

A photograph of three young adults, two women and one man, smiling at the camera. The woman on the left is wearing a green safety vest over a grey shirt. The man in the center is wearing a light blue polo shirt. The woman on the right is also wearing a light blue polo shirt. They are standing in front of a background with faint, grey line drawings of various mechanical parts like gears and pistons.

The Ultimate Guide to Professional Technician Careers



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Introduction

Careers in the transportation field are more popular than ever. In the past, people whose careers involved working on cars, trucks, heavy equipment, boats or motorcycles were often seen as grease monkeys. But today, this line of work is experiencing near-constant growth and offers an exciting and challenging workplace filled with the latest technology.

So what are these jobs?
Where can you find them?
How much do they pay?
Where do you even start?

This guide will explore the wide variety of options for a career as a professional technician.

What Skills Will I Need?

Each of these fields presents an exciting opportunity to work in transportation technology. As in any successful technical career, your skill set should go beyond just identifying the whirrs, bumps, and pings that you hear under the hood. Customer service, analytical skills, and up-to-the-minute knowledge of industry trends are also key traits for a tech professional.

Make sure these skills are solidly in your toolkit:



Hands-on expertise: You'll need to know the ins and outs of a wide variety of makes and models. On any given day, you'll encounter tuneups, brake component replacements, engine rebuilds, ignition tests, emissions monitoring, and fuel system flushing. Combine these skills with teamwork, and you'll be indispensable.



Analytical abilities: Your background in science, engineering, math, and technology gives you the skills to troubleshoot problems of every kind. Every customer or project will present challenges that can be met by critical thinking, which brings together data points from a variety of sources to address a customer's exact need.

