HB Construction Inc.
Safety Manual
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HB Construction Inc
Company Safety Manual

Introduction

HB Constructions' safety program involves both management and staff to ensure that working conditions and employee practices contribute to and enhance the safety of working conditions.

You have an obligation to be knowledgeable about accident prevention. Observe, analyze and try to anticipate unsafe conditions so they may be eliminated or corrected in time to prevent serious accidents. You are not required or expected to work under conditions which pose a serious or unusual threat to your safety. If you have a safety concern, please bring it to the attention of your supervisor. Your suggestions and input toward making HB Construction Inc. a safer workplace will be welcomed.

If you are injured, notify your supervisor immediately to ensure that you get proper first aid or medical attention, and that all accident forms are filled our correctly. It is our responsibility to report all injuries, no matter how minor they may seem, so that you will be protected in the event of a future complication. Any injury which in not reported makes the responsibility of the company doubtful. We don't want to shirk our responsibility-please don't shirk yours.

This manual provides guidance only and does not constitute legal advice. It is intended to be helpful and to provide practical solution to safety problems on the job. It is not a complete presentation of all safety problems and solutions. Other additional safety measures will be required to meet specific workplace circumstances.
For further information consult the provincial Occupational Health and Safety Act and the Regulations or contact Occupational Health and safety branch of Saskatchewan Labor.

The **Certificate of Recognition** for Safety (C.O.R)

The Certificate of Recognition (C.O.R. safety certification) is becoming a recognize industry safety standard, and is now required at major work sites across the province. Achievement of the C.O.R will allow HB Construction to continue to bid on prime projects, as well as giving us a competitive edge in smaller project bidding. The model for this safety program was developed by various provincial safety organizations which are funded through Workers' Compensation.

Our goal is to achieve and maintain our C.O.R. certification, which translates into a high level of worker health and safety. Placing the focus on accident prevention benefits everyone--reducing injuries means fewer job interruptions and a more productive and profitable company. This, in turn will result in the company's ability to provide a higher level of benefits to our employees.

The Certification Process: Once the company has developed and implemented their safety program, the program must be formally "audited" each year to monitor its effectiveness. The audit is a structured process which consist of three main elements: documentation review, and observational tour of active job sites and/or work areas, and interviews with employees (who are selected by the auditor at random). Audits are conducted:
-to ensure that the tools and guidelines provided by the safety program are effective, and are being used correctly and consistently,
-to ensure our actual work practices and job procedures are in keeping with those outlined in our safety program and in provincial safety legislation, and
-to identify areas where we need to provide further training or modify the program to increase its effectiveness.

The Self Audit Once each year, an internal or "self" audit must be completed by the company. Once the audit process is completed, the necessary program modifications will be made and the formal audit document will be submitted to the Heavy Construction Safety Association to be kept in their files.

The External Audit: The external audit is conducted by an independent auditor trained and certified by the Heavy Construction Safety Association. This is the final step in achieving certification. Once the initial certification is achieved, independent external audits are performed once every three years to maintain C.O.R. status.

HB Construction has implemented this safety program to protect its human and financial resources. We are taking a proactive approach to worker health and safety through ongoing development and improvement of our safety program. We have devoted considerable company resources to developing our program, and the complete cooperation and commitment of each individual at all levels of the company to the success of this program is expected and appreciated. Each and every one of us has a vested interest in its success.

HB Construction
Company Safety Policy

HB Construction recognizes the right of each worker to work in a safe and healthy environment. HB is committed to working in consultation and cooperation with workers to provide a strong safety program which will serve to protect our staff, our property and the public from accidents.

Management supports participation in the program by all workers and is committed to providing proper equipment, training, and procedures. Workers are responsible for following all safe work practices and job procedures, working safely, and wherever possible, improving safety measures.

Workers at every level are responsible and accountable for the company's overall safety initiatives. Complete and active participation by everyone, every day, in every job is necessary for the safety excellence the company expects. Through continuous safety and loss control efforts, we can accomplish our goal of an injury and accident-free workplace.

Dean Hanson
Oct 31/2009
Jan 6/2011
Feb 2/2012
March 14/2014
May 5/2015
April 8/2016
Feb 2017
March 28/2018
Feb 8/2019
March 23/2020
March 31/2021
April 1/2022
May 23/23
June 17/24

Assignment of Responsibility And Accountability for Safety

Managers/supervisors and workers have responsibilities under Occupational Health and Safety legislation and HB Construction Health and Safety Policies.These responsibilities include:

Manager/Supervisors (including Subcontractor Managers/Supervisors)

-understand and ensure compliance with workplace health and safety requirements.
-ensure hazards are identified and proper steps taken to control the risks.
-inspect work areas and correct unsafe acts and conditions.
-instruct and coach workers to follow safe work practices and job procedures.
-ensure only competent workers operate equipment.
-ensure equipment is properly maintained.
-ensure the necessary personal protective equipment(PPE) is provided to workers and used properly.
-know how to safely handle, store, produce and dispose of chemical and biological substances at the workplace.
-understand and implement emergency procedures
-report and investigate accidents, incidents and near misses.
-promote health and safety awareness
-cooperate with other parties in dealing with health and safety issues
-**Conduct annual Fire Drill** *added June 28/2019*
-**Test Emergency Procedures** *added June 28/2019*

Workers (including Subcontractor Workers):

-understand and follow legislation and workplace health and safety requirements
-follow safe work practices and job procedures
-use safety equipment, machine guards, safety devices and PPE.
-report unsafe acts and conditions and workplace hazards
-work and act safely and help others to work and act safely
-participate in Annual Fire Drill *added June 28/2019*
-participate in testing of Emergency Procedures *added June 28/2019*

HB Construction
Harassment and Violence Policy

HB Construction Inc. has a zero tolerance for workplace violence or harassment of any kind, and will be proactive in the prevention of workplace violence and harassment. HB Construction Inc. is committed to investigating reported incidents of violence and harassment in an objective and timely manner, taking necessary action and providing appropriate support for victims.

To ensure that the employees at HB Construction Inc. have a work environment that is free of violence or harassment of any kind, whether it arises from another employee or any other person visiting the workplace or interacting with staff.

HB Construction Inc. will ensure that:

-Individuals are aware of, and understand that, acts of violence or harassment are considered a serious offence for which necessary action will be imposed;
-Those subjected to acts of violence or harassment are encouraged to access any assistance the may require in order to pursue a complaint; and;
-Individuals are advised of available recourse if they are subjected to, or become aware of, situations involving violence or harassment.

Workplace harassment means:

-engaging in a course of vexatious comment or conduct against a worker in a workplace that is known, or ought reasonably to be known, to be unwelcome.
-This includes unwelcome words or actions that are known or should be known to be offensive, embarrassing, humiliating or demeaning to a worker or group of workers. It includes behavior that intimidates, isolates or discriminates against the targeted individual.

Workplace violence means:

-The exercise or attempt of physical force by a person against a worker in a workplace that causes or could cause physical injury to the worker.
-A threat to exercise physical force against the worker, in a workplace, that could cause physical injury to the worker.

Responsibilities

President

It is the responsibility of the President of HB Construction Inc. to ensure that:

-All reasonable preventative measures to protect employees and other at HB Construction inc. form workplace violence and harassment;
-A workplace violence risk assessment is conducted;
-Advise OH&S committee of results of assessment;
-Ensure all employees are trained on this policy;
-Review the policy annually to ensure any new violence hazards are identified;
-Reporting procedures are established with respect to workplace violence and harassment;
-This policy is posted and communicated to all staff;
-Process in place for responding to, and investigating incidents of workplace violence and harassment;
-This policy shall be reviewed after any violent or harassment events take place to determine if changes need to be made.

HB Construction
Harassment and Violence Policy

Managers/Supervisors

It is the responsibility of Managers and Supervisors at HB Construction Inc to ensure that:

-This policy is properly enforced and communicated to the employees;
-all reports/complaints/incidents of workplace violence and/or harassment will be addressed in an appropriate and timely manner.
-All complaints or incidents of workplace violences and/or will be reported promptly to senior management and investigated immediately.

Employees

It is the responsibility of every employee, or contract personnel to:

-Comply with this policy and all related procedures at all times.
-Immediately report any violent or potentially violent incident to their manager/supervisor.
-Fully cooperate in any investigation of complaints or incidents of workplace violence or harassment as indicated within this policy.

Procedure for dealing with harassment;

1. Workers are encouraged to address alleged incidents of harassment internally.
2. A worker who believes that he or she has been subjected to harassment is encouraged to make clearly and firmly known to the alleged harasser that the harassment is objectionable and must stop.
3. Where circumstances prevent a worker from taking action, or the action taken is unsuccessful, the worker should report the alleged harassment to Marge Hanson, designated by HB Construction to receive complaints of harassment.
4. Where the worker has reported the alleged harassment to a person designated above, that person shall immediately bring the complaint to the attention of senior management.
5. HB Construction will notify the alleged harasser of the complaint, provide the alleged harasser with information concerning the circumstances of the complaint, and undertake a confidential investigation.
6. Following the conclusion of the investigation, HB Construction, will inform the worker and the alleged harasser of the results of the investigation.

Procedure for dealing with potential violence:

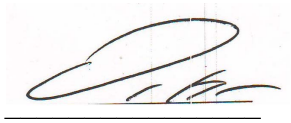
1. Remain Calm.
2. Speak slowly and clearly.
3. Try to diffuse the situation in a rational manner.
4. DO NOT take the situation lightly if you fear an act of violence.
5. DO NOT retaliate with shouting and abusive language.

3. Contact you supervisor if possible to aid in dealing with the situations.
4. Call Police if necessary.

HB Construction
Harassment and Violence Policy

Resolution: Investigation, Corrective Action and Confidentiality

1.Where harassment and/or violence has been substantiated, HB Construction will investigate and take appropriate corrective action to resolve.
2.Where harassment has not been substantiated, no action will be taken against a worker who has made a complaint in good faith. However, a deliberate false accusation of harassment will be met with strong discipline.
3.HB Construction will not disclose the identity of the worker or the circumstances of the complaint except where disclosure is necessary for the purposes of the investigating or taking disciplinary action in relation to the complaint, or where law requires such disclosure.
4.Nothing is this Harassment and Violence Policy Statement shall discourage or prevent a worker from referring a harassment or violence complaint to the Occupational Health and Safety Division pursuant to The Occupational Health and Safety Act, 1993, initiating a complaint under The Saskatchewan Human Rights Code, or exercising any other legal rights available under the law.



Dean Hanson
DH Jan 6/11
DH Feb 02/12
DH Mar 14/14
DH May 5/15
DH April 8/16
DH Nov 21/2018 Revision to include violence policy
DH March 2020
DH March 2021
DH April 1/2022
DH May 23/23
DH June 17/24

HB Construction
Environmental Policy

HB Construction considers environmental responsibility an important part of its business activities, and an integral part of its business planning, operating practices and worker training programs. Storage, handling and disposal of all potential hazardous substances and wastes will be done in a safe and proper manner. HB Construction will comply with all legislated standards and regulation, and will eliminate or minimize undesirable impacts on the environment in the delivery of all to the company's services.

Dean Hanson

DH Jan 6/2011
DH Feb 2/12
DH Mar 14/14
DH May 5/15
DH April 8/2016
DH Feb 2017
DH March 28/2018
DH March 23/2020
DH March 31/2021
DH April 1/2022
DH May 23/23
DH June 17/24

HB Construction
Subcontractor Safety Plan

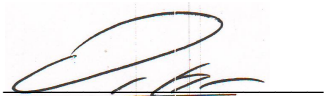
The objective of HB Construction's Subcontractor safety plan is to achieve and maintain the highest possible level of safety performance for all Subcontractor personnel working on HB Construction projects. The success of this objective requires the commitment and dedication of every worker to his own personal safety and safety of fellow workers.

Prior to starting work on any project under HB Construction's direct control, each subcontractor will receive an orientation package outlining our health and safety expectations. This acknowledgement sheet will be signed by the Subcontractor and returned to HB Construction. Communication information, including regular contact numbers as well as emergency contact numbers, will be provided to HB Construction by the Subcontractor prior to beginning work on the site.

Subcontractors working at any HB Construction site may be required to submit a compliance declaration and/or training records confirming that all Subcontractor employees are trained in all health and safety elements required by the Saskatchewan Occupational Health and Safety Act and Regulations and HB Construction Inc.'s company safety program.

While working on HB Construction managed projects, all Subcontractors must participate in all work site safety meetings and cooperate with the Occupational Health Committee/ Representative (where required by provincial legislation). Documentation of Subcontractor safety-related activity on the site must be submitted to the HB Construction representative. Each Subcontractor is responsible for providing competent supervision for their workers, providing first aid supplies and personnel as required by Part V of the OH&S regulations, maintaining all on-site WHMIS documentation required for materials brought to the job site by the Subcontractor, and for providing and maintaining (and training all Subcontractor workers in the use of) all safety and personal protective equipment required by their workers.

Each Subcontractor is responsible to report all incidents/accidents to HB Construction as soon as possible, and to conduct investigations as required by HB Construction's Policy. A copy of the written investigation report must be submitted to the HB Construction site representative within three working days of occurrence.



Dean Hanson

DH Oct 31/09
DH Jan6/11
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DH Mar 14/14
Revised and reviewed
April/15 DH April 8/16
DH Feb 2017
DH Mar 15/2018
DH Feb 4/2019

DH March 31/2020
DH March 31/2021
DH April 1/2022 DH
May 23/23
DH June 17/24

HB Construction Inc.

HB Construction Inc.
Drug and Alcohol Policy

It is the policy of HB Construction Inc. to provide a safe and healthy workplace for its employees and stakeholders whose health and safety may be affected by the conduct of our employees and contractors, through a comprehensive alcohol and drug policy.

The following applies to all who are engaged in company business, working on or off company premises, and when driving company vehicles:

-Individuals who work for HB Construction Inc. must report fit for work and remain that way throughout their work day and when on scheduled call.

-HB Construction Inc. employees or sub-contractor personnel may not use, possess or offer for sale alcohol and/or drugs while on a company work site. HB Construction Inc. office buildings,shops and yards are considered work-sites for the purpose of this policy.

-All sub-contractors and suppliers will enforce alcohol and drug policies that are consistent with this policy when engaged on the HB Construction Inc. work-sites.

-Employees may not report to work with an alcohol level that exceed forty milligrams of alcohol in one hundred milliliters of blood, breath , urine and saliva.

-Employees may not report to work with a drug level for the drugs in excess of the concentrations set out below(in nanogram/milliter).

