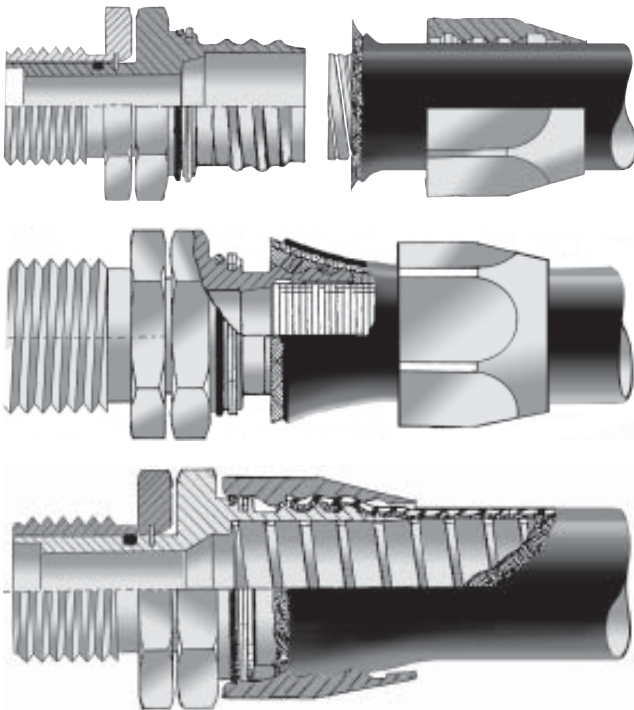


## Swivel Design, Self-Locking Couplings, Environmental Sealing—Truly the *FIRST* and Last Conduit System You'll Ever Need



### PRODUCT FACTS

- Broad Spectrum RFI/EMI/EMP Shielding
- Interchangeability with Entreco
- Reduced Radar Cross section
- Easy Installation and Repair
- Low-Smoke Zero Halogen Jacketing
- 360° Grounding Swivel Design
- Self-Coupling Adapters with Wave-Form Anti-Decoupling Springs

The Glenair Field Installable and Repairable Shipboard Termination (*FIRST*) Conduit System consists of easily installed, two-piece conduit fittings and Glenair's Series 75 metal core conduit (750-145 and 750-147).

The *FIRST* System provides optimized shielding, extreme environment sealing, and corrosion protection. The self-locking coupling system, with its front swivel and rear coupling nut wave-form spring, ensures continued protection

even under conditions of severe shock, vibration and cable torque. No other system on the market is easier to install or repair, and no special tools are required. Installation time is greatly reduced, and service life is increased.

Body configurations are available in straight, 45° and 90°. The selection of end-fittings and adapters support all military standard connectors, bulkhead feed-throughs, branching hardware, pipe threads and stuffing tubes.

## Glenair *FIRST* Fittings and Adapters for Series 75 Metal-Core Conduit (750-145 & 750-147) Testing

Test Requirements	Test Method	Testing Performed By	Test Samples
Interchangeability	Glenair will use the same metal core, braids and jacket as Entraco to insure interchangeability. A sample of an Entraco fitting mated with Glenair conduit and visa versa will be subjected to Shielding effectiveness and Transfer Impedence Testing.	Glenair Quality Assurance and Elite Electronics Engineering	Entraco Conduit with Glenair Fittings, Glenair Conduit with Entraco Fittings
Sulfur Dioxide Salt Fog	ASTM B 117 with sulfur dioxide gas, 28 Days for 316L Fittings, 200 Hours for Plated Aluminum Fittings. Shielding Effectiveness Testing will be repeated after Sulfur Dioxide Salt Fog.	National Technical Systems Fullerton, California	Glenair Conduit with Pipe Thread Fittings
Salt Spray Test	Aluminum Parts: MIL-STD-1344 for 2,000 Hours.	National Testing Systems Fullerton, California	Glenair Conduit and Pipe Thread fittings
Shielding Effectiveness	MIL-STD-1344, Method 3008, Frequency Range 100 MHz - 10 GHz; 58 dB minimum.	Elite Electronics Engineering Chicago, Illinois	Glenair Conduit with Pipe thread Fittings, Entraco Conduit with Glenair Fittings, Glenair Conduit with Entraco Fittings
Surface Transfer Impedence Test	MIL-C-24758 Frequency Range 1 kHz - 100 MHz.	National Technical Systems Fullerton, California	Glenair Conduit with Pipe thread Fittings, Entraco Conduit with Glenair Fittings, Glenair Conduit with Entraco Fittings
Core Grounded to End Fitting	When assembled, the core must be grounded to the end fitting and captured by a groove to prevent chafing. Visual Inspection.	Glenair Quality Assurance	Glenair Conduit with Pipe Thread Fittings
360 Degree Grounding of Swivel	Visual Inspection.	Glenair Quality Assurance	Glenair Conduit with Pipe thread Fittings

**Glenair *FIRST* Fittings and Adapters  
for Series 75 Metal-Core Conduit (750-145 & 750-147)  
Entreco Cross Reference**



**Glenair and Entreco *FIRST*/SEA FROST Cross Reference**  
(Note: Both systems use the same Dimensions—which is the Key to Interchangability)

<b>General Features</b>	<b>Glenair "FIRST"</b>	<b>Entreco "SEA FROST"</b>
Glenair/Entreco Interchangability	Yes	Yes
Superior EMI/EMP Shielding	Yes	Yes
Superior Environmental Sealing	Yes	Yes
Superior Corrosion Protection	Yes	Yes
Easily Installed and repaired	Yes	Yes
Reduced Installation Cost	Yes	Yes
Self-Locking Coupling System	Yes	Yes
Two-Piece Design with Swivel	Yes	Yes
<b>Detailed Design Features</b>		
<b>(1) Fitting Materials:</b>		
316 Cres	Yes	Yes
Nickel/Teflon Plated Aluminum	Yes	Yes
Zinc/Nickel Plated Aluminum	Yes	—
<b>(2) Continuous Conduit Length (50' - 200' Lengths) Less scrap/Cost savings</b>	Yes	No (Random Lengths)
<b>(3) Grounded Swivel Design</b>	Yes	Yes
<b>(4) Grounded Outer Shield (Braid)</b>	Yes	Yes
<b>(5) Grounded Inner Core</b>	Yes	Yes
<b>(6) Environmental Jacket Material</b>		
Black Neoprene	Yes	Yes
Gray EPDM	Yes	Yes
<b>(7) Brass Core Material</b>	Yes	Yes
<b>(8) Braid materials</b>		
28 ga Bronze Phosphorus	Yes	Yes
34 ga Tin Copper	Yes	Yes
<b>(9) Self-Locking Mechanism</b>	Yes	Yes
<b>(10) Complete Environmental sealing</b>		
Rear Jacket seal	Yes	Yes
Swivel O-Ring Seal	Yes	Yes
Lock Mechanism O-Ring Seal	Yes	Yes

