



Mobile Crane Operator **On-the-Job Training Guide**

2024

1-877-363-0536
apprenticeship@gov.sk.ca
saskapprenticeship.ca



Online: www.saskapprenticeship.ca

Recognition:

To promote transparency and consistency, this document has been adapted from the 2021 Mobile Crane Operator Red Seal Occupational Standard (Employment and Social Development Canada).

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

STRUCTURE OF THE ON-THE-JOB TRAINING GUIDE

To facilitate understanding of the occupation, this on-the-job training guide contains the following sections:

Task Matrix: a chart which outlines graphically the major work activities, tasks and sub-tasks of this standard detailing the essential skills and the level of training where the content is covered.

Major Work Activity (MWA): the largest division within the standard that is comprised of a distinct set of trade activities.

Task: distinct actions that describe the activities within a major work activity.

Sub-task: distinct actions that describe the activities within a task.

On-the-Job and In-school Training Content for the Mobile Crane Operator Trade: a chart which outlines on-the-job examples for apprentices to achieve relevant work experience to prepare for topics of technical training.



TRAINING REQUIREMENTS FOR THE MOBILE CRANE OPERATOR TRADE

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 1800 hours each year. Total trade time required is 5400 hours and at least 3 years in the trade.

Journeyman to apprentice ratio for this trade is: 1:2

The information contained within this pamphlet serves as a guide for employers and apprentices. Apprenticeship training is mutually beneficial to both employer and apprentice. The employer's investment in training apprentices results in skilled and certified workers. The pamphlet summarizes the tasks to be covered by the apprentice during the on-the-job portion of apprenticeship training. An apprentice spends approximately 85% of the apprenticeship term training on-the-job.

It is the employer's or journeyman's training responsibility to supervise an apprentice's practical skills development until a satisfactory level of proficiency has been reached.

EMPLOYER TRAINING RESPONSIBILITY

- promote a safety-conscious workplace
- provide mentored, hands-on practice in the use of rigging equipment
- demonstrate calculations of the load weights, rigging capacities and crane capacities
- demonstrate set-up of cranes
- provide the opportunity for apprentices to perform minor maintenance on cranes
- further the apprentice's ability to complete pre-operational inspections, checks and regular inspections
- ensure that the apprentice can perform craning operations

Employers should make every effort to expose their apprentices to work experience in as many areas of the trade as possible.

In the On-the-Job Training Guide, in-school instruction is listed first; on-the-job suggestions to help employers assist the apprentice to prepare for in-school training are listed next.

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

MOBILE CRANE OPERATOR TASK MATRIX CHART

This chart outlines the major work activities, tasks and sub-tasks from the 2021 Mobile Crane Operator Red Seal Occupational Standard (RSOS). Each sub-task details the corresponding essential skill and level of training where the content is covered. *

* Sub-tasks with numbers in the boxes is where the content will be delivered in training.

A - Performs Common Occupational Skills

6%

A-1 Performs safety-related functions	1.01 Maintains a safe work environment 1, 2, 3	1.02 Uses personal protective equipment (PPE) and safety equipment 1, 2, 3	1.03 Uses documentation 1, 2, 3
A-2 Uses communication and mentoring techniques	2.01 Use communication techniques 1, 2, 3	2.02 Uses mentoring techniques 1, 2, 3	

B - Performs Hoisting Calculations

18%

B-3 Determines load weights	3.01 Identifies weight 1, 2, 3	3.02 Calculates weight 1, 2, 3
B-4 Calculates crane capacity	4.01 Determines radius and crane configuration 1, 2, 3	4.02 Interprets load charts 1, 2, 3

