

INCH-POUND

MS51503C

7 June 2016

SUPERSEDING

MS51503B

25 June 2015

## DETAIL SPECIFICATION SHEET

ADAPTER, STRAIGHT, PIPE TO TUBE,  
FEMALE PIPE END, 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.

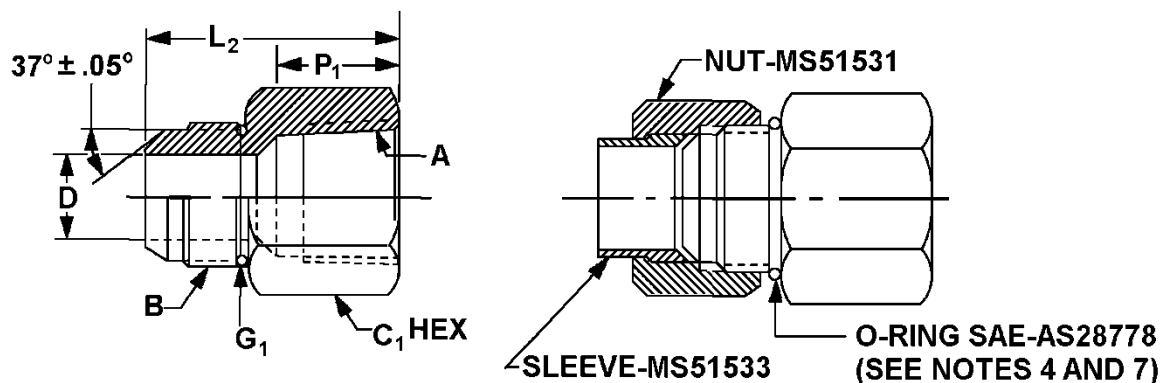


FIGURE 1. Adapter, straight, pipe to tube.



## MS51503C

Dash designator		Tube OD nom.	A Pipe thread NPTF	B Straight thread	C Hex flat nom.
Assembly (see note 4)	Body				
A2	B2	.1250 (3.175)	1/8 - 27	.3125-24 UNF-2A	9/16
A3	B3	.1875 (4.763)	1/8 - 27	.3750-24 UNF-2A	9/16
A4	B4	.2500 (6.350)	1/8 - 27	.4375-20 UNF-2A	9/16
A4-4	B4-4	.2500 (6.350)	1/4 - 18	.4375-20 UNF-2A	3/4
A5	B5	.3125 (7.938)	1/8 - 27	.5000-20 UNF-2A	9/16
A5-4	B5-4	.3125 (7.938)	1/4 - 18	.5000-20 UNF-2A	3/4
A6	B6	.3750 (9.525)	1/4 - 18	.5625-18 UNF-2A	3/4
A6-6	B6-6	.3750 (9.525)	3/8 - 18	.5625-18 UNF-2A	7/8
A8	B8	.5000 (12.700)	3/8 - 18	.7500-16 UNF-2A	7/8
A8-8	B8-8	.5000 (12.700)	1/2 -14	.7500-16 UNF-2A	1 1/8
A10	B10	.6250 (15.875)	1/2 - 14	.8750-14 UNF-2A	1 1/8
A12	B12	.7500 (19.050)	3/4 -14	1.0625-12 UN-2A	1 3/8
A14	B14	.8750 (22.225)	3/4 -14	1.1875-12 UN-2A	1 3/8
A16	B16	1.0000 (25.400)	1 - 11 1/2	1.3125-12 UN-2A	1 5/8
A20	B20	1.2500 (31.750)	1 1/4 - 11 1/2	1.6250-12 UN-2A	2
A24	B24	1.5000 (38.100)	1 1/2 - 11 1/2	1.8750-12 UN-2A	2 3/8
A32	B32	2.0000 (50.800)	2 -11 1/2	2.500-12 UN-2A	2 7/8

