

Developed and produced by Packard-Hughes Interconnect (PHI), the MIL-C-28876 Fiber Optic Connector features low optical insertion loss, repeatability, exceptional strain relief, and reliability in harsh environments. This connector is used extensively by the United States Navy in shipboard application and has been on the United States Government's Qualified Products List since 1983.

- Available in 2, 4, 6, 8, and 31 channel configurations
- Single and multi-mode capability
- Full environmental sealing
- Utilizes field-proven MIL-T-29504 Termini
- Field maintainable

Fiber Optic Connectors

# MIL-C-28876 Fiber Optic Connectors

QPL Military and Commercial Equivalent Available



## Connector Performance

Durability	500 cycles per EIA-455-21
Vibration	Per MIL-STD-1344, Method 2005, Condition II & VI
Mechanical Shock	Per MIL-S-901, Grade A Medium Weight
Thermal Cycling	-62°C to +70°C per MIL-STD-1344, Method 1003
Corrosion Resistance	500 hour salt spray per MIL-STD-1344, Method 1001
Ozone Exposure	150 PPM/2 hours per MIL-STD-1344, Method 1007
Humidity	240 hours per MIL-STD-1344, Method 1002
Fluid Immersion	Per MIL-STD-1344, Method 1016
Crush Resistance	225 pounds per MIL-STD-1344, Method 2008.1
Maintenance Aging	Per MIL-STD-1344, Method 2002
Terminus Retention Force	22 pounds minimum per MIL-STD-1344, Method 2007
Insert Retention Axial	100 PSI minimum per MIL-STD-1344, Method 2010
Cable Pull Out Force	162 Pounds minimum per MIL-STD-1344, Method 2009
Cable Seal Flexing	100 cycles per MIL-STD-1344, Method 2017
Impact	Per MIL-STD-1344, Method 2015
Flammability	Per MIL-STD-1344, Method 1012
Operating Temperature Range	-54°C to +65°C
Storage Temperature Range	-62°C to +71°C

# MIL-C-28876 Fiber Optic Connectors

## STANDARD MATERIALS AND PLATING

Description	Materials	Finishes
Insert	Aluminum Alloy	Anodize
Boot, Strain Relief	Fluorosilicone	None
Connector and Backshell Housings	Aluminum Alloy	Cadmium Plate (Olive Drab) Over Electroless Nickel

## OPTICAL PERFORMANCE DATA

Consult factory for non-standard and custom specifications. The average insertion loss is .5dB for ceramic termini. These figures are derived from actual field measurements taken from thousands of mated pairs of termini across our line of multi-channel connectors. The source launch wavelengths were 850 and 1300 nanometers.

## CONNECTOR: MIL-SPEC ORDERING NOMENCLATURE

M28876/

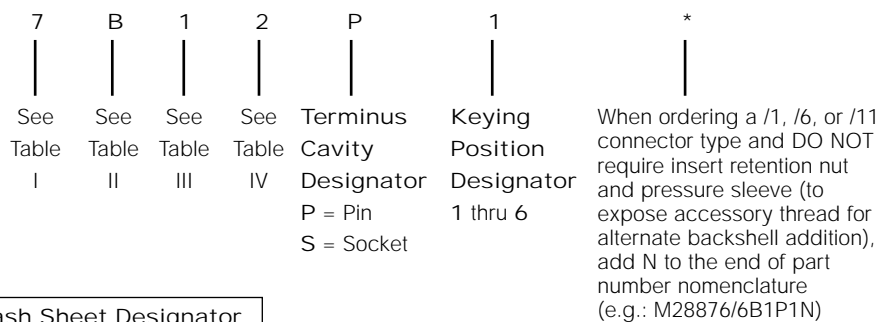


Table I

Connector Type	Strain Relief	Slash Sheet Designator
Wall Mount Receptacle	None	1
Wall Mount Receptacle	Straight	2
Wall Mount Receptacle	45°	3
Wall Mount Receptacle	90°	4
In-Line Receptacle	Straight	5
Plug	None	6
Plug	Straight	7
Plug	45°	8
Plug	90°	9
Jam Nut Receptacle	None	11
Jam Nut Receptacle	Straight	12
Jam Nut Receptacle	45°	13
Jam Nut Receptacle	90°	14

Table II

Shell Size	Shell Size Designator
11	A
13	B
15	C
23	F

Table III

# of Cavities	Shell Size	Insert Designator
2	11	1
4	13	1
6	15	2
8	15	1
31	23	1

Table IV

Backshell Number Designator	Maximum Cable Diameter Listed Inches (mm)			
	Shell Size			
	11	13	15	23
1	.250 (6.35)	.285 (7.24)	.515 (13.08)	.866 (22.00)
2		.346 (8.79)	.256 (6.50)	1.000 (25.40)
3			.375 (9.53)	.600 (15.3)

(Omit if no strain relief.)

# MIL-C-28876 Fiber Optic Connectors

## CONNECTOR: COMMERCIAL EQUIVALENT ORDERING NOMENCLATURE

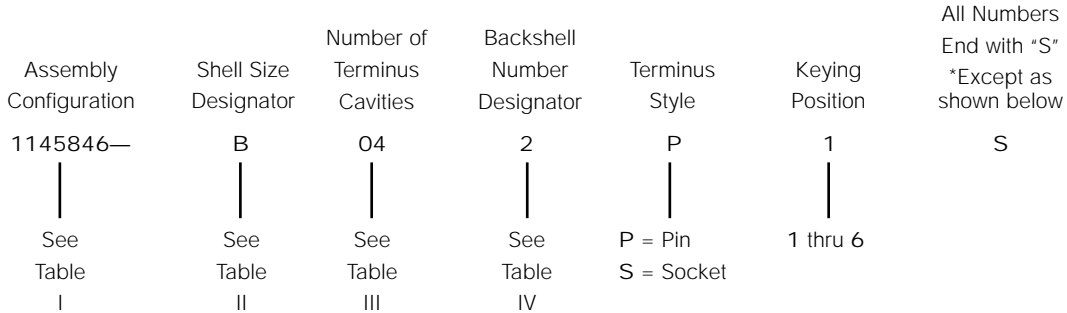


Table I: Assembly Configuration

PHI Number	Connector Type	Strain Relief
4565141	Wall Mount Receptacle	None
1145840	Wall Mount Receptacle	Straight
1147630	Wall Mount Receptacle	45°
1147640	Wall Mount Receptacle	90°
1145841	In-Line Receptacle	Straight
4565143	Plug	None
1145846	Plug	Straight
1147636	Plug	45°
1147646	Plug	90°
4565142	Jam Nut Receptacle	None
1145844	Jam Nut Receptacle	Straight
1147634	Jam Nut Receptacle	45°
1147644	Jam Nut Receptacle	90°
4567626*	Wall Mount Receptacle	None <sup>a</sup>
4567627*	Jam Nut Receptacle	None <sup>a</sup>
6567628*	Plug	None <sup>a</sup>

\*Part Numbers end with "H" in place of "S".

