

INCH-POUND

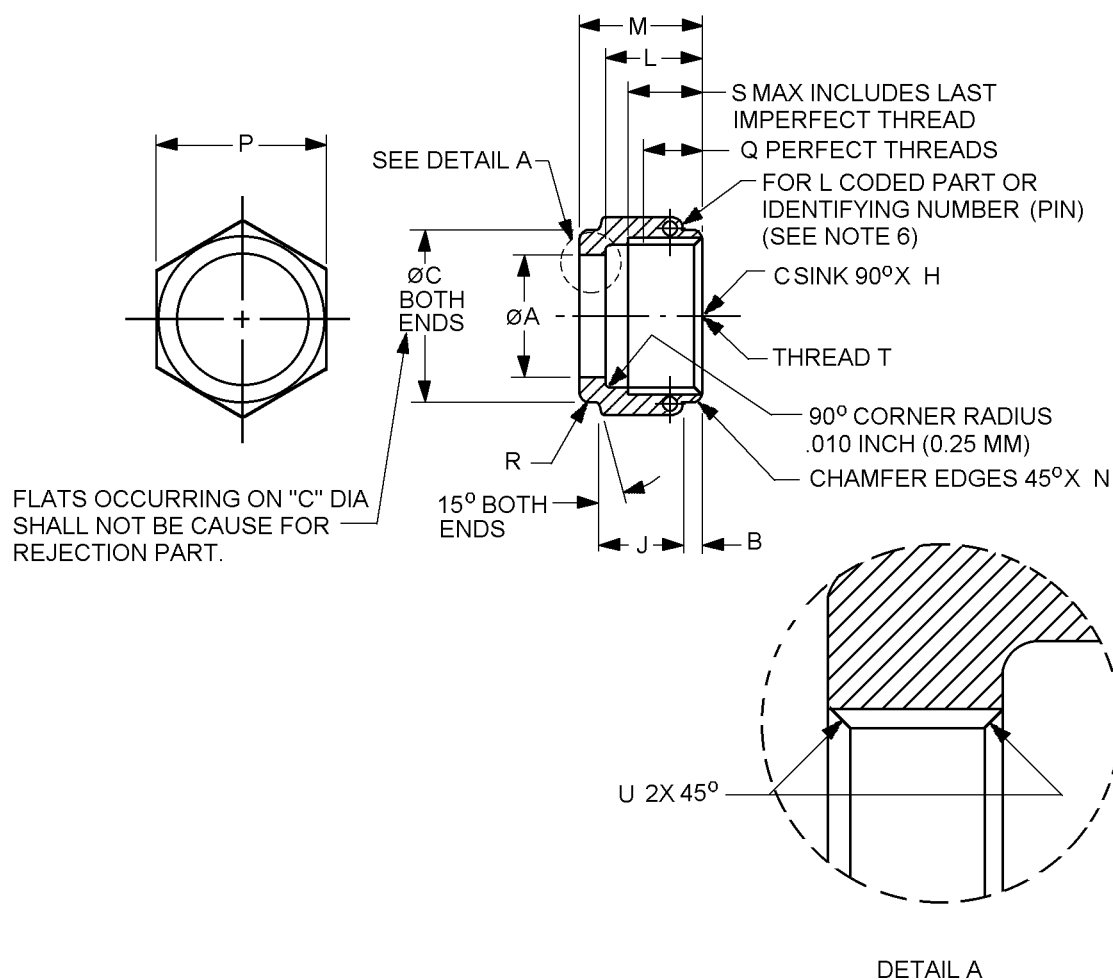
MIL-DTL-38726/1
15 June 2020

DETAIL SPECIFICATION SHEET

NUT, TUBE COUPLING, SHORT

This specification 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-38726.



See notes at end of figure

FIGURE 1. Nut, tube coupling.

