|  |
| --- |
| **School Bus CDL Pre-Trip Inspection Study Guide**  **Rear Engine Transit International** |
| This *Study Guide* is from DOL book PUB-2000-520-408 (R-/7/17) WA.  Please refer to most current DOL book to clarify your questions. It is suggested you add your  district information and any State Patrol out of service criteria the driver needs to know to this pre trip guide. This study guide was last updated: Aug 2017 |
| **Recommend:** Put seat belt on whenever you are in the driver's seat. (Disqualification on the skills drive)  Always use handrail stepping on and off bus, 3 pts of contact. ( Considered a dangerous act)  Examiner will be outside checking each light activates (Safety Inspection)  Examiner will direct you to begin Air Supply Systems Check  Examiner will read you a script to prepare you for your test.  **START: Light Inspection / Equipment Safety Check**  **\*Note**: Examiner will direct light check. Activate each switch as directed by Examiner. (Bus off, key on) Examiner will be outside the bus so use your driver window to hear what light you will be activating. **At end of Examiner directed light check you must tell the examiner you want to check the Amber/Red school bus lights. (this is self-directed)**  **Front of bus/Equipment Safety Inspection**   * Clearance lights (Turn on and off all lights you are checking) * 4 way hazard lights * left and right turn signals * headlights (low and high beams) * **School bus lights** **(1)** (flashing amber lights, flashing red lights, stop paddle   red lights-both sides) \*if your service door is in open position, your amber lights may not activate and go directly to red. Use the emergency air release so this does not happen. Visually check that they are working how you intend them to work.  **Rear of bus /Equipment Safety Inspection**   * Clearance lights (Turn off and on) * 4 way hazard lights * Left and right turn signals * Tail lights (turn head lights switch on and off) \*tester must see them off then on. * Brake lights (depress pedal) * **School bus lights** (flashing amber, flashing red, stop paddle lights) * As the Examiner re-enters the bus, Check entry step light works properly.   NOTE: Recommendation: Before beginning test, with brake still set and bus off. Pump some air out of the system to below 90psi. This will ensure the air compressor kicks on and builds air into tanks. You must begin the test with full tank of air and hear the audible sound of the Air governed cut out.   * Examiner will direct you to begin Air Supply System check. Do not allow bus to roll at any time during this test.   **Air Brake Inspection (1)**  With the air pressure built up to governor cutoff (120 – 140 psi), I will begin my inspection of the Air supply system.  shut off the engine, chock your wheels if necessary  **Note: If the driver does not build the air pressure to the air governor cutoff,**  **they WILL disqualify on the test.**  (No roll back, chock wheels if necessary)  **1. Air leak check**  Ignition key in "on" position, release parking brake, and apply foot brake.  Let air gauge stabilize, and hold for 1 minute. Air loss cannot exceed 3 psi or more.  **2. Low air warning check**  Without re-starting the engine, keep/turn electrical power to the “on” or “battery charge”  position. Begin fanning off the air pressure by applying and releasing the foot brake.  Low air warning devices (buzzer, light, flag) Must activate **at 60 or above**  **3. Parking Brake check**  Continue to fan off the air pressure. **At approximately 40 psi**  the parking brake valve should close (pop out).  Note: **Must tell** Examiner what psi level was when parking brake was activated  Examiner will ask "Have you completed your air supply system checks?"  You must reply yes or no  **Safety start the engine**. **(1)**Make sure transmission is in neutral (or park) and foot is on the brake. Demo  **Note**: Tell Examiner "I'm doing a safety start, the transmission is in neutral and parking brake is on (physically demonstrating by pointing to neutral and pulling  on parking brake), and foot is on service brake." Safety start the engine. Remember  to wait for the "wait to start" light to go out before starting bus.  **Note**: With foot on service brake start the bus. Note: ABS light goes on and off  (if equipped)  **Air Gauge**  With the engine running build air pressure to maximum. The air governor cutout  activates between 120-140 psi.  **Note**: Tell Examiner what psi level was when the air governor cutout activates  **Examiner may ask again if you answered no "Have you completed your air supply**  **system checks?" You must reply yes or no. The test will not continue on if you do not answer.** |
