



## Human Resources

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DATE: September 6, 2022  
TO: Civil Service Board  
FROM: Laura Dahl  
Human Resources Generalist  
SUBJECT: Revised Job Classification of Heavy Equipment Mechanic

**RECOMMENDATION: APPROVAL OF THE REVISED JOB DESCRIPTION FOR THE CLASSIFICATION OF HEAVY EQUIPMENT MECHANIC.**

### **Background Information/Summary of Job**

As you are aware, the City is undertaking a job description review on all job descriptions last revised over 10 years ago. During this project, the job descriptions are being reviewed by both the supervisor of the position, as well as the incumbent(s). The intent of this process is to ensure that the description reflects the current duties of the position, as well as the education, experience, knowledge, skills, and abilities (KSAs) required to perform those duties.

In addition to the revision of the classification specific duties and KSAs, the Human Resources team has created standardized language that is included in all job descriptions and varies slightly based on their level of responsibility. You will see those language additions throughout the revised descriptions, including two new sections regarding supervision received and supervision given.

The Heavy Equipment Mechanic was last revised in 2006. The purpose of this position is to diagnose, repair, and maintain heavy trucks, trailers, off-road equipment and self-powered portable equipment in a professional and expedient manner. The changes to the job description are very minimal.

The job classification was discussed with the Basic Union and incumbents, and all are agreeable to the proposed job description.

### **Recommendation**

Based on the above information, and in accordance with Section 13-7 of the Civil Service Code, I recommend that the Civil Service Board approve the revised job description for Heavy Equipment Mechanic.

## **Heavy Equipment Mechanic**

### **SUMMARY/PURPOSE**

To diagnose, repair, and maintain heavy trucks, trailers, off-road equipment and self-powered portable equipment in a professional and expedient manner.

### **SUPERVISION RECEIVED**

For both one-of-a-kind and repetitive tasks, the supervisor makes specific assignments that are accompanied by clear, detailed, and specific instructions. Incumbents work as instructed and consult with the supervisor.

### **SUPERVISION GIVEN**

Does not supervise.

### **ESSENTIAL DUTIES AND RESPONSIBILITIES**

1. Conducts detailed preventative maintenance, failure diagnostics and repairs to complex systems by following factory manuals, using computer diagnostic equipment, and established maintenance schedules and procedures on heavy trucks, trailers, off-road equipment, and attachments. These systems include gas and diesel engines, transmissions, rear axles, suspensions, hydraulics, pneumatics, cooling, brakes, fuel, electrical, computer systems, snow equipment, and emergency response equipment.
2. Modify and set up equipment and vehicles to improve safety, efficiency, and productivity of the equipment.
3. Maintain vehicles and equipment in accordance with maintenance schedules, factory repair information, and industry standards.
4. Perform mandatory regulated inspections and test operation of city-owned, leased, and operated equipment and vehicles.
5. Assist staff in providing operator training through consultation or by providing technical information and demonstration of maintenance procedures.
6. Perform general fabrication and metalworking using torches, grinders, and drill presses.
7. Assist other technicians in the completion of their tasks by providing technical or physical assistance.
8. Assist in looking up or ordering parts required for repairs to equipment.
9. Perform emergency repairs away from the shop to return the vehicle or equipment to operation, or to enable returning the vehicle or equipment to the shop for further repair.
10. Complete cost estimates for time, labor, and materials so the supervisor can prioritize, budget, and schedule equipment repair projects in an efficient manner.
11. Operate vehicles and equipment to transport to repair location, diagnose malfunctions, verify operation, or perform repairs.
12. Clean vehicles and equipment as necessary to perform repairs.
13. Clean and maintain shop equipment, tools, and the general shop area.
14. Maintain all required records using computerized record keeping systems. Document work completed, track labor time for each work code, document parts and fluids consumed.
15. Maintain continuing education to stay current on rapidly changing vehicle and component technologies and standards.
16. Be an effective team member by exhibiting self-motivation, supporting other employees in handling tasks, interacting effectively and respectfully with others, showing a desire to contribute to the team effort, accepting assignments willingly, and completing tasks within agreed upon timelines.
17. Other duties may be assigned.

### **JOB REQUIREMENTS**

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed are representative of the knowledge, skills, and abilities required.

