

2019 Hose Testing Procedures CHEAT SHEET
USING A HOSE TESTING MACHINE
If necessary, see NFPA 1962 (2018 Edition) for additional details

- All personnel review procedures before starting.
- Before hose is pressurized, all personnel participating in hose testing must be wearing a helmet and eye protection.
- Personnel must remain behind (on the intake side) the hose testing machine or 15' from hose while it is under pressure.

HOSE TO BE TESTED

- All fire hose shall be pressure tested annually (4.1.2)
- Hose **manufactured prior to July 1987** shall be removed from service (4.8.1)

HOSE TESTING MACHINE INSPECTION PRIOR TO EVERY USE (4.8.5.1.3 – 4.8.5.1.5)

- Check for brass ring indicating calibration in current year
- Visually inspect machine
- Cap the discharges
- Pressurize to 440psi
- Turn off pump
- Hold pressure for 3 minutes
- If there leaks between the pump and the discharges, the testing machine needs to be retuned to Small Tools for repair.

SERVICE TEST PRESSURE (4.8.2)

- Attack hose (1" to 2 1/2") should be tested to the Service Test Pressure marked on the hose jacket. If no marking can be read, test to 300psi. (4.8.2.1)
- Supply hose, (3" to 6"), should be tested to the Service Test Pressure marked on the hose jacket. If no marking can be read, test to 200psi. (4.8.2.2)

VISUAL INSPECTION (4.5)

- Inspect all couplings to ensure that gaskets are in place, female swivels rotate freely, and there are no signs of coupling slippage
- Inspect hose for jacket tears, burn spots, cuts, severe abrasion, mildew, rot, unusual lumps, bulges, delamination of the lining, or twists (4.5.4 and 4.8.4.2)
- Any hose showing unusual wear or signs of coupling slippage shall be removed from service (7.1.3)
- Rewrite the serial number with a paint pen along the length of hose where needed
- Record the details of each hose section

TEST LAYOUT

- The maximum length for hose service test layout is 300 feet (4.8.4.4)
- Hose to be tested must lie flat, straight, and level as possible
- Connections should be hand tight
- If available, a test cap with a bleeder valve shall be used at the end of the hose layout. A nozzle with a non-twist shutoff may be used as a substitute.
- To bleed air, the nozzle end should be raised slightly above the highest point in the layout (4.8.5.2.4)
- Secure the free end of the layout to prevent whipping or uncontrolled movement of the hose if it bursts (4.8.5.2.7)

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PRESSURE TEST (4.8.5 Hose testing machine)

- Ensure that the nozzle is closed.
- The proper gate shall be "cracked" open to fill the hose to a maximum of 50 psi
- Open the nozzle or bleeder valve until all air is expelled (4.8.5.2.4)
- Visually inspect the test layout for any signs of leaks, bulging, or coupling slippage
- If leaks are detected,
 - Tighten the coupling once by using spanner wrenches
 - If the leak continues, the gasket will be replaced
 - If the coupling continues to leak, the affected section of hose has failed
- Circle each coupling with chalk or felt pen where the jacket meets the coupling shank, so slippage can be detected after testing
- **The hose testing machine operator must be wearing a helmet and eye protection**
- **The operator should always approach the machine from the rear (the intake side)**
- Once all personnel have donned helmets and eye protection, the engine can be started
- Slowly increase the pump pressure to the service test pressure (not more than 15psi per second)
- Allow to pressure to stabilize up to 1 minute per 100' of hose in the layout, boosting pressure as necessary to maintain test pressure
- Close the discharge gate(s) and **shut off the pump**
- Maintain the service test pressure for three (3) minutes
- Inspect the hose for leaks while under pressure – ***remain at least 15 feet away from the hose layout while inspecting the hose.***
- If leaks appear, or suspicion develops that hose may be approaching failure, discontinue the test, remove the section, then restart the test from the beginning
- After 3 minutes at the service test pressure, without leaks or loss of pressure, ensure the pump is off, open the nozzle or valve to release the pressure.

FAILURE POINTS (Remove from service, manage as noted below) (4.8.4.10)

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|------------------------------|------------------------------|
| • Manufactured prior to 1987 | • Bulges |
| • Jacket tears | • Chemical damage |
| • Burn spots | • Delamination of the lining |
| • Cuts | • Twists |
| • Severe abrasion | • Unusual wear |
| • Mildew | • Signs of coupling slippage |
| • Rot | • Leak under pressure |
| • Unusual lumps | |

MANAGEMENT OF OUT OF SERVICE HOSE

- Place a knot in out of service hose (if possible)
- Note on the hose testing log how the hose failed, as well as on a tag attached to the hose
- When appropriate (cuts, leaks, other damage), mark directly on the jacket to identify the location of the failure
- Set failed sections aside in the designated area for out of service hose.
- The Station Commander or designee will arrange to return out-of-service hose to the Small Tools for repair or disposal