

INCH-POUND

MS27069G  
w/AMENDMENT 1  
14 March 2013  
SUPERSEDING  
MS27069G  
5 February 2009

## DETAIL SPECIFICATION SHEET

## SOCKET, HOSE COUPLING

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

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Defense.

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

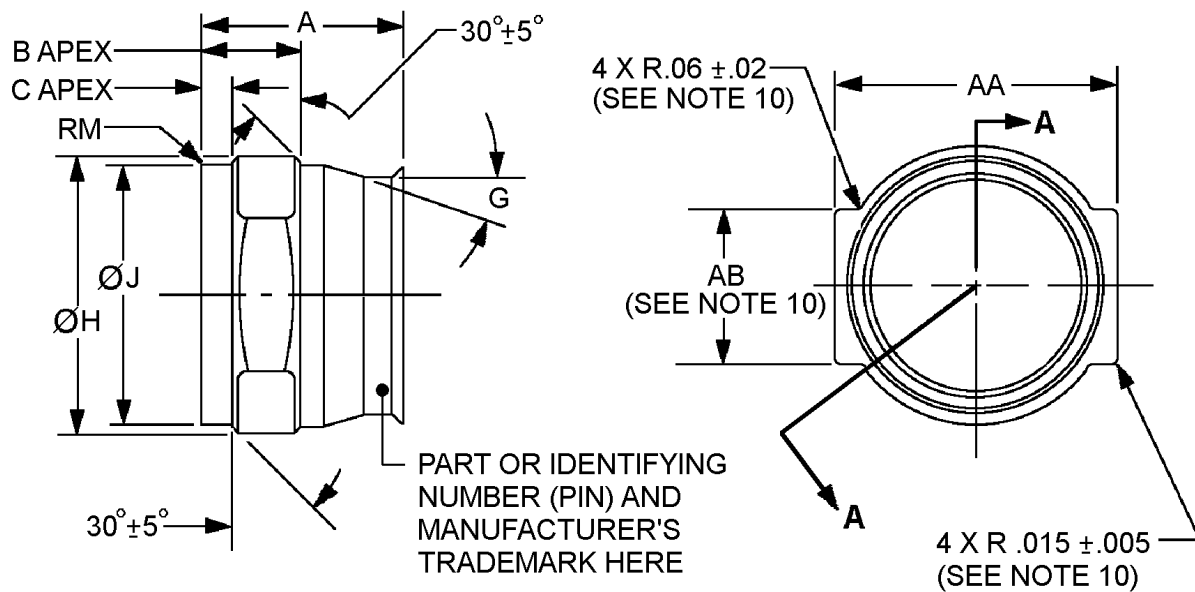
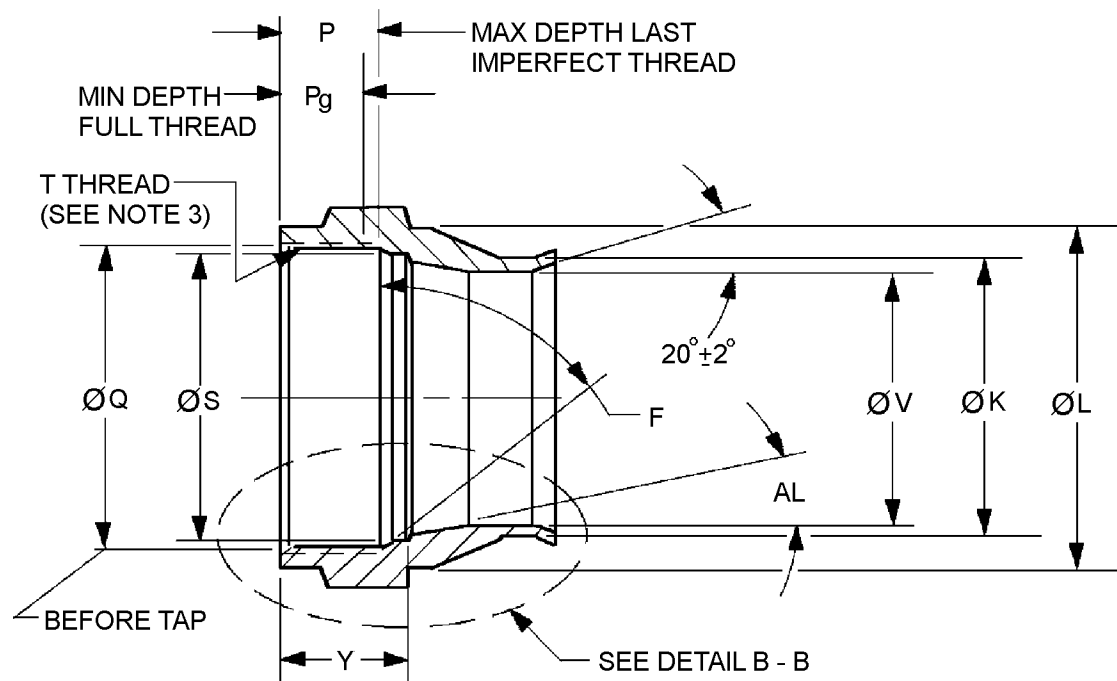
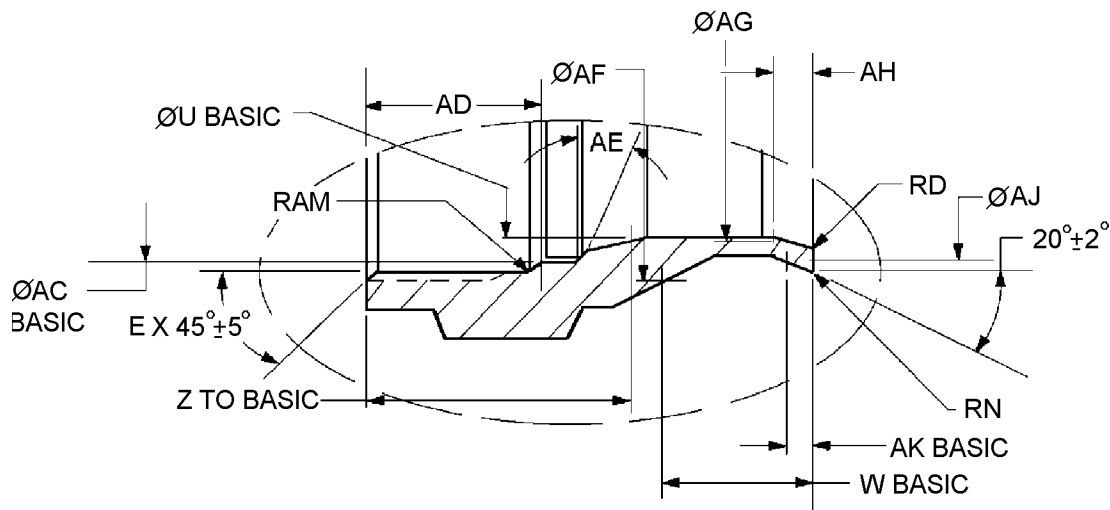


