

## The City Of Martinsville Class A Pre-trip study guide

### Lights Operations Check

All external lights. **Ask the examiner to assist you in inspecting the external operation of the lights.**

1. Headlights, high beams, turn signals, 4-way flashers, clearance lights, taillights and brake lights.

### Front of vehicle and engine compartment

#### Lenses

1. Inspect that light lenses or covers are the proper color, clean, and not broken or missing.

#### Fluid and air leaks.

1. Look for puddles.
2. Look for dripping fluids around the engine and transmission.
3. Inspect hoses and airlines for condition and listen for air leaks.

#### Critical fluid levels

1. Engine oil.
2. Coolant.
3. Power steering fluid.

#### Steering system

1. Inspect that the power steering box is securely mounted and not leaking.
2. Inspect all steering hoses and connections for cracks, wear, or leaking.
3. Inspect that the steering system has no missing nuts, bolts, or cotter keys.
4. Inspect that visible connection links, arms, and rods from the steering box to the wheel are not worn or cracked and that joints and sockets are not worn loose.

### Steering axle

#### Tires

1. Inspect for proper inflation with a gauge, and make sure all valves are accessible and not damaged or broken.
2. Inspect for cuts and damage that expose body plies to the tire in the tread and sidewall. Make sure the valve caps are not missing. Look for bumps, bulges in the sidewall, and mismatched diameters in dual tires.
3. Inspect for minimum tread depth (4/32 on steer tires) (2/32 on all other tires).

#### Rims and wheels

1. Inspect for damaged, cracked, or bent rims. Rims cannot have welding repairs. Inspect for rust trails that may indicate the rim is loose on a wedge wheel, if applicable.
2. Inspect studs and bolt holes to make sure they are not elongated (out of round), and there are no missing or loose nuts or bolts.

#### Wheel Fasteners (Lug Nuts)

1. Inspect that all lug nuts are present.
2. Inspect that the lug nuts are not loose and that there are no signs of rust trails or shiny threads that may indicate looseness.
3. Inspect that there are no broken studs.

#### Springs and airbags and shocks

1. Inspect for missing, shifted, cracked, or broken leaf springs, and inspect spring mounts for cracks or any missing parts.
2. Inspect for broken or distorted coil springs and inspect that the mounts are not cracked, broken or have any missing parts.

3. Inspect that the air ride suspension is secure and not damaged or leaking.
4. Inspect shock absorbers to ensure they are secure and not damaged or leaking.
5. Inspect that the vehicle is sitting level.

#### **Brake lines / Hoses / Leaks**

1. Inspect that hoses or lines can supply air or hydraulic fluid to the brakes and that they are not leaking.
2. Inspect for cracked, worn, or frayed hoses or lines.
3. Inspect that all hose or line couplings and fittings are secure.

#### **Brake contaminants.**

1. If accessible, inspect for contaminants, such as grease, oil, etc., on the brake lining or pads and the brake drum or disc that can affect braking capabilities.

#### **Side of vehicle**

##### **Lenses and Reflectors**

1. Inspect that light lenses or covers on the sides of the vehicle and trailer (combination only) are the proper color, clean, and not broken or missing.
2. Inspect that reflectors on the sides of the vehicle and trailer (combination only) are the proper color, clean, and not broken or missing.

##### **Traffic Monitoring Devices**

1. Inspect that mirror(s) are clean and not cracked, mirror brackets are not bent and are mounted securely with no missing parts.
2. If equipped, rear and side view monitoring devices or cameras must be clean to view from the inside.

##### **Battery/Electrical System**

1. Inspect that batteries are secure, if visible.
2. Inspect that all connections are tight and should not show signs of excessive corrosion, if visible.
3. Inspect all electrical system cables and lines are secure and not cracked or worn.
4. Inspect that the battery box, cover or door is secure, if applicable.

##### **Fuel Tank(s)**

1. Inspect that all fuel tank(s), including Diesel Exhaust Fuel (DEF) tank(s), if equipped, are securely mounted, cap(s) are tight, and that there are no leaks from tank(s) or lines.

