

REV.
A

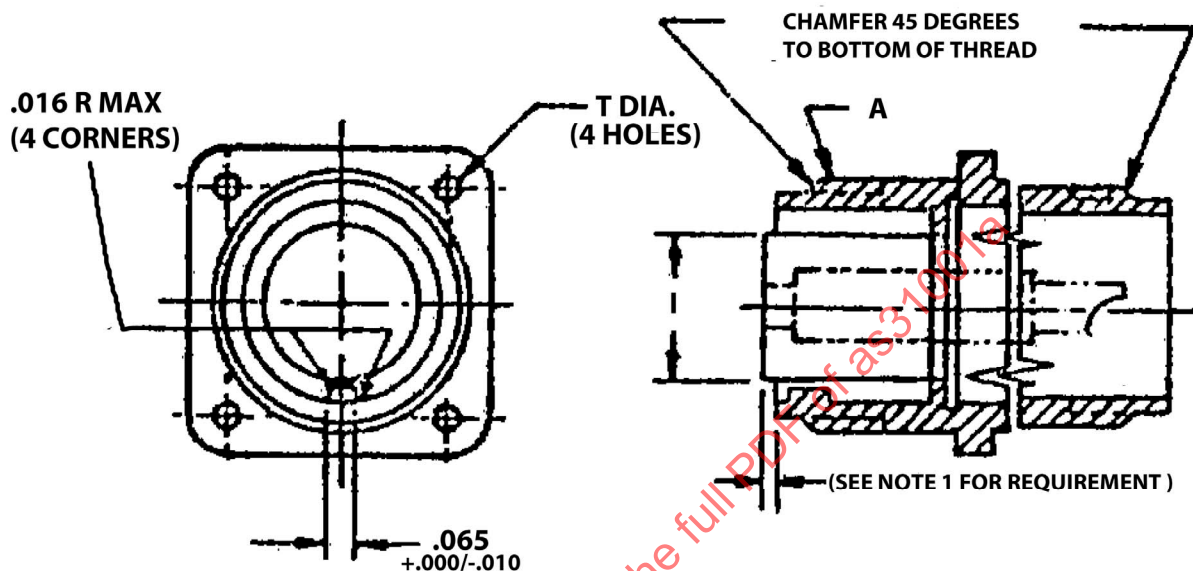
SAE AS31001

FEDERAL SUPPLY CLASS
5935

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.



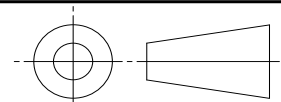
STYLE S (SOCKET INSERT)

CLASS A – SOLID SHELL
CLASS C – PRESSURIZED

FIGURE 1 – STYLE S (SOCKET INSERT)

SAE values your input. To provide feedback on this Technical Report, please visit <http://www.sae.org/technical/standards/AS31001A>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8C1

PROCUREMENT SPECIFICATION: AS50151

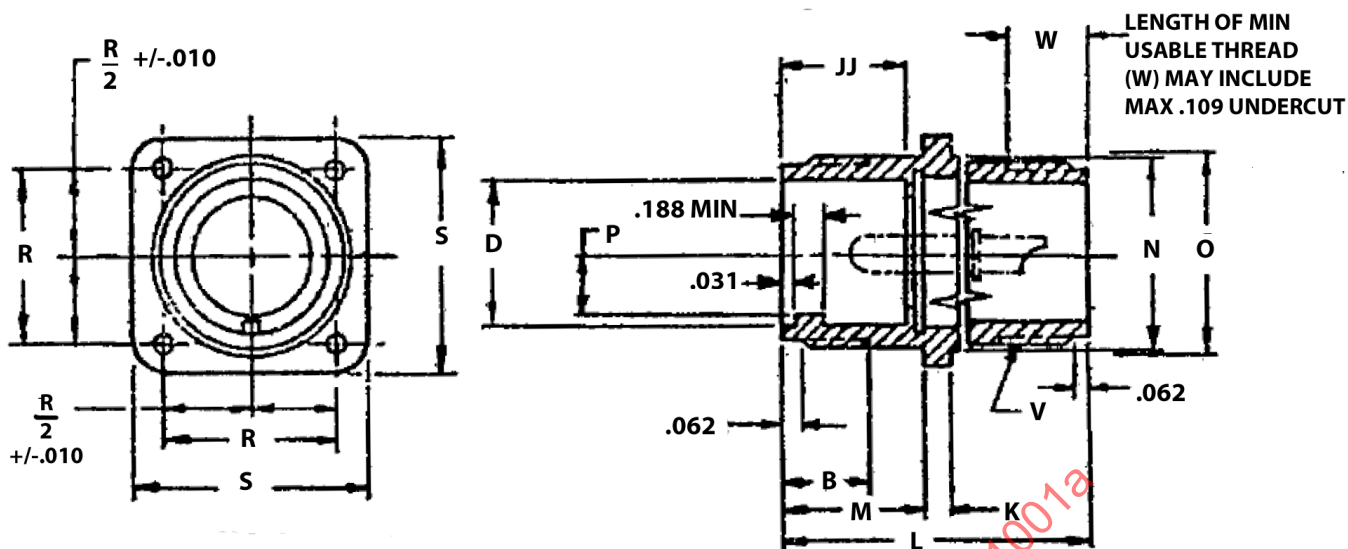
SAE Aerospace
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AEROSPACE STANDARD

