



DEFENSE LOGISTICS AGENCY
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June 23, 2016

MEMORANDUM FOR MILITARY/INDUSTRY DISTRIBUTION

SUBJECT: Initial Drafts of: MS51506 through MS51515
Project Numbers: 4730-2016-054 through -063

These initial drafts for these subject documents are now available for viewing and downloading from the DLA Land and Maritime-VA Web site:

<http://www.landandmaritime.dla.mil/programs/milspec/>

Major changes to these documents include: Removal of material table, specify on MS sheets materials are to be in accordance with MIL-DTL-18866. Update finish table to remove TCP from document, not used on steel parts. Zinc plated parts increase amount of zinc. Zinc-nickel alloy plate add nickel thickness requirements. Update cross reference tables remove to remove material codes CN, E, F, and change ZN to ZC.

Concurrence or comments are required at this Center within 45 days from the date of this letter. Late comments will be held for the next coordination of the document. Comments from military departments must be identified as either "Essential" or "Suggested". Essential comments must be justified with supporting data. Military review activities should forward comments to their custodians of this office, as applicable, in sufficient time to allow for consolidating the department reply. Lack of response to this draft will be construed as concurrence.

If these documents are of interest to you, please provide your comments or suggested changes. The point of contact for this document is Mr. William Carpenter, phone number 614-692-0573, facsimile transmission, 614-692-6939, e-mail William.F.Carpenter@dla.mil, or may be mailed via the US Postal Service to DLA LAND AND MARITIME, ATTN: VAI (Attention: William Carpenter), P.O. Box 3990, Columbus, OH 43218-3990.

Sincerely,

/ *SIGNED* /

ABDONASSER M. ABDOUNI
Chief,
Interconnection Branch

cc:
FMDD (James Anderson)

NOTE: This draft, dated 23 June 2016 prepared by DLA-CC, has not been approved and is subject to modification. DO NOT USE PRIOR TO APPROVAL. (PROJECT 4730-2016-061)

INCH-POUND

MS51513C
DRAFT
SUPERSEDING
MS51513B
14 December 2015

DETAIL SPECIFICATION SHEET

TEE, PIPE TO TUBE,
FEMALE PIPE ON BRANCH, 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.

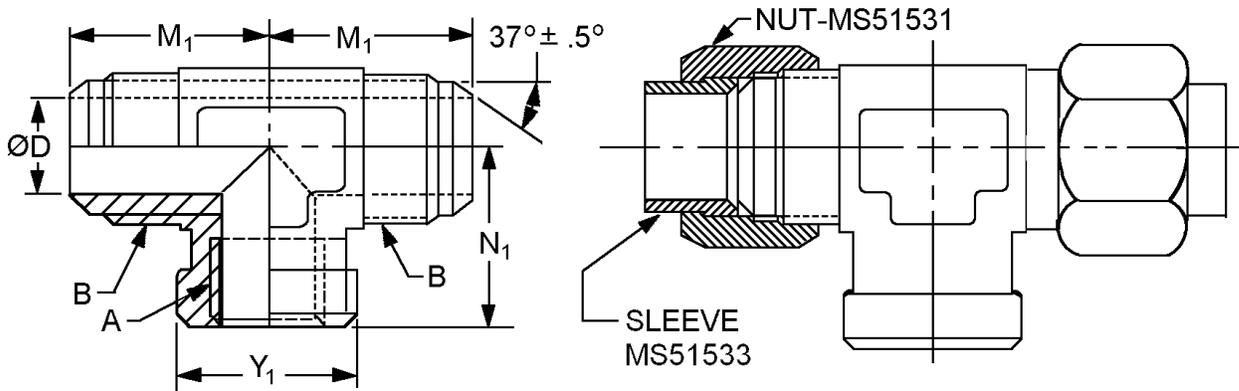


FIGURE 1. Tee, female pipe on branch.



