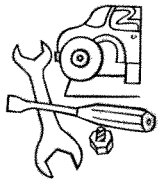
	Current Number of Workers 2006	Projected Number of Workers 2016	% Change to 2016	Average Annual Openings	 Auto Service Techs/Mechanics SOC # 49-3023	
Regional	1150	1350	17.40%	45		
Texas	56,400	66,700	18.30%	2160		
Education/ Training Time	**Is License Required?**	**Wage Rate $/Hr. 2008 Regionally**	**Percent Female**	**Average Age**	**Job Turnover**	**Why Most Job Openings Occur**
1—2 yrs	**Industry Certificates**	$17.07	1.5%	36.9	Average	**Replacement**

JOB DESCRIPTION
Diagnose, adjust, repair, or overhaul automotive vehicles.

WHERE DO WORKERS FIND JOBS?
Automotive Repair and Maintenance
Automobile Dealers
Automotive Parts, Accessories, and Tire Stores
Other General Merchandise Stores
Local Government, Except Education

RELATED COLLEGE PROGRAMS
CIP 150803 Automotive Engineering Technology/Technician
CIP 470604 Automobile/Automotive Mechanics Technology/Technician

IMPORTANT KNOWLEDGE
BUSINESS AND MANAGEMENT
* Administration and Management
* Customer and Personal Service
* Sales and Marketing
ENGINEERING AND TECHNOLOGY
* Computers and Electronics
* Engineering and Technology
* Mechanical

IMPORTANT SKILLS
CONTENT
* Reading Comprehension
PROCESS
* Active Learning
* Critical Thinking
TECHNICAL SKILLS
* Equipment Maintenance
* Equipment Selection
* Repairing
* Troubleshooting

IMPORTANT ABILITIES
FINE MANIPULATIVE ABILITIES
* Arm-Hand Steadiness
* Manual Dexterity
FLEXIBILITY, BALANCE, AND COORDINATION
* Extent Flexibility
IDEA GENERATION AND REASONING ABILITIES
* Deductive Reasoning
* Inductive Reasoning
* Information Ordering
* Problem Sensitivity
VISUAL ABILITIES
* Near Vision

NATURE OF THE WORK: Auto Service Techs/Mechanics

The ability to diagnose the source of a problem quickly and accurately requires good reasoning ability and a thorough knowledge of automobiles. Many technicians consider diagnosing hard-to-find troubles one of their most challenging and satisfying duties.

The work of automotive service technicians and mechanics has evolved from mechanical repair to a high technology job. As a result, these workers are now usually called "technicians" in automotive services and the term "mechanic" is falling into disuse. Today, integrated electronic systems and complex computers run vehicles and measure their performance while on the road. Technicians must have an increasingly broad base of knowledge about how vehicles' complex components work and interact, as well as the ability to work with electronic diagnostic equipment and computer-based technical reference materials.

Automotive service technicians use their high-tech skills to inspect, maintain, and repair automobiles and light trucks that run on gasoline, ethanol and other alternative fuels, such as electricity. The increasing sophistication of automotive technology now requires workers who can use computerized shop equipment and work with electronic components while maintaining their skills with traditional hand tools.

When mechanical or electrical troubles occur, technicians first get a description of the symptoms from the owner or, if they work in a large shop, from the repair service estimator or service advisor who wrote the repair order. To locate the problem, technicians use a diagnostic approach. First, they test to see whether components and systems are proper and secure. Then, they isolate the components or systems that could not logically be the cause of the problem. For example, if an air-conditioner malfunctions, the technician's diagnostic approach can pinpoint a problem as simple as a low coolant level or as complex as a bad drive-train connection that has shorted out the air conditioner. Technicians may have to test drive the vehicle or use a variety of testing equipment, such as onboard and hand-held diagnostic computers or compression gauges, to identify the source of the problem. These tests may indicate whether a component is salvageable or whether a new one is required to get the vehicle back in working order.

During routine service inspections, technicians test and lubricate engines and other major components. In some cases, the technician may repair or replace worn parts before they cause breakdowns that could damage critical components of the vehicle. Technicians usually follow a checklist to ensure that they examine every critical part. Belts, hoses, plugs, brake and fuel systems, and other potentially troublesome items are among those closely watched.

Service technicians use a variety of tools in their work--power tools, such as pneumatic wrenches to remove bolts quickly; machine tools like lathes and grinding machines to rebuild brakes; welding and flame-cutting equipment to remove and repair exhaust systems, and jacks and hoists to lift cars and engines. They also use common hand tools, such as screwdrivers, pliers, and wrenches, to work on small parts and in hard-to-reach places.

Computers also have become commonplace in modern repair shops. Service technicians compare the readouts from computerized diagnostic testing devices with the benchmarked standards given by the manufacturer of the components being tested. Deviations outside of acceptable levels are an indication to the technician that further attention to an area is necessary. A shop's computerized system provides automatic updates to technical manuals and unlimited access to manufacturers' service information, technical service bulletins, and other databases that allow technicians to keep current on problem spots and to learn new procedures.

Automotive service technicians in large shops have increasingly become specialized. For example, transmission technicians and rebuilders work on gear trains, couplings, hydraulic pumps, and other parts of transmissions. Extensive knowledge of computer controls, the ability to diagnose electrical and hydraulic problems, and other specialized skills are needed to work on these complex components, which employ some of the most sophisticated technology used in vehicles. Tuneup technicians adjust the ignition timing and valves, and adjust or replace spark plugs and other parts to ensure efficient engine performance. They often use electronic testing equipment to isolate and adjust malfunctions in fuel, ignition, and emissions control systems.

Automotive air-conditioning repairers install and repair air-conditioners and service their components, such as compressors, condensers, and controls. These workers require special training in Federal and State regulations governing the handling and disposal of refrigerants. Front-end mechanics align and balance wheels and repair steering mechanisms and suspension systems. They frequently use special alignment equipment and wheel-balancing machines. Brake repairers adjust brakes, replace brake linings and pads, and make other repairs on brake systems. Some technicians specialize in both brake and front-end work. Even though electronics and electronic systems in automobiles were a specialty in the past, electronics are now so common that it is essential for all types of service technicians to be familiar with at least the basic principles of electronics.