

## Tunnel Boring Machine Hydraulic Specialist

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### **DEFINITION**

This is skilled work which involves the responsibility for leading Hydraulic Systems and Tunnel Boring Machine (TBM) overhaul, repair and maintenance across the City of Edmonton as well as other projects located outside the Municipality of the City of Edmonton. This position directs the planning of the services and repairs to the machine and requires extensive experience in complex and technical work in all operations of the TBM including: troubleshooting, inspection, diagnoses, repair, testing, assembly and disassembly of TBMs. This position is responsible for mentoring Journeyman Mechanics, Apprentices and Labourers about TBM critical maintenance and repair requirements.

Work also includes forecasting maintenance on the machines; determining the extent of repair required; providing recommendations and cost estimates on new parts; participating in the design process of Hydraulic Systems for new projects and building or modifying hydraulic machine parts. Work is done under general supervision and is generally performed independently with considerable latitude for determining specific work methods. Problems of a major nature are referred to a supervisor.

### **TYPICAL DUTIES \***

Regular inspection and maintenance of the TBM Machine while in operation; troubleshoot and fix equipment as necessary and repair or replace defective parts, components or systems.

Identify operating problems, report them to supervisor and perform emergency repairs.

Train other staff how to perform maintenance checks independently.

Troubleshoot and inspect the machine and equipment to detect faults and malfunctions; determine the extent of repair.

Provide recommendations for replacement options with the supervisor.

Plans/schedules maintenance work based on the condition of the tunnel boring machine.

Perform TBM maintenance work. Service attachments and working tools; keep equipment cleaned, lubricated and maintained; troubleshoot the more difficult problems and coach and mentor staff on how to make repairs.

Test repaired equipment for proper performance ensuring that work meets specifications.

Supervise/guide/coach the assembly and disassembly (commissioning & decommissioning) of the TBM machine underground. Complete the TBM setup checklist; perform the initial start-up of the machine and stabilize the machine for operation.

Work in conjunction with the Mechanic Foreman and the Senior Mechanical Engineer to design, build or modify hydraulic machine parts.

Reviews hydraulic drawings and performs repair and maintenance of hydraulic components.

Perform other related duties as required.

**KNOWLEDGE, ABILITIES AND SKILLS**

Skilled and competent in Tunnel Boring Machine and Hydraulic System troubleshooting, maintenance, repair, operation and refurbishment.

Extensive knowledge of the occupational hazards and safety precautions applicable to the work.

Capable of reading, interpreting and understanding of hydraulic schematic diagrams.

Good vision, hearing and sense of smell to diagnose problems.

Ability to express ideas effectively orally and in writing, and to work from plans and specifications.

Ability to assemble, test, commission, and disassemble Tunnel Boring Machines.

Ability to work underground in confined spaces.

Ability to work independently and in a team environment.

Ability to provide training and direction to staff; ability to plan, assign, and supervise work performed.

Ability to prepare reports and to make cost, material and equipment estimates.

**TRAINING AND EXPERIENCE REQUIREMENTS**

Job Level

Certified Alberta Journeyman in the trade of Heavy Duty Mechanic, supplemented by a minimum of five (5) years Journeyman experience in the operation, troubleshooting, maintenance, repair, and refurbishment of Hydraulic Systems and Tunnel Boring Machines. Possession of a valid Class 5 Alberta Motor Vehicle Operator’s License.

An equivalent combination of training and experience may be considered including completion of the twelfth (12th) school grade or GED, supplemented by extensive experience (10+ years) and training in the operation, troubleshooting, maintenance, repair, and refurbishment of Hydraulic Systems and Tunnel Boring Machines. Possession of a valid Class 5 Alberta Motor Vehicle Operator’s License.

\* *This is a class specification and not an individualized job description. A class specification represents and defines the general character, scope of duties and responsibilities of all positions within a specific job classification. It is not intended to describe nor does it necessarily list the essential job functions for a specific position in a classification. Positions may perform some of the duties listed above but this does not necessarily qualify for placement into this classification.*

Salary Plan	<u>10M</u>	<u>10A</u>	<u>10B</u>	<u>10D</u>
Job Code	3222			
Grade	043			
Last Updated:				
Originated:	2011-10			