DOCUMENT CHANGE REQUEST

DCR number 234	Changes required for: N/A	Originator: S. Thacker (pp J.J. Wall)
Date: 2006/01/31	Date sent: 2006/01/31	Organisation: ESA/ESTEC
Status: IMPLEMENTED		

Title:	Lightweight accessories for rectangular connectors 3401/001 and 3401/002		
Number:	3401/072	Issue:	1

Other documents affected:

Page:

Page 3, 4 - Table of Contents
Page 5 - Para 1.1, 2, 3
Page 7 - Table 1(a)
Page 10, 11, 12, 13, , 14, 15, 16, 17, 18, 19 - Figure 2
Page 20 - Para 4.1, 4.3.1
Page 21 - Para 4.4.1, 4.4.2, 4.4.3, 4.4.4, 4.5.1
Page 22 - Para 4.5.2, 4.5.4

Paragraph:

Page 3, 4 - Table of Contents
Page 5 - Para 1.1, 2, 3
Page 7 - Table 1(a)
Page 10, 11, 12, 13, , 14, 15, 16, 17, 18, 19 - Figure 2
Page 20 - Para 4.1, 4.3.1
Page 21 - Para 4.4.1, 4.4.2, 4.4.3, 4.4.4, 4.5.1
Page 22 - Para 4.5.2, 4.5.4

Original wording:

Proposed wording:

See attached mark-up specification for full details of all changes.

1) Editorial changes throughout spec to refer to 'ESCC' specifications (was 'ESA/SCC').

2) Table of contents is amended to reflect actual titles for Figure 2

3) Para 2 and Para 4.4.4/4.4.2/4.4.3/4.4.4. QQ & MIL reference documents for materials and finishes are deleted as indicated in attached mark-up.
For Para 4.4.4 the EMI Gasket material is changed to be a "... conductive silicone elastomer" (was " ... silver plated copper weave neoprene..").

4) Table 1(a) and Figure 2. Addition of 2 new variants 70 & 71.

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5) Figure 2 Physical dimensions. Various dimensions are amended & added as indicated in attached mark-up.
Figure 2(f) title corrected.

Justification:

1) To match the ESCC format currently being implemented in all specs.

2) Error correction

3) As per other issued ESCC specifications for similar components, materials and finishes are specified without reference to any document (e.g. 3401/007, 3401/062, etc). With the exception of the EMI Gasket the requirements for these components have not been changed, only the reference documents have been deleted. Note - Many of the documents originally referenced are now obsolete.
For the EMI Gasket the material is amended to be a silicone based material as "Neoprene" is likely to have outgassing problems.

4) To include new items identified for use by space customers to Manufacturer Glenair.

5) To fix various errors and to make minor amendments to dimension limits to accommodate manufacturer Glenair components.

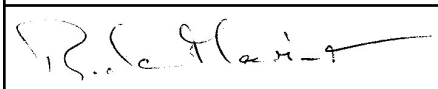
Attachments:

DCR234_Attachment_for_3401072_6th_Sept_2006.pdf, null

Modifications:

N/A

Approval signature:



Date signed:

2006-01-31

MARK-UP FOR
DCR234

S. Walker.
pp J.J. Wall.
6/9/2006.
(updated as agreed on ESCC DCR Review page)

LIGHTWEIGHT ACCESSORIES

FOR RECTANGULAR CONNECTORS

3401/001 AND 3401/002

ESCC Detail Specification No. 3401/072

ISSUE ~~1~~ 2

~~October 2002~~
January 2006
September

Document Custodian: European Space Agency - see https://escies.org

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Pages 1 to 22

LIGHTWEIGHT ACCESSORIES

FOR RECTANGULAR CONNECTORS

3401/001 AND 3401/002

ESA/SCC Detail Specification No. 3401/072

delete page

space components
coordination group

Issue/Rev.	Date	Approved by	
		SCCG Chairman	ESA Director General or his Deputy
Issue 1	July 2002		

Change to ESCC logo on all pages.

DOCUMENTATION CHANGE NOTICE

Rev. Letter	Rev. Date	Reference	CHANGE Item	Approved DCR No.

DCR No.	CHANGE DESCRIPTION
~~TBA~~ 234	Specification up issued to incorporate editorial and technical changes per DCR

TABLE OF CONTENTS

APPENDICES (Applicable to specific Manufacturers only)

None.

1. GENERAL

1.1 SCOPE

change ESA/SCC to ESCC throughout spec

This specification details the ratings, physical and electrical characteristics, test and inspection data for Lightweight Accessories for Rectangular Connectors (D*M and D*MA). It shall be read in conjunction with ESA/SCC Generic Specification No. 3401, the requirements of which are supplemented herein and ESA/SCC Detail Specifications Nos. 3401/001 and 3401/002.

1.2 COMPONENT TYPE VARIANTS

The type variants of accessories covered by this specification are given in Table 1(a).

1.3 MAXIMUM RATINGS

The maximum ratings, which shall not be exceeded at any time during use or storage, applicable to the accessories specified herein, are given in Table 1(b).

1.4 PARAMETER DERATING INFORMATION

Not applicable.

1.5 PHYSICAL DIMENSIONS

The physical dimensions of the accessories specified herein are shown in Figure 2.

2. APPLICABLE DOCUMENTS

The following documents form part of this specification and shall be read in conjunction with it:-

(a) ESA/SCC Generic Specification No. 3401 for Connectors, Electrical, Circular and Rectangular.

(b) ESA/SCC Detail Specification No. 3401/001, Connectors, Electrical, Rectangular, Miniature, Non-removable Solder and Wire-Wrap-Type Contacts and, Removable Coaxial and Power, Crimp-Type and Solder-Type Contacts, based on Type D*M.

(c) ESA/SCC Detail Specification No. 3401/002, Connectors, Electrical, Rectangular, Miniature, Removable Crimp Type Contacts and, Removable Coaxial and Power Crimp-Type and Solder-Type Contacts, based on type D*MA.

Delete

~~(d) QQ-BB-613, Brass Material.~~

~~(e) QQ-S-764/766 and QQ-P-35, Stainless steel material.~~

~~(f) QQ-A-250, Aluminium Alloy material.~~

~~(g) QQ-C-502, Copper Alloy material.~~

~~(h) MIL-G-45204, Gold Plating, Electro-deposited.~~

~~(i) MIL-C-14550, Copper Plating, Electro-deposited.~~

3. TERMS, DEFINITIONS, ABBREVIATIONS, SYMBOLS AND UNITS

For the purpose of this specification, the terms, definitions, abbreviations, symbols and units specified in ESA/SCC Basic Specification No. 21300 shall apply.

