Automotive Body and Related Repairers

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Significant Points

- To become a fully skilled automotive body repairer, formal training followed by on-the-job instruction is recommended because fixing newer automobiles requires advanced skills.
- Excellent job opportunities are projected because of the large number of older workers who are expected to retire in the next 10 to 15 years.
- Repairers need good reading ability and basic mathematics and computer skills to use print and digital technical manuals.

Nature of the Work

Most of the damage resulting from everyday vehicle collisions can be repaired, and vehicles can be refinished to look and drive like new. *Automotive body repairers*, often called collision repair technicians, straighten bent bodies, remove dents, and replace crumpled parts that cannot be fixed. They repair all types of vehicles, and although some work on large trucks, buses, or tractor-trailers, most work on cars and small trucks. They can work alone, with only general direction from supervisors, or as specialists on a repair team. In some shops, helpers or apprentices assist experienced repairers.

Each damaged vehicle presents different challenges for repairers. Using their broad knowledge of automotive construction and repair techniques, automotive body repairers must decide how to handle each job based on what the vehicle is made of and what needs to be fixed. They must first determine the extent of the damage and order any needed parts.

If the car is heavily damaged, an automotive body repairer might start by realigning the frame of the vehicle. Repairers chain or clamp frames and sections to alignment machines that use hydraulic pressure to align damaged components. "Unibody" vehicles—designs built without frames—must be restored to precise factory specifications for the vehicle to operate correctly. For these vehicles, repairers use benchmark systems to accurately measure how much each section is out of alignment, and hydraulic machinery to return the vehicle to its original shape.

Once the frame is aligned, repairers can begin to fix or replace damaged body parts. If the vehicle or part is made of metal, body repairers will use a pneumatic metal-cutting gun or other tools to remove badly damaged sections of body panels and then weld in replacement sections. Less serious dents are pulled out with a hydraulic jack or hand prying bar or knocked out with handtools or pneumatic hammers. Small dents and creases in the metal are smoothed by holding a small anvil against one side of the damaged area while hammering the opposite side. Repairers also remove very small pits and dimples with pick hammers and punches in a process called metal finishing. Body repairers use plastic or solder to fill small dents that cannot be worked out of plastic or metal panels. On metal panels, they file or grind the hardened filler to the original shape and clean the surface with a media blaster—similar to a sand blaster—before repainting the damaged portion of the vehicle.

Body repairers also repair or replace the plastic body parts that are increasingly used on new vehicles. They remove damaged panels and identify the type and properties of the plastic used. With most types of plastic, repairers can apply heat from a hot-air welding gun or immerse the panel in hot water and press the softened section back into shape by hand. Repairers replace plastic parts that are badly damaged or very difficult to fix. A few body repairers specialize in fixing fiberglass car bodies.

Some body repairers specialize in installing and repairing glass in automobiles and other vehicles. *Automotive glass installers and repairers* remove broken, cracked, or pitted windshields and window glass. Glass installers apply a moisture-proofing compound along the edges of the glass, place the glass in the vehicle, and install rubber strips around the sides of the windshield or window to make it secure and weatherproof.

Many large shops make repairs using an assembly-line approach where vehicles are fixed by a team of repairers who each specialize in one type of repair. One worker might straighten frames while another repairs doors and fenders, for example. In most shops, automotive painters do the painting and refinishing, but in small shops, workers often do both body repairing and painting. (Automotive painters are discussed in the section on painting and coating workers, except construction and maintenance elsewhere in the *Handbook*.)

Work environment. Repairers work indoors in body shops that are noisy with the clatter of hammers against metal and the whine of power tools. Most shops are well ventilated to disperse dust and paint fumes. Body repairers often work in awkward or cramped positions, and much of their work is strenuous and dirty. Hazards include cuts from sharp metal edges, burns from torches and heated metal, injuries from power tools, and fumes from paint. However, serious accidents usually are avoided when the shop is kept clean and orderly and safety practices are observed. Automotive repair and maintenance shops averaged 4 cases of work-related injuries and illnesses per 100 full-time workers in 2005, compared to 4.6 per 100 workers in all private industry.

Most automotive body repairers work a standard 40-hour week. More than 40 hours a week may be required when there

Automotive body repairers remove, repair, and replace car and truck parts that have been damaged.

is a backlog of repair work to be completed. This may include working on weekends.

Training, Other Qualifications, and Advancement

Automotive technology is rapidly becoming more sophisticated, and most employers prefer applicants who have completed a formal training program in automotive body repair or refinishing. Most new repairers complete at least part of this training on the job. Many repairers, particularly in urban areas, need a national certification to advance past entry-level work.