**750-145**  
**Series 75 EMI/RFI Shielded Metal-Core Conduit**  
**Black Neoprene Jacketed for FIRST Adapters and Fittings**

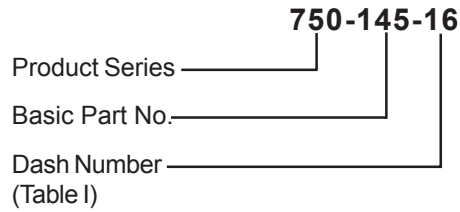
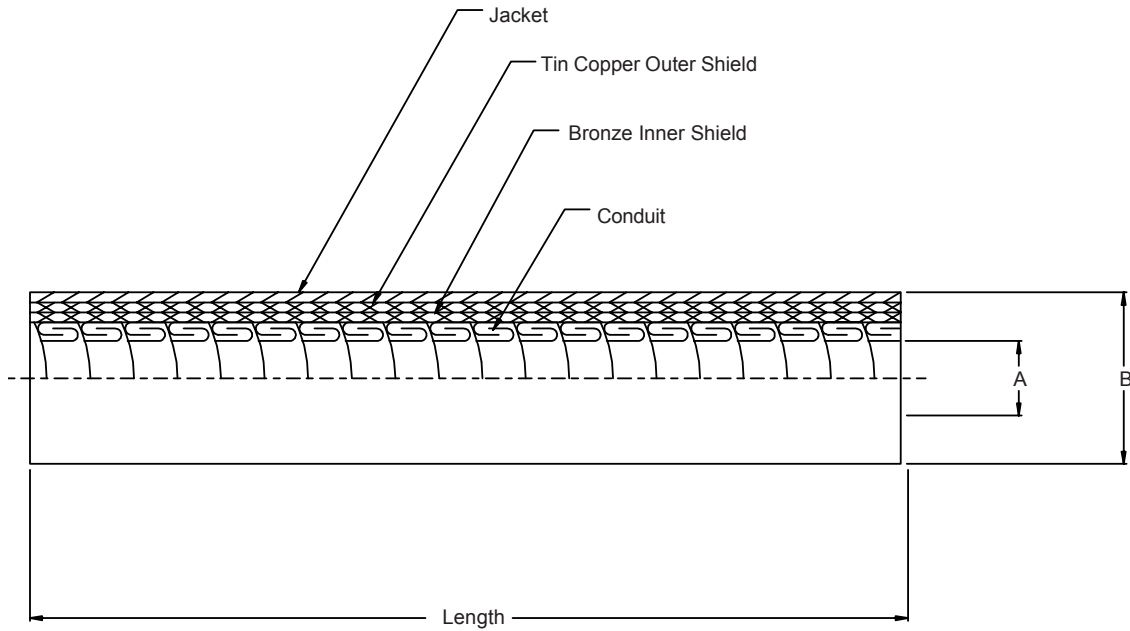


TABLE I			
Dash Number	A Dia Min	B Dia Min	Min Bend Radius
16	.485 (12.3)	.867 (22.0)	2.250 (57.2)
24	.735 (18.7)	1.100 (27.9)	2.250 (57.2)
32	.985 (25.0)	1.450 (36.8)	3.750 (95.3)
40	1.235 (31.4)	1.677 (42.6)	4.750 (120.7)
48	1.485 (37.7)	1.960 (49.8)	5.500 (139.7)

Sizes from .250 (6.4) to 3.00 (76.2) are available upon request

Metric Dimensions (mm) are indicated in parentheses.

**750-147**  
**Series 75 EMI/RFI Shielded Metal-Core Conduit**  
**Grey Neoprene Jacketed for FIRST Adapters and Fittings**



