

F.290

COPY No. **2**

AIR PUBLICATION

113D-1837-1

CONNECTORS, HELLERMAN DEUTSCH HBS SERIES

GENERAL AND TECHNICAL INFORMATION

BY COMMAND OF THE DEFENCE COUNCIL

J. Dunnett

Ministry of Defence

FOR USE IN THE
ROYAL NAVY
ROYAL AIR FORCE

(Prepared by the Ministry of Technology)

Issued Dec 67

Prelim.
Page 1

AMENDMENT RECORD SHEET

To record the incorporation of an Amendment List in this publication, sign against the appropriate A.L.No. and insert the date of incorporation

A.L. No.	AMENDED BY	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		

A.L. No.	AMENDED BY	DATE
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		
51		
52		
53		
54		
55		
56		
57		
58		
59		
60		
61		
62		
63		
64		
65		
66		

Chapter 1

CONNECTORS, HELLERMANN DEUTSCH, HBS SERIES

CONTENTS

	Page		Page
Introduction	2	Box mounting receptacle	14
Significance of code numbers ...	3	Jam nut receptacle	15
Description	4	Straight plugs	16
Wall mounting receptacles ...	4	Orientation features	22
Cable connecting receptacles ...	9	Accessories	27

ILLUSTRATIONS

Fig.	Page	Fig.	Page
1 00A. wall mounting receptacle with adapter	4	11 02A. box mounting receptacle ...	14
2 00E. wall mounting receptacle ...	5	12 07A Jam nut receptacle	15
3 00F. wall mounting receptacle with cable clamp	6	13 06A straight plug with adapter ...	16
4 00P. wall mounting receptacle with potting cup	7	14 06E straight plug	17
5 00W. wall mounting receptacle with seal for jacketed cable	8	15 06F straight plug with cable clamp	18
6 01A. cable connecting receptacle with adapter	9	16 06W straight plug with seal for jacketed cable	19
7 01E. cable connecting receptacle	10	17 06P straight plug with potting cup	20
8 01F. cable connecting receptacle with cable clamp	11	18 08E straight plug with 90 deg. elbow	21
9 01P. cable connecting receptacle with potting cup	12	19 Insert orientations W, X, Y and Z	22
10 01W. cable connecting receptacle with seal for jacketed cable ...	13	20 Keyway orientations A, B, C and D	23
		21a Insert arrangements Shell size 8 to 18	24
		21b Insert arrangements Shell size 20 to 24	25
		22 Cable clamp. Type F	27
		23 Seal assembly for jacketed cable. Type W	28
		24 Potting cup. Type P	29
		25 90 deg. elbow. HBS 08 or 081 MOD	30

TABLES

No.	Page	No.	Page
1 00A. wall mounting receptacle and adapter details	4	7 01E. cable connecting receptacle details	10
2 00E. wall mounting receptacle details	5	8 01F. cable connecting receptacle with cable clamp details	11
3 00F. wall mounting receptacle with cable clamp details	6	9 01P. cable connecting receptacle with potting cup details	12
4 00P. wall mounting receptacle with potting cup details	7	10 01W. cable connecting receptacle with seal for jacketed cable details	13
5 00W. wall mounting receptacle with seal for jacketed cable details	8	11 02A. box mounting receptacle details	14
6 01A. cable connecting receptacle with adapter details	9	12 07A. Jam nut receptacle details	15

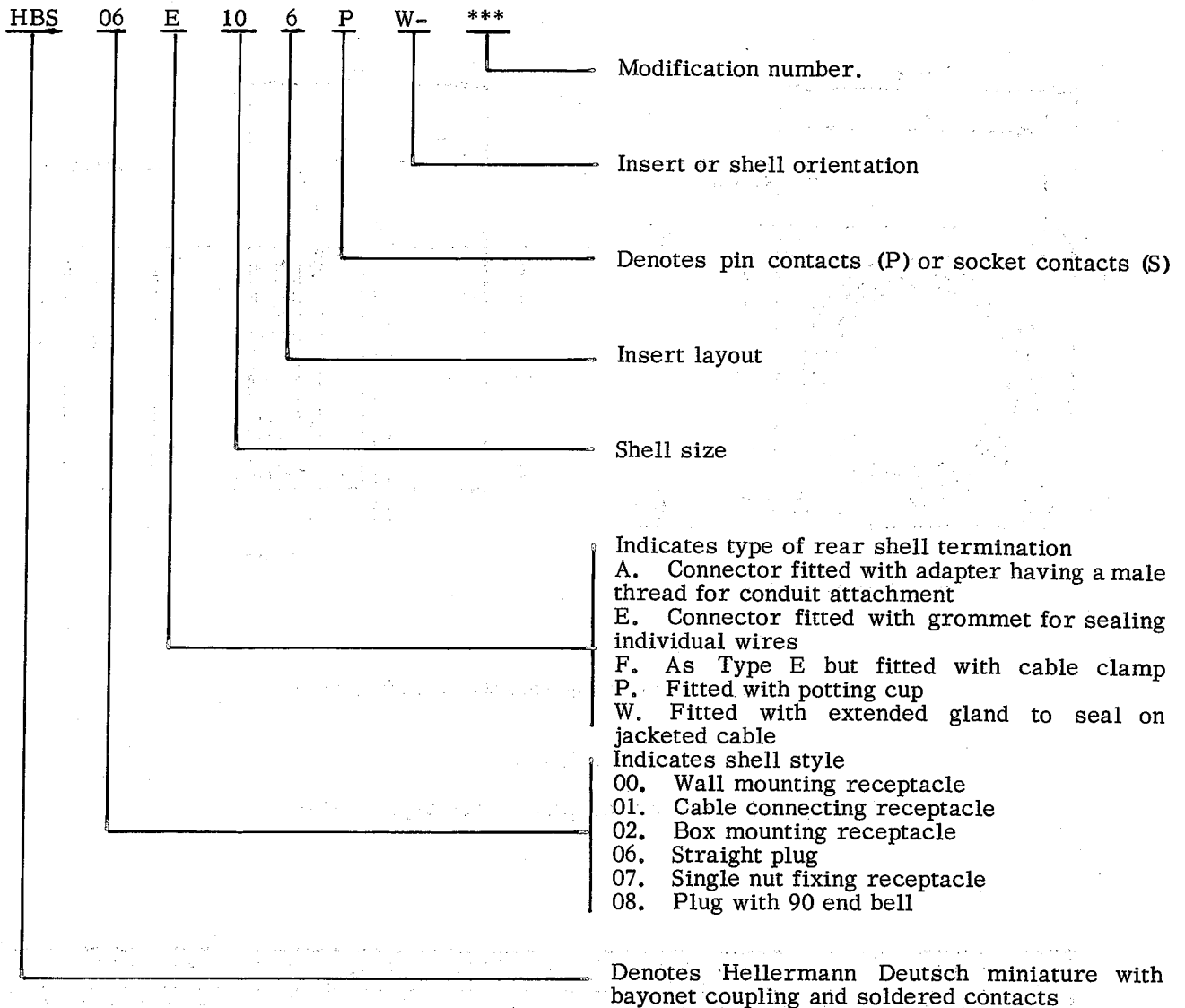
LEADING PARTICULARS

Current rating					
Shell size 8 to 16	...	...	...	...	Size 16 contact 15A at 100 deg.C
					Size 20 contact 5A at 100 deg.C
Shell size 18 to 24	...	...	...	...	Size 16 contact 15A at 50 deg.C
					Size 20 contact 5A at 100 deg.C
Voltage rating	...	...	...	...	700V d.c. at seal level
					500V r.m.s. at 45 to 60 c/s
					at seal level.
Contact resistance	...	...	...	...	5 milliohms (max)
Insulation resistance	...	...	...	...	100 megohms (min)
Contact detail	...	...	...	...	Beryllium copper, gold plated
Temperature range	...	...	...	...	-40 deg.C to +125 deg.C

4. HBS series of connectors conform to the requirements of MIL-C-0026482A and DEF. 5325 pattern 105.

SIGNIFICANCE OF CODE NUMBERS

5.



DESCRIPTION

WALL MOUNTING RECEPTACLES

6.

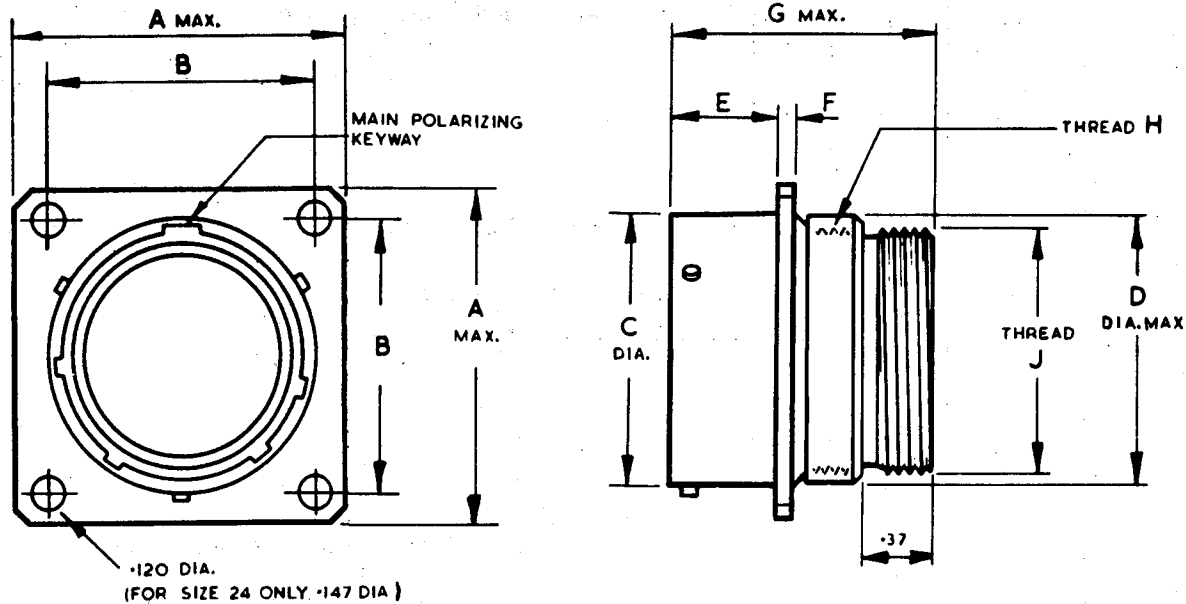


Fig. 1. 00A. wall mounting receptacle with adapter

TABLE 1

00A, wall mounting receptacle and adapter details

PART NO.	A MAX	B	C $\pm .001$ -.005	D DIA MAX	E $\pm .031$ -.000	F $\pm .016$	G MAX	THREAD H	THREAD J
HBS00A -8- * P s	0.828	0.594	0.473	0.545	0.431	0.062	1.290	7/16 - 28 UNEF	1/2 - 28 UNEF
HBS00A -10- * P s	0.954	0.719	0.590	0.663	0.431	0.062	1.290	9/16 - 24 NEF	5/8 - 24 NEF
HBS00A -12- * P s	1.047	0.812	0.750	0.790	0.431	0.062	1.290	1 1/16 - 24 NEF	3/4 - 20 UNEF
HBS00A -14- * P s	1.141	0.906	0.875	0.905	0.431	0.062	1.290	1 3/16 - 20 UNEF	7/8 - 20 UNEF
HBS00A -16- * P s	1.234	0.969	1.000	1.035	0.431	0.062	1.290	1 5/16 - 20 UNEF	1 - 20 UNEF
HBS00A -18- * P s	1.328	1.062	1.125	1.155	0.431	0.062	1.290	1 7/16 - 18 NEF	1 3/16 - 18 NEF
HBS00A -20- * P s	1.453	1.156	1.250	1.280	0.556	0.094	1.445	1 3/16 - 18 NEF	1 3/16 - 18 NEF
HBS00A -22- * P s	1.578	1.250	1.375	1.405	0.556	0.094	1.445	1 5/16 - 18 NEF	1 7/16 - 18 NEF
HBS00A -24- * P s	1.703	1.375	1.500	1.540	0.589	0.094	1.510	1 7/16 - 18 NEF	1 7/16 - 18 NEF

