

INCH-POUND

MS51512B
14 December 2015
SUPERSEDING
MS51512A
17 January 1979

DETAIL SPECIFICATION SHEET

TEE, PIPE TO TUBE,
MALE 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 DATE. For new design, use SAE-J514.

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

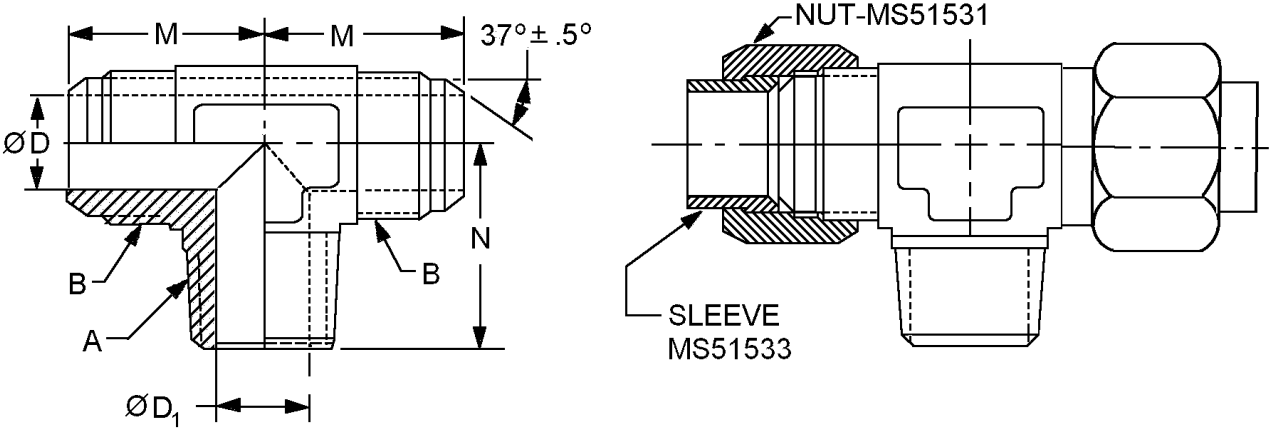


FIGURE 1. Tee, male pipe on branch.



MS51512B

| 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 (+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 | | D ₁ 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, male pipe on branch. - Continued.

MS51512B

REQUIREMENTS:

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

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

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.

MS51512B

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, method1, 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.

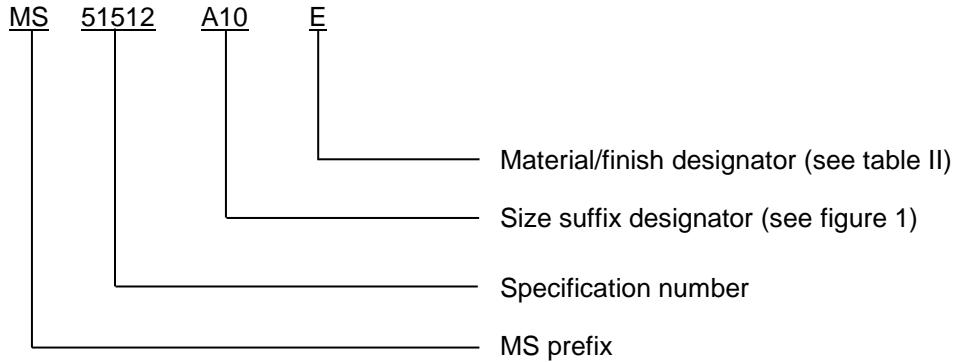
Trivalent wrenchability. When the finish has been damaged due to poor wrenchability, the surface of the connector shall be touched up using the brush plating process below. The term "trivalent wrenchability" is used to evaluate the ability of the finish to withstand abrasion from an excessive amount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

- 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.
- c. 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.

MS51512B

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: MS51512A10E 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 MS51512 PIN's and for new design SAE-J514 PIN's.

MS51512 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.

