

INCH-POUND

MS51511B

14 December 2015

SUPERSEDING

MS51511A

17 January 1979

## DETAIL SPECIFICATION SHEET

TEE, PIPE TO TUBE,  
MALE PIPE ON RUN, 37 DEGREE FLARED

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

Inactive for new design after 17 August 1999.  
For new design, use SAE-J514.

The requirements for acquiring the product described herein shall consist of this specification sheet  
and MIL-DTL-18866.

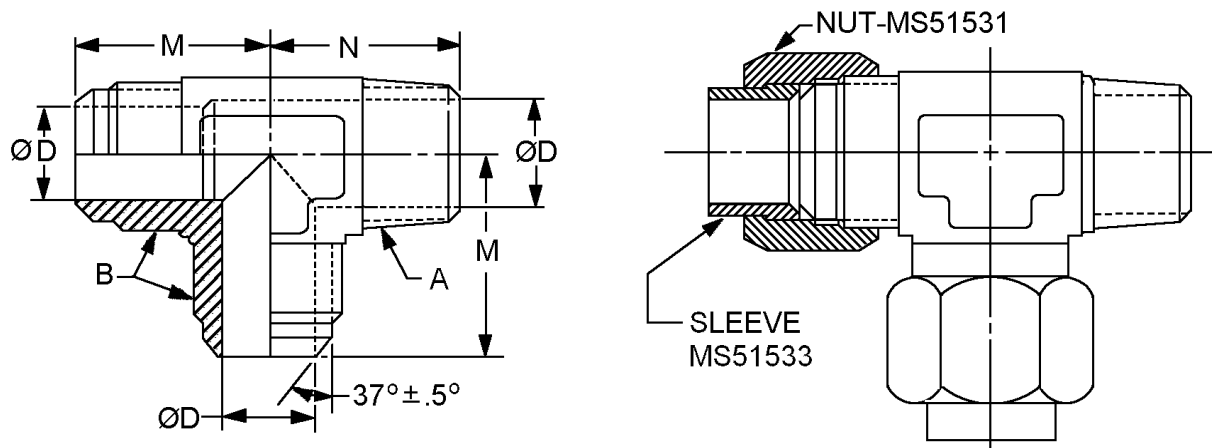


FIGURE 1. Tee, pipe to tube.



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Suffix designator		Tube OD nom.	B Straight thread	D diameter	
Assembly (see note 4)	Body			Basic inches (mm)	Tolerance inches (mm)
A2	B2	.1250 (3.175)	.3125-24 UNF-2A	.062 (1.57)	±.003 (0.08)
A3	B3	.1875 (4.763)	.3750-24 UNF-2A	.125 (3.18)	
A4	B4	.2500 (6.350)	.4375-20 UNF-2A	.172 (4.37)	
A5	B5	.3125 (7.936)	.5000-20 UNF-2A	.234 (5.94)	
A6	B6	.3750 (9.525)	.5625-18 UNF-2A	.297 (7.54)	±.004 (0.10)
A8	B8	.5000 (12.700)	.7500-16 UNF-2A	.391 (9.93)	
A10	B10	.6250 (15.875)	.8750-14 UNF-2A	.484 (12.29)	
A12	B12	.7500 (19.050)	1.0625-12 UN-2A	.609 (15.47)	±.005 (0.13)
A14	B14	.8750 (22.225)	1.1875-12 UN-2A	.718 (18.24)	
A16	B16	1.0000 (25.400)	1.3125-12 UN-2A	.844 (21.44)	±.007 (0.18)
A20	B20	1.2500 (31.750)	1.6250-12 UN-2A	1.078 (27.38)	+0.008 -.005
A24	B24	1.5000 (38.100)	1.8750-12 UN-2A	1.312 (33.32)	(+0.20 -0.13)
A32	B32	2.0000 (50.800)	2.500-12 UN-2A	1.781 (45.24)	+0.010 -.005 (+0.25 -.013)

