

METRIC

MIL-DTL-83538/11C
7 January 2015
SUPERSEDING
MIL-DTL-83538/11B
30 October 2006

DETAIL SPECIFICATION SHEET

CONNECTORS AND ACCESSORIES, ELECTRICAL, CIRCULAR,
UMBILICAL, ADAPTER, BUFFER PLUG, NON-REMOVABLE PIN
CONTACTS, FOR MIL-STD-1760 APPLICATIONS (METRIC)

This specification is approved for use by all Departments and Agencies
of the Department of Defense.

The requirements for acquiring the product described herein shall consist
of this specification sheet and MIL-DTL-83538.

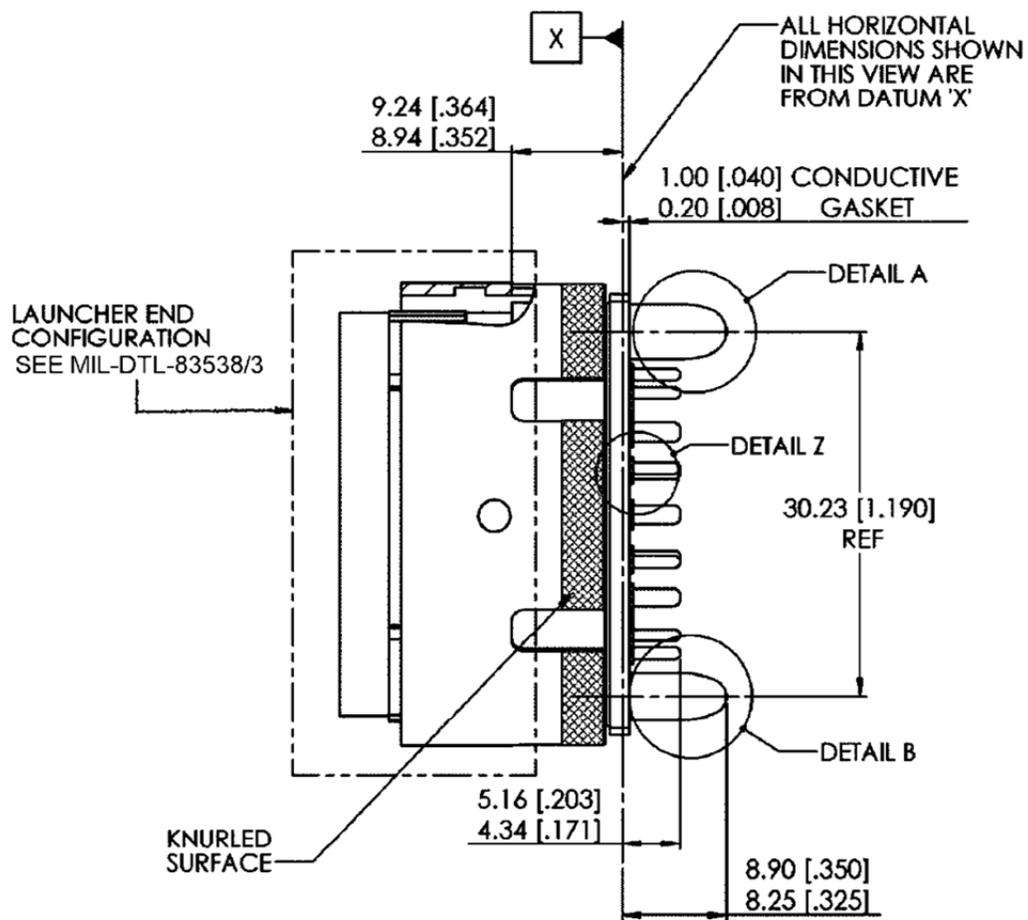


FIGURE 1. Buffer adapter plug, type 1.



