

Mobile Crane Operator On-the-Job Checklist



	Level 1	Page 1/4
Red Seal Tasks	On-The-Job Duties	Completed
Performs safety-related functions	Clean windows & remove clutter from the operator's cabin	<input type="checkbox"/>
	Select & inspect PPE equipment such as fall protection	<input type="checkbox"/>
	Participate in completion of the task hazard analysis & pre-trip inspection checklist	<input type="checkbox"/>
Uses communication & mentoring techniques	Communicate with rigging leader & signal person using a radio or hand signals	<input type="checkbox"/>
Determines load weights	Assist the Journeyperson with determining the weight of an object	<input type="checkbox"/>
	Calculate the weight of a simple lift including rigging & verify with supervisor	<input type="checkbox"/>
Calculates crane capacity	Refer to the crane's load charts to find the optimal boom length & angle for the measured radius	<input type="checkbox"/>
	Identify the correct load chart for the crane & components used in the lift	<input type="checkbox"/>
Performs rigging calculations	Calculate rigging lifting capacity based on sling angle & confirm with Supervisor	<input type="checkbox"/>
	Perform WLL calculations & confirm with supervisor	<input type="checkbox"/>
Performs pre-operational checks & regular inspections	Check the crane's engine oil levels & top up as required	<input type="checkbox"/>
	Inspect air hoses for cracks or leaks	<input type="checkbox"/>
	Verify battery system is providing correct voltage	<input type="checkbox"/>
	Check & top-up hydraulic oil levels	<input type="checkbox"/>
	Inspect chassis for loose fasteners, missing pins & signs of metal fatigue	<input type="checkbox"/>
	Verify the outriggers/stabilizers extend fully	<input type="checkbox"/>
	Document results of a boom inspection in the crane's maintenance log	<input type="checkbox"/>
	Perform a post-operational check on the support base & document any concerns	<input type="checkbox"/>
Loads & unloads components for transport	Assist the Journeyperson in load securement to learn proper load placement	<input type="checkbox"/>
	Assist unloading by laying out blocking for unloaded components	<input type="checkbox"/>

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Red Seal Tasks	On-The-Job Duties	Completed
Performs operational & continual checks	Completes function check of controls prior to beginning operation	<input type="checkbox"/>
	Verifies the operation of warning systems & automatic cutouts as per manufacturer instructions	<input type="checkbox"/>
	Maintain tension on hoist lines during operation to prevent wire rope damage	<input type="checkbox"/>
	Verify level sensor operation prior to use	<input type="checkbox"/>
	Monitor ground conditions during operation	<input type="checkbox"/>
Performs minor crane maintenance	Verify the service history of a machine during inspection	<input type="checkbox"/>
	Apply grease to outriggers to prevent corrosion as part of a regular maintenance schedule	<input type="checkbox"/>
	Lubricate the wire rope & sheaves as part of a regular maintenance schedule	<input type="checkbox"/>
	Assist in the replacement of damaged or leaking air lines	<input type="checkbox"/>
Inspects, maintains & stores slings & hardware	Inspect & lubricate wire rope slings prior to storage	<input type="checkbox"/>
	Remove outdated rigging from service until it can be inspected	<input type="checkbox"/>
	Ensure rigging that fails inspection due to damage is removed from service & destroyed	<input type="checkbox"/>
	Rigging is organized & stored to prevent damage	<input type="checkbox"/>
Follows rigging procedures	Identify the rigging required for a basic shaped load with the assistance of their supervisor	<input type="checkbox"/>
	Rigs a load using a using standard rigging equipment	<input type="checkbox"/>
	Guide a load into position using a tagline	<input type="checkbox"/>
Performs pre-lift planning	Attend & participate in a pre-lift planning meeting	<input type="checkbox"/>
	Identify how changes in weather conditions can impact operations	<input type="checkbox"/>
Sets up crane	Inspect the lifting area to spot hazards such as soft ground	<input type="checkbox"/>
	Identify crane setup location based upon the task assigned	<input type="checkbox"/>
	Prevent unauthorized access to the lifting area by installing barriers, flagging, or assigning personnel to control entry	<input type="checkbox"/>

