

ANOTHER TOUCH DRIVER ACADEMY

LESSON 14 & 15

TROUBLESHOOTING AND COMMON DRIVING TERMINOLOGY



INTRODUCTION TO CAR TROUBLESHOOTING

- **DEFINITION:** Car troubleshooting is the process of **diagnosing** and **resolving** issues that affect a vehicle performance or operation.
- **IMPORTANCE:** Early detection of problems can prevent expensive repairs, extend the life of the vehicle and ensure safety on the road.



GENERAL TROUBLESHOOTING PROCESS FOR CARS

STEP 1: IDENTIFY THE PROBLEM

➤ SYMPTOMS:

Listen to unusual **sounds**, feel for **vibrations** and observe any dashboard warning lights.

➤ VEHICLE HISTORY:

Take note of recent repairs, changes or patterns in behaviour (e.g., fuel consumption)

STEP 2: ANALYSE THE PROBLEM

➤ VISUAL INSPECTION:

Check for visible issues such as leaks, loose wires, or worn-out parts.

➤ USE DIAGNOSTIC TOOLS:

Modern Vehicles have On-Board Diagnostic (OBD) systems that provide error codes. An OBD scanner can reveal the exact issue.

GENERAL TROUBLESHOOTING PROCESS FOR CARS

continued

STEP 3: DEVELOP HYPOTHESIS

➤ **NARROW DOWN CAUSES:**

Based on the symptoms, create a list of potential causes (e.g., engine issues, electrical faults, fuel system problems)

➤ **TEST SOLUTIONS:**

Try the simplest fixes first, like checking fluid levels or tightening connections.

STEP 4: IMPLEMENT THE SOLUTIONS

➤ **REPAIR OR REPLACE:**

Based on the diagnoses, repair or replace faulty parts.

➤ **MONITOR PERFORMANCE:**

After fixing, test the car to ensure the problems is resolved.

GENERAL TROUBLESHOOTING PROCESS FOR CARS

continued

STEP 5: PREVENTIVE MEASURES

➤DOCUMENT:

Record the problem and how it was solved for future reference

➤MAINTENANCE:

Regularly service the car to avoid future issues.

COMMON CAR PROBLEMS AND TROUBLESHOOTING

1) Engine Won't Start:

- Symptoms: Engine won't turn or makes clicking sounds
- Possible Causes:
 - ✓ **Dead Battery:** Check battery voltage or connections
 - ✓ **Faulty Starter Motor:** Listen for a Clicking sound indicating starter isn't working.
 - ✓ **Ignition System Problems:** Check the spark plugs or ignition coil.
- Solutions:
 - ✓ **Battery:** Charge or replace the battery
 - ✓ **Starter Motor:** Test or replace the Starter motor.
 - ✓ **Ignition:** Replace spark plugs or the ignition coil if faulty



COMMON CAR PROBLEMS AND TROUBLESHOOTING

2) Engine Overheating: continue

- Symptoms: Engine temperature gauge rising above normal, or steam coming from the hood
- Possible Causes:
 - ✓ **Coolant leak:** Inspect hoses, radiator and coolant reservoir for leaks
 - ✓ **Faulty Thermostat:** Check if the thermostat is stuck or closed.
 - ✓ **Radiator Problems:** Ensure the radiator is clean and not blocked
- Solutions:
 - ✓ **Coolant:** Top up or replace coolant and check for leaks
 - ✓ **Thermostat:** Replace if faulty
 - ✓ **Radiator:** Clean the radiator or replace it if damaged.