(R) CONNECTOR, RECEPTACLE, ELECTRIC,
WALL MOUNTING, SOLDER CONTACTS,
AN TYPE

SAE AS31001
SHEET 1 OF 12

REV.
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STYLE P (PIN INSERT)

CLASS A – SOLID SHELL CLASS C – PRESSURIZED

FIGURE 2 – STYLE P (PIN INSERT)

TABLE 1 – FIGURE 1 AND 2 DIMENSIONS

SIZE	A COUPLING THREAD	B MIN USABLE THREAD	D +.015 -.000 ID	I MAX INSERT DIA	JJ 1/ +.031 -.000 INSERT LOCATION	K THICKNESS MOUNTING FLANGE		L MAX OVERALL LENGTH	M +.031 -.000 MOUNTING FLANGE LOCATION		
						MAX	MIN				
8S	1/2 – 28	.375	.370	.250	.562	.156	.062	1.469	.562		
10S	5/8 – 24		.448	.320				1.531			
10SL				.448				1.688			
12S	3/4 – 20	.625	.557		.750			2.062	.750		
12	7/8 – 20	.375	.682	.525	.562			1.688	.562		
14S		.625			.750			2.062	.750		
14		.375			.562			1.688	.562		
16S	1 – 20	.625	.807	.650	.562	.203	.094	2.062	.750		
16			.750	.094	2.188						
18					1-1/8 – 18			.932		.770	2.312
20					1-1/4 – 18			1.058	.925		
22					1-3/8 – 18			1.182	1.020		
24					1-1/2 – 18			1.307	1.145		
28			1-3/4 – 18	1.526	1.365	.359	.125	2.438	.875		
32			2 – 18	1.776	1.615						
36			2-1/4 – 16	1.995	1.830						
40			2-1/2 – 16	2.245	2.045			2.562			
44			2-3/4 – 16	2.495	2.300						
48			3 – 16	2.745	2.550						

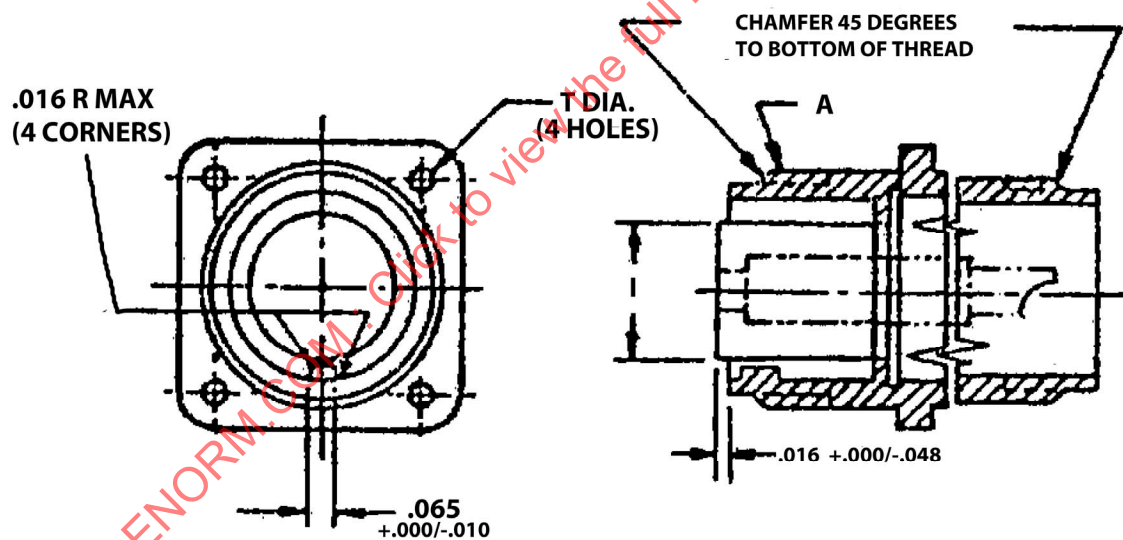
1/ WHERE RESILIENT INSERTS ARE USED, "JJ" MAY BE .109 LESS THAN THAT INDICATED.