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On-the-Job Checklist



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Red Seal Tasks	On-The-Job Duties	Completed
Drives crane on public roadways	Identify the requirements to transport a crane on public roadways	<input type="checkbox"/>
	Verify equipment is secured for highway transport including travel axels, dollies & other components	<input type="checkbox"/>
	Transports crane to site according to SGI & transportation regulations	<input type="checkbox"/>
Assembles & disassembles lattice boom cranes	Assist with installing tracks to the car body	<input type="checkbox"/>
	Assist with mounting & securing the superstructure/ upperworks	<input type="checkbox"/>
	Assist with positioning & securing the outrigger boxes	<input type="checkbox"/>
	Assist with positioning & securing the boom base	<input type="checkbox"/>
	Assist with attaching & securing counterweights	<input type="checkbox"/>
	Assist with connecting & securing the main boom, tip, & boom attachments	<input type="checkbox"/>
	Assist with attaching & securing the hook blocks & overhaul ball	<input type="checkbox"/>
	Assist with detaching & the removal of the hook blocks & overhaul ball	<input type="checkbox"/>
	Assist with disconnecting & the removal of the main boom, tip, & boom attachments	<input type="checkbox"/>
	Assist with detaching & the removal of the counterweights	<input type="checkbox"/>
	Assist with detaching & the removal of the boom base	<input type="checkbox"/>
	Assist with detaching & the removal of the superstructure/upperworks	<input type="checkbox"/>
	Assist with releasing track tension & disconnecting the tracks from the drive sprockets & idler wheels	<input type="checkbox"/>
	Assist with the removal of the outrigger boxes using a secondary crane or lifting device	<input type="checkbox"/>
Performs common craning operations	Adjust LMI to match the configuration used during a lift	<input type="checkbox"/>
	Determine a pathway into the work area	<input type="checkbox"/>
Operates friction drive lattice boom cranes	Understand the use & limitations of a friction drive crawler lattice boom crane	<input type="checkbox"/>
	Understand the use & limitations of a friction drive truck mounted lattice boom	<input type="checkbox"/>

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Mobile Crane Operator

On-the-Job Checklist



	Level 1	Page 4/4
Red Seal Tasks	On-The-Job Duties	Completed
Assembles & disassembles telescopic boom cranes	Assist with connecting the tracks to the drive sprockets & adjusting the track tension	<input type="checkbox"/>
	Assist with aligning the outrigger boxes & connecting hydraulic & electrical systems	<input type="checkbox"/>
	Assist with aligning the boom & connecting hydraulic & electrical systems	<input type="checkbox"/>
	Assist with attaching the hook blocks to the boom tip by securing the overhaul ball to the hook	<input type="checkbox"/>
	Assist with securing counterweights with their mounting points, & verifying the crane's balance & stability	<input type="checkbox"/>
	Assist with aligning jibs & inserts with their mounting points & securing with pins/fasteners	<input type="checkbox"/>
	Assist with detaching the jibs & inserts, using a secondary crane or lifting device	<input type="checkbox"/>
	Assist with removal of the counterweights by using a secondary crane to lift the counterweights away	<input type="checkbox"/>
	Assist with removal of the hook blocks from the boom tip & disconnecting the overhaul ball from the hook	<input type="checkbox"/>
	Assist with the removal of the main boom by disconnecting hydraulic & electrical systems & removing fasteners	<input type="checkbox"/>
	Assist with the removal of the outrigger boxes by disconnecting hydraulic & electrical systems & removing fasteners	<input type="checkbox"/>
	Assist with the removal of tracks from the car body by releasing track tension, & disconnecting the tracks	<input type="checkbox"/>
Operates hydraulic drive lattice boom cranes	Understand the use & limitations of a hydraulic drive crawler type crane	<input type="checkbox"/>
	Understand the use & limitations of a hydraulic drive truck mounted type crane	<input type="checkbox"/>
Operates telescopic boom cranes	Understand the use & limitations of a crawler-mounted telescopic crane	<input type="checkbox"/>
	Understand the use & limitations of a rubber tire-mounted telescopic crane	<input type="checkbox"/>
Secures crane	Lower load to the ground when exiting the operator's cab	<input type="checkbox"/>
	Lubricate & store a mobile crane according to manufacturer recommendations	<input type="checkbox"/>