Drugs tested & Cutoff Levels	Initial Screening Cutoff Concentration (nanogram/milliter)	Confirmation Cutoff Concentration (nanogram/milliter)
Heroin	10 ng/ml	10 ng/ml
Ecstasy (MDMA, MDA, MDEA)	500ng/ml	250 ng/ml
Amphetamines/Methamphetamine	500 ng/ml	250 ng/ml
Cocaine	150 ng/ml	100 ng/ml
THC (Marijuana)	50 ng/ml	15 ng/ml
Opiates (Codeine/Morphine)	2000 ng/ml	2000 ng/ml
PCP	25 ng/ml	25 ng/ml

-The company reserves the right to discipline or terminate an employee that fails to comply with the alcohol and drug work rules and this policy.

-Employees using prescription drugs and over the counter medications for their intended purposes, and in a manner directed by a doctor, pharmacist or manufacturer of the drug or medication, must ensure that the drug or medication does not adversely impact the ability to safely perform their duties. If in doubt, employees are required to advise their managers of any potentially unsafe side effects associated with use. Managers will respect confidentiality and if appropriate, modified duties may be assigend.

HB Construction Inc.
Drug and Alcohol Policy

HB Construction Inc. will support employees who voluntarily seek assistance, up the the point that such assistance imposes an undue hardship on the Company. Assistance from the Company will be provided in a manner that ensures confidentiality and respect for the individual.

This policy may be enhanced or modified by any facility, site or business unit based on specific project, contract or legislated requirements, in all instances in accordance with the applicable laws. Where a Client's alcohol and drug policy is more stringent that the company's policy, workers will be informed before beginning work on the Client site and more stringent policy will be enforced.

Administration
The president and designated safety officers are responsible for the implementation of this policy.

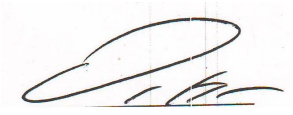
Alcohol and Drug Testing
In accordance with the Alcohol and Drug Policy and Standards, HB Construction Inc., reserves the right to conduct the following types of drug and alcohol testing.

Site Access Testing
When an owner directly, or by contract, requires site access alcohol and drug testing for workers as a condition of access to the owner's property, HB Construction Inc. personnel and subcontractor workers will be required to test and provide a negative result prior to arriving on the project.

Reasonable Grounds Testing
When a HB Construction Inc. Contractor, Subcontractor Manager, supervisor, or other supervisory representatives has reasonable grounds to believe that a worker may be impaired by alcohol or drugs, based on observation of the workers conduct, evidence of possession and/or symptoms of use.

Post Incident Testing

If a HB Construction Inc. worker or subcontractor worker has been involved in an incident of significant or high potential, such as significant near miss, signification property or equipment damage, or a record-able injury and where an investigation reveals the incident resulted from human error by the worker (either fully or partially) and no specific external factors can be ruled as a direct cause, supervision will request the worker to submit to a drug and alcohol test to rule out drugs or alcohol as a contributing factor.



Dean Hanson Date
Reviewed May 26/14
Feb 2/12 Jan 6/11
Feb 15/2017
Feb 4/2019
March 31/2021
April 1/2022
March 31/2020
May 23/23
June 17/24

HB Construction Inc.
Return-to-Work Policy

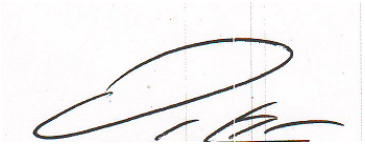
HB Construction Inc. recognizes that the provision of alternate or modified work is important in the prevention of disability and has established a Return-to-Work program for employees who are unable to perform any or all their normal duties because of an injury/illness.

HB Construction Inc. will work in collaboration with the injured/ill worker and expend serious effort to identify alternate or modified work that is both productive and safe.

It is expected all employees will cooperate fully in facilitating the timely return-to-work of injured/ill workers.

It is expected all injured/ill workers will cooperate by accepting alternate or modified work that is within their skills and abilities

Any personal medical information will be held in the strictest confidence.



Dean Hanson
President
HB Construction Inc.
DH May13/13
DH March 26/14
DH May 5/15
DH April 8/16
DH Feb 21/17
DH Feb 8/2019
DH March 31/2020
DH March 31/2021
DH April 1/2022
DH May 23/2023
DH June 17/24

HB Construction Inc.

Hearing Conservation Policy

It is HB Construction Inc. policy to protect the hearing of workers. HB Construction will;

- Train all new hires in the hazards of excessive exposure to noise and the correct selection and use of hearing protectors.
- Make available for use hearing protection
- Post warning signs where noise levels are greater than 80dBa and hearing protection required.
- Conduct noise level measurement of all new equipment added prior to use.
- conduct annual noise levels in shop(s)
- Provide audiometric testing every 2 years.

This policy shall be reviewed at a minimum of every 3 years, or where there is a major change in the nature of work or equipment.

Dean Hanson

June 2019
March 2020
March 31/2021
April 1/2022
May 23/23
June 17/24

2. Hazard Assessment

INTRODUCTION

Hazard assessments need to be performed for jobs or areas that involve frequent and/or severe injuries, and for jobs that are new, recently changed or seldom performed. It is through the control of hazards that the frequency and severity of accidents is reduced, resulting in a parallel reduction in human and financial costs to the company. Hazard assessment is a planning tool-it is an objective process for the assessment of possible losses resulting from workplace hazards, changing conditions, or systems failures. The type of loss might be an injury, or one of equipment or material. The assessment is done to identify potential risks before any work begins. It is very important to recognize that the process does no deal strictly with things that are wrong at the present time. Rather, assessment must deal with what could go wrong.

The assessment process involves gauging the impact and probability of occurrence, and draws upon experience and imagination to determine whether there is a need to act, or to simply follow an existing procedure. The process is used to determine whether a situation or condition is safe, and whether conditions, situations or facilities are acceptable in that the degree of risk is minimized to its lowest common denominator. Hazard assessment improves a person's basic understanding of how a system or facility should work, how it might fail and what might cause it to fail.

STEPS IN THE HAZARD ASSESSMENT PROCESS

Both supervisors and workers should be involved in the hazard assessment process. Keep asking the question "What if ?". The knowledge and experience of the people conducting the assessment is of vital importance.

1.Recognize the risks.

(a) What kinds of jobs, tasks or processes are involved?
(b) What equipment, tools and materials are involved?
(c) What people are involved? (consider all individuals who may come in contact with the work process, including employees, visitors, clients, suppliers, subcontractors, the public, etc.)
(d)What types of safety issues have we encountered, or may we reasonably expect to encounter, with this task?

2. Hazard Assessment

2. Assess the situation
    (a) How likely is the identified hazard(s) to create a problem?
    (b) How serious might the results be?
3. Communicate the results of your hazard assessment and evaluation to concerned Individual such as any workers involved and management.
4. Implement the necessary controls to eliminate or lessen the risk. Take the time to do it safely.
5. Monitor and follow up. Document and evaluate the assessment using the multi form on the work site inspection form.

HAZARD CONTROL

Hazard controls may be generic or specific. Generic hazard controls may include safe work practices and job procedures, training, regulations and workplace rules. These types of controls are to be applied regardless whether an actual hazard is present. Specific controls are typically those safeguards which are initiated based on the knowledge of a certain unavoidable hazard being present.

Hazard can be divided into three areas or degrees of potential impact
    -HIGH-likely to occur and with unacceptable loss potential:
    -MEDIUM-somewhat likely to occur resulting in minor loss potential: or
    -LOW-might never occur, or if it does, the loss potential would be negligible.

HIGH IMPACT HAZARDS should be addressed immediately even if ideal solutions are not available. Often this step will involve contingency plans or special procedures. It is important to reduce the degree of hazard to its lowest potential, but also to recognize that even the best countermeasures often fail to eliminate all the hazards. Examples of this may be confined space entry, hot work, lock out operations, or use of respirators or other lifesaving PPE.

MEDIUM IMPACT HAZARDS require appropriate action through the introduction of controls--frequently in the form of written safe work practices and/or job procedures and the use of standard PPE.

LOW IMPACT HAZARDS may be accepted as is, with little or no action taken. Developing a rule or safe work practice might be all the preventative action necessary.

2. Hazard Assessment

3 TYPES OF HAZARD CONTROLS

1. ADMINISTRATIVE CONTROLS involve the management of hazards which cannot be eliminated. Quite often these controls are in the form of safe work practices and/or job procedures Administrative controls may also include the scheduling of work in a manner which will expose the fewest possible number or workers to the hazards.

2. ENGINEERING CONTROLS involve attempting to eliminate the presence of the hazard. This method of hazard control may be as simple as placing a guard around the source of the hazard, or as complicated as redesigning the process to eliminate the hazard. This process is usually the most effective form of hazard control because you attack the hazard at its source, often eliminating it altogether.

3. PPE is used as a last line of defense in hazard control, and is used only as a temporary measure until more effective controls can be implemented. Both the hazard and the risk potential associated with the hazard must be acutely understood.

HB Construction Inc.

_____ Hazard Identification _____ Inspection _____ Tool box talk

Project: _____ Location: _____ Date: _____

Work to be done: _____

Frequency
3 Frequent(hourly/daily)
2 Occasional (weekly/monthly)
1 Rare (a few per year)

Probability
3 Might well happen ("happens often")
2 Unusual but possible
1 Happens rarely

Tasks	Hazards	Frequency x Probabilty= Likelihood	Controls to eliminate

Assigned corrective action: _____

Review incidents/near misses/corrective action/previous meeting: _____

Comments: _____

Safety checklist:

_____ ERP _____ Fire Extinguishers _____ Environment

_____ PPE _____ Line locates _____ Electrical systems

_____ First Aid Kits _____ back up alarms/beacons _____ Ladders/scaffolds

Crew members present:

_____ _____

_____ _____

_____ _____

_____ _____

Formal hazard assessment and control

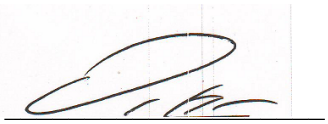
Job/position/work type: equipment		Tools required				JSA# Risk
Assessment performed by: (names)		PPE Required				Date
Tasks (List **all** tasks/activities of the job/position)	Hazards (List **all** existing and potential health and safety hazards)	Severity **S**	Likelihood **L**	Risk **R**	Controls (List the controls for each hazard: Elimination, Engineering, Administrative, Personal Protective Equipment)	

Severity: How serious could the consequences be? **3** – It could kill you or cause a permanent disability, today or over time. **2** – It could send you to the hospital. **1** – It could make you uncomfortable.	Likelihood: How likely is it going to happen? **3** – It is highly likely. **2** – It might happen. **1** – It is unlikely.	Risk: Calculate the risk of hazards to prioritize preventive actions. Severity x Likelihood = Risk

HB Construction
Safe Work Practices

HB Construction will complete an annual review of all Safe Work Practices and Job Procedures.

Any changes in the regular order of work (noted in Hazard Assessment/Near Miss/Incident/Toolbox meetings) will require an immediate review of the need for Safe Work Practice of Job procedure for new tasks.



Dean Hanson

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March 21/2018
March 31/2020
March 31/2021
April 1/2022
May 24/23
June 17/24

Safe Work Practices
Table of Contents

GENERAL

-*Covid-19 in Work Place added April 3/2020*
-Housekeeping
-*Slip,Trips and Falls added Dec 2018*
-*Working in extreme heat added Aug 2017*
-Office Safety
-Accident Prevention signs, Tags & Barricades
-Defective Tools
-Chemical Hazards (WHMIS & TDG)
-**Motor Vehicle JHA Risk 9**
-Cleaning Solvents/Flammables
-Propane
-Temporary Heaters
-**Tiger Torches JHA Risk 6**
-**Compressed Air & Air Powered Tools JHA Risk 4**
-Temporary Electrical Installation
-Fire & Use of Fire Extinguishers
-**Working Alone JHA Risk 6**
-Caulking
-Working on/near ice *added Nov 17/10*
-Abrasive blasting *added June 13/16*
-Industrial painting *added June 13/16*
-Confined space industrial painting *added June 13/2016*
-Confined space ventilation *added June 13/2016*

HAND TOOLS/POWERED TOOLS & ABRASIVE WHEELS

-**Hand tools- General Safeguards JSA Risk 6**
-Hand tools- Ergonomics
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-Electrical Safety
-**Drills JHA Risk 4**
-**Circular Saws JHA Risk 6**
-Explosive/Powder Actuated Fastening Tools
-Cut-Off-Portable Hand-Operated
-Metal Saws-Hot(Cut-Off/ Chop Saws)
-Drill Presses JHA Risk 4
-**Bench & Pedestal Grinders JHA Risk 6**
-Portable Grinder Wheel Mounting
-**Portable Grinders JHA Risk 6**

LADDERS AND PLATFORMS

-**Portable Ladders JHA Risk 9**

-**Stepladders JHA Risk 9**
-Scaffolds & Decks
-Metal Scaffolds
-Scaffold Inspection Check List

WELDING
-Welding-Ergonomics
-Welding PPE Eye and Face
-Welding PPE Clothing
-Welding Ventilation
-Gas Welding & Cutting General
-**Gas Welding & Cutting Cylinder Storage JHA Risk 6**
-**Gas Cutting & Welding Handling Cylinders JHA 6**
-Welding & Cutting Set up
-Welding & Cutting Regulator Set up
-Welding & Cutting Leak Test
-Gas Cutting & Welding Leaking/Overheating cylinders and operating faults
-Gas Cutting & Welding lighting up & Shutting Down
-Electric Installation
-Electric Welding Maintenance and Inspection
-Electric Welding- Set Up & Equipment Checklist
-**Portable Arc Welding JHA Risk 6**
-Plasma Arc Cutting & Welding
-Welding galvanized safely Added Sept 10/2010

FORKLIFT TRUCKS
-Forklift Trucks
-Forklift Truck-Ergonomics
-Forklift Operator's Daily Check
-The Professional Forklift Operator
-Forklift Trucks Maintaining Control
-Forklift Trucks Maintaining Stability
-Forklift Trucks Load Handling
-Forklift Trucks Loading/Unloading Vehicles
-Forklift Trucks Handling of LPG Fuels
-Forklift Trucks Fork Safety
-Common Factors in Forklift Hazards
-Forklift Truck Maintenance

MATERIAL HANDLING
-Hoisting
-Rigging
-Hitches
-Crane & Hoist Hand Signals
-Wire Rope Slings

-Chain Slings
-**Slinging Overhead Crane Operations JHA Risk 6**
-Overhead Crane Operations
-Use of Shackles
-Synthetic Web Slings
-Aerial devise JLG 600AJ *Added April 24/2013*

Equipment

-General Equipment Operations
-**Getting on and off Heavy equipment JHA Risk 6**
-**Refueling Trucks and Heavy equipment JHA Risk 6**
-Excavator start up
-Excavator shut down
-Heavy powered mobile equipment
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-TDG Regulations Added Sept 20/2013

Safe Work Practices
General

HOUSEKEEPING

SLIPS, TRIPS AND FALLS

WORKING IN EXTREME HEAT

OFFICE SAFETY

ACCIDENT PREVENTION SIGNS, TAGS & BARRICADES DEFECTIVE

TOOLS

CHEMICAL HAZARDS (WHMIS &TDG)

MOTOR VEHICLE JHA RISK 9

CLEANING SOLVENTS & FLAMMABLES

PROPANE

TEMPORARY HEATERS

TIGER TORCHES JHA RISK 6

COMPRESSED AIR & AIR POWERED TOOLS JHA RISK 4

TEMPORARY ELECTRICAL INSTALLATIONS

FIRE & USE OF FIRE EXTINGUISHERS

WORKING ALONE JHA RISK 6

CAULKING

WORKING ON/NEAR ICE

ABRASIVE BLASTING

INDUSTRIAL PAINTING

CONFINED SPACE

INDUSTRIAL PAINTING

CONFINED SPACE VENTILATION

Safe Work Practices
Housekeeping

Reviewed by TH Feb 2010, JK 2012,RS 2014,DC 2015, RDR 2016 KS 2017 TH 2020 TH 2021 EY2022 TH2023 TH2024

GENERAL: Good housekeeping is one of the best methods of preventing injuries. Effective housekeeping practices must be observed always.

