

EL DORADO COUNTY FIRE PROTECTION DISTRICT

STANDARD OPERATING GUIDELINE

ARTICLE 4: ROUTINE PROCEDURES

EFFECTIVE DATE: 03-13-1991

SECTION 2: HOSE TESTING

REVISED: 07-01-2020

4.2.1 **Introduction:** SCOPE & REFERENCE:

Insurance Service Office (I.S.O) requires an annual service test for all fire hose assigned to fire apparatus and stored on fire station racks. Testing also serves to keep the District's inventory updated. National Fire Protection Association (NFPA) 1962 recommends removing from service any fire hose manufactured before 1987. Due to financial constraints the District is doing this removal as budgets cycles allow. NFPA 1962 recommends testing Large Diameter Hose (3.5" to 6") at 200 pounds per square inch (PSI). Double Jacketed hose, less than 3.5" is recommended to be tested at 300 PSI. Most new hose is factory tested at 600 PSI. Experience has shown that some types of defects will show up only after prolonged application of water and will not be apparent if the pressure is immediately released after 300 PSI has been reached. Most authorities recommend that the length of hose line to be tested should not exceed 300 feet / discharge.

4.2.2 **Policy:**

It is the policy of the District to perform annual service tests on fire hose. Large diameter hose (5") is to be tested at 200 PSI for 5 minutes. All other double-jacketed hose shall to be tested at 300 PSI for 5 minutes. This includes all on fire apparatus and storage racks at staffed and unstaffed fire stations.

4.2.3 **Procedure:**

A: Conducting the test (Double Jacket 1.5"/1.75"/2.5"/3")

Required Equipment

- **ECF hose tester**
 - **Bale/Control Device**
 - **2.5" to 1.5" Reducer**
 - **Spanner Wrench**
 - **Extension Cord**
 - **Supply hose for tester**
 - **Marking pen**
 - **ECF hose testing logs**
 - **Timer**
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1. Set up hose testing machine
 2. Attach desired hose to be tested. (Total length of attached hose cannot exceed 300') and connect bale/control device to the male end of the fire hose.
 3. Record ECF number from hose and log on fire hose test log.
 4. Mark the end of the coupling shank to check for slippage of the coupling during the test.
 5. Fill each hose line with water and make sure the bale/control device is open and elevated during filling process. Exhaust all air form each line by permitting normal water to flow.
 6. After all air has been expelled, close the bale/control device.
 7. Confirm no water is leaking from the couplings.

8. Turn on the hose testing machine and build the pressure up to the required test pressure. Close valves to hose lines which are being tested and turn off hose tester.
9. Observe any signs of failures. If any sign of fire hose failure remove that section of hose and start the test over for the remaining hose.
10. The test pressure should be held for five minutes.
11. If no leaks appear after the five minutes the hose has passed and the test is concluded.
12. Drain and allow hose to dry prior to loading on fire apparatus or rolling and placing back on the hose rack.

B: Conducting the test (LDH Supply Hose)

Required Equipment

- **ECF Fire engine**
- **Supply hose**
- **2.5" to Storz**
- **2.5" Double male**
- **2.5" to 1.5" reducer**
- **Marking pen**
- **ECF hose testing logs**
- **Timer**

1. Set up ECF fire engine and connect to a water supply
2. Attach desired hose to be tested. (Total length of attached hose cannot exceed 300') and connect bale/control device to the male end of the fire hose.
3. Record ECF number from hose and log on fire hose test log.
4. Mark the end of the coupling shank to check for slippage of the coupling during the test.
5. Fill each hose line with water and make sure the bale/control device is open and elevated during filling process. Exhaust all air from each line by permitting normal water to flow.
6. After all air has been expelled, close the bale/control device.
7. Confirm no water is leaking from the couplings.
8. **Slowly increase pump pressure on the apparatus to desired testing pressure (200psi max). Close valves to hose lines which are being charged for the test and shut down engine**
9. Observe any signs of failures. If any sign of fire hose failure remove that section of hose and start the test over for the remaining hose.
10. The test pressure should be held for five minutes.
11. If no leaks appear after the five minutes the hose has passed and the test is concluded.
12. Drain and allow hose to dry prior to loading on fire apparatus or rolling and placing back on the hose rack.

***All hose failing the physical examination, bursting, leaking, or having coupling fail because of slippage or leakage shall be tagged with the problem and placed out of service in Firehouse.**

4.2.4 Documentation:

All hose which is tested will be documented on the fire hose paper logs. It will be the responsibility of the testing Captain to enter the hose testing into Firehouse. Once the testing is completed and logged into Firehouse the paper logs will be forwarded to the Fire Hose Coordinator.

4.2.5 Hose Numbering and Stenciling:

1. Each piece of Fire hose shall have a number for identification used in inventory and control referred as "Inventory Control Number or ICN". Except for single jacket fire hose.
2. Fire hose shall be stenciled with permanent stencil ink. The stencil will be applied at Minimum every 3 years or when required before. The Stenciling will be noted in Firehouse when completed under the required code.
3. The stenciling terms / reference
 - a. 1.5" hose is ECF 15.
 - b. 1.75: hose is ECF 17.
 - c. 2.5" hose is ECF 25.
 - d. 3" hose is ECF 30.
 - e. 5" Hose is ECF 50.
4. Hose stenciled after 2016 the numbers following the diameter reference number mean the following.
 - a. First two numbers denote the year
 - i. ECF17.**16**01 (the 16 stands for 2016)
 - b. Second two numbers denote the sequence of hose
 - i. ECF17.16**01** (the 01 stands identification of 1-99 of a lot purchased)