FIGURE 1. Socket dimensions and configuration.

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SECTION A - A ENLARGED



DETAIL B - B ENLARGED

FIGURE 1. Socket dimensions and configuration - Continued.

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Dash size	Tube size inches (mm)	A inches (mm) ±.010 (0.25)	B inches (mm) ±.010 (0.25)	C inches (mm) ±.010 (0.25)	D inches (mm) ±.005 (0.13)	E inches (mm)		F ±2°	G ±.5°
-4	.250 (6.35)	.806 (20.47)	.385 (9.78)	.120 (3.05)	.015 (0.38)	.030 (0.76)	±.005 (0.13)	30°	15.5°
-5	.313 (7.95)	.834 (21.18)				.031 (.79)	±.015 (0.38)		14.5°
-6	.375 (9.53)	.853 (21.67)							14.0°
-8	.500 (12.70)	.979 (24.87)							17.0°
-10	.625 (15.88)	1.080 (27.43)	.505 (12.83)	.190 (4.83)		.035 (0.89)	±.005 (0.13)		18.0°
-12	.750 (19.05)	1.152 (29.26)					60°	16.0°	
-16	1.000 (25.40)	1.255 (31.88)		.020 (0.51)	.040 (1.02)		45°	20.0°	
-20	1.250 (31.75)	1.510 (38.35)					30°	23.0°	
-24	1.500 (38.10)	1.582 (40.18)					45°	22.0°	

