

Section VI

SJP Safe Job Procedures * Safe Work Practices SWP

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Safe Job Procedures SJP

Description

A written, step-by-step description or instructional on how to complete a specific task or job safely and efficiently from start to finish. (e.g. lockout, confined space, hoisting, rigging). Safe job procedures must clearly identify the hazards the worker could be exposed to, the steps required to complete the task (in proper order) and the control measures (also referred to as safe work procedures or execution plans).

Standard PPE

1. Hard Hat
2. Visual Apparel (2" Silver Strip)
3. Safety Toe and Shank Work Boots
4. Safety Glasses

When required specialty PPE will be listed for that SJP due to the hazards. Remember that PPE is your last line of defense.

Hazards

Due to location changes and the different complexity and variety of tasks, jobs, and procedures, an FLHA (Field Level Hazard Assessment) and or depending on the task at hand, a FLRA (Field Level Risk Assessment) must be filled out for each SJP that is being performed. As Homebase Construction is for the most part a mobile service, locations due change quite frequently, as will the hazards. A few of the most common hazards will be related to chemical being transported. Therefore, all WHMIS 2015 and the related Safety Data Sheets as well as the requirements of Transporting Dangerous Goods must be strictly adhered to.

During the process of a pre-job FLHA or FLRA some other hazards could very well be:

1. Fall from Heights
2. Confine Space
3. Public Traffic
4. Other Equipment
5. Slips, Trips, and Falls
6. Sprains and Strains
7. Various other Ergonomic Issues
8. Heat or Cold
9. Dust
10. Bio Hazards
11. Other workers
12. Overheard Boom

Each hazard will be eliminated or mitigated prior to any task commencing. These will be clearly outlined in each task Hazard and Risk Assessment.

SJP 001 Steam Truck – High Pressure Wash

Equipment Required

- Steam Truck
- High Pressure Washer
- Foam

MATERIALS REQUIRED

- Water
- Soap
- Degreaser
- Foam

PPE

- Standard PPE
- Face Shield
- Rain Suit
- Rubber Glove

PRE-TRIP – WALK AROUND

Start-up unit and let air pressure build up. Make sure brakes are in a locked position. Always use proper 3-point mount and dismount when getting on and off the unit. Operator and swampier should have a good communication system in place (Hand signals). Drive to location

JOB STEPS

1. Acquire all permits as required for the job to be done
2. Fill out your FLRA and hazard assessment reports and have all the workers present sign
3. Put on all PPE, eye protection, ear, head, hand, face shield and coveralls with reflective stripes
4. When backing into areas, assess position of truck for required job and use spotter when backing up, making sure you have visual contact with spotter at all times.
5. Watch for overhead lines, pipe racks, signs, parked vehicles, equipment and other workers.

HIGH PRESSURE WASH – START-UP PROCEDURE

1. Check oil in the engine
2. Push in red button on control panel and turnkey backwards to heat glow plugs for 10 seconds
3. Turn the key forward to start engine, let engine warm up
4. Turn on power inverter, open chimney on boiler, turn on boiler switch and wait until fuel pressure gauge reads 100 psi
5. Set temperature on boiler to 80 C
6. Shut off hose reel valves and open bypass to tank
7. At low idle turn on pressure pump switch and ensure burner ignites and then rev engine to 200 rpm – this will warm up the water and cycle the water back to the tank
8. Unspool all the pressure washer hose from the reel and attach desired wand for the job to be done
9. Then open valve to the hose you have spooled out and close the bypass valve to the tank. You are now ready to pull the trigger and start washing.

HIGH PRESSURE WASH – SHUT DOWN PROCEDURE

1. When ready to shut down, open bypass valve to tank and close valve on the hose reel
2. Shut off boiler switch – The water will now circulate back to the tank and cool down the boiler and hose
3. Shut the chimney on boiler and turn off inverte
4. Open trigger on wand to release pressure from hose and remove wand
5. Once water temperature is down to 50 C or less slow engine rpm down to an idle
6. Shut off pressure pump switch and turn engine off
7. Spool hose back onto reel and put all equipment away inside the truck
8. Do a complete walk around the truck to ensure all tools and equipment have been put away and all doors and cabinets have been closed.

Shut down is now complete

SJP 002 Steam Truck – Steaming Procedure

EQUIPMENT REQUIRED

- Steam Truck
- High Pressure Washer

PPE

- Standard PPE
Rain Suit

MATERIALS REQUIRED

- Water

RUBBER GLOVES PRE-TRIP INSPECTION – WALK AROUND

Start-up unit and let air pressure build up. Make sure brakes are in a locked position. Always use proper 3-point mount and dismount when getting on and off the unit. Operator and swampier should have a good communication system in place (Hand signals). Drive to location

JOB STEPS

1. Acquire all permits as required for the job to be done
2. Fill out your FLRA and hazard assessment reports and have all the workers present sign
3. Put on all PPE, eye protection, ear, head, hand, face shield and coveralls with reflective stripes
4. When backing into areas, assess position of truck for required job and use spotter when backing up, making sure you have visual contact with spotter at all times.
5. Watch for overhead lines, pipe racks, signs, parked vehicles, equipment and other workers.

STEAMING START-UP PROCEDURE

1. Check oil in Kubota engine
2. Push in red button on control panel and turnkey backwards to heat glow plugs for 10 seconds
3. Turn the key forward to start engine, let engine warm up
4. Turn on power inverter, open chimney on boiler, turn on boiler switch and wait until fuel pressure gauge reads 100 psi
5. Set temperature on boiler to 170 C
6. Unspool steam hose and attach steam wand
7. Close valve to tank and open valve on the steam hose
8. Open bypass valve 2 turns (located under boiler along wall) to reduce the flow of water through the boiler
9. With engine at an idle turn on pressure pump switch and ensure the burner has ignited and rev engine to 1400 rpm.
10. You will be ready to steam shortly.

STEAMING – SHUT DOWN PROCEDURE

1. Turn off boiler switch and continue to hold wand until temperature drops to 100 C or less
2. Then open tank bypass valve and close steam hose reel valve
3. Close bypass valve located under boiler along the wall
4. Close chimney and shut off inverter
5. Remove steam wand and spool steam hose back onto reel
6. Once water temperature drops to 50 C or less shut off switch for pressure pump and shut off engine
7. Put all tools and equipment away inside the truck
8. Do a complete walk around to ensure all tools and equipment have been picked and properly stored on cabinets and all doors are closed

Shut Down Is Now Complete.

SJP 003 Vacuum Truck – Sewage Hauling Procedure

EQUIPMENT REQUIRED

- Vacuum Truck

MATERIALS REQUIRED

- Sewage
- Standard PPE

PRE-TRIP INSPECTION – WALK AROUND

Start truck and let warm up, after trucks air pressure is built up, check brakes. Make sure you have all your PPE and drive to location. As you are driving up to the tanks, visually inspect the area and make sure nothing is in your way. If you need to back in to load then carefully backup watching your mirrors for equipment and other workers, if there is someone near, please have them assist you as a spotter. Set parking brake, fill out hazard assessment and turn on power switch for control box.

Job Steps

LOADING PROCEDURE

1. Start the PTO, rev the engine to 1200 RPM and set cruise control and turn on the pump switch in the cab
2. Check wash carts to ensure that there is no personal inside
3. Get out of the truck, set lever to vacuum position and remove dust cap on the truck and hook up the hose to the truck
4. Hook up the hose to the tank, open the valve on the tank and turn on the pump switch outside and watch the vacuum gauge to ensure vacuum in the tank
5. Open truck valve and feel the hose to ensure the fluid is moving into the tank and watch the gauge
6. When the tank is full, shut off the valve on the tank and open the air bleeder valve at the tank. Once hose is empty of fluids then shut off truck valve and disconnect the hose at the tank and put on the cap
7. Turn off pump and disconnect hose at truck and put on dust cap
- 8. Move vac. lever to neutral position to remove vacuum on the tank**
9. Shut off pump in cab and shut off PTO and press brake to release the RPM and release the park brake and drive to the lagoon.

UNLOADING PROCEDURES

1. Once at the lagoon get out of the truck and remove the dust cap (6" cap) turn on the pump switch move the lever to the pressure position and back up to the lagoon
2. Turn on the PTO and pump and open unloading gate and rev the RPM's to 900
3. When you have about half the load off, raise the tank about half way up to empty the tank then turn off the pump, put the tank back down and close the unloading gate
4. Press the brake to release the RPM's, turn off the PTO, release the park brake and drive ahead
5. Get out of the truck and put the lever back in the neutral position, turn off the pump switch outside the cab and put the dust cap back on and go for another load.

SJP 004 Vacuum Truck – Water Hauling Procedure

EQUIPMENT REQUIRED

- Steam Truck
- High Pressure Washer

MATERIALS REQUIRED

- Slough water
- Water tank or water well
- Standard PPE

PRELIMINARY STEPS

1. Prior to start-up walk around inspecting the driveline and tires and check for leaks etc.
2. Check the engine oil and radiator levels
3. Start up the truck and turn on the headlights. Check the headlights, signal lights, and beacon lights to ensure they are working properly
4. After the warm-up period walk around the truck to ensure no one will be endangered by your movement
5. When pumping water to fill the water tank be careful to avoid slipping. Use proper climbing procedures to climb up or down the water tank and ensure that you walk in the middle of the catwalk to the filling area on the tank. When connecting or disconnecting the hoses, bend at the knees, not at the back. Hook the hoses up properly after filling the water tank.
6. Always use 3-point contact when mounting or dismounting the truck
7. After mounting the truck, fasten the seat belt securely
8. When watering the haul road always warn the operators so that they prepare for slippery areas
9. Do not over water the haul road. This is an extreme hazard as it may result in equipment colliding or sliding off the haul road.
10. Yield right-of-way to the other equipment on site
11. Ensure that you maintain good distance from other equipment as damage may result from falling lumps, etc.
12. Always turn past the cut and fill areas where the equipment is working in order to reduce collision hazards
13. Avoid backing up where possible. Whenever backing up ensure that the backup alarm is functioning properly. In addition, ensure that the ground is level and free of structure or ground people before backing over an area
14. Be aware of ground personnel especially when backing up
15. Do not stop on the haul road and avoid sharp turns. Work in conjunctions with the grader to avoid blocking the haul road.

JOB STEPS

1. Drive to location
2. As you are driving up to the tanks, visually inspect the area and make sure nothing is in your
3. way. If you need to back into load, then carefully backup watching your mirrors for equipment and other workers.
4. Set parking brake, fill out hazard assessment and turn on power switch for control

LOADING PROCEDURE

1. Start the PTO, rev the engine to 1200 RPM and set cruise control and turn on the pump switch in the cab
2. Get out of the truck, set lever to vacuum position and remove dust cap on the truck and hook up the hose to the truck
3. Hook up the hose to the tank, open the valve on the tank and turn on the pump switch outside and watch the vacuum gauge to ensure vacuum in the tank
4. Open truck valve and feel the hose to ensure the fluid is moving into the tank and watch the gauge
5. When the tank is full, shut off valve on the truck and shut valve at tank then disconnect the hose at the tank and put on the cap
6. Open truck valve to suck the hose empty of fluid and close valve and turn off pump and disconnect hose and put on dust cap
7. Move vac. lever to neutral position to remove vacuum on the tank
8. Shut off pump in cab and shut off PTO and press brake to release the RPM and release the park brake and drive to the lagoon.

UNLOADING PROCEDURES

1. Once at your destination get out of the truck and remove the dust cap (6" cap) and install spoon for spreading water on the road for duct control
2. Turn on the pump switch outside the truck and move the lever to the pressure position and go back inside the truck
3. Turn on the PTO, leaving the pump switch in the off position
4. Then start driving at desired speed for spreading water and open unloading valve and turn on vac. pump momentary while watching the spread width on the road
5. When tank is empty then close the unloading valve and shut off the PTO

SJP 005 & 006 Vac. Truck Rear Door * Open and Close

EQUIPMENT REQUIRED

Vac. Truck

PPE REQUIRED

- CSA approved steel toed boots
- CSA approved safety glasses
- CSA approved hardhat, gloves, and coveralls

Opening 005

JOBS STEPS

1. Must perform a FLRA prior to commencing job steps listed below
2. Ensure that the vacuum/pressure gauge reads “0”. Test by momentarily opening the 6” gate to atmosphere
3. Remove unnecessary hose out of the way
4. Tag the Truck “Do Not Operate”. Put the key in your pocket
5. Spin off the six door locks and move them to the side
6. Remove the “Do Not Operate” tag and start the truck, enable PTO, open the door using the hydraulic control. Take caution of debris falling out of the tank.
7. Install the door safety brace.
8. Shut off the truck; tag the truck “Do Not Operate”. Put the key in your pocket – etc.
9. Once the truck is sufficiently cleaned, lower the tank, closing the door
10. Do not pluck on equipment. Just keep a steady strain.

