



Career Service Authority

Heavy Equipment Mechanic

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GENERAL STATEMENT OF CLASS DUTIES

Performs skilled mechanical work in the maintenance, repair, and major overhaul of a wide variety of diesel, gasoline, electric, and fuel powered equipment.

DISTINGUISHING CHARACTERISTICS

The Heavy Equipment Mechanic class is distinguished from the Heavy Equipment Service Technician by the work performed. The Heavy Equipment Service Technician performs minor repair work and servicing of heavy, specialized, and light equipment. A Heavy Equipment Mechanic performs skilled mechanical work in the maintenance, repair, and major overhaul of a wide variety of equipment. The Heavy Equipment Mechanic is also distinguished from the Associate Heavy Mechanic which performs minor overhauls and assists in a training capacity on major overhauls on automatic, standard, and hydrostatic transmissions and internal combustion engines.

Guidelines, Difficulty and Decision Making Level:

Guidelines are generally numerous, well established and directly applicable to the work assignment. Work assignment and desired results are explained by general oral or written instructions.

Duties assigned are generally repetitive and restricted in scope but may be of substantial intricacy. Employee primarily applies standardized practices.

Decisions or recommendations on non-standardized situations are limited to relating organizational policies to specific cases. Problems that are not covered by guidelines or are without precedent are taken up with the supervisor.

Level of Supervision Received and Quality Review:

Under general supervision, the employee receives assignments and is expected to carry them through to completion with substantial independence. Work is reviewed for adherence to instructions, accuracy, completeness and conformance to standard practice or precedent. Recurring work clearly covered by guidelines may or may not be reviewed.

Interpersonal Communications and Purpose:

Contacts with the public or employees where factual information relative to the organization or its functions is received and relayed, or a service rendered, according to established procedures or instructions.

Level of Supervision Exercised:

Performs lead work on a job by job basis, as assigned by the supervisor

ESSENTIAL DUTIES

Tune gasoline, diesel, and alternate fuel powered engines on light and heavy equipment utilizing all diagnostic and measuring tools.

Complete overhaul of gasoline, diesel, and alternate fuel powered engines, major valve jobs, and replacement of gasoline, diesel, and alternate fuel systems.

Troubleshoots, diagnoses, and repairs electronic and electrical systems including electronically controlled engines, transmission, and fuel systems.

Diagnoses, repairs, and maintains automatic, standard, and hydrostatic transmissions in conjunction with power take off units, clutches, drivelines, differential assemblies, and final drive units.

Diagnoses, troubleshoots, repairs, and maintains mechanical and hydraulic steering systems and performs wheel alignments.

Diagnoses, repairs and rebuilds complete hydraulic systems including hydraulic cylinders, motors, pumps, valves lines and related components.

Repairs cooling systems, performing radiator repair, replacement of cooling system components, water pumps, shutters, and hoses.

Conducts diagnostic testing and repair on computer, batteries, alternators, starters, relay switches, solenoids, regulators, wiring harnesses, and other related electrical components.

Conducts routine and annual inspections and performs preventive maintenance on all vehicles.

Performs frame and body repairs.

Maintains records and reports.

Observes all common safety practices.

Performs other related duties as assigned or requested.

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Any one position may not include all of the duties listed.
However, the allocation of positions will be determined by
the amount of time spent in performing the essential duties
listed above.
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MINIMUM QUALIFICATIONS

Competencies, Knowledges & Skills:

Vehicle Maintenance - Knowledge of motor vehicle engines, parts, and systems, including their designs, users, repair, and maintenance.

Technical Problem Solving - Troubleshoots, diagnoses, analyzes, and identifies system malfunctions to determine the source and cause of the problem.

Reading - Understands and interprets written material, including technical materials, rules, regulations, instructions, reports, charts, graphs, or tables; applies what is learned from written material to specific situations.

Integrity/Honesty - Contributes to maintaining the integrity of the organization; displays high standards of ethical conduct and understands the impact of violating these standards on an organization, self, and others; is trustworthy.

Eye-Hand Coordination - Accurately coordinates one's eyes with one's fingers, wrists, or arms to perform job-related tasks (for example, to move, carry, or manipulate objects).

Vehicle Operation - Knowledge of procedures for operating motor vehicles including cars and trucks.

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

Technical Competence - Uses knowledge that is acquired through formal training or extensive on-the-job experience to perform one's job; works with, understands, and evaluates technical information related to the job; advises others on technical issues.

