TOPIC #19 FIRE HOSE TESTING

Hose testing is done to assure that hose, intended for emergency use, will be serviceable and ready when needed. Hose testing also allows for the removal of sections that are determined to be unfit for service. Hose is tested annually in September and all reports are submitted on October 1st.

Prior to testing, officers should review the testing procedures with all members involved, to ensure safety during the evolution. The testing of hose possesses its own possible dangers, so proper safety practices must be followed. During testing, hose lines are placed under high pressure and may rupture. Ruptured lines can whip uncontrollably and cause property damage or injury to personnel. Air trapped in hose lines can cause a rupture to occur more rapidly and with more severity. You must realize and be prepared for these types of inherent dangers.

Testing 5" hose (LDH):

The first step in testing hose is to spot the apparatus in an area that will reduce the possibility of property damage. Secure a supply of water. The supply may be a hydrant or a hose into the booster tank. Charge the supply line if a hydrant is used.

Next:

1. Choose a short section of LDH to be tested first.
2. Attach the section to a discharge on the side opposite the pump controls.
3. Lay the line straight out from the apparatus.
4. Attach a length of rope or a hose strap to the LDH section, approximately 15” From the apparatus discharge and anchor it to the apparatus.
5. Connect the Stortz 3-way wye to the other end of the section(s) to be tested.
6. Slightly* open the center valve on the wye. (Estimate a garden hose size stream)
7. Mark both ends of the section(s) to be tested as close to the couplings as possible with a piece of chalk.
8. Engage the pumps. (Do not throttle up)
9. Slightly* open the discharge to the section(s) of hose. (Estimate a garden hose size stream)

10. Allow all the air in the section(s) to bleed through the open wye valve, then close the valve.

11. Position all personnel clear of the hose being tested, but ensure that visual contact is maintained, so the FAO can be informed to shut down in case of hose failure.

12. Throttle the engine up slowly to **200** psi., and maintain this pressure for five minutes. Have a member walk along side the section(s) of hose being tested, to observe for leaks or rupture. (***Do not straddle the hose***) When the five minutes is up, or if a problem is observed, have the FAO throttle down, close the discharge and open the drain to release the pressure.

- The principle of only opening the gates of the wye and the discharge enough to allow just a slight flow will prevent large volume flow at high pressure if a rupture should occur.

13. Record the serial number of the section(s) and the results of the test.

14. If the initial section is defective, record your findings and choose another section of LDH and begin again at step #2. If the section passes the test, it will be used for testing additional sections of hose.

15. Remove the Stortz 3-way wye.

16. Attach up to 300' of LDH to the anchored section on the apparatus. The amount of hose to be tested at one time will be limited to the amount of available space that can be safely used. Avoid creating sharp bends or kinks in the hose while it is being tested. Hose being tested must remain to the rear of the apparatus or on the side opposite the pump controls. If the FAO can not maintain visual contact with all sections being tested, other members must be positioned so that all sections are being observed.

17. Attach the Stortz 3-way wye to the end of the section or sections to be tested and proceed to steps #6 through #13.

Testing 1-3/4" or 2-1/2" hose;

The first step in testing hose is to spot the apparatus in an area that will reduce the possibility of property damage. Secure a supply of water.

The supply may be a hydrant or a hose into the booster tank. Charge the supply.

Next:

1. Choose a section of 2-1 /2" hose to be tested first.

2. Attach the section to a discharge on the side opposite the pump controls.

3. Lay the line straight out from the apparatus.

4. Attach a length of rope or a hose strap to the 2-1/2" section, approximately 15" from the apparatus discharge and anchor it to the apparatus.

5. Connect a gated wye to the other end of the section(s) to be tested.

6. Slightly* open one of the valves on the wye. (Estimate a garden hose size stream)

7. Mark both ends of the section(s) to be tested, as close to the couplings as possible, with a piece of chalk.

8. Engage the pumps. (Do not throttle up)

9. Slightly* open the discharge to the section(s) of hose. (Estimate a garden hose size stream)

10. Allow all of the air in the section(s) to bleed through the open wye valve, then close the valve.

11. Position all personnel clear of the hose being tested, but ensure that visual contact is maintained, so the FAO can be informed to shut down in case of hose failure.

    - The principle of only opening the gates of the wye and the discharge enough to allow just a slight flow will prevent large volume flow at high pressure if a rupture should occur during testing.

12. Throttle the engine up slowly to **300** psi., and maintain this pressure for five minutes. Have a member walk along side the section(s) of hose being tested, to observe for leaks or rupture. (***Do not stradle the hose***.) When the five minutes is up, or if a problem is observed, have the FAO throttle down, close the discharge and open the drain to release the pressure.

13. Record the serial number of the section and the results of the test.

14. If the initial section is defective, record your findings and choose another section of 2-1/2" hose and begin again at step #2. If the section passes the test, it will be used for testing additional sections of hose.

15. Slightly* open one of the valves on the wye. (Estimate a garden hose size stream)

16. Engage the pumps. (Do not throttle up)

17. Slightly* open the discharge to the section of hose. (Estimate a garden hose size stream)

18. Allow all the air in the section(s) to bleed through the open wye valve, then close the valve.

19. Attach up to 300' of 1-3/4" or 2-1/2" hose to each of the discharges on the wye. The amount of hose to be tested at one time will be limited to the amount of available space that can be safely used. Avoid creating sharp bends or kinks in the hose while it is being tested. Hose being tested must remain to the rear of the apparatus or on the side opposite the pump controls. Since the FAO can not maintain visual contact with all sections being tested, other members must be positioned so that all sections are being observed.

20. Mark both ends of the 1-3/4" or 2-l/2"section(s) to be tested, as close to the couplings as possible, with a piece of chalk.

21. Attach a nozzle equipped with a shut-off, to the end of each line to be tested.

22. Two members will man the nozzle at the end of one of the lines to be tested. One member will slightly open the shut-off. A member will slightly open the corresponding valve on the wye. The team will allow all of the air to bleed from the line and then they will close the shut-off at the end of the line, but the valve at the wye will remain slightly opened (not fully opened). Repeat this step until air is removed from both of the lines.

23. Throttle the engine up slowly to **300** psi., and maintain this pressure for five minutes. Have a member walk along side the section(s) of hose being tested, to observe for leaks or rupture. (***Do not straddle the hose***.) If a problem is observed, have the FAO throttle down, close the discharge and open the discharge drain to release the pressure. If, at the end of the five minute test period, no problem is noted, proceed to step #24.

24. The FAO will throttle down, members will close both of the valves on the wye. Two members will begin opening the nozzles at the end of each line, one at a time, slowly, to release the pressure.

25. Record the serial number of the section(s) and the results of the test.

26. Repeat the previous steps, until all hose is tested.

- The principle of only opening the gates of the wye and the discharge enough to allow just a slight flow will prevent large volume flow at high pressure if a rupture should occur.

REPORTING OF TESTED HOSE:

If a defect is found in a section of hose during testing, clearly mark the defect with a chalk mark and by tying a piece of string around the hose at the defect. Hang damaged hose to dry. Prepare a Form 35 for the damaged hose. When the hose is dry, roll the hose and attach the Form 35 to it. Notify the District Chief that the section is ready for pick-up. Be sure that all information on defective hose is properly entered into the Company Diary.