Closing 006

JOBS STEPS

1. Must perform a FLRA prior to commencing job steps listed below
2. Ensure you have a spotter to keep other workers 25 meters away. Ensure that you maintain visual contact with your spotter
3. Remove the safety brace between the door and the tank
4. Remove the “Do Not Operate” tag, start the truck. If the tank is still raised, lower it. Shut the door. While carrying out this step, ensure that keep in visual contact with the spotter
5. Shut off the truck and re-install the “Do Not Operate” tag. Put the keys in your pocket
6. Put the door locks back in place and tighten them
7. Re-Install the hoses

SJP 007 Hydrovac Start-Up/Shut Down Procedure

PPE

- Standard PPE
- Gloves

HYDROVAC TART UP PROCEDURE

1. Set up the remote for the boom and pull out all pressure hose from the hose reel-high pressure hose or the steam hose, depending on the job being performed
2. Attach turbo wand for digging, ensure valves is shut off prior to starting pump or steam wand for steaming
3. Attach 2" hose from tank to pump for water supply and open supply valve
4. Engage the PTO as required and run at 1250 RPM, PTO for the vac pump, PTO for the pressure pump may require one or the other depending on the job been done or both PTO's are required to hydro dig
5. Set flow valve to operate boom to #3 as needed to control boom with remote control
6. Manually lift the boom hose out of cradle
7. With remote control lift boom and swing boom into are that is clear of any obstruction of boom radius travel
8. Open main gate on top of the boom hose with hydraulic lever located at front left hand side on control panel
9. Ensure end of the boom hose is in work area and free from objects or workers
10. Start vac pump and turn on switch on remote to open secondary valve on the boom to start suction
11. Ensure valve on wand is in the shut off position then turn on the high pressure pump and turn on the boiler for hot water
12. Set pressure pump out put psi and set the thermostat to required temperature for job application
13. One operator operates boom control, watches boiler system and watches the wand operator for direction of the boom
14. One operator runs high pressure wand for digging and instructs the other operator for boom positioning as required and job is now in process

HYDROVAC SHUT DOWN PROCEDURE

1. When job is complete turn off boiler and cool hose from hot water or steam
2. Shut off pressure pump and open wand valve to release any pressure
3. Shut off vac pump valve on remote and main gate valve to boom
4. Detach wand from hose and put in storage cabinets
5. Spool hose onto reel for storage
6. Close valve on water supply and remove 2" hose from supply pump and put into storage
7. Open drain valve to drain all water from the pump
8. Swing boom back into boom cradle ensuring swing area is clear from obstruction and manually lift boom hose in cradle and secure

SJP 008 Hazardous Material Spill

EQUIPMENT REQUIRED

- 40 Litre Spill Kit (105gal)
- Sprung steel pop up (66 gal)
- High Pressure Washer

PPE

- Standard PPE
- PPE required by MSDS

MATERIALS REQUIRED

- Warning Signs
- Pylons
- MSDS on board of unit for controlled products
- Emergency number (MAINAFEST)

JOB STEPS

1. Call your Supervisor/Safety
2. Refer to the MSDS for all chemicals
3. All employees need to be trained in handling hazards materials
4. Obtain proper spill kits and clean up equipment

SMALL SPILLS THAT POSE NO IMMEDIATE THREAT TO HEALTH AND ENVIRONMENT

1. Call your Supervisor/Safety
2. Complete FLRA/JHA
3. Use spill kits to absorb and contain according to the spill procedure (MSDS)
4. Place materials in a secure and ventilated area
5. Dispose in the correct location

LARGE SPILLS THAT POSE IMMEDIATE DANGER TO YOUR HEALTH AND ENVIRONMENT

1. Ensure the safety of yourself and others
2. Remove sources of ignition if safety possible
3. Evacuate immediate
4. Call emergency services, give them as much information as you can

SJP 009 Stuck Equipment

EQUIPMENT REQUIRED

- Track equipment or loaded

MATERIALS REQUIRED

- Cable

PPE

- All standard PPE

JOB STEPS

1. Call your supervisors for all stuck equipment before you attempt to pull it out.
2. Complete FLRA/JHA get all workers involved to sign onto it.
3. Use a piece of equipment if needed
4. Use proper cables
5. Use a signal person
6. Have some source of communication between you and the person hauling you out.
7. Ensure everyone is clear of the danger area. (Triple the distance of the cable)
8. Do not pluck on equipment. Just keep a steady strain

SJP 010 Shoring System Installation

EQUIPMENT REQUIRED

- Hydro-vac unit
- Shoring Cage
- Ladder

MATERIAL REQUIRED

- Barricades
- Danger Tape/Tagging
- Signage

PPE

- Standard PPE
- Fall Arrest

JOB STEPS

1. Toolbox meeting with all workers involved
2. Tape off work area
3. Position the shoring box over the location that is being hydro vac
4. Gradually lower the shoring box into place by excavating and leveling alternate sides
5. Add panels to achieve the required depth
6. Insure shoring box panels are 4ft above ground, if not fall arrest need to be worn with a life line attached to an anchor
7. When shoring system is used to encompass a hot gas line, ensure the bottom two panels are removed from the direction of the gas line
8. Install the appropriate ladder and secure to the shoring
9. Shoring box is considered as a confine space. Gas tests need to be performed by a trained worker
10. Personal going into the shoring box need to wear a safety harness with a life line attached in case of emergency

When the excavation is left unattended for any length of time, the area must be barricaded with flagging and tags with the contact information of the company performing the excavation

SJP 011 Shoring System Removal

EQUIPMENT REQUIRED

- Hydro-vac Unit
- Shoring Cage
- Ladder
- Lifting Equipment

MATERIAL REQUIRED

- Barricades
- Danger Tape/Tagging
- Signage

PPE

- Standard PPE
- Hearing Protection
- Fall Arrest

JOB STEPS

1. Toolbox meeting with all workers involved
2. Tape off work area
3. Prior to removing the shoring box, back fill the box with sand
4. Inspect and install lifting hooks
5. Let workers in the work area know that the lift is about to start
6. When lifting the shoring box, ensure the box is being lifted equally from the four corners
7. Use a tag line to prevent the load from swaying
8. Once the shoring is out and placed on the ground, a ladder can be used to disassemble the shoring panels

SJP 012 Potable Water Loading/Offloading

EQUIPMENT REQUIRED

- Water Truck

MATERIAL REQUIRED

- Wheel Chocks
- Water Hoses
- Signage
- Spill Kit

PPE

- FR Coveralls
- Hard Hat
- Safety Glasses
- Safety Boots
-

PREREQUISITES

- Only qualified personnel designated to operate the equipment will complete the task
- Ensure to wear proper PPE
- Check surroundings for personnel, equipment and obstruction
- Be aware of pinch points and slipping hazards
- Ensure inspection is complete

JOB STEPS

LOADING

1. Complete FLRA and assess risk. Complete truck inspection
2. Drive to load point
3. Apply 4 way flashers, dismount truck with three point contact
4. Place wheel chokes, sign in to water plant
5. Hook up water hose from supply tank to water truck
6. Ensure tank hatch is open
7. Ensure belly valve is close and that handles are not in the off load position
8. Open water valve to load truck
9. Begin loading and watch tank gauge to the full position
10. Turn off water valve
11. Turn bleed valve to relieve pressure from water hose
12. Disconnect hose from truck and water plant
13. Place hose back in truck
14. Remove wheel chocks

PROCEED TO DROP OFF POINTS

UNLOADING

1. Apply parking break
2. 4 way flashers on
3. Dismount truck with 3 point contact
4. Install wheel chocks
5. Ensure top hatch is open
6. Go back into the truck and engage the PTO
7. Hook up the hose, inspect for any defects
8. Open the butterfly valve on pump
9. Engage the pump with the lever engaged away from the operator
10. Fill the tank until the water comes from the tank overflow
11. Once full, engage the lever towards the operator until the hose is drained
12. Turn the lever to the neutral position
13. Close the butterfly valve on pump
14. Unhook the hose and secure them to the truck
15. Disengage the PTO
16. Remove wheel chock

SJP 013 Wash Ramp Procedures

Loading And Unloading Vehicles, Washing Undercarriages

EQUIPMENT REQUIRED

- Security Chains
- Wheel Chalks
- Ramps

PPE

- Standard PPE
- Visor

JOB STEPS

1. Review FLRA; ensure operator of vehicle understands hand signals
2. Line vehicle up straight with ramp. Vehicle could drive off ramp. Operator must follow spotters directions
3. Test to see if transmission goes into park – test park break. The park break could be weak; the vehicle could roll down the ramp. Take the time to test. If the park break does fail, **DO NOT PROCEED**
4. Drive vehicle up ramp. The vehicle could drive off ramp and/or spin out. Follow spotters direction up ramp and use four wheel drive
5. Stop vehicle, apply service breaks, put transmission in park and apply park break. The park break could fail; transmission may not go into park position. If it does roll back, remove vehicle from the ramp and tag out
6. Shut vehicle off, release service break. The vehicle could roll back. If it does, remove vehicle from ramp and tag out.
7. Install wheel chalks. Be aware of dangers. Position hands to avoid pinch points. Position body to prevent injury if vehicle were to roll back.
8. Install security chains on front axle. **Never attach security chains to any steering components.** Be aware of dangers, stay out of the line of fire. This step is the final step to prevent roll back.
9. Ensure that the operator is out of work area and start washing the undercarriage. There is a risk of slipping on pad, flying debris from the washing and exposure to the hot water and cleaning product. A safe area for the operator is behind the steam trailer. When climbing down from the ramp, use handrails. Ensure that all PPE required for this job is being worn.
10. Once all cleaning of the undercarriage is completed, the security chains will be removed by the worker who installed them on the front axle and then removes wheel chalks. At this point, there is exposure to pinch points and a risk that the vehicle could roll back. Be aware of any dangers and stay out of line of fire.
11. The operator gets back into the vehicle with the spotter in place. Start the vehicle and apply service breaks, then release park break. There is a risk of the vehicle moving during this step. Stay out of the line of fire and keep area near the ramp clear. Operator to be aware of all actions and sequence of events.
12. Following spotters directions, reverse down the ramp. There is a risk of rapid movement down ramp. Ensure the directions are being followed; proceed with caution and control decent. Proceed with exterior wash procedure

SJP 014 Drivers Operating Procedure

PRE-SHIFT INSPECTION

Each operator is responsible for the safe operation of their vehicle. Drivers must make a daily inspection. Defects in any of the above must be promptly reported to supervision for adjustment or repair and a truck inspection form completed.

1. Do not operate a vehicle if you are fatigued or ill
2. Do not operate a vehicle if you are taking medication whose container label indicates that the medication may cause drowsiness or other negative side effects
3. Obey all traffic laws and signs at all times
4. Do not exceed the posted speed limits
5. Do not make sudden lane changes except in emergency situations
6. Be prepared to stop at a changing traffic signal
7. Do not follow vehicles too closely
8. Give yourself additional distance from other vehicles when it is raining, when you are being tailgated, or when you are driving over 45 MPH.
9. Do not drive the vehicle through, around or under any crossing gate or barrier at a railroad crossing while such gate or barrier is in motion to open or close.
10. Do not drive under an overhang without ascertaining proper clearance
11. Do not jump from your vehicle; always maintain 3 points of contact. Jumping could result in serious injury
12. Do not park close to an intersection or STOP sign because your truck may block the view of oncoming traffic or pedestrians.
13. When backing from sunlight into shadow, stop for a few minutes and allow your eyes to adjust to the change in light to avoid any unforeseen injuries; always back slowly
14. Do not unload your truck without first setting the hand brake
15. Never stand directly in front of a swing door when opening, always stand to the side
16. Place heavier loads on the floor of the vehicle and not on shelves
17. Do not try to stop falling products unless you can do so safely
18. After hitching your trailer, always examine 5th wheel lock pin to make sure that it is locked in place. Test the security of lock pin by driving the trailer forward slowly
19. Traffic vests and triangles are to be in use if workers are working in or near traffic

FUELING PROCEDURE

1. Turn the vehicle off before refueling. This is to avoid possible fire or explosion
2. Smoke is prohibited while refueling a vehicle
3. If you spill fuel on your hands, wash with soap and water. This will stop any toxins from
4. absorbing into your system
5. Clean up small spills from around fuel tanks with paper towels or rags before climbing onto the tank
6. If a large fuel spill occurs, do not walk through it; follow your company's reporting and clean up procedure.
7. Always stay in attendance when truck is being refueled

SJP 015 Heavy Boom Truck Operation Procedure

GENERAL

Protecting workers from injuries associated with operating a heavy boom truck. Equipment is to be used and maintained in compliance with the manufacturers' guidelines.

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

PROTECTIVE MECHANISMS

- Safe Work Procedures
- Permits (If required)
- Manufacturers Specifications
- PPE

PROCEDURES: PRE-LIFT

1. Ensure that access & egress of the crane and the load to the lifting site is possible
2. Locate all site restrictions and hazards by filling out FLRA
3. Establish the exact lifting heights needed for placement or avoiding obstructions
4. Determine the maximum radius for all aspects of the job
5. Determine the appropriate boom configuration for making the lift
6. Identify and calculate all capacity factors
7. Know the exact weight of load and determine the rigging configuration
8. Check crane functions for proper operation

RIGGING AND CRANE OPERATION:

1. Ensure crane is working on firm level ground, to ensure stability
2. Check for the correct rigging and blocking techniques
3. Verify operational procedure
4. Identify responsibilities of rigging personal
5. Implement an effective communication system (signalling)
6. Check the load rigging for security and safety
7. Ensure the crane is operated within the limitations it was designed for

SJP 016 Rig Tank Cleaning

The practice outlines the procedure to be followed and precautions to be taken when cleaning rig tanks.