Conduit  
Systems

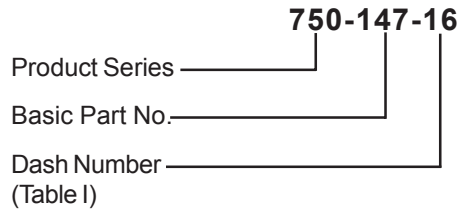
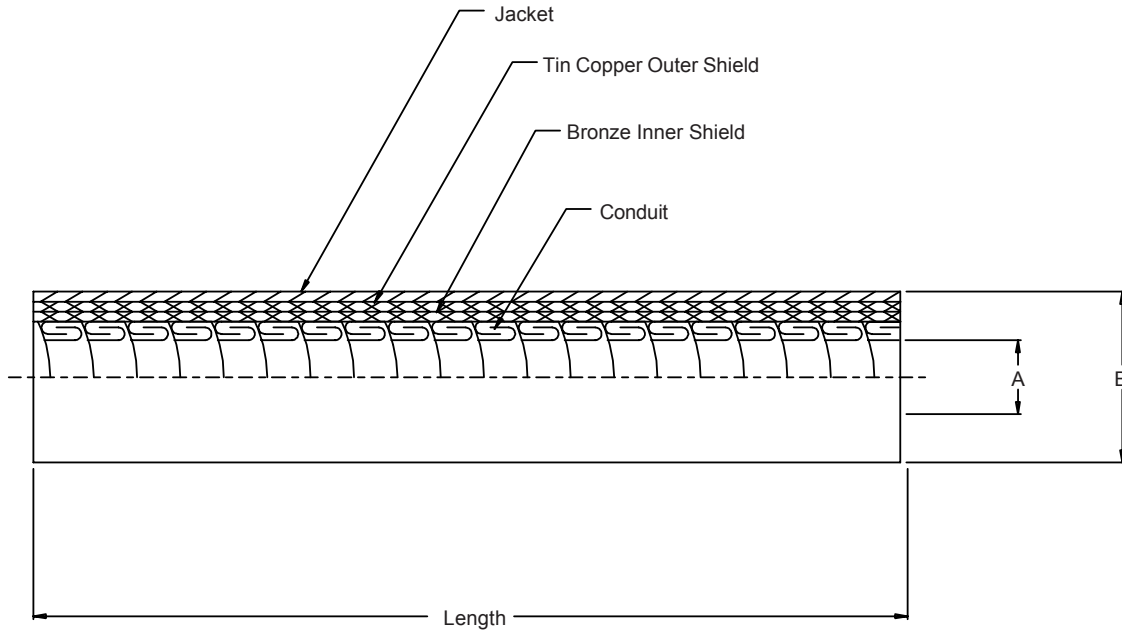
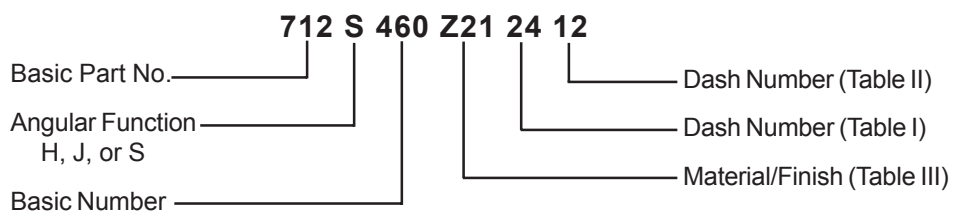
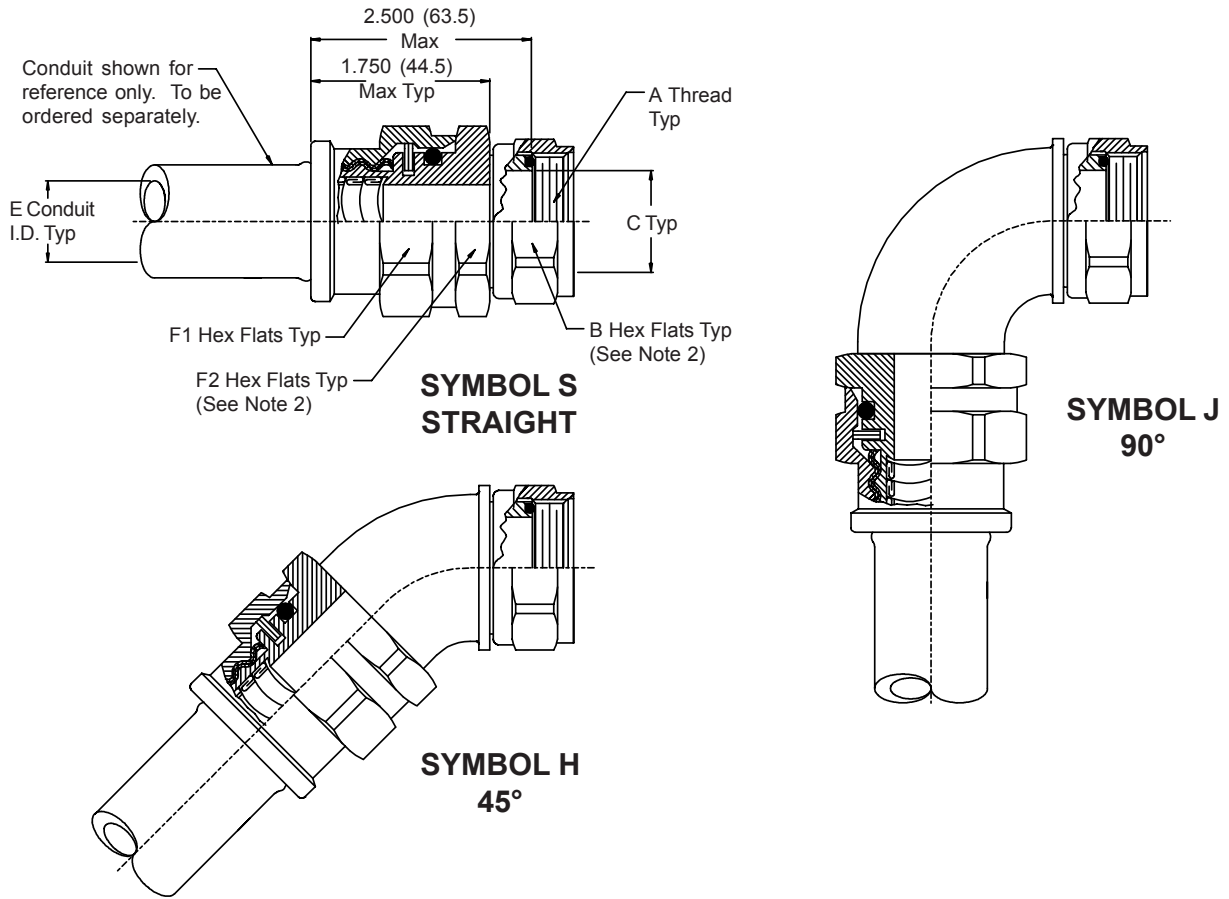


TABLE I			
Dash Number	A Dia Min	B Dia Min	Min Bend Radius
16	.485 (12.3)	.867 (22.0)	2.250 (57.2)
24	.735 (18.7)	1.100 (27.9)	2.250 (57.2)
32	.985 (25.0)	1.450 (36.8)	3.750 (95.3)
40	1.235 (31.4)	1.677 (42.6)	4.750 (120.7)
48	1.485 (37.7)	1.960 (49.8)	5.500 (139.7)

Sizes from .250 (6.4) to 3.00 (76.2) are available upon request

Metric Dimensions (mm) are indicated in parentheses.



**NOTES:**

1. For Thread (Table I) or Conduit (Table II) sizes not shown, please consult factory for availability.
2. Dimensions of "B" and "F2" Hex Flats may vary based on "A" Thread and Conduit size ordered. "F2" Hex Flats will be determined by the larger of the two, but no smaller than "F2" specified in Table II.

Metric Dimensions (mm) are indicated in parentheses.

**712-460**  
**FIRST Swivel Adapter for Glenair Conduit Fittings**  
**Mates with Series 75 Metal-Core Conduit (750-145 & 750-147)**



**TABLE I**

Dash Number	A Thread Class 2B	B Hex Flats	C + .010
24	3/4-20 UNEF	.875 (22.2)	.505 (12.8)
28	7/8-20 UNEF	1.000 (25.4)	.630 (16.0)
32	1-20 UNEF	1.125 (28.6)	.755 (19.2)
36	1 1/8-18 UNEF	1.250 (31.8)	.880 (22.4)
40	1 1/4-18 UNEF	1.375 (34.9)	1.005 (25.5)
42	1 5/16-18 UNEF	1.438 (36.5)	1.005 (25.5)
48	1 1/2 -18 UEF	1.625 (41.3)	1.193 (30.3)
56	1 3/4-18 UNS	1.938 (49.2)	1.505 (38.2)

**TABLE II**

Dash Number	E Ref	F1/F2 Hex Flats
16	.500 (12.7)	1.375 (34.9)
24	.750 (19.1)	1.625 (41.3)
32	1.000 (25.4)	2.000 (50.8)
40	1.125 (28.6)	2.250 (57.2)
48	1.500 (38.1)	2.750 (69.9)

