



Pathfinder's Name

Automobile Mechanics

- ☐ 1. Properly start an automobile or light truck engine with an automatic transmission and one with a standard transmission.

Explain why it is necessary for the engine to have the proper oil, water, fuel, and battery pressures and levels for proper engine operation.

Oil _____

Water _____

Fuel _____

Battery Pressure _____

- ☐ 2. Explain the principles of:
Four-cycle engines _____

Two-cycle engines _____

Explain the difference between:

Gasoline engines _____

Diesel engines _____

Explain the major differences between:

Carburetor fuel systems _____

Fuel-injection systems _____

- ❑ 3. Describe the construction of a typical gasoline engine

Explain briefly the function of these units:

Engine:

Crankshaft _____

Connecting rods _____

Pistons _____

Camshaft _____

Valves _____

Oil pump _____

Carburetor _____

Fuel injectors _____

Ignition distributor _____

Fuel distributor _____

Electrical system including alternator _____

Battery _____

Regulator _____

Difference between:
Standard transmission _____

Automatic transmission _____

How the engine torque is transmitted to both kinds of transmissions:
Standard _____

Automatic _____

The purpose of overdrive _____

Difference between:

Rear wheel drive _____

Front wheel drive _____

Difference between:

Drum brakes _____

Disk brakes _____

Standard brakes _____

Power brakes _____

Parking brake _____

- ☐ 4. Perform typical automotive maintenance as listed below:
 - a. Check engine and transmission oil levels.
 - b. Check water/anti-freeze level. Change and flush the cooling system.
 - c. Change engine oil and filter.
 - d. Change a tire/wheel assembly, following proper safety procedure.
 - e. Lubricate the chassis according to the vehicle service manual.

- ☐ 5. How often should the engine oil, transmission oil, and cooling fluid be changed?

Engine Oil _____

Transmission Oil _____

Cooling Fluid _____

- ❑ 6. Give some pointers on proper care of the vehicle and its finish, both interior and exterior.

Interior _____

Exterior _____

Automobile Mechanics, Advanced

- ☐ 1. Have the Automobile Mechanics Honor
- ☐ 2. Disassemble, inspect, and reassemble an automobile or light truck engine. Replace any defective or worn parts. Rebuild, start, and operate the vehicle. Keep a complete log of events during the overhaul.
- ☐ 3. Remove and replace a standard or automatic transmission assembly.
- ☐ 4. Rebuild the brake assembly on an automobile or light truck, following proper safety procedures. Demonstrate proper brake bleeding and adjustment. Properly repack a wheel bearing.
- ☐ 5. Perform a minor tune-up, including the replacement of spark plugs and visually checking the electrical system.