

# section 1

# SERVICE OPERATIONS

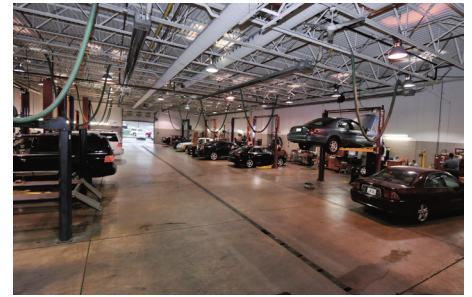
**CHAPTER 1: The Automotive Service Industry 2**

**CHAPTER 2: Physical Resources 9**

**CHAPTER 3: Human Resources 21**

**CHAPTER 4: The Repair System 32**

**CHAPTER 5: Repair Documents 44**



**T**he automotive industry plays a very important role in our economy and our lives. From the use of natural resources to manufacture of parts and subassemblies, through the automobile manufacturing process and on to the service and repair of vehicles on the road, the economic impact of the auto industry is a major force in the economy worldwide. Automotive service plays an essential role in the support of this mammoth industry.

Many resources are required to provide the proper service environment. These resources include the buildings and equipment required to perform service. They also include the skilled people needed to staff and operate repair shops. Service departments are far more than simply a place where technicians repair vehicles. Many support functions need to be performed to meet customer needs, and qualified personnel are needed to perform these essential tasks.

The interplay of the physical and manpower resources in automotive service forms a complex system that needs to be expertly managed and directed. The service manager is the individual who is primarily responsible for orchestrating and coordinating the complex operations that make up the service system.

**Author's Note:** For the purposes of our discussion in this book, the job titles and responsibilities listed represent how work is commonly divided in a larger shop. However, it is essential that you realize that in a smaller shop, all the work must be distributed among a smaller number of people. Thus, while they will not have to deal with the large volume of work present in a large shop, they will generally be expected to cover multiple areas of responsibility.



# chapter 1

## THE AUTOMOTIVE SERVICE INDUSTRY

**CHAPTER OBJECTIVES:** • To understand the size and current state of the automotive service industry in North America and globally • To recognize the challenges facing those in the automotive service industry in developed countries and also in developing nations • To identify the major types of repair organizations that make up the service industry • To compare and contrast the unique benefits and challenges of the different types of repair organizations

**KEY TERMS:** • service departments • independent repair shops • service chain stores • service stations • fleets

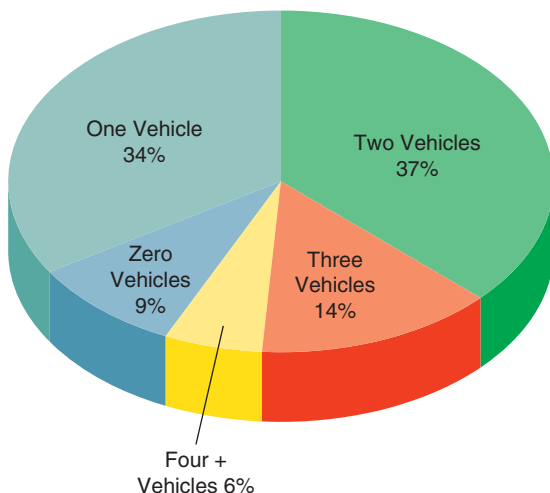
### INTRODUCTION

Wherever you live and wherever you travel, cars and trucks play an essential role in the everyday lives of people and the economy of the nation. The worldwide market for automobiles continues to grow in leaps and bounds in both the developing and industrialized nations. In the industrialized nations, there are, on average, two vehicles per household, and this number continues to grow. In the United States, more than 20 percent

“over 260 million cars and trucks registered in the United States.”

of households report that they have more than three vehicles (● FIG. 1–1). Currently, there are over 260 million cars and trucks registered in the United States.

This number has grown by 29 percent in the past twenty years (1994–2014) (U.S. Department of Transportation, 2014).



**FIGURE 1–1** Vehicles per household in the United States.

Globally, the total number of vehicles in operation surpassed one billion for the first time in 2011 (Sousanis, 2011).

