DOCUMENT CHANGE REQUEST

DCR number 362	Changes required for: N/A	Originator: Jean-Laurent BOUTEAUX
Date: 2007/06/19	Date sent: 2007/06/19	Organisation: CNES
Status: IMPLEMENTED		

Title:	Contacts Electrical Triax Crimp for 3401/056 Connectors		
Number:	3401/066	Issue:	2

Other documents affected:

Page:

page 6 , table 1 (a) , add pages 8-1 and 8-2

Paragraph:

page 6 , table 1 (a) , add pages 8-1 and 8-2

Original wording:

Proposed wording:

page 6, in table 1(a) , add variant 03 and 04
Add : - page 8-1 Variant 03 , straight sleeve
- page 8-2 Variant 04 . elbow sleeve

Justification:

The use of triaxial contacts 3401/066 01B and 02B , requires the assembly of the sealing sleeves 3401/066-03B (straight) or 3401/066-04B (elbow) to preserve all the connectors performance (except for layout 09-01)

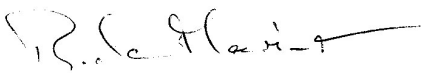
Attachments:

DCR_3401_066.PDF, DCR362Attachmod_.pdf, null

Modifications:

Implementation of the new sealing sleeve options shall be as detailed in the attached mark-up.
Paras & Pages affected:
Table 1(a), Figure 2, Para 4.3.2, new Para 4.4.3, Para 4.5.2, new Para 4.5.2.1
A new sealing sleeve code is defined as a suffix to the ESCC component number to facilitate specification of both male & female contacts (variant 01 & 02 respectively) with a straight sleeve (code 1), with an elbow sleeve (code 2) and without any sleeve (code 0). The contact/sleeve configurations available are defined in Table 1(a) notes 1 & 2.

Approval signature:



Date signed:
2007-06-19

DRAFT MARK-UP
FOR DCR 362

S. Thacker. ~~22/11/08~~. 6/2/2008
(Change pages only).

European Space Components Coordination

Pages 1 to 16

CONTACTS, ELECTRICAL, TRIAX, CRIMP

FOR 3401/056 CONNECTORS

ESCC Detail Specification No. 3401/066

3

ISSUE 2

~~**May 2004**~~

~~January~~ 2008
February

esa

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

TABLE 1(a) - TYPE VARIANTS

VARIANTS	TYPE	MAX. WEIGHT (g)	ACCEPTED CABLES
01	Male	4.6	M17-176-00002
02	Female	7.2	SSQ-21655 (NDBC-TFE-2452SJ-75-1 P512296-C)

NOTES

1. Contacts fitted in 09-01 arrangement shall be used only with backshells ESCC No. 3401/062, Variants 65 to 67x without sealing sleeves
2. Contacts fitted in other triax arrangements shall be used only with backshells ESCC No. 3401/062, Variants 41 to 45 with straight sealing sleeves or with backshells ESCC No. 3401/062, Variants 50 to 50 with elbow sealing sleeves
3. Weight includes the weight of both the contact and the sealing sleeve as applicable.

TABLE 1(b) - MAXIMUM RATINGS

No.	CHARACTERISTICS	SYMBOL	MAXIMUM RATINGS	UNIT	REMARKS
1	Working Voltage Sea Level	U_R	500	V	
2	Rated Current	Icr	1.0	A	
3	Frequency Range	f	0 to 20	MHz	Note 1
4	Operating Temperature Range	T_{op}	− 65 to + 200	°C	
5	Storage Temperature Range	T_{stg}	− 65 to + 200	°C	

