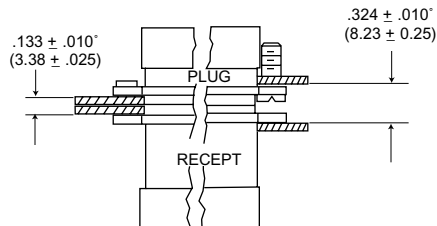


Figure 3

Figure 4

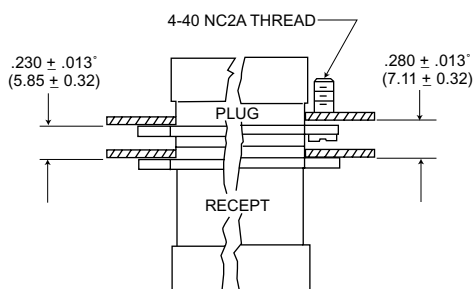


Figure 5

Figure 6

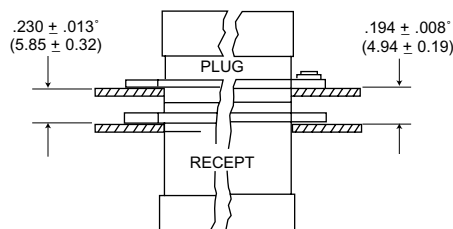


Figure 7

Figure 8

NOTE: Max panel thickness is .125 (3.17) for non-floating rear panel mounting.

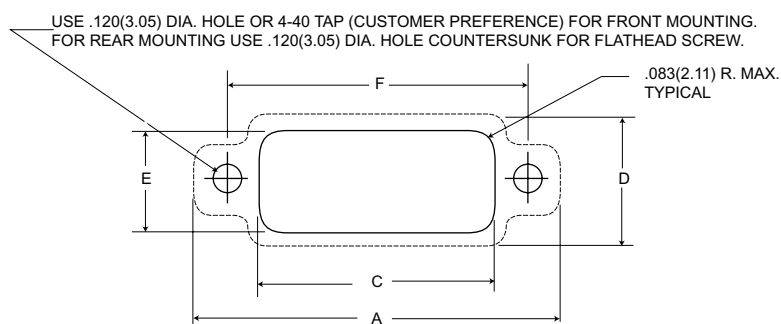
1. With both connectors rear mounted, use #4-40 flat head screws flush with the panel (Fig. 1).
2. With both connectors front mounted, use #4-40 binder or pan head screws (Fig. 2).
3. With both connectors rear mounted (float rivets on plug assembly side); use #4-40 flat head screws, flush with the panel (Fig. 3).
4. With both connectors front mounted (plug assembly has float mounting screw), use #4-40 binder or pan head screws for receptacle assembly (Fig. 4).

5. With plug assembly front mounted and receptacle assembly rear mounted, use hardware from Figures 5 and 6.
6. With plug assembly front mounted and receptacle assembly rear mounted (plug assembly has float mounting screw), use hardware from figure 1 for receptacle assembly.
- * Dimensions between panels represent the recommended limit to be used in the design of the connector mounting method.
7. With plug assembly rear mounted and receptacle assembly front mounted, use hardware from Figures 1 and 2.

8. With plug assembly rear mounted (float rivets) and receptacle assembly front mounted, use hardware from Figures 2 and 3.
9. Electrical contact engagement when mounted per Figure 1 is .046 (1.17) min./0.070 (1.78) max.

NOTE: Float rivets are for rear mounting only and float screw for front mounting only. (Specify when ordering.)

Panel Cutouts



Shell Size	A + .010 (0.25)	C Min.	D + .010 (0.25)	E Min.	F + .006 (0.15)
DED-9	1.442 (36.63)	.839 (21.31)	.614 (15.60)	.497 (12.62)	1.125 (28.58)
DAD-15	1.755 (44.58)	1.157 (29.39)	.614 (15.60)	.497 (12.62)	1.437 (36.50)
DBD-25	2.295 (58.29)	1.697 (43.10)	.614 (15.60)	.497 (12.62)	1.993 (50.62)
DCD-37	2.937 (74.60)	2.357 (59.87)	.614 (15.60)	.497 (12.62)	2.625 (66.68)
DDD-50	2.859 (72.62)	2.265 (57.53)	.735 (18.67)	.610 (15.49)	2.531 (64.29)

Add .032 (0.81) to dimensions C and E for float mounting.
Note: Panel cutout does not allow for potting cup clearance.

Contact Crimping Information

Crimp Type Contacts

Contact Size	Wire Size Accom.	Standard Finish		Military Finish	
		Pin	Socket	Pin	Socket
20	20, 22, 24	330-5291-015	031-1007-000	330-5291-079	031-1007-042

Semi-Automatic Crimp Machines

Insertion/Extraction Tools

CIET-20HD

Contact Size	AWG	Plastic Insertion/Extraction		Plastic Extraction	
		Part No.	Description	Part No.	Description
20	20, 22, 24	980-2000-426	CIET-20HD	323-7010-000	CET-20-11

CBT-646

The CBT-646, Vibra-Bowl Crimper is a pneumatically powered, electronically controlled machine. It is designed to semi-automatically crimp closed barrel, machined contacts, as used in the aerospace and commercial industries. The machine will accommodate wire sizes 30 thru 12 AWG. The CBT-646 is actuated automatically upon insertion of a pre-stripped stranded or single conductor wire. The CBT-646 meets all Mil. Spec. requirements for crimping closed barrel contacts.

Machine Crimp Range: 1300 + per hour

Power Requirements:

Electrical = 115 Vac, 60 Hz, 5A

Pneumatic = 85 psi, 2 cu. ft. per min.

Products: Most ITT Cannon Commercial and Aerospace closed-barrel contacts, wire sizes 30 thru 12 AWG. See connector line for part numbers.

Hand Crimp Tools

M22520/1-01

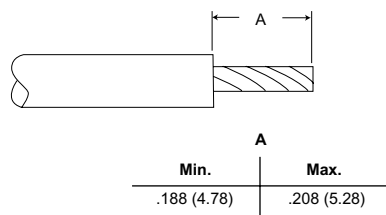
M22520/2-01

Contact Size	AWG	Crimp Tool		Locator	
		Part No.	Description	Part No.	Description
20	20, 22, 24	995-0001-584	M22520/2-01	995-0001-604	M22520/2-08
		995-0001-585	M22520/1-01	995-0001-244	TH25



Assembly Instructions

Wire Stripping-Machined Contacts



Contact Crimping



Contact Insertion



1. Cut wires to length. Strip insulation per above illustration. Check for broken or frayed wires.

2. Insert contact and wires into proper crimp tool (and locator, if required). Crimp contact to wires. Inspect crimp.

3. Center wired contact in groove of insertion tool with tool tip butting contact shoulder. Insert contact into cavity until a positive stop is felt. Inspection insertion.



4. To be sure contact is locked securely, pull back lightly on wire. Repeat for balance of contacts working row by row across the insulator.

Contact Extraction



5. Place wire into extraction tool tip.



6. Insert tool tip into contact cavity until tip bottoms against contact shoulder, releasing tines. Hold wires against tool with finger and remove tool and contact. Repeat for balance of contacts.