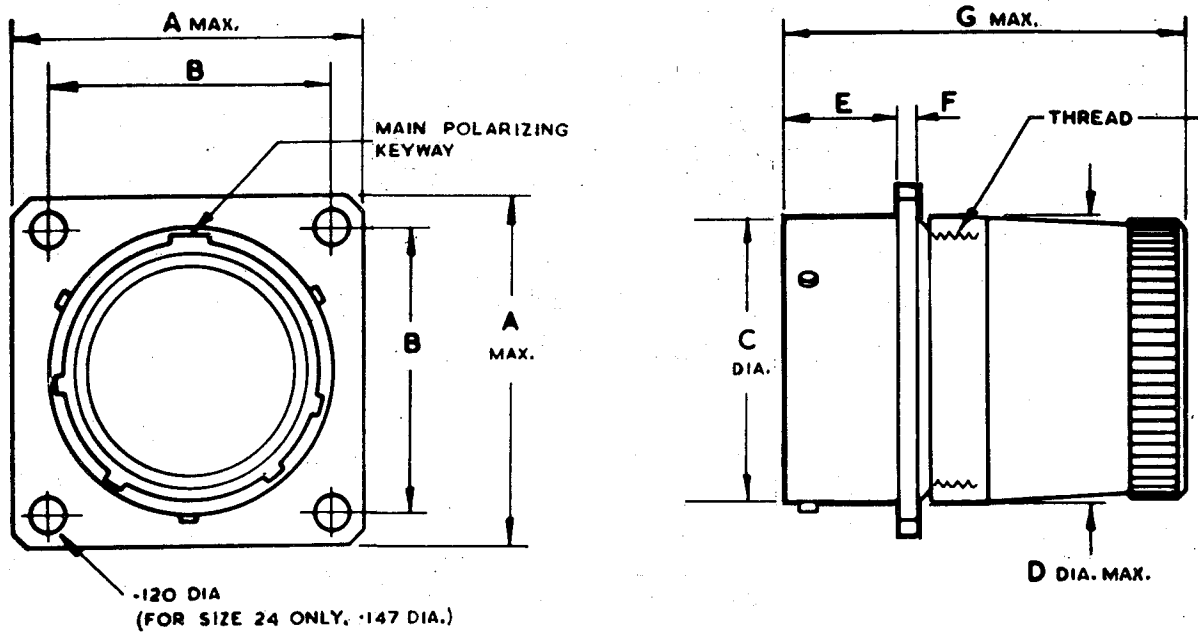


Fig. 2. 00E. wall mounting receptacle

TABLE 2

00E. wall mounting receptacle details

PART NO.	A MAX	B	C ^{+0.001} _{-0.005}	D DIA MAX	E ^{+0.031} _{-0.000}	F ^{±0.016}	G MAX	THREAD
HBSOOE-8-* ^P s	0.828	0.594	0.473	0.560	0.431	0.062	1.290	7/16-28 UNEF
HBSOOE-10-* ^P s	0.954	0.719	0.590	0.685	0.431	0.062	1.290	9/16-24 NEF
HBSOOE-12-* ^P s	1.047	0.812	0.750	0.813	0.431	0.062	1.290	11/16-24 NEF
HBSOOE-14-* ^P s	1.141	0.906	0.875	0.930	0.431	0.062	1.290	13/16-20 UNEF
HBSOOE-16-* ^P s	1.234	0.969	1.000	1.057	0.431	0.062	1.290	15/16-20 UNEF
HBSOOE-18-* ^P s	1.328	1.062	1.125	1.175	0.431	0.062	1.290	1 1/16-18 NEF
HBSOOE-20-* ^P s	1.453	1.156	1.250	1.301	0.556	0.094	1.335	1 3/16-18 NEF
HBSOOE-22-* ^P s	1.578	1.250	1.375	1.428	0.556	0.094	1.335	1 5/16-18 NEF
HBSOOE-24-* ^P s	1.703	1.375	1.500	1.533	0.589	0.094	1.360	1 7/16-18 NEF

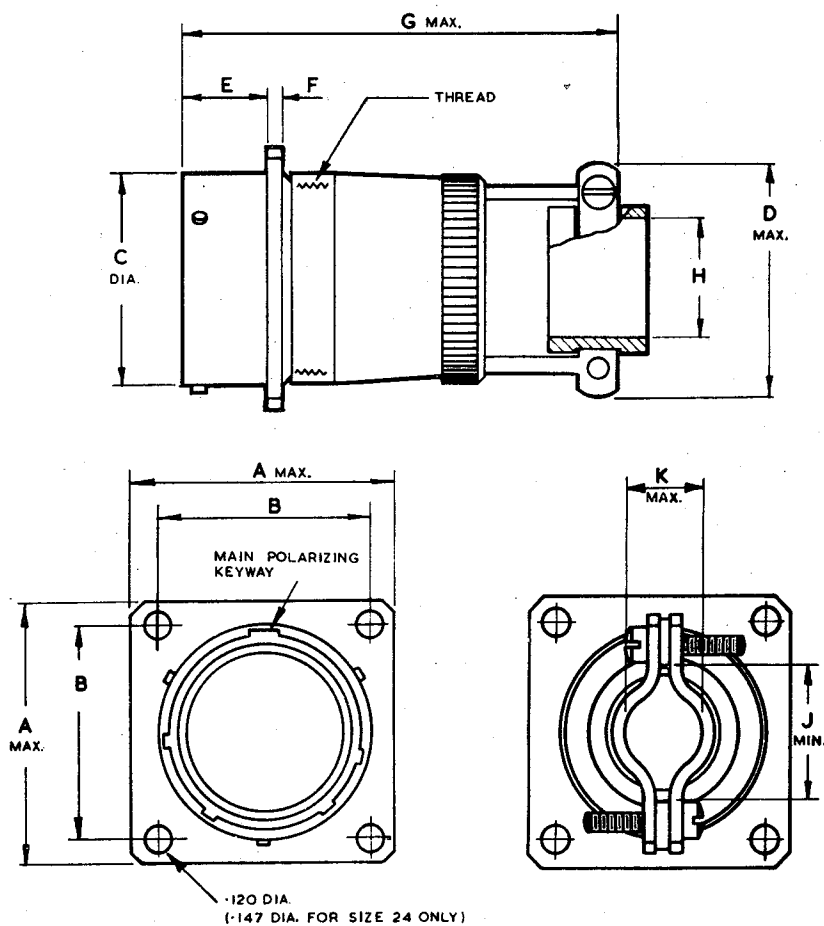


Fig. 3. 00F. wall mounting receptacle with cable clamp

TABLE 3

00F. wall mounting receptacle with cable clamp details

PART NO.	A MAX.	B	C $\begin{smallmatrix} +.001 \\ -.005 \end{smallmatrix}$	D MAX.	E $\begin{smallmatrix} +.031 \\ -.000 \end{smallmatrix}$	F $\pm .016$	G MAX.	H DIA FREE	J MIN.	K MAX.	THREAD
HBSOOF-8-* ^P _s	0.828	0.594	0.473	0.812	0.431	0.062	1.875	0.125	0.240	0.187	7/16-28 UNEF
HBSOOF-10-* ^P _s	0.954	0.719	0.590	0.891	0.431	0.062	1.875	0.188	0.297	0.187	9/16-24 NEF
HBSOOF-12-* ^P _s	1.047	0.812	0.750	1.016	0.431	0.062	1.875	0.312	0.422	0.281	1 1/16-24 NEF
HBSOOF-14-* ^P _s	1.141	0.906	0.875	1.141	0.431	0.062	1.875	0.375	0.547	0.325	1 3/16-20 UNEF
HBSOOF-16-* ^P _s	1.234	0.969	1.000	1.203	0.431	0.062	1.950	0.500	0.609	0.356	1 5/16-20 UNEF
HBSOOF-18-* ^P _s	1.328	1.062	1.125	1.469	0.431	0.062	1.950	0.625	0.734	0.456	1 7/16-18 NEF
HBSOOF-20-* ^P _s	1.453	1.156	1.250	1.469	0.556	0.094	2.150	0.625	0.734	0.519	1 3/16-18 NEF
HBSOOF-22-* ^P _s	1.578	1.250	1.375	1.656	0.556	0.094	2.150	0.750	0.922	0.519	1 5/16-18 NEF
HBSOOF-24-* ^P _s	1.703	1.375	1.500	1.750	0.589	0.094	2.180	0.800	0.984	0.657	1 7/16-18 NEF