NOTES

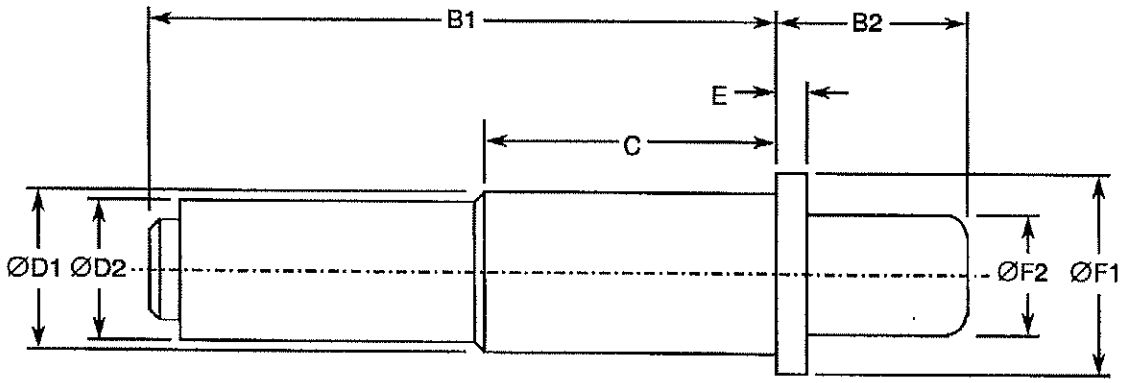
1. Compatible with 1553 Bus Line.

VARIANT	CONTACT TYPE	SEALING SLEEVE TYPE	MAX. WEIGHT (g) (Note 3)	ACCEPTED CABLES	REMARKS
01	MALE	NO SLEEVE (Code 0)	4.6	M17-176-00002 SSQ-21655 (NDBC-TFE-2452SJ-75-1P512296-C)	Note 1
		STRAIGHT (Code 1)	6.6		Note 2
		ELBOW (Code 2)	6.6		Note 2
02	FEMALE	NO SLEEVE (Code 0)	7.2		Note 1
		STRAIGHT (Code 1)	9.2		Note 2
		ELBOW (Code 2)	9.2		Note 2

FIGURE 2 - PHYSICAL DIMENSIONS

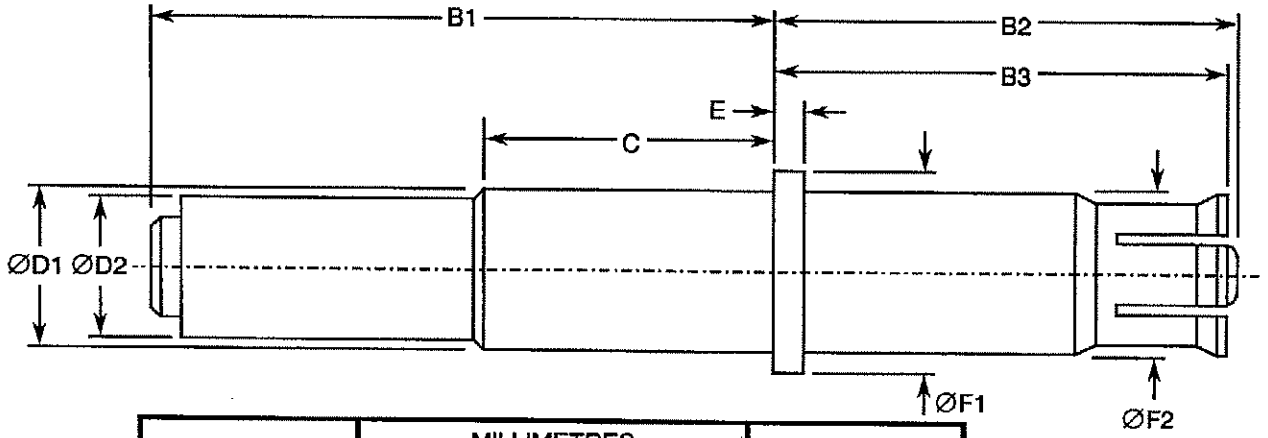
FIGURE 2(a) - CONTACTS →

VARIANT 01, MALE CONTACT



SYMBOL	MILLIMETRES		REMARKS
	MIN.	MAX.	
B1	21.34	22.86	
B2	7.49	7.74	
C	10.00	11.00	
ØD1	6.93	7.01	
ØD2	-	6.53	After crimping
E	0.74	0.84	
ØF1	7.95	8.03	
ØF2	5.515	5.565	