MS51513C
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Suffix designator		Tube OD nom.	A Thread NPTF	B Straight thread
Assembly (see note 4)	Body			
A2	B2	.1250 (3.175)	.125 -27	.3125-24 UNF-2A
A3	B3	.1875 (4.763)	.125 -27	.3750-24 UNF-2A
A4	B4	.2500 (6.350)	.125 -27	.4375-20 UNF-2A
A5	B5	.3125 (7.938)	.125 -27	.5000-20 UNF-2A
A6	B6	.3750 (9.525)	.250 - 18	.5625-18 UNF-2A
A8	B8	.5000 (12.700)	.375 - 18	.7500-16 UNF-2A
A10	B10	.6250 (15.875)	.500 - 14	.8750-14 UNF-2A
A12	B12	.7500 (19.050)	.750 - 14	1.0625-12 UN-2A
A14	B14	.8750 (22.225)	.750 - 14	1.1875-12 UN-2A
A16	B16	1.0000 (25.400)	1.000 – 11 1/2	1.3125-12 UN-2A
A20	B20	1.2500 (31.750)	1.250 – 11 1/2	1.6250-12 UN-2A
A24	B24	1.5000 (38.100)	1.500 – 11 1/2	1.8750-12 UN-2A
A32	B32	2.0000 (50.800)	2.000 – 11 1/2	2.500-12 UN-2A

Suffix designator		D diameter		M ₁	N ₁	Y ₁
Assembly	Body	Basic inches (mm)	Tolerance inches (mm)	inches (mm) ±.030 (0.76)	inches (mm) ±.030 (0.76)	inches (mm) ±.020 (0.51)
A2	B2	.062 (1.57)	±.003 (0.08)	1.000 (25.40)	.660 (16.76)	.562 (14.27)
A3	B3	.125 (3.18)		1.030 (26.16)	.660 (16.76)	.562 (14.27)
A4	B4	.172 (4.37)		1.080 (27.43)	.660 (16.76)	.562 (14.27)
A5	B5	.234 (5.94)		1.080 (27.43)	.660 (16.76)	.562 (14.27)
A6	B6	.297 (7.54)	±.004 (0.10)	1.230 (31.24)	.880 (22.35)	.750 (19.05)
A8	B8	.391 (9.93)		1.420 (36.07)	1.020 (25.91)	.875 (22.23)
A10	B10	.484 (12.29)		1.640 (41.66)	1.230 (31.24)	1.062 (26.97)
A12	B12	.609 (15.47)	±.005 (0.13)	1.890 (48.01)	1.360 (34.54)	1.312 (33.32)
A14	B14	.718 (18.24)		1.860 (47.24)	1.420 (36.07)	1.312 (33.32)
A16	B16	.844 (21.44)	±.007 (0.18)	2.170 (55.12)	1.620 (41.15)	1.625 (41.28)
A20	B20	1.078 (27.38)	+0.008 -0.005	2.330 (59.18)	1.700 (43.18)	1.875 (47.63)
A24	B24	1.312 (33.32)	(+0.20 -0.13)	2.890 (73.41)	2.080 (52.83)	2.562 (65.07)
A32	B32	1.781 (45.24)	+0.010 -0.005 (+0.25 -0.13)	3.300 (83.82)	2.390 (60.71)	2.812 (71.42)

FIGURE 1. Tee, female pipe on branch. - Continued.

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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, female pipe on branch. - Continued.

REQUIREMENTS:

Fittings shall be as specified on figure 1 and in table I.

Components of the assemblies shall be of the same material and finish.

Materials shall be in accordance with MIL-DTL-18866.

Finish. Finishes shall be as specified in table I. 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.

TABLE I. 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 2 or SAE-AMS-QQ-P-416, type II, class 2. <u>1/</u>
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. <u>2/</u>
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, class 4. <u>3/</u>
R	Steel	Zinc plating in accordance with ASTM B633; type VI, Fe/Zn 12. <u>4/</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. <u>5/</u>
TF	Titanium	Fluoride phosphate in accordance with SAE-AMS2486. <u>5/</u>
Z	Steel	Zinc plating in accordance with ASTM B633; type II or III, Fe/Zn 12, or ASTM B695, type II, class 12. <u>4/</u>
ZC	Steel	Zinc may be any zinc plating from PIN codes H, J, and R with a colored chromate coating. <u>4/</u>

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

2/ The zinc-nickel alloy plate shall contain 12% to 16% nickel. The coating thickness shall be 315µ inches (8µm) minimum.

