

INCH-POUND

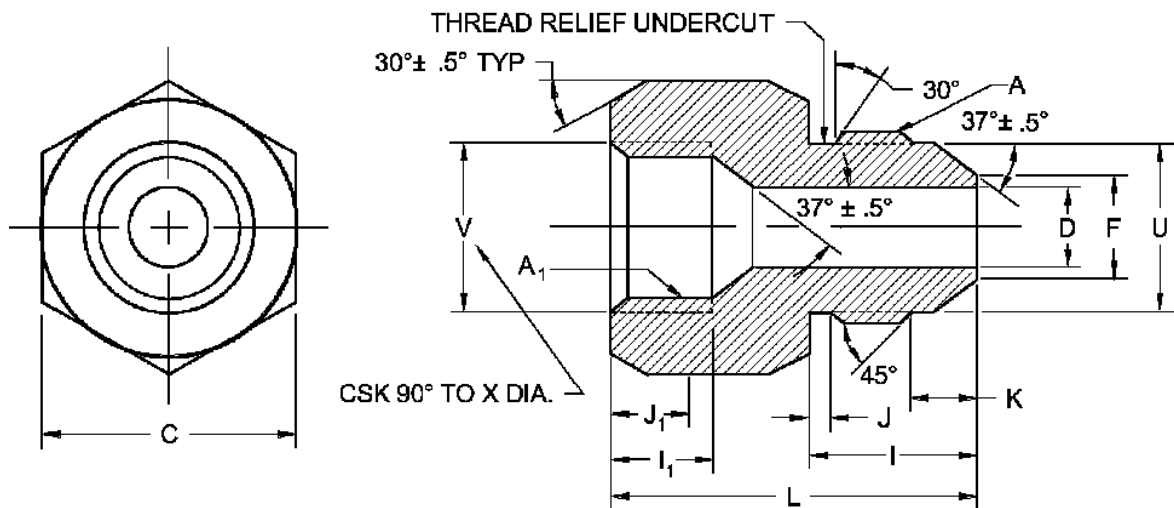
MS39323D
w/AMENDMENT 1
26 September 2025
SUPERSEDING
MS39323D
23 October 2020

DETAIL SPECIFICATION SHEET

FITTINGS, HYDRAULIC TUBE, FLARED 37 DEGREE, TUBE, REDUCER

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-18866.



Dash number	Tube O.D nom	A straight thread	Minor dia.		A ₁ Straight Thread ASME B1.1	C Hex Nom	D dia. Drill	
		Nom size class A	Inches +.005 -.000	mm +0.13 -0.00	Nom size class B		Inches ±.003	mm ±0.08
-5-4	5/16 - 1/4	.5000-20 UNF-2A	.451	11.46	7/16 - 20	5/8	.172	4.37
-6-5	3/8 - 5/16	.5625-18 UNF-2A	.508	12.90	1/2 - 20	11/16	.234	5.94
-10-8	5/8 - 1/2	.8750-14 UNF-2A	.804	20.42	3/4 - 16	1	.391	9.93
-12-10	3/4 - 5/8	1.0625-12 UN-2A	.979	24.86	7/8 - 14	1 1/4	.484	12.29

See notes at end of figure.

FIGURE 1. Reducing adapter, hex nut, one-piece.

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Dash number	F dia.		I		I ₁		J		J ₁ Full thread	
	Inches ±.003	mm ±0.08	inches ±.015	inches ±.013	inches ±.005	mm ±0.13	inches ±.013	mm ±0.40	inches	mm
-5-4	.193	4.90	.550	.075	.344	8.74	.075	1.90	.261	6.63
-6-5	.255	6.48	.550	.075	.344	8.74	.075	1.90	.261	6.63
-10-8	.426	10.82	.657	.094	.469	11.91	.094	2.40	.354	8.99
-12-10	.539	13.70	.758	.107	.500	12.70	.107	2.72	.370	9.40

