

**Warren County ESC  
320 E. Silver Street  
Lebanon, OH 45036  
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## **CLASS B PRE-TRIP VEHICLE INSPECTION**

A vehicle inspection test evaluates your ability to inspect important parts of a commercial vehicle. You will be asked to correctly identify and inspect vehicle components to ensure that the vehicle is in safe operating condition.

A pre-trip inspection should be done the same way each time so you will learn all the steps and be less likely to forget something. The following information outlines a recommended format and the knowledge needed to take a vehicle inspection test.

The vehicle inspection consists of checking:

1. Vehicle lights
2. Components in the engine compartment
3. External components
4. In cab equipment and gauges.

The vehicle components are listed in an order that may be the most logical to follow as you make an inspection. Your vehicle may not have all the components listed. Inspect the components that your vehicle has.

### **VEHICLE OVERVIEW**

Check the parking brakes are set/or wheels chocked.

As you approach the vehicle, notice its general condition. Look for damage or if the vehicle is leaning to one side. Look under the vehicle for fresh oil, coolant, grease, or fuel leaks. Check area around vehicle for hazards to vehicle movement such as people, other vehicles, objects, low hanging wire, or limbs, etc.

## **VEHICLE LIGHTS**

### **LIGHTS AND REFLECTORS AND STUDENT LIGHTS**

- **LIGHTS**

Check all lights including headlights (high and low beam), tail lights, turn signals, 4-way flashers, brake lights, and clearance lights to make sure they function properly and are clean, not broken or missing and are the proper color. (Amber and Red). Strobe light, stop arm light, and amber and red student lights.

- **REFLECTORS**

Check the reflectors to make sure that they are clean, not missing or broken and are of proper color (red on rear, amber elsewhere).

If asking for assistance, the driver is responsible for telling exactly which lights s/he wants help in checking.

## **ENGINE COMPARTMENT**

- **LEAKS/HOSES**

Check for signs of dripping fluids on the ground under the engine or on the underside of the engine. Inspect hoses for excessive wear, cracks, or leaks.

- **COOLANT LEVEL**

Check sight glass of reservoir or say that you would remove the radiator cap to check the coolant level. Adequate level will show in sight glass or be visible in the radiator when the cap is removed.

- **WATER PUMP**

Check for leaks, not loose and mounted securely.

\*Note: Inspects correct belt, (may not be belt driven).

- **ALTERNATOR**

Mounted securely, wires are securely fastened.

\*Note: Alternator may not be belt driven. Inspects correct belt.

- **AIR COMPRESSOR**

Check to be sure it is mounted securely, is not leaking.

\*Note: Inspects correct belt.

(May inspect the belt, gear, or compressor for credit.)

- **OIL LEVEL**

With the engine off, check that oil level is above the refill mark; therefore, is within safe operating range.

- **ENGINE COMPARTMENT BELTS**

Check the following belts for wear, frays, or cracks. Push the belts with your hand. If they deflect more than  $\frac{1}{2}$  to  $\frac{3}{4}$  inch, slippage is probably excessive:

- Water Pump Belt
- Alternator Belt
- Air Compressor Belt
- Power Steering Belt

*NOTE: If any of these components listed above are not belt driven, you must tell the examiner which component(s) are not belt driven. Mention that unit appears to be functioning properly and is not leaking.*

**\* (The driver must know if the component is belt driven or gear driven.)**

- **POWER STEERING FLUID**

With engine off, check that fluid level is above refill mark.

Checks the dipstick and sees where the fluid level is relative to the refill mark or checks sight glass.

- **HYDRAULIC BRAKE FLUID**

Explain how to check, if needed.

## **EXTERNAL INSPECTION**

### **STEERING**

- **STEERING BOX/HOSES**

Make sure the box is securely mounted and not leaking with no loose or missing nuts, bolts. Power steering hoses have no damage or fluid leaks.

- **STEERING LINKAGE**

Check connecting links, arms, and rods for wear and cracks. Joints and sockets are not worn or loose with no missing nuts, bolts, or cotter pins.

### **SUSPENSION**

- **SPRINGS/AIR BAGS/SHOCKS**

Check for missing, shifted cracked, or broken leaf springs.  
Broken or distorted coil springs.  
Air Bags not damaged, no leaks.  
Shocks securely bolted and not leaking.