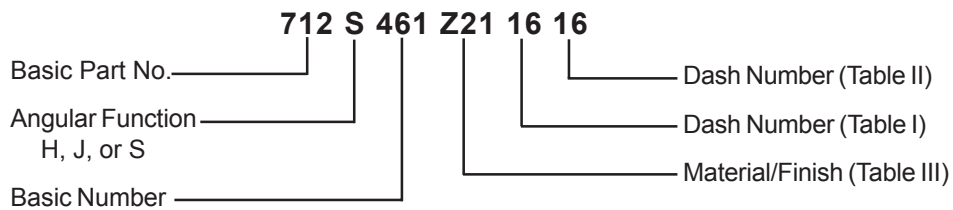
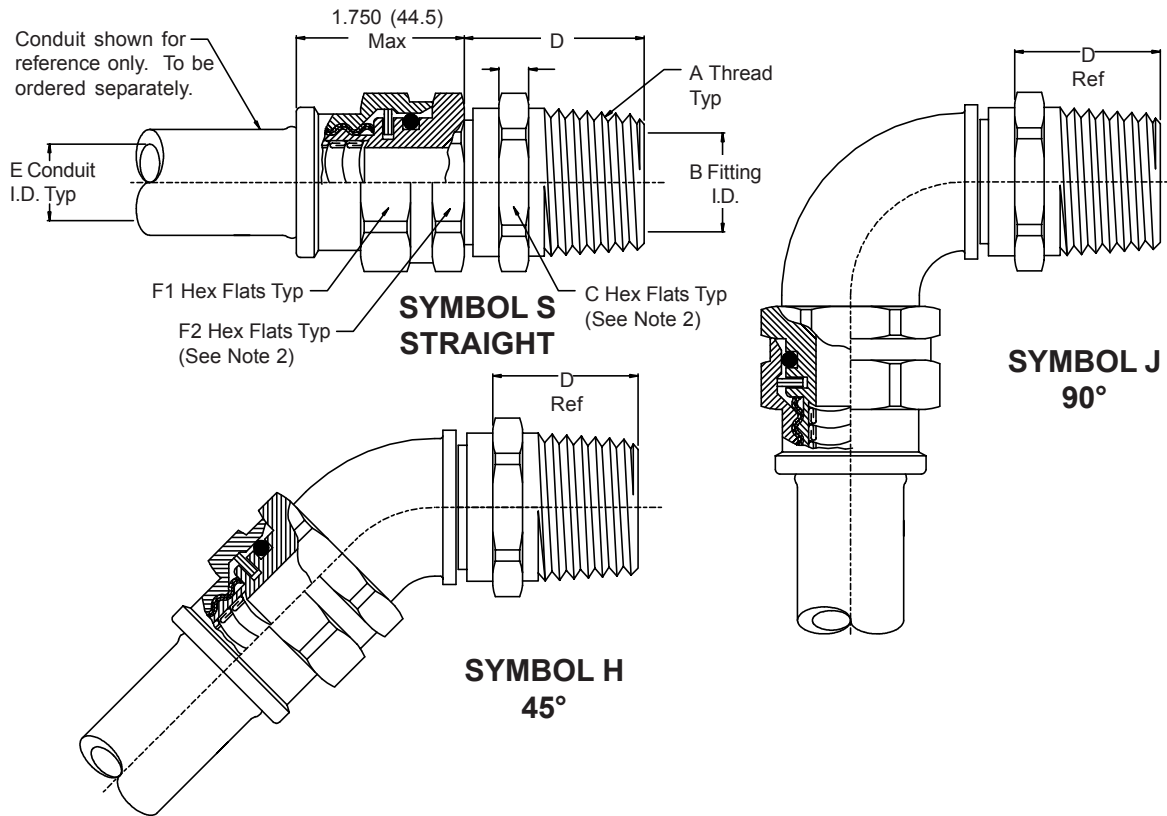
**TABLE III: MATERIAL AND FINISH**

Symbol	Material	Finish
ZN	Aluminum Alloy	Zinc Nickel (500-Hour Salt Spray)
BZN	Brass	
Z21	316 Cres	Passivate

**Mates with  
 710-498 & 710-702  
 Bulkhead Feed-Thru Adapters  
 and Other Glenair  
 Adapters and Transitions**

Metric Dimensions (mm) are indicated in parentheses.

**712-461**  
**Glenair *FIRST* Swivel Pipe Thread Fitting**  
**Mates with Series 75 Metal-Core Conduit (750-145 & 750-147)**



**NOTES:**

1. For Thread (Table I) or Conduit (Table II) sizes not shown, please consult factory for availability.
2. Dimensions of "B" and "F2" Hex Flats may vary based on "A" Thread and Conduit size ordered. "F2" Hex Flats will be determined by the larger of the two, but no smaller than "F2" specified in Table II.

Metric Dimensions (mm) are indicated in parentheses.

**712-461**  
**Glenair *FIRST* Swivel Pipe Thread Fitting**  
**Mates with Series 75 Metal-Core Conduit (750-145 & 750-147)**



Conduit  
Systems

**TABLE I**

Dash Number	A Thread N P T	B I.D.	C Hex Flats	D
12	3/8 - 18	.375 (9.5)	1.000 (25.4)	1.400 (35.6)
16	1/2 - 14	.500 (12.7)	1.120 (28.4)	1.580 (40.1)
24	3/4 - 14	.750 (19.1)	1.370 (34.8)	1.590 (40.4)
32	1 - 11 1/2	1.000 (25.4)	1.620 (41.1)	1.790 (45.5)
40	1 1/4 - 11 1/2	1.250 (31.8)	1.870 (47.5)	1.810 (46.0)
48	1 1/2 - 11 1/2	1.500 (38.1)	2.120 (53.8)	1.830 (53.1)
64	2 - 11 1/2	2.000 (50.8)	2.750 (69.9)	1.860 (46.5)
80	2 1/2 - 8	2.500 (63.5)	3.250 (82.6)	2.370 (60.2)
96	3 - 8	3.000 (76.2)	3.750 (95.3)	2.430 (61.7)

