

INCH-POUND

MS27076E
7 October 2013
SUPERSEDING
MS27076D
24 September 2003

DETAIL SPECIFICATION SHEET

NIPPLE, STRAIGHT, SWIVEL FLANGE

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

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-DTL-27272.

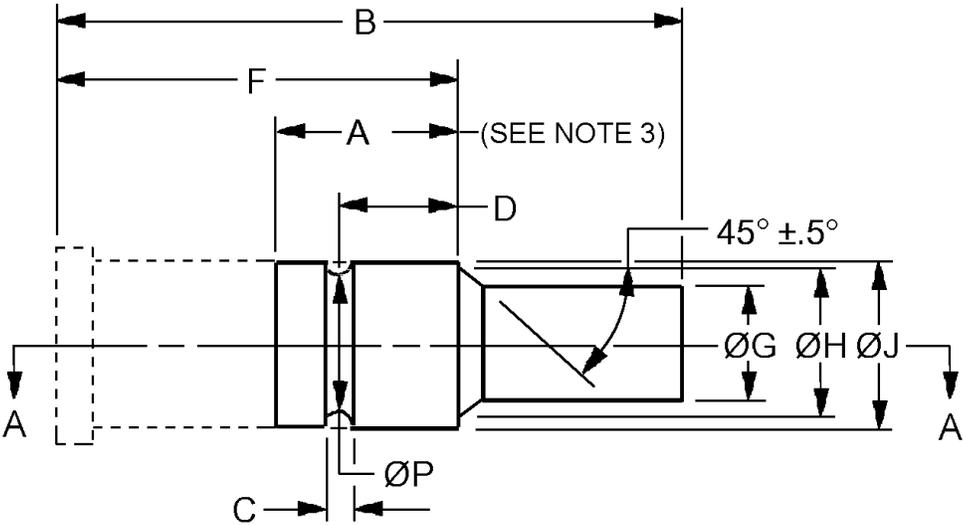
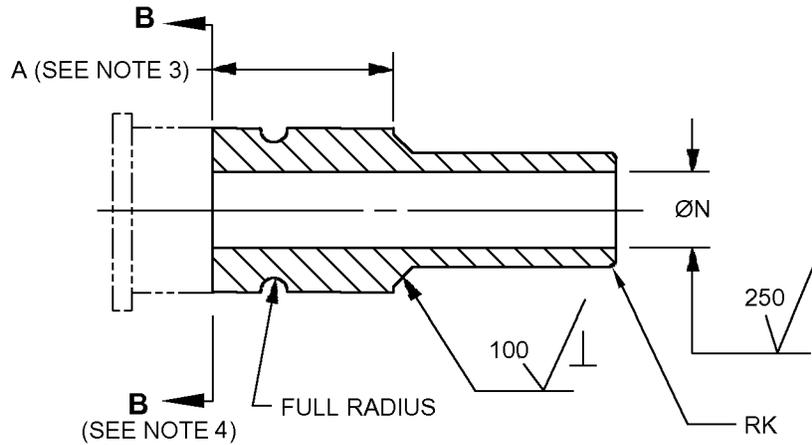


FIGURE 1. Nipple illustration.

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SECTION A - A

| Size and material code | | A min (see note 3) inch (mm) | B ± 0.015 (0.38) inch (mm) | C inch (mm) | | D +0.005 -0.000 (0.13) inch (mm) | |
|----------------------------------|---------------|------------------------------------|--------------------------------------|----------------|-------------------------|---|--------------|
| Corrosion resistant steel (CRES) | Aluminum (Al) | | | | | CRES | Al |
| -8C | -8D | .617 (15.67) | 1.797 (45.64) | .098 (2.49) | +0.004 (0.01) | .385 (9.78) | .385 (9.78) |
| -10C | -10D | .654 (16.61) | 1.902 (48.31) | | -0.000 | .420 (10.67) | .427 (10.85) |
| -12C | -12D | .755 (19.18) | 2.107 (53.52) | .128 (3.25) | +0.005 (0.13) -0.000 | .500 (12.70) | .500 (12.70) |
| -16C | -16D | .831 (21.11) | 2.193 (55.70) | | | .545 (13.84) | .545 (13.84) |
| -20C | -20D | .881 (22.38) | 2.457 (62.40) | | | .565 (14.35) | .571 (14.48) |
| -24C | -24D | 1.035 (26.29) | 2.605 (66.17) | | | .665 (16.89) | .665 (16.89) |

