

Summary Report for: 49-3023.01 - Automotive Master Mechanics

Repair automobiles, trucks, buses, and other vehicles. Master mechanics repair virtually any part on the vehicle or specialize in the transmission system.

Sample of reported job titles: Automotive Technician, Mechanic, Automotive Service Technician, Auto Technician, Shop Foreman, Certified ASE Master Automotive Technician (Certified Automotive Service Excellence Master Automotive Technician), Master Technician, Automobile Technician, Master Automotive Technician, Truck Technician

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Tasks

- Test drive vehicles, and test components and systems, using equipment such as infrared engine analyzers, compression gauges, and computerized diagnostic devices.
- Examine vehicles to determine extent of damage or malfunctions.
- Repair, reline, replace, and adjust brakes.
- Follow checklists to ensure all important parts are examined, including belts, hoses, steering systems, spark plugs, brake and fuel systems, wheel bearings, and other potentially troublesome areas.
- Confer with customers to obtain descriptions of vehicle problems, and to discuss work to be performed and future repair requirements.
- Perform routine and scheduled maintenance services such as oil changes, lubrications, and tune-ups.
- Repair and service air conditioning, heating, engine-cooling, and electrical systems.
- Test and adjust repaired systems to meet manufacturers' performance specifications.
- Review work orders and discuss work with supervisors.
- Tear down, repair, and rebuild faulty assemblies such as power systems, steering systems, and linkages.

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Tools & Technology

Tools used in this occupation:

Organic light emitting displays — Anti-lock braking system ABS/air bag scan tools; Auto scanners; Graphing scanners; Modular diagnostic information systems

Pullers — Ball joint separators; Bearing pullers; Gear puller tools; Slide hammers

Punches or nail sets or drifts — Center punches; Pin punches; Punches; Taper punches

Specialty wrenches — Alignment wrenches; Chain wrenches; Locking wrenches; Lug wrenches

Trim or molding tools — Carbon scrapers; Gasket scrapers; Scrapers; Spoons

Technology used in this occupation:

Analytical or scientific software — AutoZone ALLDATA; Blue Streak Electronics Buell Diagnostic; Nexiq Tech HDS Suite for Palm; SPX/OTC Genisys ConnecTech PC

Data base user interface and query software — Recordkeeping software; Vehicle management software

Facilities management software — Alliance Automotive Shop Controller; Snap-On ShoKey

Information retrieval or search software — Online service manual database software; Technical manual database software

Project management software — Estimating software

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Knowledge

Mechanical — Knowledge of machines and tools, including their designs, uses, repair, and maintenance.

Engineering and Technology — Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.

Computers and Electronics — Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.

Customer and Personal Service — Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment,

meeting quality standards for services, and evaluation of customer satisfaction.

English Language — Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.

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Skills

Equipment Maintenance — Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.

Repairing — Repairing machines or systems using the needed tools.

Troubleshooting — Determining causes of operating errors and deciding what to do about it.

Equipment Selection — Determining the kind of tools and equipment needed to do a job.

Quality Control Analysis — Conducting tests and inspections of products, services, or processes to evaluate quality or performance.

Operation and Control — Controlling operations of equipment or systems.

Operation Monitoring — Watching gauges, dials, or other indicators to make sure a machine is working properly.

Critical Thinking — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

Active Listening — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Complex Problem Solving — Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.

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Abilities

Arm-Hand Steadiness — The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.

Control Precision — The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.

Finger Dexterity — The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.

Problem Sensitivity — The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.

Manual Dexterity — The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.

Multilimb Coordination — The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.

Near Vision — The ability to see details at close range (within a few feet of the observer).

Hearing Sensitivity — The ability to detect or tell the differences between sounds that vary in pitch and loudness.

Deductive Reasoning — The ability to apply general rules to specific problems to produce answers that make sense.

Extent Flexibility — The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.

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Work Activities

Getting Information — Observing, receiving, and otherwise obtaining information from all relevant sources.

Operating Vehicles, Mechanized Devices, or Equipment — Running, maneuvering, navigating, or driving vehicles or mechanized equipment, such as forklifts, passenger vehicles, aircraft, or water craft.

Making Decisions and Solving Problems — Analyzing information and evaluating results to choose the best solution and solve problems.

Repairing and Maintaining Mechanical Equipment — Servicing, repairing, adjusting, and testing machines, devices, moving parts, and equipment that operate primarily on the basis of mechanical (not electronic) principles.