TABLE 1(a) - TYPE VARIANTS

VARIANT	DESCRIPTION		WEIGHT (g)
01	Screw lock assembly brass (Male/hex. hole 2.38 head screw)	With backshell	1.5
02	Screw lock assembly brass (Male/hex. hole 2.38 head screw)	With backshell	1.5
03	Screw lock assembly stainless steel (Male/hex. hole 2.38 head screw)	With backshell	1.5
04	Screw lock assembly stainless steel (Male/hex. hole 2.38 head screw)	With backshell	1.5
05	Backshell: Lightweight design with saddle clamps for strain relief	Size E	15.5
06	Backshell: Lightweight design with saddle clamps for strain relief	Size A	19
07	Backshell: Lightweight design with saddle clamps for strain relief	Size B	23
08	Backshell: Lightweight design with saddle clamps for strain relief	Size C	29
09	Backshell: Lightweight design with saddle clamps for strain relief	Size D	33
10	Backshell: Lightweight D-SUB shorting can	Size E	8.0
11	Backshell: Lightweight D-SUB shorting can	Size A	10
12	Backshell: Lightweight D-SUB shorting can	Size B	14
13	Backshell: Lightweight D-SUB shorting can	Size C	20
14	Backshell: Lightweight D-SUB shorting can	Size D	26
15	Backshell: EMI shielded straight cable outlet - front mount	Size E	21
16	Backshell: EMI shielded straight cable outlet - front mount	Size A	26
17	Backshell: EMI shielded straight cable outlet - front mount	Size B	30
18	Backshell: EMI shielded straight cable outlet - front mount	Size C	35
19	Backshell: EMI shielded straight cable outlet - front mount	Size D	40
20	Backshell: EMI shielded straight cable outlet - rear mount	Size E	21
21	Backshell: EMI shielded straight cable outlet - rear mount	Size A	26
22	Backshell: EMI shielded straight cable outlet - rear mount	Size B	30
23	Backshell: EMI shielded straight cable outlet - rear mount	Size C	35
24	Backshell: EMI shielded straight cable outlet - rear mount	Size D	40
25	Backshell: Lightweight shielded backshell -90° longtitudinal right cable outlet	Size E	7.0
26	Backshell: Lightweight shielded backshell -90° longtitudinal right cable outlet	Size A	10
27	Backshell: Lightweight shielded backshell -90° longtitudinal right cable outlet	Size B	13.5
28	Backshell: Lightweight shielded backshell -90° longtitudinal right cable outlet	Size C	18
29	Backshell: Lightweight shielded backshell -90° longtitudinal right cable outlet	Size D	23
30	Backshell: Lightweight shielded backshell -90° longtitudinal left cable outlet	Size E	7.0
31	Backshell: Lightweight shielded backshell -90° longtitudinal left cable outlet	Size A	10
32	Backshell: Lightweight shielded backshell -90° longtitudinal left cable outlet	Size B	13.5
33	Backshell: Lightweight shielded backshell -90° longtitudinal left cable outlet	Size C	18
34	Backshell: Lightweight shielded backshell -90° longtitudinal left cable outlet	Size D	23

TABLE 1(a) - TYPE VARIANTS (CONTINUED)

VARIANT	DESCRIPTION		WEIGHT (g)
35	Backshell: Lightweight shielded backshell straight cable outlet	Size E	6.5
36	Backshell: Lightweight shielded backshell straight cable outlet	Size A	8.5
37	Backshell: Lightweight shielded backshell straight cable outlet	Size B	11.5
38	Backshell: Lightweight shielded backshell straight cable outlet	Size C	13.5
39	Backshell: Lightweight shielded backshell straight cable outlet	Size D	14.5
40	Backshell: Lightweight dual entry bend termination, 15 pin	Size A	23
41	Castellated Backshell	Size E	2.0
42	Castellated Backshell	Size A	2.5
43	Castellated Backshell	Size B	3.0
44	Castellated Backshell	Size C	3.9
45	Castellated Backshell	Size D	4.0
46	Backshell: Straight Lightweight Backshell Ultra Elliptical Band Termination	Size E	8.0
47	Backshell: Straight Lightweight Backshell Ultra Elliptical Band Termination	Size A	13
48	Backshell: Straight Lightweight Backshell Ultra Elliptical Band Termination	Size B	18
49	Backshell: Straight Lightweight Backshell Ultra Elliptical Band Termination	Size C	23
50	Backshell: Straight Lightweight Backshell Ultra Elliptical Band Termination	Size D	28
51	Backshell: 45° Lightweight Backshell Ultra Elliptical Band Termination, Right	Size E	10
52	Backshell: 45° Lightweight Backshell Ultra Elliptical Band Termination, Right	Size A	14
53	Backshell: 45° Lightweight Backshell Ultra Elliptical Band Termination, Right	Size B	20
54	Backshell: 45° Lightweight Backshell Ultra Elliptical Band Termination, Right	Size C	26
55	Backshell: 45° Lightweight Backshell Ultra Elliptical Band Termination, Right	Size D	33
56	Backshell: 45° Lightweight Backshell Ultra Elliptical Band Termination, Left	Size E	10
57	Backshell: 45° Lightweight Backshell Ultra Elliptical Band Termination, Left	Size A	14
58	Backshell: 45° Lightweight Backshell Ultra Elliptical Band Termination, Left	Size B	20
59	Backshell: 45° Lightweight Backshell Ultra Elliptical Band Termination, Left	Size C	26
60	Backshell: 45° Lightweight Backshell Ultra Elliptical Band Termination, Left	Size D	33
61	Backshell: Lightweight D-SUB Extra-Shorting Can,	Size E	8.0
62	Backshell: Lightweight D-SUB Extra-Shorting Can,	Size A	10
63	Backshell: Lightweight D-SUB Extra-Shorting Can,	Size B	14
64	Backshell: Lightweight D-SUB Extra-Shorting Can,	Size C	20
65	Backshell: Lightweight D-SUB Extra-Shorting Can,	Size D	26
66	Screw lock assembly brass (Male/hex. hole 2.0 head screw)	With backshell	1.5
67	Screw lock assembly brass (Male/hex. hole 2.0 head screw)	With backshell	1.5
68	Screw lock assembly stainless steel (Male/hex. hole 2.0 head screw)	With backshell	1.5
69	Screw lock assembly stainless steel (Male/hex. hole 2.0 head screw)	With backshell	1.5
70	Screw lock assembly stainless steel (Male/slotted head screw)		1
71	Screw lock assembly stainless steel (Male/hex. hole 2.38 head screw)		1

Add. →

TABLE 1(b) - MAXIMUM RATINGS

No.	CHARACTERISTIC	SYMBOL	MAXIMUM RATING		UNIT	REMARKS
1	Operating Temperature Range	T_{op}	−55 to +125 (1)		°C	T_{amb}
2	Storage Temperature Range	T_{stg}	−55 to +125 (1)		°C	
3	Torque Value for Screws	T_{qe}	BRASS	S.S.		
			3.3	4.4	cm.daN	For Male