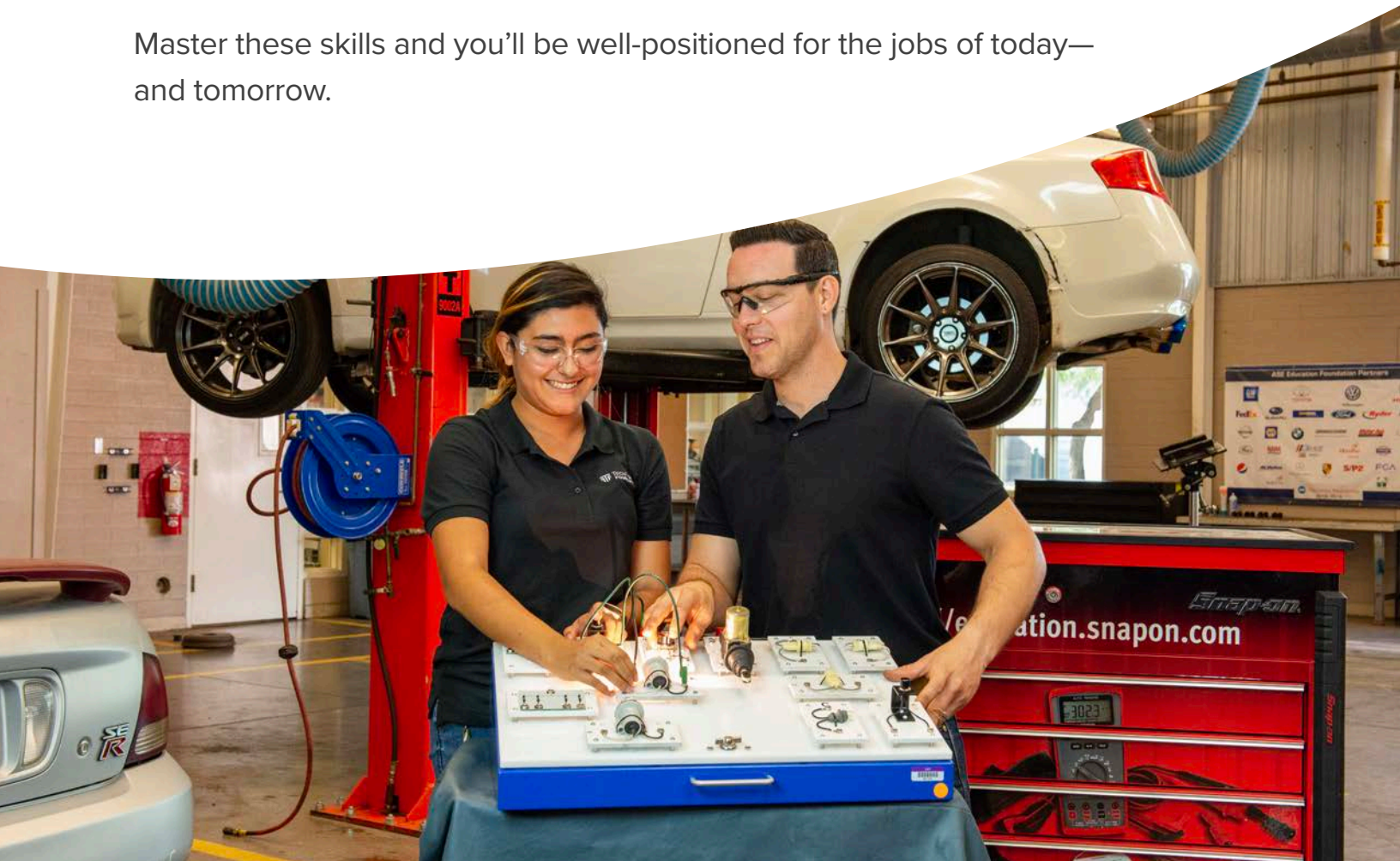


Customer service: Above all else, your communication with customers must be clear and friendly at all times. This elevates your company's reputation and can even boost its bottom line. Customers are trusting you with their car, truck, or motorcycle—a necessary part of their daily lives—and they want to invest their dollars in someone who won't let them down. Don't be afraid to use industry lingo as long as you translate it into plain English so that you're all on the same page.



Technical mastery: It goes without saying that you'll need to know a wrecking bar from a torque wrench, but that's only the beginning. You'll also need to know the latest tech like the back of your hand, from the Internet of Things (IoT) to electric and self-driving vehicles. Vocational programs are increasingly focusing on these areas, including computer logic and algorithms.

Master these skills and you'll be well-positioned for the jobs of today—and tomorrow.



What Career Options Do I Have?

Now that you know the skills you need to become a professional technician, below are some common careers to think about pursuing:

AUTOMOTIVE

Auto techs are in high demand. In fact, TechForce Foundation estimates that the industry will need at least 207,000 of them to fill positions over the next three years. Mechanics of your parents' generation are leaving the industry as they grow older, thus leaving you a great opportunity to learn from them and hit the ground running.

A career in auto tech can take you in many directions:



Auto service technician: These technicians are the front line of car repair, talking with customers to help pinpoint the source of trouble, then conducting thorough diagnostics, making necessary repairs, and helping maintain vehicles on a regular schedule. Auto service technicians thrive in times of economic uncertainty, when people tend to keep and repair their current cars rather than invest in something new.



Automotive welder: Today's cars feature high-strength metals such as aluminum alloys, thus giving welders a starring role in auto repair and restoration. You'll work on the frame, unibody, hood, and fenders using stick, metal inert gas (MIG), or tungsten inert gas (TIG) welding tools.



Parts specialist: Are you a tool nerd? Someone who loves to dig into the details of fuel injection nozzles, electronic ignitions, and disc brakes? Then your calling may be in parts. Every car needs them, every parts department stocks them, and every repair job requires an expert who knows how to use them.



Tire technician: This job is just what it sounds like: someone who installs, rotates, and balances tires. Tire techs also handle alignments and perform suspension work. Tire maintenance is steady, year-round work, with particular attention paid to seasonal changes and the installation (and removal) of snow tires. Not to mention installing the latest custom alloy wheels and low-profile tires.



Car restoration technician: If you drool over your uncle's '63 Corvette split-window coupe or are a fan of *Comedians in Cars Getting Coffee*, this may be the career for you. You'll be preserving automotive treasures with bodywork, painting, motor rebuilds, and fine detail work. You'll also get to talk shop with parts geeks and find rare and out-of-date components.

