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Careers in the Automotive Industry

Chapter Overview

This chapter examines the automotive industry today and points out the changes that are occurring. Professional service provided by a properly trained technician is critical because of the technology used in today’s vehicles. A detailed description is given of what it takes to be a professional technician. Descriptions of career opportunities, job classifications, and ASE certification requirements are provided.

Chapter Objectives

* Describe the reasons why today’s automotive industry is considered a global industry.
* Explain how computer technology has changed the way vehicles are built and serviced.
* Explain why the need for qualified automotive technicians is increasing.
* Describe the major types of businesses that employ automotive technicians.
* List some of the many job opportunities available to people with a background in automotive technology.
* Describe the different ways a student can gain work experience while attending classes.
* Describe the requirements for ASE certification as an automotive technician and as a master auto technician.

Instructional Outline with Teaching Hints

* 1. The Automotive Industry

1. The Importance of Automotive Technicians
2. The Need for Quality Service
3. The Need for Ongoing Service
   1. Warranties

*Hint:* Discuss the costs and limits associated with warranties

1. Career Opportunities
   1. Dealerships
   2. Independent Service Shops
   3. Franchise Repair Shop
   4. Store-Associated Shops
   5. Fleet Service and Maintenance

*Hint:* Discuss career opportunities in all areas of automotive service.

* 1. Job Classifications

1. Service Technician
2. Shop Foreman
3. Service Advisor
4. Service Manager
5. Service Director
6. Parts Counterperson
7. Parts Manager

*Hint:* Discuss the various automotive shop positions and how they each relate to the technicians.

* 1. Related Career Opportunities

1. Parts Distribution
2. Marketing and Sales
3. Other Opportunities

*Hint*: Discuss the major responsibilities and knowledge base required in each job category.

* 1. Training for a Career in Automotive Service

1. Student Work Experience
   1. Job Shadowing Program
   2. Mentoring Program
   3. Cooperative Education and Apprenticeship Programs
   4. Part-Time Employment
   5. Postgraduate Education
2. The Need for Continuous Learning

*Hint:* Discuss the advantages of each form of training.

* 1. ASE Certification

A. NATEF Program Accreditation

*Hint:* Introduce the various programs in your area that are available to students.

Answers to Textbook Review Questions

1. Electronics are widely used because they allow for rapid response to changes in operating conditions; they are inexpensive, lightweight, and very reliable. Legislation has set requirements for safety, emissions, and fuel consumption. Manufacturers must meet the current standards, doing so has affected the design of current vehicles.
2. To become a successful automotive technician you must be able to master and keep up with the latest technologies, and you must possess the skills to work well with people.
3. There are a variety of types of businesses that employ automotive technicians.

* Dealerships provide repair and maintenance on vehicles while they are under warranty and beyond. They offer the technician good technical support, special diagnostic equipment, an opportunity to specialize, and ongoing training. A disadvantage could be becoming limited to one or two particular model lines.
* Independent repair shops service all types of vehicles, sometimes specializing in certain areas of repair, or in either import or domestic vehicles. This type of shop may present constant service and diagnostic challenges to the technician, providing an opportunity to gain a well-rounded technical background. Disadvantages may include less sophisticated diagnostic equipment and less dealership-sponsored training.
* Store-associated shops provide certain specialized services such as brakes, exhaust systems, and wheel and tire repair. An advantage to the technician is the ability to specialize in one area and product. A disadvantage is the lack of opportunity in becoming as well rounded in other areas of automotive service.
* Specialty service shops provide repairs in specialized repair areas such as engine rebuilding, transmission/transaxle overhauling, brake, exhaust, emissions, or electrical systems. Technicians can become very skilled in the specialized area, but they can also limit themselves.
* Fleet service and maintenance shops provide service and maintenance for a fleet of company-owned vehicles. Their technicians can become very familiar with a wide range of vehicles over an extended period of time.

1. There are many ways that you can gain work experience while you are a student. They include:
   * job shadowing
   * mentoring
   * cooperative education
   * apprenticeship
   * part-time employment
2. The term mechanic stresses the ability to repair and service mechanical systems. A technician must have that same mechanical knowledge plus an understanding of other technologies, such as electronics, hydraulics, and pneumatics.
3. b. Often individuals begin their career as an automotive technician in a new car dealership by performing new car prep.
4. True. A typical hybrid vehicle has electric motors and an engine, both of which are used to move the vehicle.
5. c. The Federal Emissions Performance Warranty covers the catalytic converter(s) and engine control module for a period of 8 years or 80,000 miles.
6. d. Scheduled preventive maintenance normally includes oil and filter changes, coolant and lubrication services, replacement of belts and hoses, and replacement of spark plugs, filters, and worn electrical parts.
7. b. In a large new car dealership, the service director oversees the operation of the service department, parts department, and the body shop.
8. b. While a vehicle is still under warranty, repairs are usually performed in dealership service departments.
9. c. Specialty shops perform work on one or more automotive systems.
10. d. The service advisor normally greets the customer and gathers information for the repair order.
11. b. After an individual passes a particular certification exam, he or she has only satisfactorily completed the voluntary exam requirement for certification in that test area, but must still complete the work experience requirement before he or she can be certified. Many ASE certification questions force the student to choose between two distinct repair or diagnostic methods.
12. d. A successful technician must possess each of the skills listed.
13. b. Two years of work experience are required to complete ASE certification. Two years of formal training count as one of the two required years of hands-on experience.
14. b. Master automotive technicians are certified in all eight ASE areas.
15. a. Batteries and other automotive parts have prorated warranties.
16. c. Aftermarket parts stores that sell to both the general public and to service shops are referred to as jobbers. Warehouse distributors do not generally sell to the general public, and mass merchandisers selling automotive products are retail outlets.
17. d. Technical training and support is supplied by original equipment manufacturers (OEMs), aftermarket parts manufacturers, jobbers, tool and equipment suppliers, and others.

Answers to Tech Manual Review Questions

* + - 1. Jobs available include automotive technician, shop foreman, service advisor, service manager, service director, parts person, marketing, and sales.
      2. A cooperative program is when the student alternates between going to school and going to work.
      3. A warranty is a guarantee from the manufacturer that the vehicle will be free of problems, and if any problems do arise, the manufacturer will pay the cost of repairs. New car warranties include the Federal Emissions Defect Warranty and the Federal Emissions Performance Warranty.
      4. Diagnose vehicle problems, perform necessary tests, competently repair or replace faulty components.
      5. Passing an ASE test and have a minimum of two years of work experience.

ANSWERS TO TECH MANUAL CONTENT QUESTIONS

CA 1–1

* + - 1. Answers may vary: Automotive technicians often identify mechanical problems, test parts and systems, follow checklists, perform basic care and maintenance services, repair or replace worn parts, disassemble and reassemble parts, use testing equipment, and talk to clients.
      2. Projected to grow faster than average, demand will increase as the number of vehicles in service increases.
      3. Average pay was over $36,000, the lowest 10% earned less than $20,000 and the highest 10% earned over $60,000.

CA 1–4

1. Pass an ASE test and have a minimum of two years work experience. One year of work experience can be substituted by two years of formal automotive training
2. Answers may vary.