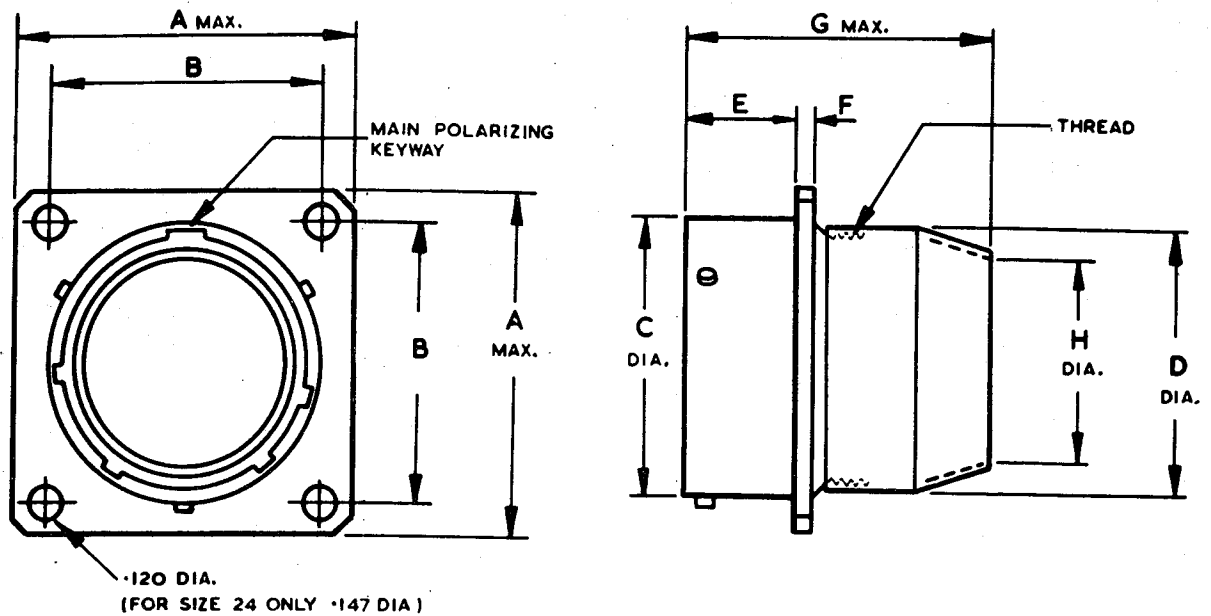


Fig. 4. 00P. wall mounting receptacle with potting cup

TABLE 4

00P. wall mounting receptacle with potting cup details

PART NO.	A MAX.	B	C $\begin{smallmatrix} +.001 \\ -.005 \end{smallmatrix}$	D MAX DIA	E $\begin{smallmatrix} +.031 \\ -.000 \end{smallmatrix}$	F $\pm .016$	G REF. ONLY	H MIN DIA.	THREAD
HBSOOP-8-* ^P s	0.828	0.594	0.473	0.616	0.431	0.062	2.062	0.300	7/16 - 28 UNEF
HBSOOP-10-* ^P s	0.954	0.719	0.590	0.742	0.431	0.062	2.000	0.450	9/16 - 24 NEF
HBSOOP-12-* ^P s	1.047	0.812	0.750	0.866	0.431	0.062	2.000	0.550	11/16 - 24 NEF
HBSOOP-14-* ^P s	1.141	0.906	0.875	0.992	0.431	0.062	2.421	0.640	13/16 - 20 UNEF
HBSOOP-16-* ^P s	1.234	0.969	1.000	1.118	0.431	0.062	2.406	0.740	15/16 - 20 UNEF
HBSOOP-18-* ^P s	1.328	1.062	1.125	1.242	0.431	0.062	2.390	0.860	1 1/16 - 18 NEF
HBSOOP-20-* ^P s	1.453	1.156	1.250	1.368	0.556	0.094	2.546	0.990	1 3/16 - 18 NEF
HBSOOP-22-* ^P s	1.578	1.250	1.375	1.492	0.556	0.094	2.578	1.110	1 5/16 - 18 NEF
HBSOOP-24-* ^P s	1.703	1.375	1.500		0.589	0.094			1 7/16 - 18 NEF

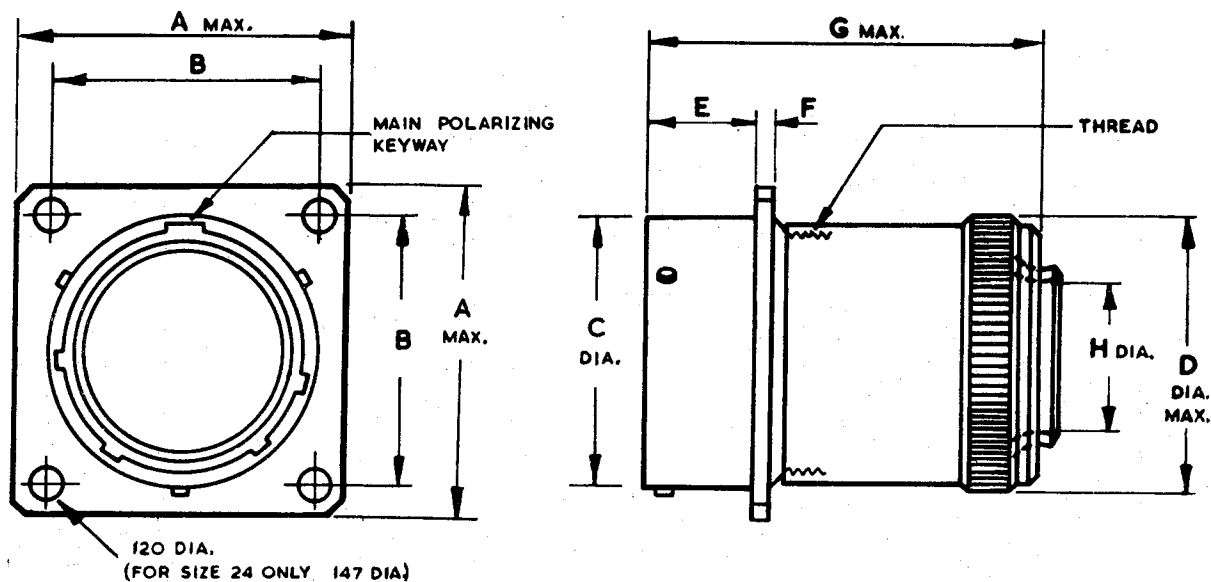


Fig. 5. 00W. wall mounting receptacle with seal for jacketed cable

TABLE 5

00W. wall mounting receptacle with seal for jacketed cable details

PART NO.	A MAX.	B	C $\begin{smallmatrix} +.001 \\ -.005 \end{smallmatrix}$	D DIA. MAX.	E $\begin{smallmatrix} +.031 \\ -.000 \end{smallmatrix}$	F $\pm .016$	G MAX.	H		THREAD
								MIN. CLOSED	MAX. FREE	
HBSOOW-8-* ^P s	0.828	0.594	0.473	0.608	0.431	0.062	1.781	0.168	0.230	7/16-28 UNEF
HBSOOW-10-* ^P s	0.954	0.719	0.590	0.734	0.431	0.062	1.781	0.205	0.312	9/16-24 NEF
HBSOOW-12-* ^P s	1.047	0.812	0.750	0.858	0.431	0.062	1.921	0.338	0.442	1 1/16-24 NEF
HBSOOW-14-* ^P s	1.141	0.906	0.875	0.984	0.431	0.062	2.109	0.416	0.539	1 3/16-20 UNEF
HBSOOW-16-* ^P s	1.234	0.969	1.000	1.110	0.431	0.062	2.328	0.550	0.616	5/16-20 UNEF
HBSOOW-18-* ^P s	1.328	1.062	1.125	1.234	0.431	0.062	2.562	0.600	0.672	1 1/16-18 NEF
HBSOOW-20-* ^P s	1.453	1.156	1.250	1.360	0.556	0.094	3.000	0.635	0.747	1 3/16-18 NEF
HBSOOW-22-* ^P s	1.578	1.250	1.375	1.484	0.556	0.094	3.156	0.670	0.846	1 5/16-18 NEF
HBSOOW-24-* ^P s	1.703	1.375	1.500	1.610	0.589	0.094	3.375	0.740	0.894	1 7/16-18 NEF

CABLE CONNECTING RECEPTACLES

7.

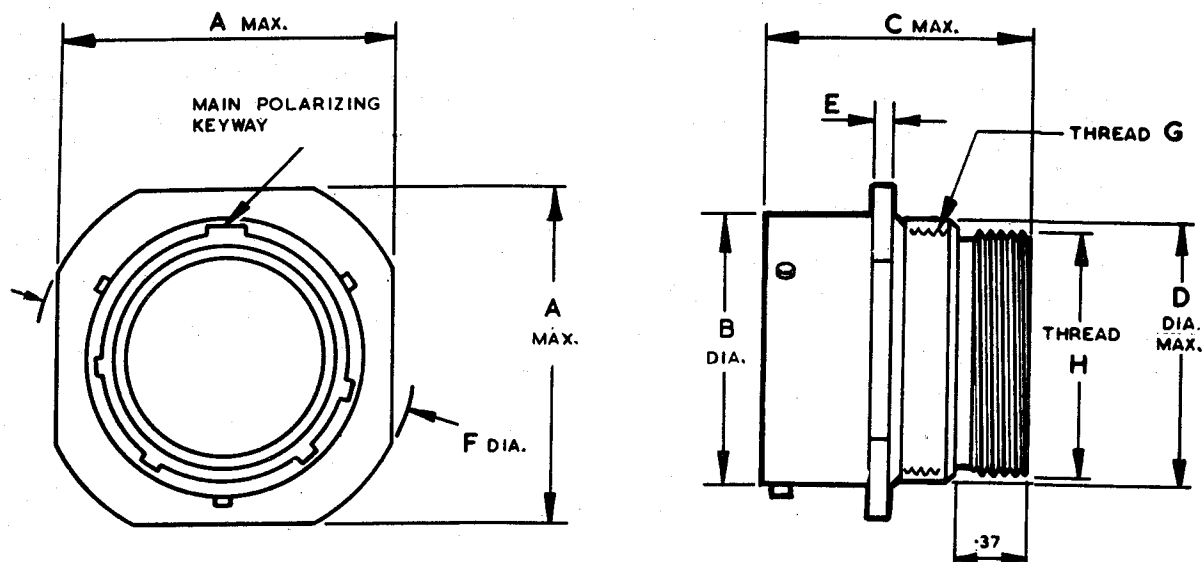


Fig. 6. 01A. cable connecting receptacle with adapter

TABLE 6

01A. cable connecting receptacle with adapter details

PART NO.	A MAX.	B ^{±.001} _{.005}	C MAX.	D DIA. MAX.	E MAX.	F ± .020	THREAD G	THREAD H
HBSOIA-8-* P s	0.830	0.473	1.290	0.545	0.110	0.937	7/16-28 UNEF	1/2-28 UNEF
HBSOIA-10-* P s	0.955	0.590	1.290	0.663	0.110	1.062	9/16-24 NEF	5/8-24 NEF
HBSOIA-12-* P s	1.048	0.750	1.290	0.790	0.110	1.156	11/16-24 NEF	3/4-20 UNEF
HBSOIA-14-* P s	1.142	0.875	1.290	0.905	0.110	1.250	13/16-20 UNEF	7/8-20 UNEF
HBSOIA-16-* P s	1.236	1.000	1.290	1.035	0.110	1.344	15/16-20 UNEF	1-20 UNEF
HBSOIA-18-* P s	1.329	1.125	1.290	1.155	0.110	1.438	1 1/16-18 NEF	1 3/16-18 NEF
HBSOIA-20-* P s	1.455	1.250	1.445	1.280	0.131	1.562	1 3/16-18 NEF	1 3/16-18 NEF
HBSOIA-22-* P s	1.579	1.375	1.445	1.405	0.131	1.688	1 5/16-18 NEF	1 7/16-18 NEF
HBSOIA-24-* P s	1.704	1.500	1.510	1.540	0.131	1.812	1 7/16-18 NEF	1 7/16-18 NEF