B-5 Performs rigging calculations

5.01 Performs sling angle calculations

1, 2, 3

5.02 Performs working load limit (WLL) calculations

1, 2, 3

C – Inspects and Maintains Crane

13%

C-6 Performs pre-operational checks and regular inspections

6.01 Inspects engine systems

1, 2, 3

6.02 Inspects air systems

1, 2, 3

6.03 Inspects electrical systems

1, 2, 3

6.04 Inspects hydraulic systems

1, 2, 3

6.05 Inspects chassis/car body and running gear components

1, 2, 3

6.06 Inspects outriggers and counterweights

1, 2, 3

6.07 Inspects boom components and attachments

1, 2, 3

6.08 Inspects hoisting systems

1, 2, 3

C-7 Performs operational and continual checks

7.01 Checks operating controls

1, 2, 3

7.02 Inspects monitoring and warning systems

1, 2, 3

7.03 Monitors running lines, hoist lines and standing ropes

1, 2, 3

7.04 Monitors gauges and warning systems

1, 2, 3

7.05 Monitors support base

1, 2, 3

C-8 Performs minor crane maintenance

8.01 Changes oil and filters

1

8.02 Greases crane

1, 2, 3

8.03 Lubricates wire ropes

1, 2, 3

8.04 Makes adjustments and replacements

1, 2, 3

D – Performs Rigging

12%

D-9 Inspects, maintains and stores slings and hardware	9.01 Lubricates slings and hardware 1, 2, 3	9.02 Identifies deficiencies in slings and hardware 1, 2, 3	9.03 Disposes of damaged slings and hardware 1, 2, 3	9.04 Stores slings and hardware 1, 2, 3
D-10 Follows rigging procedures	10.01 Selects required rigging 1, 2, 3	10.02 Rigs load 1, 2, 3	10.03 Monitors rigging 1, 2, 3	

E – Plans Lift, Prepares Site and Sets Up Crane

15%

E-11 Performs pre-lift planning	11.01 Participates in routine, engineered and specialty lift planning 1, 2, 3	11.02 Evaluates risks and hazards 1, 2, 3	
E-12 Sets up crane	12.01 Performs final site inspection 2, 3	12.02 Positions crane 2, 3	12.03 Completes setup 2, 3

F – Assembles, Disassembles and Transports Crane

13%

<p>F-13 Loads and unloads components for transport</p>	<p>13.01 Loads crane and components</p> <p>2, 3</p>	<p>13.02 Unloads and crane and components</p> <p>2, 3</p>			
<p>F-14 Drives cranes on public roadways</p>	<p>14.01 Performs pre-trip planning</p> <p>1, 2, 3</p>	<p>14.02 Prepares crane for transport</p> <p>2, 3</p>	<p>14.03 Drives cranes</p> <p>2, 3</p>		
<p>F-15 Assembles and disassembles lattice boom cranes</p>	<p>15.01 Installs tracks on car body (lattice boom)</p> <p>1, 2, 3</p>	<p>15.02 Installs superstructure/upperworks (lattice boom)</p> <p>1, 2, 3</p>	<p>15.03 Installs outrigger boxes (lattice boom)</p> <p>1, 2, 3</p>	<p>15.04 Installs boom base (lattice boom)</p> <p>1, 2, 3</p>	<p>15.05 Assembles counterweights (lattice boom)</p> <p>1, 2, 3</p>
	<p>15.06 Assembles main boom, tip and boom attachments (lattice boom)</p> <p>1, 2, 3</p>	<p>15.07 Installs hook blocks and overhaul ball (lattice boom)</p> <p>1, 2, 3</p>	<p>15.08 Removes hook blocks and overhaul ball (lattice boom)</p> <p>1, 2, 3</p>	<p>15.09 Disassembles main boom, tip and boom attachments (lattice boom)</p> <p>1, 2, 3</p>	<p>15.10 Removes counterweights (lattice boom)</p> <p>1, 2, 3</p>
	<p>15.11 Removes boom base (lattice boom)</p> <p>1, 2, 3</p>	<p>15.12 Removes superstructure/upperworks (lattice boom)</p> <p>1, 2, 3</p>	<p>15.13 Removes tracks from car body (lattice boom)</p> <p>1, 2, 3</p>	<p>15.14 Removes outrigger boxes (lattice boom)</p> <p>1, 2, 3</p>	
<p>F-16 Assembles and disassembles telescopic boom cranes</p>	<p>16.01 Installs tracks on car body (telescopic boom)</p> <p>1, 2, 3</p>	<p>16.02 Installs outrigger boxes (telescopic boom)</p> <p>1, 2, 3</p>	<p>16.03 Installs superstructure/upperworks (telescopic boom)</p> <p>1, 2, 3</p>	<p>16.04 Installs main boom (telescopic boom)</p> <p>1, 2, 3</p>	<p>16.05 Installs hook blocks and overhaul ball (telescopic boom)</p> <p>1, 2, 3</p>

