

RATIONALE

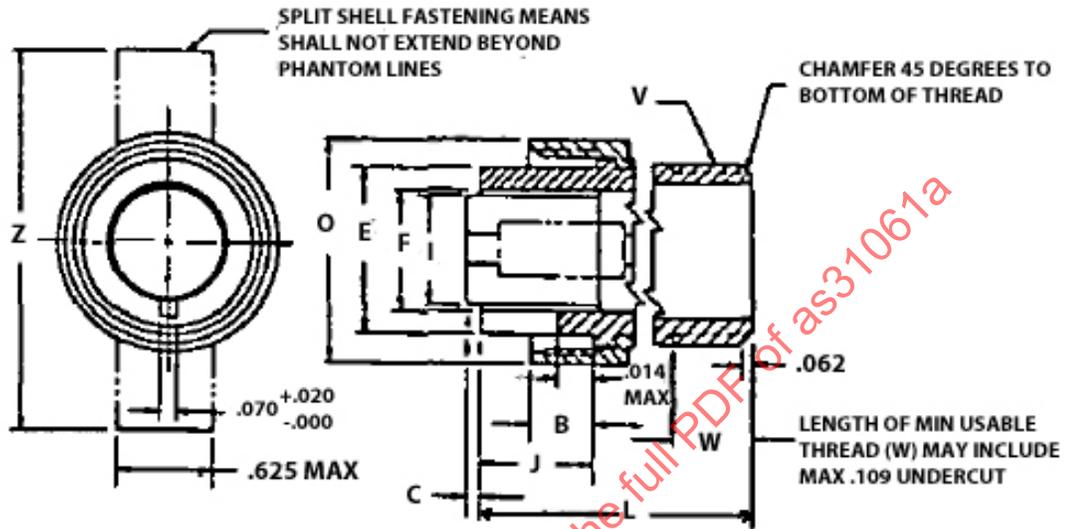
REVISE TO INCLUDE COMMENTS RECEIVED BY THE GOVERNMENT AND INDUSTRY, UPDATE REFERENCES, ALIGN SPECIFICATION WITH SAE GUIDELINES AND RE-WORK ILLEGIBLE DRAWINGS/TABLES, AND REVIEW SPECIFICATION FOR KNOWN TECHNICAL PROBLEMS.

THE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE LATEST ISSUE OF SAE AS50151.

REV.  
A

SAE AS31061

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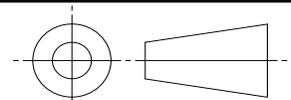
STYLE S (SOCKET INSERT)

CLASS A – SOLID SHELL

FIGURE 1A – CONNECTOR CONFIGURATION AND DIMENSIONS

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THIRD ANGLE PROJECTION



CUSTODIAN: AE-8C1

PROCUREMENT SPECIFICATION: AS50151

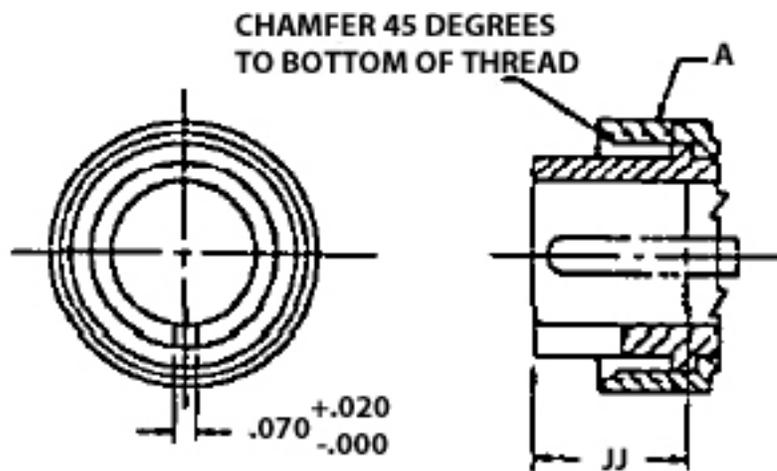
**SAE Aerospace**  
An SAE International Group

