



MARK-up for
Dcr234

S. Hauer.
pp J.S. Wall.
6/9/2006.

Updated as agreed
on ESCC DCR Review
page)

Page i

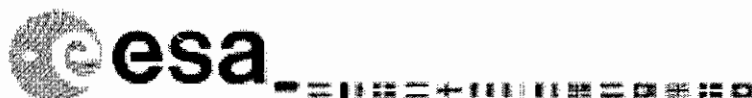
LIGHTWEIGHT ACCESSORIES
FOR RECTANGULAR CONNECTORS
3401/001 AND 3401/002
ESCC Detail Specification No. 3401/072

²
ISSUE ~~1~~

~~October 2002~~

January 2006

September



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

	ESCC Detail Specification		PAGE ii ISSUE 12
---	---------------------------	--	---------------------

LEGAL DISCLAIMER AND COPYRIGHT

European Space Agency, Copyright © ²⁰⁰⁶2002. All rights reserved.

The European Space Agency disclaims any liability or responsibility, to any person or entity, with respect to any loss or damage caused, or alleged to be caused, directly or indirectly by the use and application of this ESCC publication.

This publication, without the prior permission of the European Space Agency and provided that it is not used for a commercial purpose, may be:

- copied in whole in any medium without alteration or modification.
- copied in part, in any medium, provided that the ESCC document identification, comprising the ESCC symbol, document number and document issue, is removed.



european space agency
agence spatiale européenne

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.

		ESCC ESA/SCC Detail Specification No. 3401/072	PAGE 2 ISSUE 1
---	---	---	---------------------------

DOCUMENTATION CHANGE NOTICE

Rev. Letter	Rev. Date	Reference	CHANGE Item	Approved DCR No.				
			<table border="1"><thead><tr><th>DCR No.</th><th>CHANGE DESCRIPTION</th></tr></thead><tbody><tr><td>FBA 234</td><td>Specification up issued to incorporate editorial and technical changes per DCR</td></tr></tbody></table>	DCR No.	CHANGE DESCRIPTION	FBA 234	Specification up issued to incorporate editorial and technical changes per DCR	
DCR No.	CHANGE DESCRIPTION							
FBA 234	Specification up issued to incorporate editorial and technical changes per DCR							



TABLE OF CONTENTS

	<u>Page</u>
1. <u>GENERAL</u>	5
1.1 Scope	5
1.2 Component Type Variants	5
1.3 Maximum Ratings	5
1.4 Parameter Derating Information	5
1.5 Physical Dimensions	5
2. <u>APPLICABLE DOCUMENTS</u>	5
3. <u>TERMS, DEFINITIONS, ABBREVIATIONS, SYMBOLS AND UNITS</u>	5
4. <u>REQUIREMENTS</u>	20
4.1 General	20
4.2 Deviations from Generic Specification	20
4.2.1 Deviations from Special In-process Controls	20
4.2.2 Deviations from Final Production Tests	20
4.2.3 Deviations from Burn-in and Electrical Measurements	20
4.2.4 Deviations from Qualification Tests	20
4.2.5 Deviations from Lot Acceptance Tests	20
4.3 Mechanical Requirements	20
4.3.1 Dimension Check	20
4.3.2 Weight	20
4.3.3 Torque Value	20
4.4 Materials and Finishes	21
4.4.1 Screw Lock Assemblies	21
4.4.2 Lightweight Backshell	21
4.4.3 Castellated Backshell	21
4.4.4 EMI Gasket	21
4.4.5 Magnetism Level	21
4.5 Marking	21
4.5.1 General	21
4.5.2 The SCC Component Number	22
4.5.3 Characteristics	22
4.5.4 Traceability Information	22
4.6 Electrical Measurements	22
4.7 Burn-in and Electrical Measurements	22
4.8 Environmental and Endurance Tests	22

TABLES

1(a) Type Variants	6
1(b) Maximum Ratings	8

FIGURES

1 Parameter Derating Information	N/A
2(a) Screw Lock Assemblies	9
2(b) Backshell Lightweight Design With Saddle Clamps For Strain Relief	10
2(c) Backshell Lightweight D-Sub Shorting Can	11
2(d) Backshell EMI Shielded Straight Cable Outlet	12
2(e) Backshell Lightweight Shielded -90° Longitudinal Cable Outlet	13



ESA/SCC Detail Specification
No. 3401/072

PAGE 4
ISSUE 1

		<u>Page</u>
2(f)	<u>Backshell</u> Lightweight Shielded Straight Cable Outlet	14
2(g)	<u>Backshell</u> Lightweight Dual Entry Band Termination, 15 Pin	15
2(h)	Castellated Backshell	16
2(i)	Straight Lightweight Backshell Ultra Elliptical Band Termination	17
2(j)	45° Lightweight Backshell Ultra Elliptical Band Termination	18
2(k)	Backshell Lightweight D-Sub Extra-Shorting Can	19
→ 2(l)	Male Screw Lock Assembly	

APPENDICES (Applicable to specific Manufacturers only)

None.