TABLE 1 – FIGURE 1 AND 2 DIMENSIONS (CONTINUED)

SIZE	N MAX O.D.	O (REF) MOUNTING HOLE DIA	P +.015 -.000 KEY HEIGHT	R ± .005 ϕ - ϕ MOUNTING HOLES	S +.031 -.000 LENGTH SIDE	T +.010 -.005 MOUNTING BOLT HOLE DIA	V THREAD	W MIN USABLE THREAD	FOR INSERT ARRANGEMENT SEE DRAWING
8S	.532	.562	.130	.594	.875	.120	1/2 – 28	.375	MIL-STD 1651
10S	.656	.688	.165	.719	1.000				
10SL	.782	.812					.224		
12S			.906	.938	.263				
12	1.032	1.062					.325		
14S			1.156	1.188	.385				
14	1.282	1.312					.463		
16S			1.406	1.438	.510				
16	1.532	1.562					.573		
18			1.782	1.812	.683				
20	2.032	2.062				.808	1.750	2.250	
22	2.282	2.312	.915	1.938	2.500	2 – 18	.500		
24	2.532	2.562	1.023	2.188	2.750	2-1/4 – 16	.562		
28	2.782	2.812	1.150	2.375	3.000	2-1/2 – 16	.625		
32	3.032	3.062	1.275	2.625	3.250	3 – 16	.625		

NOTES FOR CLASS A AND C:

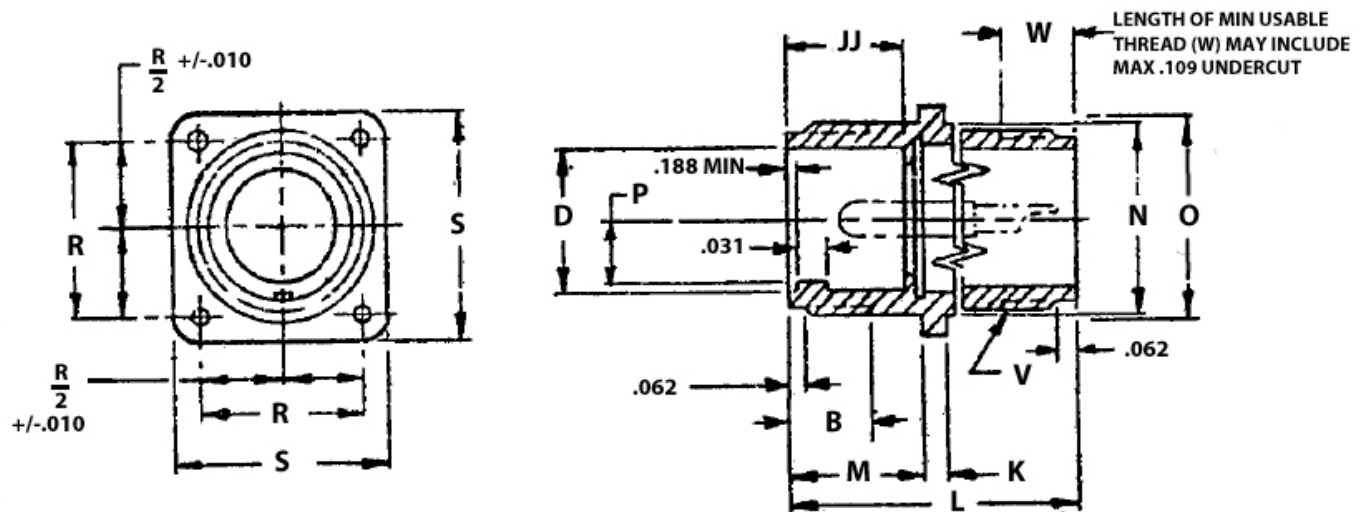
1. SOCKET INSERTS OF HARD MATERIAL SHALL EXTEND .016 MAXIMUM BEYOND OR .032 MAXIMUM BELOW SHELL. SOCKET INSERT OF RESILIENT MATERIAL SHALL EXTEND .047 +.000/-.047 BEYOND SHELL.



