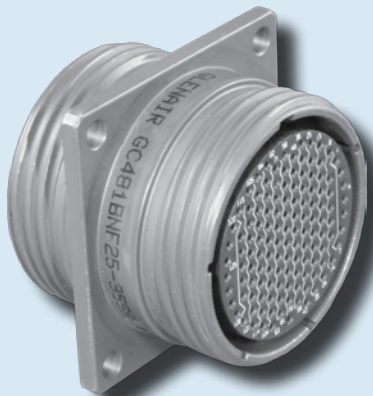

Glenair Environmental and Hermetic MIL-DTL-38999 Type Bulkhead Feed-Thrus

SECTION E TABLE OF CONTENTS

GLENAIR MIL-DTL-38999 TYPE BULKHEAD FEED-THRUS:

MIL-DTL-38999 Type Bulkhead Feed-Thru Product Features.....	E-1
231-103-H7 Series I Type Jam Nut Mount Hermetic Bulkhead Feed-Thru.....	E-2
231-104-00 Series I Type Wall Mount Environmental Bulkhead Feed-Thru.....	E-3
231-104-07 Series I Type Jam Nut Mount Environmental Bulkhead Feed-Thru.....	E-4
231-104-09 Series I Type Jam Nut Mount Env. Plug/Receptacle Bulkhead Feed-Thru.....	E-5
947-101 Series I Type Flange Mount Pressure Vessel Penetrator.....	E-6
232-103-H7 Series II Type Jam Nut Mount Hermetic Bulkhead Feed-Thru.....	E-7
232-104-00 Series II Type Wall Mount Environmental Bulkhead Feed-Thru.....	E-8
233-103-H7 Series III Type Jam Nut Mount Hermetic Bulkhead Feed-Thru.....	E-10
233-104-00 Series III Type Wall Mount Environmental Bulkhead Feed-Thru.....	E-11
233-104-07 Series III Type Jam Nut Mount Environmental Bulkhead Feed-Thru.....	E-12
233-103-H9 Series III Type Jam Nut Mount Hermetic Plug/Receptacle Bulkhead Feed-Thru.....	E-13
947-112 Series III Type Jam Nut Mount Pressure Vessel Penetrator.....	E-14



The Widest Range of MIL-DTL-38999 Type Bulkhead Feed-Thru Connectors Available In The Industry.

Product Applications

Bulkhead feed-thrus eliminate the need to permanently fix cable harnesses to panels—affording increased system flexibility, superior mechanical integrity, and greater serviceability. Glenair hermetic and environmental bulkhead feed-thru connectors are available in MIL-DTL-38999 Series I, II and III configurations. Hermetic Versions are ideally suited for high-pressure/low-leakage applications in air, sea and space environments, meeting a leak rate of 1×10^{-7} cm³ per second. Environmental versions offer IP67 level sealing.

Errata

Catalog contents—including part numbers, materials and dimensions—are accurate to the best of our ability when we go to print. Even so, customers are advised to consult the factory for the latest specifications, particularly to confirm critical dimensions such as connector lengths, threads, and so on. When errors or mistakes are brought to our attention, corrected content is posted immediately to our website: www.glenair.com.

TABLE I: MATERIALS

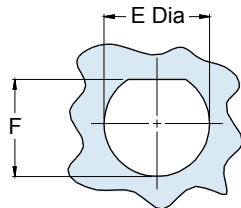
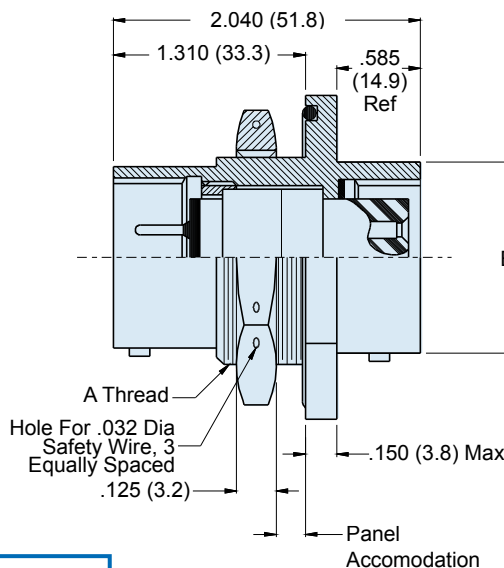
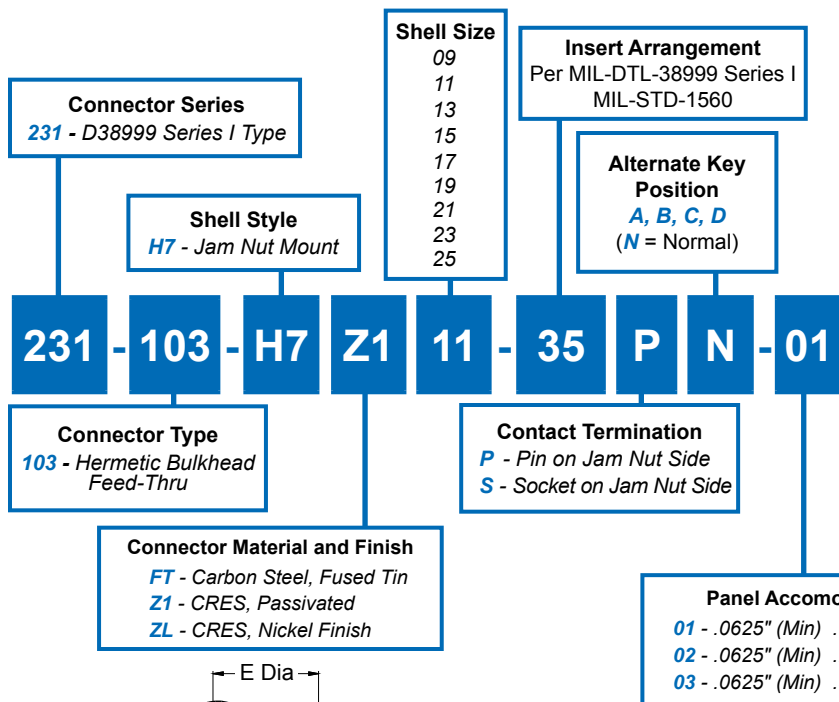
Shell, Barrel, and Coupling Nut (Environmental)	Aluminum alloy 6061 per ASTM-B211
Shell, Barrel Coupling and Jam Nut (Hermetic)	Stainless steel per AMS-QQ-S-763
Shell, Barrel, Coupling Nut and Jam Nut (Hermetic)	Carbon Steel per ASTM-B545 or ASTM-B339
Grommet, Peripheral Seal and Interfacial Seal	Blended elastomer, 30% silicone per ZZ-R-765, 70% fluorosilicone per MIL-R-25988
Hermetic Insert	Vitreous glass
Feed-Thru Contacts (Environmental)	Copper Alloy / Gold Plate
Feed-Thru (Hermetic)	Nickel-iron alloy per ASTM F30 (Alloy 52), 50 microinches gold plated per ASTM B488 Type 3 Code C Class 1, 27 over nickel plate per QQ-N-290 Class 2, 50-100 microinches
Adhesives	Silicone and epoxy

TABLE II: POPULAR FINISHES

Plating Code	Material	Finish	Specification
M	Aluminum	Electroless Nickel	AMS-C-26074
NF	Aluminum	Cadmium Plate Olive Drab over Electroless Nickel	AMS-QQ-P-416, over AMS-C-26074 (1000 Hour Salt Spray)
NC	Aluminum	Zinc-Cobalt	ASTMB840
ZN	Aluminum	Olive Drab Zinc-Nickel	Zinc alloy per ASTM B841-91, Class 1 Type E Grade 3 over Electroless nickel per ASTM B733-90 SC2, Type 1 Class 5
MT	Aluminum	Ni-PTFE 1,000 Hour Grey™ (Nickel Fluorocarbon Polymer)	MIL-DTL-38999L (500 Hour Salt Spray)
AL	Aluminum	Pure Electrodeposited Aluminum	MIL-DTL-83488 (1000 Hour Salt Spray)
Z1	Stainless Steel	Passivate	AMS-QQ-P-35
FT	Carbon Steel	Fused Tin Plate	ASTM-B545 or ASTM-B339
ZL	Stainless Steel	Electrodeposited Nickel	SAE-AMS-QQ-N-290, Class 2



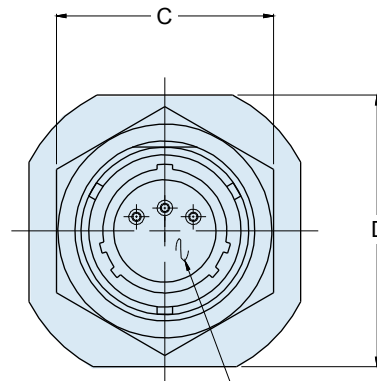
231-103-H7 Jam Nut Mount Hermetic Bulkhead Feed-Thru MIL-DTL-38999 Series I Type



Recommended Panel Cut-Out

TABLE I: CONNECTOR DIMENSIONS

SHELL SIZE	A THREAD CLASS 2A	B DIA MAX	C HEX	D FLATS	E DIA ±.005(0.1)	F +.000-.005 (0-0.1)
09	.688-24 UNEF	.573(14.6)	.875(22.2)	1.062(27.0)	.703(17.9)	.669(17.0)
11	0.812-20 UNEF	.701(17.8)	1.000(25.4)	1.250(31.8)	.827(21.0)	.769(19.5)
13	1.000-20 UNEF	.851(21.6)	1.188(30.2)	1.375(34.9)	1.015(25.8)	.955(24.3)
15	1.125-18 UNEF	.976(24.8)	1.312(33.3)	1.500(38.1)	1.140(29.0)	1.084(27.5)
17	1.250-18 UNEF	1.101(28.0)	1.438(36.5)	1.625(41.3)	1.265(32.1)	1.208(30.7)
19	1.375-18 UNEF	1.208(30.7)	1.562(39.7)	1.812(46.0)	1.390(35.3)	1.333(33.9)
21	1.500-18 UNEF	1.333(33.9)	1.688(42.9)	1.938(49.2)	1.515(38.5)	1.459(37.1)
23	1.625-18 UNEF	1.458(37.0)	1.812(46.0)	2.062(52.4)	1.640(41.7)	1.580(40.1)
25	1.750-18 UNS	1.583(40.2)	2.000(50.8)	2.188(55.6)	1.765(44.8)	1.709(43.4)



Insert Arrangement per MIL-DTL-38999, Series I MIL-STD-1560

APPLICATION NOTES

- Power to a given contact on one end will result in power to contact directly opposite, regardless of identification letter.
- Hermeticity = less than 1×10^{-4} cc/sec at one atmosphere. Not for use in liquid atmosphere.
- Material/finish:
Shell, nut – CRES/passivated, carbon steel/fused tin or CRES/nickel per QQ-N-290.
- Contacts – Gold Plated. Pin: alloy 52; Skt.: copper alloy
Insulator – fused vitreous glass/N.A.
Seals – fluorosilicone rubber/N.A.
- Metric dimensions (mm) are indicated in parentheses.

231-104-00 Wall Mount Environmental Bulkhead Feed-Thru MIL-DTL-38999 Series I Type



Bulkhead
Feed-Thru

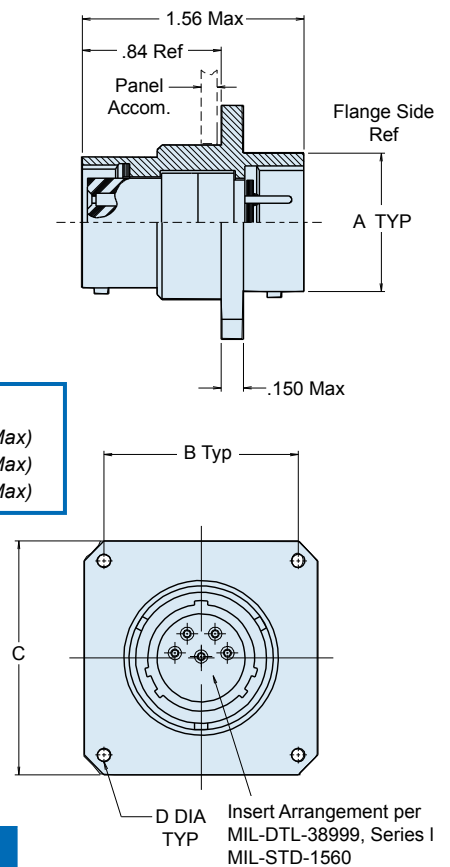
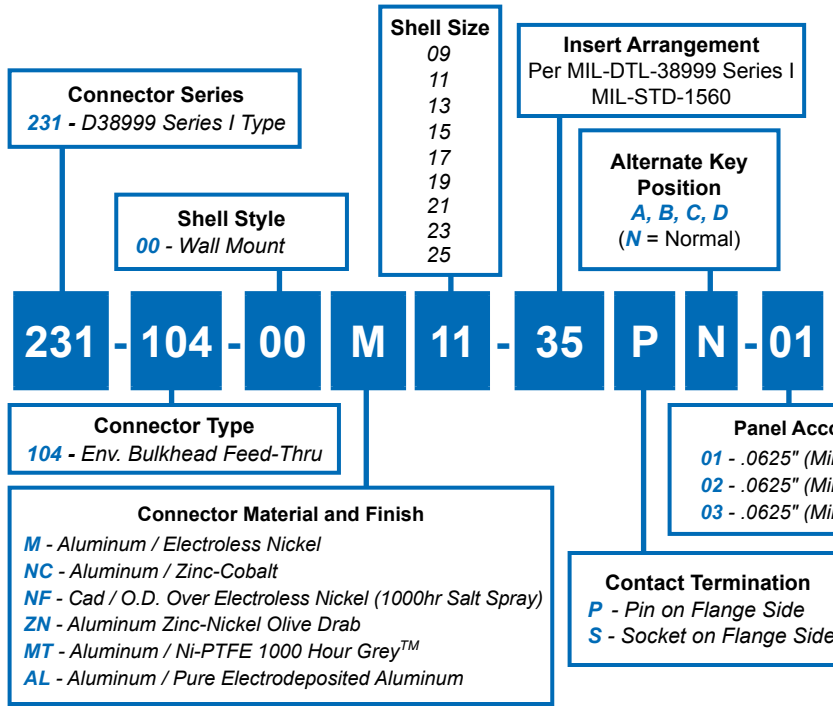
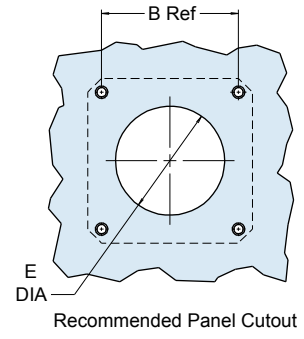


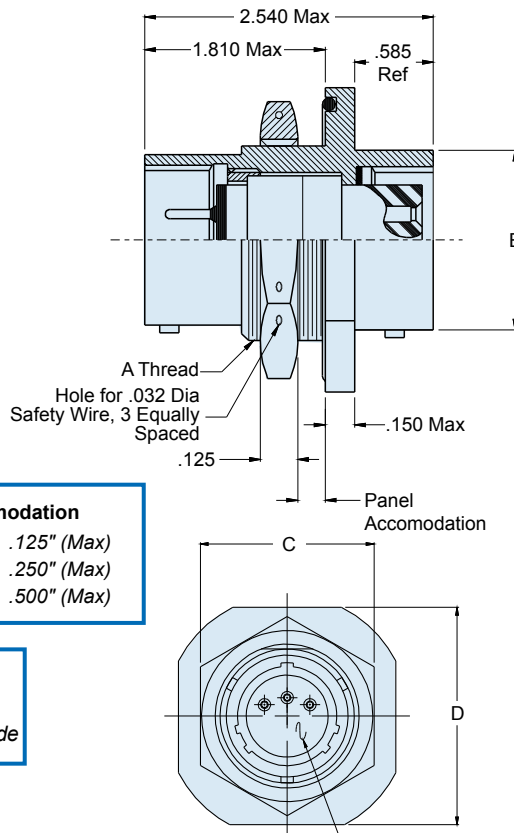
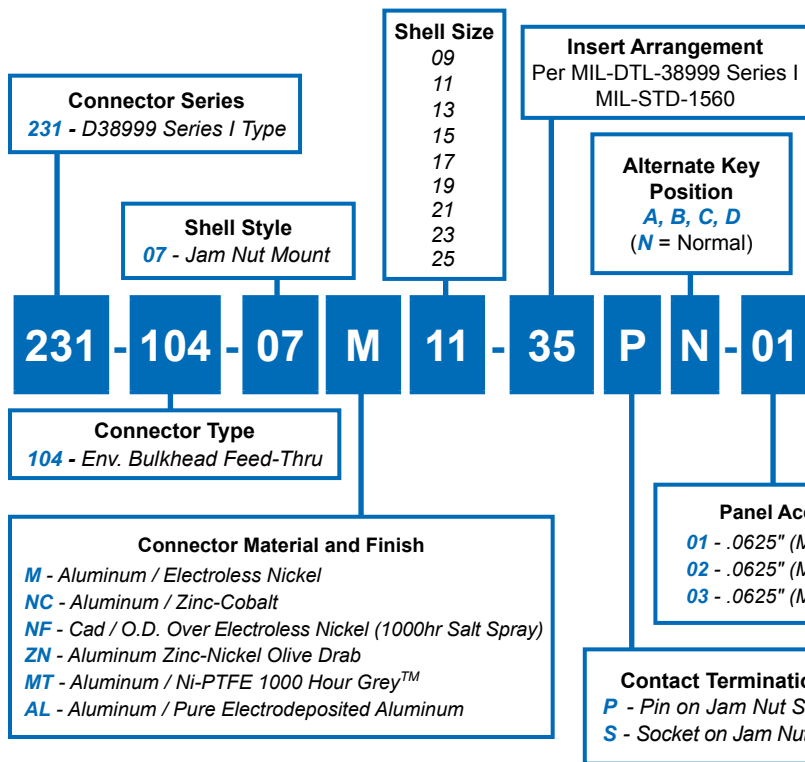
TABLE I: CONNECTOR DIMENSIONS					
SHELL SIZE	A MAX	B SQ	C SQ	D DIA	E ±.005(0.1)
09	.573(14.6)	.719(18.3)	.938(23.8)	.125(3.2)	.703(17.9)
11	.701(17.8)	.812(20.6)	1.031(26.2)	.125(3.2)	.827(21.0)
13	.851(21.6)	.906(23.0)	1.125(28.8)	.125(3.2)	1.015(25.8)
15	.976(24.8)	.969(24.6)	1.219(31.0)	.125(3.2)	1.140(29.0)
17	1.101(28.0)	1.062(27.0)	1.312(33.3)	.125(3.2)	1.265(32.1)
19	1.208(30.7)	1.156(29.4)	1.438(36.5)	.125(3.2)	1.390(35.3)
21	1.333(33.9)	1.250(31.8)	1.562(39.7)	.125(3.2)	1.515(38.5)
23	1.458(37.0)	1.375(34.9)	1.688(42.9)	.156(4.0)	1.640(41.7)
25	1.583(40.2)	1.500(38.1)	1.812(46.0)	.156(4.0)	1.765(44.8)



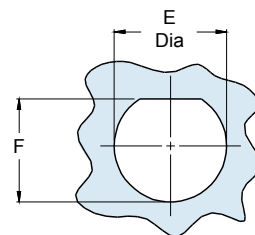
- ### APPLICATION NOTES
- Material/finish:
Shells and nuts – Al alloy, 6061-T6, QQ-A-225/8, see Table I (D5)
Contacts – Leaded nickel copper/gold plate MIL-G-45204, Type II, Class I
Bayonet pins – AISI 300 series stainless steel/passivate, QQ-P-35
Hoods – AISI 305 series stainless steel/passivate, QQ-P-35
Inserts – Epiall 1908
Seals – Silicone per ZZ-R-765
 - Metric Dimensions (mm) are indicated in parentheses.



231-104-07
Jam Nut Environmental Bulkhead Feed-Thru
MIL-DTL-38999 Series I Type



Insert arrangement, per MIL-C-38999, Series I MIL-STD-1560



Recommended Panel Cut-Out

TABLE I: CONNECTOR DIMENSIONS

SHELL SIZE	A THREAD CLASS 2A	B DIA MAX	C HEX	D FLATS	E DIA ±.005(0.1)	F +.000-.002 (0-.06)
09	.688-24 UNEF	.573(14.6)	.875(22.2)	1.062(27.0)	.678(17.7)	.657(16.70)
11	.813-20 UNEF	.701(17.8)	1.000(25.4)	1.250(31.8)	.830(21.1)	.771(19.59)
13	1.000-20 UNEF	.851(21.6)	1.188(30.2)	1.375(34.9)	1.015(25.8)	.955(24.26)
15	1.125-18 UNEF	.976(24.8)	1.312(33.3)	1.500(38.1)	1.140(29.0)	1.085(27.56)
17	1.250-18 UNEF	1.101(28.0)	1.438(36.5)	1.625(41.3)	1.265(32.1)	1.210(30.73)
19	1.375-18 UNEF	1.208(30.7)	1.562(39.7)	1.812(46.0)	1.390(35.3)	1.335(33.91)
21	1.500-18 UNEF	1.333(33.9)	1.688(42.9)	1.938(49.2)	1.515(38.5)	1.460(37.08)
23	1.625-18 UNEF	1.458(37.0)	1.812(46.0)	2.062(52.4)	1.640(41.7)	1.585(40.26)
25	1.750-18 UNS	1.583(40.2)	2.000(50.8)	2.188(55.6)	1.765(44.8)	1.710(43.43)

APPLICATION NOTES

- Power to a given contact on one end will result in power to contact directly opposite regardless of identification letter
- Metric Dimensions (mm) are indicated in parentheses
- Material/finish:
Shell, locking, jam nut—Al alloy, See Table II Page D-5

Contacts—Copper alloy/gold plate
Insulators—High grade rigid dielectric/N.A.
Bayonet Pins—CRES/passivate
Seals—silicone/N.A.

231-104-09 Jam Nut Mount Environmental Plug/Receptacle Bulkhead Feed-Thru for MIL-DTL-38999 Series I Type



Bulkhead
Feed-Thru

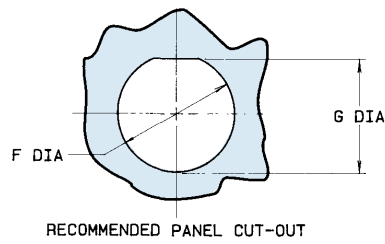
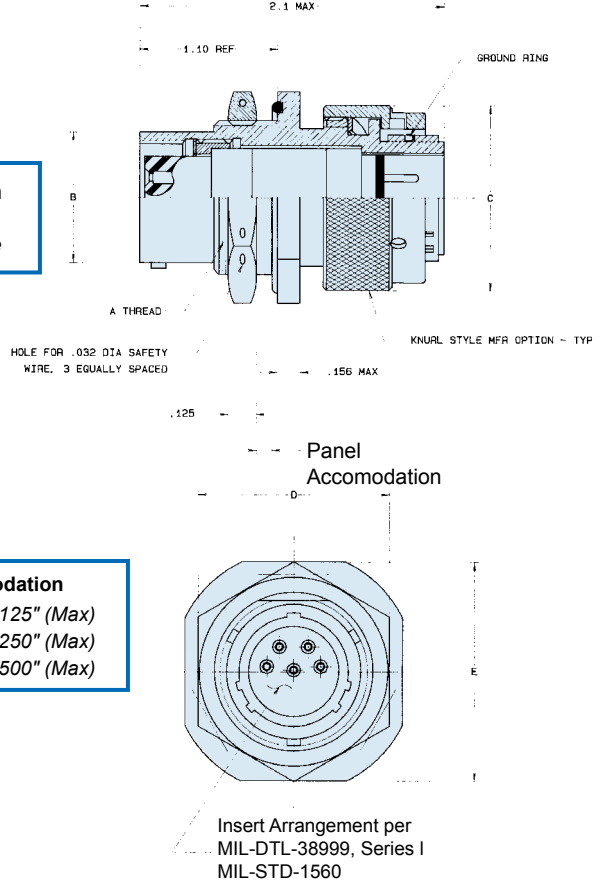
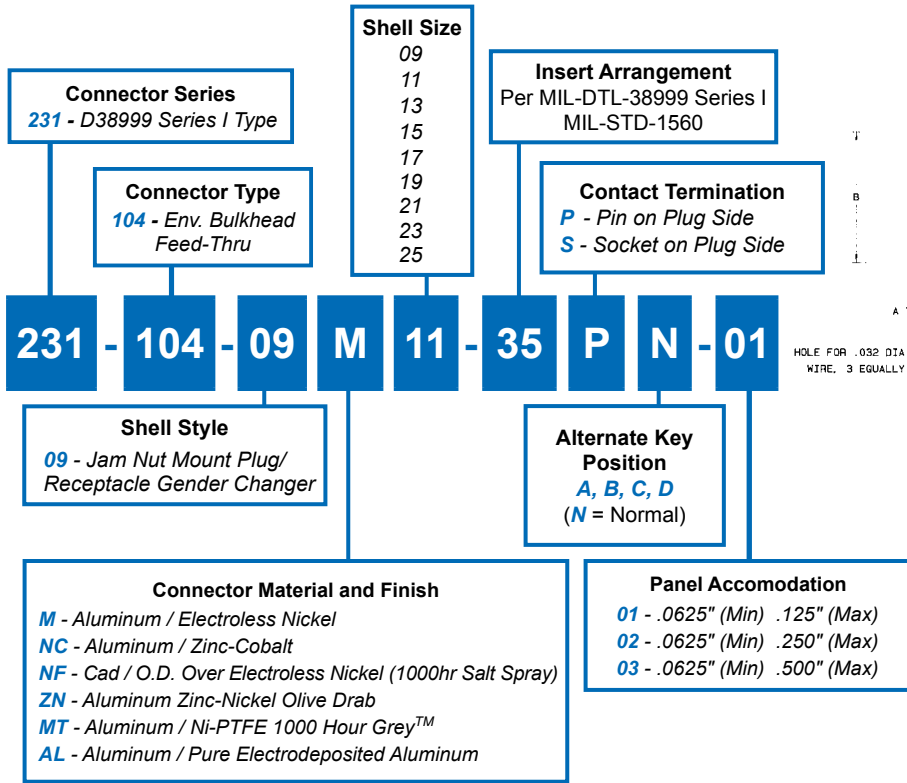


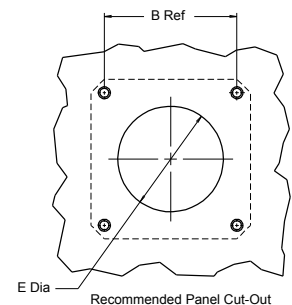
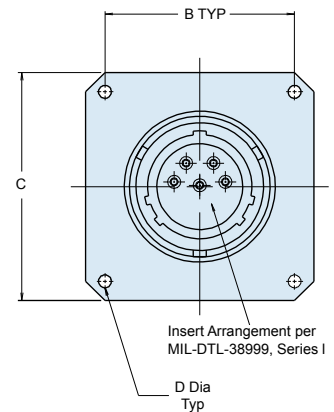
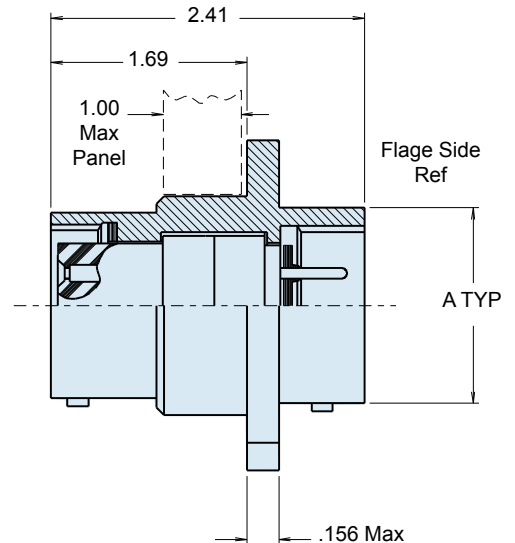
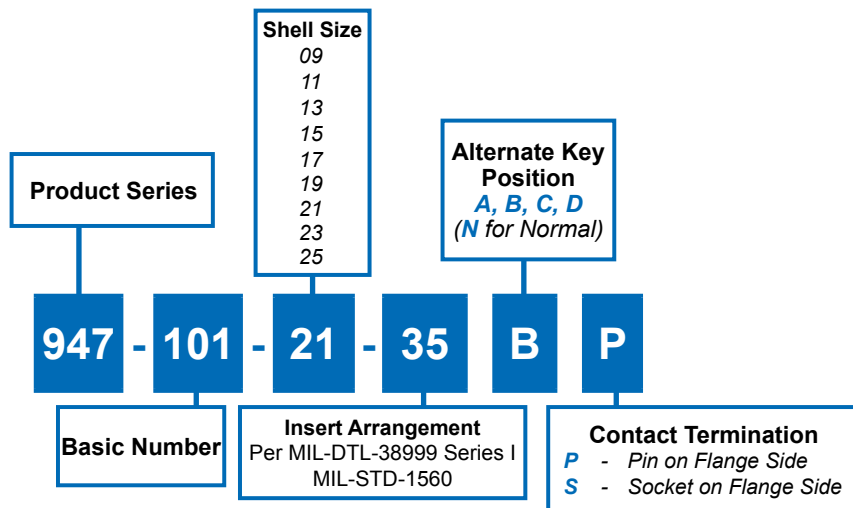
TABLE I: CONNECTOR DIMENSIONS

SHELL SIZE	A THREAD CLASS 2A	B DIA MAX	C MAX	D HEX	E FLATS	F DIA ±.005(0.1)	G +.000-.005 (0-0.1)
09	.688-24 UNEF	.573(14.6)	.900(22.9)	.875(22.2)	1.062(27.0)	.703(17.9)	.699(17.8)
11	0.813-20 UNEF	.701(17.8)	1.030(26.2)	1.000(25.4)	1.250(31.8)	.827(21.0)	.769(19.5)
13	1.000-20 UNEF	.851(21.6)	1.205(30.6)	1.188(30.2)	1.375(34.9)	1.015(25.8)	.955(24.3)
15	1.125-18 UNEF	.976(24.8)	1.325(33.7)	1.312(33.3)	1.500(38.1)	1.140(29.0)	1.084(27.5)
17	1.250-18 UNEF	1.101(28.0)	1.450(36.8)	1.438(36.5)	1.625(41.3)	1.265(32.1)	1.208(30.7)
19	1.375-18 UNEF	1.208(30.7)	1.565(39.8)	1.562(39.7)	1.812(46.0)	1.390(35.3)	1.333(33.9)
21	1.500-18 UNEF	1.333(33.9)	1.690(42.9)	1.688(42.9)	1.938(49.2)	1.515(38.5)	1.459(37.1)
23	1.625-18 UNEF	1.458(37.0)	1.795(45.6)	1.812(46.0)	2.062(52.4)	1.640(41.7)	1.580(40.1)
25	1.750-18 UNS	1.583(40.2)	1.920(48.8)	2.000(50.8)	2.188(55.6)	1.765(44.8)	1.709(43.4)

E

APPLICATION NOTES

- Material/finish:
Shell assembly, coupling nut, jam nut, lock ring—Aluminum Alloy, See Table II
Contacts—Copper alloy/gold plate
Bayonet pins, wave washer—CRES/passivate
 - O-Ring, interfacial and peripheral seals—silicone/N.A.
Insulators—High grade rigid dielectric/N.A.
Ground Ring—Beryllium copper/gold plate
2. Metric Dimensions (mm) are indicated in parentheses.


TABLE I: CONNECTOR DIMENSIONS

SHELL SIZE	A MAX	B SQ	C SQ	D DIA	E ±.005(0.1)
09	.573(14.6)	.719(18.3)	.938(23.8)	.125(3.2)	.703(17.9)
11	.701(17.8)	.812(20.6)	1.031(26.2)	.125(3.2)	.827(21.0)
13	.851(21.6)	.906(23.0)	1.125(28.8)	.125(3.2)	1.015(25.8)
15	.976(24.8)	.969(24.6)	1.219(31.0)	.125(3.2)	1.140(29.0)
17	1.101(28.0)	1.062(27.0)	1.312(33.3)	.125(3.2)	1.265(32.1)
19	1.208(30.7)	1.156(29.4)	1.438(36.5)	.125(3.2)	1.390(35.3)
21	1.333(33.9)	1.250(31.8)	1.562(39.7)	.125(3.2)	1.515(38.5)
23	1.458(37.0)	1.375(34.9)	1.688(42.9)	.156(4.0)	1.640(41.7)
25	1.583(40.2)	1.500(38.1)	1.812(46.0)	.156(4.0)	1.765(44.8)

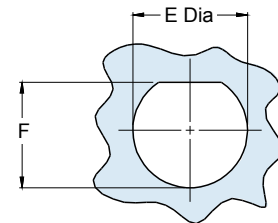
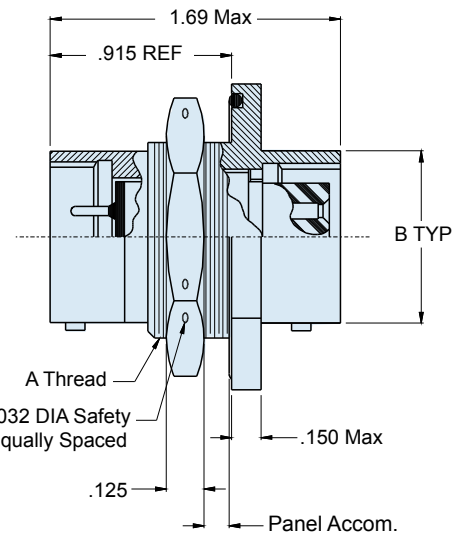
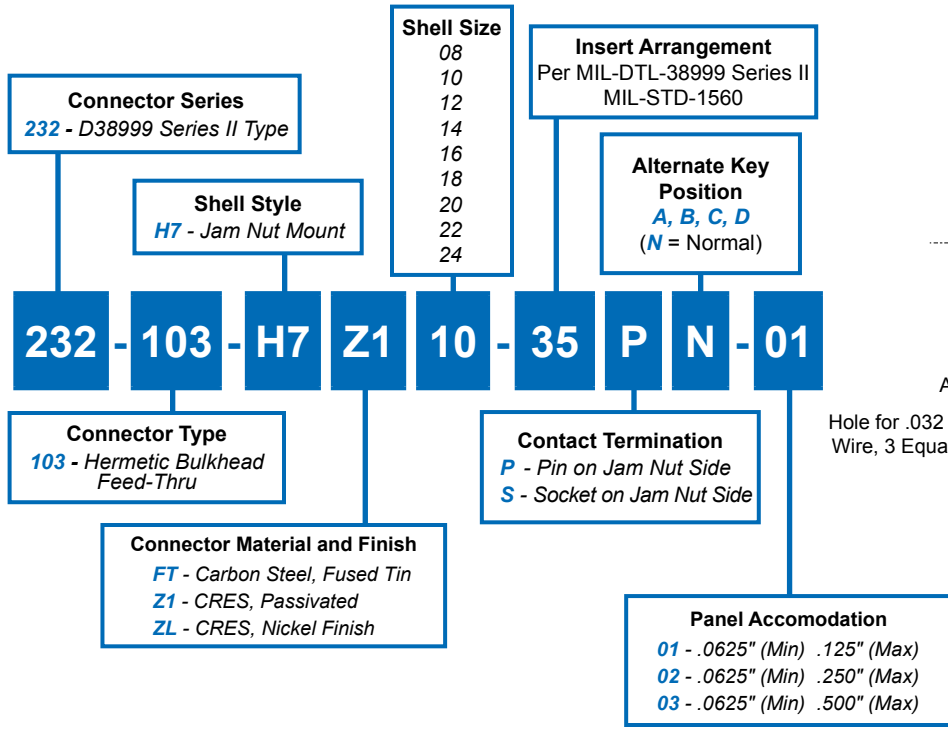
APPLICATION NOTES

- Assembly identified with manufacturer's name and part number, space permitting
 - Material/finish:
Shells and nuts—Al alloy, 6061-T6, QQ-A-225/8/cadmium O.D. per QQ-P-416 Type II, Class 3 over electroless nickel, Mil-C-26074, Class 1/2/3/4, Grade A/B/C, 500 hr. salt spray
Contacts—lead nickel copper/gold plate, MIL-G-45204, Type II
 - Metric Dimensions (mm) are indicated in parentheses.
- Class I
Bayonet pins—AISI 300 series stainless steel/passivate, QQ-P-35
Hoods—AISI 305 series stainless steel/passivate, QQ-P-35.
Inserts—Epiall 1908
Seals—silicone per ZZ-R-765

232-103-H7 Jam Nut Mount Hermetic Bulkhead Feed-Thru MIL-DTL-38999 Series II Type



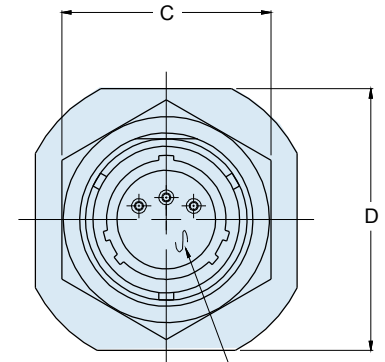
Bulkhead
Feed-Thru



Recommended Panel Cut-Out

TABLE I: CONNECTOR DIMENSIONS

SHELL SIZE	A THREAD CLASS 2A	B DIA MAX	C HEX	D FLATS	E DIA ±.005(0.1)	F +.000-.005 (0-0.1)
08	.875-20 UNEF	.474(12.0)	1.062(27.0)	1.250(31.8)	.885(22.5)	.830(21.1)
10	1.000-20 UNEF	.591(15.0)	1.188(30.2)	1.375(34.9)	1.010(25.7)	.955(24.3)
12	1.125-18 UNEF	.751(19.1)	1.312(33.3)	1.500(38.1)	1.135(28.8)	1.085(27.6)
14	1.250-18 UNEF	.876(22.3)	1.438(36.5)	1.625(41.3)	1.260(32.0)	1.210(30.7)
16	1.375-18 UNEF	1.001(25.4)	1.562(39.7)	1.781(45.2)	1.385(35.2)	1.335(33.9)
18	1.500-18 UNEF	1.126(28.6)	1.688(42.9)	1.890(48.0)	1.510(38.4)	1.460(37.1)
20	1.625-18 UNEF	1.251(31.8)	1.812(46.0)	2.016(51.2)	1.635(41.5)	1.585(40.3)
22	1.750-18 UNS	1.376(35.0)	2.000(50.8)	2.140(54.4)	1.760(44.7)	1.710(43.4)
24	1.875-16 UN	1.501(38.1)	2.125(54.0)	2.265(57.5)	1.885(47.9)	1.835(46.6)



Insert Arrangement per MIL-DTL-38999, Series II MIL-STD-1560

APPLICATION NOTES

- Power to a given contact on one end will result in power to contact directly opposite, regardless of identification letter.
- Hermeticity = less than 1×10^{-4} cc/sec at one atmosphere. Not for use in liquid atmosphere.
- Material/finish:
Shell, nut – CRES/passivated, carbon steel/fused tin or CRES/nickel per QQ-N-290.
- Contacts – Gold Plated. Pin: alloy 52; Skt.: copper alloy
Insulator – fused vitreous glass/N.A.
Seals – fluorosilicone rubber/N.A.



232-104-00 Wall Mount Environmental Bulkhead Feed-Thru MIL-DTL-38999 Series II Type

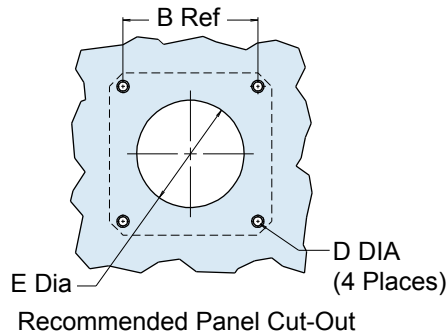
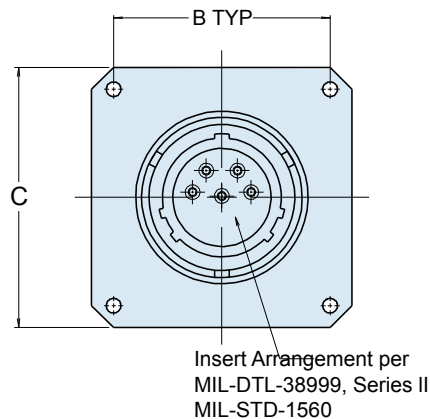
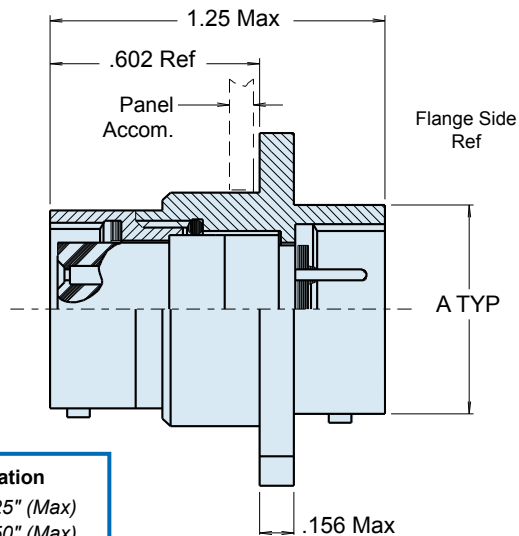
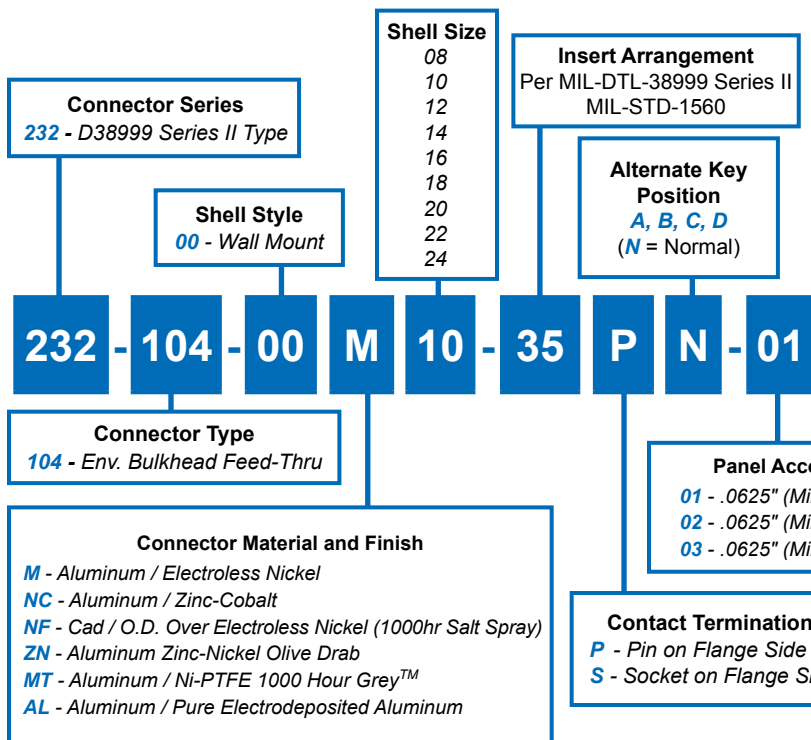
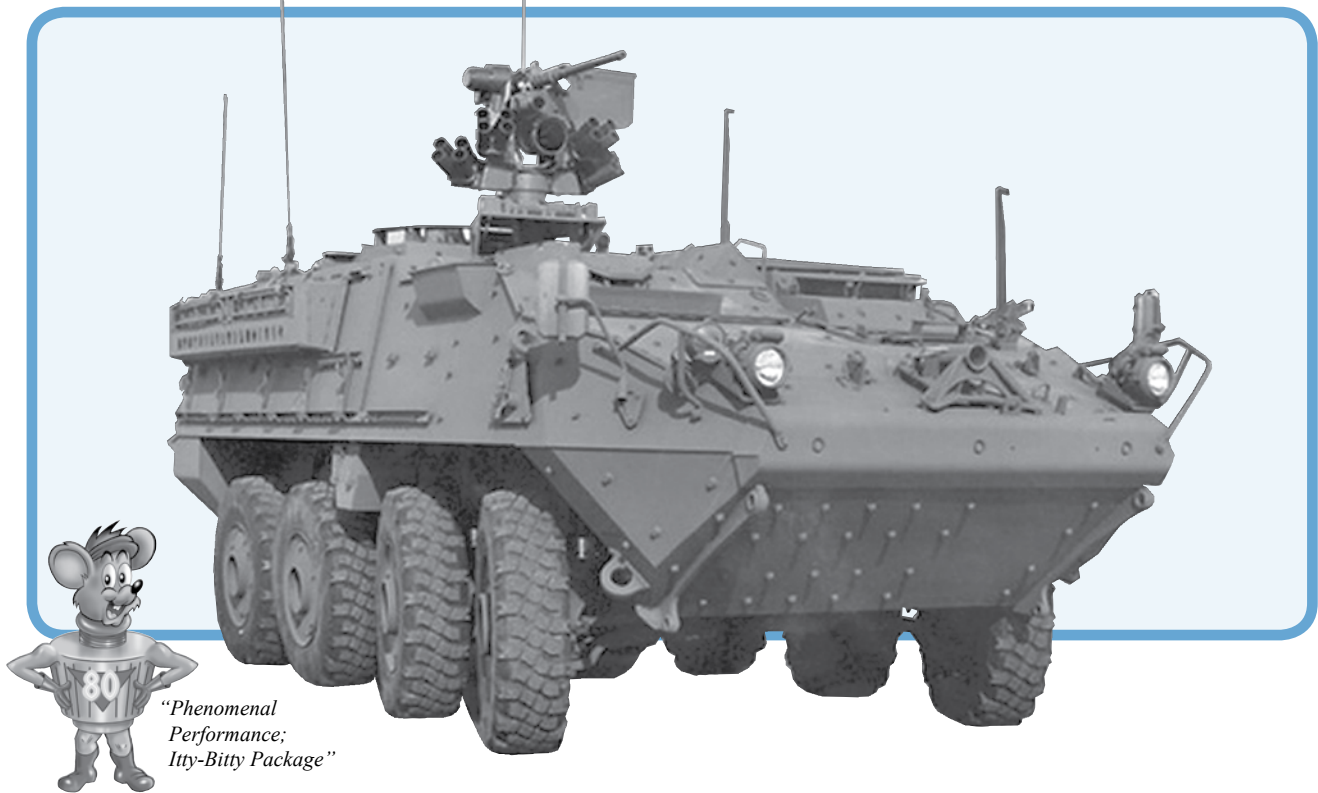


TABLE I: CONNECTOR DIMENSIONS					
SHELL SIZE	A MAX	B SQ	C SQ	D DIA	E ±.005(0.1)
08	.474(12.0)	.594(15.1)	.818(20.8)	.125(3.2)	.580(14.7)
10	.591(15.0)	.719(18.3)	.944(24.0)	.125(3.2)	.697(17.7)
12	.751(19.1)	.812(20.6)	1.037(26.3)	.125(3.2)	.885(22.5)
14	.876(22.3)	.906(23.0)	1.131(28.7)	.125(3.2)	1.010(25.7)
16	1.001(25.4)	.969(24.6)	1.224(31.1)	.125(3.2)	1.135(28.8)
18	1.126(28.6)	1.062(27.0)	1.318(33.5)	.125(3.2)	1.260(32.0)
20	1.251(31.8)	1.156(29.4)	1.443(36.7)	.125(3.2)	1.385(35.2)
22	1.376(35.0)	1.250(31.8)	1.568(39.8)	.125(3.2)	1.510(38.4)
24	1.501(38.1)	1.375(34.9)	1.693(43.0)	.156(4.0)	1.635(41.5)

- ### APPLICATION NOTES
- Material/Finish:
Shells and nuts – Al alloy, 6061-T6, QQ-A-225/8, see Table II
Contacts – Leaded nickel copper - gold plate MIL-G-45204, Type II, Class I.
Bayonet pins – AISI 300 series stainless steel/passivate, QQ-P-35
Hoods – AISI 305 series stainless steel/passivate, QQ-P-35.
Inserts – High grade rigid dielectric/N.A.
Seals – Silicone/ N.A.
 - Metric Dimensions (mm) are indicated in parentheses.

Too Fat to Fly?



Maybe. But Not Too Big To Be Saved by a Mouse.

One of the biggest challenges facing designers of armored vehicles and other rapid deployment combat platforms is the requirement to build systems which are transportable by air. In critical weight-reduction applications such as these, literally every ounce counts. That's why Glenair invented the Series 80 "Mighty Mouse;" an ultraminiature connector with

all the performance characteristics of standard Mil-Spec products. The "Mighty Mouse" is being used in ground, air and sea applications where extreme levels of weight reduction are not just an option but a necessity. So, if your system is too fat to fly, consider a switch to the mouse. The Glenair "Mighty Mouse": Phenomenal Performance, Itty-Bitty Package.