 	ESA/SCC Detail Specification No. 3401/072	PAGE 5 ISSUE 1
---	--	---------------------------

1. GENERAL

1.1 SCOPE

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.

- ~~(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-G-502, Copper Alloy material.~~
- ~~(h) MIL-G-45204, Gold Plating, Electro-deposited.~~
- ~~(i) MIL-G-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.

change
ESA/SCC
to ESCC
throughout
spec

Delete



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° longitudinal right cable outlet Size E	7.0
26	Backshell: Lightweight shielded backshell -90° longitudinal right cable outlet Size A	10
27	Backshell: Lightweight shielded backshell -90° longitudinal right cable outlet Size B	13.5
28	Backshell: Lightweight shielded backshell -90° longitudinal right cable outlet Size C	18
29	Backshell: Lightweight shielded backshell -90° longitudinal right cable outlet Size D	23
30	Backshell: Lightweight shielded backshell -90° longitudinal left cable outlet Size E	7.0
31	Backshell: Lightweight shielded backshell -90° longitudinal left cable outlet Size A	10
32	Backshell: Lightweight shielded backshell -90° longitudinal left cable outlet Size B	13.5
33	Backshell: Lightweight shielded backshell -90° longitudinal left cable outlet Size C	18
34	Backshell: Lightweight shielded backshell -90° longitudinal 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.	cm.daN	For Male
			3.3	4.4		

FIGURE 1 - PARAMETER DERATING INFORMATION

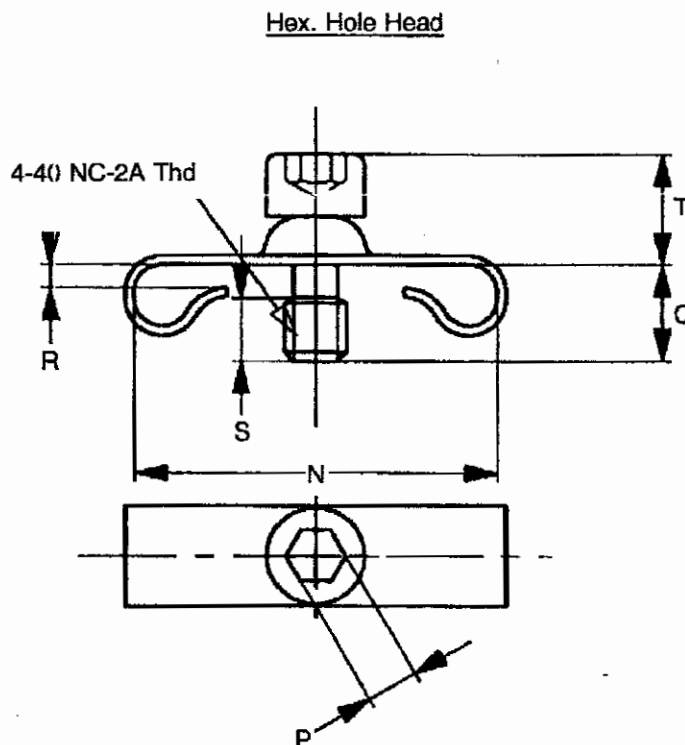
Not applicable.

