











Date Revised:	March 2025	Overall Task Risk Rating:	Before Controls	<b>B</b>	After Controls	<b>C</b>
Description:	Shop operations include various maintenance activities such as cutting, welding, grinding, the use of shop equipment, wheel hoists, vehicle lifts and industrial cranes.					
Location(s):	Shop					
Associated Documents: Compressed Gas WTS, Driving & Vehicle Operations WTS, Equipment & Machinery WTS, Housekeeping WTS, Hazardous Agents (Chemical) WTS, Hazardous Agents (Physical) WTS, Hoisting & Rigging WTS, Hot Work WTS, Hydraulic Equipment WTS, Hazardous Energy Control WTS, Noise WTS, Manual Material Handling WTS, Power and Hand Tools WTS						

**RED FLAGS (HOLD WORK UNTIL CORRECTED):**

Note:

- If the worker has not been trained in the operation of shop machinery or equipment
- If the worker does not possess the certification / qualification required to conduct maintenance / repair activities
- If the worker has not been trained in WHMIS that worker must not use, transport or handle hazardous products

**PERSONAL PROTECTIVE EQUIPMENT (CSA APPROVED)**

									
Head Protection	Foot Protection	High-Vis Protection	Hearing Protection	Hand Protection	Eye Protection	Respiratory Protection	Skin Protection	Face Protection	Fall Protection
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- Additional PPE requirements may be stated in the SDS or on the label of a hazardous product depending on the hazardous agent to be used.
- Gloves, earmuffs / plugs, safety glasses, skin protection, face shields, dust masks and/or respiratory protection will be required to be used for different types of maintenance activities as per the manufacturer's instruction of the equipment to be used and the types/levels of hazard involved.

**SAFE WORK PRACTICES (SWP)**

**General Safe Work Practices:**

- Only authorized and trained workers are allowed to use and work with shop equipment.
- Read and understand the operating manuals of shop equipment before commencing work. Operate equipment, machinery and tools as per manufacturer's instructions and for the intended use only.
- Ensure proper access ways are available all the time. Practice good housekeeping and timely removal of waste
- When performing maintenance or repairs on equipment, lockout tagout measures must be implemented in accordance with the **Hazardous Energy Control WTS**.
- All hot work activities must be conducted in accordance with the **Hot Work WTS**.
- Ensure proper ventilation at the shop including open bay doors and the use of the local exhaust ventilation
- Read and follow SDS and manufacturers instructions and comply with training & PPE requirements stated in the SDS
- Ensure proper storage conditions & locations (found in SDS). Manufacturer supplied chemicals must be stored in their original containers. Highly flammable substances must be stored in their designated locked cabinets.
- Start the work only when you are certain that you understand the work, the hazards and you have implemented the appropriate controls. If you are uncertain how to work safely, ask the supervisor for assistance before starting.
- Unsafe conditions and situations must be reported to the Supervisor immediately (and stop work until the hazard is controlled)

**Shop Cleaning:**

- Shop floor must be swept of debris after work done on any vehicle or piece of equipment as required.
- In general, the shop floor must be cleaned during the day, at the end of every week, in accordance with the following process:
  - Sweep the shop floor using brooms to remove and clean debris.
  - Apply heavy duty floor degreasers to dissolve any oil/grease residue on the floor.

- Power wash the shop floor through the shop channel drains to the installed oil/grit separator drainage system.
- Open all bay doors and power wash the adjacent side of the shop floor towards the outside channel drains.
- During wintertime, ensure de-icers are applied on the external grounds, where applicable, to prevent the formation of black ice.