1. Trash containers must be emptied regularly.

2. Oily rags must be disposed of in covered trash containers.

3. Broken or scrap material must be removed from the direct work areas.

4. Tools and equipment not in use should be returned to their proper places.

5. Drip pans must be used when pouring lubricants.

6. Any grease or oil spilled must be promptly and thoroughly cleaned up.

7. All projecting nails or sharp metal objects must be withdrawn, bent over, or guarded.

8. Aisle, walkways and access routes to emergency facilities and equipment (such as fire extinguishers, first aid and eye wash stations, etc.) must be kept clear of obstructions.

9. Work areas, work benches, machines and equipment must be kept tidy.

10. Hoses, chains, cables, electrical cords, or other trip hazards must be kept off the floors.

SWP-Slips, Trips and Falls

Slips Trips and Falls

Date created:	**Date amended:** Reviewed March
Feb 2019	March 2020 31/2021 TH2022 TH2023

Applicable to these Jobs or Occupations: TH2024

All

Personal Protective Equipment required:

Non-slip footwear

Additional precautions:

- Housekeeping safe procedures
- Slips trips and falls on the same level can be caused by any number of hazards including:
- Spills of wet and dry substances, Miscellaneous debris such as boxes, Electrical cables for plugs and machinery, Damaged or turned up carpets or rugs, Poor lighting, Slippery surfaces, uneven surfaces and rough terrain

Steps	
1	Ensure all pathways are clear of debris, clutter and obstacles that may cause slip trip and fall hazards. This is a continuous need and must be performed on a regular basis and vigilance is required by all employees. Keep walkways and floors free of boxes, extension cords and litter.
2	Inspect work areas for slip, trip and fall hazards regularly and report any deficiencies to your Supervisor.
3	Clean all spills immediately. If it can't be cleaned immediately "flag" the area with some means to identify the hazard until you can clean the area.
4	Where possible organize the work area to avoid putting material on the floor or in the path
5	Always wear appropriate non slip footwear as required. Make sure footwear is in good condition and not damaged in such a way that can cause tripping
6	Take your time and watch where you are going. Walk don't run
7	Identify yourself when you are turning a corner or approaching a co-worker from behind while carrying trays or materials
8	Do not engage in horseplay, pranks, feats of strength and boisterous conduct
9	Carry small loads close to your body and below chest level so you can see around the object being carried.
10	Close cabinets, drawers and doors as soon as you are finished using them.
11	Slow down and take small careful steps on uneven or slippery surfaces.
12	Hold the hand rail when walking up and down stairs.
13	Take extra care when you see a wet floor sign or where an area has been flagged due to material that has been spilled or broken.
14	Avoid taking short cuts through tall grass. Try to take same path at all times if possible.
15	Ensure lighting is adequate.

16. *Keep snow cleared at entrances, use ice melt as required at entrances.(added March 31/2020)*

Reviewed March 31/2021

CC 2022
TH 2023
TH2024

SWP Working in Extreme Heat
PPE
Site Requirements
Hazards:
Heat exhaustion
Flu like symptoms
Muscle cramps

Work in extreme heat

1. Dress in accordance with the projected temperatures; if possible, wear loose-fitting, lightweight and moisture-wicking clothing. Consider the increase in heat stress due to wearing the required PPE.
2. Consider sunglasses, rimmed hats, and sunscreen to prevent UV exposure.
3. Consider humidity and how it will affect working conditions.
4. Ensure that a cool rest area and fluids are available close by the work site. Use shaded work areas and/or rotate often from high-exposure areas. Conduct strenuous activities during cooler periods of the day (i.e. morning and evening).
5. Reduce the pace of work and avoid overexertion.
6. Rest often and replace lost fluids with cool (not cold) fluids. See "Recommendations for re-hydration" below.
7. A worker suffering from muscle spasms due to overexertion in hot conditions may be suffering from a lack of salts. An increase in salt intake may stem such cramping. An alternative is to consume electrolyte replacement drinks that have been diluted. See "Recommendations for re-hydration" below.
8. Be attentive to the condition of co-workers; be aware of symptoms of heat-related stress, dehydration and/or heat exhaustion or heat stroke.

Special precautions

1. Consider protective eyewear or goggles for protection from direct light and glare. Eyewear should provide between 70% and 98% protection against UVA and UVB radiation.
2. Do not consume alcohol and avoid caffeinated fluids; these can induce dehydration by acting as diuretics.

Recommendations for rehydration

Dehydration can occur very quickly under hot working conditions. A guideline for fluid consumption for workers working under hot conditions is 250 ml (1 cup) every 20 minutes. Consider water or diluted juices or tea.

Safe Work Practices
Office Safety

TH Feb 2010 DH 2012 RS May 14 RDR 2016 DC March 15 KS 2017 MH Feb 2018 TH2020 TH2021 TH2022 TH2023

GENERAL: All work performed in office and administrative area must be conducted using safe work practices, and maintained free of recognized hazards.

1. Guard the sharp edges of furniture to prevent personal injury. Keep desk "pull out" writing surfaces closed when not in use.
2. Practice good housekeeping. Keep floors free of items that might cause tripping. Keep waste cans out of the way; do not overfill them.
3. Prevent slipping accidents by cleaning up spills immediately.
4. Report all defects such as loose tiles, broken steps, railings and doors immediately to the supervisor.
5. Do not participate in horse play.
6. Keep razor blades, tacks and other sharp objects in closed containers.
7. Use proper tool for the job at hand (e.g. staple remover to remove staples).
8. Do not overload electrical outlets. Do not plug a multiple outlet trip in into a second multiple outlet strip.
9. Report immediately any damaged electrical cords, broken switches, loose connections or bare wires to the supervisor.
10. Unplug any office machine that smokes, sparks or delivers an electrical shock. Have it inspected by the appropriate repair personnel.
11. Avoid overloading the top drawers of filing cabinets to avoid the possible tipping of the cabinet when the drawers are opened. Open only one drawer of the file cabinet at a time to prevent tipping. File cabinets should be placed where their use will not interfere with the office traffic patterns.
12. Keep file and desk drawers closed when not in use.
13. Be sure to use proper lifting techniques. Make arrangements with personnel skilled in moving of shift furniture and other heavy objects.
14. Do not lean to far back in chairs. This may result in over-balancing and a fall.
15. Use only step stools or ladders for climbing. Don't stand on chairs or use them as step stools.
16. Be careful with flammable liquids. Only the quantity needed for use should be in the work place. They should be kept and used in a ventilated area, away from the excessive heat or ignition sources.
17. Power switches must be off, or the cord unplugged, when the electrical equipment is being cleaned or serviced.
18. Office doors must be kept free of obstructions at all times to permit emergency egress.
19. Jewelry, long hair and clothing must be kept clear of moving parts of all a office machines.
20. If it is necessary to run a cable or electrical cord across the floor, a cable cover or tape must be used to protect the wiring and prevent tripping.
21. Do not cover air vents or obstruct air flow from registers. Do not place furniture, equipment or material in locations that will interfere with the air movement around thermostats.
22. Report any observed pest control problems to the supervisor. Never attempt to apply any pest control chemical yourself.
23. *High touch surfaces should be sanitized daily (counters, door knobs, keyboards, light switches) Added Mach 31/2020*

Safe Work Practices
Accident Prevention Signs, Tags and Barricades

Reviewed by: TH Feb 2010 RS May 2014 DC March 2015 RDR 2016 TH 2018 TH 2020 TH2021 JB2022 TH2023

General:

1. Work area protection is accomplished using good informative and protective devices, keeping in mind that to protect workers and the public requires the use of these devices in relation to the location of the workers and the equipment involved.
2. Proper barricades and signs must by placed at openings and at hazardous and/or restricted areas to protect workers and the public in accordance with OH&S regulations, Highway Regulations and local ordinances. Where effective protection cannot be provided by signs, signals or barricades, a flag person or safety watch must be used.
3. Extreme caution must be taken where public traffic (pedestrian or vehicular) through or near a work site cannot be avoided.
4. The use of barricades and signs must be coupled with proper planning, design, installation, inspection and maintenance.

Signs and Tags

1. Where there are immediate hazards. “Danger” signs must be used.
2. “Caution” signs must be used to warn against potential hazards.
3. Safety instruction signs should be used for general instruction and suggestions.
4. All signs and tags in use must be in accordance with standard specification.
5. Signs must be removed promptly when danger or hazard not longer exists.

Barricades

1. Warning Barricades (i.e high-visibility synthetic tape, high vis flagging)
2. Protective Barricades (i.e. wood posts and rail, cable, rope etc.) which warn as well as protect workers and the public should be used when potential fall hazards exist.

Also refer to
SK MHI Traffic Control Safety Manual
OH&S Part IX Safeguards, storage, warning signs, and signals

Safe Work Practices
Defective Tools

Reviewed by MH Feb 2010, RS 2014, DC 2016, RDR 2016 KS 2017 MH Feb 2018 TH 2020 TH 2021 DC2022 TH2023

Defective tools can cause serious and painful injuries. If a tool is defective in some way, DON'T USE IT.

Be aware of problems like:
-chisel and wedges with mushroomed 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.
-*large gap between tool rest and bench grinder wheel*

To ensure safe use of hand tools:

1. Never use a defective tool
2. Double check all tools prior to use: and
3. Ensure defective tools are repaired

Air, gasoline, or electric power tools require skill and complete attention on the part of the user even when they are in good condition. Don't use power tools when they are defective in any way.

Watch for problems like:
-broken or inoperative guards
-insufficient or improper grounding due to damage on double insulated tools
-no ground wire (on plug) or cuts/bare wires on cords
-the on/off switch not in good working order
-tool blade is cracked
-air hoses have been taped to stop a leak
-the wrong grinder wheel is being used
-the guard has been wedged back on a power saw.
-*improper adjustment of tool rest on bench grinder(added March 31/2020)*

Defective tools and equipment must be tagged" OUT OF SERVICE" with Red tags provided for that purpose, and returned to the shop for repair or replacement. When tagging a defective item, include any explanation of the problem if possible. For larger equipment, or where a more detailed description of the problem is required, complete a repair order. When repairs have been completed, the tool will be tagged with a GREEN tag, indicating the tool maybe returned to service.

General: There are three main chemical hazards.

- **HEALTH** (poison, radioactive, corrosive, compressed gas, toxic, biohazardous)
- **FIRE** (flammable solid, liquid or gas)
- **REACTIVITY** (reactive, oxidizer, explosive, corrosive, or flammable solid)

When handling chemicals, do the following:

- keep material contained, away from other chemicals and away from any ignition source
- avoid any contact, wear personal protective equipment
- know the properties of the chemical, and clean up spills

WHMIS: WHMIS (Workplace Hazardous Material Information System) has three main features. They are:

- labelling of all containers of hazardous materials
- having material safety data sheets (MSDS)
- educating all workers about WHMIS, including:
  - safe handling and storage of chemicals
  - understanding WHMIS symbols and MSDS
  - being aware of potential hazards

THE 8 WHMIS SYMBOLS ARE:

CLASS A: Compressed Gas

CLASS B: Flammable and Combustible

CLASS C: Oxidizing - will cause another substance to burn

CLASS D1: Poisonous - immediate and serious toxic effects (eg H2S)

CLASS D2: Toxic - other harmful effects (eg from long-term exposure)

CLASS D3: Biohazardous - infectious material (eg bacteria, viruses)

CLASS E: Corrosive - will erode steel or destroy tissue (eg sulfuric acid)

CLASS F: Reactive - will react with water or if container is heated, pressurized, agitated

TDG: The purpose of the *Transportation of Dangerous Goods Regulations* is to promote safety and to protect the public when dangerous goods are being transported by road, rail, air or ship.

TDG Regulations require that certain guidelines be followed when transporting any controlled product in amounts in excess of a specified maximum. Some of the products we must transport for use on job sites are covered by TDG Regulations. Any employee who is in doubt about a product they are transporting should speak with the supervisor.

1. Diesel fuel UN1202 and Gasoline UN1203 Exemption:

Part 3 (documentation), the UN number requirements in section 4.15 of part4 (Dangerous Goods safety marks), and Part 6(Training) do not apply to the handling, offering for transport or transporting on a road vehicle if dangerous goods that are Diesel fuel or gasoline, if

(a) the dangerous goods are in one or more means of containment, each of which is visible from outside the road vehicle and each of which has displayed on it

(i)the label or placard required for dangerous goods part 4, Dangerous Goods Safety Marks, or

(ii) if a side or end of the means of containment is not visible from outside the road vehicle, the label or placard required for the dangerous goods by Part 4, Dangerous Goods Safety Marks, on a side or end that is visible from outside the road vehicle.