16.06 Installs counterweights (telescopic boom) 1, 2, 3	16.07 Installs jibs and inserts (telescopic boom) 1, 2, 3	16.08 Removes jibs and inserts (telescopic boom) 1, 2, 3	16.09 Removes counterweights (telescopic boom) 1, 2, 3	16.10 Removes hook blocks and overhaul ball (telescopic boom) 1, 2, 3
16.11 Removes main boom (telescopic boom) 1, 2, 3	16.12 Removes outrigger boxes (telescopic boom) 1, 2, 3	16.13 Removes tracks from car body (telescopic boom) 1, 2, 3	16.14 Removes superstructure/upperworks (telescopic boom) 1, 2, 3	
F-17 Assembles and disassembles specialty equipment and attachments 	17.01 Assembles specialty equipment and attachments 3	17.02 Disassembles specialty equipment and attachments 3		

G – Operates Crane

23%

G-18 Performs common craning operations 	18.01 Configures load moment indicator (LMI) 1, 2, 3	18.02 Mobilizes crane on jobsite 1, 2, 3
G-19 Operates friction drive lattice boom cranes 	19.01 Operates friction drive crawler-mounted lattice boom cranes 1, 2, 3	19.02 Operates friction drive truck-mounted lattice boom cranes 1, 2, 3
G-20 Operates hydraulic drive lattice boom cranes 	20.01 Operates hydraulic drive crawler-mounted lattice boom cranes 1, 2, 3	20.02 Operates hydraulic drive truck-mounted lattice boom cranes 1, 2, 3

G-21 Operates telescopic boom cranes	21.01 Operates crawler-mounted telescopic cranes 1, 2, 3	21.02 Operates rubber-mounted telescopic cranes 1, 2, 3			
G-22 Performs specialty craning operations	22.01 Operates crane with piledriving equipment 2, 3	22.02 Performs duty cycle operations 2, 3	22.03 Operates cranes on floating platforms 3	22.04 Performs multi-crane lifts 2, 3	22.05 Uses personnel hoisting equipment 2, 3
G-23 Secures crane	23.01 Secures crane for short-term 1, 2, 3	23.02 Secures crane for long-term 1, 2, 3			

TRAINING PROFILE CHART

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

Mobile Crane Operator technical training for levels 1 and 2 are provided in alternative delivery. This method uses a combination of in-class training and at-home course work between training sessions. As a result, hours are listed below for a specific training level, but not for individual courses.

Technical training for levels 1 and 2 are both equivalent to 8 weeks in length, while level 3 is a 2 week in-class session.

Level One	Hours
Safety/Tools and Equipment	
Basic Rigging	
Introduction to Mobile Crane Operations	
Introduction to Load Charts	
Introduction to Load Weight Calculations	
	240

Level Two	Hours
Advanced Rigging	
Advanced Load Weight Calculations	
Advanced Load Charts	
Mobile Crane Setup	
Advanced Mobile Crane Operations	
Pre-operational Checks, Inspections and Maintenance	
	240

Level Three	Hours
Mobile Crane Operations for Specialty Equipment	
Safety/Tools and Equipment for Specialty Operations	
Specialty Rigging	
Load Charts for Specialty Equipment	
Load Weight Calculations for Specialty Equipment	
Pre-operational Checks, Inspections and Maintenance for Specialty Equipment	
Specialty Mobile Crane Setup	
	80

ON-THE-JOB AND IN-SCHOOL TRAINING

CONTENT FOR THE MOBILE CRANE OPERATOR

TRADE

This chart outlines on-the-job examples for apprentices to achieve relevant work experience to prepare for the topics of technical training. Topics of technical training are provided with the associated learning outcomes.