Dash designator		D diameter		G <sub>1</sub> inches (mm)	L <sub>2</sub> inches (mm)	P <sub>1</sub> Max inches (mm)
Assembly (see note 4)	Body	Basic inches (mm)	Tolerance inches (mm)	+0.002 (0.05) -0.003 (0.08)	±.020 (0.51)	
A2	B2	.062 (1.57)	±.003 (0.08)	.250 (6.35)	1.120 (28.45)	.460 (11.68)
A3	B3	.125 (3.18)		.313 (7.95)	1.130 (28.70)	.460 (11.68)
A4	B4	.172 (4.37)		.364 (9.25)	1.190 (30.23)	.460 (11.68)
A4-4	B4-4	.172 (4.37)		.364 (9.25)	1.390 (35.31)	.670 (17.02)
A5	B5	.234 (5.94)		.427 (10.85)	1.370 (34.80)	.460 (11.68)
A5-4	B5-4	.234 (5.94)		.427 (10.85)	1.390 (35.31)	.670 (17.02)
A6	B6	.297 (7.54)	±.004 (0.10)	.482 (12.24)	1.400 (35.56)	.670 (17.02)
A6-6	B6-6	.297 (7.54)		.482 (12.24)	1.460 (37.08)	.680 (17.27)
A8	B8	.391 (9.93)		.660 (16.76)	1.560 (39.62)	.680 (17.27)
A8-8	B8-8	.391 (9.93)		.660 (16.76)	1.790 (45.47)	.900 (22.86)
A10	B10	.484 (12.29)		.773 (19.63)	1.890 (48.01)	.900 (22.86)
A12	B12	.609 (15.47)		±.005 (0.13)	.945 (24.00)	2.060 (52.32)
A14	B14	.718 (18.24)	1.070 (27.18)		2.060 (52.32)	.910 (23.11)
A16	B16	.844 (21.44)	+0.007 -0.005 (+0.18 - 0.13)		1.195 (30.35)	2.350 (59.69)
A20	B20	1.078 (27.38)	+0.008 -0.005 (+0.20 -0.13)	1.507 (38.28)	2.490 (63.25)	1.160 (29.46)
A24	B24	1.312 (33.32)		1.756 (44.60)	2.620 (66.55)	1.160 (29.46)
A32	B32	1.781 (45.24)	+0.010 -0.005 (+0.25 -0.13)	2.381 (60.48)	2.970 (75.44)	1.180 (29.97)

FIGURE 1. Adapter, straight, pipe to tube - Continued.

MS51503C

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, nut, sleeve, and O-ring). Bodies are not to be stocked, stored, or issued.
5. Dimensions and tolerances not shown shall be in accordance with SAE-J514 for 37 degree flared fittings.
6. The drawing is for identification purposes only and is not intended to restrict designs and shapes not dimensioned.
7. O-Rings shall be in accordance with SAE-AS28778 or SAE-J514.

FIGURE 1. Adapter, straight, pipe to tube - 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 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.

## MS51503C

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 coating thickness.

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.

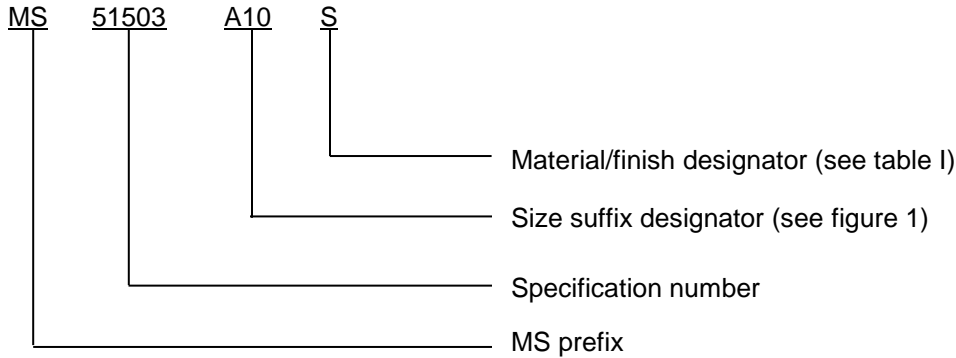
Trivalent wrenchability. When the finish has been damaged due to poor wrenchability, the surface of the connector shall be touched up using one of the brush plating processes below as appropriate to the primary finish. The term "trivalent wrenchability" is used to evaluate the ability of the finish to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

## MS51503C

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



PIN example: MS51503A10S indicates a pipe to tube adapter, .6250 inch (15.875 mm), corrosion resistant steel.

