INCH-POUND

MS27071D
14 March 2013
SUPERSEDING
MS27071C
25 September 2003

DETAIL SPECIFICATION SHEET

UNION, NIPPLE

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.

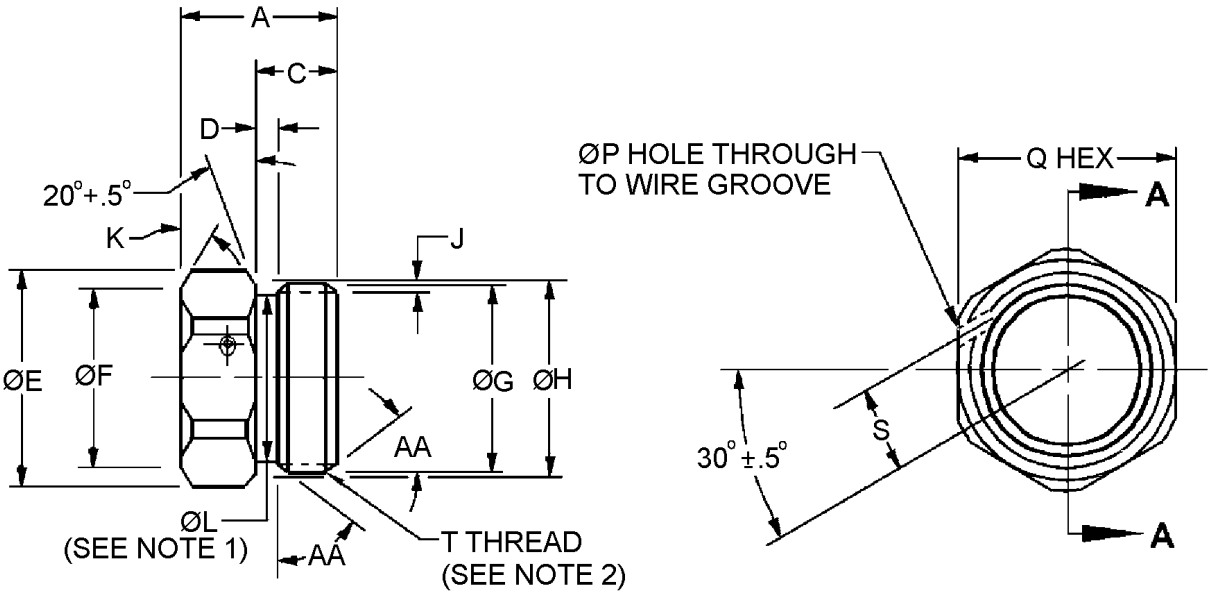
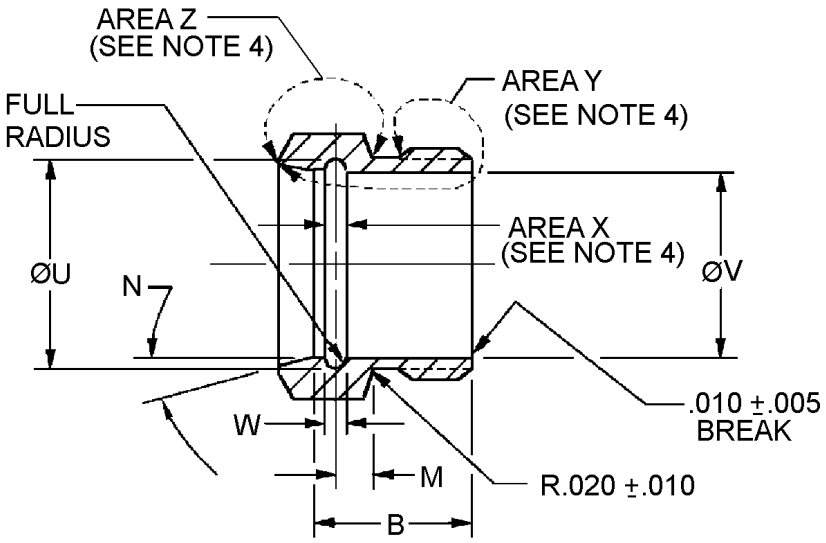


FIGURE 1. Union, nipple illustration.