STYLE S (SOCKET INSERT)

CLASS K – FIREWALL

FIGURE 3 – STYLE S (SOCKET INSERT)



CLASS K – FIREWALL

FIGURE 4 – STYLE P (PIN INSERT)

TABLE 2 – FIGURE 3 AND 4 DIMENSIONS

SIZE	A COUPLING THREAD	B MIN USABLE THREAD	D +.015 -.000 ID	I MAX INSERT DIA	JJ +.031/- .000 INSERT LOCATION	K MIN THICKNESS MOUNTING FLANGE	L MAX OVERALL LENGTH	M +.031/- .000 MOUNTING FLANGE LOCATION
8S	1/2 – 28	.375	.370	.250	.562	.062	2.188	.562
10S	5/8 – 24		.448	.320				
10SL								
12S	3/4 – 20	.625	.557	.448			2.875	.750
12								
14S	7/8 – 20	.375	.682	.525	.562		2.188	.562
14		.625		.750			2.875	.750
16S	1 – 20	.375	.807	.650	.562		2.188	.562
16		.625			.750		.078	2.875
18	1-1/8 – 18		.932	.770				
20	1-1/4 – 18		1.058	.925				
22	1-3/8 – 18		1.182	1.020				
24	1-1/2 – 18		1.307	1.145		3.125		.812
28	1-3/4 – 18		1.526	1.365				
32	2 – 18		1.776	1.615				
36	2-1/4 – 16			1.995		1.830	.125	.875
40	2-1/2 – 16		2.245	2.045				

25	1.688	.573	1.375	1.750	.177	1-7/16 - 18	
32	1.812	.683	1.562	2.000	.209	1-3/4 - 18	.438
32	2.062	.808	1.750	2.250		2 - 18	
32	2.312	.915	1.938	2.500		2-1/4 - 16	.500
32	2.562	1.023	2.188	2.750			

Technical drawing of Style P (Pin Insert) Class E - Environment Resistant. The drawing includes a front view, a side view, and a cross-sectional view. The front view shows a circular component with four holes, dimensions S, R, and T DIA. (4 HOLES). The side view shows dimensions X, S, R, and P. The cross-sectional view shows dimensions A, B, JJ, J, and WIRE GRO. The drawing also includes a note: CHAMFER 45 DEGREES TO BOTTOM OF THREAD. The drawing is labeled STYLE P (PIN INSERT) and CLASS E - ENVIRONMENT RESISTANT.

STYLE P (PIN INSERT)

CLASS E - ENVIRONMENT RESISTANT

FIGURE 5 - STYLE P (PIN INSERT)

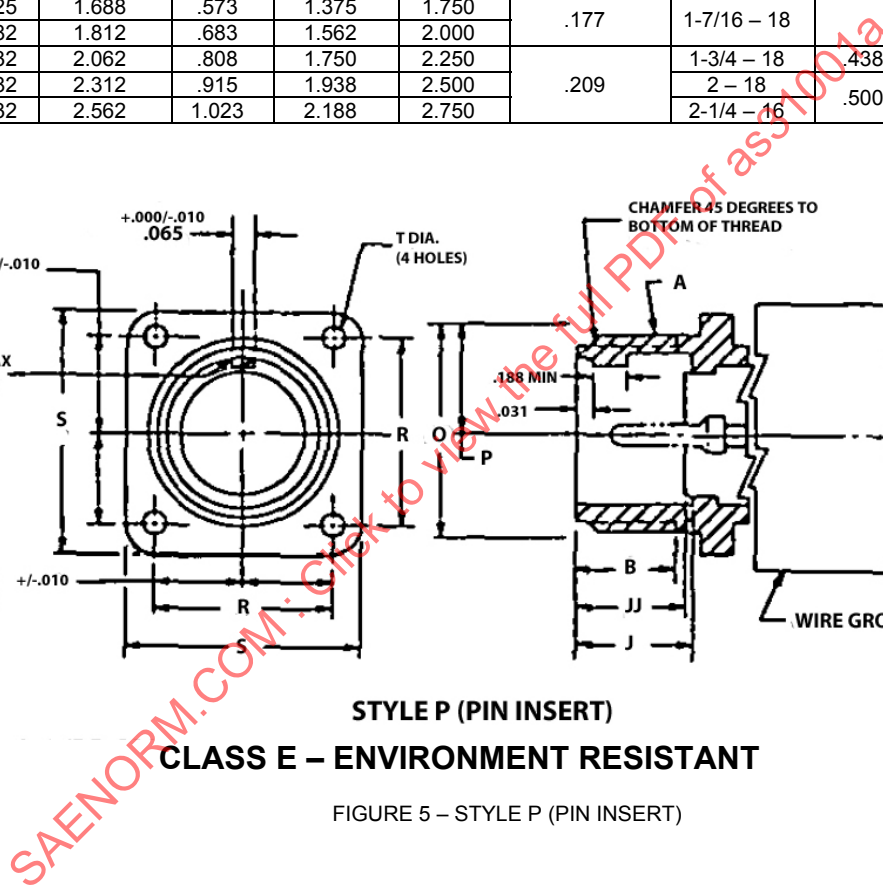
25	1.688	.573	1.375	1.750	.177	1-7/16 - 18	
32	1.812	.683	1.562	2.000	.209	1-3/4 - 18	.438
32	2.062	.808	1.750	2.250		2 - 18	
32	2.312	.915	1.938	2.500		2-1/4 - 16	.500
32	2.562	1.023	2.188	2.750			