<sup>a</sup>No strain relief, no insert retention nut and pressure sleeve, to expose accessories thread for backshell addition.

Table II: Shell Size Designator

Shell Size Designator	Shell Size	Number of Terminus Cavities
A	11	2
B	13	4
C	15	6 or 8
F	23	31 or 18

Table III: Number of Terminus Cavities

# of Cavities	Shell Size	M28876 Insert Arrangement Equivalent
02	11	1
04	13	1
06	15	2
08	15	1
31	23	1
18	23	2

Table IV: Backshell Number Designator

Backshell Number Designator	Maximum Cable Diameter Listed Inches (mm)			
	Shell Size			
	11	13	15	23
1	.250 (6.35)	.285 (7.24)	.515 (13.08)	.866 (22.00)
2		.346 (8.79)	.256 (6.50)	1.000 (25.40)
3			.375 (9.53)	.600 (15.3)

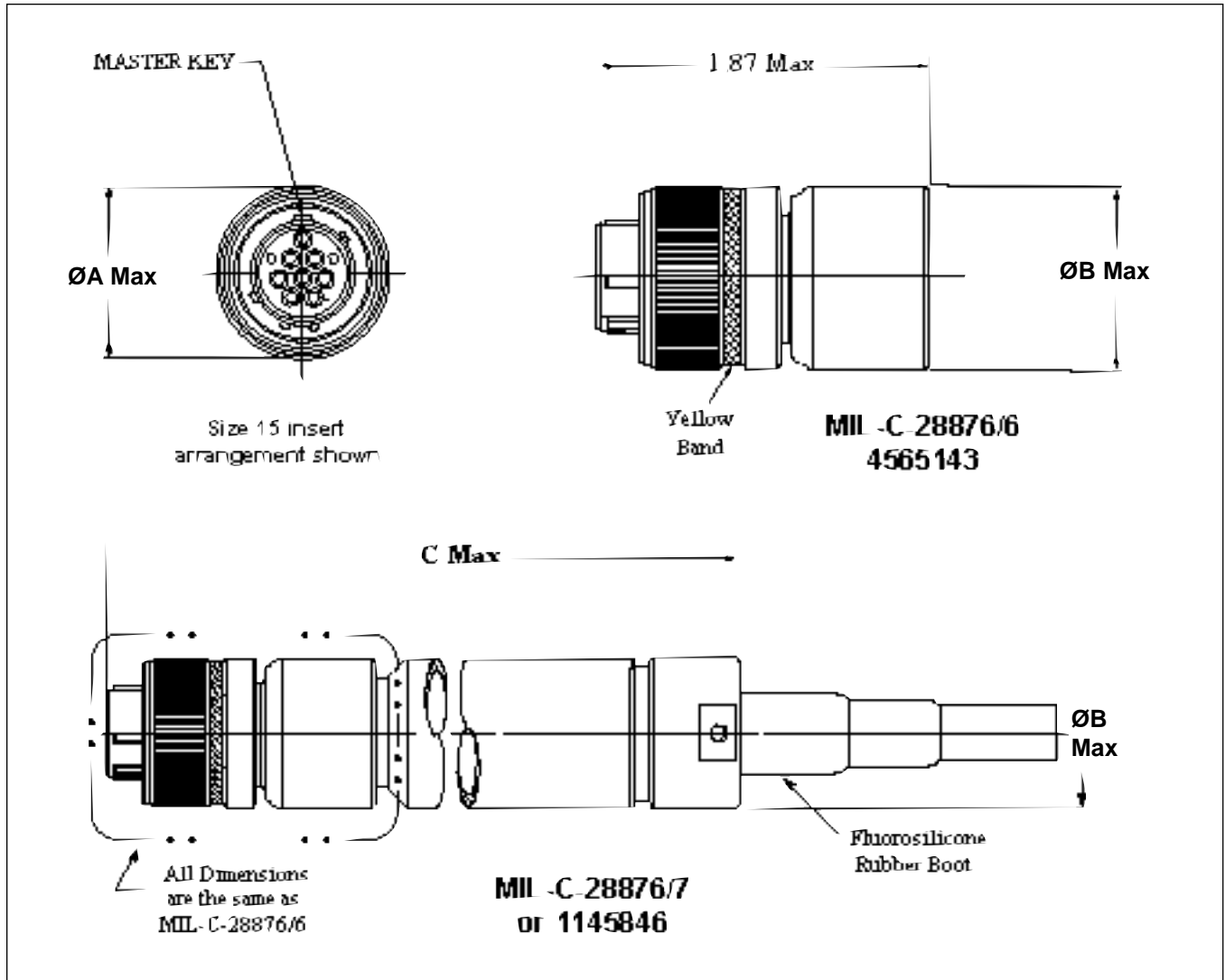
(Omit if no strain relief.)

MIL-SPEC Equivalent To Packard-Hughes Interconnect

MIL-SPEC Number	PHI Number
M28876/1	4565141S
M28876/2	1145840S
M28876/3	1147630S
M28876/4	1147640S
M28876/5	1145841S
M28876/6	4564143S
M28876/7	1145846S
M28876/8	1147636S
M28876/9	1147646S
M28876/11	4565142S
M28876/12	1145844S
M28876/13	1147634S
M28876/14	1147644S