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Mobile Crane Operator On-the-Job Checklist



	Level 2	Page 1/3
Red Seal Tasks	On-The-Job Duties	Completed
Determines load weights	Verify lift weight using manual calculations	<input type="checkbox"/>
	Calculate the weight of complex shaped load	<input type="checkbox"/>
Calculates crane capacity	Understand the limitations of lifting quadrants & positions crane to maximize lifting capacity & reach	<input type="checkbox"/>
	Identify the load chart used with optional components such as a jib extension & spreader bar	<input type="checkbox"/>
Performs rigging calculations	Perform WLL calculations for equal length slings	<input type="checkbox"/>
	Determine a sling's capacity based upon the rigging configuration	<input type="checkbox"/>
Performs pre-operational checks & regular inspections	Verify engine service intervals	<input type="checkbox"/>
	Verify the air compressor activates when required	<input type="checkbox"/>
	Inspect & verify electrical connections including connections to controls, trailing cables & safety devices	<input type="checkbox"/>
	Check for hydraulic leaks by using approved methods	<input type="checkbox"/>
	Verify that fasteners & pins are installed & secured prior to operation	<input type="checkbox"/>
	Compare counter-weight configuration to load charts to verify crane capacity is not exceeded by the lift	<input type="checkbox"/>
	Extend & retract the boom, testing the functionality of any attachments while listening for vibrations or unusual noises	<input type="checkbox"/>
	Inspect the hoisting line for any signs of damage or stress	<input type="checkbox"/>
Performs minor crane maintenance	Apply grease to the hoisting cable & sheaves	<input type="checkbox"/>
	Inspect press fitting for damage or corrosion	<input type="checkbox"/>
	Replace damaged or leaking air lines	<input type="checkbox"/>
Inspects, maintains & stores slings & hardware	Disassemble & lubricate a spreader bar then reassemble	<input type="checkbox"/>
	Remove a kinked or damaged steel sling from service	<input type="checkbox"/>
	Dispose a worn nylon sling by cutting it up	<input type="checkbox"/>
	Perform a post-use inspection of slings & hardware	<input type="checkbox"/>

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Mobile Crane Operator On-the-Job Checklist



	Level 2	Page 2/3
Red Seal Tasks	On-The-Job Duties	Completed
Performs operational & continual checks	Verify & document the function of cutouts, alarms & wind sensors	<input type="checkbox"/>
	Verify the operation of the LMI system by lifting a load off the ground at its maximum reach	<input type="checkbox"/>
	Ensure that the running line does not get caught on structure while hoisting	<input type="checkbox"/>
	Monitor hydraulic pressure & load indicators during a lift	<input type="checkbox"/>
	Utilize sensors to track the distribution of weight during a lift & detect any movement in the support base	<input type="checkbox"/>
Follows rigging procedures	Calculate the rigging required for a complex shaped load	<input type="checkbox"/>
	Use rigging to stabilize a load with an offset center of gravity	<input type="checkbox"/>
	Lift load off the ground to test the rigging configuration	<input type="checkbox"/>
Performs pre-lift planning	Provides input during the pre-lift planning meeting	<input type="checkbox"/>
	Identifies the hazards of lifting an unbalanced load	<input type="checkbox"/>
Sets up crane	Inspect setup area for ground condition, worker access, crane reach, & position	<input type="checkbox"/>
	Determine crane position based upon assigned task & load	<input type="checkbox"/>
	Limit access to hoisting area to authorized personnel	<input type="checkbox"/>
Assembles & disassembles lattice boom cranes	Identify the order in which to install lattice boom fasteners	<input type="checkbox"/>
	Reeve the hoisting cable through the hoisting block as recommended by the manufacturer	<input type="checkbox"/>
	Remove & inspect the hook block & recording wear levels	<input type="checkbox"/>
	Remove the boom tip fasteners	<input type="checkbox"/>
Assembles & disassembles telescopic boom cranes	Secure the hook block to the wire rope	<input type="checkbox"/>
	Verify jib limitations & install	<input type="checkbox"/>
	Remove the jib by releasing the securing mechanisms & lowering it to the ground	<input type="checkbox"/>
	Detach the overhaul ball from the hook & lower to the ground	<input type="checkbox"/>

