



## IDENTIFICATION

Department	Position Title	
Infrastructure	Heavy Equipment Mechanic	
Position Number	Community	Division/Region
33-10825	Fort Smith	Highways/South Slave

## PURPOSE OF THE POSITION

The Heavy Equipment Mechanic is responsible to ensure that all heavy and light mobile and fixed equipment that is used for maintaining the Department's infrastructure is maintained, repaired, or reconditioned in a timely, efficient, dependable and orderly manner in accordance with manufacturer's specifications and departmental policy and procedures.

## SCOPE

This position reports to the Highway Maintenance Supervisor. The Highway Maintenance Facility, located in the town of Fort Smith, is responsible for maintaining section of Highway No. 5, secondary roads, and highways in Wood Buffalo National Park and the highway to Fort Fitzgerald in the province of Alberta. The Fort Smith highway maintenance staff consists of one Maintenance Supervisor, four Highway Equipment Operators and one Highway Maintenance Worker. Casual staff is also hired during the summer and winter peak work periods.

The incumbent will be responsible for providing mechanical services for planned servicing, repairing and maintaining all heavy and light equipment utilized by the Department for highway maintenance. The incumbent will be capable of operating equipment for the purpose of highway maintenance during extreme need or in emergency conditions.

## RESPONSIBILITIES

- 1. Reconditions components that have a shorter lifespan than the equipment frames or bodies to restore the components to original specified capability by:**

- Analyzing and inspecting failure, to determine cause and extent of repairs as necessary;
  - Dismantling components such as engines, transmissions, differential, electrical equipment, hydraulic systems, air systems, etc.;
  - Identifying parts within a component;
  - Measuring surfaces and refurbishing by polishing;
  - Reassembling components and adjusting to original specifications.
- 2. Repairing equipment that has failed mechanically to restore it to its original specified capability, by:**
- Analyzing failure to determine cause and extent of repairs needed;
  - Dismantling equipment;
  - Inspecting and measuring for worn and failed components;
  - Identifying parts required and preparing parts orders;
  - Replacing components;
  - Reassembling equipment and adjusting to OEM (Original Equipment Manufacturer) specifications;
  - Cleaning and painting components or whole equipment.
- 3. Servicing equipment to reduce incidence of early or untimely failure by:**
- Conducting preventative maintenance servicing using the preventative maintenance program;
  - Adjusting components in accordance with service manuals;
  - Cleaning components;
  - Checking or replacing fluid and filters.
- 4. Performing other duties such as:**
- Welding, brazing, and soldering;
  - Completing service reports and time cards;
  - Maintaining shop equipment and tools;
  - Assisting operators by relating required maintenance procedures;
  - Keeping work area clean and free of safety hazards.
- 5. Operates equipment within the Fort Smith beat boundaries for the purpose of highway maintenance during emergencies or severe staff shortages.**
- Supporting activities of the above responsibility.
- 6. Reconditions, rebuilds and repairs equipment with a dollar value of \$100 to \$60,000 in parts and materials per unit.**
- HEM controls extent and nature of repairs within the original estimates. Where during the course of the work, the HEM finds cost estimates will increase; they will bring this to the attention of the Mechanical Foreman for review.

- 7. Preventative Maintenance (PM) checks; A, B, and C with a dollar value of \$100 to \$2,000 dependent of level of PM and type of equipment.**
  - HEM determines the timing and requirement for level of PM for the particular unit and proceeds at own discretion.
- 8. Condition reports, where inspections of a particular unit can lead to repair in the amounts shown above or recommendation for surplus and replacement of the unit. Replacement costs of mobile equipment range from \$1,000 to \$500,000.**
  - HEM completes condition reports based on experience and knowledge and makes recommendations for repair or replacement to the Mechanical Foreman.

## **WORKING CONDITIONS**

### **Physical Demands**

All of the duties require some level of physical effort. Most include strenuous physical effort for the full duration of the workday. The effort would include heavy lifting, stretching, reaching, operation of tools and other heavy equipment. Both upper and lower body physical strength and agility are required.

### **Environmental Conditions**

Although most of the duties are conducted within a heated and ventilated workshop, there will be some requirement to conduct these duties in the field, out of doors, in extreme summer/winter conditions and in remote locations. All duties will include exposure to fumes, fuels, oils, lubricants, other solvents, and somewhat dangerous or hazardous working conditions.

### **Sensory Demands**

All five senses are deployed in all duties to investigate and determine the nature of problems in equipment servicing and repair. Attention of all senses, in particular hearing, sight, smell, must be paid during the course of the work, to ensure the safety of the HEM and co-workers.

### **Mental Demands**

Creativity, innovation and well thought out approaches to heavy equipment servicing and repair are required in all duties to ensure economic and efficient maintenance of the equipment.

## **KNOWLEDGE, SKILLS AND ABILITIES**

### **Technical**

- Journeyman Heavy Equipment Mechanic Certification (ticket) to be able to sign off equipment, train apprentice mechanics, and carry out the duties of the job efficiently.
- Broad knowledge of all equipment, from heavy to light mobile equipment to stationary units such as generator sets.
- Knowledge of standard repair methods, tools, equipment and technique.

- Knowledge of very specialized equipment used for ice spray technology and airport maintenance.
- Ability to locate and diagnose mechanical problems.
- Ability to interpret diagrams and specifications.
- Must have full set of mechanic hand tools of proven quality, typical personnel investment in tools \$25,000- \$35,000.

### **Managerial or Supervisory**

- Good management of time and organization of paperwork to be able to estimate resource requirements for repairs and to complete the necessary shop repair orders and condition reports
- Leadership and supervisory skills required to act in Supervisor's (Mechanical Foreman) position while on leave; if need arises.
- Teaching, supervisory and communication skills required to train apprentice mechanics.
- Ability to prioritize work based on operational demand and sound decision making ability.

### **Communication**

- Verbal communication skills are required to relay information on equipment repair / service requirements to operators, Mechanical Foreman, Parts Person, Suppliers / Manufacturers and Field Supervisors.
- Some written communication skills required to complete estimates, shop repair orders, condition reports and other paperwork associated with equipment service and repair. Daily contacts are made to the Mechanical Foreman, Field Supervisor and other HEM's to do with servicing, repair and follow-up instructions regarding equipment maintenance.
- Occasional contact with the equipment operators to give maintenance instructions on newly repaired equipment.

### **Typically, the above qualifications would be attained by:**

- Minimum Grade 12 education with ability to understand apprenticeship theory, training and interpret service and parts manuals
- Journeyman Heavy Equipment Mechanic (HEM) Certification.
- Valid Class 3 Drivers license with Air brake endorsement to operate equipment for test purposes.
- Minimum of 5 years' experience as a Journeyman HEM with considerable experience on motor graders, highway trucks, tractors, loaders and crawler tractors.

### **ADDITIONAL REQUIREMENTS**

#### **Position Security (check one)**

- ☒ No criminal records check required
- ☐ Position of Trust – criminal records check required

- ☐ Highly sensitive position – requires verification of identity and a criminal records check

**French Language** (check one if applicable)

- ☐ French required (must identify required level below)

Level required for this Designated Position is:

ORAL EXPRESSION AND COMPREHENSION

Basic (B) ☐ Intermediate (I) ☐ Advanced (A) ☐

READING COMPREHENSION:

Basic (B) ☐ Intermediate (I) ☐ Advanced (A) ☐

WRITING SKILLS:

Basic (B) ☐ Intermediate (I) ☐ Advanced (A) ☐

- ☐ French preferred

**Indigenous Language:**

- ☐ Required  
☐ Preferred