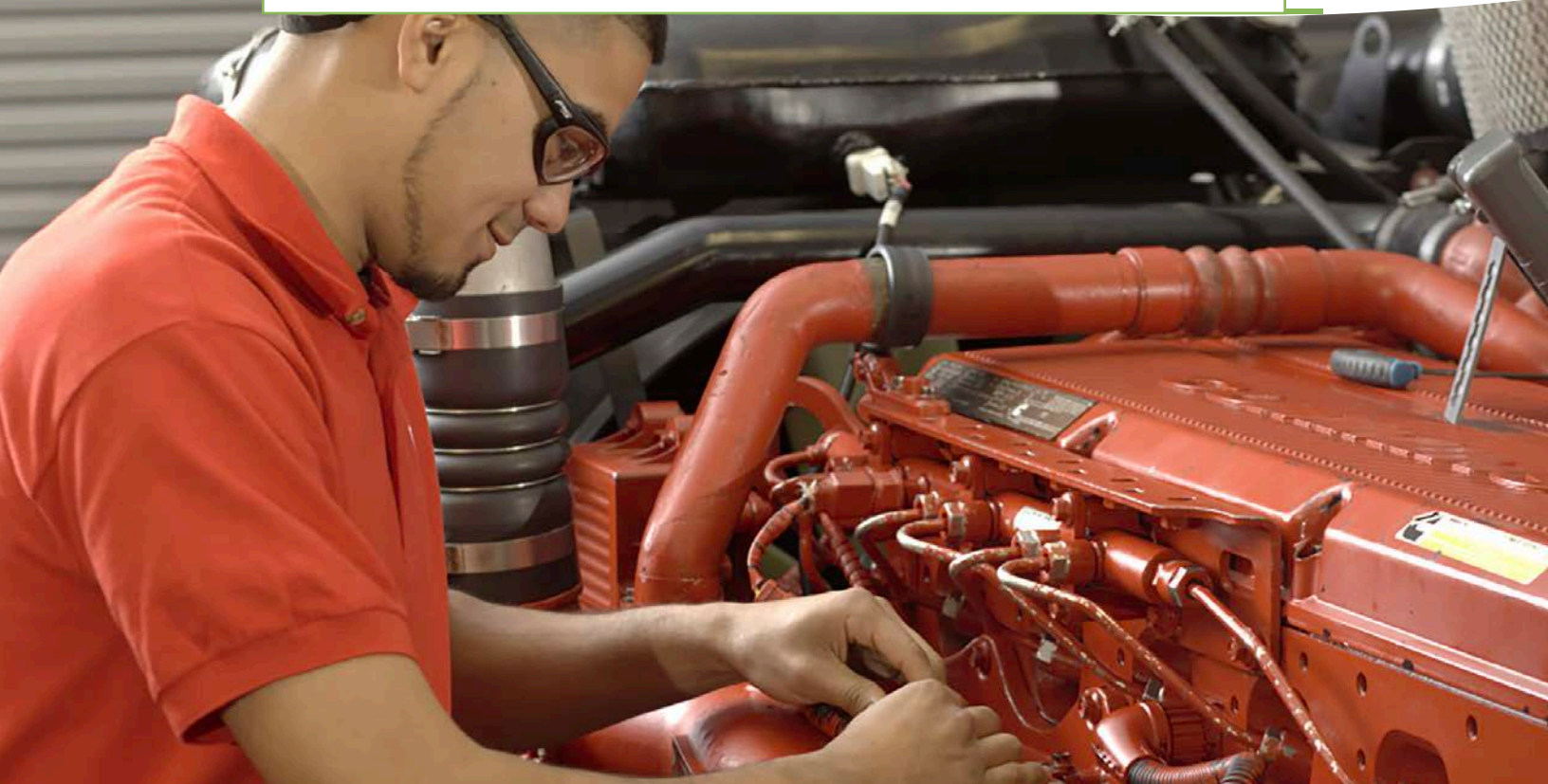


Automotive engineer: This position usually requires a four-year degree, typically in electrical, mechanical, or computer engineering. You'll be on the ground level of the business, bringing new cars to market using research, design, and testing skills. Advanced technical and analytical skills are necessary to absorb the complex array of computers and other technology that lives in every modern car.

Not only are there many options for auto tech programs around the country, but independent shops and dealerships themselves have also started their own recruiting and training initiatives.

According to the [ASE Training Managers Council \(ATMC\)](#), a member of the ASE family of organizations, salaries for automotive techs typically average more than \$60,000, and over time a tech's salary can reach into six figures. Location, experience and cost of living can also affect salary.

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DIESEL

Diesel engines are the gold standard for driving the fleets of buses and trucks that transport people and goods nationwide, as well as other heavy vehicles such as cranes, bulldozers, commercial boats, stationary engines and generators, and some pickup trucks. Why is diesel so trusted? Because it's durable and efficient.


