

DETAIL SPECIFICATION SHEET

NIPPLE, FLARELESS, TUBE TO HOSE - SWIVEL NUT

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.

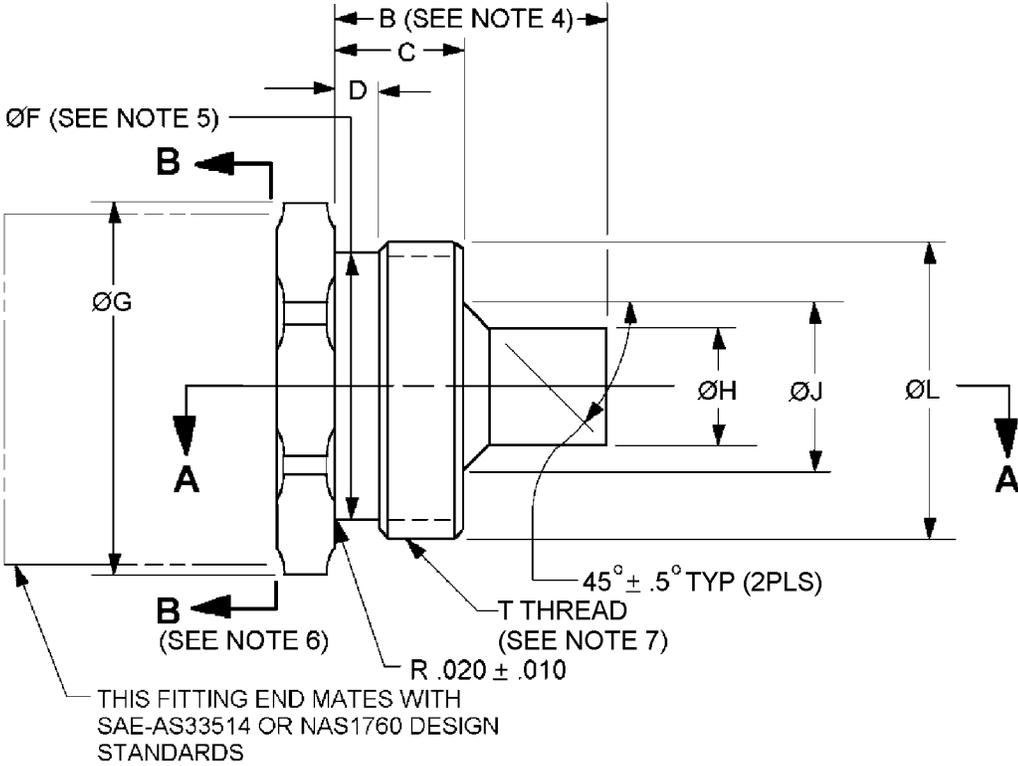
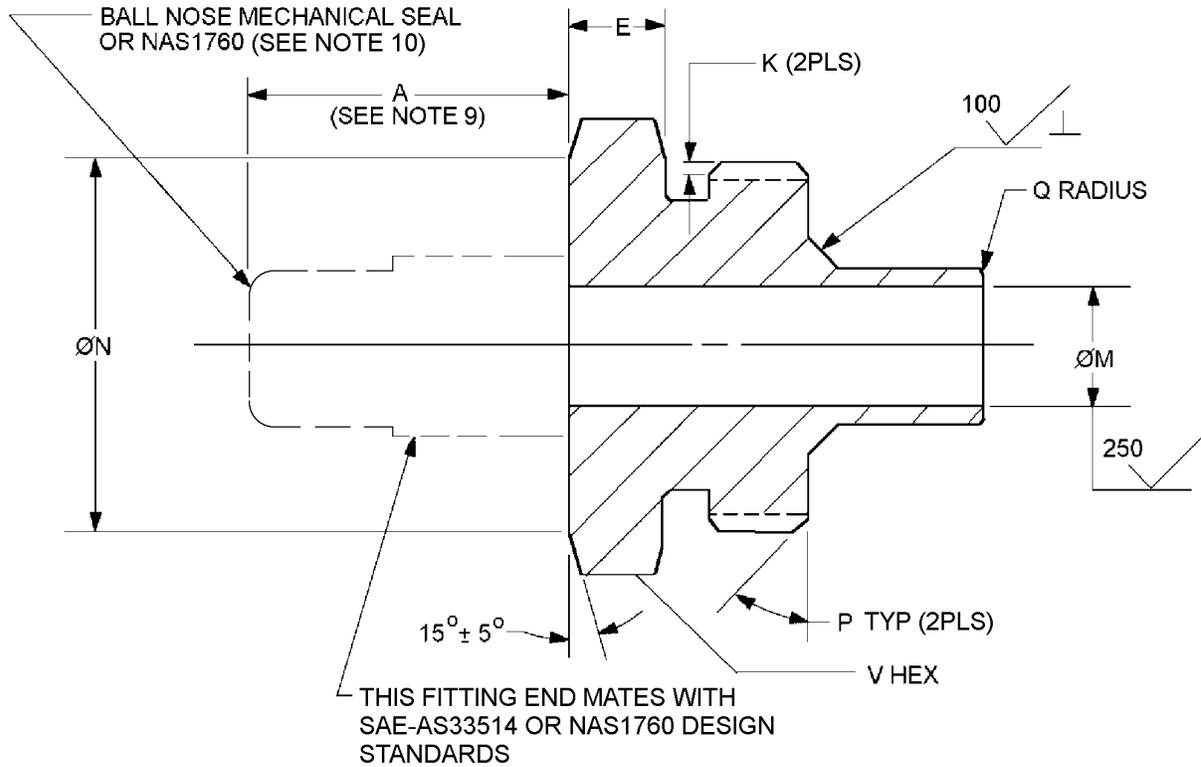


