

Boom Truck Operator “A” Guide to Course Content

2018



Online: www.saskapprenticeship.ca

Recognition:

To promote transparency and consistency, this document has been adapted from the 2013 Mobile Crane Operator National Occupational Analysis (Employment and Social Development Canada).

A complete version of the Occupational Analysis can be found at www.red-seal.ca

STRUCTURE OF THE GUIDE TO COURSE CONTENT

To facilitate understanding of the occupation, this guide to course content contains the following sections:

Description of the Boom Truck Operator “A” trade: an overview of the trade’s duties and training requirements.

Essential Skills Summary: an overview of how each of the nine essential skills is applied in this trade.

Training Profile Chart: a chart which outlines the model for Saskatchewan Apprenticeship and Trade Certification Commission (SATCC) technical training.

Technical Training Course Content for the Boom Truck Operator “A” trade: a chart which outlines the model for SATCC technical training sequencing. For the harmonized level of training, a cross reference to the Harmonized apprenticeship technical training sequencing, at the learning outcome level, is provided.

DESCRIPTION OF THE BOOM TRUCK OPERATOR “A” TRADE

Boom Truck “A” Operator apprentices or tradespeople operate many types of Boom Truck cranes over 15.5 tons. Boom Truck Operator “A” proficiency certificate holders are certified to operate Boom Truck “B”. Boom Truck Operator “A” is considered a sub-trade of the Mobile Crane Operator trade.

Training Requirements: To graduate from each level of the apprenticeship program, an apprentice must successfully complete the required technical training and compile enough on-the-job experience to total at least 1500 hours each year. Total trade time required is 3000 hours and at least 2 years in the trade. There are two levels of technical training delivered by the Western Trade Training Institute in various locations around the province:

Level One: 8 weeks

Level Two: 1 weeks

The information contained in this guide to course content details the technical training delivered for each level of apprenticeship. An apprentice spends approximately 15% of their apprenticeship term in a technical training institute learning the technical and theoretical aspects of the trade. The hours and percentages of technical and practical training may vary according to class needs and progress.

The content of the technical training components is subject to change without notice.

Entrance Requirements for Apprenticeship Training

Your grade twelve transcripts (with no modified classes) or GED 12 is your guarantee that you meet the educational entrance requirements for apprenticeship in Saskatchewan. In fact, employers prefer and recommend apprentices who have completed high school. This ensures the individual has all of the necessary skills required to successfully complete the apprenticeship program, and receive journeyman certification.

Individuals with “modified” or “general” classes in math or science do not meet our entry requirements. These individuals are required to take an entrance assessment prescribed by the SATCC.

English is the language of instruction in all apprenticeship programs and is the common language for business in Saskatchewan. Before admission, all apprentices and/or “upgraders” must be able to understand and communicate in the English language. Applicants whose first language is not English must have a minimum Canadian Language Benchmark Assessment of six (CLB6).

Note: A CLB assessment is valid for a one-year period from date of issue.

| Designated Trade Name | Math Credit at the Indicated Grade Level❶ | Science Credit at Grade Level |
|---|---|-------------------------------|
| Boom Truck Operator "A" | Grade 10 | Grade 10 |
| <p>❶ - (One of the following) WA – Workplace and Apprenticeship; or F – Foundations; or P – Pre-calculus, or a Math at the indicated grade level (Modified and General Math credits are not acceptable.).</p> <p>*Applicants who have graduated in advance of 2015-2016, or who do not have access to the revised Science curricula will require a Science at the minimum grade level indicated by trade.</p> <p>For information about high school curriculum, including Math and Science course names, please see: http://www.curriculum.gov.sk.ca/#</p> <p>Individuals not meeting the entrance requirements will be subject to an assessment and any required training</p> | | |

ESSENTIAL SKILLS SUMMARY

Essential skills are needed for work, learning and life. They provide the foundation for learning all other skills and enable people to evolve with their jobs and adapt to workplace change.

Through extensive research, the Government of Canada and other national and international agencies have identified and validated nine essential skills. These skills are used in nearly every occupation and throughout daily life in different ways.

A series of CCDA-endorsed tools have been developed to support apprentices in their training and to be better prepared for a career in the trades. The tools can be used independently or with the assistance of a tradesperson, trainer, employer, teacher or mentor to:

- understand how essential skills are used in the trades;
- learn about individual essential skills strengths and areas for improvement; and
- improve essential skills and increase success in an apprenticeship program.

The tools are available online or for order at: www.esdc.gc.ca/eng/jobs/les/profiles/index.shtml

The application of these skills may be described throughout this document within the skills and knowledge which support each sub-task of the trade. The most important essential skills for each sub-task have also been identified. The following are summaries of the requirements in each of the essential skills, taken from the essential skills profile. A link to the complete essential skills profile can be found at www.red-seal.ca.

READING

In their daily work, Boom Truck Operators read and comprehend several types of texts. These include safety and work procedures as well as more complex hoisting regulations and manufacturers' operating manuals.