Diesel technicians and mechanics inspect, fix, and rebuild these engines to make sure they run smoothly. These techs face daily tasks that may include the following:

- Evaluating a vehicle's engine, transmission, brakes, steering, and other vehicle systems and components
- Performing preventative maintenance (PM) and cross-referencing it against a checklist to make sure no part is overlooked
- Interpreting diagnostic results to locate electrical, mechanical, or hydraulic problems
- Replacing or repairing any parts, components, or equipment that may be malfunctioning
- Giving the vehicle a once-over for any routine care and maintenance (e.g., tire rotations, oil changes, fluid level checks)
- Test-driving the vehicle to make sure it's operating properly

Heavy-duty equipment technicians work on a variety of vehicles, such as trucks, buses, construction and mining equipment, and farm machinery. In addition, these techs are responsible for ensuring that all equipment meets emission standards and for staying current on new environmental regulations. Truck techs work for trucking companies, gas stations, and repair shops, fixing engines, accelerators, brakes, and wheels.

Other career paths include locomotive engine work that helps keep the country's train system running and fleet maintenance work for manufacturers and governments that use large numbers of vehicles.

There is real opportunity for growth in the diesel segment of the industry. The Bureau of Labor Statistics expects employment levels for diesel service technicians and mechanics to climb 5 percent from over the next 8 years. In fact, by 2022, the trucking industry will need to bring on as many as 67,000 new technicians and 75,000 new diesel engine specialists. Companies such as FedEx Freight, Penske, and Ryder are actively looking for qualified diesel techs.