**SCC**ESA/SCC Detail Specification
No. 3401/072

PAGE 9

ISSUE 1

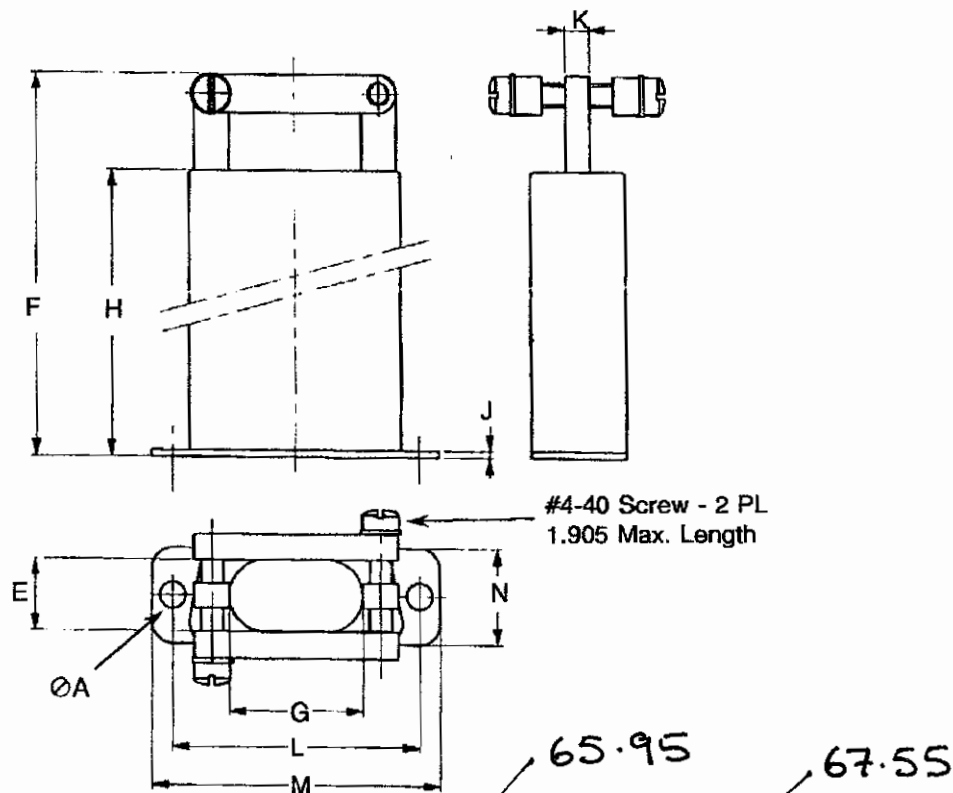
FIGURE 2 - PHYSICAL DIMENSIONS
FIGURE 2(a) - MALE SCREW LOCK ASSEMBLIES



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

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	67.55	69.16	12.32	13.08	54.48	55.24
C	08	3.32	3.58	9.14	9.9	67.55	69.16	12.32	13.08	54.48	55.24
D	09	3.32	3.58	11.5	12.26	67.55	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

NOTES

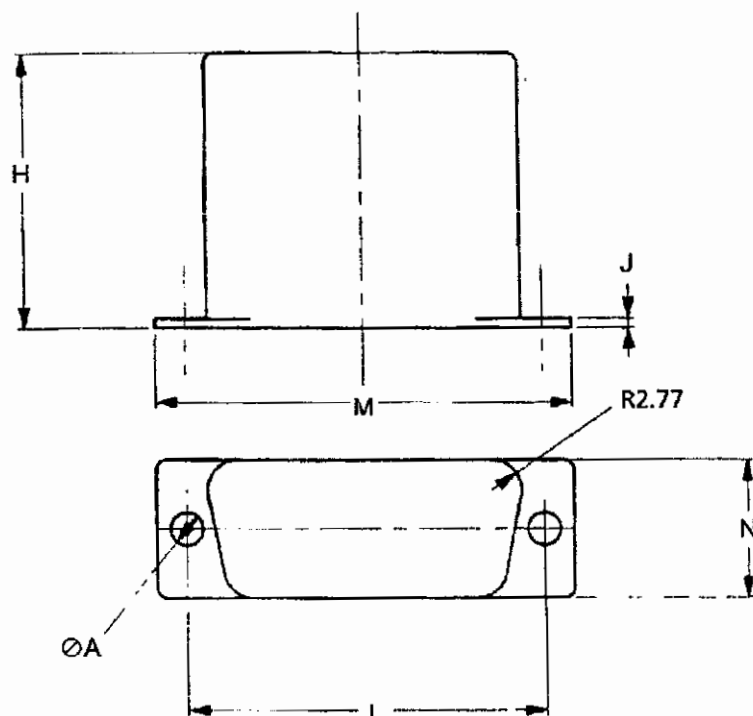
1. All dimensions are in millimetres.