Education and training. A high school diploma or GED is often all that is required to enter this occupation, but more specific education and training is needed to learn how to repair newer automobiles. Collision repair programs may be offered in high school or in postsecondary vocational schools and community colleges. Courses in electronics, physics, chemistry, English, computers, and mathematics provide a good background for a career as an automotive body repairer. Most training programs combine classroom instruction and hands-on practice.

Trade and technical school programs typically award certificates to graduates after 6 months to a year of collision repair study. Some community colleges offer 2-year programs in collision repair. Many of these schools also offer certificates for individual courses, so that students are able to take classes incrementally or as needed.

New repairers begin by assisting experienced body repairers in tasks such as removing damaged parts, sanding body panels, and installing repaired parts. Novices learn to remove small dents and make other minor repairs. They then progress to more difficult tasks, such as straightening body parts and returning them to their correct alignment. Generally, it takes 3 to 4 years of hands-on training to become skilled in all aspects of body repair, some of which may be completed as part of a formal education program. Basic automotive glass installation and repair can be learned in as little as 6 months, but becoming fully qualified can take several years.

Continuing education and training are needed throughout a career in automotive body repair. Automotive parts, body materials, and electronics continue to change and to become more complex. To keep up with these technological advances, repairers must continue to gain new skills by reading technical manuals and furthering their education with classes and seminars. Many companies within the automotive body repair industry send employees to advanced training programs to brush up on skills or to learn new techniques.

Other qualifications. Fully skilled automotive body repairers must have good reading ability and basic mathematics and computer skills. Restoring unibody automobiles to their original form requires repairers to follow instructions and diagrams in technical manuals and to make precise three-dimensional measurements of the position of one body section relative to another. In addition, repairers should enjoy working with their hands and be able to pay attention to detail while they work.

Certification and advancement. Certification by the National Institute for Automotive Service Excellence (ASE), although voluntary, is the pervasive industry credential for non entry-level automotive body repairers. This is especially true in large, urban areas. Repairers may take up to four ASE Master Collision Repair and Refinish Exams. Repairers who pass at least one exam and have 2 years of hands-on work experience earn ASE certification. The completion of a postsecondary program in automotive body repair may be substituted for 1 year of work experience. Those who pass all four exams become ASE Master Collision Repair and Refinish Technicians. Automotive body repairers must retake the examination at least every 5 years to retain their certification. Many vehicle manufacturers and paint manufacturers also have product certification programs that can advance a repairer's career.

As beginners increase their skills, learn new techniques, earn certifications, and complete work more rapidly, their pay increases. An experienced automotive body repairer with managerial ability may advance to shop supervisor, and some workers open their own body repair shops. Other repairers become automobile damage appraisers for insurance companies.

Employment

Automotive body and related repairers held about 206,000 jobs in 2006; about 13 percent specialized in automotive glass installation and repair. Fifty-eight percent of repairers worked for automotive repair and maintenance shops in 2006, while 20 percent worked for automobile dealers. Others worked for organizations, such as trucking companies, that maintain their own motor vehicles. A small number of repairers worked for wholesalers of motor vehicles, parts, and supplies. More than 15 percent of automotive body repairers were self-employed, roughly double the number for all installation, maintenance, and repair occupations.

Job Outlook

Employment of automotive body and related repairers is expected to grow about as fast as average through the year 2016, and job opportunities are projected to be excellent due to a growing number of retirements in this occupation.

Employment change. Employment of automotive body repairers is expected to grow 12 percent over the 2006-16 decade, as compared to 10 percent for all occupations. Demand for qualified body repairers will increase as the number of vehicles on the road continues to grow. With more motor vehicles in use, more vehicles will be damaged in accidents. In addition, new automotive designs of lighter weight are prone to greater collision damage than are older, heavier designs, so more repairs are needed. Employment growth will continue to be concentrated in automotive body, paint, interior, and glass repair shops, with little or no change in automotive dealerships.

Despite the anticipated increase in the number of auto accidents, the increasing demand for automotive body repairers will be tempered by improvements in the quality of vehicles. Also, technological innovations that enhance safety will reduce the likelihood of accidents.

Demand for automotive body repair services will similarly be constrained as more vehicles are declared a total loss after accidents. In many such cases, the vehicles are not repaired because of the high cost of replacing the increasingly complex parts and electronic components and because of the extensive damage that results when airbags deploy. Also, higher insurance premiums and deductibles mean that minor damage is more often going unrepaired. Larger shops are instituting pro-

Projections data from the National Employment Matrix

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-16	
				Number	Percent
Automotive body and related repairers	—	206,000	232,000	26,000	12
Automotive body and related repairers	49-3021	183,000	204,000	21,000	12
Automotive glass installers and repairers	49-3022	24,000	28,000	4,400	19

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

ductivity enhancements, such as employing a team approach to repairs, which may limit employment growth by reducing the time it takes to make repairs.