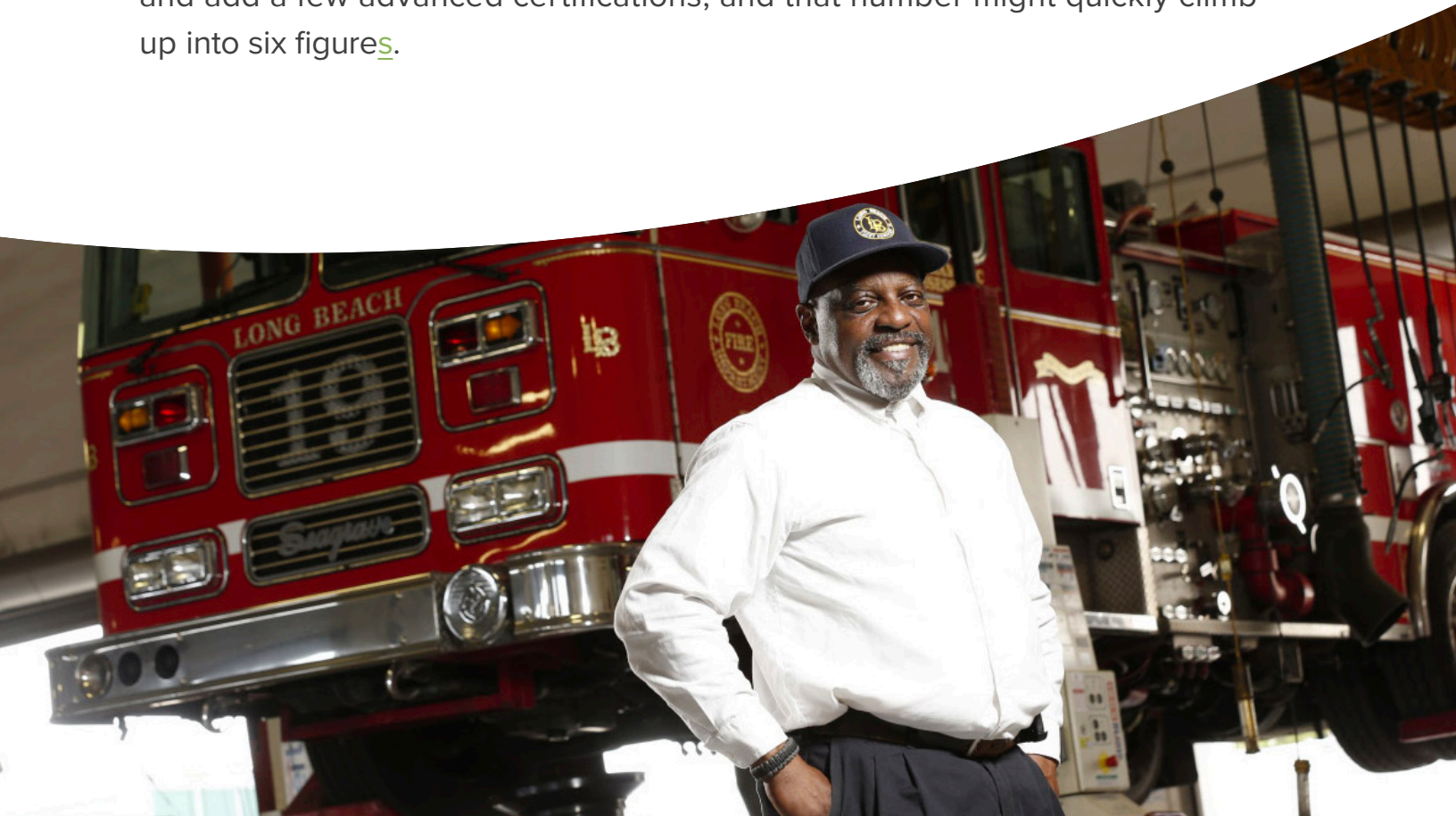


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If this sounds interesting, take note of what's required. Employers are looking for applicants who have ASE-accredited, post-secondary training in diesel engine technology and electrical/electronics. Having ASE entry-level or professional industry certification doesn't hurt, either, because this shows your commitment to the field and expertise in a particular discipline.

However, school doesn't need to be the end of your education. A growing number of companies offer mentoring or apprenticeship programs for technicians that quickly give you real-world experience and accelerated training in just a few months.

Location and cost of living can affect salary. For example, a diesel mechanic in Houston with three years of experience makes between [\\$54,369-\\$64,283](#). The same mechanic in Atlanta makes between [\\$60,531-\\$72,363](#) and between [\\$65,078-\\$77,800](#) in Minneapolis. As with any entry-level job, starting pay may be modest. But broaden your skill set, get some experience under your belt, and add a few advanced certifications, and that number might quickly climb up into six figures.





COLLISION REPAIR

Accidents are an unfortunate fact of life for car owners. Whether the damage is a mild scrape or a significant impact, your car needs a skilled technician to put the pieces back together and bring the vehicle back to manufacturer specifications. This requires specialized knowledge of tools and processes, such as ADAS calibration, realignments, painting, welding, and bonding. You may work solo or as part of a larger team, in which case strong social skills are important for efficiency.

Additional responsibilities may include:

- Reading damage reports
- Putting together cost estimates
- Making a plan to get the work done
- Checking for structural damage
- Removing damaged parts, including hoods, bumpers, fenders, trim, and grilles
- Realigning the unibody chassis and/or frames
- Hammering out dings and dents
- Welding and fitting replacement parts
- Weatherproofing and replacing windows and windshields
- Sanding, polishing, priming, and painting body surfaces
- Giving all types of vehicles a new finish

Collision repair specialists use a wide variety of tools for this work, such as metal-cutting guns, plasma cutters, and pneumatic tools to remove damaged parts, as well as hammers and hydraulic jacks to make significant structural fixes. But their bread-and-butter tools are the ones you might use every day: screwdrivers, pliers, hammers, wrenches, and metal files.

Although some specialists skip a formal education in favor of on-the-job training, a two-year associate degree or other advanced level program accredited by the ASE Education Foundation can give job applicants an advantage by providing hands-on practice in assessment and repair. These programs also dive deeper into areas such as electrical systems, steering, suspension, and advanced auto painting.

According to the [ASE Training Managers Council \(ATMC\)](#), a member of the ASE family of organizations, salaries for collision repair techs typically average more \$60,000 and, over time, can reach into six figures. Location and cost of living can also affect salary.

