

A Research on Trip Inspection Checklists: Pre-Trip and Post-Trip Checklists

An inspection checklist is a structured, systematic tool designed to ensure that specific items, systems, or processes are thoroughly examined, verified, or completed according to predefined criteria. Its primary purpose is to enhance safety, maintain quality, ensure compliance, and prevent oversights by providing a clear, step-by-step guide for evaluation.

The elements of an inspection checklist typically fall into several key categories, depending on the context of the inspection:

- **Identification and Documentation:** This includes fields for recording who performed the inspection, the date and time, and details about the item or system being inspected (e.g., vehicle ID, driver ID, odometer readings). It also covers checking for necessary permits, licenses, insurance, and other official paperwork.
- **Condition and Functionality:** This is the core of most inspection checklists, focusing on verifying the physical state and operational performance of components. This can range from checking fluid levels and tire pressure in a vehicle to ensuring all lights and safety equipment are working correctly.
- **Safety and Security:** Elements in this category address potential hazards, proper securement of items (like cargo), and the presence and functionality of emergency equipment.
- **Maintenance and Records:** For ongoing operations, checklists often include sections for logging maintenance performed, repairs needed, parts used, and consumption of consumables like fuel or oil.
- **Environmental and Operational Readiness:** This might involve checking for spills, ensuring cleanliness, or verifying that the environment is suitable for the next operational phase.
- **Personal and Administrative Readiness (for travel-related checklists):** This extends beyond physical items to include personal health preparations, financial arrangements, home security, and digital organization.

QUESTIONS ON PRE-TRIP CHECKLISTS

A pre-trip inspection checklist should include questions about the vehicle's general condition, engine compartment, lights, brakes, and safety equipment. It should also cover fluid levels, tire condition, and any specific requirements for the vehicle type (e.g., coupling hardware for a trailer).

The **Engine Compartment Section** will include questions about checking the oil level and coolant levels, inspecting belt-driven engine components (like the water pump, alternator, and air compressor), and the safety devices required in the cab. There will also be questions regarding the windshield wipers and free play in the steering wheel.

The **Lights and Brakes Section** will include questions about dashboard indicator lights, inspecting the parking brakes, and doing a leakdown test on the air brakes. It will also include questions about the low air pressure warning signal and testing your air horn and city horn.

The **Suspension and Steering Section** will include questions about the tractor protection valve, inspecting the steering box, and inspecting many suspension system parts. It will also include questions about welds being present on tire rims and the minimum tread depth required on steering axle tires.

The **Tires and Coupling Devices Section** will include questions about shiny trails or rusty threads on lug nuts, inspecting the battery box and cover, and inspecting electrical lines. It will also contain questions about inspecting the coupling devices and the fifth wheel skid plate.

The **Emergency Equipment and Fifth Wheel Section** will include questions about additional emergency equipment required by school buses, inspecting the gap between the kingpin apron and the fifth wheel skid plate, and the landing gear securement. It will also contain questions about inspecting driver mirrors and the trailer frame.

Here's a more detailed breakdown:

General Vehicle Information:

- **Vehicle ID:** Ensure the correct vehicle is being inspected.
- **Driver ID:** Record the driver's information.
- **Odometer Reading:** Note the starting mileage.
- **Cleanliness:** Check the cleanliness of the cabin and ensure a safe working environment.
- **Documentation:** Verify the availability of necessary documents like the vehicle's registration and insurance.
- **License Plate:** Confirm the correct plate is displayed.

Engine Compartment:

- **Fluids:** Check and top off engine oil, coolant, windshield washer fluid, and other necessary fluids.
- **Belts and Hoses:** Inspect for wear, damage, and proper tightness.
- **Air Filter Housing:** Ensure it's securely mounted and the cover is in place.
- **Turbocharger:** Check for oil and exhaust leaks.
- **Engine Air Duct:** Verify it's working, has secured clamps, and no damage.
- **Alternator:** Confirm it's securely mounted and wires are intact.
- **Air Conditioner Compressor:** Ensure it's securely mounted.
- **Battery:** Check for proper connections and secure mounting.
- **Leaks:** Identify any leaks (fuel, coolant, oil, etc.).