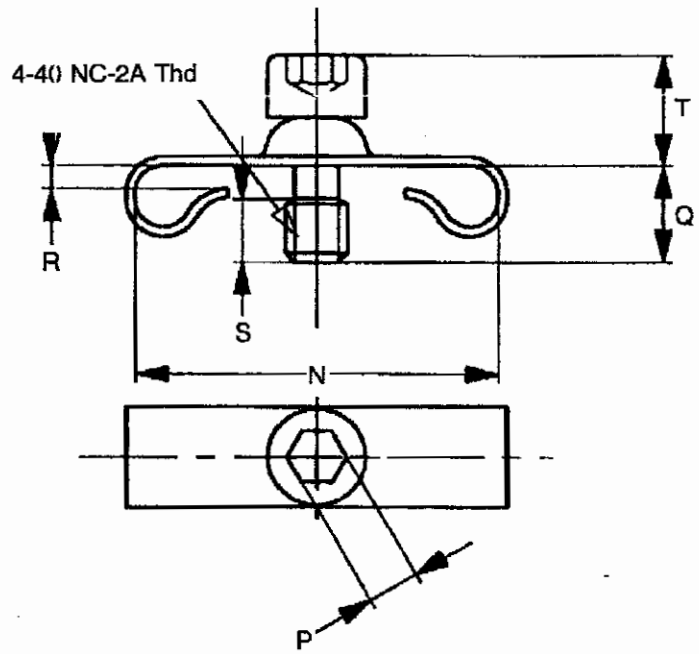
FIGURE 1 - PARAMETER DERATING INFORMATION

Not applicable.

FIGURE 2 - PHYSICAL DIMENSIONS

FIGURE 2(a) - MALE SCREW LOCK ASSEMBLIES

Hex. Hole Head



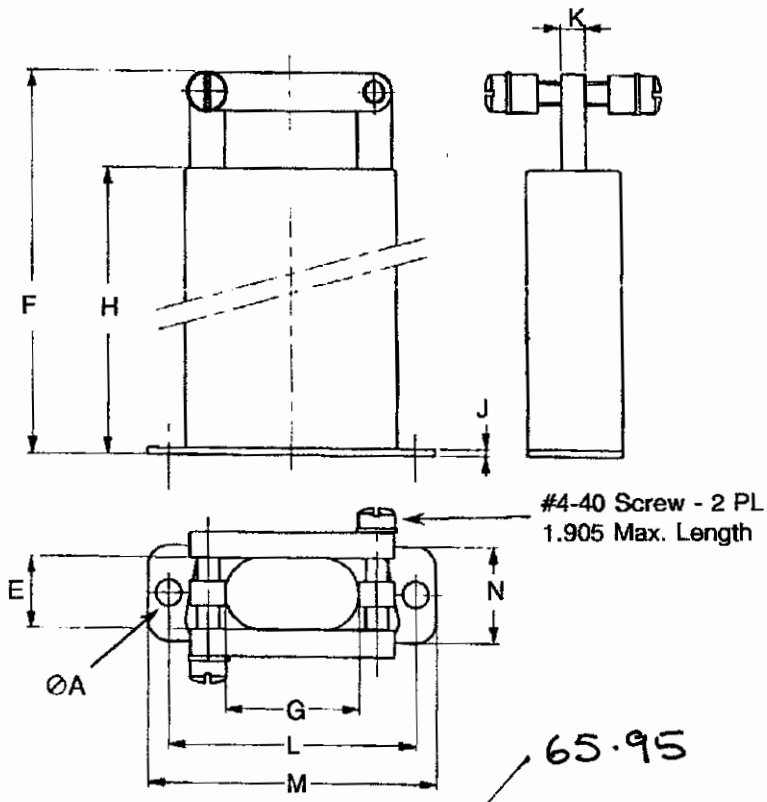
VARIANT		USE WITH SHELL SIZE	N		P (2) TYP.	Q		R		S MIN.	T MAX.
BRASS	S.S.		MIN.	MAX.		MIN.	MAX.	MIN.	MAX.		
		With Lightweight Backshell									
01	03	DA to DC: (P or S)	12.96	13.72	2.38	4.4	5.16	2.25	2.45	2.8	5.53
02	04	DD : (P or S)	15.75	16.26	2.38	4.4	5.16	2.25	2.45	2.8	5.53

NOTES

1. All dimensions are in millimetres.
2. 2.00 for Variants 66 to 69.

FIGURE 2 - PHYSICAL DIMENSIONS (CONTINUED)

FIGURE 2(b) - LIGHTWEIGHT BACKSHELL WITH SADDLE CLAMPS FOR STRAIN RELIEF



65.95 67.55

SHELL SIZE	VARIANT	ØA		E		F		G		H	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
E	05	3.32	3.58	9.14	9.9	65.95	67.56	8.51	9.27	54.48	55.24
A	06	3.32	3.58	9.14	9.9	65.95	67.56	11.68	12.44	54.48	55.24
B	07	3.32	3.58	9.14	9.9	67.56	69.16	12.32	13.08	54.48	55.24
C	08	3.32	3.58	9.14	9.9	67.56	69.16	12.32	13.08	54.48	55.24
D	09	3.32	3.58	11.5	12.26	67.56	69.16	15.08	15.84	54.48	55.24

SHELL SIZE	VARIANT	J		K	L		M		N	
		MIN.	MAX.		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
E	05	0.68	0.94	3.17	24.86	25.12	30.18	30.94	12.32	13.08
A	06	0.68	0.94	3.17	33.19	33.45	38.51	39.27	12.32	13.08
B	07	0.68	0.94	3.17	46.91	47.17	52.4	53.16	12.32	13.08
C	08	0.68	0.94	3.17	63.37	63.63	68.66	69.42	12.32	13.08
D	09	0.68	0.94	3.17	60.98	61.24	66.29	67.05	15.09	15.85