Level One

8 Weeks Equivalent

240 hours

Safety/Tools and Equipment

- types of personal protective equipment (PPE) and clothing and describe their applications, limitations and procedures to maintain
- hazards and describe workplace safety and health regulations
- techniques for effective verbal and non-verbal communication
- applicable hand signals used during craning operations
- trade related documents and describe their applications
- hand, power and measuring tools and describe their applications, procedures for use
- retaining devices and describe their applications and procedures to install and remove

Mentors can assist the apprentice to prepare for this section of technical training by:

- *ensuring the apprentice follows safe work practices and has knowledge of CSA standards, OH&S regulations and company safety policies*
- *demonstrating the use of safety equipment such as PPE, first aid kits, fire extinguishers and spill kits*
- *allowing apprentice to attend company safety meetings*
- *demonstrating crane safety and possible hazards*
- *demonstrating, then supervising the apprentice using hand signalling procedures during actual lifts of materials and equipment*
- *explaining safety procedures as it relates to high voltage electrical equipment*
- *explaining limits of approach when working near high voltage equipment*
- *ensuring the apprentice knows the safety procedures associated with electrical contact*
- *reviewing and explaining technical information from manufacturer's manuals*
- *explaining the personal responsibility for crane operators to maintain logbooks*
- *demonstrating the use of the crane logbook*
- *allowing the apprentice to use written communication, such as logbook time sheets and accident reports*
- *ensuring the apprentice has knowledge of various hand and power tools*
- *ensuring the apprentice is exposed to various types of crane hardware/fasteners and their usages*

Basic Rigging

- codes, standards and regulations pertaining to wire ropes, rigging hardware and slings
- wire ropes, rigging hardware and slings and describe their applications, limitations and procedures for use and storage
- procedures used to select, install and connect wire ropes, rigging hardware and slings
- procedures used to troubleshoot issues with wire rope, slings and rigging components
- procedures used to dispose of damaged rigging components
- information pertaining to rigging and hoisting found on drawings and specifications
- procedures used to calculate sling angles and their effect on sling capacities
- procedures used to determine the appropriate sling size for a given load
- considerations and calculations used to determine WLLs

Mentors can assist the apprentice to prepare for this section of technical training by:

- *demonstrating inspection procedures and identify damage to wire rope*
- *allowing the apprentice to choose the appropriate hardware for various lifts*
- *identifying various block classifications and their applications*
- *discussing the effects of sling angles*
- *exposing the apprentice to lifts requiring different sling configurations*
- *allowing the apprentice to choose the rigging configuration for a basic lift such as sling type, size, use of hardware and quantity*
- *discussing the effects of different types of sling configurations such as vertical, choker, basket hitch and two-leg bridle*

Introduction to Load Weight Calculations

- procedure to determine weight of basic-shaped loads
- procedure to determine center of gravity

Mentors can assist the apprentice to prepare for this section of technical training by:

- *allowing the apprentice to calculate load weights for basic shaped loads*
- *allowing the apprentice to determine and calculate center of gravity*

Introduction to Load Charts

- basic load charts, their characteristics and applications
- crane capacity, crane component capacity and working radius for basic lifting operations

Mentors can assist the apprentice to prepare for this section of technical training by:

- *ensuring apprentice is aware of factors reducing capacities such as wind, weather and ground conditions*
- *allowing the apprentice to use basic load charts*

Introduction to Mobile Crane Operations

- lifting theory and forces
- units of measure and symbols regarding lifting plans and load charts
- basic crane operations, applications and procedures
- procedures used to perform pre/post-operational inspections
- crane computers and integrated computerized components, their applications and procedures for use
- procedures used to plan and organize job tasks
- mobile cranes, their characteristics and applications

Mentors can assist the apprentice to prepare for this section of technical training by:

- *discussing the components of leverage and their applications*
- *having the apprentice look through manufacturer's manuals*
- *allowing the apprentice to interpret technical information gathered from multiple sources*
- *demonstrate the quadrants of operation and the effects of lifting over the different quadrants*
- *demonstrating operating procedures such as swing, hoist up/down and using multiple functions at the same time*
- *ensuring the apprentice has basic crane operations such as programming range limiting devices and use of LMI*
- *explaining job site layouts and hazards to consider*
- *allowing the apprentice to attend a site meeting*
- *exposing the apprentice to crane operations of various cranes such as lattice, hydraulic and boom trucks*
- *supervising the apprentice during the completion of a walk around inspection prior to operation*