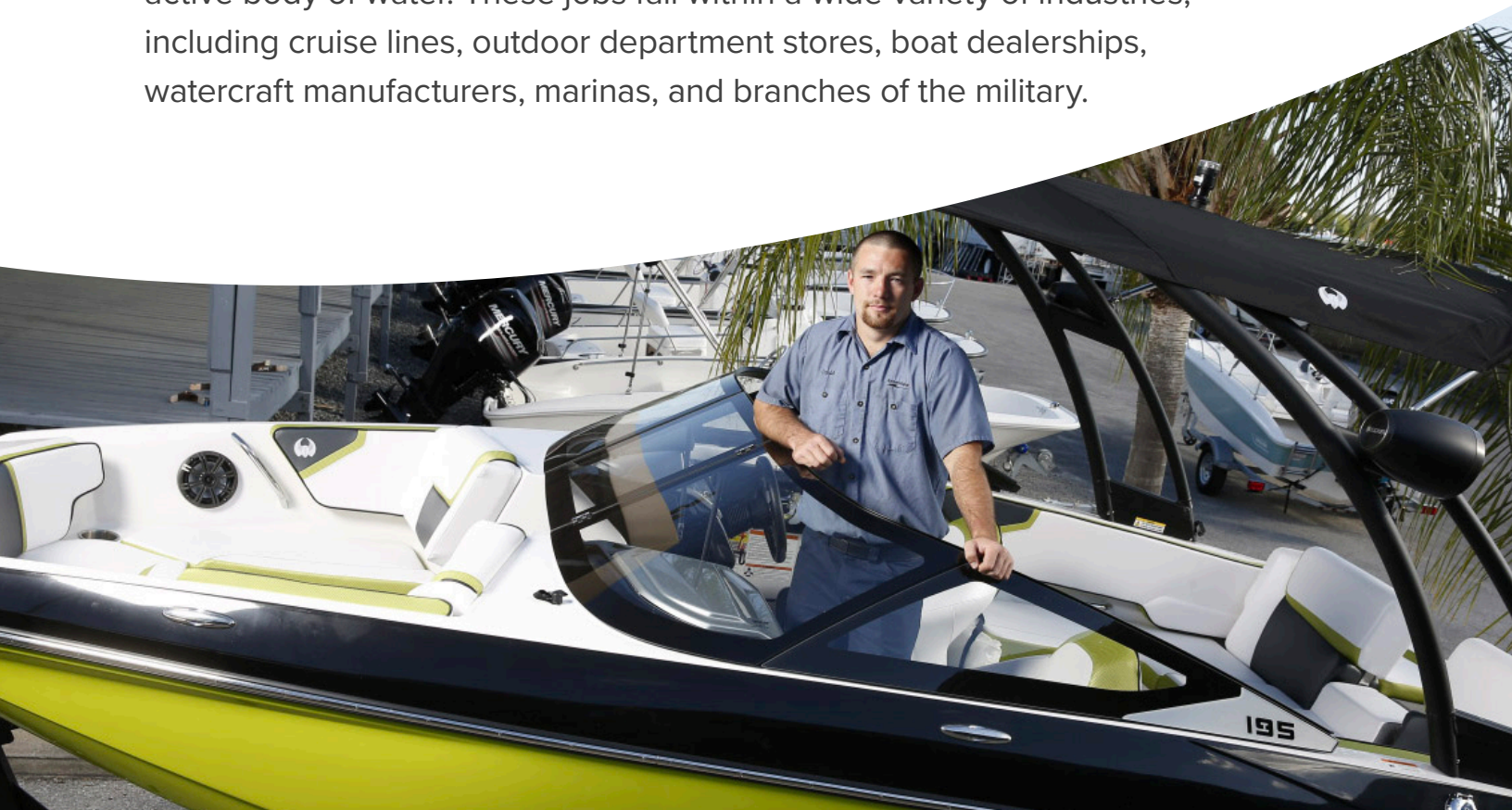
**The ASE Education Foundation
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practice in assessment and repair.**

MARINE

If the idea of a career on or near the water is appealing, consider becoming a marine technician. You'll work on fixing a wide array of aquatic vehicles and bringing them up to top performance. Your daily duties may include:

- Working on a variety of inboard and outboard motors
- Troubleshooting and repairing electrical equipment on boat engines
- Repairing and maintaining propellers and other propulsion system components
- Fixing electrical and steering systems
- Specializing in disciplines such as field service, engine rebuilds, or aftermarket parts sales, development, and service

As a marine technician, your “office” may be anything from a large, commercial fishing boat or yacht to a smaller water vehicle to a marina, dry docks, or dockside. You'll likely be located in a city near a large port or a commercially active body of water. These jobs fall within a wide variety of industries, including cruise lines, outdoor department stores, boat dealerships, watercraft manufacturers, marinas, and branches of the military.



Here's a snapshot of some of the most common jobs:



Boat rigger: You'll outfit boats with vital systems that maintain operations, safety, and comfort. A day's work may include installation of propulsion systems, winches, throttle and steering controls, standard rigging, anchors, lifeboats, bunks, and other furniture.



Rig shop manager: This management role typically requires several years of experience. You'll create and schedule work orders, supervise rigging sales, maintain high standards of customer service, and oversee staff training and scheduling.



Dealership technician: You'll specialize for one boat manufacturer or a conglomerate of manufacturers.



Gelcoat and fiberglass technician: An alternative to the mechanical side of the business, these techs identify and repair damage to a boat's gelcoat and fiberglass. You will tend to a variety of boats whose exteriors are dented, cracked, scratched, gouged, or suffering from other structural issues.