PRINCIPLE HAZARDS ARE:

This area will be categorized as a “Confined Space”

- Fire and explosion
- Possible suffocation from breathing toxic vapors such as H₂S and SO₂.
- Physical hazards such as slipping, falling.

SAFETY PRECAUTIONS:

The following limits have been set for monitoring the confined space to avoid explosion or suffocation. Entering a tank and inside cleaning, the levels should be as follows:

- Oxygen – 19.5 to 23%
- Gas – 0.05 L.E.L. or below
- H₂S – 10 PPM or less

Rig tanks above these levels must not be entered without a Breathing Apparatus or SCBA

In case of threatening weather or other conditions, the safety guard will warn the operator and they will move to a safe location

REMOVE SOURCES OF IGNITION

Before ventilating a tank that has 0.06 or over shown on the gas detector, remove all sources of ignition from the surrounding area. Open lights, fires are not permitted with 25 meters of a tank. Gas concentrations below 0.06 are considered safe from explosion or ignition.

PROCEDURE:

1. Report to supervisor to receive Confined Space Entry Permit
2. Pre-job meeting will include rig tank contents, checks done to ensure safety, hazards identified, precautions required, assigned safety watch, contingency plan, personal protective equipment required along with safety equipment, e.g. monitor, lifeline and harness, fire extinguisher, first aid kit, and breathing apparatus.
3. Complete Entry Permit and return the permit to the TRISTAR office with the time ticket
4. Isolate the tank by disconnecting lines or using double block and bleed method
5. Remove fluid from tank; do not enter tank at this time
6. Ventilate tank by displacing gas or vapors with vacuum pump if required
7. Monitor tank from exterior until L.E.L. is 0.05 or less
8. Full body harness and lifeline should be worn whenever the confined space configuration allows you to affect the rescue
9. When a confined space, because of its designs e.g. baffles, mud guns, standpipes, etc., make the rescue difficult, the harness and lifeline are not required
10. Alternate rescue plan must be in place when the harness and lifeline are not utilized. E.g. SABA, SCBA
11. Safety watch must be at entrance to confined space to monitor and maintain communications at all times
12. Where the atmosphere cannot be guaranteed, continuous testing may be required by the safety person.

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SIGNAGE:

Place warning signs (Keep out) on man-ways when covers are removed and keep signs in place at all times when the take is not safe to enter. Refer to Code of Practice – Confined Space Entry

REQUIRED TOOLS:

Use only those approved for use in explosive atmospheres. Ice or hard solids may require steam or hi-pressure washing.

INSPECTIONS:

The inspection shall focus on:

Does the atmosphere contain toxic or explosive gases?

Whether or not the confined space is oxygen deficient

Monitor solids or other abnormalities that could affect the safety of the worker.

SOLIDS MAY CONTAIN GAS!

“For further information see the appropriate current Occupational Health and Safety Regulations and Codes.”

SJP 017 Tank Cleaning

Refer to Section IV Confined Space Program

THE PRINCIPLE HAZARDS ARE:

- Fire and explosion
- Possible suffocation from breathing toxic vapors such as H₂S and SO₂.
- Physical hazards such as slipping, falling, and falling objects

SAFETY PRECAUTIONS:

- The combustible gas detector limits for the following cleaning operations have been established to avoid explosion and/or suffocating hazards:
- Entering a tank and inside cleaning – 0.05 L.E.L. or below. Above 0.05 requires leaving a tank and additional gas freeing
- Hydrogen Sulfide is a poisonous gas. Very low concentrations can be extremely dangerous, limit 10 PPM/8 hr. O.E.L. Be Familiar with H₂S gas hazards practice.
- In case of threatening weather or other conditions, the safety guard will warn the operator and they will move to a safe location

REMOVE SOURCES OF IGNITION

Before gas freeing a tank that has 0.06 or over shown on the gas detector, remove all sources of ignition from the surrounding area. Open lights, fires are not permitted with 25 meters of a tank. Gas concentrations below 0.06 are considered safe from explosion or ignition.

SIGNAGE:

Place warning signs (Keep out) on man-ways when covers are removed and keep signs in place at all times when the tank is not safe to enter.

ENTERING TANK IN EMERGENCIES:

In extreme emergency, tanks may be entered which have not been certified as outlined above, provided:

- The gas concentration is below 4%
- The operating foreman or his delegated operator is present
- If above 4% L.E.L., all those entering the tank must be protected by wearing self-contained breathing apparatus.
- Wear a Safety Harness and Life Line

GAS FREEING – METHODS:

Tanks which have not contained sour stock shall be gas freed only by steaming due to possible deposits of iron sulfide - an ignition hazard. Steaming may be necessary to boil off aromatics.

STEAMING

After checking to see that the tank is ready for steaming in all respects, place the steam wand inside the tank. Steaming time on the tanks shall be determined by the operator or operating foreman.

TESTING FOR CLEARANCE

- Oxygen-19.5 -23%
- Gas - 0.05 L.E.L. or below H₂S - 10 PPM or less
- Tanks above these levels must only be entered using SABA or SCBA.
- Sludge in tank bottoms will produce gas/vapors when agitated.
- Use caution when entering tanks that have sludge accumulations.

GAS TESTING AND INSPECTING INTERIOR OF TANK:

- The individual taking the tests and inspection must wear a safety belt and SCBA during the entire time he is in the tank and at least one man shall be stationed at the man-way to render any necessary assistance. The first test shall be taken through the man-way from the outside and then progressively throughout the tank, using an explosion meter. Obtain samples from at least 5 feet

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in advance. Testing should be discontinued if a gas concentration of over 0.05 is encountered at any time and the tank aerated or outside hosed until gas free.

- Inspect sump pipes, overflow lines and similar places for the presence of oil may be trapped in these locations and must be removed before it is safe to enter the tank. If oil is found in appreciable quantities, the operating foreman in charge will issue instruction on how to proceed.
- When gas tests show a gas concentration of not more than 0.05 and the tank is safe for inside hosing or cleaning, the gas tester shall record this information on the Entry Permit

INSIDE HOSING

- After the conditions required for entering the tank have been complied with (Confined Entry), the operator shall enter the tank to make sure it is safe to proceed with the inside hosing or cleaning. If the tank is unsafe, no attempt shall be made to proceed until all conditions have been made safe.
- If the tank still contains heavy sludge after all possible material has been removed by outside hosing, do not enter until above gas testing and inspection have been completed.
- After the tank has been certified as safe for entering and Side hosing, inside hosing should commenced. During the inside hosing and cleaning, it is the responsibility of the operator to be sure that the conditions remain safe throughout the time he is inside the tank. One man shall always be stationed near the man-way outside the tank to act in case of emergency.

TANK CLEANING - GENERAL:

- Inspect to determine that all necessary equipment is available and in good operating condition. Fire extinguishers shall be near the tank or vessel entrance.
- All persons entering a tank shall be equipped with and wear rubber safety boots, eye protection, hard hats (except Yellow. wearing breathing equipment) and fire-retardant clothing.
- Test for oxygen content before entering without air breathing equipment; oxygen content shall be 19.5 -23% if entering without air breathing equipment
- Lifelines shall be used whenever employees enter tanks or vessels with air breathing equipment on. Whenever the working atmosphere is safe for work without air breathing equipment, lifelines are not necessary.
- No obstruction that may prevent ready escape shall be allowed in front of the man-ways, either inside or outside of the tank.
- The wall and roof of the tanks which have contained sour stocks and which are likely to have deposits of iron sulfide on them shall be kept wet by hosing until the tank is clean. Iron sulfide deposits shall be kept wet and disposed of.
- Report any unsafe conditions to the operating foreman. If any unsafe condition is reported, the man shall withdraw from the tank and investigate and correct the condition.
- If the odor of vapors becomes strong, leave the tank and recheck the gas test. All rechecks shall be recorded on the Entry Permit. Have the tank recertified as gas-free after absence such as coffee breaks before entering the tank.

“For further information refer to current Occupational Health and Safety Regulations.”

SJP 018 Vac. - Truck Operating Procedures

GENERAL

Protecting workers from injuries associated with Vac-Truck Operation. Vac-Truck Operation is to be done in compliance with manufacturer's guidelines. Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

PROTECTIVE MECHANISMS

- Safe work procedures
- Permits (if required)
- PPE
- ERP (Emergency Response Plan)

START-UP:

1. Do a walk around of the truck to ensure no leaks, everything is in good visual condition and there are no overhead powerlines.
2. Check oil levels in pump and hydraulic tank.
3. Ensure the hydraulic tank valve is open and check the system pressures.
4. Ensure that tank internal shut off is operating fully.
5. Ensure that the rear hatch will be properly sealed & closed.
6. Ensure that bond mats are placed down and are properly grounded.
7. Engage the PTO slowly. Allow the oil to circulate before operation of the unit.
8. Start the vacuum pump. Engage hydraulics slowly.
9. Check the stand-by gauge to ensure the proper pressure.
10. Open the desired valve to load or unload the tank.
11. Watch the needle indicator for full/empty status.
12. Shut-off the pump or blower and close the valve when the tank is filled or emptied as required.
13. When the tank is full, shut -off the actuators to stop fluid from entering the pump.
14. Drain canisters daily and flush.

PRIMARY INTERNAL SHUT-OFF

1. Located at the top of the vacuum tank.
2. As the tank is filled, the liquid eventually comes in contact with a floating ball.
3. As the level within the tank rises, the level is pulled into the rubber seat by the vacuum. This indicates that the tank is full.

BOOM OPERATION

The boom holds the hose for the suction of debris.

1. Always be aware of overhead obstructions. See Safe Work Practices for Overhead Power.
2. Ensure switches/levers required for boom operation are in neutral and are not stuck in any other position.
3. Prior to using boom. Visually check for damage.
4. Ensure that the level of the hose is floating just above the waste/debris to be picked up. This is to avoid the kick back of hose into the operator.

WASTE DISPOSAL:

1. Operator should have knowledge of what the spoil contains. Clean spoil will be disposed of in a different manner than spoil containing Hazardous Chemicals.
2. Check for pre-approved dumping sites for spoil. If unfamiliar ask the Job Supervisor.
3. Follow starting procedures.
4. Note Truck Routes and Road Bans.
5. Ensure all equipment is secured prior to transport.
6. Follow all Highway rules.
7. Ensure the boom is in transport mode and is properly secured in the cradle.
8. Ensure that hose extensions/wash wands are properly secured in place.
9. Ensure safety lights are operational.

OPENING REAR DOOR

To open the rear door, proceed as follows:

1. Engage PTO.
2. Open Top isolation valve.
3. Drain tank of all liquid.
4. Close all product valves.
5. Start vacuum pump and create 15-20 inches of vacuum.
6. Shut down the vacuum pump.
7. Undo all the rear door wing clamps.
8. Slowly open any product valve to relieve the tank vacuum.
9. Ensure that the immediate area around the door is clear of personnel and any obstruction as well as adequate head room for lifting.
10. Go to the hydraulic valve bank and use the lever marked door to lift door.
11. Before closing the rear door check the door seal and make sure that the door flange is free of debris that could cause damage to the seal.
12. DO NOT go between the door and the end of the tank when the door is open without locking it out.
13. Engage the lower door wing clamps and tighten door against door seal!
14. Start the vacuum pump and create full vacuum.
15. Shut down vacuum pump and tighten door wing clamps.

TO RAISE THE TANK

1. Depressurize the air ride system
2. Check lifts clearance. Check for overhead obstructions.
3. Drain liquids from the tank first.
4. Make sure that the unit is on firm and level ground prior to lifting the hoist.
5. Ensure that the rear door is clear from obstructions and personnel.
6. After raising the tank, ensure that bottom wing nuts are not contacting the rear of the frame.
7. Lift tank to remove spoil.
8. Once unloaded, slowly lower the tank to avoid damaging critical components.

SJP 019 Working Around & Operating Equipment

GENERAL

- Protecting workers from injuries associated with working around heavy equipment.
- Equipment is to be used and maintained in compliance with manufacturer's guidelines as well as
- OH&S Codes and Regulations and all Motor Vehicle Laws.
- Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection and safety requirements and training.

PROTECTIVE MECHANISMS

- Safe work procedures
- Permits (if required)
- Manufacturer's specifications
- PPE
- ERP (Emergency Response Plan)

PROCEDURES FOR WORKING NEAR EQUIPMENT

1. People working around heavy equipment are always to make eye contact with the operator of the equipment before walking by or approaching the piece of equipment to ensure it is safe to do so without being injured.
2. Operators must always look around before changing direction of travel or swinging of bucket to ensure that it is safe to do so without incident.
3. People working around equipment are to let the operator know that they will be in the same area as the equipment.
4. If you cannot make eye contact with the operator then stay a safe distance away from the equipment and always have an escape route planned in case the piece of equipment comes towards you.
5. Never run in front of or behind a piece of equipment as operator may not see you and injury may happen.
6. When working around equipment or traffic always wear a safety vest and stay visible
7. Distances that workers must stay clear will vary for equipment to equipment and workers are to be familiar with the manufacture's requirements for the specific equipment being used to avoid incident.