# MIL-C-28876 Fiber Optic Connectors

## PLUG CONNECTOR

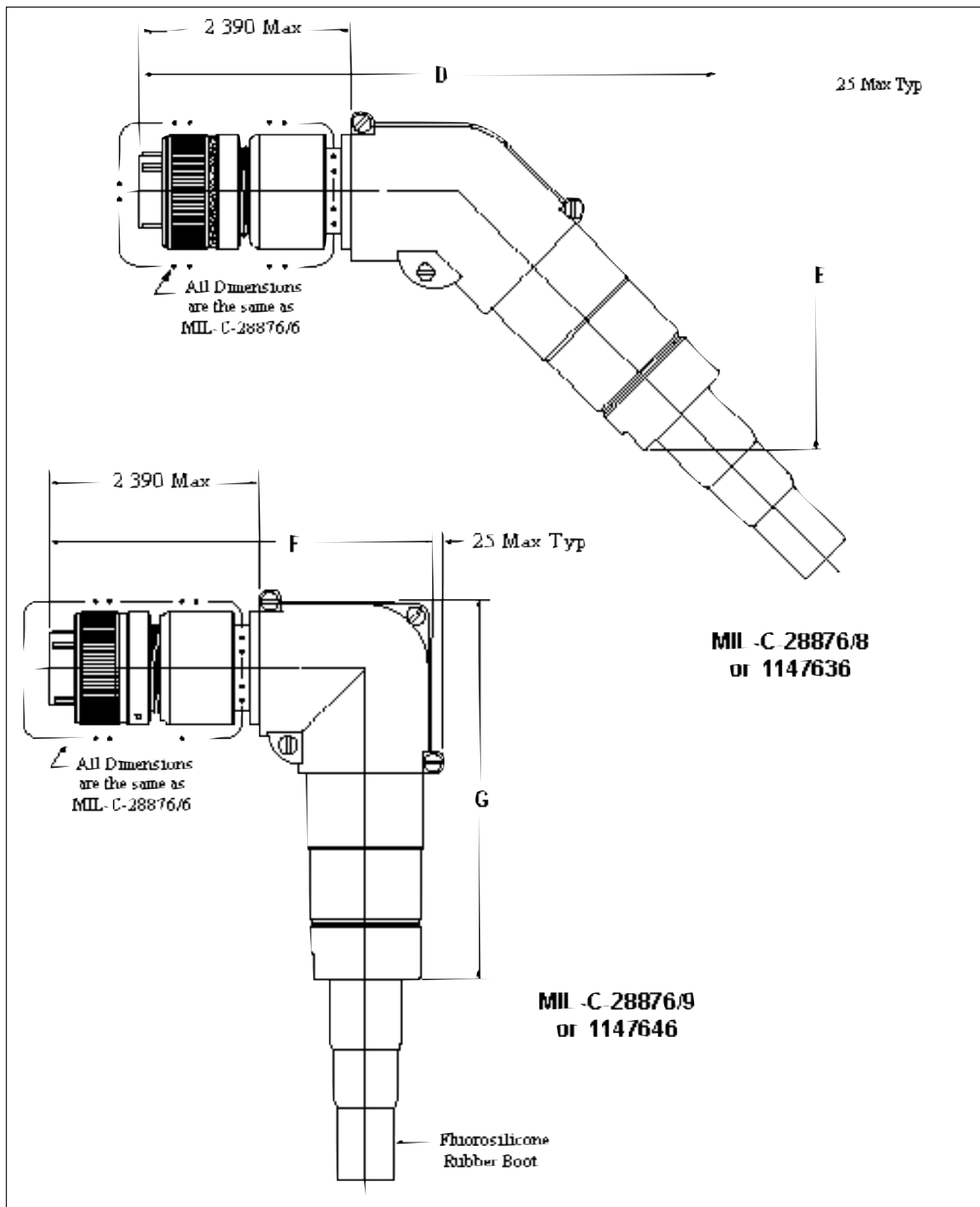


Dimension Table, Plug Connector

Connector Size	ØA MAX	ØB MAX	C MAX	D MAX	E MAX	F MAX	G MAX
11	1.028	.960	5.960	6.090	3.540	4.190	4.250
13	1.141	1.085	5.960	6.160	3.580	4.190	4.250
15	1.263	1.255	5.960	6.440	3.850	4.440	4.500
23	1.703	1.760	5.960	7.350	5.000	4.550	5.000