3/ Hexavalent chromium free. Finish shall be ROHS compliant.

4/ Not for use in aircraft. Requires approval from the Program Office for all applications.

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

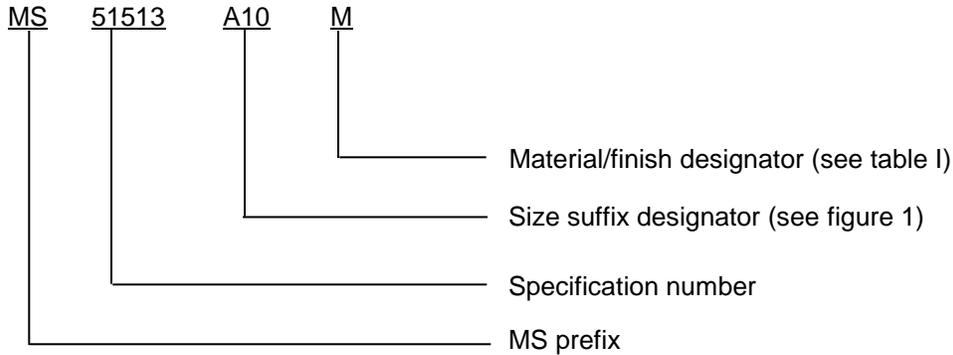
Trivalent wrenchability. When the finish has been damaged due to poor wrenchability, the surface of the connector shall be touched up using one of the brush plating processes below as appropriate to primary finish. The term "trivalent wrenchability" is used to evaluate the ability of the finish to withstand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

- a. Brush plating of hard chromium by electrodeposition shall be in accordance with SAE-AMS-2451/5.
- b. Brush plating of medium-hardness, low stress nickel by electrodeposition shall be in accordance with SAE-AMS-2451/9.

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

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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: MS51513A10M indicates a tee, pipe to tube, .6250 inch (15.875 mm), Nickel-copper alloy.

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 II provides a detailed cross-reference of inactive MS51513 PIN's and for new design SAE-J514 PIN's.

MS51513 parts have straight threads in accordance with ASME B1.1 the SAE parts have straight threads in accordance with SAE-J425.

Plating "P" SAE allows a range of nickel from 6% to 20%. Below 12%, ZnNi is not much better than zinc plating, which is less expensive and easier to apply. Above 16%, ZnNi becomes more cathodic and no longer acts as a sacrificial coating - if a high nickel coating is damaged the steel beneath the coating will corrode at an accelerated rate.

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 II. MS51513 to SAE-J514 cross reference.

