

Name _____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

1) How does a Hydro-Boost system function?

2) How is vacuum used to assist in applying the brakes?

3) What is the purpose and function of the one-way check valve used on vacuum brake booster units?

4) Describe how to perform a vacuum booster leak test and hydraulic system leak test.

5) What is the difference between vacuum and pressure?

Answer Key

Testname: SHORT 109

- 1) The hydro-boost system uses hydraulic pressure from the power steering pump to provide an assist for the driver.
Page Ref: 1302
- 2) Vacuum is the absence of air pressure. Vacuum is applied to both sides of a rubber diaphragm inside the vacuum booster assembly. When the driver depresses the brake pedal, outside air at full atmospheric pressure enters the backside of the booster. The air pressure "pushes" on the rubber diaphragm that is attached to a rod that pushes on the primary piston of the master cylinder. The air pressure increases the force exerted on the master cylinder resulting in decreased effort by the driver of the vehicle.
Page Ref: 1295
- 3) The purpose and function of the one-way check valve on the vacuum booster supply line is to prevent a loss of vacuum in the booster assembly when the engine is off. A spring-loaded check valve assures that the unit is sealed when the engine is stopped and is no longer producing vacuum.
Page Ref: 1296
- 4) The vacuum booster leak test is performed to test if the booster can hold vacuum. Start and run the engine, then stop the engine and wait one minute. Depress the brake pedal several times. A good booster should be able to supply two or more power-assisted stops. The hydraulic system leak test is performed to check the hydraulic system for leaks. After depressing the brake pedal several times, depress and hold the brake pedal. If the brake pedal falls, the hydraulic brake system is leaking.
Page Ref: 1299
- 5) The term vacuum is used to refer to any pressure lower than atmospheric pressure. Atmospheric pressure varies with altitude, but is approximately 14.7 pounds per square inch (PSI) at sea level.
Page Ref: 1294