Technical drawing of Style P (Pin Insert) Class E - Environment Resistant. The drawing includes a front view, a side view, and a cross-sectional view. The front view shows a circular component with four holes, dimensions S, R, and T DIA. (4 HOLES). The side view shows dimensions X, S, R, and P. The cross-sectional view shows dimensions A, B, JJ, J, and WIRE GRO. The drawing also includes a note: CHAMFER 45 DEGREES TO BOTTOM OF THREAD. The drawing is labeled STYLE P (PIN INSERT) and CLASS E - ENVIRONMENT RESISTANT.

STYLE P (PIN INSERT)

CLASS E - ENVIRONMENT RESISTANT

FIGURE 5 - STYLE P (PIN INSERT)



25	1.688	.573	1.375	1.750	.177	1-7/16 - 18	
32	1.812	.683	1.562	2.000	.209	1-3/4 - 18	.438
32	2.062	.808	1.750	2.250		2 - 18	
32	2.312	.915	1.938	2.500		2-1/4 - 16	.500
32	2.562	1.023	2.188	2.750			

STYLE P (PIN INSERT)

CLASS E - ENVIRONMENT RESISTANT

FIGURE 5 - STYLE P (PIN INSERT)

25	1.688	.573	1.375	1.750	.177	1-7/16 - 18	
32	1.812	.683	1.562	2.000	.209	1-3/4 - 18	.438
32	2.062	.808	1.750	2.250		2 - 18	
32	2.312	.915	1.938	2.500		2-1/4 - 16	.500
32	2.562	1.023	2.188	2.750			

STYLE P (PIN INSERT)

CLASS E - ENVIRONMENT RESISTANT

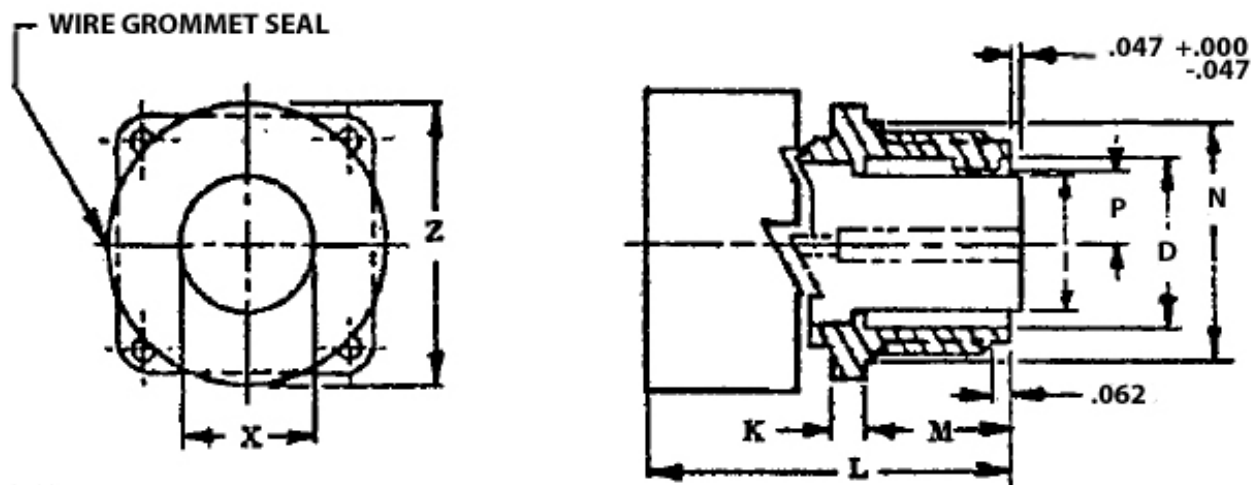
FIGURE 5 - STYLE P (PIN INSERT)

