



DEFENSE LOGISTICS AGENCY
LAND AND MARITIME
P.O. BOX 3990
COLUMBUS, OHIO 43218-3990

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 4730-2016-057)

INCH-POUND

MS51509C
DRAFT
SUPERSEDING
MS51509B
14 December 2015

DETAIL SPECIFICATION SHEET

ELBOW, TUBE, 45 DEGREE,
BULKHEAD, 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.

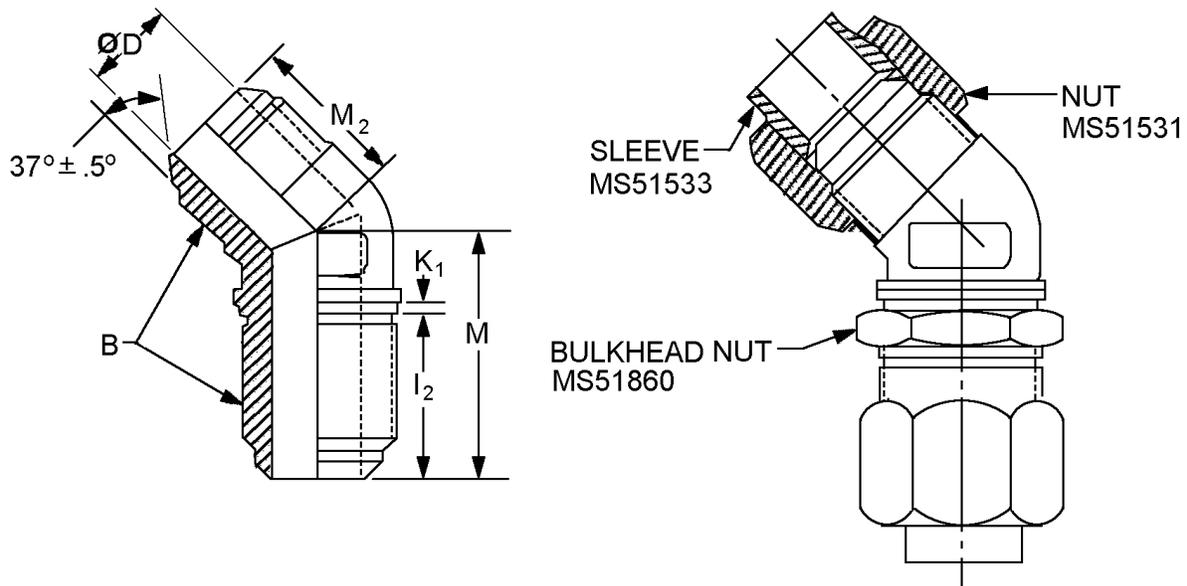


FIGURE 1. Elbow, bulkhead 45°.



MS51509C
Draft dated 23 June 2016

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 (7.938)	.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 (+0.20 -0.13)
A24	B24	1.5000 (38.100)	1.8750-12 UN-2A	1.312 (33.32)	
A32	B32	2.0000 (50.800)	2.500-12 UN-2A	1.781 (45.24)	+0.010 -.005 (+0.25 -.013)