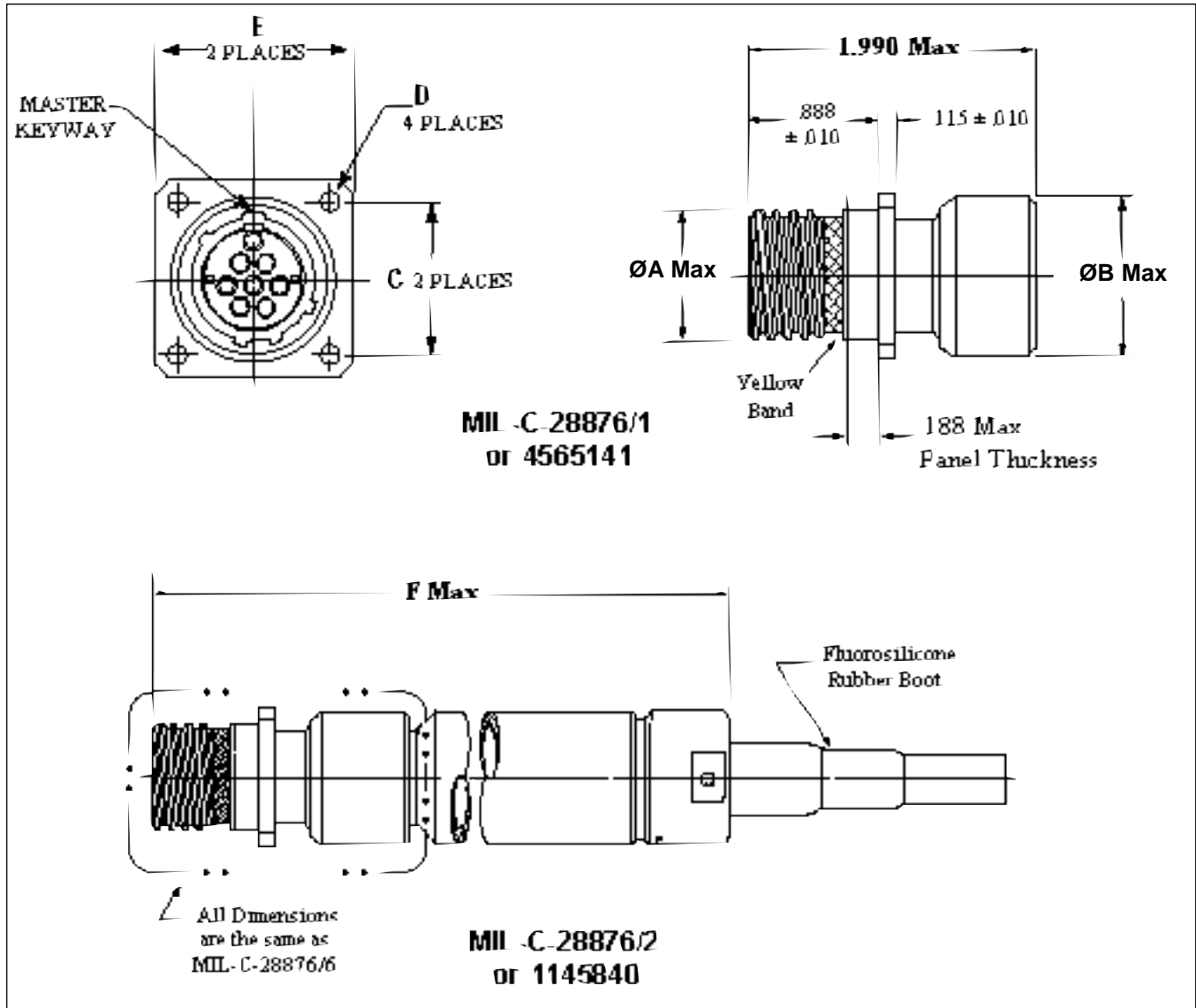
# MIL-C-28876 Fiber Optic Connectors

## PLUG CONNECTOR



# MIL-C-28876 Fiber Optic Connectors

## WALL MOUNT RECEPTACLE

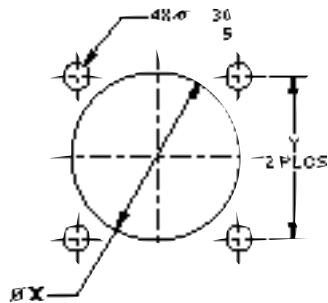
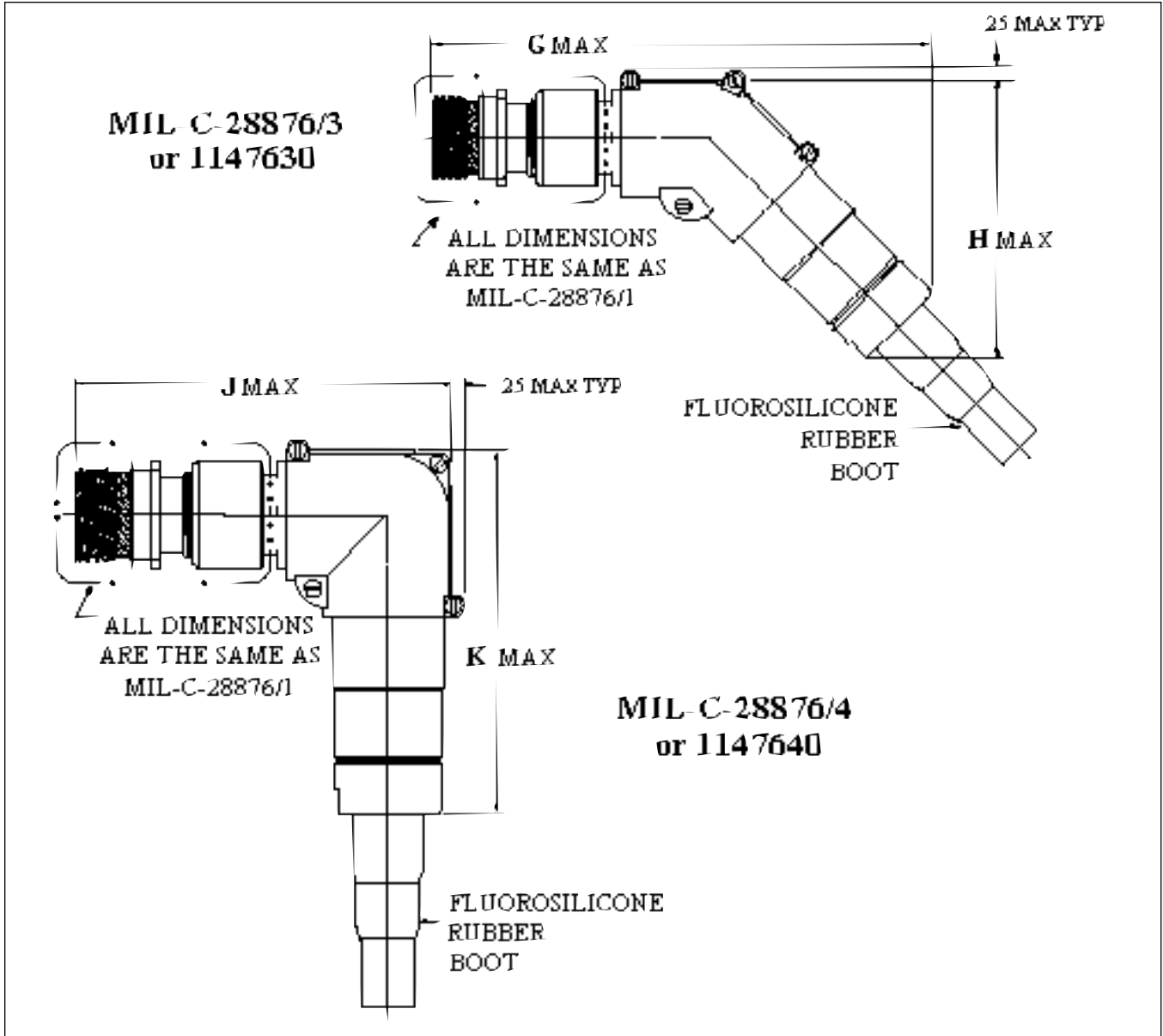


Dimension Table, Wall Mount Receptacle

Connector Size	ØA MAX	ØB MAX	C	ØD	E	F MAX	G MAX	H MAX	J MAX	K MAX
11	.750	.960	.750	.130 .115	1.043 1.00	6.150	6.150	3.540	4.250	4.250
13	.875	1.085	.843	.130 .115	1.158 1.116	6.150	6.250	3.580	4.250	4.250
15	1.062	1.255	.968	.130 .115	1.278 1.236	6.150	6.500	3.850	4.500	4.500
23	1.500	1.703	1.281	.130 .115	1.738 1.698	6.150	7.500	5.000	5.000	5.000