FIGURE 1. Nipple tube to hose dimensions and configuration.

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SECTION A-A ENLARGED

FIGURE 1. Nipple tube to hose dimensions and configuration - Continued.

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Size and material code		A min/max inches (mm)	B (see note 5) inches (mm) ±.005 (0.13)		C inches (mm) ±.005 (0.13)		D inches (mm) ±.005 (0.13)	
CRES	Al		CRES	Al	CRES	Al	CRES	Al
-3/-4C	---	.486/.543 (12.34/13.79)	.735 (18.67)	---	.255 (6.48)	---	.075 (1.91)	---
-4C	---	.440/.528 (11.18/13.41)		---		---		---
-5C	---	.483/.598 (12.27/13.19)	.730 (18.54)	---	.250 (6.35)	---	.085 (2.16)	---
-6C	---	.558/.627 (14.17/15.93)		---		---		---
-8C	-8D	.662/.727 (16.81/18.47)	.870 (22.10)	.865 (21.97)	.270 (6.86)	.265 (6.73)	.085 (2.16)	.080 (2.03)
-10C	-10D	.755/.834 (19.18/21.18)	.950 (24.13)	.957 (24.31)	.300 (7.62)	.307 (7.80)	.100 (2.54)	.107 (2.72)
-12C	-12D	.733/.1.038 (18.62/26.37)	1.035 (26.29)	1.018 (25.86)	.360 (9.14)	.343 (8.71)		.083 (2.11)
-16C	-16D	.819/.1.038 (20.80/26.37)	1.120 (28.45)	1.100 (27.94)	.390 (9.91)	.370 (9.40)	.110 (2.79)	.090 (2.29)
-20C	-20D	.871/.1.120 (22.12/28.45)	1.335 (33.91)	1.341 (34.06)	.400 (10.16)	.406 (10.31)	.085 (2.16)	.091 (2.31)
-24C	-24D	1.096/1.377 (27.84/34.98)	1.480 (37.59)	1.480 (37.59)	.500 (12.70)	.500 (12.70)	.100 (2.54)	.100 (2.54)