Suffix designator		D <sub>1</sub> Dia drill inches (mm)	M inches (mm) ±.030 (0.76)	N inches (mm) ±.030 (0.76)
Assembly	Body			
A2	B2	.188 (4.78)	.770 (19.56)	.720 (18.29)
A3	B3	.388 (9.86)	.830 (21.08)	.720 (18.29)
A4	B4	.168 (4.27)	.890 (22.61)	.780 (19.81)
A5	B5	.188 (4.78)	.930 (23.62)	.780 (19.81)
A6	B6	.281 (7.14)	1.060 (26.92)	1.090 (27.69)
A8	B8	.406 (10.31)	1.250 (31.75)	1.220 (30.99)
A10	B10	.531 (13.49)	1.450 (36.83)	1.470 (37.34)
A12	B12	.719 (18.26)	1.660 (42.16)	1.590 (40.39)
A14	B14	.719 (18.26)	1.730 (43.94)	1.690 (42.93)
A16	B16	.938 (23.83)	1.810 (45.97)	1.970 (50.04)
A20	B20	1.250 (31.75)	2.060 (52.32)	2.380 (60.45)
A24	B24	1.500 (38.10)	2.330 (59.18)	2.640 (67.06)
A32	B32	1.938 (49.23)	3.060 (77.72)	3.000 (76.20)

## NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Break all sharp edges and remove all burrs and slivers.
4. Assemblies are only furnished to this specification (body, nuts, and sleeves). Bodies are not to be stocked stored or issued.
5. Dimensions and tolerances not shown shall be in accordance with SAE-J514 for 37° flared fittings.
6. The drawing is for identification purposes only and is not intended to restrict designs and shapes not dimensioned.

FIGURE 1. Tee, pipe to tube. - Continued.

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## REQUIREMENTS:

Fittings shall be as specified on figure 1 and tables I and II.

Materials shall be in accordance with MIL-DTL-18866 and table I.

TABLE I. Materials.

Material	Form	Specification	Alloy
Carbon steel	Bar	SAE-J403	1110, 1120, 1140, 1213, 1215, or 12L14
	Forgings		
Chrome-molybdenum steel	Bars	SAE-AMS6370	4130
	Forgings	SAE-AMS6382	
		SAE-AMS6370	
Corrosion resistant steel	Bars and forgings	ASTM A276/A276M	304, 304L, 316, or 321
		ASTM A564/A564M	XM-12 (15-5 PH) UNS S15500 or 603 (17-4 PH) UNS S17400
		SAE-AMS5639	UNS S30400
		SAE-AMS5645	UNS S32100
		SAE-AMS5647	UNS S30403
		SAE-AMS5743	UNS S35500
	Bar	ASTM A582/A582M	UNS S30300
Nickel-copper alloy	Bar	ASTM B164 QQ-N-281	UNS N04400
High-chromium nickel alloy	Bar	ASTM B166	UNS N06690
	Forgings	ASTM B564	
Titanium <u>1/</u>	Bars	SAE-AMS4928	6Al-4V annealed
	Forgings		

1/ Titanium shall not be used in oxygen or potable water systems.

Finish. Finishes shall be as specified in table II. All platings shall be capable of meeting a minimum of 96 hours salt spray test in accordance with ASTM B117. The fittings shall show no evidence of corrosion after 96 hours of salt spray. Fluid passages, other openings and internal threads shall not be subject to the plating thickness requirement and may have bare areas provided they are protected with a light film of oil.

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TABLE II. Material and finish identification codes.