| **Brake Checks**  **Parking Brake Check(1)**  With air pressure built to normal operating range (approx. 100 psi) and with the parking brake engaged, check that the parking brake will hold vehicle by gently trying to pull forward put vehicle in gear with parking brake on. Tell examiner it holds.  **Service Brake Check(1)**  Parking Brake off, bus in gear. Pull forward slowly ( up to 5 mph) , apply the service brake and stop. Check to see that the vehicle does not pull to either side and that it stops when brake is applied. Tell the examiner: It works properly.  **In Cab Inspection**  Optional: Turn tire to left for visual inspection of brakes/or right for visual of suspension parts  ***Student Mirrors* (1)**  In addition to checking the external mirrors, school bus drivers must also check the internal and external mirrors used for observing students: Check for proper adjustment.  Check that all internal and external mirrors and mirror brackets are not damaged and are  mounted securely and are clean  ***Emergency Equipment* (1)**  In addition to checking for 6 spare electrical fuses (if equipped), 3 red reflective triangles,  and a properly charged and secured fire extinguisher, school bus drivers must also inspect  the following emergency equipment:   * First Aid Kit**(1)** * Body Fluid Cleanup Kit   ***Mirrors and Windshield*(1)**   * Mirrors should be clean and adjusted properly. Mirror brackets are securely mounted not damaged * Windshield should be Clean/Clear and has no obstructions, or damage to the glass.   ***Wipers/Washers*(1)**   * Check that wiper arms and blades are secure, not damaged, and operates smoothly. * If equipped, windshield washers must operate correctly and have fluid.   Entry door:Demo open and closes with switch, opens smoothly and closes securely  **Heaters: (1)**Demo 1 interior driver heater & 1 driver defroster: Demo on/off working properly  ***Lighting Indicators* (1)**  Test that dash indicators work when corresponding lights are turned on: point to dash area.   * Headlights (high and low beams). * Turn signals. Left turn signal. Right turn signal. * Four-way emergency flashers. * Alternately flashing amber lights indicator. * Alternately flashing red lights indicator. * Strobe light indicator, if equipped. * Anti-lock Braking System (ABS)   **Gauges (with engine running)**  ***Oil Pressure Gauge*(1)**  With the engine running   * Make sure oil pressure is building to normal. * Check that the warning light goes off.   ***Temperature Gauge*(1)**   * Make sure the temperature gauge is working/operational * Temperature should begin to climb to the normal operating range or temperature light should be off   ***Air Gauge*(1)**   * Make sure the air gauge is working properly. * Build air pressure to governor cut-out, roughly 120-140 psi or as specified by the manufacturer.   ***Ammeter/Voltmeter*(1)**   * Check that gauge shows alternator and/or generator is charging or that warning light is off.   Note: After checking all gauges, they are all working properly and I see no warning lights or buzzers.  **Interior Inspection**  **Passenger Entry**  ***Passenger Entry/Lift/ Door(s)* (1)**   * Check that entry doors is not damaged, operates smoothly and close securely from the inside/outside. * Hinges should be secure with seals intact. * Check door window for damage and clean * Check that hand rails are secure and, if equipped, that the step light(s) are working. * Check that the entry steps are clear, with the treads not loose or worn excessively.   ***Mirror(s)***   * Check that mirror(s) and mirror brackets are not damaged and are mounted securely   **Horn: (1)** Sound horn to ensure it works properly-demo both Air horn ( if equipped) and electric horn. (only one has to work.)  ***Safety Belt*(1)**  Check that the safety belt is securely mounted, adjusts, latches properly(DEMO) and is not ripped or frayed.  ***Seating* (1)**  Look for broken seat frames and check that seat frames are firmly attached to the floor.  Check that seat cushions are attached securely to the seat frames.  **Emergency Exits: (1)**  Identify the location of ALL emergency exits.  