| Size and material code | | F ± 0.010 inch (mm) | G dia. +0.000 -0.005 (0.13) inch (mm) | H dia. ± 0.005 (0.13) inch (mm) | J dia. (see note 3) +0.005 (0.13) -0.000 inch (mm) | K inch (mm) | |
|------------------------|------|-------------------------------|--|---|--|----------------|-------------------------|
| CRES | Al | | | | | | |
| -8C | -8D | 1.197 (30.40) | .431 (10.95) | .530 (13.46) | .616 (15.65) | .020 (0.51) | +0.005 (0.13) -0.000 |
| -10C | -10D | 1.252 (38.74) | .531 (13.49) | .625 (15.88) | .706 (17.93) | | .030 (0.76) |
| -12C | -12D | 1.432 (36.37) | .655 (16.36) | .760 (19.30) | .826 (20.98) | | |
| -16C | -16D | 1.463 (37.16) | .905 (22.99) | 1.040 (26.42) | 1.150 (29.21) | | |
| -20C | -20D | 1.522 (38.66) | 1.156 (29.36) | 1.275 (32.39) | 1.405 (35.69) | | |
| -24C | -24D | 1.625 (41.28) | 1.406 (35.71) | 1.550 (39.37) | 1.635 (41.53) | .035 | |

FIGURE 1. Nipple illustration - Continued.

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| Size and material code | | L min inch (mm) | M min (see note 3) inch (mm) | N dia. inch (mm) | | P dia. inch (mm) | |
|------------------------|------|--------------------|------------------------------------|---------------------|----------------------------|---------------------|----------------------------|
| CRES | Al | | | | | | |
| -8C | -8D | 1.030 (26.16) | .583 (14.81) | .345 (8.76) | +0.006 (0.15) -0.000 | .497 (12.62) | +0.005 |
| -10C | -10D | 1.130 (28.70) | .620 (15.75) | .440 (11.18) | | .586 (14.88) | (0.13) |
| -12C | -12D | 1.240 (31.50) | .720 (18.29) | .560 (14.22) | | .674 (17.12) | -0.000 |
| -16C | -16D | 1.340 (34.04) | .796 (20.22) | .828 (21.03) | +0.005 (0.13) -0.000 | 1.001 (25.43) | +0.008 (0.20) -0.000 |
| -20C | -20D | 1.570 (39.88) | .846 (21.49) | 1.058 (26.87) | | 1.255 (31.88) | +0.005 |
| -24C | -24D | 1.720 (43.69) | 1.000 (25.40) | 1.282 (32.56) | | 1.490 (37.85) | (0.13) -0.000 |

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Use A dimension when the adjacent diameter to the left of plane B-B is greater than the J dimension. When the adjacent diameter is equal to or less than the J dimension, the M dimension may be used in place of the A dimension. Dimension A or M is not applicable to one-piece nipple design.
4. Any design of nipple components to the left of plane B-B is acceptable provided the nipple is a one-piece design, and the dimensions B and F and the requirements of this specification sheet and the procurement specification are met.
5. Unless otherwise specified, break or radius all corners .005, +.005, -.000 inch (0.13, 0.13, -0.00 mm).
6. All diameters must be concentric within .005 inch (0.13 mm) full indicator movement.
7. Surface roughness. Unless otherwise specified, maximum surface roughness shall not exceed 125 μ in. R_a in accordance with ASME B46.1.
8. Remove all burrs and slivers.

