

MIL-H-8795D
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SUPERSEDING
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MILITARY SPECIFICATION

HOSE ASSEMBLIES, RUBBER, HYDRAULIC FUEL AND OIL RESISTANT

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

1. SCOPE

1.1 Scope. This specification covers the requirements for one type of medium pressure hose assembly for use in hydraulic, fuel and oil systems.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards. Unless otherwise specified (see 6.2), the following specifications and standards of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation, form a part of this specification to the extent specified herein.

SPECIFICATIONS

MILITARY

MIL-P-775	Packaging of Hose, Hose Assemblies, Rubber, Plastic, Fabric, or Metal (Including Tubing); and Fittings, Nozzles and Strainers
MIL-A-5070	Adapter, Hose to Tube, Pipe and Flange, Reusable. Hydraulic, Fuel and Oil Lines
MIL-H-5606	Hydraulic Fluid, Petroleum Base, Aircraft, Missile, and Ordnance
MIL-H-8794	Hose, Rubber, Hydraulic, Fuel and Oil Resistant

STANDARDS

FEDERAL

FED-STD-601 Rubber, Sampling and Testing

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: the Engineering Division, San Antonio ALC/MMEDO, Kelly AFB, Texas 78241 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

FSC 4720

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MILITARY

MIL-STD-129	Marking for Shipment and Storage
MIL-STD-147	Palletized Unit Loads
MIL-STD-794	Parts and Equipment, Procedures for Packaging and Packing of
MIL-STD-1523	Age Controls of Age Sensitive Elastomeric Material
MS28741	Hose Assembly, Detachable End Fitting, Medium Pressure

(Copies of specifications and standards required by manufacturers in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer).

- * 2.2 Other publications. The following document(s) form a part of this specification to the extent specified herein. The issues of the documents which are indicated as DoD adopted shall be the issue listed in the current DoDISS and the supplement thereto, if applicable.

- * AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 3951-82 Packaging, Commercial

(Application for copies of ASTM publications should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103).

- * 2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

3. REQUIREMENTS

3.1 Military Standard Sheets. The individual item requirements shall be as specified herein and in accordance with MS28741. In the event of any conflict between the requirements of this specification and MS28741, the latter shall govern.

3.2 General

3.2.1 Hose assemblies. Hose assemblies covered by this specification shall meet all the test requirements specified herein and shall be suitable for use in hydraulic, fuel and oil systems at the operating pressures specified in Table I.

3.2.2 Age control. The age or shelf life of hose assemblies covered by this specification and furnished for use by the Government shall not exceed the limits established in MIL-STD-1523.

3.3 Performance

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TABLE I. Physical requirements of hose assemblies with Specification MIL-F-5070 fittings attached.

Size Number	Length Inches *	Bend Radius at Inside of Band Min. Inches	Hydraulic		Fuel & Oil		Burst Pressure PSI	Hose Bulge Min. I.D.
			Operating Pressure PSI	Proof Pressure PSI	Operating Pressure PSI	Proof Pressure PSI		
3	14	3	3,000	6,000	1,000	1,500	12,000	.080
4	14	3	3,000	6,000	1,000	1,500	12,000	.132
5	16	3-3/8	3,000	5,000	1,000	1,500	10,000	.200
6	18	4	2,000	4,500	1,000	1,500	9,000	.260
8	21	4-5/8	2,000	4,000	1,000	1,500	8,000	.350
10	23-1/2	5-1/2	1,750	3,500	1,000	1,500	7,000	.450
12	27-1/2	6-1/2	1,500	3,000	1,000	1,500	6,000	.575
16	18	7-3/8	800	1,600	750	1,000	3,200	.781
20	18	9	600	1,250	500	750	2,500	1.015
24	18	11	500	1,000	250	375	2,000	1.250
32	18	13-1/4	350	700	200	300	1,400	1.719
40	18	24	-	-	200	300	1,000	2.178
48	18	33	-	-	200	300	800	2.803

* Length of sample for test applies to hydraulic tests only.

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3.3.1 Proof pressure. When tested in accordance with 4.6.3, there shall be no evidence of wicking or leakage of the hose, the adapters and the adapter-to-hose connection.