**AEROSPACE STANDARD**

(R) CONNECTOR, PLUG, ELECTRIC,  
STRAIGHT, SOLDER CONTACTS,  
AN TYPE

**SAE AS31061**  
SHEET 1 OF 12

**REV. A**



**STYLE P (PIN INSERT)**

CLASS A – SOLID SHELL

FIGURE 1B – CONNECTOR CONFIGURATION AND DIMENSIONS (CONTINUED)

FIGURE 1 – CONNECTOR CONFIGURATION AND DIMENSIONS

TABLE 1 – FIGURE 1 DIMENSIONS

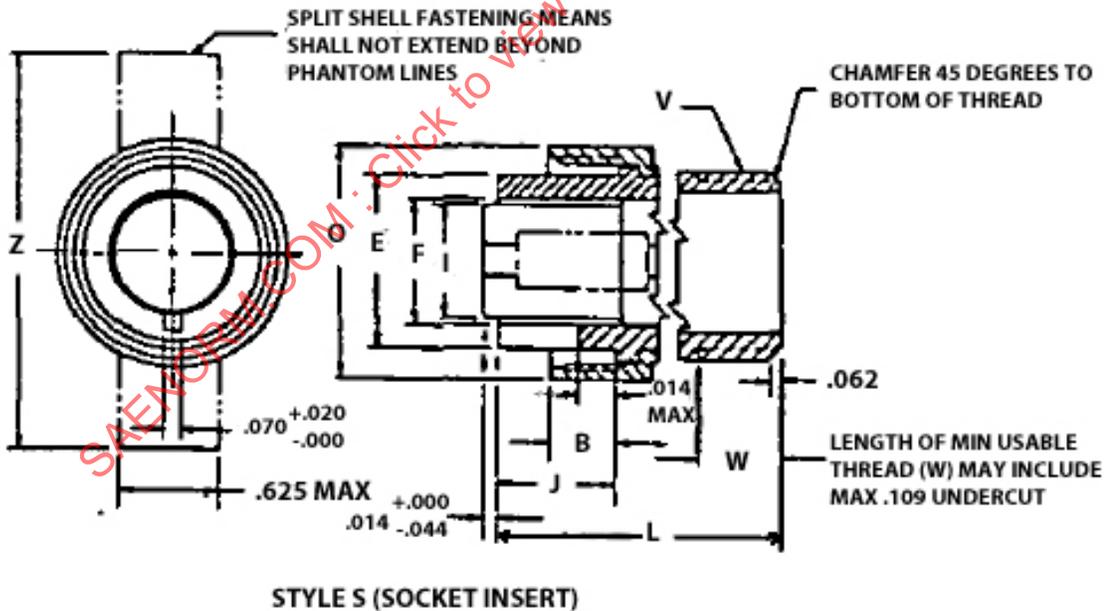
SIZE	A COUPLING THREAD	B +.000/- .062 EXTENSION COUPLING RING	E +.000 -.015 OUTSIDE DIA	F MIN INSIDE DIA	I MAX INSERT DIA	J +/- .005 LENGTH ENGAGEMENT	JJ +.031 -.000 INSERT LOCATION
8S	1/2 – 28	.375	.365	.252	.250	.531	.562
10S	5/8 – 24		.440	.323	.320		
10SL			.446	N/A	.440		
12S	3/4 – 20	.625	.555	.450	.445	.719	.750
14S							
14		.625				.719	.750
16S	1 – 20	.375	.805	.651	.650	.531	.562
16							
18	1-1/8 – 18	.625	.930	.776	.770	.719	.750
20	1-1/4 – 18		1.050	.932	.925		
22	1-3/8 – 18		1.175	1.026	1.020		
24	1-1/2 – 18		1.300	1.151	1.145		
28	1-3/4 – 18		1.520	1.370	1.365		
32	2 – 18		1.770	1.620	1.615		
36	2-1/4 – 16		1.980	1.838	1.830		
40	2-1/2 – 16		2.230	2.057	2.047		

TABLE 1 – FIGURE 1 DIMENSIONS (CONTINUED)