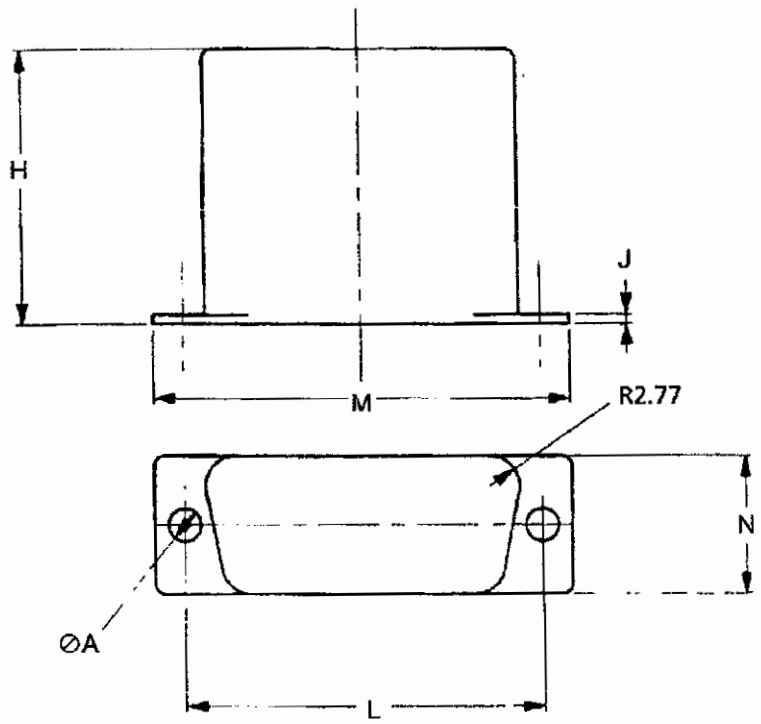
stick 33.45

NOTES

1. All dimensions are in millimetres.

FIGURE 2 - PHYSICAL DIMENSIONS (CONTINUED)

FIGURE 2(c) - LIGHTWEIGHT D-SUB SHORTING CAN



SHELL SIZE	VARIANT	∅A		H	J	L		M		N	
		MIN.	MAX.			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
E	10	3.92	4.04	25.4	0.9	24.86	25.12	30.18	30.94	12.32	13.08
A	11	3.92	4.04	25.4	0.9	33.19	33.45	38.51	39.27	12.32	13.08
B	12	3.92	4.04	25.4	0.9	46.91	47.17	52.4	53.16	12.32	13.08
C	13	3.92	4.04	25.4	0.9	63.37	63.63	68.66	69.42	12.32	13.08
D	14	3.92	4.04	25.4	0.9	60.98	61.24	66.29	67.05	15.09	15.85

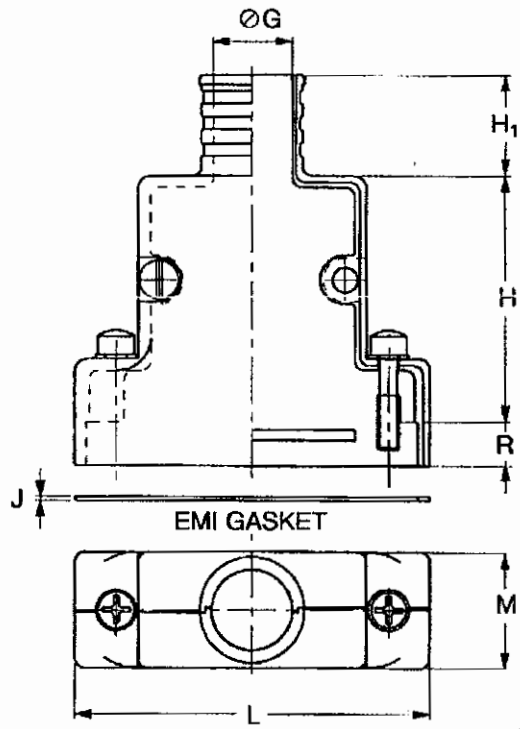
NOTES

1. All dimensions are in millimetres.

33.46
Stet
33.45

FIGURE 2 - PHYSICAL DIMENSIONS (CONTINUED)

FIGURE 2(d) - EMI SHIELDED BACKSHELL - STRAIGHT CABLE OUTLET



33.02

38.61

SHELL SIZE	VARIANT		ØG		H MAX.	H_1	J	M	
	FRONT MOUNT	REAR MOUNT	MIN.	MAX.				MIN.	MAX.
E	15	20	6.48	6.98	30.25	12.7	0.51	15.73	16.23
A	16	21	9.65	10.15	30.25	12.7	0.51	15.73	16.23
B	17	22	10.29	10.79	30.25	12.7	0.51	15.73	16.23
C	18	23	10.29	10.79	30.25	12.7	0.51	15.73	16.23
D	19	24	13.08	13.58	30.25	12.7	0.51	18.45	19.04

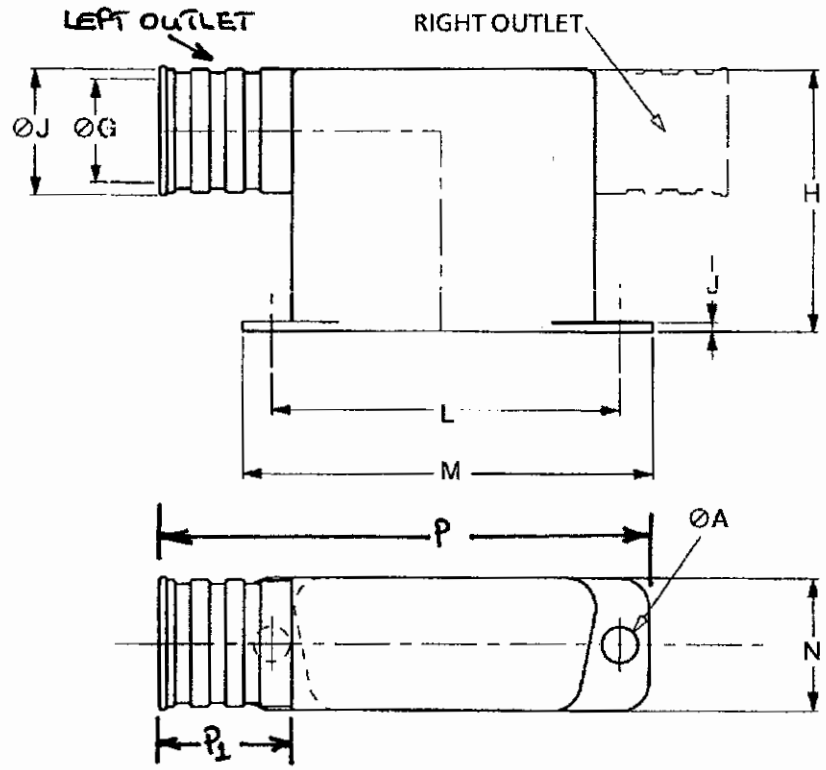
SHELL SIZE	VARIANT		L		R			
					FRONT MOUNT		REAR MOUNT	
	FRONT MOUNT	REAR MOUNT	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
E	15	20	34.78	35.28	7.61	7.87	6.19	6.45
A	16	21	43.11	43.61	7.61	7.87	6.19	6.45
B	17	22	57	57.5	7.61	7.87	6.19	6.45
C	18	23	73.28	73.78	7.61	7.87	6.19	6.45
D	19	24	70.89	71.39	7.61	7.87	6.19	6.45

NOTES

1. All dimensions are in millimetres.

FIGURE 2 - PHYSICAL DIMENSIONS (CONTINUED)