SECTION A - A

NOTES:
1. Thread gauge must enter thread relief. Thread marks on thread relief are acceptable.
2. Threads shall be in accordance with MIL-S-7742. Threads shall be rolled on corrosion-resistant steel only.
3. Unless otherwise specified, break or radius all corners .005, +.005, -.000. All diameters must be concentric within .005 full indicator movement.
4. Dry-film lubricate area Y with lubrication, see table II. No dry-film lubrication allowed in area Z. Dry-film lubrication allowed in area X, but not required.
5. Surface roughness. Unless otherwise specified, maximum surface roughness shall not exceed 125 µin. Ra in accordance with ASME B46.1.
6. Remove all burrs and slivers.

Size and material code		A ±.010	B		C ±.005		D ±.005		E ±.005
CRES	Al				CRES	Al	CRES	Al	
-4C	---	.480	---	---	.250	---	.075	---	.634
-5C	---	.495	---	---	.245	---	.085	---	.707
-6C	---	.515	---	---		---	.050	---	.779
-8C	1/	.577	---	---	.265	---	.085	---	.995
-10C	-10D	.608	---	---	.295	.295	.100	.100	1.140
-12C	-12D	.715	.595	±.010	.355	.338		.083	1.284
-16C	-16D	.791	.640		.385	.365	.110	.090	1.717
-20C	-20D	.835	.665		.395	.395	.085	.085	2.078
-24C	-24D	.995	.765	±.005	.495	.495	.100	.100	2.439

See notes at end of table.

FIGURE 1. Union, nipple illustration - Continued.

Size and material code		F ±.02	G		H ±.02	J		K ±.5º	L 2/ +.005 -.000	M ±.003	N ±.5º	P ±.005
CRES	Al											
-4C	---	.50	.500	+.000 -.006	.53	.031	±.005	30°	.438	.086	---	.078
-5C	---	.56	.562	+.000 -.007	.59				.491	.109	---	.086
-6C	---	.62	.625		.66	.015	max		.553		---	
-8C	1/	.81	.750		.84	.031	±.005		.678	.110	---	.101
-10C	-10D	.94	.875	+.000 -.008	.97	.035			.790	.116	---	
-12C	-12D	1.06	1.000		1.09			20°	.915	.135	15°	.131
-16C	-16D	1.44	1.375	+.000 -.009	1.47	.038			1.282	.150	10°	
-20C	-20D	1.75	1.688		1.78				1.594	.160	15°	
-24C	-24D	2.06	1.938	+.000 -.010	2.09	.043			1.833			

Size and material code		Q ±.02	S ±.005	T 3/ thread	Pitch diameter thread	U +.005 -.000	V +.005 -.000	W		AA ±5°
CRES	Al									
-4C	---	.56	.185	.5000 - 28 UNEF-3A	.4768/.4740	.443	.379	.074	+.004 -.000	45°
-5C	---	.62	.203	.5625 - 24 UNEF -3A	.5354/.5325	.487	.422	.084		
-6C	---	.69	.240	.6250 - 24 UNEF -3A	.5979/.5949	.562	.497			30°
-8C	1/	.88	.301	.7500 - 24 UNS -3A	.7229/.7198	.698	.622	.098		45°
-10C	-10D	1.00	.346	.8750 - 20 UNEF -3A	.8425/.8392	.788	.712			
-12C	-12D	1.12	.406	1.0000 - 20 UNEF -3A	.9675/.9641	.938	.832	.128	+.005 -.000	
-16C	-16D	1.50	.571	1.3750 - 18 UNEF - 3A	1.3389/1.3353	1.268	1.156			
-20C	-20D	1.81	.697	1.6875 - 18 UNEF - 3A	1.6514/1.6476	1.519	1.411			
-24C	-24D	2.12	.814	1.9375 - 16 UN - 3A	1.8969/1.8929	1.754	1.641			30°

1/ MS27071-8D is canceled. Use MS27071-8C for new design.
2/ Thread gauge must enter thread relief. Thread marks on thread relief are acceptable.
3/ Threads shall be in accordance with MIL-S-7742. Threads shall be rolled on corrosion-resistant steel only.