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 MS51503 PIN's and for new design SAE-J514 PIN's.

MS51503 parts have threads in accordance with ASME B1.1 and 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.

## MS51503C

TABLE II. MS51503 to SAE-J514 cross reference.

Inactive for new design MS51503- PIN		Tube OD	Pipe thread NPTF	For new design SAE-J514 PIN	
Assembly	Body			Assembly	Body
MS51503A2	MS51503B2	1/8	1/8	Not available	Not available
MS51503A2H	MS51503B2H	1/8	1/8	Not available	Not available
MS51503A2J	MS51503B2J	1/8	1/8	Not available	Not available
MS51503A2M	MS51503B2M	1/8	1/8	J514-2-2-070103MA	J514-2-2-070103MB
MS51503A2N	MS51503B2N	1/8	1/8	J514-2-2-070103NA	J514-2-2-070103NB
MS51503A2P	MS51503B2P	1/8	1/8	J514-2-2-070103PA	J514-2-2-070103PB
MS51503A2R	MS51503B2R	1/8	1/8	Not available	Not available
MS51503A2S	MS51503B2S	1/8	1/8	J514-2-2-070103SA	J514-2-2-070103SB
MS51503A2T	MS51503B2T	1/8	1/8	J514-2-2-070103TA	J514-2-2-070103TB
MS51503A2TF	MS51503B2TF	1/8	1/8	Not available	Not available
MS51503A2Z	MS51503B2Z	1/8	1/8	J514-2-2-070103ZA	J514-2-2-070103ZB
MS51503A2ZC	MS51503B2ZC	1/8	1/8	NOT AVAILABLE	NOT AVAILABLE
MS51503A3	MS51503B3	3/16	1/8	Not available	Not available
MS51503A3H	MS51503B3H	3/16	1/8	Not available	Not available
MS51503A3J	MS51503B3J	3/16	1/8	Not available	Not available
MS51503A3M	MS51503B3M	3/16	1/8	J514-3-2-070103MA	J514-3-2-070103MB
MS51503A3N	MS51503B3N	3/16	1/8	J514-3-2-070103NA	J514-3-2-070103NB
MS51503A3P	MS51503B3P	3/16	1/8	J514-3-2-070103PA	J514-3-2-070103PB
MS51503A3R	MS51503B3R	3/16	1/8	Not available	Not available
MS51503A3S	MS51503B3S	3/16	1/8	J514-3-2-070103SA	J514-3-2-070103SB
MS51503A3T	MS51503B3T	3/16	1/8	J514-3-2-070103TA	J514-3-2-070103TB