SIZE	L MAX OVERALL LENGTH	O MAX OVERALL OUTSIDE DIA	V THREAD	W MIN USABLE THREAD	Z MAX CLASS B ONLY	FOR INSERT ARRANGEMENT SEE DRAWING
8S	1.469	.844	1/2 – 28	.375	.844	MIL-STD-1651
10S	1.531	.969			5/8 – 24	
10SL			1.062			
12S	1.688	1.156			3/4 – 20	
12	2.062					
14S	1.688	1.250	7/8 – 20		1.250	
14	2.062					
16S	1.688	1.344	1 – 20		1.641	
16	2.062					
18	2.188	1.469	1-3/16 – 18		1.812	
20		1.594		1.938		
22	2.312	1.719	1-7/16 – 18	2.062		
24		1.969		2.312		
28	2.438	2.219	1-3/4 – 18	.438	2.594	
32		2.469	2 – 18	.500	2.844	
36	2.719	2-1/4 – 16	3.000			
40						

NOTES FOR CLASS A:

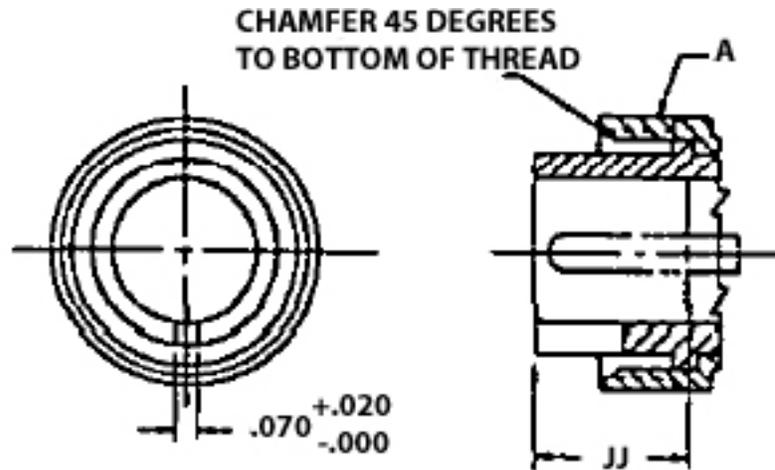
- WHERE RESILIENT INSERTS ARE USED, DIMENSION JJ MAY BE .109 LESS THAN THAT INDICATED.
- SOCKET INSERT OF HARD MATERIAL SHALL EXTEND .016 INCHES MAXIMUM BEYOND OR .032 INCHES MAXIMUM BELOW SHELL. SOCKET INSERT OF RESILIENT MATERIAL SHALL EXTEND .047 +.000/-.047 INCHES BEYOND SHELL AS SHOWN.



CLASS K – FIREWALL

FIGURE 2A – CONNECTOR CONFIGURATION AND DIMENSIONS

 An SAE International Group	<b>AEROSPACE STANDARD</b> (R) CONNECTOR, PLUG, ELECTRIC, STRAIGHT, SOLDER CONTACTS, AN TYPE	<b>SAE AS31061</b> SHEET 3 OF 12	<b>REV.</b> <b>A</b>



**STYLE P (PIN INSERT)**

CLASS K – FIREWALL

FIGURE 2B – CONNECTOR CONFIGURATION AND DIMENSIONS (CONTINUED)