Advanced Rigging

- non-routine rigging and lifts, their applications, limitations and procedures
- non-routine rigging and lift techniques
- reeving operations
- methods and equipment used for reeving operations
- multi-crane lifts and their applications
- procedures used for multi-crane lifts

Mentors can assist the apprentice to prepare for this section of technical training by:

- *identifying the various types of hoist blocks such as ball, block, and snatch block*
 - *ensuring the apprentice can select the rigging configuration for various lifts*
 - *demonstrating the use of equalizer beams and spreader bars*
 - *discussing lubrication needs for wire rope slings*
 - *allowing the apprentice to install various parts of line*
 - *allowing the apprentice to seize and braze wire rope*
 - *supervising the apprentice during the preparation and setup of a multi-crane lift*
-

Advanced Load Weight Calculations

- procedure to determine weight of irregular shaped loads
- procedure to determine center of gravity

Mentors can assist the apprentice to prepare for this section of technical training by:

- *ensuring the apprentice can complete basic load weight calculations*
 - *supervising the apprentice when needing to calculate load weights requiring multi step calculations*
-

Advanced Load Charts

- load charts, their characteristics and applications
- crane capacity, crane component capacity and working radius for lift operations

Mentors can assist the apprentice to prepare for this section of technical training by:

- *ensuring the apprentice can gather information from multiple locations within a load chart*
 - *discussing the factors reducing rated capacities such as wind, weather, ground conditions and personnel experience*
-

Pre-operational Checks, Inspections and Maintenance

- engines and drive systems, components, their purpose and operation
- procedures used to inspect, maintain and troubleshoot engines and drive systems
- mechanical systems, components, their purpose and operation
- procedures used to inspect, maintain and troubleshoot mechanical systems and their components
- hydraulic systems, components, their purpose and operation
- procedures used to inspect, maintain and troubleshoot hydraulic systems and their components
- procedures used to perform continual checks

Mentors can assist the apprentice to prepare for this section of technical training by:

- *having the apprentice view the crane manufacturer's requirements for inspections/maintenance*
- *exposing the apprentice to maintenance procedures and checklists for rigging, pre-lift planning, crane setup and crane maintenance*
- *supervising the apprentice conducting crane preventative maintenance tasks*

- *demonstrating daily interval checks such as ground conditions, outriggers remain set and crane condition*
-

Mobile Crane Set-up

- positioning, blocking and leveling operations and their applications
- lattice boom cranes and their associated components
- procedures used for the assembly and disassembly of lattice boom cranes and their components
- telescopic boom cranes and their associated components
- procedures used for the assembly and disassembly of telescopic boom cranes and their components
- procedures used to prepare cranes for transport
- procedures used to transport cranes, their components and accessories
- steps required for pre-lift planning
- procedures used to determine crane positioning and setup
- procedures used to prepare worksite for crane operations

Mentors can assist the apprentice to prepare for this section of technical training by:

- *supervising the apprentice while positioning the crane, making sure the apprentice considers radii, voltage/obstacle clearances, crane dimensions and load dimension/weight*
 - *allowing the apprentice to help in the assembly/disassembly of various cranes and attachments such as the house(upperworks), outriggers boxes, the boom and jib*
 - *discussing permit requirements for transport of cranes on various methods of carriers*
 - *discussing the various methods of transporting a crane*
 - *having the apprentice visit the job site to determine if it is favourable for crane mobility and setup*
 - *allowing the apprentice to attend pre-lift planning meetings and completing a lift plan form*
 - *describing the importance of site meetings*
 - *discussing potential site hazards such as overhead and underground obstructions and ground conditions*
-

Advanced Mobile Crane Operations

- hydraulic telescopic boom cranes, their applications and operation
- procedures used to operate telescopic boom cranes and their attachments
- hydraulic drive lattice boom cranes, their applications and operation
- procedures used to operate hydraulic drive lattice boom cranes, hydraulic drive systems and their attachments
- friction drive lattice boom cranes, their applications and operation
- procedures used to operate friction drive lattice boom cranes, friction drive systems and their attachments
- advanced crane operations, their characteristics, applications and procedures