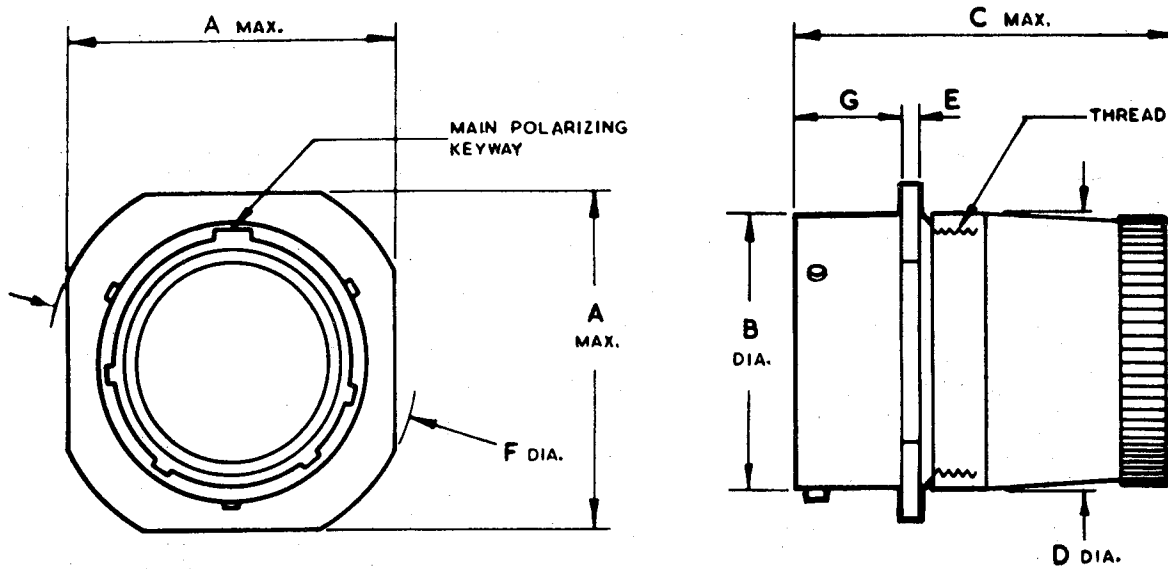


Fig. 7. 01E. cable connecting receptacle

TABLE 7

01E. cable connecting receptacle details

PART NO.	A MAX.	B ^{+0.001} _{-0.005}	C MAX.	D ^{DIA} _{MAX}	E MAX.	F ± .020	G ^{+0.031} _{-0.000}	THREAD
HBS01E-8-* ^P s	0.828	0.473	1.290	0.560	0.110	0.937	0.431	7/16-28 UNEF
HBS01E-10-* ^P s	0.954	0.590	1.290	0.685	0.110	1.062	0.431	9/16-24 NEF
HBS01E-12-* ^P s	1.047	0.750	1.290	0.813	0.110	1.156	0.431	11/16-24 NEF
HBS01E-14-* ^P s	1.141	0.875	1.290	0.930	0.110	1.250	0.431	13/16-20 UNEF
HBS01E-16-* ^P s	1.234	1.000	1.290	1.057	0.110	1.344	0.431	15/16-20 UNEF
HBS01E-18-* ^P s	1.328	1.125	1.290	1.175	0.110	1.438	0.431	1 1/16-18 NEF
HBS01E-20-* ^P s	1.453	1.250	1.335	1.301	0.131	1.562	0.556	1 3/16-18 NEF
HBS01E-22-* ^P s	1.578	1.375	1.335	1.428	0.131	1.688	0.556	1 5/16-18 NEF
HBS01E-24-* ^P s	1.703	1.500	1.360	1.533	0.131	1.812	0.589	1 7/16-18 NEF

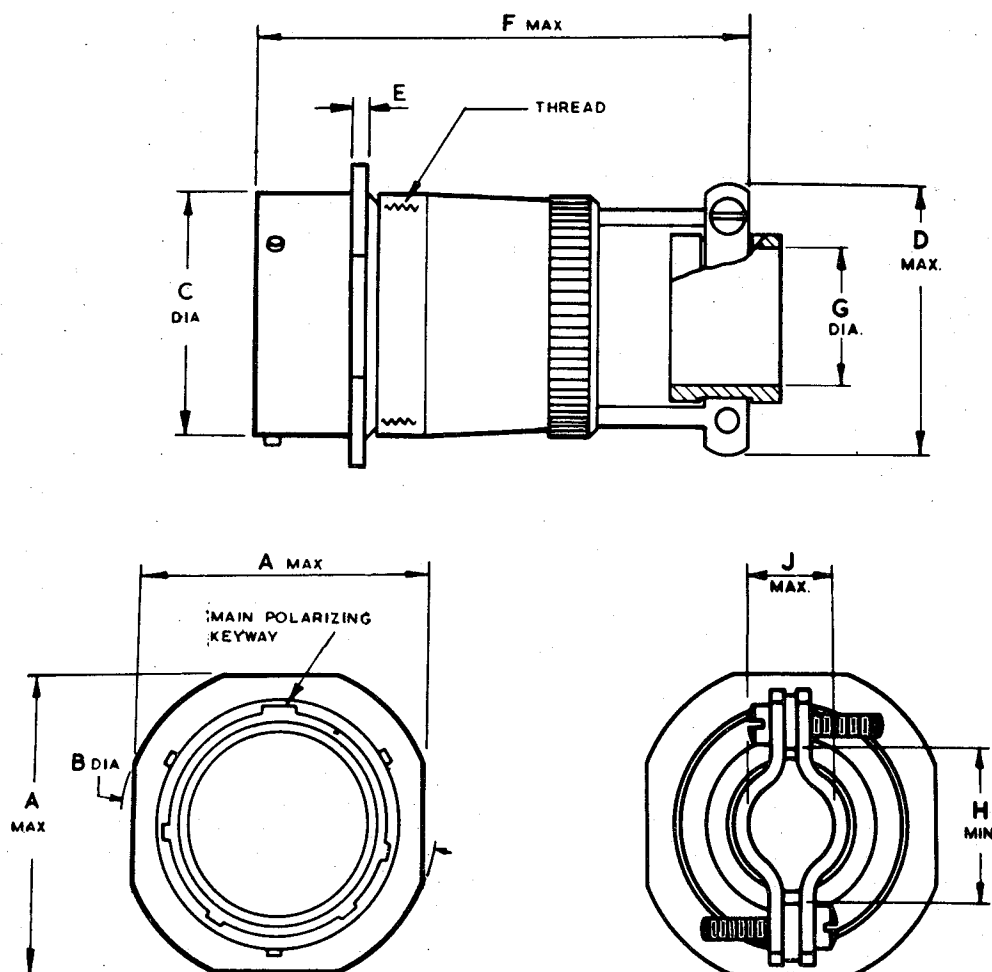


Fig. 8. 01F. cable connecting receptacle with cable clamp

TABLE 8

01F. cable connecting receptacle with cable clamp details

PART NO.	A MAX	B ±.020	C $\begin{smallmatrix} +.001 \\ -.005 \end{smallmatrix}$	D MAX	E MAX	F MAX	G DIA. FREE	H MIN.	J MAX.	THREAD
HBSOIF-8-* ^P _S	0.828	0.937	0.473	0.812	0.110	1.875	0.125	0.240	0.187	7/16-28 UNEF
HBSOIF-10-* ^P _S	0.954	1.062	0.590	0.891	0.110	1.875	0.188	0.297	0.187	9/16-24 NEF
HBSOIF-12-* ^P _S	1.047	1.156	0.750	1.016	0.110	1.875	0.312	0.422	0.281	1 1/16-24 NEF
HBSOIF-14-* ^P _S	1.141	1.250	0.875	1.141	0.110	1.875	0.375	0.547	0.325	1 3/16-20 UNEF
HBSOIF-16-* ^P _S	1.234	1.344	1.000	1.203	0.110	1.950	0.500	0.609	0.356	1 5/16-20 UNEF
HBSOIF-18-* ^P _S	1.328	1.438	1.125	1.469	0.110	1.950	0.625	0.734	0.456	1 7/16-18 NEF
HBSOIF-20-* ^P _S	1.453	1.562	1.250	1.469	0.131	2.150	0.625	0.734	0.519	1 3/16-18 NEF
HBSOIF-22-* ^P _S	1.578	1.688	1.375	1.656	0.131	2.150	0.750	0.922	0.519	1 5/16-18 NEF
HBSOIF-24-* ^P _S	1.703	1.812	1.500	1.750	0.131	2.180	0.800	0.984	0.657	1 7/16-18 NEF

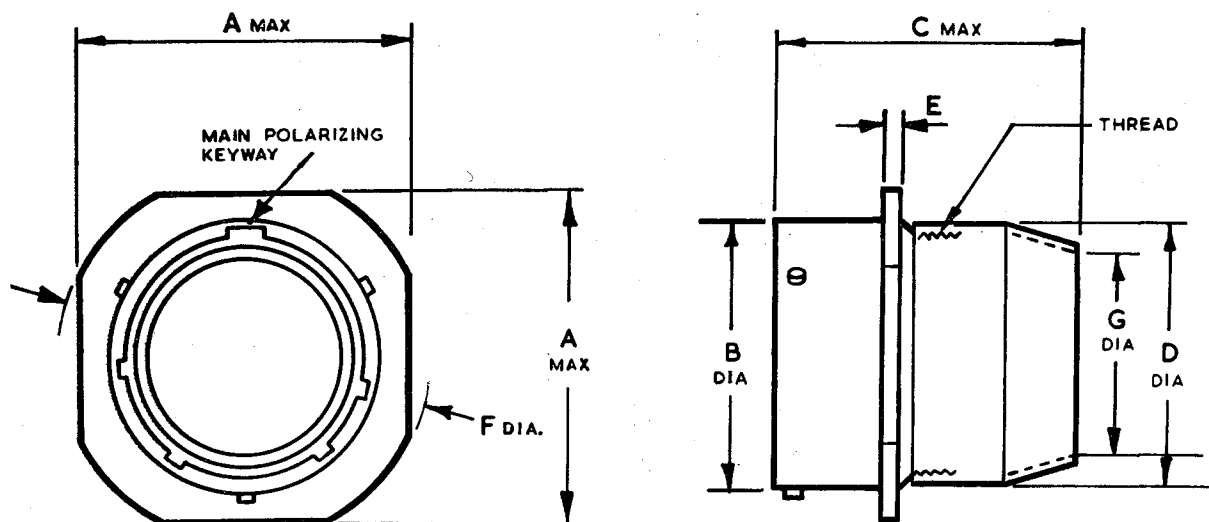


Fig. 9. 01P. cable connecting receptacle with potting cup

TABLE 9

01P. cable connecting receptacle with potting cup details

PART. NO.	A MAX.	B $\begin{smallmatrix} +.001 \\ -.005 \end{smallmatrix}$	C REF ONLY	D DIA MAX	E MAX	F $\pm .020$	G DIA MIN	THREAD
HBSOIP-8-* ^P _S	0.830	0.473	2.062	0.616	0.110	0.937	0.300	7/16-28 UNEF
HBSOIP-10-* ^P _S	0.955	0.590	2.000	0.742	0.110	1.062	0.450	9/16-24 NEF
HBSOIP-12-* ^P _S	1.048	0.750	2.000	0.866	0.110	1.156	0.550	11/16-24 NEF
HBSOIP-14-* ^P _S	1.142	0.875	2.421	0.992	0.110	1.250	0.640	13/16-20 UNEF
HBSOIP-16-* ^P _S	1.236	1.000	2.406	1.118	0.110	1.344	0.740	15/16-20 UNEF
HBSOIP-18-* ^P _S	1.329	1.125	2.390	1.242	0.110	1.438	0.860	1 1/16-18 NEF
HBSOIP-20-* ^P _S	1.455	1.250	2.546	1.368	0.131	1.562	0.990	1 3/16-18 NEF
HBSOIP-22-* ^P _S	1.579	1.375	2.578	1.492	0.131	1.688	1.110	1 5/16-18 NEF
HBSOIP-24-* ^P _S	1.704	1.500			0.131	1.812		1 7/16-18 NEF