- **SPRING/AIR MOUNTS AND TORQUE ARM**

Brackets, bolts, bushings are in place.  
Spring hangers not cracked or broken.  
Bushings not missing or damaged.  
Air Bag mounts in place, no damage.  
If equipped, torsion bars, torque arms, or other types of suspension components are mounted securely and not damaged.

- **U-BOLTS**

No broken, loose, or missing bolts. (Including U-Bolts.)

### **BRAKES**

- **BRAKE HOSES/LINES**

Check for cracked, worn, frayed, or leaking hoses and secured couplings.

- **BRAKE CHAMBERS**

Check for cracks or dents, securely mounted and not leaking.  
No loose or missing clamps.

## **SLACK ADJUSTER/Push Rod**

Slack Adjuster is securely mounted. Check slack adjuster and pushrod for bent, broken, loose or missing parts. With brakes released and pulled by hand pushrod should not move more than **one** inch.

- **BRAKE DRUMS/LININGS/ROTORS/DISKS**

Drums or Rotors: Check for cracks, dents, or holes, no loose or missing bolts. (NOTE: If you cannot check drums and linings because dust covers are present, tell the examiner what you would look for.)

Brake linings or disk pads not worn dangerously thin. Check drums and linings for oil or grease.

## **WHEELS**

- **WHEEL RIMS**

Check for cracked, bent, or weld repairs on rim. No rust trails that may indicate rim is loose on wheel.

- **LUG NUTS**

Check that all lug nuts are present and not loose. No cracks or distortions of the bolt holes. (Rust trails around nuts.)

- **HUB OIL SEAL/AXLE SEAL**

Check that seal is not leaking and no cracks or distortions in wheel/axle mounting. (If sight glass is present check that oil level is adequate.)

- **TIRES**

The following items must be inspected on every tire:

- Tread Depth: Check for minimum tread depth (4/32 on steering axle tires, 2/32 on all other tires).
- Tire Condition: Look for cuts or other damage to tread or sidewalls. Tread is evenly worn. The valve caps and stem are not missing, broken, or damaged.
- Tire Inflation: Check inflation by using a tire gauge or rubber mallet.

- **SPACERS**

DAYTON

Check that spacers are not bent, damaged, or rusted through.

BUDD

Should be evenly centered, not damaged, and free of foreign objects.

**DRIVER/FUEL AREA**

- **DOOR**

Check that door is not damaged, it opens and closes properly, and the hinges are secure with seals intact. The door windows are not damaged or excessively dirty.

- **MIRRORS**

Check that mirrors and brackets are securely mounted with no loose fittings, not damaged or excessively dirty.

- **FUEL TANK/LEAKS/CAP**

Check that cap and tank are secure with no leaks from tank and fuel cap.

- **BATTERY/BOX**

Check that battery(s) are secure, cell caps are present, connections are tight with no excessive corrosion. Battery box and door are secure.

## **UNDER VEHICLE**

- **DRIVE SHAFT**

Check that the shaft is not bent, twisted or cracked and u-joints are secure and free of foreign objects.

- **EXHAUST SYSTEM**

Check that the system is connected and mounted securely with no loose clamps. It has no cracks, holes, or dents and no signs of leaking (rust or carbon soot).

- **FRAME**

Check for cracks or bends in longitudinal frame. The cross members are not loose, cracked, bent, broken, or missing. The vehicle floor shows no signs of breaks or holes.

## **REAR OF VEHICLE**

- **SPLASH GUARDS**

Check that guards are mounted securely and not damaged.

- **DOORS/TIES/LIFTS**

Door should open, close, and latch securely and hinges are not damaged. Ties are secure and lift has no leaks, damage or missing parts. Check lift for correct operation. (Must be retracted and latched securely.)

- **LIGHTS/REFLECTORS (May ask examiner to assist)**  
**REFLECTOR TAPE CONDITION (SIDES AND REAR)**

In front, check that headlights (high and low beams), left and right turn signals, hazards, clearance lights, amber and red student lights, override, and stop arm lights work. In rear, check that left and right turn signals, hazards, running lights (tail), brake lights, clearance lights, amber and red student lights, override, and strobe light works. (All lights should be clean, not broken, or missing.)

## **SCHOOL BUS ONLY**

- **STOP ARM/SAFETY ARM**

Check that arm is mounted securely with no damage or loose fittings. It extends fully and lights are operational. If equipped, safety arm mounted securely and operates properly.

