

in the hose assembly from 150 to zero psi within 2 seconds.

Figure 5. Flex Test Apparatus

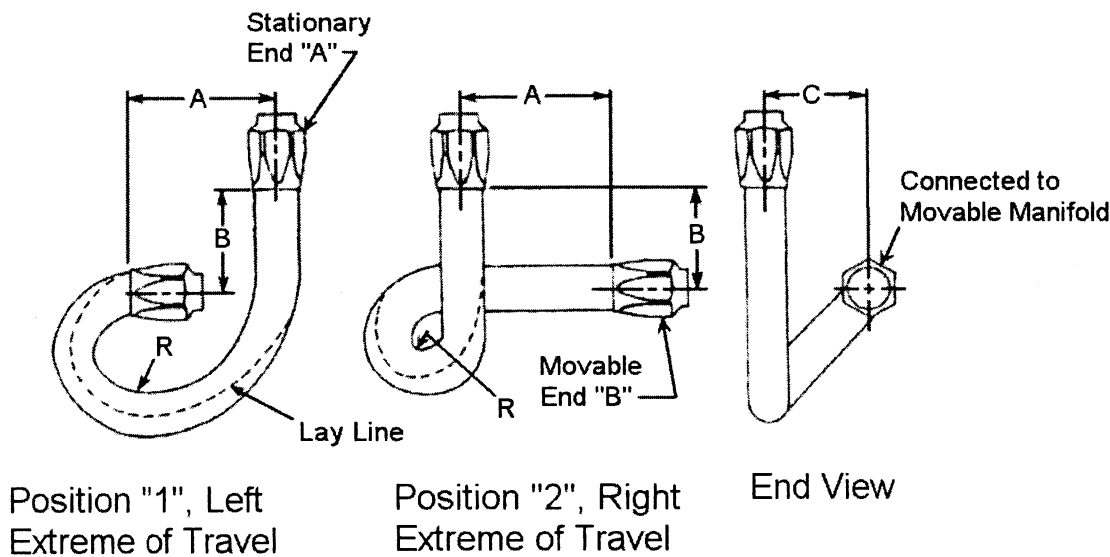


TABLE ACCOMPANYING FIGURE 5

Free hose length 27 (1.6mm)	Hose I.D., in (mm)	Dimensions							
		Position "1"				Position "2"			
		"A"	"B"	"C"	"R" <sup>a</sup>	"A"	"B"	"C"	"R" <sup>a</sup>
10 in (254 mm).	3/16 (4.8 ); 1/4 (6.3) .....	3 in (76 mm)	2.75 in (70 mm).	3.75 in (95 mm).	1.4 in (34 mm).	3 in (76 mm)	2.75 in (70 mm).	3.75 in (95 mm).	1.2 in 30 mm).
11 in (279 mm).	5/16 (7.9); 3/8 (9.7); 13/32 (10.4).	3 in (76 mm)	3.5 in (8.9 mm).	4 5/8 in (114 mm).	1.7 in (43 mm).	3 in (76 mm)	3.5 in (89 mm).	4.5 in (114 mm).	1.3 in (33 mm).
14 in (355 mm).	7/16 (11.2); 1/2 (12.7; (5/8 (16.0).	3 in (76 mm)	4 in (102 mm).	4 in (127 mm).	2.2 in (56 mm).	3 in (76 mm)	4 in (102 mm).	5 in (127 mm).	1.8 in (46 mm).

<sup>a</sup> This is an approximate average radius.

8.7.2 Preparation. (a) Lay the hose material on a flat surface in an unstressed condition. Apply a permanent marking line along the centerline of the hose on the uppermost surface.

(b) Prepare the hose assembly with a free length as shown in Figure 5. The end fittings shall be attached according to the end fitting manufacturer's instructions.

(c) Plug the ends of the hose assembly and conduct the salt spray test in S6.9 using an air brake hose assembly. Remove the plugs from the end fittings.

(d) Within 168 hours of completion of the salt spray test, expose the hose assembly to an air temperature of 212 °F for 70 hours, with the hose in a straight position. Remove the hose and cool it at room temperature for 2 hours. Within 166 hours, subject the hose to the flexure test in (e).

(e) Install the hose assembly on the flex testing machine as follows. With the movable hose attachment point at the mid point of its travel, attach one end of the hose to the movable attachment point with the marked line

on the hose in the uppermost position. Attach the other end of the hose to the fixed attachment point allowing the hose to follow its natural curvature.

(f) Cycle the air pressure in the hose by increasing the pressure in the hose from zero psi to 150 psi and holding constant for one minute, then decreasing the pressure from 150 psi to zero psi and holding constant for one minute. Continue the pressure cycling for the duration of the flex testing. Begin the flex testing by cycling the movable attachment point through 6 inches of travel at a rate of 100 cycles per minute. Stop the flex testing and pressure cycling after 1 million flex cycles have been completed.

(g) Install an orifice with a hole diameter of 0.0625 inches and a thickness of 0.032 inches in the air pressure supply line to the hose assembly. Provide a gauge or other means to measure air pressure in the hose assembly. Regulate the supply air pressure to the orifice to 150 psi.

(h) Apply 150 psi air pressure to the orifice. After 2 minutes have elapsed, measure the air pressure in the brake

hose assembly, while pressurized air continues to be supplied through the orifice.

S8.8 Corrosion resistance and burst strength test. (a) Conduct the test specified in S6.9 using an air brake hose assembly. Remove the plugs from the ends of the hose assembly.

(b) Fill the hose assembly with water, allowing all gases to escape. Apply water pressure at a uniform rate of increase of approximately 1,000 psi per minute until the hose ruptures.

S8.9 Tensile strength test. Utilize a tension testing machine conforming to the requirements of American Society for Testing and Materials (ASTM) Standard Practices for Force Verification of Testing Machines, Designation E4-99, and provided with a recording device to register total pull in pounds.

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S8.13 Adhesion test for air brake hose reinforced by wire. (a) Place a steel ball with a diameter equal to 75 percent of the nominal inside diameter of the hose being tested inside of the hose. Plug one end of the hose. Attach the