Inactive for new design MS51513- PIN		Tube O.D.	Pipe thread NPTF	For new design SAE-J514 PIN	
Body	Assembly			Body	Assembly
MS51513B2	MS51513A2	1/8	1/8	Not available	Not available
MS51513B2H	MS51513A2H	1/8	1/8	Not available	Not available
MS51513B2J	MS51513A2J	1/8	1/8	Not available	Not available
MS51513B2M	MS51513A2M	1/8	1/8	J514 2-2 070427MB	J514-2-2-070427MA
MS51513B2N	MS51513A2N	1/8	1/8	J514 2-2 070427NB	J514-2-2-070427NA
MS51513B2P	MS51513A2P	1/8	1/8	J514 2-2 070427PB	J514-2-2-070427PA
MS51513B2R	MS51513A2R	1/8	1/8	Not available	Not available
MS51513B2S	MS51513A2S	1/8	1/8	J514 2-2 070427SB	J514-2-2-070427SA
MS51513B2T	MS51513A2T	1/8	1/8	J514 2-2 070427TB	J514-2-2-070427TA
MS51513B2TF	MS51513A2TF	1/8	1/8	Not available	Not available
MS51513B2Z	MS51513A2Z	1/8	1/8	J514 2-2 070427ZB	J514-2-2-070427ZA
MS51513B2ZC	MS51513A2ZC	1/8	1/8	Not available	Not available
MS51513B3	MS51513A3	3/16	1/8	Not available	Not available
MS51513B3H	MS51513A3H	3/16	1/8	Not available	Not available
MS51513B3J	MS51513A3J	3/16	1/8	Not available	Not available
MS51513B3M	MS51513A3M	3/16	1/8	J514 3-2 070427MB	J514-3-2-070427MA
MS51513B3N	MS51513A3N	3/16	1/8	J514 3-2 070427NB	J514-3-2-070427NA
MS51513B3P	MS51513A3P	3/16	1/8	J514 3-2 070427PB	J514-3-2-070427PA
MS51513B3R	MS51513A3R	3/16	1/8	Not available	Not available
MS51513B3S	MS51513A3S	3/16	1/8	J514 3-2 070427SB	J514-3-2-070427SA
MS51513B3T	MS51513A3T	3/16	1/8	J514 3-2 070427TB	J514-3-2-070427TA
MS51513B3TF	MS51513A3TF	3/16	1/8	Not available	Not available
MS51513B3Z	MS51513A3Z	3/16	1/8	J514 3-2 070427ZB	J514-3-2-070427ZA
MS51513B3ZC	MS51513A3ZC	3/16	1/8	Not available	Not available
MS51513A4	MS51513B4	1/4	1/8	Not available	Not available
MS51513A4H	MS51513B4H	1/4	1/8	Not available	Not available
MS51513A4J	MS51513B4J	1/4	1/8	Not available	Not available
MS51513A4M	MS51513B4M	1/4	1/8	J514-4-2-070427MA	J514-4-2-070427MB
MS51513A4N	MS51513B4N	1/4	1/8	J514-4-2-070427NA	J514-4-2-070427NB
MS51513A4P	MS51513B4P	1/4	1/8	J514-4-2-070427PA	J514-4-2-070427PB
MS51513A4R	MS51513B4R	1/4	1/8	Not available	Not available
MS51513A4S	MS51513B4S	1/4	1/8	J514-4-2-070427SA	J514-4-2-070427SB
MS51513A4T	MS51513B4T	1/4	1/8	J514-4-2-070427TA	J514-4-2-070427TB
MS51513A4TF	MS51513B4TF	1/4	1/8	Not available	Not available
MS51513A4Z	MS51513B4Z	1/4	1/8	J514-4-2-070427ZA	J514-4-2-070427ZB
MS51513A4ZC	MS51513B4ZC	1/4	1/8	Not available	Not available

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TABLE II. MS51513 to SAE-J514 cross reference – Continued.