##### **Frame(s)**

1. Inspect for cracks, broken welds, holes or other damage to the frame members, including the trailer, if applicable.
2. Inspect for cracks, breaks or holes in the cargo area or floor, including the trailer, if applicable.
3. Inspect that trailer tandem release lever and pins are secure, if applicable.

#### **Rear of Vehicle or Trailer**

##### **Lenses and Reflectors**

1. Inspect that light lenses or covers are the proper color, clean, not broken and not missing.
2. Inspect that reflectors are the proper color, clean, not broken and not missing.

##### **Reflective Tape**

1. Inspect that reflector tape on the sides and rear of the trailer are present and affixed securely to the vehicle.

#### **Combination Vehicles Only**

##### **Air and Electric Lines / Connectors**

1. Inspect that air and electric connectors on the power unit and trailer are seated and sealed, free of damage and locked into place.
2. Inspect that air hoses and electrical lines are not cut, cracked, chafed, spliced, taped or worn (steel braid/electrical conductor must not show through). Listen for air leaks (air brake systems only).
3. Inspect that electrical lines and airlines (if equipped) are not tangled, crimped, pinched, or dragging against vehicle parts or the ground.

#### Landing Gear & Clearance

1. Inspect that the landing gear is fully raised, has no missing parts, the crank handle is secure, and the support frame and landing pads are not damaged.
2. If power operated, inspect for air or hydraulic leaks.
3. If tractor semi-trailer, inspect that the fifth wheel is positioned properly so that the tractor frame will clear the landing gear during turns.

#### FOR FIFTH WHEEL COMBINATIONS ONLY

##### Fifth Wheel Skid Plate

1. Inspect that the fifth-wheel skid plate is securely mounted to the vehicle by the fifth-wheel platform.
2. Inspect for cracks, breaks, or excessive wear.
3. Inspect for proper lubrication, if applicable.

##### Kingpin, Apron & Gap

1. Inspect that the kingpin is in place and not bent, damaged, or worn.
2. Inspect that the visible part of the apron is not bent, cracked, or broken.
3. Inspect that the trailer is lying flat on the fifth wheel skid plate, and there is no space between the apron and fifth wheel (no gap).
4. Inspect for proper lubrication, if applicable.

##### Locking and Safety Devices

1. Look into fifth wheel gap and inspect that locking jaws or lever are fully secured around the kingpin and inspect for play between kingpin and locking jaws/lever.
2. Inspect that the release arm is in the engaged position and the safety latch or lock (if equipped) is in place.
3. Inspect the sliding fifth wheel locking pins (if equipped) for damage and the pins are fully engaged.

#### FOR PINTLE HOOK COMBINATIONS ONLY

##### Pintle Hook

1. Inspect that the pintle hook is securely mounted to the vehicle frame.
2. Inspect for loose or missing parts including mounting bolts, nuts, pins, brackets and clamps.
3. Inspect for cracks, breaks or excessive wear.

##### Trailer Drawbar Ring & Tongue

1. Inspect that the drawbar ring or eye is not bent or twisted.
2. Inspect that the drawbar ring or eye is secured to the trailer tongue and there are no loose or missing bolts, broken welds, or cracks.

3. Inspect that the drawbar ring or eye is not worn.
4. Inspect the trailer tongue for dents, twists, cracks, and broken welds and that the trailer tongue can support the weight of the load. If extendable, inspect that bolts, locking pins and cotter pins are in place.

### Internal Inspection (All Vehicles)

#### In-Vehicle/Engine Start

#### Lighting Indicators

1. Left turn signal indicator.
2. Right turn signal indicator.
3. Four-way emergency indicator.
4. High beam headlight indicator.
5. ABS indicator on dashboard; (and for combination vehicles only, the rear driver's side trailer ABS light should turn on then off), if equipped.
6. DEF indicator, if equipped.