1. Education & Experience Requirements

- A. Associate's degree in automotive technology, diesel engine repair, or a closely related field, and two (2) years of related professional experience diagnosing and repairing heavy trucks, passenger vehicles, diesel engines or heavy off-road equipment; OR a combination of four (4) years of related education and/or working experience to include diagnosing and repairing heavy trucks, passenger vehicles, diesel engines, or heavy off-road equipment.

2. License Requirements

- A. Must possess and maintain a valid Minnesota Class B driver's license or privilege with Tanker endorsement.
- B. Must obtain ASE Master Technician Certification (T series [preferred] or A series) and maintain certification thereafter.
- C. Must obtain overhead crane and forklift certification during the probation period and maintain certification thereafter.
- D. Must obtain a MN DOT Inspector's Certification during the probation period and maintain certification thereafter.
- E. Class A driver's license or privilege is preferred.

3. Knowledge Requirements

- A. Thorough knowledge of the principles, methods, tools, and equipment used in the repair of heavy trucks, trailers, off-road equipment, and self-powered portable equipment.
- B. Thorough knowledge of all applicable safety standards, rules, laws, and procedures.
- C. General knowledge of all state and federal motor vehicles laws and regulations.
- D. General knowledge of vehicle electrical and computer-controlled systems.
- E. General knowledge of welding and fabrication methods.
- F. Working knowledge of problem-solving and conflict-resolution techniques.
- G. Working knowledge of, or the ability to learn, City policies and procedures.

4. Skill Requirements

- A. Skill in the use of hand and power tools, especially those used in vehicular maintenance and repair.
- B. Skill in inspecting and diagnosing malfunctioning or poorly performing motor vehicles or self-powered equipment.
- C. Skill in performing all repair work on vehicles and self-powered portable equipment, including component level repair of engines and transmissions.
- D. Skill in disassembly and assembly of motor vehicles and portable self-powered equipment.
- E. Skill in performing routine maintenance on motor vehicles and portable self-powered equipment.
- F. Skill in using computerized diagnostic equipment and precision measuring instruments.
- G. Skill in the operation of office equipment including, but not limited to, general computer systems, job required software applications, the internet, and modern office equipment.
- H. Skill in managing one's own time.
- I. Skill in completing assignments accurately and with attention to detail.

5. Ability Requirements

- A. Ability to read and interpret technical manuals and schematic diagrams.
- B. Ability to acquire increasingly complex mechanical skills.
- C. Ability to become skilled in the use of computerized analysis and repair equipment.
- D. Ability to record information in the proper manner in both written work orders and computer databases.
- E. Ability to work outside in inclement weather.
- F. Ability to position the body to effect repairs in confined spaces, such as underneath dashboards, under vehicles, etc.
- G. Ability to reach, hold, position, maneuver, and operate hand tools and replacement parts.
- H. Ability to identify wires and other parts by color and other identifying information.

- I. Ability to create and maintain a positive working environment that welcomes diversity, ensures cooperation, and promotes respect by sharing expertise with team members, fostering safe work practices, and developing trusting work relationships.
- J. Ability to communicate and interact effectively with members of the public.
- K. Ability to communicate effectively both orally and in writing.
- L. Ability to understand and follow instructions.
- M. Ability to problem-solve a variety of situations.
- N. Ability to set priorities and complete assignments on time.
- O. Ability to attend work as scheduled and/or required.

Physical Demands

The work requires considerable and strenuous physical exertion such as frequent climbing of tall ladders, lifting heavy objects over 50 pounds, and crouching or crawling in restricted areas.

Work Environment

The work environment involves high risks with exposure to potentially dangerous situations or unusual environmental stress requiring a range of safety and other precautions (e.g., working at great heights under extreme outdoor weather conditions, or in similar situations in which conditions cannot be controlled).

HR: LD	Union: Basic	EEOC: Paraprofessionals	CSB:	Class No: 4133
WC: 5506	Pay:	EEOF: Streets/Highways	CC:	Resolution:

## Heavy Equipment Mechanic

### Purpose:

### SUMMARY/PURPOSE

To diagnose, repair, and maintain ~~automotive and self-powered portable~~ heavy trucks, trailers, off-road equipment.

### Functions:

1. ~~Diagnose, repair, and self-powered portable equipment in a professional~~ and maintain ~~automotive and self-powered portable equipment~~ expedient manner.

\* ~~A. Inspect vehicles and equipment to diagnose malfunction or to determine road worthiness.~~

\* ~~B. SUPERVISION RECEIVED~~

For both one-of-a-kind and repetitive tasks, the supervisor makes specific assignments that are accompanied by clear, detailed, and specific instructions. Incumbents work as instructed and consult with the supervisor.