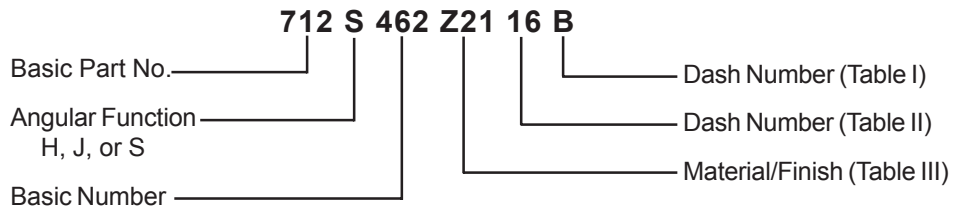
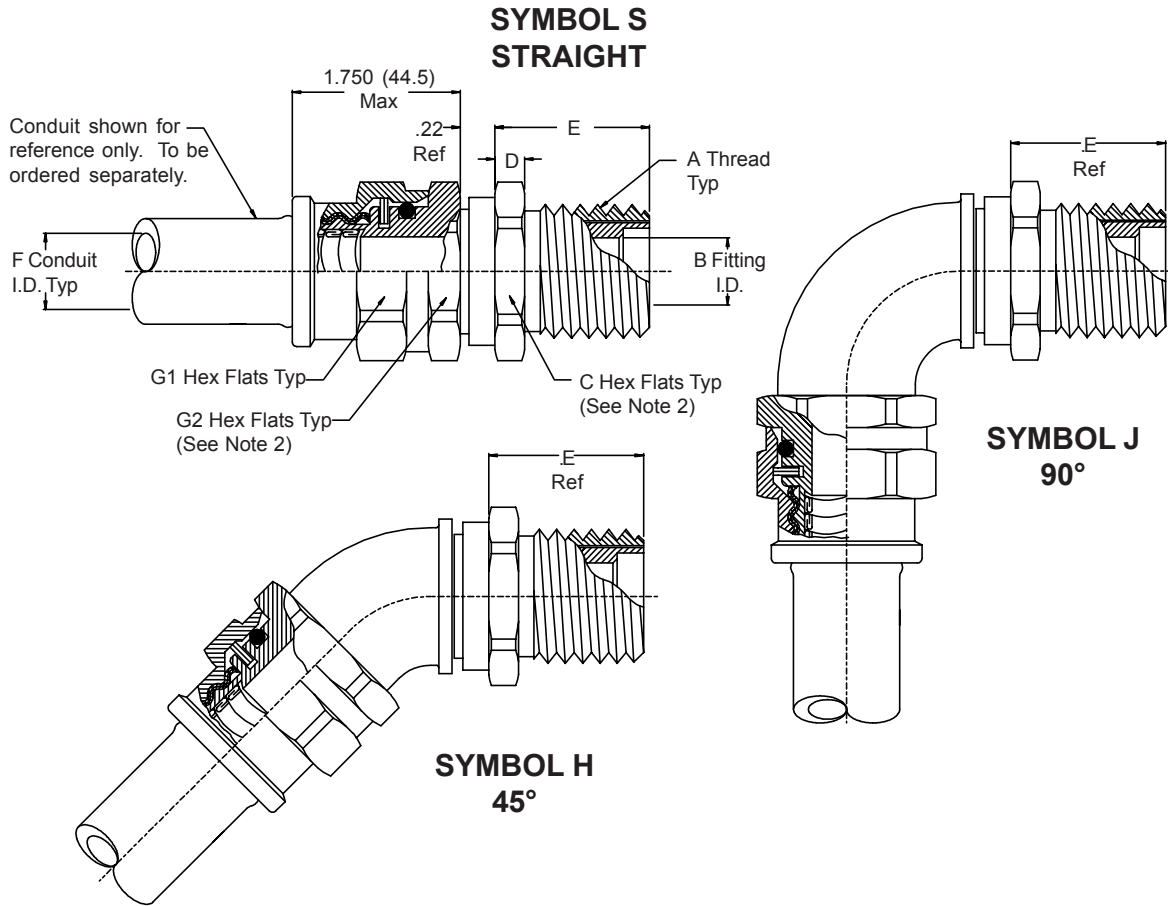
**TABLE II**

Dash Number	E Ref	F1/F2 Hex Flats
16	.500 (12.7)	1.370 (34.8)
24	.750 (19.1)	1.620 (41.1)
32	1.000 (25.4)	2.000 (50.8)
40	1.125 (28.6)	2.250 (57.2)
48	1.500 (38.1)	2.750 (69.9)

**TABLE III: MATERIAL AND FINISH**

Symbol	Material	Finish
<b>ZN</b>	Aluminum Alloy	Zinc Nickel (500-Hour Salt Spray)
<b>BZN</b>	Brass	
<b>Z21</b>	316 Cres	Passivate

Metric Dimensions (mm) are indicated in parentheses.



**NOTES:**

1. For Thread (Table I) or Conduit (Table II) sizes not shown, please consult factory for availability.
2. Dimensions of "C" and "G2" Hex Flats may vary based on "A" Thread and Conduit size ordered. "C" Hex Flats will be determined by the larger of the two, but no smaller than "G2" specified in Table II.

Metric Dimensions (mm) are indicated in parentheses.

**712-462**  
**Glenair *FIRST* Swivel Stuffing Tube Fitting**  
**Mates with Series 75 Metal-Core Conduit (750-145 & 750-147)**



**TABLE I**

Size Letter Designator	A Thread Class 2B	B I.D.	C Hex Flats Min	D Dim	D Dim
A	7/8-12 UN	.406 (10.3)	1.130 (28.7)	.190 (4.8)	1.060 (26.9)
B	1-12 UNF	.515 (13.1)	1.130 (28.7)	.190 (4.8)	1.060 (26.9)
C	1 1/8-12 UNF	.640 (16.3)	1.250 (31.8)	.190 (4.8)	1.060 (26.9)
D	1 1/4-12 UNF	.750 (19.1)	1.380 (35.1)	.190 (4.8)	1.060 (26.9)
E	1 1/4-12 UNF	.812 (20.6)	1.380 (35.1)	.190 (4.8)	1.060 (26.9)
F	1 5/16-12 UN	.843 (21.4)	1.500 (38.1)	.190 (4.8)	1.190 (30.2)
G	1 1/2-12 UNF	.953 (24.2)	1.750 (44.5)	.190 (4.8)	1.190 (30.2)
J	1 5/8-12 UN	1.062 (27.0)	1.880 (47.8)	.190 (4.8)	1.190 (30.2)
K	1 3/4-12 UN	1.171 (29.7)	1.880 (47.8)	.190 (4.8)	1.500 (38.1)
L	1 13/16-12 UN	1.265 (32.1)	2.000 (50.8)	.190 (4.8)	1.500 (38.1)
M	2-12 UN	1.406 (35.7)	2.250 (57.2)	.250 (6.4)	1.500 (38.1)
N	2 1/16-12 UN	1.515 (38.5)	2.250 (57.2)	.250 (6.4)	1.560 (39.6)
P	2 3/16-12 UNS	1.625 (41.3)	2.380 (60.5)	.250 (6.4)	1.560 (39.6)
R	2 5/16-12 UNS	1.750 (44.5)	2.500 (63.5)	.250 (6.4)	1.560 (39.6)