Suffix designator		I_2 inches (mm) ±.020 (0.51)	K_1 inches (mm) ±.020 (0.51)	M inches (mm) ±.030 (0.76)	M_2 inches (mm) ±.030 (0.76)
Assembly (see note 4)	Body				
A2	B2	.920 (23.37)	.094 (2.39)	1.375 (34.93)	.660 (16.76)
A3	B3	.920 (23.37)	.094 (2.39)	1.375 (34.93)	.660 (16.76)
A4	B4	1.020 (25.91)	.094 (2.39)	1.531 (38.89)	.720 (18.29)
A5	B5	1.020 (25.91)	.094 (2.39)	1.531 (38.89)	.770 (19.56)
A6	B6	1.090 (27.69)	.094 (2.39)	1.672 (42.47)	.830 (21.08)
A8	B8	1.250 (31.75)	.125 (3.18)	1.938 (49.23)	.980 (24.89)
A10	B10	1.390 (35.31)	.125 (3.18)	2.172 (55.17)	1.110 (28.19)
A12	B12	1.590 (40.39)	.125 (3.18)	2.438 (61.93)	1.280 (32.51)
A14	B14	1.560 (39.62)	.125 (3.18)	2.500 (63.50)	1.390 (35.31)
A16	B16	1.560 (39.62)	.125 (3.18)	2.562 (65.07)	1.470 (37.34)
A20	B20	1.610 (40.89)	.125 (3.18)	2.656 (67.46)	1.590 (40.39)
A24	B24	1.620 (41.15)	.125 (3.18)	2.672 (67.87)	1.780 (45.21)
A32	B32	1.910 (49.02)	.125 (3.18)	2.906 (73.81)	2.220 (56.39)

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, bulkhead nut, nut, and sleeve). Bodies are not to be stocked stored or issued.
5. MS51509A shall not be supplied with the undercut "G₁, on the bulkhead end of the fitting.
6. Dimensions and tolerances not shown shall be in accordance with SAE-J514 for 37° flared fittings.
7. The drawing is for identification purposes only and is not intended to restrict designs and shapes not dimensioned.

FIGURE 1. Elbow, bulkhead 45°. - Continued.

MS51509C
Draft dated 23 June 2016

REQUIREMENTS:

Fittings shall be as specified on figure 1 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.

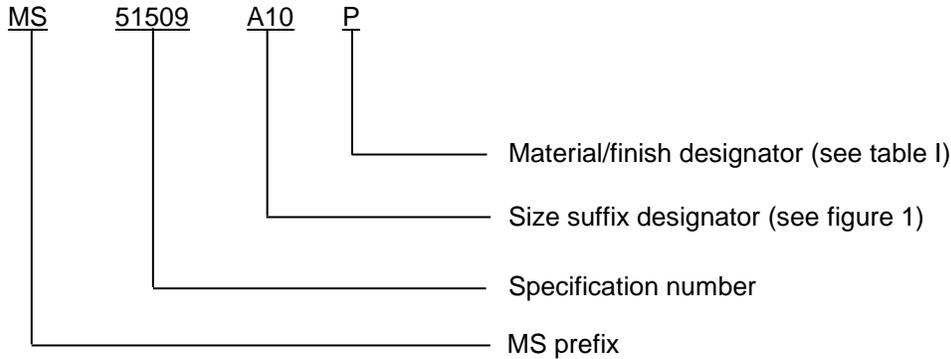
Trivalent wrenchability. When the finish has been damaged due to poor wrenchability, the surface of the connector shall be touched up using one of the brush plating processes below as appropriate to primary finish. The term "trivalent wrenchability" is used to evaluate the ability of the finish to withstand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

MS51509C
Draft dated 23 June 2016

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 elbow size, and a letter for material finish designator.



PIN example: MS51509A10P indicates an elbow 45°, bulkhead, .6250 inch (15.875 mm), steel with zinc phosphate finish.

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 MS51507 PIN's and for new design SAE-J514 PIN's.

MS51509 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.

MS51509C
Draft dated 23 June 2016

TABLE II. MS51509 to SAE-J514 cross reference.