PIN code material/plating finish	Material	Plating finish
Blank	Steel	Cadmium plating in accordance with SAE-AMS-C-81562, type II, class 3 or SAE-AMS-QQ-P-416, type II, class 2. <u>1/</u>
CN		Cadmium plating in accordance with SAE-AMS-C-81562, type II, class 3 or SAE-AMS-QQ-P-416, type II, class 2 with NAVAIR trivalent chromium pretreatment (TCP) in accordance with MIL-DTL-81706, type II, class 1A. <u>1/</u>
E		NAVAIR TCP in accordance with MIL-DTL-81706, type II, class 1A.
F	Steel	Zinc plate (finish J, P, or R) with NAVAIR TCP in accordance with MIL-DTL-81706, type II, class 1A.
H	Steel	Zinc/Aluminum in accordance with ASTM F1136/F1136M, grade 3, NC.
J	Steel	Zinc-nickel in accordance with SAE-AMS2417, type 2, grade B.
M	Nickel-copper alloy UNS N04400	No additional finish.
N	High-chromium nickel alloy UNS N06690	No additional finish.
P	Steel	Zinc phosphate finish in accordance MIL-DTL-16232 type Z, class1.
R	Steel	Zinc plating in accordance with ASTM B633; type VI, Fe/Zn 5. <u>2/</u>
S	Corrosion resistant steel	No additional finish. Passivation in accordance with SAE-AMS2700, method 1, type 6 or 7.
T	Titanium	Anodize in accordance with SAE-AMS2488 type 2.
TF	Titanium	Fluoride phosphate in accordance with SAE-AMS2486. <u>3/</u>
Z	Steel	Zinc plating in accordance with ASTM B633; type II or III, Fe/Zn 5, or ASTM B695, type II, class 5. <u>4/</u>
ZN	Steel	Zinc plating in accordance with ASTM B633; type II or III, Fe/Zn 5, or ASTM B695, type II, class 5 with NAVAIR TCP in accordance with MIL-DTL-81706, type II, class 1A. <u>4/</u>

1/ Embrittlement test need not be run. Cadmium shall not be used in oxygen or potable water systems.

2/ Hexavalent chromium free.

3/ A pretreatment, a modification of the fluoride treatment, or a post treatment shall be applied so the final color of the fittings shall be similar to FED-STD-595 colors 36076 through 36293.

4/ Not for use in aircraft.

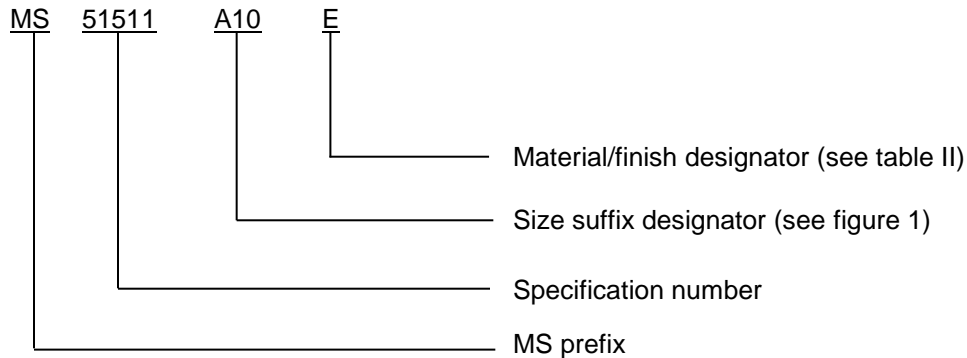
Trivalent wrenchability. When the finish has been damaged due to poor wrenchability, the surface of the connector shall be touched up using the brush plating process below. The term "trivalent wrenchability" is used to evaluate the ability of the finish to withstand abrasion from an excessive amount of wrenching.

- Brush plating of hard chromium by electrodeposition shall be in accordance with SAE-AMS-2451/5.
- Brush plating of medium-hardness, low stress nickel by electrodeposition shall be in accordance with SAE-AMS-2451/9.
- Brush plating of NAVAIR TCP shall be in accordance with MIL-DTL-81706, type II, class 1A, material form 1 through 6, application method B. Example of a PIN: M817062A6B.

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Maximum operating pressure. Maximum operating pressure shall be in accordance with SAE-J514.

PIN: The PIN consists of the letters "MS", the specification number, a letter and number for tee size, and a letter for material finish designator.



PIN example: MS51511A10E indicates a tee pipe to tube, .6250 inch (15.875 mm), steel with NAVAIR TCP.

Cadmium is not recommended. To the users of this document, it is recommended that the use of carbon steel material with cadmium plating be used only when other materials and finishes specified in this document cannot meet performance requirements.

Order of precedence. Unless otherwise noted herein or in the contract, in the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

Referenced documents shall be of the issue in effect on date of invitations for bid.

Table III provides a detailed cross-reference of inactive MS51511 PIN's and for new design SAE J514 PIN's.

MS51511 parts have straight threads in accordance with ASME B1.1 the SAE parts have straight threads in accordance with SAE-J425.

Users are cautioned to evaluate replacement parts for their particular application.

**CAUTION:** The superseding information is valid as of the date of this specification and may be superseded by subsequent revisions of the superseding document.