3.3.2 Burst. When tested in accordance with 4.6.4, there shall be no evidence of leaks, burst or blow-off of the adapters at any pressure less than the burst pressure specified in Table I.

3.3.3 Bulge. When tested in accordance with 4.6.5, the bulging which results from the attachment of adapters to the hose shall not exceed the bulge limits specified in Table I.

3.4 Identification of product. Each hose assembly shall be identified with a durable permanently attached tag plainly marked with the Military Standard (MS) hose assembly number (complete with size and length), date of assembly in quarter of year and year and the name, trademark or symbol of the hose assembler (optional assembler's part number).

3.5 Workmanship. Hose assemblies shall be products which are fabricated from hose qualified to MIL-H-8794 and end adapters qualified to MIL-A-5070 assembled in accordance with the highest standard practice for products as covered by this specification.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.1.1 Components and material inspection. In accordance with 4.1 the supplier is responsible for insuring that components and materials used are manufactured, tested and inspected in accordance with the requirements of referenced subsidiary specifications and standards to the extent specified herein, or if none, in accordance with this specification.

4.2 Classification and inspections. The inspection and testing of hose assemblies shall be classified as follows:

- a. Acceptance inspections (see 4.4)
- b. Individual inspections (see 4.5)

4.3 Test Conditions. Unless otherwise specified herein, the test procedures shall be in accordance with FED-STD-601 except that the test fluid shall conform to MIL-H-5606 or water when specified.

4.4 Acceptance inspections. Acceptance inspections shall consist of the following:

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- a. Periodic sampling inspections (see 4.4.1).
- b. Individual inspections (see 4.5).

4.4.1 Periodic sampling tests. The following tests shall be performed on at least one hose assembly taken at random for each lot. Failure of any sample to withstand the specified tests shall be cause for rejecting the lot. A lot is defined as 500 assemblies, or fraction thereof, of a given dash size.

- a. Leakage test (see 4.6.3)
- b. Burst test (see 4.6.4)
- c. Bulge test (see 4.6.5)

4.4.2 Rejection and retest. When hose assemblies fail to meet the test requirements specified herein, no assemblies still on hand or later produced shall be accepted until the extent and cause of failure are determined and appropriately corrected. Full particulars concerning the rejection and the action taken to correct the defects shall be furnished to the procuring agency before resubmitting the lot for tests.

4.5 Individual tests. Each hose assembly submitted for acceptance shall be subjected to the following tests:

- a. Examination of product (see 4.6.1)
- b. Proof pressure (see 4.6.2)

4.6 Test method.

4.6.1 Examination of product. Each hose assembly shall be examined for compliance with the requirements specified herein with respect to material, dimensions, workmanship and marking.

4.6.2 Proof pressure. All hose assemblies submitted for acceptance shall be subjected to the hydraulic proof pressure specified in Table I for not less than 30 seconds and not more than 5 minutes. The test procedures shall be in accordance with FED-STD-601, test method 10211 except that the test fluid shall conform to MIL-H-5606 or may be water.

4.6.3 Leakage test. This test shall be made on a hose assembly using MIL-H-5606 hydraulic oil or water as the test fluid. Seventy percent of the hydraulic burst pressure shown in Table I shall be obtained and held 5 minutes, reduced to 0, after which it shall be raised to 70 percent of the minimum burst pressure for a final 5 minute check. The exposed yarn shall be carefully checked during this period for any wicking or leakage of the test liquid which might indicate leakage of the hose. There shall be no direct leakage from the end fitting, and no seepage back through the fabric which might produce separation or swelling of the hose.

4.6.4 Burst pressure. Test samples which have passed the leakage test (4.6.3) shall be subjected to this test. The test samples shall be subjected to the hydraulic burst pressure specified in Table I within 45 days after

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assembly. The burst pressure test shall be conducted in accordance with method 10011 (Bursting Strength, Straight Specimen) of FED-STD-601 except that the rate of pressure increase shall be 25,000 +0 -10,000 psi per minute and the test fluid shall conform to MIL-H-5606 or may be water. The hose assembly shall not leak, burst or blow off the end adapters at any pressure less than the burst pressure specified in Table I.