25	1.688	.573	1.375	1.750	.177	1-7/16 - 18	
32	1.812	.683	1.562	2.000	.209	1-3/4 - 18	.438
32	2.062	.808	1.750	2.250		2 - 18	
32	2.312	.915	1.938	2.500		2-1/4 - 16	.500
32	2.562	1.023	2.188	2.750			

STYLE P (PIN INSERT)

CLASS E - ENVIRONMENT RESISTANT

FIGURE 5 - STYLE P (PIN INSERT)



STYLE S (SOCKET INSERT)

CLASS E – ENVIRONMENT RESISTANT

FIGURE 6 – STYLE S (SOCKET INSERT)

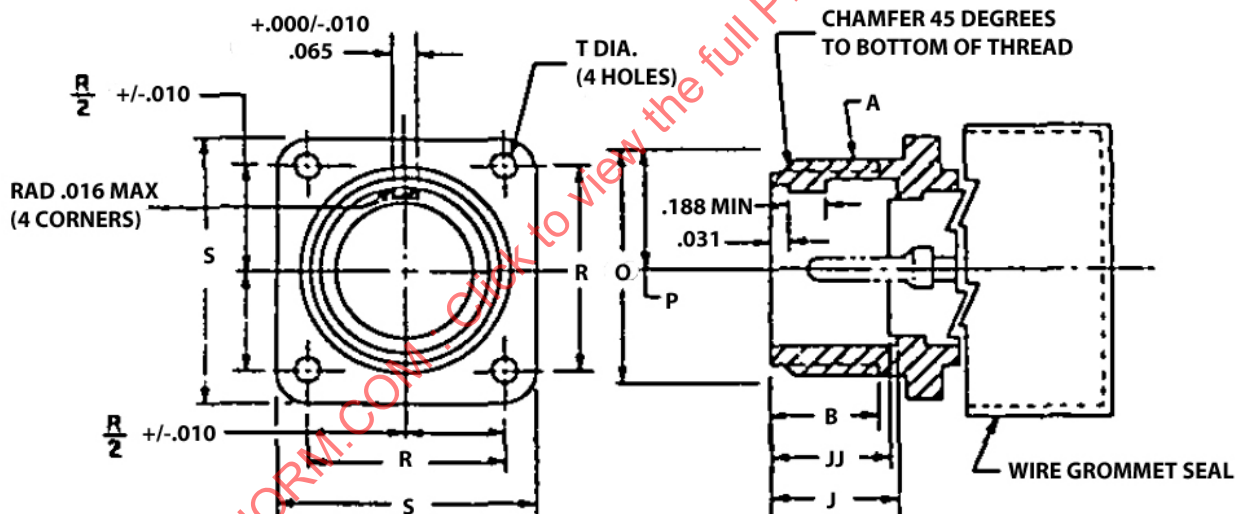
TABLE 3 – FIGURE 5 AND 6 DIMENSIONS

SIZE	A COUPLING THREAD	B MIN USABLE THREAD	D +.015 -.000 ID	I MAX INSERT DIA	J +.031 -.000 INT SHELL SHLDR	JJ ± .031 INSERT LOCATION	K THICKNESS MOUNTING FLANGE		L MAX 1/ OVERALL LENGTH	M +.031 -.000 MOUNTING FLANGE LOCATION
							MAX	MIN		
8S	1/2 – 28	.375	.370	.250	.562	.484	.156	.078	2.250	.562
10S	5/8 – 24		.448	.320						
10SL										
12S	3/4 – 20	.625	.557	.448	.750	.672				
12										
14S	7/8 – 20		.375	.682					.525	.562
14		.625			.750	.672				
16S		1 – 20	.375	.807	.650	.562			.484	
16										
18	1-1/8 – 18		.932	.770	.750	.672	.203	.094	2.625	.750
20	1-1/4 – 18	1.058	.925	2.688						
22	1-3/8 – 18	1.182	1.020	2.750						
24	1-1/2 – 18	1.307	1.145	2.969						
28	1-3/4 – 18	.625	1.526	1.365					3.031	.812
32	2 – 18		1.776	1.615						
36	2-1/4 – 16		1.995	1.830			.359	.125	3.281	.875
40	2-1/2 – 16		2.245	2.045					3.500	

1/ ADD .375 FOR SIZE "0" CONTACTS.