Inactive for new design MS51509- PIN		Tube OD	For new design SAE-J514 PIN	
Assembly	Body		Assembly	Body
MS51509A2	MS51509B2	1/8	Not available	Not available
MS51509A2H	MS51509B2H	1/8	Not available	Not available
MS51509A2J	MS51509B2J	1/8	Not available	Not available
MS51509A2M	MS51509B2M	1/8	J514-2-2-070801MA	J514-2-2-070801MB
MS51509A2N	MS51509B2N	1/8	J514-2-2-070801NA	J514-2-2-070801NB
MS51509A2P	MS51509B2P	1/8	J514-2-2-070801PA	J514-2-2-070801PB
MS51509A2R	MS51509B2R	1/8	Not available	Not available
MS51509A2S	MS51509B2S	1/8	J514-2-2-070801SA	J514-2-2-070801SB
MS51509A2T	MS51509B2T	1/8	J514-2-2-070801TA	J514-2-2-070801TB
MS51509A2TF	MS51509B2TF	1/8	Not available	Not available
MS51509A2Z	MS51509B2Z	1/8	J514-2-2-070801ZA	J514-2-2-070801ZB
MS51509A2ZC	MS51509B2ZC	1/8	Not available	Not available
MS51509A3	MS51509B3	3/16	Not available	Not available
MS51509A3H	MS51509B3H	3/16	Not available	Not available
MS51509A3J	MS51509B3J	3/16	Not available	Not available
MS51509A3M	MS51509B3M	3/16	J514-3-3-070801MA	J514-3-3-070801MB
MS51509A3N	MS51509B3N	3/16	J514-3-3-070801NA	J514-3-3-070801NB
MS51509A3P	MS51509B3P	3/16	J514-3-3-070801PA	J514-3-3-070801PB
MS51509A3R	MS51509B3R	3/16	Not available	Not available
MS51509A3S	MS51509B3S	3/16	J514-3-3-070801SA	J514-3-3-070801SB
MS51509A3T	MS51509B3T	3/16	J514-3-3-070801TA	J514-3-3-070801TB
MS51509A3TF	MS51509B3TF	3/16	Not available	Not available
MS51509A3Z	MS51509B3Z	3/16	J514-3-3-070801ZA	J514-3-3-070801ZB
MS51509A3ZC	MS51509B3ZC	3/16	Not available	Not available
MS51509A4	MS51509B4	1/4	Not available	Not available
MS51509A4H	MS51509B4H	1/4	Not available	Not available
MS51509A4J	MS51509B4J	1/4	Not available	Not available
MS51509A4M	MS51509B4M	1/4	J514-4-4-070801MA	J514-4-4-070801MB
MS51509A4N	MS51509B4N	1/4	J514-4-4-070801NA	J514-4-4-070801NB
MS51509A4P	MS51509B4P	1/4	J514-4-4-070801PA	J514-4-4-070801PB
MS51509A4R	MS51509B4R	1/4	Not available	Not available
MS51509A4S	MS51509B4S	1/4	J514-4-4-070801SA	J514-4-4-070801SB
MS51509A4T	MS51509B4T	1/4	J514-4-4-070801TA	J514-4-4-070801TB
MS51509A4TF	MS51509B4TF	1/4	Not available	Not available
MS51509A4Z	MS51509B4Z	1/4	J514-4-4-070801ZA	J514-4-4-070801ZB
MS51509A4ZC	MS51509B4ZC	1/4	Not available	Not available
MS51509A5	MS51509B5	5/16	Not available	Not available
MS51509A5H	MS51509B5H	5/16	Not available	Not available
MS51509A5J	MS51509B5J	5/16	Not available	Not available
MS51509A5M	MS51509B5M	5/16	J514-5-5-070801MA	J514-5-5-070801MB
MS51509A5N	MS51509B5N	5/16	J514-5-5-070801NA	J514-5-5-070801NB
MS51509A5P	MS51509B5P	5/16	J514-5-5-070801PA	J514-5-5-070801PB
MS51509A5R	MS51509B5R	5/16	Not available	Not available
MS51509A5S	MS51509B5S	5/16	J514-5-5-070801SA	J514-5-5-070801SB
MS51509A5T	MS51509B5T	5/16	J514-5-5-070801TA	J514-5-5-070801TB
MS51509A5TF	MS51509B5TF	5/16	Not available	Not available
MS51509A5Z	MS51509B5Z	5/16	J514-5-5-070801ZA	J514-5-5-070801ZB
MS51509A5ZC	MS51509B5ZC	5/16	Not available	Not available

MS51509C
Draft dated 23 June 2016

TABLE II. MS51509 to SAE-J514 cross reference - Continued.