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TABLE III. MS51511 to SAE-J514 cross reference.

Inactive for new design MS51511- PIN		Tube OD	Pipe thread NPTF	For new design SAE-J514 PIN	
Assembly	Body			Assembly	Body
MS51511A2	MS51511B2	1/8	1/8	Not available	Not available
MS51511A2CN	MS51511B2CN	1/8	1/8	Not available	Not available
MS51511A2E	MS51511B2E	1/8	1/8	Not available	Not available
MS51511A2F	MS51511B2F	1/8	1/8	Not available	Not available
MS51511A2H	MS51511B2H	1/8	1/8	Not available	Not available
MS51511A2J	MS51511B2J	1/8	1/8	Not available	Not available
MS51511A2M	MS51511B2M	1/8	1/8	J514-2-2-070424MA	J514-2-2-070424MB
MS51511A2N	MS51511B2N	1/8	1/8	J514-2-2-070424NA	J514-2-2-070424NB
MS51511A2P	MS51511B2P	1/8	1/8	J514-2-2-070424PA	J514-2-2-070424PB
MS51511A2R	MS51511B2R	1/8	1/8	Not available	Not available
MS51511A2S	MS51511B2S	1/8	1/8	J514-2-2-070424SA	J514-2-2-070424SB
MS51511A2T	MS51511B2T	1/8	1/8	J514-2-2-070424TA	J514-2-2-070424TB
MS51511A2TF	MS51511B2TF	1/8	1/8	Not available	Not available
MS51511A2Z	MS51511B2Z	1/8	1/8	J514-2-2-070424ZA	J514-2-2-070424ZB
MS51511A2ZN	MS51511B2ZN	1/8	1/8	Not available	Not available
MS51511A3	MS51511B3	3/16	1/8	Not available	Not available
MS51511A3CN	MS51511B3CN	3/16	1/8	Not available	Not available
MS51511A3E	MS51511B3E	3/16	1/8	Not available	Not available
MS51511A3F	MS51511B3F	3/16	1/8	Not available	Not available
MS51511A3H	MS51511B3H	3/16	1/8	Not available	Not available
MS51511A3J	MS51511B3J	3/16	1/8	Not available	Not available
MS51511A3M	MS51511B3M	3/16	1/8	J514-3-2-070424MA	J514-3-2-070424MB
MS51511A3N	MS51511B3N	3/16	1/8	J514-3-2-070424NA	J514-3-2-070424NB
MS51511A3P	MS51511B3P	3/16	1/8	J514-3-2-070424PA	J514-3-2-070424PB
MS51511A3R	MS51511B3R	3/16	1/8	Not available	Not available
MS51511A3S	MS51511B3S	3/16	1/8	J514-3-2-070424SA	J514-3-2-070424SB
MS51511A3T	MS51511B3T	3/16	1/8	J514-3-2-070424TA	J514-3-2-070424TB
MS51511A3TF	MS51511B3TF	3/16	1/8	Not available	Not available
MS51511A3Z	MS51511B3Z	3/16	1/8	J514-3-2-070424ZA	J514-3-2-070424ZB
MS51511A3ZN	MS51511B3ZN	3/16	1/8	Not available	Not available
MS51511A4	MS51511B4	1/4	1/8	Not available	Not available
MS51511A4CN	MS51511B4CN	1/4	1/8	Not available	Not available
MS51511A4E	MS51511B4E	1/4	1/8	Not available	Not available
MS51511A4F	MS51511B4F	1/4	1/8	Not available	Not available
MS51511A4H	MS51511B4H	1/4	1/8	Not available	Not available
MS51511A4J	MS51511B4J	1/4	1/8	Not available	Not available
MS51511A4M	MS51511B4M	1/4	1/8	J514-4-2-070424ZA	J514-4-2-070424ZB
MS51511A4N	MS51511BN	1/4	1/8	J514-4-2-070424PA	J514-4-2-070424PB
MS51511A4P	MS51511B4P	1/4	1/8	J514-4-2-070424SA	J514-4-2-070424SB
MS51511A4T	MS51511B4T	1/4	1/8	J514-4-2-070424TA	J514-4-2-070424TB
MS51511A4TF	MS51511B4TF	1/4	1/8	Not available	Not available
MS51511A4Z	MS51511B4Z	1/4	1/8	J514-4-2-070424ZA	J514-4-2-070424ZB
MS51511A4ZN	MS51511B4ZN	1/4	1/8	Not available	Not available

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TABLE III. MS51511 to SAE-J514 cross reference - Continued.