Size and material code		E inches (mm) ±.005 (0.13)		F dia (see note 4) inches (mm)		G dia inches (mm)	
CRES	Al	CRES	Al				
-3/-4C	---	.125 (3.18)	---	.400 (10.16)	±.005	.620 (15.75)	±.005
-4C	---		---				
-5C	---		---				
-6C	---	.135 (3.43)	---	.495 (12.57)	±.010	.750 (19.05)	+.015 -.000
-8C	-8D	.150 (3.81)	.155 (3.94)	.600 (15.24)		.960 (24.38)	
-10C	-10D	.170 (4.32)	.163 (4.14)	.785 (19.94)		1.105 (28.07)	
-12C	-12D	.190 (4.83)	.207 (5.26)	.910 (23.11)		1.385 (35.18)	
-16C	-16D	.220 (5.59)	.240 (6.10)	1.277 (32.44)		1.680 (42.67)	
-20C	-20D	.280 (7.11)	.274 (6.96)	1.589 (40.36)		1.979 (50.27)	
-24C	-24D		.280 (7.11)	1.828 (46.43)		2.340 (59.44)	

FIGURE 1. Nipple tube to hose dimensions and configuration - Continued.

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Size and material code		H dia inches (mm) +.000 -.005 (0.13)	J dia inches (mm) ±.005 (0.13)	K inches (mm)	
CRES	Al				
-3/-4C	---	.210 (5.33)	.295 (7.49)	.031 (.79)	±.005 (0.13)
-4C	---				
-5C	---	.273 (6.93)	.360 (9.14)	.015 (.38)	max
-6C	---	.335 (8.51)	.425 (10.80)		
-8C	-8D	.431 (10.95)	.530 (13.46)	.031 (.79)	±.005 (0.13)
-10C	-10D	.531 (13.49)	.625 (15.88)	.035 (.89)	
-12C	-12D	.655 (16.64)	.760 (19.30)		
-16C	-16D	.905 (22.99)	1.040 (26.42)	.038 (.97)	
-20C	-20D	1.156 (29.36)	1.275 (32.39)		
-24C	-24D	1.406 (35.71)	1.550 (39.37)	.043 (1.09)	

Size and material code		L dia inches (mm)		M dia inches (mm)		N dia inches (mm) .02 (0.51)
CRES	Al					
-3/-4C	---	.500 (12.70)	+.000/-.006 (+0.00/-0.15)	.161 (4.09)	+.005 (0.13) -.000	.53 (13.46)
-4C	---					.59 (14.99)
-5C	---	.562 (14.27)	+.000/-.007 (+0.00/-0.18)	.224 (5.69)	-.000	.66 (16.76)
-6C	---	.625 (15.88)		.261 (6.63)		
-8C	-8D	.750 (19.05)	+.000/-.008 (+0.00/-0.20)	.345 (8.76)	+.006 (0.15) -.000	.84 (21.34)
-10C	-10D	.875 (22.23)		.440 (11.18)		
-12C	-12D	1.000 (25.40)	+.000/-.009 (+0.00/-0.23)	.560 (14.22)	-.000	1.22 (30.99)
-16C	-16D	1.375 (34.93)		.828 (21.03)		
-20C	-20D	1.688 (42.88)	1.058 (26.87)	1.78 (45.21)		
-24C	-24D	1.938 (49.23)	+.000/-.010 (+0.00/-0.25)	1.282 (32.56)	+.005 (0.13) -.000	2.09 (53.09)

Size and material code		P ±5°		Q radius inches (mm)	
CRES	Al	CRES	Al		
-3/-4C	---	45°	---	.015 (0.38)	+.005 (0.13) -.000
-4C	---				
-5C	---				
-6C	---	30°	---	.020 (0.51)	±.005 (0.13)
-8C	-8D				
-10C	-10D	45°	30°	.030 (.76)	
-12C	-12D				
-16C	-16D				
-20C	-20D				
-24C	-24D			.035 (0.89)	

FIGURE 1. Nipple tube to hose dimensions and configuration - Continued.