TABLE 3 – FIGURE 5 AND 6 DIMENSIONS (CONTINUED)

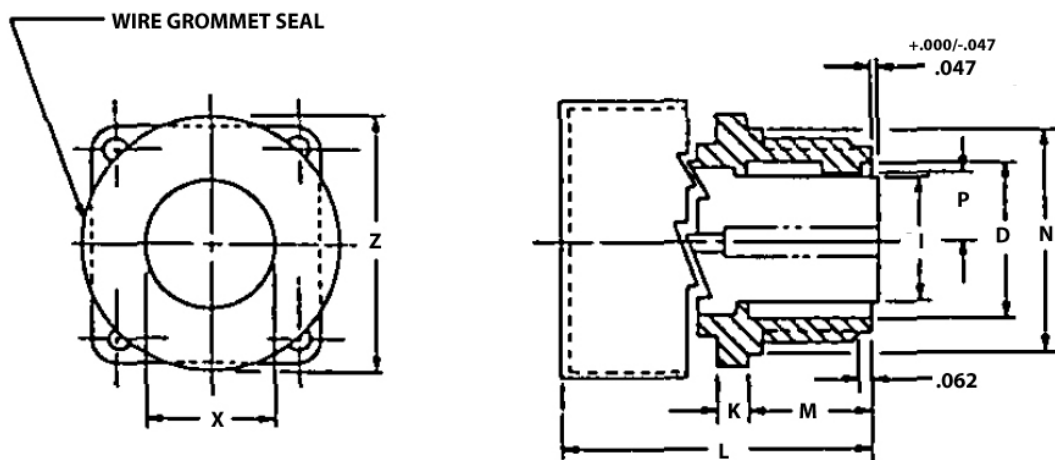
SIZE	N MAX O.D.	O (REF) MOUNTING HOLE DIA	P +.015 -.000 KEY HEIGHT	R ± .005 Φ - Φ MOUNTING HOLES	S +.031 -.000 LENGTH SIDE	T +.010 -.005 MOUNTING BOLT HOLE DIA	X MIN CABLE CLEARANCE	Z MAX ACROSS SEAL ASSEMBLY	FOR INSERT ARRANGEMENT SEE DRAWING				
8S	.532	.562	.130	.594	.875	.120	.172	1.046	MIL-STD 1651				
10S	.656	.688	.165	.719	1.000		.281	1.125					
10SL	.782	.812	.224	.812	1.094								
12S													
12													
14S													
14	.906	.938	.263	.906	1.188					.406	1.343		
16S	1.032	1.062	.325	.969	1.281					.500	1.484		
16										.531	1.609		
18										1.156	1.188	.385	1.062
20						1.282	1.312	.463		1.156	1.500	.750	
22	1.406	1.438	.510	1.250	1.625	.781	2.170						
24	1.532	1.562	.573	1.375	1.750								
28	1.782	1.812	.683	1.562	2.000	.922							
32	2.032	2.062	.808	1.750	2.250	.173	1.156	2.656					
36	2.282	2.312	.915	1.838	2.500		1.250	2.922					
40	2.532	2.562	1.023	2.188	2.750		1.562	3.531					



STYLE P (PIN INSERT)

CLASS R – ENVIRONMENT RESISTANT

FIGURE 7 – STYLE P (PIN INSERT)



STYLE S (SOCKET INSERT)

CLASS R – ENVIRONMENT RESISTANT

FIGURE 8 – STYLE S (SOCKET INSERT)