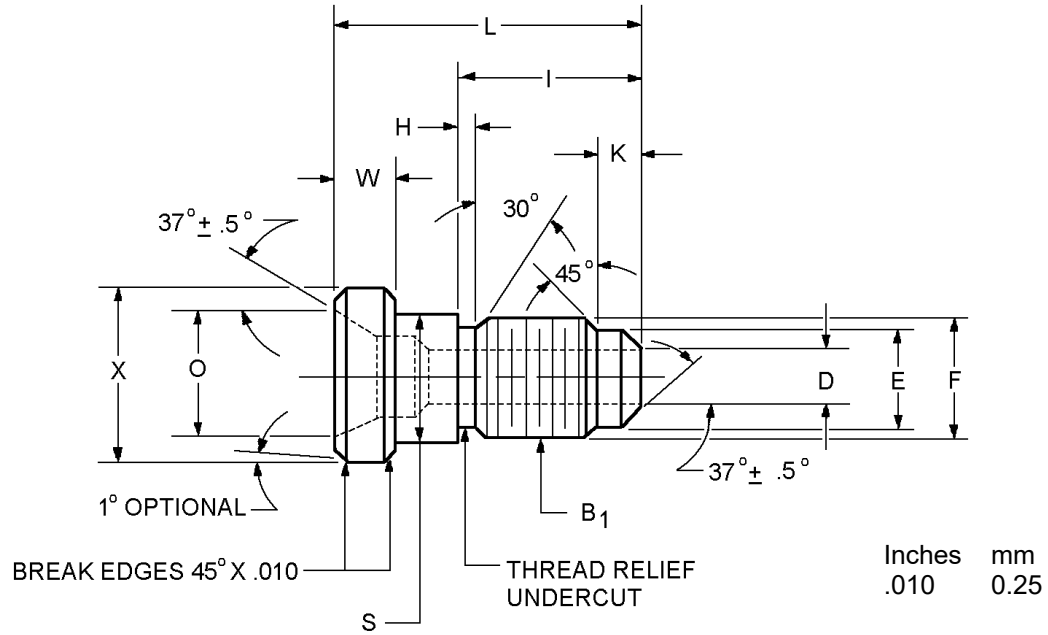
Dash number	K		L		U dia.		V dia.	
	inches +.015 -.000	mm +0.40 -.000	inches ±.010	mm ±0.25	inches +.000 -.005	mm +0.00 -0.13	inches +.015 -.000	mm +0.40 -0.00
-5-4	.193	4.90	1.156	29.30	.359	9.12	.505	12.80
-6-5	.193	4.90	1.188	30.20	.421	10.69	.567	14.40
-10-8	.253	6.43	1.437	36.50	.654	16.61	.880	22.35
-12-10	.266	6.80	1.656	42.00	.767	19.48	1.067	27.10

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. SAE-J514/1 does not have a configuration or dash sizes covering these sizes.

FIGURE 1. Reducing adapter, hex, one-piece - Continued.

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Dash number	Tube O.D nom	B ₁ straight thread ASME B1.1	Pitch dia. inches		Pitch dia. mm		D dia.		E dia.	
		Nom size class 2A	Max	Min	Max	Min	inches ±.030	mm ±0.76	inches ±.003	mm ±0.08
-6-4	3/8 - 1/4	7/16 - 20	.4037	.3999	10.254	10.157	.172	4.37	.193	4.90
-8-4	1/2 - 1/4	7/16 - 20	.4037	.3999	10.254	10.157	.172	4.37	.193	4.90
-10-4	5/8 - 1/4	7/16 - 20	.4037	.3999	10.254	10.157	.172	4.37	.193	4.90
-12-4	3/4 - 1/4	7/16 - 20	.4037	.3999	10.254	10.157	.172	4.37	.193	4.90
-8-5	5/8 - 1/2	1/2 - 20	.4662	.4619	11.841	11.732	.234	5.94	.225	6.48
-10-5	5/8 - 5/16	1/2 - 20	.4662	.4619	11.841	11.732	.234	5.94	.225	6.48
-12-5	3/4 - 5/16	1/2 - 20	.4662	.4619	11.841	11.732	.234	5.94	.225	6.48
-8-6	1/2 - 3/8	9/16 - 18	.5250	.5205	13.335	13.221	.297	7.54	.318	8.08
-10-6	5/8 - 3/8	9/16 - 18	.5250	.5205	13.335	13.221	.297	7.54	.318	8.08
-12-6	3/4 - 3/8	9/16 - 18	.5250	.5205	13.335	13.221	.297	7.54	.318	8.08
-12-8	3/4 - 1/2	3/4 - 16	.7079	.7029	17.980	17.853	.391	9.93	.426	10.82

See notes at end of figure.

FIGURE 2. Reducing adapter without large nut.

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Dash number	F dia.		H		I		K		L	
	inches +.000 -.005	mm +0.00 -0.13	inches +.015 -.000	mm 0.38 -0.00	inches +.015 -.000	mm 0.38 -0.00	inches +.015 -.000	mm +0.38	inches ±.02	mm ±0.50
-6-4	.359	9.12	.075	1.90	.550	13.97	.193	4.90	.97	24.64
-8-4	.359	9.12	.075	1.90	.550	13.97	.193	4.90	1.00	25.40
-10-4	.359	9.12	.075	1.90	.550	13.97	.193	4.90	1.03	26.16
-12-4	.359	9.12	.075	1.90	.550	13.97	.193	4.90	1.09	27.67
-8-5	.421	10.69	.075	1.90	.550	13.97	.193	4.90	1.00	25.40
-10-5	.421	10.69	.075	1.90	.550	13.97	.193	4.90	1.03	26.16
-12-5	.421	10.69	.075	1.90	.550	13.97	.193	4.90	1.09	27.67
-8-6	.476	12.09	.083	2.10	.556	14.12	.198	5.02	1.00	25.40
-10-6	.476	12.09	.083	2.10	.556	14.12	.198	5.02	1.03	26.16
-12-6	.476	12.09	.083	2.10	.556	14.12	.198	5.02	1.09	27.67
-12-8	.654	16.61	.094	2.40	.657	16.69	.253	6.40	1.19	30.23

