



**Code: 7638**

Family: Construction, Maintenance, and Skilled Labor

Service: Operation and Construction

Group: Steam and Operation Engineering Group

Series: Hoisting and Conveying Operation

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## **CLASS TITLE: HOISTING ENGINEER – MECHANIC**

### **CHARACTERISTICS OF THE CLASS**

Under supervision, repairs and maintains heavy duty and off-road equipment and machinery at field sites or in a service shop/garage, and performs related duties as required

### **ESSENTIAL DUTIES**

- Performs mechanical, electrical and hydraulic repairs on heavy and off-road equipment (e.g. front-end high lift, crawler tractors, backhoes, compactors, pavers, cranes, graders and excavators) to ensure their safe and proper operation
- Diagnoses, troubleshoots and repairs systems on heavy equipment such as mechanical and electronic controls, air brake systems, transmissions, propane powered equipment and pneumatic systems
- Diagnoses problems, disassembles units, repairs or replaces parts and reassembles units in systems including cooling systems, 12 and 24 volt electrical systems, exhaust and emissions control, heating and air conditioning, and steer and suspension systems
- Operates equipment and machinery to diagnose malfunctions and to test completed repairs
- Overhauls engines, replaces engines and rebuilds components
- Services, diagnoses, repairs and maintains speed tandem drive axles with air or electric shift, hydrostatic driven, heavy duty multi-axle suspensions, both conventional steer or air springs
- Removes and replaces worn parts and fittings to maintain equipment and ensure proper operation
- Fabricates, modifies and installs special equipment or replacement parts using welders, plasma cutters and metal cutting saws
- Performs preventive maintenance work on equipment including changing oil and tires, checking fluid levels, steam cleaning and lubricating parts and equipment
- Tunes gas and diesel engines, service valves, fuel filters and turbo chargers, and pressure checks fuel filters, adjusts injector heights and fuels racks
- Initiates orders for parts and lubricants
- Maintains records and submits reports regarding repair and maintenance work

**NOTE:** *The list of essential duties is not intended to be inclusive; there may be other duties that are essential to particular positions within the class.*

### **MINIMUM QUALIFICATIONS**

#### **Education, Training, and Experience**

- Successful completion of a US Department of Labor registered Operating Engineer – Heavy Equipment Technician apprenticeship training program and journeyman status, plus three years of journey level work experience in the repair and maintenance of heavy duty/ off-road equipment, including two years in the diagnoses and repair of electronic fuel injection systems, or an equivalent combination of education, training and experience

**Licensure, Certification, or Other Qualifications**

- A commercial driver's license (CDL), Class A or B, as issued by the State of Illinois required

**WORKING CONDITIONS**

- Exposure to loud noise, fumes or dust, oily or wet environment
- Exposure to hazardous conditions (e.g., heavy machinery)

**EQUIPMENT**

- Computers and peripheral equipment (e.g., personal computer, computer terminals, hand-held computer)
- Personal protective equipment (e.g., hard hat, shoes, glasses, gloves, vest, pads)
- Standard tools used in servicing heavy duty and off-road equipment and machinery ( hand, electrical, hydraulic, pneumatic and mechanical tools)
- Testing and monitoring equipment (e.g., computerized diagnostic equipment)
- Hydraulic jacks and hoists

**PHYSICAL REQUIREMENTS**

- Heavy lifting (up to 75 pounds) is required
- Ability to stand and walk for extended or continuous periods of time
- Ability to quickly bend, stretch, twist, or reach out with one's body, arms, and/or legs
- Ability to operate applicable hand tools, power tools, and equipment

**KNOWLEDGE, SKILLS, ABILITIES, AND OTHER WORK REQUIREMENTS****Knowledge**

Good knowledge of:

- heavy duty and off –road equipment and machinery mechanical and electrical/electronic systems
- applicable hand and power tools and diagnostic testing equipment
- equipment, materials, and test instruments specific to the heavy equipment / machinist trade
- repair, maintenance, and preventative maintenance methods, practices, and procedures
- general shop safety rules and applicable safety and code standards
- manufacturers' manuals for servicing equipment
- use of safety equipment and protective gear

Knowledge of applicable City and department policies, procedures, rules, and regulations

**Skills**

- ACTIVE LEARNING - Understand the implications of new information for both current and future problem-solving and decision-making
- ACTIVE LISTENING - Give full attention to what other people are saying, take time to understand the points being made, ask questions as appropriate, and not interrupt at inappropriate times

- EQUIPMENT MAINTENANCE - Perform routine maintenance on equipment and determine when and what kind of maintenance is needed
- EQUIPMENT SELECTION - Determine the kind of tools and equipment needed to do a job
- INSTALLATION - Install equipment, machines, wiring, or programs to meet specifications
- REPAIRING - Repair machines or systems using the needed tools
- TROUBLESHOOTING - Determine causes of operating errors and decide what to do about it

**Abilities**

- COMPREHEND ORAL INFORMATION - Listen to and understand information and ideas presented through spoken words and sentences
- SPEAK - Communicate information and ideas in speaking so others will understand
- COMPREHEND WRITTEN INFORMATION - Read and understand information and ideas presented in writing
- RECOGNIZE PROBLEMS - Tell when something is wrong or is likely to go wrong
- REASON TO SOLVE PROBLEMS - Apply general rules to specific problems to produce answers that make sense

**Other Work Requirements**

- INITIATIVE - Demonstrate willingness to take on job challenges
- STAMINA - Demonstrate energy and stamina to accomplish work tasks
- DEPENDABILITY - Demonstrate reliability, responsibility, and dependability and fulfill obligations
- ATTENTION TO DETAIL - Pay careful attention to detail and thoroughness in completing work tasks

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All employees of the City of Chicago must demonstrate commitment to and compliance with applicable state and federal laws, and City ordinances and rules; the City's Ethics standards; and other City policies and procedures.

The City of Chicago will consider equivalent foreign degrees, accreditations, and credentials in evaluating qualifications.

\* May be required at entry.

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City of Chicago  
Department of Human Resources

Date: June, 2012