FIGURE 2(e) - LIGHTWEIGHT SHIELDED BACKSHELL - 90° LONGTITUDINAL CABLE OUTLET



12.44

SHELL SIZE	VARIANT		ØA		ØG		ØJ		H	
	RIGHT OUTLET	LEFT OUTLET	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
E	25	30	3.91	4.03	6.47	7.23	8.51	9.26	24.64	26.16
A	26	31	3.91	4.03	9.65	10.41	11.68	~~12.06~~	24.64	26.16
B	27	32	3.91	4.03	10.28	11.04	12.32	13.08	24.64	26.16
C	28	33	3.91	4.03	10.28	11.04	12.32	13.08	24.64	26.16
D	29	34	3.91	4.03	13.05	13.81	15.08	15.84	24.64	26.16

SHELL SIZE	VARIANT		J	L		M		N		P	P_1
	RIGHT OUTLET	LEFT OUTLET		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MAX.	
E	25	30	0.89	24.86	25.12	30.18	30.94	12.32	13.08	~~38.8~~	~~12.7~~
A	26	31	0.89	33.19	33.45	38.51	39.27	12.32	13.08	~~47.2~~	~~12.7~~
B	27	32	0.89	46.91	47.17	52.40	53.16	12.32	13.08	~~60.9~~	~~12.7~~
C	28	33	0.89	63.37	63.63	68.66	69.42	12.32	13.08	~~78.7~~	~~12.7~~
D	29	34	0.89	60.98	61.25	66.29	67.16	15.09	15.85	~~74.9~~	~~12.7~~

NOTES

1. All dimensions are in millimetres.

~~33.46~~ Stet 33.45

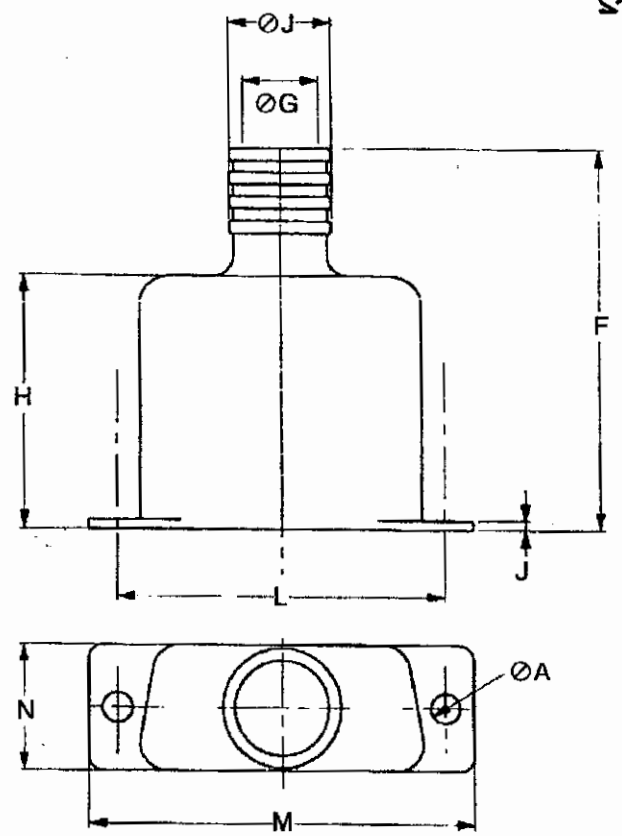
41.1	15
49.5	15
63.2	15
81	15
77.2	15

New columns

15

FIGURE 2 - PHYSICAL DIMENSIONS (CONTINUED)

FIGURE 2(f) - LIGHTWEIGHT SHIELDED BACKSHELL - ~~90° LONGITUDINAL~~ STRAIGHT CABLE OUTLET



SHELL SIZE	VARIANT	ØA		ØG		ØJ		F	H	J
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.			
E	35	3.91	4.03	6.47	7.23	8.51	9.27	38.10	25.4	0.89
A	36	3.91	4.03	9.65	10.41	11.68	12.44	38.10	25.4	0.89
B	37	3.91	4.03	10.28	11.04	12.32	13.08	38.10	25.4	0.89
C	38	3.91	4.03	10.28	11.04	12.32	13.08	38.10	25.4	0.89
D	39	3.91	4.03	13.05	13.81	15.08	15.84	38.10	25.4	0.89

SHELL SIZE	VARIANT	L		M		N	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
E	35	24.86	25.12	30.18	30.94	12.32	13.08
A	36	33.19	33.45	38.51	39.27	12.32	13.08
B	37	46.91	47.17	52.40	53.16	12.32	13.08
C	38	63.37	63.63	68.66	69.42	12.32	13.08
D	39	60.98	61.25	66.29	67.16	15.09	15.85

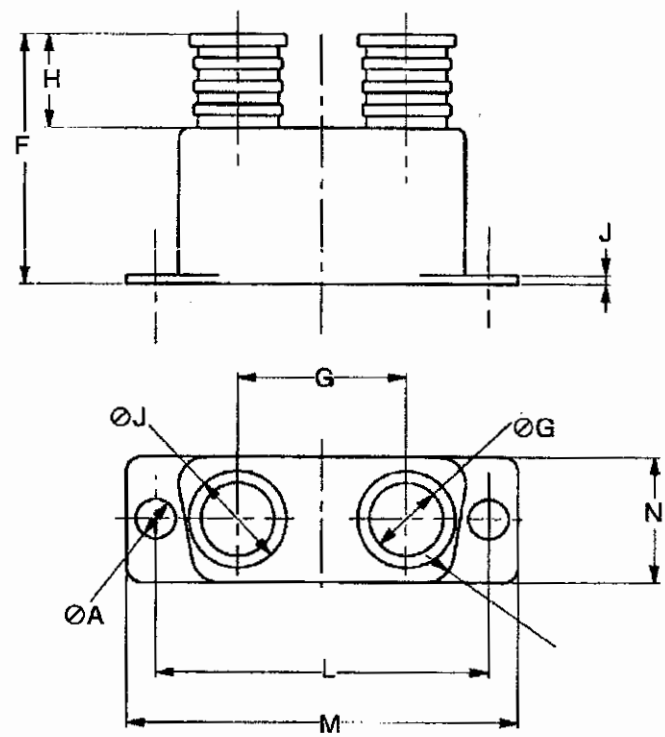
NOTES

1. All dimensions are in millimetres.

~~33.45~~ 33.45

FIGURE 2 - PHYSICAL DIMENSIONS (CONTINUED)

FIGURE 2(g) - LIGHTWEIGHT BACKSHELL, DUAL ENTRY BAND TERMINATION, 15 PIN



25.4

SHELL SIZE	VARIANT	ØA		ØG		ØJ		F	G	H
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.			
A	40	3.92	4.04	6.99	7.75	9.4	10.16	~~2.54~~	16.89	9.65