Inactive for new design MS51511- PIN		Tube OD	Pipe thread NPTF	For new design SAE-J514 PIN	
Assembly	Body			Assembly	Body
MS51511A5	MS51511B5	5/16	1/8	Not available	Not available
MS51511A5CN	MS51511B5CN	5/16	1/8	Not available	Not available
MS51511A5E	MS51511B5E	5/16	1/8	Not available	Not available
MS51511A5F	MS51511B5F	5/16	1/8	Not available	Not available
MS51511A5H	MS51511B5H	5/16	1/8	Not available	Not available
MS51511A5J	MS51511B5J	5/16	1/8	Not available	Not available
MS51511A5M	MS51511B5M	5/16	1/8	J514-5-2070424MA	J514-5-2-070424MB
MS51511A5N	MS51511B5N	5/16	1/8	J514-5-2070424NA	J514-5-2-070424NB
MS51511A5P	MS51511B5P	5/16	1/8	J514-5-2070424PA	J514-5-2-070424PB
MS51511A5R	MS51511B5R	5/16	1/8	Not available	Not available
MS51511A5S	MS51511B5S	5/16	1/8	J514-5-2070424SA	J514-5-2-070424SB
MS51511A5T	MS51511B5T	5/16	1/8	J514-5-2070424TA	J514-5-2-070424TB
MS51511A5TF	MS51511B5TF	5/16	1/8	Not available	Not available
MS51511A5Z	MS51511B5Z	5/16	1/8	J514-5-2070424ZA	J514-5-2-070424ZB
MS51511A5ZN	MS51511B5ZN	5/16	1/8	Not available	Not available
MS51511A6	MS51511B6	3/8	1/4	Not available	Not available
MS51511A6CN	MS51511B6CN	3/8	1/4	Not available	Not available
MS51511A6E	MS51511B6E	3/8	1/4	Not available	Not available
MS51511A6F	MS51511B6F	3/8	1/4	Not available	Not available
MS51511A6H	MS51511B6H	3/8	1/4	Not available	Not available
MS51511A6J	MS51511B6J	3/8	1/4	Not available	Not available
MS51511A6M	MS51511B6M	3/8	1/4	J514-6-4070424MA	J514-6-4-070424MB
MS51511A6N	MS51511B6N	3/8	1/4	J514-6-4070424NA	J514-6-4-070424NB
MS51511A6P	MS51511B6P	3/8	1/4	J514-6-4070424PA	J514-6-4-070424PB
MS51511A6R	MS51511B6R	3/8	1/4	Not available	Not available
MS51511A6S	MS51511B6S	3/8	1/4	J514-6-4070424SA	J514-6-4-070424SB
MS51511A6T	MS51511B6T	3/8	1/4	J514-6-4070424TA	J514-6-4-070424TB
MS51511A6TF	MS51511B6TF	3/8	1/4	Not available	Not available
MS51511A6Z	MS51511B6Z	3/8	1/4	J514-6-4070424ZA	J514-6-4-070424ZB
MS51511A6ZN	MS51511B6ZN	3/8	1/4	Not available	Not available
MS51511A8	MS51511B8	1/2	3/8	Not available	Not available
MS51511A8CN	MS51511B8CN	1/2	3/8	Not available	Not available
MS51511A8E	MS51511B8E	1/2	3/8	Not available	Not available
MS51511A8F	MS51511B8F	1/2	3/8	Not available	Not available
MS51511A8H	MS51511B8H	1/2	3/8	Not available	Not available
MS51511A8J	MS51511B8J	1/2	3/8	Not available	Not available
MS51511A8M	MS51511B8M	1/2	3/8	J514-8-6070424MA	J514-8-6-070424MB
MS51511A8N	MS51511B8N	1/2	3/8	J514-8-6070424NA	J514-8-6-070424NB
MS51511A8P	MS51511B8P	1/2	3/8	J514-8-6070424PA	J514-8-6-070424PB
MS51511A8R	MS51511B8R	1/2	3/8	Not available	Not available
MS51511A8S	MS51511B8S	1/2	3/8	J514-8-6070424SA	J514-8-6-070424SB
MS51511A8T	MS51511B8T	1/2	3/8	J514-8-6070424TA	J514-8-6-070424TB
MS51511A8TF	MS51511B8TF	1/2	3/8	Not available	Not available
MS51511A8Z	MS51511B8Z	1/2	3/8	J514-8-6070424ZA	J514-8-6-070424ZB
MS51511A8ZN	MS51511B8ZN	1/2	3/8	Not available	Not available