VARIANT 02, FEMALE CONTACT

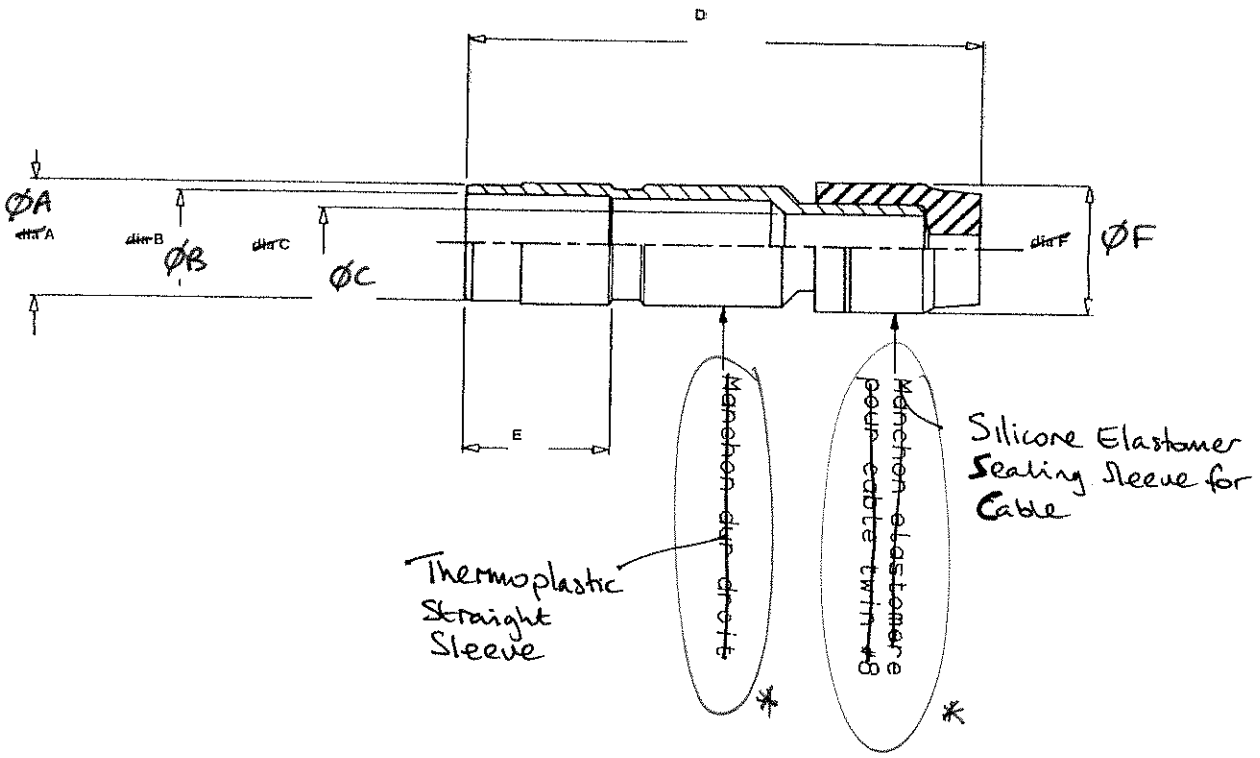


SYMBOL	MILLIMETRES		REMARKS
	MIN.	MAX.	
B1	21.34	22.86	
B2	15.80	16.43	
B3	15.88	16.03	
C	10.00	11.00	
ØD1	6.93	7.01	
ØD2	-	6.53	After crimping
E	0.74	0.84	
ØF1	7.95	8.03	
ØF2	7.22	7.32	

