

March 2011 Safety Meeting

Leak Check

Over the years, the pressure test and leak check have been confused with each other. A leak check is required after the gas is turned on to a new system or to a system that has been initially restored after an interruption of service (interruption of service was added to NFPA 54 in the 1999 edition). A leak check is generally understood to be an operation performed on a new or existing LP-gas system being placed back in service and should include all regulators, including appliance regulators, and control valves in the system. This check will prove the integrity of 100 percent pilot shutoff of each gas valve so equipped.

The codes for leak checks are found in Chapter 4.2 in the 1999 edition of NFPA 54. The suggested methods for checking for leakage are found in Appendix D. APGA suggests that companies use and train on Appendix D or have company specific written procedures (standard operating procedures).

Below are suggested methods for checks:

The purpose of these procedures is to set forth general safety practices for the installation, operation, and maintenance of LP-gas equipment. It is not intended to be an exhaustive treatment of the subject, and should not be interpreted as precluding other procedures which would enhance safe LP-gas operations. Issuance of these procedures is not intended to nor should they be construed as an undertaking to perform services on behalf of any party either for their protection or for the protection of third parties. The Alabama Propane Gas Association assumes no liability for reliance on these procedures. Members of the Alabama Propane Gas Association are not required to use this document.

- Shut off gas at container.
- Ensure that appliance equipment shutoff valves are open allowing gas to flow to the appliance controls.
- The equipment shutoff valve shall be placed in the **on** position for appliances equipped with a 100% pilot shutoff valve. Appliances not equipped with a 100% pilot shutoff valve and all manual gas valves not equipped with safety shutoff systems shall be placed in the **off** position prior to the leak check.
- Determine gauging device (high pressure block test, low pressure gauge/manometer, or 30 psi pressure gauge).
- If using the **high pressure block test**, insert or attach the pressure gauge between the container shutoff valve and the first regulator in the system.
 - Open the container shutoff valve to admit full container pressure to the system.
 - Close the container shutoff valve.
 - Release enough pressure so that the system pressure is lowered by 10 psi.
- If using a **low pressure (ounce) gauge or a water manometer**, insert or attach the device into the system downstream of the final system regulator.
 - Open the container shutoff valve to admit full container pressure to the system.
 - Close the container shutoff valve.
 - Release enough pressure from the system to drop the system pressure to 9 in. w.c. +or – ½ in. w.c.

- If using a **30 psi pressure gauge**, insert or attach the device into the system downstream of the first stage regulator.
 - Open the container shutoff valve to admit normal operating pressure to the system.
 - Close the container shutoff valve.
 - Release enough pressure from the system to lower the pressure gauge reading by 5 psi.
- Allow the system to stand for a minimum of 3 minutes without showing an increase or a decrease in the pressure gauge reading.
- If a pressure drop on the gauge is noted, the source of the leak shall be determined and repaired and the leak check must be repeated.
- If a pressure increase on the gauge is noted, the container shutoff valve is leaking. You must repair the leak (repair or replace the valve) and repeat the leak check.
- Upon completion of a successful leak check, record in writing on a service order or company approved document the beginning and ending pressure as well as the amount of time pressure was held. If a leak is detected, document the exact location in the system.
- After properly documenting a successful leak check, it is the responsibility of the technician to light all pilot lights on the gas burning appliances and ensure that main burners are properly adjusted.

Class Discussion

Your company may have standard operating procedures that are more stringent than these suggested methods. If so, always follow your company policy.

Closing

The leak check is a vital operation to ensure the gas system is leak free. We still have unnecessary incidents with disastrous results caused by propane employees failing to do a leak check. **Never** omit a leak check.

March 2011 Test

Leak Check

Name: _____

Date: _____

Instructions: Read and answer each of the following questions. When complete, grade the test and review incorrect answers so each employee is “armed” with the correct answers before they leave the training.

1. A leak check is the same as a pressure test.
 - a). True
 - b). False

2. Leak checks are required when:
 - a). You need to perform a pressure test
 - b). A gas system is restored after an interruption of service
 - c). You fill a cylinder at a commercial filling station
 - d). The regulator is not functioning properly

3. When performing a leak check walk-through, make sure that all 100% safety shutoff valves are in the on position.
 - a). True
 - b). False

4. When leak checking a propane distribution system, if the pressure remains constant for a minimum of _____ it is determined to be gas tight.
 - a). 1 minute
 - b). 2 minutes
 - c). 3 minutes
 - d). 1 hour

5. While performing a leak check with a block gauge you observe a rise in pressure:
 - a). There is a leak in the system
 - b). The block gauge is working improperly
 - c). As long as the pressure does not drop, continue with the check
 - d). The service valve is leaking through

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Answers

1. B
2. B
3. A
4. C
5. D