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TABLE III. MS51511 to SAE-J514 cross reference - Continued.

Inactive for new design MS51511- PIN		Tube OD	Pipe thread NPTF	For new design SAE-J514 PIN	
Assembly	Body			Assembly	Body
MS51511A10	MS51511B10	5/8	1/2	Not available	Not available
MS51511A10CN	MS51511B10CN	5/8	1/2	Not available	Not available
MS51511A10E	MS51511B10E	5/8	1/2	Not available	Not available
MS51511A10F	MS51511B10F	5/8	1/2	Not available	Not available
MS51511A10H	MS51511B10H	5/8	1/2	Not available	Not available
MS51511A10J	MS51511B10J	5/8	1/2	Not available	Not available
MS51511A10M	MS51511B10M	5/8	1/2	J514-10-8070424MA	J514-10-8-070424MB
MS51511A10N	MS51511B10N	5/8	1/2	J514-10-8070424NA	J514-10-8-070424NB
MS51511A10P	MS51511B10P	5/8	1/2	J514-10-8070424PA	J514-10-8-070424PB
MS51511A10R	MS51511B10R	5/8	1/2	Not available	Not available
MS51511A10S	MS51511B10S	5/8	1/2	J514-10-8070424SA	J514-10-8-070424SB
MS51511A10T	MS51511B10T	5/8	1/2	J514-10-8070424TA	J514-10-8-070424TB
MS51511A10TF	MS51511B10TF	5/8	1/2	Not available	Not available
MS51511A10Z	MS51511B10Z	5/8	1/2	J514-10-8070424ZA	J514-10-8-070424ZB
MS51511A10ZN	MS51511B10ZN	5/8	1/2	Not available	Not available
MS51511A12	MS51511B12	3/4	3/4	Not available	Not available
MS51511A12CN	MS51511B12CN	3/4	3/4	Not available	Not available
MS51511A12E	MS51511B12E	3/4	3/4	Not available	Not available
MS51511A12F	MS51511B12F	3/4	3/4	Not available	Not available
MS51511A12H	MS51511B12H	3/4	3/4	Not available	Not available
MS51511A12J	MS51511B12J	3/4	3/4	Not available	Not available
MS51511A12M	MS51511B12M	3/4	3/4	J514-12-12070424MA	J514-12-12-070424MB
MS51511A12N	MS51511B12N	3/4	3/4	J514-12-12070424NA	J514-12-12-070424NB
MS51511A12P	MS51511B12P	3/4	3/4	J514-12-12070424PA	J514-12-12-070424PB
MS51511A12R	MS51511B12R	3/4	3/4	Not available	Not available
MS51511A12S	MS51511B12S	3/4	3/4	J514-12-12070424SA	J514-12-12-070424SB
MS51511A12T	MS51511B12T	3/4	3/4	J514-12-12070424TA	J514-12-12-070424TB
MS51511A12TF	MS51511B12TF	3/4	3/4	Not available	Not available
MS51511A12Z	MS51511B12Z	3/4	3/4	J514-12-12070424ZA	J514-12-12-070424ZB
MS51511A12ZN	MS51511B12ZN	3/4	3/4	Not available	Not available
MS51511A14	MS51511B14	7/8	3/4	Not available	Not available
MS51511A14CN	MS51511B14CN	7/8	3/4	Not available	Not available
MS51511A14E	MS51511B14E	7/8	3/4	Not available	Not available
MS51511A14F	MS51511B14F	7/8	3/4	Not available	Not available
MS51511A14H	MS51511B14H	7/8	3/4	Not available	Not available
MS51511A14J	MS51511B14J	7/8	3/4	Not available	Not available
MS51511A14M	MS51511B14M	7/8	3/4	J514-14-12070424MA	J514-14-12-070424MB
MS51511A14N	MS51511B14N	7/8	3/4	J514-14-12070424NA	J514-14-12-070424NB
MS51511A14P	MS51511B14P	7/8	3/4	J514-14-12070424PA	J514-14-12-070424PB
MS51511A14R	MS51511B14R	7/8	3/4	Not available	Not available
MS51511A14S	MS51511B14S	7/8	3/4	J514-14-12070424SA	J514-14-12-070424SB
MS51511A14T	MS51511B14T	7/8	3/4	J514-14-12070424TA	J514-14-12-070424TB
MS51511A14TF	MS51511B14TF	7/8	3/4	Not available	Not available
MS51511A14Z	MS51511B14Z	7/8	3/4	J514-14-12070424ZA	J514-14-12-070424ZB
MS51511A14ZN	MS51511B14ZN	7/8	3/4	Not available	Not available