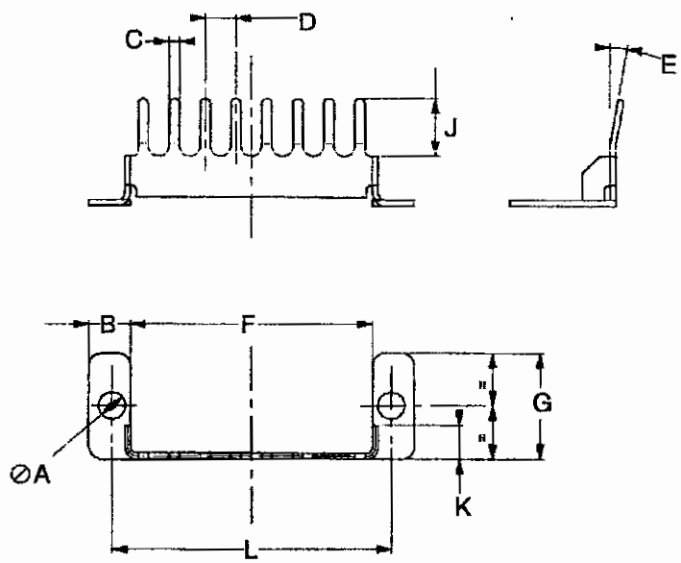
SHELL SIZE	VARIANT	J	L		M		N	
			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
A	40	0.9	33.07	33.57	38.51	39.27	12.32	13.08

NOTES

1. All dimensions are in millimetres.

FIGURE 2 - PHYSICAL DIMENSIONS (CONTINUED)

FIGURE 2(h) - CASTELLATED BACKSHELL



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SHELL SIZE	VARIANT	ØA		B		C		D		NO. OF PLATES	E	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.		MIN.	MAX.
E	41	3.1	3.3	5.34	5.45	1.1	1.3	3.69	3.71	5	10	15
A	42	3.1	3.3	4.89	5.0	1.1	1.3	3.69	3.71	8	10	15
B	43	3.1	3.3	4.89	5.0	1.1	1.3	3.69	3.71	11	10	15
C	44	3.1	3.3	4.89	5.0	1.1	1.3	3.69	3.71	16	10	15
D	45	3.1	3.3	4.89	5.0	1.1	1.3	3.69	3.71	15	10	15

SHELL SIZE	VARIANT	F		G		J		K		L	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
E	41	19.5	19.7	12.6	12.8	6.99	7.01	3.84	4.0	24.86	25.12
A	42	28.8	29	12.6	12.8	6.99	7.01	3.84	4.0	33.19	33.45
B	43	42.7	42.9	12.6	12.8	6.99	7.01	3.84	4.0	46.91	47.17
C	44	59	52.2	12.6	12.8	6.99	7.01	3.84	4.0	63.37	63.63
D	45	56.6	56.8	15.3	15.5	6.99	7.01	3.84	4.0	60.98	61.24

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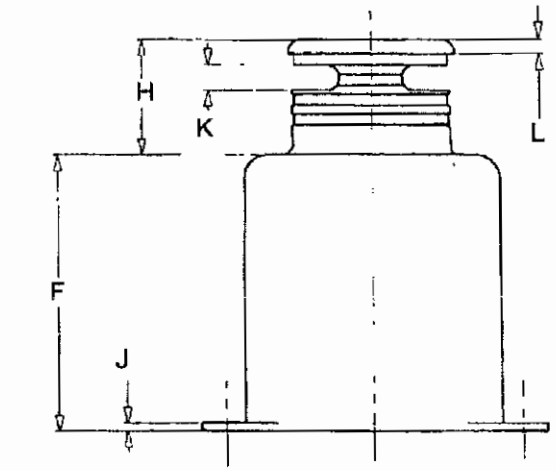
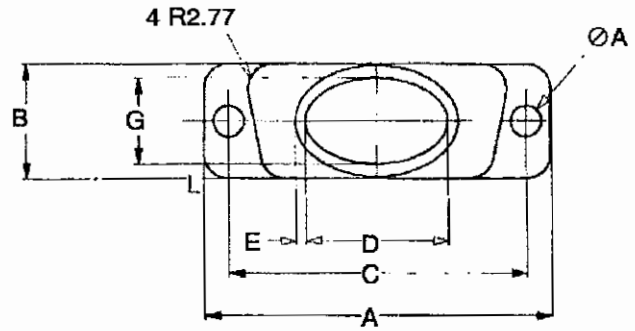
NOTES

1. All dimensions are in millimetres.

FIGURE 2 - PHYSICAL DIMENSIONS (CONTINUED)

FIGURE 2(i) - STRAIGHT LIGHTWEIGHT BACKSHELL ULTRA ELLIPTICAL BAND TERMINATION





SHELL SIZE	VARIANT	ØA		A		B		C		D	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
E	46	3.91	4.03	30.16	30.94	12.32	13.08	24.86	25.12	12.32	13.08
A	47	3.91	4.03	38.51	39.27	12.32	13.08	33.19	33.45	15.49	16.25
B	48	3.91	4.03	52.4	53.16	12.32	13.08	46.89	47.17	18.67	19.43
C	49	3.91	4.03	68.66	69.42	12.32	13.08	63.37	63.63	25.02	25.78
D	50	3.91	4.03	66.29	67.05	12.32	13.08	60.98	61.24	21.84	22.6

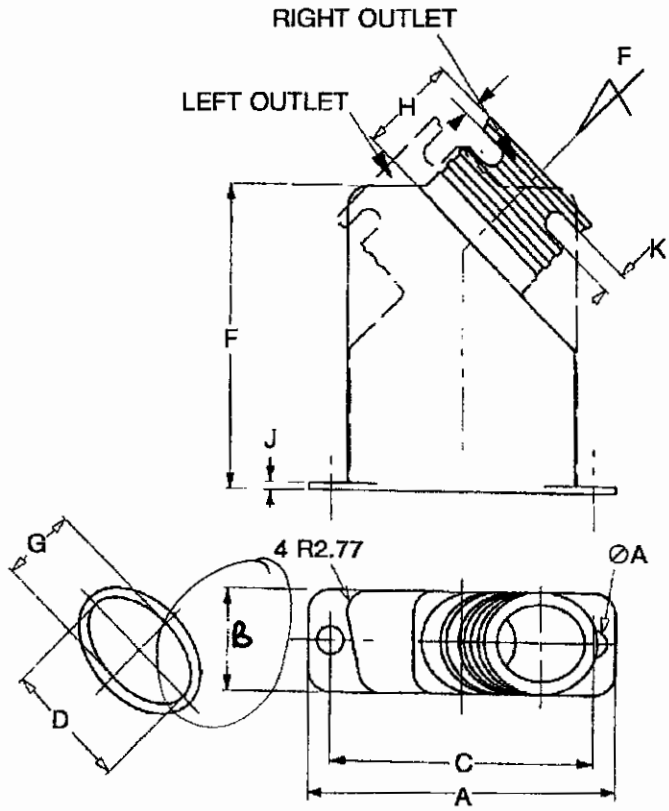
SHELL SIZE	VARIANT	E	F	G	H	J	K	L
E	46	1.52	30.48	9.53	12.67	0.9	2.77	1.52
A	47	1.52	30.48	9.53	12.67	0.9	2.77	1.52
B	48	1.52	30.48	9.53	12.67	0.9	2.77	1.52
C	49	1.52	30.48	9.53	12.67	0.9	2.77	1.52
D	50	1.52	30.48	12.30	12.67	0.9	2.77	1.52