Lights and Brakes:

- **Lights:**

Inspect headlights, taillights, brake lights, turn signals, and hazard lights for proper function.

- **Brakes:**

Check brake pedal free play, brake lights activation, and parking brake functionality.

- **Air Brakes:**

(if applicable) Perform a leakdown test and ensure the low air pressure warning signal is working.

- **Air Horn and City Horn:**

(if applicable) Test both for proper functionality.

Safety Equipment:

- **Seatbelts:** Verify they are functioning correctly.
- **Emergency Equipment:** Check for fire extinguisher, warning triangles, and other required safety items.

Tires and Wheels:

- **Tire Pressure:** Ensure tires are inflated to the correct pressure.
- **Tire Condition:** Inspect for cuts, abrasions, bulges, and proper tread depth.
- **Wheels:** Check for damage and proper mounting.
- **Spare Tire and Tools:** Verify they are present and in good condition.

Suspension and Steering:

- **Steering:** Check for excessive free play and ensure proper steering operation.
- **Suspension System:** Inspect various suspension components for damage or wear.
- **Coupling Hardware:** (if applicable) Ensure proper connections.

Other:

- **Windshield Wipers and Washer Fluid:** Check for proper operation and fluid level.
- **Mirrors:** Verify proper adjustment and condition.
- **Undercarriage:** Inspect for any damage or hazards.
- **Diagnostic Trouble Codes:** Check for any stored fault codes.
- **Sounds:** Listen for any unusual noises during startup or operation.

- **Load Security:** (if applicable) Ensure the load is properly secured

SAMPLE QUESTIONS

- **Engine Compartment & Fluids:**
 - Is the air filter housing securely mounted with the cover in place?
 - Are windshield washer fluid, engine coolant, and oil levels proper, and are there any leaks?
 - Is the turbocharger free of oil or exhaust leaks?
 - Is engine air ductwork free of cuts, with clamps secured?
 - Is the alternator securely mounted with no broken or loose wires?
 - Is the accessory drive belt free of cracks or fraying?
 - Is the air conditioner compressor securely mounted?
 - Is the water pump free of cracks, looseness, or leaks?
 - Is the fuel water separator/filter free of leaks and securely mounted?
 - Is the fuel pump free of cracks, looseness, or damage?
 - Is the oil filler cap secure and free of cracks?
- **Brakes & Air System:**
 - Are brake chambers securely mounted with band clamps secured?
 - Are brake linings of proper thickness?
 - Are air bags properly inflated?
 - Are slack adjusters and pushrods properly mounted and secure?
 - Are brake lights working?
 - Is the brake pedal travel within limits (no hydraulic fluid leaks)?
 - Are air lines free of bulges, cuts, or tangles, with fittings tight?
 - Is the low air pressure warning signal functioning?
 - Have parking brake and service brake checks been performed (no pulling to left/right)?
- **Tires & Wheels:**
 - Are tires free of abrasions, bulges, or cuts (ABCs)?
 - Is tire pressure at the recommended PSI (e.g., 120 PSI)?
 - Is tread depth at the minimum requirement (e.g., 4/32 min DOT)?
 - Are wheels free of cracks or bends?
 - Is the hub oil at the proper level (if applicable)?
 - Is the outer oil seal free of leaks?
 - Are valve caps present?
 - Are all lug nuts present, with no streaks or shiny areas indicating looseness?
 - For dual tires, is there proper space between them, and nothing stuck?
- **Suspension & Steering:**
 - Are U-bolts free of cracks, loose, or missing nuts?
 - Are leaf springs free of cracks, looseness, or shifting?
 - Are tie rods secured with castle nuts and cotter pins?
 - Are shock absorbers securely mounted and not leaking oil?