FIGURE 2 - PHYSICAL DIMENSIONS

FIGURE 2(b) - SEALING SLEEVES

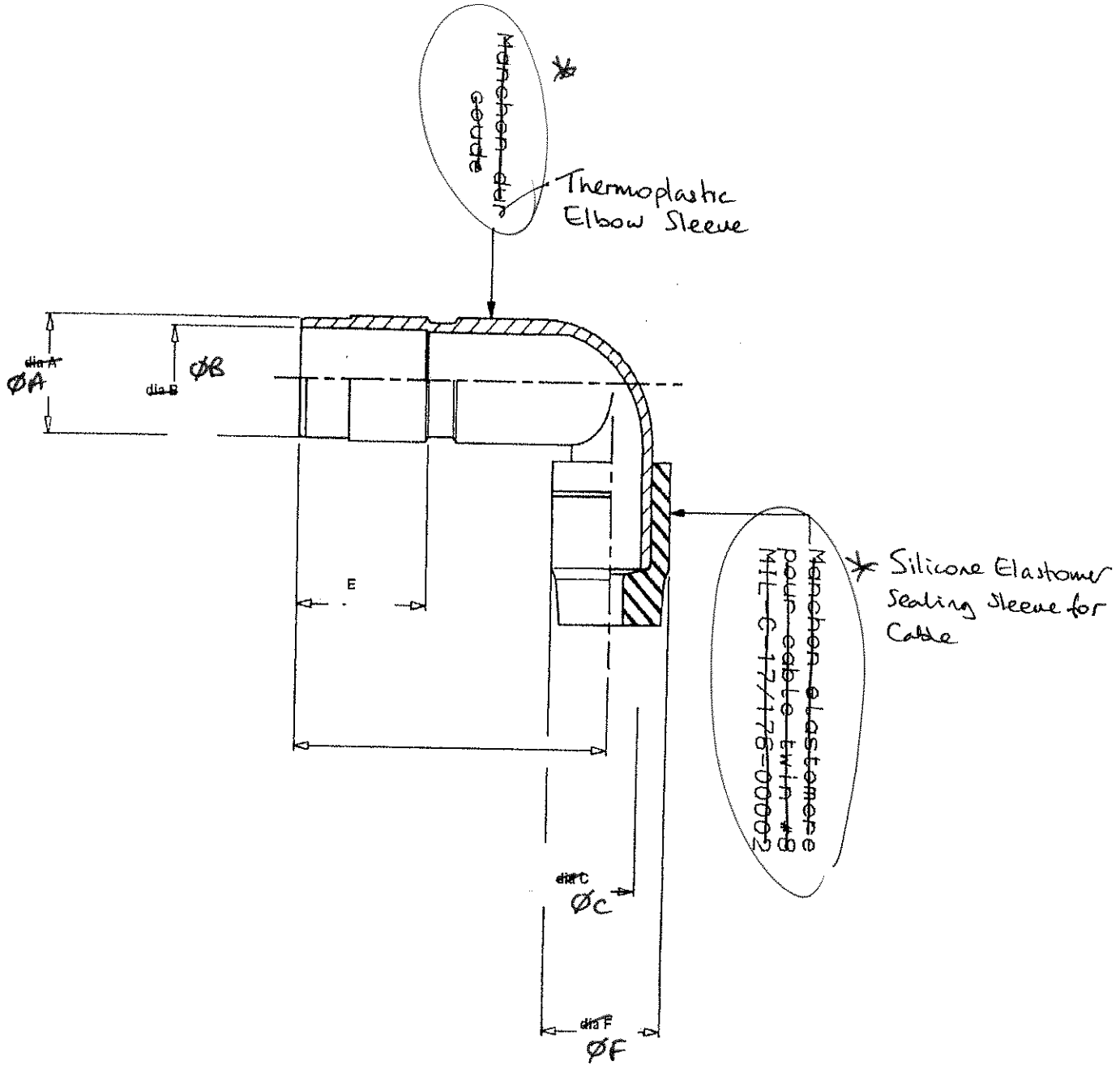
~~VARIANT 01~~ STRAIGHT SLEEVE (Code 1)



SYMBOL	MILLIMETRES		REMARKS
	MIN.	MAX.	
Ø A	8.30	8.40	
Ø B	7.05	7.15	
Ø C	4.80	4.90	
D	35.40	36.50	
E	10.30	10.50	
Ø F	9.2	9.5	

* ENGLISH DRAWING REQUIRED

FIGURE 2 - PHYSICAL DIMENSIONS
FIGURE 2(b) - SEALING SLEEVES
~~VARIANT 04~~ ELBOW SLEEVE (Code 2)



SYMBOL	MILLIMETRES		REMARKS
	MIN.	MAX.	
Ø A	8.30	8.40	
Ø B	7.05	7.15	
Ø C	4.80	4.90	
D	25.00	25.20	
E	10.30	10.50	
Ø F	9.20	9.50	

* ENGLISH DRAWING REQUIRED

4. REQUIREMENTS

4.1 GENERAL

The complete requirements for procurement of the contacts specified herein shall be as stated in this specification and ESCC Generic Specification No. 3401. 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 ESCC 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

None.