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Size and material code		T (see note 7)		V inches (mm) ±.02 (0.05)
CRES	Al	Thread	Pitch diameter Inches (mm)	
-3/-4C	---	.5000 - 28 UNEF - 3A	.4768/.4740	.56 (14.22)
-4C	---		(12.110/12.040)	
-5C	---	.5625 - 24 UNEF -3A	.5354/.5325 (13.599/13.526)	.62 (15.75)
-6C	---	.6250 - 24 UNEF -3A	.5979/.5949 (15.187/15.110)	.69 (17.53)
-8C	-8D	.7500 - 24 UNS -3A	.7229/.7198 (18.361/18.283)	.88 (22.35)
-10C	-10D	.8750 - 20 UNEF -3A	.8425/.8392 (21.401/21.316)	1.00 (25.40)
-12C	-12D	1.0000 - 20 UNEF -3A	.9675/.9641 (24.574/24.488)	1.25 (31.75)
-16C	-16D	1.3750 - 18 UNEF - 3A	1.3389/1.3353 (34.008/33.917)	1.50 (38.10)
-20C	-20D	1.6875 - 18 UNEF - 3A	1.6514/1.6476 (41.946/41.849)	1.81 (45.97)
-24C	-24D	1.9375 - 16 UN - 3A	1.8969/1.8929 (48.181/48.080)	2.12 (53.85)

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, break or radius all corners .005, +.005, -.000 inches (-0.13, +0.13, -0.00 mm).
4. All diameters within B dimension shall be concentric within .005 inch (0.13 mm) full indicator movement. All other diameters must be concentric within .010 inches (0.25 mm) full indicator movement.
5. Thread gage must enter thread relief (sizes -10 through -24 only).
6. Any design to the left of plane B-B is acceptable provided the dimension A and the requirements of this specification sheet and the procurement specification are met.
7. Threads shall be in accordance with MIL-S-7742. Threads shall be rolled on corrosion-resistant steel only.
8. Dimension A indicates the overall length after mating parts are assembled. The measurement of the overall dimension "A" of the ghosted area is not measured to the end of MS27391, but is measured to the end of the mating part. It is not to the end of the ball nose mechanical seal of MS27391.
9. Unless otherwise specified, surface roughness shall not exceed 125 μ in. R_a in accordance with ASME B46.1.
10. If NAS1760 is used, MIL-DTL-25579/1 defines the method to adjust the hose assembly lengths to meet the original hose assembly lengths in MS8000 through MS8009.
11. Remove all burrs and slivers.

FIGURE 1. Nipple tube to hose dimensions and configuration - Continued.

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REQUIREMENTS

Nipple tube to hose dimensions and configuration, see figure 1.

This part is a integral part of MS27386. The item is only procured as an integral part of adapter assemblies.

Materials: Materials and material code see table I.

TABLE I. Materials and PIN codes.

Material code	Material	Requirement
Blank	Combination of aluminum alloy and corrosion-resistant steel (CRES)	See below
C	CRES	Class 304, condition A, in accordance with ASTM A276 or 304 in accordance with SAE-AMS5639
D	Aluminum alloy	6061-T651, in accordance with SAE-AMS4117

Finish:

CRES: Passivate in accordance with SAE-AMS2700, method 1, type 6 or 7.