Inactive for new design MS51509- PIN		Tube OD	For new design SAE-J514 PIN	
Assembly	Body		Assembly	Body
MS51509A6	MS51509B6	3/8	Not available	Not available
MS51509A6H	MS51509B6H	3/8	Not available	Not available
MS51509A6J	MS51509B6J	3/8	Not available	Not available
MS51509A6M	MS51509B6M	3/8	J514-6-6-070801MA	J514-6-6-070801MB
MS51509A6N	MS51509B6N	3/8	J514-6-6-070801NA	J514-6-6-070801NB
MS51509A6P	MS51509B6P	3/8	J514-6-6-070801PA	J514-6-6-070801PB
MS51509A6R	MS51509B6R	3/8	Not available	Not available
MS51509A6S	MS51509B6S	3/8	J514-6-6-070801SA	J514-6-6-070801SB
MS51509A6T	MS51509B6T	3/8	J514-6-6-070801TA	J514-6-6-070801TB
MS51509A6TF	MS51509B6TF	3/8	Not available	Not available
MS51509A6Z	MS51509B6Z	3/8	J514-6-6-070801ZA	J514-6-6-070801ZB
MS51509A6ZC	MS51509B6ZC	3/8	Not available	Not available
MS51509A8	MS51509B8	1/2	Not available	Not available
MS51509A8H	MS51509B8H	1/2	Not available	Not available
MS51509A8J	MS51509B8J	1/2	Not available	Not available
MS51509A8M	MS51509B8M	1/2	J514-8-8-070801MA	J514-8-8-070801MB
MS51509A8N	MS51509B8N	1/2	J514-8-8-070801NA	J514-8-8-070801NB
MS51509A8P	MS51509B8P	1/2	J514-8-8-070801PA	J514-8-8-070801PB
MS51509A8R	MS51509B8R	1/2	Not available	Not available
MS51509A8S	MS51509B8S	1/2	J514-8-8-070801SA	J514-8-8-070801SB
MS51509A8T	MS51509B8T	1/2	J514-8-8-070801TA	J514-8-8-070801TB
MS51509A8TF	MS51509B8TF	1/2	Not available	Not available
MS51509A8Z	MS51509B8Z	1/2	J514-8-8-070801ZA	J514-8-8-070801ZB
MS51509A8ZNC	MS51509B8ZC	1/2	Not available	Not available
MS51509A10	MS51509B10	5/8	Not available	Not available
MS51509A10H	MS51509B10H	5/8	Not available	Not available
MS51509A10J	MS51509B10J	5/8	Not available	Not available
MS51509A10M	MS51509B10M	5/8	J514-10-10-070801MA	J514-10-10-070801MB
MS51509A10N	MS51509B10N	5/8	J514-10-10-070801NA	J514-10-10-070801NB
MS51509A10P	MS51509B10P	5/8	J514-10-10-070801PA	J514-10-10-070801PB
MS51509A10R	MS51509B10R	5/8	Not available	Not available
MS51509A10S	MS51509B10S	5/8	J514-10-10-070801SA	J514-10-10-070801SB
MS51509A10T	MS51509B10T	5/8	J514-10-10-070801TA	J514-10-10-070801TB
MS51509A10TF	MS51509B10TF	5/8	Not available	Not available
MS51509A10Z	MS51509B10Z	5/8	J514-10-10-070801ZA	J514-10-10-070801ZB
MS51509A10ZC	MS51509B10ZC	5/8	Not available	Not available
MS51509A12	MS51509B12	3/4	Not available	Not available
MS51509A12H	MS51509B12H	3/4	Not available	Not available
MS51509A12J	MS51509B12J	3/4	Not available	Not available
MS51509A12	MS51509B12	3/4	Not available	Not available
MS51509A12M	MS51509B12M	3/4	J514-12-12-070801MA	J514-12-12-070801MB
MS51509A12N	MS51509B12N	3/4	J514-12-12-070801NA	J514-12-12-070801NB
MS51509A12P	MS51509B12P	3/4	J514-12-12-070801PA	J514-12-12-070801PB
MS51509A12R	MS51509B12R	3/4	Not available	Not available
MS51509A12S	MS51509B12S	3/4	J514-12-12-070801SA	J514-12-12-070801SB
MS51509A12T	MS51509B12T	3/4	J514-12-12-070801TA	J514-12-12-070801TB
MS51509A12TF	MS51509B12TF	3/4	Not available	Not available
MS51509A12Z	MS51509B12Z	3/4	J514-12-12-070801ZA	J514-12-12-070801ZB
MS51509A12ZC	MS51509B12ZC	3/4	Not available	Not available