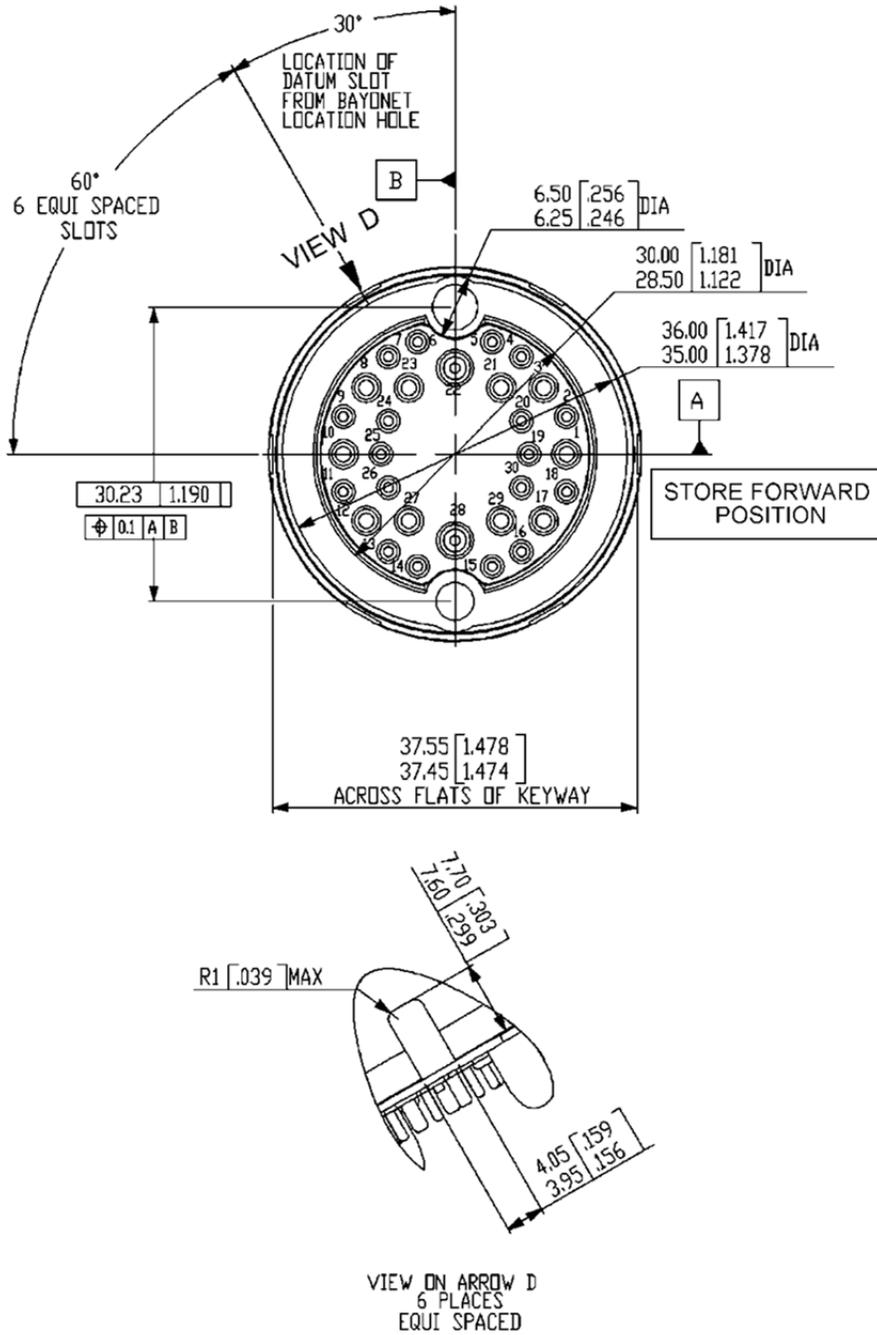


FIGURE 1. Buffer adapter plug, type 1 - Continued.