Globally, China has been the world’s largest auto market since 2009, surging 13.9 percent to 21.98 million vehicles in 2014 (Savadore, 2014). Today, there is hardly a location on earth where there are no cars. In developing countries, access to individual transportation is a major focus as they work to build their economies. A 2009 report from Yale University indicates that the number of vehicles worldwide “is expected to hit the two billion mark within 20 years” (Gordon, 2010). The rapidly expanding worldwide growth of automobiles and trucks strongly indicates a bright future for a robust automotive service industry to keep them running.

### THE STATE OF THE INDUSTRY

The demand for vehicle service continues to grow faster than the supply. The U.S. Department of Labor (USDOL) indicates that in the United States, there are 739,900 automotive service technicians and mechanics (Bureau of Labor Statistics, 2017). There continues to be a shortage of qualified technicians. Further, future USDOL projections indicate that the shortage will continue to grow as the current population of technicians ages and retires faster than they can be replaced by entry-level technicians. They also predict that by 2024, annual demand for technicians will grow by 5 percent.

“there continues to be a shortage of qualified technicians”

“There’s a general consensus in the industry that there’s a serious shortage of automotive technicians

able to work on today's advanced cars and trucks."

(Automotive News, 2016)

"Up to 5,000 job vacancies in Britain's automotive industry could be vacant due to the skills shortage affecting the sector, claims a new report published by the Automotive Council."

(Ford, 2016)

A similar chronic shortage continues to be the cause of alarm around the world.

"According to an industry scan by Auto Skills Australia, in 2012/13 there is an Australian shortage of 19,000 skilled mechanics alone."

(Australian Motor Industry Federation, 2015)

"The automotive service sector, both the independents and the new car dealers, are currently experiencing a shortage of 4,984 qualified automotive service technicians Canada-wide."

(Voth, 2013)

At the same time that nations with more mature, well-developed automotive service industries are struggling to find qualified employees, developing countries around the world not only struggle to find technicians and other service employees but also travel to the United States and other nations seeking insights for building an automotive service infrastructure. For example, many delegations from China have toured U.S. educational institutions in recent years to understand how our service infrastructure operates and to learn what they must do so that they can manage the explosion in demand that they are currently experiencing.

These technician shortages are a clear example of the global issue of increasing demand and growing shortages. The automotive service industry is more than just technicians, however. There are critical needs in all service support positions. National data indicates that the automotive service industry accounts for 59 percent of the total jobs in the automotive industry. According to 2016 data from the U.S. Bureau of Labor Statistics, the production support activities needed in service operations account for more than half of

the total jobs in the industry. Management and sales-related jobs (for example, service consultants) account for about 15 percent of the support positions in service organizations. The 3 percent of all automotive service employees that are managers are responsible for guiding and directing the other 98 percent and are accountable and responsible for 100 percent of the final results. In this book, we will focus on the skills and responsibilities needed to guide and direct that 97 percent (United States Department of Labor, 2016).

"majority of automotive technicians are employed at independent repair shops"

## SERVICE MARKET SEGMENTS

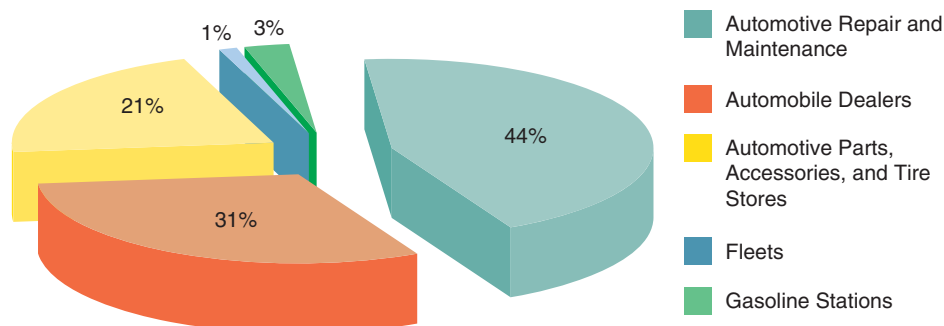
The automotive service industry has five major market segments:

- New car and truck dealerships
- Automotive repair and maintenance shops
- Automotive parts, accessories, and tire stores
- Gas stations
- Fleets

The majority of automotive technicians in the United States are employed at independent repair shops. This is closely followed by new car and truck dealerships. ● **FIGURE 1-2** shows the part that each segment plays in the total number of technicians.