1211 Air Way

Glendale, California 91201-2497

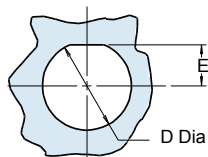
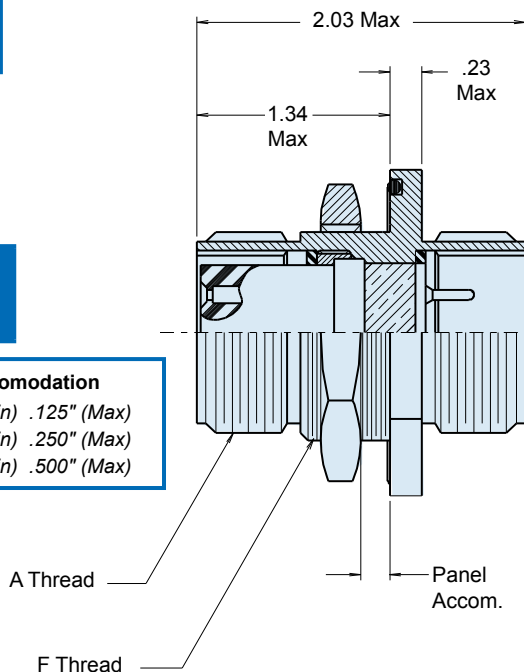
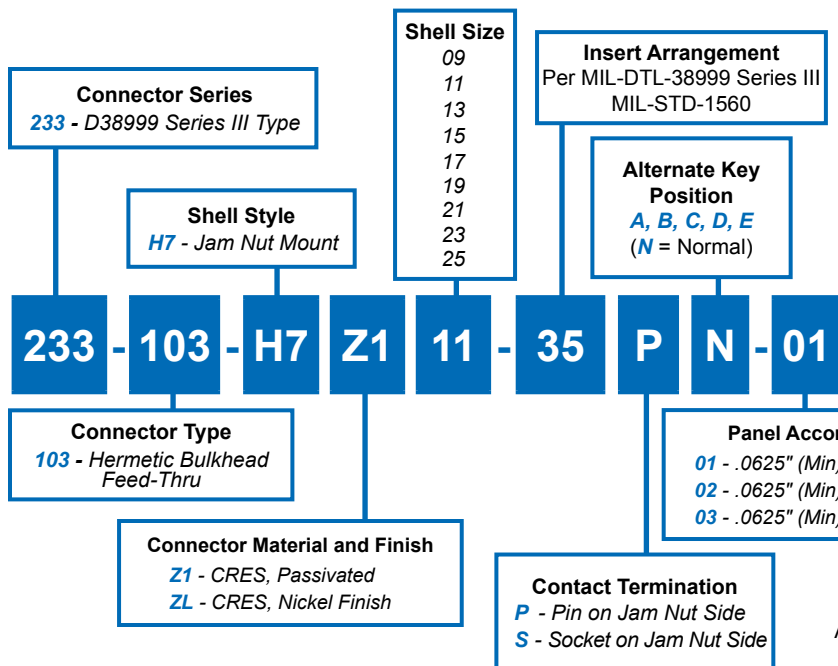
Telephone: 818-247-6000 · Facsimilie: 818-500-9912 · EMail: sales@glenair.com

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233-103-H7 Jam Nut Mount Hermetic Bulkhead Feed-Thru MIL-DTL-38999 Series III Type

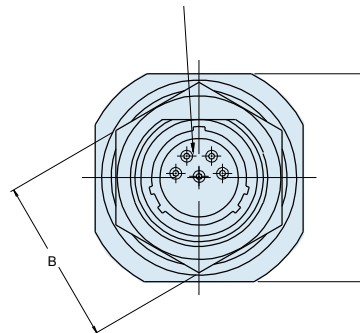


Recommended Panel Cut-Out

TABLE I: CONNECTOR DIMENSIONS

SHELL SIZE	A THREAD 0.1 P-0.3L-TS-2	B DIA	C	D DIA	E DIM	F THREAD METRIC
09	.6250	1.189 (30.20)	1.063 (27.00)	.703/.693 (17.9/17.6)	.657/.655 (16.7/16.6)	M17 x 1.0-6g
11	.7500	1.375 (34.93)	1.252 (31.80)	.835/.825 (21.2/21.0)	.771/.769 (19.6/19.5)	M20 x 1.0-6g
13	.8750	1.500 (38.10)	1.374 (34.90)	1.020/1.010 (25.9/25.7)	.955/.953 (24.3/24.2)	M25 x 1.0-6g
15	1.0000	1.626 (41.30)	1.500 (38.10)	1.145/1.135 (29.1/28.8)	1.085/1.083 (27.6/27.5)	M28 x 1.0-6g
17	1.1875	1.752 (44.50)	1.626 (41.30)	1.270/1.260 (32.3/32.0)	1.210/1.208 (30.7/30.7)	M32 x 1.0-6g
19	1.2500	1.937 (49.20)	1.811 (46.00)	1.395/1.385 (35.4/35.2)	1.335/1.333 (33.9/33.9)	M35 x 1.0-6g
21	1.3750	2.063 (52.40)	1.937 (49.20)	1.520/1.510 (38.6/38.4)	1.460/1.458 (35.7/37.0)	M38 x 1.0-6g
23	1.5000	2.189 (55.60)	2.063 (52.40)	1.645/1.635 (41.8/41.5)	1.585/1.583 (40.3/40.2)	M41 x 1.0-6g
25	1.6250	2.311 (58.70)	2.189 (55.60)	1.769/1.759 (44.9/44.7)	1.710/1.708 (43.4/43.4)	M44 x 1.0-6g

Insert Arrangement per MIL-DTL-38999 Series III MIL-STD-1560



APPLICATION NOTES

- Power to a given contact on one end will result in power to contact directly opposite, regardless of identification letter.
 - Hermeticity = less than 1×10^{-7} cc/sec at one atmosphere. Not for use in liquid atmosphere.
 - Material/finish:
Shell, nut - CRES/passivated, carbon steel/fused tin or CRES/nickel per QQ-N-290.
 - Contacts - Gold Plated. Pin: alloy 52; Skt.: copper alloy
Insulator - fused vitreous glass/N.A.
Seals - fluorosilicone rubber/N.A.
4. Metric dimensions (mm) are indicated in parentheses.

233-104-00 Wall Mount Environmental Bulkhead Feed-Thru MIL-DTL-38999 Series III Type

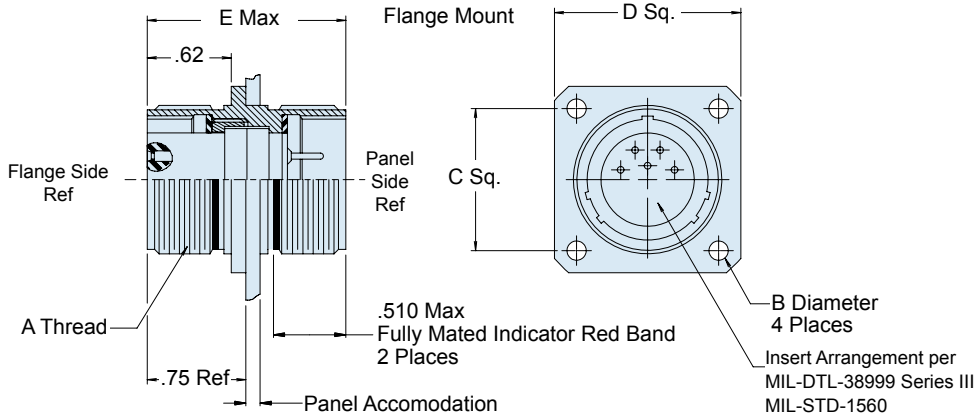
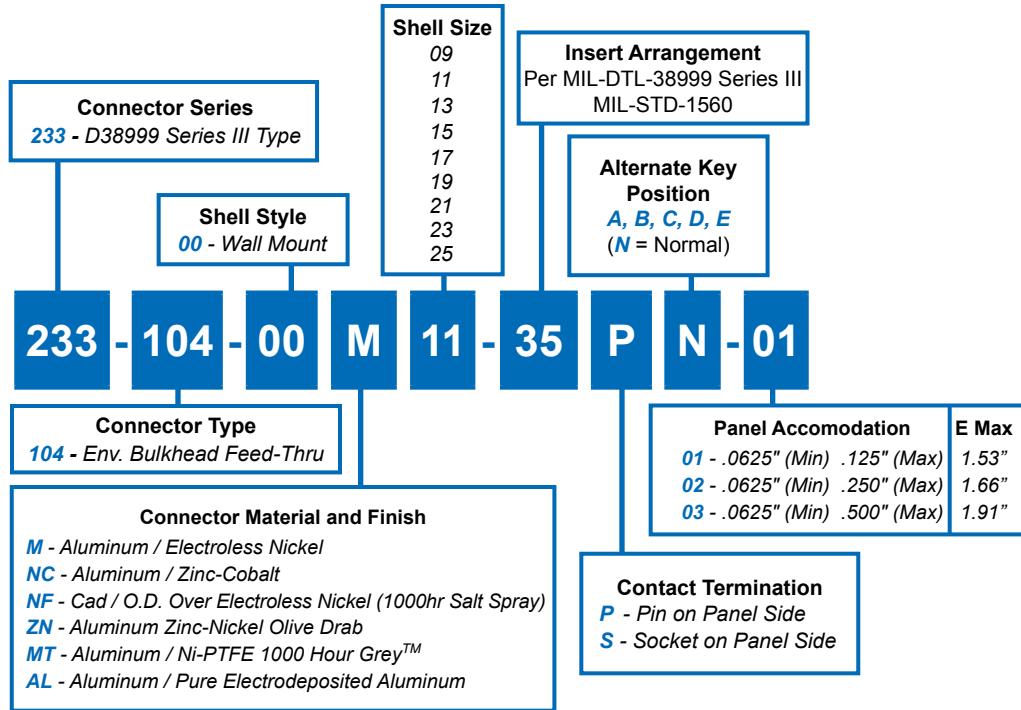


TABLE I: CONNECTOR DIMENSIONS

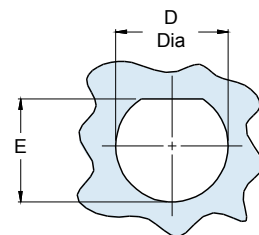
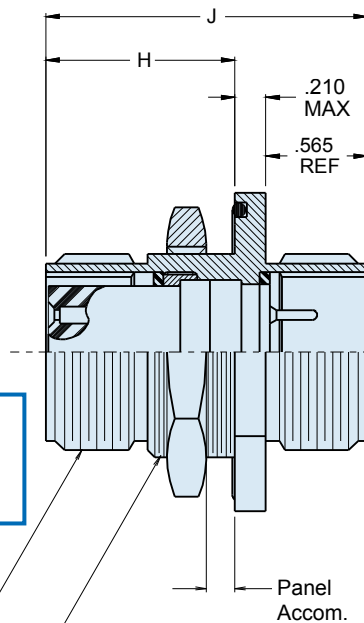
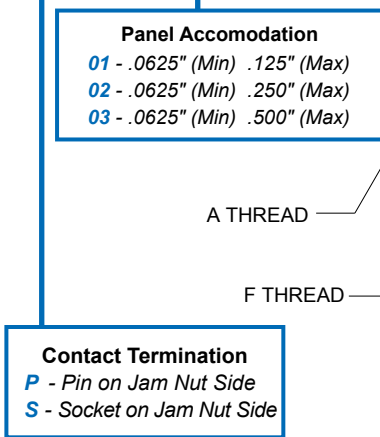
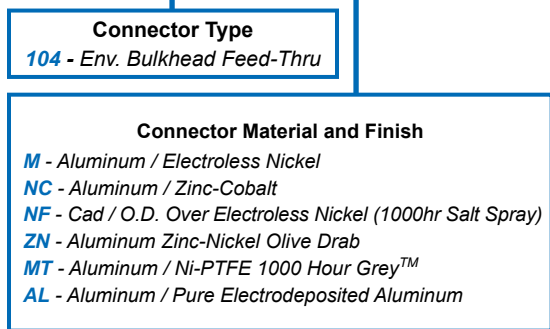
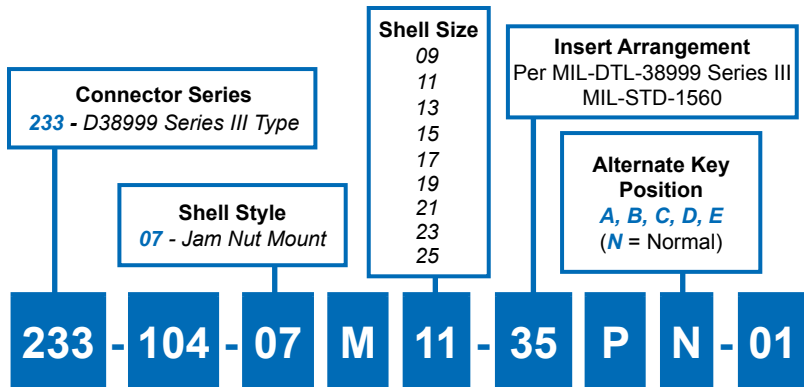
SHELL SIZE	A THREAD 0.1 P-0.3L-2A	B DIA. ± 0.010 (0.3)	C DIM.	D DIM.
09	.625	.128 (3.3)	.719 (18.3)	.938 (23.8)
11	.750	.128 (3.3)	.812 (20.6)	1.031 (26.2)
13	.875	.128 (3.3)	.906 (23.0)	1.125 (28.6)
15	1.000	.128 (3.3)	.969 (24.6)	1.219 (31.0)
17	1.188	.128 (3.3)	1.062 (27.0)	1.312 (33.3)
19	1.250	.128 (3.3)	1.156 (29.4)	1.438 (36.5)
21	1.375	.128 (3.3)	1.250 (31.8)	1.562 (39.7)
23	1.500	.156 (4.0)	1.375 (34.9)	1.688 (42.9)
25	1.625	.156 (4.0)	1.500 (38.1)	1.812 (46.0)

APPLICATION NOTES

- Material/finish:
Shell, lock ring—Al alloy, see Table II
Contacts—Copper alloy/
gold plate
Insulators—High grade
rigid dielectric/N.A.
Seals—Silicone/N.A.
- For symmetrical layouts
only. Power to a given
contact on one end
will result in power to
contact directly opposite,
regardless of identification
letter.
- Metric Dimensions
(mm) are indicated in
parentheses



233-104-07 Jam Nut Mount Environmental Bulkhead Feed-Thru MIL-DTL-38999 Series III Type



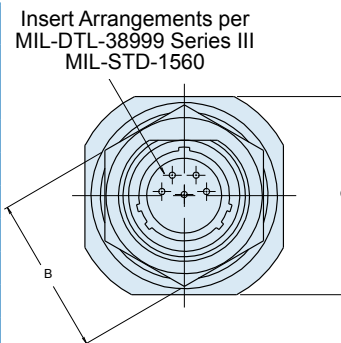
Recommended Panel Cut-Out

TABLE II: DASH NUMBERS

Dash No.	J Max	H Max
01	1.600 (40.6)	0.900 (22.9)
02	1.730 (43.9)	1.020 (25.9)
03	1.980 (50.3)	1.270 (32.3)

TABLE I: CONNECTOR DIMENSIONS

SHELL SIZE	A THREAD 0.1 P-0.3L-TS-2	B DIM	C DIM MAX	ØD +.010/-0.000 (+.25/-0)	E DIM +.000/-0.002 (+.0/-06)	F THREAD CLASS 2A
9	.6250	.875(22.2)	1.090(27.7)	.693(17.6)	.657(16.70)	.6875-24 UNEF
11	.7500	1.000(25.4)	1.280(32.5)	.825(21.0)	.771(19.58)	.8125-20 UNEF
13	.8750	1.250(31.8)	1.400(35.6)	1.010(27.6)	.995(24.26)	1.000-20 UNEF
15	1.0000	1.375(34.9)	1.530(38.9)	1.135(28.8)	1.085(27.56)	1.125-18 UNEF
17	1.1875	1.500(38.1)	1.660(42.2)	1.260(32.0)	1.210(30.73)	1.250-18 UNEF
19	1.2500	1.625(41.3)	1.840(46.7)	1.385(35.2)	1.335(33.91)	1.375-18 UNEF
21	1.3750	1.750(44.5)	1.970(50.5)	1.510(38.4)	1.460(37.08)	1.500-18 UNEF
23	1.5000	1.875(47.6)	2.090(53.1)	1.635(41.5)	1.585(40.26)	1.625-18 UNEF
25	1.6250	2.000(50.8)	2.210(56.1)	1.760(44.7)	1.710(43.43)	1.750-18 UNS

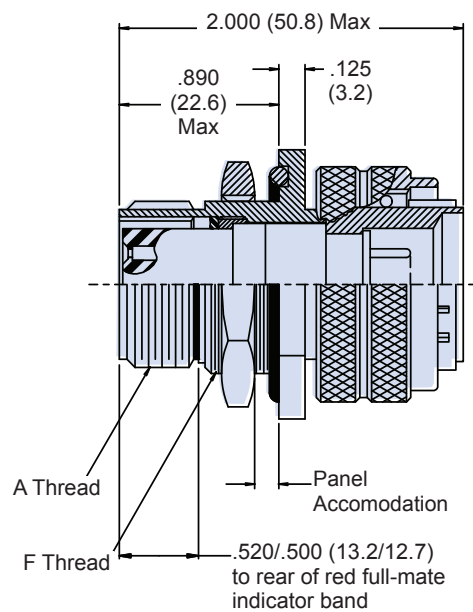
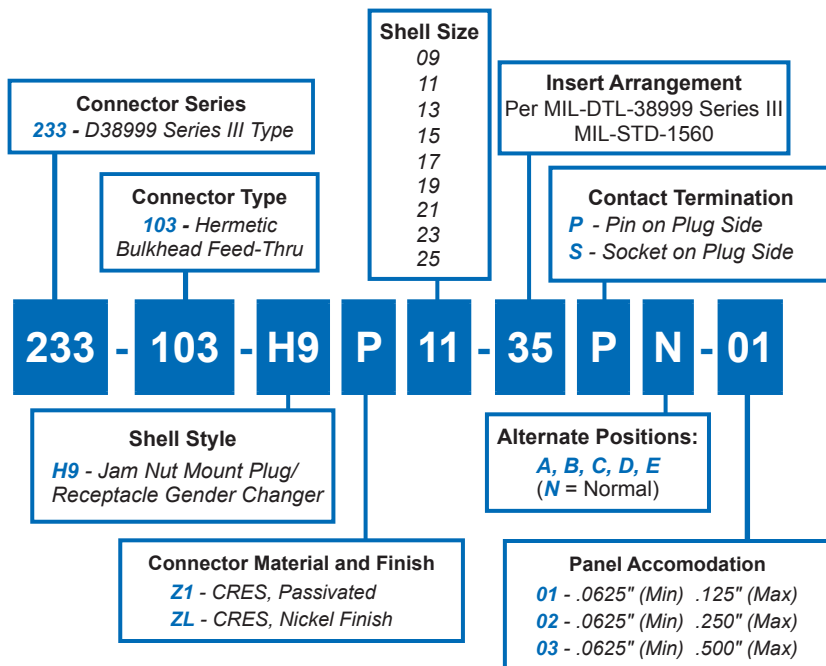


- APPLICATION NOTES**
- Assembly identified with Glenair name, part number and date code, space permitting.
 - For pin/pin and socket/socket, symmetrical layouts only. Consult factory for available insert arrangements
 - Power to a given contact on one end will result in power to contact directly opposite regardless of identification letter
 - Material/finish:
 Shell, locking, jam nut—Al alloy, see Table II
 Contacts—Copper alloy/gold plate
 Insulators—High grade rigid dielectric/N.A.
 Bayonet Pins—CRES/passivate
 Seals—Silicone/N.A.

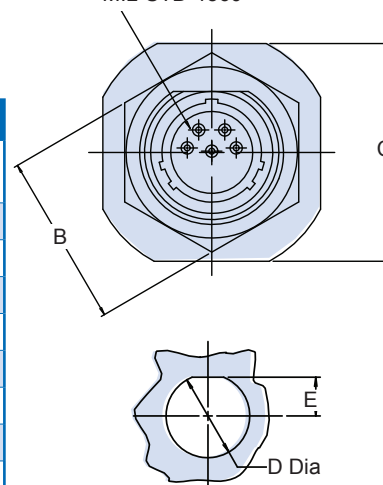
233-103-H9 Jam Nut Mount Hermetic Plug/Receptacle Bulkhead Feed-Thru for MIL-DTL-38999 Series III Type



Bulkhead
Feed-Thru



Insert Arrangements per MIL-DTL-38999 Series III MIL-STD-1560

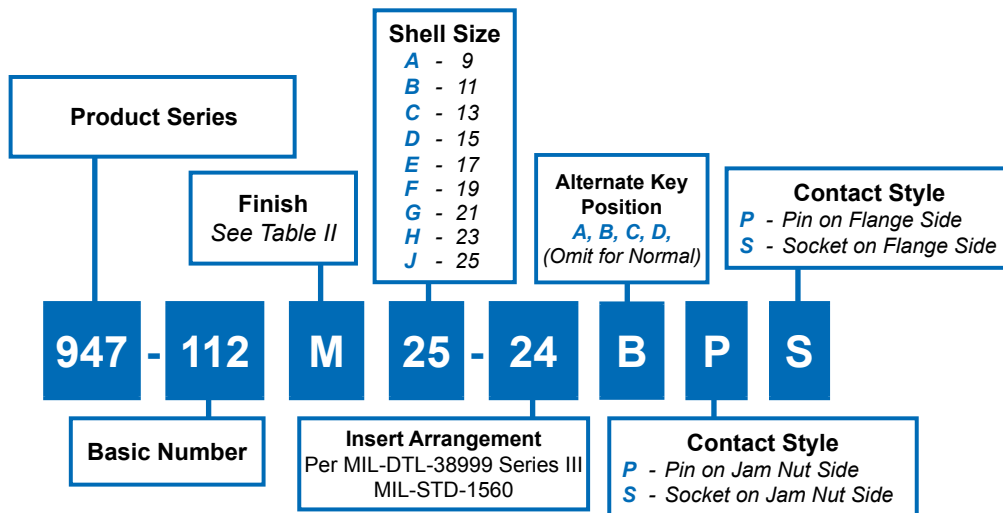


Recommended Panel Cut-Out

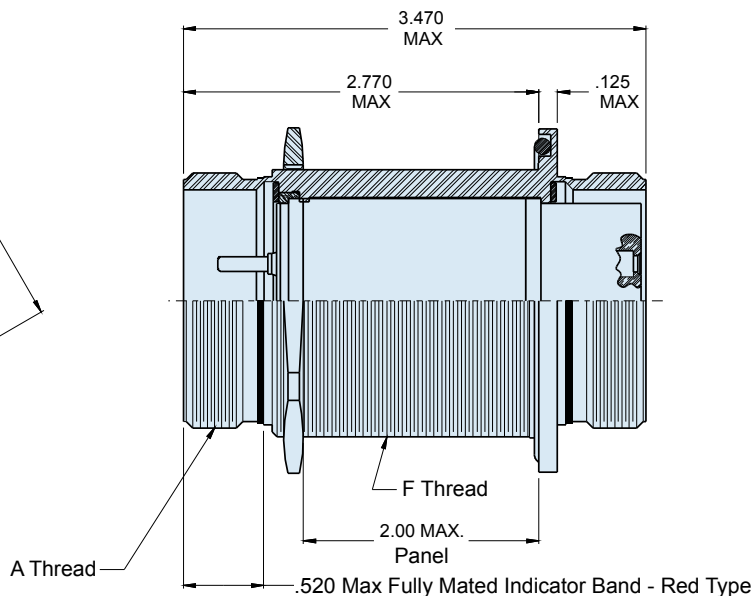
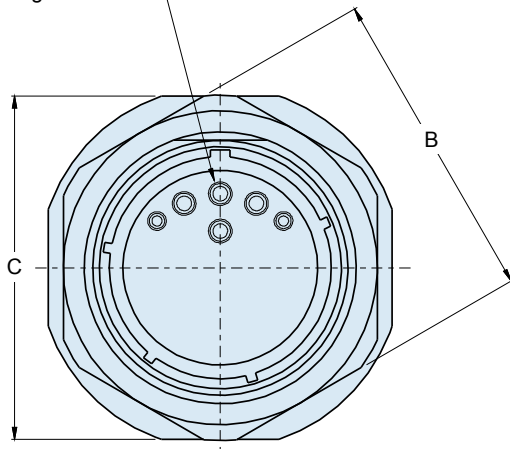
TABLE I: CONNECTOR DIMENSIONS						
SHELL SIZE	A THREAD 0.1 P-0.3L-TS-2	B DIM	C DIM MAX	D DIA	E DIM	F THREAD x1-6g-0.100R
9	.6250	.945(24.0)	1.090(27.7)	.698(17.7)	.322(8.9)	M17
11	.7500	1.063(27.0)	1.280(32.5)	.822(20.9)	.385(9.8)	M20
13	.8750	1.260(32.0)	1.400(35.6)	1.010(27.6)	.479(12.3)	M25
15	1.0000	1.417(36.0)	1.530(38.9)	1.135(28.8)	.541(13.7)	M28
17	1.1875	1.457(37.0)	1.660(42.2)	1.260(32.0)	.604(15.3)	M32
19	1.2500	1.614(41.0)	1.840(46.7)	1.385(35.2)	.635(16.1)	M35
21	1.3750	1.811(46.0)	1.970(50.5)	1.510(38.4)	.698(17.7)	M38
23	1.5000	1.968(50.0)	2.090(53.1)	1.635(41.5)	.760(19.3)	M41
25	1.6250	2.017(51.2)	2.210(56.1)	1.760(44.7)	.822(20.9)	M44

APPLICATION NOTES

- Power to a given contact on one end will result in power to contact directly opposite, regardless of identification letter.
- Hermeticity = less than 1×10^{-7} cc/sec at one atmosphere. Not for use in liquid atmosphere.
- Material/finish:
Shell, nut – CRES/passivated, carbon steel/fused tin or CRES/nickel per QQ-N-290.
- Contacts – Gold Plated. Pin: alloy 52; Skt.: copper alloy
Insulator – fused vitreous glass/N.A.
Seals – fluorosilicone rubber/N.A.



See MIL-STD-1560 for
Insert Arrangement



947-112
MIL-DTL-38999 Series III Type
Jam Nut Bulkhead Feed-Thru

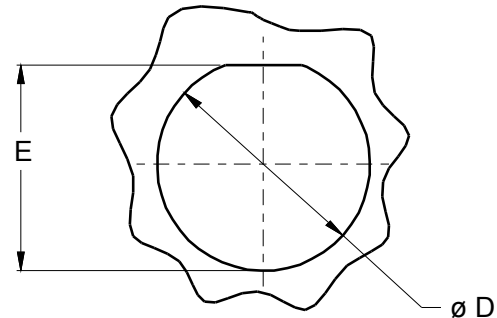


TABLE I: CONNECTOR DIMENSIONS

SHELL SIZE	A Thread 0.1P-0.3L-TS-2	B Dimension	C Dimension Max	D Diameter	E Dimension	F Thread x1-6g-0.100R
09	.6250	.875 (22.2)	1.08 (27.4)	6.98 (17.7)	.670 (17.0)	M17
11	.7500	1.000 (25.4)	1.27 (32.3)	.822 (20.9)	.771 (19.6)	M20
13	.8750	1.250 (31.8)	1.39 (35.3)	1.010 (27.6)	.995 (25.3)	M25
15	1.0000	1.375 (34.9)	1.52 (36.9)	1.135 (28.8)	1.085 (27.6)	M28
17	1.1875	1.500 (38.1)	1.64 (41.7)	1.260 (32.0)	1.210 (30.7)	M32
19	1.2500	1.625 (41.3)	1.83 (46.5)	1.385 (35.2)	1.335 (33.9)	M35
21	1.3750	1.750 (44.5)	1.95 (49.5)	1.510 (38.4)	1.460 (37.1)	M38
23	1.5000	1.875 (47.6)	2.08 (52.8)	1.635 (41.5)	1.585 (40.3)	M41
25	1.6250	2.000 (50.8)	2.20 (55.9)	1.760 (44.7)	1.710 (43.4)	M44

TABLE II: MATERIALS AND FINISH

SYM	FINISH
B	Cadmium Plate / Olive Drab
J	Gold Iridite over Cadmium Plate over Nickel
M	Electroless Nickel
N	Cadmium Plate / Olive Drab over Nickel
NF	Cadmium / Olive Drab over Electroless Nickel Nickel (500 Hour Salt Spray)
T	Cadmium Plate / Bright Dip Over Nickel



RECOMMENED PANEL CUT-OUT

APPLICATION NOTES

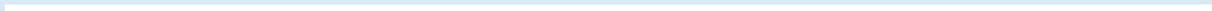
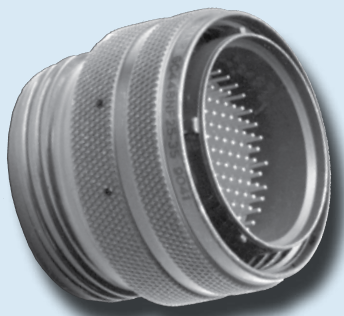
1. Assembly identified with manufacturers name and part number
2. Electrical safety limits must be established by user, peak voltage, switching surge, transient, etc. should be used to determine the safety applications.
3. Material/ Finishes:
Shells, Jam Nut - AL Alloy
Insulators- High Grade Rigid Dielectric/ N.A
Seals- Fluorosilicone/ N.A.

Glenair MIL-DTL-38999 Type Sav-Con® Connector Savers

SECTION F TABLE OF CONTENTS

GLENAIR MIL-DTL-38999 TYPE CONNECTOR SAVERS:

Glenair MIL-DTL-38999 Type Sav-Con® Connector Saver Product Features.....	F-1
Sav-Con® Connector Saver Lock Ring Selection and Use.....	F-2
MIL-DTL-38999 Sav-Con® Material and Finish Specifications.....	F-3
942-003 Series I Type Sav-Con® Plug/Receptacle Connector Saver.....	F-4
GC443 Series I Type Sav-Con® Plug/Plug In-Line Connector Saver.....	F-6
942-004 Series II Type Sav-Con® Plug/Receptacle Connector Saver.....	F-8
942-005 Series III Type Sav-Con® Plug/Receptacle Connector Saver.....	F-10
947-221 Series III Type Sav-Con® Plug/Plug In-Line Connector Saver.....	F-12
947-139 Series III Type Sav-Con® Pin/Pin or Socket/Socket In-Line Connector Saver.....	F-14
942-021 Series III Type Sav-Con® MIL-STD-1760 Connector Saver.....	F-16



The Smart Solution for Preventing Contact Damage and Extending the Service Life of Cable Assemblies

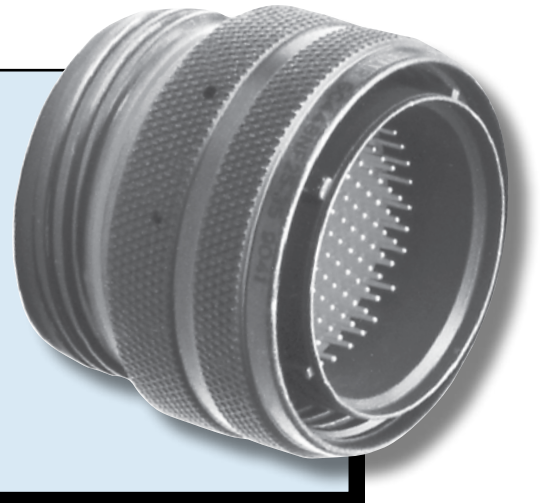
Product Applications

Glenair Sav-Con® Connector Savers are designed to protect connectors that are subject to repeated mating and unmating cycles. Sav-Con® Connector Savers prevent costly repair or replacement of expensive connectors and cables while preserving the quality and integrity of connector performance. Sav-Con® Connector Savers take the abuse of repeated connection cycles instead of “black box” or other equipment connectors. Equipment connectors that are mated and unmated frequently during manufacturing, check-out phases and environmental test

design adds resistance to a circuit equal to a mated pin and socket contact, thus it has little or no effect on sensitive circuits.

When a Sav-Con® Connector Saver is installed between a receptacle and a plug, the effective additional length is less than the length of an equivalent mated plug and receptacle. When using bayonet coupled Sav-Con® Connector Savers, Glenair recommends our Lock Ring design feature in applications where large cable bundles may

*For MIL-DTL-38999 Series I, II and III Connectors
All Standard Materials and Finish Platings
Environmental and Hermetic Designs Available
Gender Changers
Optional Locking Mechanism
Keyed Polarization
Fully Repairable*



programs can be protected by Glenair Sav-Con® Connector Savers at considerable savings in time and money.

Glenair Sav-Con® Connector Savers feature one-piece, non-removable pin/socket contacts for maximum reliability and minimum effect on circuit resistance. Each Glenair Sav-Con® Connector Saver series meets the same durability requirements as the Military Specification series with which it mates. The mating portions of the pin-and-socket contacts are in strict compliance with the applicable Military Specification contacts used in each connector series. The one-piece

induce unwanted stress to the coupling mechanism and potential unwanted contact displacement (see page E-2).

Catalog contents—including part numbers, materials and dimensions—are accurate to the best of our ability when we go to print. Even so, customers are advised to consult the factory for the latest specifications, particularly to confirm critical dimensions such as connector lengths, threads, and so on. When errors or mistakes are brought to our attention, corrected content is posted immediately to our website: www.glenair.com.

Lock Ring Prevents Accidental Disengagement of Mated Connectors

For Bayonet Coupling Only

The Coupling Nut:

This feature eliminates the wave spring inside the coupling nut, thus providing positive metal-to-metal bottoming out of the plug side of the Sav-Con® Connector Saver to the mating receptacle. This is a desirable option in the following applications:

Locking a Sav-Con® to a receptacle:

Locking a Sav-Con® Connector Saver to a receptacle can prevent accidental or unauthorized unmating. This can insure that the equipment receptacle remains in its unused condition prior to delivery.

Locking a Sav-Con® to reduce lateral forces:

Lateral forces caused by a heavy cable can be reduced when the Sav-Con® Connector Saver is locked to the equipment receptacle. On high-density connectors that have a limited pin-and-socket engagement length, the force applied by a heavy cable can collapse the wave spring and create unwanted discontinuities in the mated contacts.

Locking a Sav-Con® when delivered to end-user:

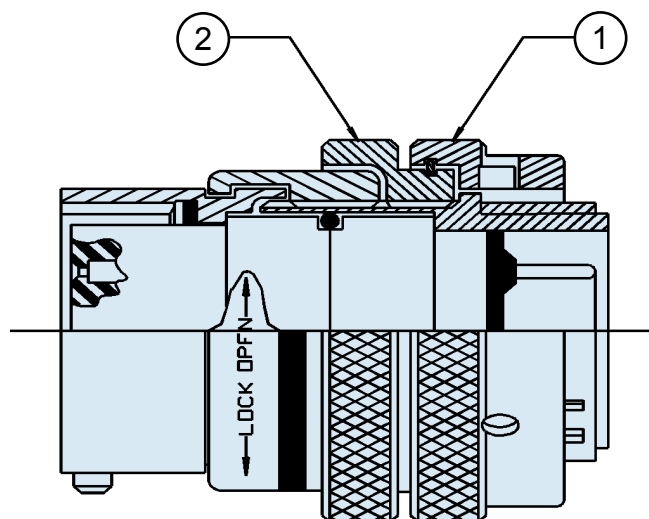
When equipment is delivered to the end-user, the Sav-Con® Connector Saver may be locked to its mating receptacle to insure that the receptacles mounted on the equipment will remain unused until final installation of the equipment.

Locking a Sav-Con® to a cable mounted plug:

It is often desirable to lock a Sav-Con® Connector Saver on a cable-mounted plug coupler to prevent accidental disconnect of the Sav-Con®.

Sav-Con® Lock Ring Engagement and Disengagement Steps:

1. To engage the plug portion of the saver, first insure that the Lock Ring (2) is in the fully open position by turning the Lock Ring by hand clockwise until it stops.
2. Couple (1) to the Mating receptacle.
Note: Pins should be visible in the three holes of the Coupling Ring (1).
3. To lock the Sav-con®, turn the Lock Ring (2) counter-clockwise by hand until it stops. This will seat the bayonet pins.
4. Dis-Engagement is the reverse of steps 3 and 2. Turn Lock Ring (2) to the open position clockwise by hand until it stops. Then rotate the Coupling Ring (1) counter-clockwise until all contacts are separated.



**MIL-DTL-38999 Series I, II and III
Sav-Con® Connector Saver
Material and Finish Specifications**



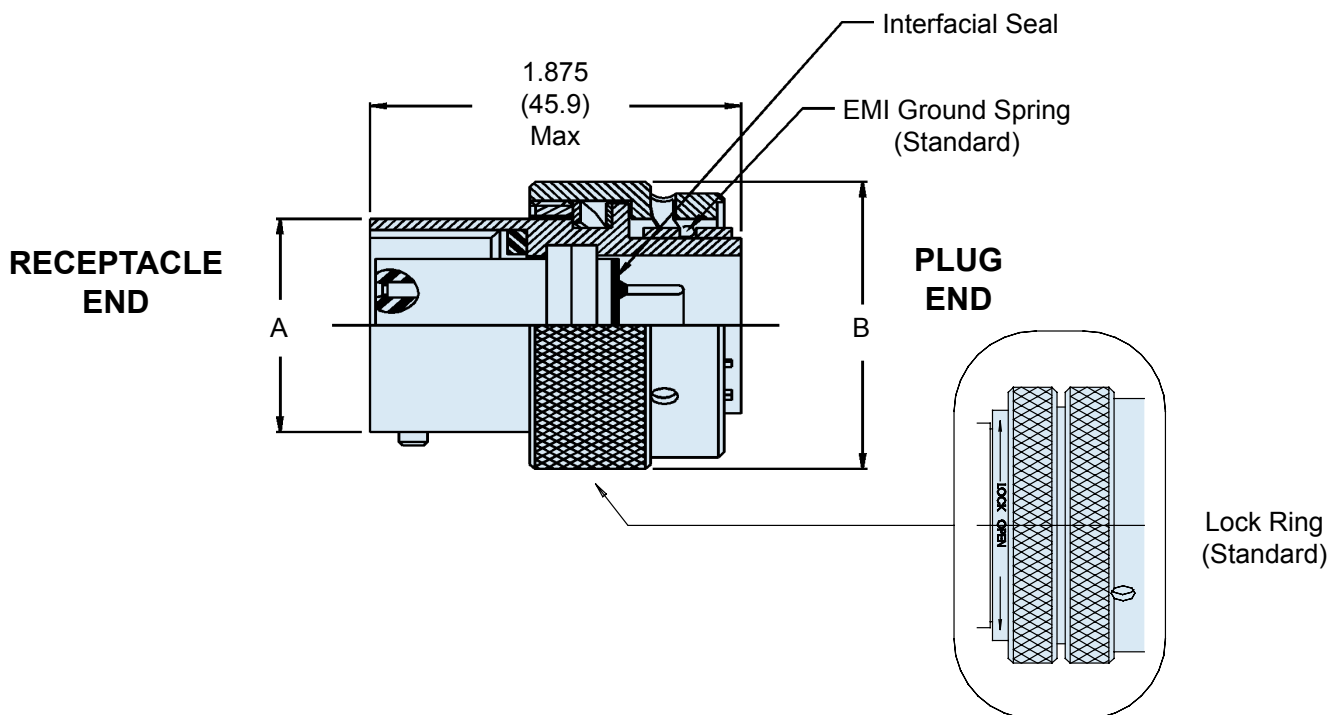
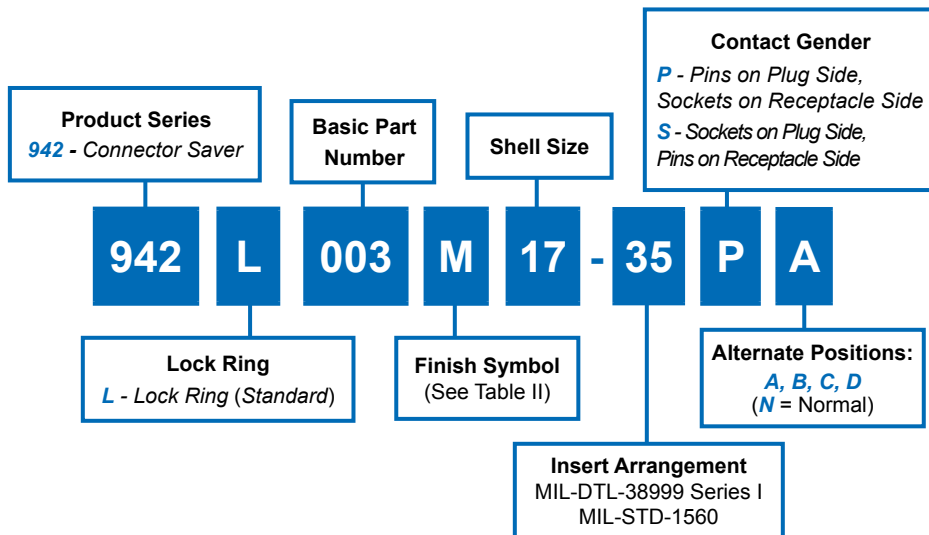
TABLE I: MATERIALS AND FINISHES

Shell, Barrel, and Coupling Nut (Environmental)	Aluminum alloy 6061-T6 per ASTM-B 211, 221
Front and Rear Insulators	Glass-filled liquid crystal polymer (LCP) in accordance with MIL-M-24519, Type GLP-30F
Contact Retention Clip	Beryllium copper, heat-treated, unplated
Grommet, Peripheral Seal and Interfacial Seal	Blended elastomer, 30% silicone per ZZ-R-765, 70% fluorosilicone per MIL-R-25988
Pin / Socket Contacts (Environmental)	Copper Alloy / Gold Plate
Socket Contact Hoods	Corrosion Resistant Steel IAW AISI303 Passivate QQ-P-35
Wave Spring (Bayonet Versions)	Stainless Steel 17-7PH, Condition C Passivate QQ-P-35
EMI Ground Springs	Beryllium Copper, Gold Plate MIL-G-45204
Adhesives	Silicone and epoxy
Potting Compound, PCB and Solder Cup Versions	Environmental and Hermetic Connectors: High-strength epoxy, Hysol EE4215. Filter Connectors: Stycast 2850FT/Catalyst 11 thermally conductive epoxy encapsulant.

