

## **In-Cab Air Brake Check**

**NOTE:** All items marked with an asterisk (\*) are critical parts of the in-cab air brake test and must be demonstrated during DMV testing. They may be performed in any order. If these items are not performed correctly, it is considered an automatic failure of the pre-trip test. Park vehicle in such a way it will not roll during brake tests (chuck tire, park level or against a curb or parking block).

### **Test air leakage rates**

\* With a fully-charged air system (typically 125 p.s.i.), turn off the engine, release the service and parking brake and let the system settle for a few moments. Time the air pressure drop. The loss rate should not be greater than:

— 2 p.s.i. or less in one minute for single.

If the loss is too much, check for air leaks and fix.

\* With roughly a fully charged air system (typically 100-125 p.s.i.), and the engine off. Release **all** brakes and allow the system to settle for a few moments. Then apply full steady pressure to the service brake pedal and hold. After the system settles again, the air loss should not be more than:

— 3 p.s.i. or less in one minute.

If the air loss is too great, check with the mechanics. For testing purposes, identify if the air loss rate is too much.

**\*Check air compressor governor cut-in pressure.** Start with the air pressure above the governor cut-in level (no lower than 85 p.s.i.). With the engine idling, slowly pump the brake pedal to reduce the air tank pressure. Watch the air gauge between pumps to identify when the compressor cuts in (needle starts to rise). This should be at about the manufacturer's specified cut-in pressure. If the air governor does not work as described, it may not keep enough air pressure for safe driving. For testing purposes, identify when the compressor cuts in.

**NOTE:** To perform this test correctly, the compressor cannot already be pumping air. If it is, allow the governor to cut-out before performing this test.

**\*Check air compressor governor cut-out pressure.** Pumping should start at about 100 p.s.i. and stop at about 125 p.s.i. (130 p.s.i. maximum). Run the engine at a fast idle. The air governor should cut-out the air compressor at about the manufacturer's specified pressure. The air pressure shown by your gauge(s) will stop rising. For testing purposes, identify when the compressor cuts out.

**Test parking brake.** Fasten your seat belt. Set the parking brake and try to move the vehicle or allow the vehicle to move forward slowly and apply the brake. The parking brake should not allow any movement.

**\*Test low pressure warning signal.** May be performed with engine on or off. To perform the test with the engine off, turn the electrical power on and have enough air pressure to keep the low air pressure warning signal from coming on. Slowly pump the brake pedal to reduce air tank pressure. The low air pressure warning signal must come on before the pressure drops to less than 60 p.s.i. in the air tank (or tank with the lowest air pressure, in dual air systems). For testing purposes, identify when the warning signal activates.

If the warning signal does not work, you could lose air pressure and not know it. This could cause sudden emergency braking in a single circuit air system. In dual systems the stopping distance will be increased. Only limited braking can be done before the spring brakes come on.

**Check rate of air pressure buildup.** With the engine at operating rpms, the pressure should build from 85 to 100 p.s.i. within 45 seconds in dual air systems. If the vehicle has larger than minimum air tanks, the buildup time can be longer and still be safe. Check the manufacturer's specifications. If air pressure does not build up fast enough, the pressure may drop too low during driving, requiring an emergency stop.

**Test service brakes.** Wait for normal air pressure, release the parking brake, move the vehicle forward slowly (about 5 mph), and apply the brakes firmly using the brake pedal. Any pulling to one side, unusual feel, or delayed stopping action should be checked.