GETTING ON OR OFF EQUIPMENT

1. Clean boots of mud before climbing onto a machine to make sure that you do not slip and become injured.
2. Always face the machine when getting on or off. Use grab rails and steps using three point contact at all times (two hands and one foot. or one hand and two feet) ensuring grip and footing good to address possible slip hazards and ensure safe work practices.
3. Do not jump from the machine or get off while it is in motion. Serious injuries may occur.
4. Be extra cautious under wet or icy conditions as slip and trip hazards are very high at this time and injury could be serious.

STARTING EQUIPMENT

1. The mechanic / operator will check all appropriate fluid levels in equipment
2. The mechanic / operator will do a visual inspection of equipment pertaining to leaks, belts, backup alarms, etc.
3. The mechanic / operator will do a walk around the equipment to make certain that the equipment is safe to start
4. The mechanic / operator will climb on equipment using the three point contact method, and check for an "Danger Do Not Operate" tags
5. If there are no such tags on the equipment, then the mechanic / operator checks to make sure the equipment is not in gear and that the park and emergency brakes are activated
6. The mechanic / operator proceeds to start the engine
7. The mechanic / operator will let the engine warm up before starting to operate equipment
8. After allotted warm up time has expired, the mechanic / operator will walk around equipment visually inspecting for any leaks. Any leaks or problems found during the visual inspection will be reported to either the foreman or mechanic immediately
9. The park and emergency brakes must be disengaged before operating equipment
10. Seat belts are to be used at all times

STOPPING HOT ENGINES

1. The operator will park equipment in a safe area and put equipment in neutral or park if applicable
2. The operator will activate all park or emergency brakes and will drop all hydraulic accessories such as blades, bowls, buckets, etc.
3. The operator will slow motor to idle and dismount from the equipment in a safe manner
4. Engine should be left idling for about 5 minutes.
5. While the engine is idling and all park & emergency brakes have been activated, the operator will do a visual inspection looking for leaks or any other visual problems. Any leaks or problems found during the visual inspection will be reported to either the foreman or mechanic immediately
6. After the visual inspection and the time allotted for cool down has concluded, the operator shall mount the equipment and turn off the engine. If there is a shift change, then the new operator will go through the procedure for starting equipment

MOVING EQUIPMENT

1. Never walk directly behind moving equipment. The operator may not be able to see you when preparing to back up or move and injury could occur.
2. Try to keep the operator in your line of sight. If you can see him, he can see you. Be sure to make eye contact
3. Stay clear of equipment when it is in motion as the operator may not see you and injury may occur.
4. Stand clear of equipment being loaded or unloaded from trailers equipment may slip or fall off trailer and injury may occur.

SJP 020 Atmosphere Monitoring Procedures

DEFINITION

Atmosphere monitoring includes; H2S Detectors, O2 Analysers, Combustible Gas Detectors, and Toxic Gas Detection

POTENTIAL HAZARDS

Lack of oxygen, combustible gas, toxic gas: H2S, carcinogens

DETECTION EQUIPMENT

All work locations must have combustible gas, toxic gas and oxygen detection equipment available, as required, for monitoring the atmosphere, prior to and during work procedures. This equipment should be function tested before each use, and calibrated as per manufacturer's specifications. Calibration records shall be kept for all atmospheric monitoring equipment.

Monitoring equipment supplied by a Client shall be maintained by the Client.

COMBUSTIBLE GAS TESTING

A combustible gas test shall be taken when work is performed within 8 meters of any well, process vessel, tank or related equipment, where combustible gas is, or may be present. Spark-producing tools, electrical tools, an open flame, or other sources of ignition are not allowed within this prescribed area unless a combustible gas test indicates the area is safe, or unless equipment (e.g. an open flame is fitted with an approved flame arrestor system

H2S (SOUR GAS) GAS DETECTORS

H2S gas detectors are used to measure the concentration of H2S in a work area. There are two basic types of detectors:

1. Dragger and Gastec Sampling Tubes: Note: Respiratory protection must be worn by the individual performing this test, when the occupational exposure limit could be exceeded. This method is considered to be accurate plus or minus 25% when proper sampling procedures are used.
2. Electronic Sensor: Electronic sensors measure the airborne concentration of H2S on an electronic circuit. The signal, which can also be used to set audible and visual alarms at specific concentrations, identifies the H2S level on a gauge. The advantage of this type of unit is that monitoring can be continuous. The unit may be carried on a belt (personal monitor), or permanently mounted in areas where H2S could accumulate.

CONFINED SPACE ENTRY

Combustible gas, toxic gas, and oxygen-deficiency tests must be performed prior to a confined-space entry, and at frequent intervals during the work period. Respiratory protection must be worn while the initial tests are being performed.

HOT WORK

All hot work requires monitoring of the atmosphere for combustible gas prior to, and at frequent intervals during the work. If the hot work is being performed within a confined space, continuous monitoring is required for combustible gas, toxic gas, and oxygen deficiency. Re-entry to a work-site must be accompanied by gas detection before work resumes.

SJP 021 Equipment Maintenance & Repair

General

Workers are to be aware of dangers associated with equipment maintenance and repair. Supervisors are responsible to properly train their workers on equipment use and PPE. Refer to Manufacturer/Owner's Manual for instruction, cautions, and warnings relevant to the specific equipment / task.

PROTECTIVE MECHANISMS

- Safe work procedures
- Manufacturer's specifications
- Standard PPE
- ERP (Emergency Response Plan)

PROCEDURE

1. Suspended machinery or heavy parts beneath which worker must work is to be securely blocked to avoid worker being crushed or pinned under if the hoisting equipment was to fail.
2. Gasoline or any other solvents having a flash point less than 38 degrees Celsius (100 degrees F.) are not to be used for cleaning purposes, as the possibility of explosion and injury is too great.
3. Repairs or adjustments are not to be made while equipment is in operation. Lock out procedures to be followed at all time. This addresses to possibility of injury to worker if equipment is tried to be started.
4. All guards are to be in place while equipment is in operation as set out in OH&S Code. This will keep workers from possibly getting caught up in the machinery.
5. Decks, platforms, steps, etc. to be kept clear of oil, grease and loose tools.
6. Turn engines on equipment off before fueling to eliminate the possibility off fire or explosion.
7. Fuel trucks, lube units and service vehicles to be equipped with approved fire extinguishers.
8. Where a product falls under "the controlled products act" the conditions of WHIMS would apply.

SJP 022 Flagging Identification Procedure

PURPOSE

To ensure that safety markings, signs and barricades are properly used and identified. To ensure the safety of the public as well as workers that may be around the hazardous area.

RESPONSIBILITY

It is the responsibility of all employees and contractors who hang flagging on the site to also hang a “flagging tag” which must have the following information on it:

- Reason for hanging the flagging
- Person hanging the flagging
- Date the flagging was hung.

PROCEDURE

There are two standard types of hazard identification flagging tape.

1. Red Flagging Tape: Do not enter the area. There may be circumstances where entry to a red flagged area is required. In these cases, entry will be authorized through the approval from personnel that have put the flagging in place as well as a full understanding of the immediate or high potential degree of a serious injury. Black lettering on red background
2. Yellow Flagging: Find out what the hazard is prior to entering the area. You may proceed with caution once you are aware of what the hazard is and what precautions are required. Black lettering on yellow background.

In both cases if there are workers in the tapped off zone, the personnel who wish to enter must get explicit permission to enter the other works area.

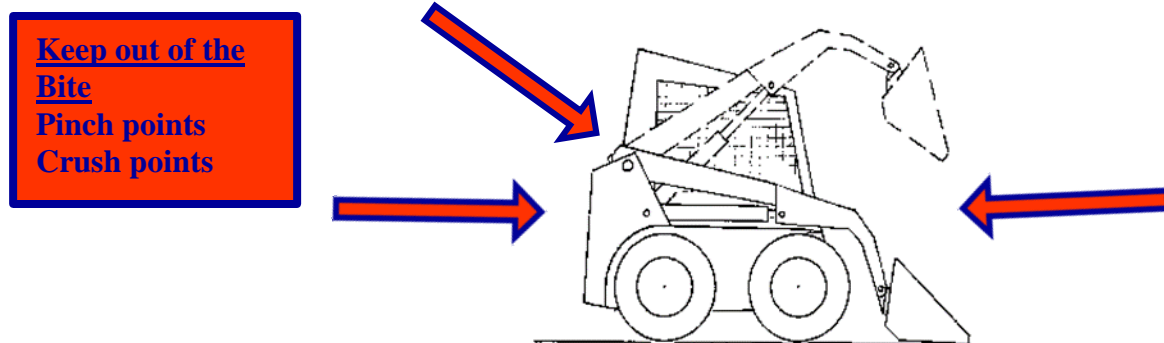
SJP 023 Skid Steer Operations

Purpose:

To help prevent serious workplace injuries or fatalities by informing employees of safe operating techniques and the hazards associated with skid steers.

Hazards:

- Pedestrians and ground men work in congested construction zones and therefore work within close proximity to one another.
- Pinch points causing workers to be pinned between the bucket and frame or between the lift arms and frame.
- Pinning of personnel between skid steer and another object.
- Rollovers.
- Crushing or being run over with skid steer.



Requirements:

- Equipment orientation. Identification of pinch points, and common operating hazards.
- Read and understand the operator's manual.
- PPE (Hi-visibility apparel, hard hat, steel toe boots, safety glasses, and gloves).
- Pre-shift Huddle.
- Field Level Risk Assessment.

Precautions:

- All employees must be aware of operating and site-specific hazards prior to commencing work.
- Operators are responsible for the safe operation of the skid steer at all times.
- Use extreme caution while backing up. There are large blind spots behind the skid steer and on both sides where the arm lifts pivot up and down.
- Ground workers must be attentive to their surroundings, never have their back to moving, and remain out of the line of fire.

Note* Operators are responsible at all times for the safe operation of their equipment. Operators must maintain a minimum distance of (3 meters) from ground personnel at all times while the skid steer is in operation.

Procedure:

SAFE OPERATING PROCEDURES:

1. Conduct a pre-trip to ensure equipment is free of malfunctioning components (back-up alarms, gauges, controls, hydraulics, etc.) or absent of physical body damage.
2. Inspect attachments and ensure that they are being used according to manufacturer's specifications.
3. Check for obstacles and/or hazards (drop-offs, soft soil spots, overhead wires etc.) when conducting Field Level Risk Assessment, plan safe loading and unloading routes.
4. If a ground spotter is available, ensure that hand signals are understood and communicated before commencing work.
5. Familiarize self with controls, gauges and warning devices specific to your skid steer prior to operation.
6. Adjust seat and mirrors in bobcat to minimize blind spots.
7. Work with the seat belt fastened and the restraint bar in place.
8. Keep your arms, legs, and head inside the cab while operating the loader.
9. Travel and turn with bucket in the lowest position possible.
10. When possible face the direction of travel.
11. Adjust speed to suit working conditions and terrain.
12. Travel straight up or down with heavy end pointed uphill. Do not travel sideways on slopes.
13. Maintain consistent eye contact and practice regular hand signals with spotter or ground men. Never assume they know where you are going.
14. Buckets and attachments must be fully lowered to the ground when not in operation.
15. When parking, place gear in neutral, apply parking brake, and remove keys from ignition.
16. When practicable park skid steer side by side other equipment for safe start-up when beginning operations at later time.

REVERSING TECHNIQUES:

NOTE THERE ARE LARGE BLIND SPOTS AT THE REAR AND SIDES OF THE SKID STEER.**

- Prior to backing up, sound horn 2 times.
- Check mirrors every 3-5 seconds.
- Check blind spots by moving entire head, not just eyes (this increases overall peripheral vision).
- When possible, always back the bobcat to view side, never blind side.
- Ensure that you maintain eye contact with ground spotter at all times if available.
- If you lose sight of the ground spotter or other ground workers that were once in your work space, STOP immediately.
- If you have not re-gained the vision of the spotter or other missing workers, get out and confirm their location before you proceed to reverse.

ENTERING AND EXITING THE SKID STEER:

1. Enter when the bucket or attachment is on the ground.
2. Face the seat when entering and maintain 3-point contact.
3. Do not use the foot or hand controls to step or hold while entering or exiting.
4. Before exiting, lower bucket or attachment to the ground, set the parking brake, and shut off engine every time.

NEVER CONDUCT THE FOLLOWING WHEN OPERATING SKID STEERS:

- Allow riders anywhere on the equipment.
- Use the bucket or other attachments as a platform.

- Exceed the load capacity.
- Modify or bypass safety devices.
- Proceed in reverse without clarification area is free of pedestrians, ground men, or equipment etc.
- Use hand held devices, or cell phones while operating equipment.

References

OHSR: PART 16- OPERATING EQUIPMENT

16.39 Swinging equipment

If a hazard is created by the swinging movement of the load, cab, counterweight or any other part of the mobile equipment a worker must not be within range of the swinging load or equipment, and the operator must not move the equipment when any worker is so exposed.

