

Equipment identification:

Date :

Cranes and Lifting Devices

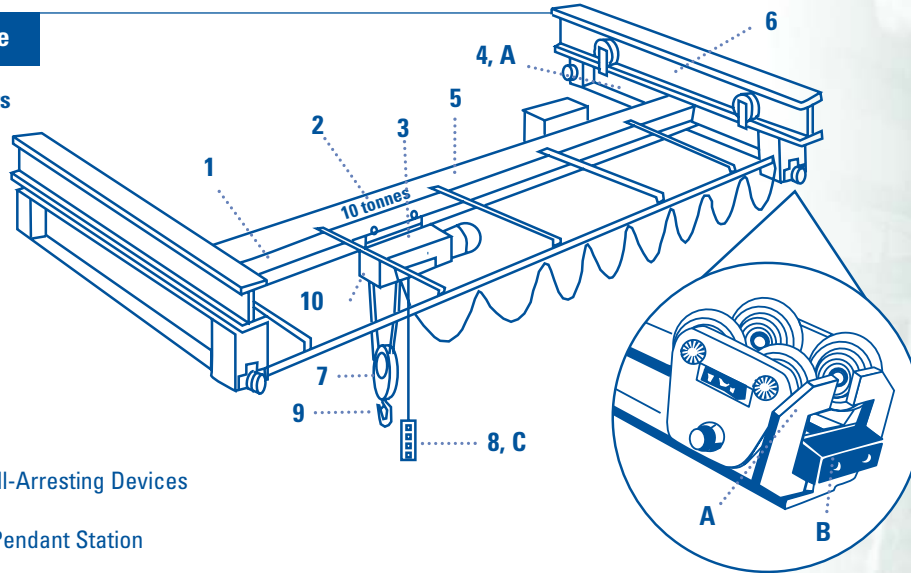
Overhead-Traveling Crane

Overhead-Traveling Crane Parts

- 1 Trolley Rail
- 2 Rating Plate
- 3 Cab (Trolley)
- 4 End Carriage
- 5 Bridge Girder
- 6 Runway Track
- 7 Pulley Block
- 8 Pendant Station
- 9 Hook
- 10 Winch

Safety Devices

- A End Carriage Trucks With Fall-Arresting Devices
- B Bumper
- C Emergency Stop Button On Pendant Station



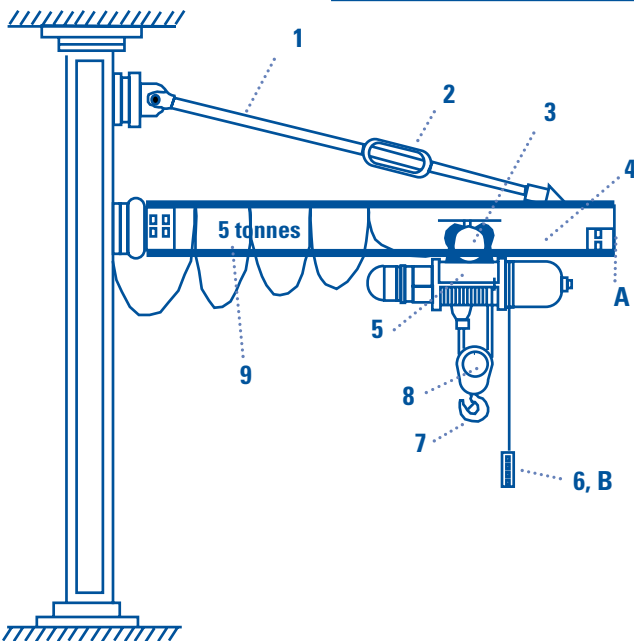
Pillar Crane

Pillar Crane Parts

- 1 Tie Rod
- 2 Turnbuckle
- 3 Trolley
- 4 Runway Track
- 5 Winch
- 6 Pendant Station
- 7 Hook
- 8 Pulley Block
- 9 Rating Plate for Maximum Lifting Capacity