MS51503A3TF	MS51503B3TF	3/16	1/8	Not available	Not available
MS51503A3Z	MS51503B3Z	3/16	1/8	J514-3-2-070103ZA	J514-3-2-070103ZB
MS51503A3ZC	MS51503B3ZC	3/16	1/8	Not available	Not available
MS51503A4	MS51503B4	1/4	1/8	Not available	Not available
MS51503A4H	MS51503B4H	1/4	1/8	Not available	Not available
MS51503A4J	MS51503B4J	1/4	1/8	Not available	Not available
MS51503A4M	MS51503B4M	1/4	1/8	J514-4-2-070103MA	J514-4-2-070103MB
MS51503A4N	MS51503B4N	1/4	1/8	J514-4-2-070103NA	J514-4-2-070103NB
MS51503A4P	MS51503B4P	1/4	1/8	J514-4-2-070103PA	J514-4-2-070103PB
MS51503A4R	MS51503B4R	1/4	1/8	Not available	Not available
MS51503A4S	MS51503B4S	1/4	1/8	J514-4-2-070103SA	J514-4-2-070103SB
MS51503A4T	MS51503B4T	1/4	1/8	J514-4-2-070103TA	J514-4-2-070103TB
MS51503A4TF	MS51503B4TF	1/4	1/8	Not available	Not available
MS51503A4Z	MS51503B4Z	1/4	1/8	J514-4-2-070103ZA	J514-4-2-070103ZB
MS51503A4ZC	MS51503B4ZC	1/4	1/8	Not available	Not available
MS51503A5	MS51503B5	5/16	1/8	Not available	Not available
MS51503A5 H	MS51503B5H	5/16	1/8	Not available	Not available
MS51503A5J	MS51503B5J	5/16	1/8	Not available	Not available
MS51503A5M	MS51503B5M	5/16	1/8	J514-5-2-070103MA	J514-5-2-070103MB
MS51503A5N	MS51503B5N	5/16	1/8	J514-5-2-070103NA	J514-5-2-070103NB
MS51503A5P	MS51503B5P	5/16	1/8	J514-5-2-070103PA	J514-5-2-070103PB
MS51503A5R	MS51503B5R	5/16	1/8	Not available	Not available
MS51503A5S	MS51503B5S	5/16	1/8	J514-5-2-070103SA	J514-5-2-070103SB
MS51503A5T	MS51503B5T	5/16	1/8	J514-5-2-070103TA	J514-5-2-070103TB
MS51503A5TF	MS51503B5TF	5/16	1/8	Not available	Not available
MS51503A5Z	MS51503B5Z	5/16	1/8	J514-5-2-070103ZA	J514-5-2-070103ZB
MS51503A5ZC	MS51503B5ZC	5/16	1/8	Not available	Not available