#### Emergency Equipment

1. Inspect for three (3) red reflective triangles, six (6) fuses or three (3) liquid burning flares.
2. Inspect for a properly charged and secured fire extinguisher.
3. Inspect for spare electrical fuses (if used) or identify circuit breakers.

#### Windshield and Traffic Monitoring Devices

1. Inspect that the windshield is clean with no obstructions except for an inspection sticker. There can be no damage, such as cracks or flaws to the glass.
2. Inspect that mirrors are clean and adjusted properly from the inside, when present.
3. If equipped, inspect that rear and side view monitoring devices or cameras are clean and in working condition. Devices should be viewable from the inside and the video display must be operable and adjusted for viewing.

#### Wipers/Washers

1. Inspect that wiper arms and blades are secure, not damaged, and demonstrate wipers operate smoothly by turning them on and off.
2. Inspect for windshield washer fluid and demonstrate windshield washers operate correctly by activating the washers.

#### Heater/Defroster

1. Identify, describe and demonstrate the heater(s) and defroster(s) work correctly by operating the controls.

#### Horn(s)

1. Inspect that air horn and/or electric horn work.

#### Brake tests

Failure to explain and demonstrate (perform) all four (4) parts of the air brake check correctly will result in an automatic failure of the CDL Vehicle Inspection test.

### **Air Brake Check**

- 1. Air Gauge and Governor Cutoff Check** – Chock the wheels, start the vehicle and inspect that the air gauge is working and builds the air pressure to governor cutoff (approximately 120 – 140 psi) and identify the cutoff pressure for your vehicle.
- 2. Air Leakage Rate Test** – Shut off the engine, return the key to the “on” or “battery charge” position, release the parking brake (all vehicles), and the tractor protection valve (combination vehicle). Fully apply the foot brake. Once the air gauge is stabilized, hold the foot brake for one (1) minute. Inspect the air gauge to see if the air pressure drops more than three (3) pounds in one (1) minute (single vehicle or trailer without airbrakes) or four (4) pounds in one (1) minute (combination vehicle).
- 3. Air Warning Device(s) Test** – Without restarting the engine, make sure the key or electrical power is in the “on” or “battery charge” position. Begin fanning off the air pressure by applying and releasing the foot brake. The low air warning devices (buzzer, light, and flag) should activate before air pressure drops below 55 psi or level specified by the manufacturer. It is the applicant’s responsibility to know the vehicle manufacturer’s specifications.
- 4. Emergency Brake(s) Test** – Continue to fan off the air pressure. The parking brake (or emergency brake) valve should close (pop out) between 20 psi and 45 psi (no less than 20 psi and no more than 45 psi).
- 5. On air operated trailers, the tractor protection valve and trailer parking brake (or emergency brake) valve should close (pop out) at the same time or prior to the valve for the truck/tractor/bus.**
- 6. You will need to identify the level specified by the manufacturer for the vehicle you are testing in. If the vehicle’s valves are not designed to pop out, you will need to listen for the sound of air discharging from the air system, which indicates the parking (or emergency) brakes have been applied. If the vehicle is equipped with a backup air system, you will need to explain that there is a backup system and that the valve(s) will not pop out.**

### **Parking and Trailer Brake Check**

- 1. Parking Brake:** With the parking brake engaged (trailer brakes released on combination vehicles, if applicable), remove foot from service brake and inspect that the parking brake will hold the vehicle by gently pulling forward with the parking brake on.
- 2. Trailer Brake:** With the parking brake released and the trailer parking brake engaged (combination vehicles only), remove foot from service brake and inspect that the trailer parking brake will hold the vehicle by gently pulling forward with the trailer parking brake on. Also assists in checking the coupling connection with the trailer.

### **Service Brake Check**

- 1. Pull forward at 5 mph, apply the service (foot) brake and come to a complete stop. Inspect to see that the vehicle does not pull to either side and stops when the service brake is applied. If the vehicle pulls to either side or does not stop well, the brakes may not be working correctly.**