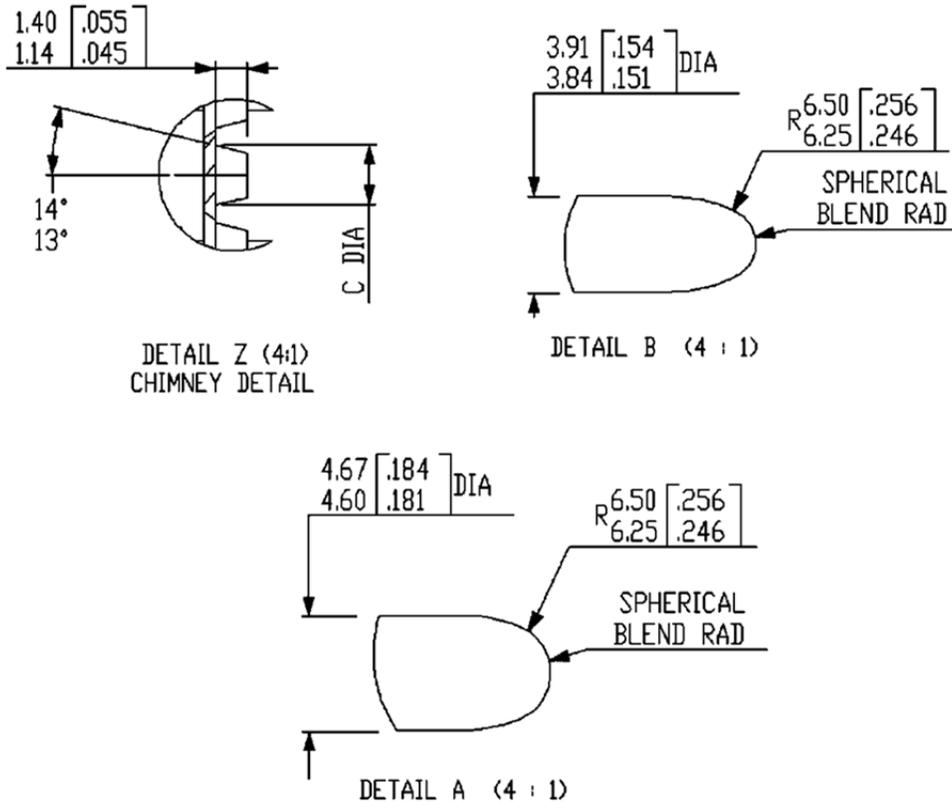
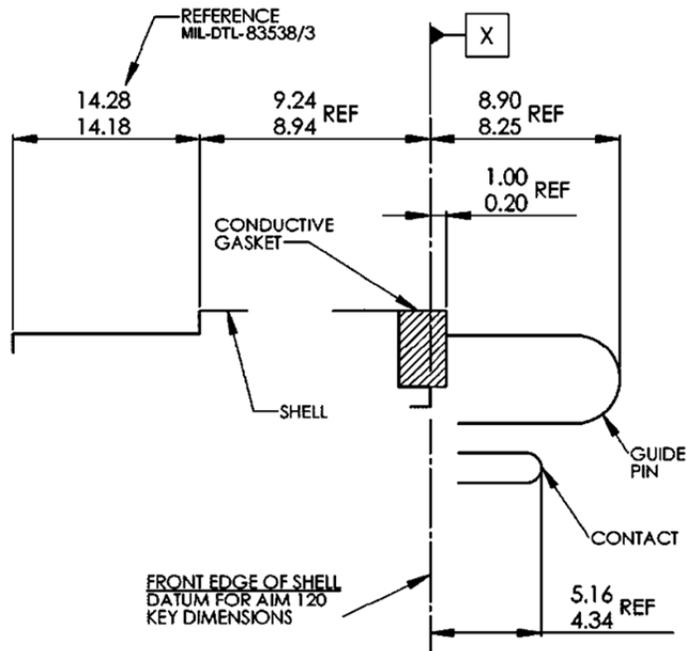


FIGURE 1. Buffer adapter plug, type 1 - Continued.