## MS51503C

TABLE II. MS51503 to SAE-J514 cross reference - Continued.

Inactive for new design MS51503- PIN		Tube OD	Pipe thread NPTF	For new design SAE-J514 PIN	
Assembly	Body			Assembly	Body
MS51503A6	MS51503B6	3/8	1/4	Not available	Not available
MS51503A6H	MS51503B6H	3/8	1/4	Not available	Not available
MS51503A6J	MS51503B6J	3/8	1/4	Not available	Not available
MS51503A6M	MS51503B6M	3/8	1/4	J514-6-4-070103MA	J514-6-4-070103MB
MS51503A6N	MS51503B6N	3/8	1/4	J514-6-4-070103NA	J514-6-4-070103NB
MS51503A6P	MS51503B6P	3/8	1/4	J514-6-4-070103PA	J514-6-4-070103PB
MS51503A6R	MS51503B6R	3/8	1/4	Not available	Not available
MS51503A6S	MS51503B6S	3/8	1/4	J514-6-4-070103SA	J514-6-4-070103SB
MS51503A6T	MS51503B6T	3/8	1/4	J514-6-4-070103TA	J514-6-4-070103TB
MS51503A6TF	MS51503B6TF	3/8	1/4	Not available	Not available
MS51503A6Z	MS51503B6Z	3/8	1/4	J514-6-4-070103ZA	J514-6-4-070103ZB
MS51503A6ZC	MS51503B6ZC	3/8	1/4	Not available	Not available
MS51503A8	MS51503B8	1/2	3/8	Not available	Not available
MS51503A8H	MS51503B8H	1/2	3/8	Not available	Not available
MS51503A8J	MS51503B8J	1/2	3/8	Not available	Not available
MS51503A8M	MS51503B8M	1/2	3/8	J514-8-6-070103MA	J514-8-6-070103MB
MS51503A8N	MS51503B8N	1/2	3/8	J514-8-6-070103NA	J514-8-6-070103NB
MS51503A8P	MS51503B8P	1/2	3/8	J514-8-6-070103PA	J514-8-6-070103PB
MS51503A8R	MS51503B8R	1/2	3/8	Not available	Not available
MS51503A8S	MS51503B8S	1/2	3/8	J514-8-6-070103SA	J514-8-6-070103SB
MS51503A8T	MS51503B8T	1/2	3/8	J514-8-6-070103TA	J514-8-6-070103TB
MS51503A8TF	MS51503B8TF	1/2	3/8	Not available	Not available
MS51503A8Z	MS51503B8Z	1/2	3/8	J514-8-6-070103ZA	J514-8-6-070103ZB
MS51503A8ZC	MS51503B8ZC	1/2	3/8	Not available	Not available
MS51503A10	MS51503B10	5/8	1/2	Not available	Not available
MS51503A10H	MS51503B10H	5/8	1/2	Not available	Not available
MS51503A10J	MS51503B10J	5/8	1/2	Not available	Not available
MS51503A10M	MS51503B10M	5/8	1/2	J514-10-8070103MA	J514-10-8-070103MB
MS51503A10N	MS51503B10N	5/8	1/2	J514-10-8070103NA	J514-10-8-070103NB
MS51503A10P	MS51503B10P	5/8	1/2	J514-10-8-070103PA	J514-10-8-070103PB
MS51503A10R	MS51503B10R	5/8	1/2	Not available	Not available
MS51503A10S	MS51503B10S	5/8	1/2	J514-10-8-070103SA	J514-10-8-070103SB
MS51503A10T	MS51503B10T	5/8	1/2	J514-10-8-070103TA	J514-10-8-070103TB
MS51503A10TF	MS51503B10TF	5/8	1/2	Not available	Not available
MS51503A10Z	MS51503B10Z	5/8	1/2	J514-10-8-070103ZA	J514-10-8-070103ZB
MS51503A10ZC	MS51503B10ZC	5/8	1/2	Not available	Not available
MS51503A12	MS51503B12	3/4	3/4	Not available	Not available
MS51503A12H	MS51503B12H	3/4	3/4	Not available	Not available
MS51503A12J	MS51503B12J	3/4	3/4	Not available	Not available
MS51503A12M	MS51503B12M	3/4	3/4	J514-12-12-070103MA	J514-12-12-070103MB
MS51503A12N	MS51503B12N	3/4	3/4	J514-12-12-070103NA	J514-12-12-070103NB
MS51503A12P	MS51503B12P	3/4	3/4	J514-12-12-070103PA	J514-12-12-070103PB
MS51503A12R	MS51503B12R	3/4	3/4	Not available	Not available
MS51503A12S	MS51503B12S	3/4	3/4	J514-12-12-070103SA	J514-12-12-070103SB
MS51503A12T	MS51503B12T	3/4	3/4	J514-12-12-070103TA	J514-12-12-070103TB
MS51503A12TF	MS51503B12TF	3/4	3/4	Not available	Not available
MS51503A12Z	MS51503B12Z	3/4	3/4	J514-12-12-070103ZA	J514-12-12-070103ZB
MS51503A12ZC	MS51503B12ZC	3/4	3/4	Not available	Not available

## MS51503C

TABLE II. MS51503 to SAE-J514 cross reference - Continued.