(b) each means of containment is secured to the road vehicle so that the required label or a least one of the required placards displayed on it is visible from outside the road vehicle during transport; and

(c) the total capacity of all the means of containment is less than or equal to 2000L

2. See attached Regulations 4.15

3. Small Containment less than 450L

4. Large Containment greater than 450L.

5. Portable tanks or IBC (intermediate bulk containers)must be standardized container in accordance with CGSB46.143

6. IBC's greater then 450l must be recertified every 60 months.

March 31/2021

Transport Canada

Enforcement of 4.15(2)

November 2009

Alternate format

Placards and UN numbers must be displayed on a large means of containment in compliance with Part 4, Dangerous Goods Safety Marks of the Transportation of Dangerous Goods (TDG) Regulations. In February 2008, new requirements came into effect with the adoption of Amendment No. 6.

This alert is designed to address issues regarding the applicability of subsection 4.15(2) of the TDG Regulations. Different interpretations of this subsection were made because of the ambiguity of its wording. Accordingly, subsection 4.15(2) can be interpreted to allow placards and UN numbers to be displayed two different ways when dangerous goods are contained in a large means of containment and are placed inside another large means of containment such as a trailer.

Subsection 4.15(2) reads as follow:

If dangerous goods are in a means of containment that is inside a large means of containment and a placard is required to be displayed but that placard is not visible from outside the large means of containment, the placard must also be displayed on the large means of containment. In addition, if a UN number is required to be displayed but is not visible from outside the large means of containment, the UN number must also be displayed on the large means of containment.

Using the example below, we will illustrate the two different methods to display placards and UN numbers.

Example:

The following two dangerous goods are placed in Intermediate Bulk Containers (IBC) and then placed inside a closed trailer.

- 1500 L of UN3263, Corrosive solid, basic, organic, N.O.S., Class 8, PG II
- 1500 L of UN1866, RESIN SOLUTION, flammable, Class 3, PG II

Option 1

Reproduce each primary class placard and UN number that are required to be displayed on a large means of containment in accordance with subsection 4.15(2) on the outer large means of containment (trailer).

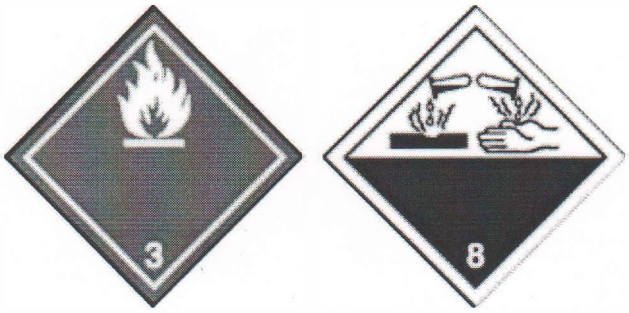
Each IBC must display the primary class placard and UN number. Those primary class placards and UN numbers must then be reproduced on the trailer.

Option 2

Consider the trailer as the means of containment containing the dangerous goods. Since the dangerous goods are not in direct contact with the large means of containment (trailer), the table of subsection 4.15(1) may be used to consider what placards and UN numbers must be displayed on the trailer.

This way, each IBC must display the primary class placard and UN number as illustrated below.

Additionally, the trailer must display each primary class placard **or** the DANGER* placard as permitted by column 2 of item 3 of the table. See illustration below.



- or -

1.35 UN1202, DIESEL FUEL, or UN1203, GASOLINE, Exemption SOR/2008-34

Part 3 (Documentation), the UN number requirements in section 4.15 of Part 4 (Dangerous Goods Safety Marks), and Part 6 (Training) do not apply to the handling, offering for transport or transporting on a road vehicle of dangerous goods that are UN1202, DIESEL FUEL or UN1203, GASOLINE, if

(a) the dangerous goods are in one or more means of containment, each of which is visible from outside the road vehicle and each of which has displayed on it

(i) the label or placard required for the dangerous goods by Part 4, Dangerous Goods Safety Marks, or

(ii) if a side or end of the means of containment is not visible from outside the road vehicle, the label or placard required for the dangerous goods by Part 4, Dangerous Goods Safety Marks, on a side or end that is visible from outside the road vehicle;

(b) each means of containment is secured to the road vehicle so that the required label or at least one of the required placards displayed on it is visible from outside the road vehicle during transport; and

(c) the total capacity of all the means of containment is less than or equal to 2 000 L.
SOR/2008-34

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4.15 Dangerous Goods Safety Marks on a Large Means of Containment: Placards and UN Numbers
SOR/2008-34

(1) A placard and UN number must be displayed in accordance with the following table on a large means of containment containing dangerous goods, other than a ship or an aircraft, if the dangerous goods

(a) are in a quantity or concentration for which an emergency response assistance plan (ERAP) is required;

(b) are included in Class 7, Radioactive Materials, for which a Category III — Yellow label is required;

(c) are a liquid or gas in direct contact with the large means of containment;

(d) have a gross mass greater than 500 kg; or

(e) are included in Class 1.1, 1.2, 1.3 or 1.5 and are

(i) not subject to special provision 85 or 86 and exceed 10 kg net explosives quantity, or

(ii) subject to special provision 85 or 86 and the number of articles exceeds 1 000.
SOR/2008-34

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Dangerous Goods Advisory Notice

GUIDELINES FOR TRAINING CRITERIA

The following guidelines are meant to help understand the training requirements in **Part 6** of the ***Transportation of Dangerous Goods Regulations***, and **not** replace them.

These guidelines recognize that it is the employer who must determine if training is required in order for an employee to be a trained person. The guidelines indicate what Parts of the regulations should be included in a person's specific training.

Employers must issue a Training Certificate to employees who are adequately trained. An example of a Training Certificate can be found at the end of this Advisory Notice.

Self-employed individuals must also determine if they are adequately trained and issue themselves a training certificate.

Things to Remember:

Employees who are not trained can handle, offer for transport, and transport dangerous goods as long as they are doing so under the direct supervision of a trained person.

Some employees may only need training in the aspects of the regulations that are directly related to their work. A highway tank driver who only transports Class 3 products, for example, may only need specific training in relation to the transportation of Class 3 dangerous goods. In this situation, it is the employers' responsibility to determine what constitutes adequate training for their employees.

There may be some job functions that do not fall into any of the specific categories for which training has been identified as being required, yet some training may still be necessary. For example, the classification of a company's goods and products may be a job function in which the employee does not handle, offer for transport, or transport dangerous goods, but merely works with hard data that has been gathered on dangerous goods. Training on classification would be required in this case.

How to train employees is not mentioned in the Regulations. Training may be done through a combination of formal "in-class" training, on-the-job training, and extensive work experience. It is up to the employer to decide. A list of organizations offering Transportation of Dangerous Goods training is available on the TDG Web site at *http://www.tc.gc.ca/tdg/training.htm*

Using the Guidelines

The guidelines are identified as **A**, **B**, **C** and **D**. The training guidelines for all persons involved in the handling, offering for transport, and/or transporting of dangerous goods are described in Guideline "A". This basic training is needed before moving on to the other specific groups as described in Guidelines "B", "C", and "D".

GUIDELINE "A": Training for all persons involved in the handling, offering for transport and/or transporting of dangerous goods

Training Required:

1. Definition of the nine classes of dangerous goods and their associated hazards;
2. Shipping names, classes, UN numbers and packing groups for the dangerous goods that are normally encountered on the job;
3. Safety marks such as labels and placards that are used to identify the different classes of dangerous goods that are normally encountered on the job;
4. Knowledge of the information that must be on a shipping document;
5. The requirements regarding mixed loads and the need for segregation of incompatible dangerous goods;
6. The proper selection and use of means of containment for the dangerous goods;
7. What to do if the shipping documents, placards, labels, other safety marks or means of containment seem inadequate or incorrect;
8. What constitutes an accidental release and the reporting requirements if an accident happens;
9. Proper use of all equipment that is used in the handling, offering for transport and/or transportation of dangerous goods;
10. Emergency Response Assistance Plans (ERAP) requirements if a plan is required.

GUIDELINE "B": Additional Training for all persons involved in the handling of dangerous goods

Handling Means:

Loading, unloading, packing or unpacking dangerous goods in a means of containment or transport for the purposes of, in the course of or following transportation, and includes storing them in the course of transportation.

Examples of a Person Handling Dangerous Goods:

Cargo Handler	Lift Truck Operator
Dock Worker	Loader/Unloader
Receiver/Shipper	Towmotor Operator
Freight Handler	Warehouse Operator
Shipper	

Training Required:

1. Types of placards, labels, signs, numbers and other safety marks, what they mean, and when and where to display them;
2. A thorough knowledge of the control and emergency features for all handling equipment used in the day-to-day activities of the job;
3. Safe practices on the loading and stowage of dangerous goods;

4. When to remove placards, UN numbers and other safety marks;
5. The proper selection and use of means of containment for the dangerous goods.

GUIDELINE "C": Additional training for all persons involved in the offering for transport of dangerous goods

Offering for Transport means:

For dangerous goods not in transport, to select or to allow the selection of a carrier to transport dangerous goods; to prepare or allow the preparation of dangerous goods so that a carrier can take possession of them for transport.

Examples of Those Who Offer For Transport:

Dispatcher	Clerical personnel (i.e. preparation of documents)
Shipper	Freight Forwarder
Biller	

Training Required:

1. All of the requirements required for documentation except for the location and the rail consist;
2. How to communicate the special instructions and precautions for the handling and/or transporting of specific dangerous goods while on the job;
3. Types of placards, labels, signs, numbers and other safety marks, what they mean, and when and where to display them;
4. The proper selection and use of means of containment for the dangerous goods;
5. The Emergency Response Assistance Plan requirements (ERAP) if a plan is required.

GUIDELINE "D": Additional training for all persons involved in the transporting of dangerous goods

A person Who is Transporting Dangerous Goods means:

The person who has possession of the dangerous goods while they are in transport.

Training Required:

1. Types of placards, labels, signs, numbers and other safety marks, what they mean, and when and where to display them;
2. The location of the shipping documents and the importance of keeping them accurate;
3. Requirements for parking, loading and vehicule inspection which may apply.

Example of a Training Certificate:
Front:

Certificate of Training
Transportation of Dangerous Goods

_____ _____
Name of employer Employer's Business Address

_____ _____
Name of employee City, Province, Postal Code

This certificate certifies that the employee named above has completed the training described on the reverse, in accordance with the requirements of the Transportation of Dangerous Goods Act and Regulations.

Certificate Expires on: Employer's Signature _____

Employee's Signature _____

Back:

Trained in the *(choose as applicable √)* handling/offering for transport/transporting:

Specific training in (Check the appropriate items):

_____ Classification
_____ Shipping Names
_____ The Use of Schedules 1, 2, & 3
_____ Documentation
_____ Dangerous Goods Safety Marks
_____ Means of Containment
_____ Emergency Response Assistance Plans
_____ Accidental Release and Imminent Accidental Release Report Requirements
_____ Safe Handling and Transportation Practices, and the Characteristics of the Dangerous Goods
_____ The Proper Use of Equipment Used to Handle or Transport the Dangerous Goods,
_____ Emergency Measures to Take to Reduce or Eliminate Danger to the Public
_____ Air Transportation of Dangerous Goods (ICAO)
_____ Marine Transportation of Dangerous Goods (IMDG)

Safe Work Practices
Motor Vehicle

Critical JHA 9

Reviewed by MH April 2010 JK 2012 RS 2014 DC 2015 RDR 2016 KS2017 MH Feb 2018 TH March 2020 TH2021 TH2022 TH2023

1. Regular inspection and maintenance must be performed on all motor vehicles, and maintenance documentation must be maintained.

2. Any employee operating a company vehicle must be a competent licensed operator.

3. All operators must observe provincial vehicle laws and regulations, and HB Construction Safety rules.

4. All brakes, lights and warning devices must be operative.

5. ***Absolutely*** *no cell phone use while driving.(added March 31/2020)*

6. Beacons shall be installed on vehicles where risk to workers of vehicular traffic.(added March 31/2020)

7. Ensure weight limits and load sizes are observed/controlled.

6. All motor vehicles must be equipped with seat belts, and workers must use them as required when operating the vehicle.

7. A motor vehicle which may be used in such a way that a worker other than the operator may be placed at risk by an unexpected reverse movement must be equipped with a back-up alarm.

8. Safe access and egress must be provided on trucks used to transport workers.

9. Tools and equipment must be adequately secured when being transported
-all loads must be tied securely to the vehicle with straps or ropes to prevent slippage
-any material extending past the rear of the vehicle must be flagged with red material
-always drive slowly and cautiously when transporting material.

10. When operating a motor vehicle:

- -look and think ahead
- -adjust your driving to the road conditions
- -obey signs, lines and traffic signals
- -stay 4 seconds behind other vehicles
- -be courteous-don't take chances
- -if possible use drive through parking
- -back in drive out if not drive through parking
- -concentrate on your driving--stay alert
- -don't drink and drive.

Safe Work Practices
Cleaning Solvents & Flammables

Reviewed by MH April 2010 JK 2012 RS 2014 DC 2015 KS 2017 MH Feb 2018 TH 2020 TH 2021 BO2022 TH2023

General: Cleaning solvents are used in 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 nonflammable and nontoxic.

The following instruction or rules apply when solvents/flammables are present.

1. When flammable liquids are used, make sure that no hot work is permitted in the area.

2. Store flammables and solvents in special storage areas. Certain products must be protected from freezing-check labels before storing.

3. Check toxic hazards of all solvent before use(SDS)

4. Provide adequate ventilation where all solvents and flammables are being used.

5. Use goggles or face shields to protect the face and eyes from splashes or sprays.

6. Use rubber gloves to protect the hands.

7. Wear protective clothing to prevent contamination of the worker's clothes

8. When breathing hazards exist, use the appropriate respiratory protection.

9. Ensure that proper containers are used for transportation, storage, and field use of solvents/flammables. If containers are leaking or damaged, or if labels are missing or difficult to read, inform your supervisor.

10. Ensure SDS sheets are available and supplier, workplace or shift labels are visible.

11. Where solvents are controlled products, ensure all employees using or in the vicinity or use or storage are trained and certified in Workplace Hazardous Material Information System. Ensure all WHMIS requirements are met.

Propane Leaks If you detect or suspect a gas leak, immediately turn off all sources of propane at the cylinder or tank, and clear the area, if there is any accumulation of propane, decrease the concentration by ventilating the area and ensure that no sources of ignition are present. To locate a gas leak, use a mixture of soap and water or a leak detector solution. If the relief valve opens, apply cold water to the container to decrease pressure and allow the relief valve to close.

GENERAL: Since propane is heavier than air and invisible, it is a special concern when it is used on the job site. All installations and use of this product on the job site must comply with the Government Legislation set out for its safe use. Suppliers delivering the product or setting up the equipment at the site must be part of the safe work practice.

