INCH-POUND
MS39322A
25 June 2015
SUPERSEDING
MS39322
4 May 1967

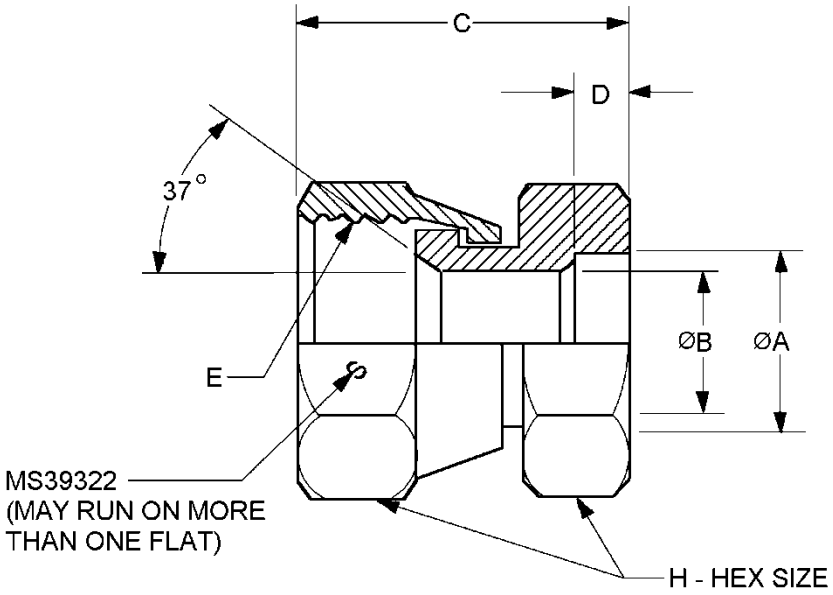
DETAIL SPECIFICATION SHEET

ADAPTER: 37 DEGREE FLARE, FEMALE SWIVEL TO WELD SOCKET, 3/4 INCH TO 1 INCH

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

Inactive for new design after 17 August 1999. For new design, use SAE-J514.

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-DTL-18866.



Dash number	A dia. inches (mm) +.003 (0.08) -.000	B dia. Min inches (mm)	C inches (mm) ±.06 (1.5)	D inches (mm) ±.010 (0.25)	E Straight thread	H Hex size
-12-16	1.003 (25.48)	.064 (1.63)	1.66 (40.6)	.310 (7.87)	1.063 - 12 UN-28	1 1/4

FIGURE 1. Adapter.

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Break all sharp edges and remove all burrs and slivers.
4. Dimensions and tolerances not shown shall be in accordance with SAE-J514 for 37 degree flared fittings.
5. The drawing is for identification purposes only and is not intended to restrict designs and shapes not dimensioned.

FIGURE 1. Adapter - Continued.

REQUIREMENTS:

Fittings shall be as specified on figure 1 and in tables I and II.

Materials shall be in accordance with MIL-DTL-18866 and table I.

TABLE I. Materials.

Material	Form	Specification	Alloy
Carbon steel	Bar	SAE-J403	1110, 1120, 1140, 1213, 1215, or 12L14
	Forgings		
Chrome-molybdenum steel	Bars	SAE-AMS6370	4130
	Forgings	SAE-AMS6382	
		SAE-AMS6370	
Corrosion resistant steel	Bars and forgings	ASTM A276/A276M	304, 304L, 316, or 321
		ASTM A564/A564M	XM-12 (15-5 PH) UNS S15500 or 603 (17-4 PH) UNS S17400
		SAE-AMS5639	UNS S30400
		SAE-AMS5645	UNS S32100
		SAE-AMS5647	UNS S30403
		SAE-AMS5743	UNS S35500
	Bar	ASTM A582/A582M	UNS S30300
Nickel-copper alloy	Bar	ASTM B164 QQ-N-281	UNS N04400
High-chromium nickel alloy	Bar	ASTM B166	UNS N06690
	Forgings	ASTM B564	
Titanium 1/	Bars	SAE-AMS4928	6AI-4V annealed
	Forgings		

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

Finish. Finishes shall be as specified in table II. All platings 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 corrosion 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.

TABLE II. Material and finish identification codes.

PIN code material/plating finish	Material	Plating finish
Blank	Steel	Cadmium plating in accordance with SAE-AMS-C-81562, type II, class 3 or SAE-AMS-QQ-P-416, type II, class 2. 1/
CN		Cadmium plating in accordance with SAE-AMS-C-81562, type II, class 3 or SAE-AMS-QQ-P-416, type II, class 2 with NAVAIR trivalent chromium pretreatment (TCP) in accordance with MIL-DTL-81706, type II, class 1A. 1/
E		NAVAIR TCP in accordance with MIL-DTL-81706, type II, class 1A.
F	Steel	Zinc plate (finish J, P, or R) with NAVAIR TCP in accordance with MIL-DTL-81706, type II, class 1A.
H	Steel	Aluminum-nickel in accordance with ASTM F1136/F1136M, grade 3, NC.
J	Steel	Zinc-nickel in accordance with SAE-AMS2417, type 2, grade B.
M	Nickel-copper alloy UNS N04400	No additional finish.
N	High-chromium nickel alloy UNS N06690	No additional finish.
P	Steel	Zinc phosphate finish in accordance MIL-DTL-16232 type Z, class1.
R	Steel	Zinc plating in accordance with ASTM B633; type VI, Fe/Zn 5. 2/
S	Corrosion resistant steel	No additional finish. Passivation in accordance with SAE-AMS2700, method 1, type 6 or 7.
T	Titanium	Anodize in accordance with SAE-AMS2488 type 2. 3/
TF	Titanium	Fluoride phosphate in accordance with SAE-AMS2486. 3/
Z	Steel	Zinc plating in accordance with ASTM B633; type II or III, Fe/Zn 5, or ASTM B695, type II, class 5. 4/
ZN	Steel	Zinc plating in accordance with ASTM B633; type II or III, Fe/Zn 5, or ASTM B695, type II, class 5 with NAVAIR TCP in accordance with MIL-DTL-81706, type II, class 1A. 4/