MS51512B

TABLE III. MS51512 to SAE-J514 cross reference.

| Inactive for new design MS51512- PIN | | TUBE O.D. | Pipe thread NPTF | For new design SAE-J514 PIN | |
|---|-------------|--------------|------------------------|-----------------------------|-------------------|
| Assembly | Body | | | Assembly | Body |
| MS51512A2 | MS51512B2 | 1/8 | 1/8 | Not available | Not available |
| MS51512A2CN | MS51512B2CN | 1/8 | 1/8 | Not available | Not available |
| MS51512A2E | MS51512B2E | 1/8 | 1/8 | Not available | Not available |
| MS51512A2F | MS51512B2F | 1/8 | 1/8 | Not available | Not available |
| MS51512A2H | MS51512B2H | 1/8 | 1/8 | Not available | Not available |
| MS51512A2J | MS51512B2J | 1/8 | 1/8 | Not available | Not available |
| MS51512A2M | MS51512B2M | 1/8 | 1/8 | J514-2-2-070425MA | J514-2-2-070425MB |
| MS51512A2N | MS51512B2N | 1/8 | 1/8 | J514-2-2-070425NA | J514-2-2-070425NB |
| MS51512A2P | MS51512B2P | 1/8 | 1/8 | J514-2-2-070425PA | J514-2-2-070425PB |
| MS51512A2R | MS51512B2R | 1/8 | 1/8 | Not available | Not available |
| MS51512A2S | MS51512B2S | 1/8 | 1/8 | J514-2-2-070425SA | J514-2-2-070425SB |
| MS51512A2T | MS51512B2T | 1/8 | 1/8 | J514-2-2-070425TA | J514-2-2-070425TB |
| MS51512A2TF | MS51512B2TF | 1/8 | 1/8 | Not available | Not available |
| MS51512A2Z | MS51512B2Z | 1/8 | 1/8 | J514-2-2-070425ZA | J514-2-2-070425ZB |
| MS51512A2ZN | MS51512B2ZN | 1/8 | 1/8 | Not available | Not available |
| MS51512A3 | MS51512B3 | 3/16 | 1/8 | Not available | Not available |
| MS51512A3CN | MS51512B3CN | 3/16 | 1/8 | Not available | Not available |
| MS51512A3E | MS51512B3E | 3/16 | 1/8 | Not available | Not available |
| MS51512A3F | MS51512B3F | 3/16 | 1/8 | Not available | Not available |
| MS51512A3H | MS51512B3H | 3/16 | 1/8 | Not available | Not available |
| MS51512A3J | MS51512B3J | 3/16 | 1/8 | Not available | Not available |
| MS51512A3M | MS51512B3M | 3/16 | 1/8 | J514-3-2-070425MA | J514-3-2-070425MB |
| MS51512A3N | MS51512B3N | 3/16 | 1/8 | J514-3-2-070425NA | J514-3-2-070425NB |
| MS51512A3P | MS51512B3P | 3/16 | 1/8 | J514-3-2-070425PA | J514-3-2-070425PB |
| MS51512A3R | MS51512B3R | 3/16 | 1/8 | Not available | Not available |
| MS51512A3S | MS51512B3S | 3/16 | 1/8 | J514-3-2-070425SA | J514-3-2-070425SB |
| MS51512A3T | MS51512B3T | 3/16 | 1/8 | J514-3-2-070425TA | J514-3-2-070425TB |
| MS51512A3TF | MS51512B3TF | 3/16 | 1/8 | Not available | Not available |
| MS51512A3Z | MS51512B3Z | 3/16 | 1/8 | J514-3-2-070425ZA | J514-3-2-070425ZB |
| MS51512A3ZN | MS51512B3ZN | 3/16 | 1/8 | Not available | Not available |
| MS51512A4 | MS51512B4 | 1/4 | 1/8 | Not available | Not available |
| MS51512A4CN | MS51512B4CN | 1/4 | 1/8 | Not available | Not available |
| MS51512A4E | MS51512B4E | 1/4 | 1/8 | Not available | Not available |
| MS51512A4F | MS51512B4F | 1/4 | 1/8 | Not available | Not available |
| MS51512A4H | MS51512B4H | 1/4 | 1/8 | Not available | Not available |
| MS51512A4J | MS51512B4J | 1/4 | 1/8 | Not available | Not available |
| MS51512A4M | MS51512B4M | 1/4 | 1/8 | J514-4-2-070425MA | J514-4-2-070425MB |
| MS51512A4N | MS51512B4N | 1/4 | 1/8 | J514-4-2-070425NA | J514-4-2-070425NB |
| MS51512A4P | MS51512B4P | 1/4 | 1/8 | J514-4-2-070425PA | J514-4-2-070425PB |
| MS51512A4R | MS51512B4R | 1/4 | 1/8 | Not available | Not available |
| MS51512A4S | MS51512B4S | 1/4 | 1/8 | J514-4-2-070425SA | J514-4-2-070425SB |
| MS51512A4T | MS51512B4T | 1/4 | 1/8 | J514-4-2-070425TA | J514-4-2-070425TB |
| MS51512A4TF | MS51512B4TF | 1/4 | 1/8 | Not available | Not available |
| MS51512A4Z | MS51512B4Z | 1/4 | 1/8 | J514-4-2-070425ZA | J514-4-2-070425ZB |
| MS51512A4ZN | MS51512B4ZN | 1/4 | 1/8 | Not available | Not available |