# MIL-C-28876 Fiber Optic Connectors

## WALL MOUNT RECEPTACLE



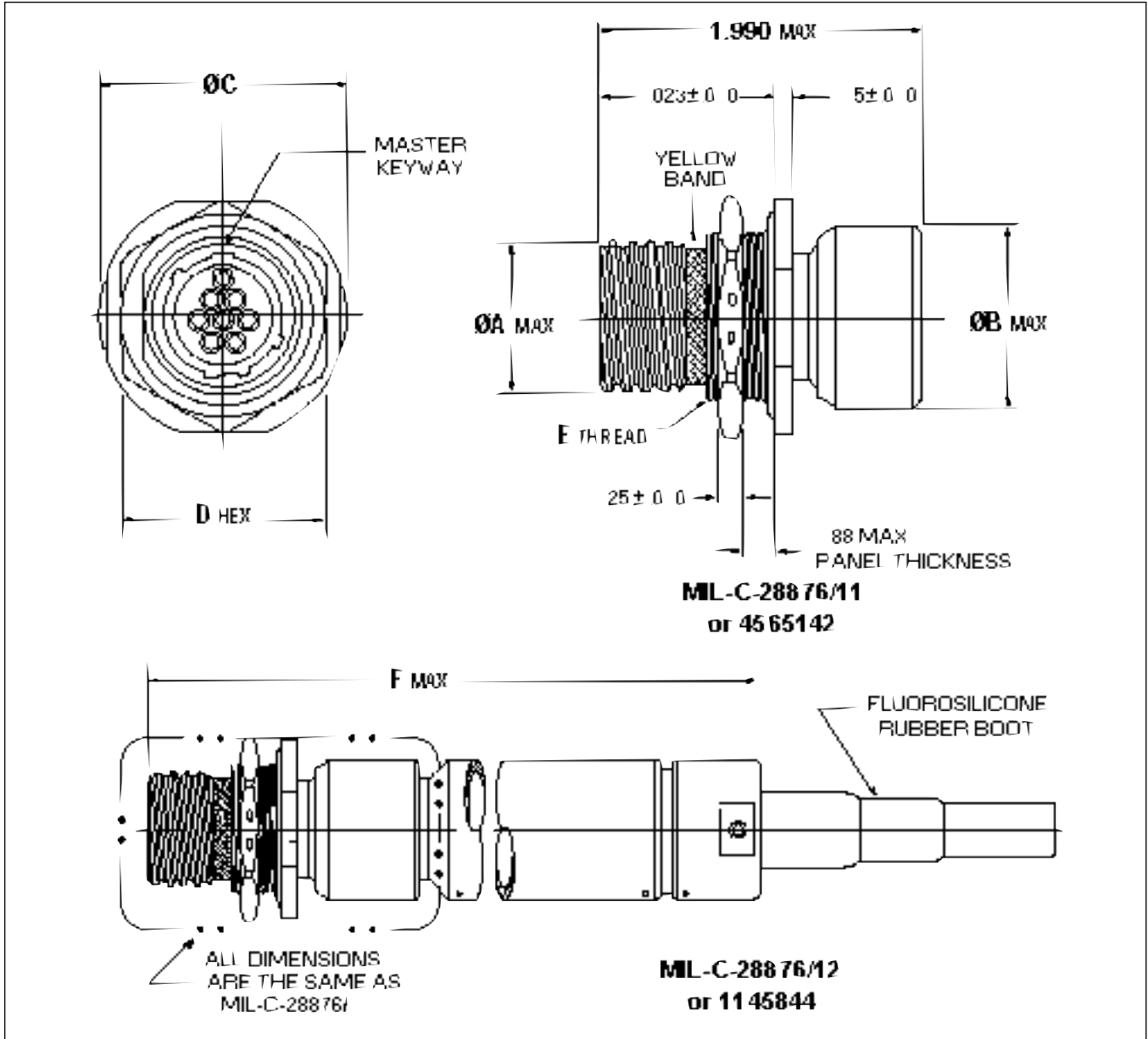
Recommended Panel Cutout (Wall Mtg.)

Dimension Table, Panel Cutout, Wall Mount Receptacle

Shell Size	ØX ±.005	Y ±.005
11	.812	.750
13	.937	.843
15	1.125	.968
23	1.562	1.281

# MIL-C-28876 Fiber Optic Connectors

## JAM NUT RECEPTACLE



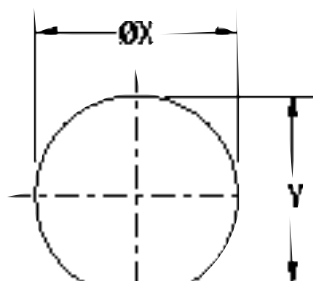
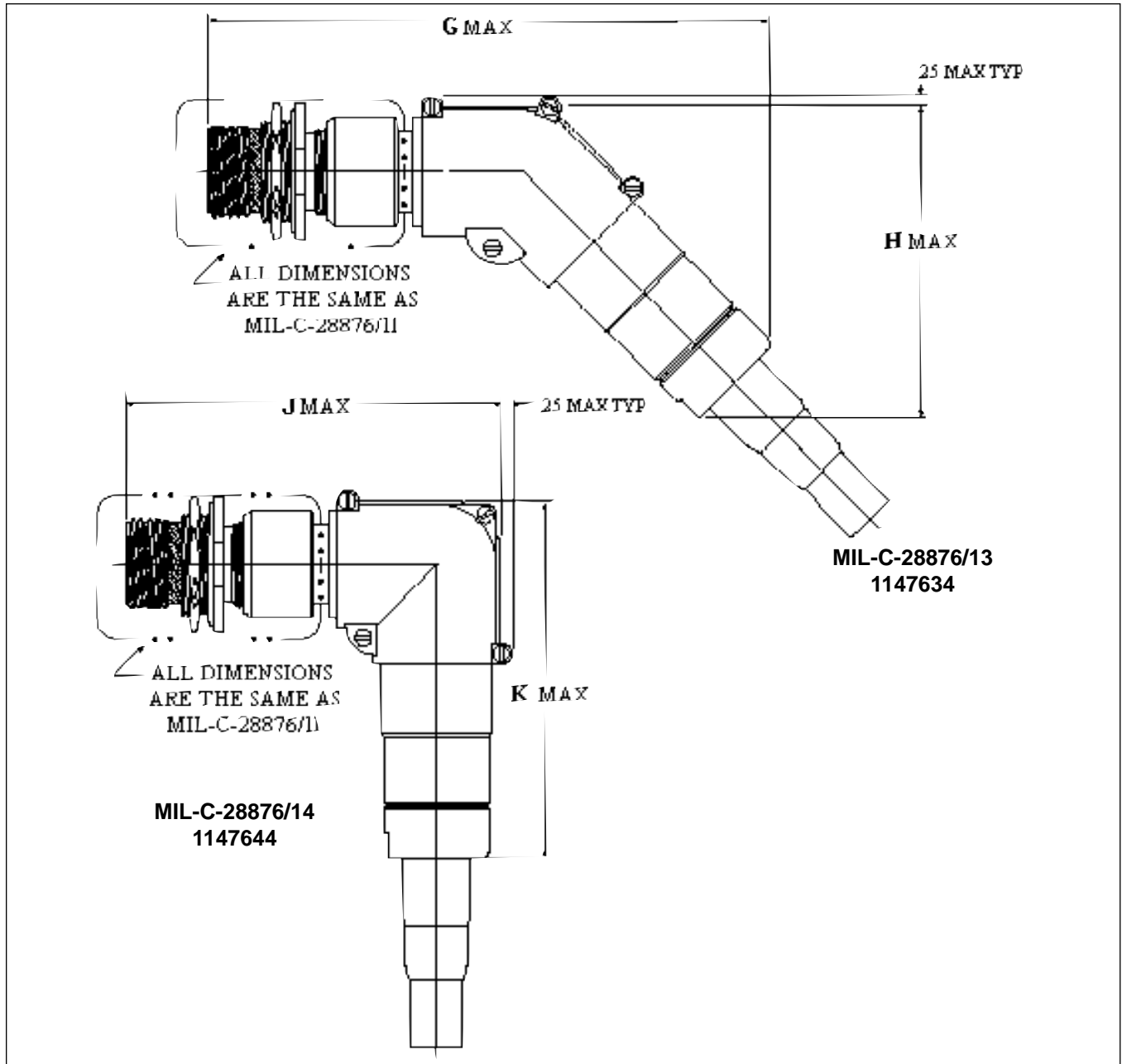
Dimension Table, Jam Nut Mounting Receptacle

