

Marking; Standard Hose, Aircraft

RATIONALE

ARP6002 has been reaffirmed to comply with the SAE five-year review policy.

1. SCOPE:

This document establishes the industry standard practices for marking standard elastomeric hose used in aircraft manufacture and repair.

2. APPLICABLE DOCUMENTS:

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of a conflict between the text of this document and the references cited herein, the text of this document shall take precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.1 U.S. Government Publications:

Available from DODSSP, Subscription Services Desk, Building 4D, 700 Robbins Avenue,
Philadelphia, PA 19111-5094.

MIL-H-5606 Hydraulic Fluid, Petroleum Base; Aircraft, Missile Ordnance

3. REQUIREMENTS:

3.1 Materials:

Materials used for marking hose are optional; however, they shall be compatible with the hose being marked. They shall be uniform in quality and free from defects. Materials not specified herein shall be of the quality appropriate for the purpose intended.

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3.2 Required Markings:

Markings shall be as required in the applicable hose specification. When the instructions are not given in the hose specification, the required markings shall be as specified in 3.2.1 through 3.2.5. All markings shall form an indicator stripe repeating continuously along the length of the hose.

- 3.2.1 **Date of Manufacture:** The hose shall bear its date of manufacture, expressed in quarter and year. The number 1, 2, 3 or 4 followed by the letter "Q" shall be used to express the quarter in which the hose was manufactured. The last two digits of the year shall immediately follow the "Q". For example, hose manufactured on 17 September 1998 shall be dated as 3Q98.
- 3.2.2 **Code Stripe:** Stripe(s) in the color(s) designated by the applicable hose specification shall be placed on the outer cover, parallel to the length of the hose. When not specified in the hose specification, the marking shall be of a color that contrasts with the hose color.
- 3.2.3 **Size Designation:** When the hose specification contains a table of sizes, the applicable size number shall be marked on the hose. The size number may be a fraction, a whole number or a combination of both. When used, the fraction shall be exactly as it appears in the applicable specification.
- 3.2.4 **Manufacturer Identification:** The hose manufacturer shall be identified with code letters, names or trademarks as required by the applicable specification.
- 3.2.5 **Type Designation:** Certain specific type of hose shall be marked with code letters that shall be given in the applicable specification.

3.3 Quality of Markings:

- 3.3.1 **Legibility:** All markings shall not be blurred and shall be of a sufficient size so that 50% of the marking can be read without error when tested in accordance with 4.3.2.
- 3.3.2 **Permanency:** After testing in accordance with 4.3.3, all markings on the hose shall meet the legibility requirement of 3.3.1.
- 3.3.3 **Repair:** Defective marking may be repaired by any methods as long as the integrity of the hose is not diminished; however, the final marking shall meet the legibility requirements of 3.3.1 and the permanency requirements of 3.3.2.

4. QUALITY ASSURANCE PROVISIONS:

4.1 Responsibility for Inspection:

Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements specified herein. The supplier may utilize his own facilities or any other facilities acceptable to the procuring activity for the performance of the inspection requirements. The procuring activity has the right to perform any of the inspections set forth, as deemed necessary, to assure that supplies and services conform to the prescribed requirements.

4.2 Examination of Product:

All hose markings shall be inspected for uniformity and legibility and to ensure that all required markings specified in 3.2 are included.

4.3 Tests:

Samples shall be selected in accordance with 4.3.1 and tested in accordance with 4.3.2 and 4.3.3.

4.3.1 Sampling for Tests: After the manufacturer has inspected and made any necessary repair on the hose markings, one hose length of each type of cover specified in Table 1 shall be selected randomly from the daily run of each marking machine. The hose shall be of a length sufficient to contain one complete set of the required markings.

4.3.2 Legibility: The sample shall be covered so that only one word, number group, or code marking is exposed at a time. Illumination on the sample shall be in the range of 20 to 60 candela. When standing 3 ft from the sample, a person with normal vision or vision corrected to 20/20 Snellen shall be able to read all letters, numerals, and marking without error. Conformance shall be as specified in 3.3.1.

- 4.3.3 Permanency: The same sample used for the legibility test shall have a rigid mandrel inserted inside the bore. To prevent turning on the mandrel, the hose shall be clamped. Both the hose and the mandrel shall then be held in a vise so that the hose is held in a horizontal position with its marking on top. A 4 in by 2 ft strip of uncoated 10 oz duck, with a 4 lb weight attached at each end, shall be dipped in a petroleum base hydraulic oil conforming to MIL-H-5606. The strip shall then be hung over the hose so that both weights are at the same distance from the hose. Hoses used for other type of fluids shall be tested with the applicable fluid or fluids. Pull one of the weights downward until the other weight has been raised 10 in. This is considered one stroke. The strokes shall be alternated between the weights until the number of strokes specified in Table 1 has been completed. The strip of duck shall be dipped in oil once for each test regardless of the number of strokes involved. Each strip of duck shall not be used for more than 100 strokes. When the number of strokes have been completed, the hose shall then be subjected to the legibility test as described in 4.3.2. Conformance shall be as specified in 3.3.1.

TABLE 1 - Required Strokes for Permanency Test

Type of Cover	Number of Strokes
Cloth wrapped	3
Impregnated Braid	15

NOTE: MIL-H-5606 may be substituted with other type of fluids, depending on the system application. The hose specification should be reviewed for the type of fluids used.

4.4 Rejection and Retest:

Failure of the hose to meet the requirements specified herein shall be caused for rejection of the entire day's production from the particular marking machine involved. Hose rejected for improper or unsatisfactory marking may be resubmitted for test provided the unsatisfactory marks are cleaned off and the hose remarked.

5. NOTES:

5.1 Intended Use:

The quality verification procedures covered herein are to be used on markings applied to various types of aircraft hose.

5.2 Military Specification Conversion:

This document is a conversion of Military Specification MIL-M-6002, "Marking; Standard Hose, Aircraft".