Inactive for new design MS51503- PIN		Tube OD	Pipe thread NPTF	For new design SAE-J514 PIN	
Assembly	Body			Assembly	Body
MS51503A14	MS51503B14	7/8	3/4	Not available	Not available
MS51503A14H	MS51503B14H	7/8	3/4	Not available	Not available
MS51503A14J	MS51503B14J	7/8	3/4	Not available	Not available
MS51503A14M	MS51503B14M	7/8	3/4	J514-14-12-070103MA	J514-14-12-070103MB
MS51503A14N	MS51503B14N	7/8	3/4	J514-14-12-070103NA	J514-14-12-070103NB
MS51503A14P	MS51503B14P	7/8	3/4	J514-14-12-070103PA	J514-14-12-070103PB
MS51503A14R	MS51503B14R	7/8	3/4	Not available	Not available
MS51503A14S	MS51503B14S	7/8	3/4	J514-14-12-070103SA	J514-14-12-070103SB
MS51503A14T	MS51503B14T	7/8	3/4	J514-14-12-070103TA	J514-14-12-070103TB
MS51503A14TF	MS51503B14TF	7/8	3/4	Not available	Not available
MS51503A14Z	MS51503B14Z	7/8	3/4	J514-14-12-070103ZA	J514-14-12-070103ZB
MS51503A14ZC	MS51503B14ZC	7/8	3/4	Not available	Not available
MS51503A16	MS51503B16	1	1	Not available	Not available
MS51503A16H	MS51503B16H	1	1	Not available	Not available
MS51503A16J	MS51503B16J	1	1	Not available	Not available
MS51503A16M	MS51503B16M	1	1	J514-16-16-070103MA	J514-16-16-070103MB
MS51503A16N	MS51503B16N	1	1	J514-16-16-070103NA	J514-16-16-070103NB
MS51503A16P	MS51503B16P	1	1	J514-16-16-070103PA	J514-16-16-070103PB
MS51503A16R	MS51503B16R	1	1	Not available	Not available
MS51503A16S	MS51503B16S	1	1	J514-16-16-070103SA	J514-16-16-070103SB
MS51503A16T	MS51503B16T	1	1	J514-16-16-070103TA	J514-16-16-070103TB
MS51503A16TF	MS51503B16TF	1	1	Not available	Not available
MS51503A16Z	MS51503B16Z	1	1	J514-16-16-070103ZA	J514-16-16-070103ZB
MS51503A16ZC	MS51503B16ZC	1	1	Not available	Not available
MS51503A20	MS51503B20	1 1/4	1 1/4	Not available	Not available
MS51503A20H	MS51503B20H	1 1/4	1 1/4	Not available	Not available
MS51503A20J	MS51503B20J	1 1/4	1 1/4	Not available	Not available
MS51503A20M	MS51503B20M	1 1/4	1 1/4	J514-20-20-070103MA	J514-20-20-070103MB
MS51503A20N	MS51503B20N	1 1/4	1 1/4	J514-20-20-070103NA	J514-20-20-070103NB
MS51503A20P	MS51503B20P	1 1/4	1 1/4	J514-20-20-070103PA	J514-20-20-070103PB
MS51503A20R	MS51503B20R	1 1/4	1 1/4	Not available	Not available
MS51503A20S	MS51503B20S	1 1/4	1 1/4	J514-20-20-070103SA	J514-20-20-070103SB
MS51503A20T	MS51503B20T	1 1/4	1 1/4	J514-20-20-070103TA	J514-20-20-070103TB
MS51503A20TF	MS51503B20TF	1 1/4	1 1/4	Not available	Not available
MS51503A20Z	MS51503B20Z	1 1/4	1 1/4	J514-20-20-070103ZA	J514-20-20-070103ZB
MS51503A20ZC	MS51503B20ZC	1 1/4	1 1/4	Not available	Not available
MS51503A24	MS51503B24	1 1/2	1 1/2	Not available	Not available
MS51503A24H	MS51503B24H	1 1/2	1 1/2	Not available	Not available
MS51503A24J	MS51503B24J	1 1/2	1 1/2	Not available	Not available
MS51503A24M	MS51503B24M	1 1/2	1 1/2	J514-24-24-070103MA	J514-24-24-070103MB
MS51503A24N	MS51503B24N	1 1/2	1 1/2	J514-24-24-070103NA	J514-24-24-070103NB
MS51503A24P	MS51503B24P	1 1/2	1 1/2	J514-24-24-070103PA	J514-24-24-070103PB
MS51503A24R	MS51503B24R	1 1/2	1 1/2	Not available	Not available
MS51503A24S	MS51503B24S	1 1/2	1 1/2	J514-24-24-070103SA	J514-24-24-070103SB
MS51503A24T	MS51503B24T	1 1/2	1 1/2	J514-24-24-070103TA	J514-24-24-070103TB
MS51503A24TF	MS51503B24TF	1 1/2	1 1/2	Not available	Not available
MS51503A24Z	MS51503B24Z	1 1/2	1 1/2	J514-24-24-070103ZA	J514-24-24-070103ZB
MS51503A24ZC	MS51503B24ZC	1 1/2	1 1/2	Not available	Not available



## MS51503C

TABLE II. MS51503 to SAE-J514 cross reference - Continued.