### SUPERVISION GIVEN

Does not supervise.

### ESSENTIAL DUTIES AND RESPONSIBILITIES

1. Conducts detailed preventative maintenance, failure diagnostics and repairs to complex systems by following factory manuals, using computer diagnostic equipment, and established maintenance schedules and procedures on heavy trucks, trailers, off-road equipment, and attachments. These systems include gas and diesel engines, transmissions, rear axles, suspensions, hydraulics, pneumatics, cooling, brakes, fuel, electrical, computer systems, snow equipment, and emergency response equipment.

2. Modify and set up equipment and vehicles to improve safety, efficiency, and productivity of the equipment.

3. Maintain vehicles and equipment in accordance with maintenance schedules, factory repair information, and industry standards.

\* ~~C. Clean vehicles~~ Perform mandatory regulated inspections and test operation of city-owned, leased, and operated equipment.

4. \* ~~D. Diagnose and repair malfunctions in fuel, electrical, ignition, exhaust, brake, and suspension systems~~ vehicles.

\* ~~E. Diagnose and repair vehicle bodies and equipment enclosures, interiors, dashboards, and related equipment.~~

\* ~~F. Diagnose and repair electrical and simple electronic malfunctions.~~

5. \* ~~G. Assist staff in providing operator training through consultation or by providing technical information and demonstration of maintenance procedures.~~

6. Perform general fabrication and metalworking using torches, grinders, and drill presses.

7. Assist other technicians in the completion of their tasks by providing technical or physical assistance.

8. Assist in looking up or ordering parts required for repairs to equipment.

9. Perform emergency repairs away from the shop to return the vehicle or equipment to operation, or to ~~assist in~~ enable returning the vehicle or equipment to the shop for further repair.

\* ~~H. Remove and replace major systems and individual components for repair or replacement.~~

\* ~~I. Overhaul major systems or components such as engines, transmissions, differentials, etc.~~

- \* ~~J.~~ Perform skilled maintenance on systems and components such as computerized ignition, fuel injection, and other systems using specialized diagnostic and repair tools and equipment.
10. \* K. Complete cost estimates for time, labor, and materials so the supervisor can prioritize, budget, and schedule equipment repair projects in an efficient manner.
11. Operate vehicles and equipment to transport to repair location, diagnose malfunction/malfunctions, verify operation, or to move it into or out of the shop area/perform repairs.
12. ~~L.~~ Clean vehicles and equipment as necessary to perform repairs.
13. Clean and maintain shop equipment, tools, and the general shop area.
14. M. Maintain all required records using computerized record keeping systems. Document work completed, track labor time for each work code, document parts and fluids consumed.

#### Minimum Qualifications:

15. Maintain continuing education to stay current on rapidly changing vehicle and component technologies and standards.
16. Be an effective team member by exhibiting self-motivation, supporting other employees in handling tasks, interacting effectively and respectfully with others, showing a desire to contribute to the team effort, accepting assignments willingly, and completing tasks within agreed upon timelines.
17. Other duties may be assigned.

#### JOB REQUIREMENTS

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed are representative of the knowledge, skills, and abilities required.

#### 1. Education & Experience Requirements

H ~~A.~~ Two years' experience as an Equipment Maintenance Specialist (promotional).

~~--OR--~~

H ~~B.~~ A verifiable combination of education and experience equivalent to four years experience in maintaining and repairing vehicles and/or self-powered equipment:

A. Associate's degree in automotive technology, diesel engine repair, or a closely related field, and two (2) years of related professional experience diagnosing and repairing heavy trucks, passenger vehicles, diesel engines or heavy off-road equipment; OR a combination of four (4) years of related education and/or working experience to include diagnosing and repairing heavy trucks, passenger vehicles, diesel engines, or heavy off-road equipment.

#### 2. License and Certifications Requirements

A. ~~H A.~~ Must possess and maintain a valid Minnesota Class "~~D~~" B driver's license or privilege with Tanker endorsement.

B. ~~H B.~~ Must ~~become certified as an~~ obtain ASE Master Automotive Technician Certification (T series [preferred] or A series) and maintain certification thereafter.

C. Must obtain overhead crane and forklift certification during the probation period and maintain ~~that~~ certification thereafter.

~~C.~~ Must ~~be certified as~~ obtain a Minnesota Commercial Motor Vehicle Inspector.