TABLE II: MASTER SHELL FINISHES

Plating Code	Material	Finish	Specification
M	Aluminum	Electroless Nickel	AMS-C-26074
B	Aluminum	Cad Plate, Olive Drab	AMS-QQ-P-416, Type II, Class 3
NF	Aluminum	Cadmium Plate Olive Drab over Electroless Nickel	AMS-QQ-P-416, over AMS-C-26074 (1000 Hour Salt Spray)
NC	Aluminum	Zinc-Cobalt	ASTMB840
ZN	Aluminum	Olive Drab Zinc-Nickel	Zinc alloy per ASTM B841-91, Class 1 Type E Grade 3 over Electroless nickel per ASTM B733-90 SC2, Type 1 Class 5
MT	Aluminum	Ni-PTFE 1000 Hour Grey™ (Nickel Fluorocarbon Polymer)	MIL-DTL-38999L (500 Hour Salt Spray)

942-003
Sav-Con® Connector Saver
Plug/Receptacle
 for Use with MIL-DTL-38999 Series I

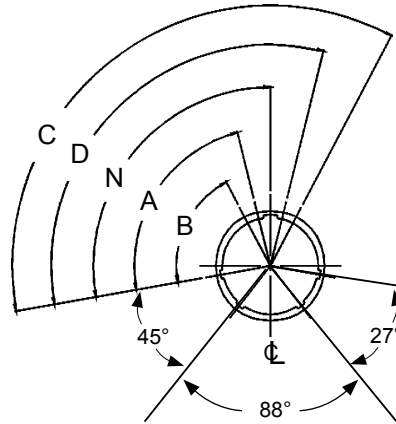


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942-003
Sav-Con® Connector Saver
Plug/Receptacle
 for Use with MIL-DTL-38999 Series I



Sav-Con®
 Connector
 Savers



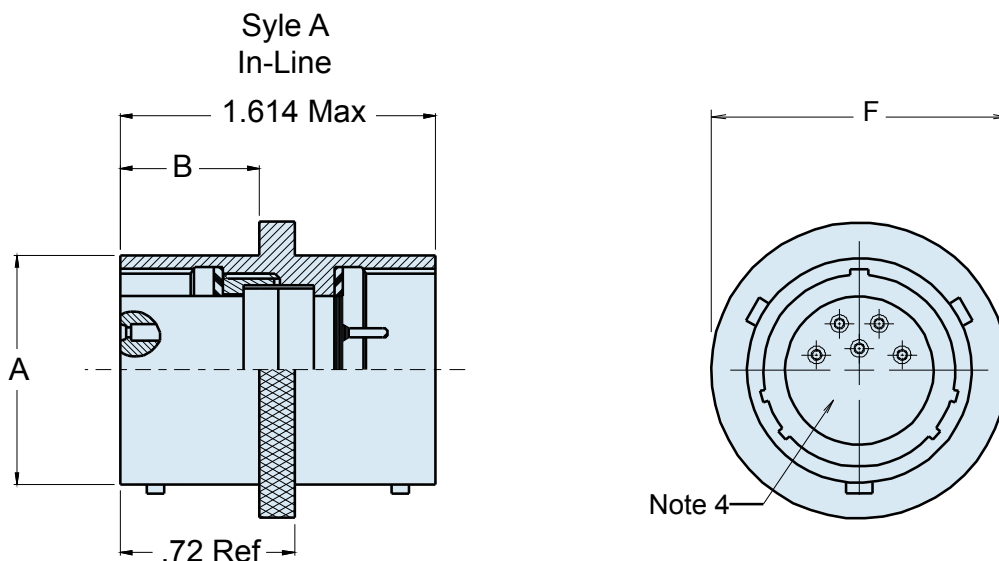
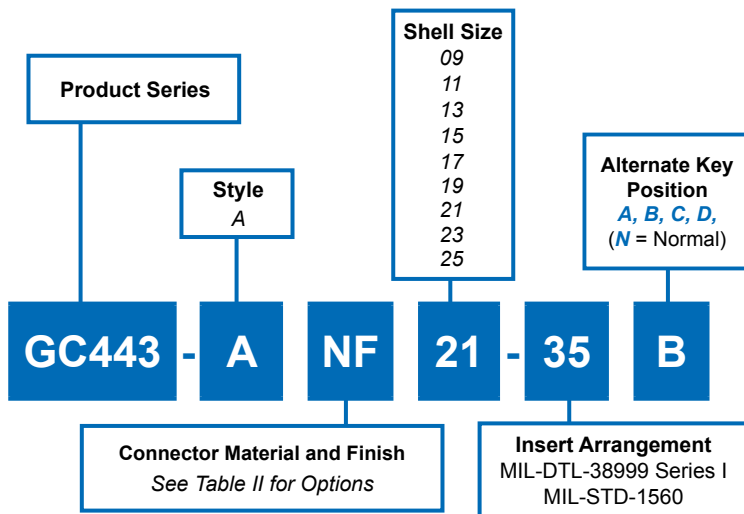
FACE VIEW
 RECEPTACLE

SERIES I: ALTERNATE KEYWAY POSITIONS					
SHELL SIZE	N°	A°	B°	C°	D°
09	95	77	--	--	113
11	95	81	67	123	109
13	95	75	63	127	115
15	95	74	61	129	116
17	95	77	85	125	113
19	95	77	65	125	113
21	95	77	65	125	113
23	95	80	69	121	110
25	95	80	69	121	110

TABLE II: SHELL FINISHES		
Plating Code	Material	Finish
M	Aluminum	Electroless Nickel
B	Aluminum	Cad Plate, Olive Drab
NF	Aluminum	Cadmium Plate Olive Drab over Electroless Nickel
NC	Aluminum	Zinc-Cobalt
ZN	Aluminum	Olive Drab Zinc-Nickel
MT	Aluminum	Ni-PTFE 1000 Hour Grey™ (Nickel Fluorocarbon Polymer)

TABLE I: CONNECTOR DIMENSIONS		
SHELL SIZE	A Max	B Diameter Max
09	.573 (14.6)	.910 (23.1)
11	.701 (17.8)	1.035 (26.3)
13	.851 (21.6)	1.210 (30.7)
15	.976 (24.8)	1.330 (33.8)
17	1.101 (28.0)	1.455 (37.0)
19	1.208 (30.7)	1.570 (39.9)
21	1.333 (33.9)	1.695 (43.1)
23	1.458 (37.0)	1.800 (45.7)
25	1.583 (40.2)	1.925 (48.9)





APPLICATION NOTES

- | | |
|--|---|
| <p>1. Assembly identified with manufacturer's name and part number, space permitting</p> <p>2. Material/finish:
Shell assembly—Al alloy/see Table II
Bayonet pins—CRES/passivate</p> | <p>Contacts—copper alloy/gold plate
Insulators—high-grade rigid dielectric/N.A.
Interfacial & peripheral seals—silicone/ N.A.</p> <p>3. Metric Dimensions (mm) are indicated in parentheses</p> <p>4. See MIL-DTL-38999 for Insert Arrangements</p> |
|--|---|

GC443
In-Line/Flange Mount Receptacle • Plug/Plug
MIL-DTL-38999 Series I Type



Sav-Con®
 Connector
 Savers

TABLE II: SHELL FINISHES

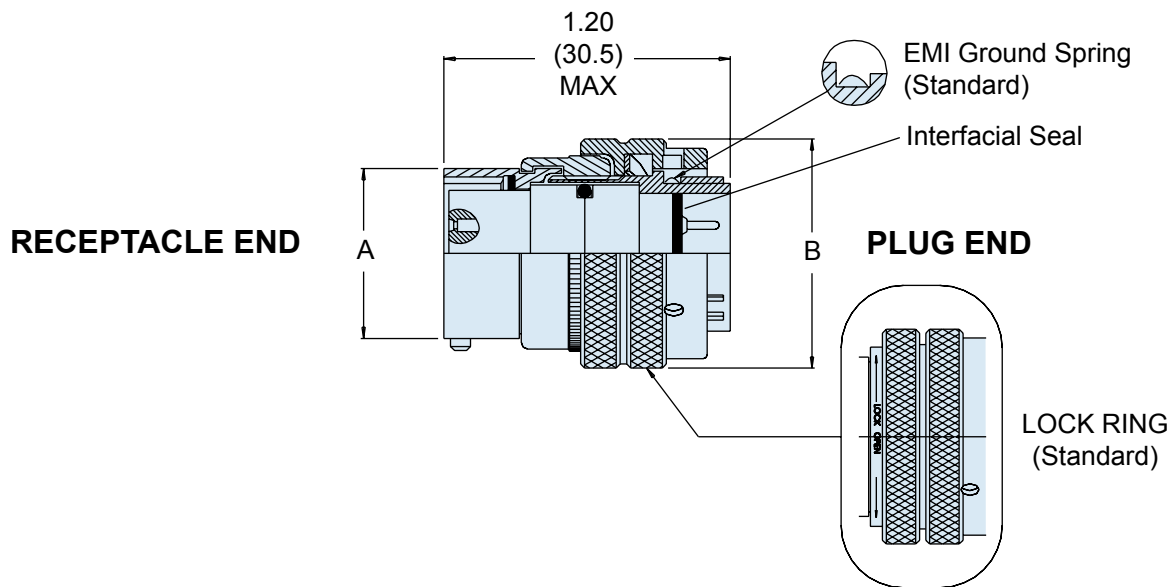
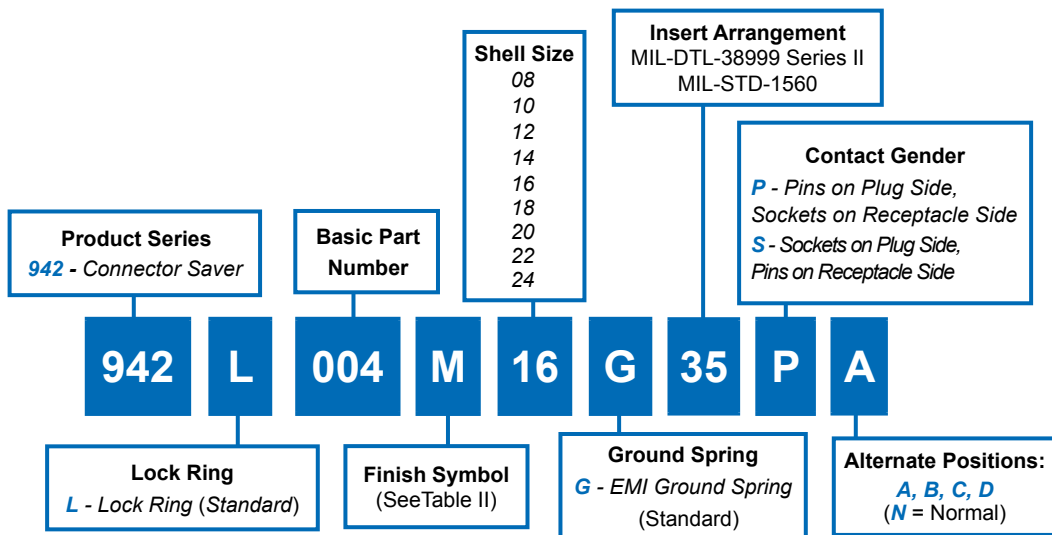
Plating Code	Material	Finish
M	Aluminum	Electroless Nickel
B	Aluminum	Cad Plate, Olive Drab
NF	Aluminum	Cadmium Plate Olive Drab over Electroless Nickel
NC	Aluminum	Zinc-Cobalt
ZN	Aluminum	Olive Drab Zinc-Nickel
MT	Aluminum	Ni-PTFE 1000 Hour Grey™ (Nickel Fluorocarbon Polymer)

TABLE I: CONNECTOR DIMENSIONS

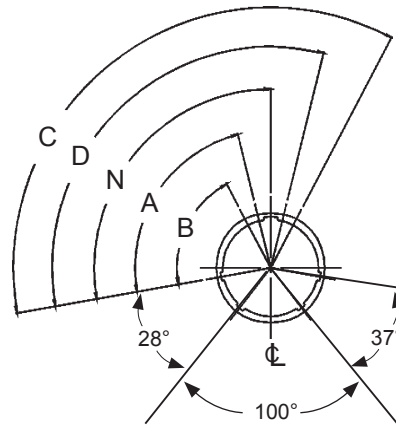
SHELL SIZE	A DIA MAX	B DIA MAX	C +.010-.005 (+0.3-0.1)	D DIM	E DIM ±.020(0.5)	F DIA MAX
09	.573(14.6)	.632(16.1)	.128(3.3)	.719(18.3)	.938(23.8)	.859(21.8)
11	.701(17.8)	.632(16.1)	.128(3.3)	.812(20.6)	1.031(26.2)	.984(25.0)
13	.851(21.6)	.632(16.1)	.128(3.3)	.906(23.0)	1.125(28.6)	1.156(29.4)
15	.976(24.8)	.632(16.1)	.128(3.3)	.969(24.6)	1.219(31.0)	1.281(32.5)
17	1.101(28.0)	.632(16.1)	.128(3.3)	1.062(27.0)	1.312(33.3)	1.406(35.7)
19	1.208(30.7)	.632(16.1)	.128(3.3)	1.156(29.4)	1.438(36.5)	1.516(38.5)
21	1.333(33.9)	.602(15.3)	.147(3.7)	1.250(31.8)	1.562(39.7)	1.641(41.7)
23	1.458(37.0)	.602(15.3)	.147(3.7)	1.375(34.9)	1.688(42.9)	1.766(44.9)
25	1.583(40.2)	.602(15.3)	.147(3.7)	1.500(38.1)	1.812(46.0)	1.891(48.0)

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942-004
Sav-Con® Connector Saver
Plug/Receptacle
 for Use with MIL-DTL-38999 Series II



942-004
**Sav-Con® Connector Saver
 Plug/Receptacle**
 for Use with MIL-DTL-38999 Series II



FACE VIEW
 RECEPTACLE

SERIES II: ALTERNATE KEYWAY POSITIONS

SHELL SIZE	N°	A°	B°	C°	D°
08	100	82	--	--	118
10	100	86	72	128	114
12	100	80	68	132	120
14	100	79	66	134	121
16	100	82	70	130	118
18	100	82	70	130	118
20	100	82	70	130	118
22	100	85	74	126	115
24	100	85	74	125	115

TABLE II: SHELL FINISHES

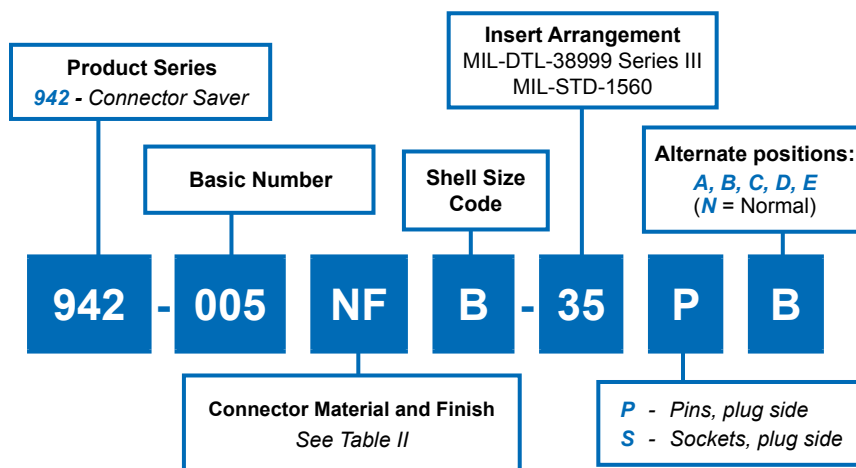
Plating Code	Material	Finish
M	Aluminum	Electroless Nickel
B	Aluminum	Cad Plate, Olive Drab
NF	Aluminum	Cadmium Plate Olive Drab over Electroless Nickel
NC	Aluminum	Zinc-Cobalt
ZN	Aluminum	Olive Drab Zinc-Nickel
MT	Aluminum	Ni-PTFE 1000 Hour Grey™ (Nickel Fluorocarbon Polymer)

TABLE I: CONNECTOR DIMENSIONS

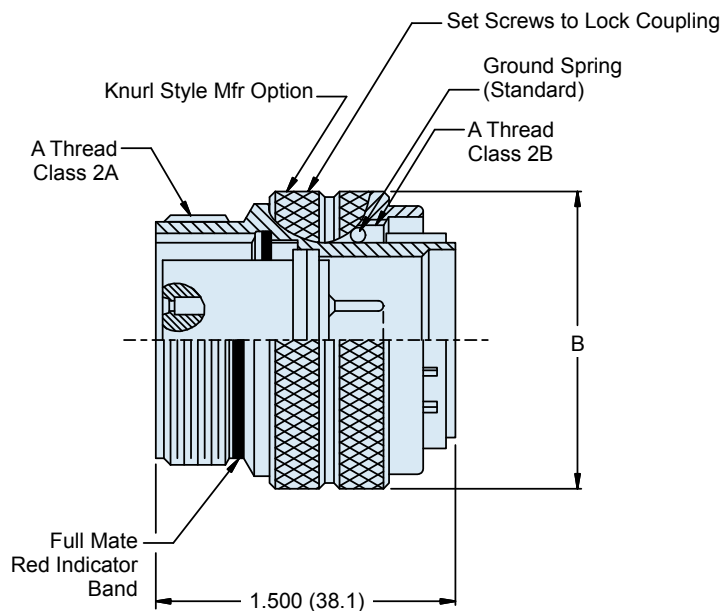
SHELL SIZE	A MAX.	B MAX.
08	.474 (12.0)	.750 (19.1)
10	.591 (15.0)	.859 (21.8)
12	.751 (19.1)	1.031 (26.2)
14	.875 (22.2)	1.156 (29.4)
16	1.001 (25.4)	1.281 (32.5)
18	1.126 (28.6)	1.406 (35.7)
20	1.251 (31.8)	1.531 (38.9)
22	1.376 (35.0)	1.656 (42.1)
24	1.501 (38.1)	1.777 (45.1)



942-005 Sav-Con® Connector Saver Plug/Receptacle for Use with MIL-DTL-38999 Series III



SHELL SIZE	SHELL SIZE CODE	A THREAD 0.1P-0.3L-TS-2	B DIA MAX
09	A	.6250	.859
11	B	.7500	.969
13	C	.8750	1.141
15	D	1.0000	1.266
17	E	1.1875	1.391
19	F	1.2500	1.500
21	G	1.3750	1.625
23	H	1.5000	1.750
25	J	1.6250	1.875



APPLICATION NOTES

- Assembly features straight-thru double ended socket contacts. Power to a given contact on one end will result in power to contact directly opposite regardless of identification.
 - Metric dimensions (mm) are indicated in parentheses.
 - Material/finish:
Barrel/shell, coupling nut, lock ring—Al alloy
- Contacts, grounding ring—Copper Al alloy/gold plate
Detent spring—Corrosion resistant material
Retaining device—CRES/passivate
O-ring, interfacial & peripheral seals—Fluorosilicone/N.A.
Insulators—High grade rigid dielectric/ N.A.

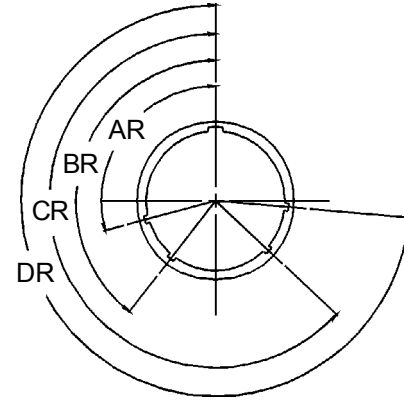
942-005
Sav-Con® Connector Saver
Plug/Receptacle
 for Use with MIL-DTL-38999 Series III



Sav-Con®
Connector
Savers



TABLE II: SHELL FINISHES		
Plating Code	Material	Finish
M	Aluminum	Electroless Nickel
B	Aluminum	Cad Plate, Olive Drab
NF	Aluminum	Cadmium Plate Olive Drab over Electroless Nickel
NC	Aluminum	Zinc-Cobalt
ZN	Aluminum	Olive Drab Zinc-Nickel
MT	Aluminum	Ni-PTFE 1000 Hour Grey™ (Nickel Fluorocarbon Polymer)



FACE VIEW
RECEPTACLE

SERIES III: ALTERNATE KEYWAY POSITIONS						
Shell Size Code	Shell Size Ref	Alternate Keyway Code	AR°	BR°	CR°	DR°
A	09	N	105	140	215	265
		A	102	132	248	320
		B	80	118	230	312
		C	35	140	205	275
		D	64	155	234	304
		E	91	131	197	240
B C D	11 13 15	N	95	141	208	236
		A	113	156	182	292
		B	90	145	195	252
		C	53	156	220	255
		D	119	146	176	298
		E	51	141	184	242
E F	17 19	N	80	142	196	293
		A	135	170	200	310
		B	49	169	200	244
		C	66	140	200	257
		D	62	145	180	280
		E	79	153	197	272
G H J	21 23 25	N	80	142	196	293
		A	135	170	200	310
		B	49	169	200	244
		C	66	140	200	257
		D	62	145	180	280
		E	79	153	197	272

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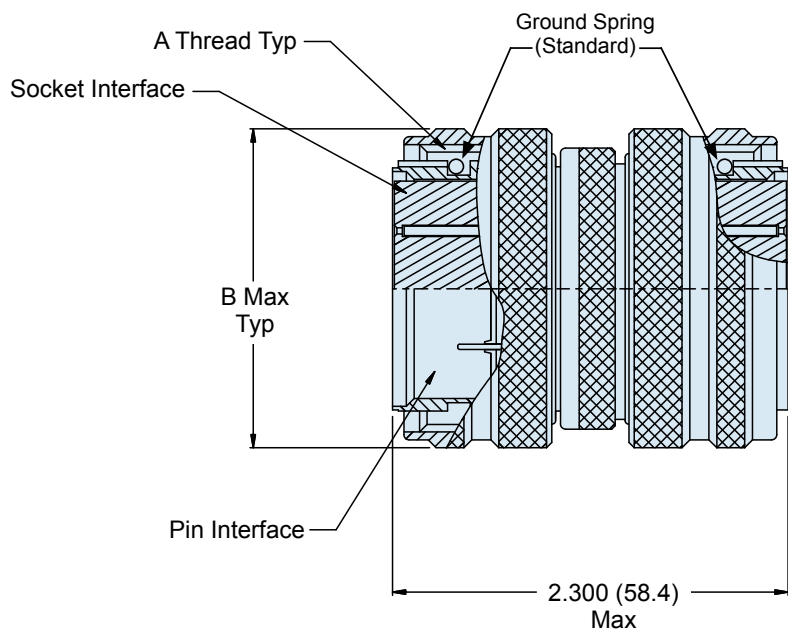
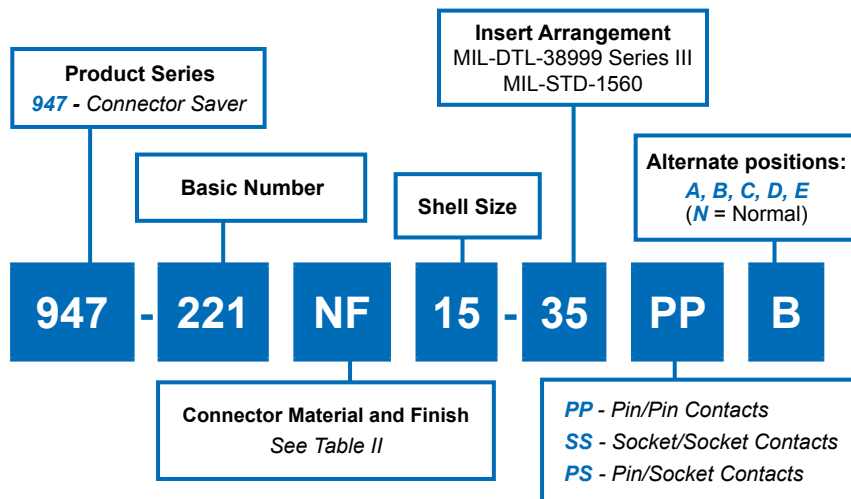


TABLE I: CONNECTOR DIMENSIONS		
SHELL SIZE	A THREAD 0.1 P-0.3L-TS-2	B DIA MAX
09	0.6250	.859(21.8)
11	0.7500	.969(24.6)
13	0.8750	1.141(29.0)
15	1.0000	1.266(32.2)
17	1.1875	1.391(35.3)
19	1.2500	1.500(38.1)
21	1.3750	1.625(41.3)
23	1.5000	1.750(44.5)
25	1.6250	1.875(47.6)

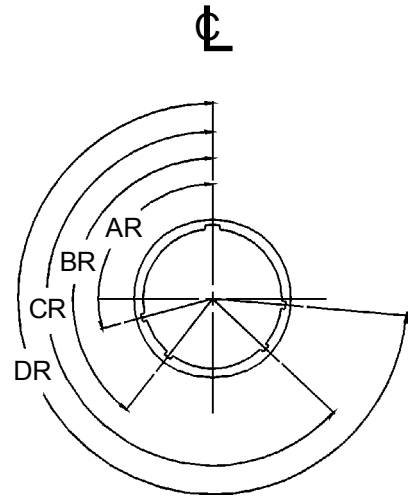
APPLICATION NOTES

1. Assembly features straight-thru double-ended contacts, power to a given contact on one end will result in power to contact directly opposite, regardless of identification.
2. Symmetrical layout only, Consult factory for available insert arrangements.
3. Metric dimensions (mm) are indicated in parentheses.
4. Material/finish: Barrel, adapter, junction nuts, coupling nuts—Al alloy/see Table I. Insulators—High grade rigid dielectric/N.A. Contacts—Copper alloy/gold plate

947-221
Sav-Con® Connector Saver
Plug/Plug In-Line Connector
 for Use with MIL-DTL-38999 Series III



TABLE II: SHELL FINISHES		
Plating Code	Material	Finish
M	Aluminum	Electroless Nickel
B	Aluminum	Cad Plate, Olive Drab
NF	Aluminum	Cadmium Plate Olive Drab over Electroless Nickel
NC	Aluminum	Zinc-Cobalt
ZN	Aluminum	Olive Drab Zinc-Nickel
MT	Aluminum	Ni-PTFE 1000 Hour Grey™ (Nickel Fluorocarbon Polymer)



FACE VIEW
 RECEPTACLE

SERIES III: ALTERNATE KEYWAY POSITIONS						
Shell Size Code	Shell Size Ref	Alternate Keyway Code	AR°	BR°	CR°	DR°
A	09	N	105	140	215	265
		A	102	132	248	320
		B	80	118	230	312
		C	35	140	205	275
		D	64	155	234	304
B C D	11 13 15	N	95	141	208	236
		A	113	156	182	292
		B	90	145	195	252
		C	53	156	220	255
		D	119	146	176	298
E F	17 19	N	80	142	196	293
		A	135	170	200	310
		B	49	169	200	244
		C	66	140	200	257
		D	62	145	180	280
G H J	21 23 25	N	80	142	196	293
		A	135	170	200	310
		B	49	169	200	244
		C	66	140	200	257
		D	62	145	180	280
		E	79	153	197	272



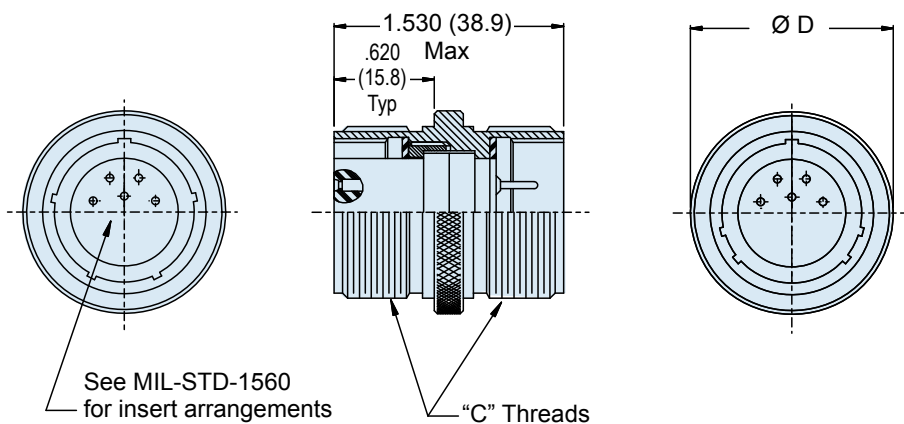
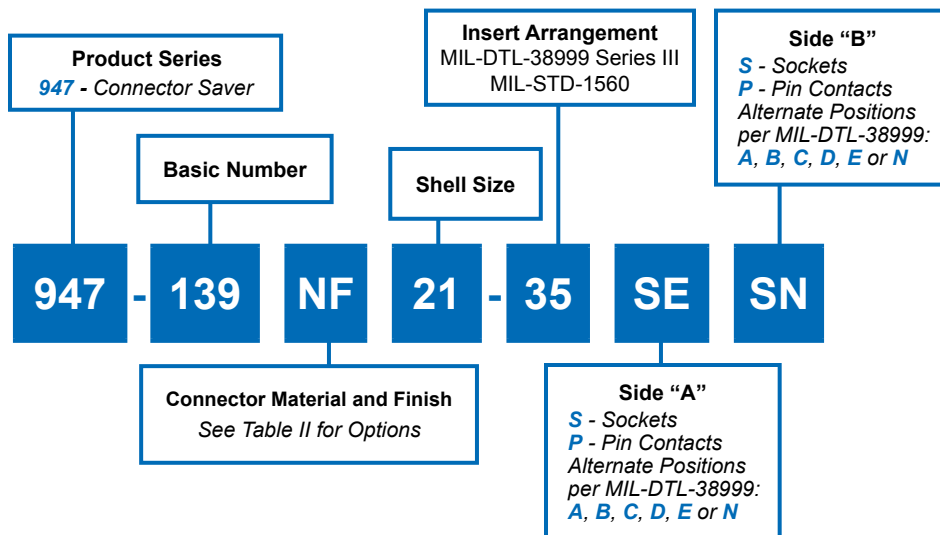


TABLE I: CONNECTOR DIMENSIONS		
SHELL SIZE	C THREAD	Ø D MAX
09	.625-1P-.3L-2A	.859
11	.750-1P-.3L-2A	.984
13	.875-1P-.3L-2A	1.156
15	1.000-1P-.3L-2A	1.281
17	1.187-1P-.3L-2A	1.406
19	1.250-1P-.3L-2A	1.516
21	1.375-1P-.3L-2A	1.641
23	1.500-1P-.3L-2A	1.766
25	1.625-1P-.3L-2A	1.891

APPLICATION NOTES

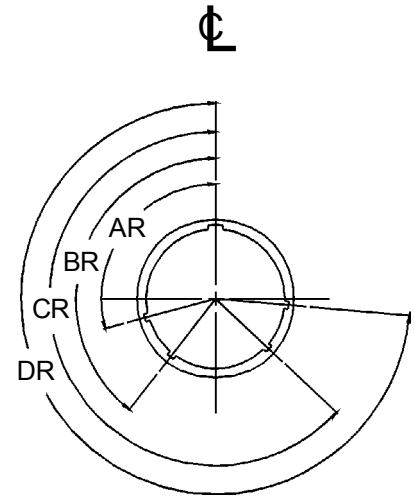
- For pin/pin and skt/skt symmetrical layouts only. Consult factory for available insert arrangements.
- Power to a given contact on one end will result in power to the contact directly opposite, regardless of identification marking.
- Metric dimensions (mm) are indicated in parentheses.
- Material/finish:
Shell assembly—Al alloy/see Table II
Contacts—Copper alloy/gold plate
Insulators—High-grade rigid dielectric/ N.A.
Seals—Silicone/ N.A

947-139
Sav-Con® Connector Saver
Pin/Pin or Socket/Socket In-Line Connector
for Use with MIL-DTL-38999 Series III



Sav-Con®
Connector
Savers

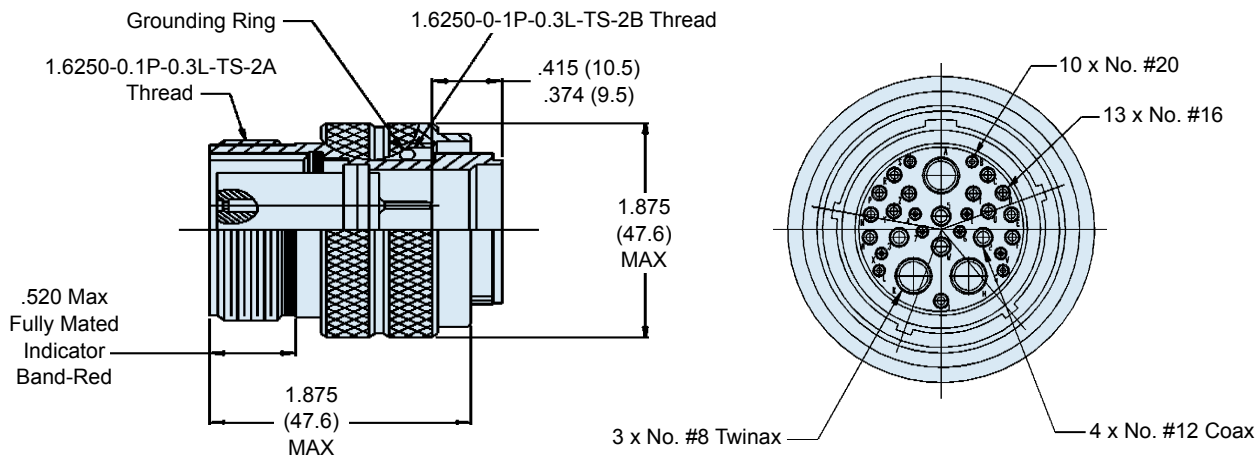
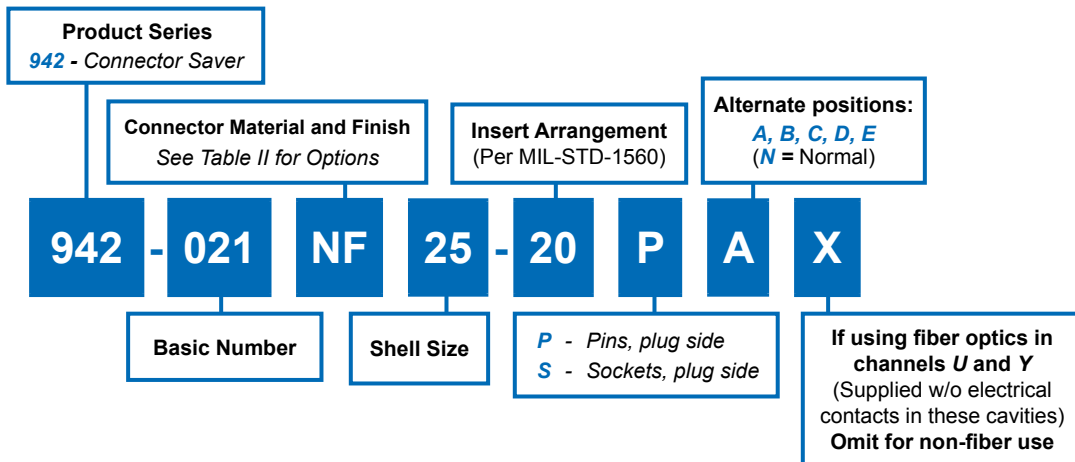
TABLE II: SHELL FINISHES		
Plating Code	Material	Finish
M	Aluminum	Electroless Nickel
B	Aluminum	Cad Plate, Olive Drab
NF	Aluminum	Cadmium Plate Olive Drab over Electroless Nickel
NC	Aluminum	Zinc-Cobalt
ZN	Aluminum	Olive Drab Zinc-Nickel
MT	Aluminum	Ni-PTFE 1000 Hour Grey™ (Nickel Fluorocarbon Polymer)



FACE VIEW
RECEPTACLE

SERIES III: ALTERNATE KEYWAY POSITIONS						
Shell Size Code	Shell Size Ref	Alternate Keyway Code	AR°	BR°	CR°	DR°
A	09	N	105	140	215	265
		A	102	132	248	320
		B	80	118	230	312
		C	35	140	205	275
		D	64	155	234	304
B C D	11 13 15	N	95	141	208	236
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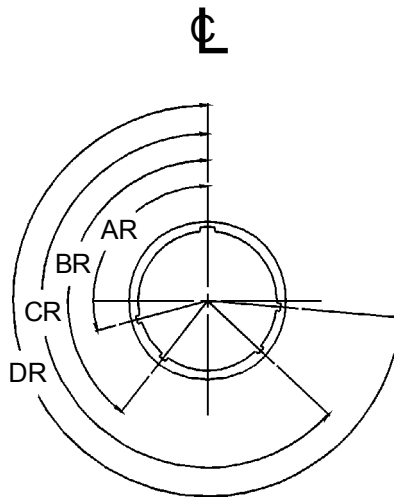


25-20 INSERT ARRANGEMENT							
SHELL SIZE CODE	SHELL SIZE	INSERT ARRANGEMENT DASH NO.	TOTAL NUMBER OF CONTACTS	CONTACT SIZE			
				20	16	12 (Coax)	8 (Twinax)
J	25	25-20	30	QUANTITY			
				10	13	4	3

APPLICATION NOTES

- All set screws to have N.D. Ind. Stud grade threadlocker #140500 (jet fuel resistant).
- Metric dimensions (mm) are indicated in parentheses.
- Material/finish:
Barrel/shell, coupling nut, lock ring – CRES Passivated

Contacts – Copper alloy/gold plate
Interfacial & peripheral seals – silicone/N.A.
Insulators – High grade rigid dielectric/ N.A.
Shrink Tube – See Table I



FACE VIEW
 RECEPTACLE

SERIES III: ALTERNATE KEYWAY POSITIONS						
Shell Size Code	Shell Size Ref	Alternate Keyway Code	AR°	BR°	CR°	DR°
J	25	N	80	142	196	293
		A	135	170	200	310
		B	49	169	200	244
		C	66	140	200	257
		D	62	145	180	280
		E	79	153	197	272

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Glenair MIL-DTL-38999 Type EMI/RFI Connectors and Accessories

SECTION G TABLE OF CONTENTS

GLENAIR MIL-DTL-38999 TYPE EMI/RFI CONNECTORS AND ACCESSORIES:

Glenair MIL-DTL-38999 Type Power Connector Product Features.....	G-1
Glenair MIL-DTL-38999 Type Backshells and Accessories Selection Guide.....	G-2
Glenair D38999 Type Backshell Interface Dimensions.....	G-4
Shrink Boot Reference Information.....	G-5
770-001 Heat-Shrinkable Molded Boots.....	G-6
310-001 O-Ring Sealed Shrink Boot Adapter.....	G-8
319-064 Composite Swing-Arm Strain Relief with Nickel/Copper EMI/RFI Shield Sock.....	G-10
319-065 Composite Swing-Arm Strain Relief with Composite EMI/RFI Shield Sock.....	G-12
Swing-Arm Assembly Instructions.....	G-14
380-107 EMI/RFI Split-Shell Non-Environmental Backshell with Strain Relief.....	G-16
380-115 EMI/RFI Low Profile Non-Environmental Backshell with Strain Relief.....	G-18
440-069 EMI/RFI Shrink Boot Banding Adapter.....	G-20
447-425 EMI/RFI Non-Environmental Band-In-A-Can Backshell with Strain-Relief.....	G-22
620-048 Strain Relief Clamp, Straight and 90°.....	G-24
620-049 Strain Relief Clamp, 45°.....	G-25
627-122 Composite Swing-Arm Strain Relief.....	G-26
687-207 Composite MIL-C-85049/93 Banding Split-Ring.....	G-28
103-026 and -027 AmberStrand® Composite EMI/RFI Braid.....	G-29
100-001 Tubular Metal Braid QQ-B-575B ASTM B33 Tin Coated Copper.....	G-30
100-003 Tubular Metal Braid ASTM B355 Class 4 OFHC Nickel Plated Copper.....	G-31
930-001 Conductive Gasket for Flange Mount Series III Receptacle Connector.....	G-32
MS85049/94 Full Perimeter Nut Plate.....	G-34
MS85049/95 3/4 Perimeter Nut Plate.....	G-35
MS85049/96 1/4 Perimeter Nut Plate.....	G-36
650FS001 Series I Dummy Stowage Receptacle.....	G-38
650FS002 Series II Dummy Stowage Receptacle.....	G-39
650HS001 Series III Dummy Stowage Receptacle.....	G-40
650HS007 Dummy Stowage Receptacle for MIL-DTL-38999 Series IV Connectors.....	G-41
660-012 (Plug), 660-013 (Receptacle), 661-002 (EMI Receptacle) Series I Protective Covers.....	G-42
660-014 (Plug), 660-015 (Receptacle), 661-003 (EMI Receptacle) Series II Protective Covers.....	G-44
60-023 (Plug), 660-024 (Receptacle) Series III Protective Covers.....	G-46
60-031 (Plug), 660-032 (Receptacle) Series IV Protective Covers.....	G-48
TG70 Strap Wrench with 3/8" Square Drive.....	G-50
BAND-IT® Shield Termination Clamping System.....	G-51 - G-53
600-004 and 600-007 Bench Mount and Hand Held Torque Wrenches.....	G-54
600-161 Hand Held Digital Torque Wrench and 600-162 Bench Stand.....	G-55
MIL-DTL-38999 Series I, II, III and IV Connector Holding Tools.....	G-56 - G-62
600-091 and 600-157 Composite Hex Coupling Wrench.....	G-63 - G-64

Because the Art of Interconnect Cable Design Calls for More Technology Than Just a Connector

Backshells: A Part of Every Well-Designed Cable Harness and Assembly

Glenair understands that the management of EMI, environmental damage and mechanical stress factors in high-reliability cable assemblies usually requires the incorporation of various connector backshells and accessories. We offer thousands of EMI management products, cable-sealing backshells, protective covers, strain-relief devices and other essential accessories. In this section of the book we've organized a small selection of some of the most practical devices used in Mil-Aero cabling. We've chosen the most popular and useful products for assemblies built around the D38999 family.

could include both a suitable EMI filtering device but also an appropriate selection of accessories such as shield termination backshells, EMI gaskets and conductive shielding.

For environmental protection, Glenair offers both standard shrink-boot products as well as more robust cable-sealing backshells and protective covers. For mechanical protection we offer a broad range of strain-relief backshells to prevent damage to the conductor-to-contact interface. Whatever your requirement, Glenair has both the connectors, and the accessories, to put

Glenair is the world's largest supplier of EMI Shielding backshells, cable sealing backshells and strain-relief devices. Over 65,000 part numbers are in stock and ready for same-day shipment

This section includes just a small selection of the most practical connector accessories designed for use on D38999 connectors

Glenair offers both AS85049 QPL solutions as well as a broad selection of commercial designs for every electrical, mechanical and environmental requirement.



For example, effective shielding of avionic devices equipped with D38999 signal connectors must anticipate both "radiated susceptibility" (the degree to which outside interference affects the reliable functioning of equipment) and "radiated emissions" (the extent to which the device itself creates electromagnetic waves which can affect its function). In both cases, managing the interference

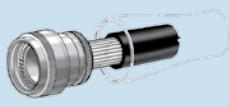
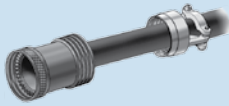
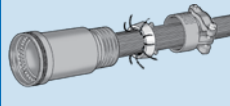

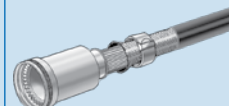
together a finished cable design that meets all the requirements of your application.

NOTE: *Catalog contents are accurate to the best of our ability when we go to print. When errors or mistakes are brought to our attention, corrected content is posted immediately to our website: www.glenair.com.*



MIL-DTL-38999 Backshells and Accessories Selection Guide

Military Standard Circular Connector Accessories

Military Connector Specifications	Shrink Boot Adapters	Non Environmental Strain Relief Backshells	EMI/RFI Non-Environmental Backshells	EMI/RFI Environmental Backshells	Banding Backshells
					
MIL-C-38999 Series I	M85049/62 Straight	M85049/29 Straight	M85049/36 Straight M85049/37 90°	M85049/17 Straight M85049/76 90° M85049/77 45°	M85049/85 Straight M85049/86 45° M85049/87 90°
MIL-C-38999 Series II	M85049/62 Straight	M85049/29 Straight	M85049/36 Straight M85049/37 90°	M85049/17 Straight M85049/76 90° M85049/77 45°	M85049/85 Straight M85049/86 45° M85049/87 90°
MIL-C-38999 Series III	M85049/69 Straight	M85049/21 Straight	M85049/19 Straight	M85049/18 Straight M85049/78 45° M85049/79 90°	M85049/88 Straight M85049/89 45° M85049/90 90°
MIL-C-38999 Series IV	M85049/69 Straight	M85049/21 Straight	M85049/19 Straight	M85049/18 Straight M85049/78 45° M85049/79 90°	M85049/88 Straight M85049/89 45° M85049/90 90°



MIL-DTL-38999 Backshells and Accessories Selection Guide



Military Standard Circular Connector Accessories

Quick-Ty Strain Reliefs		Strain Reliefs		Dummy Stowage Receptacles	Protective Plug Covers	Protective Receptacle Covers	Military Connector Specifications
Non-Self Locking	Self Locking	Non-Self Locking	Self Locking				
M85049/56 straight M85049/57 45° M85049/58 90°	No Ground Lug M85049/56S Straight M85049/57S 45° W/ Ground Lug M85049/56G Straight M85049/57G 45°	M85049/45 Straight M85049/46 90° M85049/47 (MS27507) 90° M85049/49 (MS27506) Straight	M85049/47S 90° M85049/49S Straight	M38999/9	MS27501	MS27502	MIL-C-38999 Series I
M85049/56 straight M85049/57 45° M85049/58 90°	No Ground Lug M85049/56S Straight M85049/57S 45° W/ Ground Lug M85049/56G Straight M85049/57G 45°	M85049/45 Straight M85049/46 90° M85049/47 (MS27507) 90° M85049/49 (MS27506) Straight	M85049/47S 90° M85049/49S Straight	M38999/10	MS27510	MS27511	MIL-C-38999 Series II
M85049/15 45° M85049/16 90°	N/A	M85049/38 Straight M85049/39 90° M85049/91 Straight M85049/92 90°	M85049/38S Straight M85049/39S 90°	M38999/22	D38999/32 Threaded	D38999/33 Threaded	MIL-C-38999 Series III
M85049/15 45° M85049/16 90°	M85049/15 45° M85049/16 90°	M85049/38 Straight M85049/39 90° M85049/91 Straight M85049/92 90°	M85049/38S Straight M85049/39S 90°	M38999/50	N/A	N/A	MIL-C-38999 Series IV



Table I: Backshell Interface Dimensions

TABLE I: BACKSHELL INTERFACE DIMENSIONS						
CONNECTOR DESIGNATOR		A THREAD REFERENCE	B DIA MAX	C DIA MAX	D DIA MAX	E DIA MAX
F	H					
08 [9]		7/16 – 28 UNEF	.590 (15.)	.650 (16.5)	.770 (19.6)	.690 (17.5)
	09 [A]	M12 x 1 – 6H	.650 (16.5)	.770 (19.6)		.940 (24.8)
10 [11]		9/16 – 24 UNEF	.720 (18.3)	.770 (19.6)	.890 (22.6)	.820 (20.8)
	11 [B]	M15 x 1 – 6H	.770 (19.6)	.820 (20.8)		1.060 (26.9)
12 [13]		11/16 – 24 UNEF	.840 (21.3)	.890 (22.6)	1.020 (25.9)	.940 (23.8)
	13 [C]	M18 x 1 – 6H	.890 (22.6)	.940 (23.9)		1.170 (29.7)
14 [15]		13/16 – 20 UNEF	.970 (24.6)	1.020 (29.2)	1.150 (29.2)	1.060 (26.9)
	15 [D]	M22 x 1 – 6H	1.030 (26.2)	1.070 (26.2)		1.290 (32.7)
16 [17]		15/16 – 20 UNEF	1.090 (27.7)	1.150 (29.2)	1.260 (32.0)	1.170 (29.7)
	17 [E]	M25 x 1 – 6H	1.150 (29.2)	1.210 (30.7)		1.420 (36.1)
18 [19]		1 1/16 – 18 UNEF	1.220 (31.0)	1.230 (31.2)	1.400 (35.6)	1.290 (32.7)
	19 [F]	M28 x 1 – 6H	1.280 (32.5)	1.360 (34.5)		1.540 (39.1)
20 [21]		1 3/16 – 18 UNEF	1.340 (34.0)	1.360 (34.5)	1.530 (38.9)	1.420 (36.0)
	21 [G]	M31 x 1 – 6H	1.410 (35.8)	1.480 (37.6)		1.670 (42.4)
22 [23]		1 5/16 – 18 UNEF	1.470 (37.3)	1.480 (37.6)	1.600 (40.6)	1.540 (39.1)
	23 [H]	M34 x 1 - 6H	1.530 (38.9)	1.600 (40.6)		2.010 (51.1)
24 [25]		1 7/16 – 18 UNEF	1.590 (40.4)	1.730 (43.9)	1.940 (49.3)	1.660 (42.2)
	25 [J]	M37 x 1 – 6H	1.660 (42.2)	1.700 (43.2)		2.120 (53.8)



770-001 Shrink Boot Heat Shrink Molded Part

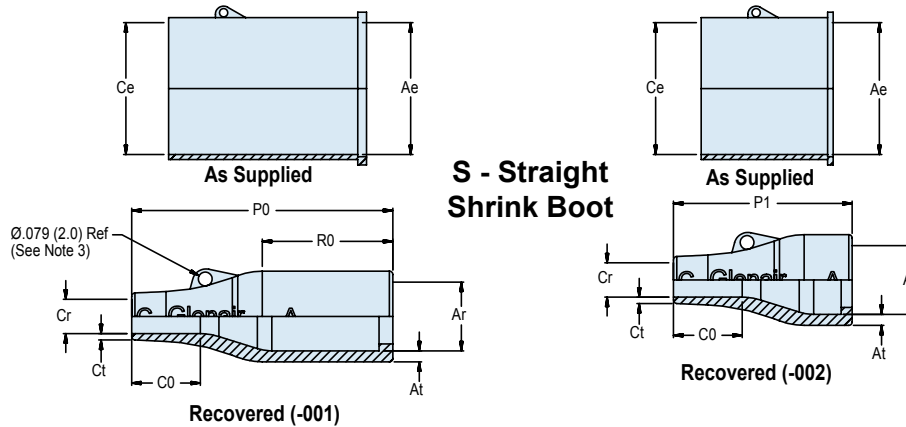
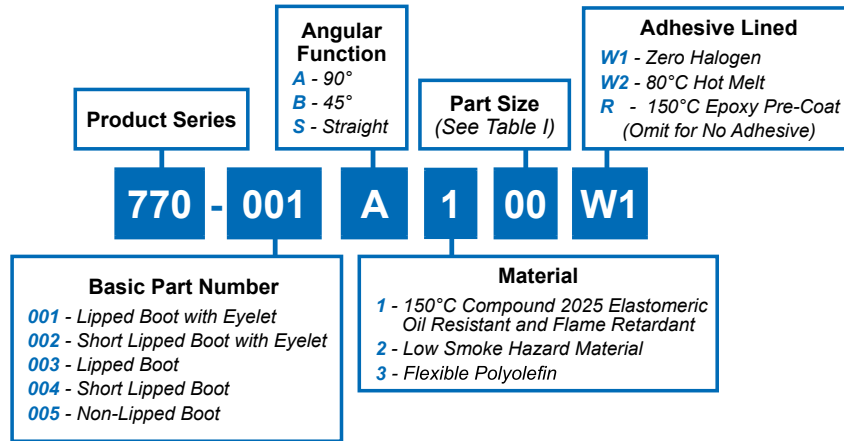


TABLE I: STRAIGHT BOOT DIMENSIONS, BOOT AND SHELL SIZE

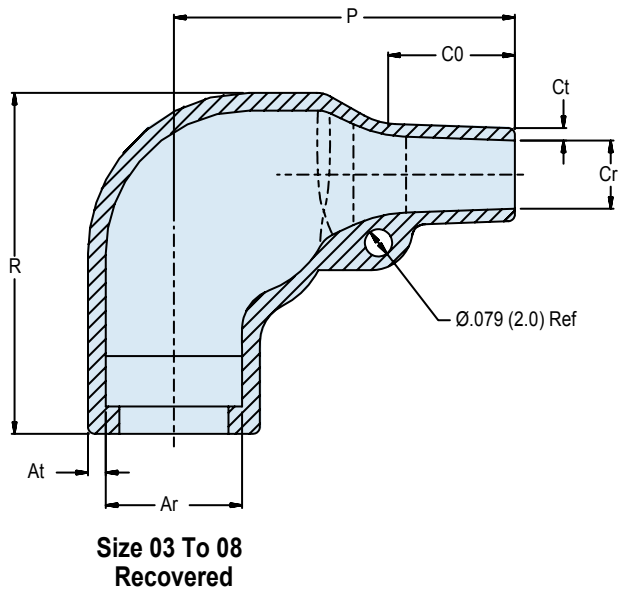
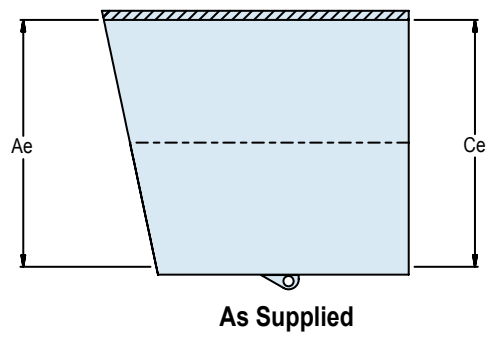
Boot Size	Shell Size	Ae Dia Min	Ce Dia Min	Ar Dia Max	at ±30%	Cr Dia Max	ct ±20%	CO Ref	PO ±10%	P1 ±10%	RO Ref
00	5	.354 (9.0)	.354 (9.0)	.217 (5.5)	.039 (1.0)	.079 (2.0)	.028 (0.7)	.295 (7.5)	.984 (25.0)	N/A	.551 (14.0)
01	5, 6	.472 (12.0)	.472 (12.0)	.276 (7.0)	.043 (1.1)	.118 (3.0)	.028 (0.7)	.295 (7.5)	.984 (25.0)	N/A	.551 (14.0)
02	6, 7	.669 (17.0)	.669 (17.0)	.276 (7.0)	.051 (1.3)	.138 (3.5)	.028 (0.7)	.395 (10.0)	1.181 (30.0)	N/A	.728 (18.5)
03	8, 10	.945 (24.0)	.945 (24.0)	.413 (10.5)	.063 (1.6)	.197 (5.5)	.035 (0.9)	.395 (10.0)	1.496 (38.0)	1.024 (26.0)	.748 (19.0)
04	11-16	1.181 (30.0)	1.181 (30.0)	.551 (14.0)	.071 (1.8)	.236 (6.0)	.039 (1.0)	.630 (16.0)	2.165 (55.0)	1.693 (43.0)	1.181 (30.0)
05	16-17	1.260 (32.0)	1.260 (32.0)	.709 (18.0)	.071 (1.8)	.276 (7.0)	.047 (1.2)	.748 (19.0)	2.638 (67.0)	1.850 (47.0)	1.299 (33.0)
06	17-21	1.417 (36.0)	1.417 (36.0)	.886 (22.0)	.079 (2.0)	.335 (8.5)	.047 (1.2)	.787 (20.0)	3.150 (80.0)	2.362 (60.0)	1.575 (40.0)
07	21-23	1.693 (43.0)	1.693 (43.0)	1.102 (28.0)	.087 (2.2)	.394 (10.0)	.051 (1.3)	1.142 (29.0)	3.898 (99.0)	3.150 (80.0)	2.165 (55.0)
08	25	2.362 (60.0)	2.362 (60.0)	1.378 (35.0)	.130 (3.3)	.591 (15.0)	.063 (1.6)	1.575 (40.0)	5.118 (130.0)	4.331 (110.0)	1.969 (50.0)

APPLICATION NOTES

1. Material: Fluid resistant elastomer - Glenair Material Type 1.
2. When the minimum number of conductors are used, wire bundle/cable may require build-up to B² max.
3. Sizes 00 to 02 do not contain eyelet.