Inactive for new design MS51503- PIN		Tube OD	Pipe thread NPTF	For new design SAE-J514 PIN	
Assembly	Body			Assembly	Body
MS51503A32	MS51503B32	2	2	Not available	Not available
MS51503A32J	MS51503B32J	2	2	Not available	Not available
MS51503A32M	MS51503B32M	2	2	J514-32-32-070103MA	J514-32-32-070103MB
MS51503A32N	MS51503B32N	2	2	J514-32-32-070103NA	J514-32-32-070103NB
MS51503A32P	MS51503B32P	2	2	J514-32-32-070103PA	J514-32-32-070103PB
MS51503A32R	MS51503B32R	2	2	Not available	Not available
MS51503A32S	MS51503B32S	2	2	J514-32-32-070103SA	J514-32-32-070103SB
MS51503A32T	MS51503B32T	2	2	J514-32-32-070103TA	J514-32-32-070103TB
MS51503A32TF	MS51503B32TF	2	2	Not available	Not available
MS51503A32Z	MS51503B32Z	2	2	J514-32-32-070103ZA	J514-32-32-070103ZB
MS51503A32ZC	MS51503B32ZC	2	2	Not available	Not available
MS51503A4-4	MS51503B4-4	1/4	1/4	Not available	Not available
MS51503A4-4H	MS51503B4-4H	1/4	1/4	Not available	Not available
MS51503A4-4J	MS51503B4-4J	1/4	1/4	Not available	Not available
MS51503A4-4M	MS51503B4-4M	1/4	1/4	J514-4-4-070103MA	J514-4-4-070103MB
MS51503A4-4N	MS51503B4-4N	1/4	1/4	J514-4-4-070103NA	J514-4-4-070103NB
MS51503A4-4P	MS51503B4-4P	1/4	1/4	J514-4-4-070103PA	J514-4-4-070103PB
MS51503A4-4R	MS51503B4-4R	1/4	1/4	Not available	Not available
MS51503A4-4S	MS51503B4-4S	1/4	1/4	J514-4-4-070103SA	J514-4-4-070103SB
MS51503A4-4T	MS51503B4-4T	1/4	1/4	J514-4-4-070103TA	J514-4-4-070103TB
MS51503A4-4TF	MS51503B4-4TF	1/4	1/4	Not available	Not available
MS51503A4-4Z	MS51503B4-4Z	1/4	1/4	J514-4-4-070103ZA	J514-4-4-070103ZB
MS51503A4-4ZC	MS51503B4-4ZC	1/4	1/4	Not available	Not available
MS51503A5-4	MS51503B5-4	5/16	1/4	Not available	Not available
MS51503A5-4H	MS51503B5-4H	5/16	1/4	Not available	Not available
MS51503A5-4J	MS51503B5-4J	5/16	1/4	Not available	Not available
MS51503A5-4M	MS51503B5-4M	5/16	1/4	J514-5-4-070103MA	J514-5-4-070103MB
MS51503A5-4N	MS51503B5-4N	5/16	1/4	J514-5-4-070103NA	J514-5-4-070103NB
MS51503A5-4P	MS51503B5-4P	5/16	1/4	J514-5-4-070103PA	J514-5-4-070103PB
MS51503A5-4R	MS51503B5-4R	5/16	1/4	Not available	Not available
MS51503A5-4S	MS51503B5-4S	5/16	1/4	J514-5-4-070103SA	J514-5-4-070103SB
MS51503A5-4T	MS51503B5-4T	5/16	1/4	J514-5-4-070103TA	J514-5-4-070103TB
MS51503A5-4TF	MS51503B5-4TF	5/16	1/4	Not available	Not available
MS51503A5-4Z	MS51503B5-4Z	5/16	1/4	J514-5-4-070103ZA	J514-5-4-070103ZB
MS51503A5-4ZC	MS51503B5-4ZC	5/16	1/4	Not available	Not available
MS51503A6-6	MS51503B6-6	3/8	3/8	Not available	Not available
MS51503A6-6H	MS51503B6-6H	3/8	3/8	Not available	Not available
MS51503A6-6J	MS51503B6-6J	3/8	3/8	Not available	Not available
MS51503A6-6M	MS51503B6-6M	3/8	3/8	J514-6-6-070103MA	J514-6-6-070103MB
MS51503A6-6N	MS51503B6-6N	3/8	3/8	J514-6-6-070103NA	J514-6-6-070103NB
MS51503A6-6P	MS51503B6-6P	3/8	3/8	J514-6-6-070103PA	J514-6-6-070103PB
MS51503A6-6R	MS51503B6-6R	3/8	3/8	Not available	Not available
MS51503A6-6S	MS51503B6-6S	3/8	3/8	J514-6-6-070103SA	J514-6-6-070103SB
MS51503A6-6T	MS51503B6-6T	3/8	3/8	J514-6-6-070103TA	J514-6-6-070103TB
MS51503A6-6TF	MS51503B6-6TF	3/8	3/8	Not available	Not available
MS51503A6-6Z	MS51503B6-6Z	3/8	3/8	J514-6-6-070103ZA	J514-6-6-070103ZB
MS51503A6-6ZC	MS51503B6-6ZC	3/8	3/8	Not available	Not available