8/8/14/6
stek
33.45

**SCC**ESA/SCC Detail Specification
No. 3401/072

PAGE 11

ISSUE 1

FIGURE 2 - PHYSICAL DIMENSIONS (CONTINUED)**FIGURE 2(c) - LIGHTWEIGHT D-SUB SHORTING CAN**

SHELL SIZE	VARIANT	ØA		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

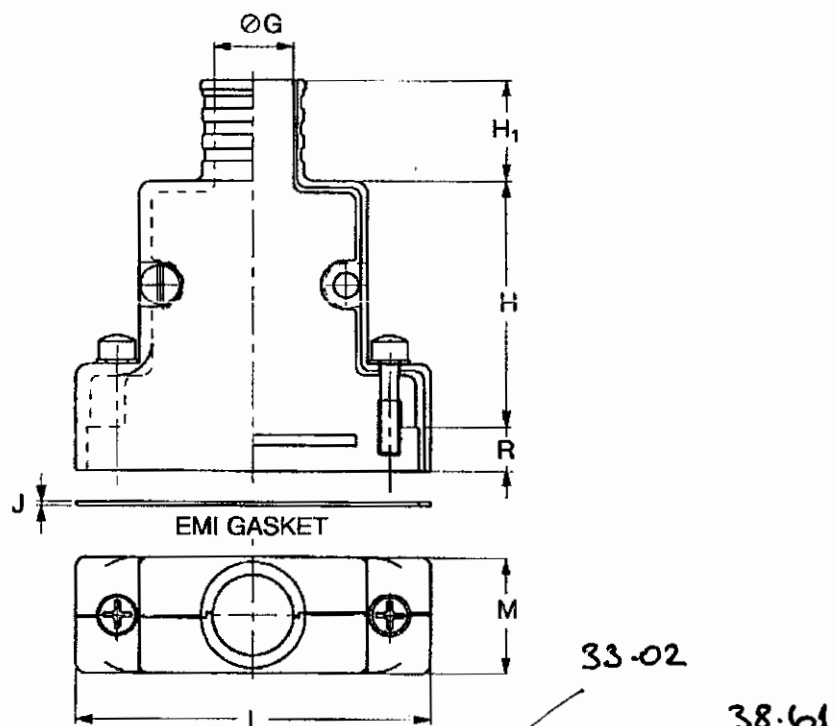
NOTES

1. All dimensions are in millimetres.

33-46

Stek

33.45

**FIGURE 2 - PHYSICAL DIMENSIONS (CONTINUED)****FIGURE 2(d) - EMI SHIELDED BACKSHELL - STRAIGHT CABLE OUTLET**

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

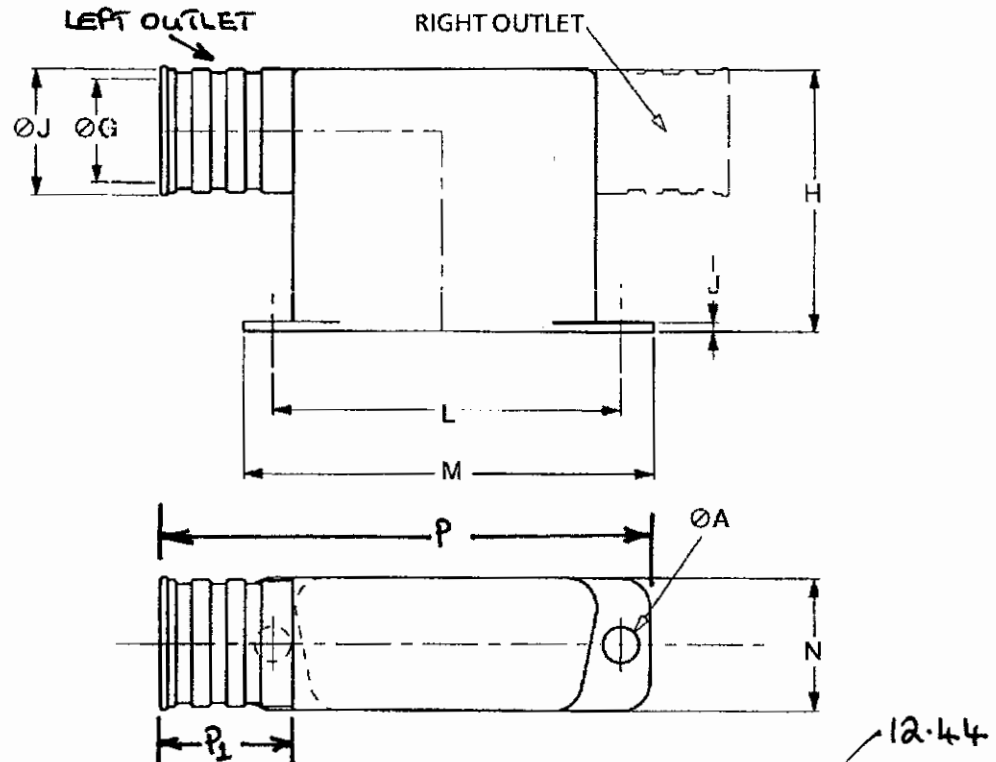
NOTES

1. All dimensions are in millimetres.



FIGURE 2 - PHYSICAL DIMENSIONS (CONTINUED)

