Disclaimer: This is an abbreviated curriculum of the air brake systems, and should not be used without the instruction of a certified CDL instructor. For more information about specific air brake parts, please refer to the manufacture's manual.

Powered by the vehicle's engine (gear driven), the air compressor builds the air pressure for the air brake system. The air compressor is typically cooled by the engine coolant system and lubricated by the engine oil supply. If the air compressor has its own oil supply, it is the responsibility of the driver to check and fill the level of the oil before driving. Some air compressors may be belt driven, in which case the driver should inspect the condition of the belt.

Because the air compressor is the charging system for your entire braking system, it is critical that a driver accurately inspect the function and condition of their vehicle's air compressor.

To ensure that an air compressor is properly charging, a driver will perform a function test, also known as the Air Recovery Test and Condition test, done visually by the driver. Please keep in mind this test is not part of the five (5) air brake tests performed at the road exam, but is a crucial test for all drivers to perform on their vehicle's air compressor when completing their Pre-Trip Inspection (PTI) during a driving shift.

Function Test

For the air recovery test, the air compressors will be timed for its capability of pumping air into the system.

For this test, a driver will reduce air tank pressure to 80 PSI by fanning the brake pedal (engine will remain on).

The driver will now watch the primary air supply gauge and time the needle movement from 85 PSI – 100PSI. A good working air compressor should build air pressure from 85PSI – 100PSI within 45 seconds.

If the driver validates that the needle has moved from 85 PSI – 100 PSI within 45 seconds, the function test was successful.
With a successful function test, the driver knows that the vehicle's compressor is properly functioning and the air compressor can keep up with normal air brake applications during driving and replenish the air system when needed.

**Condition Test**

The driver should also perform a visual inspection of the air compressor, also known as the condition test.

This test is ensuring that a **gear driven air compressor** is:

- Securely mounted
- Not cracked or leaking
- Hoses are not cracked or leaking and;
- all fittings are securely connected

Inspection Tip: Most if not all air compressors are mounted on the driver's side of the engine.

Upon completing the inspection of the air compressor, the air governor should then be inspected. This is the unit in the air brake system which will control when the air compressor turns on and off, also known as the Cut-Out and Cut-In.