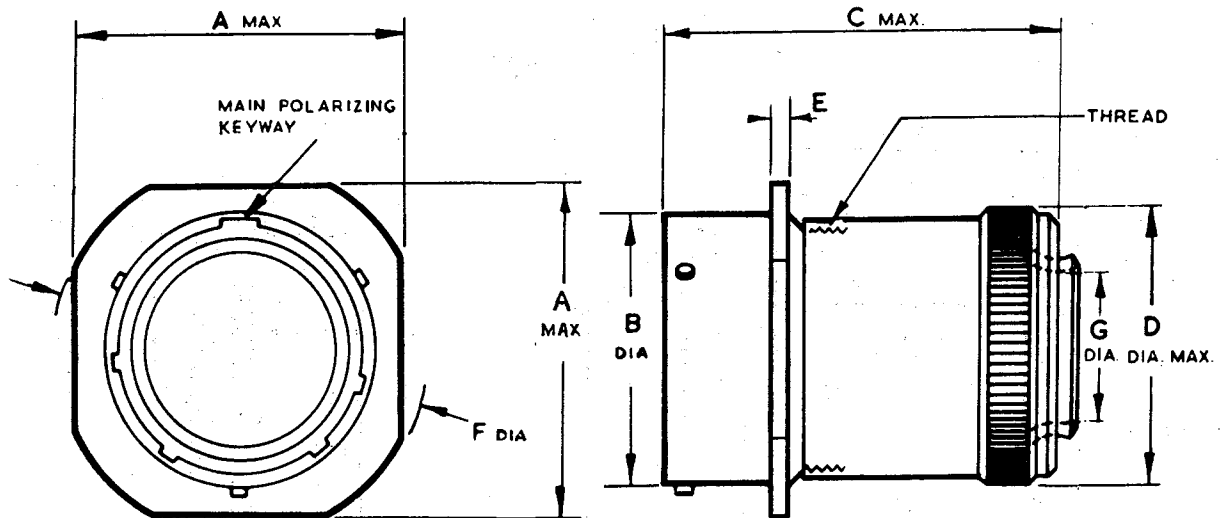


Fig. 10. 01W. cable connecting receptacle with seal for jacketed cable

TABLE 10

01W. cable connecting receptacle with seal for jacketed cable details

PART NO.	A MAX	B ^{+0.001} _{-0.005}	C MAX	D DIA MAX	E MAX	F ±0.020	G DIA		THREAD
							MIN CLOSED	MAX FREE	
HBSOIW - 8 - * P S	0.830	0.473	1.781	0.608	0.110	0.937	0.168	0.230	7/16 - 28 UNEF
HBSOIW - 10 - * P S	0.955	0.590	1.781	0.734	0.110	1.062	0.205	0.312	9/16 - 24 NEF
HBSOIW - 12 - * P S	1.048	0.750	1.921	0.858	0.110	1.156	0.338	0.442	11/16 - 24 NEF
HBSOIW - 14 - * P S	1.142	0.875	2.109	0.984	0.110	1.250	0.416	0.539	13/16 - 20 UNEF
HBSOIW - 16 - * P S	1.236	1.000	2.328	1.110	0.110	1.344	0.550	0.616	15/16 - 20 UNEF
HBSOIW - 18 - * P S	1.329	1.125	2.562	1.234	0.110	1.438	0.600	0.672	1 1/16 - 18 NEF
HBSOIW - 20 - * P S	1.455	1.250	3.000	1.360	0.131	1.562	0.635	0.747	1 3/16 - 18 NEF
HBSOIW - 22 - * P S	1.579	1.375	3.156	1.484	0.131	1.688	0.670	0.846	1 5/16 - 18 NEF
HBSOIW - 24 - * P S	1.704	1.500	3.375	1.610	0.131	1.812	0.740	0.894	1 7/16 - 18 NEF

BOX MOUNTING RECEPTACLE

8.

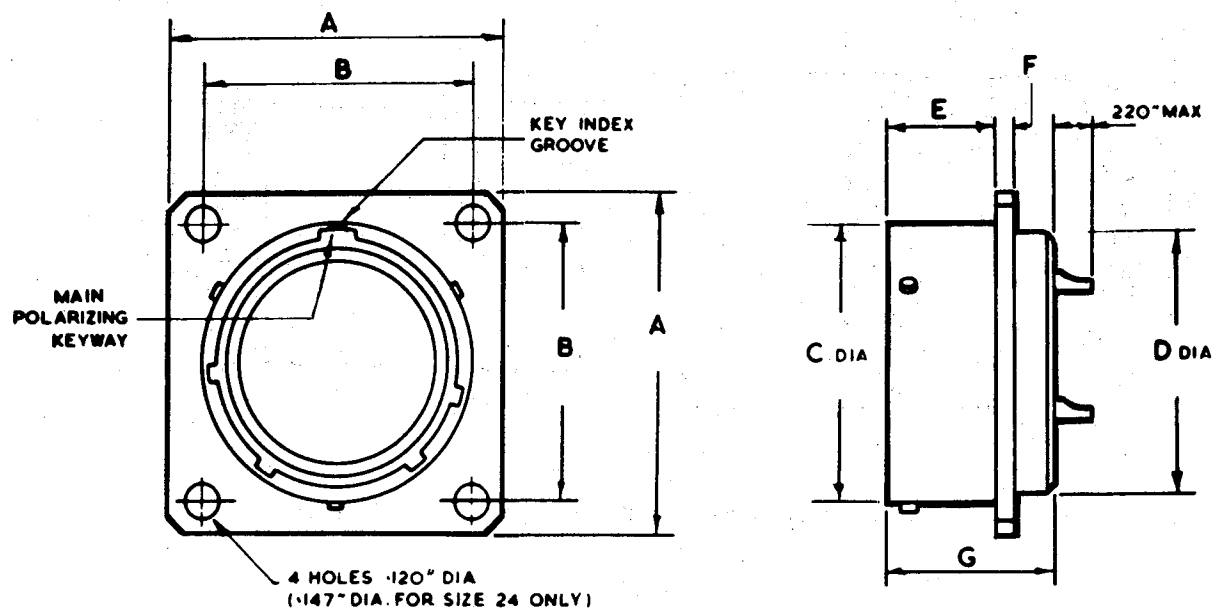


Fig. 11. 02A. box mounting receptacle

TABLE 11

02A. box mounting receptacle details

PART NO.	A MAX	B	C $\begin{smallmatrix} +.001 \\ -.005 \end{smallmatrix}$	D MAX	E $\pm .005$	F $\pm .005$	G MAX
HBSO2A-8-* ^P _s	0.828	0.594	0.473	0.447	0.438	0.072	0.765
HBSO2A-10-* ^P _s	0.954	0.719	0.590	0.568	0.438	0.072	0.765
HBSO2A-12-* ^P _s	1.047	0.812	0.750	0.705	0.438	0.072	0.765
HBSO2A-14-* ^P _s	1.141	0.906	0.875	0.834	0.438	0.072	0.765
HBSO2A-16-* ^P _s	1.234	0.969	1.000	0.959	0.438	0.072	0.765
HBSO2A-18-* ^P _s	1.328	1.062	1.125	1.064	0.438	0.072	0.765
HBSO2A-20-* ^P _s	1.453	1.156	1.250	1.172	.563	0.094	0.827
HBSO2A-22-* ^P _s	1.578	1.250	1.375	1.297	.563	0.094	0.827
HBSO2A-24-* ^P _s	1.703	1.375	1.500	1.432	.595	0.094	0.827

JAM NUT RECEPTACLE

9.

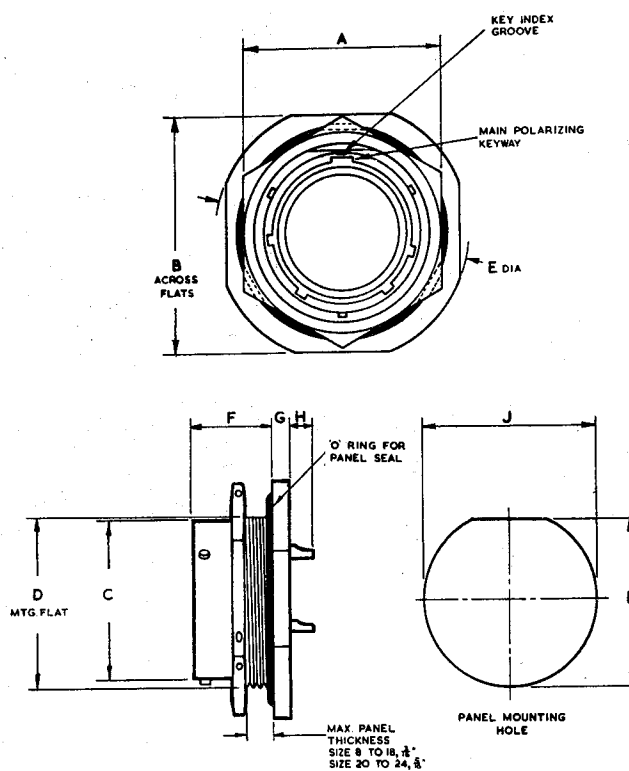


Fig. 12.07A Jam nut receptacle

TABLE 12

07A. Jam nut receptacle details

PART NO.	A $\pm .016$	B	C $^{+.001}_{-.005}$	D $^{+.000}_{-.010}$	E DIA	F $\pm .005$	G $\pm .005$	H MAX	J $^{+.010}_{-.000}$	K $^{+.000}_{-.010}$
HBS07A-8-* ^P s	0.750	0.938	0.473	0.530	1.062	0.711	0.125	0.150	0.572	0.542
HBS07A-10-* ^P s	0.875	1.062	0.590	0.655	1.187	0.711	0.125	0.150	0.697	0.669
HBS07A-12-* ^P s	1.062	1.250	0.750	0.818	1.375	0.711	0.125	0.150	0.884	0.830
HBS07A-14-* ^P s	1.188	1.375	0.875	0.942	1.500	0.711	0.125	0.150	1.007	0.955
HBS07A-16-* ^P s	1.312	1.500	1.000	1.066	1.598	0.711	0.125	0.150	1.134	1.084
HBS07A-18-* ^P s	1.438	1.625	1.125	1.191	1.750	0.711	0.125	0.150	1.259	1.208
HBS07A-20-* ^P s	1.562	1.812	1.250	1.316	1.938	0.900	0.150	*	1.384	1.333
HBS07A-22-* ^P s	1.688	1.937	1.375	1.441	2.062	0.900	0.150	*	1.507	1.459
HBS07A-24-* ^P s	1.812	2.062	1.500	1.566	2.187	0.932	0.150	*	1.634	1.575

* CONTACTS DO NOT
PROTRUDE BEYOND THE
SHELL IN THESE SIZES.