4.2.2 Deviations from Final Production Tests

None.

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

Not applicable.

4.2.4 Deviations from Qualification Tests (Chart IV)

(a) Para. 9.15, Joint Strength: Shall be performed as specified in Para. 4.3.13 of this specification.

(b) Para. 9.26, Overload Test: Not applicable.

(c) Para. 9.29, Oversize Pin Exclusion: Not applicable.

(d) Para. 9.30, Probe Damage: Not applicable.

(e) Para. 9.31, Solderability: Not applicable.

4.2.5 Deviations from Lot Acceptance Tests (Chart V)

(a) Para. 9.15, Joint Strength: Shall be performed as specified in Para. 4.3.13 of this specification.

(b) Para. 9.29, Oversize Pin Exclusion: Not applicable.

(c) Para. 9.30, Probe Damage: Not applicable.

4.3 MECHANICAL REQUIREMENTS

4.3.1 Dimension Check

The dimensions of the contacts specified herein shall be verified in accordance with the requirements set out in Para. 9.6 of ESCC 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 contacts specified herein shall be as given in Table 1(a).

, including sealing sleeve if applicable,

4.4.1 Insert

Teflon.

4.4.2 Inner, Intermediate and Outer Contacts

The contacts shall be made of copper base alloy selected from raw materials with a minimum of impurities. The contacts shall be plated as follows:

- 2.0µm ± 20% nickel underplate.
- 1.27µm minimum gold plate over 3.0µm minimum of copper.

4.4.3 Sealing Sleeve

Silicone elastomer and thermoplastic

4.5 MARKING

4.5.1 General

The marking of all components delivered to this specification shall be in accordance with with the requirements of ESCC Basic Specification No. 21700 and the following paragraphs. These components being too small to accommodate the marking, the marking requirements, in full, shall accompany each lot of components in its primary package.

Such marking shall comprise:-

(a) The ESCC Component Number.

(b) Traceability Information.

(c) Quantity of Components.

4.5.2 The ESCC Component Number

The ESCC Component Number shall be constituted and marked as follows:

340106601B

Detail Specification Number

Type Variant (see Table 1(a))

Testing Level

Sealing Sleeve Code (See Para. 4.5.2.1)

4.5.2.1 see attached

4.5.3 Traceability Information

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

4.6 ELECTRICAL MEASUREMENTS

4.6.1 Electrical Measurements at Room Temperature

The parameters to be measured in respect of electrical characteristics are listed in Table 2. Unless otherwise specified, the measurements shall be performed at T_{amb} = +22 ± 3 °C.

Contact resistance shall be measured on the engaged outer, intermediate and inner conductor contacts.

4.6.2 Electrical Measurements at High and Low Temperatures (Table 3)

Not applicable.

4.6.3 Circuits for Electrical Measurements

A circuit for measuring Contact Resistance is shown in Figure 4 of this specification.

4.7 SCREENING TESTS (TABLES 4 AND 5)

Not applicable.

4.5.2.1 Sealing Sleeve Code

The sealing sleeve code to be marked as part of the ESCC Component Number shall be as follows:

Code 0 indicates contacts supplied without sealing sleeves
Code 1 indicates contacts supplied with straight sealing sleeves
Code 2 indicates contacts supplied with elbow sealing sleeves

TABLE 1(a) – TYPE VARIANTS

VARIANTS	DESIGNATION	TYPE	MAX. WEIGHT (g)	ACCEPTED CABLES
01	TRIAXIAL CONTACT	MALE	4.6	M17-176/00002 & SSQ-21655 (NDBC-TFE-2452SJ-75-1P512296-C)
02		FEMALE	7.2	
03	SEALING SLEEVE	STRAIGHT	2	M17-176/00002 & SSQ-21655 (NDBC-TFE-2452SJ-75-1P512296-C)
04		ELBOW	2	