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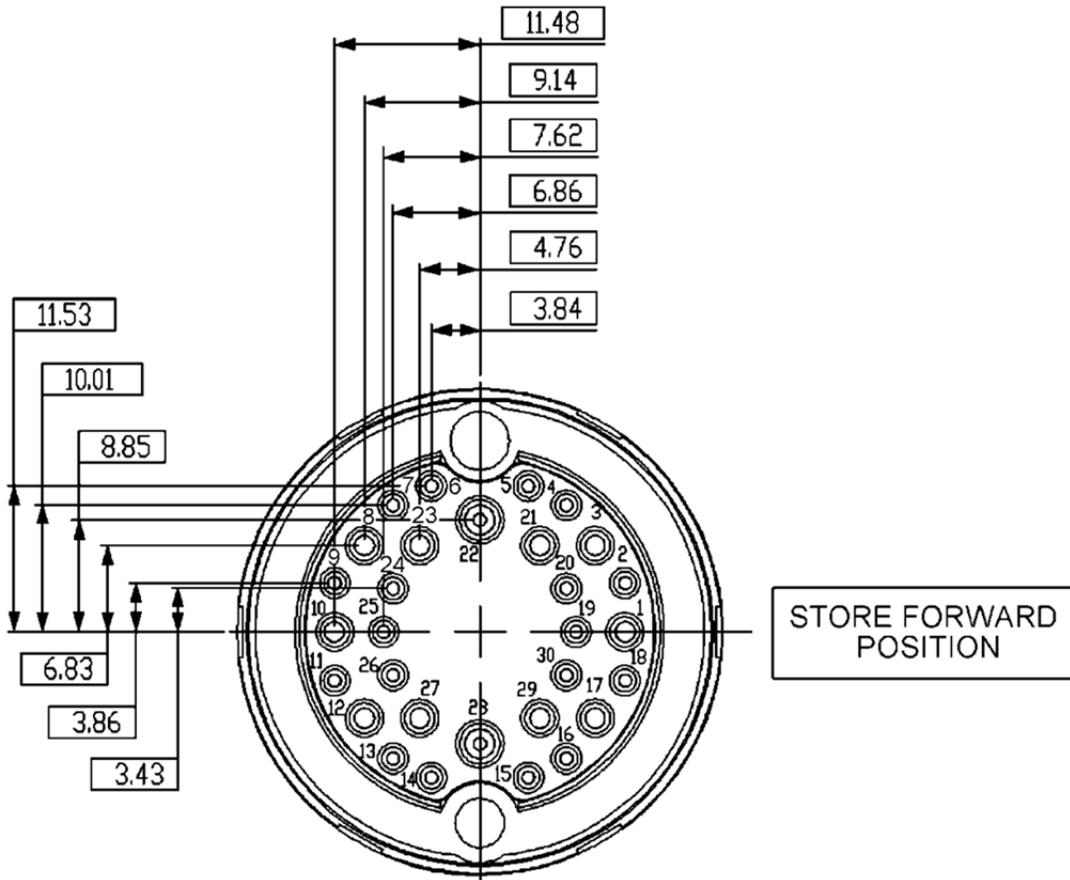
mm	Inches	mm	Inches
0.20	.008	8.90	.350
1.00	.039	8.94	.352
4.34	.171	9.24	.364
5.16	.203	14.18	.558
8.25	.325	14.28	.562

Contact size	C dia ± 0.1
20	2.41 (.095)
16	3.00 (.118)
12	3.81 (.150)

NOTES:

1. Dimensions are in millimeters.
2. Inch equivalents are given for information only.

FIGURE 1. Buffer adapter plug, type 1. - Continued



mm	Inches	mm	Inches	mm	Inches
3.43	.135	6.83	.269	9.14	.360
3.84	.151	6.86	.270	10.01	.394
3.86	.152	7.62	.300	11.48	.452
4.76	.187	8.85	.348	11.53	.454

NOTES:

1. Dimensions are in millimeters.
2. Inch equivalents are given for information only.
3. Hole positions are symmetrical about central axes.

FIGURE 2. Contact arrangement, type 1 - store interface.