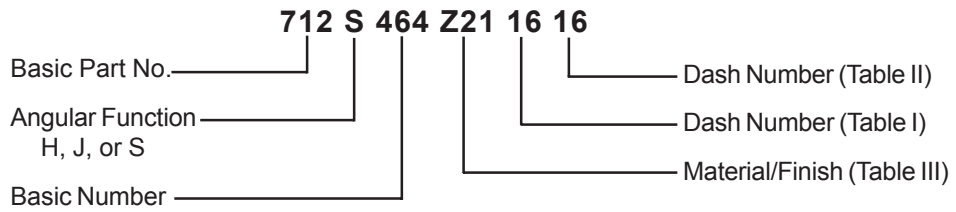
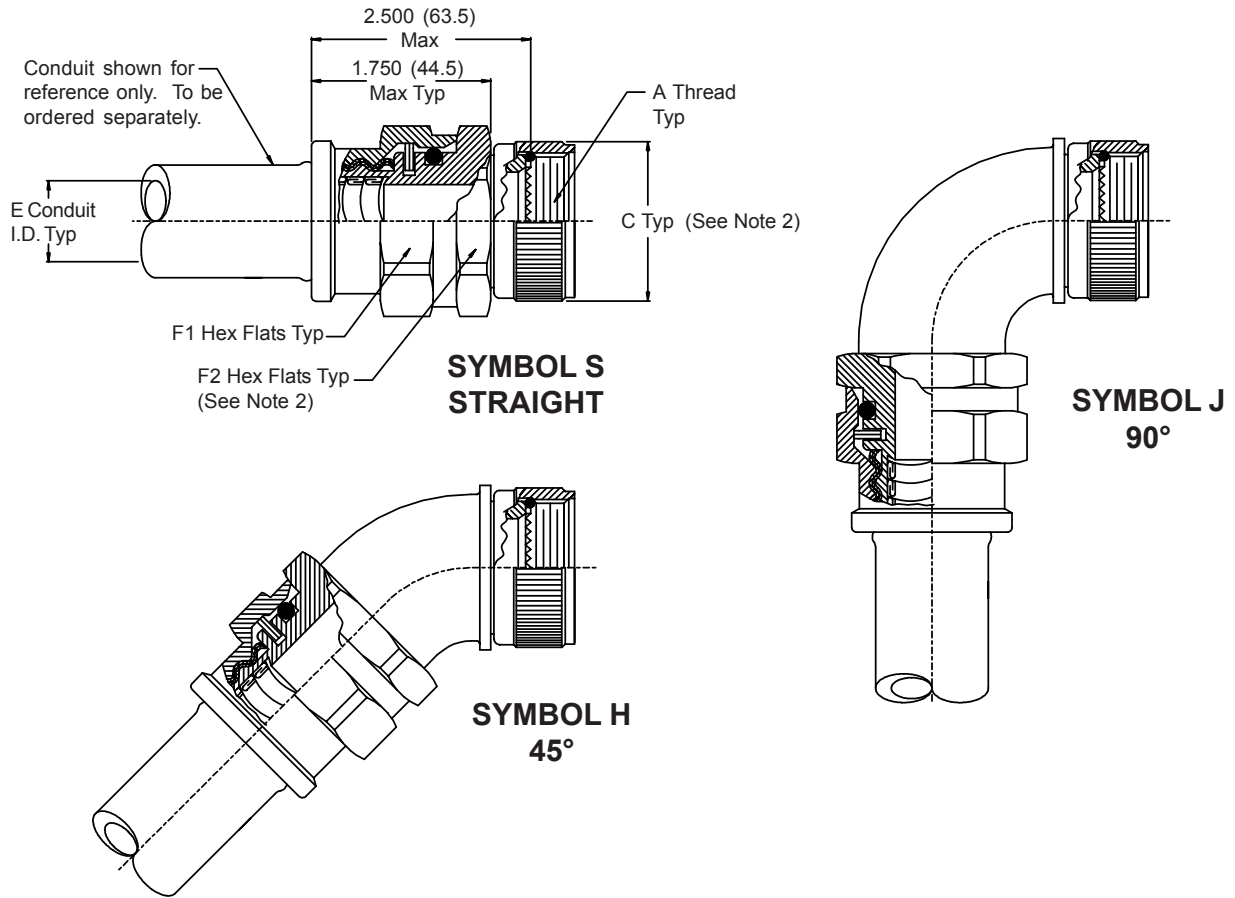
**TABLE II**

Dash Number	E Ref	G1/G2 Hex Flats
16	.500 (12.7)	1.370 (34.8)
24	.750 (19.1)	1.620 (41.1)
32	1.000 (25.4)	2.000 (50.8)
40	1.125 (28.6)	2.250 (57.2)
48	1.500 (38.1)	2.750 (69.9)

**TABLE III: MATERIAL AND FINISH**

Symbol	Material	Finish
<b>ZN</b>	Aluminum Alloy	Zinc Nickel (500-Hour Salt Spray)
<b>BZN</b>	Brass	
<b>Z21</b>	316 Cres	Passivate

Metric Dimensions (mm) are indicated in parentheses.



**NOTES:**

1. For Thread (Table I) or Conduit (Table II) sizes not shown, please consult factory for availability.
2. Dimensions of "B" and "F2" Hex Flats may vary based on "A" Thread and Conduit size ordered. "F2" Hex Flats will be determined by the larger of the two, but no smaller than "F2" specified in Table II.

Metric Dimensions (mm) are indicated in parentheses.

**712-464**  
**Glenair *FIRST* Swivel Adapter Connector Fitting**  
**Mates with Series 75 Metal-Core Conduit (750-145 & 750-147)**



Conduit  
Systems

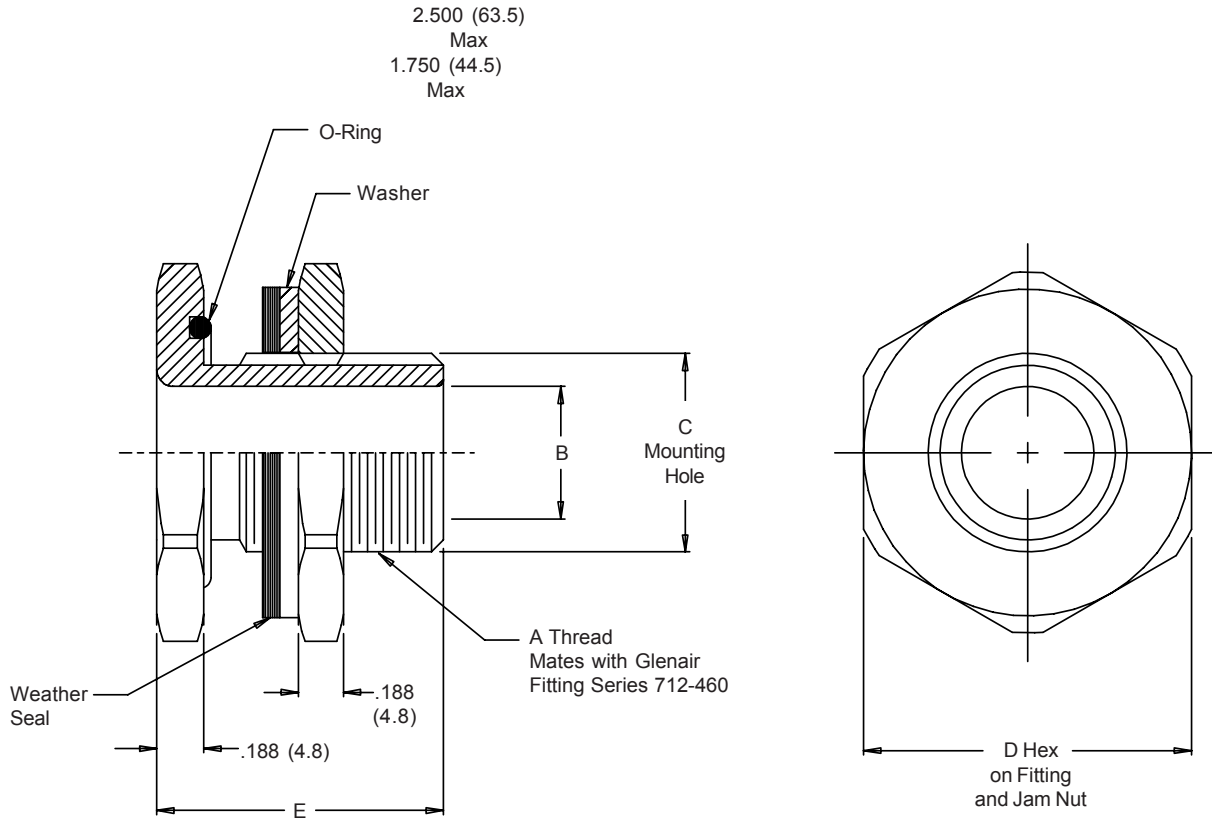
TABLE I																
Connector Designator	Military Specification	Available Shell Sizes														
A	MIL-C-5015 MS3400 Series	08	10	12	14	16	18	20	22	24	28	32	36	40	44	48
	MIL-C-26482 Series II															
	MIL-C-83723 Series I & III															
C	MIL-C-22992 Cl. C & R	x	x	12	14	16	18	20	22	24	28	32	36	40	x	x
D	MIL-C-26482 Series I	08	10	12	14	16	18	20	22	24	x	x	x	x	x	x
E	MIL-C-26500 Cl. F, G & R	08	10	12	14	16	18	20	22	24	x	x	x	x	x	x
F	MIL-DTL-38999 Series I & II	08	10	12	14	16	18	x	22	24	x	x	x	x	x	x
G	MIL-C-28840	x	11	13	15	17	19	23	25	29	33	x	x	x	x	x
H	MIL-DTL-38999 Series III & IV	09	11	13	15	17	19	21	23	25	x	x	x	x	x	x
J	MIL-C-81511 Series I, II, III & IV	08	10	x	14	16	18	20	22	24	x	x	x	x	x	x