1. Nylon slings must be used in a “choker” fashion when loading, off-loading or lifting propane tanks.
2. “Lifting lugs” provided on tanks are not to be used. Slings are to be wrapped around the shell of the tank.
3. Tank valves and regulators are to be removed prior to any movement of the tank.
4. Crane hooks must be equipped with a “safety latch”.
5. Prior to transporting, close the valve and secure the cylinder in an upright position.
6. All trucks, cranes, or equipment used to handle propane tanks must be equipped with a fire extinguisher appropriate for the size and type of tank being handled.
7. Except in an emergency, any movement or repositioning of tanks shall be performed by a competent worker.
8. Tanks are not to be heated to increase flow.
9. Prior to connecting a propane cylinder to any equipment, ensure the equipment is approved for use with propane. If in doubt, ask your supervisor.
10. Use only approved hose, and protect it from heat or damage.
11. Repairs to propane heaters, cylinders, tanks, hoses, and other components must be done by authorized personnel.
12. Only competent workers who are instructed and/or trained are permitted to remove and replace cylinders.
13. When in use or being stored, propane bottles are to be securely held in an upright position.
14. Tanks are not to be hooked up and used without proper regulators.
15. Never drop cylinders or strike them against a hard object. Always put the cylinder down in and upright position.
16. Never use propane indoors or in a poorly ventilated area.
17. Be careful when handling propane--it can cause frostbite if it comes in contact with the skin.
18. If the cylinder valve is not closed during storage, if air has entered while the cylinder is empty, or if the valve is changed, the cylinder must be purged to remove any contaminants. Purging may only be done by a qualified person.

Safe Work Practices
Temporary Heaters

Reviewed by GR Feb 2010 MH 2012 RS 2014 DC 2015 KS 2017 MH Feb 2018 TH 2020 TH2021 JB2022 TH2023

The safe work practices for propane, in addition to the following guidelines, must be observed when using temporary heaters:

GENERAL: it is essential to ensure adequate ventilation for temporary heating systems which consume oxygen and use fossil fuels such as kerosene, propane, or wood. Without adequate ventilation, carbon monoxide may increase to levels within the enclosure that can cause sickness and in some cases death. Headaches can be the first sign of carbon monoxide poisoning.

1. The heater must be equipped with pilot and automatic shutoff valve to prevent flow of fuel if flame goes out.

2. The heater must be installed, serviced, and relocated by only trained and competent workers, or license propane / natural gas installers.

3. Propane heaters require fresh air for proper combustion--at least 1 square inch of clear opening to the outdoors for each 1000 BTU.

4. Keep the propane cylinder at least 10 feet away from the heater. Use the full length of the hose and do not point the heater at the cylinder.

5. Do not place heaters near combustibles.

6. If more than one heater is required, keep them 50 feet apart where there are no approved fire walls.

7. The cylinder valves must be fully open when the heater is in use and closed when it is not.

8. Heaters must be checked frequently to ascertain a safe condition and clearance from combustibles and flammable material.

9. After changing cylinders or making new connections, all connections must be checked for leaks with soap or a leak detector solution. Always use correct wrench-do not use pipe wrenches

10. Many propane heaters have sophisticated electronic controls. Treat them carefully

11. When not being used, all cylinders, whether empty or full, must be stored outside in an upright position and protected from damage. Cylinder valves must be closed and protective collars or caps put in place.

12. All repairs to heaters, cylinders, tanks, hoses, and other components must be done by authorized personnel.

13. For larger jobs where propane tank (rather than cylinder) is used, make sure the correct tanks and vaporizers items are used and installed properly.

Safe Work Practices
Tiger Torches

Reviewed by MD April 2010 MH 2012 RS 2014 DC 2015 RDR 2016 KS 2017 MH Feb 2018 TH 2020 TH 2021 DC2022 TH2023

JHA Risk 6

GENERAL: Tiger torches, although valuable to a job site, are sometimes misused in a manner that can make them dangerous. Tiger torches are only to be used for pre-heating of piping, etc., prior to welding. The safe work practice for propane must also be read in conjunction with this information.

1. When a torch is used, an adequate fire extinguisher must be kept within nine meters of the work process.

2. Torches are not to be used for heating of work areas.

3. Ensure that the propane bottles are properly shut off.

4. Fuel lines are to have regulators.

5. Propane bottles should be secure in an upright position.

See also :SWP Propane

Safe Work Practices
Compressed Air & Air Powered Tools

JHA Risk 4

Reviewed by MD April 2010 MH 2012 RS 2014 DC 2015 RDR 2016 KS 2017 MH Feb 2018 March 2020 TH 2021 DC2022 TH2023

GENERAL: air power tools in construction include nail and staple guns, grinders, drills, jackhammers, chipping hammers, and wrenches. Manufactures instructions and legislated safety standards must be followed closely all times.

1. Compressed air-general:
   -a proper pressure regulator and relief device must be in the system to ensure that the correct desired pressure is maintained
   -the correct air supply hoses must be used for the tool /equipment being used
   -that equipment must be properly maintained per the manufacturer's requirement

2. Air hoses:
   -avoid tripping hazards created by hoses laid across walkways or curled underfoot
   -ensure hose connections fit properly
   -install quick disconnects; attach the male end of connector to the tool, not the hose
   -check hoses regularly for cuts, bulges, and abrasion; replace if defective
   -blow out airline before connecting the tools; blow away from yourself and others
   -choose supply hoses that have a minimum working pressure rating of 1035 kPa(150psig) or 150 % of the maximum pressure produced in the system, whichever is higher
   -do not use compressed air to blow debris or to clean dirt from your clothes, or those of others
   -do not operate at pressure above manufactures rating

3. Operation:
   -wear safety glasses or a face shield and safety boots; where necessary, wear hearing protection
   -exercise care to prevent hands, feet, or body from injury in case the machine slips or the tool breaks

4. Air Cleaning: Cleaning with compressed air is dangerous.
   -compressed air may be used if no alternative method of cleaning is available. Nozzle pressure must remain at below 207 kPa(30psi), and personal protective equipment and effective chip guarding techniques must be used.

Safe Work Practices
Temporary Electrical Installation

Reviewed by GR Feb 2010 GD 2012 RS 2014 DC 2015 RDR 2015 KS 2017 MH Feb 2018 TH2020 TH2021 CC2022 TH2023

1. All fixed and portable electrical Service Equipment must be contained in weatherproof boxes and that covers kept close to protect the gains exposure to weather, traffic, and combustible materials

2. Installations must be rigidly mounted on a panel or frame and property grounded.

3. All switches, circuit breakers, etc. must be clearly marked to identify voltage and purpose, and switches must indicate whether open or closed.

4. A non-conducting elevated platform or rubber mat must be used to protect worker operating switches from contact with a damp floor or earth.

5. All electrical installations must have adequate wiring and be well insulated.

6. A lock out or tag out system must be used.

7. When flexible cords or cables are being used, the cords or cables must be in continuous lengths without splice or tape.

8. Extension cords used with power tools, portable tools, bands, water coolers and other electrical equipment must be three wire type with three-pronged plug, or double insulated, and be in good condition. Worn, frayed for spliced cords must be tagged and removed from service.

9. Cords and cables must be protected against accidental damage and kept clear of work spaces, walkways, etc., to prevent tripping for falling hazards.

10. Temporary lights must be equipped with guards and heavy duty cords, and must be maintained in a safe condition.

11. All electrical dangers must be posted and guarded always.

12. Fire hazards must be checked and proper extinguishers available.

Safe Work Practices
Fire & Use of Fire Extinguishers

Reviewed by TH Feb 2010 JK 2012 RS 2014 DC 2015 RDR 2016 KS 2017 MH Feb 2018 TH 2020 TH 2021 EY2022 TH2023

General: good housekeeping is essential in the prevention of fires. Fire's can start anywhere and anytime. Therefore, it is important to know which fire extinguisher to use and how to use it.

Always keep fire a extinguisher visible and easy to get at. Fire extinguishers must be properly maintained to do the job. Where temperature is a factor, ensure that care is taken in selecting the right extinguisher.

Types of fire

Class A: These fires consist of wood, paper, rags, rubbish and other ordinary combustible materials.

Recommended extinguishers: water from a hose, pump type water can, or pressurized extinguishers and so the acid extinguishers.

Fighting the fire: soak the fire completely-even the smoking embers.

Class B: Flammable liquid, oil, and grease

Recommended extinguishers: ABC units, dry chemical, foam and carbon dioxide extinguishers

Fighting the fire: Start at the base of the fire and use a sweeping motion from left to right, always keep the fire in front of you.

Class C: Electrical equipment

Recommended extinguishers: Carbon dioxide and dry chemical (ABC units) extinguishers.

Fighting the fire: Use short bursts on the fire. When the electrical current is shut off on a class C fire, it can become at class A fire if the materials around the electrical fire are ignited.

Remember that P A S S word

Pull the safety pin (usually at twist-pull action) **A**im the nozzle, horn, or hose at the base of the fire **S**queeze the trigger handle
Sweep from side to side (watch for flash)

Safe Work Practices
Working Alone

Reviewed by MH April 2010 GD 2012 RS 2014 DC 2015 RDR 2016 KS 2017 TH2020 TH 2021 KM2022 TH2023

JHA Risk 6

General: The following safety procedures must be followed where a worker is required to work alone at a work site, or where assistance is not readily available in the event of injury, ill health, or emergency.

1. Before starting work at an isolated site, a hazard assessment must be performed and the risks identified. Safety precautions must then be taken to eliminate or reduce those risks prior to starting work.

2. In all cases, a worker working alone must have an effective means of communication, Such as a two-way radio, phone, cellular phone, etc. Where necessary, a call-in Schedule may be pre-arranged and the worker will be required to check in with the Supervisor (or another person) at specific times.

3. The required PPE must be used always.

4. Safe work practices and job procedures must be observed always.

5. A worker may be required to take other precautions dependant on Hazard Assessment, such as:
   - -limiting or prohibiting certain specific activities,
   - -requiring the worker to have specific minimum training or experience related to the work, and/or
   - -ensuring there are emergency supplies for use when travelling under extreme weather conditions.
   - -vehicle on site

Safe Work Practices
Caulking

Reviewed by RR Feb 2010 JK 2012 RS 2014 DC 2015 RDR 2016 KS 2017 MH Feb 2018 TH2020 TH2021 RW2022 TH2023

GENERAL: Most one- compound caulking compounds contain materials that are toxic and/or flammable. Resin systems vary from relatively low hazard butyl resins and acrylics to more toxic urethanes. Various solvents are used in caulking formulations, and solvent content can be significant.

1. Check and follow the instructions and precautions listed on the SDS sheet and product supplier label for the material being used.

2. Recommended PPE must be worn. (Pay attention to respiratory protection and protective clothing.)

3. Avoid skin contact with uncured material.

4. Use proper caulking tools when finishing a bead.

5. Keep doors and windows open when applying caulking indoors. Use proper mechanical ventilation where possible.

6. A non-powered ½ -face mask respirator with organic vapor cartridge should be adequate for most common caulking materials if vapor is present indoors.

7. Outdoor use should not present any respiratory hazard. However, clean, ready-to-use equipment should be available should the need arise.

Safe Work Practices
Working on/near Ice

Reviewed by GD 2012 GD 2014 DC 2015 RS 2016 KS 2017 MH Feb 2018 TH2020 TH2021 JB2022 TH2023

1.Recognize that there is no such thing as "safe ice." Conditions and unseen or unknown factors can render seemingly safe ice suddenly dangerous. Take all care and precautions to avoid mishaps

2.Recognize that determining the safety of ice is dependent on a combination of factors, not on one factor alone. Ice safety is determined by assessing the following factors together:

- Appearance of the ice - its color, texture, and features
- Thickness of the ice - there are recommended thicknesses for different uses, which are set out below
- External temperature over a period of time, and current temperature
- Snow coverage
- Depth of water under ice
- Size of water body
- Local climate fluctuations

3.Observe the ice. Look at the ice to see if you can see any cracks, breaks, weak spots, or abnormal surfaces and to identify the color(s) of the ice. ***You cannot rely on your eyesight alone***. This is just an initial look to help you to decide if it is even worth proceeding to the next step of testing the ice.

- If you see any of these signs, you may wish to abandon any further attempt to go on the ice:

    - Flowing water near or at the edges of the ice
    - Flowing springs under the ice in spring fed ponds and lakes.
    - Water flows in and/or out of the iced-over water body
    - Cracks, breaks or holes
    - Ice that appears to have thawed and refrozen
    - Abnormal surfaces that you have not seen before - e.g., pressure ridges caused by currents or winds

4.Know your ice color meanings. Although a useful indicator, color alone should not be relied upon. For instance, ice of any color subjected to a running water force underneath will be weaker than ice not subject to that pressure. In general, you can surmise the following from ice colors:

- Light gray to dark black - Melting ice, occurs even if air temperature is below 32°F (0°C). Not safe, its weak density can’t hold a load, stay off.
- White to Opaque - Water-saturated snow freezes on top of ice forming another thin ice layer. Most times it’s weak due to being porous from air pockets.

- Blue to Clear - High density, very strong, safest ice to be on if thick enough, stay off if less than 4 inches (10 cm) thick.
- Mottled and slushy or "rotten" ice - not so much its color but its texture. This ice is thawing and slushy. It is deceptive - it may seem thick at the top but it is rotting away at the center and base. Most prevalent in spring, may be showing signs of browns from plant tannins, dirt and other natural materials that are resurfacing from thawing. ***Not suitable for even a footstep.***
-

5. Test the thickness of the ice. If you have already made your observations and you still feel confident, you will need to back this up by checking the thickness of the ice.

- Only go on the ice if the edge of the water body is firm. If it is slushy or cracking, it is unlikely to be safe to proceed as shoreline ice is the weakest.
- Chip the ice with an axe or hatchet to create a small hole in the ice, or use an ice auger (a special tool which drills into the ice), for measuring the thickness through. Use a measuring device to determine the thickness.
- Learn the thickness safety margins of ice. There are recommended thickness measurements for the safety of ice that you will need to establish to for each activity being undertaken. (N.B. These are *recommended*, not guaranteed.) Ice begins to be "safe" at around 4 - 6 inches' thickness. Do not even walk on ice 3" or less in thickness. However, even at a 4" - 6" thickness, there may be unforeseen hazards such as a flowing current underneath that is ceaselessly weakening the underside of the ice. In this instance, even the thickness is not a good indicator of safety, as the ice could collapse at any time.
- In general, the rules for ice thickness measurements are:

    - 3" (7 cm) (new ice) - *KEEP OFF*
    - 4" (10 cm) - suitable for ice fishing, cross-country skiing and walking (approx. 200 pounds)
    - 5" (12 cm) - suitable for a single snowmobile or ATV (approx. 800 pounds)
    - 8" - 12" (20 - 30 cm) - suitable for one car, group of people (approx. 1500 - 2000 pounds)
    - 12" - 15" (30 - 38 cm) - suitable for a light pickup truck or a van
- These are commonly cited measurements.