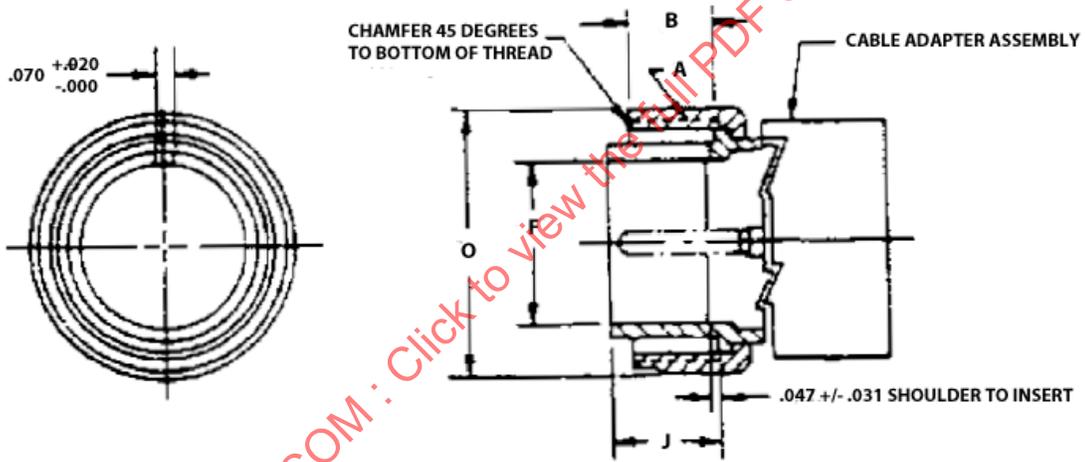
FIGURE 2 – CONNECTOR CONFIGURATION AND DIMENSIONS

TABLE 2 – FIGURE 2 DIMENSIONS

SIZE	A COUPLING THREAD	B +.000/-.062 EXTENSION COUPLING RING	E +.000 -.015 OUTSIDE DIA	F MIN INSIDE DIA	I MAX INSERT DIA	J +/- .005 LENGTH ENGAGEMENT	JJ +.031 -.000 INSERT LOCATION
8S	1/2 – 28	.375	.365	.252	.250	.531	.562
10S	5/8 – 24		.440	.323	.320		
10SL			.446	N/A	.440		
12S	3/4 – 20	.625	.555	.450	.448	.719	.750
14S			7/8 – 20	.375	.675	.526	.525
14	1 – 20	.625		.805	.651	.650	.531
16S		.375					
18	1-1/8 – 18	.625	.930	.776	.770	.719	.750
20	1-1/4 – 18		1.050	.932	.925		
22	1-3/8 – 18		1.175	1.026	1.020		
24	1-1/2 – 18		1.300	1.151	1.145		
28	1-3/4 – 18		1.520	1.370	1.365		
32	2 – 18		1.770	1.620	1.615		
36	2-1/4 – 16		1.980	1.838	1.830		

TABLE 2 – FIGURE 2 DIMENSIONS (CONTINUED)

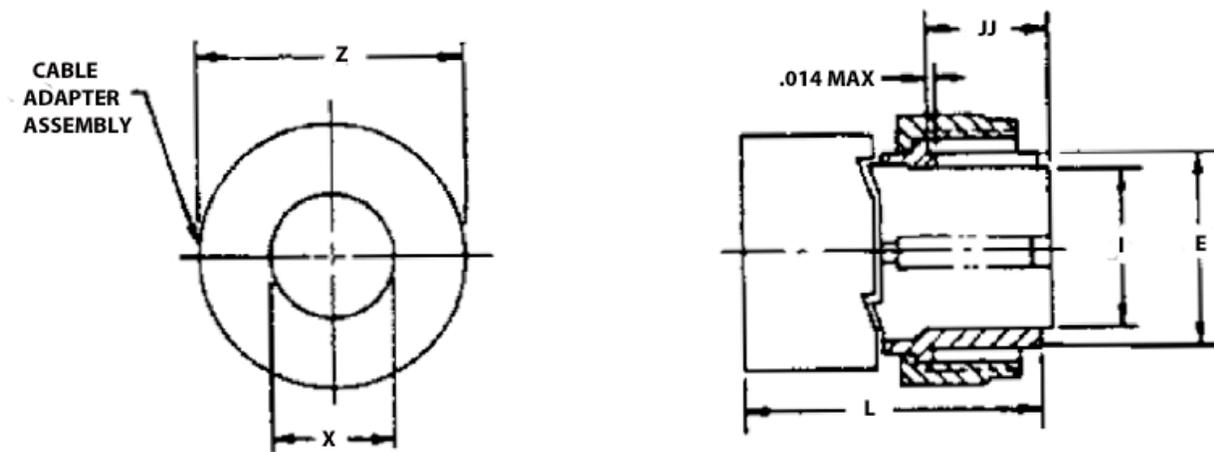
SIZE	L MAX OVERALL LENGTH	O MAX OVERALL OUTSIDE DIA	V THREAD	W MIN USABLE THREAD	Z MAX	FOR INSERT ARRANGEMENT SEE DRAWING
8S	2.188	.844	1/2 – 28	.375	.844	MIL-STD-1651
10S		.969			.969	
10SL		1.062	5/8 – 24		1.062	
12S	2.875				1.156	
12		1.172	3/4 – 20			
14S	2.875				1.266	
14		2.875	1.359			
16S	2.188				1.484	
16		2.875	1.609			
18	3.125				1.734	
20		3.125	1.984	1-3/4 – 18		2.312
22	3.125				2.234	2 – 18
24		3.125	2.484	2 – 18		
28	3.125				2.484	2 – 18
32		3.125	2.484	2 – 18		
36	3.125				2.484	2 – 18