NOTES

1. All dimensions are in millimetres.

FIGURE 2 - PHYSICAL DIMENSIONS (CONTINUED)

FIGURE 2(j) - 45°LIGHTWEIGHT BACKSHELL ULTRA ELLIPTICAL BAND TERMINATION



SHELL SIZE	VARIANT		ØA		A		B		C		D	
	Right Outlet	Left Outlet	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
E	51	56	3.91	4.03	30.18	30.94	12.32	13.08	24.66	25.12	12.32	13.08
A	52	57	3.91	4.03	38.51	39.27	12.32	13.08	33.19	33.45	15.49	16.25
B	53	58	3.91	4.03	52.40	53.16	12.32	13.08	46.81	47.17	18.67	19.43
C	54	59	3.91	4.03	68.56	69.42	12.32	13.08	63.37	63.63	25.02	25.78
D	55	60	3.91	4.03	66.29	67.05	12.32	13.08	60.98	61.24	21.84	22.60

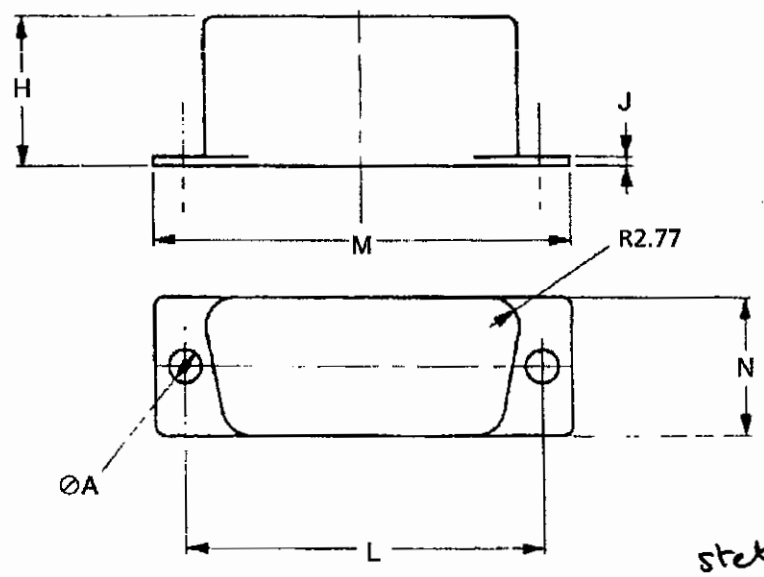
SHELL SIZE	VARIANT	F	G	H	J	K
E	51	38.10	9.53	12.67	0.9	2.77
A	52	38.10	9.53	12.67	0.9	2.77
B	53	38.10	9.53	12.67	0.9	2.77
C	54	38.10	9.53	12.67	0.9	2.77
D	55	38.10	12.30	12.67	0.9	2.77

NOTES

1. All dimensions are in millimetres.

FIGURE 2 - PHYSICAL DIMENSIONS (CONTINUED)

FIGURE 2(k) - LIGHTWEIGHT D-SUB EXTRA-SHORTING CAN



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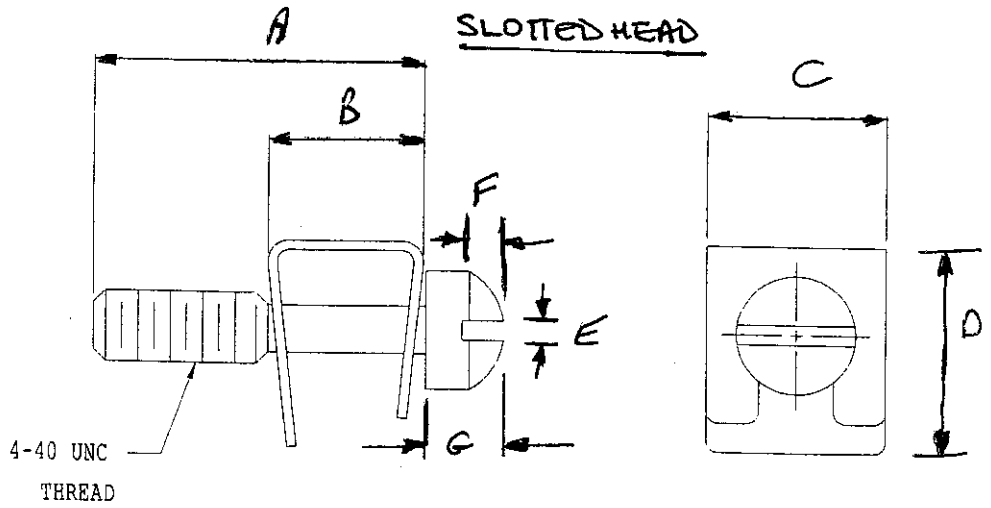
SHELL SIZE	VARIANT	ØA		H	J	L		M		N	
		MIN.	MAX.			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
E	61 10	3.92	4.04	12.7	0.9	24.86	25.12	30.18	30.94	12.32	13.08
A	62 15	3.92	4.04	12.7	0.9	33.19	33.45	38.51	39.27	12.32	13.08
B	63 12	3.92	4.04	12.7	0.9	46.91	47.17	52.4	53.16	12.32	13.08
C	6418	3.92	4.04	12.7	0.9	63.37	63.63	68.66	69.42	12.32	13.08
D	6514	3.92	4.04	12.7	0.9	60.98	61.24	66.29	67.05	15.09	15.85