6. Understand that ice strength is not the same everywhere, not even on the same body of water. Factors also affect the strength of ice other than color and thickness. Also, consider:

- Location of the ice: is it on a pond, a lake, a stream or is there evident flowing water underneath it? Is there a flow into or out of the water body? This will give cause for concern.
- External temperature and season: temperature changes constantly. Beware microclimates in the local area. Mid-winter ice is bound to be a lot stronger than spring ice which is subject to rapid thawing and warming bouts of sunshine.

- Size and depth of the water body: larger bodies of water take longer to freeze than smaller

ones.

- Presence of snow on the ice: snow can warm up the ice because it acts as an insulator; ice under snow is generally thinner and weaker than ice without snow.

SafeWork Practices
Abrasive Blasting

Reviewed by RDR 2016 GD 2016 RS 2016 MH 2016 KS 2017 MH Feb 2018 TH 2020 TH2021 BO2022 TH2023

*This information does not take precedence over OH&S. All employees should be familiar with OH&S Act and Regulations.

General: "Abrasive blasting" means the cleaning, smoothing, roughening or removing of part of the surface of any article by the use of a jet of sand, metal shot, grit or other material

1. Any worker engaged in an abrasive blasting process must be knowledgeable about the dangers posed by inhaling silica dust, and must use adequate PPE at all times.

2. Steps must be taken to prevent the inhalation of silica dust during the cleaning or maintenance of any blasting equipment, blasting enclosure, ventilating system or separating equipment.

3. All work sites and work area where dust from a silica process may affect the health or safety of a worker must be regularly cleaned using a vacuum that has a HEPA filter on the exhaust or, where a vacuum is not practical, by using wet methods.

4. Where it is not possible to prevent the entry into the air of dust from a silica process, workers must be isolated from the dust, or where isolation is not possible, the worker(s) must wear adequate PPE.

5. Blast hoods with supplied air must be worn during all abrasive blasting work.

6. Whenever possible, abrasive blasting must be done within a blasting enclosure. No other work may be carried on within the blasting enclosure except for the blasting in-itself, immediately related work, and cleaning and maintenance of the blasting enclosure and the ventilation system.

Also Refer to: OH&S Regulations XXIV Silica Processes and Abrasive Blasting
XIX Work in Compressed Air

Safe Work Practices
Industrial Painting

Reviewed by MH 2016 GD 2016 RS 2016 DC 2016 TH2020 TH2021 DC2022 TH2023

*This information does not take precedence over OH&S. All employees should be familiar with the OH&S Act and Regulations

General: High pressure spraying equipment generates very high fluid pressure. Spray from the spray gun/dispensing valve, leaks or ruptured components can inject fluid through the skin and into the body causing extremely serious injury. Fluid splashed into the eyes or on the skin can cause serious damage. Avoid breathing paint mist or solvent fumes. Wear clean, properly fitting clothes that cover all parts of the body. Check SDS for information about the hazards of the products being used, and wear personal protective equipment as recommended***. If any fluid appears to penetrate the skin, get emergency medical care at once. Be prepared to tell the doctor what fluid was injected—take the SDS if possible.***

Alway read the Technical data sheet for proper application, clean up, mixing, shelf life, cautions and limitations

Before starting a spraying operation:

1. Inspect all spraying equipment and hoses prior to each use, and repair or replace damaged parts immediately. Do not try to re-couple high pressure hose or mend it with tape or any other device. A repaired hose cannot safely contain the high pressure fluid. Be sure all equipment safety devices are in place and operating properly.

2. All fluid hoses must have a spring guard on both ends to protect the hose from kinks or bends at or close to the coupling (which can result in hose rupture). Connections must be tightened securely.

3. Only explosion-proof equipment is to be used when applying flammable products.

4. Remove or extinguish pilot light flames and electrical spark sources such as open motors, wall switches, etc.

5. Electrical connections in the work area must be taped to prevent disconnection and sparking.

6. A grounded, explosion-proof exhaust fan must be used to ensure proper ventilation for removing solvent fumes.

7. Chemicals or resins must not be stored or mixed without adequate ventilation being provided. Only enough product for immediate use is to be brought into the work area.

8. To reduce the risk of static sparking, all spray/dispensing equipment used or located in the dispensing area must be grounded.

9. Applying Product:

1. Always follow the paint and solvent manufacturers' safety precautions and warnings.
2. Handle and route the hoses carefully, and inspect them frequently. Do not pull on hoses to move equipment. Don't use fluids which are incompatible with the inner tube and cover of the hose.
3. Never point spray gun at anyone, and keep all body parts clear of the spray tip whether pressurized or not. **Never try to stop or deflect leaks with hands or body. Use a rag**
4. Always follow approved pressure relief procedures (use a rag) before cleaning or removing the spray tip/nozzle or servicing any system equipment (See appropriate Job procedure).
5. A plugged hose can contain fluid under high pressure. Always cover a swivel coupling with a rag and loosen coupling slightly. Release the pressure slowly before disconnecting the hose completely.
6. After shutting the power and relieving pressure, clean the spray tip. Most spray tips can be rotated to be cleaned of a plug, and do not need to be removed from the spray gun.
7. Whenever the gun is not being used (even for a short time), engage the trigger safety to prevent accidental triggering. Never remove or modify the trigger guard or safety tip guard. These guards are designed to prevent body contact. Always keep guns in a safe area.

Also Refer to:OH&S Regulations XXII WHMIS
VII Personal Protective Equipment

Safe Work Practices
Confined Space Painting/Coating/Blasting

Reviewed by RDR 2016 MH 2016 GD 2016 DC 2016 KS 2017 MH Feb 2018 TH 2020 TH2021 TH2022 TH2023

*This information does not take precedence over OH&S Legislation. All employees should be familiar with the OH&S Act and Regulations

See Confined Space Job Procedure, Safe Work Practice(s) and Par XVIII of the OH&S Regulations for further information. ***Note: Under the OH&S Regulations, a specific Job Procedure must be prepared for each hazardous confined space before a worker is permitted to enter.**

1. All electrical connections must be outside the confined space when applying flammable material. Where external grounding is not possible, ensure all cords are in good repair and all connections adequately taped to prevent sparking.
2. Only explosion-proof equipment shall be used when applying flammable products.
3. A grounded, explosion-proof exhaust fan must be provided to ensure proper ventilation for removing blast grit and solvent fumes from the confined space.
4. Workers must wear CSA approved respiratory equipment that will protect the worker below the Occupational Exposure Limits when applying a toxic product.

Also Refer to:OH&S Regulations XVIII Confined Space Entry
XXII WHMIS
SWP Confined Space
SWP Temporary Electrical installations

Safe Work Practices
Confined Space Ventilation

Reviewed by RDR 2016 MH 2016 GD 2016 RS 2016 KS 2017 MH 2018 TH 2020 TH2021 TH2022 TH2023

*The information does not take precedence over OH&S. All Employees should be familiar with the OH&S Act and Regulations

General: Forced ventilation of a confined space provides fresh air to remove toxic fumes and/or provide a safe level of oxygen. No one type of ventilation system will work effectively in all types of confined spaces. The selection of the ventilation system to be used will depend on the type of work performed and toxic gas concentration. Ventilation should include the following procedures.
See Confined Space Job Procedure, Safe Work Practices "Confined Space General Safeguards" and Part XVII of the OH&S Regulation for further information. ***Note: Under the OH&S Regulations, a specific Job Procedure must be prepared for each hazardous confined space before a worker is permitted to enter.***

1. Testing of the atmosphere in the confined space will be required before workers may enter, even when ventilation is used**.**
2. All openings to the confined space should be open if possible to allow maximum dilution of contaminants.
3. Fresh air should be introduced on a continuous basis with a positive pressure air blower where the highest concentration of contaminants in the confined space exists.
4. Care must be taken to avoid creating pockets of toxic or flammable gas by the discharge of vapours from the confined space.
5. Equipment must be grounded and bonded to the structure of the confined space. Failure to do so may result in a discharge of static electricity and an explosion. Electrical equipment used in a confined space must meet requirements of Part 1 of "The Canadian Electrical Code" and "Saskatchewan Supplement".
6. Oxygen should not be used for ventilation. In a confined space, oxygen can increase the risk of igniting flammable gas and/or creating uncontrolled chemical reactions.

7. **IF YOU CAN'T**
    - **ASSESS THE RISKS**
    - **TEST**
    - **VENTILATE**

IF YOU DON'T HAVE:
BREATHING APPARATUS
CONTINUOUS EXPLOSIVE GAS MONITORING

DO NOT ENTER

Safe Work Practices
Hand Tools / Powered Tools & Abrasive Wheels

Hand tools-General Safeguards JHA RISK 6

Hand Tools- Ergonomics

Powered Hand Tools- Ergonomics Electrical Safety

Drills JHA RISK 4

Circular Saws JHA RISK 6

Explosive/powder Actuated Fastening Tools Cut-Off Saw- Portable

Hand-Operated Metal Saws-Hot (Cut-off/Chop Saws

Drill Presses JHA RISK 4

Bench & Pedestal Grinders JHA RISK 6

Portable Grinder JAH RISK 6

Wheel Mounting Portable Grinders

Safe Work Practices
Hand Tools - General Safeguards

TH2022 TH2023

Reviewed by Don H April 2010 Rick R 2012 Gerald D 2014 DC March 2015 RS April 2016 KS 2017 MH Feb 2018 TH2020 TH2021

JHA Risk 4

1. All workers using hand tools must be properly trained in their use, and must wear the appropriate PPE (safety glasses or goggles at a minimum).
2. Use good quality tools.
3. **Select the right tool for the job.** Substitutes increase the chance of having an accident.
4. Avoid using hand tools with your wrist bent--use tools designed to allow your wrists to stay straight.
5. Maintain tools carefully. Keep them clean and dry, and stored properly after each use.
6. After using torque wrench back it off.
7. Inspect tools for defects before use. Keep tools in good condition at all times. Repair or replace defective tools.
8. Replace cracked and broken handles on files, hammers, screwdrivers or sledges.
9. Replace worn jaws on wrenches, pipe tools and pliers.
10. Redress a burred or mushroomed heads of striking tools.
11. Keep cutting tools sharp.
12. Carry tools in a sturdy tool box to and from the worksite.
13. Keep the work environment clean and tidy to avoid clutter which may cause accidents.
14. Use a heavy belt or apron and hang tools at your sides, not behind your back.
15. **When driving pins out, a pin holder must be used at all times. No one is allowed to hold pin with there hands.**

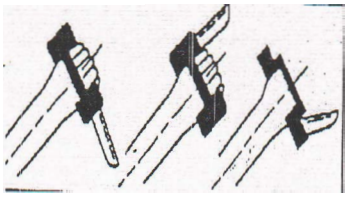
Never -use tools for jobs they are not intended to do

-apply excessive force or pressure on tool.
-cut toward yourself when using cutting tools.
-hold the stock in the palm of your hand when using a cutting tool or screwdriver.
-wear bulky gloves to operate hand tools.
-throw tools, hand them directly to workers.
-carry tools in a way that interferes with using both hands on a ladder, while climbing on a structure, or when doing any hazardous work.
-**Hold an object with your hand with the intention of using a hammer on the object**
-carry a sharp tool in your pocket.

Safe Work Practices
Hand Tool Ergonomics

Reviewed by DH April 2010 GD 2014 RDR 2012 DC March 2015 RS April 2016 DK 2017 MH Feb 2018 TH 2020 TH2021 TH2022 TH2023

GENERAL: Bend the tool, not your wrist. Hand tools should be designed so that the user can grasp, hold, and manipulate the tool without bending the wrist to do the job.



Minimize the weight of hand tools. Tools used on a repetitive basis and weighing over one pound should be counterbalanced. The tool's centre of gravity should be as close to the centre of the grip as possible.

Operate hand tools within a range that allows the shoulder to be relaxed and the elbow to be close to the body with approximately 80-120 degrees of movement allowed between the upper and lower arm.

1/4 -

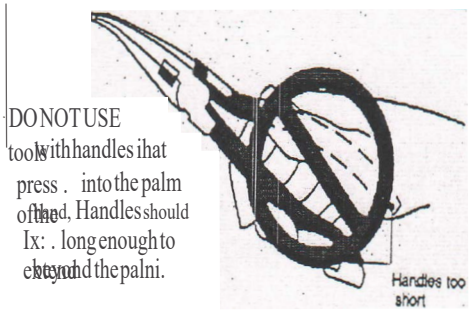
HANLDES:

-Choose handles with abroad cushioned gripping surface which is hard enough to prevent metal chips or other debris from becoming embedded in it.

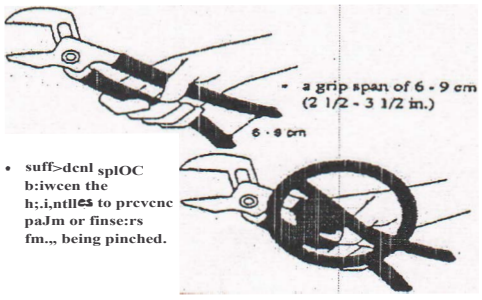
-Choose handles that will not absorb oils and other liquids which could irritate the skin.

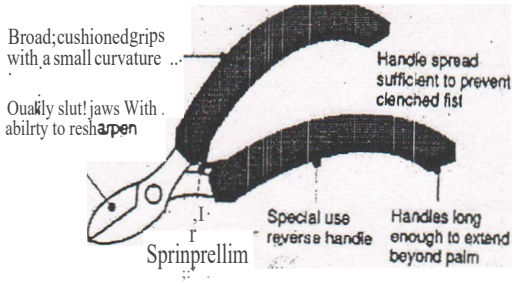
-Choose single-handled tools with flanges. These can help to prevent the hand from slipping off the tool.