AMSC N/A

FSC 4730



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Dash number	Tube OD inches (mm)	Thread T SAE AS8879 (See note 5)	A dia. +.003 (0.08) -.000 inches (mm)	B inches (mm)	C dia. +.000 -.010 (0.3) inches (mm)
-2	.125 (3.18)	.3125 - 24UNJF -3B	.180 (4.57)	.109 (2.77)	.375 (9.53)
-3	.188 (4.78)	.3750 - 24UNJF -3B	.242 (6.15)	.141 (3.58)	.437 (11.10)
-4	.250 (6.35)	.4375 - 20UNJF -3B	.305 (7.75)	.125 (3.18)	.562 (14.27)
-5	.313 (7.95)	.5000 - 20UNJF -3B	.374 (9.50)	.125 (3.18)	.625 (15.88)
-6	.375 (9.53)	.5625 - 18UNJF -3B	.440 (11.18)	.156 (3.96)	.687 (17.45)
-8	.500 (12.70)	.7500 - 16UNJF -3B	.570 (14.48)	.156 (3.96)	.875 (22.23)
-10	.625 (15.88)	.8750 - 14UNJF -3B	.698 (17.73)	.172 (4.37)	1.000 (25.40)

Dash number	H dia. +.031 (0.79) -.000 inches (mm)	J inches (mm)	L inches (mm)	M inches (mm)	N
-2	.312 (7.92)	.312 (7.92)	.460 (11.68)	.542 (13.77)	.010 (0.25)
-3	.375 (9.53)	.375 (9.53)	.506 (12.85)	.604 (15.34)	
-4	.438 (11.13)	.406 (10.31)	.532 (13.51)	.620 (15.75)	
-5	.500 (12.70)	.484 (12.39)	.579 (14.71)	.683 (17.35)	
-6	.562 (14.27)	.500 (12.70)	.603 (15.32)	.724 (18.39)	
-8	.750 (19.05)	.578 (14.68)	.723 (18.36)	.849 (21.56)	
-10	.875 (22.23)	.688 (17.48)	.817 (20.75)	.974 (24.74)	

Dash number	P (Hex) inches (mm)	Q min inches (mm)	R rad inches (mm)	S max inches (mm)	U inches (mm)
-2	.375 (9.53)	+.003 (0.08)	.251 (6.38)	.031 (0.79)	.376 (9.55)
-3	.438 (11.13)		.338 (8.59)	.031 (0.79)	.428 (10.87)
-4	.563 (14.30)		.380 (9.65)	.031 (0.79)	.500 (12.70)
-5	.625 (15.88)		.401 (10.19)	.031 (0.79)	.542 (13.77)
-6	.688 (17.48)	-.004 (0.10)	.413 (10.49)	.047 (1.19)	.569 (14.45)
-8	.875 (22.23)		.484 (12.29)	.047 (1.19)	.647 (16.43)
-10	1.000 (25.40)		.542 (13.77)	.047 (1.19)	.727 (18.47)

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances: Decimals $\pm .005$ inch (0.13 mm), angles $\pm 5^\circ$.
4. Radius or break all corners .005 +.005/-.000 inch (0.13 +0.13/-0.00 mm).
5. Dimension A and thread T shall be concentric within .005 inch (0.13 mm) full indicator movement.
6. Remove all burrs and slivers.
7. Safety wire holes and location in accordance with SAE AS1043.

FIGURE 1. Nut, tube coupling - Continued.

REQUIREMENTS

This nut is intended for use on MS27404 straight adapter assemblies.

Nut shall withstand all tests specified in MIL-DTL-38726 when assembled to the straight adapter and used on hose in accordance with MIL-DTL-5593.

Maximum operating pressure. Maximum operating pressure shall be in accordance with MIL-DTL-38726.

Materials shall be in accordance MIL-DTL-38726, see table I for material designators.

TABLE I. Nut material finish and identification codes.

Designator	Material
D <u>1/</u>	Aluminum alloy 2014-T6 or 2024-T6 or -T851
J	Corrosion resistant steel (CRES), type 304
K	Corrosion resistant steel (CRES), type 316
P	Chrome-molybdenum steel 4130
S	Steel 4140
T <u>2/</u>	Titanium
W	Aluminum alloy 7075-T73

1/ Inactive for new design, for new design use aluminum alloy 7075 to improve stress corrosion resistance and tensile strength.