STYLE P (PIN INSERT)

CLASS E – ENVIRONMENT RESISTANT

FIGURE 3A – CONNECTOR CONFIGURATION AND DIMENSIONS



STYLE S (SOCKET INSERT)

CLASS E – ENVIRONMENT RESISTANT

FIGURE 3B – CONNECTOR CONFIGURATION AND DIMENSIONS (CONTINUED)

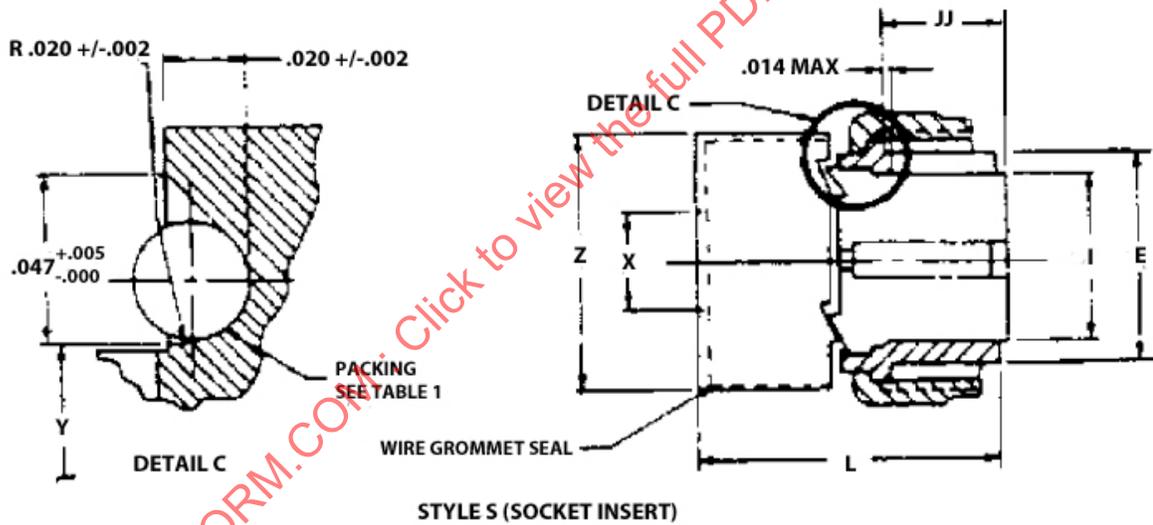
FIGURE 3 – CONNECTOR CONFIGURATION AND DIMENSIONS

TABLE 3 – FIGURE 3 DIMENSIONS

SIZE	A COUPLING THREAD	B +.000/- .062 EXTENSION COUPLING RING	E +.000 -.015 OUTSIDE DIA	F MIN INSIDE DIA	I MAX INSERT DIA	J +/- .005 LENGTH ENGAGEMENT	JJ +.047 -.000 INSERT LOCATION
8S	1/2 – 28	.375	.365	.252	.250	.531	.531
10S	5/8 – 24		.440	.323	.320		
10SL			.446	N/A	.440		
12S	3/4 – 20	.625	.555	.450	.448	.719	.719
14S	7/8 – 20	.375	.675	.526	.525	.531	.531
14		.625				.719	.719
16S	1 – 20	.375	.805	.651	.650	.531	.531
16		.625	.930	.776	.770	.719	.719
18	1-1/8 – 18						
20	1-1/4 – 18						
22	1-3/8 – 18						
24	1-1/2 – 18						
28	1-3/4 – 18						
32	2 – 18						
36	2-1/4 – 16						
40	2-1/2 – 16						
			1.175	1.026	1.020		
			1.300	1.151	1.145		
			1.520	1.370	1.365		
			1.770	1.620	1.615		
			1.980	1.838	1.830		
			2.230	2.057	2.045		