- **PASSENGER ENTRY/LIFT**

Check that the door opens and closes securely, operates smoothly, and not damaged. The hand rails are securely mounted. The steps are clear and treads not loose or excessively worn.

- **STEP LIGHT**

Check that the step light works.

- **EMERGENCY EXITS**

Check that all emergency exits (doors, roof hatches, and windows) open and close securely, operate smoothly, and are not damaged. All warning devices work.

- **SEATING**

Check that seats are bolted to the floor and seat frames are not broken. Check that cushions are securely attached to the seat frames.



## **IN-CAB CHECKS AND ENGINE START**

- **EMERGENCY EQUIPMENT**

Check for spare electrical fuses if equipped (circuit breakers), 3 red reflective triangles, and a properly charged and rated fire extinguisher. School bus drivers will also check for a fully stocked first-aid kit, and a body fluid clean-up kit.

- **SAFETY BELT**

Belt mounted securely, adjusts and latches properly. Belt should not be ripped or frayed.

- **WINDSHIELD AND MIRRORS**

Check that it is clear with no damage and has no obstructions to the glass. Mirrors should be adjusted properly from the driver's seat.

- **MIRRORS/STUDENT MIRRORS**

Check for cleanliness and that they are properly adjusted. All internal and external mirrors and brackets are not damaged and are mounted securely with no loose fittings.

- **WINDSHIELD WIPERS/WASHERS**

Check for worn rubber on blades, blades are secure to arms, and operate smoothly. Wipers and fluid operate correctly.

- **HEATER/DEFROSTER**

Check that all heaters and defrosters work.

- **HORN**

Check that air and/or electric horn(s) work.

- **CLUTCH/GEARSHIFT**

On an automatic transmission, places the gear selector in park or neutral. The gearshift lever should go into each gear smoothly.

- **LIGHTING INDICATORS**

Check the (dash) indicators for turn signals, hazards, and high beams. School bus drivers also check alternately flashing amber and red indicator lights, emergency override, strobe light indicators, and lift door warning indicator, if equipped.

- **SAFE START**

Driver knows how to start the vehicle up safely. (Automatic or standard transmission)

- **AIR GAUGE**

Gauge is working properly and the air compressor builds the air pressure to governor cut-out about 120-140 psi or as specified by manufacturer.

- **OIL PRESSURE GAUGE**

Oil pressure is building.

- **TEMPERATURE GAUGE**

Temperature is building to normal operating range.

- **AMMETER/VOLTMETER**

Gauge(s) are charging.

- **STEERING PLAY**

With engine running, turn steering wheel back and forth, it should not have more than 10 degrees of free play (approximately 2 inches on a 20-inch wheel).

- **PARKING BRAKE**

With the brake on, gently pull against it in a low gear to see if the parking brake will hold the vehicle.

- **SERVICE BRAKE**

Release the parking brake, move the vehicle forward slowly (about 5 mph), and apply the brakes firmly using the brake pedal. Note if vehicle pulls to one side, unusual feel, or delayed stopping action.

- **AIR BRAKE CHECK – FAILURE TO PERFORM AN AIR BRAKE CHECK WILL RESULT IN AN AUTOMATIC FAILURE OF THE VEHICLE INSPECTION TEST.**

1. With the engine running, build the air pressure to governed cut-out (100 to 125 psi). Shut off the engine, chock your wheels, if necessary, release the parking brake (push in), fully apply the foot brake and hold it for one minute. Check the air gauge to see if the air pressure drops more than three pounds in one minute.
2. Turn the key to the on position (do not start the engine). Begin fanning off the air pressure by rapidly applying and releasing the foot brake. Low air warning devices (buzzer, light, flag) should activate before air pressure drops below 60 psi.
3. Continue to fan off the air pressure. At approximately 40 psi, the parking brake should close (pop out).

The driver must perform all three air brake checks correctly to receive credit. (If the driver recognizes the mistake, s/he can start the procedure over.)

- **ANTI-LOCK BRAKE SYSTEM (ABS CHECK)**

Start the engine and check the dashboard to be sure the ABS lighting indicator illuminates and then promptly turn engine off. (If the ABS lighting indicator remains on it is not working properly.)

- **HYDRAULIC BRAKE CHECK**

Pump the brakes 3 times. Apply firm brake pressure and hold it for 5 seconds. If the pedal moves, there may be a leak or other defect. If equipped with a hydraulic brake reserve (back-up) system, with the key off, depress the brake pedal and listen for the sound of the reserve system electric motor.