2/ Titanium shall not be used in oxygen or potable water systems.

Heat treatment. Steel alloys 4130 and 4140 only. Material in the hardened and tempered condition, age to 28-40 HRC, 130 KSI UTS minimum.

When specified dry film lubricant in accordance with MIL-PRF-46010 on all internal surfaces. Applicable only to material designators J and K. Over spray on C dimension is permitted, see figure 1.

Finishes shall be in accordance with MIL-DTL-38726, see table II for plating finish designators.

Unless otherwise specified, all plating's 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 red corrosion of the base metal 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.

Nut color coding. Nut color coding shall be in accordance with MIL-DTL-38726.

TABLE II. Material finish identification codes.

Plating finish designator	Material	Plating Finish
Blank	Steel 4130 or 4140	Cadmium <u>1/ 6/ 8/</u>
Blank	Aluminum	Anodized
AN		Anodized then apply NAVAIR trivalent chromium pretreatment (TCP) in accordance with MIL-DTL-81706
H	Steel 4130 or 4140	Zinc aluminum in accordance with ASTM F1136/F1136M, grade 3, NC. <u>2/</u>
J	Steel 4130 or 4140	Zinc-nickel <u>3/</u>
KA	Steel 4130 or 4140	Zinc Nickel Electroplate, MIL-PRF-32647, Type K20 torque/tension modifier. <u>4/ 9/</u>
KB	Steel 4130 or 4140	Zinc Nickel Electroplate, MIL-PRF-32647, Type K16 torque/tension modifier. <u>4/ 9/</u>
R	Steel 4130 or 4140	Zinc plating in accordance with ASTM B633 type V, Fe/Zn 8. <u>5/</u>
Blank	CRES	No additional finish, passivated
Blank	Titanium	Anodize in accordance with SAE-AMS2488, type 2. <u>7/</u>
TF	Titanium	Fluoride phosphate in accordance with SAE-AMS2486. <u>7/</u>
Z	Steel 4130 or 4140	Zinc plating in accordance with ASTM B695, type II, class 8. <u>5/ 6/</u>
ZC	Steel 4130 or 4140	Zinc may be any zinc plating from PIN codes J and R with a colored chromate coating. <u>5/ 6/</u>
ZF	Steel 4130 or 4140	Zinc plating in accordance with ASTM B633; type VI, Fe/Zn 8. <u>5/</u>

1/ Embrittlement test need not be run.

2/ Hexavalent chromium free. Finish shall be RoHS compliant.

3/ The zinc-nickel alloy plate shall contain 12% to 16% nickel. The coating thickness shall be 315µ inches (8µm) minimum.

4/ Corrosion requirements shall be in accordance with MIL-PRF-32647.

5/ Not for use in aircraft. Requires approval from the Program Office for all applications. Zinc-plated materials should be avoided in hydraulic systems with water-glycol fluids. Reference ASTM MNL37 - Fuels and Lubricants Handbook.

6/ These finishes have a chromate conversion coating which includes hexavalent chromium. The use of coatings depositing hexavalent chromium for Army vehicles is prohibited unless otherwise explicitly stated in the contract as a requirement. For new designs PIN codes P Blank, S Blank, and ZC are not to be supplied to Army and Marine ground forces.

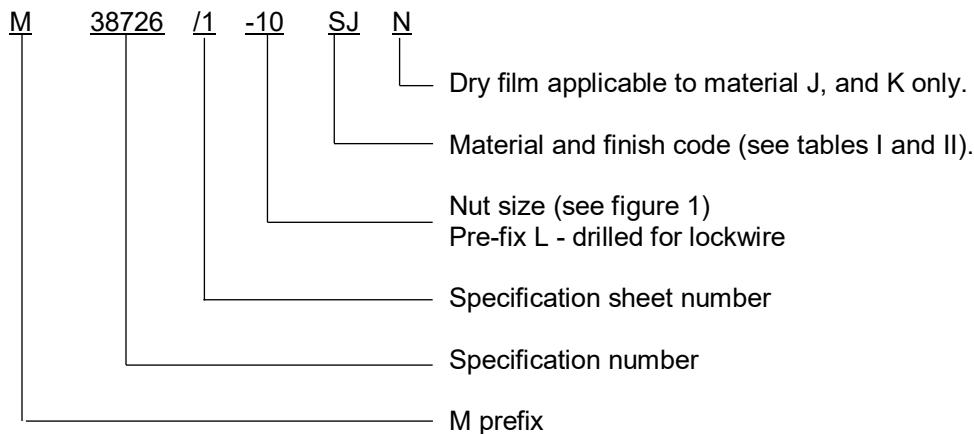
7/ A pretreatment, a modification of the fluoride treatment, or a post treatment shall be applied so the final color of the fittings shall be similar to SAE AMS-STD-595 colors 36076 through 36293.