16.40 Clearance

Equipment must be positioned so that no swinging portion of the equipment can come within 60 cm (2 ft) of any obstruction in any area accessible to workers, or entry to such areas must be prevented by barriers or other effective means.

Implementation

Site supervisor are to maintain a watchful eye that all employees are working in a responsible manner and are utilizing all work safe knowledge and practices.

Interpretation & Updating

With every change of job site, a safety meeting will be held and all possible health and safety hazards will be identified.

Safe Work Practices SWP

Description

A written set of positive guidelines, written methods outlining how to perform a task with minimum risk to people, equipment, materials, environment, and processes. They are the “Do’s and Don’ts” on how to perform a specific task that may not always be done in a certain way. (Example: Use of ladders, safe lifting).

Standard PPE

1. Hard Hat
2. Visual Apparel (2” Silver Strip)
3. Safety Toe and Shank Work Boots
4. Safety Glasses

When required specialty PPE will be listed for the SWP in accordance with this OH&S, regarding the hazards. Remember that PPE is your last line of defense.

Hazards

Due to location changes and the different complexity and variety of tasks, jobs, and procedures, an FLHA (Field Level Hazard Assessment) and or depending on the task at hand, a FLRA (Field Level Risk Assessment) must be filled out for each SWP that is being performed. As Homebase Construction is for the most part a sub-contractor, locations due change quite frequently, as will the hazards. A few of the most common hazards will be related to chemical being transported. Therefore, all WHMIS 2015 and the related Safety Data Sheets as well as the requirements of Transporting Dangerous Goods must be strictly adhered to.

During the process of a pre-job FLHA or FLRA some other hazards could very well be:

3. Fall from Heights
4. Confine Space
5. Public Traffic
6. Other Equipment
7. Slips, Trips, and Falls
8. Sprains and Strains
9. Various other Ergonomic Issues
10. Heat or Cold
11. Dust
12. Bio Hazards
13. Other workers
14. Overhead Boom

Each hazard will be eliminated or mitigated prior to any task commencing. These will be clearly outlined in each task Hazard and Risk Assessment.

SWP 001 Ladders

WEIGHS AND CLASSESIFICATIONS

Falls from portable ladders are a major source of serious injury. All workers and subcontractors shall be aware of the hazards and take proper precautions to prevent falling. Because of the nature and hazard rating of a new construction site, Type 1 Heavy Duty, 1A Extra Heavy Duty, and 1AA Special Duty Ladders are the acceptable weight rated ladders on our construction sites. ([G13.4 WorkSafe](#))
The chart below outlines ladder ratings that are curranty in industry

	Duty Rating	Load Rating	CSA Ladder Grade	ANSI Ladder Type
Allowed on Sites	Special duty	170 kg (375 lb)	1AA	1AA
	Extra heavy duty	136 kg (300 lb)	1A	1A
Not Allowed	Heavy duty	113 kg (250 lb)	1	1
	Medium duty	102 kg (225 lb)	2	II
	Light duty	91 kg (200 lb)	3	III

LADDERS IN GENERAL

Most practices that you should and Should NOT do are universal to all ladders used on a jobsite. Before ever climbing on any ladder inspect the area and the ladder itself. Always us the right ladder for the job and never use a ladder that is defective.

WHEN SETTING UP LADDERS, PRACTICE THE FOLLOWING:

- ✓ Reject and tag any ladders that have defects. Have faulty ladders repaired or thrown out.
- ✓ Use the right ladder designed for your task. Consider the strength, type, length and the CSA requirements. Always set up a ladder on level and firm ground
- ✓ Set up barricades and warning signs when using a ladder in a doorway or passageway.
- ✓ Before mounting a ladder, clean the boot soles if they are muddy or slippery. Avoid climbing with wet soles. Ensure that footwear is in good condition.
- ✓ Face the ladder when going up or down and when working from it. Always use **3 Point Contact**
- ✓ Keep the center of your body within the side rails.
- ✓ Wear protective footwear with slip-resistant soles and heels
- ✓ Ensure that all electrical equipment used during ladder work is in good condition and properly grounded.

WHAT SHOULDN'T YOU DO:

- ✗ Do not use a ladder in a horizontal position as a scaffold plank or runway.
- ✗ Do not carry objects in your hands while on a ladder. Hoist materials or attach tools to a belt.
- ✗ Do not use a portable ladder when other equipment is available. Replace a ladder with a fixed stairway or scaffold.
- ✗ Do not straddle the space between a ladder and another object.
- ✗ Do not erect ladders on boxes, carts, tables, scaffold or other unstable surfaces.
- ✗ Do not use ladders on ice.

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- X** Do not stand a ladder on any of its rungs. Ladders must rest on both side rails.
- X** Do not allow anyone to stand under a ladder.
- X** Do not overreach from a ladder; move as required.
- X** Do not use any type of ladder near electrical wires.

STEP LADDERS

- √ Use the appropriate size ladder for the job
- √ While working, and using both hands, follow 3-point contact by leaning into the ladder and using your legs as a contact point.
- √ For long durations (over 15 minutes) use a platform step ladder
- X** Do not paint wooden ladders. Defects may be hidden by the paint. Wood preservatives or clear coatings may be used.
- X** Do not use items such as a chair, barrel or box as a makeshift ladder.
- X** Never step on the top 2 rungs or the painters tray.
- X** Don't use a step ladder that's lighter than your weight class.

EXTENSION LADDERS

- √ Place the ladder feet 1/4 of the ladder's working length (e.g., foot to top support point) away from the base of the structure (e.g., for every 4 feet high, the base of the ladder should be out 1 ft. that means one horizontal foot from the support point).
- √ Extend the ladder at least 1 m (3 ft.) or 3 rungs above the landing platform.
- √ Tie off ladders at the top and secure bottom to prevent them from slipping.
- √ Get help when handling a heavy or long ladder.
- √ Keep ladders away from electrical wires.
- √ Check for overhead electrical wires before setting up a ladder.
- √ Clear area around base and top of the ladder of debris, tools and other objects.
- √ Tie off yourself with a safety harness when working 3 m (10 ft.) or more off the ground or when working with both hands.
- √ Ensure that only one person is on a single-width ladder.
- √ Grasp the rungs when climbing a ladder, not the side rails. If your foot slips on a ladder, holding onto rungs is easier than holding onto the side rails remember always use 3-point contact when climbing an extension ladder.
- √ Rest frequently to avoid arm fatigue and disorientation when the work requires you to look up and reach above your head.
- √ Drape your arms over a rung and rest your head against another rung or side rail if you become dizzy or panicky. Climb down slowly.
- X** Do not work from top three rungs. The higher a person goes on a ladder, the greater the possibility that the ladder will slip out at the base.
- X** Do not join two short ladders to make a longer ladder. Side rails are not strong enough to support the extra load.
- X** Do not place a ladder against flexible or moveable surfaces.
- X** Never have the ropes used for elevating the second section loose and dangling around your feet.
- X** If you a fear of heights, sick or dizzy, don't climb up a ladder

SWP 002 & 003 Power and Hand Tool Use & Defective

002 HAND TOOL

Defective tools can cause serious and painful injuries. If a tool is defective in some way, **DON'T USE IT!** Always conduct an inspection of a tool prior to use and after the end of the task. Hand tools commonly brake over time, from misuse and undue care and storage

COMMON PROBLEMS

- Chisels and wedges with mushroom heads
- Split or cracked handles
- Chipped or broken drill bits
- Wrenches with worn out jaws
- Tools which are not complete, such as files without handles

ENSURE SAFE USE OF HAND TOOLS:

- Never use a defective tool;
- Double check all tools prior to use; and
- Ensure defective tools are repaired.

003 POWER TOOLS

Air, gasoline or electric power tools, require skill and complete attention when energized and in uses. Even when they are in good condition, unforeseen defective tools can cause serious injury. Don't use power tools when they are defective in any way. Always inspect prior to use.

WATCH FOR PROBLEMS LIKE:

- Broken or Damaged Guards
- Insufficient or improper grounding due to damage on double insulated tools,
- Exstention cords with no grounding wire (on plug) or on cords of tools,
- Eloectrical Power Swithes or throttles and linkage are damaged
- Deffective blades, missing teeth or worpped or dual
- The wrong grinder wheel is being used, or
- The guard has been wedged back on the power saw.

Use of

The purpose of this practice is to establish the general requirements for the safe use of portable hand tools at Homebase Constructionwork sites.

1. Always use the proper tool for the job.
2. All hand tools are to be carried in tool pouches or tool bags. Tools such as utility knives, chisels, or screwdrivers shall not be carried in pockets as a worker may fall on these tools and cause a serious puncture wound.
3. Cutting tools shall always be kept sharp. Care must be taken to work cutting tools away from the body not towards it. Hands should be kept behind the tool not in front of them.
4. Utility knives must have spring-loaded retractable blades unless specifically approved by EHS Specialist.
5. Prior to use, hand tools must be inspected for damage and any damaged tool is to be tagged with "Do Not Use" red tag and removed from service for repairs or replacement.
6. Handles on hand tools shall be kept in good repair. Loose handles can create a hazard if the striking or cutting attachment comes free. A hazard could also be created from the damaged handle.
7. Ends of metal impacting tools such as chisels that are mushroomed shall be dressed to prevent fragments from flying off and causing injury when struck. Eye protection is to be worn at all times.
8. Wrenches are not to be used with "Snipes" or metal tubing over the end to increase leverage. Hammer wrenches pneumatic impacts or nut splitters should be used if unable to free stuck nuts.
9. Gloves must be worn at all times when utilizing hand tools.

SWP 004 Power Tools

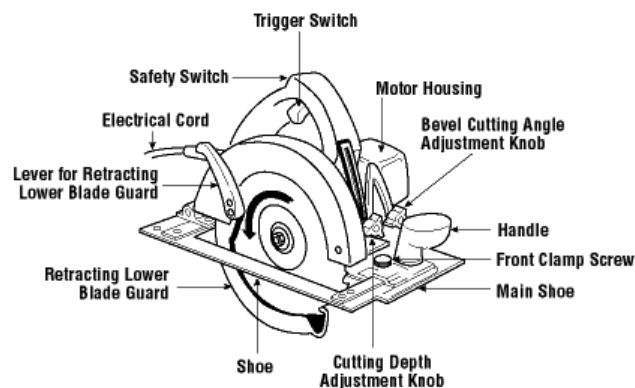
Circular Saws

GENERAL REQUIREMENTS:

- Wear safety glasses or a face shield.
- Wear an approved respirator or dust mask when exposed to harmful or nuisance dusts.
- Use appropriate hearing protection equipment in noisy areas.
- Check the retracting lower blade guard to make certain it works freely.
- Ensure that the blade that you have selected is sharp enough to do the job. Sharp blades work better and are safer.
- Check the saw for proper blade rotation.
- Set the depth of the blade, while the saw is unplugged, and lock it at a depth so that the lowest tooth does not extend more than about 0.3 cm or 1/8" beneath the wood.
- Keep all cords clear of cutting area.
- Circular saws are designed for right-hand operation; left-handed operation will demand more care to operate safely.

SAFETY PROCEDURES

- Check the retracting lower blade guard frequently to make certain it works freely. It should enclose the teeth as completely as possible, and cover the unused portion of the blade when cutting.



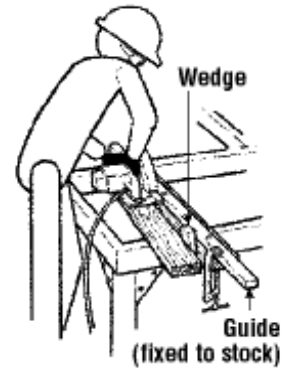
- Check that the retracting lower blade guard has returned to its starting position before laying down the saw.
- Keep upper and retracting lower blade guard clean and free of sawdust.
- Disconnect power supply before adjusting or changing the blade.
- Allow the saw to reach full power before starting to cut
- Use two hands to operate saws - one on a trigger switch and the other on a front knob handle.
- Keep a motor free from accumulation of dust and chips.
- Select the correct blade for stock being cut and allow it to cut steadily. Do not force it.
- Secure work being cut to avoid movement.

WHAT TO AVOID

- Do not hold or force the retracting lower guard in the open position.
- Do not place hand under the shoe or guard of the saw.

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- Do not over tighten the blade-locking nut.
- Do not twist the saw to change, cut or check alignment.
- Do not use a saw that vibrates or appears unsafe in any way.
- Do not force the saw during cutting.
- Do not cut materials without first checking for obstructions or other objects such as nails and screws.
- Do not carry the saw with a finger on the trigger switch.
- Do not overreach. Keep proper footing and balance.
- Do not rip stock without using a wedge or guide clamped or nailed to the stock.



Chop Saws

- Do not use the saw if the lower portion of the blade hood is not adjusting itself to the thickness of the material being cut as the blade passes through the material.
- Allow the saw to return to its stored position before removing the cut material from the table.
- Lay the material squarely and solidly down before sawing it.
- Use a clamp to secure cylindrical materials to the saw "table" before cutting.