Marine refrigeration and air conditioning technician: Also known as mechanical systems technicians or marine HVAC service technicians, these experts repair and rebuild commercial and domestic air conditioning and refrigeration equipment, in addition to ventilation and hood systems. You'll also be responsible for maintaining cycling, bearings, oil levels, and other things.

Your initial training as a marine technician will usually be in small engine repair. Your tech school courses may include:

- Fuel and engine systems
- Electrical and auxiliary systems
- Transmission repair
- Steering mechanics
- Hydraulics and related parts
- Welding

In addition to coursework, many vocational programs offer training on specific manufacturer products as a first step toward industry certifications, which are often required by companies such as Honda, Mercury Marine, and Yamaha Outboards.

Visit the Marine Retailers Association of America (MRAA) for more information on marine career opportunities.

Location and cost of living can affect a salary. For example, a marine technician with three years of experience in New Orleans makes between \$38,149-\$56,528. The same technician would make between \$40,503-\$60,016 in Fall River, Massachusetts, and between \$43,258-\$64,099 in Los Angeles. As with any entry-level job, starting pay may be modest. But broaden your skill set, get some experience under your belt, and add a few advanced certifications, and that number might quickly climb up into six figures.



MOTORCYCLE

A motorcycle technician is an expert in the repair and maintenance of a wide range of street as well as all-terrain vehicles (ATVs), including motorcycles, mopeds, scooters, quads and dirt bikes. Motorcycle techs tend to specialize in a particular brand or repair procedure.

A typical day will be a mix of basic maintenance work—replacing spark plugs, checking fluid levels, conducting operation/safety inspections, and running tests to see what mechanical issues may exist—and more involved mechanical repairs such as fixing brakes, transmissions, and forks.

You'll also dig deeper into more complex work, including testing engine output and ignition timing with state-of-the-art diagnostic equipment, repairing and welding frame dents and cracks, and dismantling and reassembling engines, fuel injection systems, and alternators.

If you are into creative design, there are also a number of custom motorcycle manufacturers across the country always on the lookout for new talent.

Specific tasks include:

- Combining cutting-edge diagnostic equipment with hands-on assessments to diagnose and repair mechanical, computer, electrical, and fuel problems
- Dismantling engines and testing their performance; replacing defective parts with hand and power tools
- Straightening or replacing frames
- Maintaining ongoing conversations with customers