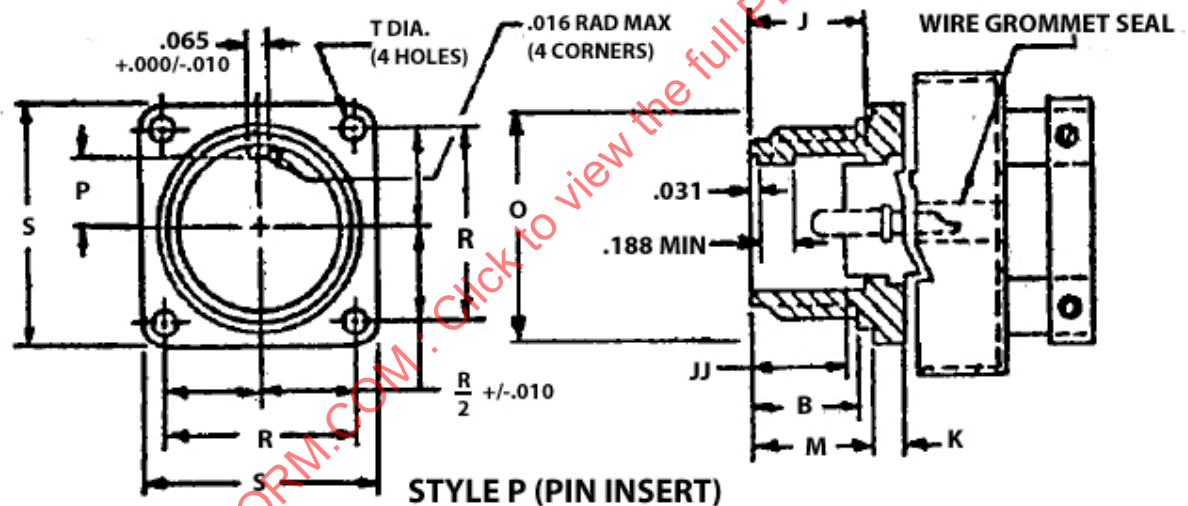
TABLE 4 – FIGURE 7 AND 8 DIMENSIONS

SIZE	A COUPLING THREAD	B MIN USABLE THREAD	D +.015 -.000 ID	I MAX INSERT DIA	J +.031 -.000 INT SHELL SHLDR	JJ ± .031 INSERT LOCATION	K THICKNESS MOUNTING FLANGE		L MAX 1/ OVERALL LENGTH	M +.031 -.000 MOUNTING FLANGE LOCATION
							MAX	MIN		
8S	1/2 – 28	.375	.370	.250	.562	.484	.156	.076	1.838	.562
10S	5/8 – 24		.448	.320						
10SL			.448	.320						
12S	3/4 – 20	.625			.557	.750	.672	.156	.076	2.181
12			.375	.682						.525
14S	7/8 – 20	.625	.525	.750	.672	2.181	.750			
14		.375		.807	.650	.562	.484			1.838
16S	1 – 20	.625	.932	.770	.750	.672	.156			.076
16								1-1/8 – 18	1.058	
18	1-1/4 – 18	1.182	1.020	.812						
20	1-3/8 – 18	1.307	1.145							
22	1-1/2 – 18	1.526	1.365							
24	1-3/4 – 18	1.776	1.615	.359	.125	2.322	.875			
28	2 – 18	1.995	1.930							
32	2-1/4 – 16	2.245	2.045							
36	2-1/2 – 16									

1/ ADD .375 FOR SIZE "0" CONTACTS.

TABLE 4 – FIGURE 7 AND 8 DIMENSIONS (CONTINUED)

SIZE	N MAX O.D.	O (REF) MOUNTING HOLE DIA	P +.015 -.000 KEY HEIGHT	R ± .005 ϕ - ϕ MOUNTING HOLES	S +.031 -.000 LENGTH SIDE	T +.010 -.005 MOUNTING BOLT HOLE DIA	X MIN CABLE CLEARANCE	Z MAX ACROSS SEAL ASSEMBLY	FOR INSERT ARRANGEMENT SEE DRAWING		
8S	.532	.562	.130	.594	.875	.120	.172	1.046	MIL-STD 1651		
10S	.656	.688	.165	.719	1.000		.281	1.125			
10SL	.782	.812	.224	.812	1.094						
12S							.406	1.343			
12											
14S	.906	.938	.263	.906	1.188						
14											
16S							1.032	1.062		.325	.969
16											
18	1.156	1.188	.385	1.062	1.375						
20						1.282	1.312	.463		1.156	1.500
22											
24	1.532	1.562	.573	1.375	1.750						
28						1.782	1.812	.683		1.562	2.000
32											
36	2.282	2.312	.915	1.938	2.500						
40						2.532	2.562	1.023	2.188	2.750	



CLASS F – ENVIRONMENT RESISTANT

FIGURE 9 – STYLE P (PIN INSERT)