770-001
90° Shrink Boot
Heat Shrink Molded Part

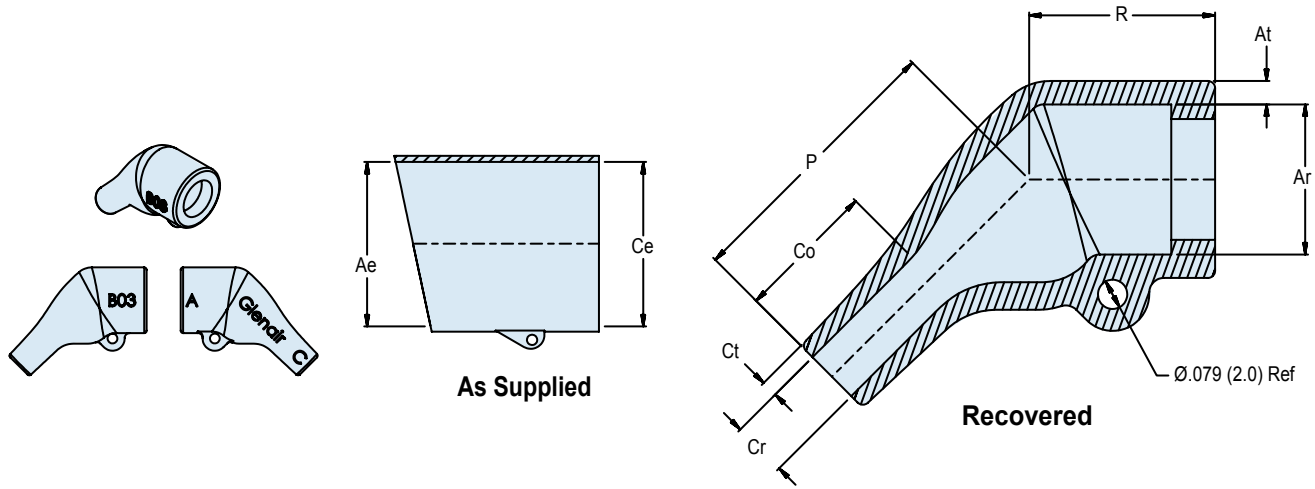


A - 90°
Shrink Boot

TABLE I: 90° BOOT DIMENSIONS, BOOT AND SHELL SIZE										
Boot Size	Shell Size	Ae Dia Min	Ce Dia Min	Ar Dia Max	at ±30%	Cr Dia Max	ct ±20%	CO Ref	P ±20%	R Ref
03	9	.945 (24.0)	.945 (24.0)	.394 (10.0)	.063 (1.6)	.197 (5.0)	.035 (0.9)	.394 (10.0)	.984 (25.0)	.984 (25.0)
04	11-15	1.181 (30.0)	1.181 (30.0)	.532 (13.5)	.071 (1.8)	.217 (5.5)	.039 (1.0)	.472 (12.0)	1.260 (32.0)	1.063 (27.0)
05	13-17	1.260 (32.0)	1.260 (32.0)	.709 (18.0)	.071 (1.8)	.276 (7.0)	.047 (1.2)	.591 (15.0)	1.535 (39.0)	1.260 (32.0)
06	17-21	1.417 (36.0)	1.417 (36.0)	.886 (22.0)	.079 (2.0)	.335 (8.5)	.047 (1.2)	.630 (16.0)	1.929 (49.0)	1.496 (38.0)
07	21-23	1.693 (43.0)	1.693 (43.0)	1.102 (28.0)	.087 (2.2)	.394 (10.0)	.059 (1.5)	.709 (18.0)	2.165 (55.0)	1.850 (47.0)
08	23-25	2.165 (55.0)	2.165 (55.0)	1.378 (35.0)	.130 (3.3)	.591 (15.0)	.079 (2.0)	1.260 (32.0)	3.150 (80.0)	2.165 (55.0)



770-001
45° Shrink Boot
 Heat Shrink Molded Part



B - 45°
Shrink Boot

TABLE I: 45° BOOT DIMENSIONS, BOOT AND SHELL SIZE

Boot Size	Shell Size	Ae Dia Min	Ce Dia Min	Ar Dia Max	at ±30%	Cr Dia Max	ct ±20%	CO Ref	P ±10%	R Ref
03	9	.945 (24.0)	.945 (24.0)	.413 (10.50)	.063 (1.6)	.157 (4.0)	.035 (0.9)	.315 (8.0)	.748 (195.0)	.500 (12.7)
04	11-15	1.181 (30.0)	1.181 (30.0)	.551 (14.0)	.071 (1.8)	.236 (6.0)	.039 (1.0)	.354 (9.0)	1.180 (30.0)	.748 (19.0)
05	13-17	1.260 (32.0)	1.260 (32.0)	.709 (18.0)	.079 (2.0)	.276 (7.0)	.071 (1.8)	.591 (15.0)	1.378 (35.0)	.984 (25.0)
06	17-21	1.417 (36.0)	1.417 (36.0)	.886 (22.0)	.079 (2.0)	.335 (8.5)	.071 (1.8)	.709 (18.0)	1.575 (40.0)	1.260 (32.0)
07	21-23	1.693 (43.0)	1.693 (43.0)	1.102 (28.0)	.087 (2.2)	.394 (10.0)	.079 (2.0)	.709 (18.0)	1.772 (45.0)	1.496 (38.0)





310-001 O-Ring Sealed Shrink Boot Adapter Rotatable Coupling - Standard Profile

Connector Designators:

MIL-DTL-38999 Series I, II (F)
MIL-DTL-38999 Series III and IV (H)

F-H ROTATABLE COUPLING

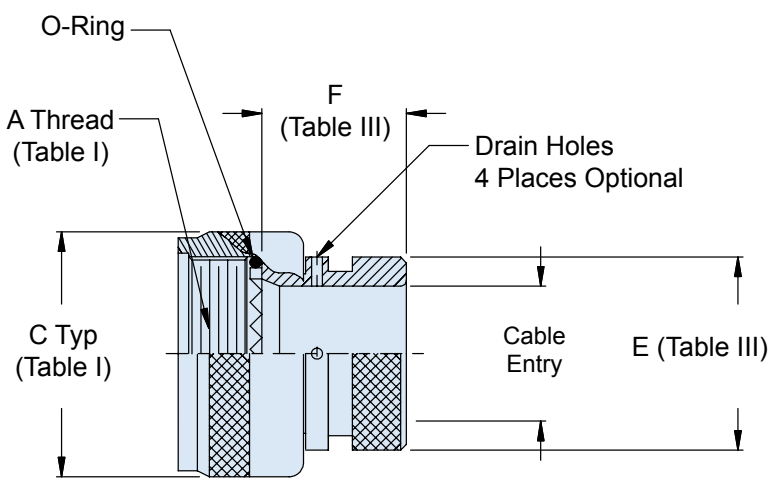
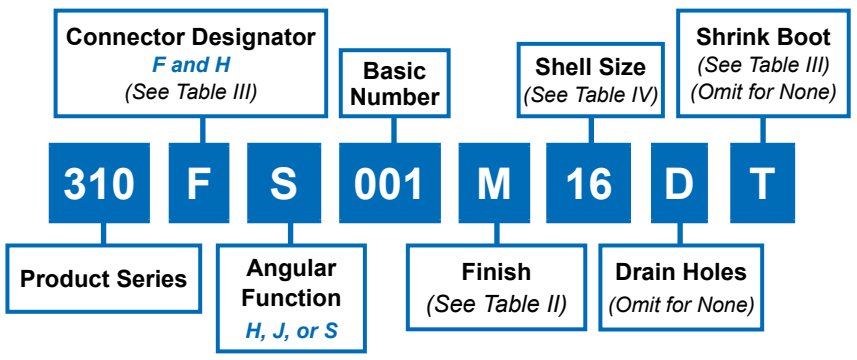
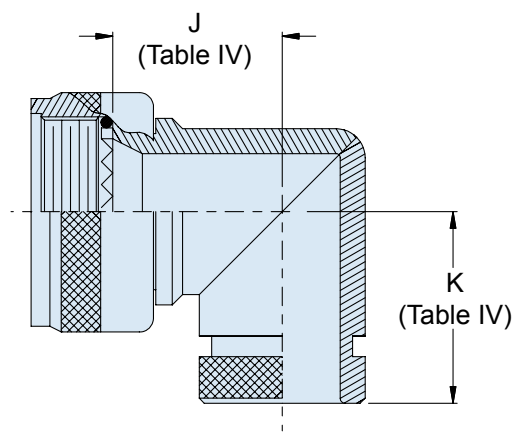
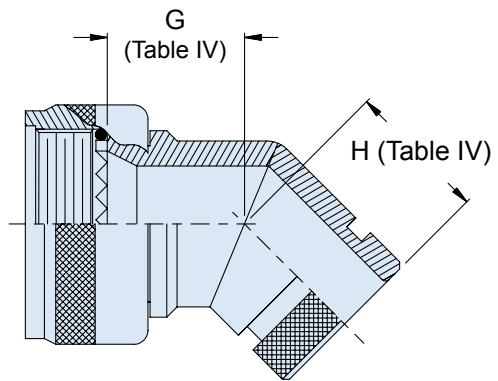


TABLE II: FINISHES	
Symbol	Finish
B	Cadmium Plate, Olive Drab
C	Anodize, Black
GB	Black Anodize, Hard Coat
M	Electroless Nickel
N	Cad Plate, Olive Drab over Electroless Nickel
NF	Cadmium Plate, Olive Drab over Electroless Nickel
MT	Ni-PTFE 1000 Hour Grey™ Nickel Fluorocarbon Polymer
Z1	Stainless Steel Passivate
ZL	CRES, Electroless Nickel
ZN	Zinc-Nickel



H

310-001
O-Ring Sealed Shrink Boot Adapter
Rotatable Coupling - Standard Profile



TABLE III: CABLE ENTRY AND SHRINK BOOT

Connector Designator F	Connector Designator H	E Max	F Max	Cable Entry Min	Shrink Boot*
08	09	.533 (13.5)	.940 (23.9)	.250 (6.4)	770-003S102
10	11	.605 (15.4)	.940 (23.9)	.355 (9.0)	770-001S103
12	13	.774 (19.7)	.940 (23.9)	.491 (12.5)	770-001S103
14	15	.838 (21.3)	.940 (23.9)	.565 (14.4)	770-001S103
16	17	.963 (24.5)	.940 (23.9)	.690 (17.5)	770-001S104
18	19	1.042 (26.5)	.940 (23.9)	.769 (19.5)	770-001S104
20	21	1.217 (30.9)	.940 (23.9)	.894 (22.7)	770-001S106
22	23	1.355 (34.4)	.940 (23.9)	1.019 (25.9)	770-001S107
24	25	1.443 (36.7)	.940 (23.9)	1.134 (28.8)	770-001S107
28	29	1.709 (43.4)	.940 (23.9)	1.369 (34.8)	770-001S108
32	33	1.919 (48.7)	1.005 (25.5)	1.615 (41.0)	770-001S108

TABLE IV: BACKSHELL DIMENSIONS

Connector Designator F	Connector Designator H	G Max	H Max	J Max	K Max
08	09	.639 (16.2)	.810 (20.6)	.750 (19.1)	.920 (23.4)
10	11	.664 (16.9)	.840 (21.3)	.810 (20.6)	.980 (24.9)
12	13	.688 (17.5)	.860 (21.8)	.870 (22.1)	1.040 (26.4)
14	15	.705 (17.9)	.890 (22.6)	.920 (23.4)	1.110 (28.2)
16	17	.732 (18.6)	.910 (23.1)	.980 (24.9)	1.170 (29.7)
18	19	.748 (19.0)	.920 (23.4)	1.020 (25.9)	1.190 (30.2)
20	21	.773 (19.6)	.940 (23.9)	1.080 (27.4)	1.250 (31.8)
22	23	.800 (20.3)	.980 (24.9)	1.140 (29.0)	1.330 (33.8)
24	25	.823 (20.9)	1.010 (25.7)	1.200 (30.5)	1.400 (35.6)
28	29	1.041 (26.4)	1.180 (30.0)	1.480 (37.6)	1.640 (41.7)
32	33	1.092 (27.7)	1.370 (34.8)	1.610 (40.9)	1.880 (47.8)

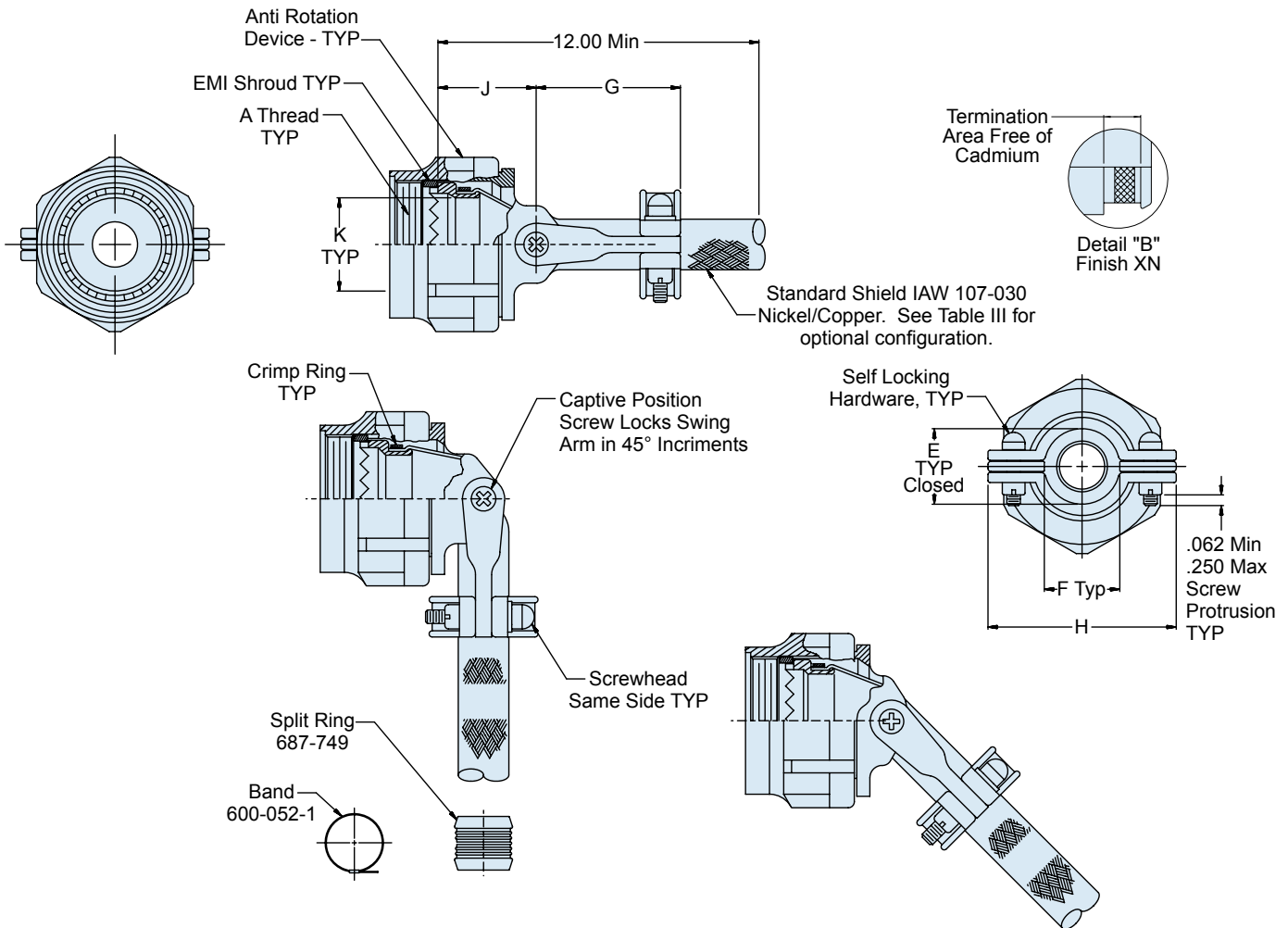
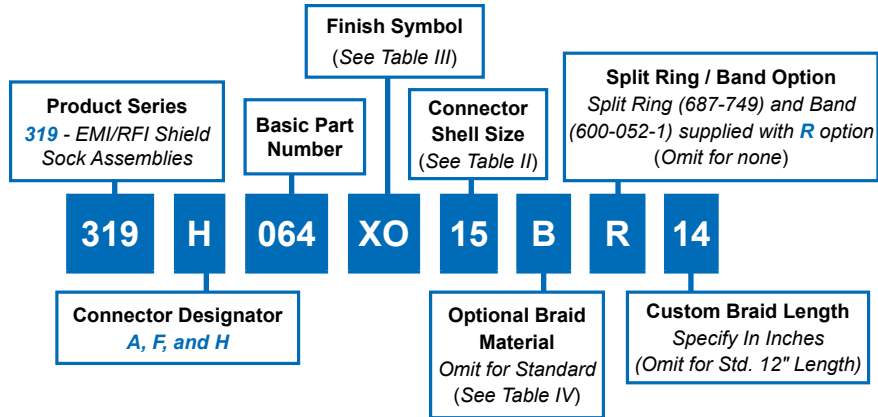
APPLICATION NOTES

1. See shrink boot reference information (Page G-5).
2. O-Rings not supplied with drain hole option.
3. O-Rings not supplied with Connector Designators A and G.
4. Metric dimensions (mm) indicated in parentheses.



A

CONNECTOR DESIGNATOR:	
A	MIL-DTL-5015, -26482 Series II, and -83723 Series I and III
F	MIL-DTL-38999 Series I, II (see note 3)
H	MIL-DTL-38999 Series III and IV
SELF-LOCKING	
ROTATABLE COUPLING	



319-064
Composite Swing-Arm Backshell
 with Shield Sock and
 Self-Locking Rotatable Coupling



TABLE II: SHELL SIZE

Shell Size		E ± .031	F Min.	G Max.	H Max.	J ± .06	K Min. (H Code)	K Min. (A Code)	K Min. (F Code)
A, F	H								
08	09	.265 (6.7)	.22 (5.6)	1.06 (26.9)	.98 (24.9)	.94 (23.9)	.264 (6.7)	.265 (6.7)	.275 (7.0)
10	11	.310 (7.9)	.27 (6.9)	1.09 (27.7)	1.05 (26.7)	.97 (24.6)	.390 (9.9)	.370 (9.4)	.412 (10.5)
12	13	.390 (9.9)	.35 (8.9)	1.18 (30.0)	1.20 (30.5)	1.03 (26.2)	.504 (12.8)	.506 (12.9)	.526 (13.4)
14	15	.506 (12.9)	.47 (11.9)	1.24 (31.5)	1.30 (33.0)	1.09 (27.7)	.630 (16.0)	.580 (14.7)	.657 (16.7)
16	17	.591 (15.0)	.55 (14.0)	1.32 (33.5)	1.44 (36.6)	1.12 (28.4)	.756 (19.2)	.705 (17.9)	.776 (19.7)
18	19	.661 (16.8)	.62 (15.7)	1.39 (35.3)	1.56 (39.6)	1.15 (29.2)	.843 (21.4)	.784 (19.9)	.872 (22.1)
20	21	.744 (18.9)	.70 (17.8)	1.49 (37.8)	1.69 (42.9)	1.18 (30.0)	.969 (24.6)	.909 (23.1)	1.007 (25.6)
22	23	.826 (21.0)	.78 (19.8)	1.55 (39.4)	1.77 (45.0)	1.25 (31.8)	1.091 (27.7)	1.034 (26.3)	1.132 (28.8)
24	25	.896 (22.8)	.85 (21.6)	1.61 (40.9)	1.89 (48.0)	1.28 (32.5)	1.217 (30.9)	1.149 (29.2)	1.257 (31.9)

TABLE III: FINISH

Symbol	Finish
XB	Composite Material—No Plating, Color Black, Brass Interface Shroud and Adapter—Nickel Plated
XMT	2000 Hour Corrosion Resistant Ni-PTFE, Nickel-Fluorocarbon Polymer. <i>1000 Hour Grey™</i>
XN	Composite Material—No Plating, Color Black and Brown, Brass Interface Shroud and Adapter—Selectively Cadmium Plated (See Detail B)
XO	Composite Material—No Plating, Color Black and Brown, Brass Interface Shroud and Adapter—Nickel Plated

TABLE IV: BRAID TYPE

Symbol	Braid Type
A	100% AmberStrand®
B	75%/25% AmberStrand® Blend
L	100% ArmorLite™
<i>Standard</i>	Nickel/Copper 34awg
T	Tin/Copper 34awg

NOTES

1. See Table I in Intro for front-end dimensional details.
2. See composite thermoplastic shield sock assembly procedure for detailed installation instructions.
3. Add mod code -475 to end of part number for use with Series II connectors. Backshell to be supplied less shroud.
4. Coupling nut supplied unplated.



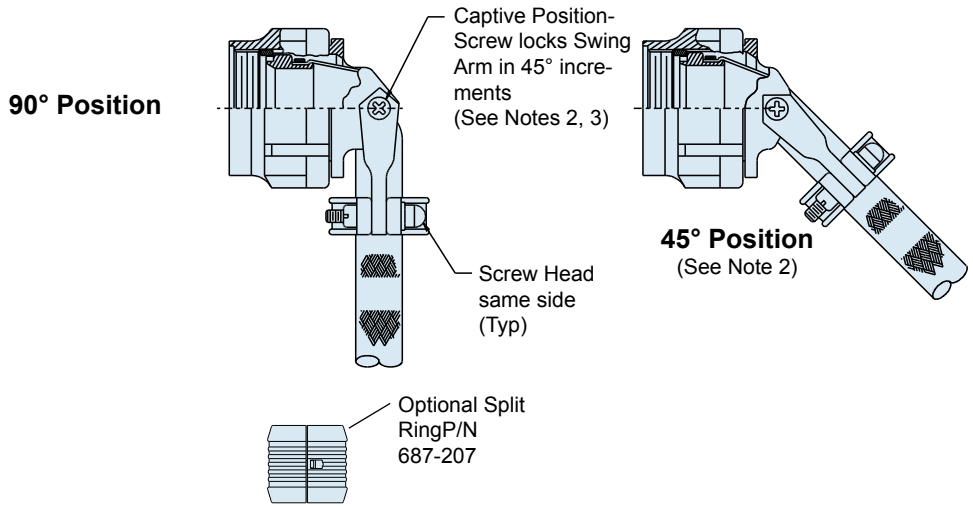
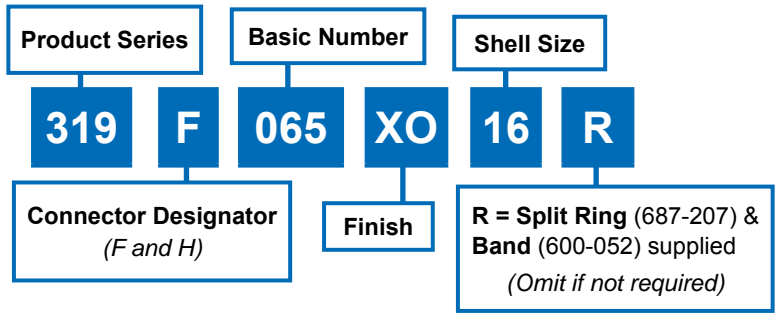
319-065
Composite Self-Locking Rotatable Coupling
 Swing-Arm Strain Relief with
 Composite EMI/RFI Shield Sock & Optional Split Ring

**CONNECTOR
 DESIGNATOR**

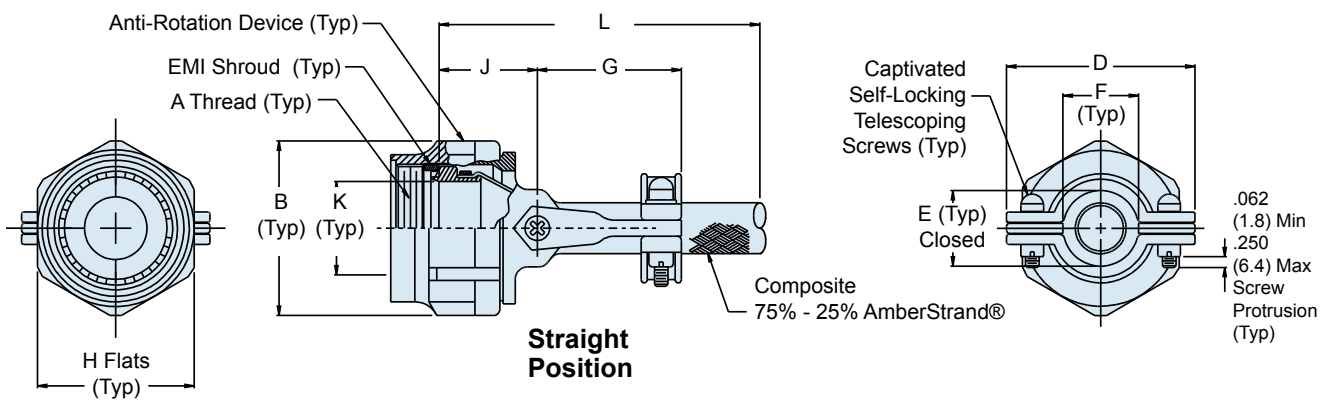
MIL-DTL-38999 Series I, II (F)
 MIL-DTL-38999 Series III and IV (H)

F-H

**SELF-LOCKING
 ROTATABLE
 COUPLING**



U.S. PATENT NO. 6419519



319-065
Composite Self-Locking Rotatable Coupling
Swing-Arm Strain Relief with
Composite EMI/RFI Shield Sock & Optional Split Ring



TABLE II: FINISHES	
Symbol	Finish
XB	Composite Material, No Plating, Color Black, Brass Interface Shroud and Adapter - Nickel Plated
XMT	Composite Material, No Plating, Color Black and Brown, Brass Interface Shroud and Adapter - Ni-PTFE 1000 Hour Grey™ (Nickel-Fluorocarbon Polymer)
XN	Composite Material, No Plating, Color Black and Brown, Brass Interface Shroud and Adapter - Selectively Cadmium Plated
XO	Composite Material, No Plating, Color Black and Brown, Brass Interface Shroud and Adapter - Nickel Plated

TABLE III: CONNECTOR SHELL SIZE ORDER NUMBER											
Shell Size for Connector Designator		B Dia Max	D Max	E ±.06 (1.5)	F Min	G Max	H Flats		J ±.06 (1.5)	K Ref	L Min
F	H						Max	Min			
08	09	.812 (20.6)	.980 (24.9)	.265 (6.7)	.220 (5.9)	1.060 (26.9)	.750 (19.1)	.736 (18.7)	.940 (23.9)	.265 (6.7)	7.000 (177.8)
10	11	.938 (23.8)	1.050 (26.7)	.310 (7.9)	.270 (6.9)	1.090 (27.7)	.875 (22.2)	.860 (21.8)	.970 (24.6)	.370 (9.4)	7.000 (177.8)
12	13	1.125 (28.6)	1.200 (30.5)	.390 (9.9)	.350 (8.9)	1.180 (30.0)	1.000 (25.4)	.980 (24.9)	1.030 (26.2)	.506 (12.9)	7.000 (177.8)
14	15	1.250 (31.8)	1.300 (33.0)	.506 (12.9)	.470 (11.9)	1.240 (31.5)	1.125 (28.6)	1.100 (27.9)	1.090 (27.7)	.580 (14.7)	9.000 (228.6)
16	17	1.375 (34.9)	1.440 (36.6)	.591 (15.0)	.550 (14.0)	1.320 (33.5)	1.250 (31.8)	1.224 (31.1)	1.120 (28.4)	.705 (17.9)	11.000 (279.4)
18	19	1.500 (38.1)	1.560 (39.6)	.661 (16.8)	.620 (15.7)	1.390 (35.3)	1.375 (34.9)	1.469 (37.3)	1.150 (29.2)	.784 (19.9)	11.000 (279.4)
20	21	1.625 (41.3)	1.690 (42.9)	.744 (18.9)	.700 (17.8)	1.550 (39.4)	1.500 (38.1)	1.500 (38.1)	1.180 (30.0)	.909 (23.1)	11.000 (279.4)
22	23	1.750 (44.5)	1.770 (45.0)	.826 (21.0)	.780 (19.8)	1.550 (39.4)	1.625 (41.3)	1.581 (40.2)	1.250 (31.8)	1.034 (26.3)	11.000 (279.4)
24	25	1.875 (47.6)	1.890 (48.0)	.896 (22.8)	.850 (21.6)	1.610 (40.9)	1.750 (44.5)	1.960 (49.8)	1.280 (32.5)	1.149 (29.2)	11.000 (279.4)

Consult factory for additional entry sizes available.

APPLICATION NOTES

- Glenair series 600 Backshell assembly tools are recommended for assembly and installation.
- Swing Arm Locks in 45° increments—Sizes 08 thru 24, additional positioning increments are manufacturer's option.
- Captive Screw remains engaged to the body when positioning the Arm. When tightened, the Screw shall not protrude into the inside surfaces.
- Fits Connector Designators: MIL-DTL-38999 Series I, II (F), MIL-DTL-38999 Series III and IV (H), MIL-DTL-5015 (A), and MIL-DTL-26482 (A)
- Metric Dimensions (mm) are indicated in parentheses.



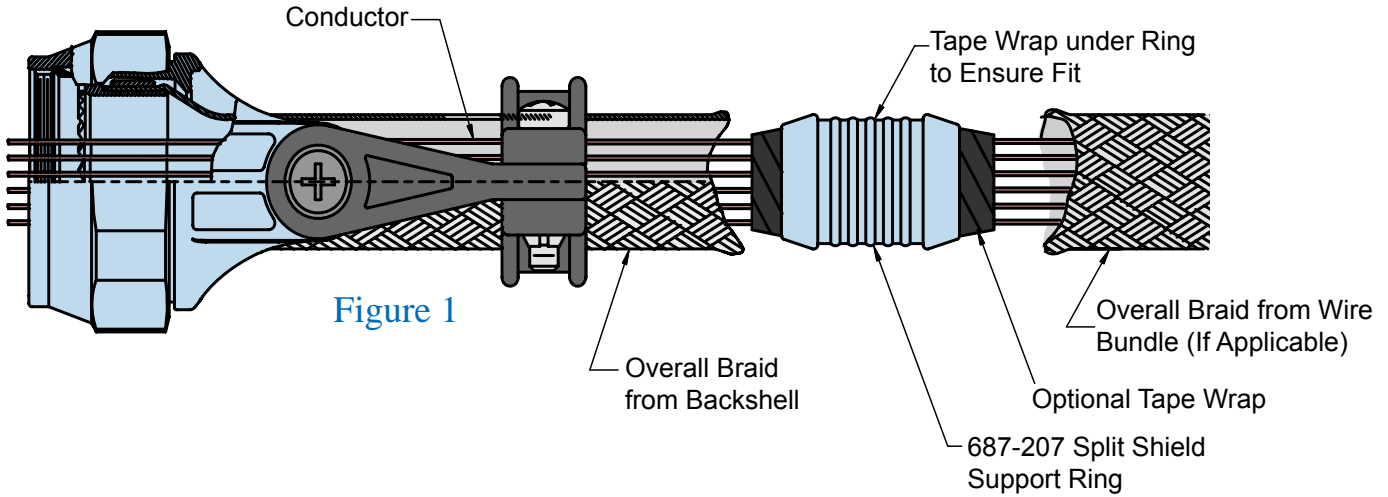


Figure 1

**Glenair Swing-Arm
Offers Extremely Fast and
Trouble-Free Termination
of EMI Shielding:**

Choose Straight, 45° or 90° angle, and tighten screws to lock arms in place. Leave the saddle clamp hardware loose.

Next, insert the wire bundle into the backshell to determine if the braid transition angle from the backshell to wire bundle is less than 45°. If it is less than 45°, build up the wire bundle with tape and re-insert wire bundle into backshell to support the transition of overall braid from the backshell to the wire bundle.

Loosely assembly the adapter to the connector and push back the backshell braid. Insert the wire bundle into the adapter and bottom it against the connector. Holding the cable, mark or tag the location where the shield support ring (Glenair Part Number 687-207) will be located. This distance may vary depending on your technique and the flexibility of the wire bundle immediately to the rear of the saddles (Figure 1).

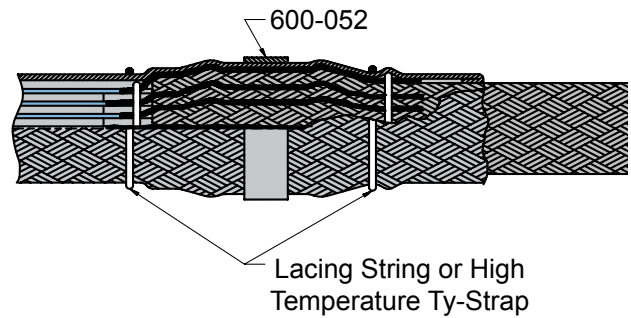


Figure 2

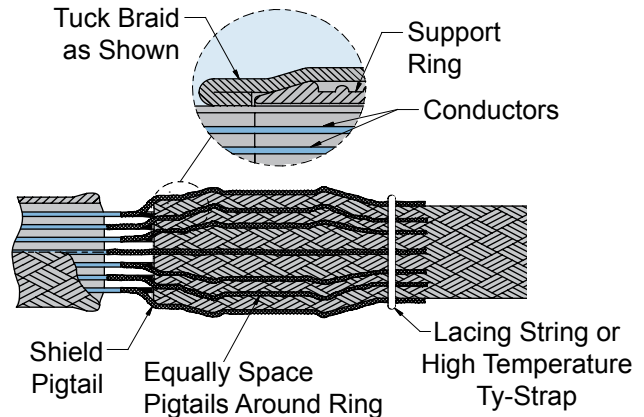
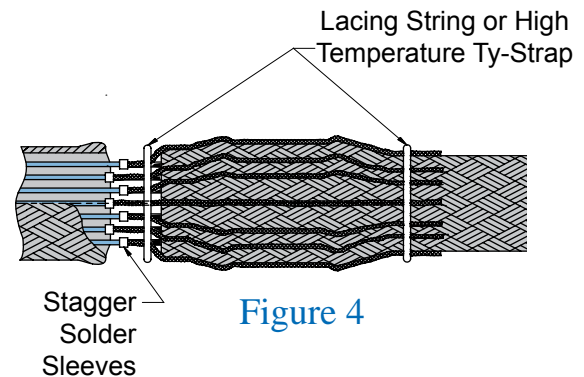
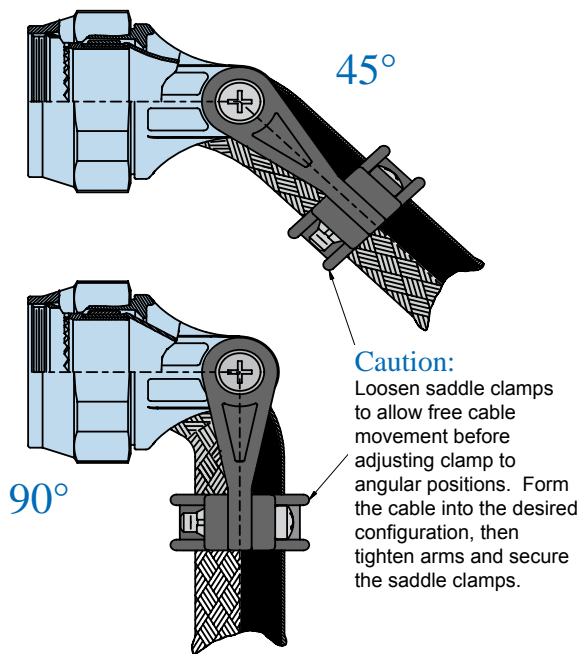


Figure 3

Composite Thermoplastic User Adjustable Swing-Arm Assembly Technical Information

Glenair®

Connector
Accessories



Install Glenair's *Band-it*® band (600-052) between the lace ties onto the center of the support ring as shown in Figure 2. The hand banding tool (600-058) or pneumatic banding tool (600-067) is used for this banding process.

Next, you can wrap the shield support ring assembly with high temperature tape. Place lacing cord, high temperature tape, or high temperature plastic Ty-Straps on the braid transition to the rear of the backshell to secure the overbraid on wire bundle. If you wish, you can cover the overbraid with 102-080 braid sock.

Tighten the adapter to the connector using Glenair 600-091 composite hex coupling torque wrench and related tooling accessories to established torque values. Secure the strain relief saddle onto the wire bundle using TG69 soft jaw pliers. Torque the saddle screws to established values. You can use Teflon tape wrap or M85049/127 bushing strip as needed to cushion the braid sock under the saddle clamps.

With these few steps, your Swing-Arm strain relief installation is complete!

At the marked location, near the shield support ring, wrap tape around wire bundle for snug fit of shield support ring (Figure 1). Tape wrap is optional.

You can then slide the overall braid from the wire bundle side over the shield support ring, trimming braid ends and tucking extra braid underneath itself for a clean appearance.

For pin connectors, slide the backshell forward, and hand tighten backshell to connector. Then, evenly space shield pigtails (Figure 3) or solder sleeve pigtails (Figure 4) around the shield support ring. Cut the pigtails so that the end of the pigtails slightly beyond end of shield support ring.

Bring the shield sock from backshell and completely cover the pigtails and support ring. Trim and fold the braid as shown in Figure 2. Lace tie the shield adjacent to support ring ends.

Connector Designators:

MIL-DTL-38999 Series I, II (F)
 MIL-DTL-38999 Series III and IV (H)

F-H

SELF-LOCKING

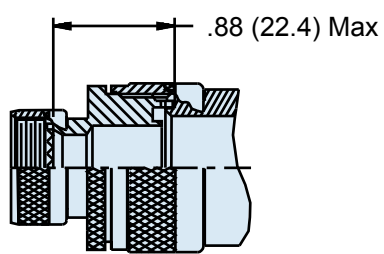
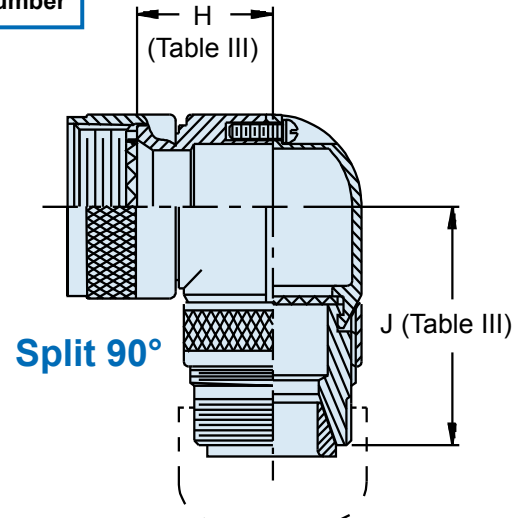
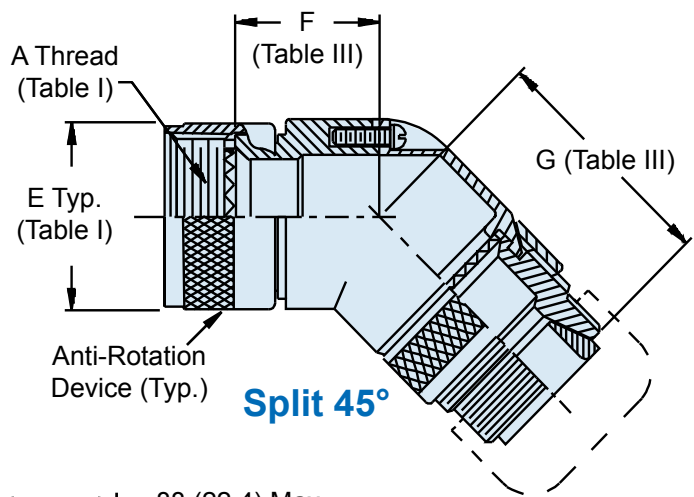
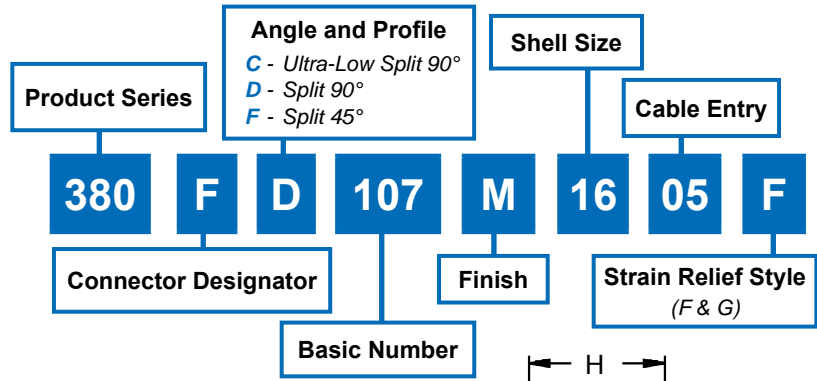
ROTATABLE

COUPLING

TYPE D INDIVIDUAL

OR OVERALL

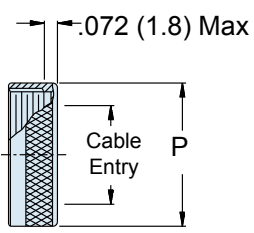
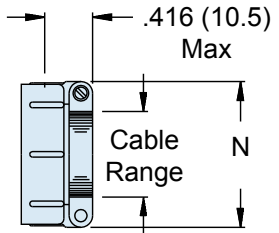
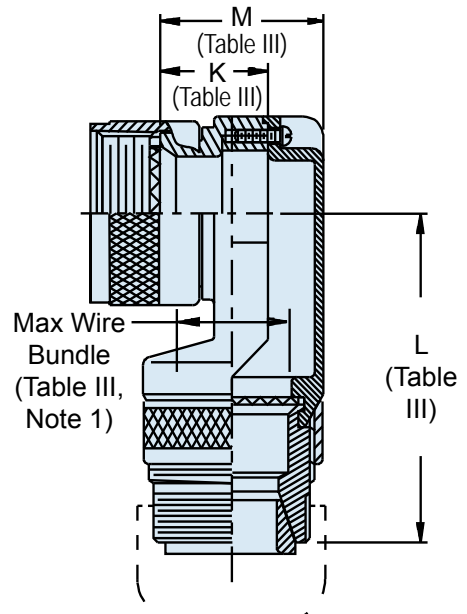
SHIELD TERMINATION



STYLE 2
(See Note 1)

STYLE F
Light Duty
(Table IV)

STYLE G
Light Duty
(Table V)



380-107
EMI/RFI Non-Environmental Backshell
with Strain Relief
Type D - Self-Locking - Rotatable Coupling - Split Shell



Shell Size	F Max	G Max	H Max	J Max	K Max	L Max	M Max	Function C Max Wire Bundle
08/09	.596 (15.1)	1.730 (43.9)	.836 (21.2)	1.670 (42.4)	.496 (12.6)	1.920 (48.8)	.837 (21.3)	250 (6.4)
10/11	.656 (16.7)	1.785 (45.3)	.906 (23.0)	1.725 (43.8)	.426 (10.8)	2.080 (52.8)	.887 (22.5)	.375 (9.5)
12/13	.716 (18.2)	1.855 (47.1)	.966 (24.5)	1.795 (45.6)	.426 (10.8)	2.080 (52.8)	.887 (22.5)	.375 (9.5)
14/15	.776 (19.7)	1.887 (47.9)	1.026 (26.1)	1.827 (46.4)	.436 (11.1)	2.150 (54.6)	.987 (25.1)	.500 (12.7)
16/17	.836 (21.2)	1.987 (50.5)	1.086 (27.6)	1.927 (48.9)	.576 (14.6)	2.200 (55.9)	1.137 (28.9)	.625 (15.9)
18/19	.906 (23.0)	2.045 (51.9)	1.156 (29.4)	1.985 (50.4)	.796 (20.2)	2.230 (56.6)	1.337 (34.0)	.625 (15.9)
20/21	.976 (24.8)	2.106 (53.5)	1.216 (30.9)	2.046 (52.0)	.796 (20.2)	2.230 (56.6)	1.337 (34.0)	.625 (15.9)
22/23	1.036 (26.3)	2.167 (55.0)	1.276 (32.4)	2.107 (53.5)	.696 (17.7)	2.380 (60.5)	1.337 (34.0)	.750 (19.1)
24/25	1.096 (27.8)	2.225 (56.5)	1.336 (33.9)	2.165 (55.0)	.696 (17.7)	2.380 (60.5)	1.337 (34.0)	.750 (19.1)

Symbol	Finish
B	Cadmium Plate, Olive Drab
C	Anodize, Black
GB	Black Anodize, Hard Coat
M	Electroless Nickel
N	Cad Plate, Olive Drab over Electroless Nickel
NF	Cadmium Plate, Olive Drab over Electroless Nickel
MT	Ni-PTFE 1000 Hour Grey™ Nickel Fluorocarbon Polymer
ZN	Zinc-Nickel

Dash No.	N Max	Cable Range	
		Min	Max
02	.968 (24.6)	.125 (3.2)	.250 (6.4)
03	1.046 (26.6)	.250 (6.4)	.375 (9.5)
04	1.156 (29.4)	.312 (7.9)	.500 (12.7)
05	1.218 (30.9)	.437 (11.1)	.625 (15.9)
06	1.343 (34.1)	.562 (14.3)	.750 (19.1)
07	1.468 (37.3)	.687 (17.4)	.875 (22.2)
08	1.593 (40.5)	.812 (20.6)	1.000 (25.4)
10	1.843 (46.8)	1.062 (27.0)	1.250 (31.8)

Dash No.	N Max	Cable Entry Max
02	.656 (16.7)	.125 (3.2)
03	.781 (19.8)	.250 (6.4)
04	.906 (23.0)	.375 (9.5)
05	1.031 (26.2)	.500 (12.7)
06	1.156 (29.4)	.625 (15.9)
07	1.281 (32.5)	.750 (19.1)
08	1.406 (35.7)	.875 (22.2)
09	1.531 (38.9)	1.000 (25.4)
10	1.656 (42.1)	1.125 (28.6)

APPLICATION NOTES

1. When maximum cable entry is exceeded (not available in Function C), Style 2 will be supplied. Dimensions F, G, H and J will not apply. Please consult factory.
2. Cable range is defined as the accommodations range for the wire bundle or cable.
3. Dimensions shown are not intended for inspection criteria.
4. Angular function "C", low-profile split elbow, not available with "S" connector designator.
5. Metric dimensions (mm) are indicated in parentheses.