Updating and Using Relevant Knowledge — Keeping up-to-date technically and applying new knowledge to your job.

Inspecting Equipment, Structures, or Material — Inspecting equipment, structures, or materials to identify the cause of errors or other problems or defects.

Controlling Machines and Processes — Using either control mechanisms or direct physical activity to operate machines or processes (not including computers or vehicles).

Identifying Objects, Actions, and Events — Identifying information by categorizing, estimating, recognizing differences or similarities, and detecting changes in

circumstances or events.

Interacting With Computers — Using computers and computer systems (including hardware and software) to program, write software, set up functions, enter data, or process information.

Repairing and Maintaining Electronic Equipment — Servicing, repairing, calibrating, regulating, fine-tuning, or testing machines, devices, and equipment that operate primarily on the basis of electrical or electronic (not mechanical) principles.

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Work Context

Exposed to Contaminants — How often does this job require working exposed to contaminants (such as pollutants, gases, dust or odors)?

In an Enclosed Vehicle or Equipment — How often does this job require working in a closed vehicle or equipment (e.g., car)?

Spend Time Standing — How much does this job require standing?

Wear Common Protective or Safety Equipment such as Safety Shoes, Glasses, Gloves, Hearing Protection, Hard Hats, or Life Jackets — How much does this job require wearing common protective or safety equipment such as safety shoes, glasses, gloves, hard hats or life jackets?

Importance of Being Exact or Accurate — How important is being very exact or highly accurate in performing this job?

Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls — How much does this job require using your hands to handle, control, or feel objects, tools or controls?

Frequency of Decision Making — How frequently is the worker required to make decisions that affect other people, the financial resources, and/or the image and reputation of the organization?

Indoors, Not Environmentally Controlled — How often does this job require working indoors in non-controlled environmental conditions (e.g., warehouse without heat)?

Sounds, Noise Levels Are Distracting or Uncomfortable — How often does this job require working exposed to sounds and noise levels that are distracting or uncomfortable?

Freedom to Make Decisions — How much decision making freedom, without supervision, does the job offer?

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Job Zone

Title Job Zone Three: Medium Preparation Needed

Education Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree.

Related Experience Previous work-related skill, knowledge, or experience is required for these occupations. For example, an electrician must have completed three or four years of apprenticeship or several years of vocational training, and often must have passed a licensing exam, in order to perform the job.

Job Training Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers. A recognized apprenticeship program may be associated with these occupations.

Job Zone Examples These occupations usually involve using communication and organizational skills to coordinate, supervise, manage, or train others to accomplish goals. Examples include food service managers, electricians, agricultural technicians, legal secretaries, interviewers, and insurance sales agents.

SVP Range (6.0 to < 7.0)

There are 3 recognized apprenticeable specialties associated with this occupation:

Automobile Mechanic; Transmission Mechanic; Repairer, Heavy

To learn about specific apprenticeship opportunities, please consult the U.S. Department of Labor [State Apprenticeship Information](#) website.

For general information about apprenticeships, training, and partnerships with business, visit the U.S. Department of Labor [Office of Apprenticeship](#) website.

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Education

Percentage of Respondents	Education Level Required
88	Some college, no degree
8	High school diploma or equivalent
4	Associate's degree

This occupation may require a background in the following science, technology, engineering, and mathematics (STEM) educational disciplines:

Engineering — Automotive Engineering Technology/Technician

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Interests

Interest code: **RI**

Realistic — Realistic occupations frequently involve work activities that include practical, hands-on problems and solutions. They often deal with plants, animals, and real-world materials like wood, tools, and machinery. Many of the occupations require working outside, and do not involve a lot of paperwork or working closely with others.

Investigative — Investigative occupations frequently involve working with ideas, and require an extensive amount of thinking. These occupations can involve searching for facts and figuring out problems mentally.

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Work Styles

Attention to Detail — Job requires being careful about detail and thorough in completing work tasks.

Dependability — Job requires being reliable, responsible, and dependable, and fulfilling obligations.

Integrity — Job requires being honest and ethical.

Independence — Job requires developing one's own ways of doing things, guiding oneself with little or no supervision, and depending on oneself to get things done.

Analytical Thinking — Job requires analyzing information and using logic to address work-related issues and problems.

Initiative — Job requires a willingness to take on responsibilities and challenges.

Cooperation — Job requires being pleasant with others on the job and displaying a good-natured, cooperative attitude.

Persistence — Job requires persistence in the face of obstacles.

