

INCH-POUND

MS21949C  
 14 August 2014  
 SUPERSEDING  
 MS21949B  
 20 September 2000

## DETAIL SPECIFICATION SHEET

## BOLT-CUSTER FITTING, SINGLE PORT-FLARE

Inactive for new design after 7 August 2014.

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  
 SAE-AS4875/1.

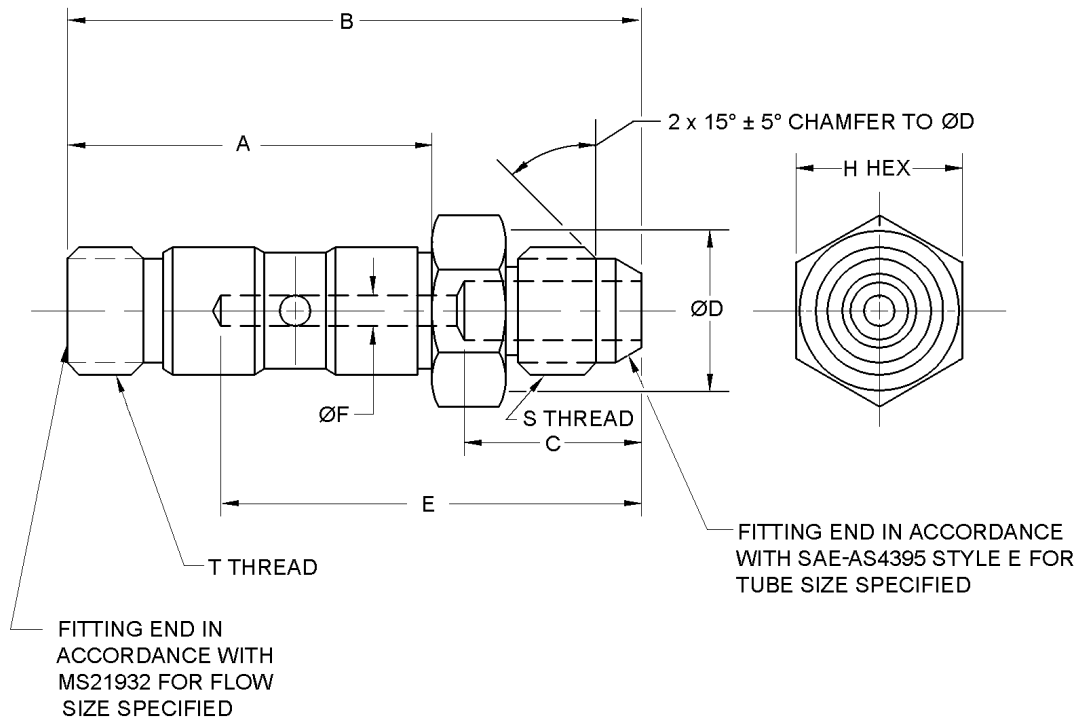


FIGURE 1. Bolt, cluster fitting.

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Dimensions for low flow sizes.

Low flow size	Tube OD inches (mm)	Thread S SAE-AS8879	Thread T SAE-AS8879	A inches (mm)
W3L	.187 (4.75)	.3750-24UNJF-3A	.4375-20UNJF-3A	1.438 (36.53)
W4L	.250 (6.35)	.4375-20UNJF-3A		1.438 (36.53)
W5L	.312 (7.92)	.5000-20UNJF-3A		1.438 (36.53)
W6L	.375 (9.53)	.5625-18UNJF-3A		1.438 (36.53)
W8L	.500 (12.70)	.7500-16UNJF-3A		1.438 (36.53)

Size	B inches (mm)	C $\pm .062$ inches (mm)	D $\pm .010$ inches (mm)	E $\pm .062$ inches (mm)
3	2.229 (56.62)	—	.605 (15.37)	1.625 (41.28)
4	2.332 (59.23)	—	.668 (16.97)	1.750 (44.45)
5	2.394 (60.81)	.750 (19.05)	.730 (18.54)	1.812 (46.02)
6	2.431 (61.75)	.750 (19.05)	.855 (21.72)	1.812 (46.02)
8	2.532 (64.31)	.750 (19.05)	.980 (24.89)	1.937 (49.20)

Size	F $\pm .003$ (0.08) inches (mm)	H Hex + .003 (0.08) - .010 (0.25) inches (mm)
3	.125 (3.18)	.625 (15.88)
4	.172 (4.37)	.688 (16.97)
5	.203 (5.16)	.750 (19.05)
6	.203 (5.16)	.875 (22.23)
8	.203 (5.16)	1.000 (25.40)

Dimensions for high flow sizes.