380-115
EMI/RFI Non-Environmental Backshell
with Strain Relief
Type B - Rotatable Coupling - Low Profile

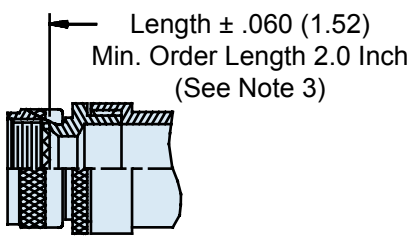
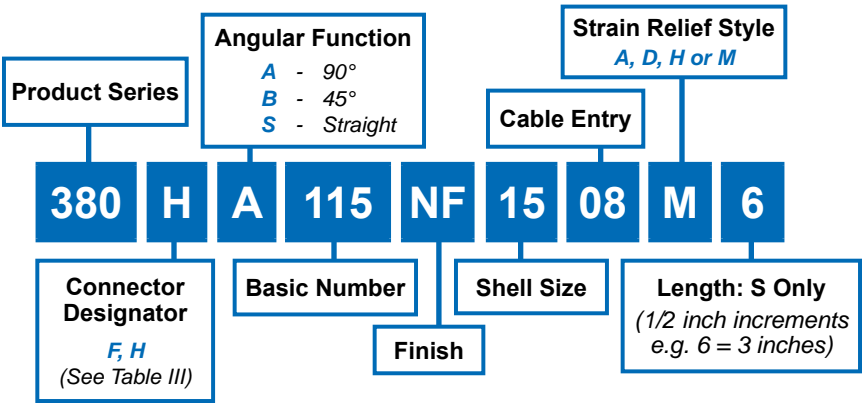
**CONNECTOR
DESIGNATORS**

MIL-DTL-38999 Series I, II (F)
MIL-DTL-38999 Series III and IV (H)

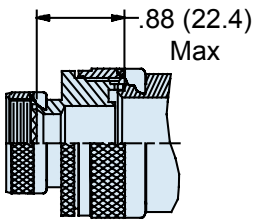
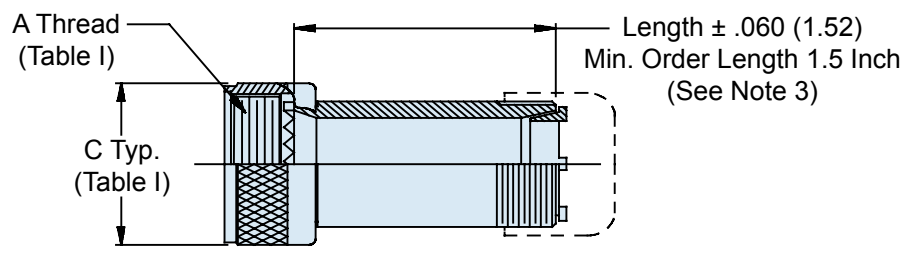
F-H

**ROTATABLE
COUPLING**

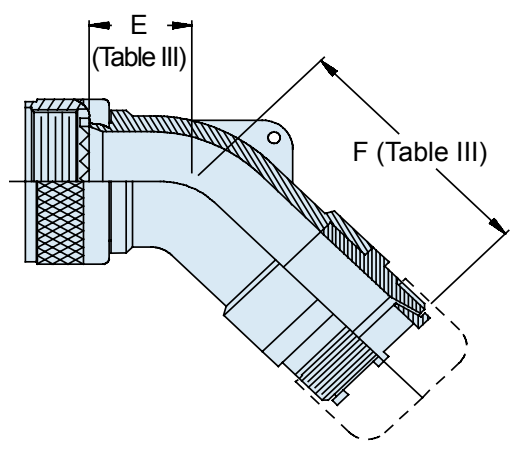
**TYPE B INDIVIDUAL
AND/OR OVERALL
SHIELD TERMINATION**



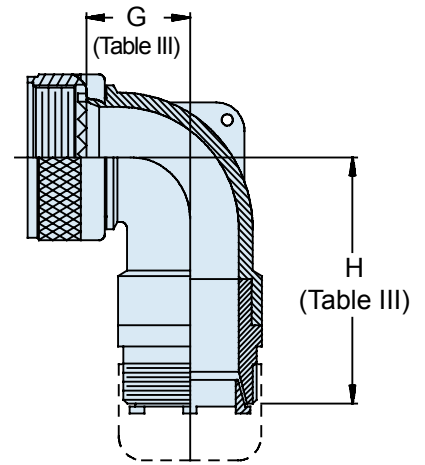
**STYLE 2
(STRAIGHT
See Note 1)**



**STYLE 2
(45° & 90°
See Note 1)**



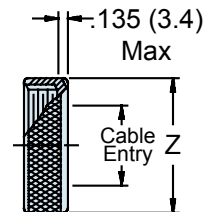
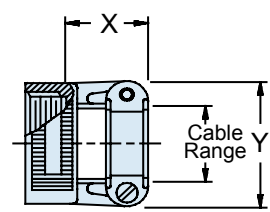
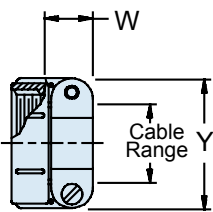
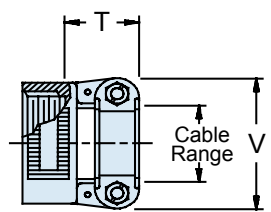
**STYLE A
Medium Duty
(Table IV)**



**STYLE D
Medium Duty
(Table IV)**

**STYLE H
Heavy Duty
(Table IV)**

**STYLE M
Medium Duty
(Table IV)**



380-115
EMI/RFI Non-Environmental Backshell
with Strain Relief
Type B - Rotatable Coupling - Low Profile



TABLE III: ELBOW DIMENSIONS

Connector Designator F	Connector Designator H	E Max	F Max	G Max	H Max
08	09	.457 (11.6)	1.674 (42.5)	.500 (12.7)	1.684 (42.8)
10	11	.520 (13.2)	1.734 (44.0)	.595 (15.1)	1.804 (45.8)
12	13	.582 (14.8)	1.794 (45.6)	.610 (15.5)	1.824 (46.3)
14	15	.645 (16.4)	1.884 (47.9)	.700 (17.8)	1.894 (48.1)
16	17	.738 (18.7)	1.994 (50.6)	.885 (22.5)	1.984 (50.4)
18	19	.926 (23.5)	2.184 (55.5)	.975 (24.8)	2.154 (54.7)
20	21	.926 (23.5)	2.184 (55.5)	.975 (24.8)	2.154 (54.7)
22	23	1.020 (25.9)	2.334 (59.3)	1.125 (28.6)	2.264 (57.5)
24	25	1.020 (25.9)	2.334 (59.3)	1.125 (28.6)	2.264 (57.5)
28		1.145 (29.1)	2.384 (60.6)	1.225 (31.1)	2.434 (61.8)
32		1.207 (30.7)	2.484 (63.1)	1.575 (40.0)	2.684 (68.2)
36		1.238 (31.4)	2.574 (65.4)	1.775 (45.1)	2.684 (68.2)

TABLE II: FINISHES

Symbol	Finish
B	Cadmium Plate, Olive Drab
C	Anodize, Black
GB	Black Anodize, Hard Coat
M	Electroless Nickel
N	Cad Plate, Olive Drab over Electroless Nickel
NF	Cadmium Plate, Olive Drab over Electroless Nickel
MT	Ni-PTFE 1000 Hour Grey™ Nickel Fluorocarbon Polymer
ZN	Zinc-Nickel

TABLE IV: CABLE CLAMP CABLE RANGE

Dash No.	T Max	V Max	Cable Range	
			Min	Max
04	.780 (19.8)	.957 (24.3)	.125 (3.2)	.312 (7.9)
06	.780 (19.8)	1.145 (29.1)	.250 (6.4)	.437 (11.1)
08	.780 (19.8)	1.332 (33.8)	.312 (7.9)	.562 (14.3)
10	.780 (19.8)	1.332 (33.8)	.350 (8.9)	.625 (15.9)
12	.811 (20.6)	1.551 (39.4)	.500 (12.7)	.750 (19.1)
16	.905 (23.0)	1.770 (45.0)	.625 (15.9)	.937 (23.8)
20	1.092 (27.7)	2.113 (53.7)	.875 (22.2)	1.250 (31.8)
24	1.124 (28.5)	2.363 (60.0)	1.000 (25.4)	1.375 (34.9)
28	1.399 (35.5)	2.770 (70.4)	1.250 (31.8)	1.625 (41.3)
32	1.399 (35.5)	3.020 (76.7)	1.437 (36.5)	1.875 (47.6)

APPLICATION NOTES

1. When maximum cable entry is exceeded, Style II will be supplied. Dimensions F, G, H and J will not apply. Please consult factory.
2. Cable range is defined as the accommodation range for the wire bundle or cable. Dimensions shown are not intended for inspection criteria.
3. Consult factory about shorter lengths on straight backshells.
4. Metric dimensions (mm) are indicated in parentheses.

TABLE IV (Continued): CABLE CLAMP CABLE RANGE

Dash No.	W Max	X Max	Y Max	Z Max	Cable Range	
					Min**	Max
03*	.437 (11.1)	.760 (19.3)	.843 (21.4)	.630 (16.0)	.156 (4.0)	.250 (6.4)
04*	.437 (11.1)	.760 (19.3)	.906 (23.0)	.755 (19.2)	.188 (4.8)	.312 (7.9)
06*	.500 (12.7)	.760 (19.3)	1.093 (27.8)	.942 (23.9)	.281 (7.1)	.438 (11.1)
08	.563 (14.3)	.760 (19.3)	1.187 (30.1)	1.067 (27.1)	.344 (8.7)	.562 (14.3)
10	.563 (14.3)	.760 (19.3)	1.281 (32.5)	1.192 (30.3)	.375 (9.5)	.625 (15.9)
12	.563 (14.3)	.760 (19.3)	1.500 (38.1)	1.380 (35.1)	.438 (11.1)	.750 (19.1)
16	.656 (16.7)	1.073 (27.3)	1.719 (43.7)	1.535 (39.0)	.562 (14.3)	.938 (23.8)
20	.656 (16.7)	1.323 (33.6)	2.062 (52.4)	1.848 (46.9)	.750 (19.1)	1.250 (31.8)
24	.656 (16.7)	1.323 (33.6)	2.312 (58.7)	2.255 (57.3)	.781 (19.8)	1.375 (34.9)
28	1.188 (30.2)	1.572 (39.9)	2.719 (69.1)	2.505 (63.6)	.969 (24.6)	1.625 (41.3)
32*	1.187 (30.1)	1.572 (39.9)	2.969 (75.4)	2.755 (70.0)	1.125 (28.6)	1.875 (47.6)
40*	1.125 (28.6)	1.572 (39.9)	3.531 (89.7)	3.255 (82.7)	1.469 (37.3)	2.375 (60.3)

* Not available in Style M clamp.

** Not Applicable Style D

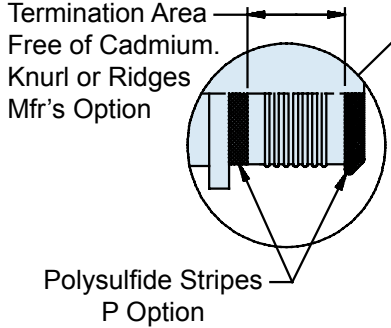
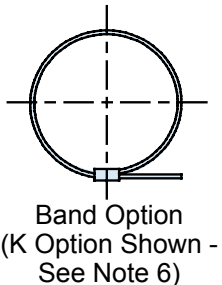
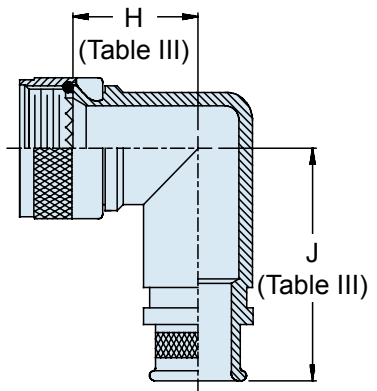
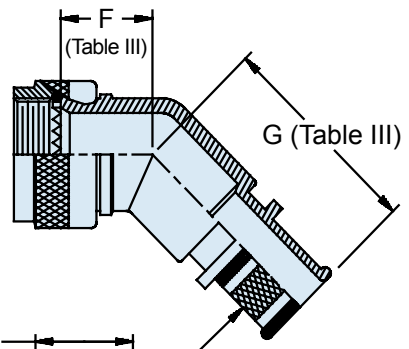
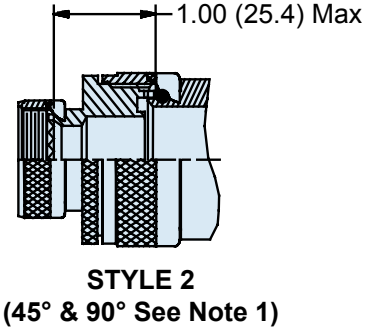
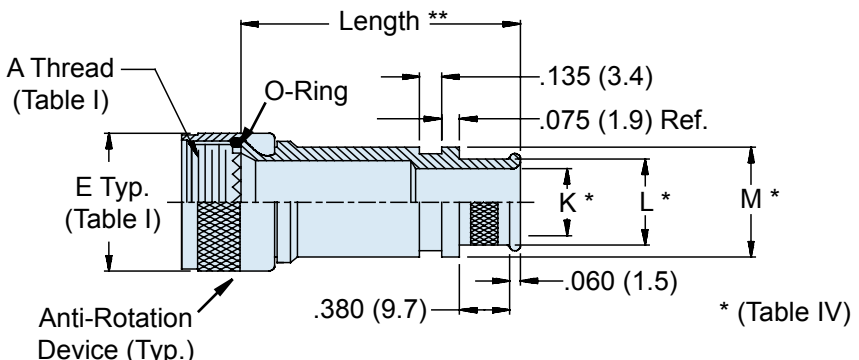
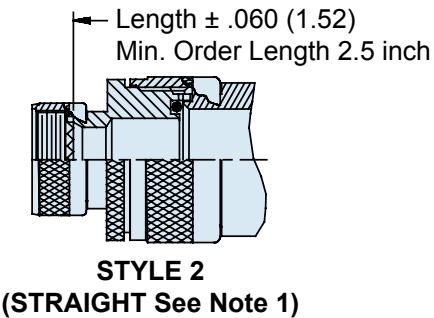
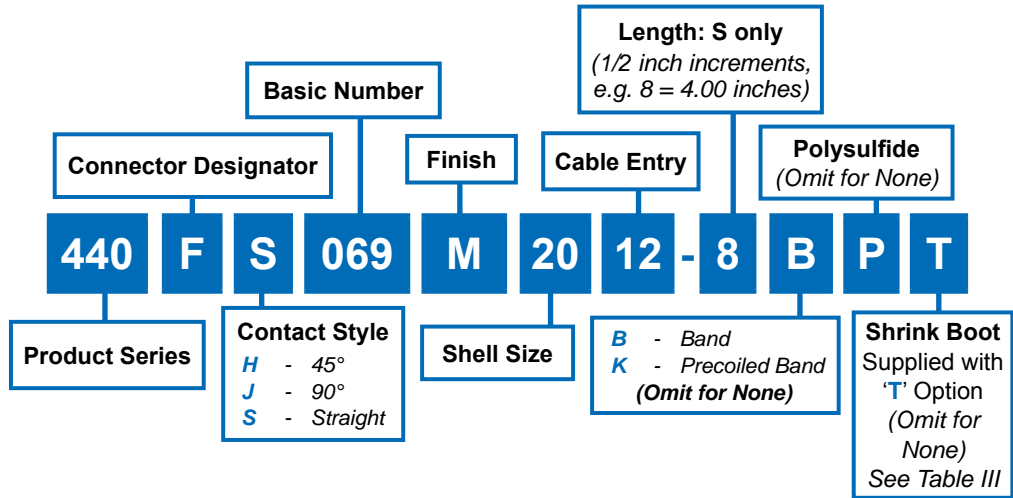


440-069 EMI/RFI Banding and Shrink Boot Adapter Self-Locking Rotatable Coupling - Standard Profile

CONNECTOR DESIGNATORS

F-H

SELF-LOCKING ROTATABLE COUPLING



** Length ± .060 (1.52)
Min. Order Length 2.0 inch
(See Note 4)

440-069

EMI/RFI Banding and Shrink Boot Adapter Self-Locking Rotatable Coupling - Standard Profile



 Connector
Accessories

TABLE III: ELBOW DIMENSIONS

Shell Size		F Max	G Max	H Max	J Max
Conn. Desig. A-F-L	H				
08	09	.806 (20.5)	1.038 (26.4)	.906 (23.0)	1.146 (29.1)
10	11	.832 (21.1)	1.064 (27.0)	.966 (24.5)	1.210 (30.7)
12	13	.856 (21.7)	1.088 (27.6)	1.026 (26.1)	1.268 (32.2)
14	15	.882 (22.4)	1.114 (28.3)	1.076 (27.3)	1.330 (33.8)
16	17	.908 (23.1)	1.150 (29.2)	1.136 (28.9)	1.392 (35.4)
18	19	.927 (23.5)	1.190 (30.2)	1.176 (29.9)	1.438 (36.5)
20	21	.953 (24.2)	1.250 (31.8)	1.236 (31.4)	1.500 (38.1)
22	23	.979 (24.9)	1.320 (33.5)	1.296 (32.9)	1.562 (39.7)
24	25	1.004 (25.5)	1.380 (35.1)	1.356 (34.4)	1.625 (41.3)
28		1.197 (30.4)	1.500 (38.1)	1.422 (36.1)	1.654 (42.0)
32		1.280 (32.5)	1.620 (41.1)	1.545 (39.2)	1.777 (45.1)
36		1.294 (32.9)	1.750 (44.5)	1.652 (42.0)	1.844 (46.8)
40		1.320 (33.5)	1.870 (47.5)	1.960 (49.8)	2.070 (52.6)

- When maximum cable entry is exceeded, Style 2 will be supplied. Dimensions F, G, H and J will not apply. Please consult factory.
- Metric dimensions (mm) are indicated in parentheses.
- Interface O-Ring not supplied with Connector Designator A.
- Consult factory for shorter lengths on straight backshells.
- See G-5 for Shrink Boot Reference Information.
- Backshells supplied with 600-052-* band, see Glenair Series 600 Tool Catalog for installation.

TABLE IV: CABLE ENTRY

Dash No.	K	L	M	Shrink Boot *
01	.125 (3.2)	.250 (6.4)	.312 (7.9)	770-003S111
31	.188 (4.8)	.312 (7.9)	.374 (9.5)	770-003S111
02	.250 (6.4)	.375 (9.5)	.437 (11.1)	770-003S112
32	.312 (7.9)	.438 (11.1)	.500 (12.7)	770-003S112
03	.375 (9.5)	.500 (12.7)	.562 (14.3)	770-003S112
33	.438 (11.1)	.562 (14.3)	.624 (15.8)	770-001S104
04	.500 (12.7)	.625 (15.9)	.687 (17.4)	770-001S104
34	.562 (14.3)	.688 (17.5)	.750 (19.1)	770-001S104
05	.625 (15.9)	.750 (19.1)	.812 (20.6)	770-001S104
35	.688 (17.5)	.812 (20.6)	.874 (22.2)	770-001S104
06	.750 (19.1)	.875 (22.2)	.937 (23.8)	770-001S105
36	.812 (20.6)	.938 (23.8)	1.000 (25.4)	770-001S105
07	.875 (22.2)	1.000 (25.4)	1.062 (27.0)	770-001S105
37	.938 (23.8)	1.062 (27.0)	1.124 (28.5)	770-001S106
08	1.000 (25.4)	1.125 (28.6)	1.187 (30.1)	770-001S106
38	1.062 (27.0)	1.188 (30.2)	1.250 (31.8)	770-001S107
09	1.125 (28.6)	1.250 (31.8)	1.312 (33.3)	770-001S107
10	1.250 (31.8)	1.375 (34.9)	1.437 (36.5)	770-001S107
11	1.375 (34.9)	1.500 (38.1)	1.562 (39.7)	770-001S107
12	1.500 (38.1)	1.625 (41.3)	1.687 (42.8)	770-001S108
13	1.625 (41.3)	1.750 (44.5)	1.812 (46.0)	770-001S108
14	1.750 (44.5)	1.875 (47.6)	1.937 (49.2)	770-001S109
15	1.875 (47.6)	2.000 (50.8)	2.062 (52.4)	770-001S109
16	2.000 (50.8)	2.125 (54.0)	2.187 (55.5)	

* Glenair Shrink Boot Supplied with "T" Option
(see Part Number Development)

TABLE II: FINISHES

Symbol	Finish
B	Cadmium Plate, Olive Drab
C	Anodize, Black
GB	Black Anodize, Hard Coat
M	Electroless Nickel
N	Cad Plate, Olive Drab over Electroless Nickel
NF	Cadmium Plate, Olive Drab over Electroless Nickel
MT	Ni-PTFE 1000 Hour Grey™ Nickel Fluorocarbon Polymer
Z1	Stainless Steel Passivate
ZL	CRES, Electroless Nickel
ZN	Zinc-Nickel

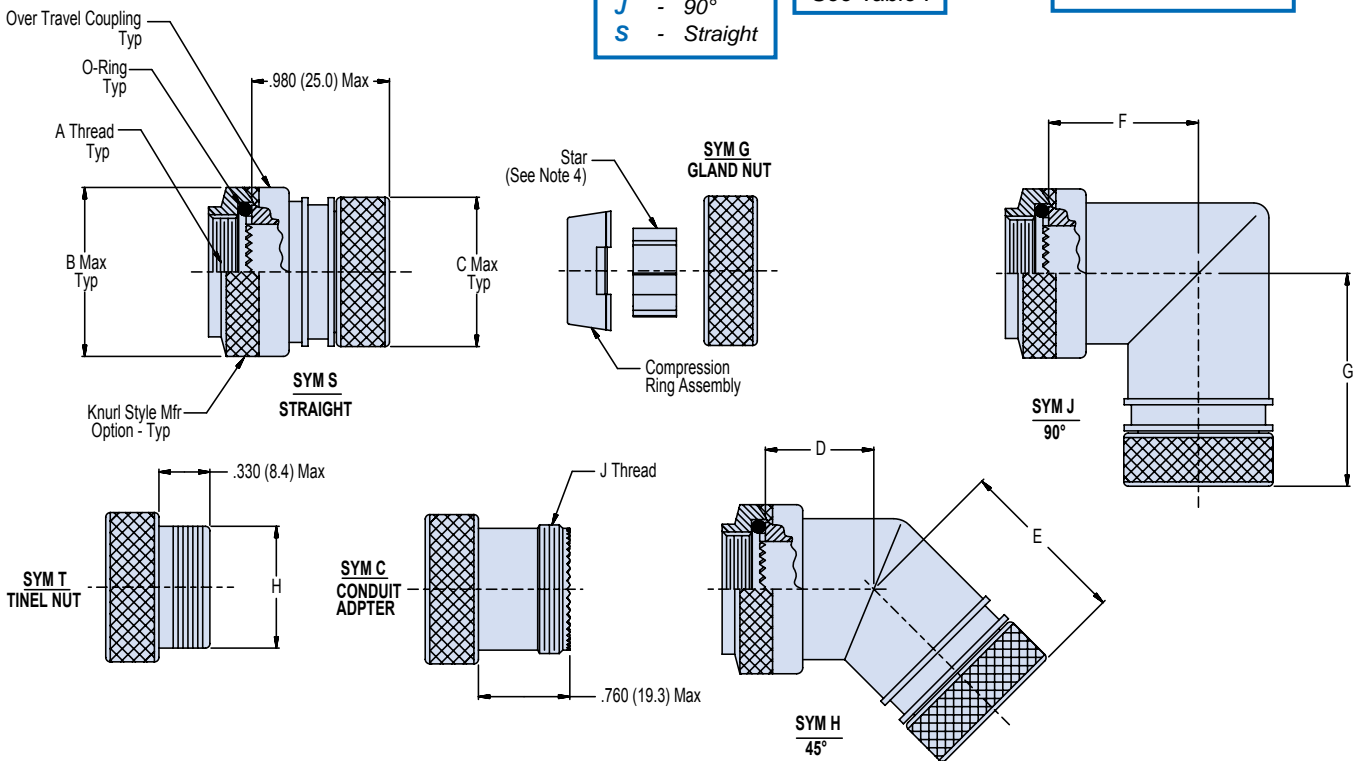
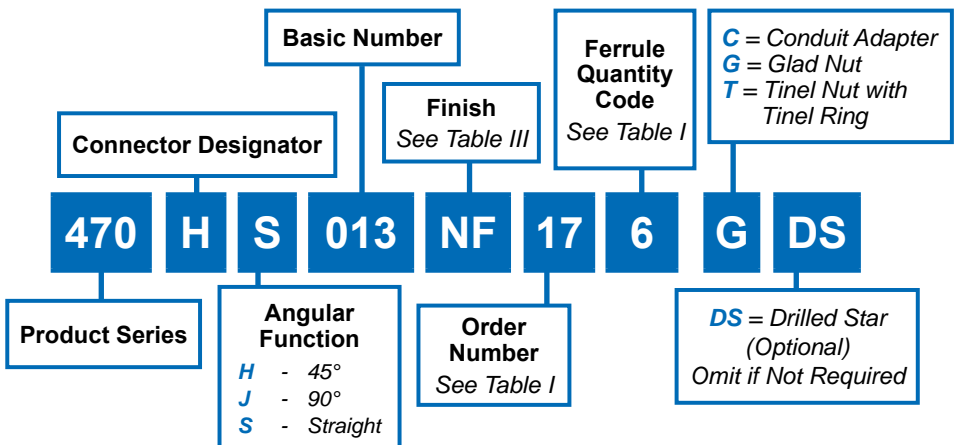


470H*013 EMI/RFI StarShield Backshell for MIL-DTL-38999 Series III and IV Connectors

CONNECTOR DESIGNATOR

H

**SELF-LOCKING
ROTATABLE
COUPLING**



APPLICATION NOTES

1. Assembly identified with manufacturer's name and part number, space permitting.
2. For effective grounding, connector with conductive finish should be used.
3. Glenair Series 600 Series Backshell Assembly Tools are recommended for assembly and installation.
4. Star not supplied with Order Number 09. Drilled star is available on order numbers 15-25 only. If optional ferrule quantity per Table I is selected, one split and one solid star will be supplied.
5. Ferrules sold separately.
6. Material/Finish:
Adapter, elbows, coupling and gland nut, compression ring, star - aluminum alloy or cres/Table III
O-Ring - Silicone/N.A.
Tinel ring - Nickel-titanium alloy/N.A.
7. Metric dimensions (mm) are indicated in parentheses.



470H*013
EMI/RFI StarShield Backshell
for MIL-DTL-38999 Series III and IV Connectors



TABLE I: ORDER NUMBER AND DIMENSIONS (Continued Below)

Order Number	Connector Shell Size Ref	A Thread Iso Metric	B Dia Max	C Dia Max	D Max
09	A/9	M12 X 1 - 6H	.750 (19.0)	.690 (17.5)	.490 (12.5)
11	B/11	M15 X 1 - 6H	.870 (22.0)	.850 (21.5)	.510 (13.0)
13	C/13	M18 X 1 - 6H	1.000 (25.4)	.890 (22.5)	.550 (14.0)
15	D/15	M22 X 1 - 6H	1.200 (30.5)	1.000 (25.4)	.570 (14.5)
17	E/17	M25 X 1 - 6H	1.320 (33.5)	1.120 (28.5)	.590 (15.0)
19	F/19	M28 X 1 - 6H	1.460 (37.0)	1.240 (31.5)	.610 (15.5)
21	G/21	M31 X 1 - 6H	1.520 (38.5)	1.380 (35.0)	.650 (16.5)
23	H/23	M34 X 1 - 6H	1.650 (42.0)	1.500 (38.0)	.670 (17.0)
25	J/25	M37 X 1 - 6H	1.830 (46.5)	1.610 (41.0)	.710 (18.0)

TABLE I: (Continued from Above)

Order Number	E Max	F Max	G Max	H ± .003 (.08)	J Thread Iso Metric	Ferrule Quantity (See Note 4)	
						Std.	Opt.
09	1.000 (25.4)	.630 (16.0)	1.140 (29.0)	.435 (11.0)	M12 X 1 - 6g	1	-
11	1.020 (26.0)	.690 (17.5)	1.200 (17.5)	.623 (15.8)	M15 X 1 - 6g	2	-
13	1.040 (26.5)	.750 (19.0)	1.260 (32.0)	.746 (32.0)	M18 X 1 - 6g	3	-
15	1.080 (27.5)	.810 (20.5)	1.320 (33.5)	.871 (22.1)	M22 X 1 - 6g	5	-
17	1.100 (28.0)	.870 (22.0)	1.380 (35.0)	.996 (25.3)	M25 X 1 - 6g	6	7
19	1.120 (28.5)	.930 (23.5)	1.440 (36.5)	1.121 (28.5)	M28 X 1 - 6g	7	-
21	1.140 (29.0)	1.000 (25.4)	1.520 (38.5)	1.245 (31.6)	M31 X 1 - 6g	9	11
23	1.180 (30.0)	1.060 (27.0)	1.570 (40.0)	1.371 (34.8)	M34 X 1 - 6g	10	13
25	1.220 (31.0)	1.120 (28.5)	1.630 (41.5)	1.371 (34.8)	M37 X 1 - 6g	12	17

TABLE II: SHELL SIZE AND SHRINK BOOT

Shell Size	Shrink Boot Ref. Part No.
09	770-001S104
11	770-001S106
13	770-001S106
15	770-001S107
17	770-001S107
19	770-001S108
21	770-001S108
23	770-001S108
25	770-001S109

TABLE III: FINISHES

Symbol	Finish
M	Electroless Nickel
NF	Cadmium Plate, Olive Drab over Electroless Nickel
Z1	Stainless Steel/Passivate
ZL	CRES/Electroless Nickel
ZM	Stainless Steel/ Electroless Nickel

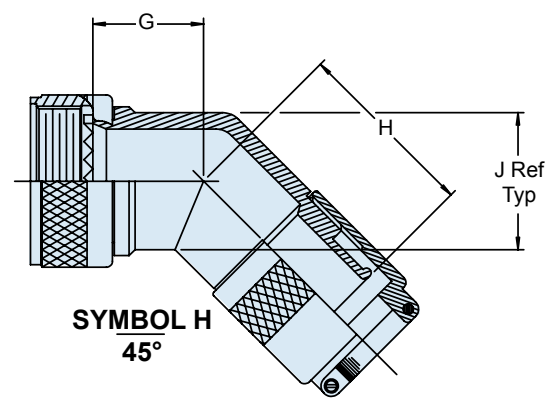
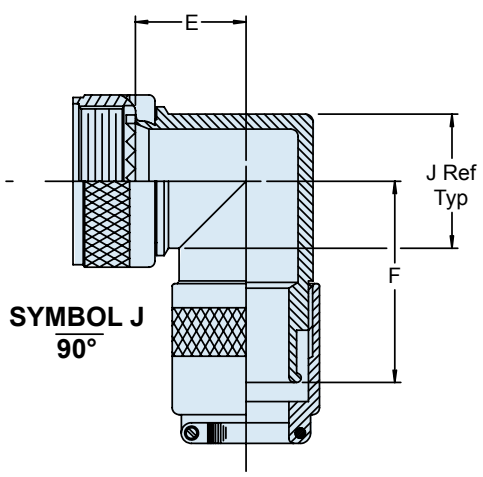
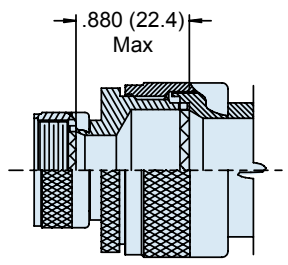
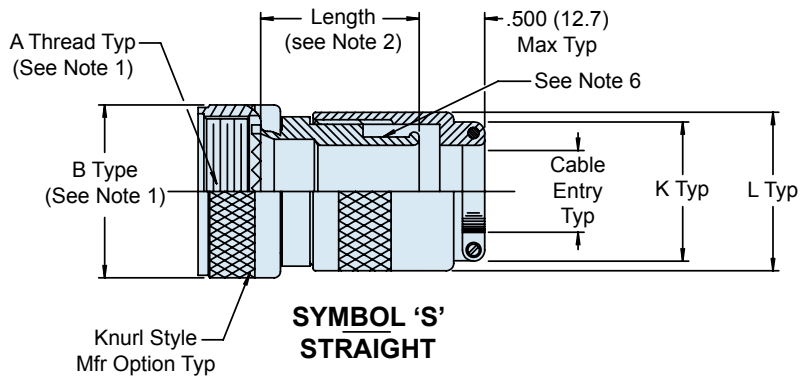
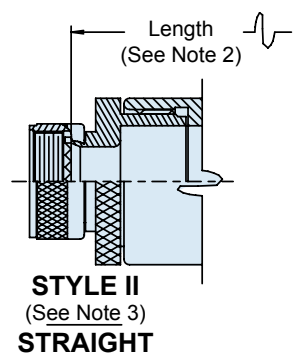
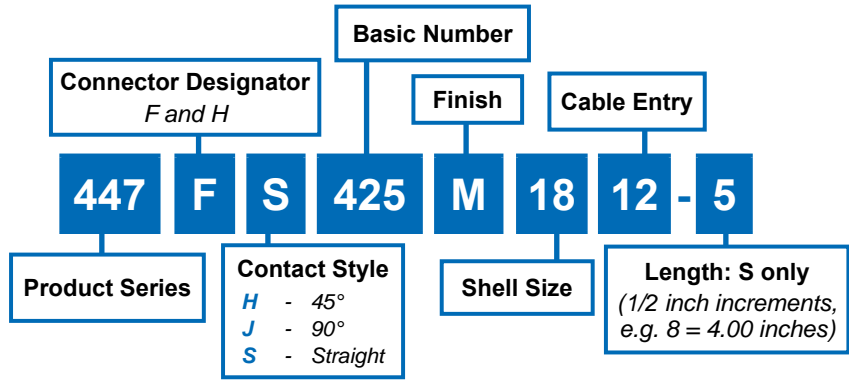




447-425
EMI/RFI Non-Environmental Band-in-a-Can Backshell
With Cable Clamp Strain-Relief
Rotatable Coupling - Standard Profile

Connector Designators:
 MIL-DTL-38999 Series I, II (F)
 MIL-DTL-38999 Series III and IV (H)

F-H
ROTATABLE
COUPLING



447-425
EMI/RFI Non-Environmental Band-in-a-Can Backshell
With Cable Clamp Strain-Relief
Rotatable Coupling - Standard Profile



TABLE III: BACKSHELL DIMENSIONS							
Shell Size		E Max.	F Max.	G Max.	H Max.	J Ref.	Max. Dash No. (F, H)
F	H						
08	09	0.75 (1.9)	1.5 (3.8)	0.639 (1.6)	1.38 (3.5)	0.45 (1.1)	01
10	11	0.81 (2.1)	1.55 (3.9)	0.664 (1.7)	1.41 (3.6)	0.58 (1.5)	02
12	13	0.87 (2.2)	1.61 (4.1)	0.688 (1.7)	1.43 (3.6)	0.69 (1.8)	04
14	15	0.92 (2.3)	1.68 (4.3)	0.705 (1.8)	1.46 (3.7)	0.82 (2.1)	05
16	17	0.98 (2.5)	1.74 (4.4)	0.732 (1.9)	1.48 (3.8)	0.94 (2.4)	06
18	19	1.02 (2.6)	1.76 (4.5)	0.748 (1.9)	1.49 (3.8)	1.03 (2.6)	06
20	21	1.08 (2.7)	1.82 (4.6)	0.773 (2.0)	1.51 (3.8)	1.16 (2.9)	07
22	23	1.14 (2.9)	1.90 (4.8)	0.800 (2.0)	1.55 (3.9)	1.28 (3.3)	08
24	25	1.20 (3.0)	1.97 (5.0)	0.823 (2.1)	1.58 (4.0)	1.41 (3.6)	09

TABLE IV: CABLE ENTRY				
Dash No.	K Max.	L Max.	Cable Entry	
			Min.	Max.
1	0.843 (2.1)	0.78 (2.0)	0.125 (0.3)	0.250 (0.6)
2	0.968 (2.5)	0.97 (2.5)	0.156 (0.4)	0.375 (1.0)
3	1.046 (2.7)	1.05 (2.7)	0.250 (0.6)	0.438 (1.1)
4	1.156 (2.9)	1.15 (2.9)	0.280 (0.7)	0.500 (1.3)
5	1.218 (3.1)	1.22 (3.1)	0.375 (1.0)	0.625 (1.6)
6	1.343 (3.4)	1.34 (3.4)	0.500 (1.3)	0.750 (1.9)
7	1.468 (3.7)	1.47 (3.7)	0.625 (1.6)	0.875 (2.2)
8	1.593 (4.0)	1.59 (4.0)	0.750 (1.9)	1.000 (2.5)
9	1.718 (4.4)	1.72 (4.4)	0.875 (2.2)	1.125 (2.9)
10	1.843 (4.7)	1.84 (4.7)	1.000 (2.5)	1.250 (3.2)

TABLE II: FINISHES	
Symbol	Finish
B	Cadmium Plate, Olive Drab
C	Anodize, Black
GB	Black Anodize, Hard Coat
M	Electroless Nickel
N	Cad Plate, Olive Drab over Electroless Nickel
NF	Cadmium Plate, Olive Drab over Electroless Nickel
MT	Ni-PTFE 1000 Hour Grey™ Nickel Fluorocarbon Polymer
Z1	Stainless Steel Passivate
ZL	CRES, Electroless Nickel
ZN	Zinc-Nickel

APPLICATION NOTES

- Standard minimum length for Style I is 1 inch (25.4), Style II is 1.5 inches (38.1). Consult factory about shorter lengths (Note: Applies to Symbol **S** Straight only).
- When cable diameter exceeds "Max Dash No" in Table I, Style II will be supplied.
- For effective grounding, connector with conductive finish should be used.
- Glenair Series 600 Backshell Assembly tools are recommended for assembly and installation.
- For shield termination see Glenair Drawings 600-050 and 600-052.
- Material/Finish: Adapters, Elbows, Coupling Nuts, Ferrule, Clamp - Al Alloy/See Table I Hardware - Cres/Passivate
- Metric dimensions (mm) are indicated in parentheses.



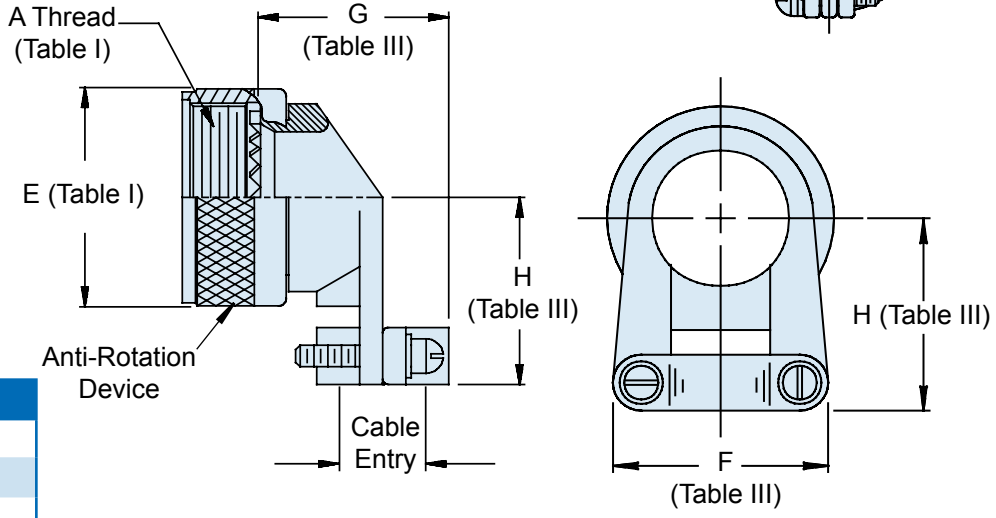
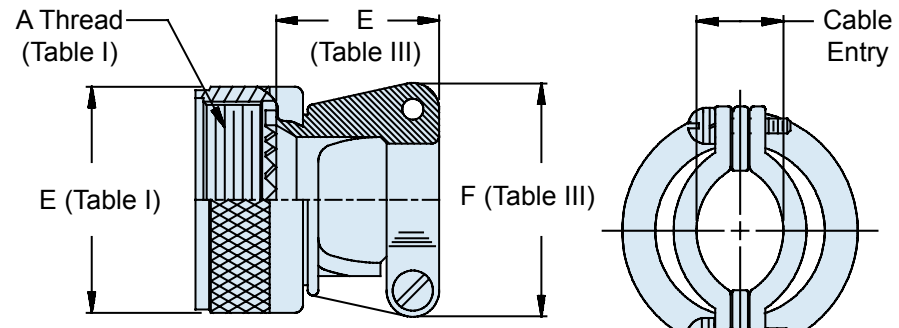
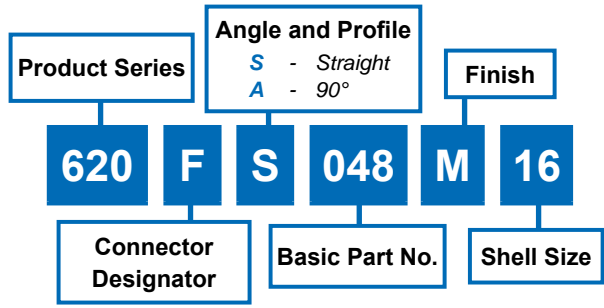
620-048 Strain Relief Self-Locking Rotatable Coupling - Straight and 90°

CONNECTOR DESIGNATOR

MIL-DTL-38999 Series I, II (F)
MIL-DTL-38999 Series III and IV (H)

F-H

SELF-LOCKING ROTATABLE COUPLING



- ### APPLICATION NOTES
1. Cable range is defined as the accommodation range for the wire bundle or cable. Dimensions shown are not intended for inspection criteria.
 2. Metric dimensions (mm) are indicated in parentheses.

TABLE II: FINISHES	
Symbol	Finish
B	Cadmium Plate, Olive Drab
C	Anodize, Black
G	Hard Coat, Anodic
GB	Black Anodize, Hard Coat
M	Electroless Nickel
N	Cad Plate, Olive Drab over Electroless Nickel
NF	Cadmium Plate, Olive Drab over Electroless Nickel
MT	Nickel Fluorocarbon Polymer
Z1	Stainless Steel Passivate
ZN	Zinc-Nickel

TABLE III: CABLE ENTRY						
Shell Size	E		F		Cable Range	
	Max	Max	Max	Max	Closed	Open
08/09	.830 (21.1)	.780 (19.8)	.704 (17.9)	.808 (20.5)	.098 (2.5)	.234 (5.9)
10/11	.850 (21.6)	.832 (21.1)	.786 (20.0)	.867 (22.0)	.153 (3.9)	.234 (5.9)
12/13	.900 (22.9)	.988 (25.1)	.979 (24.9)	.929 (23.6)	.190 (4.8)	.328 (8.3)
14/15	.900 (22.9)	1.046 (26.6)	1.039 (26.4)	.992 (25.2)	.260 (6.6)	.457 (11.6)
16/17	.940 (23.9)	1.319 (33.5)	1.188 (30.2)	1.056 (26.8)	.283 (7.2)	.614 (15.6)
18/19	1.020 (25.9)	1.451 (36.9)	1.300 (33.0)	1.233 (31.3)	.325 (8.3)	.634 (16.1)
20/21	1.070 (27.2)	1.557 (39.5)	1.425 (36.2)	1.296 (32.9)	.343 (8.7)	.698 (17.7)
22/23	1.190 (30.2)	1.653 (42.0)	1.550 (39.4)	1.358 (34.5)	.381 (9.7)	.823 (20.9)
24/25	1.220 (31.0)	1.775 (45.1)	1.675 (42.5)	1.420 (36.1)	.418 (10.6)	.853 (21.7)

620-049
Strain Relief
Self-Locking Rotatable Coupling - 45°



**CONNECTOR
DESIGNATOR**

MIL-DTL-38999 Series I, II (F)
MIL-DTL-38999 Series III and IV (H)

F-H

SELF-LOCKING

**ROTATABLE
COUPLING**

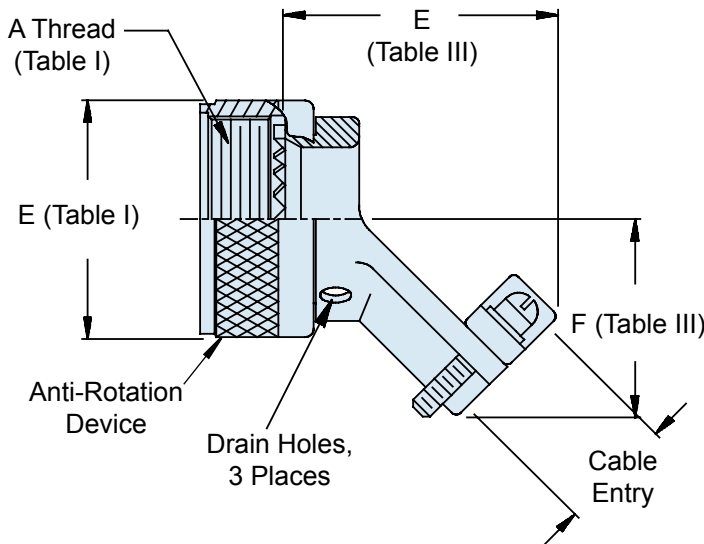
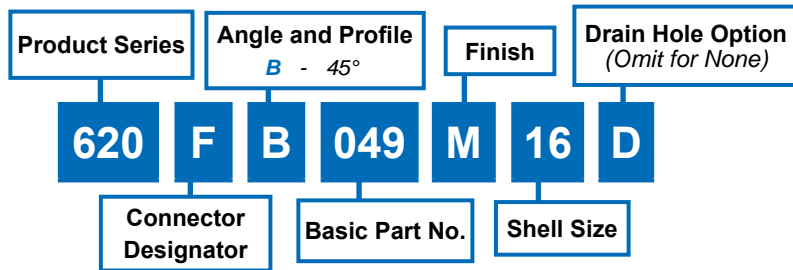


TABLE II: FINISHES	
Symbol	Finish
B	Cadmium Plate, Olive Drab
C	Anodize, Black
GB	Black Anodize, Hard Coat
M	Electroless Nickel
N	Cad Plate, Olive Drab over Electroless Nickel
NF	Cadmium Plate, Olive Drab over Electroless Nickel
MT	Ni-PTFE 1000 Hour Grey™ Nickel Fluorocarbon Polymer
Z1	Stainless Steel Passivate
ZN	Zinc-Nickel

TABLE III: CABLE ENTRY				
Shell Size	E Max	F Max	Cable Range	
			Closed	Open
08/09	1.536 (39.0)	.730 (18.5)	.125 (3.2)	.204 (5.2)
10/11	1.566 (39.8)	.810 (20.6)	.187 (4.7)	.286 (7.3)
12/13	1.646 (41.8)	.870 (22.1)	.291 (7.4)	.416 (10.6)
14/15	1.686 (42.8)	.930 (23.6)	.351 (8.9)	.476 (12.1)
16/17	1.796 (45.6)	.990 (25.1)	.501 (12.7)	.626 (15.9)
18/19	1.906 (48.4)	1.110(28.2)	.518 (13.2)	.706 (17.9)
20/21	1.956 (49.7)	1.170 (29.7)	.581 (14.8)	.831 (21.1)
22/23	1.996 (50.7)	1.240 (31.5)	.644 (16.4)	.956 (24.3)
24/25	2.046 (52.0)	1.300 (33.0)	.706 (17.9)	1.081 (27.5)

APPLICATION NOTES

1. Cable range is defined as the accommodation range for the wire bundle or cable. Dimensions shown are not intended for inspection criteria.
2. Metric dimensions (mm) are indicated in parentheses.