NOTES

1. Contacts fitted in 09-01 arrangement shall be used only with backshells ESCC No. 3401/062, Variants 65 to 67.
2. Contacts fitted in other triax arrangements shall be used only with sealing sleeves ESCC No 3401/066, Variants 03 and backshells ESCC No 3401/062, Variants 41 to 45 or with sealing sleeves ESCC No 3401/066, Variants 04 and backshells ESCC No 3401/062, Variants 50 to 54

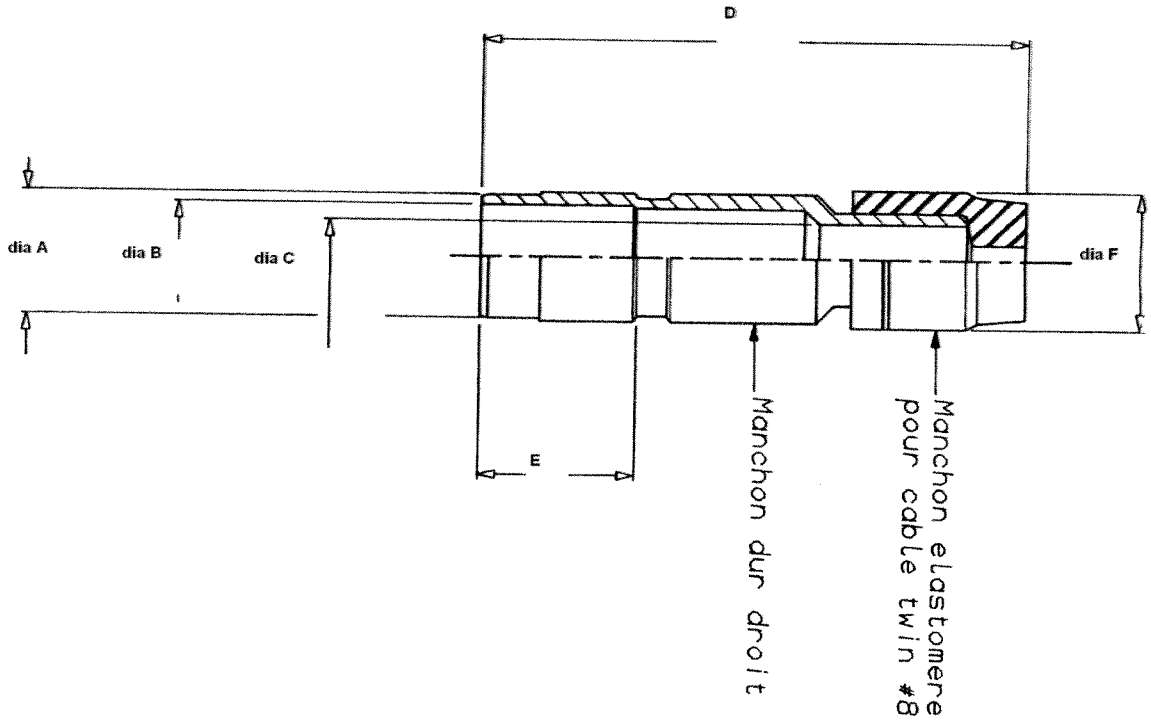
TABLE 1(b) – MAXIMUM RATINGS

No	CHARACTERISTICS	SYMBOL	MAXIMUM RATINGS	UNIT	REMARKS
1	Working Voltage Sea Level	Ur	500	V	
2	Rated Current	Icr	1.0	1A	
3	Frequency Range	f	0 to 20	MHz	Note 1
4	Operating Temperature Range	Top	- 65 to +200	°C	
5	Storage Temperature Range	Tstg	- 65 to +200	°C	