Demo 1/Buzzer with key in "on" position so buzzer will sound. Verbal on all.  **Note:** Examiner prefers demo of side/back door exit. This is the inside check. Must also be checked from outside. Buzzer not required to sound from outside. Do not leave key inside bus.  ***Emergency Exit***  Make sure that all emergency exits are not damaged, operate smoothly, and close securely from the inside and outside. Demonstrate one emergency exit (other than primary door unless primary door is the designated exit) and explain how various exits operate. Check that emergency exit warning devices are working.   * **Back exit: (**Verbal) Lift red handle, operates smoothly, locks in open position, no damage and closes securely from inside. * **Side exit: (**Verbal) Same as other side? Operates smoothly locks in open position, no damage and closes securely from inside. * **Rear roof exit: (**Verbal) Red handle, operates smoothly , no damage and closes securely from inside. * **Front roof exit:** (Verbal) Same as back hatch? Operates smoothly , no damage and closes securely from inside. * **Service door:** (Verbal) Air release switch, push open.   **Exterior Inspection**  ***Door*(1)**   * Check that entry door is not damaged, operates smoothly and close securely from the outside. * Hinges should be secure with seals intact. * Check door window for damage and clean   ***Lights/Reflectors/Reflector Tape Condition (Front, Sides & Rear)* (1)**  Check that all external lights and reflective equipment are clean and not damaged and proper color for their location. Do NOT use method 2 for light inspections.  Light and reflector checks include:   * Clearance lights (red on rear, amber elsewhere). * Headlights (high and low beams). * Left turn signal. Right turn signal. Amber. * Four-way emergency flashers. Amber. * Strobe light, if equipped. * Stop arm/paddle light. Red. * Alternately flashing amber lights./Alternately flashing red lights. Are operational and not broken. * Red reflectors (on rear) and amber reflectors (elsewhere).   **Note**: turn signal and four-way flasher functions must be done separately.  **Reflective tape:** Present and securely affixed to bus  ***Crossing Arm***  Check that the safety arm is securely mounted and functions properly in conjunction with stop paddle  **Steering**  ***Steering Box/Hoses*(1)**   * Check that the steering box is securely mounted and not leaking. Look for any missing nuts, bolts * Check for power steering fluid leaks or damage to power steering hoses.   ***Steering Linkage*(1)**   * See that connecting links, arms, and rods from the steering box to the wheel are not worn or cracked. * Check that joints and sockets are not worn or loose and that there are no missing nuts, bolts, or cotter keys/pins.   ***Stop Paddle/Safety arm* (1)**   * Check the stop arm/paddle to see that it is mounted securely to the frame of the vehicle. * Also, check for loose fittings and damage. * Check that the stop arm/paddle extends fully when operated and lights are operational and work on both sides.   **Tires Front AXLE**   * **Tires (1):**    1. **Tread depth**: Check for minimum tread depth (4/32 on steering axle tires, ~~2/32 on all~~ ~~other tires).~~   2. **Tire condition**:Check that tread is evenly worn and look for cuts or other damage to tread   3. **Sidewalls** look for cuts or other damage   4. **Valve caps and stems** are not missing, broken, or damaged.   5. **Tire inflation**:Check for proper inflation by using a tire gauge. Note: You will not get credit if you simply kick the tires to check for proper inflation. * ***Rims* (1)**Check for damaged or bent rims. Rims cannot have welding repairs. * ***Lug Nuts*(1)**   Check that all lug nuts are not loose, free of cracks and distortions, and show no signs  of looseness such as rust trails. No rust trails around nuts and there are no cracks radiating from lug bolt holes or distortions of the bolt holes   * ***Hub Oil Seals/Axle Seals:* (1)**See that hub oil/grease seals and axle seals are not leaking and, if wheel has a sight glass, oil level is adequate.   **Suspension**  ***Springs/Air/Torque*(1)**   * **Springs:** Look for missing, shifted, cracked, or broken leaf springs. * ~~Look for broken or distorted coil springs.~~ * ~~If vehicle is equipped with torsion bars, torque arms, or other types of suspension~~   ~~components/parts, check that they are not damaged and are mounted securely.~~   * ~~Air ride suspension should be checked for damage and leaks.