TABLE 3 – FIGURE 3 DIMENSIONS (CONTINUED)

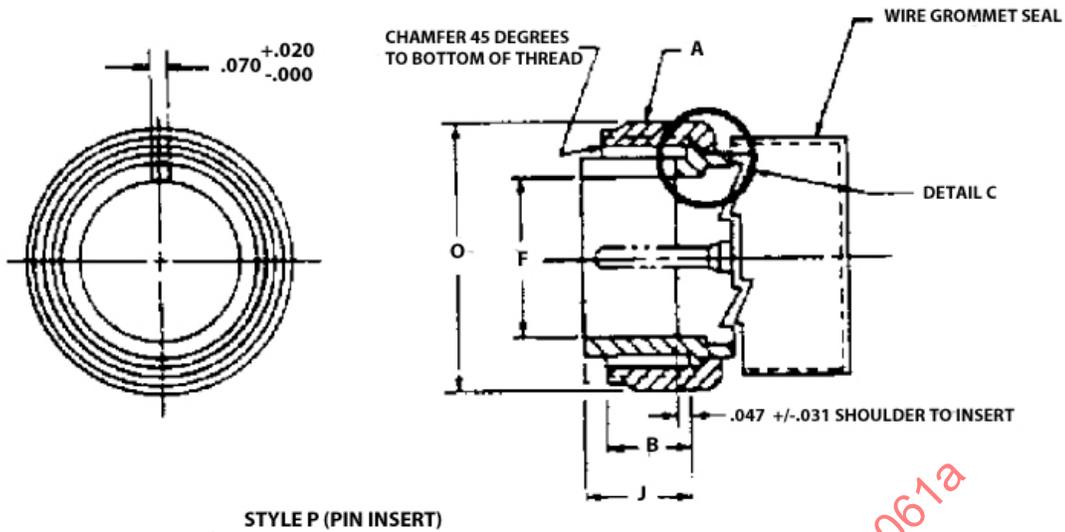
SIZE	L MAX OVERALL LENGTH	O MAX COUPLING NUT OUTSIDE DIA	X MIN CABLE CLEARANCE	Z MAX ACROSS ADAPTER ASSEMBLY	FOR INSERT ARRANGEMENT SEE DRAWING
8S	2.250	.844	.172	1.046	MIL-STD-1651
10S		.969	.281	1.125	
10SL					
12S		1.062			
12	2.625				
14S	2.250	1.156	.406	1.343	
14	2.625				
16S	2.250	1.250	.500	1.484	
16	2.625				
18	2.688	1.344	.531	1.609	
20	2.750	1.469	.656	1.890	
22	2.969	1.594	.750	2.170	
24		1.719	.781		
28		1.969	.922		
32		2.219	1.156		
36	3.281	2.469	1.250	2.922	
40	3.500	2.719	1.562	3.520	



STYLE S (SOCKET INSERT)

CLASS R – ENVIRONMENT RESISTANT

FIGURE 4A – CONNECTOR CONFIGURATION AND DIMENSIONS



CLASS R – ENVIRONMENT RESISTANT

FIGURE 4B – CONNECTOR CONFIGURATION AND DIMENSIONS (SEE FIGURE 4A FOR DETAIL C DIMENSIONS)