Dash size	H dia inches (mm) ±.005 (0.13)	J dia inches (mm) ±.005 (0.13)	K dia inches (mm) ±.005 (0.13)	L dia inches (mm) ±.005 (0.13)	M inches (mm)	N inches (mm)	P max inches (mm)	P <sub>g</sub> min inches (mm)
-4	.562 (14.27)	.558 (14.17)	.440 (11.18)	.558 (14.17)	.010 (0.25) ±.005 (0.13)	.030 (0.76) max	.310 (7.87)	.210 (5.33)
-5	.625 (15.88)	.620 (15.75)	.514 (13.06)	.620 (15.75)			.335 (8.51)	.235 (5.97)
-6	.688 (17.48)	.683 (17.35)	.582 (14.78)	.683 (17.35)			.320 (8.13)	.215 (5.46)
-8	.875 (22.23)	.870 (22.10)	.700 (17.78)	.870 (22.10)	.030 (0.76) max		.365 (9.27)	.235 (5.97)
-10	1.000 (25.40)	.995 (25.27)	.822 (20.88)	.995 (25.27)		.015 (0.38) ±.005 (0.13)	.410 (10.41)	.270 (6.86)
-12	1.125 (28.58)	1.120 (28.45)	.942 (23.93)	1.120 (28.45)			.435 (11.05)	.360 (9.14)
-16	1.500 (38.10)	1.495 (37.97)	1.270 (32.26)	1.495 (37.97)			.490 (12.45)	.380 (9.65)
-20	1.875 (47.63)	1.870 (47.50)	1.520 (38.61)	1.870 (47.50)			.695 (17.65)	.495 (12.57)
-24	2.125 (53.98)	2.120 (53.85)	1.816 (46.13)	2.120 (53.85)	.782 (19.86)		.607 (15.42)	

FIGURE 1. Socket dimensions and configuration - Continued.

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Dash size	Q dia inches (mm)		S dia +.000 -.005 (0.13) inches (mm)	T (See note 3)	
				Thread	Pitch diameter inches (mm)
-4	.461 (11.71)	.007/-0.000 (+0.18/-0.00)	---	.5000 - 28 UNEF - 3B	.4804/.4768 (12.202/12.111)
-5	.517 (13.13)		---	.5625 - 24 UNEF - 3B	.5392/.5354 (13.696/13.599)
-6	.580 (14.73)		---	.6250 - 24 UNEF - 3B	.6018/.5979 (15.286/15.187)
-8	.705 (17.91)	+0.005/-0.000 (+0.13/-0.00)	---	.7500 - 24 UNS - 3B	.7269/.7229 (18.463/18.362)
-10	.821 (20.85)	+0.008/-0.000 (+0.20/-0.00)	---	.8750 - 20 UNEF - 3B	.8468/.8425 (21.509/21.400)
-12	.946 (24.03)		---	1.0000 - 20 UNEF - 3B	.9719/.9675 (24.686/24.575)
-16	1.315 (33.40)		1.225 (31.12)	1.3750 - 18 UNEF - 3B	1.3436/1.3389 (34.127/34.008)
-20	1.627 (41.33)	.009/-0.000 (+0.23/-0.00)	1.500 (38.10)	1.6875 - 18 UNEF - 3B	1.6563/1.6514 (42.070/41.946)
-24	1.870 (47.50)	+0.008/-0.000 (+0.20/-0.00)	1.815 (46.10)	1.9375 - 16 UN - 3B	1.9021/1.8969 (48.313/48.181)