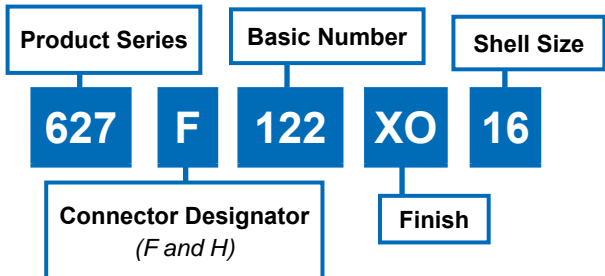


627-122
Composite Self-Locking Rotatable Coupling
Swing-Arm Strain Relief
for Connector Designators F & H

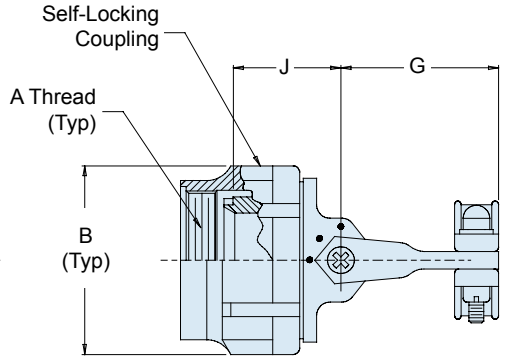
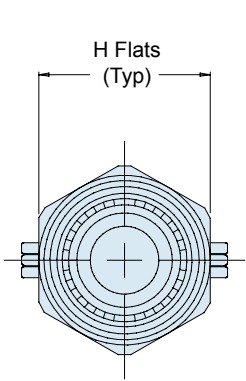
**CONNECTOR
DESIGNATOR**

MIL-DTL-38999 Series I, II (F)
MIL-DTL-38999 Series III and IV (H)

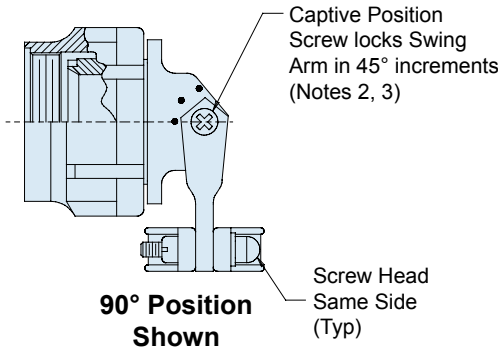
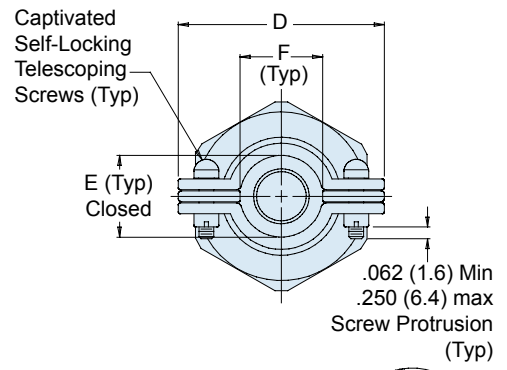
F-H
SELF-LOCKING
ROTATABLE
COUPLING



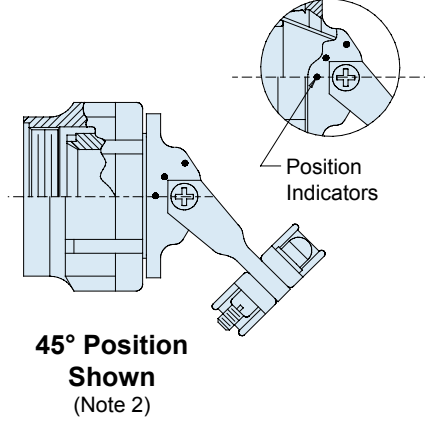
U.S. PATENT NO. 6419519



Straight Position



90° Position Shown



45° Position Shown
(Note 2)



627-122
Composite Self-Locking Rotatable Coupling
Swing-Arm Strain Relief
for Connector Designators F & H



TABLE II: FINISHES

Symbol	Finish
XO	Composite Material, No Plating, Color Black and Brown, Brass Interface Shroud and Adapter - Nickel Plated

TABLE III: CONNECTOR SHELL SIZE ORDER NUMBER

Shell Size for Connector Designator		B Dia Max	D Max	E ±.06 (1.5)	F Min	G Max	H Flats		J ±.03 (0.8)
F	H						Max	Min	
08	09	.812 (20.6)	.980 (24.9)	.265 (6.7)	.220 (5.9)	1.060 (26.9)	.750 (19.1)	.736 (18.7)	.880 (22.4)
10	11	.938 (23.8)	1.050 (26.7)	.310 (7.9)	.270 (6.9)	1.090 (27.7)	.875 (22.2)	.860 (21.8)	.910 (23.1)
12	13	1.125 (28.6)	1.200 (30.5)	.390 (9.9)	.350 (8.9)	1.180 (30.0)	1.000 (25.4)	.980 (24.9)	.950 (24.1)
14	15	1.250 (31.8)	1.300 (33.0)	.506 (12.9)	.470 (11.9)	1.240 (31.5)	1.125 (28.6)	1.100 (27.9)	1.010 (25.7)
16	17	1.375 (34.9)	1.440 (36.6)	.591 (15.0)	.550 (14.0)	1.320 (33.5)	1.250 (31.8)	1.224 (31.1)	1.050 (26.7)
18	19	1.500 (38.1)	1.560 (39.6)	.661 (16.8)	.620 (15.7)	1.390 (35.3)	1.375 (34.9)	1.469 (37.3)	1.080 (30.0)
20	21	1.625 (41.3)	1.690 (42.9)	.744 (18.9)	.700 (17.8)	1.550 (39.4)	1.500 (38.1)	1.500 (38.1)	1.120 (28.4)
22	23	1.750 (44.5)	1.770 (45.0)	.826 (21.0)	.780 (19.8)	1.550 (39.4)	1.625 (41.3)	1.581 (40.2)	1.160 (29.5)
24	25	1.875 (47.6)	1.890 (48.0)	.896 (22.8)	.850 (21.6)	1.610 (40.9)	1.750 (44.5)	1.960 (49.8)	1.200 (30.5)

Consult factory for additional entry sizes available.

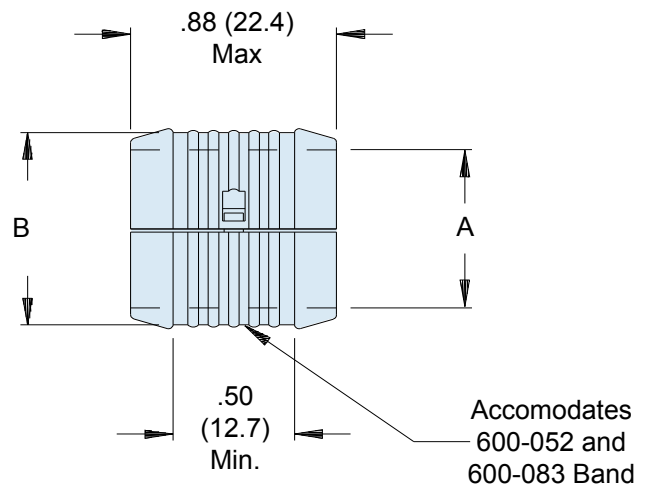
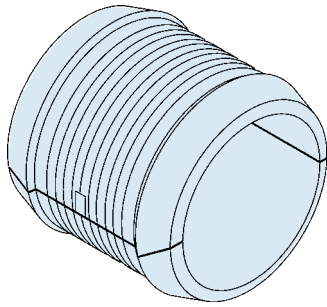
APPLICATION NOTES

- Glenair series 600 Backshell assembly Tools are recommended for assembly and installation.
- Swing Arm locks in 45° increments—Sizes 08 thru 24, additional positioning increments are manufacturer's option.
- Captive Screw can remain engaged to the body when positioning the Arm. When tightened, the screw shall not protrude into the inside surfaces.
- Metric dimensions (mm) are indicated in parentheses.



687-207 Composite MIL-C-85049/93 Banding Split-Ring

**For Use
with Glenair
Banding
Backshells and
Braid Socks**



EXAMPLE PART NUMBER:

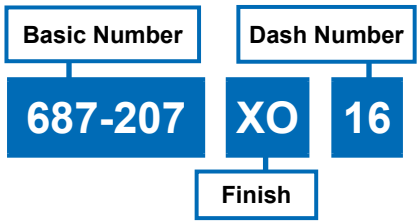
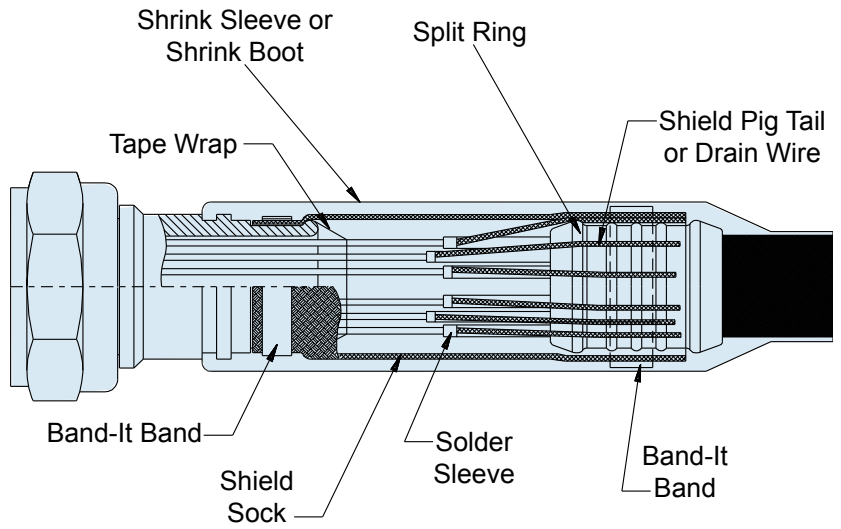
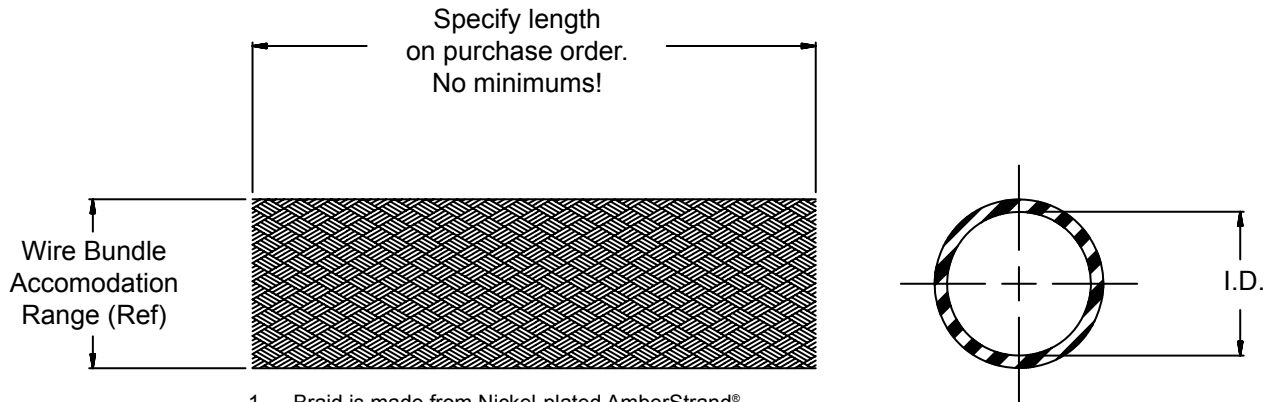


TABLE I: DASH NUMBER		
Dash No.	A Diameter ± .03 (0.8)	B Diameter ± .03 (0.8)
04	.25 (6.4)	.36 (9.1)
06	.38 (9.7)	.49 (12.4)
08	.50 (12.7)	.61 (15.5)
10	.63 (16.0)	.74 (18.8)
12	.75 (19.1)	.86 (21.8)
14	.88 (22.4)	.99 (25.1)
16	1.00 (25.4)	1.10 (27.9)
18	1.13 (28.7)	1.24 (31.5)
20	1.25 (31.8)	1.36 (34.5)
22	1.38 (35.1)	1.49 (37.8)
24	1.50 (38.1)	1.61 (40.9)
26	1.63 (41.4)	1.74 (44.2)
28	1.75 (44.5)	1.86 (47.2)

EXAMPLE APPLICATION



103-026 and -027
EMI/RFI Composite Braided Shielding
 100% Composite and 75% / 25% Blended Versions



1. Braid is made from Nickel-plated AmberStrand® composite thermoplastic fibers. AmberStrand® is a registered trademark of Syscom Advanced Materials Inc.

103-026 (100% AmberStrand®)			
Dash Number	Nominal I.D	Wire Bundle Range	Approximate Grams Per Foot
004	.125 (3.2)	.093 (2.4)	1.0
		.140 (3.5)	
008	.250 (6.4)	.125 (3.2)	1.8
		.312 (7.9)	
012	.375 (9.5)	.250 (6.4)	2.3
		.437 (11.1)	
016	.500 (12.7)	.250 (6.4)	3.7
		.590 (15.0)	
020	.625 (15.9)	.375 (9.5)	4.4
		.700 (17.8)	
024	.750 (19.1)	.500 (12.7)	5.2
		.830 (21.1)	
032	1.000 (25.4)	.780 (19.8)	8.0
		1.100 (27.94)	
040	1.250 (31.8)	.938 (23.8)	10.0
		1.312 (33.3)	
048	1.500 (38.1)	1.187 (30.1)	15.2
		1.590 (40.37)	
064	2.000 (50.8)	1.312 (33.3)	22.0
		2.090 (50.8)	

103-027 (75% AmberStrand®/25% Nickel Copper)				
Dash Number	Nominal I.D	Wire Bundle Range	Approximate Grams Per Foot	Carrier Breakdown
004	.125 (3.2)	.093 (2.4)	1.5	16 - Amberstrand® 4 - Nickel Copper
		.140 (3.5)		
008	.250 (6.4)	.125 (3.2)	2.4	24 - Amberstrand® 8 - Nickel Copper
		.312 (7.9)		
012	.375 (9.5)	.250 (6.4)	3.9	36 - Amberstrand® 12 - Nickel Copper
		.437 (11.1)		
016	.500 (12.7)	.250 (6.4)	6.0	54 - Amberstrand® 18 - Nickel Copper
		.590 (15.0)		
020	.625 (15.9)	.375 (9.5)	6.4	54 - Amberstrand® 18 - Nickel Copper
		.700 (17.8)		
024	.750 (19.1)	.500 (12.7)	7.2	72 - Amberstrand® 24 - Nickel Copper
		.830 (21.1)		
032	1.000 (25.4)	.780 (19.8)	11.0	48 - Amberstrand® 16 - Nickel Copper
		1.100 (27.94)		
040	1.250 (31.8)	.938 (23.8)	15.0	72 - Amberstrand® 24 - Nickel Copper
		1.312 (33.3)		
048	1.500 (38.1)	1.187 (30.1)	25.2	72 - Amberstrand® 24 - Nickel Copper
		1.590 (40.37)		
064	2.000 (50.8)	1.312 (33.3)	32.0	72 - Amberstrand® 24 - Nickel Copper
		2.090 (50.8)		

Metric dimensions (mm) are indicated in parentheses.



100-001 Tubular Metal Braid QQ-B-575B ASTM B33 Tin Coated Copper for EMI Shielding Applications

Product Series	Dash Number
100-001	A 203 L
A = 36 AWG (Table I) B = 34 AWG (Table II)	Lanyard (Omit for None)

Specify number of feet on purchase order.

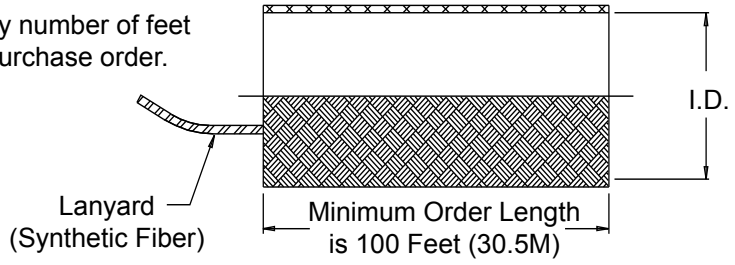


TABLE I: (36 AWG)

Dash No.	Fractional Equivalent	Nominal I.D.	No. of Carriers	No. of Ends	Current Rating Amps	Lbs./100 Ft. (Kg/30.5M)	Federal Specification No.
031	1/32	.031 (0.8)	24	24	7.0	.20 (.09)	QQB575R36T031
062	1/16	.062 (1.6)	24	48	11.0	.40 (.18)	QQB575R36T062
078	5/64	.078 (2.0)	24	72	16.0	.60 (.27)	QQB575R36T078
109	7/64	.109 (2.8)	24	96	19.0	.83 (.38)	QQB575R36T109
125	1/8	.125 (3.2)	24	120	25.0	1.03 (.47)	QQB575R36T125
156	5/32	.156 (4.0)	24	240	40.0	2.09 (.95)	QQB575R36T156
171	11/64	.171 (4.3)	24	168	32.0	1.43 (.65)	QQB575R36T171
188	3/16	.188 (4.8)	24	192	33.0	1.63 (.74)	--
203	13/64	.203 (5.2)	24	312	46.0	2.80 (1.27)	QQB575R36T203
250	1/4	.250 (6.4)	24	384	53.0	3.45 (1.56)	QQB575R36T250
375	3/8	.375 (9.5)	48	384	53.0	3.95 (1.79)	QQB575R36T375
500	1/2	.500 (12.7)	48	528	62.0	4.77 (2.16)	QQB575R36T500
562	9/16	.562 (14.3)	48	624	73.0	5.00 (2.27)	--
625	5/8	.625 (15.9)	48	720	85.0	5.94 (2.69)	--
781	25/32	.781 (19.8)	48	864	88.0	7.35 (3.33)	QQB575R36T781
937	15/16	.937 (23.8)	64	640	65.0	5.83 (2.64)	--
1000	1	1.000 (25.4)	64	768	90.0	7.50 (3.40)	--
1250	1 1/4	1.250 (31.8)	72	792			
1375	1 3/8	1.375 (34.9)	72	864			
1500	1 1/2	1.500 (38.1)	72	936			
2000	2	2.000 (50.8)	96	1152			
2500	2 1/2	2.500 (63.5)	96	1248			

TABLE II: (34 AWG)

Dash No.	Fractional Equivalent	Nominal I.D.	No. of Carriers	No. of Ends	Current Rating Amps	Lbs./100 Ft. (Kg/30.5M)	Federal Specification No.
062	1/16	.062 (1.6)	16	32	11.0	.43 (.20)	QQB575R34T062
109	7/64	.109 (2.8)	16	64	19.0	.82 (.37)	QQB575R34T109
125	1/8	.125 (3.2)	24	72	19.0	.92 (.42)	QQB575R34T125
171	11/64	.171 (4.3)	24	120	36.0	1.56 (.71)	QQB575R34T171
203	13/64	.203 (5.2)	24	192	46.0	2.79 (1.27)	QQB575R34T203
375	3/8	.375 (9.5)	48	240	53.0	3.27 (1.48)	QQB575R34T375
437	7/16	.437 (11.1)	48	288	44.2	3.93 (1.78)	--
500	1/2	.500 (12.7)	48	336	62.0	4.77 (2.16)	QQB575R34T500
781	25/32	.781 (19.8)	48	528	88.0	7.14 (3.24)	QQB575R34T781

APPLICATION NOTES

- | | |
|---|--|
| 1. Glenair series 600 Backshell assembly tools are recommended for assembly and installation.
2. Swing Arm locks in 45° increments—Sizes 08 thru 24, additional positioning increments are manufacturer's option.
3. Captive Screw remains engaged to the body when positioning the Arm. When tightened, the Screw shall not protrude into the inside surfaces. | 4. Fits Connector Designators: MIL-DTL-38999 Series I, II (F), MIL-DTL-38999 Series III and IV (H), MIL-DTL-5015 (A), and MIL-DTL-26482 (A)
5. Metric Dimensions (mm) are indicated in parentheses. |
|---|--|



100-003
Tubular Metal Braid ASTM B355 Class 4 OFHC
Nickel Plated Copper
for EMI Shielding Applications



Product Series
100-003

Dash Number
A 203 L

A = 36 AWG (Table I)
B = 34 AWG (Table II)

Lanyard
(Omit for None)

Specify number of feet on purchase order.

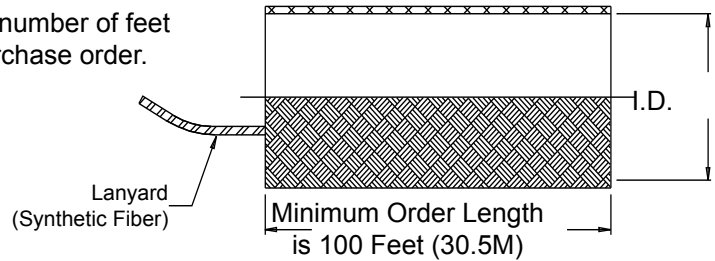


TABLE I: (36 AWG)

Dash No.	Fractional Equivalent	Nominal I.D.	No. of Carriers	No. of Ends	Current Rating Amps	Lbs./100 Ft. (Kg/30.5M)
031	1/32	.031 (0.8)	24	24	7.0	.20 (.09)
062	1/16	.062 (1.6)	24	48	11.0	.40 (.18)
078	5/64	.078 (2.0)	24	72	16.0	.60 (.27)
109	7/64	.109 (2.8)	24	96	19.0	.83 (.38)
125	1/8	.125 (3.2)	24	120	25.0	1.03 (.47)
156	5/32	.156 (4.0)	24	240	40.0	2.09 (.95)
171	11/64	.171 (4.3)	24	168	32.0	1.43 (.65)
188	3/16	.188 (4.8)	24	192	33.0	1.63 (.74)
203	13/64	.203 (5.2)	24	312	46.0	2.80 (1.27)
250	1/4	.250 (6.4)	24	384	53.0	3.45 (1.56)
375	3/8	.375 (9.5)	48	384	53.0	3.95 (1.79)
500	1/2	.500 (12.7)	48	528	62.0	4.77 (2.16)
562	9/16	.562 (14.3)	48	624	73.0	5.00 (2.27)
625	5/8	.625 (15.9)	48	720	85.0	5.94 (2.69)
781	25/32	.781 (19.8)	48	864	88.0	7.35 (3.33)
937	15/16	.937 (23.8)	64	640	65.0	5.83 (2.64)
1000	1	1.000 (25.4)	64	768	90.0	7.50 (3.40)
1250	1 1/4	1.250 (31.8)	72	792		
1375	1 3/8	1.375 (34.9)	72	864		
1500	1 1/2	1.500 (38.1)	72	936		
2000	2	2.000 (50.8)	96	1152		
2500	2 1/2	2.500 (63.5)	96	1248		

TABLE II: (34 AWG)

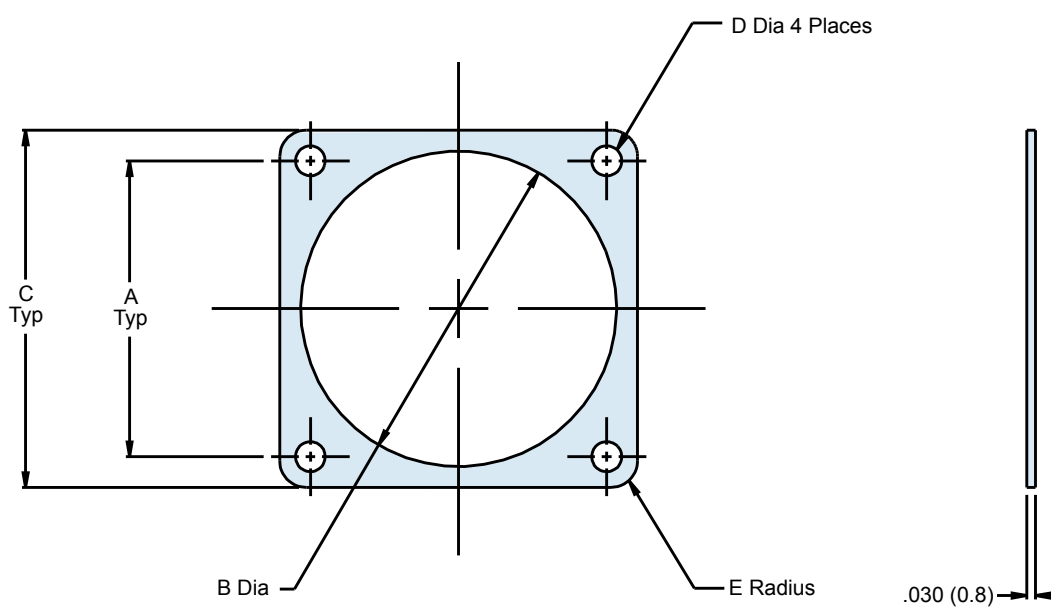
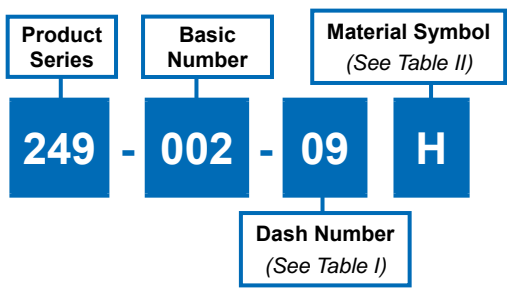
Dash No.	Fractional Equivalent	Nominal I.D.	No. of Carriers	No. of Ends	Current Rating Amps	Lbs./100 Ft. (Kg/30.5M)
062	1/16	.062 (1.6)	16	32	11.0	.43 (.20)
109	7/64	.109 (2.8)	16	64	19.0	.82 (.37)
125	1/8	.125 (3.2)	24	72	19.0	.92 (.42)
171	11/64	.171 (4.3)	24	120	36.0	1.56 (.71)
203	13/64	.203 (5.2)	24	192	46.0	2.79 (1.27)
375	3/8	.375 (9.5)	48	240	53.0	3.27 (1.48)
437	7/16	.437 (11.1)	48	288	44.2	3.93 (1.78)
500	1/2	.500 (12.7)	48	336	62.0	4.77 (2.16)
781	25/32	.781 (19.8)	48	528	88.0	7.14 (3.24)
1000	1	1.000 (25.4)	64	576	150.0	7.33 (3.33)
1250	1 1/4	1.250 (31.8)	72	648		

APPLICATION NOTES

- Direct current ratings are given for information only. Values shown are for uninsulated braid in free air at 86°F (30°C). Actual values will depend on permissible temperature rise, voltage drop and other conditions of service. Values should be de-rated if the braid is insulated or in close contact with other components.
- Consult factory for sizes not shown
- Metric dimensions (mm) are indicated in parentheses.



249-002
Conductive Gasket
to Fit MIL-DTL-38999 Series III
Flange Mount Receptacle Connector



NOTES:

1. Identified by bag and tag in suitable quantities.
2. Metric dimensions (mm) are indicated in parentheses.



249-002
Conductive Gasket
to Fit MIL-DTL-38999 Series III
Flange Mount Receptacle Connector



TABLE I

Dash Number	A ± .005	Ø B ± .007	C ± .008	Ø D ± .005	E Radius ± .015
-09	.719	.687	.937	.125	.105
-11	.812	.772	1.031	.125	.105
-13	.906	.937	1.125	.125	.105
-15	.969	1.063	1.250	.125	.135
-17	1.062	1.187	1.343	.125	.135
-19	1.156	1.312	1.467	.125	.135
-21	1.250	1.437	1.652	.125	.135
-23	1.375	1.562	1.703	.152	.135
-25	1.500	1.600	1.812	.152	.135

TABLE II

Designator	Material
C	Flourosilicone Binder with Passivated Silver Plated Aluminum Particles (CHO-Seal in 1298 or Equivalent)
H	Silicone Binder with Silver Plated Copper Particles (CHO-Seal 1215 or Equivalent)

MS85049/95
3/4 Perimeter Nut Plate for
Flange Mount Receptacle Connector

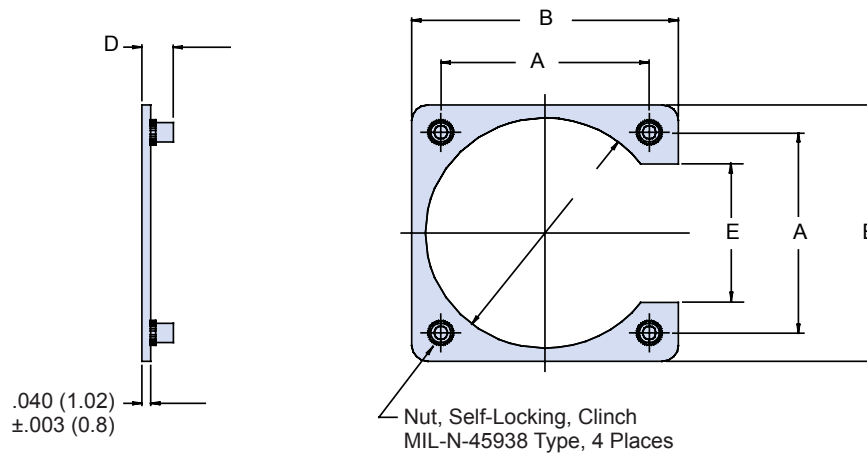
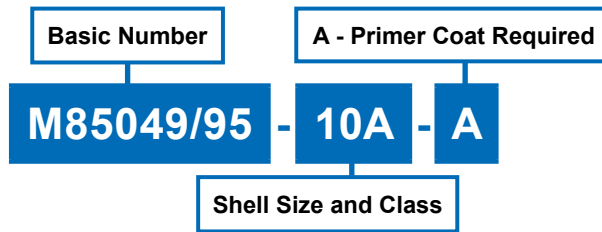


TABLE I

Shell Size	Thread UNJC-3B	A ± .003 (0.1)		B ± .015 (0.4)		C + .015 (.4) - .000 (.0)		D ± .030 (0.8)		E + .000 (.0) - .030 (.8)	
3A	4-40	.625	(15.9)	.925	(23.5)	.641	(16.3)	.136	(3.5)	.325	(8.3)
7A	4-40	.719	(18.3)	1.019	(25.9)	.688	(17.5)	.136	(3.5)	.433	(11.0)
8A	4-40	.594	(15.1)	.880	(22.4)	.570	(14.5)	.136	(3.5)	.308	(7.8)
10A	4-40	.719	(18.3)	1.019	(25.9)	.720	(18.3)	.136	(3.5)	.433	(11.0)
10B	6-32	.812	(20.6)	1.312	(33.3)	.749	(19.0)	.136	(3.5)	.433	(11.0)
12A	4-40	.812	(20.6)	1.104	(28.0)	.855	(21.7)	.136	(3.5)	.530	(13.5)
12B	6-32	.938	(23.8)	1.187	(30.1)	.938	(23.8)	.153	(3.9)	.526	(13.4)
14A	4-40	.906	(23.0)	1.198	(30.4)	.984	(25.0)	.136	(3.5)	.624	(15.8)
14B	6-32	1.031	(26.2)	1.406	(35.7)	1.031	(26.2)	.153	(3.9)	.620	(15.7)
16A	4-40	.969	(24.6)	1.280	(32.5)	1.094	(27.8)	.136	(3.5)	.687	(17.4)
16B	6-32	1.125	(28.6)	1.500	(38.1)	1.125	(28.6)	.153	(3.9)	.683	(17.3)
18A	4-40	1.062	(27.0)	1.406	(35.7)	1.220	(31.0)	.136	(3.5)	.780	(19.8)
18B	6-32	1.203	(30.6)	1.578	(40.1)	1.234	(31.3)	.153	(3.9)	.776	(19.7)
19A	4-40	.906	(23.0)	1.192	(30.3)	.953	(24.2)	.136	(3.5)	.620	(15.7)
20A	4-40	1.156	(29.4)	1.535	(39.0)	1.345	(34.2)	.136	(3.5)	.874	(22.2)
20B	6-32	1.297	(32.9)	1.688	(42.9)	1.359	(34.5)	.153	(3.9)	.865	(22.0)
22A	4-40	1.250	(31.8)	1.665	(42.3)	1.478	(37.5)	.136	(3.5)	.968	(24.6)
22B	6-32	1.375	(34.9)	1.738	(44.1)	1.483	(37.7)	.153	(3.9)	.907	(23.0)
24A	4-40	1.500	(38.1)	1.891	(48.0)	1.560	(39.6)	.153	(3.9)	1.000	(25.4)
24B	6-32	1.375	(34.9)	1.785	(45.3)	1.595	(40.5)	.153	(3.9)	1.031	(26.2)
25A	6-32	1.500	(38.1)	1.891	(48.0)	1.658	(42.1)	.153	(3.9)	1.125	(28.6)
27A	4-40	.969	(24.6)	1.255	(31.9)	1.094	(27.8)	.136	(3.5)	.683	(17.3)
28A	6-32	1.562	(39.7)	2.000	(50.8)	1.820	(46.2)	.153	(3.9)	1.125	(28.6)
32A	6-32	1.750	(44.5)	2.312	(58.7)	2.062	(52.4)	.153	(3.9)	1.188	(30.2)
36A	6-32	1.938	(49.2)	2.500	(63.5)	2.312	(58.7)	.153	(3.9)	1.375	(34.9)
37A	4-40	1.187	(30.1)	1.500	(38.1)	1.281	(32.5)	.136	(3.5)	.874	(22.2)
61A	4-40	1.437	(36.5)	1.812	(46.0)	1.594	(40.5)	.136	(3.5)	1.602	(40.7)



MS85049/94 Full Perimeter Nut Plate for Flange Mount Receptacle Connector

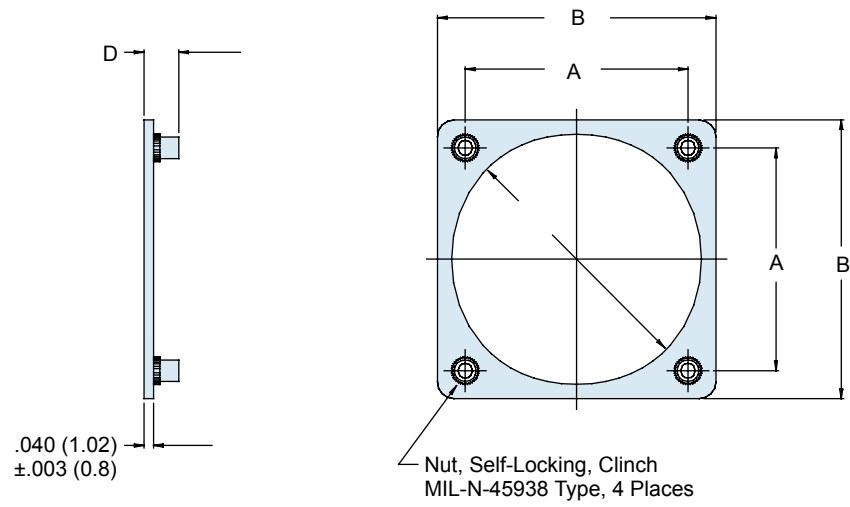
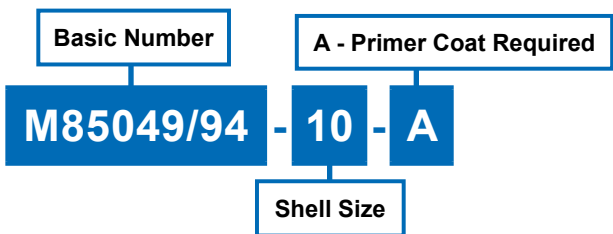


TABLE I									
Shell Size	Thread UNJC-3B	A ± .015 (0.38)		B Max.		C ± .015 (.4)		D	
8	4-40	.594	(15.1)	.980	(24.9)	.570	(14.5)	.106	(.166)
10	4-40	.719	(18.3)	1.034	(26.3)	.720	(18.3)	.106	(.166)
12	4-40	.812	(20.6)	1.119	(28.4)	.855	(21.7)	.106	(.166)
14	4-40	.906	(23.0)	1.213	(30.8)	.984	(25.0)	.106	(.166)
16	4-40	.969	(24.6)	1.295	(32.9)	1.094	(27.8)	.106	(.166)
18	4-40	1.062	(27.0)	1.421	(36.1)	1.220	(31.0)	.106	(.166)
20	4-40	1.156	(29.4)	1.550	(39.4)	1.345	(34.2)	.106	(.166)
22	4-40	1.250	(31.8)	1.680	(42.7)	1.478	(37.5)	.106	(.166)
24	6-32	1.375	(34.9)	1.800	(45.7)	1.595	(40.5)	.123	(.183)
25	6-32	1.500	(38.1)	1.910	(48.5)	1.658	(42.1)	.123	(.183)





MS85049/96

1/4 Perimeter Nut Plate for Flange Mount Receptacle Connector

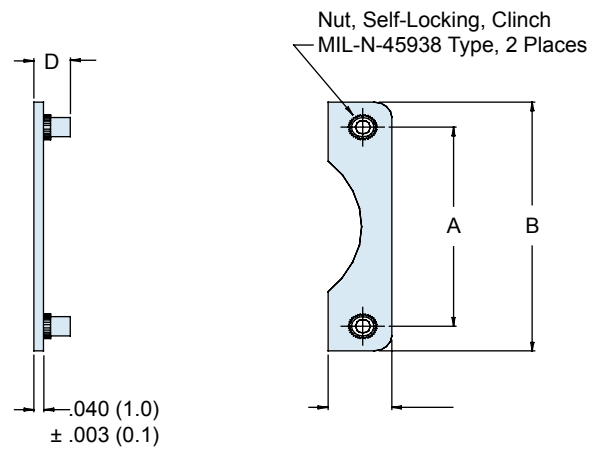
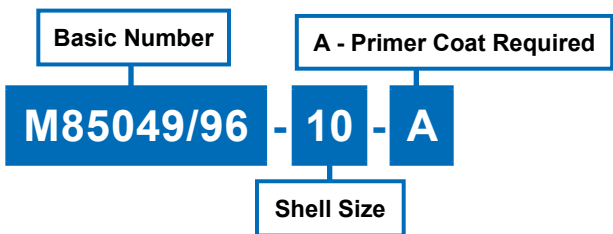


TABLE I									
Shell Size	Thread UNJC-3B	A		B		C		D	
		$\pm .003$ (0.1)		$\pm .015$ (0.4)		$+ .015$ (.4) $- .000$ (.0)		$\pm .030$ (0.8)	
3	4-40	.625	(15.9)	.925	(23.5)	.300	(7.6)	.136	(3.5)
7	4-40	.719	(18.3)	1.016	(25.8)	.298	(7.6)	.136	(3.5)
8	4-40	.594	(15.1)	.891	(22.6)	.296	(7.5)	.136	(3.5)
10	4-40	.719	(18.3)	1.016	(25.8)	.298	(7.6)	.136	(3.5)
12	4-40	.812	(20.6)	1.109	(28.2)	.296	(7.5)	.136	(3.5)
14	4-40	.906	(23.0)	1.203	(30.6)	.296	(7.5)	.136	(3.5)
16	4-40	.969	(24.6)	1.266	(32.2)	.298	(7.6)	.136	(3.5)
18	4-40	1.062	(27.0)	1.390	(35.3)	.328	(8.3)	.136	(3.5)
19	4-40	.906	(23.0)	1.203	(30.6)	.296	(7.5)	.136	(3.5)
20	4-40	1.156	(29.4)	1.510	(38.4)	.354	(9.0)	.136	(3.5)
22	4-40	1.250	(31.8)	1.640	(41.7)	.390	(9.9)	.136	(3.5)
24	6-32	1.375	(34.9)	1.760	(44.7)	.386	(9.8)	.153	(3.9)
25	6-32	1.500	(38.1)	1.859	(47.2)	.358	(9.1)	.153	(3.9)
27	4-40	.969	(24.6)	1.266	(32.2)	.298	(7.6)	.136	(3.5)
28	6-32	1.562	(39.7)	2.000	(50.8)	.438	(11.1)	.153	(3.9)
32	6-32	1.750	(44.5)	2.312	(58.7)	.562	(14.3)	.153	(3.9)
36	6-32	1.938	(49.2)	2.500	(63.5)	.562	(14.3)	.153	(3.9)
37	4-40	1.187	(30.1)	1.500	(38.1)	.314	(8.0)	.136	(3.5)
61	4-40	1.437	(36.5)	1.812	(46.0)	.376	(9.6)	.136	(3.5)



What's Less than Half the Size and Weight of a D38999 Connector?



The Glenair Series 80 “Mighty Mouse”

Nothing tells the “Mighty Mouse” story better than the above picture. If your goal is to maintain the performance standards of the D38999 but to reduce the size and weight of the overall interconnect system, than the Series 80 “Mighty Mouse” is the answer. The “Mighty Mouse” offers up to 71% weight savings when compared to aluminum versions of the D38999 Series III.

Compared to composite D38999's the savings top out at 64%. Size reduction is equally dramatic. And the Series 80 “Mighty Mouse” accomodates the same range of wire sizes as the D38999 and matches the product on critical performance requirements such as vibration and shock. Best of all, the product is in stock and ready for immediate shipment.



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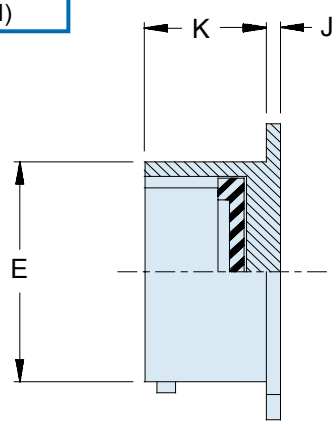
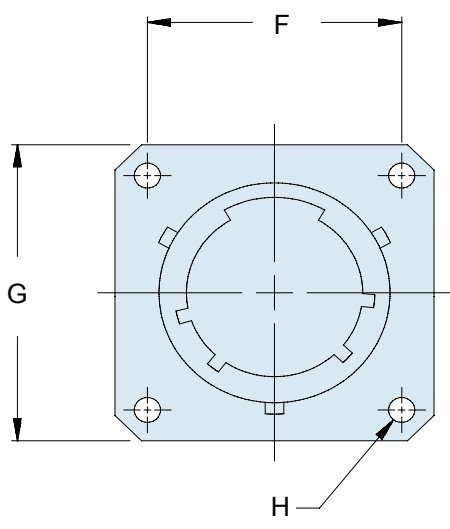
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650FS001 Dummy Storage Receptacle for MIL-DTL-38999 Series I Connector

Basic Number	Shell Size
650FS001	M 17
Finish (Table II)	



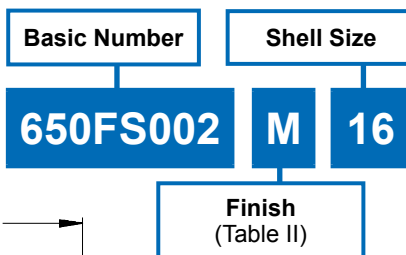
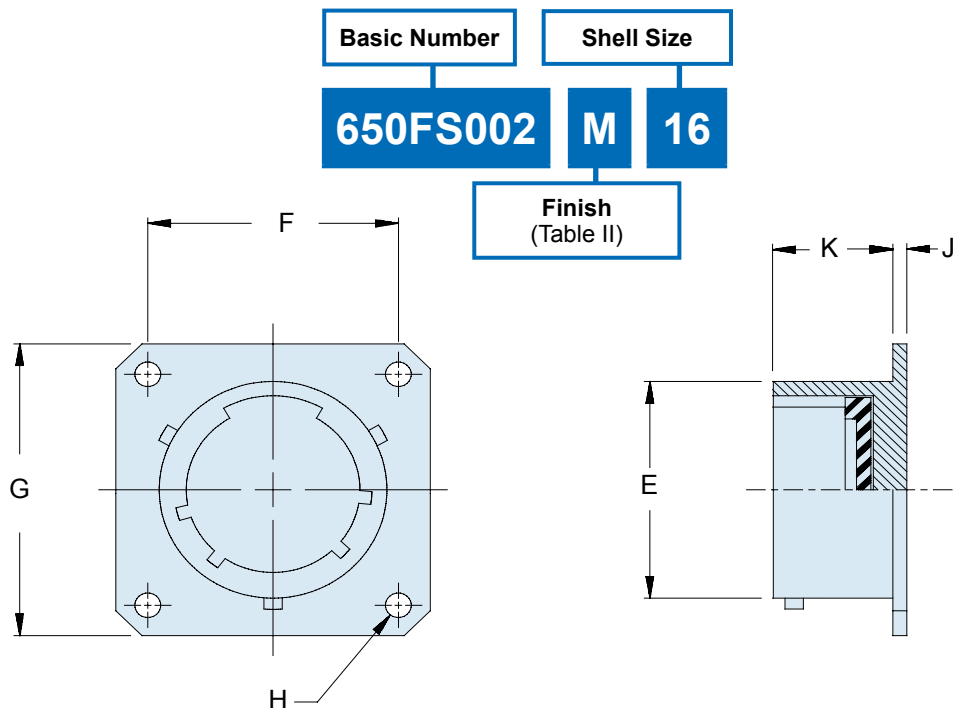
- APPLICATION NOTES**
1. See applicable Military Specification for complete dimensions.
 2. Metric dimensions (mm) are indicated in parentheses.

TABLE II: FINISHES	
Symbol	Finish
B	Cadmium Plate, Olive Drab
C	Anodize, Black
GB	Black Anodize, Hard Coat
M	Electroless Nickel
N	Cad Plate, Olive Drab over Electroless Nickel
NF	Cadmium Plate, Olive Drab over Electroless Nickel
MT	Ni-PTFE 1000 Hour Grey™ Nickel Fluorocarbon Polymer
ZN	Zinc-Nickel

TABLE I: DIMENSIONS						
Shell Size	E Max	F Dim	G Max	H Nom	J	K ±.010 (0.3)
9	573 (14.6)	.719 (18.3)	.958 (24.3)	.128 (3.3)	.085 (2.2)	.727 (18.5)
11	.701 (17.8)	.812 (20.6)	1.051 (26.7)	.128 (3.3)	.085 (2.2)	.727 (18.5)
13	.851 (21.6)	.906 (23.0)	1.145 (29.1)	.128 (3.3)	.085 (2.2)	.727 (18.5)
15	.976 (24.8)	.969 (24.6)	1.239 (31.5)	.128 (3.3)	.085 (2.2)	.727 (18.5)
17	1.101 (28.0)	1.062 (27.0)	1.332 (33.8)	.128 (3.3)	.085 (2.2)	.727 (18.5)
19	1.208 (30.7)	1.156 (29.4)	1.458 (37.0)	.128 (3.3)	.085 (2.2)	.727 (18.5)
21	1.333 (33.9)	1.250 (31.8)	1.582 (40.2)	.128 (3.3)	.115 (2.9)	.697 (17.7)
23	1.458 (37.0)	1.375 (34.9)	1.708 (43.4)	.147 (3.7)	.115 (2.9)	.697 (17.7)
25	1.583 (40.2)	1.500 (38.1)	1.832 (46.5)	.147 (3.7)	.115 (2.9)	.697 (17.7)



650FS002
Dummy Storage Receptacle for
MIL-DTL-38999 Series II Connector



- APPLICATION NOTES**
1. See applicable Military Specification for complete dimensions.
 2. Metric dimensions (mm) are indicated in parentheses.

TABLE II: FINISHES

Symbol	Finish
B	Cadmium Plate, Olive Drab
C	Anodize, Black
GB	Black Anodize, Hard Coat
M	Electroless Nickel
N	Cad Plate, Olive Drab over Electroless Nickel
NF	Cadmium Plate, Olive Drab over Electroless Nickel
MT	Ni-PTFE 1000 Hour Grey™ Nickel Fluorocarbon Polymer
ZN	Zinc-Nickel

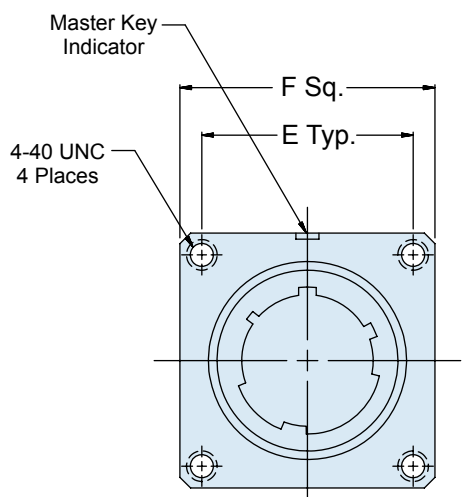
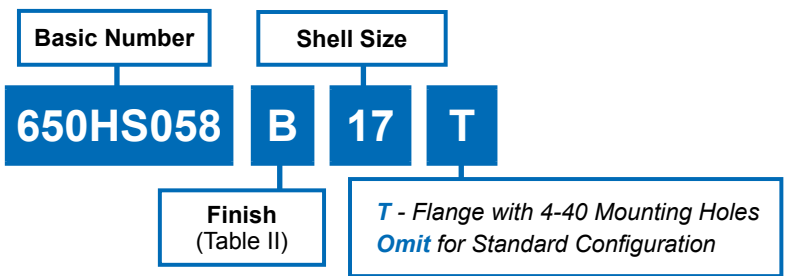
TABLE I: DIMENSIONS

Shell Size	E Max	F Dim	G Max	H Nom	J Max	K ±.010 (0.3)
8	474 (12.0)	.594 (15.1)	.828 (21.0)	.120 (3.0)	.069 (1.8)	.451 (11.5)
10	.591 (15.0)	.719 (18.3)	.954 (24.2)	.120 (3.0)	.069 (1.8)	.451 (11.5)
12	.751 (19.1)	.812 (20.6)	1.047 (26.6)	.120 (3.0)	.069 (1.8)	.451 (11.5)
14	.876 (22.3)	.906 (23.0)	1.141 (29.0)	.120 (3.0)	.069 (1.8)	.451 (11.5)
16	1.001 (25.4)	.969 (24.6)	1.234 (31.3)	.120 (3.0)	.069 (1.8)	.451 (11.5)
18	1.126 (28.6)	1.062 (27.0)	1.328 (33.7)	.120 (3.0)	.069 (1.8)	.451 (11.5)
20	1.251 (31.8)	1.156 (29.4)	1.453 (36.9)	.120 (3.0)	.069 (1.8)	.451 (11.5)
22	1.376 (35.0)	1.250 (31.8)	1.578 (40.1)	.120 (3.0)	.069 (1.8)	.451 (11.5)
24	1.501 (38.1)	1.375 (34.9)	1.703 (43.3)	.147 (3.7)	.069 (1.8)	.451 (11.5)

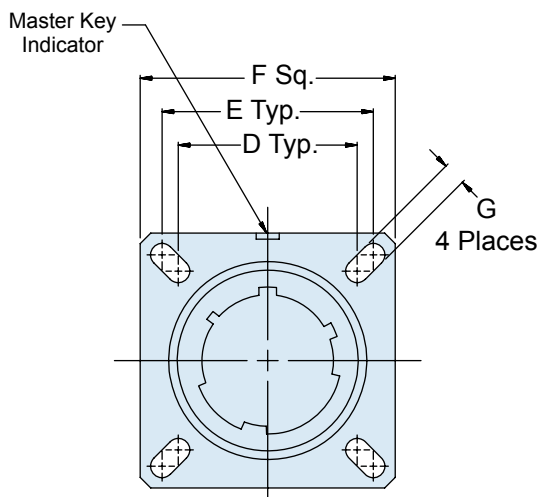




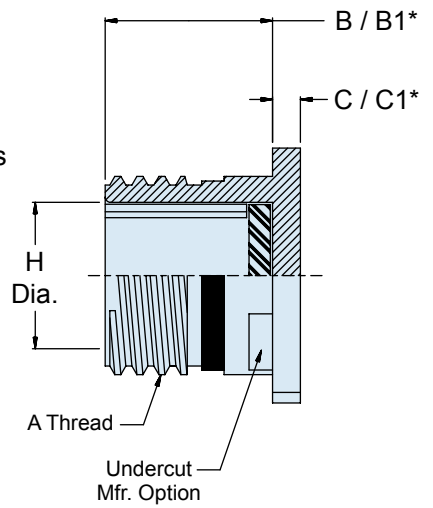
650HS058 Dummy Stowage Receptacle for MIL-DTL-38999 Series III Connector



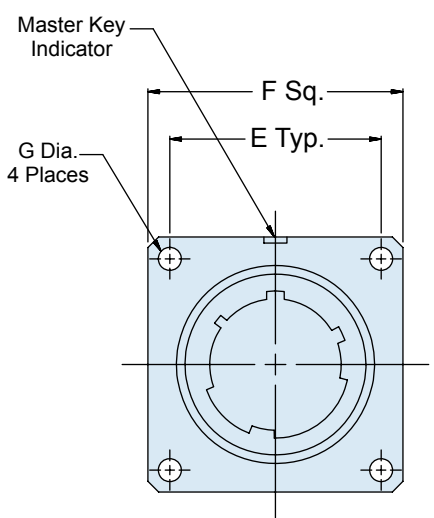
Style T
Metal and Composite Configuration
with 4-40 UNC Mounting Holes



Standard Configuration
(Metal Shell)



*** Denotes the Following:**
 B (For Aluminum or Stainless Steel)
 B1 (For Composite)
 C (For Aluminum or Stainless Steel)
 C1 (For Composite)



Standard Configuration
(Composite Shell Finish XM and XW)

APPLICATION NOTES

1. See applicable Military Specification for complete dimensions.
2. Metric dimensions (mm) are indicated in parentheses.