Job prospects. Employment growth will create some opportunities, but the need to replace experienced repairers who transfer to other occupations or who retire or stop working for other reasons will account for the majority of job openings over the next 10 years. Opportunities will be excellent for people with formal training in automotive body repair and refinishing. Those without any training or experience in automotive body refinishing or collision repair—before or after high school—will face competition for these jobs.

Experienced body repairers are rarely laid off during a general slowdown in the economy as the automotive repair business is not very sensitive to changes in economic conditions. Although repair of minor dents and crumpled fenders is often put off when drivers have less money, major body damage must be repaired before a vehicle can be driven safely.

Earnings

Median hourly wage-and-salary earnings of automotive body and related repairers, including incentive pay, were $16.92 in May 2006. The middle 50 percent earned between $13.00 and $22.33 an hour. The lowest 10 percent earned less than $10.10, and the highest 10 percent earned more than $28.71 an hour. Median hourly earnings of automotive body and related repairers were $17.85 in automobile dealers and $16.66 in automotive repair and maintenance.

Median hourly wage-and-salary earnings of automotive glass installers and repairers, including incentive pay, were $14.77. The middle 50 percent earned between $11.44 and $18.42 an hour. The lowest 10 percent earned less than $9.19, and the highest 10 percent earned more than $22.22 an hour. Median hourly earnings in automotive repair and maintenance shops, the industry employing most automotive glass installers and repairers, were $14.80.

The majority of body repairers employed by independent repair shops and automotive dealers are paid on an incentive basis. Under this system, body repairers are paid a set amount for various tasks, and earnings depend on both the amount of work assigned and how fast it is completed. Employers frequently guarantee workers a minimum weekly salary. Body repairers who work for trucking companies, buslines, and other organizations that maintain their own vehicles usually receive an hourly wage.

Helpers and trainees typically earn between 30 percent and 60 percent of the earnings of skilled workers. They are paid by the hour until they are skilled enough to be paid on an incentive basis.

Employee benefits vary widely from business to business. However, industry sources report that benefits such as paid leave, health insurance, and retirement assistance are increasingly common in the collision repair industry. Automotive dealerships are the most likely to offer such incentives.

Related Occupations

Repairing damaged motor vehicles often involves working on mechanical components, as well as vehicle bodies. Automotive body repairers often work closely with individuals in several related occupations, including automotive service technicians and mechanics, diesel service technicians and mechanics, auto damage appraisers, and painting and coating workers, except construction and maintenance. Automotive glass installers and repairers complete tasks very similar to those of glaziers.

Sources of Additional Information

Additional details about work opportunities may be obtained from automotive body repair shops, automobile dealers, or local offices of your State employment service. State employment service offices also are a source of information about training programs.

For general information about automotive body repairer careers, contact any of the following sources:

➤ AutomotiveCareersToday,8400WestparkDr.,MS#2,McLean, VA 22102. Internet: **http://www.autocareerstoday.org**

➤ Automotive Service Association, P.O. Box 929, Bedford, Texas 76095. Internet: **http://www.asashop.org**

➤ Inter-Industry Conference On Auto Collision Repair Education Foundation (I-CAR), 5125 Trillium Blvd., Hoffman Estates, IL 60192. Internet: **http://www.collisioncareers.org**

➤ National Automobile Dealers Association, 8400 Westpark Dr., McLean, VA 22102. Internet: **http://www.nada.org**

For general information about careers in automotive glass installation and repair, contact:

➤ National Glass Association. 8200 Greensboro Dr., Suite 302, McLean, VA 22102. Internet: **http://www.glass.org**

For information on how to become a certified automotive body repairer, write to:

➤ National Institute for Automotive Service Excellence (ASE), 101 Blue Seal Dr. SE., Suite 101, Leesburg, VA 20175. Internet: **http://www.asecert.org**

For a directory of certified automotive body repairer programs, contact:

➤ National Automotive Technician Education Foundation, 101 Blue Seal Dr., SE., Suite 101, Leesburg, VA 20175. Internet: **http://www.natef.org**

For a directory of accredited private trade and technical schools that offer training programs in automotive body repair, contact:

➤ Accrediting Commission of Career Schools and Colleges of Technology, 2101 Wilson Blvd., Suite 302, Arlington, VA 22201. Internet: **http://www.accsct.org**