~~ * ***Shock Absorbers:*** See that shock absorbers are secure and that there are no leaks.   ***Mounts*(1)**  Look for cracked or broken spring hangers, missing or damaged bushings.    ***U-bolts*** **(1)**broken, loose, or missing bolts, u-bolts or other axle mounting parts.  (The mounts should be checked at each point where they are secured to the vehicle frame and axle[s]).  **Brakes** (If Hydraulic check for hydraulic fluid leaks, if air then listen for air leaks)  ***Slack Adjustors and Pushrods*(1)**   * Securely mounted slack adjuster and pushrod * Look for bent, broken, loose, or missing parts. * For slack adjustors, the brake pushrod should not move more than one inch (with the brakes released) or when pulled by hand.   ***Brake Chambers*(1)**  See that brake chambers are not leaking, cracked, or dented and are mounted securely.  Make sure there are no loose or missing clamps.  ***Brake Hoses/Lines*(1)**   * Look for cracked, worn or frayed hoses. Check that hoses and fittings are secure and not leaking. * Check that hoses or lines can supply air/hydraulic fluid.   ***Brake Drum*(1)**   * Check for cracks, dents, or holes. Also check for loose or missing bolts. * Check for contaminates such debris or oil/grease.   ***Brake Linings***   * Brake linings should not be worn dangerously thin. * Check the brake linings for contaminants, such as grease, oil, etc.   **Note:** Be prepared to perform the same brake components inspection on front and rear axle.  **Side Lights and Lenses (Between Axles) (1)**  Tell examiner you will check all light lenses and reflective equipment on the side of vehicle. Do NOT use method 2 for light inspections.  They are clean, not damaged and the correct color for their location.  **Identify each light by pointing to each, confirming correct color for its**  **Location , and saying what color each light is.**   * Marker/clearance lights Amber * Turn signal Amber * Red reflectors (on rear) and amber reflectors (elsewhere).   **Reflective tape:** Present and securely affixed to bus  ***Baggage Compartments* (1)** Check that baggage and all other exterior compartment doors are not damaged, operate properly, and latch securely. I would inspect all the doors this same way.  Note: Driver must open at least one door. Recommend open the fuse box door or first door you come to and refer to method 2. “ I would inspect them all this same way”  **Side emergency exit door: (1)**Not damaged, opens smoothly and locks open, closes and is securely latched from outside  **Tires Rear Axle**  *Verbalize "Use Same inspection method on front tires on duals which would include tires, tread depth, rims, lug nuts, hub oil seal, and mud flaps with the exception of:"*  The following items must be inspected on every tire:   * **Tires (1):** * **Tread depth**: Check for minimum tread depth (~~4/32 on steering axle tires~~, 2/32 on all other tires). * ***Rims* (1)** * ***Lug Nuts*(1)** * ***Hub Oil Seals/Axle Seals:* (1)**See that hub oil/grease seals and axle seals are not leaking ~~and, if wheel has a sight glass, oil level is adequate.~~   ***Spacers or Budd Spacing* (1)**   * ~~If equipped, check that spacers are not bent, damaged, or rusted through.~~ * Check disc ~~(Budd)~~ wheels for even spacing, damage, and foreign objects.   ***Splash Guards*/Mud Flaps (1)** (**Must be checked at the rear axle** )  If equipped, check that splash guards or mud flaps are not damaged and are mounted securely.  **Suspension**  ***Verbalize "Use Same inspection method on Front Suspension parts including Springs, mounts, ubolts, and shock absorbers.***  ***Springs/Air/Torque*(1)**   * ***Shock Absorbers:*** * ***Mounts*(1)** * ***U-bolts*** **(1)** * **Air ride suspension** (air bag) should be checked for damage and leaks. * **Air bag mounts** (bolts) are in place and not damaged. * **Other type of suspension parts** (torque arm etc.)are not damaged and are mounted securely.   **Note:** Be prepared to perform the same suspension components inspection on every axle  **Brakes**  ***Verbalize "Use Same inspection method on Front Brakes on Rear Brakes which would include: Hose couplings/fittings, brake chambers, slack adjusters/push rods, brake drum/rotors, and brake linings."