Each of these major market segments poses unique characteristics, needs, and challenges for employees. Let us briefly explore each of them.

**NEW CAR AND TRUCK DEALERSHIPS** According to the Bureau of Labor Statistics, automobile dealership service departments account for 31 percent of the total automotive service market (United States Department of Labor, 2016). Dealerships play a unique role in the automotive service industry. As the



**FIGURE 1-2** Where auto techs are employed in the United States.



**FIGURE 1-3** New car and truck dealership.  
*Source:* U.S. Department of Labor, BLS, March 2016.

only factory-approved sites for warranty repairs, dealerships are solely responsible to make all the warranty repairs to vehicles. Because of this mandatory specialty, service work in new car and truck dealership (● **FIG. 1-3**) **service departments** has historically been dominated by warranty repairs.

Because of their close ties with a specific manufacturer, dealership service departments specialize in the maintenance and repair of the specific make and models that they have been awarded an exclusive franchise to sell and service in their market. Also because of this agreement, they are solely responsible for the warranty repairs of that brand of vehicles in their area. As part of this close tie with the manufacturer, these service departments have access to the latest technical support data on those models. Thus, historically, even when maintenance and customer-paid work are involved, they tend to limit their work only to their manufacturer's products.

"solely responsible for warranty repairs of that brand"

In recent years, because of dramatic improvements in product quality, dealership service departments, which were originally built to support huge volumes of warranty work, have begun to look for other sources of work to sustain their large operations. Dealership service departments have actively become more engaged in retail sales of repairs and preventive maintenance. Whereas two decades ago, many dealerships generated 60 percent or more of their total business with warranty repairs, this percentage of total work has significantly declined. Recent industry trends indicate that the volume of warranty repairs is less than one-third of what it was twenty years ago. To address this decline in warranty repairs, dealerships have shifted their focus to the highly competitive retail service business. Even though their total market share of retail repairs and maintenance still hovers in the 30 percent range, in most markets, dealerships are making a concerted effort to increase this market share.

Another unique trait of dealership service departments is that they are a small part of a much larger organization. Dealerships are a group of diverse operations all working under one roof. The six major departments in dealerships (new vehicle sales, used vehicle sales, service, parts, body shop, and car

leasing) are commonly managed and operate as unique and separate subcompanies within the organization.

Although the service department is only one of six profit centers of the overall dealership operation, it is essential to dealership stability and profitability. Dealers depend on service as an essential profit center that produces a steady source of income that they can count on to pay the bills each month.

### **AUTOMOTIVE REPAIR AND MAINTENANCE SHOPS**

Unlike dealerships, automotive repair and maintenance shops are **independent repair shops** (● **FIG. 1-4**) that operate as single-purpose organizations. Their sole purpose is to repair and service vehicles. Independent shops range in size from locally owned one-bay proprietorships to large multibay shops that are comparable in size to some of the local new car dealerships. In most cities, the number of independent service shops is much larger than the number of dealerships. In total, they comprise the single largest segment of the U.S. auto repair industry, employing 44 percent of all technicians (United States Department of Labor, 2016).

Automotive repair and maintenance shops do not have a built-in referral business from their sales departments as do new vehicle dealerships. They cannot depend upon the consistent flow of manufacturer-paid warranty repairs. Conversely, they do not carry the liability and burden of being the sole source for resolving some of the difficult new vehicle problems. Their singular focus is customer-paid maintenance and repair work. Nationally, automotive repair and maintenance shops account for more of the total service business than dealerships. In addition, they generate more than double the amount of customer-paid service of their dealership counterparts.