MS51509C
Draft dated 23 June 2016

TABLE II. MS51509 to SAE-J514 cross reference - Continued.

Inactive for new design MS51509- PIN		Tube OD	For new design SAE-J514 PIN	
Assembly	Body		Assembly	Body
MS51509A14	MS51509B14	7/8	Not available	Not available
MS51509A14H	MS51509B14H	7/8	Not available	Not available
MS51509A14G	MS51509B14G	7/8	Not available	Not available
MS51509A14M	MS51509B14M	7/8	J514-14-14-070801MA	J514-14-14-070801MB
MS51509A14N	MS51509B14N	7/8	J514-14-14-070801NA	J514-14-14-070801NB
MS51509A14P	MS51509B14P	7/8	J514-14-14-070801PA	J514-14-14-070801PB
MS51509A14R	MS51509B14R	7/8	Not available	Not available
MS51509A14S	MS51509B14S	7/8	J514-14-14-070801SA	J514-14-14-070801SB
MS51509A14T	MS51509B14T	7/8	J514-14-14-070801TA	J514-14-14-070801TB
MS51509A14TF	MS51509B14TF	7/8	Not available	Not available
MS51509A14Z	MS51509B14Z	7/8	J514-14-14-070801ZA	J514-14-14-070801ZB
MS51509A14ZC	MS51509B14ZC	7/8	Not available	Not available
MS51509A16	MS51509B16	1	Not available	Not available
MS51509A16H	MS51509B16H	1	Not available	Not available
MS51509A16J	MS51509B16J	1	Not available	Not available
MS51509A16M	MS51509B16M	1	J514-16-16-070801MA	J514-16-16-070801MB
MS51509A16N	MS51509B16N	1	J514-16-16-070801NA	J514-16-16-070801NB
MS51509A16P	MS51509B16P	1	J514-16-16-070801PA	J514-16-16-070801PB
MS51509A16R	MS51509B16R	1	Not available	Not available
MS51509A16S	MS51509B16S	1	J514-16-16-070801SA	J514-16-16-070801SB
MS51509A16T	MS51509B16T	1	J514-16-16-070801TA	J514-16-16-070801TB
MS51509A16TF	MS51509B16TF	1	Not available	Not available
MS51509A16Z	MS51509B16Z	1	J514-16-16-070801ZA	J514-16-16-070801ZB
MS51509A16ZC	MS51509B16ZC	1	Not available	Not available
MS51509A20	MS51509B20	1 1/4	Not available	Not available
MS51509A20H	MS51509B20H	1 1/4	Not available	Not available
MS51509A20J	MS51509B20J	1 1/4	Not available	Not available
MS51509A20M	MS51509B20M	1 1/4	J514-20-20-070801MA	J514-20-20-070801MB
MS51509A20N	MS51509B20N	1 1/4	J514-20-20-070801NA	J514-20-20-070801NB
MS51509A20P	MS51509B20P	1 1/4	J514-20-20-070801PA	J514-20-20-070801PB
MS51509A20R	MS51509B20R	1 1/4	Not available	Not available
MS51509A20S	MS51509B20S	1 1/4	J514-20-20-070801SA	J514-20-20-070801SB
MS51509A20T	MS51509B20T	1 1/4	J514-20-20-070801TA	J514-20-20-070801TB
MS51509A20TF	MS51509B20TF	1 1/4	Not available	Not available
MS51509A20Z	MS51509B20Z	1 1/4	J514-20-20-070801ZA	J514-20-20-070801ZB
MS51509A20ZC	MS51509B20ZC	1 1/4	Not available	Not available
MS51509A24	MS51509B24	1 1/2	Not available	Not available
MS51509A24H	MS51509B24H	1 1/2	Not available	Not available
MS51509A24J	MS51509B24J	1 1/2	Not available	Not available
MS51509A24M	MS51509B24M	1 1/2	J514-24-24-070801MA	J514-24-24-070801MB
MS51509A24N	MS51509B24N	1 1/2	J514-24-24-070801NA	J514-24-24-070801NB
MS51509A24P	MS51509B24P	1 1/2	J514-24-24-070801PA	J514-24-24-070801PB
MS51509A24R	MS51509B24R	1 1/2	Not available	Not available
MS51509A24S	MS51509B24S	1 1/2	J514-24-24-070801SA	J514-24-24-070801SB
MS51509A24T	MS51509B24T	1 1/2	J514-24-24-070801ZA	J514-24-24-070801ZB
MS51509A24TF	MS51509B24TF	1 1/2	Not available	Not available
MS51509A24Z	MS51509B24Z	1 1/2	J514-24-24-070801ZA	J514-24-24-070801ZB
MS51509A24ZC	MS51509B24ZC	1 1/2	Not available	Not available