-Choose handles that let the hand wrap around the tool to avoid slippage



Precision grip: recommended diamter-4 cm(1.Sin)
Power grip: recommended diamter-12mm(0.45in)

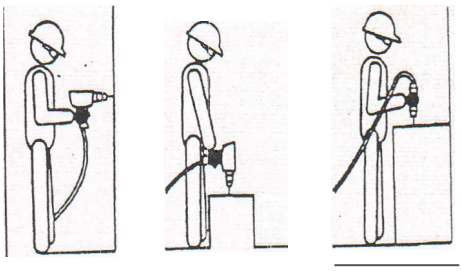




Safe Work Practices
Powered Hand Tools Ergonomics

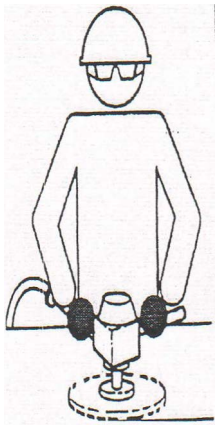
Reviewed by Don H 2010 RDR 2012 DC March 2015 RS April 2016 KS 2017 MH Feb 2018 TH2020 TH2021 EY2022 TH2023

1. Bend the tool, not your wrist. Choose tools which can be used without bending the wrist. Hand tools should be designed so that the operator can grasp, hold and use the tool with minimal bending of the wrist.



2. Select the tool with the workplace layout and job design in mind. Sometimes a tool is correct for one operation and incorrect for another.

3. Keep the weight of hand tools to a minimum. Tools used on a repetitive basis and weighing over .5kg(1lb.) should be counter balanced. The centre of gravity of the tool should be as closed to the centre of the grip as possible.



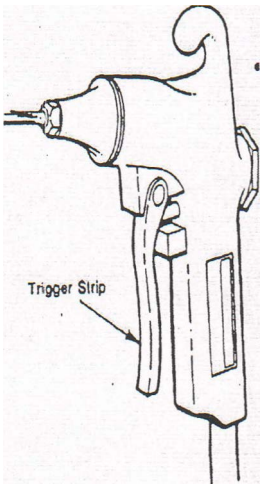
4. Reduce power to the lowest possible setting to complete the job. This reduces tool vibration at the source.

5. Choose tools that have increased handle mass relative to tool body, to reduce vibration.

6. Choose tool handles that are covered with cork, rubber, plastic or plastic bonded to steel to reduce vibration.

7. Choose hand tools with two handles to permit better manipulation and easier holding of the tool.

8. Choose tools with a trigger strip, rather than trigger button. This will allow more force to be exerted over a greater area of the hand, reducing muscle fatigue.



9. Ensure that the trigger works easily. This reduces the effort needed to operate it.

Safe Work Practices
Electrical Safety

TH2023

Reviewed by GR April 2010 GD 2012 GD May 2014 DC March 2015 RS April 2016 KS 2017 MH Feb 2018 TH2020 TH2021 CC2022

1. Inspect power cords and plugs before each use and discard if worn damaged. Do not use light duty power cords. Have any cord that feels more than comfortably warm checked by an electrician.

2. Do not tie power cords in knots. Knot's can cause short circuits and shocks. Loop the cords or use a twist lock plug.

3. Eliminate octopus connections-do not plug several power cords into one outlet.

4. Pull the plug, not the cord - Pulling the cord causes wear and may cause a shock.

5. Never break off the third prong on a plug. Replace broken three-prong plugs and make sure that the third prong is properly grounded.

6. Keep power cords away from heat, water and oil. These substances can damage the insulation and cause a shock.

7. Do not allow vehicles to pass over unprotected power cords. Cords should be put in conduit or protected by placing planks alongside them.

8. Never use extension cords as permanent wiring. Use extension cords only to temporarily supply power to an area that does not have a power outlet.

9. Do not wear loose gloves, clothing or jewelery while using revolving power tools. Long hair should be tied back.

10. Make sure tools are switched off before connecting to a power supply, and disconnect power supply before making any adjustments, changing accessories or storing a tool.

11. Make sure all U1e tools are properly grounded or double insulated. The grounded tool must have an approved 3-wire cord with a 3-prong plug. This plug should be plugged in to a properly grounded 3-pole outlet.

12. Test all tools for defective grounding with a continuity tester or a GFCI before use. Do not use electrical tools in wet conditions or damp locations unless tool is connected to a ground fault circuit interrupter.

13. Do not bypass the switch and operate the tool by connecting and disconnecting the power

cord. Never carry electrical tools by the power cord.

14. Do not clean tools with flammable or toxic solvents, and do not operate tools in an area containing explosive vapours for gases.

15. Replace open-front plugs with dead-front plugs. Dead front plugs are sealed and present less danger of shock or short circuit.

Safe Work Practices

Drills

JHA Risk 4

TH2023

Reviewed by MH April 2010 TH 2012 GD May 2014 DC March 2015 RS April 2016 KS 2017 MH Feb 2018 TH2020 TH2021 TH2022

1. Wear safety glasses or a face shield when required.

2. Keep drill vents clear to maintain adequate ventilation.

3. Keep drill bits sharp at all times.

4. Disconnect power supply before changing or adjusting bit or attachments.

5. Tighten the chuck securely. Remove chuck key before starting drill.

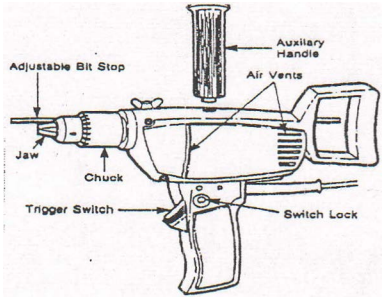
6. Secure work piece being drilled to prevent movement.

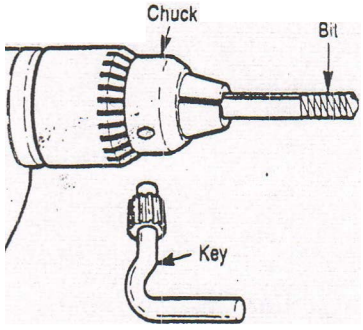
7. Slow the rate of feed just before breaking through the surface.

8. Drill a small pilot hole before drilling of large holes.

9. Do not overreach. Keep proper footing and balance at all times.

10. Choosing the proper bit or attachment
    - -Select the bit or attachment suitable to the size of the drill and the work being done
    - -Use only bits and attachments that run true
    - -Ensure that the bit or attachment is properly seated and tighten in the chuck
    - -Follow manufacture's instructions when selecting and using a bit or attachment, especially with unfamiliar drills or work
    - -Use auxiliary(second) handle for larger work or continuous operation
11. Working with small pieces:
    - -Clamp stock so work will not twist or spin
    - -Do not drill with one hand while holding the material with the other.



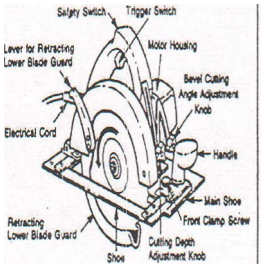


Safe Work Practices JHA Risk 6
Circular Saws

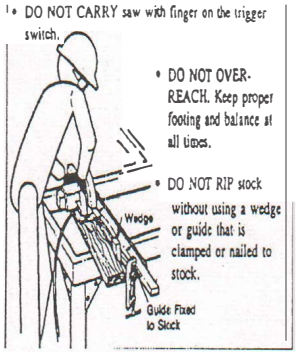
TH2023

Reviewed by Don H April 2010 GD 2012 GD May 2014 DC March 2015 RS April 2016 KS 2017 MH Feb 2018 TH2020 TH2021 KM2022

GENERAL: This type of power hand tool is one of the most commonly used in construction. Because of this common use there are numerous accidents due to thoughtless acts. Circular saws are designed for right-handed operation; left-handed operation will demand more care. The following are the minimum accepted practices to be used with this saw.



1. Wear adequate protective equipment such as safety glasses or a face shield. Hearing protection is recommended.
2. Where harmful vapours or dusts are created, approved breathing protection is to be used.
3. Ensure all cords are clear of the cutting area before starting to cut.
4. Before cutting, check the stock for foreign objects or any other obstruction which could cause the saw to 'kickback'.
5. The proper sharp blade designed for the work to be done must be selected and used. Allow the saw to attain full power before cutting. Check saw for proper blade rotation.
6. 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.
7. Make sure the stock is held securely in place. Use a wedge to keep the stock from closing and causing the saw to bind. Both hands must be used to hold the saw while ripping.
8. Keep upper and retracting lower blade guard clean and free of sawdust. Keep motor free from accumulation of dust and chips.
9. The power supply must be disconnected before making any adjustments to the saw or changing the blade.
10. Before the saw is set down be sure the retracting guard has fully returned to its down position.
11. Maintenance is to be done according to the manufacturer's specifications.
12. **Do not:**
    - -hold or fix the retracting lower guard in the open position
    - -place hand under the shoe or guard of the saw
    - -over-tighten the blade locking nut
    - -twist the saw to change, cut or check alignment
    - -use a saw that vibrates or appears unsafe in any way
    - -force the saw at any time during cutting
    - -cut materials without first checking for obstructions or foreign objects (nails, screws)



Safe Work Practices
Explosive/Powder Actuated Fastening Tools Page 1 of 2

Reviewed by Dean H Feb 2010 GC 2012 GD 2014 DC 2015 KS 2017 MH Feb 2018 TH 2020 TH2021 JB2022 TH2023

Generals: There are a number of tools utilizing an explosive charge in use throughout the construction industry to drive fastenings. The manufacturers of these devices provide detailed instructions regarding their use and maintenance. These instructions, along with the legislation specifically set out for their use, shall be closely adhered to at all times. The following general recommendations apply to all explosive/powder actuated tools.

1. Only properly trained and qualified operators are to use this type of tool.

2. Eye protection must be worn by the operator. Where there is a danger of spalling, full face protection must be worn. Hearing protection is also to be worn in confined areas.

3. Always check tools prior to use to ensure they are in good working condition. Check the chamber before using to see that the barrel is clean and free from any obstruction. Clean and maintain tools in accordance with the manufacturer's instructions. The tool must be CSA approved for "Explosive Actuated Fastening Tools".

4. The tool should be loaded just prior to use with the correct load for the job anticipated. Tools should never be loaded and left to sit or be moved to an alternate work site after being loaded. Use only nails, studs, etc., recommended by the tool manufacturer.

5. The tools should never be pointed at anyone, whether loaded or unloaded. Hands should be kept clear of the muzzle end at all times.

6. The tool must be held firmly and at right angles to the surface being driven into.

7. To prevent free-flying studs, ensure that the materials being driven into will not allow the stud to completely pass through it (I.e. glass blocks, hollow tiles, etc.)

8. Explosive/powder actuated tools and cartridges should always be stored in their proper lockable boxes. Do not discard unfired cartridges carelessly.

9. Explosive/powder actuated tools must never be used in an explosive atmosphere. Adequate ventilation must be provided when using these tools in confined spaces.

10. Use only cartridges recommended by the tool manufacturer. Check that the colour of the cartridge is appropriate for the work being done. Make the first trial fixing with the weakest or lowest strength charge cartridge.

11. Manufacturers' recommendations should be consulted and followed whenever there is a doubt about the material being driven into, maintenance procedures, or load strength to be used.

12. Hold the tool in the fixing position for no less than 15 seconds when a tool misfires. Keep the tool pointed in a direction which will not cause injuries. Unload the cartridge with the utmost caution.

13. Exercise caution when using tools near live electrical circuits. Ensure fastenings do not penetrate live circuits that are buried or hidden in the base material.

14. Always be aware of the other workers. Where a hazard to other workers is created by this operation, signs, and barricades identifying the hazard area are mandatory.

Safe Work Practices
Cut-Off Saw Portable Hand-Operated

Reviewed by MD April 2010 RDR 2012 GD 2014 DC 2015 KS 2017 MH 2018 TH 2020 TH2021 DC2022 TH2023

1. Hand-operated, cut-off saw must be equipped with a device that will stop the saw automatically when the switch is released.
2. Inspect the tool for damage prior to use. Check for misalignment, binding of moving parts, improper mounting, broken parts and any other conditions that may affect its operation. Make sure cutting edges are sharp and clean, and that all guards are in place and operating properly. Ensure all adjusting keys and wrenches are removed from the tool before turning it on. Handles must be kept dry, clean and free from oil and grease. If abnormal noise or vibration occurs while operating, tum the tool off immediately.
3. Wear adequate clothing and PPE-- do not wear loose clothing that could be caught in moving parts.
4. Protect others in the work area from debris such as chips and sparks. Use barriers or shields as needed. Know the location of fire extinguishers in the work area.
5. Use a clamp, vise or other practical means to hold your work securely, freeing both hands to control the tool.
6. Avoid accidental starting. Be sure the tool is turned off before plugging it in. Do not use a tool if the power switch does not tum the tool on and off. Do not carry a plugged in tool with your fingers on the switch.
7. Prevent body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators. When making blind or plunge cuts, always check the work area for hidden wires or pipes.
8. Keep proper footing and balance at all times. Maintain a firm grip. Use extra care when using the tool on ladders, roofs, scaffolds, etc.
9. Never stand on the tool. Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.
10. Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
11. Never leave the tool running unattended. Tum the power off, and don't leave the tool until it comes to a complete stop.
12. Unplug the tool when not in use, before changing accessories or performing maintenance. When not in use, store the tool in a dry, secured place.

Safe Work Practices
Metal Saws-Hot (Cut-off/Chop Saw)

Reviewed by RR 2010 JK 2012 GD May 2014 DC 2015 KS 2017 MH Feb 2018 TH 2020 TH2021 DC2022 TH2023

General: Make sure you understand operating instructions and are properly trained before operating a hot metal saw. Hot metal saws, often referred to as cut-off saws or
chop saws, use an abrasive cut-off wheel. The machine may be dry/wet, or low/high speed, and either hand operated or automatic.

1. Wear safety glasses and hearing protection.
2. Handle and store wheels as directed by the manufacturer.
3. Inspect all wheels for possible damage before mounting. Check the machine speed against the established maximum safe operating speed on the wheel.
4. Ensure that the mounting flanges are equal and the correct diameter (at least ¼ of the wheel diameter).
5. Use mounting blotters when they are supplied with the wheels.
6. Clamp work firmly in place when using non-reinforced cut-of wheels.
7. Use properly designed safety guard covering at least ½ grinding wheel.
8. Ensure that saw has a START/STOP button within easy reach.
9. Allow mounted wheels to run at operating speed, with guards in place, for 1 minute before cutting.
10. Bring wheel into contact with the work without bumping on impact.
11. Turn off coolant before stopping the wheel to avoid an out of balance condition.
12. Keep working surface clean, clean up scraps, tools and materials. Keep floor around saw clean and free of oil and grease.

DON'T

-use a cracked wheel or one that has been dropped or damaged.
-force wheel into the machine or alter the size of the mounting hole; if the wheel does not fit the machine, get one that will
-exceed the maximum operating speed marked on the wheel.
-use mounting flanges whose bearing surfaces are not equal, clean, flat and free of burrs.
-tighten the mounting nut excessively.
-grind on the side of the wheel.
-start the machine until the wheel guard is in place.
-stand directly in front of the cut-off wheel when starting a machine.
-jam, bend or pinch the wheel.
-force cutting so that the motor slows
-cut without proper ventilation.