TABLE II		
Dash Number	E Ref	F1/F2 Hex Flats
16	.500 (12.7)	1.370 (34.8)
24	.750 (19.1)	1.620 (41.1)
32	1.000 (25.4)	2.000 (50.8)
40	1.125 (28.6)	2.250 (57.2)
48	1.500 (38.1)	2.750 (69.9)

TABLE III: MATERIAL AND FINISH		
Symbol	Material	Finish
ZN	Aluminum Alloy	Zinc Nickel (500-Hour Salt Spray)
BZN	Brass	
Z21	316 Cres	Passivate

Metric Dimensions (mm) are indicated in parentheses.

**710-498**  
**FIRST Bulkhead Feed-Thru Adapter**  
 Mates with Series 75 Metal-Core Conduit (750-145 & 750-147)



**710-498 Z21-24**

Basic Part No. \_\_\_\_\_  
 Basic Number \_\_\_\_\_  
 Dash Number (Table I) \_\_\_\_\_  
 Material/Finish (Table II) \_\_\_\_\_

Metric Dimensions (mm) are indicated in parentheses.

**710-498**  
**FIRST Bulkhead Feed-Thru Adapter**  
**Mates with Series 75 Metal-Core Conduit (750-145 & 750-147)**



**TABLE I**

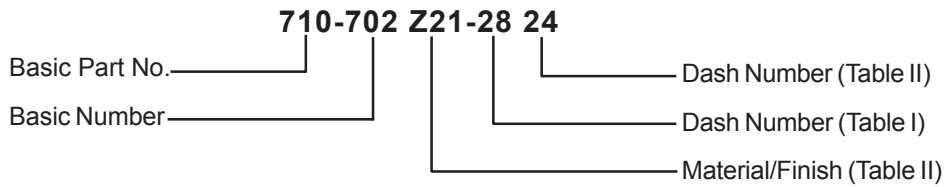
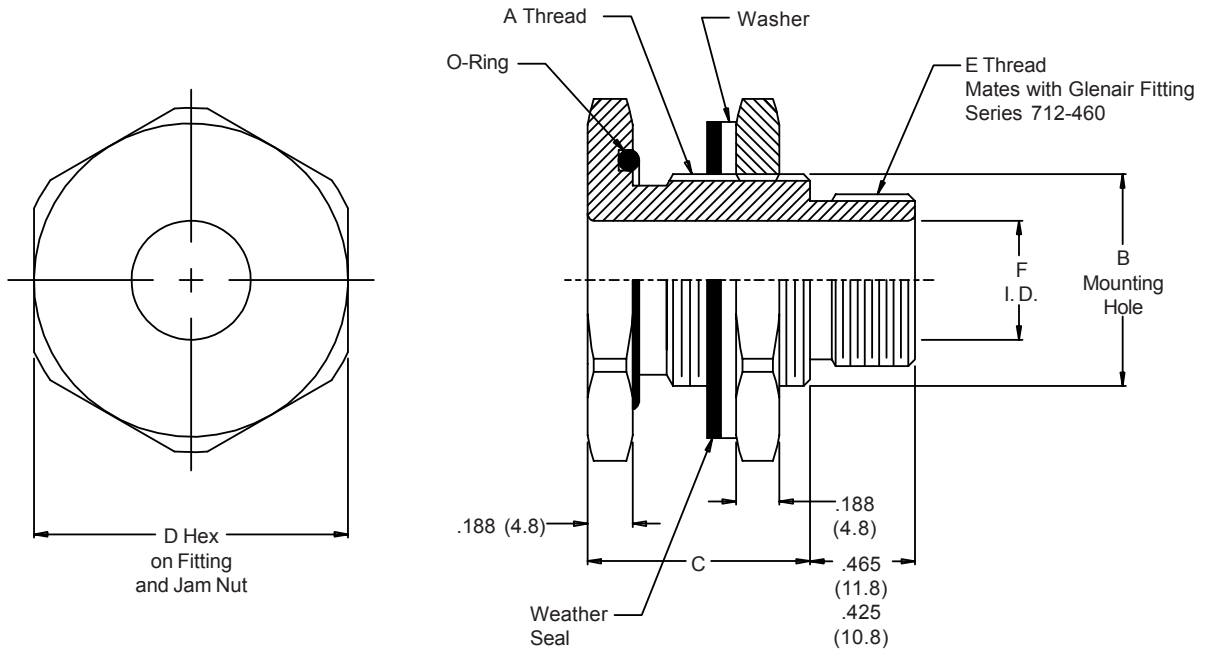
Dash Number	A Thread Class 2A	B Dia	C Dia +.030 (0.8) -0	D Hex	E Length
24	3/4-20 UNEF	.505 (12.8)	.750 (19.1)	1.000 (25.4)	1.000 (25.4)
28	7/8-20 UNEF	.630 (16.0)	.880 (22.4)	1.125 (28.6)	1.000 (25.4)
32	1-20 UNEF	.755 (19.2)	1.000 (25.4)	1.250 (31.8)	1.000 (25.4)
36	1 1/8-18 UNEF	.880 (22.4)	1.130 (28.7)	1.375 (34.9)	1.000 (25.4)
40	1 1/4-18 UNEF	1.005 (25.5)	1.250 (31.8)	1.500 (38.1)	1.000 (25.4)
42	1 5/16-18 UNEF	1.005 (25.5)	1.310 (33.3)	1.625 (41.3)	1.000 (25.4)
48	1 1/2-18 UNEF	1.193 (30.3)	1.500 (38.1)	1.750 (44.5)	1.000 (25.4)
56	1 3/4-18 UNS	1.505 (38.2)	1.750 (44.5)	2.000 (50.8)	1.130 (28.7)