STRAIGHT PLUGS

10.

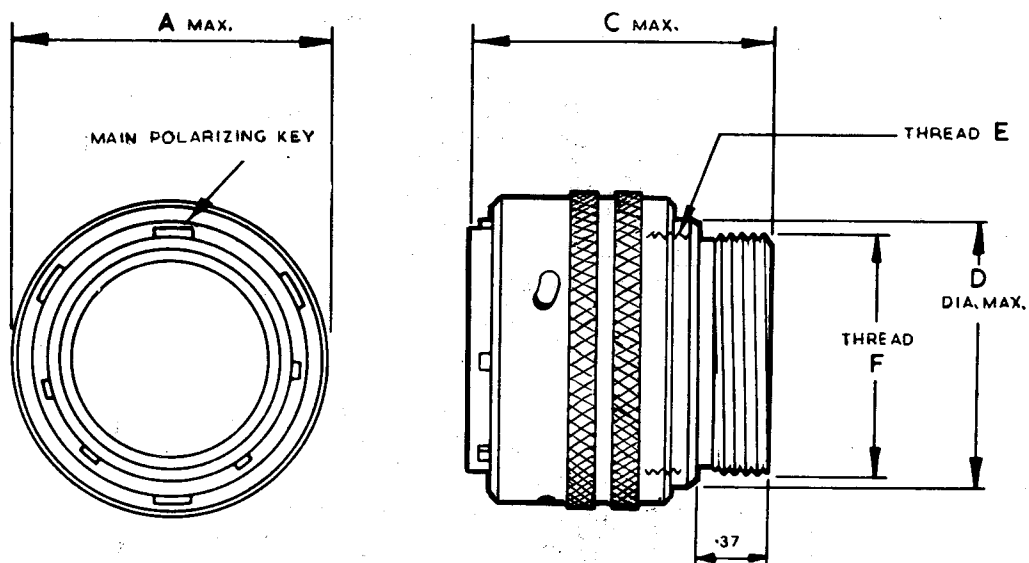


Fig. 13. 06A straight plug with adapter

TABLE 13

06A. straight plug with adapter details

PART NO.	A MAX	B MAX	C MAX	D DIA MAX	THREAD E	THREAD F
HBSO6A-8- * P _s	0.750	0.560	1.280	0.545	7/16 - 28 UNEF	1/2 - 28 UNEF
HBSO6A-10- * P _s	0.859	0.685	1.280	0.663	9/16 - 24 NEF	5/8 - 24 NEF
HBSO6A-12- * P _s	1.031	0.813	1.280	0.790	11/16 - 24 NEF	3/4 - 20 UNEF
HBSO6A-14- * P _s	1.156	0.930	1.280	0.905	13/16 - 20 UNEF	7/8 - 20 UNEF
HBSO6A-16- * P _s	1.281	1.057	1.280	1.035	15/16 - 20 UNEF	1 - 20 UNEF
HBSO6A-18- * P _s	1.391	1.175	1.280	1.155	1 1/16 - 18 NEF	1 3/16 - 18 NEF
HBSO6A-20- * P _s	1.531	1.301	1.380	1.280	1 3/16 - 18 NEF	1 3/16 - 18 NEF
HBSO6A-22- * P _s	1.656	1.428	1.380	1.405	1 5/16 - 18 NEF	1 7/16 - 18 NEF
HBSO6A-24- * P _s	1.777	1.533	1.435	1.540	1 7/16 - 18 NEF	1 7/16 - 18 NEF

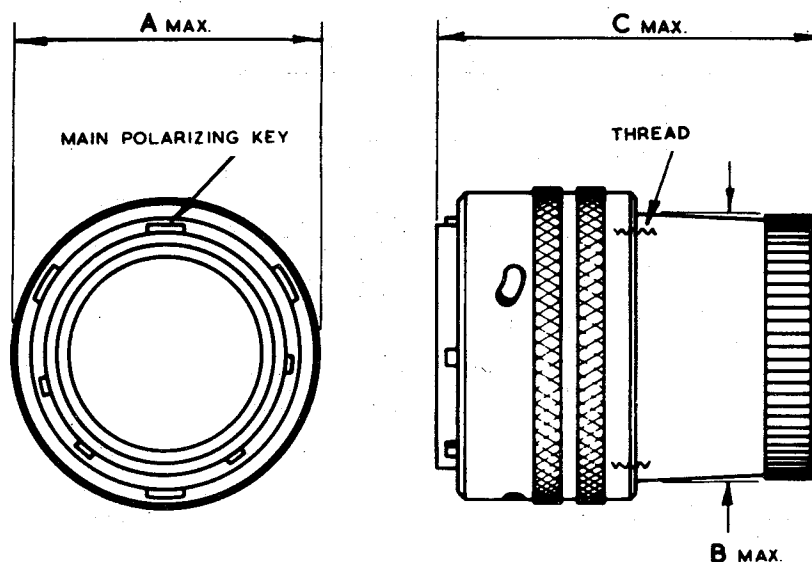


Fig. 14. 06E straight plug

TABLE 14

06E. straight plug details

PART NO.	A MAX	B MAX	C MAX	THREAD
HBS06E - 8 - * P _s	0.750	0.560	1.280	7/16 - 28 UNEF
HBS06E - 10 - * P _s	0.859	0.685	1.280	9/16 - 24 NEF
HBS06E - 12 - * P _s	1.031	0.813	1.280	11/16 - 24 NEF
HBS06E - 14 - * P _s	1.156	0.930	1.280	13/16 - 20 UNEF
HBS06E - 16 - * P _s	1.281	1.057	1.280	15/16 - 20 UNEF
HBS06E - 18 - * P _s	1.391	1.175	1.280	1 1/16 - 18 NEF
HBS06E - 20 - * P _s	1.531	1.301	1.270	1 3/16 - 18 NEF
HBS06E - 22 - * P _s	1.656	1.428	1.270	1 5/16 - 18 NEF
HBS06E - 24 - * P _s	1.777	1.533	1.285	1 7/16 - 18 NEF

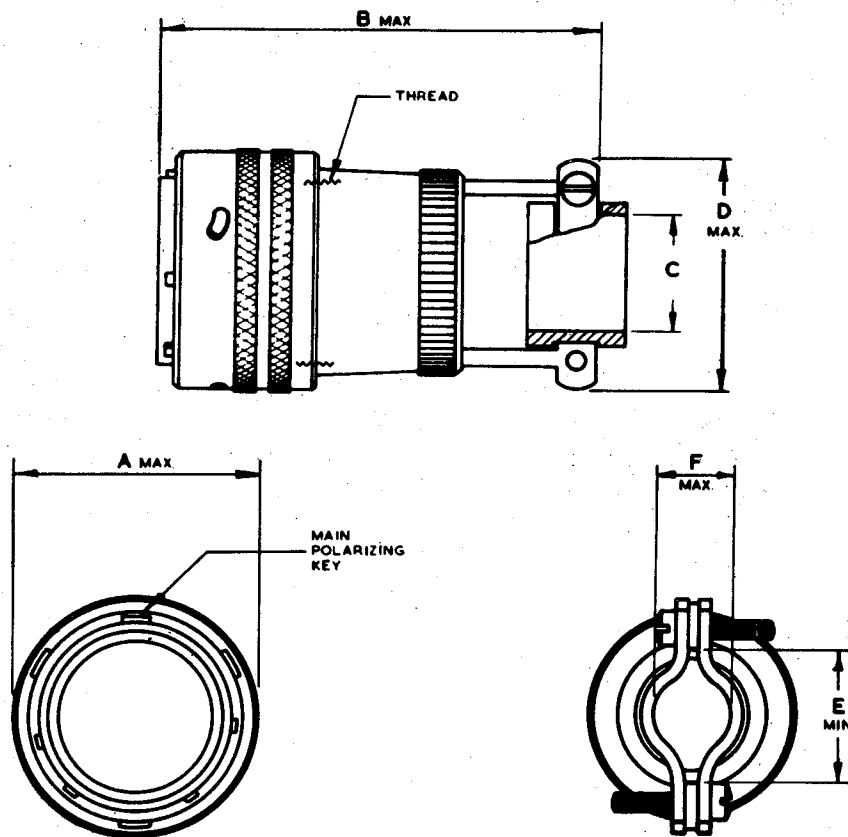


Fig. 15. 06F straight plug with cable clamp

TABLE 15

06F. straight plug with cable clamp details

PART NO.	A MAX	B MAX	C DIA FREE	D MAX	E MIN	F MAX	THREAD
HBSO6F - 8 - * P s	0.750	1.865	0.125	0.812	0.240	0.187	7/16 - 28 UNEF
HBSO6F - 10 - * P s	0.859	1.865	0.188	0.891	0.297	0.187	9/16 - 24 NEF
HBSO6F - 12 - * P s	1.031	1.865	0.312	1.016	0.422	0.281	1 1/16 - 24 NEF
HBSO6F - 14 - * P s	1.156	1.865	0.375	1.141	0.547	0.325	1 3/16 - 20 UNEF
HBSO6F - 16 - * P s	1.281	1.940	0.500	1.203	0.609	0.356	1 5/16 - 20 UNEF
HBSO6F - 18 - * P s	1.391	1.940	0.625	1.469	0.734	0.456	1 7/16 - 18 NEF
HBSO6F - 20 - * P s	1.531	2.085	0.625	1.469	0.734	0.519	1 3/16 - 18 NEF
HBSO6F - 22 - * P s	1.656	2.085	0.750	1.656	0.922	0.519	1 5/16 - 18 NEF
HBSO6F - 24 - * P s	1.777	2.105	0.800	1.750	0.984	0.657	1 7/16 - 18 NEF