NOTES

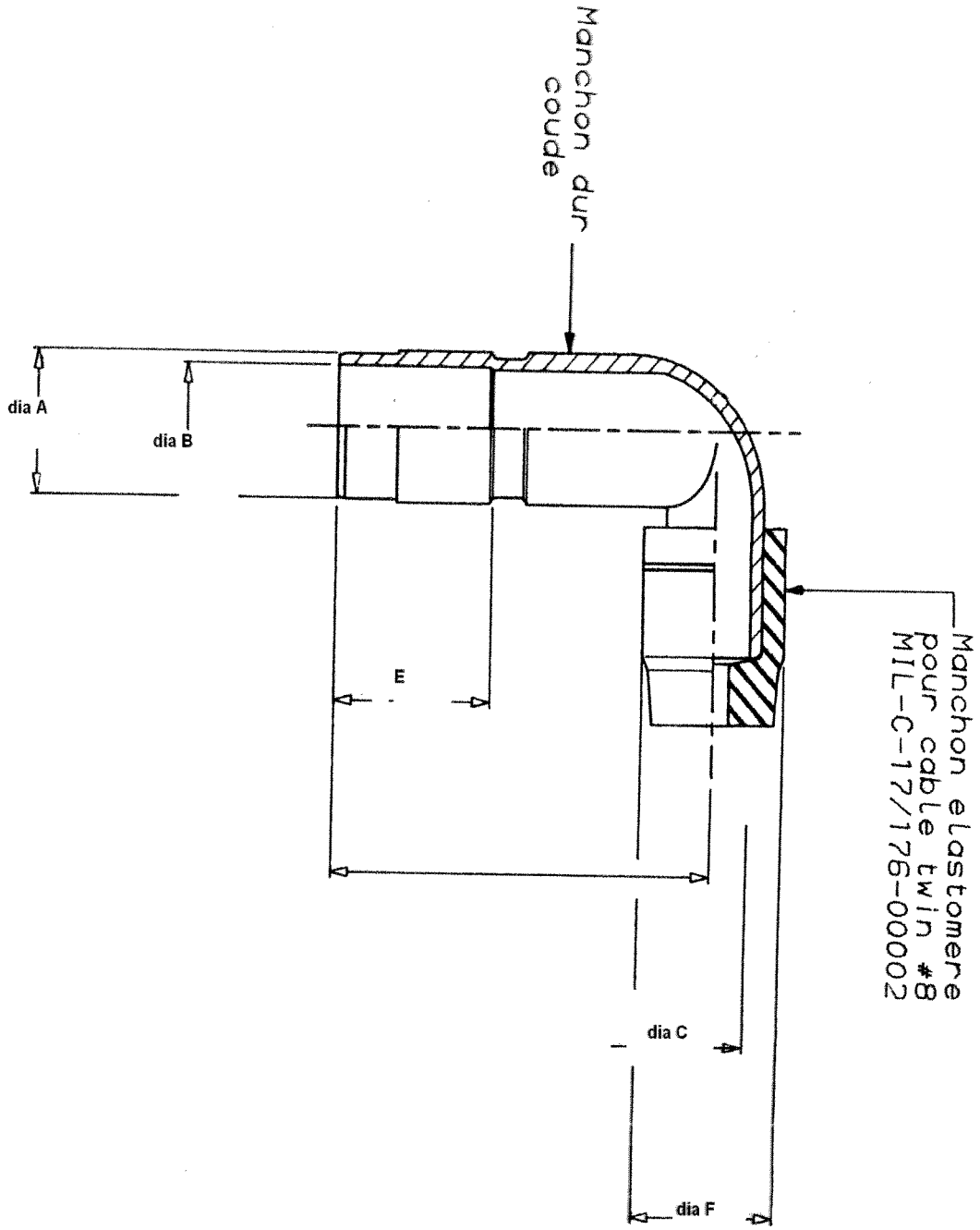
1. Compatible with 1553 Bus Line

VARIANT 03 , STRAIGHT SLEEVE



SYMBOL	MILLIMETRES		REMARKS
	MIN.	MAX.	
Ø A	8.30	8.40	
Ø B	7.05	7.15	
Ø C	4.80	4.90	
D	35.40	36.50	
E	10.30	10.50	
Ø F	9.2	9.5	

VARIANT 04,ELBOW SLEEVE



SYMBOL	MILLIMETRES		REMARKS
	MIN.	MAX.	
Ø A	8.30	8.40	
Ø B	7.05	7.15	
Ø C	4.80	4.90	
D	25.00	25.20	
E	10.30	10.50	
Ø F	9.20	9.50	