## MS51511B

TABLE III. MS51511 to SAE-J514 cross reference - Continued.

Inactive for new design MS51511- PIN		Tube OD	Pipe thread NPTF	For new design SAE-J514 PIN	
Assembly	Body			Assembly	Body
MS51511A16	MS51511B16	1	1	Not available	Not available
MS51511A16CN	MS51511B16CN	1	1	Not available	Not available
MS51511A16E	MS51511B16E	1	1	Not available	Not available
MS51511A16F	MS51511B16F	1	1	Not available	Not available
MS51511A16H	MS51511B16H	1	1	Not available	Not available
MS51511A16J	MS51511B16J	1	1	Not available	Not available
MS51511A16M	MS51511B16M	1	1	J514-16-16070424MA	J514-16-16-070424MB
MS51511A16N	MS51511B16N	1	1	J514-16-16070424NA	J514-16-16-070424PB
MS51511A16P	MS51511B16P	1	1	J514-16-16070424PA	J514-16-16-070424PB
MS51511A16R	MS51511B16R	1	1	Not available	Not available
MS51511A16S	MS51511B16P	1	1	J514-16-16070424PA	J514-16-16-070424SB
MS51511A16T	MS51511B16T	1	1	J514-16-16070424TA	J514-16-16-070424TB
MS51511A16TF	MS51511B16TF	1	1	Not available	Not available
MS51511A16Z	MS51511B16Z	1	1	J514-16-16070424ZA	J514-16-16-070424ZB
MS51511A16ZN	MS51511B16ZN	1	1	Not available	Not available
MS51511A20	MS51511B20	1 1/4	1 1/4	Not available	Not available
MS51511A20M	MS51511B20M	1 1/4	1 1/4	J514-20-20070424MA	J514-20-20-070424MB
MS51511A20N	MS51511B20N	1 1/4	1 1/4	J514-20-20070424NA	J514-20-20-070424NB
MS51511A20P	MS51511B20P	1 1/4	1 1/4	J514-20-20070424PA	J514-20-20-070424SB
MS51511A20T	MS51511B20T	1 1/4	1 1/4	J514-20-20070424TA	J514-20-20-070424TB
MS51511A20TF	MS51511B20TF	1 1/4	1 1/4	Not available	Not available
MS51511A20Z	MS51511B20Z	1 1/4	1 1/4	J514-20-20070424ZA	J514-20-20-070424ZB
MS51511A20ZN	MS51511B20ZN	1 1/4	1 1/4	Not available	Not available
MS51511A24	MS51511B24	1 1/2	1 1/2	Not available	Not available
MS51511A24CN	MS51511B24CN	1 1/2	1 1/2	Not available	Not available
MS51511A24E	MS51511B24E	1 1/2	1 1/2	Not available	Not available
MS51511A24F	MS51511B24F	1 1/2	1 1/2	Not available	Not available
MS51511A24H	MS51511B24H	1 1/2	1 1/2	Not available	Not available
MS51511A24J	MS51511B24J	1 1/2	1 1/2	Not available	Not available
MS51511A24M	MS51511B24M	1 1/2	1 1/2	J514-24-24-070424MA	J514-24-24-070424MB
MS51511A24N	MS51511B24N	1 1/2	1 1/2	J514-24-24-070424NA	J514-24-24-070424NB
MS51511A24P	MS51511B24P	1 1/2	1 1/2	J514-24-24-070424PA	J514-24-24-070424PB
MS51511A24R	MS51511B24R	1 1/2	1 1/2	Not available	Not available
MS51511A24S	MS51511B24S	1 1/2	1 1/2	J514-24-24-070424SA	J514-24-24-070424SB
MS51511A24T	MS51511B24T	1 1/2	1 1/2	J514-24-24-070424ZA	J514-24-24-070424TB
MS51511A24TF	MS51511B24TF	1 1/2	1 1/2	Not available	Not available
MS51511A24Z	MS51511B24Z	1 1/2	1 1/2	J514-24-24-070424ZA	J514-24-24-070424ZB
MS51511A24ZN	MS51511B24ZN	1 1/2	1 1/2	Not available	Not available