FIGURE 1. Nipple illustration - Continued.

REQUIREMENTS

Nipple illustration. See figure 1.

Intended use. This part is a component of MS27062. This is a design standard for manufacturing purposes. The item is only procured as an integral part of adapter assemblies.

Materials. Material and material codes see table I.

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TABLE I. Materials and material codes.

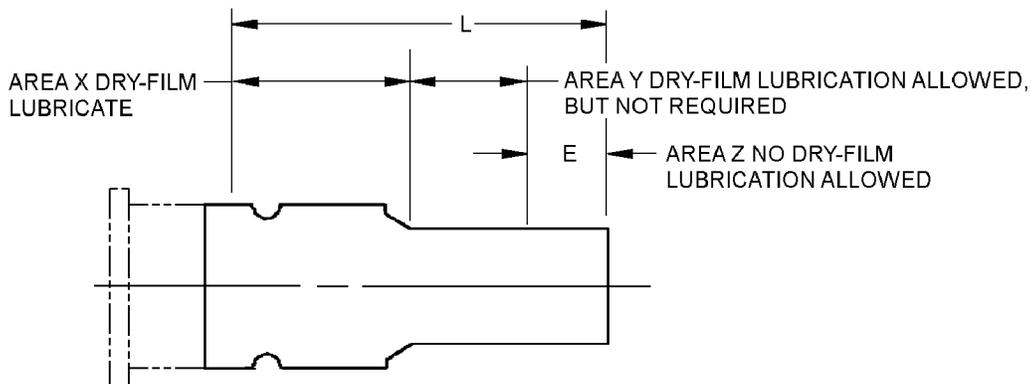
| Material code | Material |
|---------------|--|
| C | Corrosion-resistant steel (CRES), class 304 or 321 cold drawn or cold rolled in accordance with SAE-AMS-QQ-S-763, SAE-AMS5639, or SAE-AMS5645. |
| D | Aluminum alloy, 6061-T6 or T651 in accordance with SAE-AMS-QQ-A-367, SAE-AMS4117 or alloy 7075-T73, 7075-T7351 in accordance with SAE-AMS-QQ-A-225/9 or alloy 7055-T7351 in accordance with SAE-AMS4124. |

Finish:

Corrosion-resistant steel, passivate in accordance with SAE-AMS2700, method 1, type 6 or 7.

Aluminum alloy anodize in accordance with MIL-A-8625, type II, dye blue.

Dry film lubricant. Dry film lubricate in accordance with figure 2 and table II.



| Size and material code | | E | | L |
|------------------------|------|------------|------------|------------------|
| CRES | Al | inch (mm) | | min inch (mm) |
| -8C | -8D | .32 (8.1) | ±.12 (3.0) | 1.030 (26.16) |
| -10C | -10D | .35 (8.9) | ±.15 (3.8) | 1.130 (28.70) |
| -12C | -12D | | | 1.240 (31.50) |
| -16C | -16D | .39 (9.9) | ±.19 (4.8) | 1.340 (34.04) |
| -20C | -20D | .48 (12.1) | ±.28 (7.1) | 1.570 (39.88) |
| -24C | -24D | .50 (12.7) | ±.30 (7.6) | 1.720 (43.69) |

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.

FIGURE 2. Dry-film lubrication area.

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NOTE: Avoid using graphite dry film lubes with aluminum nipples because in a wet environment, graphite becomes corrosive to the aluminum.