Mentors can assist the apprentice to prepare for this section of technical training by:

- *allowing the apprentice to operate various types of cranes and boom trucks*
- *explaining the level of awareness required while operating a crane such as consistently monitoring gauges, watching load and the surrounding environment*
- *discussing specialty craning operations such as multi-crane lifts, personnel hoisting, pile driver, clamshell and draglines*

Safety/Tools and Equipment for Specialty Operations

- specialty safety equipment, their applications, maintenance and procedures for use
- safe work practices and regulatory requirements pertaining to specialty equipment
- effective communication practices
- communication devices, their operation and the procedures used to communicate during specialty hoisting operations
- procedures used to operate specialty equipment near high voltage electrical equipment
- procedures used to complete documentation
- tools and equipment, their applications, maintenance and procedures for use
- fasteners and retaining devices, their applications and procedures for use

Mentors can assist the apprentice to prepare for this section of technical training by:

- *reviewing safety equipment and PPE requirements*
- *ensuring the apprentice can recognise site hazards*
- *allowing the apprentice to participate in shop safety meetings*
- *ensuring the apprentice has reviewed the CSA Z150, Saskatchewan OH&S manuals and company safety policy*
- *allowing the apprentice to direct rigging duties and demonstrate good knowledge of crane hand signals*
- *reviewing the importance of limits of approach*
- *demonstrating safety procedures associated with electrical contact*
- *discussing the process when requesting power to be de-energized when limits of approach cannot be used*
- *ensuring the apprentice records the information required in the crane logbook*
- *allowing the apprentice to fill in logbooks*
- *ensuring the apprentice can use written communication such as incident reports and critical lift plan*
- *allowing the apprentice to use the different types of hand and power tools*

Specialty Rigging

- wire ropes, their applications, limitations and procedures for use
- procedures used to install, monitor, inspect, maintain, store and dispose of wire ropes and rigging hardware
- rigging hardware, their applications, limitations and procedures for use
- rigging and hoisting applications and techniques
- sling configurations, their characteristics and applications
- working load limits (WLL)
- non-routine rigging and lifts, their applications, limitations and procedures
- non-routine rigging and lift techniques
- methods and equipment used for reeving operations
- procedures used for multi-crane lifts

Mentors can assist the apprentice to prepare for this section of technical training by:

- *installing a wire rope on a hoist drum*
- *supervising the apprentice during inspection and maintenance procedures for rigging slings and hardware*
- *discussing proper storage methods of rigging hardware*
- *allowing the apprentice to select the rigging configuration for intermediate load configurations*
- *ensuring the apprentice can calculate angular loading for various sling configurations*
- *giving the apprentice exposure to lifts using various accessories such as equalizer beams and spreader bars*
- *allowing the apprentice to install the different parts of line*

- *allowing the apprentice to prepare, setup and perform a multi-crane lift*
-

Load Charts for Specialty Equipment

- load charts, their characteristics and applications
- crane component capacity and working radius for lift operations

Mentors can assist the apprentice to prepare for this section of technical training by:

- *ensuring the apprentice can interpret gross and net capacities based on manufacturer's load charts*
 - *ensuring the apprentice can interpret information from the cranes manufacturer's load charts*
 - *allowing the apprentice to complete a load calculation requiring information from multiple locations within a load chart*
-

Load Weight Calculations for Specialty Equipment

- weight of basic shaped loads
- center of gravity
- procedures to determine weight of irregular shaped loads
- procedures to determine center of gravity

Mentors can assist the apprentice to prepare for this section of technical training by:

- *ensuring the apprentice can calculate load weights using formulas such as cylinder, cube and pyramid*
 - *allowing the apprentice to calculate load weights requiring multi-step calculations such as tank with fluid, H-beams and pipes*
 - *discussing the effect of load weight estimating when adding rigging /accessories required for lift*
-

Pre-operational Checks, Inspections and Maintenance for Specialty Equipment

- engines and drive systems, their purpose, components and operation
- procedures used to inspect, maintain and troubleshoot engines, drive systems and their components
- procedures used to inspect, maintain and troubleshoot mechanical systems and their components
- hydraulic systems and components, their purpose and operation
- procedures used to inspect, maintain and troubleshoot hydraulic systems and their components
- procedures used to perform continual checks