4.6.5 Bulge test. The bulging of hose inner tube, caused by attachment of the end adapters, shall be measured with a ball type gage. The size of the ball type gage shall be equal in diameter to the minimum bulge diameter, -0.000 -0.001 inch, as specified in Table I. The hose assembly shall be suspended in a vertical position and the gage placed in the end adapter. Without the assist of lubricant or added force, the gage shall fall through the assembly under its own weight.

- * 4.7 Inspection of Packaging. The sampling and inspection of the preservation, packing and container marking shall be in accordance with the requirements of Paragraphs 5.1, 5.2, and 5.3 of this specification.

5. PACKAGING

- * 5.1 Preservation. Preservation shall be Level A, C or Commercial as specified (6.2).
 - * 5.1.1 Level A. The hose assemblies shall be preserved in accordance with MIL-P-775.
 - * 5.1.2 Level C. The level C preservation for the hose assemblies shall conform to the MIL-STD-794 requirements for this level.
 - * 5.1.3 Commercial. The commercial preservation of the hose assemblies shall be in accordance with the requirements of ASTM-D-3951-82.
- * 5.2 Packing. Packing shall be Level A, B, C or commercial, as specified (see 6.2).
 - * 5.2.1 Level A and B. The hose assemblies shall be packed for shipment in accordance with MIL-P-775, except fiberboard boxes shall not be used for Level A packing.
 - * 5.2.2 Level C. The Level C packing for the hose assemblies shall conform to the MIL-STD-794 requirements this level.
 - * 5.2.3 Commercial. The preserved hose assemblies shall be packed in accordance with the requirements of ASTM-D-3951-82.
 - * 5.2.4 Palletization. When specified (see 6.2) unitized loads, commensurate with the level of packing specified in the contract or order, shall be palletized in accordance with MIL-STD-147. Unitized loads shall be uniform in size and quantities to the greatest extent possible. If the container is of a size which does not conform to any of the pallet patterns specified in MIL-STD-147, the pallet pattern used shall first be approved by the contracting officer.
- * 5.3 Marking.

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- * 5.3.1 Levels A, B, and C. In addition to any special or other identification marking required by the contract (see 6.2), each unit pack, intermediate and exterior container and unitized load shall be marked in accordance with MIL-STD-129 and shall include the date of manufacture or date vulcanized for the type of hose specified in the contract or order.
- * 5.3.2 Commercial. Commercial markings shall be in accordance with the requirements of ASTM-D-3951-82.
- * 5.4 General.
- * 5.4.1 Exterior containers. Exterior containers (see 5.2.1, 5.2.2, 5.2.3 and 5.2.4) shall be of minimum tare and cube consistent with protection required and shall contain equal quantities of identical stock numbered items to the greatest extent practicable.
- * 5.4.2 Packaging inspection. The inspection of these packaging requirements shall be in accordance with 4.7.

6. NOTES

6.1 Intended use. The hose assemblies covered by this specification are intended for use in medium pressure application of hydraulic, fuel and oil systems for aircraft.

* 6.2 Ordering data.

6.2.1 Acquisition requirements. Acquisition documents should specify the following:

a. Selection of applicable levels of preservation, packaging, packing, marking and commercial/industrial (see 5.1, 5.2 and 5.3).

b. When palletized loads are required (see 5.2.4).

6.3 Changes from previous issue. The margins of this specification are marked with an asterisk to indicate where changes (additions, modifications, corrections, deletions) 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 last previous issue.

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1. DOCUMENT NUMBER

MIL-H-8795D

2. DOCUMENT TITLE

Hose Assemblies, Rubber, Hydraulic Fuel and Oil ^{Resistant}

3a. NAME OF SUBMITTING ORGANIZATION

4. TYPE OF ORGANIZATION (Mark one)

☐

VENDOR

☐

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MANUFACTURER

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OTHER (Specify):

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5. PROBLEM AREAS

a. Paragraph Number and Wording:

b. Recommended Wording:

c. Reason/Rationale for Recommendation:

6. REMARKS

7a. NAME OF SUBMITTER (Last, First, MI) - Optional

b. WORK TELEPHONE NUMBER (Include Area Code) - Optional

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