<<   >>

<<   >>

13   ISBN   9787304034580

10   ISBN   7304034580

           2008-10

          182

                     PDF

            http://www.tushu007.com

30

“

”

44

2005   200   60
“   ”

30   15
15

Lesson 1 The History of Automobile1. Early Steam Powered Cars2. Early Electric Cars3. The Internal Combustion Engine and Early Gas-powered Cars. 4. The First Mass Producers of Cars —— The Assembly Line5. The Development of CarsLesson 2 Introduction to Automobile1. Automobile Basic Construction2. Automobile and SocietyLesson 3 Engine Fundamentals1. Main Terms2. Engine Systems3. Engine Operating Principles4. Basic TermsLesson 4 Diesel Engine1. Historic Details of the Diesel Engine2. Cycle of Operation of the Four-stroke Diesel Engine3. Diesel Fuel Supply SystemLesson 5 Two-stroke Engine1. Two-stroke SI Engine2. Two-stroke CI EngineLesson 6 Cylinder Block and Cylinder Head1. Cylinder Block2. Cylinder HeadLesson 7 Piston, Connecting Rod and Crankshaft1. The Piston2. The Connecting Rod3. The CrankshaftLesson 8 The Valve Mechanism of an Engine1. Purpose of Valves2. Operation of Valve Mechanism3. Valve4. CamshaftLesson 9 Engine Lubrication System1. Purposes of Lubrication2. Construction of Lubrication SystemLesson 10 Engine Cooling System1. Purpose of the Cooling System2. Heat Removal3. Types of Cooling SystemLesson 11 Engine Ignition System1. Conventional Ignition System2. Electronic Ignition SystemLesson 12 Engine Starting System1. Starter Motor2. Solenoid Switch3. Ignition/Starter Switch4. Cables5. BatteryLesson 13 Engine Intake and Exhaust System1. Intake System2. Exhaust SystemLesson 14 Gasoline Engine Management System (EMS) 1. Introduction2. The Spark Ignition Engine3. Primary Engine Management Functions4. Cylinder Charge5. Mixture Formation6. IgnitionLesson 15 Gasoline Fuel Supply Systems1. Introduction2. Fuel Delivery SystemLesson 16 Clutch. 1. General2. Design Diagrams of ClutchesLesson 17 Manual Transmission1. Introduction2. Function and ConfigurationLesson 18 Automatic Transmission1. Parts of an Automatic Transmission2. The Fluid Coupling3. How does the Planetary Gear System Work?Lesson 19 Propeller Shafts and Universal Joints1. Introduction2. Propeller Shafts3. Universal Joints4. Cross Type Joint5. Constant Velocity JointLesson 20 Final Drive,Differential and Axles1. Final Drive2. Differential3. Front-wheel Drive (FWD)Lesson 21 Suspension System1. Introduction2. Front Suspension3. Rear SuspensionLesson 22 Steering System1. Overview2. Configuration and Principle Steering GearsLesson 23 Mechanical Brake System1. Overview2. Early Brake Designs3. Automotive Brake Designs4. External Contracting-band Brakes5. Internal Expanding-band Brakes6. Internal Expanding-shoe Brakes7. Disc Brakes8. Brake System Operation9. Service BrakesLesson 24 ABS,TCS and ESP1. Introduction to Anti-lock Braking System (ABS) 2. The Principle of ABS Function3. The Principle of TCS Function4. The Principle of ESP Function5. ESP Electronic Stability ProgramLesson 25 Tires and Wheels1. Introduction2. Tire Characteristics3. Asymmetric-Sre Designs4. Tire Performance5. WheelsLesson 26 Automotive Battery1. Introduction2. Conventional Batteries3. Maintenance-free BatteriesLesson 27 Lighting System1. Introduction2. Lamps3. HeadlightsLesson 28 Instrument Panel1. Introduction2. Speedometers3. Odometers4. Tachometers5. Gauges6. Instrument Voltage Regulator7. Bimetallic GaugesLesson 29 Occupant Safety Systems1. Seat Belts and Seat Belt Tighteners2. Method of Operation3. Frontal Airbag4. Side AirbagLesson 30 Air Conditioning System1. Air Circulation2. Humidity3. Cooling theAir4. Drying and Cleaning the Air5. Anti-icing6. Thermostatic Expansion Valve

5.2 Types of the Batteries   Batteries can be subdivided into two major groups: primary and secondary batteries. Primary batteries are those that are nonrechargeable. Examples of primary batteries include those used in flashlights, calculators, smoke alarms, and radios. Various metals and chemicals are used to manufacture primary batteries.   Secondary batteries are those that can be discharged and recharged repeatedly. This can be done by reversing the normal current flow through the battery. The automobile battery is called a secondary battery because it can be charged and discharged many times.   5.3 Battery Cells   Batteries are made of a number of cells put together. A battery cell is defined as that part of a battery that stores chemical energy for later use. In its simplest form, a battery consists of three components. These include a positive plate   one type of metal   , a negative plate   another type of metal   , and an electrolyte solution. When these three-components, two dissimilar metals and an electrolyte solution, are placed together, electricity can be produced.   All batteries, both primary and secondary batteries, have cells. The difference between battery cells is the type of metals and electrolyte chemicals used in the cells.   ……

<<   >>

PDF

:http://www.tushu007.com