Safety Devices

- A Bumper
- B Emergency Stop Button On Pendant Station



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SELF-ASSESSMENT FORM

For Occupational Health And Safety

LEGEND

Preventative Measures

- ▶ Procedural Measures
- Orders/instructions

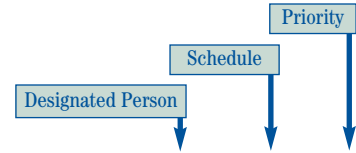
Priority Codes for applying risk measures:

- A. Immediate stoppage and resolution
- B. Resolution as soon as possible
- C. Resolution according to normal company procedures

The suggested preventative measures are based in part from the Workplace Health And Safety Regulations (RSST, S-2.1), from An Act Respecting Occupational Health and Safety (Québec LSST, S-2.1), as well as CSA Standard B167- 1964 and B167-1996.

Mechanical Hazards

Most likely injuries: Crushing, fractures, contusions, backaches, cuts, and foreign bodies.



Preventative measures	Applicable <input checked="" type="checkbox"/>	Not applicable <input type="checkbox"/>	Notes	Desig.	Sched.	Prior.
Risk Factor: Overloading Lifting Devices and Attachments						
▶ Ensure a rating plate stating the maximum lifting capacity is posted on the crane and all lifting devices and all attachments.	<input type="checkbox"/>	<input type="checkbox"/>				
● Check the lifting capacity on the various attachments or use nominal load tables. (slings, hooks, eye-bolts, etc.).	<input type="checkbox"/>	<input type="checkbox"/>				
● Know the effects that angles and various types of attachments may have on load capacities. Supply nominal load tables to make calculations easier.	<input type="checkbox"/>	<input type="checkbox"/>				
● Ensure the total load to be lifted is within the device's lifting/load capacity.	<input type="checkbox"/>	<input type="checkbox"/>				
▶ Install a load indicator or a load limiter.	<input type="checkbox"/>	<input type="checkbox"/>				
Risk Factor: Fall, Slipping						
▶ Repair and clean traffic areas: uneven surfaces, holes, slippery floor, etc.	<input type="checkbox"/>	<input type="checkbox"/>				
▶ Ensure traffic areas are well lit, open and clear of clutter.	<input type="checkbox"/>	<input type="checkbox"/>				
● Do not allow lifting devices to be used for carrying people.	<input type="checkbox"/>	<input type="checkbox"/>				
● Wear safety shoes with anti-slip soles.	<input type="checkbox"/>	<input type="checkbox"/>				
Risk Factor: Objects Falling From Lifting Devices						
● Always leave three complete cable windings around an overhead winch drum. Install a lower limit cut-off switch for when cable reaches ground level (if required) to control cable unreeling.	<input type="checkbox"/>	<input type="checkbox"/>				
▶ Equip the bridge girder with a device that will prevent a fall in case the traveling system fails.	<input type="checkbox"/>	<input type="checkbox"/>				
▶ Equip an overhead crane with an upper limit safety switch on the winch so as to prevent the drum drive system failure and the cable and any attachments from falling.	<input type="checkbox"/>	<input type="checkbox"/>				
Risk Factor: Flying Material And Fragments						
▶ Install protective screens in the lifting device work area whenever there is a risk of flying material.	<input type="checkbox"/>	<input type="checkbox"/>				
● Wear CSA-approved safety glasses with lateral protection.	<input type="checkbox"/>	<input type="checkbox"/>				

Mechanical Hazards (continued)

Most likely injuries: **Crushing, fractures, contusions, backaches, cuts, and foreign bodies.**