## MS51511B

TABLE III. MS51511 to SAE-J514 cross reference - Continued.

Inactive for new design MS51511- PIN		Tube OD	Pipe thread NPTF	For new design SAE-J514 PIN	
Assembly	Body			Assembly	Body
MS51511A32	MS51511B32	2	2	Not available	Not available
MS51511A32CN	MS51511B32CN	2	2	Not available	Not available
MS51511A32E	MS51511B32E	2	2	Not available	Not available
MS51511A32F	MS51511B32F	2	2	Not available	Not available
MS51511A32H	MS51511B32H	2	2	Not available	Not available
MS51511A32J	MS51511B32J	2	2	Not available	Not available
MS51511A32M	MS51511B32M	2	2	J514-32-32-070424MA	J514-32-32-070424MB
MS51511A32N	MS51511B32N	2	2	J514-32-32-070424NA	J514-32-32-070424NB
MS51511A32P	MS51511B32P	2	2	J514-32-32-070424PA	J514-32-32-070424PB
MS51511A32R	MS51511B32R	2	2	Not available	Not available
MS51511A32S	MS51511B32S	2	2	J514-32-32-070424SA	J514-32-32-070424SB
MS51511A32T	MS51511B32T	2	2	J514-32-32-070424TA	J514-32-32-070424TB
MS51511A32TF	MS51511B32TF	2	2	Not available	Not available
MS51511A32Z	MS51511B32Z	2	2	J514-32-32-070424ZA	J514-32-32-070424ZB
MS51511A32ZN	MS51511B32ZN	2	2	Not available	Not available

Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue, due to the extent of the changes.

Referenced documents. In addition to MIL-DTL-18866, this document references the following:

FED-STD-595/36076	FED-STD-595/36280	ASTM B164	SAE-AMS2488
FED-STD-595/36081	FED-STD-595/36293	ASTM B166	SAE-AMS2700
FED-STD-595/36099	MIL-DTL-16232	ASTM B564	SAE-AMS4928
FED-STD-595/36118	MIL-DTL-81706	ASTM B633	SAE-AMS5639
FED-STD-595/36134	MS51531	ASTM B695	SAE-AMS5645
FED-STD-595/36152	MS51533	ASTM F1136/F1136M	SAE-AMS5647
FED-STD-595/36170	QQ-N-281	SAE-AMS-C-81562	SAE-AMS5743
FED-STD-595/36173	ASME B1.1	SAE-AMS-QQ-P-416	SAE-AMS6370
FED-STD-595/36176	ASTM A276/A276M	SAE-AMS2417	SAE-AMS6382
FED-STD-595/36231	ASTM A564/A564M	SAE-AMS2451/5	SAE-J403
FED-STD-595/36251	ASTM A582/A582M	SAE-AMS2451/9	SAE-J425
FED-STD-595/36270	ASTM B117	SAE-AMS2486	SAE-J514

MS51511B

CONCLUDING MATERIAL

Custodians:

Army - AR  
Navy - OS  
Air Force - 99  
DLA - CC

Preparing activity:

DLA - CC

(Project 4730-2016-007)

Review activities:

Army - AT  
Navy - MC  
Air Force - 71

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>.