## **Blaster Cabinet:**

- The Abrasive Blast Cabinet should be elevated to the proper level to allow the operator to comfortably reach and use the safety gloves, blasting gun, and foot pedal while viewing through the top view door.
- Inspect enclosure of Blast Cabinet for leaks. Airborne blast media can be dangerous, and it can escape the cabinet through all the small cracks and holes in the cabinet, especially at the edges of doors and glove holes.
- Make sure there is no dust on the cabinet equipment ledges or any surface near the blast cabinet. Clean the area around the cabinet regularly. Never brush or sweep dust from the blasting process. This creates a dust cloud and allows the particles to become airborne.
- Always wear adequate PPE, including eye protection and protective footwear, while operating or servicing the machine.
- Wear dust mask or respirator while removing or replacing blasting media.
- The workpiece must fit completely in the enclosed cabinet, allowing all door panels to seal shut.
- Avoid direct blasting of gloves. If needed, bend a piece of wire to hold small parts safely or build a wood support for larger parts.
- Do not operate the machine if it has been damaged or is not operating properly.
- Before the enclosure is opened, turn the blast off and allow the exhaust system to run for a sufficient period of time to remove the dusty air within the enclosure.



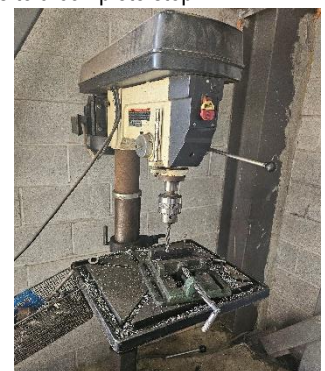
## **Horizontal Band Saw:**

- Keep safety guards in place at all times. All doors shall be closed, all panels replaced, and other safety guards in place prior to the machine being started or operated. Remove loose items and unnecessary workpieces from area before starting machine.
- Be sure that the blade is not in contact with the workpiece when the motor is started. The motor shall be started, and you should allow the saw to come up to full speed before bringing the saw blade into contact with the workpiece.
- The workpiece, or part being sawn, must be securely clamped before the saw blade enters the workpiece. It is safer than using your hands and it frees both hands to operate the machine. Bring adjustable saw guides and guards as close as possible to the workpiece.
- The band saw wheels must be locked prior to operation.
- Maintain a balanced stance at all times so that you do not fall into the blade or other moving parts. Do not overreach or use excessive force to perform any machine operation.
- Use the right tool at the correct speed and feed rate. Do not force a tool or attachment to do a job for which it was not designed. The right tool will do the job better and more safely.
- Avoid contact with coolant, especially guarding your eyes.
- Never leave the machine running unattended. Turn off power and do not leave the machine until it comes to a complete stop.
- Turn off the machine before cleaning. Use a brush or vacuum to remove chips or debris — do not use bare hands. Never brush away chips while machine is in operation.



## **Floor Drill Press:**

- Always use eye protection while operating the drill press. Use a face or dust mask if cutting operation is dusty.
- Keep guard in place at all times and in working order.
- Reduce the risk of unintentional starting. Make sure switch is in off position before plugging in.
- Use only correct speed for the drill accessory or workpiece.
- Always remove chuck key from chuck before starting machine. Always check the condition and tightness of drill bit before operating. Failure to do so could cause damage to machine and/or operator



- Securely clamp workpiece to table before drilling. Keep hands away from rotating bit or accessories
- Disconnect machine from the power source before changing accessories, making adjustments or repairs
- Always adjust table and/or depth stop to prevent drilling into table. It is highly recommended to use a backing piece when drilling through workpiece.

## Hydraulic Press:

- Always use eye protection while operating the hydraulic press.
- Ensure the workpiece is well supported and aligned to prevent slippage and breakage.
- To prevent accidental slippage, do not place work piece on the press bed or apply hydraulic force until all bolster pins are in place and all tension has been removed from the bolster lift cables.
- Do not stress adapters beyond their capacities. Pushing or pulling adapters used with this press must have a maximum tonnage rating equal to, or greater than, the maximum tonnage rating of the press. Otherwise, breakage may occur.
- Keep hands, feet, legs, etc. out from under the bolster. Accidental slippage can result in personal injury.
- To prevent accidental cable breakage, never raise or lower the bolster if a load has been placed on it.
- Inspect the entire length of the lifting cables at least every three months, and replace cables that appear frayed, worn, or crushed. The cables must run on the pulleys easily and the pulleys must be free to turn. Correct cable maintenance helps prevent cable breakage.



