



## Automobile Mechanics

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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.
2. Explain the principles of four- and two-cycle engines and the difference between gasoline and diesel engines. Explain the major differences between carburetor fuel systems and fuel-injection systems.
3. Describe the construction of a typical gasoline engine and explain briefly the function of these units:
  - a. Engine: crankshaft, connecting rods, pistons, camshaft, valves, oil pump, carburetor, fuel injectors, ignition distributor, fuel distributor, electrical system including alternator, battery, and regulator
  - b. Difference between standard transmission and automatic transmission and how the engine torque is transmitted to both kinds of transmissions; the purpose of overdrive
  - c. Difference between rear wheel drive and front wheel drive
  - d. Difference between drum brakes and disk brakes, standard brakes and power brakes, and the 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?
6. Give some pointers on proper care of the vehicle and its finish, both interior and exterior.

### Skill Level 2

Original Honor 1928

## Automobile Mechanics, Advanced

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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.

### Skill Level 3

Original Honor 1964