MS51512B

TABLE III. MS51512 to SAE-J514 cross reference - Continued.

| Inactive for new design MS51512- PIN | | TUBE O.D. | Pipe thread NPTF | For new design SAE-J514 PIN | |
|---|-------------|--------------|------------------------|-----------------------------|-------------------|
| Assembly | Body | | | Assembly | Body |
| MS51512A5 | MS51512B5 | 5/16 | 1/8 | Not available | Not available |
| MS51512A5CN | MS51512B5CN | 5/16 | 1/8 | Not available | Not available |
| MS51512A5E | MS51512B5E | 5/16 | 1/8 | Not available | Not available |
| MS51512A5F | MS51512B5F | 5/16 | 1/8 | Not available | Not available |
| MS51512A5H | MS51512B5H | 5/16 | 1/8 | Not available | Not available |
| MS51512A5J | MS51512B5J | 5/16 | 1/8 | Not available | Not available |
| MS51512A5M | MS51512B5M | 5/16 | 1/8 | J514-5-2-070425MA | J514-5-2-070425MB |
| MS51512A5N | MS51512B5N | 5/16 | 1/8 | J514-5-2-070425NA | J514-5-2-070425NB |
| MS51512A5P | MS51512B5P | 5/16 | 1/8 | J514-5-2-070425PA | J514-5-2-070425PB |
| MS51512A5R | MS51512B5R | 5/16 | 1/8 | Not available | Not available |
| MS51512A5S | MS51512B5S | 5/16 | 1/8 | J514-5-2-070425SA | J514-5-2-070425SB |
| MS51512A5T | MS51512B5T | 5/16 | 1/8 | J514-5-2-070425TA | J514-5-2-070425TB |
| MS51512A5TF | MS51512B5TF | 5/16 | 1/8 | Not available | Not available |
| MS51512A5Z | MS51512B5Z | 5/16 | 1/8 | J514-5-2-070425ZA | J514-5-2-070425ZB |
| MS51512A5ZN | MS51512B5ZN | 5/16 | 1/8 | Not available | Not available |
| MS51512A6 | MS51512B6 | 3/8 | 1/4 | Not available | Not available |
| MS51512A6CN | MS51512B6CN | 3/8 | 1/4 | Not available | Not available |
| MS51512A6E | MS51512B6E | 3/8 | 1/4 | Not available | Not available |
| MS51512A6F | MS51512B6F | 3/8 | 1/4 | Not available | Not available |
| MS51512A6H | MS51512B6H | 3/8 | 1/4 | Not available | Not available |
| MS51512A6J | MS51512B6J | 3/8 | 1/4 | Not available | Not available |
| MS51512A6M | MS51512B6M | 3/8 | 1/4 | J514-6-4-070425MA | J514-6-4-070425MB |
| MS51512A6N | MS51512B6N | 3/8 | 1/4 | J514-6-4-070425NA | J514-6-4-070425NB |
| MS51512A6P | MS51512B6P | 3/8 | 1/4 | J514-6-4-070425PA | J514-6-4-070425PB |
| MS51512A6R | MS51512B6R | 3/8 | 1/4 | Not available | Not available |
| MS51512A6S | MS51512B6S | 3/8 | 1/4 | J514-6-4-070425SA | J514-6-4-070425SB |
| MS51512A6T | MS51512B6T | 3/8 | 1/4 | J514-6-4-070425TA | J514-6-4-070425TB |
| MS51512A6TF | MS51512B6TF | 3/8 | 1/4 | Not available | Not available |
| MS51512A6Z | MS51512B6Z | 3/8 | 1/4 | J514-6-4-070425ZA | J514-6-4-070425ZB |
| MS51512A6ZN | MS51512B6ZN | 3/8 | 1/4 | Not available | Not available |
| MS51512A8 | MS51512B8 | 1/2 | 3/8 | Not available | Not available |
| MS51512A8CN | MS51512B8CN | 1/2 | 3/8 | Not available | Not available |
| MS51512A8E | MS51512B8E | 1/2 | 3/8 | Not available | Not available |
| MS51512A8F | MS51512B8F | 1/2 | 3/8 | Not available | Not available |
| MS51512A8H | MS51512B8H | 1/2 | 3/8 | Not available | Not available |
| MS51512A8J | MS51512B8J | 1/2 | 3/8 | Not available | Not available |
| MS51512A8M | MS51512B8M | 1/2 | 3/8 | J514-8-6-070425MA | J514-8-6-070425MB |
| MS51512A8N | MS51512B8N | 1/2 | 3/8 | J514-8-6-070425NA | J514-8-6-070425NB |
| MS51512A8P | MS51512B8P | 1/2 | 3/8 | J514-8-6-070425PA | J514-8-6-070425PB |
| MS51512A8R | MS51512B8R | 1/2 | 3/8 | Not available | Not available |
| MS51512A8S | MS51512B8S | 1/2 | 3/8 | J514-8-6-070425SA | J514-8-6-070425SB |
| MS51512A8T | MS51512B8T | 1/2 | 3/8 | J514-8-6-070425TA | J514-8-6-070425TB |
| MS51512A8TF | MS51512B8TF | 1/2 | 3/8 | Not available | Not available |
| MS51512A8Z | MS51512B8Z | 1/2 | 3/8 | J514-8-6-070425ZA | J514-8-6-070425ZB |
| MS51512A8ZN | MS51512B8ZN | 1/2 | 3/8 | Not available | Not available |