Connector Size	ØA MAX	ØB MAX	ØC	D HEX	E THREAD	F MAX	G MAX	H MAX	J MAX	K MAX
11	.750	.960	1.368 1.345	1.079 1.045	.875-20 UNEF	6.150	6.150	3.540	4.250	4.250
13	.875	1.085	1.508 1.485	1.205 1.171	1.000-20 UNEF	6.150	6.220	3.580	4.250	4.250
15	1.062	1.255	1.608 1.585	1.392 1.358	1.875-18 UNEF	6.150	6.500	3.850	4.500	4.500
23	1.500	1.750	2.118 2.095	1.829 1.795	1.625-18 UNEF	6.150	7.500	5.000	5.000	5.000



# MIL-C-28876 Fiber Optic Connectors

## JAM NUT RECEPTACLE



Recommended Panel  
Cutout (Wall Mtg.)

Dimension Table, Panel Cutout,  
Jam Nut Receptacle

Shell Size	ØX ±.005	Y ±.005
11	.885	.848
13	1.010	.973
15	1.198	1.160
23	1.635	1.598

# MIL-C-28876 Fiber Optic Connectors

## DUST COVERS: MIL-SPEC ORDERING NOMENCLATURE

	Assembly Configuration (Slash Sheet)	Shell Size Designator	Attachment Designator	Material and Finish Designator
M28876/	10-	C	C	W
	See Table I	See Table II	See Table III	See Table IV

Table I: Assembly Configuration

Slash Sheet	Connector Type
/10	Plug
/15	Receptacle

Table II: Shell Size Designator

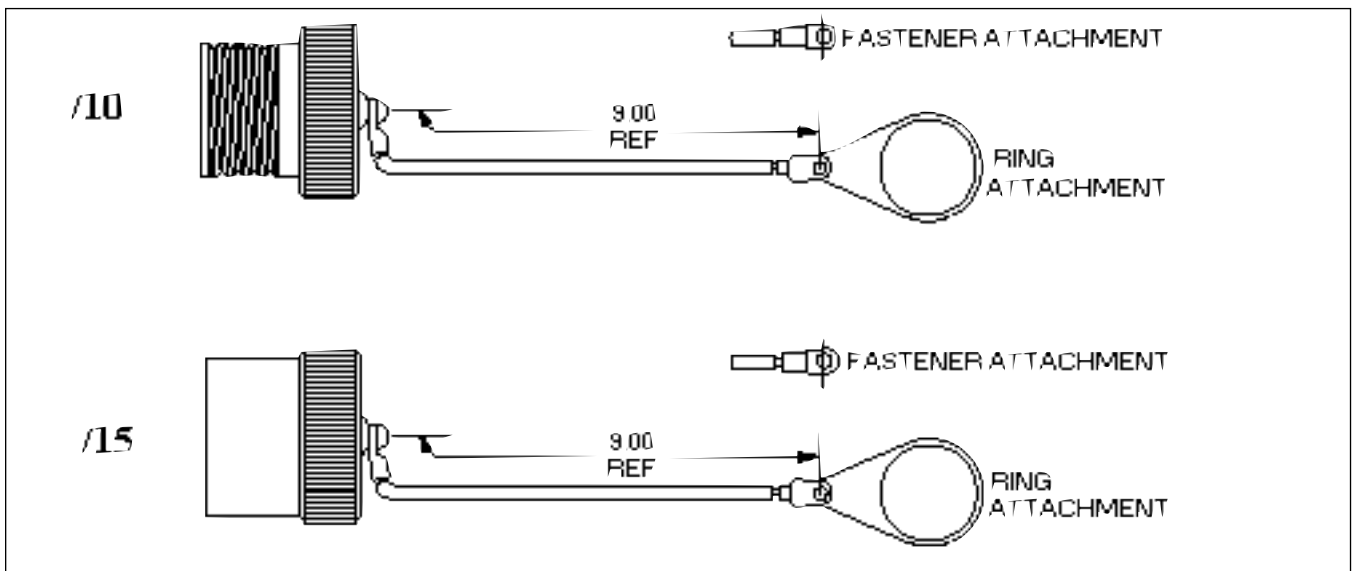
Shell Size Designator	Shell Size
A	11
B	13
C	15
D	23

Table III: Attachment Designator

Attachment Designator	Type of Attachment
C	Wire Rope w/Fastener
D	Wire Rope w/Ring
E	Without Rope