Stress Tolerance — Job requires accepting criticism and dealing calmly and effectively with high stress situations.

Achievement/Effort — Job requires establishing and maintaining personally challenging achievement goals and exerting effort toward mastering tasks.

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Work Values

Independence — Occupations that satisfy this work value allow employees to work on their own and make decisions. Corresponding needs are Creativity, Responsibility and Autonomy.

Support — Occupations that satisfy this work value offer supportive management that stands behind employees. Corresponding needs are Company Policies, Supervision: Human Relations and Supervision: Technical.

Working Conditions — Occupations that satisfy this work value offer job security and good working conditions. Corresponding needs are Activity, Compensation, Independence, Security, Variety and Working Conditions.

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Related Occupations

- 49-3011.00 [Aircraft Mechanics and Service Technicians](#)
- 49-3023.02 [Automotive Specialty Technicians](#) 🟡 **Bright Outlook** 🟢 **Green**
- 49-3041.00 [Farm Equipment Mechanics](#)
- 49-9041.00 [Industrial Machinery Mechanics](#) 🟢
- 51-2031.00 [Engine and Other Machine Assemblers](#) 🟢
- 51-9061.00 [Inspectors, Testers, Sorters, Samplers, and Weighers](#) 🟢

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Wages & Employment Trends

National

Median wages data collected from **Automotive Service Technicians and Mechanics**.
Employment data collected from **Automotive Service Technicians and Mechanics**.
Industry data collected from **Automotive Service Technicians and Mechanics**.

Median wages (2009) \$17.03 hourly, \$35,420 annual

Employment (2008) 764,000 employees

Projected growth (2008-2018) ■■■ Slower than average (3% to 6%)

Projected job openings (2008-2018) 181,700

Top industries (2008) [Retail Trade](#)

[Other Services \(Except Public Administration\)](#)

State & National

 

Source: Bureau of Labor Statistics [2009 wage data](#) and [2008-2018 employment projections](#). "Projected growth" represents the estimated change in total employment over the projections period (2008-2018). "Projected job openings" represent openings due to growth and replacement.

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Sources of Additional Information

Disclaimer: Sources are listed to provide additional information on related jobs, specialties, and/or industries. Links to non-DOL Internet sites are provided for your convenience and do not constitute an endorsement.

- [Automotive service technicians and mechanics](#). Bureau of Labor Statistics, U.S. Department of Labor. *Occupational Outlook Handbook, 2010-11 Edition*.
- [Accrediting Commission of Career Schools and Colleges of Technology \(ACCSCT\)](#), 2101 Wilson Blvd., Suite 302, Arlington, VA 22201. Phone: (703) 247-4212 begin_of_the_skype_highlighting (703) 247-4212 end_of_the_skype_highlighting. Fax: (703) 247-4533.
- [Automotive Retailing Today \(ART\)](#), 8400 Westpark Dr., MS 2, McLean, VA 22102. Phone: (703) 556-8578 begin_of_the_skype_highlighting (703) 556-8578 end_of_the_skype_highlighting.
- [Automotive Youth Educational Systems \(AYES\)](#), 50 W. Big Beaver, Suite 145, Troy, MI 48084. Phone: (248) 526-1750 begin_of_the_skype_highlighting (248) 526-1750 end_of_the_skype_highlighting. Fax: (248) 526-1751.
- [National Automobile Dealers Association \(NADA\)](#), Public Relations Dept., 8400 Westpark Dr., McLean, VA 22102-3591. Phone: (703) 821-7000 begin_of_the_skype_highlighting (703) 821-7000 end_of_the_skype_highlighting.
- [National Automotive Technicians Education Foundation \(NATEF\)](#), 101 Blue Seal Dr. SE, Suite 101, Leesburg, VA 20175. Phone: (703) 669-6650 begin_of_the_skype_highlighting (703) 669-6650 end_of_the_skype_highlighting. Fax: (703) 669-6125.
- [National Institute for Automotive Service Excellence \(ASE\)](#), 101 Blue Seal Dr. SE, Suite 101, Leesburg, VA 20175. Phone: (703) 669-6600 begin_of_the_skype_highlighting (703) 669-6600 end_of_the_skype_highlighting.

- [SkillsUSA](#), P.O. Box 3000, Leesburg, VA 20177-0300. Phone: (703) 777-8810
begin_of_the_skype_highlighting (703) 777-8810
end_of_the_skype_highlighting. Fax: (703) 777-8999.

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