



CLASS SPECIFICATION

05-22-03

HEAVY DUTY EQUIPMENT MECHANIC, 3743

Summary of Duties: Employees in this class perform journey-level work in the maintenance and repair of construction, road maintenance, or firefighting equipment; builds and installs or modifies equipment for special purposes; or supervises and works with a small group of employees performing this work; and does related work.

Distinguishing Features: Incumbents of this class normally work on construction, road maintenance, firefighting, and other equipment generally of a heavy nature and requiring special techniques and practices. Occasionally they may do some automobile and truck maintenance and repair work similar to that of an Equipment Mechanic. A Heavy Duty Equipment Mechanic may work in a construction equipment repair shop or may be assigned to make repairs in the field, sometimes under inclement weather conditions. When in the field, employees in this class must rely on their own judgment in determining the type and extent of repairs needed and whether or not the work can be done in the field. In the shop, Heavy Duty Equipment Mechanics are normally subject to craft supervision and usually receive detailed assignments, either orally or in the form of plans, sketches, or written work orders. A Heavy Duty Equipment Mechanic frequently is required to hand fit and adjust various parts made for special equipment, using hand tools and common shop machines such as drill presses and grinders. The work does not require the skilled operation of precision machine tools, although the use of overhead cranes and other hoisting gear is necessary. Employees of this class may be assigned to work with an apprentice for training purposes.

Examples of Duties:

- Repairs heavy construction, road maintenance, or firefighting equipment, such as gasoline, diesel and alternative fuel, such as compressed natural gas, tractors, motor graders, flushers, sweepers, skiploaders, rollers, power shovels, fire apparatus, cranes, manlift devices hoists, trenching machines, backfillers, concrete mixers, compressors, generators, pumps, riding mowers, and pneumatic tools;
- May repair automobiles, buses, and trucks;
- Removes, repairs, overhauls, and installs engines, brake systems, clutches, transmissions, differential assemblies, hydraulic pumps and systems, low and high pressure water pumps, valves, piping systems, tanks, fuel injection systems, and accessories commonly found on construction, road maintenance, and firefighting equipment;
- Installs pistons, rings, and pins;
- Adjusts bearings;
- Cleans carburetors;
- Tunes motors;
- Refaces and reseats valves;

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- Repairs ignition systems;
- Repairs track rollers, carriers, and idlers;
- Replaces broken gas lines, brake lines, hoist cables, steering gears, drive shafts, and other parts;
- Checks and aligns front ends;
- Repairs fire equipment bodies;
- Straightens frames and axles;
- Repairs and overhauls mechanical equipment and accessories on fireboats;
- May repair or install lights, wiring systems, and other electrical parts;
- Inspects heavy equipment in the field to detect operating faults and to make minor repairs;
- Writes reports on the condition of equipment, outlining repair work to be done in the shop;
- May use a data terminal or personal computer to input and retrieve maintenance information.
- Assembles trailers and mounts special equipment, such as air compressors, water pumps, or hoists;
- Alters equipment to meet special requirements;
- Road tests equipment;
- Uses electric drills, grinders, valve facers, drill presses, hydraulic presses, hoists, and other shop machines;
- Operates motor analyzers, dynamometers, and various gauges;
- Performs rough welding and brazing;
- Inspects equipment in the shop to determine necessary work;
- Follows oral instructions, blueprints or sketches;
- Makes routine reports and keeps routine records;
- May direct a helper;
- May train an apprentice;
- May drive an automobile or light truck in field repair work.

Employees of this class occasionally may be assigned other duties for training purposes or to meet technological changes or emergencies.

Qualifications: The incumbent must have the following knowledges, skills, and abilities:

A good knowledge of:

- Basic principles of internal combustion, heat transfer, hydraulics, electricity, welding, mechanics;
- Use of test equipment and diagnostic methods;
- Operation and components of power train, suspension, electrical, fuel supply, exhaust and other equipment systems contained in construction, and maintenance or firefighting equipment;
- Most effective methods of maintaining, repairing and overhauling heavy duty equipment such as gasoline and diesel tractors, power shovels, motor sweepers, riding mowers, fire apparatus, and air compressors;
- Preventive maintenance practices and methods as related to automotive, construction and firefighting equipment;

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- Welding and brazing processes and practices;
- Safety principles and practices.

The skill to:

- Use tools, equipment, materials and methods of the trade.

The ability to:

- Diagnose, locate and repair equipment failures;
- Read, interpret, and work from blueprints and sketches;
- Perform rough welding and brazing;
- Understand and follow oral and written instructions;
- Make routine reports;
- Keep routine records;
- Follow safety procedures and recognize hazards.

Minimum Requirements:

- Completion of a recognized apprenticeship or attainment of journey-level rank as a heavy duty equipment mechanic; or
- Two years of full-time paid experience as a journey-level equipment mechanic which includes the repair of a variety of heavy duty gasoline and diesel powered vehicles or construction equipment; or
- Five years of full-time paid experience as a helper to an equipment mechanic, of which two years must have been as a helper to a heavy duty equipment mechanic; or
- Satisfactory completion of a junior college-level two-year course in auto or truck mechanics, or a comparable course of study in auto or truck mechanics in a trade or technical school and three years of full-time paid experience as a helper to an equipment mechanic, of which two years must have been as a helper to a heavy duty equipment mechanic, is required for Heavy Duty Equipment Mechanic.

License: A valid forklift, crane and California Driver's License is required for both classes. A valid Class A or B driver's license may also be required for most positions prior to appointment.

Persons with disabilities may be able to perform the essential duties of this class with reasonable accommodation. Reasonable accommodation will be evaluated on an individual basis and depend, in part, on the specific requirements for the job, the limitations related to the disability, and the ability of the hiring department to reasonable accommodate the limitation.

As provided in Civil Service Commission Rule 2.5 and Section 4.55 of the Administrative Code, this specification is descriptive, explanatory, and not restrictive. It is not intended to declare what the duties and responsibilities of any position shall be.