Unlike dealerships that focus on servicing only one make of vehicle, automotive repair and maintenance shops are not tied to any specific manufacturer. They work on multiple makes, models, and years of vehicles that come to them for service or repairs. To be successful, their technicians must be jacks-of-all trades. However, it is not uncommon in any city to find some shops that have chosen to specialize in a

"not tied to any specific manufacturer"



**FIGURE 1-4** Automotive repair shop.

specific segment of the market (such as domestic, European, or Asian vehicles).

One of the greatest challenges to the independent repair organizations (non-dealerships) in automotive service is access to technical information and training. The manufacturers open their books only to their franchised dealers, providing those dealers with the latest specific technical information; this poses an ongoing challenge to others in the service industry. Independent repair organizations must actively seek out information on a broad array of vehicles and vehicle systems, yet their access to manufacturer technical data and specifications is limited. While this is a major challenge, intervention by the federal government to standardize diagnostic codes and routines and provide more open access industrywide along with the rapid expansion in access to technical information via the Web have been of great help to improve this situation.

### AUTOMOTIVE PARTS, ACCESSORIES, AND TIRE STORES

Major regional and national *automotive parts, accessories, and tire stores* (● FIG. 1-5) have been the outgrowth of some of the larger parts and service retailers over the years. They are commonly referred to as **service chain stores**. Much like car dealerships, these companies house several unique departments. Whether their core business is tires, mufflers, batteries, or general parts, the service operation is most often only one profit center among several. There, however, are many ways that these organizations are more similar to their smaller automobile repair and maintenance shop cousins than they are to dealerships.

These service departments generally work on all makes and models of vehicles. They also work with limited access to manufacturer technical information. One unique benefit that they possess, however, is that they are part of a larger network of shops. Because they are part of a large group of identical shops in varying locations, they can share information, training opportunities, and even equipment and tools across different sites to become more efficient.

“they are part of a larger network of shops”

they are part of a larger network of shops. Because they are part of a large group of identical shops in



FIGURE 1-5 Parts, accessories, and tire store.



FIGURE 1-6 Gas station.

Although some exceptions exist, large chain operations tend to be “semi-specialists”—that is, they intentionally limit their range of work. For example, if they are part of a major tire store chain, they may choose to focus primarily on tires, suspension, and brake repairs. Although they may accept some minor repairs to some other car systems, they will most often completely, and by the company’s edict, steer clear of heavy mechanical or electronic repairs or troubleshooting.

“specialists in working within their unique market”

**GAS STATIONS** Although gas station repair shops (● FIG. 1-6) have been an institution in automotive repair since the automobile’s introduction over a hundred years ago, their numbers have declined significantly over the past decade. Today, they employ just over 3 percent of the total number of automotive technicians in the United States (United States Department of Labor, 2016). This is primarily because of the difficulties in keeping up with the technology and the high cost of specialized equipment, tools, and training. In the limited space that most gas stations can provide (typically one to three service bays), the cost to equip the shop is often prohibitive.

“numbers have declined significantly over the past decade”

These small businesses face the same challenges as the automotive repair and maintenance shops but with only a fraction of the space and production capacity to make them profitable. Unfortunately, because of these trends, many of the existing **service stations** have converted their service bays into convenience stores. As new gas stations are built, they are rarely designed as service stations, their previous common name and description. They are most likely to begin life selling gasoline, soft drinks, chips, and other convenience items rather than venture into the highly competitive automotive repair business.

**FLEETS** Fleet service operations are departments within companies or governmental agencies that maintain and repair only those vehicles that are owned or leased by that company



**FIGURE 1-7** Fleet.

or agency. These shops do not accept business from the general population. Their sole responsibility is to keep as much of their fleet up and properly running at all times. These fleets range widely in size and variety of vehicles serviced.

Many corporate fleets (● **FIG. 1-7**) limit the number of makes and models of vehicles that they service at any one time. This helps to simplify their needs for technical information and allows them to become specialists in working within their unique market. Fleet service departments are support functions of an organization in another primary business. Therefore, the composition of their pool of vehicles is dictated by the business that they are engaged in. For example, the fleet of the local transit authority may have several makes and models of vehicles in its fleet at any one time. With rare exception, however, the composition of the fleet is normally

dominated by buses. Likewise, a fleet service working with the state police specializes in preparation, maintenance, and repair of police cruisers.