**TABLE II: MATERIAL AND FINISH**

Symbol	Material	Finish
Z21	316 Cres	Passivate

Metric Dimensions (mm) are indicated in parentheses.

**710-702**  
**FIRST Bulkhead Feed-Thru Adapter Reducer**  
 Mates with Series 75 Metal-Core Conduit (750-145 & 750-147)



Metric Dimensions (mm) are indicated in parentheses.

710-702

**FIRST Bulkhead Feed-Thru Adapter Reducer**  
**Mates with Series 75 Metal-Core Conduit (750-145 & 750-147)**



Conduit  
Systems

TABLE I

Dash Number	A Thread Class 2A	B Dia +.030 (0.8) -0	C +.020	D Hex	Max E Thread
28	7/8-20 UNEF	.880 (22.4)	.750 (19.1)	1.125 (28.6)	3/4-20
32	1-20 UNEF	1.000 (25.4)	.750 (19.1)	1.250 (31.8)	7/8-20
36	1 1/8-18 UNEF	1.130 (28.7)	.750 (19.1)	1.375 (34.9)	1-20
40	1 1/4-18 UNEF	1.250 (31.8)	.750 (19.1)	1.500 (38.1)	1 1/8-18
42	1 5/16-18 UNEF	1.310 (33.3)	.750 (19.1)	1.625 (41.3)	1 1/4-18
48	1 1/2-18 UNEF	1.500 (38.1)	.750 (19.1)	1.750 (44.5)	1 5/16-18
56	1 3/4-18 UNS	1.750 (44.5)	.880 (22.4)	2.000 (50.8)	1 1/2-18

TABLE II

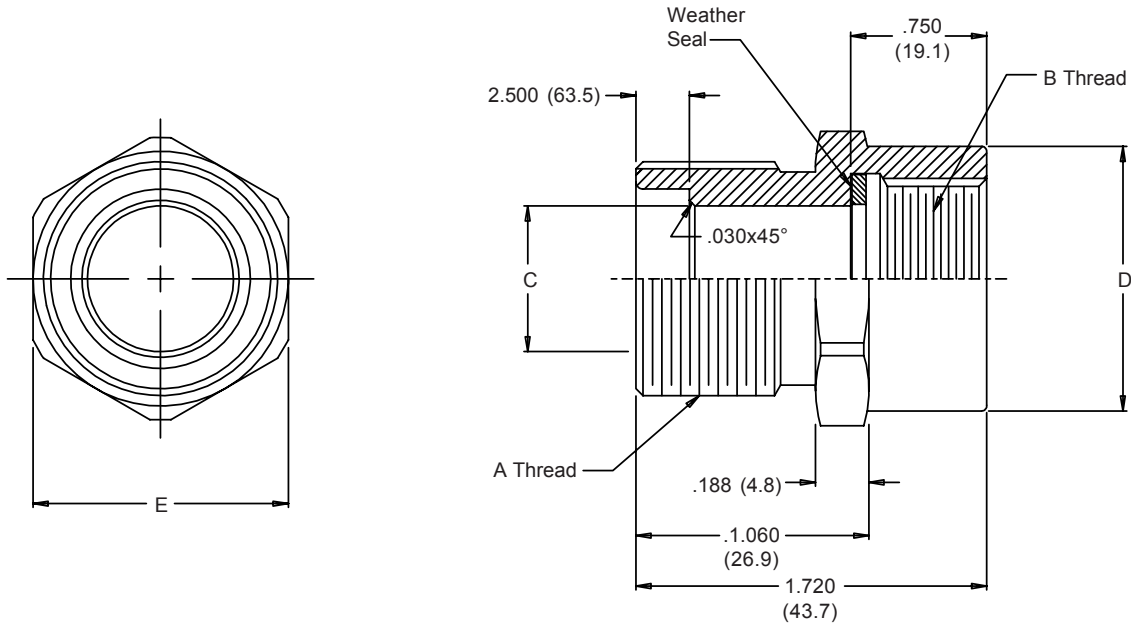
Dash Number	E Thread Class 2A	F I.D.
24	3/4-20 UNEF	.505 (12.8)
28	7/8-20 UNEF	.630 (16.0)
32	1-20 UNEF	.755 (19.2)
36	1 1/8-18 UNEF	.880 (22.4)
40	1 1/4-18 UNEF	1.005 (25.5)
42	1 5/16-18 UNEF	1.005 (25.5)
48	1 1/2-18 UNEF	1.193 (30.3)

TABLE III: MATERIAL AND FINISH

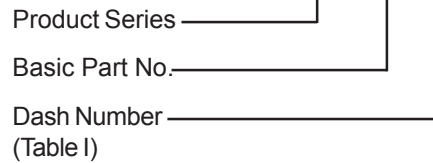
Symbol	Material	Finish
Z21	316 Cres	Passivate

Metric Dimensions (mm) are indicated in parentheses.

**717-148**  
**FIRST Special Purpose Reducer Stuffing Adapter**  
**Mates with Series 75 Metal-Core Conduit (750-145 & 750-147)**



**717-148-AB**



**TABLE I**

Dash Number	A Thread Class 2A	B Thread Class 2B	C Dia	D Dia	E Hex Flats
AB	7/8-12 UN	1-12 UN	.406 (10.3)	1.130 (28.7)	1.130 (28.7)
CD	1 1/8-12 UNF	1 1/4-12 UN	.640 (16.3)	1.380 (35.1)	1.380 (35.1)
DG	1 1/4-12 UNF	1 1/2-12 UNF	.953 (24.2)	1.630 (41.4)	1.750 (44.5)
BC	1-12 UNF	1 1/8-12 UNF	.515 (13.1)	1.250 (31.8)	1.250 (31.8)
BD	1-12 UNF	1 1/4-12 UNF	.515 (13.1)	1.380 (35.1)	1.380 (35.1)

Metric Dimensions (mm) are indicated in parentheses.