DOCUMENT USE

Boom Truck Operators use workplace documents such as logbooks, load charts, hazard assessments and workplace policies and procedures to carry out their job. They must be familiar with regulations relating to hoisting, rigging and safe work environments. They must have the ability to read and interpret manufacturers' specifications and load charts for the model of crane they are using. Depending on site-specific requirements, they may obtain information from engineered and construction drawings and plans.

WRITING

Boom Truck Operators use writing skills to record comments and notes in logbooks, or work records. They write messages to colleagues or management to give work details or reply to requests for technical information. They may also write longer descriptions and explanations for various reporting and data collection forms

ORAL COMMUNICATION

Boom Truck Operators use oral communication skills to coordinate work with site crews. Clear communication of technical and complex information is very important to avoid injuries and promote efficiency. Boom Truck Operators also use communication skills when instructing apprentices, co-workers and on-site work crews. Good listening and visual skills are also required to communicate with riggers, signallers and other operators during lifts. Operators use verbal communication and hand signals to communicate the speed of lift movements and precise positioning of loads.

NUMERACY

Boom Truck Operators use a range of math skills in their daily work. These include mathematical and physics concepts such as conversions, geometry, algebraic calculations, measurement and calculation of load and lift requirements. They use code books, load charts and manufacturers' specifications to further determine procedures, limits and the necessary equipment for rigging and hoisting

THINKING

Boom Truck Operators must use decision-making skills to perform work planning and prioritizing. The decisions they make about the sequence of work have implications for everyone on site. Boom Truck Operators require strong analytical skills to effectively use their equipment.

Boom Truck Operators use problem solving skills to choose setup locations and crane configurations for specific jobs. During lifts, Boom Truck Operators make operational decisions to start, stop and vary the speed and direction of lifts to ensure safe movement and placement of a load. They evaluate the safety of lifts before and during lifts, and stop work if necessary

WORKING WITH OTHERS

To be effective, Boom Truck Operators must establish close and ongoing job-task coordination with other workers on the job site. They work closely with clients to plan lifts and ensure that their activities are coordinated with those of on-site crews. They are in close communication with riggers, signallers and supervisors to coordinate lifts and load placements. Boom Truck Operators work in close coordination with other operators when performing multiple crane lifts and when in close proximity with other cranes and heavy equipment.

DIGITAL TECHNOLOGY

Boom Truck Operators are increasingly required to interpret electronic data transmitted from LMI, anemometers and electronic scales to a display located in the cab of the crane. Controls for the mobile crane may also involve computerized applications.

CONTINUOUS LEARNING

As construction methods and crane technology are advancing, Boom Truck Operators must keep abreast of these developments. There are requirements for site or crane specific training and regulatory changes that may require additional certification and ongoing learning to ensure compliance and safe working conditions.

TRAINING PROFILE CHART

This Training Profile Chart represents Saskatchewan Apprenticeship and Trade Certification Commission (SATCC) technical training at the topic level.

Boom Truck Operator “A” technical training for levels 1 and 2 is provided in alternative delivery. This method uses a combination of in-class training and at-home course work between training sessions.

Technical training for level 1 is equivalent to an 8 week (240 hour) in-class session. Level 2 is equivalent to a 1 week (40 hour) in-class session.

| Level One |
|----------------------------|
| Safety/Tools and Equipment |
| Rigging |
| Mobile Crane Operations |
| Load Charts I |
| Load Weight Calculations |

| Level Two |
|---|
| Safety/Tools and Equipment |
| Load Weight Calculations II |
| Load Charts II |
| Mobile Crane Setup |
| Mobile Crane Operations |
| Pre-operational Checks, Inspections and Maintenance |
| Rigging |

TECHNICAL TRAINING COURSE CONTENT

This chart outlines the model for Saskatchewan Apprenticeship and Trade Certification Commission (SATCC) technical training sequencing.

Level One

Safety/Tools and Equipment

- safety
- communications for hoisting
- high voltage electrical fundamentals
- trade related documents
- tools and equipment
- fasteners and retaining devices

Rigging

- wire rope
- rigging hardware
- introduction to rigging and hoisting
- sling configurations

Load Weight Calculations

- load weight calculations I

Load Charts

- load charts I

Mobile Crane Operations

- lifting theory and forces
- introduction to crane operations
- introduction to computerized operational aids
- job planning
- introduction to mobile cranes

Level Two

Rigging

- wire rope
- rigging hardware
- rigging and hoisting
- sling configurations
- multi-crane lifts

Load Weight Calculations

- load weight calculations II

Load Charts

- load charts II

Pre-operational Checks, Inspections and Maintenance

- engines and drive systems
- mechanical systems
- hydraulic systems
- continual checks

Boom Truck Set-up

- crane setup
- assembly and disassembly
- transportation
- pre-lift planning
- worksite preparation

Boom Truck Operations

- lifting theory and forces
- introduction to crane operations
- introduction to computerized operational aids
- job planning
- introduction to boom trucks
- boom truck operation
- specialty crane operations

Safety/Tools and Equipment

- safety
- communications for hoisting
- high voltage electrical fundamentals
- trade related documents
- tools and equipment
- fasteners and retaining devices