Grinders\ Grinding Wheels

- Prior to installing a new grinding wheel, inspect the wheel for cracks or other visible damage; tap the wheel gently with a plastic screwdriver handle to detect cracks that are not visible. If the wheel has a dead sound rather than a ring sound, do not use the wheel.
- Do not use a grinding wheel that has chips, cracks or grooves.
- Do not use the grinding wheel if it wobbles. Tag it "Out of Service".
- Adjust the tongue so that it is no more than 1/4 inch from the grinding wheel.
- Adjust the tool rest so that it is no more than 1/8 inch from the grinding wheel.
- Do not use a bench grinder if it is not firmly anchored to the work bench or other secure platform.
- Do not install a grinding wheel whose labeled RPM is lower than the rated speed of the grinder.
- Stand to one side of the plane of a rotating grinding wheel during the first few seconds of operation.
- Grind on the side of the wheel only when it is made for side grinding.
- Turn the grinder "off" when you have finished working with it and remain at the machine until it has completely stopped turning.

Drills – Air and Electric

- Always wear safety glasses and a face shield.
- Check drill bits prior to use. Always ensure that drill bits are sharp and that they are not bent.
- Secure the work piece being drilled. Small pieces should be clamped to avoid movement. Never hold a piece with one hand while drilling with the other. Do not reach under or around material being drilled.
- Drill a small pilot hole prior to drilling large holes.
- Never use a hole-saw without the pilot drill.
- Follow manufacturers' instructions when selecting and using a bit or attachment.
- Use auxiliary (second) handle for large work.
- Before using an electric drill, the power cord must be checked for breaks or tears in the insulation, and insure the grounding prong is intact. Defective drills must be returned to the shops for repair.
- Use of eye protection is mandatory for all workers using or assisting in the use of drill motors of any type.

SWP 005 Machine Guarding

Moving parts must be guarded if they are hazardous to employees. Safeguards must be in place if a worker may accidentally, or through the work process, come into contact with:

1. Moving parts of machinery or equipment
2. Points of machinery or equipment at which material is cut, shaped, or bored,
3. Surfaces with temperatures that may cause skin to freeze, burn, or blister
4. Energized electrical cables
5. Debris, material, or objects thrown from machinery or equipment
6. Material being fed into or removed from process machinery or equipment
7. Machinery or equipment that may be hazardous due to its operation
8. Any other hazard.

Tampering with safeguards is prohibited. A person must not remove a safeguard from a machine that is operating if the safeguard is not designed to be removed when the machine is operating. A person must not remove a safeguard or make it ineffective unless removing it or making it ineffective is necessary to perform maintenance, tests, repairs, adjustments, or other tasks on equipment. If a worker removes a safeguard or makes it ineffective, the worker must ensure that:

1. Alternative protective measures are in place until the safeguard is replaced
2. The safeguard is replaced immediately after the task is completed, and
3. The safeguard functions properly once replaced. If a safeguard for machinery is removed or made ineffective and the machinery cannot be directly controlled by a worker, the worker who removes the safeguard or makes it ineffective must lock out or lock out and tag the machinery or render it inoperative.

SWP 006 Compressed Air & Air Powered Tools

GENERAL

Protecting workers from injuries associated with the use of Compressed Air & Air Powered Tools. Air Powered Tools are to be used and maintained in compliance with manufacturer's guidelines. Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

Air powered tools in construction range from stapling guns to jack hammers. If not treated with respect, these tools can become a powerful enemy rather than a servant.

GENERAL SAFE WORK PRACTICES FOR AIR POWERED TOOLS

1. Ensure all equipment is in good working condition.
2. Wear suitable clothing and ensure that all P.P.E. in place. Keep loose clothing away from any moving or rotating equipment or parts to avoid incident.
3. Get assistance before lifting or moving heavy objects.
4. Practice good house keeping.
5. Bleed off airlines before disconnecting hoses.
6. Shut-off equipment before refueling, adjusting or repairing this will avoid unnecessary incident or damage.
7. Use the tool for only the job it is designed for.
8. Ensure the tool is rated for the job on hand.

USE OF COMPRESSED AIR

1. Compressed air must not be used to blow debris or dirt from any worker's clothes. As air could get blown under skin causing injury.
2. Ensure that the air pressure has been turned off and the line pressure relieved before disconnecting the hose or changing tools.
3. All hose connectors must be of the quick disconnect pressure release type with a "safety chain/cable"(whip check). This will stop the hose from uncontrolled movement if accidentally disconnected.
4. Wear personal protective equipment such as eye protection and face shields, and ensure other workers in the area are made aware of or have restricted access to the hazard area.
5. Hoses must be checked on a regular basis for cuts, bulges, or other damage. Ensure that defective hoses are repaired or replaced.
6. A proper pressure regulator and relief device must be in the system to ensure that correct desired pressures are maintained.
7. The correct air supply hoses must be used for the tool/equipment being used.
8. The equipment must be properly maintained according to the manufacturer's requirements.
9. Follow manufacturer's general instructions and comply with legislated safety requirements

SWP 007 Compressed Gas Cylinders

GENERAL

Protecting workers from injuries associated with the storage of compressed gas cylinders.

Compressed gas cylinders are to be used, stored, and maintained in compliance with manufacturer's guidelines.

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

Protective Mechanisms

- Safe work procedures
- Permits (if required)
- Manufacturer's specifications
- PPE (Personal Protective Equipment)
- ERP (Emergency Response Plan)

General Compressed Gas Cylinders Procedure

1. Define storage area according to cylinder content.
2. Post NO SMOKING sign on storage area.
3. Keep all cylinders and fittings where they cannot be contaminated by oil and grease
4. Ensure that all cylinders are marked clearly. If not, refuse delivery.
5. Close valves on empty cylinders, fit protection caps and mark empty or "MT"
6. Secure all cylinders upright in well-ventilated area.
7. Keep full and empty cylinders separate.
8. Keep cylinders away from open flames, electric arcs, molten slag, sparks and radiators.
9. Do not store in temperatures above 54 degrees Celsius.
10. Oxygen and fuel gas must be stored at least 20 ft. apart.
11. Do not smoke within 30ft of cylinders.
12. Ensure that storage area is not near any heat exhausts or sources of ignition.

SWP 008 Use of Cleaning Solvents and Flammables

GENERAL

Cleaning solvents are used in the day-to-day construction work to clean tools and equipment. Special care must be taken to protect the worker from hazards which may be created from the use of these liquids. Wherever possible, solvents should be non-flammable and nontoxic.

The foreman must be aware of all solvents/flammables that are used on the job and be sure that all workers who use these materials have been instructed in their proper use and any hazard they pose.

SOLVENTS USE

The following instruction or rules apply when solvents/flammables are used:

1. Use non-flammable solvents for general cleaning.
2. When flammable liquids are used, make sure that no hot work is permitted in the area.
3. Store flammables and solvents in special storage areas.
4. Check toxic hazards of all solvents before use. (SDS)
5. Provide adequate ventilation where all solvent and flammables are being used.
6. Use goggles or face shields to protect the face and eyes from splashes or sprays.
7. Use rubber gloves to protect the hands.
8. Wear protective clothing to prevent contamination of worker's clothes.
9. When breathing hazards exist, use the appropriate respiratory protection.
10. Never leave solvents in open tubs or vats – return them to storage drums or tanks.
11. Ensure that proper containers are used for transportation, storage and field use of solvents/flammables.
12. Ensure that all WHMIS 2015 requirements are met

SWP 009 Office Safety

Purpose

To protect workers from injuries and illness associated with office work.

PPE Minimums

Only as required by specific hazards (i.e. chemicals).

Supervisor Responsibilities

1. Compliance/Enforcement

Workers Responsibilities

EMERGENCY PROCEDURES

- All office personnel should be familiar with emergency procedures, contact numbers, escape routes and assembly areas.
- Aisle ways and exits shall be kept free of obstructions
- Fire extinguishers should be mounted in conspicuous locations and clearly marked

FLOORS & OFFICE TRAFFIC

- All floor surfaces shall be kept clean, dry and free of any obstructions or tripping hazards
- Office furniture and equipment shall be laid out in a manner that promotes safety, efficiency and convenience.
- Wet or recently polished floors shall be marked with signs, at each entrance to indicate that the floor surface may be slippery
- Walk – never run
- Avoid reading or talking on the phone while walking
- High heels increase the chance of a fall (especially on stairs), low heels are recommended.
- When using stairways always use the handrails, take steps one at a time and avoid carrying heavy or awkward loads.
- Turn lights on before entering a room or corridor

FILE CABINETS

- Place heaviest loads in lowest drawers
- Open only one file drawer at a time and close file doors when not in use
- Do not lean, sit or stand on open drawers

SHARP OBJECTS

- Use caution when folding or handling paper to avoid paper cuts
- Use a staple remover to remove staples
- Keep your fingers well away from the blade of a paper cutter and store the blade in the down position when not in use.

LIFTING

- Do not lift beyond your strength. Test the weight of what you are attempting to lift and get help or use a mechanical lifting device if required.
- Store commonly used items and file boxes on mid-level shelves to prevent bending and over reaching.

ELECTRICAL OFFICE EQUIPMENT

- All electrical equipment shall be unplugged before servicing, adjusting or replacing ribbons and cartridges.
- Ensure that all electrical cords are in good condition
- Ensure that electrical cords are secured and do not pose a tripping hazard
- Ensure that electrical circuits are not overloaded

MISCELLANEOUS

- Smoking is not permitted in any office
- To avoid falling, do not tilt back in a straight chair or lean too far back in a swivel chair
- Furniture that is defective or broken should be replaced.
- Do not remain at your desk while overhead work is being performed. Leave the area and cover your desk to protect electronic equipment from dust and falling debris.
- Follow instructions on the label when using any type of chemical and obtain MSDS for the product.
- Ensure that rugs or carpets do not pose a tripping hazard.
- Clean up any spills immediately

SWP 010 Fire Extinguishers

Purpose

To provide general guidelines for the selection and use of fire extinguishers.

PPE Minimums

- Hard Hat
- Safety Glasses with Side Shields
- Reflective Vest
- Gloves
- CSA Approved steel toed boots
- Flame resistant coveralls and personal gas monitor if working within “live” process areas

Training/Reference

- CSTS
- Fire Code
- Housekeeping safe work practice

Housekeeping is key to fire prevention

Selection & Use

- All fire extinguishers are to be 20LB ABC.
- All vehicles (mobile equipment) are to be equipped with a 20LB ABC type extinguisher.
- All buildings (including trailers) are to have one 20LB ABC, stored pressure type, at each exit.

Steps to follow

1. Make sure the right type extinguisher is on hand for the right type of fire hazard. There are three different types of fires Class A, Class B and Class C:

CLASS A

consists of wood, paper, rags, rubbish, and any other ordinary combustible material. To fight these fires you can use water from a hose, pressurized extinguisher, or a soda acid extinguisher. You must soak the fire completely, even the embers to avoid another flare up.

CLASS B

consists of flammable liquids, oils and grease. To fight these fires it is recommended to use an ABC unit, dry chemical, foam or carbon dioxide extinguisher. You must start at the base of the fire and use a swinging motion back and forth, always keep the fire in front of you.

CLASS C

consists of electrical equipment. It is recommended to use carbon dioxide and dry chemical extinguishers on these types of fire. Use short bursts on the fire. When the electrical current is shut off on a class c fire, it can become a class a fire if material around the electrical fire is ignited.

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2. If you see a fire, call for help first, or get a buddy to do it. If the fire is small enough to be contained use the **P A S S** system (if in doubt, get out – **DO NOT** attempt to use fire extinguisher):

P A S S

Pull the Pin at the top of the extinguisher. The pin releases a locking mechanism and will allow you to discharge the extinguisher.

Aim at the base of the fire, not the flames. This is important - in order to put out the fire, you must extinguish the fuel.

Squeeze the lever slowly. This will release the extinguishing agent in the extinguisher. If the handle is released, the discharge will stop.

Sweep from side to side. Using a sweeping motion, move the fire extinguisher back and forth until the fire is completely out. Operate the extinguisher from a safe distance, several feet away, and then move towards the fire once it starts to diminish. Be sure to read the instructions on your fire extinguisher - different fire extinguishers recommend operating them from different distances. Remember: Aim at the base of the fire, not at the flames!!!!

3. Once the fire is out, don't walk away! Watch the area for a few minutes in case it re-ignites.
4. Report to supervisor and site EMS
5. Take the extinguisher out of service immediately after use (for recharging)

Responsibilities

SUPERVISOR RESPONSIBILITIES

1. Ensure that workers have sufficient training and are competent in the use of fire extinguishers
2. Ensure that the proper numbers and rating requirements of fire extinguishers are met. Ensure that
3. extinguishers are properly labeled, mounted and visible.
4. Ensure that extinguishers are inspected on a regular basis.
5. Ensure that any fire is promptly reported to the proper personnel

WORKER RESPONSIBILITIES

1. Be aware of the location of fire extinguishers in all locations.
2. Know the fire and emergency procedures for each area that you are working.
3. Ensure that you are familiar with how to operate different types of extinguishers.