Inactive for new design MS51513-PIN		Tube O.D.	Pipe thread NPTF	For new design SAE-J514 PIN	
Assembly	Body			Assembly	Body
MS51513A5	MS51513B5	5/16	1/8	Not available	Not available
MS51513A5H	MS51513B5H	5/16	1/8	Not available	Not available
MS51513A5J	MS51513B5J	5/16	1/8	Not available	Not available
MS51513A5M	MS51513B5M	5/16	1/8	J514-5-2-070427MA	J514-5-2-070427MB
MS51513A5N	MS51513B5N	5/16	1/8	J514-5-2-070427NA	J514-5-2-070427NB
MS51513A5P	MS51513B5P	5/16	1/8	J514-5-2-070427PA	J514-5-2-070427PB
MS51513A5R	MS51513B5R	5/16	1/8	Not available	Not available
MS51513A5S	MS51513B5S	5/16	1/8	J514-5-2-070427SA	J514-5-2-070427SB
MS51513A5T	MS51513B5T	5/16	1/8	J514-5-2-070427TA	J514-5-2-070427TB
MS51513A5TF	MS51513B5TF	5/16	1/8	Not available	Not available
MS51513A5Z	MS51513B5Z	5/16	1/8	J514-5-2-070427ZA	J514-5-2-070427ZB
MS51513A5ZC	MS51513B5ZC	5/16	1/8	Not available	Not available
MS51513A6	MS51513B6	3/8	1/4	Not available	Not available
MS51513A6H	MS51513B6H	3/8	1/4	Not available	Not available
MS51513A6J	MS51513B6J	3/8	1/4	Not available	Not available
MS51513A6M	MS51513B6M	3/8	1/4	J514-6-4-070427MA	J514-6-4-070427MB
MS51513A6N	MS51513B6N	3/8	1/4	J514-6-4-070427NA	J514-6-4-070427NB
MS51513A6P	MS51513B6P	3/8	1/4	J514-6-4-070427PA	J514-6-4-070427PB
MS51513A6R	MS51513B6R	3/8	1/4	Not available	Not available
MS51513A6S	MS51513B6S	3/8	1/4	J514-6-4-070427SA	J514-6-4-070427SB
MS51513A6T	MS51513B6T	3/8	1/4	J514-6-4-070427TA	J514-6-4-070427TB
MS51513A6TF	MS51513B6TF	3/8	1/4	Not available	Not available
MS51513A6Z	MS51513B6Z	3/8	1/4	J514-6-4-070427ZA	J514-6-4-070427ZB
MS51513A6ZC	MS51513B6ZC	3/8	1/4	Not available	Not available
MS51513A8	MS51513B8	1/2	3/8	Not available	Not available
MS51513A8H	MS51513B8H	1/2	3/8	Not available	Not available
MS51513A8J	MS51513B8J	1/2	3/8	Not available	Not available
MS51513A8M	MS51513B8M	1/2	3/8	J514-8-6-070427MA	J514-8-6-070427MB
MS51513A8N	MS51513B8N	1/2	3/8	J514-8-6-070427NA	J514-8-6-070427NB
MS51513A8P	MS51513B8P	1/2	3/8	J514-8-6-070427PA	J514-8-6-070427PB
MS51513A8R	MS51513B8R	1/2	3/8	Not available	Not available
MS51513A8S	MS51513B8S	1/2	3/8	J514-8-6-070427SA	J514-8-6-070427SB
MS51513A8T	MS51513B8T	1/2	3/8	J514-8-6-070427TA	J514-8-6-070427TB
MS51513A8TF	MS51513B8TF	1/2	3/8	Not available	Not available
MS51513A8Z	MS51513B8Z	1/2	3/8	J514-8-6-070427ZA	J514-8-6-070427ZB
MS51513A8ZC	MS51513B8ZC	1/2	3/8	Not available	Not available

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TABLE II. MS51513 to SAE-J514 cross reference – Continued.