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



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	P1
	RIGHT OUTLET	LEFT OUTLET		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.		
E	25	30	0.89	24.86	25.12	30.18	30.94	12.32	13.08	32.8	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	94.9	12.7

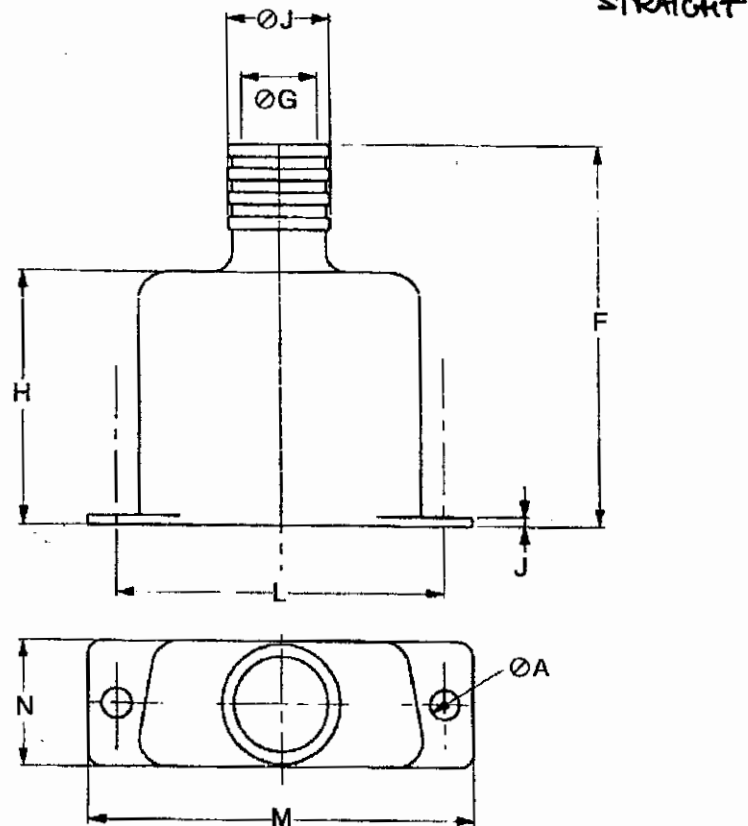
NOTES

1. All dimensions are in millimetres.

33.46
Std
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 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

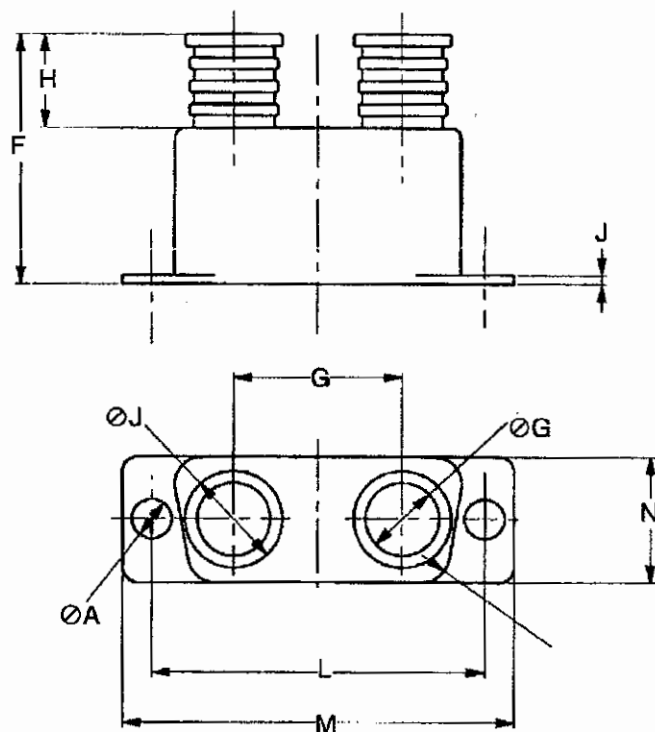
NOTES

1. All dimensions are in millimetres.

33.46
std
33.45

FIGURE 2 - PHYSICAL DIMENSIONS (CONTINUED)