Problem Solving - Identifies problems; determines accuracy and relevance of information; uses sound judgment to generate and evaluate alternatives, and to make recommendations.

Attention to Detail - Is thorough when performing work and conscientious about attending to detail.

Decision Making - Makes sound, well-informed, and objective decisions; perceives the impact and implications of decisions; commits to action, even in uncertain situations, to accomplish organizational goals, causes change.

Reasoning - Identifies rules, principles, or relationships that explain facts, data, or other information; analyzes information; and makes correct inferences or draws accurate conclusions.

Technology Application - Uses machines, tools or equipment effectively; uses computers and computer applications to analyze and communicate information in the appropriate format.

Metal Processing and Metalworking - Knowledge of materials methods, and appropriate tools to process, treat, form, or shape metal.

Knowledge of internal combustion engine ignition, carburetion, fuel and electrical systems sufficient to be able to perform maintenance, repair and major overhaul of diesel, gasoline, electric, and alternate fuel systems.

Knowledge of safety hazards and necessary safety precautions sufficient to be able to establish a safe work environment for self and others.

Skill in using tools, equipment, and mechanic shop equipment common to light and heavy equipment diagnosis, maintenance, and repair.

Skill in tuning a variety of models and types of engines.

Skill in diagnosing, maintaining and repairing electronic and electrical systems.

Skill in diagnosing, maintaining, and repairing mechanical hydraulic, and pneumatic systems.

Skill in diagnosing and repairing various types of transmissions and related components.

Skill in maintaining and repairing equipment and machinery.

Skill in recognizing non-standardized situations and preparing recommendations for problem resolution.

Skill in exercising initiative, judgment, and decision making in solving problems and meeting organizational objectives.

Skill in independently adapting, interpreting, and applying written guidelines, precedents, and standardized work practices to a variety of unprecedented and problematic situations.

Physical Demands:

Sitting: remaining in the normal seated position.

Lifting: raising or lowering and object from one level to another.

Carrying: Transporting an object, usually by hand, arm, or shoulder.

Pushing: exerting force upon an object so that the object is away.

Pulling: exerting force on an object so that it is moving to the person.

Climbing: ascending or descending objects usually with hands/feet.

Balancing: maintaining body equilibrium to prevent falling over.

Stooping: bending the body by bending spine at the waist.

Kneeling: bending legs to come to rest on one or both knees.

Crouching: bending body downward and forward by bending legs.

Reaching: extending the hand(s) and arm(s) in any direction.

Handling: seizing, holding, grasping, or otherwise working with hands.

Fingering: picking, pinching, or otherwise working with fingers.

Feeling: perceiving attributes of objects by means of skin receptors.

Hearing: perceiving the nature of sounds by the ear.

Repetitive motions: Making frequent movements with a part of the body.

Eye/hand/foot coordination: performing work through using two or more.

Working Environment:

Exposed to hazards from electro/mechanical/power equipment

Exposed to toxic chemicals

Subject to burns and cuts

Subject to hazards of flammable, explosive gases

Subject to injury from moving parts of equipment

Subject to varying and unpredictable situations

Works in precarious or high locations (ladders, scaffolding, etc.)

Education Requirement:

Graduation from high school or completion of a GED Certificate.

Experience Requirement:

Three years of experience in the diagnosis, repair and maintenance of gasoline, diesel, or alternate fuel powered equipment, including electronic systems, hydraulic systems, transmission and combustion engine overhaul.

Education/Experience Equivalency:

Satisfactory completion of an accredited automotive and diesel technician training program plus one year experience in the diagnosis, repair and maintenance of gasoline, diesel or alternate fuel powered heavy equipment may be substituted for the minimum education and experience requirements.

Licensure and/or Certification:

Some positions require possession of a Class "A" Commercial Driver's License and Hazardous Materials endorsement by the end of probation and possession of a Class "S" license may be required at a later time by assignment.

Some positions require ASE Air Brake Certification and ASE Refrigerant Recovery and Recycling Certification mandated by federal regulations by the end of probation.

CLASS DETAIL

FLSA CODE: Non- exempt

ESTABLISHED DATE: 09/16/1995

REVISED DATE: 01/01/2005

REVISED BY: Tyrone Abeyta

CLASS HISTORY This specification reflects a change in the minimum requirement of a Commercial Driver's License for all positions. After a study of the classification, it was determined that some positions are required to drive the Heavy Equipment.