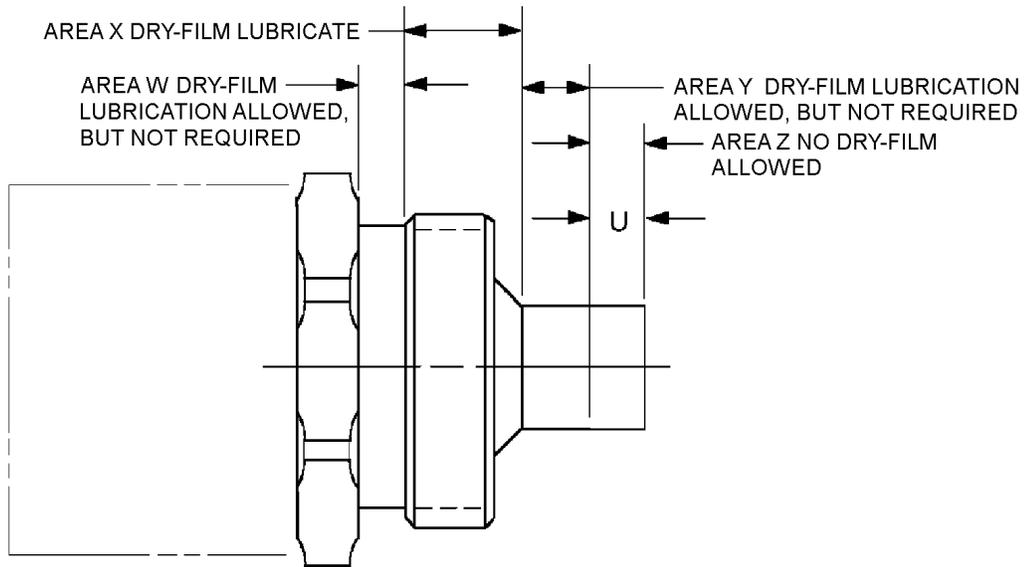
Aluminum alloy: Anodize in accordance with MIL-A-8625, type II, dye yellow.

Lubrication:

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

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

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Size and material code	U	
	inches (mm)	
CRES		
-3/-4C	.25 (6.35)	±.05 (1.3)
-4C		
-5C		
-6C		
-8C	.32 (8.13)	±.12 (3.0)
-10C	.35 (8.89)	±.15 (3.8)
-12C		
-16C	.39 (9.91)	±.19 (4.8)
-20C	.48 (12.19)	±.28 (7.1)
-24C	.50 (12.70)	±.30 (7.6)

FIGURE 2. Dry-film lubrication area.

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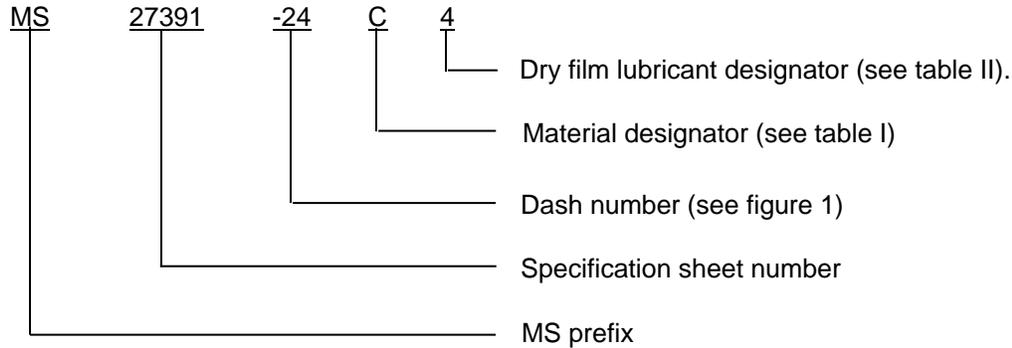
TABLE II. Dry film designator.

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 <u>1/</u>	---	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 shall consist of the prefix MS, specification sheet number, dash size number, material code letter, and solid film designator.



PIN example: MS27391-24C4 indicates a nipple hose to tube, size 1.500 inches, 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-DTL-25579/1	MS8004	ASTM A276
MIL-PRF-46010	MS8005	NAS1760
MIL-A-8625	MS8006	SAE-AMS2700
MIL-S-7742	MS8007	SAE-AMS4117
MS8000	MS8008	SAE-AMS5639
MS8001	MS8009	SAE-AS1701
MS8002	MS27386	SAE-AS5272
MS8003	ASME B46.1	SAE-AS33514

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CONCLUDING MATERIAL

Custodians:

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

Preparing activity:
DLA - CC

(Project 4730-2013-034)

Review activities:

Army - 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>.