- Is the axle free of cracks or bends?
- Is the pitman arm/drag link free of cracks, with castle nut secured by cotter pin?
- Is the steering shaft secure, not loose or damaged?
- Is the steering box free of leaks or damage?
- **Lights & Signals (Exterior Walk-Around):**
 - Are marker lights and headlights working?
 - Are clearance lights working and not broken?
 - Are turn signals (left and right) and four-way flashers working at all locations (front, sides, rear of truck/trailer)?
 - Are high beams and low beams functioning?
 - Are license plate lights working and plate secure/clean?
- **Cab & Interior:**
 - Is the seat belt properly mounted, secure, not ripped/frayed, and adjusts/latches properly?
 - Is the fire extinguisher properly mounted, secure, and fully charged?
 - Are three red reflective triangles present and accessible?
 - Are spare electrical fuses present?
 - Are voltmeter, oil pressure, water temperature, and air pressure gauges showing proper operation?
 - Are city horn and air horn functioning properly?
 - Are windshield and mirrors clean, free of cracks/breaks, and properly adjusted?
 - Are windshield wipers and washers working smoothly, with blades not cracked or dry-rotted?
 - Are heater and defroster working properly?
 - Are lighting indicators (turn signals, high beams) functioning on the dashboard?
 - Are doors free of damage, glass not broken, hinges secured, and open/close well?
 - Are steps mounted and secured?
 - Is the battery box securely mounted with cover latched?
 - Is the DEF cap secured?
 - Is the fuel cap gasket in place, vent in place, and chain securing the cap to the tank?
 - Is the sleeper berth window free of cracks?
- **Rear of Cab & Coupling System:**
 - Is the electrical cord free of bare wire or corrosion, with plug intact?
 - Are air lines not tangled or worn, with rubber grommets not worn and fittings tight?
 - Are cab shock absorbers securely mounted and not leaking oil?
 - Is the cab airbag (bellows) not ruptured and securely mounted?
 - Is the 5th wheel platform well-greased and tilted down?
 - Is the skid plate of the fifth wheel and trailer apron free of debris, cracks, bends, or breaks?
 - Is the electric hook-up free of broken pins, with cover intact?
- **Trailer (Front, Side, Rear):**

- Is the top rail free of cracks or collision damage?
- Is registration present and readable?
- Is the document box present and secure?
- Are side panels free of holes or cuts, with no missing rivets?
- Are latches secured and not damaged?
- Is reflector tape clean?
- Is the splash guard secured?
- Is the bumper not damaged, with no broken welds?
- Are door hooks not loose, with no missing bolts?
- Are hinges not cracked, with no missing bolts?
- Are door seals intact, with no separation or rubber tubing sticking out?
- Is the PM sticker current and legible?
- Is the height sticker legible and legal for the route?
- Is the placard holder not broken or missing rivets?
- Is the tracking device free of cracks or collision damage?
- Are mudflaps properly secured?
- **Cargo & Driver Documentation:**
 - Is all cargo loaded properly and securely, with appropriate straps and chains?
 - Is the driver licensed and insured for the vehicle?
 - Are there any outstanding tickets or violations that may affect the driver's ability to operate the vehicle?
 - Has dispatch been contacted to confirm instructions and directions?

PRE-TRIP INSPECTION QUESTIONS

CARS

1. Are all lights (headlights, brake lights, turn signals) working?
 2. Are mirrors clean and properly adjusted?
 3. Are tires properly inflated with enough tread depth?
 4. Is there any visible damage or leaks under the vehicle?
 5. Are windshield wipers functioning and blades in good condition?
 6. Do brakes feel responsive and firm?
 7. Is the horn working?
 8. Is the fuel level adequate?
 9. Are seatbelts functioning properly?
 10. Is the emergency/parking brake working?
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BUS

1. Are all passenger entry and exit doors operational?
 2. Are all interior and exterior lights working?
 3. Are mirrors and windshield clean and correctly adjusted?
 4. Are tires properly inflated and free from visible damage?
 5. Are all emergency exits functional and clearly marked?
 6. Are fire extinguisher and first aid kits present and intact?
 7. Are steps and floors free of debris and trip hazards?
 8. Does the steering have any excessive play?
 9. Are brakes, including air brakes (if applicable), functioning properly?
 10. Is the stop arm and flashing lights working (for school buses)?
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TRUCKS (Box Trucks, Flatbeds, etc.)