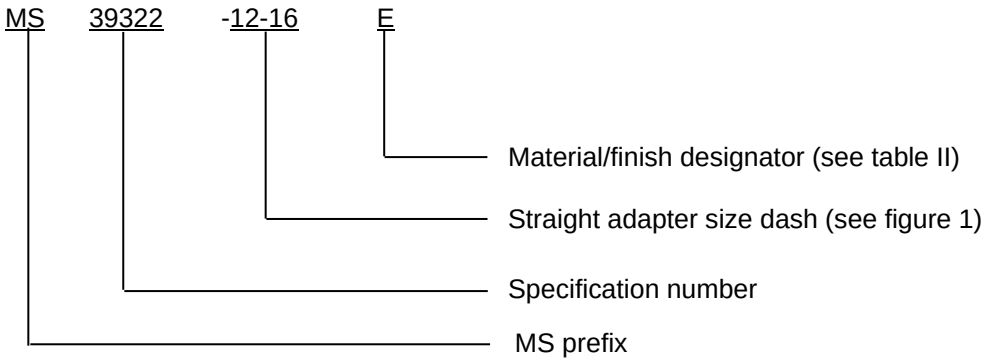
1/ Embrittlement test need not be run. Cadmium shall not be used in oxygen or potable water systems.
2/ Hexavalent chromium free.
3/ A pretreatment, a modification of the fluoride treatment, or a post treatment shall be applied so the final color of the fittings shall be similar to FED-STD-595 colors 36076 through 36293.
4/ Not for use in aircraft.

Trivalent wrenchability. When the finish has been damaged due to poor wrenchability, the surface of the connector shall be touched up using the brush plating process below. The term “trivalent wrenchability” is used to evaluate the ability of the finish to withstand abrasion from an excessive amount of wrenching.

a. Brush plating of hard chromium by electrodeposition shall be in accordance with SAE-AMS2451/5.
b. Brush plating of medium-hardness, low stress nickel by electrodeposition shall be in accordance with SAE-AMS2451/9.
c. Brush plating of NAVAIR TCP shall be in accordance with MIL-DTL-81706, type II, class 1A, material form 1 through 6, application method B. Example of a PIN: M817062A6B.

Maximum operating pressure. Maximum operating pressure shall be in accordance with SAE-J514.

PIN: The PIN consists of the letters “MS”, the specification number, a dash, number for reducer size, and a letter for material/finish designator.



PIN example: MS393221-12-16E indicates an adapter nipple, -12 of the PIN indicates a 3/4 inch (19.05 mm) swivel nut with 1.063 - 12 UN-28 threads: -16 of the PIN indicates weld socket to accommodate 1 inch tubing, steel with NAVAIR TCP.

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.

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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.

There are no SAE-J514 PIN’s to replace the MS39322 adapter.

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-18866, this document references the following:

FED-STD-595/36076	FED-STD-595/36270	ASTM B166	SAE-AMS2488
FED-STD-595/36081	FED-STD-595/36280	ASTM B564	SAE-AMS2700
FED-STD-595/36099	FED-STD-595/36293	ASTM B633	SAE-AMS4928
FED-STD-595/36118	MIL-DTL-16232	ASTM B695	SAE-AMS5639
FED-STD-595/36134	MIL-DTL-81706	ASTM F1136/F1136M	SAE-AMS5645
FED-STD-595/36152	QQ-N-281	SAE-AMS-C-81562	SAE-AMS5647
FED-STD-595/36170	ASTM A276/A276M	SAE-AMS-QQ-P-416	SAE-AMS5743
FED-STD-595/36173	ASTM A564/A564M	SAE-AMS2417	SAE-AMS6370
FED-STD-595/36176	ASTM A582/A582M	SAE-AMS2451/5	SAE-AMS6382
FED-STD-595/36231	ASTM B117	SAE-AMS2451/9	SAE-J403
FED-STD-595/36251	ASTM B164	SAE-AMS2486	SAE-J514

CONCLUDING MATERIAL

Custodians:
Army - AT
Navy - SH
Air Force - 99
DLA - CC

Preparing activity:
DLA - CC

(Project 4730-2015-039)

Review activities:
Army - AR
Navy - CG, MC, SA
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.