FIGURE 4 – CONNECTOR CONFIGURATION AND DIMENSIONS

TABLE 4 – FIGURE 4 DIMENSIONS

SIZE	A COUPLING THREAD	B +.000/-0.062 EXTENSION COUPLING RING	E +.000 -.015 OUTSIDE DIA	F MIN INSIDE DIA	I MAX INSERT DIA	J +/-0.005 LENGTH ENGAGEMENT	JJ +.047 -.000 INSERT LOCATION
8S	1/2 – 28	.375	.365	.252	.250	.531	.531
10S	5/8 – 24		.440	.323	.320		
10SL			.446	N/A	.440		
12S	3/4 – 20	.625	.555	.450	.448	.719	.719
14S	7/8 – 20	.375	.675	.526	.525	.531	.531
14		.625				.719	.719
16S	1 – 20	.375	.805	.651	.650	.531	.531
16							
18	1-1/8 – 18	.625	.930	.776	.770	.719	.719
20	1-1/4 – 18		1.050	.932	.925		
22	1-3/8 – 18		1.175	1.026	1.020		
24	1-1/2 – 18		1.300	1.151	1.145		
28	1-3/4 – 18		1.520	1.370	1.365		
32	2 – 18		1.770	1.620	1.615		
36	2-1/4 – 16		1.980	1.838	1.830		
40	2-1/2 – 16		2.230	2.057	2.045		

TABLE 4 – FIGURE 4 DIMENSIONS (CONTINUED)

SIZE	L 1/ MAX OVERALL LENGTH	O MAX COUPLING NUT OUTSIDE DIA	X MIN CABLE CLEARANCE	Y +.005 -.010	Z MAX ACROSS ADAPTER ASSEMBLY	FOR INSERT ARRANGEMENT SEE DRAWING	PACKING MS28900 DASH NO.	
8S	1.838	.844	.172	.355	1.046	MIL-STD-1651	-8	
10S		.969		.440				
10SL				.446				
12S		1.062		.555	1.125		-12	
14S	1.838	1.156	.406	.675	1.345		-14	
14	2.181							
16S	1.838	1.250	.500	.805	1.484		-16	
16	2.181							
18	2.281	1.344	.531	.930	1.609		-18	
20		1.469	.656	1.050				
22		1.594	.750	1.175	1.890		-20	
24		1.719	.781	1.300				
28		1.969	.922	1.520	2.656		-22	
28		2.219	1.156	1.770				
32	2.322	2.469	1.250	1.980	2.922		-24	
36		2.719	1.562	2.230	3.328		-28	
40	2.430	2.719	1.562	2.230	3.328		-32	
								-36
								-40

1/ ADD .375 FOR SIZE "0" CONTACTS

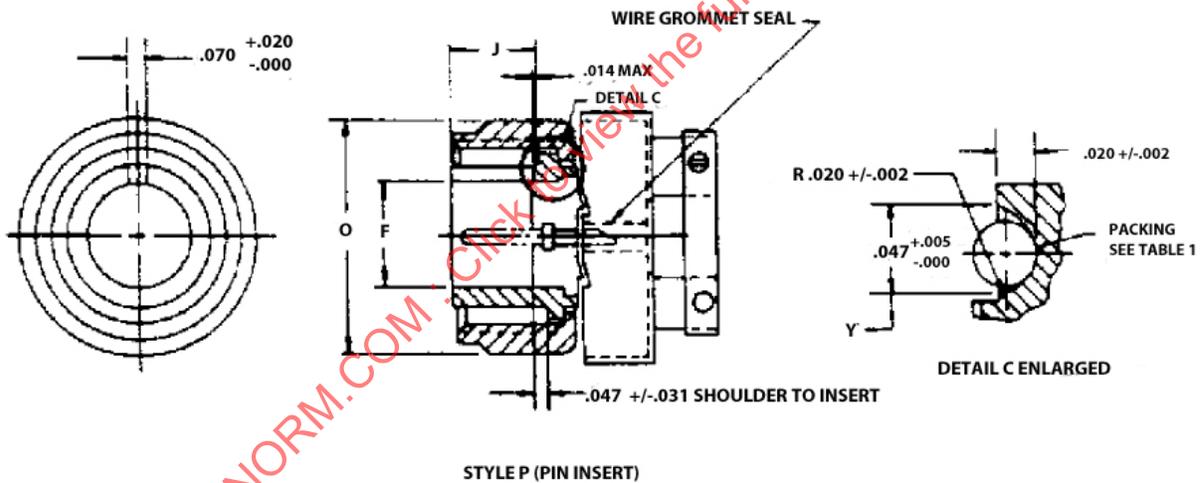


FIGURE 5A – CONNECTOR CONFIGURATION AND DIMENSIONS