1. Are all lights and reflectors functional and clean?
 2. Are tires in good condition with correct pressure and tread?
 3. Are there any fluid leaks beneath the truck?
 4. Is the cargo secure and within weight limits?
 5. Are mudflaps and fenders intact?
 6. Is the air brake system (if applicable) properly pressurised and leak-free?
 7. Are mirrors and glass clean and undamaged?
 8. Is the horn operational?
 9. Is the fire extinguisher present and charged?
 10. Is the logbook or ELD up to date?
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PICK-UP TRUCKS

1. Are headlights, taillights, and signals functional?
 2. Are tires inflated properly and without damage?
 3. Are mirrors adjusted and clean?
 4. Is the bed or cargo area secure and free from loose items?
 5. Is the hitch secure (if towing)?
 6. Are all fluid levels (oil, coolant, brake, etc.) adequate?
 7. Are brakes responsive and not spongy?
 8. Is the exhaust system functioning without loud noises or smoke?
 9. Is the spare tire in place and in good condition?
 10. Is the jack and tool kit available?
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SUVs

1. Are headlights, fog lights, and indicators working?

2. Are tires appropriate for the road conditions and properly inflated?
 3. Are mirrors and backup cameras functional?
 4. Are roof racks or additional accessories secure?
 5. Is 4WD/AWD system operational (if equipped)?
 6. Are seat belts in good condition?
 7. Are brakes and traction control systems responsive?
 8. Are windshield washer and wiper systems working?
 9. Is the battery secure with no corrosion?
 10. Is there a safety kit or emergency supplies in the trunk?
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HEAVY DUTY VEHICLES (Dump Trucks, Trailers, Construction Vehicles, etc.)

1. Is the air brake system pressurized and leak-free?
 2. Are all lights, reflectors, and warning devices working?
 3. Are all tires and rims in good condition with no bulges or cracks?
 4. Is the suspension system intact?
 5. Are fluids (hydraulic, coolant, brake, oil) at proper levels?
 6. Are load-securing devices in place and tight?
 7. Is the exhaust system intact with no leaks?
 8. Are mirrors and cameras clean and adjusted properly?
 9. Is the fire extinguisher and first aid kit on board?
 10. Are PTOs, dump beds, or other specialized equipment functioning safely?
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QUESTIONS ON POST-TRIP CHECKLIST

A post-trip checklist should include questions about vehicle damage, fluid levels, tire condition, lights, and emergency equipment. It should also address any specific issues noted during the trip and ensure the vehicle is properly secured for the next use.

Here's a more detailed breakdown:

Vehicle Condition:

- **Exterior:**
- Are there any new dents, scratches, or other damage to the vehicle?
- Are all lights (headlights, brake lights, turn signals, hazard lights) working correctly?

- Are the tires properly inflated and in good condition (no cuts, bulges, or excessive wear)?
- Are the windshield wipers and fluid levels adequate?
- Are there any leaks (oil, coolant, etc.) visible under the vehicle?
- Are the mirrors properly adjusted and clean?
- **Interior:**
- Are there any warning lights illuminated on the dashboard?
- Is the horn working?
- Are the brakes functioning properly (including the parking brake)?
- Are the seatbelts in good condition and working correctly?
- Are there any loose items or debris that need to be removed?
- Are the windows and mirrors clean?

Fluid Levels:

- **Engine Oil:** Has the oil level dropped significantly since the last check?
- **Coolant:** Is the coolant level adequate?
- **Brake Fluid:** Is the brake fluid level within the recommended range?
- **Windshield Washer Fluid:** Is there enough fluid for the next trip?
- **Power Steering Fluid:** Is the power steering fluid level sufficient?

