

Routine Operations

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| Book: | 2 – Routine Operations |
| Chapter | III Equipment Operations |
| Subject | 5 – Hose Maintenance |
| Code | 2-III-5 |
| Revised | 6/05/2003 |

5.01 Purpose

To establish policy and guidelines related to care, maintenance and testing of fire hose.

5.02 Policy

- A. Fire hose shall be maintained according to manufacturer’s recommendations and Jersey Village Emergency Services guidelines.
- B. All hose shall be thoroughly cleaned after use.
- C. All hose shall be thoroughly dried before placing in storage.
- D. If during use, hose has been exposed to hazardous materials, it shall be decontaminated by the method approved for the contaminate.
- E. All attack hose, supply hose, and booster hose shall be tested annually.
- F. All hose repaired or recoupled shall be service tested before being placing back in service.
- G. All new hose shall be service tested prior to being placed in service.
- H. All hose will be tested to NFPA 1962 (Standard for the Care, Use, and Service Testing of Fire Hose Including Couplings and Nozzles)
- I. Records shall be kept on each piece of hose used and owned by Jersey Village Emergency Services.
- J. All hose shall be tested during the month of June.

5.03 Responsibility

- A. It shall be the responsibility of the Assistant Chief of Suppression to see that all hose is maintained and tested in accordance with this policy.
- B. The Maintenance Officer shall be responsible for having hose repaired.
- C. All employees and members shall insure that proper care and procedures are utilized during the maintenance, testing and use of fire hose.
- D. It shall be the responsibility of the Administrative Secretary to the Fire Chief to record the results of all hose tests.

5.04 Care of Fire Hose

- A. Cleaning 1’, 1 ½”, 1 ¾”, 2 ½”, and 3” Hose
 - 1. Attach the portable hose washer to an available hydrant.
 - 2. Open the hydrant fully.

3. Feed the hose into the washer slowly, maintaining enough backpressure for the washer to clean the hose.
4. If necessary the hose may be run through the washer as many times as needed to thoroughly clean it.

B. Cleaning 4" Hose

1. Use plain water.
2. A stiff brush or broom may be used to scrub the hose.
3. A mild soap solution may be used if necessary.
4. Rinse hose thoroughly with clear water.

E. Drying Hose

1. Hose shall be coiled or snaked on the station apparatus room floor in such a manner to promote rapid drying (on edge with sides not touching).
2. Hose shall not be dried in direct sunlight
3. Care should be used in the placement of hose for drying so that it does not hinder the response to alarms or create a trip hazard.

F. Storing Hose

1. Hose shall be fully dry before storing.
2. Hose shall be stored in a roll with the male coupling inside.
3. Hose in storage shall be kept out of direct sunlight and in a well-ventilated location.
4. Hose shall be stored in the area designed for that purpose.

5.05 Hose Records

Each length of hose shall be assigned an identification number for use in recording its history throughout its service life. The identification number shall be stenciled on the jacket at each end in ink or paint.

The identification number shall consist of a five-digit number. The first two digits being the year the hose was purchased, the third place digit representing the size of the hose, (1 ½" and 1 ¾" – 1, 2 ½" – 2, 3" – 3, 4" – 4) with the fourth and fifth place digits being a consecutive number.

Example: The first section of 2 ½" hose purchased in 2003 would be numbered 03201

An inventory record shall be kept on file for each length of hose; the record shall have the following information included:

1. Assigned identification number
2. Manufacture
3. Vendor
4. Size (internal diameter)
5. Length
6. Type of hose
7. Construction
8. Date received and date put in service
9. The date of each service test and the service test pressure.
10. Repairs
11. Date and reason for removed from service

12. Method of destroying

Forestry hose shall not be inventoried or identified, but may be marked with JVES
Forestry hose shall not be service tested.

5.06 Apparatus Hose Inventory Record

Each apparatus that carries hose shall have a Hose Inventory Book. The book shall be divided into sections, according to hose diameter. The identification numbers for the hose currently loaded on that apparatus shall be recorded in the proper section of the book.

5.07 Service Test Pressure

Warning: Service testing of hose is undertaken to confirm its suitability for continued use. Because there is a potential for catastrophic failure during these tests, it is vital that adequate safety precautions be taken.