SWP 011 Safe Vehicle Operation

General

- Vehicles and mobile equipment are to be operated by company authorized and qualified personnel only. The driver is responsible for the safety of all passengers and the stability of materials being hauled. Use the following guidelines:
- Motor vehicle operators must be in possession of a current and valid state/provincial motor vehicle operator's license. A copy of your license must be maintained at the Corporate Office
- The driver and all passengers must wear seatbelts at all times.
- Obey all speed limits and other regulatory signs. Give pedestrians the right-of-way.
- Look to the rear and sound your horn before backing up. Audible back-up alarms are required in certain areas.
- Shut off the motor to refuel.
- Shut off the motor and set the brakes before leaving vehicle.
- Inspect the vehicle each day before use.
- Keep arms, feet and bodies inside. All personnel must be seated.
- Mount or dismount only when the vehicle is stopped.
- Personnel may not ride in the bed of any vehicle that is hauling equipment or material unless your supervisor approves and then only after he/she check the stability of the equipment or material. Material that extends beyond the tailgate must be red flagged.
- A flag person must direct the backing of a vehicle in congested areas.
- No more than three persons may ride in the front seat of any vehicle.

SWP 012 Winter Driving

The purpose of this safe work practice is to protect workers from injuries associated with winter driving. Operation of motor vehicles must be performed according to all vehicle codes, traffic laws, company procedures, and manufacturer's recommended operating guidelines.

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

Workers Responsibilities

1. Ensure you have a valid operator's license.
2. Be conversant with traffic laws and regulations.
3. Drive defensively.
4. Back in when practical.
5. Ensure the vehicle has an emergency road kit.
6. Ensure to clear snow from all windows, lights and mirrors.
7. Avoid using cruise control on icy roads.
8. Accelerate and brake gently to reduce skids and spinouts.
9. Ensure winter clothing does not restrict movement, vision or hearing.
10. Ensure fuel tank is full when possible.
11. Ensure you are familiar with the installation of snow chains.
12. Monitor weather reports.

SWP 013 - Cell Phone Usage

Purpose

To protect workers from injuries associated with the improper use of cell phones while operating motor vehicle, machine, forklift, or while using any equipment. Using a cell phone while operating a motor vehicle, machine, forklift, or while using any equipment may be hazardous to the worker and general public.

Supervisors Responsibility

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training to ensure improper cell phone usage can be avoided.

Workers Responsibility

- Make driving your first priority.
- Whenever possible, let your Voice Mail take your incoming calls.
- Do not engage in stressful or emotional conversations.
- Utilize a hands-free device if necessary.
- Ensure you know your wireless phone and its features such as speed dial and redial.
- Avoid taking notes or looking up phone numbers while driving.
- Ensure cellular phones are turned off when refueling.
- While driving, pull over to a safe location and answer the phone or return the call after you have located a safe location to park.
- Do not use a cell phone while running machinery, forklift or any equipment during company time.

SWP 014 Guidelines for Cold Stress

Forecast-your-own Wind Chill

If you know the temperature outside, you can estimate the wind speed by observing the movement of trees and flags, and then find the wind chill on the second chart.

Wind Speed

WIND SPEED (km/h)	WHAT TO LOOK FOR
10	Wind felt on face; leaves rustle; wind vanes begin to move.
20	Leaves & small twigs constantly moving; small flags extended.
30	Dust, leaves, & loose paper lifted; large flags flap; small tree branches move.
40	Small trees begin to sway; large flags extend and flap.
50	Larger tree branches moving; whistling heard in power lines; large flags extend and flap more wildly.
60	Whole trees moving; resistance felt in walking against wind; large flags extend fully and flap only at the end

Wind Chill Index

Temperature Celsius										
Wind Speed (km/h)	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
10	-3	-9	-15	-21	-27	-33	-39	-45	-51	-57
20	-5	-12	-18	-24	-31	-37	-43	-49	-56	-62
30	-7	-13	-20	-26	-33	-39	-46	-52	-59	-65
40	-7	-14	-21	-27	-34	-41	-48	-54	-61	-68
50	-8	-15	-22	-29	-35	-42	-49	-56	-63	-70
60	-9	-16	-23	-30	-37	-43	-50	-57	-64	-71

Wind Chill Calculation Chart

T air	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50
V ₁₀												
5	4	-2	-7	-13	-19	-24	-30	-36	-41	-47	-53	-58
10	3	-3	-9	-15	-21	-27	-33	-39	-45	-51	-57	-63
15	2	-4	-11	-17	-23	-29	-35	-41	-48	-54	-60	-66
20	1	-5	-12	-18	-24	-31	-37	-43	-49	-56	-62	-68
25	1	-6	-12	-19	-25	-32	-38	-45	-51	-57	-64	-70
30	0	-7	-13	-20	-26	-33	-39	-46	-52	-59	-65	-72
35	0	-7	-14	-20	-27	-33	-40	-47	-53	-60	-66	-73
40	-1	-7	-14	-21	-27	-34	-41	-48	-54	-61	-68	-74
45	-1	-8	-15	-21	-28	-35	-42	-48	-55	-62	-69	-75
50	-1	-8	-15	-22	-29	-35	-42	-49	-56	-63	-70	-76
55	-2	-9	-15	-22	-29	-36	-43	-50	-57	-63	-70	-77
60	-2	-9	-16	-23	-30	-37	-43	-50	-57	-64	-71	-78
65	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79
70	-2	-9	-16	-23	-30	-37	-44	-51	-59	-66	-73	-80
75	-3	-10	-17	-24	-31	-38	-45	-52	-59	-66	-73	-80
80	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81

Where

T air = {Real} Air temperature in °C

V₁₀ = Observed wind speed at 10m elevation, in Km/h. (as reported in weather observations)

Approximate Thresholds:

Risk of frostbite in prolonged exposure: -25

WIND CHILL BELOW

- Frostbite possible in 10 minutes at -35 Warm skin, suddenly exposed. Shorter time if skin is cool at the start.
- Frostbite possible in less than 2 minutes at -60 Warm skin, suddenly exposed. Shorter time if skin is cool at the start.

***THE HAZARDS OF WORKING IN COLD CONDITIONS CAN BE AVOIDED IF PROPER PROTECTIVE MEASURES ARE TAKEN.**

ENVIRONMENTAL MEASURES

When possible, steps should be taken to protect workers from wind. Examples are installing wind barrier and hoarding.

Heated rest area should be provided.

Personal Measures

CLOTHING

- A three-layer system has been found to be most effective. The inner layer absorbs body moisture and keeps it away from the skin. Long underwear of wool or chlorofibre is ideal. The second layer is an insulating one, which keeps a layer of air trapped around the body. Wool, synthetic insulation or waterfowl down are suitable fabrics. The third layer protects the previous layer from dust, dirt, wind and moisture.
- Mittens and gloves should have removable insulated liners. Boots should be of the insulated type and have a removable insole. They should be worn with wool, nylon blend or chlorofibre socks.
- Clothing that has become wet should be changed as soon as possible.

SCHEDULE

- A schedule for regular rest breaks should be established by the safety person/supervisors to allow workers to warm up. These breaks should be not less than 10 minutes in length and should be taken in a heated area. Refer to attached table.

DIET

- Warm drinks may be taken during rest breaks. If heavy work is being done, it is important to drink enough fluids to replace fluid lost through breathing and perspiration.

CAUTIONS

- Workers who have previously suffered from frostbite will remain extremely sensitive to cold and should avoid further risk of frostbite.
- Workers handling evaporative liquid (gasoline or cleaning solvents) should take special precautions to avoid soaking clothing or gloves with liquids because of the added injury due to evaporative cooling.

Health Problems that can Occur

Conditions	Symptoms	Treatment	Prevention
Frost Bite	Loss of sensation; cold pale, waxy skin.	Warm frostbitten part as quickly as possible, immersing it in warm water for about 20 – 30 minutes is a good way of warming. DO NOT RUB and be careful to avoid burns because the frostbitten skin becomes sensitive to temperature. Get medical aid if there is no return of feeling	Wear adequate clothing; limit exposure to cold according to the recommended schedule and take warm-up breaks. Warn fellow workers of white waxy areas on skin.
Trench Foot/ Immersion Foot	Intense pain in foot, with swelling. Discoloration of the skin may be caused by long immersion in cold water. Water temperature does not need to be below freezing to cause trench foot.	Warm and dry feet. Prevent further exposure and get medical aid.	Footwear should be comfortable, not too tight and waterproof. Keep feet and socks dry
Hypothermia	Cold extremities, which are numb and clumsy, severe shivering, reduced mental alertness with irritability and lack of concentration, unusual or bizarre behavior many occur. Note that the normal shivering response stops in severe hypothermia. Loss of consciousness, coma and death can occur if not treated.	Remove the person from the cold and prevent further exposure. Re-warm by wrapping blankets. In more serious cases, immerse in warm water at 38°C ~48°C, or place the stripped victim in a sleeping bag or blanket with one or two stripped warm people (so that the body heat of warm people can warm up the victim). Contact medical aid for advice and assistance as soon as possible.	Wear adequate clothing and limit time exposure to cold according to the recommended schedule and take warm-up breaks. Stay dry. If possible, avoid working alone and watch for signs of hypothermia in fellow workers.

SWP 015 Guidelines for Heat Stress

Working or playing where it is hot puts stress on our body's cooling system. When the heat is combined with other stresses such as hard physical work, loss of fluids, fatigue or some medical conditions, it may lead to heat-related illness, disability and even death.

This can happen to anybody--even if you are young and fit. Heat stress is usually a concern during the summer. This is especially true early in the season, when people are not used to the heat.

Your body is always generating heat and passing it to the environment. The harder your body is working, the more heat it has to lose. When the environment is hot or humid or has a source of radiant heat your body must work harder to get rid of its heat. If the air is moving (for example, from fans) and it is cooler than your body, it is easier for your body to pass heat to the environment.

Workers over 40 should be more careful because of a reduced ability to sweat.

Heat stress disorders can affect workers at different temperatures depending on several factors.

Humidity, air movement, radiant heat, workload, acclimatization, personal protective clothing, fitness, and other factors all play a role. It is important to recognize the symptoms of heat-related ailments and drink **small amounts** of water at frequent intervals throughout the work periods.

Controlling Heat Stresses

The longer you do hard work in the heat the better your body becomes at keeping cool. If you are not used to working in the heat then you must take a week or two to get acclimatized or used to the heat. If you were ill or away from work for a week or so you can lose your acclimatization.

There are two ways to acclimatize:

- If you are experienced on the job, limit your time in the hot environment to 50% of the shift on the first day and 80% on the second day. You can work a full shift the third day.
- If you are not experienced on the job (for example, a summer student), you should start off spending 20% of the time in the hot environment on the first day and increase your time by 20% each following day.

Instead of reducing the exposure times to the hot job, you can become acclimatized by reducing the physical demands of the job for a week or two.

If you have health problems or are not in good physical condition, you may need longer periods of acclimatization.

***The hazards of working in hot conditions can be reduced if proper protective measures are taken.**

Engineering Controls

- Control the heat at source through the use of insulating and reflective barriers (insulate furnace walls).
- Exhaust hot air and steam produced by specific operations.
- Reduce the temperature and humidity through air-cooling.
- Provide air-conditioned rest areas.
- Increase air movement if temperature is less than 35°C (fans).
- Reduce physical demands of work task through mechanical assistance (hoists, lift-tables, etc.).

Administrative Controls

- Health and safety committees should assess the demands of all jobs and have monitoring and control strategies in place for hot days.
- Increase the frequency and length of rest breaks.
- Schedule hot jobs to cooler times of the day.
- Provide cool drinking water near workers and remind them to drink a cup every 20 minutes or so.
- Workers should salt their food well, particularly while they are acclimatizing to a hot job (workers with a low salt diet should discuss this with their doctor).
- Assign additional workers or slow down work pace.
- Make sure everyone is properly acclimatized.
- Train workers to recognize the signs and symptoms of heat stress and start a 'buddy system' since people are not likely to notice their own symptoms.
- Pregnant workers and workers with a medical condition should discuss working in the heat with their doctor.

Personal Protective Equipment

- Light summer clothing should be worn to allow free air movement and sweat evaporation, light-coloured clothing.
- In a high radiant heat situation, reflective clothing may help.
- For very hot environments, air, water or ice-cooled insulated clothing should be considered.
- Vapor barrier clothing greatly increases the amount of heat stress on the body.

Cautions

- Workers with high blood pressure or kidney problems should definitely not use extra salt or salt tablets unless directed to by their own physician.
- People who have chronic diseases, are obese, pregnant, elderly, or abuse alcohol usually develop problems from heat exposure more quickly than others.
- Do not drink more than 2 – 3 cups of fluid at one time (cause stomach cramps).
- Alcohol, coffee, cola or other carbonated drinks containing caffeine increase the amount of urine passes and should, therefore, be avoided by people who are perspiring profusely.

SWP 016 Environmental Protection

Protecting the environment is a top priority with far-reaching implications. The owner who Homebase Construction

Ltd. is working for will be held accountable for any damage or impairment to the air, land, or water, including plants, animals, and any environmental disruption.