Table IV: Material and Finish Designator

Material and Finish Designator	Type of Material and Finish
W	Aluminum with Olive Drab Cadmium Plating
D	Stainless Steel with Black Cadmium Plating



# MIL-C-28876 Fiber Optic Connectors

## DUST COVERS: COMMERCIAL EQUIVALENT ORDERING NOMENCLATURE

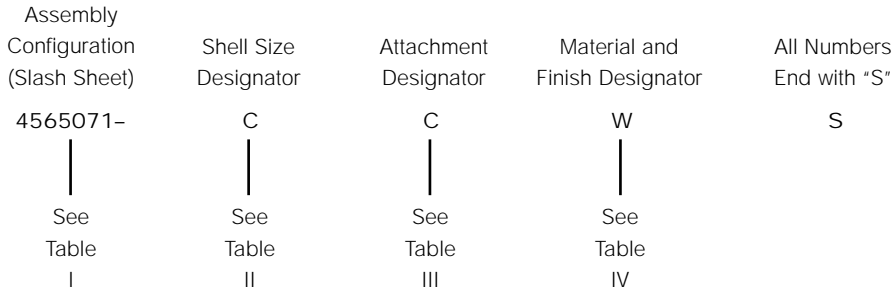


Table I: Assembly Configuration

PHI Number	Fits Connector Type
4565071	Plug
4565070	Receptacle

Table II: Shell Size Designator

Shell Size Designator	Shell Size
A	11
B	13
C	15
D	23

Table III: Attachment Designator

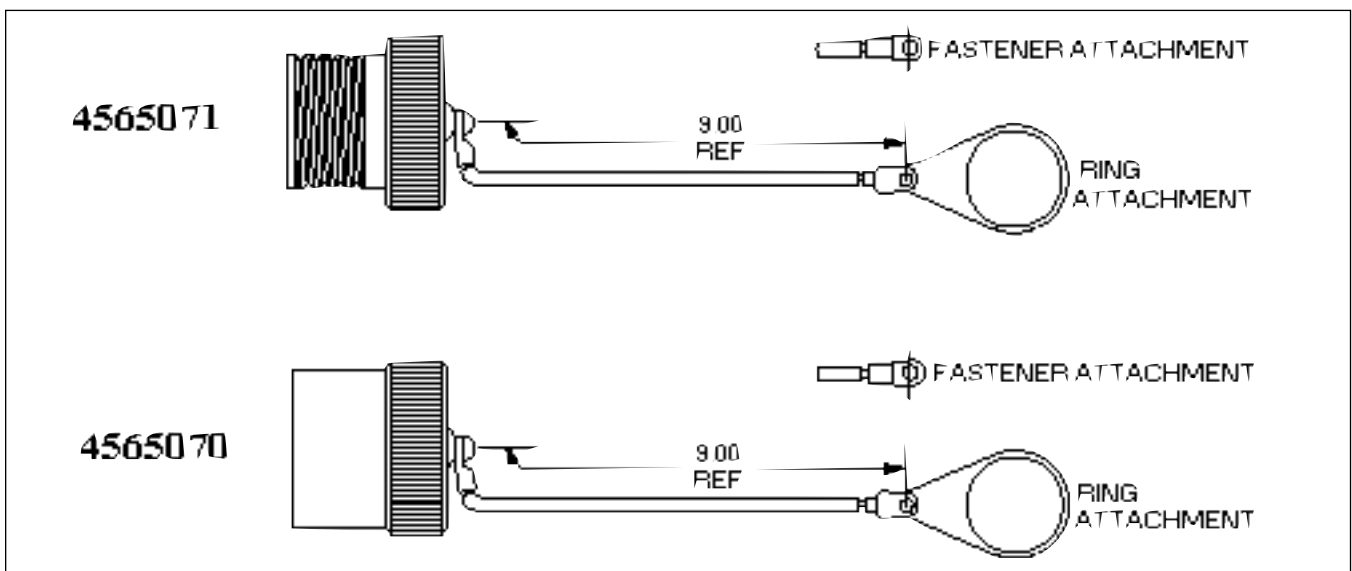
Attachment Designator	Type of Attachment
C	Wire Rope w/Fastener
D	Wire Rope w/Ring
E	Without Rope or Chain

Table IV: Material and Finish Designator

Material and Finish Designator	Type of Material and Finish
W	Aluminum with Olive Drab Cadmium Plating
D	Stainless Steel with Black Cadmium Plating