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



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	25.4	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

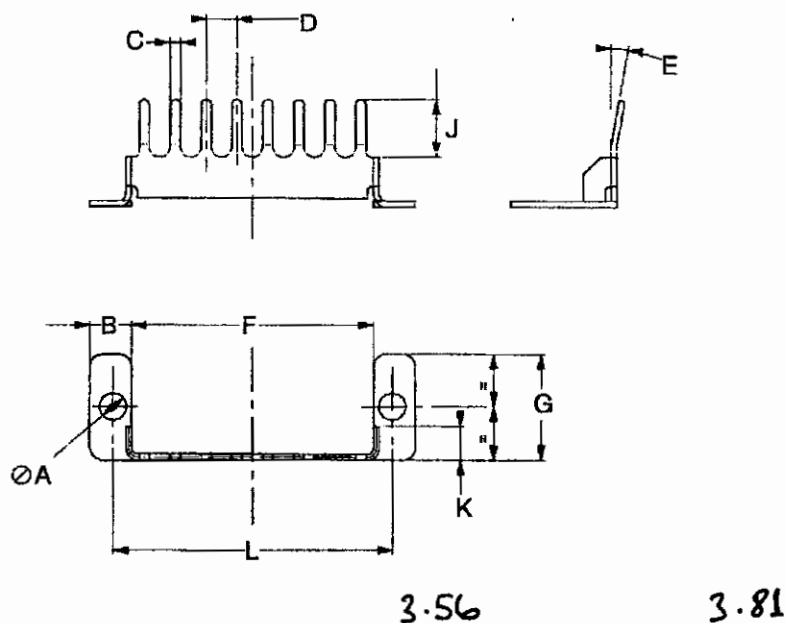
1. All dimensions are in millimetres.

**SCC**

ESA/SCC Detail Specification
No. 3401/072

PAGE 16

ISSUE 1

FIGURE 2 - PHYSICAL DIMENSIONS (CONTINUED)**FIGURE 2(h) - CASTELLATED BACKSHELL**

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	3.89	3.71	5	10	15
A	42	3.1	3.3	4.89	5.0	1.1	1.3	3.89	3.71	8	10	15
B	43	3.1	3.3	4.89	5.0	1.1	1.3	3.89	3.71	11	10	15
C	44	3.1	3.3	4.89	5.0	1.1	1.3	3.89	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	6.89	7.01	3.84	4.0	24.86	25.12
A	42	28.8	29	12.6	12.8	6.89	7.01	3.84	4.0	33.19	33.46
B	43	42.7	42.9	12.6	12.8	6.89	7.01	3.84	4.0	46.91	47.17
C	44	59	59.2	12.6	12.8	6.89	7.01	3.84	4.0	63.37	63.63
D	45	56.6	56.8	15.3	15.5	6.89	7.01	3.84	4.0	60.98	61.24