8/ Cadmium shall not be used in oxygen or potable water systems. Cadmium is prohibited from use in NAVSEA-owned shipboard systems in accordance with the requirements of T9070-AL-DPC-020/077-2, unless otherwise approved by NAVSEA. The use of cadmium plating for Army and Marine ground vehicles is prohibited unless otherwise explicitly stated in the contract as a requirement. Pin code J or KB may be substituted for cadmium (blank PIN code) for Army ground vehicle applications.

9/ Army ground vehicle applications. MIL-PRF-32647 Type KA is intended as a hazardous free plating material and is a direct replacement for zinc plating with hexavalent chromium conversion coating, while Type KB is a hazardous free plating material and is a direct replacement for cadmium plating. Both types have equivalent torque/tension behavior as the plating they replace.

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PIN: The PIN consists of the letter “M”, the specification number, specification sheet number, dash number for nut size, letter for material, a letter for finish code, and if required the letter “N” for dry film applied to MIL-DTL-38726/1 nut. Unassigned PIN's shall not be used..



PIN examples:

M38726/1-10JN indicates a nut, tube OD .625 inch (15.88 mm) CRES, type 304, dry film applied.

M38726/1-10PP indicates a nut, tube OD .625 inch (15.88 mm) steel alloy 4130 with zinc phosphate.

M38726/1-L8K identifies a nut, tube OD a .500 inch, drilled for lockwire, CRES (316).

Marking. The PIN does not need to be on the nut when used for assemblies on MS27404. For individual sale the PIN shall be marked on the nut, if space allows.

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.

Cadmium is prohibited from use in NAVSEA-owned shipboard systems in accordance with the requirements of T9070-AL-DPC-020/077-2, unless otherwise approved by NAVSEA.

The use of cadmium plating or coatings depositing hexavalent chromium for Army and Marine ground vehicles is prohibited unless otherwise explicitly stated in the contract as a requirement.

For new designs PIN codes P Blank, S Blank, Z, and ZC are not to be supplied to Army and Marine ground forces.

Class I and II ozone depleting substances (ODS) shall not be used in MIL-DTL-38726/1 or any referenced procedures.

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.

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Referenced documents. In addition to MIL-DTL-38726, this document references the following:

MIL-DTL-5593	SAE AMS-STD-595/36081	SAE AMS-STD-595/36251
MIL-PRF-32647	SAE AMS-STD-595/36099	SAE AMS-STD-595/36270
MIL-PRF-46010	SAE AMS-STD-595/36118	SAE AMS-STD-595/36280
MS27404	SAE AMS-STD-595/36134	SAE AMS-STD-595/36293
ASTM B117	SAE AMS-STD-595/36152	SAE-AMS2486
ASTM B633	SAE AMS-STD-595/36170	SAE-AMS2488
ASTM B695	SAE AMS-STD-595/36173	SAE AS1043
ASTM F1136/F1136M	SAE AMS-STD-595/36176	SAE AS8879
ASTM MNL37	SAE AMS-STD-595/36231	T9070-AL-DPC-020/077-2
SAE AMS-STD-595/36076	SAE AMS-STD-595/36231	

CONCLUDING MATERIAL

Custodians:

Army - AT
Navy - AS
Air Force - 71
DLA - CC

Preparing activity:
DLA - CC

(Project 4730-2020-060)

Review activities:

Army - AR
Navy - CG, SA, SH

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>.