## Bench grinder:

- Always use eye protection while operating the bench grinder.
- Ensure the wheel is not damaged. Look for chips, cracks or embedded metals. Ensure appropriate guarding is in place.
- Ensure the wheels do not touch the work rest and the gap between the wheels and the rest is no greater than 2 mm.
- Stand up to the side of the wheels when starting up. Let the wheels gain maximum speed before starting to grind. Only use wheels at the correct rated speed of the bench grinder or higher.
- Slowly move the workpiece across the face of the wheel in a uniform manner. Do NOT grind on the side of the wheel. Use smooth, slow fluid motions. Never make abrupt fast movements
- Keep fingers, hands and materials free from pinch points when machine is running.
- Never force the workpiece against the wheel. Apply gentle even pressure.
- When turning off the machine, wait until the grinding wheel comes to a complete stop.
- Never leave the machine running unattended.



## Wheel lift:

- Ensure the wheel lifts have successfully been through the annual inspection before starting operations.
- Position the vehicle on a hard level surface. Check that the tires on the vehicle are properly inflated, in road worthy condition and the weight on the axle is not over 20,000 lbs.
- Position the Wheel Lifts so the lift pads are cradling the tires at opposite ends of the same axle.
- Do NOT raise / lower one side of a vehicle.
- Do NOT use the lift to raise a vehicle by the frame or a structural member. Do NOT raise on end of a vehicle if the opposite end is supported by stands.
- Do NOT raise an entire vehicle. Do NOT use the wheel lift in conjunction with any other equipment to raise a vehicle.
- Do NOT use the wheel lift as a wheel dolly for the removal of tires.
- Do NOT allow any part of your body under the vehicle until both wheel lifts are pinned as stands.



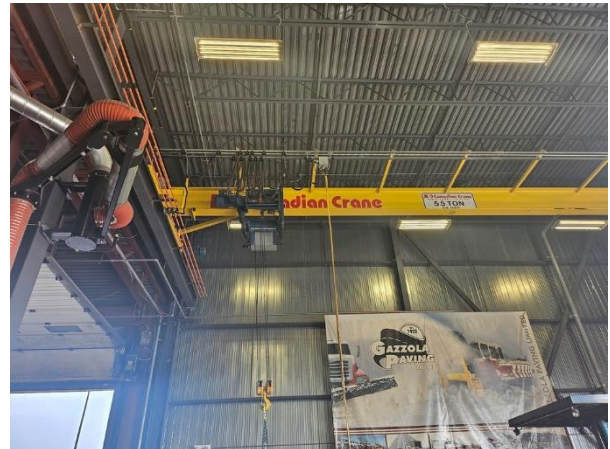
## Rotary Vehicle lift:

- Never allow unauthorized or untrained persons to operate lift. Ensure that only authorized personnel are in the lift area. Ensure lift area is clear of all persons while a vehicle is being driven onto or backed off the lift.
- Ensure the vehicle lift has successfully been through the annual inspection before starting operations.
- Ensure the lift is fully lowered and front wheel stops are in raised position before aligning the vehicle tires with the lift runway and driving the vehicle on to the lift.
- Never allow front wheels to strike the front wheel stops. Always engage parking brake and use the rear wheel chocks to keep the vehicle from rolling freely on the runway.
- Never overload lift. Capacity of lift is 18,000 lbs. (9000 lbs. per axle). **CAPACITY SHOULD NOT BE EXCEEDED.**
- Keep hands clear of yoke ends during lift operations. Remain clear of the lift when raising or lowering a vehicle. Keep feet clear of lift while lowering a vehicle.
- Always lower lift on locks before working on vehicle.
- Keep clear of pinch points when the lift is moving. Pinch points can also damage the air hoses. Keep the air hoses free from pinch points at all times and Do NOT allow the air hoses to pass under the base of the lift or under a raised vehicle. Failure to do this could result in serious personal injury and/or property damage.