COMMON CAR PROBLEMS AND TROUBLESHOOTING

continued

3) Car Stalling or Hesitating

- Symptoms: The engine stalls or hesitates when accelerating or at idle
- Possible Causes:
 - ✓ **Fuel System Issues:** Clogged fuel filter, faulty Pump or bad fuel injectors.
 - ✓ **Air Intake Problems:** Dirty air filter or Throttle body
 - ✓ **Ignition System:** Faulty Spark plugs or ignition coils.
- Solutions:
 - ✓ **Fuel system:** Replace the fuel filter, Clean injectors or test the pump
 - ✓ **Air intake:** Clean or replace the air filter and throttle body.
 - ✓ **Ignition:** Replace worn out spark plugs or coils



COMMON CAR PROBLEMS AND TROUBLESHOOTING

continued

4) Brake Squeaking or Grinding

- Symptoms: Unusual noises when applying the brakes
- Possible Causes:
 - ✓ **Worn out brake Pad:** Pads may wear out to the metal
 - ✓ **Brake Rotors Issues:** Warped or Uneven rotors
 - ✓ **Low Brake Fluid:** Low level fluids can reduce braking power
- Solutions:
 - ✓ Replace worn-out brake pads
 - ✓ Resurface or replace damaged rotors
 - ✓ Top up or replace brake fluid as needed



COMMON CAR PROBLEMS AND TROUBLESHOOTING

5) Poor Fuel Economy continued

- Symptoms: Decreased mileage, frequent trips to the fuel station
- Possible Causes:
 - ✓ **Dirty air filter:** Reduces engine efficiency
 - ✓ **Fuel injector Problems:** Clogged injectors reduce fuel delivery
 - ✓ **Tire Pressure:** Low tire pressure increases rolling resistance.
- Solutions:
 - ✓ Clean or replace a dirty air filter
 - ✓ Clean the fuel injectors
 - ✓ Inflate tires to the recommended pressure.



COMMON CAR PROBLEMS AND TROUBLESHOOTING

6) Transmission Problems continue

- **Symptoms:** Delayed Shifting, Slipping gears, or unusual noises during gear changes
- **Possible Causes:**
 - ✓ **Low Transmission Fluid:** Leads to poor gear engagement and Shifting
 - ✓ **Worn Clutch:** In manual transmission, a worn clutch can cause Slipping
 - ✓ **Transmission Control Module:** Electrical issues affecting gear shifts.
- **Solutions:**
 - ✓ Check levels and top up if necessary or replace old fluid
 - ✓ Replace the clutch if worn out
 - ✓ Diagnose using an OBD scanner and replace faulty components.



DIAGNOSTIC TOOLS FOR CAR TROUBLESHOOTING

- **OBD-II SCANNER**: Retrieves fault codes from the vehicle's computer to help diagnose problems
- **Multimeter**: Used to check electrical circuits, batteries and fuses
- **Fuel Pressure Tester**: Measures fuel pressure in the system to ensure adequate fuel supply
- **Compression tester**: checks the engine's compression levels to identify internal problems



To avoid future Problems: There must be regular checks of engine oil, coolant, brake fluid and transmission fluid. Maintain proper tire pressure and rotate tires every 5000-8000 miles. Also have your brakes inspected and serviced regularly.



COMMON DRIVING TERMINOLOGIES

➤ **Acceleration**

➤ **Brake**

➤ **Dashboard**

➤ **Windshield Wipers**

➤ **Transmission**

➤ **Gear box**

➤ **Parking Brake**

➤ **Headlight**

➤ **Defroster**

➤ **Indicators**

➤ **Speedometer**

➤ **Taillights**

➤ **Blind Spot**

COMMON DRIVING TERMINOL- OGIES continued

Cruise Control: A feature that maintains a constant speed without the driver needing to keep their foot on the accelerator (on highways)

ABS (Anti-lock Braking System): A safety system that prevents the wheels from locking up during braking.

Rev (Revolution Per Minutes-RPM): A measure of the engine's speed, indicating how many times the engine's crankshaft complete a full rotation in a minutes

COMMON DRIVING TERMINOL- OGIES continued

Four-wheel Drive (4WD): A drive train system that powers all four wheels simultaneously for better traction (on off roads)

Hydroplaning: A condition where a vehicle's tire lose contact with the road due to water on the surface, causing loss of control.

**THE
END**

**THANK YOU
FOR YOUR
PARTICIPATION**