Dash size	U dia inches (mm)	V dia inches (mm)		W inches (mm)	Y inches (mm) ±.005 (0.13)	Z inches (mm)	
-4	.3785 (9.614)	.348 (8.84)	+0.005/-0.000 (+0.13/-0.00)	.1826 (4.638)	---	.436 (11.07)	+0.013 /-0.000 (+0.33/-0.00)
-5	.4410 (11.201)	.411 (10.44)		.2035 (5.169)	---	.447 (11.35)	±.006 (0.15)
-6	.5030 (12.776)	.478 (12.14)	+0.006/-0.000 (+0.15/-0.00)	.2403 (6.104)	---	.430 (10.92)	+0.013 /-0.000 (+0.33/-0.00)
-8	.6195 (15.735)	.590 (14.99)	+0.005/-0.000 (+0.13/-0.00)	.2169 (5.509)	---	.527 (13.39)	+0.011 /-0.000 (+0.28/-0.00)
-10	.7245 (18.406)	.692 (17.58)	+0.006/-0.000 (+0.15/-0.00)	.2423 (6.154)	---	.592 (15.04)	.007 /-0.000 (+0.18 /-0.00)
-12	.8665 (22.009)	.825 (20.96)	.007/-0.000 (+0.18/-0.00)	.2738 (6.955)	---	.631 (16.03)	±.004 (0.10)
-16	1.1700 (29.718)	1.140 (28.96)	+0.005/-0.000 (+0.13/-0.00)	.4009 (10.183)	.648 (16.46)	.756 (19.20)	+0.009/-0.000 (+0.23/-0.00)
-20	1.4425 (36.640)	1.390 (35.31)		.4480 (11.379)	.905 (22.99)	.994 (25.25)	±.008 (0.20)
-24	1.7185 (43.650)	1.713 (43.51)	±.005 (0.13) (+0.13/-0.00)	.4538 (11.527)	.942 (23.93)	1.101 (27.97)	±.005 (0.13)

FIGURE 1. Socket dimensions and configuration - Continued.

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Dash size	AA inches (mm) ±.005 (0.13)	AB inches (mm) ±.015 (0.38)	AC dia inches (mm)	AD inches (mm) ±.005 (0.13)	AE	AF dia inches (mm) ±.005 (0.13)
-4	.562 (14.27)	.325 (8.26)	.4362 (11.079)	.328 (8.33)	---	.450 (11.43)
-5	.625 (15.88)	.361 (9.17)	.4928 (12.517)	.353 (8.97)	---	.525 (13.34)
-6	.688 (17.48)	.397 (10.08)	.5560 (14.122)	.338 (8.59)	---	.601 (15.27)
-8	.875 (22.23)	.505 (12.83)	.6832 (17.353)	.385 (9.78)	---	.713 (18.11)
-10	1.000 (25.40)	.578 (14.68)	.8008 (20.340)	.427 (10.85)	---	.844 (21.44)
-12	1.125 (28.58)	.650 (16.51)	.9295 (23.609)	.463 (11.76)	---	.969 (24.61)
-16	1.500 (38.10)	.866 (22.00)	1.2708 (32.278)	.524 (13.31)	3° max	1.397 (35.48)
-20	1.875 (47.63)	1.082 (27.48)	1.5645 (39.738)	.786 (19.96)	3°±2°	1.710 (43.43)
-24	2.125 (53.98)	1.227 (31.17)	1.8432 (46.817)	.827 (21.01)		1.993 (50.62)

Dash size	AG dia inches (mm)	AH inches (mm) ±.010 (0.25)	AJ dia inches (mm) ±.005 (0.13)	AK inches (mm)	AL ±.25°	AM max inches (mm)
-4	.3878 (9.850)	.051 (1.30)	.450 (11.43)	.0545 (1.384)	9°	---
-5	.4568 (11.603)	.059 (1.50)	.525 (13.34)	.0552 (1.402)	8°	---
-6	.5290 (13.437)	.066 (1.68)	.601 (15.27)	.0668 (1.697)		---
-8	.6362 (16.159)	.060 (1.52)	.713 (18.11)	.0579 (1.471)		---
-10	.7500 (19.050)	.075 (1.91)	.844 (21.44)	.0567 (1.440)	9°	---
-12	.8818 (22.397)	.073 (1.85)	.969 (24.61)	.0647 (1.643)	8°	---
-16	1.2038 (30.577)	.084 (2.13)	1.298 (32.97)	.0649 (1.648)	7°	---
-20	1.4488 (36.800)		1.545 (39.24)	.0615 (1.562)	8°	---
-24	1.7424 (44.257)	.079 (2.01)	1.849 (46.96)	.0426 (1.082)	6°	.015 (0.38)