## Industrial Crane:

- Only trained and authorized personnel who are familiar with the surrounding environment of the industrial crane are allowed to operate the crane. The operator must check the operation of each push button, and the emergency stop switch on the pendant prior to the start of each shift. In case the operator notices any issues during the testing, they shall immediately report this to the shop supervisor.
- Ensure the crane has successfully been through the annual inspection before starting operations.
- All hoisting and rigging activities must be conducted in accordance with the **Hoisting & Rigging WTS**.
- Inspect the load chain and/or wire rope for any twisting, fraying, kinks, nicks, bends or any other signs of damage or other potential problems. Inspect the hook and test the safety latch on hook for proper functioning.
- Loads shall be attached to the load hook only by suitable means such as a chain, slung or other suitable under hook attachment. The sling or attachment shall be properly seated in the saddle of the hook. The safety latch shall not be allowed to support any part of the load.
- The load shall not be applied to the tip of the hook. Never side lift any load.
- Do NOT pick up any load beyond the rated capacity of the crane.
- Hoists shall not be operated unless the hoist unit is centered over the load. Ensure loads are evenly balanced before lifting to prevent slipping of the load.
- The operator shall not engage in any activity which may divert their attention while operating the crane.
- Do NOT move the load until all personnel are clear of the lift area. Do NOT pass the load over any worker.
- Avoid swinging of load or load hook while operating the crane.
- Never leave a suspended load unattended.
- Never rely on End of Line Limit Switches as a means to prevent the trolley or crane from colliding with the end stops. The operator must always know limits of travel for the crane and exercise additional caution whenever approaching these travel limits.
- Exercise care when removing a sling from under a landed load.
- The operator shall not adjust or repair a crane unless qualified to perform such maintenance work.



## Inspections:

- Workers must inspect shop equipment before use to ensure equipment is in good working order and all safety devices and guards are functioning properly
- Supervisors must monitor the use/exposure to chemical agents in the shop, to ensure that control measures are properly implemented and that workers are not overexposed to respective allowable levels

## Training:

- Employee Orientations (Including roles, responsibilities, applicable workplace task standards, WHMIS, etc.)
- Only trained, authorized personnel are allowed to operate machinery or equipment (i.e. cranes & hoisting devices)
- Only trained, authorized personnel are allowed to perform maintenance / repairs.
- Workers exposed to or required to work with WHMIS controlled products / material, must be trained in WHMIS accordingly.
- Workers required to handle propane must be a holder of a certificate or ROT (record of training) for that purpose
- Workers required to use respiratory protection must be trained on the use, fit and care of respirators.

## Personal Protective Equipment:

- All workers using chemical agents, must wear the required personal protective equipment set out in its SDS
- Eye, skin, hearing, hand and/or respiratory protection maybe required when operating various types of equipment in the shop. Ensure using the appropriate PPE based on the type of equipment used.
- Eye protection is required when completing tasks that may cause debris / objects to dislodge or become airborne
- The noise level may exceed 85 dB in the shop. Hearing protection should be worn during prolonged exposure
- When there is likelihood of exposure, appropriate PPE will be provided with instructions covering use, care and maintenance
- No modification or removal of the specified PPE will be tolerated inside identified area