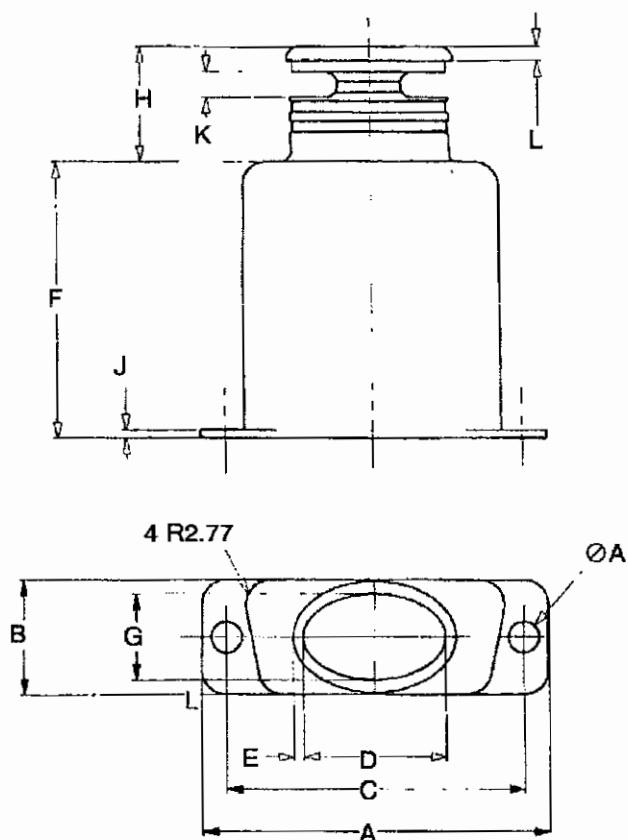
NOTES

1. All dimensions are in millimetres.

6.86

7.11

33.46
Stet
- 33.45

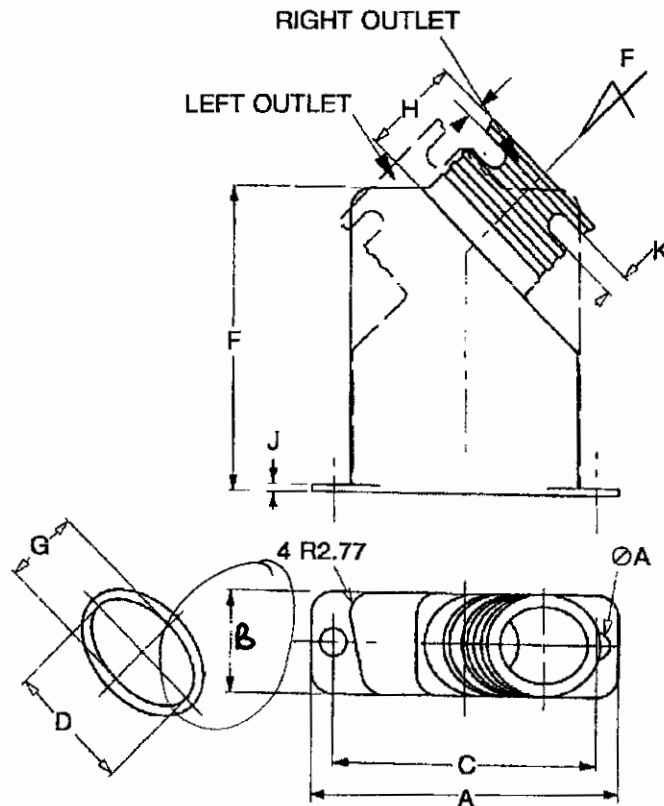
**FIGURE 2 - PHYSICAL DIMENSIONS (CONTINUED)****FIGURE 2(i) - STRAIGHT LIGHTWEIGHT BACKSHELL ULTRA ELLIPTICAL BAND TERMINATION**

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.

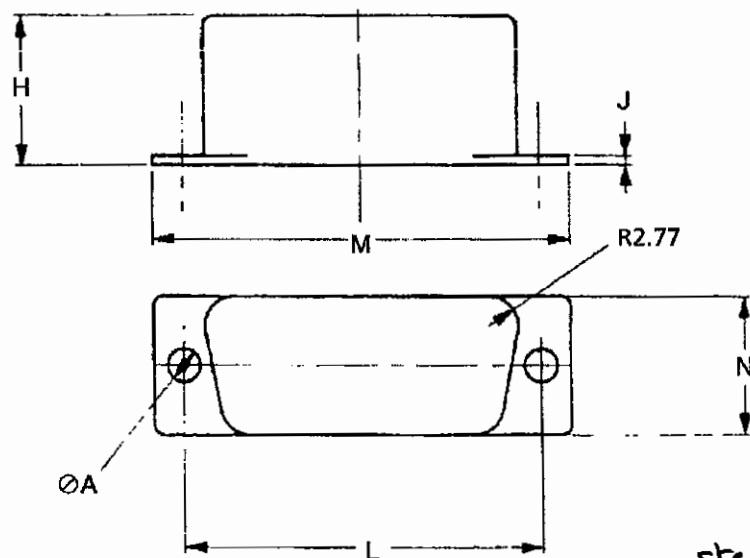
**FIGURE 2 - PHYSICAL DIMENSIONS (CONTINUED)****FIGURE 2(i) - 45° LIGHTWEIGHT BACKSHELL ULTRA ELLIPTICAL BAND TERMINATION**

