

DESCRIPTION: Under limited supervision, independently performs highly skilled and complex diagnosis, maintenance, and repair of multiple makes and models of heavy-duty trucks, and road construction and maintenance equipment containing multiple, computerized systems/sensors, as well as medium and lightweight vehicles, and other motorized equipment; performs related work as assigned.

DISTINGUISHING CHARACTERISTICS: (A position assigned to this class based on the scope and level of work performed as outlined below.)

This is the fourth full performance classification level performing the highest and most complex work of the Automotive Mechanic class series. Positions at this level are distinguished from the lower classification levels by regular, on-going responsibility for complex and higher skilled maintenance, repair work, and operation of heavy-duty vehicles and equipment requiring significantly greater expertise, computer diagnostic skill, and varied repair experience, training, and licensure. The heavy-duty vehicles and maintenance equipment include trucks, rollers, front-end loaders, tractors, motor graders, snowplows, draglines, backhoes, distributors, lay-down machines, rock cutters, snoopers, pavement stripers, gas transports, semi-truck trailers, and chip spreaders. Positions would also be assigned work and possess knowledge, skills, and abilities expected at these lower levels.

These positions are distinguished from Automotive/Diesel Mechanic Lead positions that are assigned lead worker responsibilities over other highly skilled automotive/diesel mechanic workers on a regular, on-going basis. Positions in this class may perform, as required, other maintenance or manual tasks of the similar or lower level mechanical classes of Automotive Mechanic I and II. These classes perform more routine vehicular and equipment mechanical diagnosis, maintenance, and repair work not involving heavy-duty vehicles having complex on-board computerized operational systems.

EXAMPLES OF WORK: (A position may not be assigned all the duties listed, nor do the listed examples include all duties that may be assigned.)

Diagnoses multiple, complex, and varied vehicle and equipment computer systems to determine the cause of intermittent data flow that trips computer codes; makes needed adjustments and repairs to preserve the integrity of computer systems. Researches equipment to identify function that are computerized, and the schematics of computerized systems. Interviews equipment operators to compile information about equipment operation and problems. Operates computerized diagnostic equipment to read data and troubleshoot equipment operational problems; replaces computer sensors; makes necessary repairs and adjustments; and operates equipment to determine accuracy of diagnosis and repairs.

Diagnoses complex mechanical, electrical, computer, and hydraulic problems and failures to determine the nature, extent, necessity, and cost effectiveness of repairs. Researches and studies structural and procedural schematics and manuals. Interviews equipment operators and equipment vendors to gather information about equipment operation. Researches the history of the individual piece of equipment. Determines the extent of repairs and new parts needed; identifies peripheral damage; and determines alternative levels of repair.

Fabricates and repairs equipment and parts by using a variety of welders, welding materials, and methods to adapt incompatible parts, replace unavailable parts, secure attachments, and repair damage.

M84624 – AUTOMOTIVE DIESEL MECHANIC (continued)

Calibrates various systems on heavy-duty vehicles and equipment that distribute various materials as they pertain to road and weather conditions and allow operators to drive the vehicles and equipment safely and efficiently. Makes necessary adjustments and recommendations, as needed, and trains operators on these systems when necessary. Troubleshoots and repairs vehicles and equipment when needed.

Inspects new equipment to ensure that it meets specifications; sets up new equipment to ensure it is road ready. Evaluates equipment to identify adjustments needed to accommodate auxiliary attachments, equipment, and operating systems. Identifies parts and materials needed to attach auxiliary equipment. Evaluates the equipment and compiles part numbers and other information for historical purposes.

Installs, troubleshoots, repairs, and replaces mechanical, electrical, computer, and hydraulic system components to restore equipment to a state of safe and operational state. Confers with equipment manufacturers and vendors to resolve problems. Maintains hydraulics systems; installs and monitors electrical systems; repairs steering systems; repairs suspension systems, brake systems, drive trains, fuel systems, and repairs/overhauls and/or replaces diesel and/or gasoline engines.

Orders, receives, stores, moves, and installs equipment, motors, supplies, and materials: pulls, pushes, lifts, and manipulates equipment, tools, and supplies, weighing up to 100 pounds in a safe manner to adjust, modify, install, repair, or overhaul light and heavy vehicles and equipment.

Conducts initial evaluation of the job at hand; compiles notes and determines materials needed, takes measurements, draws designs of work to be done, and prepares estimates of costs following established guidelines. Operates welding equipment to make repairs and/or fabricate parts or install equipment.

Performs administrative record-keeping functions. Records part numbers from new equipment; updates equipment history including work done and parts changes. Enters information in computerized equipment information management system. Maintains inventory of equipment, parts, and supplies.

KNOWLEDGE, SKILLS, AND ABILITIES REQUIRED: (These are needed to perform the work assigned.)

Knowledge of: the advanced, modern principles, methods, tools, and equipment of automotive and diesel technology trade; the principles of internal combustion engines, different drive trains, gear boxes, hydraulic systems, Global Positioning Systems (GPS), and electrical systems; automotive and heavy vehicle computer control, reporting, and diagnostic systems; the operating principles of automotive computer technology, diagnostics, and repair methods; variances of design among manufacturers; electrical monitors and meters; welding technology and practices; occupational hazards and safety precautions of the mechanics trade; safe handling and disposal methods of hazardous materials.

Skill in: operating electronic, computerized, and/or precision measuring equipment to diagnose, maintain, and repair equipment; using hand tools and operating power and hydraulic tools and shop equipment such as welders, cutting torches, bench and angle grinders, drill presses, lathes, press breaks, and compressors.

Ability to: diagnose complex equipment and mechanical/electronic malfunctions and to determine the corrective repairs needed; operate diagnostic equipment and interpret results; read and interpret equipment schematics, blueprints, flowcharts, and technical manuals; operate equipment and determine if it is functional and safe; use machine shop tools; perform varied types of welding and fabrication; determine necessary tensile strength of fabricated parts; visualize an end product from an idea; maintain manual and computerized recordkeeping systems; operate heavy, medium, and light weight vehicles and equipment; communicate in person, over the telephone, and by mail or email with agency coworkers and vendors to exchange information; interact with and maintain work relationships with coworkers, vendors, and agency administrative staff; instruct coworkers in the use of specialized tools, machines, and equipment of the agency; identify cost factors and estimates of the cost of repairs/maintenance as directed; learn employing agency policies and procedures relating to equipment maintenance and repair; learn employing agency record keeping systems; learn local, regional and national resources available to complete assigned duties.

MINIMUM QUALIFICATIONS: (Applicants will be screened for possession of these qualifications. Applicants who need accommodation in the selection process should request this in advance.)

Practical work experience performing automotive/diesel maintenance and repair, including use of computerized diagnostic instruments and equipment.

OR

Post high school vocational or technical coursework in automotive/diesel mechanics including instruction in computerized diagnostic equipment and in automotive/diesel mechanical maintenance and repair practices, equipment, and technologies.

SPECIAL NOTES:

Positions in this class may require an employee to lift and handle, manually or through mechanical means, heavy materials and equipment weighing up to 100 pounds.

Positions in this class may require an employee to be exposed to dust, loud noise, hazardous materials, and adverse weather conditions (heat, cold, snow, rain, and wind).

Some positions in this class may require an employee to possess a valid driver's license or the ability to provide independent authorized transportation, in order to perform work-related travel. Some positions may require possession of a valid Class A Commercial Driver's License (CDL), with tanker endorsement within 60 days of hire.

State agencies are responsible to evaluate each of their positions to determine their individual overtime eligibility status as required by the Fair Labor Standards Act (FLSA).