MS51512B

TABLE III. MS51512 to SAE-J514 cross reference - Continued.

| Inactive for new design MS51512- PIN | | TUBE O.D. | Pipe thread NPTF | For new design SAE-J514 PIN | |
|---|--------------|--------------|------------------------|-----------------------------|---------------------|
| Assembly | Body | | | Assembly | Body |
| MS51512A10 | MS51512B10 | 5/8 | 1/2 | Not available | Not available |
| MS51512A10CN | MS51512B10CN | 5/8 | 1/2 | Not available | Not available |
| MS51512A10E | MS51512B10E | 5/8 | 1/2 | Not available | Not available |
| MS51512A10F | MS51512B10F | 5/8 | 1/2 | Not available | Not available |
| MS51512A10H | MS51512B10H | 5/8 | 1/2 | Not available | Not available |
| MS51512A10J | MS51512B10J | 5/8 | 1/2 | Not available | Not available |
| MS51512A10M | MS51512B10M | 5/8 | 1/2 | J514-10-8-070425MA | J514-10-8-070425MB |
| MS51512A10N | MS51512B10N | 5/8 | 1/2 | J514-10-8-070425NA | J514-10-8-070425NB |
| MS51512A10P | MS51512B10P | 5/8 | 1/2 | J514-10-8-070425PA | J514-10-8-070425PB |
| MS51512A10R | MS51512B10R | 5/8 | 1/2 | Not available | Not available |
| MS51512A10S | MS51512B10S | 5/8 | 1/2 | J514-10-8-070425SA | J514-10-8-070425SB |
| MS51512A10T | MS51512B10T | 5/8 | 1/2 | J514-10-8-070425TA | J514-10-8-070425TB |
| MS51512A10TF | MS51512B10TF | 5/8 | 1/2 | Not available | Not available |
| MS51512A10Z | MS51512B10Z | 5/8 | 1/2 | J514-10-8-070425ZA | J514-10-8-070425ZB |
| MS51512A10ZN | MS51512B10ZN | 5/8 | 1/2 | Not available | Not available |
| MS51512A12 | MS51512B12 | 3/4 | 3/4 | Not available | Not available |
| MS51512A12CN | MS51512B12CN | 3/4 | 3/4 | Not available | Not available |
| MS51512A12E | MS51512B12E | 3/4 | 3/4 | Not available | Not available |
| MS51512A12F | MS51512B12F | 3/4 | 3/4 | Not available | Not available |
| MS51512A12H | MS51512B12H | 3/4 | 3/4 | Not available | Not available |
| MS51512A12J | MS51512B12J | 3/4 | 3/4 | Not available | Not available |