D. ~~D.~~ Additional ASE MN DOT Inspector's Certification ~~induring the~~ Medium/Heavy Truck Series (T Series) is desirable probation period and maintain certification thereafter.

E. Class A driver's license or privilege is preferred.

### 3. Knowledge Requirements

- A. H A. — Extensive~~Thorough~~ knowledge of the principles, methods, tools, and equipment used in the repair of ~~vehicles heavy trucks, trailers, off-road equipment,~~ and self-powered ~~equipment, including heavy~~portable equipment.
- B. H B. — Thorough knowledge of all applicable safety standards, rules, laws, and procedures.
- C. H C. — General knowledge of all state and federal motor vehicles laws and regulations.
- D. H D. — General knowledge of vehicle electrical and computer-controlled systems.
- E. H E. — General knowledge of welding and fabrication methods.
- F. Working knowledge of problem-solving and conflict-resolution techniques.
- G. Working knowledge of, or the ability to learn, City policies and procedures.

### 4. Skill Requirements

- A. H A. — Skill in the use of hand and power tools, especially those used in vehicular maintenance and repair.
- B. H B. — Skill in inspecting and diagnosing malfunctioning or poorly performing motor vehicles or self-powered equipment.
- C. H C. — Skill in performing all repair work on vehicles and self-powered portable equipment, including component level repair of engines and transmissions.
- D. H D. — Skill in disassembly and assembly of motor vehicles and portable self-powered equipment.
- E. H E. — Skill in performing routine maintenance on motor vehicles and portable self-powered equipment.
- F. F. — Skill in using computerized diagnostic equipment and precision measuring instruments.

### Abilities

- G. H A. — Skill in the operation of office equipment including, but not limited to, general computer systems, job required software applications, the internet, and modern office equipment.
- H. Skill in managing one's own time.
- I. Skill in completing assignments accurately and with attention to detail.

### 5. Ability Requirements

- A. Ability to read and interpret technical manuals and schematic diagrams.
- B. H B. — Ability to acquire increasingly complex mechanical skills.
- C. H C. — Ability to become skilled in the use of computerized analysis and repair equipment.
- D. H D. — Ability to record information in the proper manner in both written work orders and computer databases.
- ~~H — E. — Ability to establish and maintain good working relationships with coworkers and customers.~~
- ~~H — F. — Ability to acquire a Minnesota Class "A" or "B" Driver's License or equivalent as required.~~

- ~~E. H G. Ability to work outside in inclement weather.~~  
~~F. H H. Ability to position the body to effect repairs in confined spaces, such as underneath dashboards, under vehicles, etc.~~  
~~G. H I. Ability to reach, hold, position, maneuver, and operate hand tools and replacement parts.~~  
~~H. H J. Ability to identify wires, and other parts by color and other identifying information.~~

~~H K. Ability to use fine hand and finger movements to identify and work on parts not always visible.~~

~~H L. Ability to lift, carry, position, and hold parts weighing up to 50 pounds alone and up to 100 pounds with assistance during repairs. With mechanical assistance, that could exceed 500 pounds.~~

~~\* Essential functions of the classification.~~

~~H Minimum requirements necessary on the first day of employment.~~

- ~~I. Ability to create and maintain a positive working environment that welcomes diversity, ensures cooperation, and promotes respect by sharing expertise with team members, fostering safe work practices, and developing trusting work relationships.~~  
~~J. Ability to communicate and interact effectively with members of the public.~~  
~~K. Ability to communicate effectively both orally and in writing.~~  
~~L. Ability to understand and follow instructions.~~  
~~M. Ability to problem-solve a variety of situations.~~  
~~N. Ability to set priorities and complete assignments on time.~~  
~~O. Ability to attend work as scheduled and/or required.~~

Physical Demands

The work requires considerable and strenuous physical exertion such as frequent climbing of tall ladders, lifting heavy objects over 50 pounds, and crouching or crawling in restricted areas.

Work Environment

The work environment involves high risks with exposure to potentially dangerous situations or unusual environmental stress requiring a range of safety and other precautions (e.g., working at great heights under extreme outdoor weather conditions, or in similar situations in which conditions cannot be controlled).

HR: <del>CTLD</del>	Union: Basic	EEOC: Paraprofessionals	CSB: <del>20060103</del> _____	Class No: 4133
WC: 5506	Pay: <del>28</del> _____	EEOF: <del>St</del> Streets/Highways	CC: <del>20060123</del> _____	Resolution: <del>06-0026R</del> _____