650HS058 Dummy Stowage Receptacle for MIL-DTL-38999 Series III Connector



TABLE II: FINISHES

Symbol	Finish
B	Cadmium Plate, Olive Drab
J	Gold Iridite over Cadmium Plate over Nickel
M	Electroless Nickel
N	Cad Plate, Olive Drab over Electroless Nickel
NF	Cadmium Plate, Olive Drab over Electroless Nickel
T	Cad Plate / Bright Dip over Nickel
Z1	300 Series SST, Passivated
MT	Ni-PTFE 1000 Hour Grey™ Nickel Fluorocarbon Polymer
XM	Composite, Electroless Nickel
XW	Composite, Cadmium Olive Drab over Electroless Nickel
XZN	Composite, Zinc-Nickel

TABLE I: DIMENSIONS

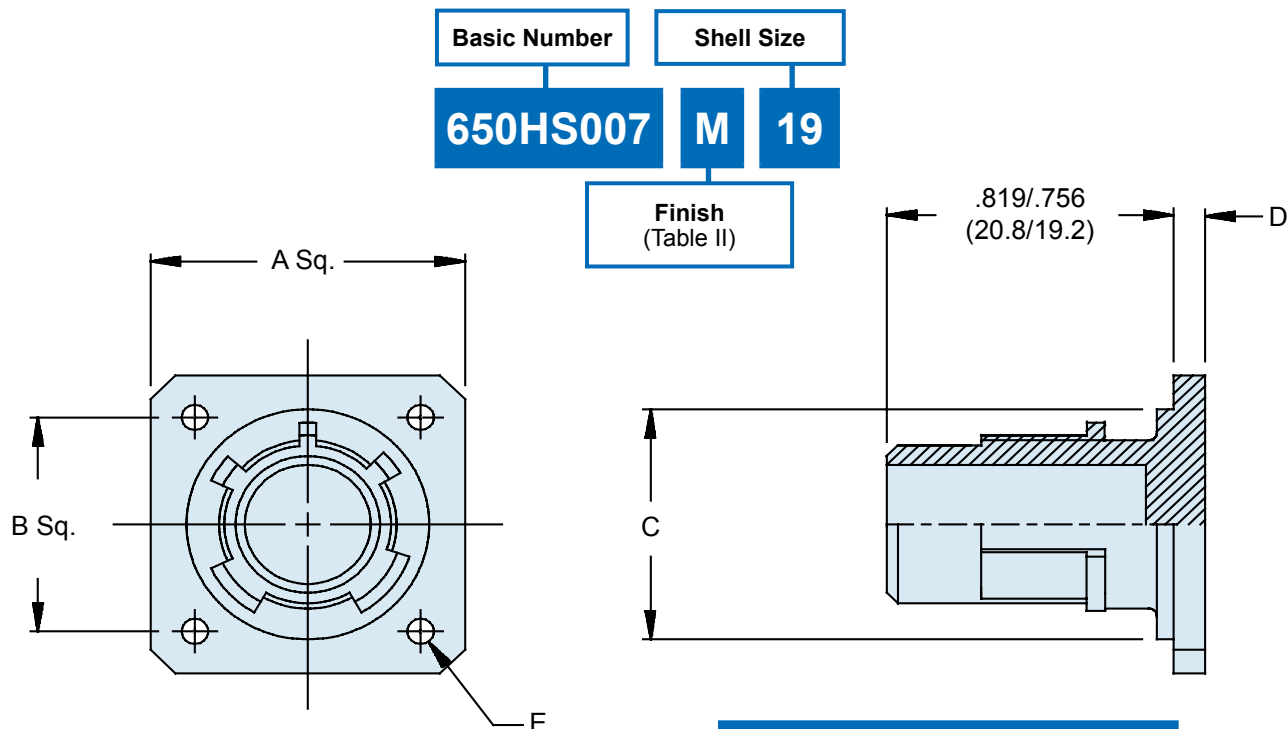
Shell Size	Shell Size Ref	A Thread	B +.000 -.005 (.13)	B1 +.055 -.000	C ±.012 (0.3)	C1	D
A	9	.625-.1P-3LTS	.820 (20.83)	.768 (19.5)	.098 (2.5)	.144/.087 (3.65/2.2)	.594 (15.09)
B	11	.750-.1P-3LTS	.820 (20.83)	.768 (19.5)	.098 (2.5)	.144/.087 (3.65/2.2)	.719 (18.26)
C	13	.875-.1P-3LTS	.820 (20.83)	.768 (19.5)	.098 (2.5)	.144/.087 (3.65/2.2)	.812 (20.62)
D	15	1.000-.1P-3LTS	.820 (20.83)	.768 (19.5)	.098 (2.5)	.144/.087 (3.65/2.2)	.906 (23.01)
E	17	1.187-.1P-3LTS	.820 (20.83)	.768 (19.5)	.098 (2.5)	.144/.087 (3.65/2.2)	.969 (24.61)
F	19	1.250-.1P-3LTS	.820 (20.83)	.768 (19.5)	.098 (2.5)	.144/.087 (3.65/2.2)	1.062 (26.97)
G	21	1.375-.1P-3LTS	.790 (20.07)	.736 (18.7)	.126 (3.2)	.171/.114 (4.35/2.9)	1.156 (29.36)
H	23	1.500-.1P-3LTS	.790 (20.07)	.736 (18.7)	.126 (3.2)	.171/.114 (4.35/2.9)	1.250 (31.75)
J	25	1.625-.1P-3LTS	.790 (20.07)	.736 (18.7)	.126 (3.2)	.171/.114 (4.35/2.9)	1.375 (34.93)

TABLE I: DIMENSIONS (CONTINUED)

Shell Size	Shell Size Ref	E	F ±.012 (0.3)	G Dia ±.008 (0.2)	H +.000 -.005 (.127)
A	9	.719 (18.26)	.937 (23.8)	.128 (3.25)	.492 (12.5)
B	11	.812 (20.62)	1.031 (26.2)	.128 (3.25)	.620 (15.7)
C	13	.906 (23.01)	1.126 (28.6)	.128 (3.25)	.769 (19.5)
D	15	.969 (24.61)	1.220 (31.0)	.128 (3.25)	.894 (22.7)
E	17	1.062 (26.97)	1.311 (33.3)	.128 (3.25)	1.019 (25.9)
F	19	1.156 (29.36)	1.437 (36.5)	.128 (3.25)	1.124 (28.5)
G	21	1.250 (31.75)	1.563 (39.7)	.128 (3.25)	1.249 (31.7)
H	23	1.375 (34.93)	1.689 (42.9)	.154 (3.91)	1.375 (34.9)
J	25	1.500 (38.10)	1.811 (46.0)	.154 (3.91)	1.499 (38.1)



650HS007 Dummy Storage Receptacle for MIL-DTL-38999 Series IV Connector



APPLICATION NOTES

1. See applicable Military Specification for complete dimensions.
2. Metric dimensions (mm) are indicated in parentheses.

TABLE II: FINISHES

Symbol	Finish
B	Cadmium Plate, Olive Drab
C	Anodize, Black
GB	Black Anodize, Hard Coat
M	Electroless Nickel
N	Cad Plate, Olive Drab over Electroless Nickel
NF	Cadmium Plate, Olive Drab over Electroless Nickel
MT	Ni-PTFE 1000 Hour Grey™ Nickel Fluorocarbon Polymer
ZN	Zinc-Nickel

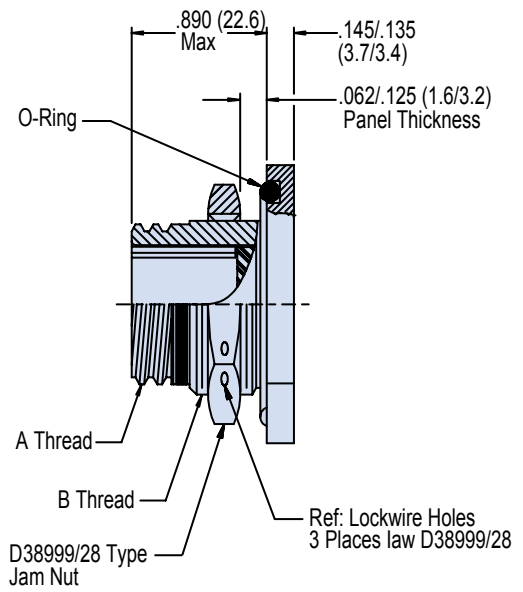
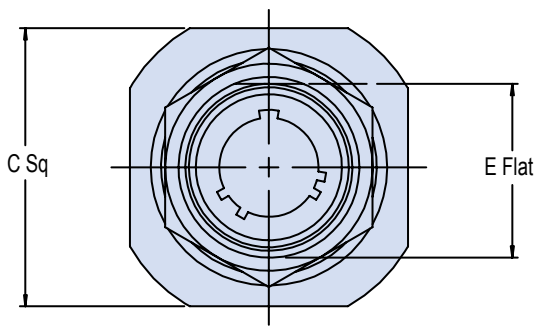
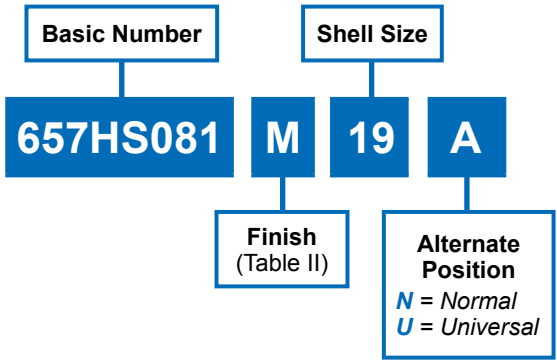
TABLE I: DIMENSIONS

Shell Size	Shell Size Ref	A ±.043 (±1.10)	G BSC	C +0 (0.00) -.015 (-0.39)	J Max	E Dia ±.008 (± 0.2)
B	11	1.030 (26.15)	.812 (20.62)	.793 (20.15)	.093 (2.35)	.130 (3.3)
C	13	1.124 (28.55)	.906 (23.02)	.919 (23.35)	.093 (2.35)	.130 (3.3)
D	15	1.219 (30.95)	.969 (24.62)	1.044 (26.52)	.093 (2.35)	.130 (3.3)
E	17	1.313 (33.35)	1.062 (26.98)	1.170 (29.72)	.093 (2.35)	.130 (3.3)
F	19	1.439 (36.55)	1.156 (29.36)	1.294 (32.87)	.093 (2.35)	.130 (3.3)
G	21	1.561 (39.65)	1.250 (31.76)	1.419 (36.05)	.124 (3.15)	.130 (3.3)
H	23	1.687 (42.85)	1.375 (34.92)	1.544 (39.22)	.124 (3.15)	.142 (3.6)
J	25	1.813 (46.05)	1.500 (38.10)	1.669 (42.40)	.124 (3.15)	.142 (3.6)





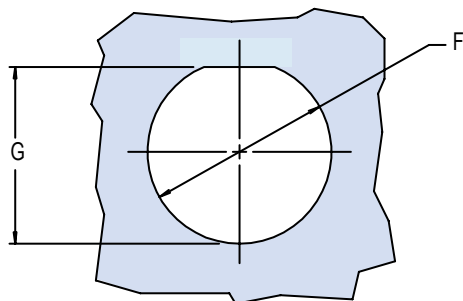
657HS081 Dummy Jam Nut Stowage Receptacle for MIL-DTL-38999 Series III Connector



- ### APPLICATION NOTES
- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Assembly identified with manufacturer's name and part number, space permitting. 2. Material/Finish:
Adapter, Jam Nut - AL Alloy or Stainless Steel/See Table II).
Seal - Silicone/N.A. | <ol style="list-style-type: none"> 3. Modified major diameter: 1.252-1.258 (31.8-32.0). 4. Threads to be lubed. 5. Metric dimensions (mm) are in parentheses. |
|--|--|



657HS081
Dummy Jam Nut Stowage Receptacle for
MIL-DTL-38999 Series III Connector



Recommended
Panel Cut-out

TABLE I: DIMENSIONS

Shell Size	Shell Size Ref	A Thread Class 2A	B Thread Class 2A 0.100R	C	E Flat +.004 (0.1) -.006 (0.2)	F + .010 (0.3) -.000 (0)	G +.000 (0) -.010 (0.3)
09	A	.625-.1P-3LTS	M17 x 1 - 6g	1.062 (27.0)	.651 (16.5)	.697 (17.7)	.669 (17.0)
11	B	.750-.1P-3LTS	M20 x 1 - 6g	1.250 (31.8)	.751 (19.1)	.822 (20.9)	.769 (19.5)
13	C	.875-.1P-3LTS	M25 x 1 - 6g	1.375 (34.9)	.938 (23.8)	1.007 (25.6)	.955 (24.3)
15	D	1.000-.1P-3LTS	M28 x 1 - 6g	1.500 (38.1)	1.061 (26.9)	1.134 (28.8)	1.084 (27.5)
17	E	1.187-.1P-3LTS	M32 x 1 - 6g*	1.625 (41.3)	1.187 (30.1)	1.259 (32.0)	1.208 (30.7)
19	F	1.250-.1P-3LTS	M35 x 1 - 6g	1.812 (46.0)	1.312 (33.3)	1.384 (35.2)	1.333 (33.9)
21	G	1.375-.1P-3LTS	M38 x 1 - 6g	1.931 (49.0)	1.437 (36.5)	1.501 (38.1)	1.459 (37.1)
23	H	1.500-.1P-3LTS	M41 x 1 - 6g	2.062 (52.4)	1.562 (39.7)	1.634 (41.5)	1.584 (40.2)
25	J	1.625-.1P-3LTS	M44 x 1 - 6g	2.188 (55.6)	1.687 (42.8)	1.759 (44.7)	1.709 (43.4)

*See Note 3.

TABLE II: FINISHES

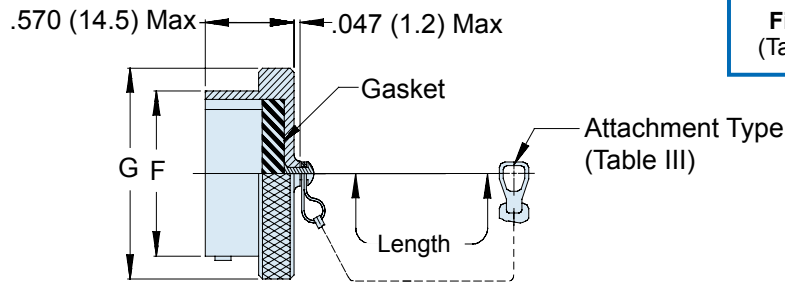
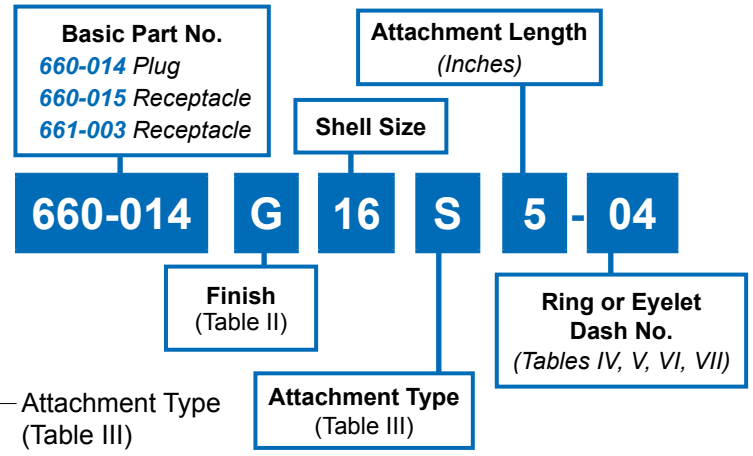
Symbol	Finish
M	Electroless Nickel/Aluminum
NF	Cadmium Plate, Olive Drab over Electroless Nickel/Aluminum (500-Hour Salt Spray)
MT	Ni-PTFE 1000 Hour Grey™ Nickel Fluorocarbon Polymer
MT	Ni-PTFE 1000 Hour Grey™ Nickel Fluorocarbon Polymer/ Aluminum
AL	Electrodeposited Zinc-Nickel/ Aluminum (See Note 4)
ZR	Black ZN-NI/Aluminum
Z1	300 Series SST/Passivated
ZL	300 Series SST/Nickel Plated



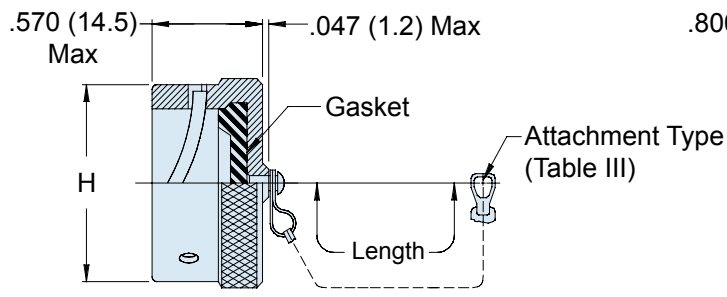


**660-014 (Plug) - 660-015 (Receptacle)
661-003 (EMI Receptacle)
Protective Covers
MIL-C-38999 Series II**

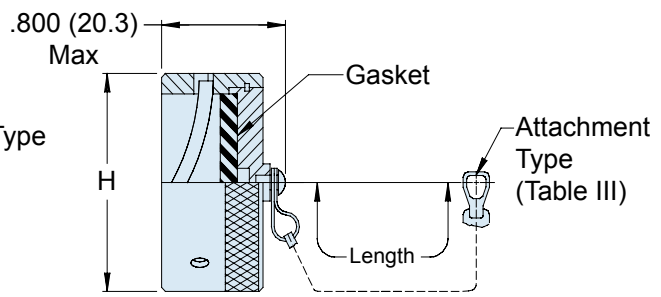
MIL-C-38999 Series II



660-014 Plug Cover



660-015 Receptacle Cover



661-003 EMI/RFI Receptacle Cover

SHELL SIZE DIMENSIONS			
Shell Size	F Dia	G Dia Max	H Max
08	.473 (12.0)	.720 (18.3)	.719 (18.3)
10	.590 (15.0)	.850 (21.6)	.812 (20.6)
12	.750 (19.1)	1.000 (25.4)	1.000 (25.4)
14	.875 (22.2)	1.130 (28.7)	1.125 (28.6)
16	1.000 (25.4)	1.250 (31.8)	1.250 (31.8)
18	1.125 (28.6)	1.380 (35.1)	1.375 (34.9)
20	1.250 (31.8)	1.500 (38.1)	1.500 (38.1)
22	1.375 (34.9)	1.630 (41.4)	1.625 (41.3)
24	1.500 (38.1)	1.750 (44.5)	1.750 (44.5)

Metric dimensions (mm) are indicated in parentheses.

TABLE II: FINISHES	
Symbol	Finish
B	Cadmium Plate, Olive Drab
C	Anodize, Black
GB	Black Anodize, Hard Coat
M	Electroless Nickel
N	Cad Plate, Olive Drab over Electroless Nickel
NF	Cadmium Plate, Olive Drab over Electroless Nickel
MT	Ni-PTFE 1000 Hour Grey™ Nickel Fluorocarbon Polymer
Z1	Stainless Steel Passivate
ZN	Zinc-Nickel



**660-014 (Plug) - 660-015 (Receptacle)
661-003 (EMI Receptacle)
Protective Covers
MIL-C-38999 Series II**

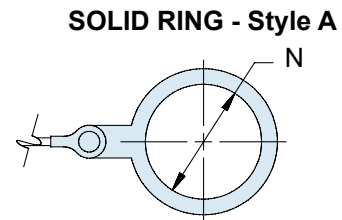
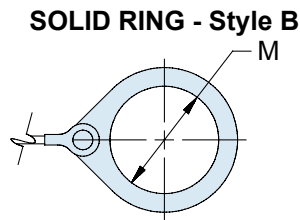
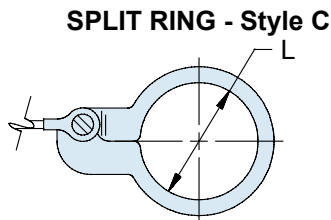
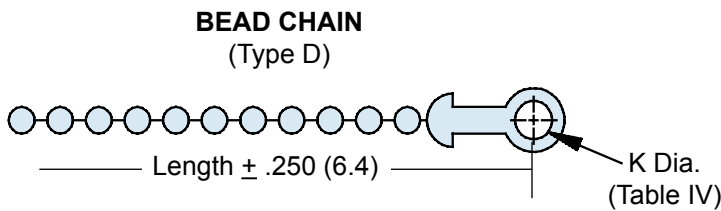
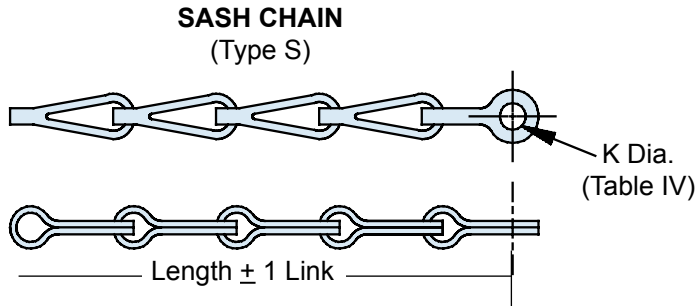
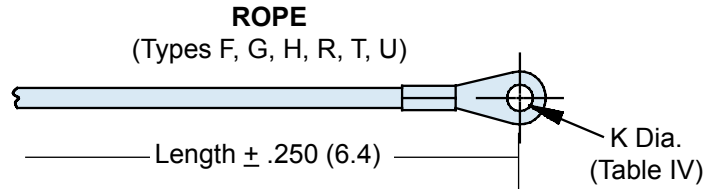


TABLE III: ATTACHMENTS

Sym	Attachment Type
D	Bead Chain, Cres, Passivate
F	Wire Rope, Nylon Jacket
G	Nylon Rope
H	Wire Rope, Teflon Jacket
N	No Attachment
R	Wire Rope, PVC Jacket
S	#8 Sash Chain, Cres, Passivate
T	Wire Rope, No Jacket
U	Wire Rope, Polyurethane Jacket with Terminal

TABLE IV: EYELET

Dash No.	K Dia ±.010 (0.3)
01	.140 (3.6)
02	.182 (4.6)
03	.191 (4.9)
04	.197 (5.0)
05	.167 (4.2)
06	.125 (3.2)
07	.218 (5.5)
09	.156 (4.0)
00	No Eyelet

TABLE V: STYLE C RING DIA.

Dash No.	N Dia ±.015 (0.4)	Dash No.	N Dia ±.015 (0.4)
50	.425 (10.8)	74	1.625 (41.3)
52	.485 (12.3)	76	1.750 (44.5)
54	.640 (16.3)	78	1.875 (47.6)
56	.750 (19.1)	80	1.980 (50.3)
58	.890 (22.6)	82	2.060 (52.3)
60	1.015 (25.8)	84	2.235 (56.8)
62	1.095 (27.8)	86	2.310 (58.7)
64	1.130 (28.7)	88	2.475 (62.9)
66	1.250 (31.8)	90	2.655 (67.4)
68	1.350 (34.3)	92	2.810 (71.4)
70	1.390 (35.3)	94	3.045 (77.3)
72	1.485 (37.7)		

TABLE VI: STYLE B RING DIA.

Dash No.	N Dia ±.015 (0.4)	Dash No.	N Dia ±.015 (0.4)
08	.468 (11.9)	24	1.484 (37.7)
10	.593 (15.1)	25	1.577 (40.1)
12	.718 (18.2)	27	1.640 (41.7)
13	.765 (19.4)	28	1.687 (42.8)
14	.844 (21.4)	29	1.765 (44.8)
15	.890 (22.6)	30	1.890 (48.0)
16	.968 (24.6)	31	1.953 (49.6)
17	1.015 (25.8)	32	1.968 (50.0)
18	1.093 (27.8)	33	2.077 (52.8)
19	1.140 (29.0)	35	2.140 (54.4)
20	1.203 (30.6)	36	2.187 (55.5)
21	1.265 (32.1)	40	2.406 (61.1)
22	1.343 (34.1)	44	2.656 (67.5)
23	1.453 (36.9)	48	3.031 (77.0)
		118	.310 (7.9)

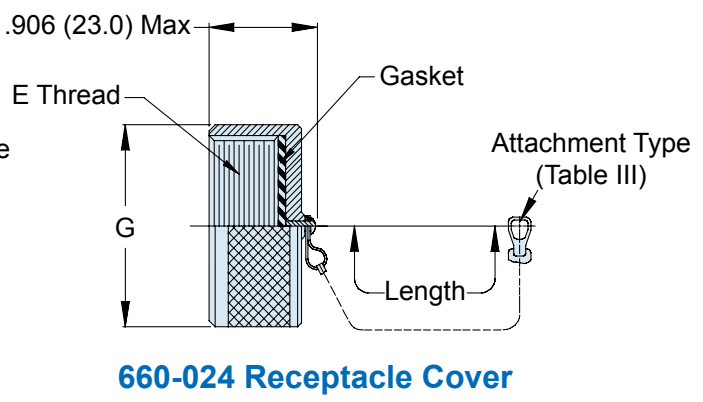
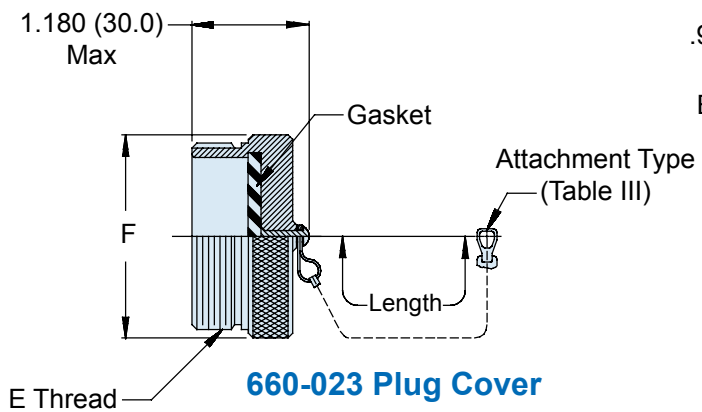
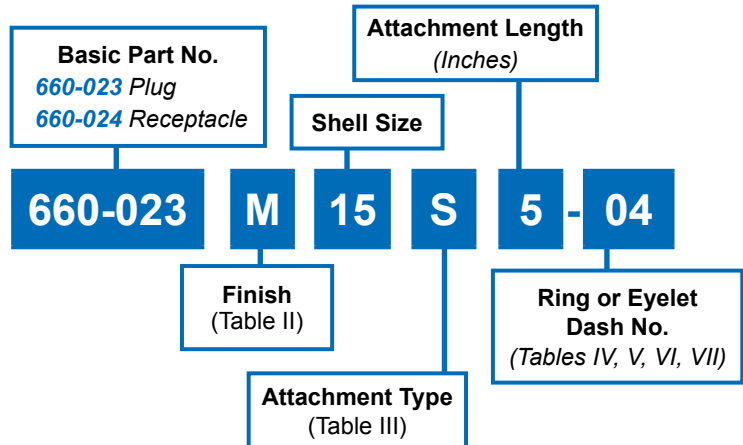
TABLE VII: STYLE A RING DIA.

Dash No.	N Dia ±.015 (0.4)	Dash No.	N Dia ±.015 (0.4)
095	.312 (7.9)	109	1.266 (32.2)
100	.391 (9.9)	209	1.312 (33.3)
101	.516 (13.1)	110	1.391 (35.3)
102	.583 (14.8)	210	1.438 (36.5)
103	.641 (16.3)	111	1.521 (38.6)
104	.708 (18.0)	211	1.536 (39.0)
105	.766 (19.5)	112	1.641 (41.7)
205	.788 (20.0)	113	1.766 (44.9)
106	.896 (22.2)	213	1.812 (46.0)
206	.907 (23.0)	114	1.891 (48.0)
107	1.016 (25.8)	214	1.938 (49.2)
207	1.025 (26.0)	115	2.078 (52.8)
108	1.141 (29.0)	116	2.406 (61.1)
308	1.188 (30.2)	117	2.510 (63.8)
208	1.203 (30.6)		



660-023 (Plug) - 660-024 (Receptacle)
Protective Covers
MIL-C-38999 Series III Threaded

MIL-C-38999
Series III



SHELL SIZE DIMENSIONS				
Shell Size	Shell Size Code Ref.	E Thread	F Max	G Max
09	A	.6250-0.1P-0.3L-TS	.906 (23.0)	.906 (23.0)
11	B	.7500-0.1P-0.3L-TS	1.024 (26.0)	1.102 (28.0)
13	C	.8750-0.1P-0.3L-TS	1.220 (31.0)	1.220 (31.0)
15	D	1.0000-0.1P-0.3L-TS	1.300 (33.0)	1.260 (32.0)
17	E	1.1875-0.1P-0.3L-TS	1.457 (37.0)	1.457 (37.0)
19	F	1.2500-0.1P-0.3L-TS	1.575 (40.0)	1.535 (39.0)
21	G	1.3750-0.1P-0.3L-TS	1.732 (44.0)	1.654 (42.0)
23	H	1.5000-0.1P-0.3L-TS	1.811 (46.0)	1.772 (45.0)
25	J	1.6250-0.1P-0.3L-TS	1.969 (50.0)	1.929 (49.0)

Metric dimensions (mm) are indicated in parentheses.

TABLE II: FINISHES	
Symbol	Finish
B	Cadmium Plate, Olive Drab
C	Anodize, Black
GB	Black Anodize, Hard Coat
M	Electroless Nickel
N	Cad Plate, Olive Drab over Electroless Nickel
NF	Cadmium Plate, Olive Drab over Electroless Nickel
MT	Ni-PTFE 1000 Hour Grey™ Nickel Fluorocarbon Polymer
Z1	Stainless Steel Passivate
ZN	Zinc-Nickel



660-023 (Plug) - 660-024 (Receptacle)
Protective Covers
MIL-C-38999 Series III Threaded

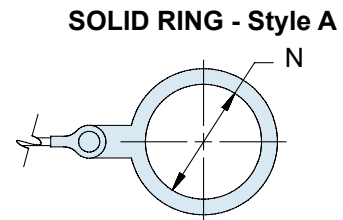
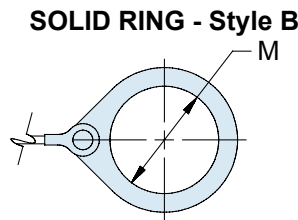
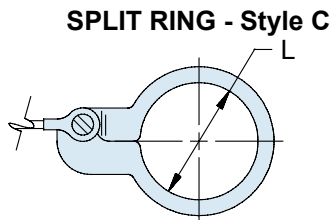
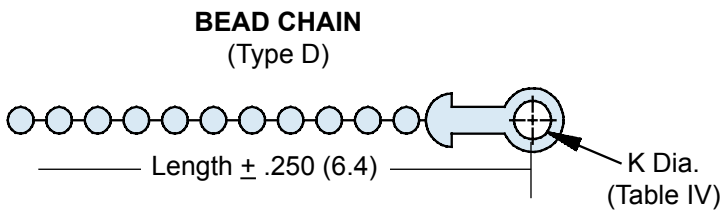
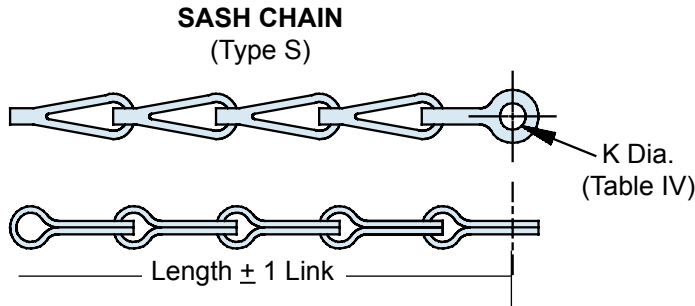
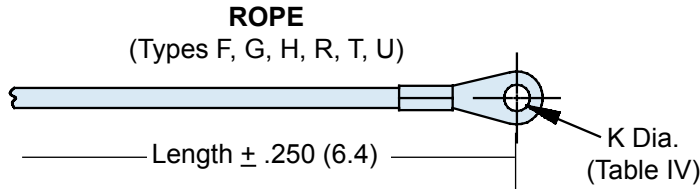


TABLE III: ATTACHMENTS

Sym	Attachment Type
D	Bead Chain, Cres, Passivate
F	Wire Rope, Nylon Jacket
G	Nylon Rope
H	Wire Rope, Teflon Jacket
N	No Attachment
R	Wire Rope, PVC Jacket
S	#8 Sash Chain, Cres, Passivate
T	Wire Rope, No Jacket
U	Wire Rope, Polyurethane Jacket with Terminal

TABLE IV: EYELET

Dash No.	K Dia ±.010 (0.3)
01	.140 (3.6)
02	.182 (4.6)
03	.191 (4.9)
04	.197 (5.0)
05	.167 (4.2)
06	.125 (3.2)
07	.218 (5.5)
09	.156 (4.0)
00	No Eyelet

TABLE V: STYLE C RING DIA.

Dash No.	N Dia ±.015 (0.4)	Dash No.	N Dia ±.015 (0.4)
50	.425 (10.8)	74	1.625 (41.3)
52	.485 (12.3)	76	1.750 (44.5)
54	.640 (16.3)	78	1.875 (47.6)
56	.750 (19.1)	80	1.980 (50.3)
58	.890 (22.6)	82	2.060 (52.3)
60	1.015 (25.8)	84	2.235 (56.8)
62	1.095 (27.8)	86	2.310 (58.7)
64	1.130 (28.7)	88	2.475 (62.9)
66	1.250 (31.8)	90	2.655 (67.4)
68	1.350 (34.3)	92	2.810 (71.4)
70	1.390 (35.3)	94	3.045 (77.3)
72	1.485 (37.7)		

TABLE VI: STYLE B RING DIA.

Dash No.	N Dia ±.015 (0.4)	Dash No.	N Dia ±.015 (0.4)
08	.468 (11.9)	24	1.484 (37.7)
10	.593 (15.1)	25	1.577 (40.1)
12	.718 (18.2)	27	1.640 (41.7)
13	.765 (19.4)	28	1.687 (42.8)
14	.844 (21.4)	29	1.765 (44.8)
15	.890 (22.6)	30	1.890 (48.0)
16	.968 (24.6)	31	1.953 (49.6)
17	1.015 (25.8)	32	1.968 (50.0)
18	1.093 (27.8)	33	2.077 (52.8)
19	1.140 (29.0)	35	2.140 (54.4)
20	1.203 (30.6)	36	2.187 (55.5)
21	1.265 (32.1)	40	2.406 (61.1)
22	1.343 (34.1)	44	2.656 (67.5)
23	1.453 (36.9)	48	3.031 (77.0)
		118	.310 (7.9)

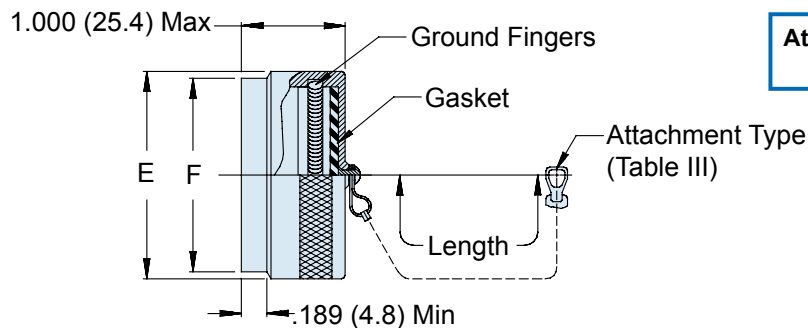
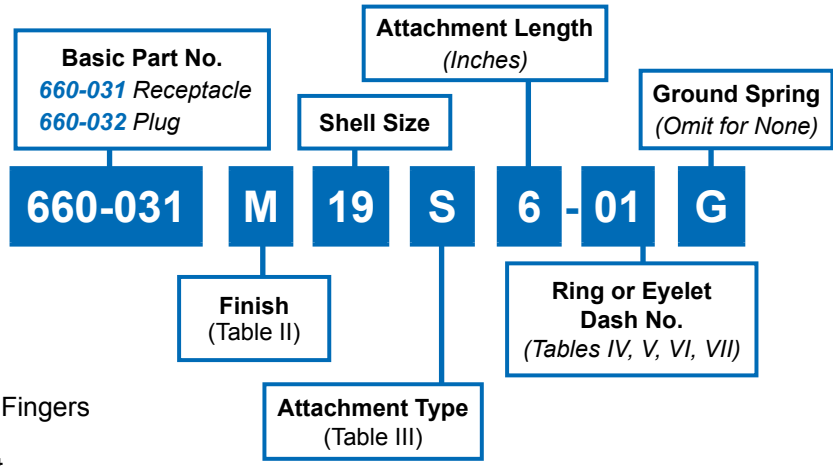
TABLE VII: STYLE A RING DIA.

Dash No.	N Dia ±.015 (0.4)	Dash No.	N Dia ±.015 (0.4)
095	.312 (7.9)	109	1.266 (32.2)
100	.391 (9.9)	209	1.312 (33.3)
101	.516 (13.1)	110	1.391 (35.3)
102	.583 (14.8)	210	1.438 (36.5)
103	.641 (16.3)	111	1.521 (38.6)
104	.708 (18.0)	211	1.536 (39.0)
105	.766 (19.5)	112	1.641 (41.7)
205	.788 (20.0)	113	1.766 (44.9)
106	.896 (22.2)	213	1.812 (46.0)
206	.907 (23.0)	114	1.891 (48.0)
107	1.016 (25.8)	214	1.938 (49.2)
207	1.025 (26.0)	115	2.078 (52.8)
108	1.141 (29.0)	116	2.406 (61.1)
308	1.188 (30.2)	117	2.510 (63.8)
208	1.203 (30.6)		



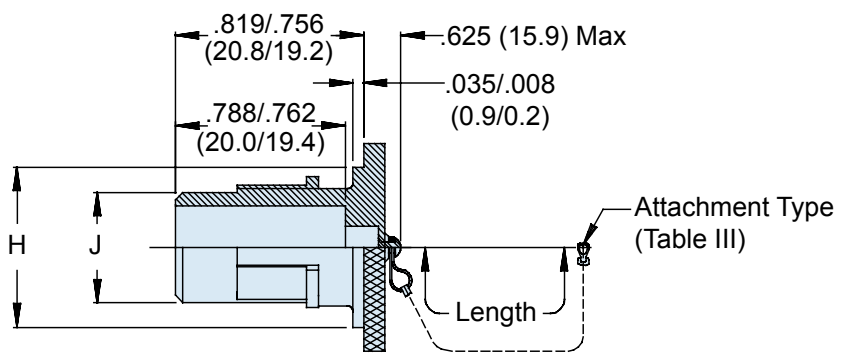
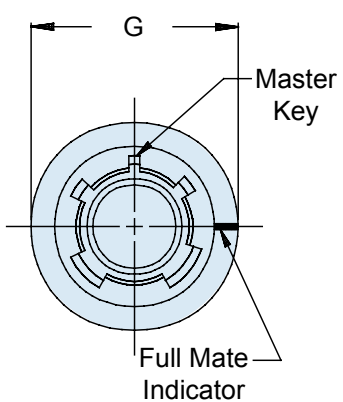
660-031 (Receptacle) - 660-032 (Plug) Protective Covers MIL-C-38999 Series IV

MIL-C-38999 Series IV



660-031 Receptacle Cover

Symbol	Finish
MT	Ni-PTFE
M	Electroless Nickel
NF	Cadmium Plate, Olive Drab over Electroless Nickel



660-032 Plug Cover

Shell Size	Shell Size Code Ref.	E Dia Max	F Dia Max	G Dia Max	H Dia +0.0 (+0.0) -0.015 (-0.4)	J Dia +0.0 (+0.0) -0.015 (-0.4)
11	B	.875 (22.2)	.775 (19.7)	1.180 (30.0)	.793 (20.1)	.509 (12.9)
13	C	1.000 (25.4)	.901 (22.9)	1.320 (33.5)	.919 (23.3)	.634 (16.1)
15	D	1.125 (28.6)	1.039 (26.4)	1.440 (36.6)	1.044 (26.5)	.759 (19.3)
17	E	1.250 (31.8)	1.150 (29.2)	1.560 (39.6)	1.170 (29.7)	.885 (22.5)
19	F	1.375 (34.9)	1.276 (32.4)	1.680 (42.7)	1.294 (32.9)	1.009 (25.6)
21	G	1.500 (38.1)	1.402 (35.6)	1.820 (46.2)	1.419 (36.0)	1.134 (28.8)
23	H	1.625 (41.3)	1.528 (38.8)	1.940 (49.3)	1.544 (39.2)	1.259 (32.0)
25	J	1.750 (44.5)	1.650 (41.9)	2.060 (52.3)	1.669 (42.4)	1.384 (35.2)

Metric dimensions (mm) are indicated in parentheses.



660-031 (Receptacle) - 660-032 (Plug)
Protective Covers
MIL-C-38999 Series IV

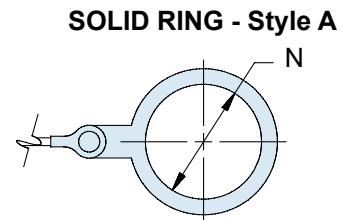
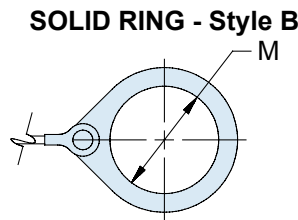
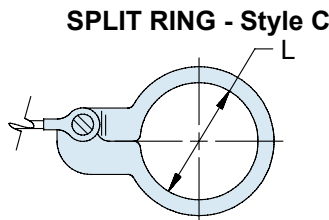
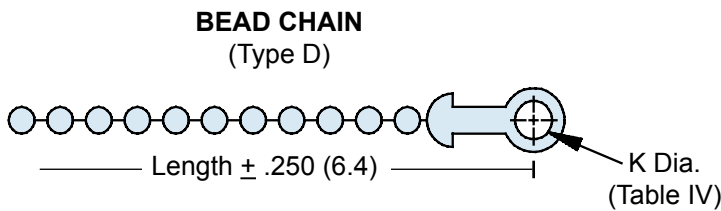
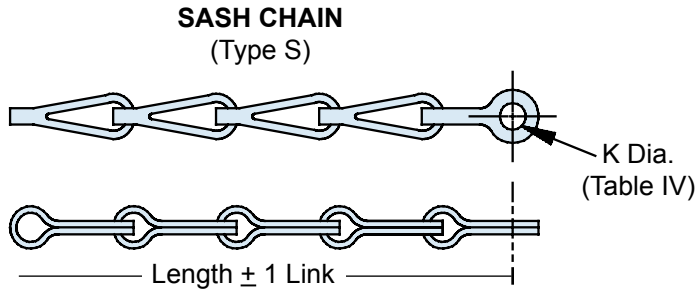
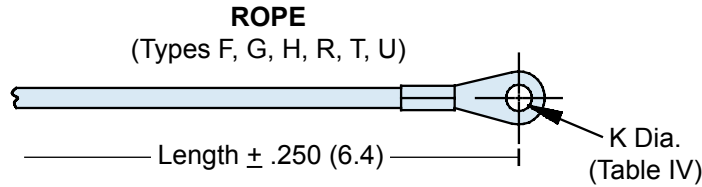


TABLE III: ATTACHMENTS

Sym	Attachment Type
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F	Wire Rope, Nylon Jacket
G	Nylon Rope
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06	.125 (3.2)
07	.218 (5.5)
09	.156 (4.0)
00	No Eyelet

TABLE V: STYLE C RING DIA.

Dash No.	N Dia ±.015 (0.4)	Dash No.	N Dia ±.015 (0.4)
50	.425 (10.8)	74	1.625 (41.3)
52	.485 (12.3)	76	1.750 (44.5)
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56	.750 (19.1)	80	1.980 (50.3)
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64	1.130 (28.7)	88	2.475 (62.9)
66	1.250 (31.8)	90	2.655 (67.4)
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70	1.390 (35.3)	94	3.045 (77.3)
72	1.485 (37.7)		

TABLE VI: STYLE B RING DIA.

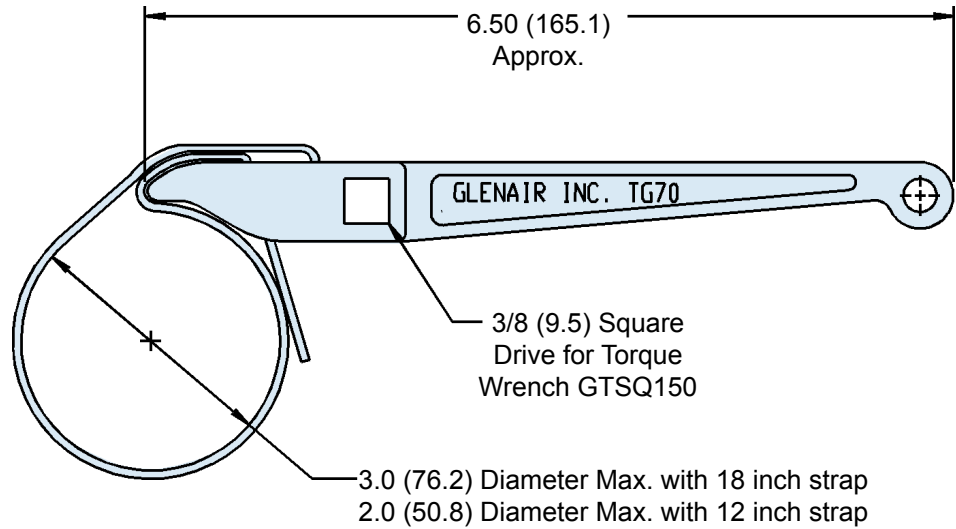
Dash No.	N Dia ±.015 (0.4)	Dash No.	N Dia ±.015 (0.4)
08	.468 (11.9)	24	1.484 (37.7)
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17	1.015 (25.8)	32	1.968 (50.0)
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21	1.265 (32.1)	40	2.406 (61.1)
22	1.343 (34.1)	44	2.656 (67.5)
23	1.453 (36.9)	48	3.031 (77.0)
		118	.310 (7.9)

TABLE VII: STYLE A RING DIA.

Dash No.	N Dia ±.015 (0.4)	Dash No.	N Dia ±.015 (0.4)
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205	.788 (20.0)	113	1.766 (44.9)
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108	1.141 (29.0)	116	2.406 (61.1)
308	1.188 (30.2)	117	2.510 (63.8)
208	1.203 (30.6)		



TG70 Connector Strap Wrench With 3/8" Square Drive



Basic Part No.	Torque Wrench (Omit for None)
TG70	1 - 18
Strap Length in Inches Available in 12 and 18 inches <i>Omit for Standard of 12.0 Inches (304.8)</i>	

NOTES:

1. These wrenches are made of the following materials:
 Wrench Handle - Aluminum Alloy/Nickel Plate
 Wedge - Stainless Steel/Passivated
 Strap - Impregnated Fabric
2. Replacement straps are available. Specify part number G70515 for 12 inch strap or part number G70515-18 for 18 inch strap.
3. Metric dimensions (mm) are indicated in parentheses.

