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 not 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.

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.

- ✓ **Battery:** Charge or replace the battery
- ✓ **Starter Motor:** Test or replace the Starter motor.
- ✓ **Ignition:** Replace spark plugs or the ignition coil if faulty







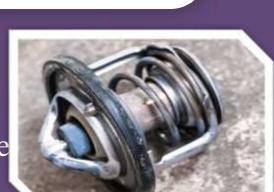
2) Engine Overheating: continue

• **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 blocke

- ✓ 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.

- ✓ **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 our 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

- ✓ Replace worn-out brake pads
- ✓ Resurface or replace damaged rotors
- ✓ Top up or replace brake fluid as needed





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.

- ✓ Clean or replace a dirty air filter
- Clean the fuel injectors
- ✓ Inflate tires to the recommended pressure.



6) <u>Transmission Problems</u> <u>continue</u>

• **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.

- 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 TERMINOLOGIES continued

<u>Cruise Control:</u> 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

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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.

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THANK YOU FOR YOUR PARTICIPATION