Preventative measures	Applicable <input checked="" type="checkbox"/>	Not applicable <input type="checkbox"/> N/A	Notes	Desig.	Sched.	Prior.
Risk Factor: Wear and Tear and Lack of Maintenance						
▶ Have the lifting device thoroughly inspected at least once a year, by a qualified service company.	<input type="checkbox"/>					
▶ Implement a preventative maintenance program for these devices.	<input type="checkbox"/>					
● Inspect lifting devices and attachments each and every day: brakes, warning circuits, hydraulic fluid reservoirs, cables, hooks, blocks, tackle, slings, etc.	<input type="checkbox"/>					
● Avoid jogging the controls to prevent overheating the motor, premature wear of the brakes and general damage to the device.	<input type="checkbox"/>					
● Store slings on supports, away from danger of crushing, humidity, frost, and chemical reagents and, in the case of polyester fibre slings, UV rays (sunlight and welding).	<input type="checkbox"/>					
Risk Factor: Collision With An Obstacle						
▶ Ensure traffic areas are well lit, open and clear of clutter.	<input type="checkbox"/>					
▶ Establish rules regarding spacing between lines and maximum stack height.	<input type="checkbox"/>					
● Identify areas where work in progress may interfere with the transportation of a load. Restrict access or create a detour (cones, marker tape).	<input type="checkbox"/>					
● Check for sufficient clearance between load and any obstacles.	<input type="checkbox"/>					
Risk Factor: Load Swaying And Snapping						
▶ Install a device allowing the operator to place himself/herself out of the load trajectory, such as a remote control or a supply cable outrigger.	<input type="checkbox"/>					
▶ Arrange storage areas in such a way that prevents the swaying motion to the load.	<input type="checkbox"/>					
● Place an overhead crane winch directly over the load's center of gravity to avoid pulling at an angle.	<input type="checkbox"/>					
● Apply gradual tension to slings so as to avoid snapping the slings.	<input type="checkbox"/>					
● Lift the load slowly; in case of imbalance, bring the load back to the ground and correct the securing procedure.	<input type="checkbox"/>					
● Bring the load back to the ground in case of obstruction and remove the obstacle blocking the load.	<input type="checkbox"/>					
● Avoid sudden starts and stops; in case of swaying, stop the device and activate in the direction of swaying so as to neutralize the effect.	<input type="checkbox"/>					
● Follow a travelling load; do not lead the load.	<input type="checkbox"/>					
▶ Install a progressive acceleration and deceleration system.	<input type="checkbox"/>					

Mechanical Hazards (continued)

Most likely injuries: **Crushing, fractures, contusions, backaches, cuts, and foreign bodies.**

Preventative measures	Applicable <input checked="" type="checkbox"/>	Not applicable <input type="checkbox"/> <small>N/A</small>	Notes	Desig.	Sched.	Prior.
Risk Factor: Collision With A Pedestrian, Another Overhead-Traveling Crane Or The Bumpers						
▶ Install an audible warning device (horn, bell, etc.), as well as an emergency stop button on lifting devices as part of the controls.	<input type="checkbox"/>					
● Ensure no one is near the load to be lifted before starting the lift; afterwards monitor both the load and the trajectory.	<input type="checkbox"/>					
● Do not allow the handling of loads or lifting devices over people.	<input type="checkbox"/>					
▶ Install proximity detectors on overhead-traveling cranes (anti-collision system) when there is more than one crane on the same track.	<input type="checkbox"/>					
● Reduce travel speed when approaching the end of the runway or other overhead-traveling cranes so as to avoid derailment.	<input type="checkbox"/>					
▶ Equip the runways with an end-of-reach cut-off switch.	<input type="checkbox"/>					
Risk Factor: Confinement By The Load Itself Or Between Lifting Devices And Load						
● Use a guy line to control a moving load. Should this not be possible, place a flat hand on the load.	<input type="checkbox"/>					
● Use hand signals to communicate with others in noisy environments or at some distance. Wait for the signalman's sign before starting any maneuvers.	<input type="checkbox"/>					
● Wear gloves for protection.	<input type="checkbox"/>					
Risk Factor: Falling Objects						
● Use hardwood blocks on which to rest the load.	<input type="checkbox"/>					
● Stack loads from the centre outwards and unload from the edges inwards.	<input type="checkbox"/>					
Stabilize the stacks:						
● by lining them up	<input type="checkbox"/>					
● by placing smaller loads on the top of stacks	<input type="checkbox"/>					
● by limiting stack height according to accessibility, weight and volume of materials being stored.	<input type="checkbox"/>					
● Ensure no tool has been left on the lifting devices following maintenance work.	<input type="checkbox"/>					
● Wear CSA-approved safety footwear with steel-capped toes and metatarsal protection and hardhat.	<input type="checkbox"/>					

Notes:

Ergonomic Hazards

Most likely injuries: Musculo skeletal disorders, backaches, fractures, sprains.

