

CANCELLED

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc.

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AERONAUTICAL RECOMMENDED PRACTICE

ARP 610

SYNTHETIC OR NATURAL RUBBER LINED PNEUMATIC HOSE
ASSEMBLIES, AIRCRAFT

Issued 3-1-60
Revised

1. SCOPE: This specification covers the design, procurement and test requirements for 3000 PSI hose assemblies for use in aircraft pneumatic systems.

1.1 Classes: Hoses will be listed under two categories.

Class I: Oil resistant

Class II: Non-oil resistant

Class I hose assemblies shall be internally resistant to MIL-H-5606, MIL-H-6082, MIL-L-26087, and other common mineral based lube, hydraulic, and compressor oils.

Both classes shall be externally resistant to fuels, lube and hydraulic oils, ozone, oxygen and other general atmospheric conditions.

2. REQUIREMENTS:

2.1 General: The hose and assemblies shall be uniform in quality and free from defects in material as is consistent with good manufacturing practice. Materials shall conform to the requirements of this specification. All materials not specifically described herein shall be of the highest quality and suitable for the purpose intended.

2.2 Design and Construction:

2.2.1 Hose: The hose shall consist of a synthetic or natural rubber inner tube reinforced with steel or stainless steel wire. The cover material shall provide suitable protection to the reinforcing layers and be resistant to fluids indicated herein.

2.2.2 Fittings: The end fittings will be either permanent or field attachable type. Materials shall be selected for the specific operating conditions and be either corrosion resistant alloys or suitably protected from corrosion.

2.3 Dimensions: The hose dimensions shall be as specified in Table I. The hose assembly dimensions shall be as specified in Table II.

2.4 Temperature Range: Hose assemblies shall operate satisfactorily through a temperature range of -65 F to +225 F.

2.5 Operating Pressures: Normal operating pressure for all sizes is 3000 PSI. The hose assemblies shall be proof tested at 6000 PSI and the assemblies shall have a minimum burst pressure of not less than 12,000 PSI.

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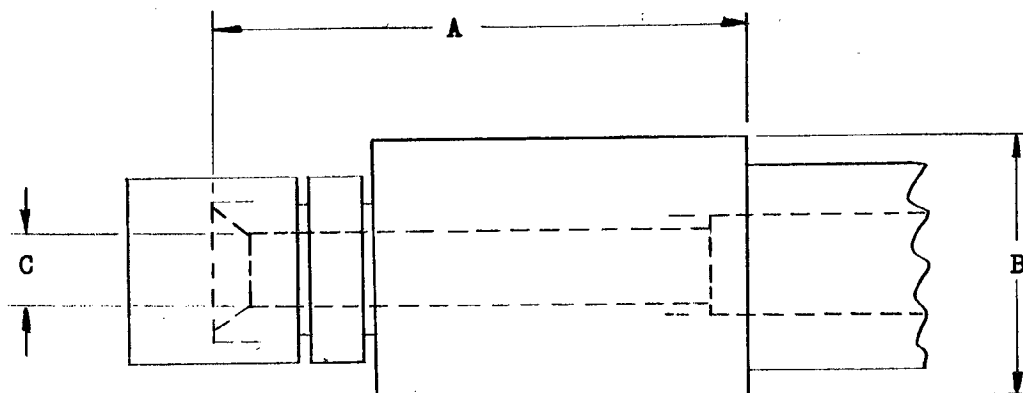
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TABLE I

Hose Dash Size	Tube O.D. (Ref.)	Hose I.D.		Hose O.D. Max.	Min. Bend Radius
-4	.250	.219		.656	3.000
-6	.375	.344	+.025 -.007	.797	5.000
-8	.500	.437		.891	5.750
-10	.625	.562		1.062	6.500
-12	.750	.688	+.031 -.010	1.250	7.750
-16	1.000	.875		1.547	9.625

TABLE II

Hose Size	A. Max.	B. Max.	C. Min. Fitting Bore and Bulge Diameter
-4	2.781	.875	.146
-6	2.906	1.160	.271
-8	3.031	1.375	.365
-10	3.156	1.550	.455
-12	3.672	1.740	.568
-16	4.000	2.000	.778



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2.6 Identification: The assemblies shall be identified with the following information:

- a. Specification Number and Class (ARP-610-CI)
- b. Assembly Manufacturer's Name or Trademark and Part Number
- c. Assembly Date in month and year
- d. Hose Manufacturer's code per OASD Handbook H-4
- e. Date of Manufacture of hose in quarter and year (3Q58)
- f. The word "Pneumatic"

The identification data may be in the form of a hose lay line when cover material permits or may be carried on permanent metal bands affixed to the hose. When metal bands are used, hose assemblies four feet or less in length shall have one band, while hose assemblies longer than four feet shall have a band near each end fitting.

2.7 Cleaning: Hose assemblies shall be cleaned with suitable solvent, flushed with water, dried, and sealed to preclude contamination prior to usage.

2.8 Age: Hose and assemblies shall meet the age requirements of ANA Bulletin 438.

3. QUALITY ASSURANCE PROVISIONS:

3.1 Classification of Tests: The inspection and testing of hose and assemblies shall be classified as follows:

- a. Qualification Tests: Qualification tests are those tests performed on samples for approval as a qualified product.
- b. Acceptance Tests: Acceptance tests are those tests performed on individual lots which have been submitted for acceptance.

3.1.1 Qualification Tests: Qualification tests shall consist of all the tests of this specification as described under "Test Methods".

3.1.2 Acceptance Tests: The Acceptance tests shall consist of the following and be conducted on each hose assembly submitted under this specification:

- a. 3.2.1 Examination of Product
- b. 3.2.2 Proof Pressure Test

In addition, two random hose assemblies from each 500 hose assemblies of a size shall be subjected to the following tests:

- c. 3.2.3 Leakage Test
- d. 3.2.4 Burst Test