## MS51503C

TABLE II. MS51503 to SAE-J514 cross reference - Continued.

Inactive for new design MS51503- PIN		Tube OD	Pipe thread NPTF	For new design SAE-J514 PIN	
Assembly	Body			Assembly	Body
MS51503A8-8	MS51503B8-8	1/2	1/2	Not available	Not available
MS51503A8-8H	MS51503B8-8H	1/2	1/2	Not available	Not available
MS51503A8-8J	MS51503B8-8J	1/2	1/2	Not available	Not available
MS51503A8-8M	MS51503B8-8M	1/2	1/2	J514-8-8-070103MA	J514-8-8-070103MB
MS51503A8-8N	MS51503B8-8N	1/2	1/2	J514-8-8-070103NA	J514-8-8-070103NB
MS51503A8-8P	MS51503B8-8P	1/2	1/2	J514-8-8-070103PA	J514-8-8-070103PB
MS51503A8-8R	MS51503B8-8R	1/2	1/2	Not available	Not available
MS51503A8-8S	MS51503B8-8S	1/2	1/2	J514-8-8-070103SA	J514-8-8-070103SB
MS51503A8-8T	MS51503B8-8T	1/2	1/2	J514-8-8-070103TA	J514-8-8-070103TB
MS51503A8-8TF	MS51503B8-8TF	1/2	1/2	Not available	Not available
MS51503A8-8Z	MS51503B8-8Z	1/2	1/2	J514-8-8-070103ZA	J514-8-8-070103ZB
MS51503A8-8ZC	MS51503B8-8ZC	1/2	1/2	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-595/36231	ASTM B117	SAE-AMS2486
FED-STD-595/36081	FED-STD-595/36251	ASTM B633	SAE-AMS2488
FED-STD-595/36099	FED-STD-595/36270	ASTM B695	SAE-AMS2700
FED-STD-595/36118	FED-STD-595/36280	ASTM F1136/F1136M	SAE-AS28778
FED-STD-595/36134	FED-STD-595/36293	SAE-AMS-C-81562	SAE-J425
FED-STD-595/36152	MIL-DTL-16232	SAE-AMS-QQ-P-416	SAE-J514
FED-STD-595/36170	MS51531	SAE-AMS2417	
FED-STD-595/36173	MS51533	SAE-AMS2451/5	
FED-STD-595/36176	ASME B1.1	SAE-AMS2451/9	

## CONCLUDING MATERIAL

## Custodians:

Army - AT  
Navy - SH  
Air Force - 99  
DLA - CC

## Preparing activity:

DLA - CC

(Project 4730-2016-038)

## Review activities:

Army - AR, AV, MI  
Navy - AS, CG, SA  
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>.