High flow size designator	Tube OD inches (mm)	Thread S SAE-AS8879	Thread T SAE-AS8879	A inches (mm)
W6H	.375 (9.53)	.5625-18UNJF-3A	.5625-18UNJF-3A	1.688 (30.18)
W8H	.500 (12.70)	.750-16UNJF-3A		1.688 (30.18)
W10H	.625 (15.88)	.875-14UNJF-3A		1.688 (30.18)

Size	B inches (mm)	C $\pm .062$ (1.57) inches (mm)	D $\pm .010$ (0.25) inches (mm)	E $\pm .062$ (1.57) inches (mm)	F $\pm .003$ (0.08) inches (mm)
6	2.681 (68.10)	—	.855 (21.72)	2.000 (50.80)	.297 (7.54)
8	2.782 (70.66)	—	.980 (24.89)	2.125 (53.98)	.391 (9.93)
10	2.883 (73.23)	.937 (23.80)	1.103 (28.02)	2.188 (55.58)	.422 (10.72)

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Size	H Hex			
	inches		mm	
6	.875	+ .003 - .010	22.23	+0.08 -0.25
8	1.000	+ .003 - .010	25.40	+0.08 -0.25
10	1.125	+ .003 - .012	28.58	+0.08 -0.30

## NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances: decimals  $\pm .010$  inch (0.25 mm), angles  $\pm 0.5^\circ$ .
4. Dimensioning and tolerancing in accordance with ASME Y14.5.
5. All outside machined surfaces shall be finished to  $125 \mu\text{in}$  ( $3.18 \mu\text{m}$ )  $R_a$ ; all inside machined surfaces and hex flats of bar stock shall be finished to  $250 \mu\text{in}$  ( $6.35 \mu\text{m}$ )  $R_a$ , unless otherwise specified. Surface finish shall be in accordance with ASME B46.1
6. Fittings shall be free of all burrs and slivers.

FIGURE 1. Bolt, cluster fitting - Continued.

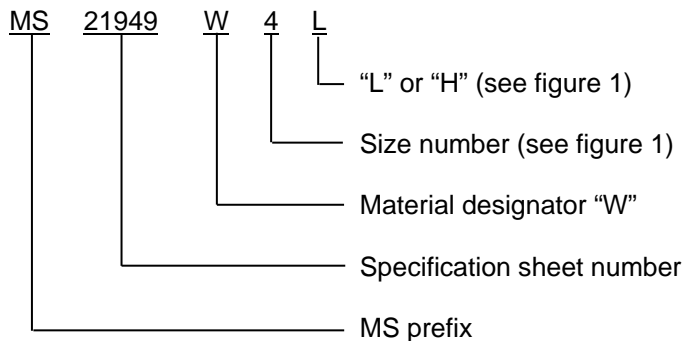
## REQUIREMENTS:

Dimensions and configuration shall be in accordance with figure 1.

Material: Aluminum alloy bar 7075-T73 in accordance with SAE-AMS-QQ-A-225/9.

Finish: In accordance with SAE-AS4875. Aluminum alloy 7075 fittings shall be dyed brown.

PIN: The PIN consists of the prefix "MS" the specification sheet number, a W for 7075 aluminum alloy, size code letter, and an "L" for low flow or an "H" for high flow. Unassigned PIN's shall not be used.



PIN example: MS21949W4L indicates a bolt cluster fitting aluminum 7075 alloy, .250 inch tube OD and "T" thread .4375-20UNJF-3A, low flow.

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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.

Referenced documents shall be of the issue in effect on date of invitations for bid.

Supersession data: Due to stress corrosion cracking aluminum alloys 2014 and 2024 “-” designator has been replaced by aluminum alloy 7075 “W” designator. Example: MS21949-4H use MS21949W4H.

Table I provides a detailed cross-reference of cancelled and replacement MS21949 PIN’s.

TABLE I. Supersession data.

Canceled MS PIN	Replacement MS PIN
MS21949-3L	MS21949W3L
MS21949-4L	MS21949W4L
MS21949-5L	MS21949W5L
MS21949-6L	MS21949W6L
MS21949-8L	MS21949W8L
MS21949-6H	MS21949W6H
MS21949-8H	MS21949W8H
MS21949-10H	MS21949W10H

Changes from previous issues. 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 referencing SAE-AS4875/1, this document references the following:

MS21932	SAE-AS4395
ASME B46.1	SAE-AS4875
ASME Y14.5	SAE-AS8879
SAE-AMS-QQ-A-225/9	

## CONCLUDING MATERIAL

Custodians:  
Navy - AS  
DLA - CC

Preparing activity:  
DLA-CC

(Project 4730-2014-034)

Review activity:  
Navy - SA

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>.