***   * ***Brake Hoses/Lines*(1)** * ***Brake Chambers*(1)** * ***Slack Adjustors and Pushrods*(1)** * ***Brake Drum*(1)** * ***Brake Linings***   **Note:** Be prepared to perform the same brake components inspection on every axle  **Engine compartment (side door)**  ***Drive Shaft*(1)**   * See that drive shaft is not bent, cracked or twisted * Couplings or u-joints should be secure and free of foreign objects.   ***Exhaust System*(1)**   * Check system for damage and signs of leaks such as rust or carbon soot. * System should be connected tightly and mounted securely and there are no loose clamps. * The exhaust system should have no cracks, holes, or severe dents.   ***Frame*(1)**   * Check for cracks, bends, broken welds in the longitudinal frame. * Look for loose, cracked, bent, or missing cross members.   ***Coolant Level*(1)**   * Inspect reservoir sight glass, or * If engine is not hot, remove radiator cap and check for visible coolant level. If engine is hot then describe what they would look for once cap is removed.   **Main Engine Compartment**  ***Oil Level* (1)**   * Indicate where dipstick is located. * Explain that oil level is within safe operating range. Level must be above refill mark. * A verbal explanation is acceptable. Demonstration is also acceptable.   ***Engine Compartment Belts***  Demo the following belts for 1/2 to 3/4 inch deflection :  Check for: No cracks, frays or signs of wear.   * ~~Power steering belt.~~ * Water pump belt. * Alternator belt. * ~~Air compressor belt.~~   **Note**: If any of the components listed above are not belt driven, you must:   * Tell the examiner which component(s) are not belt driven. (power steering unit/air compressor) * Make sure component(s) are operating properly, are not damaged not leaking, and are   mounted securely.  **Identify the water pump(1)**   * Make sure component(s) are operating properly, are not damaged not leaking, and are   mounted securely.   * Belt driven Demo for 1/2 to 3/4 inch deflection   Check for: No cracks, frays or signs of wear.  **Identify alternator(1)**   * Make sure component(s) are operating properly, are not damaged and are   mounted securely. Wires are securely fastened.   * Belt driven Demo for 1/2 to 3/4 deflection   Check for: No cracks, frays. or signs of wear.  ***Identify Power Steering Unit*(1)**   * Make sure component(s) are operating properly, are not damaged or leaking, and are   mounted securely.   * not belt driven   **Identify Air Compressor: (1)**   * Make sure component(s) are operating properly, are not damaged or leaking, and are   mounted securely.   * not belt driven   ***Power Steering Fluid***   * Indicate where power steering fluid dipstick is located. * Check for adequate power steering fluid level. Level must be above refill mark.   ***Leaks/Hoses* (1)**   * Look for puddles on the ground. * Look for dripping fluids on underside of engine and transmission. * Inspect hoses for condition and leaks. Look for cracked, worn, frayed, or leaking hoses, lines, and couplings . * All connections, couplings and fittings need to be secure and not leaking * Check that hoses or lines can supply air/ fluid.   **Rear Lights and Lenses (1)**  Check that all external lights and reflective equipment are clean and not damaged and proper color for their location. Do NOT use method 2 for light inspections.  Light and reflector checks include:   * Clearance lights (red on rear, amber elsewhere). * Red Brake lights/Red tail lights * Left turn signal. Right turn signal. Amber. * Four-way emergency flashers. Amber. * ~~Strobe light, if equipped.~~ * Stop arm/paddle light. Red. * Alternately flashing amber lights./Alternately flashing red lights. Are operational and not broken. * Red reflectors (on rear) and amber reflectors (elsewhere).   **Note**: turn signal and four-way flasher functions must be done separately.  **Reflective tape:** Present and securely affixed to bus  ***Fuel Tank* (1)**  Check that tank(s) are secure, cap(s) are tight, and that there are no leaks from tank(s) and caps.  **This concludes my Pre-trip inspection**  **Tips from an Examiner:**  Use this study guide to compliment your DOL book. You will be tested on the book .The study guide is just meant to help you study. At a minimum say the underlined words. If you get stuck on a word, use other words to describe the same word to explain what you mean. Remember to point to or touch each item you are inspecting. Study and practice. You cannot learn this overnight. We can tell when you come prepared. Your driver trainer/supervisor can call your Examiner with questions any time before the day of your test. |