VARIANCE CHART				
TG-70 Strap Wrench Used with Glenair Torque Wrenches				
Accessory Shell Size	Recommended Installation Torque			
	Light/Medium Duty ± 5 Inch Pounds		Heavy Duty ± 5 Inch Pounds	
	TG70 Torque	Part Torque	TG70 Torque	Part Torque
08/09	28	35	45	60
10/11	28	35	70	80
12/13	30	40	75	110 [80]
14/15	30	40	75	120 [80]
16/17	30	40	75	120 [80]
18/19	30	40	75	120 [80]
20/21	75	80	95	140 [100]
22/23	75	80	120*	140
24/25	75	80	120*	140
28			135*	150
32			150*	150
36			150*	150

* TG70 Not Recommended For Values of 120 Inch Lbs. or Greater.

VARIANCE CHART NOTES:

1. Recommended installation torque is approximately 80% of MIL-C-85049 accessory thread strength values.
2. Heavy duty installation torque values may be difficult to attain with the TG70 Strap Wrench; the values shown in brackets [] are the maximum attainable with the TG70 Strap Wrench. Glenair recommends using 600 series torque tools whenever possible when torque loading exceeds 75 inch pounds, or to attain the heavy duty torque values shown.

Fast, Cost-Effective Shielding Termination

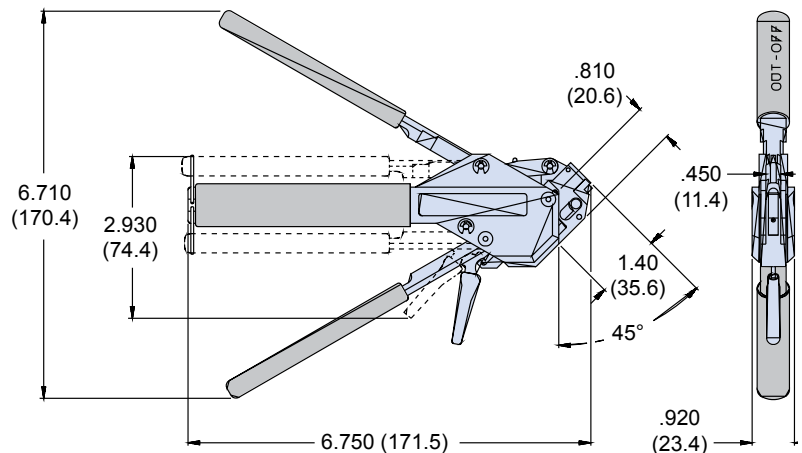
The **BAND-IT**® clamping system provides quick, easy, cost-effective and highly reliable termination of braided metallic shielding or fabric braid. Two sizes of banding tools and bands (bands are also available in standard and extended lengths) allow complete flexibility in terminating EMI shielding and protective mechanical braiding to fiber optic and electrical harnesses. Glenair's complete line of **BAND-IT**® products are in stock and ready for immediate shipment.



Hand Banding Tool 600-058

The 600-058 Hand Banding Tool weighs 1.18 lbs., and is designed for standard clamping bands 600-052 and 600-090 (see page 36) in a tension range from 100 to 180 lbs. Calibrate at 150 lbs. \pm 5 lbs. for most shield terminations. Tool and band should never be lubricated.

Reference: **BAND-IT**® part number A40199.

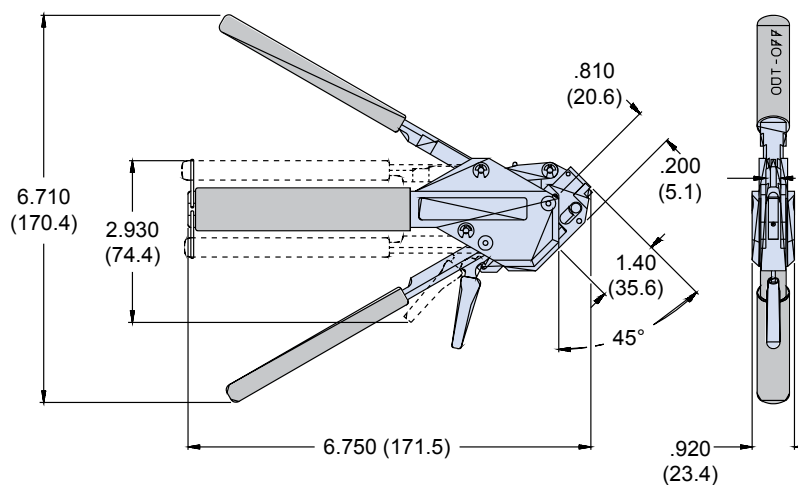


Hand Micro Banding Tool

600-061

The 600-061 Hand Micro Banding Tool weighs 1.18 lbs., and is designed for micro clamping bands 600-057 and 600-083 (see page 36) in a tension range from 50 to 85 lbs. Calibrate at 75lbs +2 lbs. -7 lbs. for most shield terminations. Tool and band should never be lubricated.

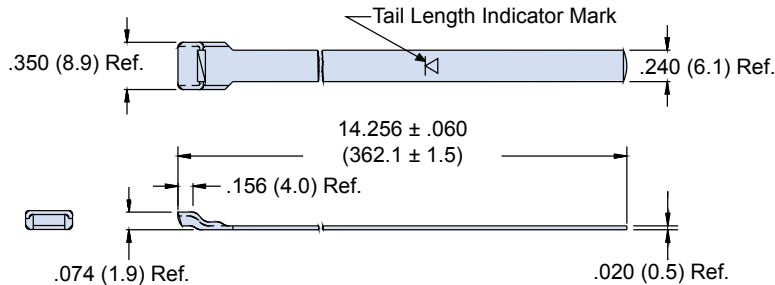
Reference: **BAND-IT**® part number A30199.





600-052, 600-057, 600-090, and 600-083 The BAND-IT® Clamping System Clamping Bands

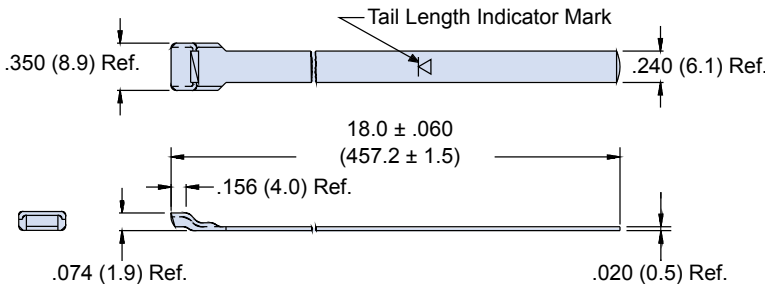
Standard Band 600-052 and Precoiled Standard Band 600-052-1



The 600-052 Standard Band is precision constructed of 300 Series SST/Passivate and designed for use with the 600-058 Hand Banding Tool or the 600-067 Pneumatic Banding Tool. Double-wrapped bands will accommodate diameters up to approximately 1.8 inches (45.7). Bands may be ordered flat (600-052) or precoiled (600-052-1). Bands come bagged and tagged in quantities from 1 to 100.

Reference: BAND-IT® Part Number A10086

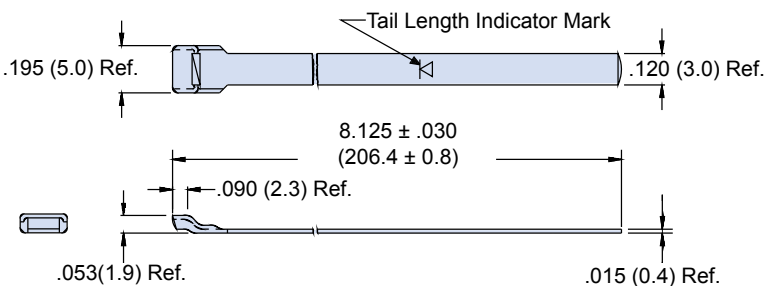
Extended-Length Standard Band 600-090 and Precoiled Extended-Length Standard Band 600-090-1



The 600-090 Extended Length Standard Band is precision constructed of 300 Series SST/Passivate, and designed for use with the 600-058 Hand Banding Tool or the 600-067 Pneumatic Banding Tool. Double-wrapped bands will accommodate diameters up to approximately 2.5 inches (63.5). Bands may be ordered flat (600-090), or precoiled (600-090-1). Bands come bagged and tagged in quantities from 1 to 100.

Reference: BAND-IT® Part Number A11086

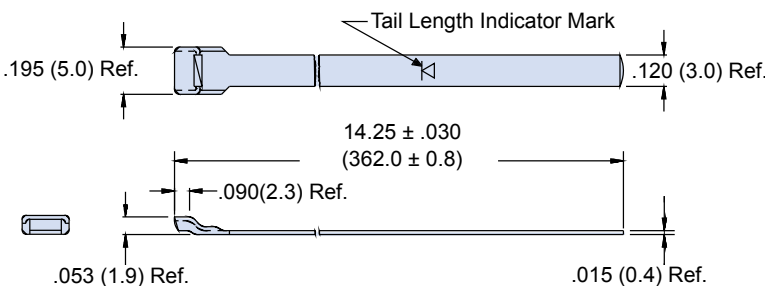
Micro-Band 600-057 Precoiled Micro-Band 600-057-1



The 600-057 Micro Band is precision constructed of 300 Series SST/Passivate, and designed for use with the 600-061 Hand Banding Tool or the 600-068 Pneumatic Banding Tool. Double-wrapped bands will accommodate diameters up to approximately .88 inches (22.4). Bands may be ordered flat (600-057), or precoiled (600-057-1). Bands come bagged and tagged in quantities from 1 to 100.

Reference: BAND-IT® Part Number A31186

Extended Length Micro-Band 600-083 Precoiled Micro-Band 600-083-1



The 600-083 Extended Length Micro-Band is precision constructed of 300 Series SST/Passivate, and designed for use with the 600-061 Hand Banding Tool or the 600-068 Pneumatic Banding Tool. Double-wrapped bands will accommodate diameters up to approximately 1.88 inches (47.8). Bands may be ordered flat (600-083), or precoiled (600-083-1). Bands come bagged and tagged in quantities from 1 to 100.

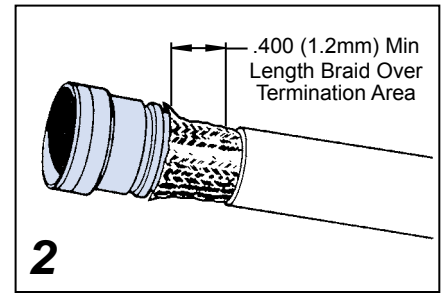
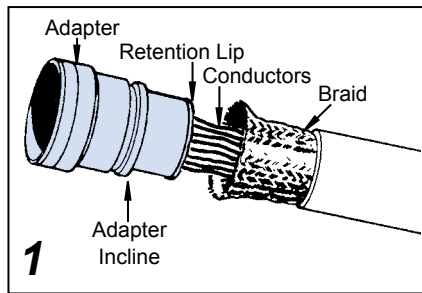
Reference: BAND-IT® Part Number A31089.

Metric dimensions (mm) are indicated in parentheses. Consult factory for diameters above 2.5 inches (63.5).

The BAND-IT® Clamping System EMI Shield Termination Instructions



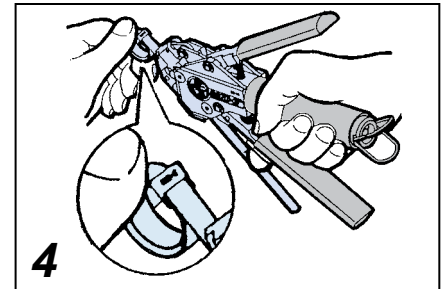
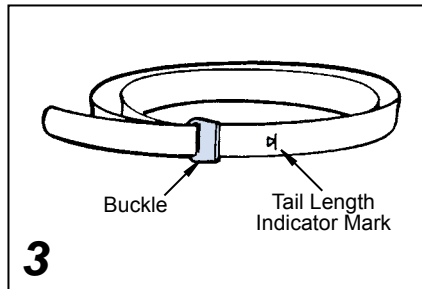
1. Prepare cable braid for termination process (Figure 1).
2. Push braid forward over adapter retention lip to the adapter incline point (or .4" [10.2mm] minimum braid length). Milk braid as required to remove slack and ensure a snug fit around the shield termination area (Figure 2).



3. Prepare the band in the following manner:

IMPORTANT: Due to Connector/ Adapter circumference, it may be necessary to prepare the band around the cable or retention area.

- A. Roll band through the buckle slot twice (bands must be double-coiled).
- B. Pull on band until mark (▷) is within approximately .250 inch (6.4mm) of buckle slot (Figure 3). The band may be tightened further if desired.

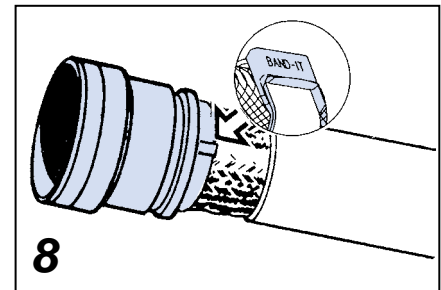
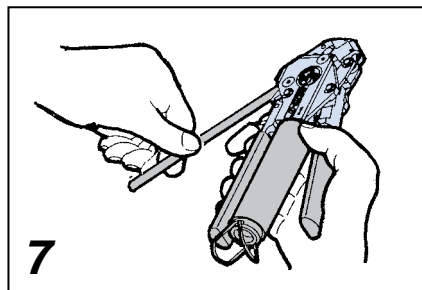
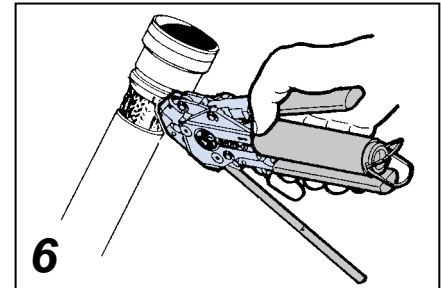
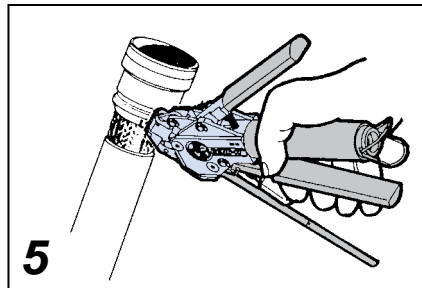


NOTE: Prepared band should have (▷) mark visible as shown in Figure 3.

Shield Termination Clamping Process (Figures 4 thru 8)

NOTE: To free tool handles, move holding clips to center of tool.

4. Squeeze gripper release lever and insert band into the front end opening of the tool (NOTE: Circular portion of looped band must always face downward).
5. Aligning the band and tool with the shield termination area, squeeze black pull-up handle repeatedly using short strokes until it locks against tool body. (This indicates the band is compressed to the tool precalibrated tension).

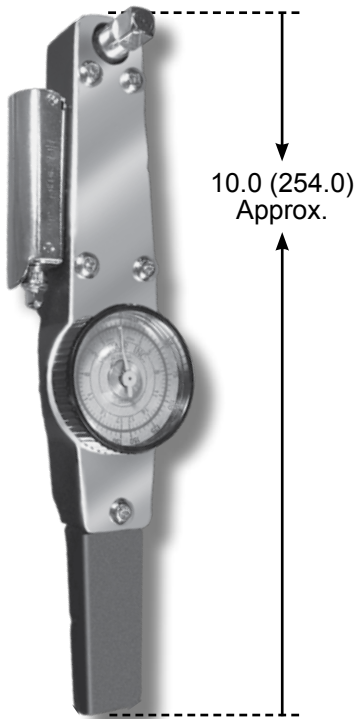


NOTE: If alignment of band and shield is unsatisfactory, tension on band can be relaxed by pushing on slotted release lever on top of tool. Make adjustments as necessary and again, squeeze black pull-up handle.

6. Complete the clamping process by squeezing the gray cut-off handle.
7. Remove excess band from tool and dispose.
8. Inspect shield termination.



600-004 and 600-007
Tools for Connector/Backshell Assembly
Torque Wrenches



600-004

**Hand-Held
Torque Wrench**

With Lighted Electric Signal

Adjustable to desired torque level of
0 to 150 inch pounds.

3/8" Drive

Requires two Panasonic SR44W
or equivalent batteries

600-007

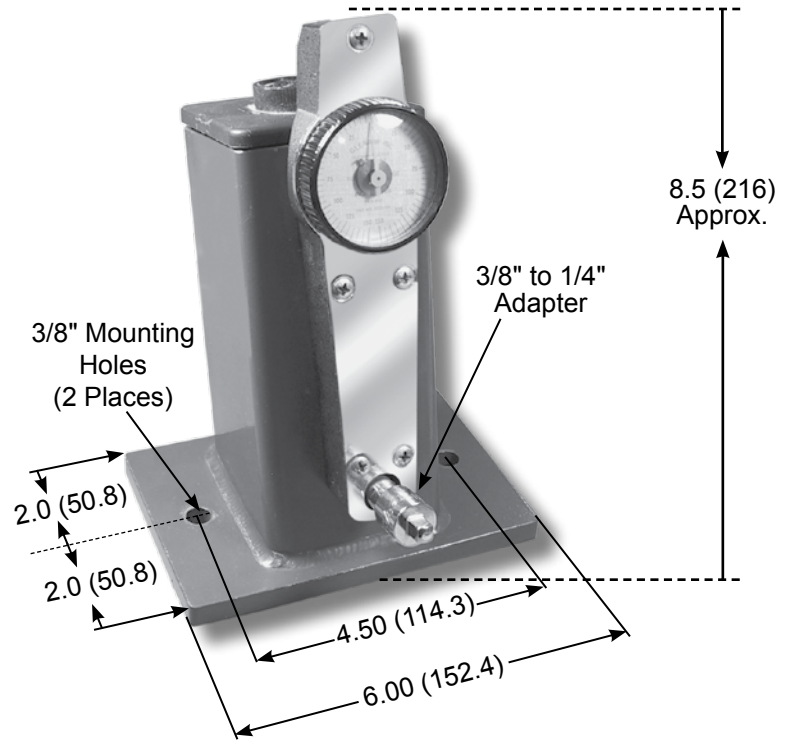
**Bench-Mounted
Torque Wrench**

With Audible Electric Signal

Adjustable to desired torque level
of 0 to 150 inch pounds.

3/8" Drive

Requires one Panasonic SR44W
or equivalent battery



Metric Dimensions (mm) are indicated in parentheses.



600-161 Digital Torque Wrench and 600-162 Bench Stand



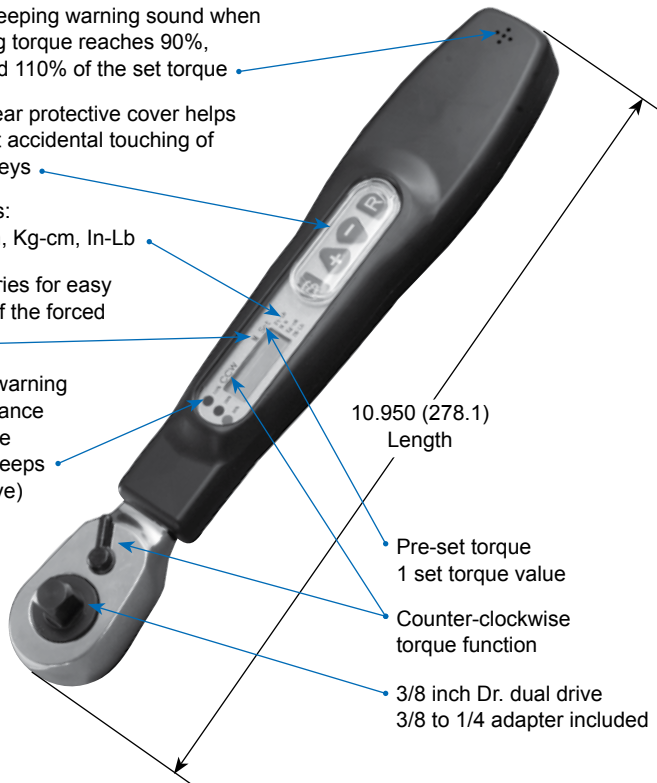
Audible beeping warning sound when the forcing torque reaches 90%, 100%, and 110% of the set torque

Sliding clear protective cover helps to prevent accidental touching of function keys

Four Units: Ft-Lb, Nm, Kg-cm, In-Lb

99 Memories for easy tracking of the forced torques

Flashing warning lights enhance the audible warning beeps (See above)



10.950 (278.1) Length

Pre-set torque 1 set torque value

Counter-clockwise torque function

3/8 inch Dr. dual drive 3/8 to 1/4 adapter included

Hand-Held Digital Torque Wrench

3/8" Dual Drives Top and Bottom to facilitate bench mount operation
Requires two AAA batteries

600-161

99 Presets available for torque level 29 to 310 inch pound range

Clockwise and counter-clockwise provide $\pm 2\%$ accuracy

Torque range:

Ft-Lb = 2.5 ~ 25 Ft-Lb

N m = 3.3 ~ 35 N.M

Kg-cm = 34 ~ 340 Kg-cm

In-Lb = 29 ~ 310 In-Lb

Bench Stand

600-162

For Digital Torque Wrench 600-161

Vertical and Horizontal Mounting Options

Multi-Position Angle Adjustment

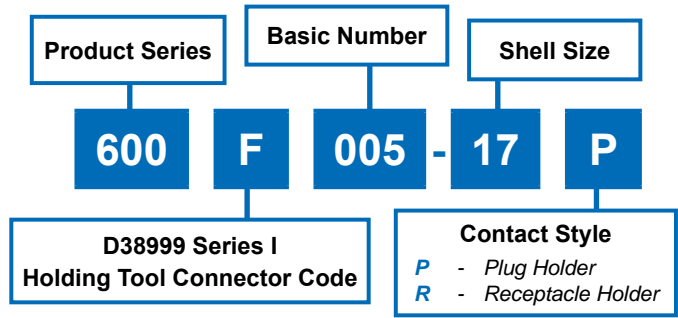


Shown with 600-161 Digital Torque Wrench in Position

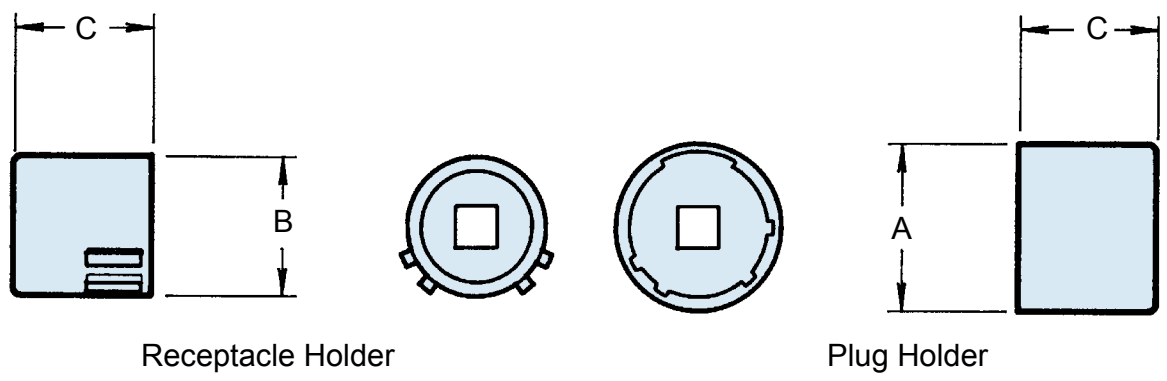




600F005
Connector Holding Tool
 MIL-DTL-38999 Series I
 Plug and Receptacle



NO POLARIZATION REQUIRED



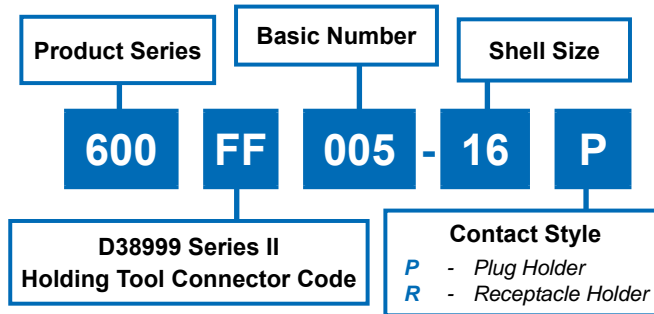
Shell Size	Max. Recommended Torque (Inch Pounds)	A Dia. Max.	B Dia. Max.	C Dim. Max.
09	40	.577 (14.7)	.438 (11.1)	1.031 (26.2)
11	40	.709 (18.0)	.566 (14.4)	1.031 (26.2)
13	40	.829 (21.1)	.678 (17.2)	1.031 (26.2)
15	40	.954 (24.2)	.803 (20.4)	1.031 (26.2)
17	40	1.107 (28.1)	.928 (23.6)	1.031 (26.2)
19	40	1.190 (30.2)	1.033 (26.2)	1.031 (26.2)
21	80	1.315 (33.4)	1.158 (29.4)	1.031 (26.2)
23	80	1.440 (36.6)	1.283 (32.6)	1.031 (26.2)
25	80	1.565 (39.8)	1.408 (35.8)	1.031 (26.2)

NOTES

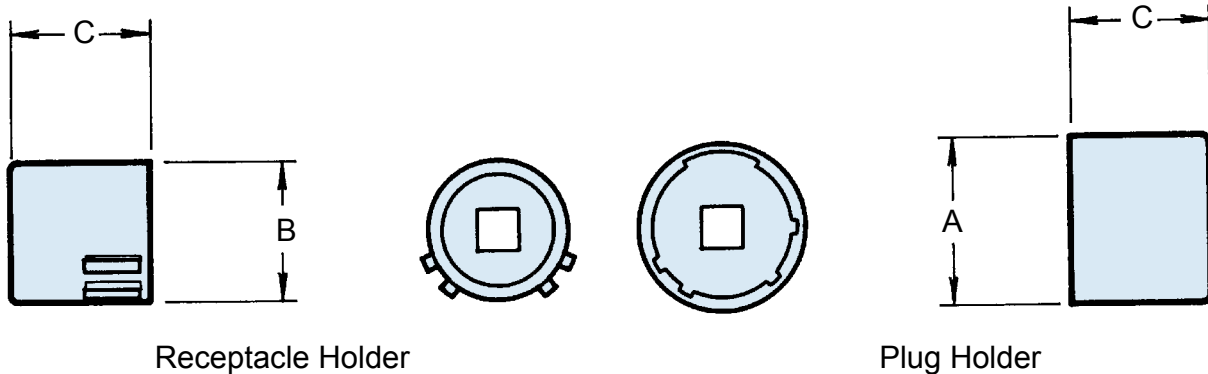
1. Metric dimensions (mm) are indicated in parentheses.
2. Material: Case hardened carbon steel with electroless nickel finish.
3. Receptacle and plug holder drives: 1/4" - Shell sizes 09, 11 and 13; 3/8" - Shell sizes 15 and up.



600FF005
Connector Holding Tool
MIL-DTL-38999 Series II
Plug and Receptacle



NO POLARIZATION REQUIRED



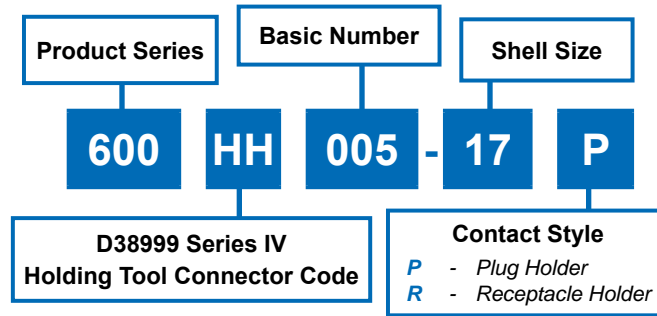
Shell Size	Max. Recommended Torque (Inch Pounds)	A Dia. Max.	B Dia. Max.	C Dim. Max.
08	40	.478 (12.1)	.358 (9.1)	.910 (23.1)
10	40	.599 (15.2)	.486 (12.3)	.910 (23.1)
12	40	.758 (19.3)	.603 (15.3)	.910 (23.1)
14	40	.882 (22.4)	.728 (18.5)	.910 (23.1)
16	40	1.007 (25.6)	.853 (21.7)	.910 (23.1)
18	40	1.133 (28.8)	.958 (24.3)	.910 (23.1)
20	80	1.257 (31.9)	1.083 (27.5)	.910 (23.1)
22	80	1.382 (35.1)	1.208 (30.7)	.910 (23.1)
24	80	1.507 (38.3)	1.333 (33.9)	.910 (23.1)

NOTES

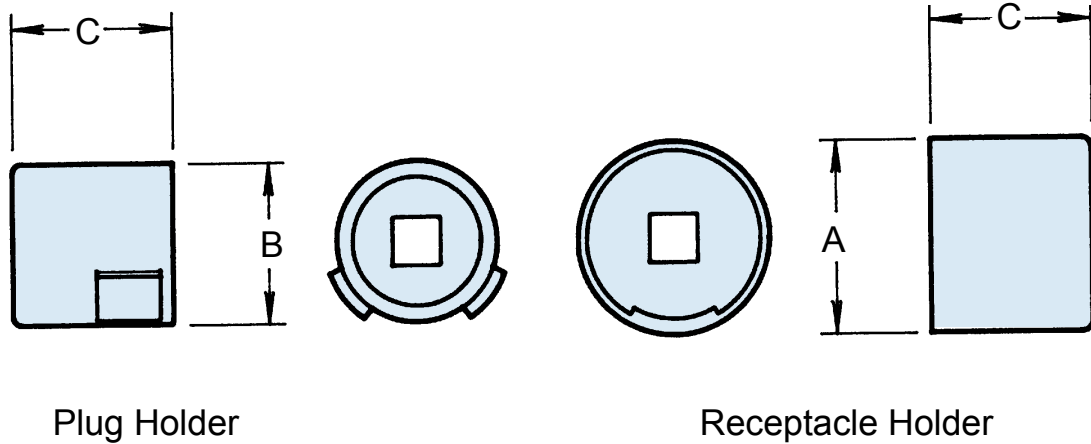
1. Also mates with 40M38277.
2. Metric dimensions (mm) are indicated in parentheses.
3. Material: Case hardened carbon steel with electroless nickel finish.
4. Receptacle and plug holder drives: 1/4" - Shell sizes 08, 10 and 12; 3/8" - Shell sizes 14 and up.



600HH005
Connector Holding Tool
MIL-DTL-38999 Series IV
Plug and Receptacle



NO POLARIZATION REQUIRED



Shell Size		Max. Recommended Torque (Inch Pounds)	A Dia. Max.	B Dia. Max.	C Dim. Max.
Com'l	Mil. Ref.				
11	B	80	.83 (21.1)	.515 (13.1)	1.28 (32.5)
13	C	110	.95 (24.1)	.650 (16.5)	1.28 (32.5)
15	D	120	1.07 (27.2)	.775 (19.7)	1.28 (32.5)
17	E	120	1.20 (30.5)	.901 (22.9)	1.28 (32.5)
19	F	120	1.28 (32.5)	1.015 (25.8)	1.28 (32.5)
21	G	140	1.40 (35.6)	1.140 (29.0)	1.28 (32.5)
23	H	140	1.53 (38.9)	1.265 (32.1)	1.28 (32.5)
25	J	140	1.66 (42.2)	1.392 (35.4)	1.28 (32.5)

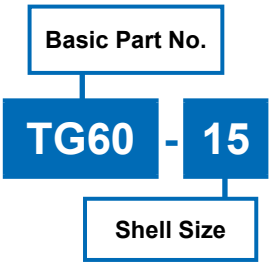
NOTES

1. Metric dimensions (mm) are indicated in parentheses.
2. Material: Case hardened carbon steel with electroless nickel finish.
3. Receptacle and plug holder drives: 1/4" - Shell sizes 11 and 13; 3/8" - Shell sizes 15 and up.

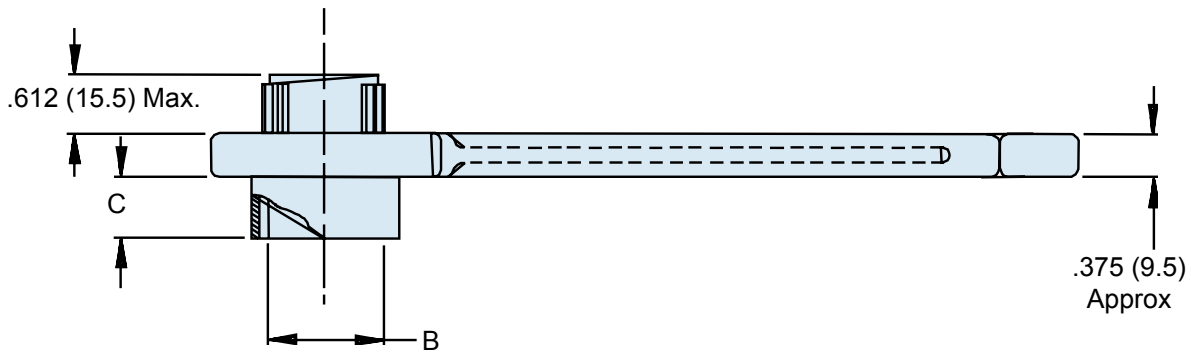
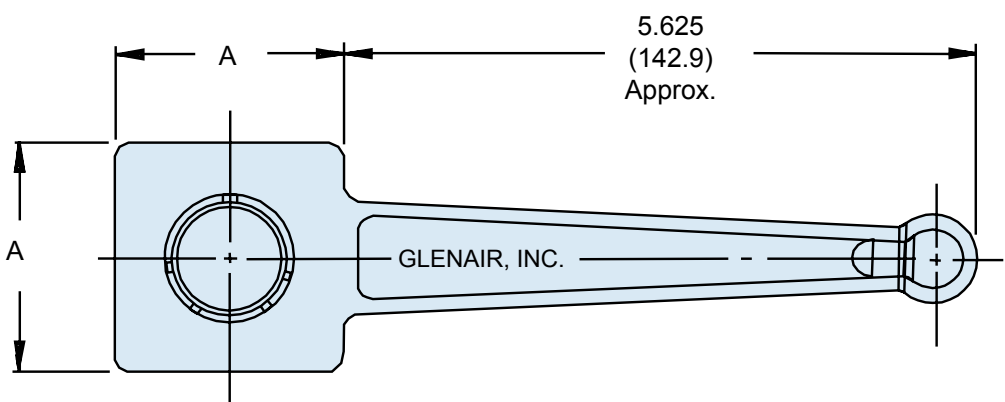




TG60 Universal Connector Holding Wrench MIL-DTL-38999 Series I



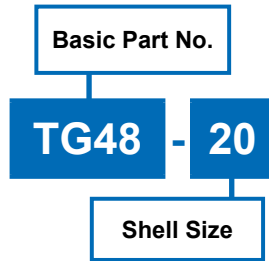
- NOTES**
1. Metric dimensions (mm) are indicated in parentheses.
 2. Material: Aluminum alloy with electroless nickel finish.



Shell Size	A Dim. Ref.	B Dia. Ref.	C Max
9	1.250 (31.8)	.442 (11.2)	.647 (16.4)
11	1.250 (31.8)	.570 (14.5)	.647 (16.4)
13	1.250 (31.8)	.687 (17.4)	.647 (16.4)
15	2.000 (50.8)	.812 (20.6)	.647 (16.4)
17	2.000 (50.8)	.937 (23.8)	.647 (16.4)
19	2.000 (50.8)	1.042 (26.5)	.647 (16.4)
21	2.000 (50.8)	1.167 (29.6)	.617 (15.7)
23	2.000 (50.8)	1.292 (32.8)	.617 (15.7)
25	2.000 (50.8)	1.417 (36.0)	.617 (15.7)

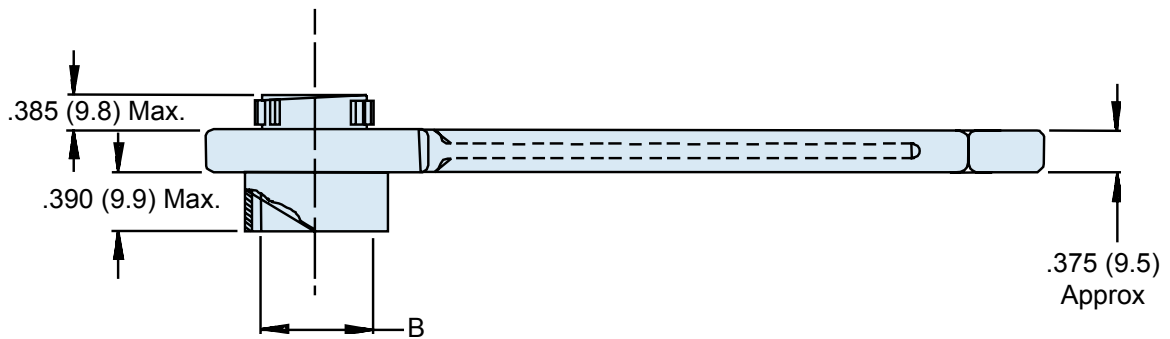
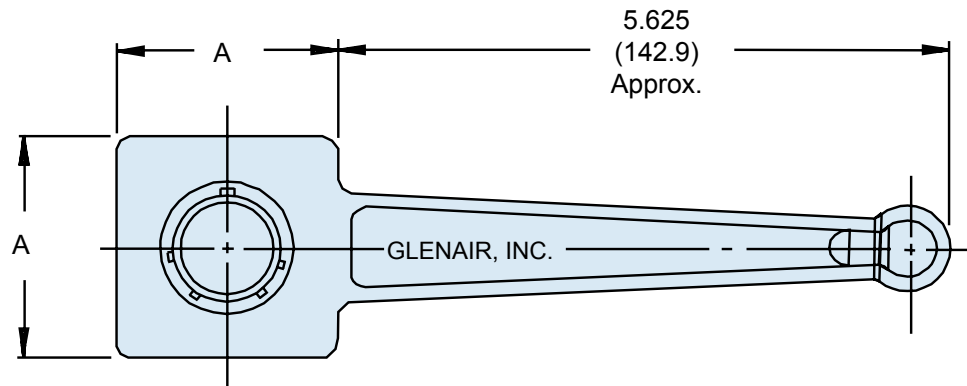


TG48
Universal Connector Holding Wrench
MIL-DTL-38999 Series II



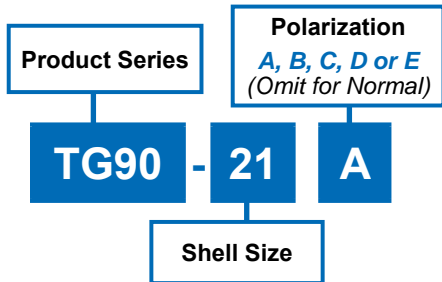
NOTES

1. Metric dimensions (mm) are indicated in parentheses.
2. Material: Aluminum alloy with electroless nickel finish.



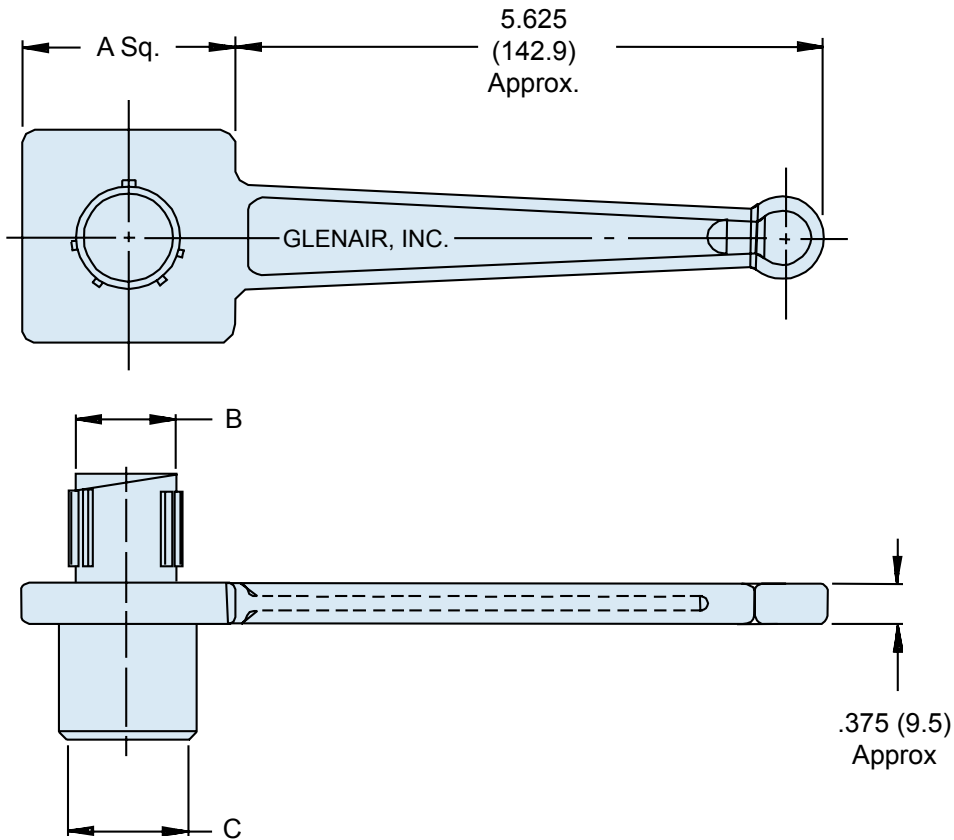
Shell Size	A Dim. ± .062 (1.6)	B Dia. Ref.
8	1.250 (31.8)	.362 (9.2)
10	1.250 (31.8)	.490 (12.4)
12	1.250 (31.8)	.607 (15.4)
14	1.250 (31.8)	.732 (18.6)
16	2.000 (50.8)	.857 (21.8)
18	2.000 (50.8)	.962 (24.4)
20	2.000 (50.8)	1.087 (27.6)
22	2.000 (50.8)	1.212 (30.8)
24	2.000 (50.8)	1.337 (34.0)

TG90 Universal Connector Holding Wrench MIL-DTL-38999 Series III



NOTES

1. Metric dimensions (mm) are indicated in parentheses.
2. Material: Aluminum alloy with electroless nickel finish.



Shell Size	A Dim. ± .062 (1.6)	B Dia. Ref.	C Dia. Ref.
09	1.250 (31.8)	.438 (11.1)	.441 (11.2)
11	1.250 (31.8)	.566 (14.4)	.569 (14.5)
13	1.250 (31.8)	.678 (17.2)	.682 (17.3)
15	2.000 (50.8)	.802 (20.4)	.811 (20.6)
17	2.000 (50.8)	.928 (23.6)	.931 (23.6)
19	2.000 (50.8)	1.032 (26.2)	1.037 (26.3)
21	2.000 (50.8)	1.155 (29.3)	1.162 (29.5)
23	2.750 (69.9)	1.283 (32.6)	1.288 (32.7)
25	2.750 (69.9)	1.407 (35.7)	1.411 (35.8)



600-091 Composite-Hex-Coupling Wrench



ALUMINUM TOOL FOR USE WITH GLENAIR COMPOSITE BACKSHELLS

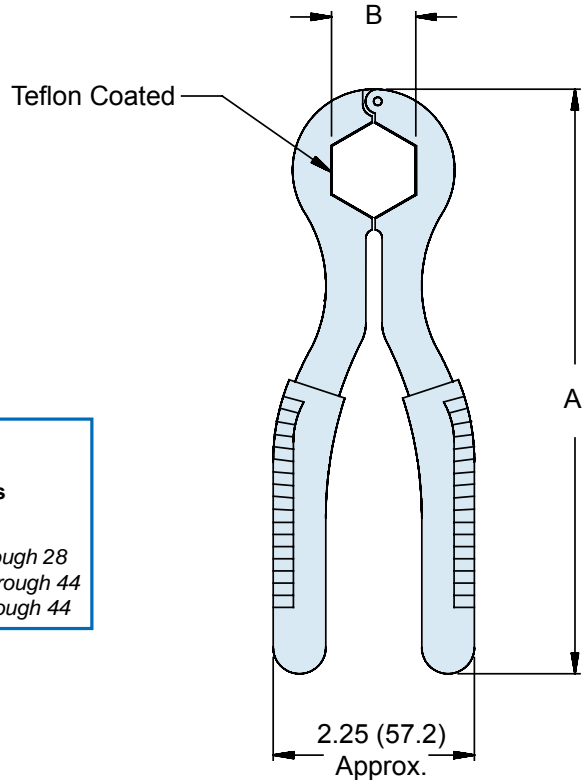
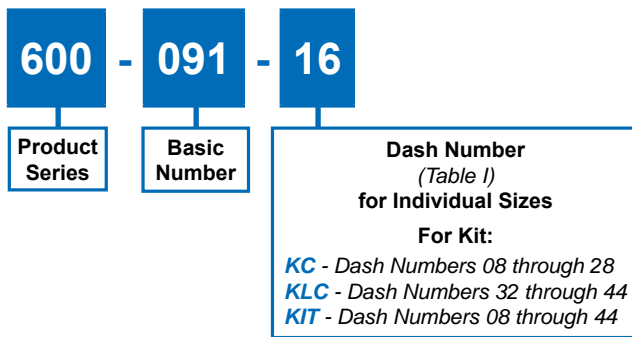


TABLE I: DASH NUMBER AND DIMENSIONS

Dash No.	A Ref.	B +/- .005 (.13) Hex*	Shell Size Ref.
08	7.38 (187.5)	.750 (19.1)	08/09
10	7.50 (190.5)	.875 (22.2)	10/11
12	7.50 (190.5)	1.000 (25.4)	12/13
14	7.50 (190.5)	1.125 (28.6)	14/15
16	7.50 (190.5)	1.250 (31.8)	16/17
18	7.75 (196.9)	1.375 (34.9)	18/19
20	8.00 (203.2)	1.500 (38.1)	20/21
22	8.25 (209.6)	1.625 (41.3)	22/23
24	8.25 (209.6)	1.750 (44.5)	24/25
28	8.50 (215.9)	2.000 (50.8)	28
32	10.00 (254.0)	2.250 (57.2)	32
36	10.00 (254.0)	2.500 (63.5)	36

* See Note 3

APPLICATION NOTES

1. This backshell assembly tool is designed for Glenair composite hex coupling applications and should be used in conjunction with Glenair torque wrenches (see page 14).
2. These wrenches are made of aluminum alloy with vinyl grips.
3. B Hex is critical, adjust set screw until dimension is within tolerance (+/- .005)
4. Metric dimensions (mm) are indicated in parentheses.



600-157 Composite-Hex-Coupling Wrench

STAINLESS STEEL TOOL FOR USE WITH GLENAIR COMPOSITE BACKSHELLS

600	-	157	-	K
Product Series		Basic Number		Dash Number for Individual Wrench or: <i>K</i> - All Wrench Sizes 08 through 24, No Case <i>KC</i> - All Wrench Sizes 08 through 24 with Case

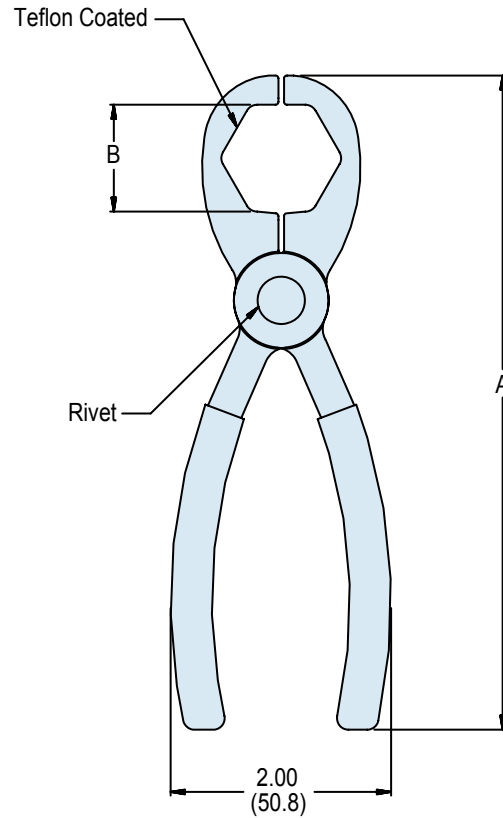


TABLE I: DASH NUMBER				
Dash Number	A Ref	B Hex ±.005 (0.1)	Connector for Shell Size	
			Codes A & F	Code H
08	6.700 (170.2)	.750 (19.1)	08	09
10	6.750 (171.5)	.875 (22.2)	10	11
12	6.810 (173.0)	1.000 (25.4)	12	13
14	6.880 (174.8)	1.125 (28.6)	14	15
16	6.950 (176.5)	1.250 (31.8)	16	17
18	7.050 (179.1)	1.375 (34.9)	18	19
20	7.150 (181.6)	1.500 (38.1)	20	21
22	7.380 (187.5)	1.625 (41.3)	22	23
24	7.440 (189.0)	1.750 (44.5)	24	25

- APPLICATION NOTES**
1. This backshell assembly tool is designed for Glenair composite hex coupling applications and should be used in conjunction with Glenair torque wrenches (see page 14).
 2. These wrenches are made of stainless steel with vinyl grips.
 3. B Hex is critical, adjust set screw until dimension is within tolerance (+/- .005)
 4. Metric dimensions (mm) are indicated in parentheses.