Emergency Equipment:

- **Fire Extinguisher:** Is it fully charged and properly mounted?
- **First-Aid Kit:** Is it fully stocked and in good condition?
- **Spare Tire and Tools:** Are they present, in good condition, and readily accessible?
- **Warning Devices:** Are triangles or flares available and in good condition?

POST-TRIP INSPECTION QUESTIONS

CARS – Post-Trip Inspection Questions

1. Did the brakes function properly throughout the trip?
2. Are there any new warning lights on the dashboard?
3. Is there any new visible damage to the body or tires?
4. Is there any unusual smell (burning oil, coolant, etc.) after shutdown?
5. Are all personal items and valuables removed?
6. Was the fuel consumption normal for the trip?
7. Are headlights and interior lights off to avoid battery drain?
8. Is the parking brake engaged securely?
9. Is the steering wheel still responsive and without noise?
10. Are any fluids leaking under the vehicle?

BUS – Post-Trip Inspection Questions

1. Was the brake and air pressure system operating correctly?
 2. Did all doors and emergency exits function as expected?
 3. Were any issues reported by passengers (noises, discomfort, etc.)?
 4. Is the interior clean and free of trash or damage?
 5. Are lights, mirrors, and cameras intact?
 6. Is there any damage or scratches to the exterior?
 7. Are all safety devices (fire extinguisher, first aid kit) still in place?
 8. Are all tires in good condition with no cuts or punctures?
 9. Is the bus parked securely with the parking brake on?
 10. Was any maintenance or fault logged during the journey?
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TRUCKS – Post-Trip Inspection Questions

1. Are there any unusual noises or handling issues noted during the trip?
 2. Did the load shift or become unsecured during transport?
 3. Were all lights working properly?
 4. Are there any visible leaks under the vehicle?
 5. Is the air brake pressure reading normal after shutdown?
 6. Are the tires and rims in good condition (check for flats, damage)?
 7. Are all tools and safety equipment still onboard and secure?
 8. Is the logbook or ELD updated with trip and defect reports?
 9. Is the trailer coupling/hitch secure and undamaged?
 10. Should this vehicle be reported for repair or maintenance?
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PICK-UP TRUCKS – Post-Trip Inspection Questions

1. Did the engine or transmission make unusual noises?
 2. Are there any dashboard alerts or warnings?
 3. Is the cargo area or load still secure and undamaged?
 4. Are there any leaks under the vehicle (oil, coolant, etc.)?
 5. Are the mirrors, lights, and windows intact?
 6. Was the fuel level and mileage as expected?
 7. Are tires in good condition with no visible damage?
 8. Is the tailgate or tonneau cover closed and secure?
 9. Is the vehicle parked with the parking brake engaged?
 10. Are there any new scratches, dents, or damage?
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SUVs – Post-Trip Inspection Questions

1. Was there any abnormal vibration, sound, or steering issue?
 2. Did the 4WD/AWD system function normally (if used)?
 3. Are all lights and indicators functioning?
 4. Are tires intact and properly inflated?
 5. Is the rear cargo area organized and undamaged?
 6. Are warning lights showing on the dashboard?
 7. Is the interior clean and free of loose gear?
 8. Are all windows and sunroof closed?
 9. Are wipers, mirrors, and sensors intact?
 10. Any signs of fluid leaks or overheating after stopping?
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HEAVY DUTY VEHICLES – Post-Trip Inspection Questions

1. Did the brakes (especially air brakes) function properly throughout the trip?
2. Are there any unusual engine noises or dashboard warnings?
3. Did the suspension or steering show any signs of trouble?
4. Is there any fluid leaking under the chassis or trailer?
5. Is the cargo properly contained or secured after transport?
6. Are the tires, mudflaps, and undercarriage in good condition?
7. Is the exhaust system functioning without backfire or smoke?
8. Is the PTO or hydraulic system shut off safely (if applicable)?
9. Is the truck safely parked and wheels chocked (if needed)?
10. Is the driver log updated and defects noted for maintenance?