Dash number	O dia.		S		W		X dia.	
	inches +.005 -.015	mm +0.13 -0.38	inches +.000 -.003	mm +0.00 -0.08	inches ±.02	mm ±0.5	inches +.000 -.003	mm 0.00 -0.08
-6-4	.441	11.20	.432	10.97	.17	4.3	.502	12.75
-8-4	.589	14.96	.562	14.27	.22	5.6	.682	17.32
-10-4	.705	17.91	.690	17.53	.23	5.8	.797	20.24
-12-4	.880	22.35	.826	20.98	.27	6.9	.972	24.69
-8-5	.589	14.96	.562	14.27	.22	5.6	.682	17.32
-10-5	.705	17.91	.690	17.53	.23	5.8	.797	20.24
-12-5	.880	22.35	.826	20.98	.27	6.9	.972	24.69
-8-6	.589	14.96	.562	14.27	.22	5.6	.682	17.32
-10-6	.705	17.91	.690	17.53	.23	5.8	.797	20.24
-12-6	.880	22.35	.826	20.98	.27	6.9	.972	24.69
-12-8	.880	22.35	.826	20.98	.27	6.9	.972	24.69

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.

FIGURE 2. Reducing adapter without large nut - Continued.

REQUIREMENTS:

Fittings shall be as specified on figure 1 or 2.

Components of the assemblies shall be of the same material and finish.

Materials shall be in accordance with MIL-DTL-18866.

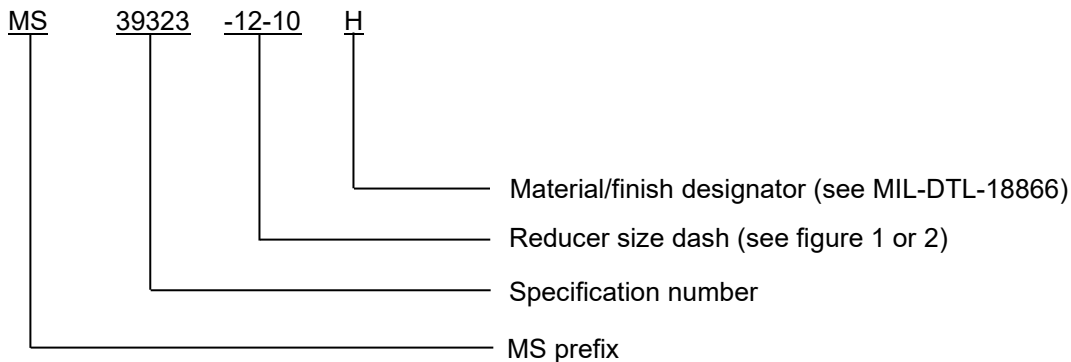
Finish and finish designators shall be in accordance with MIL-DTL-18866.

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Unless otherwise specified in MIL-DTL-18866, all plating's shall be capable of meeting 96-hour salt spray test in accordance with ASTM B117. The fittings shall show no evidence of red 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.

Maximum operating pressure. Maximum operating pressure shall be in accordance with SAE-J514/1.

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: MS39323-12-10H indicates a tube reducer, 3/4 inch OD tube to 5/8 inch OD tube, steel with zinc-aluminum.

Marking shall be in accordance with MIL-DTL-18866.

Class I and II ozone depleting substances (ODS) shall not be used in MS39323 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.

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

Material designator "SS" has been replaced by "S".

Phosphate coating finish "P" has been replaced by "KA".

NOTE: The following restrictions do not apply to manufacturers of the fittings and is applicable only to OEM's and users.

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.

Army and Marine ground forces zinc plating's. PIN codes FC, FD, Z, and ZC finishes have a chromate conversion coating which includes hexavalent chromium and are not recommended for Army and

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Marine ground systems. 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 FC, FD, Z, and ZC are not to be supplied to Army and Marine ground forces. MIL-PRF-32647 Type KA is intended as a hazardous free plating material and is a direct replacement for zinc plating with a hexavalent chromium conversion coating. KA has an equivalent torque/tension as the plating's replaced.

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

Army ground vehicle applications cadmium plating. Pin code J or KB may be substituted for cadmium ("Blank" PIN code) for Army ground vehicle applications. MIL-PRF-32647 Type KB is intended as a hazardous free plating material and is a direct replacement for cadmium plating ("Blank" PIN code). KB has an equivalent torque/tension as cadmium.

NAVSEA shipboard owned equipment. 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.

Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. 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 and relationship to the previous issue.

Referenced documents. In addition to MIL-DTL-18866, this document references the following:

MIL-PRF-32647	SAE-J514/1
ASME B1.1	T9070-AL-DPC-020/077-2
ASTM B117	

CONCLUDING MATERIAL

Custodians:
Army - AT
Navy - SH
Air Force - 71

Preparing activity:
DLA - CC

(Project 4730-2025-070)

Review activities:
Army - AR, MI
Navy - CG, MC, 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>.