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TABLE I. Pin connection details (Cross Reference Matrix Connection path). 1/

Aircraft side (MIL-STD-1760)			Store side (AIM120)		
Nomenclature	Type	Size	Contact	Contact	Size
270V DC Return	---	16	N	1	16
MUX BUS B-High	Twinax	8	H (center)	2	20
28V DC Power 2	---	16	F	3	16
LB (non-inverting)	Twinax	8	A (center)	4	20
LB (inverting)			A (intermed.)	5	20
Release Consent	---	20	1	6	20
LB (Shield)	Twinax	8	A (outer)	7	20
115V AC Ø A	---	16	P	8	16
Address Bit A0	---	20	L	9	20
115V AC Ø B	---	16	M	10	16
Address Bit A1	---	20	X	11	20
115V AC Ø C	---	16	J	12	16
Address Parity	---	20	G	13	20
Address Return	---	20	6	14	20
Interlock Return	---	20	S	15	20
Interlock	---	20	B	16	20
28V DC Power 2 Return	---	16	E	17	16
MUX BUS A-High	Twinax	8	K (center)	18	20
MUX A & B Shield	Twinax	8	K & H (outer)	19	20
MUS BUS B-Low	Twinax	8	H (intermed.)	20	20
28V DC Power 1	---	16	C	21	16
				22	12 2/
Structure Ground	---	16	T	23	16
Address Bit A2	---	20	7	24	20
Address Bit A3	---	20	4	25	20
Address Bit A4	---	20	V	26	20
115V AC Neutral	---	16	Z	27	16
				28	12 2/
28V DC Power 1 Return	---	16	D	29	16
MUX BUS A-Low	Twinax	8	K (intermed.)	30	20
270V DC Power	---	16	R 2/		
Fiber Optics Channel 1	---	16	Y 2/		
Fiber Optics Channel 2	---	16	U 2/		
HB2	Coax	12	W 2/		
HB4	Coax	12	2 2/		
HB3	Coax	12	3 2/		
HB1	Coax	12	5 2/		

- 1/ Every effort has been made to connect contacts on the AIM120 side of the interface to their equivalent contacts on the MIL-STD-1760 side of the interface. It should be noted that, in order to satisfy certain store requirements, pin 1 (AIM120 side) connects with pin N (MIL-STD-1760 side).
- 2/ These contact cavities shall not be used and contacts shall not be installed in these cavities in the buffer. Their counterpart cavities in the receptacle shall be properly sealed.

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REQUIREMENTS:

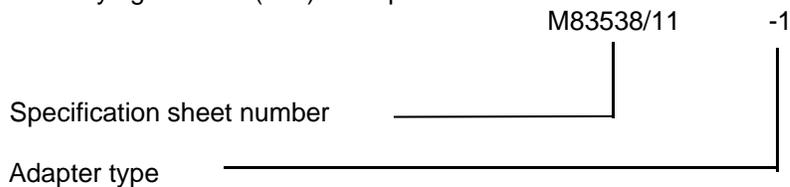
Dimensions and configurations: See figures 1 and 2 and table I.

This connector mates with MIL-DTL-83538/4 and AIM-120 store (or missile) receptacle.

For insert arrangement: See figure 2 and MIL-STD-1560 (25-20).

Solder materials. Solder material shall be in accordance with MIL-DTL-83538. Tin alloys used on internal elements of this buffer plug connector that do not contain lead (e.g., tin/silver/copper alloys, SnAgCu, termed a SAC solder), are allowed when approved by the qualifying activity. Any qualifying activity approval will be confined to a single specific alloy composition. The specific solder area or joints shall be encapsulated in a hard material (plastic or rubber) that ensures isolation from any adjacent solder joint or feature and thereby also prevents the growth of tin whiskers or their propagation to any neighboring joint or feature.

Part or Identifying Number (PIN) example:



Qualification: Connectors shall meet the qualification requirements of MIL-DTL-83538.

Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Referenced documents. In addition to MIL-DTL-83538, this document references the following:

- MIL-DTL-83538/3
- MIL-DTL-83538/4
- MIL-STD-1560

CONCLUDING MATERIAL

Custodians:

- Army – CR
- Navy – AS
- Air Force – 85
- DLA – CC

Preparing activity:

DLA – CC

Review activities:

- Army – AR, MI
- Navy – EC, MC, OS
- Air Force – 19, 99

(Project 5935–2014-117)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.