

## Vehicle Inspection Study Guide

### STRAIGHT TRUCK/SCHOOL BUS

During the actual tests, you will be expected to point to or touch each of the parts of your vehicle listed below. Name the part and explain what damage or problems you might find. The types of damages or problems are listed below and in the vehicle inspection section in the CDL Manual.

Note: All axles touching the ground on one side of the vehicle must be inspected.

**This study guide cannot be used during the actual pre-trip inspection portion of the skills test.**

#### Front of Vehicle

**Lights** Check for proper color/clean lenses, cracks, missing screws and condensation. Also check for function, left/right turn signals, headlights, high/low beam and four-way flashers.

**Steering Box** Check for missing/loose bolts, cracks and nonfactory welds. Check for steering fluid leaks and torn or frayed hoses.

**Steering Linkage** Check the steering column, pitman arm and drag link for cracks, bends, non-factory welds, missing castle nuts/cotter pins and proper lubrication.

#### Engine Compartment

**Oil Level** Check by pulling out the dipstick, wiping it and reinserting it, then pull out to look at the low and full marks to determine the level.

**Coolant Level** Observe the site glass or line markings for proper level. If not equipped, explain removing radiator cap for level. (**Do not remove cap.**)

**Power Steering Fluid** Observe the sight glass or line markings for proper level. If not equipped, open the cap and check for proper level.

**Water Pump** Check for missing/loose bolts, cracks, proper belt tension, cracked or frayed belts and coolant leaks.

**Alternator** Check for missing/loose bolts, cracks, proper belt tension, cracked or frayed belts, and cracked, burnt or loose wires.

**Air Compressor** Check for missing/loose bolts. Check belts for tension, cracked or frayed lines and leaks.

**Leaks** Look under the engine compartment for coolant, power steering, transmission and oil leaks.

**Hydraulic Brakes (if equipped)** Check the site glass or line on container for proper brake fluid. Check the master cylinder for cracks, leaks, check the brake lines for cracks, frays and brake fluid leaks.

#### Inside the Vehicle

(start engine)

**Clutch/Gearshift** If standard, check for excessive play in clutch – no more than two inches. Check the gear ranges to ensure they engage. Check the boot for holes and dry rot. If automatic, check gearshift for ranges.

**Air Pressure Gauge** Check for cracks and cleanliness. Air pressure should build to a minimum of 100 PSI in both the primary and secondary system.

**Oil Pressure Gauge** Check the gauge for cracks and cleanliness. Oil pressure should come up to normal within seconds after the engine is started. If no gauge, identify the location of the warning light that indicates a system failure.

**Ammeter/Voltmeter** Check the gauge for cracks and cleanliness. Amps/Volts should come up to normal within seconds after the engine is started. If no gauge, identify the location of the warning light that indicates a system failure.

**Air Brake** Build air pressure up to 100-120 PSI, cut engine off and release all brakes, press hard on the foot brake and hold down for one minute. Air pressure should not drop over three PSI. Turn ignition key on and continue with foot brake pumping air pressure down. At around 60 PSI, the “Low Air” buzzer should sound and/or a warning light should appear. Keep pumping air down with foot brake and at about 40 PSI, the parking brake knob should pop out.

**Hydraulic Brake (if equipped)** Pump the brake pedal three times, apply firm pressure to the pedal and hold for five seconds. The pedal should not move. If it does, there may be a leak.

**Steering Play** Check steering wheel play of no more than ten degrees (approximately two inches of movement at the rim of a 20-inch steering wheel).

**Parking Brake** Set the parking brake, put the vehicle in low gear and gently release your foot from the brake pedal (and clutch if equipped), until you feel the vehicle pulling against the brake. The vehicle should not move.

**Mirrors/Windshield** Check mirrors for proper adjustment. Check the windshield for cracks, cleanliness and illegal stickers.

**Wipers** Check the wipers for looseness, dry rot and function.

**Lighting Indicators** Check the following for function: panel light, high/low beam indicator, left and right turn signal indicators and four-way flasher indicator.

**Horns** Check both the highway and city horns for proper function.

**Heater/Defroster** Check both the defroster and heater fans for proper function.

Safety/Emergency Equipment      Ensure working fire extinguisher properly charged and mounted, spare electrical fuses (unless equipped with circuit breakers), three reflective triangles.

#### Front Suspension

Springs      Check for missing, cracked, shifted or bent springs. If 1/4 or more are missing, your vehicle could be put out of service.

Spring Mount(s)      Check both mounts and the U bolts for cracks, non-factory welds, missing or loose bolts and nuts.

Shock Absorber      Check for cracks, leaks and missing bolts.

#### Front Wheel

Rims      Check the rims for bends, cracks and nonfactory welds.

Hub Seal      Check the hub oil seal for missing bolts, cracks, leaks and proper level (if equipped with site glass).

Tire      Check the tire for at least 4/32" tread depth in the major grooves. Check for cuts, bulges and proper air pressure using an air gauge.

Lug Nuts      Check the lug nuts for missing, loose nuts and rust around them.

#### Front Brakes

Slack Adjuster      Check the slack adjuster for missing cotter pins. If the slack adjuster moves more than one inch where the push rod attaches to it, it probably needs to be adjusted. Slack adjusters should not be at more than a 90-degree angle with the brakes applied.

Chambers      Check the chambers for cracks, dents and air leaks.

Air Hose      Check the hoses for loose connections, dry rot, holes and air leaks.

Brake Drum      Check the drum for cracks, non-factory welds and signs of grease or oil.

Hydraulic Brakes (if equipped)      Check the rotor for cracks, non-factory welds and signs of fluid leaks. Check the lines for cuts, holes, loose connections and fluid leaks. Check the calipers for cracks, missing/loose bolts and fluid leaks.

#### Driver/Fuel Area

Door      Check the door for cracked or bent hinges and that it functions properly.

Mirrors      Check the mirrors for cracks, cleanliness and missing/loose bolts/nuts.

Fuel Tank      Check the fuel tank for cracks, holes and that the straps are not loose or cracked. Shiny metal by straps could indicate a loose strap. Check under fuel tank for leaks.

#### Under the Vehicle

Drive shaft      Check the drive shaft for cracks, non-factory welds, missing/loose bolts or nuts and proper lubrication.

Exhaust System      Check the exhaust system for cracks, holes, missing/loose bolts and nuts. Check for signs of soot, which can indicate an exhaust leak.

Frame      Check the vehicle frame for cracks, bends, nonfactory welds and rust.

#### Rear of Vehicle

Rear Wheels      Check the rear wheels the same as the front with the exception of the tire depth, it should be 2/32" in the major grooves. Check the space between the dual tires. Tires should not be touching and no sign of debris. If equipped with spacers, they should not be bent, cracked or nonfactory welds.

Rear Suspension      Inspect this area the same as the front. Suspensions vary and all items should be checked for cracks, bent, non-factory welds, missing/loose bolts or nuts. Inspect walker beams, torsion bars and air bellows, if equipped.

Rear Brakes      Inspect this area the same as the front of the vehicle.

Rear Lights      Check for proper color and clean lenses/reflectors, cracks, missing screws and condensation. Also check for function of left/right turn signals, brake lights, reverse lights and four way flashers.

#### If Passenger Vehicle Also Inspect:

Passenger Entry      Check that steps and handrails secure, no missing hardware, no worn matting, door opens and closes correctly.

Seating      Check that all seats are secure with no missing hardware.

Emergency Exits      Check the function of all exits both inside and out, including all warning devices.

Baggage Compartment (if equipped)      Check that doors open and close correctly and are secure with no missing hardware.