The service test pressure for hose manufactured prior to July 1987 shall be as follows:

1 ½" 1 ¾" --- 250 psi

2 ½" --- 250 psi

3" ----- 250 psi

4" supply hose --- 200 psi

The service test pressure for hose manufactured after July 1987 shall be the pressure stenciled on each length of hose and reads "Service Test to.... psi per NFPA 1962".

Booster hose shall be service tested to 200 psi.

5.08 Hose Inspection Prior to Service Test

Prior to testing, each section of hose shall be inspected for evidence of mildew, rot, and damage by chemicals, burns, cuts, or abrasions.

Couplings shall be kept in serviceable condition. Prior to each hose service test, they shall be visually inspected for the following:

1. Damaged threads
2. Corrosion
3. Slippage on the hose
4. Out of round
5. Swivel not rotating freely
6. Missing lugs
7. Internal gasket
8. Other defects that impair operation

The thread gasket in couplings shall be inspected for presence, tight fit, and lack of deterioration. If defective, it shall be replaced with a new gasket.

5.09 Service Test Procedure

Each length of hose to be tested simultaneously shall be of the same service test pressure and, collectively, shall be considered the “hose test layout”. The total length of any hose line in the hose test layout to be service tested shall not exceed 300 ft. The hose test layout shall be straight, without kinks or twists.

Connect a 1-½” hose from a water supply to the 1 ½” female fitting on the inlet side of the hose-testing machine.

The hose test layout shall be connected to the outlet side of the hose-testing machine. A test cap with a bleeder valve shall be attached to the far end of each hose line in the test layout. If a test cap valve is not available, a nozzle may be used.

Turn on the water supply at the source. Open the “Manifold Control Valve”; the hose should begin to fill.

After the hose test layout is full of water, all air in each hose line shall be exhausted by raising the discharge end of each hose line above the highest point in the system. The test cap valve or nozzle shall then be closed slowly.

After all air has been exhausted from the hose test layout, close the “Manifold Control Valve”. **CAUTION:** Do not shut off the water supply, as the pump requires additional water for pressurizing the hose.

Open the ¼” turn valve located between the pump and the manifold. Turn on the pump switch to begin pressurizing the hose.

Gradually raise pressure to approximately 45 psi, turn off pump and check hose test layout for leaks. All leaks must be stopped, tighten coupling with a spanner wrench if necessary to stop leaking. The hose shall be marked at each coupling with a black marker as shown in fig.1 to check for slippage or twisting after the test.

The test pressure is regulated by the black knob located adjacent to the pump, turn the knob clockwise to increase the pressure and counter clockwise to decrease the pressure.

Turn the pump switch on and adjust the regulator to the desired test pressure. Allow the test hose layout to stabilize at the test pressure for not less than three minutes before turning off the pump. Once the hose has stabilized you may turn off the pump switch and begin the test.

After the stabilization period, the hose layout shall hold the service test pressure for three (3) minutes without further pressure boosts

While the hose test layout is at service test pressure, it shall be inspected for leaks. If the inspecting personnel walk the test layout to inspect for leaks, they shall be at least 15 ft.

to the left side of the nearest hose line in the test layout. The left side of the hose line shall be defined as that side that is to the left when facing the free end of the hose.

If hose test layout does not hold the service test pressure for the 3-minute duration, the service test shall be terminated and the length(s) of hose that leaked shall have failed the test. The test layout shall be drained and the defective hose removed from the test layout. The service test shall be restarted.

After 3 minutes at service test pressure, each test cap or nozzle shall be opened to drain the test layout

The marks placed on the hose at each coupling shall be observed for coupling slippage. If the coupling has slipped, the hose shall have failed the test.

5.10 Damaged or Failed Hose

Damaged hose or hose that failed a service test shall be removed from service and placed in the maintenance room.

Hose shall be tagged, and a description of the problem shall be indicated on the tag.

The maintenance officer shall handle the repair of all hose.



Fig. 1

Reference: NFPA 1962 (Standard for the Care, Use, and Service Testing of Fire Hose Including Couplings and Nozzles)