Preventative measures	Applicable <input checked="" type="checkbox"/>	Not applicable <input type="checkbox"/>	Notes	Desig.	Sched.	Prior.
Risk Factor: Straining During The Transportation Of A Load						
▶ Supply cranes and lifting devices suited to the work at hand (e.g. replacing manual lifting equipment with motorized lifting devices).	<input type="checkbox"/>					
Risk Factor: Hard-To-Access Storage Area						
● Maintain open traffic areas of no less than 600mm (24-inch) width to allow access to merchandise.	<input type="checkbox"/>					
● Do not climb on stacks or on pallets to attach slings or other accessories.	<input type="checkbox"/>					
Risk Factor: Hard To Operate Control Buttons						
▶ Install a control box with buttons requiring little effort to activate.	<input type="checkbox"/>					

Chemical Hazards

Most likely injuries: Burns, intoxication, headaches, and nausea.

Preventative measures	Applicable <input checked="" type="checkbox"/>	Not applicable <input type="checkbox"/>	Notes	Desig.	Sched.	Prior.
Risk Factor: Spillage, Splatter Or Contact With A Dangerous Substance						
● Consult MSDS documentation.	<input type="checkbox"/>					
● Wear personal safety equipment as prescribed.	<input type="checkbox"/>					
● Use handling equipment appropriate to the weight and shape of pieces and their packaging.	<input type="checkbox"/>					
▶ Supply slings or attachments resistant to chemical products and high temperatures.	<input type="checkbox"/>					
▶ Implement emergency procedures in case of accidental spillage.	<input type="checkbox"/>					
▶ Install an emergency shower and an eye wash station.	<input type="checkbox"/>					
Risk Factor: Spillage, Splatter Or Contact With A Dangerous Substance						
▶ Vent the workplace with air changes according to legislative requirements and safe work procedures and practices.	<input type="checkbox"/>					
▶ Sample the air sampling to evaluate toxic substance concentrations.	<input type="checkbox"/>					
● Wear a respirator approved for contaminants generated. Refer to the MSDS documentation for toxic substance identification.	<input type="checkbox"/>					

Notes:

Physical Hazards

Most likely injury: Hearing loss, heat stroke.

Preventative measures	Applicable <input checked="" type="checkbox"/>	Not applicable <input type="checkbox"/>	Notes	Desig.	Sched.	Prior.
Risk Factor: Noisy Workplace Environment						
▶ Identify the sources of noise and implement measures to reduce noise at the source, whenever possible.	<input type="checkbox"/>					
▶ Install a soundproof bridge cabin.	<input type="checkbox"/>					
● Wear earplugs or earmuffs.	<input type="checkbox"/>					
Risk Factor: Exposure To Extreme Temperatures						
▶ Install an enclosed bridge cab to allow climate control.	<input type="checkbox"/>					
▶ Vent the workplace to maintain acceptable temperature levels.	<input type="checkbox"/>					

Electrical Hazards

Most likely injuries: Electrocutation

Preventative measures	Applicable <input checked="" type="checkbox"/>	Not applicable <input type="checkbox"/>	Notes	Desig.	Sched.	Prior.
Risk Factor: Contact With Parts Normally Or Accidentally Energized						
● Apply lockout procedures during maintenance and repairs: - disconnect all sources of energy - dissipate (purge) all residual energies - lockout all sources of energy - validate to ensure start-up is no longer possible and that all power has been dissipated (purged).	<input type="checkbox"/>					
▶ Install control devices powered by very low voltage (30 volts or less).	<input type="checkbox"/>					
● Check the power supply cables insulation and the crane's grounding circuit.	<input type="checkbox"/>					

Notes:

Completed By:

This Self-Diagnosis form was developed following a research project in workplace health and safety from IRSST, a workplace health and safety research institute named (Institut de recherche Robert-Sauvé en santé et en sécurité du travail).