JOB HAZARD AND RISK ANALYSIS		RISK RATING SYSTEM	<div>A High risk of injury or equipment / property damage.</div> <div>B Medium risk of injury or equipment / property damage.</div> <div>C Low risk of injury or equipment / property damage.</div>
TASK HAZARDS	RATING BEFORE CONTROLS	TASK CONTROLS	RATING AFTER CONTROLS
<ul style="list-style-type: none"> <li>Struck by load / equipment</li> </ul>	B	<ul style="list-style-type: none"> <li>Inspect all equipment before use</li> <li>Ensure lifting areas are clear of personnel</li> <li>Operate equipment in accordance with the manufacturer's instructions</li> </ul>	C
<ul style="list-style-type: none"> <li>Flammable Substances / Chemical Exposure</li> </ul>	B	<ul style="list-style-type: none"> <li>Ensure adequate ventilation is maintained including the use of local exhaust ventilation</li> <li>All employees shall wear the appropriate PPE where the potential exposure cannot be reduced below the occupational exposure limit</li> </ul>	C
<ul style="list-style-type: none"> <li>Equipment failure</li> </ul>	B	<ul style="list-style-type: none"> <li>Equipment shall be operated as per the manufacturer's instructions</li> <li>Implement Equipment and Machinery Operation WTS, as necessary</li> </ul>	C
<ul style="list-style-type: none"> <li>Hazardous Energy</li> </ul>	B	<ul style="list-style-type: none"> <li>Prior to performing maintenance or repairs on electrical equipment, lock-out tag-out procedures are to be followed</li> <li>Do not attempt to clear jammed machinery without first shutting off power</li> </ul>	C
<ul style="list-style-type: none"> <li>Lack of training and education</li> </ul>	B	<ul style="list-style-type: none"> <li>Only trained, authorized personnel are allowed to operate machinery or equipment</li> <li>Only trained, authorized personnel are allowed to perform maintenance / repairs</li> </ul>	C
<ul style="list-style-type: none"> <li>Lack of proper PPE</li> </ul>	B	<ul style="list-style-type: none"> <li>Workers using hazardous Agents, must wear the required PPE set out in its SDS or this WTS</li> <li>Ensure all workers are trained in the PPE that they require</li> </ul>	C
<ul style="list-style-type: none"> <li>Flying objects / debris</li> </ul>	B	<ul style="list-style-type: none"> <li>Use eye protection as necessary when operating machinery or equipment</li> </ul>	C

<ul style="list-style-type: none"> <li>Lack of Labeling/Product Identification</li> </ul>	C	<ul style="list-style-type: none"> <li>Supplier labels must be affixed to containers of controlled products</li> <li>When transferring / decanting a controlled product, a workplace label is to be placed on the new container</li> </ul>	C
<ul style="list-style-type: none"> <li>Material Handling and Storage Procedures not Followed</li> </ul>	C	<ul style="list-style-type: none"> <li>Consult SDS and follow the requirements set out therein (i.e. handling, storage, &amp; disposal procedures)</li> <li>Ensure products are stored in appropriate containers and locations (i.e. outdoors) as indicated in the SDS</li> <li>Ensure adequate signage is posted (i.e. no smoking around Flammable product storage)</li> </ul>	C
<ul style="list-style-type: none"> <li>Spills</li> </ul>	C	<ul style="list-style-type: none"> <li>Inform the supervisor and call any respective abatement / disposal / clean-up professionals as needed</li> <li>Follow spill clean-up procedures as outlined in the SDS</li> </ul>	C

## SAFE JOB PROCEDURES (SJP)

### Pre-Task Commencement:

1. Gather and wear the required PPE for the task
2. Consult SDS for required PPE, handling and preventative measures
3. Ensure controls are in place prior to commencing work so hazards are mitigated / eliminated
4. Determine what equipment / machinery / tools and material, are required for the completion of the task
5. Inspect all equipment / machinery / tools prior to use and document the inspections on appropriate forms when required
6. Ensure preventative maintenance activities have been completed where required, prior to using equipment / machinery / tools
7. If equipment / machinery / tools are observed to be damaged, remove it from use and notify the Supervisor
8. If Chemical containers are observed to be damaged / missing labels, remove from use and notify the Supervisor

### During Task:

1. Operate equipment, machinery and/or tools as per manufacturer's instructions
2. Shutdown equipment, machinery and or tools, requiring repair in conjunction with Hazardous Energy Control WTS, Lock-out / Tag-out equipment and machines
3. Use support structures as needed, ensuring that they are on firm ground and are adequately rated for the intended load
4. As parts of equipment / machinery / tools are disassembled, ensure they are stored appropriately such that they will not roll or collapse
5. When in operation, do not leave equipment, machinery and/or tools or controls unattended

### Task Completion:

1. Ensure equipment has been repaired properly, with the correct parts and attachments
2. Do not release equipment, machinery or tools, that are not safe or for any reason are not in accordance with the manufacturer's specifications
3. Ensure all equipment / machinery / tools are cleaned, maintained and stored appropriately in the designated locations
4. Implement any housekeeping or maintenance as required