| MS51512A12M | MS51512B12M | 3/4 | 3/4 | J514-12-12-070425MA | J514-12-12-070425MB |
| MS51512A12N | MS51512B12N | 3/4 | 3/4 | J514-12-12-070425NA | J514-12-12-070425NB |
| MS51512A12P | MS51512B12P | 3/4 | 3/4 | J514-12-12-070425PA | J514-12-12-070425PB |
| MS51512A12R | MS51512B12R | 3/4 | 3/4 | Not available | Not available |
| MS51512A12S | MS51512B12S | 3/4 | 3/4 | J514-12-12-070425SA | J514-12-12-070425SB |
| MS51512A12T | MS51512B12T | 3/4 | 3/4 | J514-12-12-070425TA | J514-12-12-070425TB |
| MS51512A12TF | MS51512B12TF | 3/4 | 3/4 | Not available | Not available |
| MS51512A12Z | MS51512B12Z | 3/4 | 3/4 | J514-12-12-070425ZA | J514-12-12-070425ZB |
| MS51512A12ZN | MS51512B12ZN | 3/4 | 3/4 | Not available | Not available |
| MS51512A14 | MS51512B14 | 7/8 | 3/4 | Not available | Not available |
| MS51512A14CN | MS51512B14CN | 7/8 | 3/4 | Not available | Not available |
| MS51512A14E | MS51512B14E | 7/8 | 3/4 | Not available | Not available |
| MS51512A14F | MS51512B14F | 7/8 | 3/4 | Not available | Not available |
| MS51512A14H | MS51512B14H | 7/8 | 3/4 | Not available | Not available |
| MS51512A14J | MS51512B14J | 7/8 | 3/4 | Not available | Not available |
| MS51512A14M | MS51512B14M | 7/8 | 3/4 | J514-14-12-070425MA | J514-14-12-070425MB |
| MS51512A14N | MS51512B14N | 7/8 | 3/4 | J514-14-12-070425NA | J514-14-12-070425NB |
| MS51512A14P | MS51512B14P | 7/8 | 3/4 | J514-14-12-070425PA | J514-14-12-070425PB |
| MS51512A14R | MS51512B14R | 7/8 | 3/4 | Not available | Not available |
| MS51512A14S | MS51512B14S | 7/8 | 3/4 | J514-14-12-070425SA | J514-14-12-070425SB |
| MS51512A14T | MS51512B14T | 7/8 | 3/4 | J514-14-12-070425TA | J514-14-12-070425TB |
| MS51512A14TF | MS51512B14TF | 7/8 | 3/4 | Not available | Not available |
| MS51512A14Z | MS51512B14Z | 7/8 | 3/4 | J514-14-12-070425ZA | J514-14-12-070425ZB |
| MS51512A14ZN | MS51512B14ZN | 7/8 | 3/4 | Not available | Not available |

MS51512B

TABLE III. MS51512 to SAE-J514 cross reference - Continued.