MS51509C
Draft dated 23 June 2016

TABLE II. MS51509 to SAE-J514 cross reference – Continued.

Inactive for new design MS51509- PIN		Tube OD	For new design SAE-J514 PIN	
Assembly	Body		Assembly	Body
MS51509A32	MS51509B32	2	Not available	Not available
MS51509A32H	MS51509B32H	2	Not available	Not available
MS51509A32J	MS51509B32K	2	Not available	Not available
MS51509A32M	MS51509B32M	2	J514-32-32-070801MA	J514-32-32-070801MB
MS51509A32N	MS51509B32N	2	J514-32-32-070801NA	J514-32-32-070801NB
MS51509A32P	MS51509B32P	2	J514-32-32-070801PA	J514-32-32-070801PB
MS51509A32R	MS51509B32R	2	Not available	Not available
MS51509A32S	MS51509B32S	2	J514-32-32-070801SA	J514-32-32-070801SB
MS51509A32T	MS51509B32T	2	J514-32-32-070801TA	J514-32-32-070801TB
MS51509A32TF	MS51509B32TF	2	Not available	Not available
MS51509A32Z	MS51509B32Z	2	J514-32-32-070801ZA	J514-32-32-070801ZB
MS51509A32ZC	MS51509B32ZC	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-AMS-QQ-P-416
FED-STD-595/36081	FED-STD-595/36231	MS51860	SAE-AMS2417
FED-STD-595/36099	FED-STD-595/36251	QQ-N-281	SAE-AMS2451/5
FED-STD-595/36118	FED-STD-595/36270	ASTM B117	SAE-AMS2451/9
FED-STD-595/36134	FED-STD-595/36280	ASTM B633	SAE-AMS2486
FED-STD-595/36152	FED-STD-595/36293	ASTM B695	SAE-AMS2488
FED-STD-595/36170	MIL-DTL-16232	ASTM F1136/F1136M	SAE-J403
FED-STD-595/36173	MS51531	SAE-AMS-C-81562	SAE-J425
			SAE-J514

CONCLUDING MATERIAL

Custodians:

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

Preparing activity:

DLA - CC

(Project 4730-2016-057)

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>.