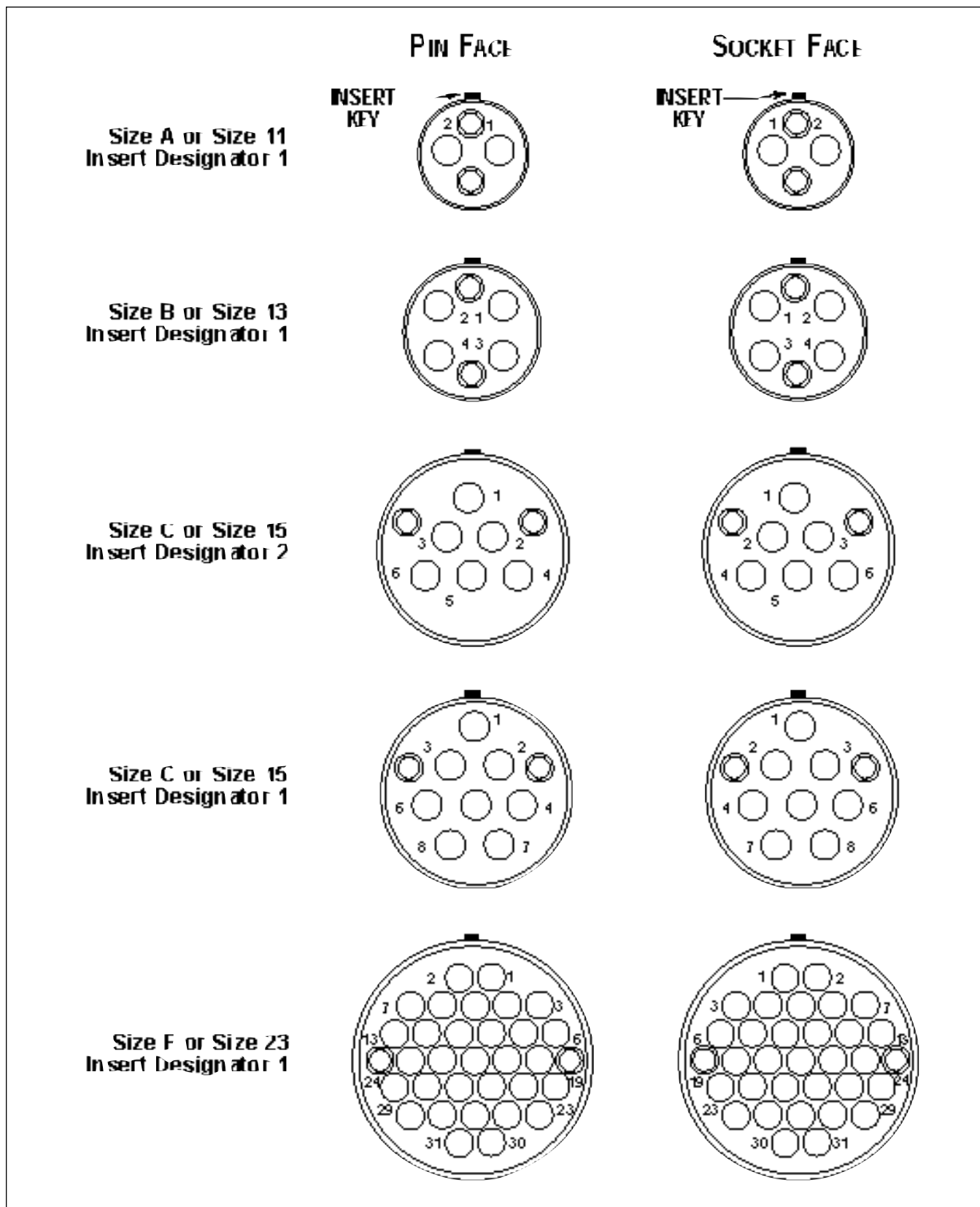
### MIL SPEC Equivalent to PHI

MIL-SPEC Number	PHI Number
M28876/10	4565071S
M28876/15	4565070S



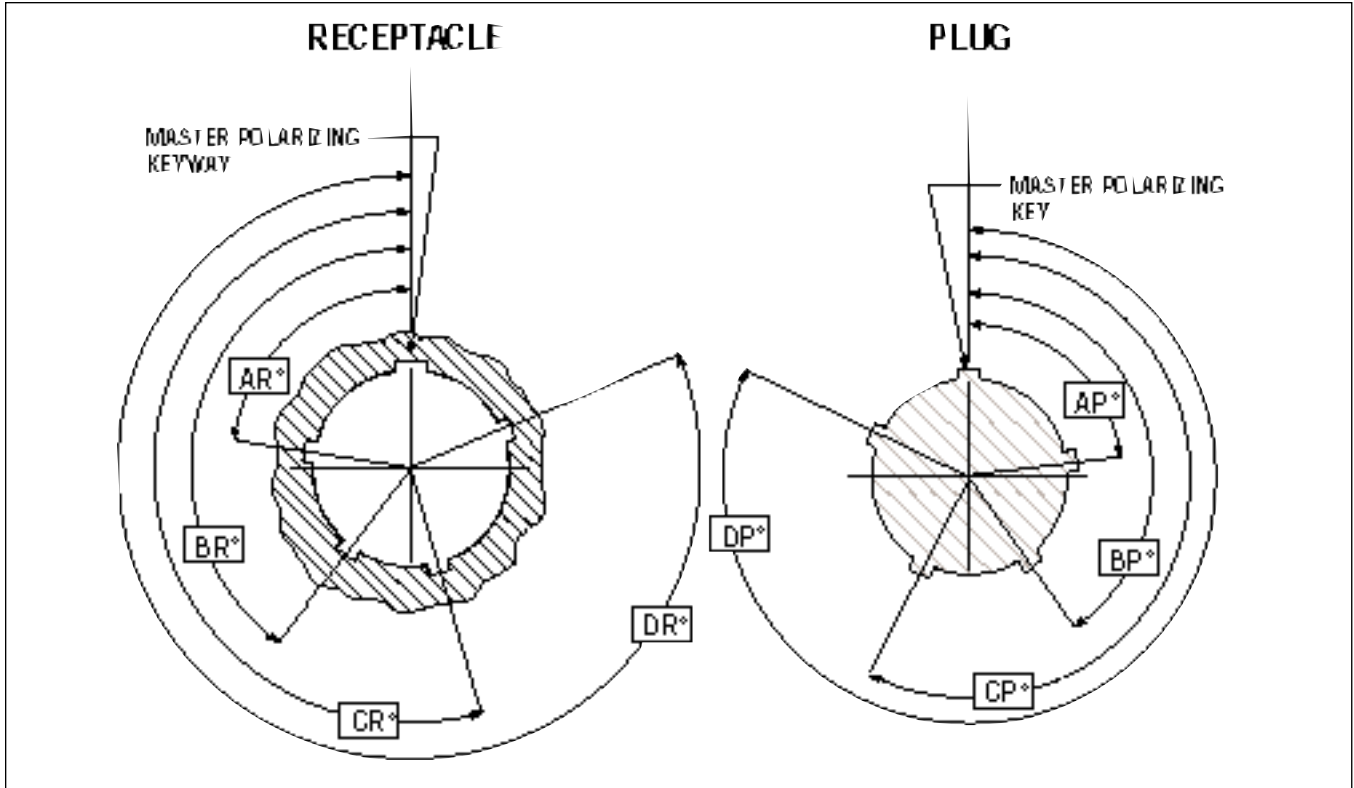
# MIL-C-28876 Fiber Optic Connectors

## INSERT ARRANGEMENTS



# MIL-C-28876 Fiber Optic Connectors

## MIL-C-28876 KEYWAY ARRANGEMENT



Shell Size	Key and Keyway Arrangement	AR° or AP°	BR° or BP°	CR° or CP°	DR° or DP°
11 and 13	0	—	—	—	—
	1	95	141	208	236
	2	113	156	182	292
	3	90	145	195	252
	4	53	156	220	255
	5	119	146	176	298
	6	51	141	184	242
15	0	—	—	—	—
	1	80	142	196	293
	2	135	170	200	310
	3	49	169	200	244
	4	66	140	200	257
	5	62	146	180	280
	6	79	153	197	272
23	1	80	142	196	293
	2	135	170	200	310
	3	49	169	200	244
	4	66	140	200	257
	5	62	145	180	280
	6	79	153	197	272

0 Keyway available only on commercial.

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