Mentors can assist the apprentice to prepare for this section of technical training by:

- *allowing the apprentice to complete a crane maintenance inspection*
 - *allowing the apprentice to perform routine maintenance on the engine, power train, cooling hydraulic and fuel system*
 - *demonstrating an undercarriage inspection and explaining the purpose and frequency*
 - *reviewing crane inspection checklists and logbooks*
 - *allowing the apprentice to complete a walk around inspection prior to operation*
 - *supervising the apprentice during daily interval checks such as ground conditions, outrigger remain set and crane condition*
-

Specialty Mobile Crane Set-up

- positioning, blocking and leveling operations and their applications
- procedures used for the assembly and disassembly of lattice boom cranes and their components
- procedures used for the assembly and disassembly of telescopic boom cranes and their components
- procedures used to transport cranes, their components and accessories



-
- steps required for pre-lift planning
 - procedures used to determine crane positioning and setup
 - procedures used to prepare worksite for crane operations

Mentors can assist the apprentice to prepare for this section of technical training by:

- *allowing the apprentice to relocate of a crane on site, treating the relocation with the same attention and procedure as original site setup*
- *allowing the apprentice to calculate the assist crane required*
- *ensuring the apprentice can direct the assembly/disassembly of a crane and/or accessories*
- *ensuring the apprentice is aware of permit requirements when driving a crane on public/private roads*
- *allowing the apprentice to prepare for transport and drive the crane on public/private roads*
- *allowing the apprentice to communicate lift procedures to site personnel*
- *allowing the apprentice to lead a pre-lift planning meeting*
- *ensuring the apprentice completes pre-lift planning documentation*
- *having the apprentice conduct a site meeting*
- *ensuring the apprentice considers variables affecting a lift such as weather, ground condition and overhead obstacles*

Mobile Crane Operations for Specialty Equipment

- lifting theory and forces
- units of measure and symbols relating to lifting plans and load charts
- procedures used to perform pre- and post-operational inspections
- procedures to perform crane operations
- crane computers, integrated computerized components, their applications and procedures for use
- procedures used to operate telescopic boom cranes and their attachments
- procedures used to operate hydraulic drive lattice boom cranes, hydraulic drive systems and their attachments
- procedures used to operate friction drive lattice boom cranes, friction drive systems and their attachments
- procedures used to perform specialty crane operations

Mentors can assist the apprentice to prepare for this section of technical training by:

- *allowing the apprentice to calculate working capacities for various crane configurations such as outrigger position, boom length and parts of line*
- *having the apprentice verify the LMI is set properly, gauges are displaying appropriate reading and anti-two block device is functioning properly*
- *identifying warning systems on cranes and importance of these systems*
- *allowing the apprentice to select which crane is used for a specific job taking into consideration location, load size and quantity*
- *ensuring the apprentice understands the legal responsibilities of the workers involved in crane operation*
- *giving the apprentice exposure to various styles of hoisting equipment*
- *allowing the apprentice to participate in specialty lifts such as blind lifts and tandem lifts*



Consider apprenticeship training as an investment in the future of your company and in the future of your workforce. Ultimately, skilled and certified workers increase your bottom line.

Get involved in the apprenticeship training system. Your commitment to training helps to maintain the integrity of the trade.

Do you have employees who have been working in the trade for a number of years but don't have trade certification? Contact your local apprenticeship office for details on how they might obtain the certification they need.

Saskatchewan Apprenticeship & Trade Certification Commission

2140 Hamilton St Regina SK S4P 2E3

Tel: (306) 787-2444

Fax: (306) 787-5105

Toll Free: 1-877-363-0536

Website: www.saskapprenticeship.ca

District Offices

Estevan (306) 637-4930

La Ronge (306) 425-4385

Moose Jaw (306) 694-3735

North Battleford (306) 446-7409

Prince Albert (306) 953-2632

Saskatoon (306) 933-8476

Swift Current (306) 778-8945

Yorkton (306) 786-1394