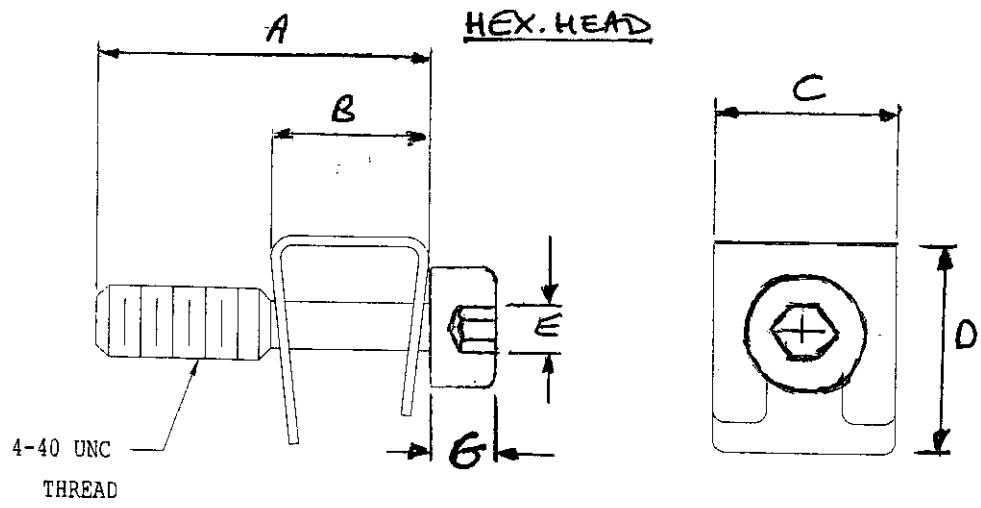
NOTES

1. All dimensions are in millimetres.

FIGURE 2 - PHYSICAL DIMENSIONS

FIGURE 2(1) - MALE SCREW LOCK ASSEMBLY





VARIANT	HEAD TYPE	A		B	C		D MAX.	E		F		G
		MIN.	MAX.		MIN.	MAX.		MIN.	MAX.	MIN.	MAX.	
70	SLOTTED	5·97	6·5	3·35	5·58	7·11	6·8	0·78	0·99	0·89	1·22	2·75
71	HEX.	5·97	6·5	3·35	5·58	7·11	6·8	2·38 TYP.		—	—	2·85

NOTES

1. All dimensions are in millimetres.

4. REQUIREMENTS

4.1 GENERAL

The complete requirements for procurement of the accessories specified herein are stated in this specification and ESA/SCC Generic Specification No. 3401 for Connectors, Electrical, Circular and Rectangular. Deviations from the Generic Specification, applicable to this specification only, are listed in Para. 4.2

Deviations from the applicable Generic Specification and this Detail Specification, formally agreed with specific Manufacturers on the basis that the alternative requirements are equivalent to the ESA/SCC requirements and do not affect the components' reliability, are listed in the appendices attached to this specification.

4.2 DEVIATIONS FROM GENERIC SPECIFICATION

4.2.1 Deviations from Special In-process Controls

(a) Para. 5.2.2, Gold Plating Porosity: Not applicable.

(b) Para. 5.2.3, Plating Thickness: Not applicable.

4.2.2 Deviations from Final Production Tests (Chart II)

Only the following tests shall be performed:-

(a) Para. 4.4, Marking.

(b) Para. 9.6, Dimension Check.

(c) Para. 9.7, External Visual Inspection. The magnification shall be X3.

4.2.3 Deviations from Burn-in and Electrical Measurements (Chart III)

Not applicable.

4.2.4 Deviations from Qualification Tests (Chart IV)

Not applicable.

4.2.5 Deviations from Lot Acceptance Tests (Chart V)

Not applicable.

4.3 MECHANICAL REQUIREMENTS

4.3.1 Dimension Check

The dimensions of the accessories specified herein shall be verified in accordance with the requirements set out in Para. 9.6 of ESA/SCC Generic Specification No. 3401 and shall conform to those shown in Figure 2 of this specification.

4.3.2 Weight

The maximum weight of the accessories specified herein shall be as shown in Table 1(a) of this specification.

4.3.3 Torque Value

The torque value to be used for tightening of the screws of the accessories specified herein shall be as stated in Table 1(b) of this specification.

4.4 MATERIALS AND FINISHES

The materials and finishes shall be as specified herein. Where a definite material is not specified, a material which will enable the accessories specified herein to meet the performance requirements of this specification shall be used. Acceptance or approval of any constituent material does not guarantee acceptance of the finished product.

4.4.1 Screw-Lock Assemblies (Male and Female)

Material shall be brass plated with gold (0.7µm minimum) over copper (1µm minimum) or passivated stainless steel.

Potting shells and back-shells:-

~~Material : Brass in accordance with QQ-B-613, Composition II.~~

~~Stainless steel in accordance with QQ-S-764/766 for screw Lock Variants 03 and 04.~~

~~Finish : Gold (0.7µm minimum) over copper (1µm minimum) in accordance with MIL-C-14450 and MIL-G-45204.~~

~~Passivated in accordance with QQ-P-35 for screw Lock Variants 03 and 04.~~

4.4.2 Lightweight Backshell

~~Material : Aluminium alloy in accordance with QQ-A-250.~~

~~Finish : Gold (0.7µm minimum) over copper (1µm minimum) in accordance with MIL-C-14450 and MIL-G-45204.~~

Material shall be aluminium alloy plated with gold (0.7µm minimum) over copper (1µm minimum).

4.4.3 Castellated Backshell

~~Material : Copper alloy in accordance with QQ-C-502.~~

~~Finish : Gold (0.7µm minimum) over copper (1µm minimum) in accordance with MIL-C-14450 and MIL-G-45204.~~

Material shall be copper alloy plated with gold (0.7µm minimum) over copper (1µm minimum).

4.4.4 EMI Gasket

~~Material : Silver plated copper weave neoprene impregnated in accordance with MIL-G-83528B type II.~~

Material shall be conductive silicone elastomer.

4.4.5 Magnetism Level

The allowable value of magnetism shall not exceed that specified for the relevant level (see Para. 4.5.3.1).

4.5 MARKING

4.5.1 General

The marking of all components delivered to this specification shall be in accordance with the requirements of ESA/SCC Basic Specification No. 21700 and the following paragraphs. When the component is too small to accomodate all of the marking as specified, as much as space permits shall be marked and the marking information, in full, shall accompany the component in its primary package.

The information to be marked and the order of precedence, shall be as follows:-

ESCC

(a) The SCC Component Number.

(b) Characteristics.

(c) Traceability Information.

4.5.2 The SCC Component Number ESCC

Each component shall bear the SCC Component Number which shall be constituted and marked as follows:

340107201B

Detail Specification Number

Type Variant (see Table 1(a))

Testing Level

4.5.3 Characteristics

The characteristics to be marked in the following order of precedence are:-

(a) Magnetism Level.

4.5.3.1 Magnetism Level (For all Variants, except Variants 3 and 4).

The following code shall be used for magnetism level:-

CODE	DEFINITION
NMB	Magnetism Level: ≤ 200 gamma

4.5.4 Traceability Information

Traceability information shall be marked in accordance with the requirements of ESA/SCC Basic Specification No. 21700.

4.6 ELECTRICAL MEASUREMENTS (TABLES 2 AND 3)

Not applicable.

4.7 BURN-IN AND ELECTRICAL MEASUREMENTS (TABLES 4 AND 5)

Not applicable.

4.8 ENVIRONMENTAL AND ENDURANCE TESTS (TABLE 6)

Not applicable.