Inactive for new design MS51513- PIN		Tube O.D.	Pipe thread NPTF	For new design SAE-J514 PIN	
Assembly	Body			Assembly	Body
MS51513A10	MS51513B10	5/8	1/2	Not available	Not available
MS51513A10H	MS51513B10H	5/8	1/2	Not available	Not available
MS51513A10J	MS51513B10J	5/8	1/2	Not available	Not available
MS51513A10M	MS51513B10M	5/8	1/2	J514-10-8-070427MA	J514-10-8-070427MB
MS51513A10N	MS51513B10N	5/8	1/2	J514-10-8-070427NA	J514-10-8-070427NB
MS51513A10P	MS51513B10P	5/8	1/2	J514-10-8-070427PA	J514-10-8-070427PB
MS51513A10R	MS51513B10R	5/8	1/2	Not available	Not available
MS51513A10S	MS51513B10S	5/8	1/2	J514-10-8-070427SA	J514-10-8-070427SB
MS51513A10T	MS51513B10T	5/8	1/2	J514-10-8-070427TA	J514-10-8-070427TB
MS51513A10TF	MS51513B10TF	5/8	1/2	Not available	Not available
MS51513A10Z	MS51513B10Z	5/8	1/2	J514-10-8-070427ZA	J514-10-8-070427ZB
MS51513A10ZC	MS51513B10ZC	5/8	1/2	Not available	Not available
MS51513A12	MS51513B12	3/4	3/4	Not available	Not available
MS51513A12J	MS51513B12J	3/4	3/4	Not available	Not available
MS51513A12M	MS51513B12M	3/4	3/4	J514-12-12-070427MA	J514-12-12-070427MB
MS51513A12N	MS51513B12N	3/4	3/4	J514-12-12-070427A	J514-12-12-070427NB
MS51513A12P	MS51513B12P	3/4	3/4	J514-12-12-070427PA	J514-12-12-070427PB
MS51513A12R	MS51513B12R	3/4	3/4	Not available	Not available
MS51513A12S	MS51513B12S	3/4	3/4	J514-12-12-070427SA	J514-12-12-070427SB
MS51513A12T	MS51513B12T	3/4	3/4	J514-12-12-070427TA	J514-12-12-070427TB
MS51513A12TF	MS51513B12TF	3/4	3/4	Not available	Not available
MS51513A12Z	MS51513B12Z	3/4	3/4	J514-12-12-070427ZA	J514-12-12-070427ZB
MS51513A12ZC	MS51513B12ZC	3/4	3/4	Not available	Not available
MS51513A14	MS51513B14	7/8	3/4	Not available	Not available
MS51513A14H	MS51513B14H	7/8	3/4	Not available	Not available
MS51513A14J	MS51513B14J	7/8	3/4	Not available	Not available
MS51513A14M	MS51513B14M	7/8	3/4	J514-14-12-070427MA	J514-14-12-070427MB
MS51513A14N	MS51513B14N	7/8	3/4	J514-14-12-070427NA	J514-14-12-070427NB
MS51513A14P	MS51513B14P	7/8	3/4	J514-14-12-070427PA	J514-14-12-070427PB
MS51513A14R	MS51513B14R	7/8	3/4	Not available	Not available
MS51513A14S	MS51513B14S	7/8	3/4	J514-14-12-070427SA	J514-14-12-070427SB
MS51513A14T	MS51513B14T	7/8	3/4	J514-14-12-070427TA	J514-14-12-070427TB
MS51513A14TF	MS51513B14TF	7/8	3/4	Not available	Not available
MS51513A14Z	MS51513B14Z	7/8	3/4	J514-14-12-070427ZA	J514-14-12-070427ZB
MS51513A14ZC	MS51513B14ZC	7/8	3/4	Not available	Not available

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TABLE II. MS51513 to SAE-J514 cross reference – Continued.

Inactive for new design MS51513- PIN		Tube O.D.	Pipe thread NPTF	For new design SAE-J514 PIN	
Assembly	Body			Assembly	Body
MS51513A16	MS51513B16	1	1	Not available	Not available
MS51513A16H	MS51513B16H	1	1	Not available	Not available
MS51513A16J	MS51513B16J	1	1	Not available	Not available
MS51513A16M	MS51513B16M	1	1	J514-16-16-070427MA	J514-16-16-070427MB
MS51513A16N	MS51513B16N	1	1	J514-16-16-070427NA	J514-16-16-070427NB
MS51513A16P	MS51513B16P	1	1	J514-16-16-070427PA	J514-16-16-070427PB
MS51513A16R	MS51513B16R	1	1	Not available	Not available
MS51513A16S	MS51513B16S	1	1	J514-16-16-070427SA	J514-16-16-070427SB
MS51513A16T	MS51513B16T	1	1	J514-16-16-070427TA	J514-16-16-070427TB
MS51513A16TF	MS51513B16TF	1	1	Not available	Not available
MS51513A16Z	MS51513B16Z	1	1	J514-16-16-070427ZA	J514-16-16-070427ZB
MS51513A16ZC	MS51513B16ZC	1	1	Not available	Not available
MS51513A20	MS51513B20	1 1/4	1 1/4	Not available	Not available
MS51513A20H	MS51513B20H	1 1/4	1 1/4	Not available	Not available
MS51513A20J	MS51513B20J	1 1/4	1 1/4	Not available	Not available
MS51513A20M	MS51513B20M	1 1/4	1 1/4	J514-20-20-070427MA	J51420-20-070427MB
MS51513A20N	MS51513B20N	1 1/4	1 1/4	J514-20-20-070427NA	J51420-20-070427NB
MS51513A20P	MS51513B20P	1 1/4	1 1/4	J514-20-20-070427PA	J51420-20-070427PB
MS51513A20R	MS51513B20R	1 1/4	1 1/4	Not available	Not available
MS51513A20S	MS51513B20S	1 1/4	1 1/4	J514-20-20-070427SA	J51420-20-070427SB
MS51513A20T	MS51513B20T	1 1/4	1 1/4	J514-20-20-070427TA	J51420-20-070427TB
MS51513A20TF	MS51513B20TF	1 1/4	1 1/4	Not available	Not available
MS51513A20Z	MS51513B20Z	1 1/4	1 1/4	J514-20-20-070427ZA	J51420-20-070427ZB
MS51513A20ZC	MS51513B20ZC	1 1/4	1 1/4	Not available	Not available
MS51513A24	MS51513B24	1 1/2	1 1/2	Not available	Not available
MS51513A24H	MS51513B24H	1 1/2	1 1/2	Not available	Not available
MS51513A24J	MS51513B24J	1 1/2	1 1/2	Not available	Not available
MS51513A24M	MS51513B24M	1 1/2	1 1/2	J514-24-24-070427MA	J51424-24-070427MB
MS51513A24N	MS51513B24N	1 1/2	1 1/2	J514-24-24-070427NA	J51424-24-070427NB
MS51513A24P	MS51513B24P	1 1/2	1 1/2	J514-24-24-070427PA	J51424-24-070427PB
MS51513A24R	MS51513B24R	1 1/2	1 1/2	Not available	Not available
MS51513A24S	MS51513B24PS	1 1/2	1 1/2	J514-24-24-070427SA	J51424-24-070427SB
MS51513A24T	MS51513B24T	1 1/2	1 1/2	J514-24-24-070427TA	J51424-24-070427TB
MS51513A24TF	MS51513B24TF	1 1/2	1 1/2	Not available	Not available
MS51513A24Z	MS51513B24Z	1 1/2	1 1/2	J514-24-24-070427ZA	J51424-24-9070427ZB
MS51513A24ZC	MS51513B24ZC	1 1/2	1 1/2	Not available	Not available