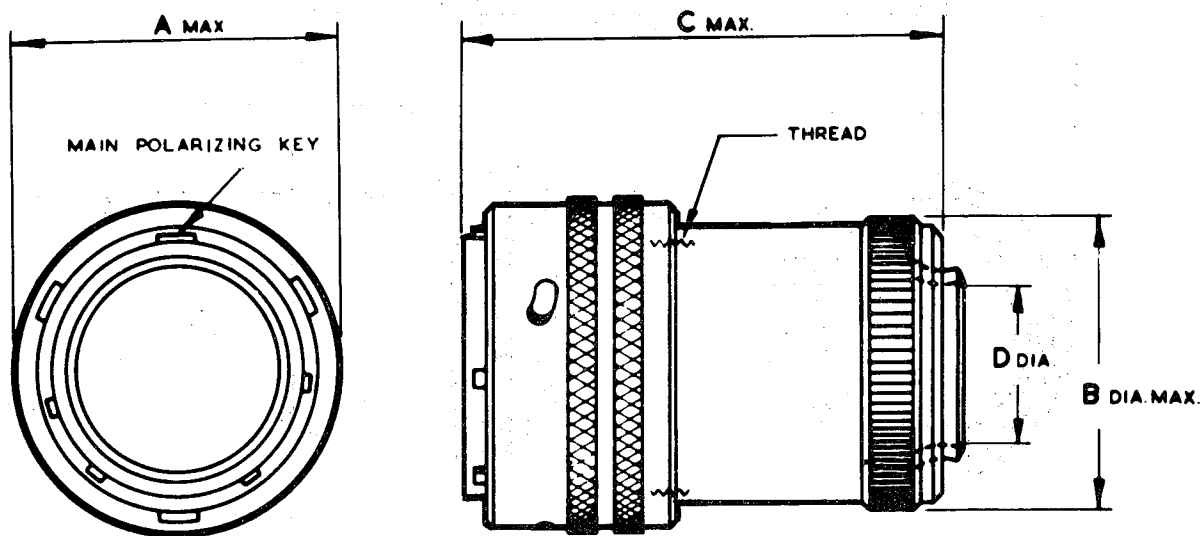


Fig. 16. 06W straight plug with seal for jacketed cable

TABLE 16

06W. straight plug with seal for jacketed cable details

PART NO.	A MAX.	B MAX.	C MAX.	D		THREAD
				MIN. CLOSED	MAX. FREE	
HBSO6W-8-* ^P _S	0.750	0.608	1.781	0.168	0.230	7/16-28 UNEF
HBSO6W-10-* ^P _S	0.859	0.734	1.781	0.205	0.312	9/16-24 NEF
HBSO6W-12-* ^P _S	1.031	0.858	1.921	0.338	0.442	11/16-24 NEF
HBSO6W-14-* ^P _S	1.156	0.984	2.109	0.416	0.539	13/16-20 UNEF
HBSO6W-16-* ^P _S	1.281	1.110	2.328	0.550	0.616	15/16-20 UNEF
HBSO6W-18-* ^P _S	1.391	1.234	2.562	0.600	0.672	1 1/16-18 NEF
HBSO6W-20-* ^P _S	1.531	1.360	3.000	0.635	0.747	1 3/16-18 NEF
HBSO6W-22-* ^P _S	1.656	1.484	3.156	0.670	0.846	1 5/16-18 NEF
HBSO6W-24-* ^P _S	1.777	1.610	3.375	0.740	0.894	1 7/16-18 NEF

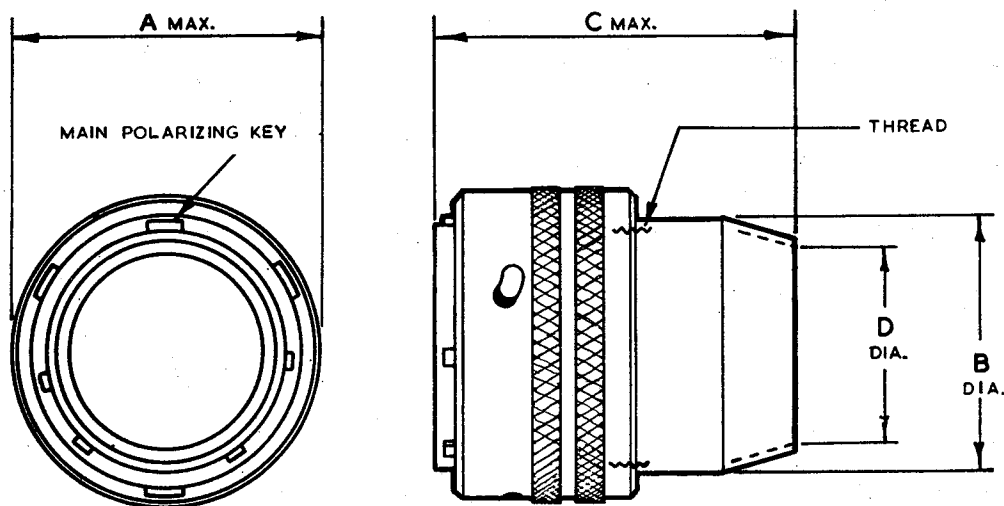


Fig. 17. 06P straight plug with potting cup

TABLE 17

06P. straight plug with potting cup details

PART NO	A MAX.	B DIA MAX	C REF ONLY	D DIA MIN	THREAD
HBS06P-8-* ^P _S	0.750	0.616	2.156	0.300	7/16-28UNEF
HBS06P-10-* ^P _S	0.859	0.742	2.000	0.450	9/16-24NEF
HBS06P-12-* ^P _S	1.031	0.866	2.000	0.550	11/16-24NEF
HBS06P-14-* ^P _S	1.156	0.992	2.406	0.640	13/16-20UNEF
HBS06P-16-* ^P _S	1.281	1.118	2.468	0.740	15/16-20UNEF
HBS06P-18-* ^P _S	1.394	1.242	2.468	0.860	1 1/16-18NEF
HBS06P-20-* ^P _S	1.531	1.368	2.468	0.990	1 3/16-18NEF
HBS06P-22-* ^P _S	1.656	1.492	2.562	1.110	1 5/16-18NEF
HBS06P-24-* ^P _S	1.777				1 7/16-18NEF

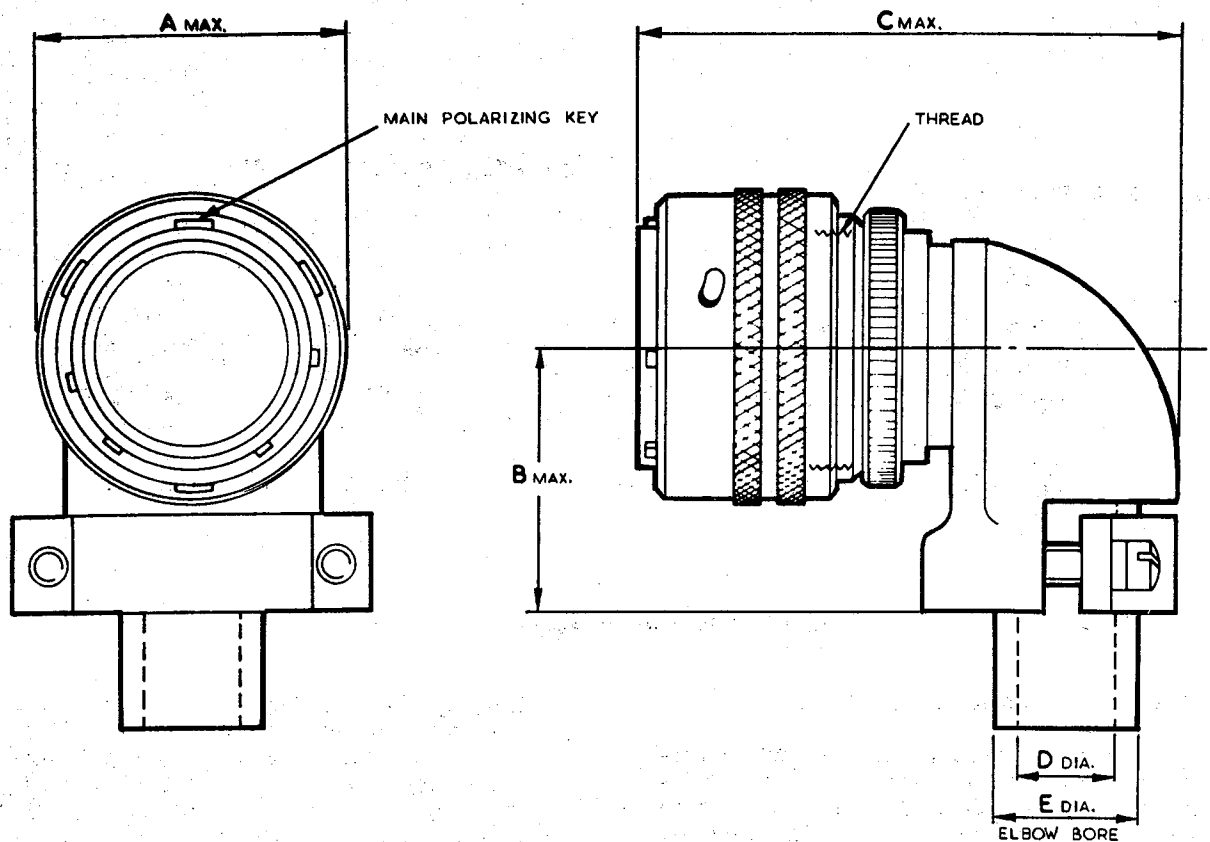


Fig. 18. 08E straight plug with 90 deg. elbow

TABLE 18

08E. straight plug with 90 deg. elbow details

PART NO.	A MAX	B MAX	C MAX	D DIA	E DIA	THREAD
HBS08E-8- * P _s	0.750	0.687	2.440	0.220	0.375	7/16 - 28 UNEF
HBS08E-10- * P _s	0.859	0.687	2.440	0.220	0.375	9/16 - 24 NEF
HBS08E-12- * P _s	1.031	0.734	2.559	0.312	0.469	1 1/16 - 24 NEF
HBS08E-14- * P _s	1.156	0.843	2.667	0.437	0.562	1 3/16 - 20 UNEF
HBS08E-16- * P _s	1.281	0.875	2.730	0.562	0.625	1 5/16 - 20 UNEF
HBS08E-18- * P _s	1.391	0.953	2.840	0.625	0.750	1 1/2 - 18 NEF
HBS08E-20- * P _s	1.531	0.953	2.840	0.625	0.750	3/4 - 18 NEF
HBS08E-22- * P _s	1.656	1.109	3.033	0.750	0.937	5/8 - 18 NEF
HBS08E-24- * P _s	1.777	1.109	3.050	0.750	0.937	7/8 - 18 NEF

ORIENTATION FEATURES

Insert orientation W, X, Y and Z

11. In the insert orientation fig.19 the pin insert is rotated clockwise relative to the

main polarizing key or keyway as indicated. The socket insert would thus be rotated anti-clockwise the same number of degrees. All the insert arrangements shown in fig.19, 20 and 21 depict the mating face of the pin insert in the normal position.