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Mobile Crane Operator On-the-Job Checklist



	Level 2	Page 3/3
Red Seal Tasks	On-The-Job Duties	Completed
Performs common craning operations	Set the load limit indicator to xx% of the maximum lifting capacity	<input type="checkbox"/>
	Identify lift hazards & procedures to mitigate them	<input type="checkbox"/>
Operates friction drive lattice boom cranes	Understand the restrictions of friction drive cranes regarding personal hoisting	<input type="checkbox"/>
	Understand the ability of a friction-drive crane to freefall if the brake is not engaged	<input type="checkbox"/>
Operates hydraulic drive lattice boom cranes	Use a hydraulic drive crane to lift a multi-ton object such as a rooftop unit or a large piece of structure	<input type="checkbox"/>
	Understand the benefit of hydraulics when lifting a large load in a precise location	<input type="checkbox"/>
Operates telescopic boom cranes	Use a telescopic crane to hoist a load to a blind location	<input type="checkbox"/>
	Use a rubber tire-mounted telescopic crane to hoist a load	<input type="checkbox"/>
Performs specialty craning operations	Complete a multi-crane lift as the secondary crane	<input type="checkbox"/>
Secures crane	Secures crane from unauthorized use while unattended	<input type="checkbox"/>
	Apply grease to exposed areas to prevent corrosion	<input type="checkbox"/>

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	Level 3	Page 1/3
Red Seal Tasks	On-The-Job Duties	Completed
Uses communication & mentoring techniques	Show another worker how to complete an unfamiliar task	<input type="checkbox"/>
Determines load weights	Perform calculations to determine a complex load's center of gravity	<input type="checkbox"/>
	Calculate a shared (tandem) load weight by using load dimensions & materials	<input type="checkbox"/>
Calculates crane capacity	Develop a lift plan to determine crane type/capacity	<input type="checkbox"/>
	Identify the limitations of a load chart & how to apply in a specialty lift	<input type="checkbox"/>
Performs rigging calculations	Determine how much de-rating should be applied to a sling based upon the angle of the slings	<input type="checkbox"/>
	Perform WLL calculations for personnel hoisting	<input type="checkbox"/>
Performs pre-operational checks & regular inspections	Inspect specialty equipment prior to use	<input type="checkbox"/>
	Inspect specialty equipment air system for leaks or cracks	<input type="checkbox"/>
	Verify specialty equipment voltage levels	<input type="checkbox"/>
	Identify & report the source of hydraulic fluid leak	<input type="checkbox"/>
	Inspect chassis/car body of specialized equipment for signs of corrosion, metal fatigue or other damages	<input type="checkbox"/>
	Verify specialty equipment level sensor operation	<input type="checkbox"/>
	Inspect specialty attachments	<input type="checkbox"/>
	Inspect & document damage or wear found on a specialty equipment hoisting system	<input type="checkbox"/>
Performs operational & continual checks	Verify operation & channel of the communication radio	<input type="checkbox"/>
	Monitor ground conditions affected by specialty equipment operation for changes	<input type="checkbox"/>
	Monitor the running lines during operation	<input type="checkbox"/>
	Checks for unusual vibrations & sounds during operation	<input type="checkbox"/>
	Inspect the support pads for wear & damage	<input type="checkbox"/>