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TABLE II. MS51513 to SAE-J514 cross reference - Continued.

Inactive for new design MS51513-PIN		Tube O.D.	Pipe thread NPTF	For new design SAE-J514 PIN	
Assembly	Body			Assembly	Body
MS51513A32	MS51513B32	2	2	Not available	Not available
MS51513A32H	MS51513B32H	2	2	Not available	Not available
MS51513A32J	MS51513B32J	2	2	Not available	Not available
MS51513A32M	MS51513B32M	2	2	J514-32-32-070427MA	J51432-32-9070427MB
MS51513A32N	MS51513B32N	2	2	J514-32-32-070427NA	J51432-32-9070427NB
MS51513A32P	MS51513B32P	2	2	J514-32-32-070427PA	J51432-32-9070427PB
MS51513A32R	MS51513B32R	2	2	Not available	Not available
MS51513A32S	MS51513B32S	2	2	J514-32-32-070427SA	J51432-32-9070427SB
MS51513A32T	MS51513B32T	2	2	J514-32-32-070427TA	J51432-32-9070427TB
MS51513A32TF	MS51513B32TF	2	2	Not available	Not available
MS51513A32Z	MS51513B32Z	2	2	J514-32-32-070427ZA	J51432-32-9070427ZB
MS51513A32ZC	MS51513B32ZC	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-595/36176	MS51533	SAE-AMS2417
FED-STD-595/36081	FED-STD-595/36231	ASME B1.1	SAE-AMS2451/5
FED-STD-595/36099	FED-STD-595/36251	ASTM B117	SAE-AMS2451/9
FED-STD-595/36118	FED-STD-595/36270	ASTM B633	SAE-AMS2486
FED-STD-595/36134	FED-STD-595/36280	ASTM B695	SAE-AMS2488
FED-STD-595/36152	FED-STD-595/36293	ASTM F1136/F1136M	SAE-AMS2700
FED-STD-595/36170	MIL-DTL-16232	SAE-AMS-C-81562	SAE-J403
FED-STD-595/36173	MS51531	SAE-AMS-QQ-P-416	SAE-J425
			SAE-J514

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CONCLUDING MATERIAL

Custodians:

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

Preparing activity:
DLA - CC

(Project 4730-2016-061)

Review activities:

Army - AT, MI
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>.