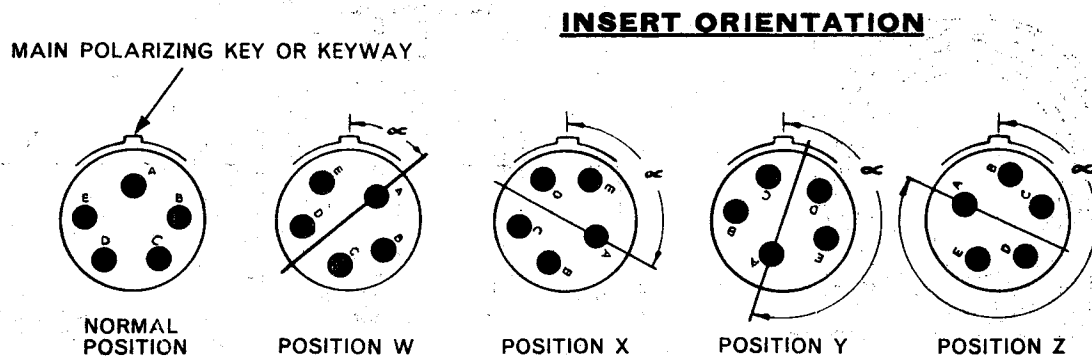


Fig. 19. Insert orientations W, X, Y and Z

Keyway orientation A, B, C and D

12. Further orientations are made available by providing shells with the minor keys or keyways machined in different angular positions relative to the main polarizing key or

keyway fig. 20. Angle θ will therefore vary for orientations A, B, C and D and is measured clockwise for plug shells and anti-clockwise for receptacles. The position of the insert relative to the main polarizing key or keyway does not alter.

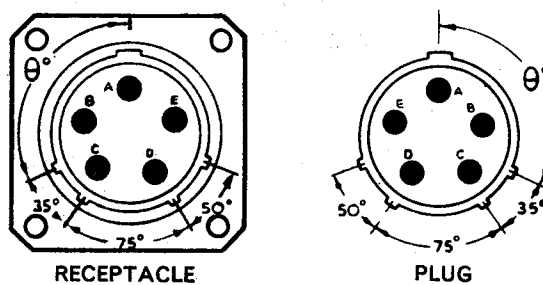
KEYWAY ORIENTATION

Fig. 20. Keyway orientations A, B, C and D

TABLE 19
Keyway orientation details

Shell size	Normal	degrees			
		A	B	C	D
8	105	92	-	-	118
10	105	95	85	125	115
12	105	97	89	121	113
14	105	98	91	119	112
16	105	99	93	117	111
18	105	100	95	115	110
20	105	100	95	115	110
22	105	101	97	113	109
24	105	101	97	113	109

Insert Arrangements Size 8



8-3



8-4



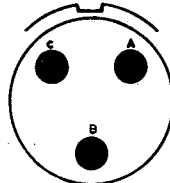
8-98

Size 10

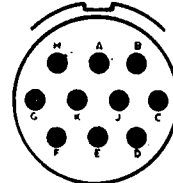


10-6

Size 12

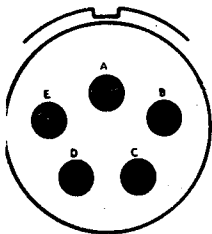


12-3

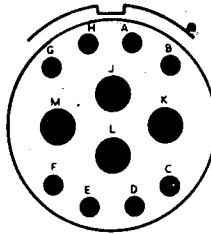


12-10

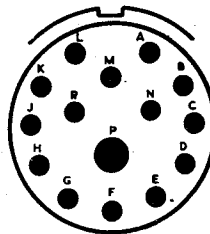
Size 14



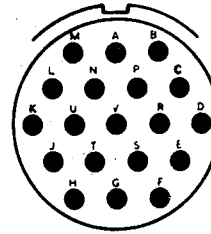
14-5



14-12

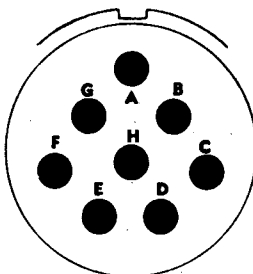


14-15

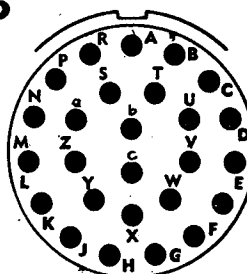


14-19

Size 16

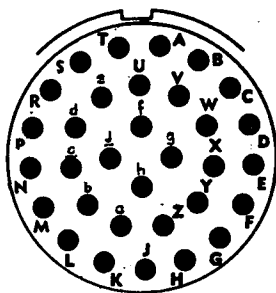


16-8

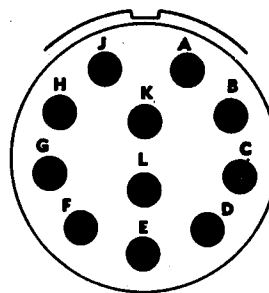


16-26

Size 18



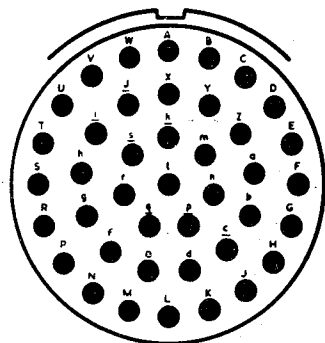
18-32



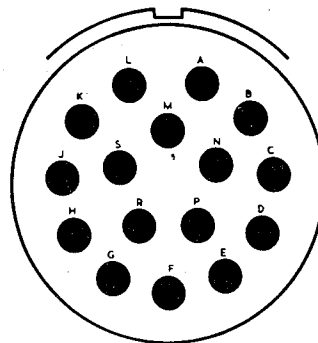
18-11

Fig. 21a. Insert arrangements Shell size 8 to 18

Size 20

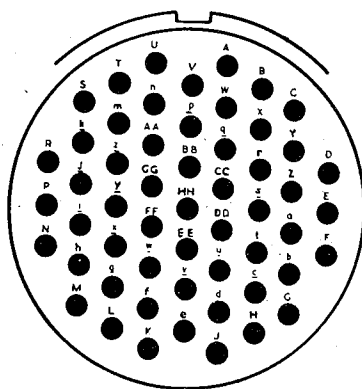


20-41

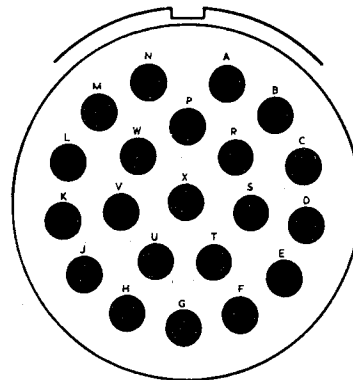


20-16

Size 22

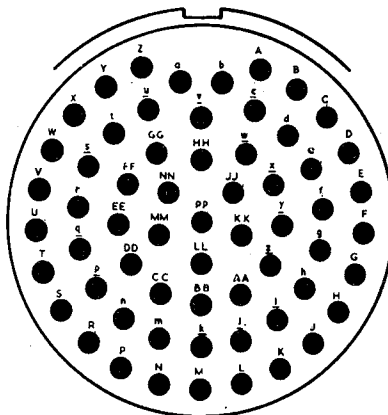


22-55



22-21

Size 24



24-61

Fig. 21b. Insert arrangements Shell size 20 to 24

TABLE 20
Orientation arrangement details

Insert Arr.	Insert position degrees				Contacts
	W	X	Y	Z	
8-98	-	-	-	-	3 # 20
8-4	45	-	-	-	4 # 20
8-3	60	210	-	-	3 # 20
10-6	90	-	-	-	6 # 20
12-10	60	155	270	295	10 # 20
12-3	-	-	180	-	3 # 16
14-19	30	165	315	-	19 # 20
14-15	17	110	155	234	1 # 16
					14 # 20
14-12	43	90	-	-	4 # 16
					8 # 20
14-5	40	92	184	273	5 # 16
16-26	60	-	275	338	26 # 20
16-8	54	152	180	331	8 # 16
18-32	85	138	222	265	32 # 20
18-11	62	119	241	340	11 # 16
20-41	45	126	225	-	41 # 20
20-16	238	318	333	347	16 # 16
22-55	30	142	226	314	55 # 20
22-21	16	135	175	349	21 # 16
24-61	90	180	270	324	61 # 20

ACCESSORIES

13.

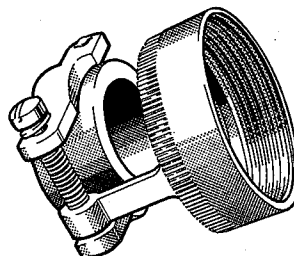


Fig. 22. Cable clamp. Type F

TABLE 21

Cable clamp (Type F) details

Part No.	
Shell size	Clamp
8	1402-1-1208
10	1402-1-1210
12	1402-1-1212
14	1402-1-1214
16	1402-1-1216
18	1402-1-1218
20	1402-1-1220
22	1402-1-1222
24	1402-1-1224



Fig. 23. Seal assembly for jacketed cable. Type W

TABLE 22

Seal assembly for jacketed cable (Type W) details

Part No.	
Shell size	Seal assembly
8	417365
10	417366
12	417367
14	417368
16	417369
18	417370
20	417371
22	417372
24	417373

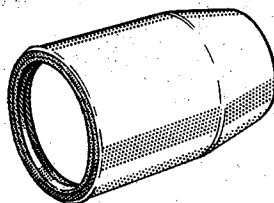


Fig. 24. Potting cup. Type P

TABLE 23
Potting cup (Type P) details

Part No.	
Shell size	Potting cup assembly
8	417356
10	417357
12	417358
14	417359
16	417360
18	417361
20	417362
22	417363
24	417364

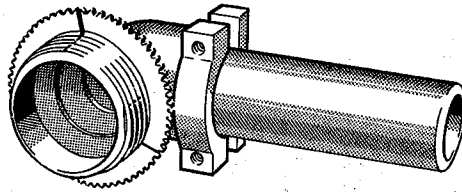


Fig. 25. 90 deg. elbow. HBS 08 or 081 MOD

TABLE 24

90° deg. elbow (HBS 08 or 081 Mod.) details

Part No.	
Shell size	Elbow assembly
8	417347
10	417348
12	417349
14	417350
16	417351
18	417352
20	417353
22	417354
24	417355

This file was downloaded
from the RTFM Library.
Link: www.scottbouch.com/rtfm

Please see site for usage terms,
and more aircraft documents.