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	Level 3	Page 2/3
Red Seal Tasks	On-The-Job Duties	Completed
Performs minor crane maintenance	Apply grease to the hoisting cable & sheeves	<input type="checkbox"/>
	Measure the wear on a sheeve	<input type="checkbox"/>
	Modify the operational speed of specialty crane	<input type="checkbox"/>
Follows rigging procedures	Identify the type of rigging & application required for specialty lifts	<input type="checkbox"/>
	Observe rigging as it is hoisted to determine its effectiveness or if adjustment is required	<input type="checkbox"/>
	Adjust spreader bar to accommodate the load	<input type="checkbox"/>
Performs pre-lift planning	Plan a multi-crane lift as the primary operator	<input type="checkbox"/>
	Document & mitigate hazards unique to specialty equipment such as waves, high winds, & rocky ground conditions	<input type="checkbox"/>
Sets up crane	Reduce hazard risks by strategically positioning the crane	<input type="checkbox"/>
	Prepare the crane setup location	<input type="checkbox"/>
	Performs function test to verify load is within the range capacity of the crane	<input type="checkbox"/>
Loads & unloads components for transport	Use crane to load counterweights & other specialty components onto the transport trolley	<input type="checkbox"/>
	Unloads & organizes components in the order that they are to be assembled	<input type="checkbox"/>
Assembles & disassembles lattice boom cranes	Identify the minimum number of counterweights to be expected for the operation	<input type="checkbox"/>
	Assemble components without placing them directly on the ground	<input type="checkbox"/>
	Reeve the hoist rope through the hook block & verify its fit in the sheave groove	<input type="checkbox"/>
	Detach boom & jib components & inspect for wear or damage	<input type="checkbox"/>
	Release load on the outrigger box to allow for removal of the tapered pins	<input type="checkbox"/>
	Verify crane ballast & distribution match manufacturer's specifications	<input type="checkbox"/>
Performs common craning operations	Configure operational speed to match duty rating	<input type="checkbox"/>
	Perform a complex lift in a confined space	<input type="checkbox"/>

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	Level 3	Page 3/3
Red Seal Tasks	On-The-Job Duties	Completed
Assembles & disassembles telescopic boom cranes	Install an extension jib on a telescopic boom crane	<input type="checkbox"/>
	Reeve the wire cable as per manufacturer's specifications	<input type="checkbox"/>
	Calibrate the Load Moment Indicator (LMI)	<input type="checkbox"/>
	Use an auxiliary crane or lifting device to lower & remove the jib	<input type="checkbox"/>
	Detach the overhaul ball from the hoist rope	<input type="checkbox"/>
	Inspect the removed superstructure for any signs of wear	<input type="checkbox"/>
Assembles & disassembles specialty equipment & attachments	Attach & setup specialized attachments	<input type="checkbox"/>
	Detach & store specialized attachments	<input type="checkbox"/>
Operates friction drive lattice boom cranes	Use a friction drive crane to hoist a load	<input type="checkbox"/>
	Perform a multi-crane lift using a friction drive lattice boom crane	<input type="checkbox"/>
Operates hydraulic drive lattice boom cranes	Perform common duty-cycle operations such as pile driving, dragline work or clamshell operation	<input type="checkbox"/>
	Perform a multi-crane lift using a hydraulic drive lattice boom crane	<input type="checkbox"/>
Operates telescopic boom cranes	Use a telescopic crane to hoist a load	<input type="checkbox"/>
	Perform a multi-crane lift using a telescopic crane	<input type="checkbox"/>
Performs specialty craning operations	Perform a pick & carry operation	<input type="checkbox"/>
	Monitor & prevent line slack during a multi-crane lift	<input type="checkbox"/>
	Perform a heavy lift in a marine environment	<input type="checkbox"/>
	Identify the lead operator of a multi-crane lift	<input type="checkbox"/>
	Performs a hoist of a personnel basket to allow workers to access an area	<input type="checkbox"/>
Secures crane	Disables/locks operational controls when not actively hoisting to prevent accidental movement	<input type="checkbox"/>
	Remove the battery from a machine that will be stored	<input type="checkbox"/>

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Information Regarding the Checklist

Saskatchewan Apprenticeship and Trade Certification Commission's (SATCCs) On-The-Job Checklist provides a complete list of trade-specific Red Seal tasks for apprentices to complete under the supervision of a journeyperson. This work should be completed prior to attending the technical training level under which the duties are listed (e.g. Level 1 completed prior to attending Level 1 technical training).

Completing this checklist will ensure that apprentices are exposed to the full scope of a particular Red Seal trade throughout their apprenticeship program. It will also help prepare apprentices for each level of technical training by performing work on-the-job relating specifically to topics covered later on. The trade-specific tasks listed have been reviewed by certified journeypersons in Saskatchewan for their accuracy and have been set to an appropriate skill level.

An apprentice spends approximately 85% of their apprenticeship term training on-the-job. It is the both the apprentice and the employer's or journeyperson's responsibility to supervise an apprentice's practical skills development during their program.

To promote transparency and consistency, this document aligns with 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

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