Fleet services, like their other independent repair shop counterparts in the service industry, struggle to obtain technical information. There are exceptions to the rule, however. Because many of the larger fleets purchase large numbers of new cars or trucks every year from major automotive manufacturers, they may request and be granted special privileges by these manufacturers. This may include access to the manufacturer's latest technical bulletins and service manuals and even access to direct training from the manufacturer. Some of the largest of these fleets are even granted the status of becoming local warranty service centers, which allows them to perform their own warranty-reimbursed repairs in-house.

## SUMMARY

In this chapter, we learned about the size and importance of the automotive service industry today and into the future. The need for automotive service is very large in North America and around the globe. Many countries report a shortage of qualified technical workers in the automotive service industry, and this shortage is growing at an alarming rate. This growth in the need of service workers is not limited just to the major industrialized nations. It has more recently taken on greater importance in many of the developing nations.

The automotive service industry is divided into five distinct types of service operations: dealership service departments, independent repair shops, chain stores, gas stations, and fleets. All of these groups experience unique challenges in the marketplace. Now that you have a general idea of the size of the business that you are getting into, let us explore in detail what it takes to build, maintain, and staff a service operation.

## PRACTICING THE PRINCIPLES

1. Which of the following service operations may be authorized to perform manufacturer warranty repairs?
  - a. fleets
  - b. independent repair shops
  - c. tire stores
  - d. chain stores
  - e. none of the above
2. Automotive parts, accessories, and tire stores may provide vehicle service, but it is likely to be
  - a. low priced.
  - b. limited in areas of service provided.
  - c. poor quality.
  - d. all of the above
  - e. none of the above

3. The type of shop that is most likely to have access to the latest manufacturer bulletins and technical information is a
  - a. new car dealership.
  - b. large fleet.
  - c. new truck dealership.
  - d. all of the above
  - e. none of the above
4. Which type of service shop will not provide service to all makes and models of vehicles?
  - a. independent repair shop
  - b. tire store
  - c. chain store
  - d. all of the above
  - e. none of the above
5. Even though the demand for service continues to grow, the one type of shop that is rapidly vanishing is a
  - a. tire store.
  - b. chain store.
  - c. gas station.
  - d. all of the above
  - e. none of the above
6. According to reports, there are more than \_\_\_\_\_ vehicles in operation worldwide.
  - a. 6 billion
  - b. 835,000
  - c. 1 billion
  - d. 2.6 million
  - e. 600 million
7. Automotive repair accounts for \_\_\_\_\_ percent of the total number of employees in the automotive industry.
  - a. 52
  - b. 67
  - c. 59
  - d. 75
  - e. 92
8. There are currently \_\_\_\_\_ automotive technicians employed in the United States.
  - a. 434,500
  - b. 520,000
  - c. 739,900
  - d. 270,900
  - e. none of the above
9. Shortages of qualified technicians have been reported in the United States and
  - a. Canada.
  - b. Europe.
  - c. China.
  - d. all of the above
  - e. none of the above
10. One of the greatest challenges to the nondealership organizations in automotive service is
  - a. being price competitive.
  - b. access to technical information.
  - c. access to factory technical training.
  - d. a and b.
  - e. b and c.

## KEY TERMS AND DEFINITIONS

**Service Departments** Dedicated service facilities that are a part of all new car and truck dealerships; the sole warranty repair stations that perform general maintenance and repairs as well. (p. 4)

**Independent Repair Shops** Single-purpose service shops that are not affiliated with a specific manufacturer or product; perform service and repairs on a wide range of vehicles. (p. 4)

**Service Chain Stores** Stand-alone service centers that are part of a group of independent repair shops, owned and

operated in conjunction with a major provider of parts or accessories. (p. 5)

**Service Stations** Gas stations that also provide automotive service repairs and maintenance. (p. 5)

**Fleets** A group of vehicles that are owned and operated by a company or government agency to support its business operations. (p. 5)

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