FIGURE 1. Union, nipple illustration - Continued.

REQUIREMENTS

Dimensions and configuration see figure 1

Union nipple illustration see figure 1 and table I.

Intended use. This part is a component of MS27062 through MS27068, MS27387 through MS27391, MS27394 and MS27395. 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.

TABLE I. Materials and material codes.

Material code	Material
C	Corrosion-resistant steel (CRES), class 304, condition A, in accordance with SAE-AMS-QQ-S-763 or 304 in accordance with SAE-AMS5639.
D	Aluminum alloy, 2024 in accordance with SAE-AMS-QQ-A-225/6, temper T6 or T851.

Finish. Corrosion-resistant steel, passivate in accordance with SAE AMS2700, method 1, type 6 or 7. Dry-film lubricant area Y, see figure 1 and table II.

Aluminum alloy. Anodize in accordance with MIL-A-8625, type II. For union used on flared and flanged nipple assemblies, dye blue. Dye yellow on flareless assemblies.

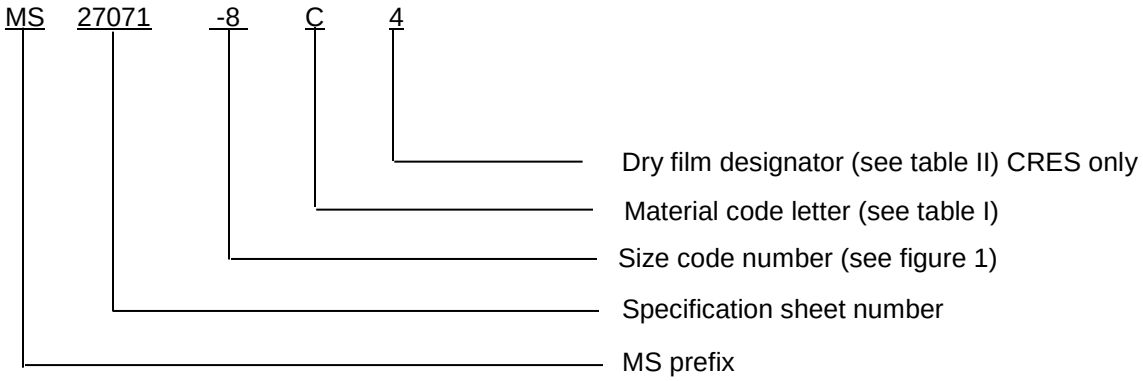
NOTE: Avoid using graphite dry film lubes with aluminum unions because in a wet environment, graphite becomes corrosive to the aluminum.

TABLE II. Dry film designator.

Dry film PIN code	SAE class or type designator	Dry film characteristics
Blank	Any SAE class or type below	Any temp range
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 prefix “MS”, the specification sheet number, dash number for union size, letter for material, and a blank or number for dry film lubricant. Unassigned PIN’s shall not be used.



PIN examples:

MS27071-8C	indicates a union size 8, CRES with dry film class designator “blank”.
MS27071-8C4	indicates a union 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-A-8625	MS27067	MS27395
MIL-PRF-46010	MS27068	ASME B46.1
MIL-S-7742	MS27387	SAE-AMS-QQ-A-225/6
MS27062	MS27388	SAE-AMS-QQ-S-763
MS27063	MS27389	SAE-AMS2700
MS27064	MS27390	SAE-AMS5639
MS27065	MS27391	SAE-AS1701
MS27066	MS27394	SAE-AS5272

CONCLUDING MATERIAL

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

Preparing activity:
DLA - CC

(Project 4730-2013-024)

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.