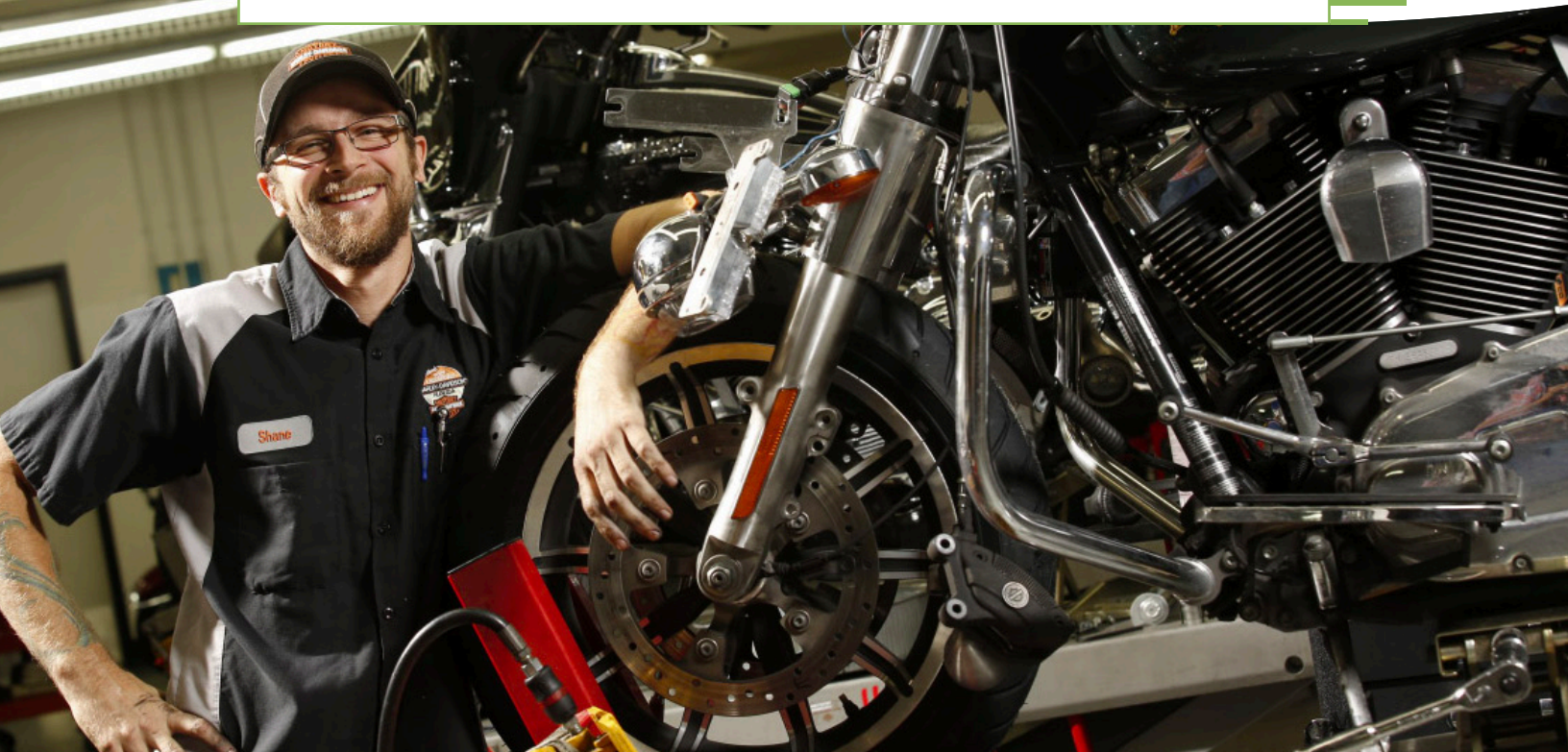
As with the other disciplines mentioned here, certifications in motorcycle repair can be helpful in finding work and advancing within a company. A certificate program can be a good introduction to the basics of the business through a mix of classroom work and hands-on instruction.

A popular vocational school degree program is the two-year AAS in motorcycle repair, which provides training in disciplines such as engines, microcomputers, safety, troubleshooting, maintenance, electrical, and suspensions, as well as general courses in math and English. Some programs let you specialize in specific kinds of bikes, including Harley-Davidson, European, or Asian. If you've considered opening your own shop someday, this program can be a useful stepping-stone on that path.



Location and cost of living can affect salary. For example, a motorcycle mechanic with three years of experience in Nashville, Tennessee, makes between \$25,554-\$37,847. The same mechanic makes between \$26,826-\$39,731 in Miami and between \$28,801-\$42,657 in Portland, Oregon. As with any entry-level job, starting pay may be modest. But broaden your skill set, get some experience under your belt, and add a few advanced certifications, and that number might quickly climb up into six figures.

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AVIATION

Aviation technicians (or aircraft maintenance technicians) handle preventive and routine repairs and maintenance that keep planes and helicopters safely in the air. Airlines, government, and the military have a particular need for this set of skills.

If you have excellent attention to detail, enjoy working in teams, and love to tinker with complex systems and find out how they work, [this could be your career path.](#)

Vocational school coursework for aviation typically includes:

- Evaluating, repairing, and overhauling every part of an aircraft, including engines, structure, and systems
- Training in airframe inspection, welding, fuel systems, landing gears, and turbojet and turboprop engines



In addition, aviation mechanics must obtain the FAA Airframe and Powerplant Certification.

Location and cost of living can affect salary. For example, an aviation tech with three years of experience in Tulsa, Oklahoma, makes between \$72,168-\$93,359. The same tech makes between \$74,537-\$96,423 in Phoenix and between \$84,903-\$109,834 in Boston. As with any entry-level job, starting pay may be modest. But broaden your skill set, get some experience under your belt, and add a few advanced certifications, and that number might quickly climb up into six figures.



Keep the World Running

The jobs mentioned here make up only a fraction of the ever-expanding field of exciting careers in transportation. When you diagnose and repair a car, truck, motorcycle, boat, or plane, you are helping keep a crucial part of American life up and running. If you can't imagine spending your career sitting behind a desk but aren't sure how to afford vocational school tuition, consider applying for a [TechForce Foundation scholarship or grant](#).

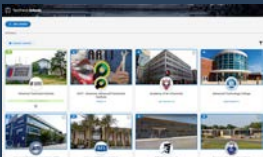
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