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AERONAUTICAL RECOMMENDED PRACTICE

ARP 605

ROUTINE INSPECTION AND TEST PROCEDURES FOR AIRCRAFT REFUELING HOSES

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Revised

1. **PURPOSE:** To specify minimum inspection requirements and test procedures for aircraft refueling hoses. These hoses are ground equipment types normally used for ground refueling of aircraft from storage tanks, mobile tanks, or tank trucks.
2. **SCOPE:** This recommended practice covers the following types and styles of refueling hose:
 - A. AMS 3386; Textile reinforced, collapsing
 - B. AMS 3387; Textile reinforced, non-collapsing
 - C. AMS 3388; Single wire braid reinforced, non-collapsing
 - D. AMS 3389; Double wire braid reinforced, non-collapsing
3. **INSPECTION REQUIREMENTS:** The following inspection procedure should be in effect commencing with the receipt of hose by the user.
 - 3.1 **Inspection Records:** An inspection record card should be maintained for each hose and should bear the following information.
 - a. Type of hose
 - b. Manufacturer of hose and cure date
 - c. Type of service and handling conditions
 - d. Type of storage
 - e. Date received
 - f. Purchase Order Number
 - g. Date of installation

In addition, provision should be made on the record card to carry the following data:

- h. Serial Number of hose (assigned upon receipt of hose)
- i. Record of results of physical tests
- j. Record of total number of gallons pumped at time of test and type or grade of fuel
- k. Date of tests

The code or serial number of the hose (h. above) should be permanently marked on the hose by banding with a metal identification tag or by painting the number on the hose near each end.



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3.2 Frequency of Tests: Each hose should be inspected and tested following the schedule outlined below and the date of inspection compliance noted on the record card.

3.2.1 New Hose: Prior to installation of the hose, it should be subjected to the test specified in Section 4, Paragraph 4.2 and 4.2.1.

3.2.2 Routine Inspections: After installing the hose on service equipment, the hose should be subjected to the tests specified in Section 4 once each 30 days during the first six months usage. Thereafter, the same tests should be accomplished once each week. In addition, the same tests should be conducted immediately after hose has been subjected to abnormal abuse such as flattening or crushing by vehicles, kinking or sharp bending in sub-zero temperature, excessive end pull, dragging over rocks or other sharp objects, etc.

Nozzle screens should be inspected daily for evidence of rubber contamination.

The inspection tests should be accomplished at normal operating temperatures.

4. TESTS AND TEST PROCEDURES: The following tests and procedures should be used when subjecting hose to inspection as specified under Section 3.

4.1 Visual Inspection: A qualified inspector should carefully examine the hose for any indication of external damage or excessive wear. Special attention should be directed to the area immediately behind the couplings for indications of structure weakness, soft spots, coupling slippage, etc.

4.2 Pressure Tests: Connect the hose to a pump equipped with pressure by-pass capable of producing constant pressure supply. The test fluid may be kerosene, Stoddard Solvent or oleum spirits. The opposite end of the hose should be fitted with a pressure tight cap having a valve or other means of bleeding air. Fill the hose at low pressure through the pump with the capped end elevated and the bleed vent open to preclude air entrapment.

4.2.1 Place the hose in a straight position and pressurize to 150 per cent of the manufacturer's recommended working pressure. If couplings leak, release pressure tighten clamps and raise pressure again. Hold pressure for a minimum of five minutes, examine for leaks. Any indication of leakage should constitute failure and the hose should be retired for replacement or repair. If end fittings are not of hose clamp type, no provision for tightening is made and leakage will constitute failure. Record results on inspection card.

4.2.1.1 After the pressure test above, reduce pressure to maximum recommended operating pressure and open and close the pump valve in 0.1 second or faster to create surge pressures. Repeat six times. Observe the hose for signs of coupling movement, leakage and weak spots.

