
VEHICLE INSPECTION

The school bus driver plays an important role in the preventive maintenance program. Every time the bus is put into service, vehicle inspections should be performed. This consists of Pre-Trip, On-the-Road and Post-Trip inspections. The bus driver should be alert for evidence of conditions that may require attention. The bus driver does not need to be an expert mechanic to observe and report problems such as the following:

- Air brakes leaking.
- Engine not idling properly.
- Engine over-heating.
- Unusual noise under hood of the bus.

Pre-Trip Inspection

A thorough pre-trip inspection consists of the following:

- Air brake leak test.
- Walk-around check.
- Inside safety check.
- Communications and Video Surveillance Check
- Parking brake test.
- Bus cleanliness.

1. **AIR BRAKE LEAK TEST** -- The air brake leak test is a safety test to ensure that the air brake system is not leaking and the pressure is steady.

a) Vacuum or Pressure Gauge -- NOTE: If bus loses a large amount of air pressure while sitting overnight, rebuild the pressure prior to performing the air brake leak test. Be sure the vehicle is turned off before performing air brake leak test.

The vacuum or air pressure gauge should indicate adequate capacity to operate the brakes. Do not operate the bus until the reserve vacuum or air reaches the minimum recommendations. Excessive loss of pressure overnight can indicate a leak in the air system. Firmly press the brake pedal and release the parking brake knob. Listen for leaks and observe the air brake gauges. There should not be more than three pounds per square inch of pressure (PSI) lost in one minute.

b) Service Brake Warning Light -- With air brakes, the red light and buzzer should come on when the air pressure reading is below 60 PSI. In buses with hydraulic brake systems, this light should come on during a hard brake application if one or both of the brake systems is not operating properly.

Start the engine and allow the bus to warm up for approximately five minutes.

2. **WALK-AROUND CHECK** -- With engine running, turn on all lights so that operation can be observed while walking the exterior of the vehicle.
- c) Fluid Leaks -- Look carefully at all the areas under the bus and on the inner wheels and tires for wetness. Any excessive fluid leak can be a potential problem. Leaks can be engine oil, water or coolant, fuel, brake fluid, transmission fluid, rear axle fluid or grease.
 - d) Lights and Warning Systems -- These include: pupil warning lights, clearance and ID lights, back-up lights, stop signal(s) and lights, reflectors, turn signals, brake lights and 4-way flashers. All must be clean and working properly and without damage to the lenses.
 - e) Windshield and Windows -- All school bus windows should be clean. Be sure all film, dew or frost is removed. Please note that nothing is to be affixed to the front windshield.
 - f) Mirrors -- Must be clean and properly adjusted for driving. Pay special attention to crosswalk mirrors.
 - g) Tires -- Visually inspect for underinflation, flat, worn or damaged tires. Recapped tires are allowed on the rear.
 - h) Wheels -- Check for loose or missing lug nuts, excessive corrosion or evidence of rust trails which indicates they have been loose. Do not drive with a damaged wheel or with loose or missing lug nuts.
 - i) Exhaust System -- Check for sagging exhaust pipes, tailpipes and muffler. Look for visible exhaust leaks and listen for the excessive exhaust noise, vibration and rattles. All exhaust leaks should be repaired immediately. Never take a chance and allow carbon monoxide fumes to enter the bus.
 - j) Emergency Door and Buzzer -- From the outside of the vehicle, check to ensure that the door opens and closes freely and latches tightly to prevent carbon monoxide fumes from entering the bus.
 - k) Lift Operation -- Check to ensure correct operation of lift.
 - l) Baggage Compartment -- Ensure baggage compartment doors are locked and secure.
3. **INSIDE SAFETY CHECK** -- Inspect the passenger area, seats and windows. Make sure there are no loose objects such as books, lunch boxes or trash lying on the seats or on the floor. Next, check the bus driver's controls. With the engine running, check the following:
- a) Water Temperature Gauge or Warning Lights -- These instruments show the temperature of coolant in the engine. If the bus has a gauge, the indicator should point toward cool or warm. When it indicates hot, the engine should be stopped immediately and the problem reported. The same action should be taken if the temperature warning light goes on. A normal temperature reading should be between 170 to 180 degrees. Overheating can destroy the engine.
 - b) Oil Pressure Warning Light -- This light should come on as the bus is started, but should go off right after the bus is started. If it does not, turn off the engine and report this immediately. Do not race the engine when it is cold. Low oil pressure could destroy an engine.

- c) Oil Pressure Gauge -- This gauge should indicate adequate pressure for buses without a warning light. If not, turn off the engine and report immediately. A normal oil pressure reading at idle is 20 to 25 PSI, and running on the road between 60 to 70 PSI.
- d) Fuel Gauge -- Due to varying fuel tank pickup levels in different models and years of school buses, Orange County Public Schools policy is "...never let the fuel gauge read below one half (½)".
- e) Alternator Warning Light -- If this light remains on after the engine is running, it means a malfunction exists in the charging system. Do not operate the bus. Report immediately.
- f) Ammeter or Voltmeter -- Ammeter should show a charge or normal position when the engine is running. If it indicates a discharge, turn off the engine and report immediately. Voltmeter should indicate in the green area or between 12 to 15 volts.
- g) Air Pressure Gauge -- On buses with two (2) air pressure gauges, there should be no more than 15 PSI difference with air pressure on the highest gauge at 125 PSI (7 percent difference between gauges).
- h) Anti-Emission Warning Lights -- These lights indicate a problem with the engine emission system. If any of these lights come on, notify Fleet Services immediately.
- i) Check each of the following:

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|clearance and ID lights |heater/defroster/fan (low & high) |
|strobe light |windshield wipers (fluid/low & high) |
|windshield |ALL mirrors (inside and outside) |
|windows |steering & horn |
|passenger door |dash gauges/warning lights |
|emergency exits & buzzers |parking brake test |
|stop arm(s) and lights |headlights (low & high) |
|3 reflective triangles |stepwell |
|first aid kit |interior lights |
|fire extinguisher |directional signals |
|OCPS mess kit |4-way flashers |
|seats/seatbelts |student warning lights |
|floors |car seats secured |
|driver seat/seat belt |radio/GPS antenna/video surveillance system |
|strap cutter |wheelchair securements |

- 4. **PARKING BRAKE TEST** -- This test ensures that the vehicle does not move when the parking brake is applied. Perform the following steps:
 - a) Ensure that the parking brake is in the "ON" position.
 - b) Place the gearshift in "D" drive and accelerate the engine to a fast idle (approximately 1200 RPM). If the bus does not move, the parking brake is working properly.
- 5. **BUS CLEANLINESS** – The bus must be swept, interior cleaned and all windows must be closed prior to turning the bus in for the 30-day inspection. The bus must pass a cleanliness check at the 30-day Fleet Services' inspection.
- 6. **FORMS** -- Complete the required Pre-Trip Inspection and Monthly Mileage (TS-30) form. The form and a copy of the route sheet are to be left on the bus.
- 7. **PRE-TRIP INSPECTION FORM** -- must be completed and initialed before the bus is moved from its parking location.

On-The-Road Check

A planned road check, before picking up the passengers, will give the bus driver time to test the steering, suspension, transmission, driveline, brakes and other parts.

1. **CHECK TRANSMISSION OPERATION** – With the transmission engaged in a forward or reverse position, the bus should start out smoothly and the transmission should not produce any unusual metallic noises. The automatic transmission should not slip and should allow for easy and smooth gear changes. Report any unusual noises or shifting difficulty. Do not exceed the recommended speed for each specific gear range. Exceeding speed recommendations can damage the transmission or reduce its service life.
2. **CHECK BRAKES** – Do not wait until you are on the highway to check brakes. Test them at low speeds bringing the bus to a complete stop. The bus should stop in a straight line without swerving, skidding or pulling to one side. The brakes should not grab or lock or make excessive noise. Note the air pressure gauge periodically to make sure that pressure is being maintained.
3. **CHECK ENGINE** – Be alert to any unusual engine noises, vibrations or lack of normal response. Report anything unusual. Never race a cold engine. Instead, increase speed slowly so that all parts may be properly lubricated.
4. **CHECK THE STEERING** – Is it responsive? Does there appear to be too much play in the steering wheel? Steering play should be no greater than one inch in either direction. Is the power steering noisy? Does the bus steer easily? Is steering steady in turns and when going over bumps? Report unusual conditions to Fleet Services.
5. **CHECK THE SUSPENSION** – Does one end of the bus sag? Is there excessive bounce or does the bus “bottom” when going over bumps? Does it weave or sway when turning corners or on curves? It may be caused from broken springs or worn out shocks.
6. **ENGINE IDLING** – Do not idle your bus’ engine!! While at school, turn the motor off when loading students. The only exception is for buses with sidelifts or a/c required buses; these may run 5 minutes prior to students loading.

Post-Trip Inspection

A thorough post-trip inspection consists of the following:

- Interior safety check/equipment check/safety check banner. Also check for students and other articles left on the bus before securing the safety check banner and leaving the bus unattended.
 - Exterior safety check.
 - 1996 and newer buses – bus drivers need to lock the steering wheel in the full, upright position.
 - Driver's seat will be fully retracted to the rear.
- * POST-TRIP INSPECTION (TS-30) FORM MUST BE FILLED OUT AND INITIALED BEFORE YOU LEAVE THE BUS.

1. INTERIOR SAFETY CHECK

- a) Check Gearshift and Gauge -- The gearshift lever will be in the neutral position. All gauges are checked for normal readings. Bus drivers should refuel the bus if their fuel gauge reads below half full before parking the vehicle.
 - b) Parking Brake -- Apply and check the parking brake.
 - c) Lights -- Ensure that all lights are turned off.
 - d) Radio, GPS and Camera Equipment -- If the bus is so equipped, ensure that they are turned off. Intentional sabotage or disabling of any surveillance equipment will result in progressive discipline.
 - e) Interior Inspection -- Check the interior for lost items, students, damage to seats/seat belts and bus cleanliness. All windows and overhead hatches should be closed. The interior should be swept and the trash emptied. After checking the bus for students, place the safety banner in the rear door (side window of the 84-passenger buses), if applicable.
- * BUS DRIVERS -- PLEASE MAKE ARRANGEMENTS TO RETURN LOST ITEMS TO STUDENT OR SCHOOL OFFICIAL.

2. EXTERIOR SAFETY CHECK

- a) Walk around and inspect the bus for damage, broken glass or evidence of leakage. All needed repairs should be reported to Fleet Services immediately. Is your safety check banner displayed?
- * PLEASE NOTE: BUS KEY SHOULD BE SECURED ACCORDING TO PARKING LOCATION REQUIREMENTS.
- b) Complete the required Post-Trip Inspection and Monthly Mileage (TS-30) form. This form is to be initialed and left on the bus.

The preventive aspect of maintenance on school buses is a must to ensure dependability and safety. Bus inspections are mandatory. Buses are thoroughly inspected every 30 school days. Bus drivers are directed to have their buses at the assigned Fleet Services' facility when scheduled.

The success of a good preventative maintenance program depends on the full cooperation of bus drivers with mechanics and management. Bus drivers should watch and listen at all times for anything wrong and report it to the mechanics as soon as possible. Bus drivers are to call the Fleet Services before operating a bus if there is any question about the condition of that bus.