FIGURE 1. Socket dimensions and configuration - Continued.

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NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Threads shall be in accordance with MIL-S-7742.
4. Remove all burrs and slivers.
5. Unless otherwise specified, surface roughness shall not exceed 125 $\mu$  inch (3.18 $\mu$ m) R<sub>a</sub> in accordance with ASME B46.1.
6. Unless otherwise specified, break or radius all corners .005, +.005, -.000 (0.13, +0.13, -0.00 mm).
7. All diameters must be concentric within .005 inch (0.13 mm) full indicator movement.
8. Apex dimension is for the highest point.
9. Basic dimensions are used to designate the critical design dimensions of a part.
10. Socket may be either a 2-sided or hex design. Radius is not applicable for hex socket.

FIGURE 1. Socket dimensions and configuration - Continued.

REQUIREMENTS

Dimensions and configuration shall be as specified on figure 1.

Intended use. This part is a component of MS27053 through MS27060 and MS27381 through MS27385.

Material: Corrosion-resistant steel (CRES), class 304, condition B, in accordance with ASTM A276 or CRES in accordance with SAE-AMS5639, while meeting the properties below.

Minimum yield strength: 60,000 psi (414 MPa) on -4C through -12C  
50,000 psi (345 MPa) on -16C  
45,000 psi (310 MPa) on -20C and -24C.

Finish:

Passivation in accordance with SAE-AMS2700, method 1, type 6 or 7.

Lubrication: Threads on -8C through -24C shall be lubricated with solid-film lubricant, no overspray allowed, see table I.

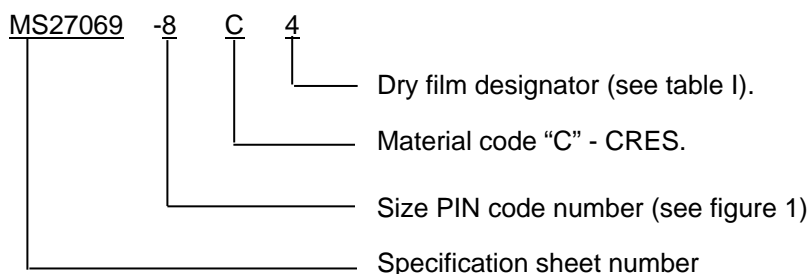
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TABLE I. Solid film designator.

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.

PIN: The PIN consists of the MS prefix, specification sheet number, dash size, material code, and a dry film number. Unassigned PIN's shall not be used.



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Example: MS27069-8C4 indicates: .500 inch tube OD, socket to hose coupling fitting, corrosion resistant steel, with dry film class designator 4.

Marking: Marking shall be permanent and shall include the PIN and manufacturer's trademark. Marking shall be applied directly to the visible surface, see figure 1, of the fitting by laser, etching or metal stamping. The marking may be applied in any order.

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.

Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

Referenced documents. In addition to MIL-DTL-27272, this document references the following:

MIL-PRF-46010	MS27058	MS27385
MIL-S-7742	MS27059	ASME B46.1
MS27053	MS27060	ASTM A276
MS27054	MS27381	SAE-AMS2700
MS27055	MS27382	SAE-AMS5639
MS27056	MS27383	SAE-AS5272
MS27057	MS27384	SAE-AS1701

CONCLUDING MATERIAL

Custodians:

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

Preparing activity:

DLA - CC

(Project 4730-2013-022)

Review activities:

Army - AR, AT, MI  
Navy - MC, SA, SH  
Air Force - 71

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