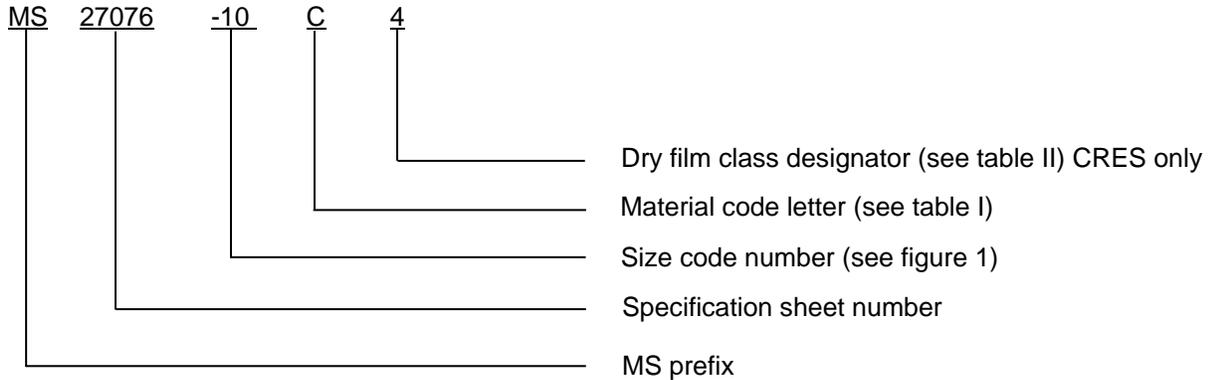
TABLE II. Dry film designator.

| Dry film designator | SAE class or type designator | Dry film characteristics |
|---------------------|------------------------------|--|
| Blank | Any SAE class or type below | N/A |
| SAE-AS1701 | SAE-AS1701 class | SAE-AS1701 temperature ranges °F (°C) |
| 4 | 4 | -65° to +1400°F (-54° to 760°C) |
| 5 | 5 | -65° to +850°F (-54° to 454°C) |
| 6 | 6 | -375° to +850°F (-226° to 454°C) |
| SAE-AS5272 | SAE-AS5272 type | SAE-AS5272 temperature ranges. °F (°C) |
| 7 | Type I | -90° to 400°F (-68 to 204°C) endurance life of 250 min minimum |
| 8 | Type II | -90° to 400°F (-68° to 204°C) endurance life of 450 min minimum |
| 9 | Type III | Color 1 - Natural product color -90° to 400°F (-68 to 204°C) low Volatile organic compound with an endurance life of 450 min minimum |
| 10 | Type III | Color 2 - Black color -90° to 400°F (-68 to 204°C) low Volatile organic compound with an endurance life of 450 min minimum |
| Dry film designator | MIL classification | Dry film characteristics |
| MIL-PRF-46010 1/ | --- | MIL-PRF-46010 temperature ranges. °F (°C) |
| 11 | 1 | Color 1 natural product color, -90° to 400°F (-68 to 204°C) solvent resisting |
| 12 | 2 | Color 2 - Black color -90° to 400°F (-68 to 204°C) solvent resisting |

1/ Not for aerospace usage.

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Part or Identifying Number (PIN): The PIN consists of prefix "MS", the specification sheet number, dash number for a straight nipple size, letter for material, and a blank or number for dry film lubricant. Unassigned PIN's shall not be used.



PIN examples:

MS27076-8C indicates a straight nipple size 8, CRES with dry film class designator "blank".
MS27076-8C4 indicates a straight nipple size 8, CRES with dry film class designator 4.

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.

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-27272, this document references the following:

| | |
|--------------------|--------------|
| MIL-PRF-46010 | SAE-AMS2700 |
| MIL-A-8625 | SAE-AMS4117 |
| MS27062 | SAE-AMS4124 |
| ASME B46.1 | SAE-AMS-5639 |
| SAE-AMS-QQ-A-225/9 | SAE-AMS5645 |
| SAE-AMS-QQ-A-367 | SAE-AS1701 |
| SAE-AMS-QQ-S-763 | SAE-AS5272 |

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CONCLUDING MATERIAL

Custodians:

Army - AV
Navy - AS
Air Force - 99
DLA - CC

Preparing activity:
DLA - CC

(Project 4730-2013-104)

Review activities:

Army - AR, AT, MI
Navy - MC, SA, SH
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>.