| Inactive for new design MS51512- PIN | | TUBE O.D. | Pipe thread NPTF | For new design SAE-J514 PIN | |
|---|--------------|--------------|------------------------|-----------------------------|---------------------|
| Assembly | Body | | | Assembly | Body |
| MS51512A16 | MS51512B16 | 1 | 1 | Not available | Not available |
| MS51512A16CN | MS51512B16CN | 1 | 1 | Not available | Not available |
| MS51512A16E | MS51512B16E | 1 | 1 | Not available | Not available |
| MS51512A16F | MS51512B16F | 1 | 1 | Not available | Not available |
| MS51512A16H | MS51512B16H | 1 | 1 | Not available | Not available |
| MS51512A16J | MS51512B16J | 1 | 1 | Not available | Not available |
| MS51512A16M | MS51512B16M | 1 | 1 | J514-16-16-070425MA | J514-16-16-070425MB |
| MS51512A16N | MS51512B16N | 1 | 1 | J514-16-16-070425NA | J514-16-16-070425NB |
| MS51512A16P | MS51512B16P | 1 | 1 | J514-16-16-070425PA | J514-16-16-070425PB |
| MS51512A16R | MS51512B16R | 1 | 1 | Not available | Not available |
| MS51512A16S | MS51512B16S | 1 | 1 | J514-16-16-070425SA | J514-16-16-070425SB |
| MS51512A16T | MS51512B16T | 1 | 1 | J514-16-16-070425TA | J514-16-16-070425TB |
| MS51512A16TF | MS51512B16TF | 1 | 1 | Not available | Not available |
| MS51512A16Z | MS51512B16Z | 1 | 1 | J514-16-16-070425ZA | J514-16-16-070425ZB |
| MS51512A16ZN | MS51512B16ZN | 1 | 1 | Not available | Not available |
| MS51512A20 | MS51512B20 | 1 1/4 | 1 1/4 | Not available | Not available |
| MS51512A20CN | MS51512B20CN | 1 1/4 | 1 1/4 | Not available | Not available |
| MS51512A20E | MS51512B20E | 1 1/4 | 1 1/4 | Not available | Not available |
| MS51512A20F | MS51512B20F | 1 1/4 | 1 1/4 | Not available | Not available |
| MS51512A20H | MS51512B20H | 1 1/4 | 1 1/4 | Not available | Not available |
| MS51512A20J | MS51512B20J | 1 1/4 | 1 1/4 | Not available | Not available |
| MS51512A20M | MS51512B20M | 1 1/4 | 1 1/4 | J514-20-20-070425MA | J514-20-20-070425MB |
| MS51512A20N | MS51512B20N | 1 1/4 | 1 1/4 | J514-20-20-070425NA | J514-20-20-070425NB |
| MS51512A20P | MS51512B20P | 1 1/4 | 1 1/4 | J514-20-20-070425PA | J514-20-20-070425PB |
| MS51512A20R | MS51512B20R | 1 1/4 | 1 1/4 | Not available | Not available |
| MS51512A20S | MS51512B20S | 1 1/4 | 1 1/4 | J514-20-20-070425SA | J514-20-20-070425SB |
| MS51512A20T | MS51512B20T | 1 1/4 | 1 1/4 | J514-20-20-070425TA | J514-20-20-070425TB |
| MS51512A20TF | MS51512B20TF | 1 1/4 | 1 1/4 | Not available | Not available |
| MS51512A20Z | MS51512B20Z | 1 1/4 | 1 1/4 | J514-20-20-070425ZA | J514-20-20-070425ZB |
| MS51512A20ZN | MS51512B20ZN | 1 1/4 | 1 1/4 | Not available | Not available |
| MS51512A24 | MS51512B24 | 1 1/2 | 1 1/2 | Not available | Not available |
| MS51512A24CN | MS51512B24CN | 1 1/2 | 1 1/2 | Not available | Not available |
| MS51512A24E | MS51512B24E | 1 1/2 | 1 1/2 | Not available | Not available |
| MS51512A24F | MS51512B24F | 1 1/2 | 1 1/2 | Not available | Not available |
| MS51512A24H | MS51512B24H | 1 1/2 | 1 1/2 | Not available | Not available |
| MS51512A24J | MS51512B24J | 1 1/2 | 1 1/2 | Not available | Not available |
| MS51512A24M | MS51512B24M | 1 1/2 | 1 1/2 | J514-24-24-070425MA | J514-24-24-070425MB |
| MS51512A24N | MS51512B24N | 1 1/2 | 1 1/2 | J514-24-24-070425NA | J514-24-24-070425NB |
| MS51512A24P | MS51512B24P | 1 1/2 | 1 1/2 | J514-24-24-070425PA | J514-24-24-070425PB |
| MS51512A24R | MS51512B24R | 1 1/2 | 1 1/2 | Not available | Not available |
| MS51512A24S | MS51512B24S | 1 1/2 | 1 1/2 | J514-24-24-070425SA | J514-24-24-070425SB |
| MS51512A24T | MS51512B24T | 1 1/2 | 1 1/2 | J514-24-24-070425TA | J514-24-24-070425TB |
| MS51512A24TF | MS51512B24TF | 1 1/2 | 1 1/2 | Not available | Not available |
| MS51512A24Z | MS51512B24Z | 1 1/2 | 1 1/2 | J514-24-24-070425ZA | J514-24-24-070425ZB |
| MS51512A24ZN | MS51512B24ZN | 1 1/2 | 1 1/2 | Not available | Not available |