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**

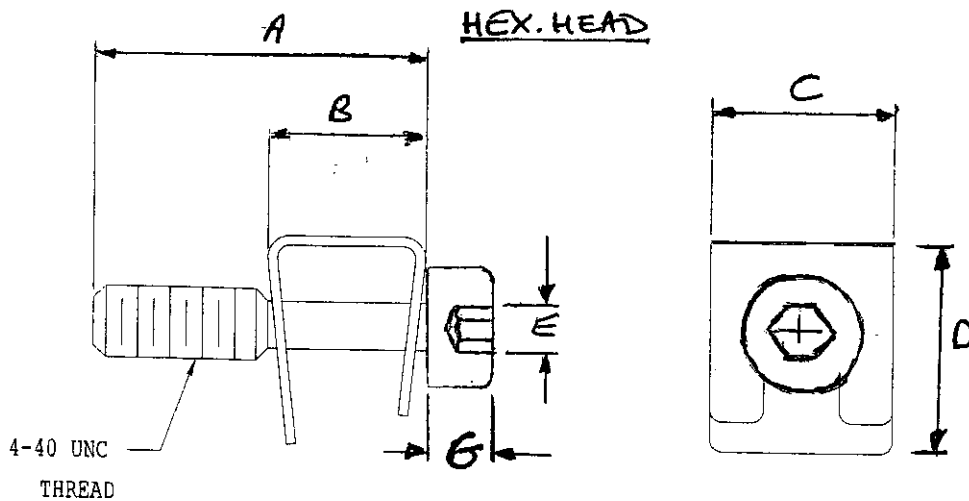
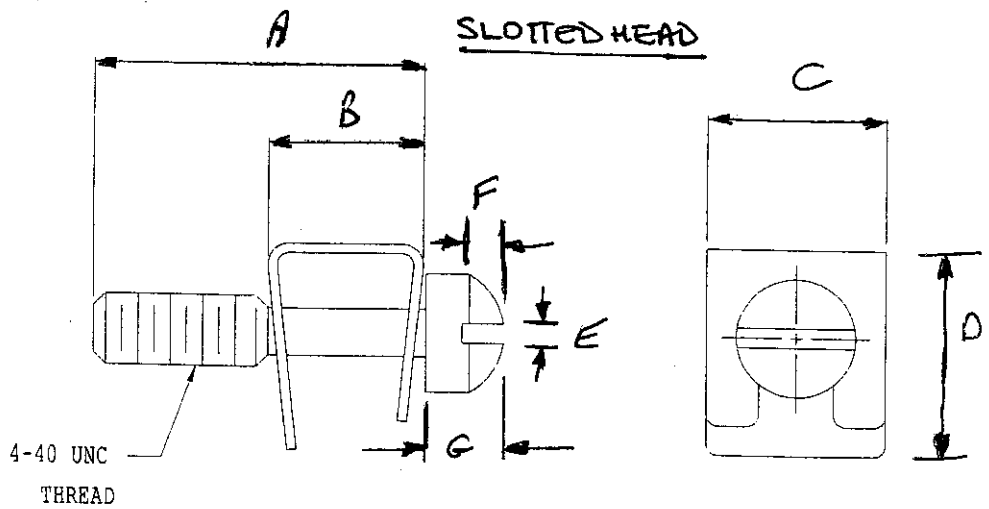
SHELL SIZE	VARIANT	ØA		H	J	L		M		N	
		MIN.	MAX.			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
E	61 10	3.92	4.04	12.7	0.9	24.86	25.12	30.18	30.94	12.32	13.08
A	62 11	3.92	4.04	12.7	0.9	33.19	33.45	38.51	39.27	12.32	13.08
B	63 12	3.92	4.04	12.7	0.9	46.91	47.17	52.4	53.16	12.32	13.08
C	64 13	3.92	4.04	12.7	0.9	63.37	63.63	68.66	69.42	12.32	13.08
D	65 14	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.

**SCC**ESA/SCC Detail Specification
No. 3401/072PAGE 21
ISSUE 1**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)

Potting shells and back-shells:-

~~Material : Brass in accordance with QQ-B-618, Composition II.~~~~Stainless steel in accordance with QQ-S-754/766 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.~~*Material shall be brass plated with gold (0.7µm minimum) over copper (1µm minimum) or passivated stainless steel.***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.~~**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.~~**4.4.4 EMI Gasket**~~Material : Silver plated copper weave neoprene impregnated in accordance with MIL-G-83528B type H.~~*Material shall be aluminium alloy plated with gold (0.7µm minimum) over copper (1µm minimum).**Material shall be copper alloy plated with gold (0.7µm minimum) over copper (1µm minimum).***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).

*Material shall be conductive silicone elastomer.***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 accommodate 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:-

- The SCC Component Number.
- Characteristics.
- Traceability Information.

ESCC

4.5.2 The ~~SCC~~ Component Number ^{ESCC} ~~ESCC~~

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

Detail Specification Number 340107201B
 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.