

**STUDY GUIDE**

**FOR**

**AUTOMOTIVE TECHNICIAN II - WRITTEN TEST**

Automotive Technician (AT) II incumbents perform in one of the following work settings:

(1) Maintain a fleet of vehicles; perform preventative maintenance; schedule and verify maintenance and repair; make mechanical and electrical repairs and adjustments; diagnose and inspect motor vehicles and accessories for needed repairs; secure and maintain both manual and computer records on maintenance and servicing of a fleet of vehicles; arrange for disposal of hazardous materials; interpret repair manuals and related materials; maintain tools and equipment; order and maintain inventory of automotive parts and supplies.

(2) Perform equipment installation including the assembly, installation, removal and repair of special enforcement and emergency equipment on motor vehicles, recondition used vehicles, and perform the more complex installation functions including fabrication of new equipment installation techniques.

Successful performance of many of the duties performed by this classification require incumbents to crawl underneath a vehicle/down under the dashboard/into the trunk; lift and carry tires up to 60 pounds in weight; and work in varying, and sometimes extreme, temperatures.

The purpose of this study guide is to help you prepare for the AT II written examination. The written examination measures examinee's knowledge and/or abilities required for success as an AT II. This study guide contains examples of the types of questions that will appear on the examination. Correct answers are indicated with a double asterisk (\*\*).

In addition to reviewing the following sample questions, you may find it helpful to review reference materials similar to the following:

Chilton Service Manuals  
Factory Service Manuals  
ASE Study Guides

**SUBJECT 1: Automotive equipment terminology and parts used in automotive maintenance and repair; and components of a vehicle.**

- 1) A customer reports their vehicle is running cold. What would be could cause of this problem:
- (A) a low coolant level.
  - (B) a blown head gasket.
  - \*\* (C) a stuck open thermostat.
  - (D) an electrical fan not working.
- 2) Typical components of a charging system include all of the following except a/an
- (A) battery
  - (B) regulator
  - (C) alternator
  - \*\* (D) distributor

**SUBJECT 2: Preventative maintenance and repair procedures; service requirements of motor vehicles; use of electric and air-powered tools, accessories, and small hand tools; tools, equipment, and methods used in testing and repairing automotive equipment and accessories; and safety equipment and procedures for hazardous materials.**

- 3) If the front tires of a vehicle are wearing out on the center of the tire tread, this problem is caused by the tires being
- \*\* (A) over inflated.
  - (B) under inflated.
  - (C) out of balance.
  - (D) out of alignment.
- 4) Rotor thickness is best measured with a
- (A) gauge
  - (B) steel ruler
  - \*\* (C) micrometer
  - (D) dial indicator

**SUBJECT 3: Vehicle component warranties, limitations, and requirements; diagnosing automotive equipment malfunctions and making or ordering repairs; analyzing situations and taking effective action; and projecting and evaluating cost effectiveness of maintenance and repair work.**

5) The Ford Police Interceptor Utility Vehicle comes with a three-year/100,000 mile power train warranty that provides coverage for the failure of all internal power train components with no deductible. All of the following components would be covered under the terms of this warranty except the

- (A) oil pump
- (B) pinion seal
- (C) torque converter
- \*\* (D) power steering pump

**SUBJECT 4: Reading automotive repair manuals, charts, invoices, and related materials.**

6) Dodge dealership charges \$200 per hour for service work. Using the following information in the box below, the total service charge would be

Brake Pads and rotors (front & rear)	4 hours
Replacement & Adjustment	Parts (tax included) \$1,100

- (A) \$1,925.
- (B) \$2,000.
- \*\* (C) \$1,900.
- (D) \$1,885.

Instructions: Using the information in the box below, answer the following question.

- 7) Using only the information in the box below, which of the following statements is false

When a driver reports a brake pull or drift, the following procedure should be followed in chronological order to diagnose the cause of the malfunction. The first step is to check the tires/tire pressure. After the tires are checked, the brake pads should be visually inspected to determine whether or not they are wearing evenly. If the pads are wearing evenly, all brake components should be inspected. The next step would be to inspect all suspension components for proper condition/operation. The final step is to determine that the alignment is correct.

- \*\* (A) Brake components should be cleaned and inspected first.  
(B) Suspension components should be checked before the alignment check.  
(C) An alignment check should be completed after the tire pressure is checked.  
(D) The brake pads should be visually inspected before the alignment is checked

**SUBJECT 5: Making arithmetical computations in job-related situations.**

- 8) A facility received a fuel delivery of 9,000 gallons. The total cost of the fuel was \$40,500. The per gallon cost of the fuel is

- (A) \$4.00.  
(B) \$3.89.  
(C) \$5.00.  
\*\* (D) \$4.50.

- 9) A truck travels 600 miles and uses 60 gallons of diesel fuel. How many miles per gallon did this truck achieve

- (A) 5  
(B) 6  
\*\* (C) 10  
(D) 15