MS51512B

TABLE III. MS51512 to SAE-J514 cross reference - Continued.

| Inactive for new design MS51512- PIN | | TUBE O.D. | Pipe thread NPTF | For new design SAE-J514 PIN | |
|---|--------------|--------------|------------------------|-----------------------------|---------------------|
| Assembly | Body | | | Assembly | Body |
| MS51512A32 | MS51512B32 | 2 | 2 | Not available | Not available |
| MS51512A32CN | MS51512B32CN | 2 | 2 | Not available | Not available |
| MS51512A32E | MS51512B32E | 2 | 2 | Not available | Not available |
| MS51512A32F | MS51512B32F | 2 | 2 | Not available | Not available |
| MS51512A32H | MS51512B32H | 2 | 2 | Not available | Not available |
| MS51512A32J | MS51512B32J | 2 | 2 | Not available | Not available |
| MS51512A32M | MS51512B32M | 2 | 2 | J514-32-32-070425MA | J514-32-32-070425MB |
| MS51512A32N | MS51512B32N | 2 | 2 | J514-32-32-070425NA | J514-32-32-070425NB |
| MS51512A32P | MS51512B32P | 2 | 2 | J514-32-32-070425PA | J514-32-32-070425PB |
| MS51512A32R | MS51512B32R | 2 | 2 | Not available | Not available |
| MS51512A32S | MS51512B32S | 2 | 2 | J514-32-32-070425SA | J514-32-32-070425SB |
| MS51512A32T | MS51512B32T | 2 | 2 | J514-32-32-070425TA | J514-32-32-070425TB |
| MS51512A32TF | MS51512B32TF | 2 | 2 | Not available | Not available |
| MS51512A32Z | MS51512B32Z | 2 | 2 | J514-32-32-070425ZA | J514-32-32-070425ZB |
| MS51512A32ZN | MS51512B32ZN | 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-595/36293 | ASTM B564 | SAE-AMS5639 |
| FED-STD-595/36081 | MIL-DTL-16232 | ASTM B633 | SAE-AMS5645 |
| FED-STD-595/36099 | MIL-DTL-81706 | ASTM B695 | SAE-AMS5647 |
| FED-STD-595/36118 | MS51531 | ASTM F1136/F1136M | SAE-AMS5743 |
| FED-STD-595/36134 | MS51533 | SAE-AMS-C-81562 | SAE-AMS6370 |
| FED-STD-595/36152 | QQ-N-281 | SAE-AMS-QQ-P-416 | SAE-AMS6382 |
| FED-STD-595/36170 | ASME B1.1 | SAE-AMS2417 | SAE-J403 |
| FED-STD-595/36173 | ASTM A276/A276M | SAE-AMS2451/5 | SAE-J425 |
| FED-STD-595/36176 | ASTM A564/A564M | SAE-AMS2451/9 | SAE-J514 |
| FED-STD-595/36231 | ASTM A582/A582M | SAE-AMS2486 | |
| FED-STD-595/36251 | ASTM B117 | SAE-AMS2488 | |
| FED-STD-595/36270 | ASTM B164 | SAE-AMS2700 | |
| FED-STD-595/36280 | ASTM B166 | SAE-AMS4928 | |

MS51512B

CONCLUDING MATERIAL

Custodians:

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

Preparing activity:
DLA - CC

(Project 4730-2016-008)

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>.