Environmental incidents can be avoided by:

- Storing and handling potentially harmful substances properly
- Disposing of hazardous and non-hazardous waste properly
- Using the provided Spill kits to minimize all spills

Regulation

This complies with all applicable federal and provincial acts and regulation. If a harmful substance is released into the environment, a quick and effective response will minimize any negative impact.

Work Planning

The safe storage and use of potentially hazardous material will minimize the chance of a material spill or release. Also, during construction, the quantities of potentially hazardous material being used will be small, further reducing the potential severity of spilled material incidents. However, if any potentially hazardous material is released to the environment, prompt and correct response is necessary. As with the storage and use of potentially hazardous material, a spill response plan must be considered before work begins. The following questions must be asked and answered:

- What hazardous materials will be used?
- What quantities will be used?
- If the material is spilled, where will it go?
- Will the work crew be able to clean it up without outside assistance?
- What kind of equipment will be needed to clean up the material?
- What kind of absorbent material and containers should be available? Should anyone else be alerted to the planned work activities?
- How will the material that is cleaned up be disposed of?

Small Spills

Small quantities of spilled materials can be contained and cleaned up by the user following the instructions on the Material Safety Data Sheet (MSDS). Hydrocarbon materials, such as gasoline, diesel fuel, solvents, varsol, paint thinner, glycol, lubricants and hydraulic oil can be scooped up in sand and disposed of by placing on stockpiled oil sand material. This hydrocarbon material will then be reprocessed during mine operations.

Large Spills

Larger quantities of hazardous materials that cannot be easily contained and cleaned up by the user will require the assistance of the client.

Spill Reporting

All spills must be immediately report to the supervisor and contained with company provided spill kits. Supervisors will immediately report any spill to the client. The client has obligations to BC Environment to report certain spills. All spills of hazardous material must be reported to Alberta Environment, the following table summarizes the TDG classes and quantities or levels that must be considered when planning work. However, spills of smaller quantities may be reportable, depending on the impact on the environment

Non Hazardous Waste Management

Producing, handling and disposing of non-hazardous waste materials are a normal part of construction.

The objectives of waste management are to:

- Reduce the quantity of waste generated
- Ensure regulatory compliance, while disposing of non-recyclable waste materials in a safe, environmentally sound manner

Non-hazardous construction waste is disposed of as per the client's guidelines.

Wildlife

Animals and birds on the construction site must not be disturbed, particularly such animals as coyotes and bears. For the protection of both animals and people all contact with animals must be avoided.

Do not feed animals or birds, as they will:

- Become dependent on the food, which will make them less able to look after themselves
- Be attracted to the construction site, making them more likely to be involved in an incident with a person or vehicle

Do not disturb or remove injured or dead animals or birds. Notify the Owner if:

- A particular animal becomes a nuisance. Wildlife officials will be notified to come and remove the animal.
- An animal is hit by a vehicle or mobile equipment unit, or if a dead animal or bird is found.

*** SJP & SWP
Section VI**

SPECIAL SUBSTANCE REPORTING REQUIREMENTS

Substance	Reporting Conditions to be Followed
Ammonia (NH ₃)	Report releases that have, or may have, an adverse effect.
Benzene	Report releases that have, or may have, an adverse effect, and are at, or exceed, 1 kg (TDG). (For gasoline releases, see gasoline.)
Containers and scrap metal	Report releases into a watercourse that may, or may not, have an adverse effect.
Diesel	Report releases that have, or may have, an adverse effect and are at or exceed 200 L (TDG)
Gasoline	Report releases that have, or may have, an adverse effect and are at or exceed 200 L (TDG)
Glycols	Not regulated under TDG. Report spills that have, or may have, an adverse effect.
Hydraulic oil	Not regulated under TDG. Report releases that have, or may have, an adverse effect.
Hydrogen sulphide (H ₂ S)	Report releases that have, or may have, an adverse effect.
Mixture of substances	Report releases that have, or may have, an adverse effect and are at, or exceed, quantities or levels of specific substances referenced in TDG.
Natural gas	Report releases that have, or may have, an adverse effect, such as odorous, noise or safety to the public. Reporting does not apply to planned releases related to routine maintenance and servicing.

Ozone-depleting substances	Report all releases that are at, or exceed, 10 kg
Persistent plastics and other synthetic materials	Report releases into a watercourse that have, or may have, an adverse effect.
Polychlorinated biphenyl	Report releases containing concentrations of PCBs greater than 50 ppm.
Refined products in the oil and gas industry, such as diesel, gasoline, sulphur, sweeteners, inhibitors and treating chemicals.	Report refined product and chemical releases in the oil and gas industry to PCD as per 1L-94-5 Oil and Gas Industry Notification Requirements as follows: Any releases (on or off-lease) that have, or may have, an adverse effect and that are at, or exceed, quantities or levels referenced in R.
R Class 2 compressed gases	Report releases that have, or may have, an adverse effect.
Unrefined product in the oil and gas industry*, such as conventional crude oil, LPG, diluting, condensate, synthetic crude and produced water.	Report unrefined product releases in the oil and gas industry to the EUB according to 1L94-5 Oil and Gas Industry Notification Requirements as follows: any release greater than 2 m on lease any release off lease according to the Oil and Gas Conservation Regulations any release that has entered or has potential to enter surface water
Unregulated TDG substances	Report releases that have, or may have, an adverse effect.
Used oil, such as spent lubricating oil and undrained lube oil filters.	Report releases that have, or may have, an adverse effect and are at, or exceed, 5 km or 5 L (TDG).

SWP 017 Flammable Materials Handling.

All workers have a personal responsibility to prevent fires and explosions of flammable materials. Observe the precautions listed below:

1. Obey all smoking restrictions
2. Do not handle flammable material near an open flame or any source of ignition
3. Keep flammable liquids only in approved containers; do not dump them down drains or sewers.
4. Ensure portable containers used for hydrocarbons have flame arresters and meet NFPA and/or CSA standards
5. Do not use gasoline as a cleaning fluid
6. Dispose of rags soaked with combustible liquids in covered metal containers
7. Discontinue any outdoor handling of flammable materials, such as loading during electrical storms
8. When drawing flammable liquids from a drum, either;
Solidly hold the receptacle against the spout to prevent static electricity build-up or
Fond the spout to the receptacle before pouring

Hydrocarbons

Control skin burns by wearing proper protective clothing

Lessen fire risk by promptly stopping hydrocarbon leaks, cleaning up hydrocarbon spills, bonding or grounding containers and hoses used in transferring hydrocarbons, controlling hot work carefully, and not allowing smoking.

Gasoline and Diesel Fuels

1. Ensure gasoline and diesel containers and storage areas are identified and located in a safe place, away from any operating engine or open flame, fire or other ignition source. Drums and small non-safety containers must never be left exposed to direct rays of the sun.
2. Ground containers when pouring gasoline into them and ensure they are an approved type. **DO NOT USE METAL PAILS**
3. Fill tanks only when engines are stopped. Safety cans must be used when the tank is not filled directly from the storage container or other source or supply.
4. Do not smoke near any fuel storage areas. Signs must be posted stating no smoking or open flame is permitted within 3 m (10') of the storage area.

Liquefied Petroleum Gas

Avoid skin contact as LPG's evaporate rapidly and cause freezing.

Use extreme caution when working with tanks recently emptied of LPG's as empty tanks are more susceptible to fire and explosion from sparks than full tanks. Refer to materials handling, for further information.

Paints & Epoxies

Minimize fire hazard by storing these materials properly and not allowing smoking or hot work where these materials are stored.

Minimize the risk of personal injury by wearing goggles and, if ventilation is insufficient, wearing breathing apparatus.

Solvents

Cleaning solvents are used in the day-to-day construction work to clean tools and equipment. Special care must be taken to protect the worker from hazards which may be created from the use of these liquids. Wherever possible, solvents should be non-flammable and non-toxic.

The foreman must be aware of all solvents/flammables that are used on the job, and be sure that all workers who use these materials have been instructed in their proper use and any hazard they pose.

The foreman must be aware of all solvents/flammables that are used on the job, and be sure that all workers who use these materials have been instructed in their proper use and any hazard they pose.

The following instructions or rules apply when solvents/flammables are used:

1. Use non-flammable solvents for general cleaning
2. When flammable liquids are used, make sure that no hot work is permitted in the area
3. Store flammables and solvents in special storage areas
4. Check toxic hazards of all solvents before use (MSDS).
5. Provide adequate ventilation where all solvents and flammables are used
6. Use goggles or face shields to protect the face and eyes from splashes or sprays.
7. Use rubber gloves to protect the hands.
8. Wear protective clothing to prevent contamination of worker's clothes
9. When breathing hazards exist, use the appropriate respiratory protection
10. Never leave solvents in open tubs or vats – return them to storage drums or tanks
11. Ensure that proper containers are used for transportation, storage & field use of solvents/flammables
12. Where solvents are controlled products, ensure all employees using or in the vicinity of use, or storage is trained and certified in Workplace Hazardous Materials Information System (WHMIS). Ensure all WHMIS requirements are met.

For further information see the appropriate current Occupational Health & Safety Regulations.

Drum & Barrel Handling

Drums and barrels are bulky and heavy when full. Common injuries from drum and barrel handling include smashed fingers, broken arms and legs, smashed toes and strained backs. These and other muscle strains can be avoided by always using the proper equipment and procedures. Follow the precautions below for safe drum and barrel handling:

- Wear standard work wear and personal protective equipment, including gloves
- Before attempting to move a drum or barrel, identify the load, determine whether it is empty or full, and if full, give it a push to determine its' weight.
- Use barrel-handling equipment to move barrels whenever possible. When equipment is not available, refer to the Safety Policy Manual for complete details on safe manual methods.

Up-ending Drums & Barrels

The methods to use for up-ending depend upon the height of the individual; however, in all methods, maintaining correct body posture is essential. On slippery floors or other places, place a rag under the barrel chime to stop it from slipping while you are raising it.

Use a small block of wood under the lower rolling ring to up-end the drum or barrel with greater ease. Then use either the tall or short person's methods to up-end the barrel:

Short person's method – squat down with your feet directly under your shoulders and approximately 30 to 35cm (12 to 14 in.) apart, hips well below the level of your shoulders, and back as nearly vertical as possible. Place your hands on the lower edge of the chime and lift by straightening your legs.

Tall person's method – Stand erect, feet directly under shoulders, facing the barrel. Bend your knees and grasp the top of the barrel chime with both hands, keeping the back vertical. Straighten your legs, leaning slightly forward as the barrel starts to rise. Time the lifting motion smoothly so the momentum of the barrel carries it up after your leg muscles start it moving.

Tipping Drums or Barrels

There are several safe methods to tip drums or barrels manually. The method to use depends on the position of the container in relation to other objects.

Push and Pull Method

Use this method whenever the drum or barrel is in a position where you can push against some stationary object such as an adjacent barrel. Place your feet shoulder-width apart with one foot against the bottom of the barrel. Keep your back straight by slightly bending your knees, and grasp the far side of the barrel with your right hand (left hand if left-handed). Push against the adjacent object with your left hand with the same force you pull the barrel toward you with your right hand. The pulling load is thus equalized by the pushing action and the barrel tips easily and smoothly.

Two-hand Pull Method

Use this method when the barrel is not near another barrel or object and when you have plenty of room to step backward during the tipping maneuver. Place on toe against the barrel, stands straight, and with both hands grasp the top chime on the side of the barrel nearest you. The lean over the barrel and swing your body back, dropping your body straight down by bending the knees and keeping your back straight. Thus, the weight of your body plus arm pull tips the barrel easily. Keep one foot behind you to act as a balance and to catch the weight of the tipping barrel.

Improper manual handling techniques, such as jerking barrels over by pulling on the farthest edge of the chime with one hand and the closest edge with the other, can cause severe shoulder and back strains.

Push Method

This is the easy and safe way to tip a barrel, especially if the top is covered with water. Stand with your feet about shoulder width apart, squat down keeping your back straight, straighten your legs and push the barrel away from you with your arms.

Rolling Drums and Barrels

Drums and barrels should really be moved with barrel trucks whenever possible. However, if they must be moved manually, roll them by pushing on the centre rolling rings or otherwise keeping your hands to the centre on top. Do not grasp the end chimes as this places your hands in a position to be pinched between the barrel and some other object. Never kick drums or barrels with your feet. Drums and barrels can be moved short distances by rolling them in an upright position balanced on their chimes. The safety of this maneuver depends upon getting “the feel” of properly balancing the container and not rolling it too fast. Keep your feet clear at all times.

Letting Drums and Barrels Fall into Place

When it is necessary to place a drum or barrel alongside other drums or barrels, maneuver its base into position by rolling it on its chimes. When the base is in position, let the container start to move to the vertical position while holding it back slightly. When the drum or barrel is nearly in the vertical position, remove your hands and let it fall the last few centimeters into position. Letting the container fall into position with your hands in the clear eliminates the chances of smashed fingers when drums or barrels hit together.

Moving Drums or Barrels down a Skid or Slope

When a drum or barrel must be moved down a slope or skid, skid it end-wise or use a snub rope with the barrel in a rolling position. To go up a steep slope, if power is not available, use a snub rope and have one person pull and at least two persons push.