Safe Work Practices
Drill Presses

Reviewed by MD April 2010 GD 2012 RDR 2014 DC March 2015 KS 2017 MH Feb 2018 TH 2020 TH2021 JJ2022 TH2023

JHA Risk 4

1. Wear safety glasses. No jewelry long hair must be tied back.
2. Ensure the machine has a START/STOP button within easy reach.
3. Use a brush or rake to remove cutting.
4. Remove burrs from a drilled hole.
5. Use a clamp or drill vise to prevent work from spinning, **Place material to left of you in case material spins.**
6. Lubricate drill bit when drilling metal.
7. Reduce drilling pressure as drill breaks through the work piece. This prevents drill from pulling into the work and breaking.
8. Keep drill bits clean and sharp.
9. Keep floor around the drill press free of oil and grease. Keep the working surface clean of scraps, tools and materials.
10. Keep all guards in place and in working order.

DON'T

-Wear any loose clothing or ties; roll sleeves above the elbow to prevent them being caught in revolving parts
-Wear rings, watches, bracelets or gloves
-Set speeds, or adjust or measure work, until machine is completely stopped
-Leave chuck key in drill chuck at any time
-Hold work by hand
-Place hands under stock being drilled
-Stop rotation of chuck and spindle by hand
-Never leave drill press unattended while drill press is running

Safe Work Practices
Bench & Pedestal Grinders

JHA Risk 6

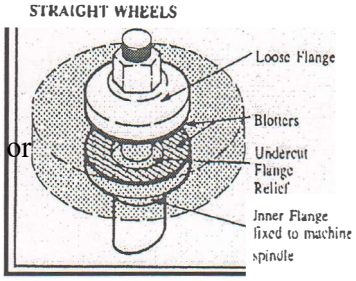
Reviewed by DH Feb 2010 GD 2012 YB 2014 DC March 2015 KS 2017 MH Feb 2018 TH 2020 TH2021 DC2022 TH2023

1. Fasten pedestal and bench grinders securely. Ensure all guards are in place and secure before using a grinder. Protect your eyes with goggles or a face shield at all times when grinding. When using a respirator, a face shield must be worn- using goggles only may allow flying material to hit the face if a sufficient seal is not maintained between the goggles and respirator. Use hearing protection as required. Safety boots and respiratory protection are advisable depending on the work. Wear gloves only where necessary.
2. **Check the tool rest for the correct distance from the abrasive wheel, maximum 1/8" or 3mm.** Never adjust rest while wheels are moving. Work rest height should be on horizontal center line of the machine spindle. Maintain 6mm wheel exposure with a tongue guard or a movable guard.
3. Each time a grinding wheel is mounted, the maximum approved speed stamped on the wheel bladder should be checked against the shaft rotation speed of the machine to ensure the safe peripheral speed is not exceeded. A grinding wheel must not be operated at peripheral speed exceeding the manufacturer's recommendation.
4. Visually inspect wheels for possible damage before mounting. Do not use a wheel that has been dropped.
5. The flanges supporting the grinding wheel should be a maximum of 1/3 the diameter of the wheel, and must for the shaft rotating speed according to the manufacturer's recommendation.
6. Bring work into contact with the grinding wheel slowly and smoothly, without bumping. Apply gradual pressure to allow the wheel to warm up evenly. Use only the pressure required to complete a job.
7. Move the work back and forth across the face of the wheel-this prevents grooves forming.
8. If the wheel has been abused and ground to an angle or grooved, reface the wheel with the appropriate resurfacing tool.
9. Replace the grindstone when adjustment or the rest cannot provide 1/8" or 3mm clearance.
10. Bench grinders are designed for peripheral grinding-do no grind on the side of the wheel.
11. Wheels are made only for grinding certain items-do not grind rough forgings on a small precision grinding wheel. Do not grind wood, plastics and-non-iron metals on ordinary wheels.
12. Do no stand directly in front of grinding wheel when is first started.
13. Do no leave grinding wheels standing in liquids. This causes balance problems.
14. Occupational Health and Safety must be notified if a grind stone or grinding wheel bursts (see "Dangerous Occurrences" under current O.H.&S. Regulations).

Safe Work Practices
Portable Grinder Wheel Mounting

Reviewed by MH April 2010 GD 2012 YB May 2014 DC March 2015 KS 2017 MH Feb 2018 TH 2020 TH2021 JJ2022 TH2023

STRAIGHT WHEELS:



1 Inspect and conduct "ring test" before mounting a wheel.

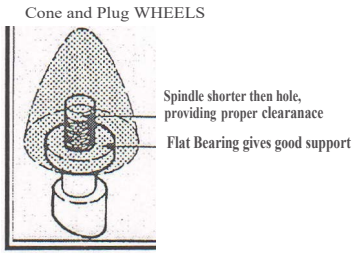
2. Check flanges for distortion or abrasion. When flanges are distorted or warped contact area is reduced.

3. Flanges must not be reversed.

4. Use blotter to cushion flange pressure.

5. Do not use flat washers, or other filler materials in place of flanges.

6. The fixed and loose flanges should have the same diameter and have undercut relief. The minimum-flange size is 1/3 of wheel diameter.



Safe Work Practices
Portable Grinders

JHA 6

Reviewed by MH 2010 YB May 2012 RDR 2012 DC March 2015 KS 2017 MH Feb 2018 TH 2020 TH2021 BO2022 TH2023

GENERAL: Abrasive wheels can cause severe injury. Proper storage of new wheels, proper use of wheels and proper maintenance of wheels must be observed. Wear safety glasses, goggles and face protection to protect against flying particles. Gloves, aprons, safety boots and respiratory protection are advisable, depending on the work.

SPEEDS: Maximum speed in revolutions per minute (rpm) is marked on every wheel.

- -Never exceed the speed marked on the wheel
- -Check that the wheel speed marked on the wheel is equal to or greater than the maximum speed o the grinder.
- -Measure speed on any new machine.
- -Measure speed of governor controlled air driven grinders after 20 hours of use or every week, whichever comes first.
- -Measure speed after any repairs.
- -Measure speed of electrically driven grinders monthly and after repairs.

1. Ensure proper guards are in place and that adequate PPE is used . (Disconnect the power source when performing initial visual check of the machine or when changing wheels).

2. Familiarize yourself with the grinder operation before commencing work. Check that the machine does not vibrate or operate roughly.

3. When mounting the wheels, check them for cracks and defects, ensure that the mounting flanges are clean and the mounting blotters are used. Do not over tighten the mounting nut.

4. Stand away from the wheel when starting a grinder.

5. Before grinding, run newly mounted wheels at operating speed for one minute to check for vibrations.

6. Use rack or hooks to store portable grinders. **Remove wheel after each use**.

7. **Do Not Use** trigger LOCK while grinding.

8. Do not use grinders near flammable materials.

9. Do not clamp portable grinders in a vise for grinding hand-held work.

10. Do not use liquid coolant with portable grinders.

11. Do not tighten the mounting nut excessively.

12. Never use the grinder for jobs for which it is not designed, such as cutting unless a cutting disc is installed.

PORTABLE LADDERS JHA RISK 9

STEPLADDERS JHA RISK 9

SCAFFOLDS & DECKS METAL

SCAFFOLDS SCAFFOLD

INSPECTION CHECKLIST AERIAL

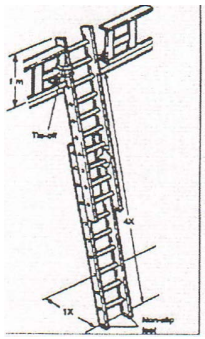
DEVICES-JLG 600AJ

Safe Work Practices
Portable Ladders

JHA Risk Critical 9

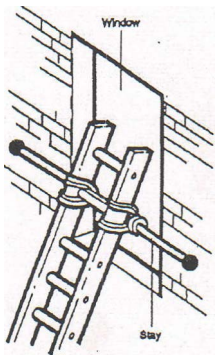
Reviewed by GR Feb 2010 RDR 2012 YB 2014 DC March 2015 RS April 2016 MH KS 2017 Feb 2018 TH 2020 TH2021 KM2022 TH2023

1. Always use the right ladder for the job. Consider strength, type and CSA approval.
2. Inspect the ladder before and after each use-if defects are found, tag and remove it from service.
3. Get help when handling a heavy or long ladder.
4. When setting up a ladder, check for overhead lines, clear the area around the base and top of ladder. Secure base and "walk" the ladder up into place.
5. When in position, the ladder must protrude on metre above the intended landing point(unless manufacturer specifies a longer overlap), and be set at the proper angle on one(1) horizontal to every four(4) vertical.(¼ of ladders working length away from the base of the structure).



6. Ensure ladder is on firm footing (using slip-resistant feet or secure blocking). Rest both top side rails on secure surface(and tie offif required).Where tying offis not possible, station a person at the foot of the ladder-this person should face the ladder with a hand on each side rail and one foot resting on the bottom rung. Attach a ladder stay across the back ofa ladder where s surface cannot stand the load. Extend the stay across a window for firm support against the building walls or window frame.
7. Tie yourself offwith a safety harness when working 3m(10 feet) or more offthe ground or when working with both hands.
8. Set up barricades and warning signs when using a ladder in a doorway or passageway.
9. Clean muddy/slippery boot soles before mounting the ladder.
10. Face the ladder when going up or down and when working from it, keeping the center of your body within the s1de rails. Grip the ladder firmly and use the three-point contact method when moving up or down.
11. Ensure that only one person is on a single-width ladder.
12. All electrical equipment used during ladder work must be in good condition and be properly grounded.
13. Rest frequently to avoid arm fatigue and disorientation when the work performed demands reaching and looking up above your head. If you become dizzy or panicky, drape your arms over a rung and rest your head against another rung or side rail. Climb down slowly.
14. Keep ladders away from electrical sources.
15. **DON'T:**

-Use a ladder as a scaffold plank or runway
-Carry objects in hands-hoist materials or use a tool belt
-Work from top three rungs-ladder may slip at the base
-Use makeshift items as a substitute for a ladder
-Use a portable ladder in place of a fixed stairway or scaffold.. Splice together short ladders to make a longer ladder
-Rest ladder on its rungs; ladder must rest on both side rails
-Allow anyone to stand under ladder
-Overreach-climb down and move ladder when necessary
-Straddle the space between a ladder and another object
-Place the ladder on an unstable base to gain additional height

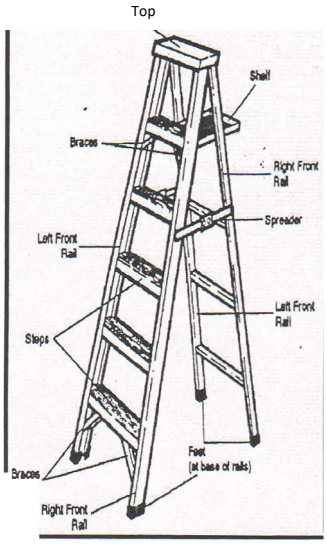


Safe Work Practices
Stepladders

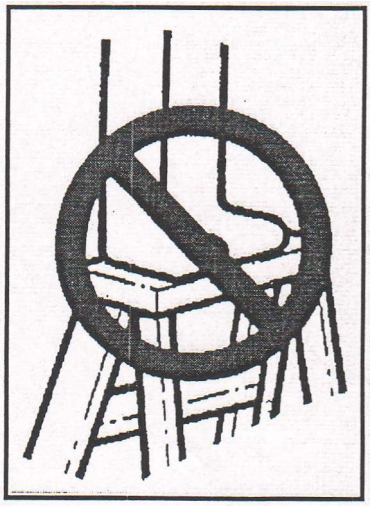
JHA Risk 9

Reviewed by GR April 2010 RDR 2012 YB 2014 DC March 2015 RS April 2016 KS 2017 MH Feb 2018 TH 2020 TH2021 TH2022 TH2023

GENERAL: As with ladders, make sure that the stepladder is in good condition, and is the right ladder for the job to be done. Stepladders are to be used only on clear and even surfaces.



1. Face the stepladder when climbing up or down. Keep body centered between side rails.
2. Maintain a firm grip. Use both hands in climbing.
3. Keep stepladder close to work. Avoid pushing or pulling to the side of the stepladder.
4. Open stepladder spreaders and shelf fully.
5. Use a stepladder that is about 1 m(3feet) shorter than the highest point you have to reach. This gives a wider, more stable base and places shelf at a convenient working height.
6. Check stability. Ensure that all four ladder feet are on firm, level and dry ground.
7. Place stepladder at right angles to the work, with either the front or back of the steps facing the work.
8. When in the open position ready for use, the incline of the front step section shall be one(1) horizontal to six(6) vertical.
9. The stepladder is only to be used in the fully opened position with the spreader bar locked.
10. All stepladders must meet CSA Standard..

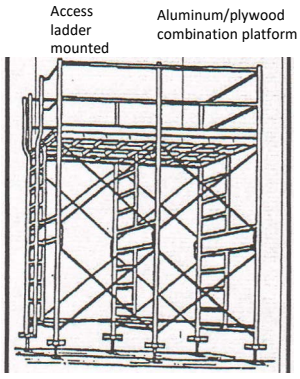


DON'T

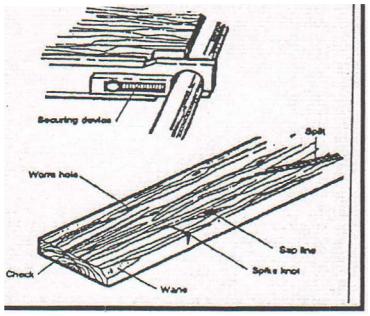
-over-reach. Move stepladder when needed
-"shift" or "walk" stepladder when standing on it
-stand, climb or sit on stepladder top or pail shelf
-overload. Stepladders are meant for one person
-climb a stepladder to brace or support a work platform or plank
-climb a stepladder that is leaning against a wall. Use a straight ladder
-use a stepladder on slippery surfaces
-place stepladder on boxes, unstable bases or scaffolds to gain additional height
-climb the back of a stepladder
-push or pull stepladder sideways. It is less stable in those directions
-use ladder in passage ways, doorways, driveways or other locations where a person or vehicle can hit it. Erect suitable barriers or lock doors shut.
-work from the top two steps of a stepladder, counting the top platform as a rung.

Safe Work Practices
Scaffolds & Decks

GR2010 GD 2012 YB 2014 DC 2015 RS 2016 KS 2017 MH Feb 2018 TH 2020 TH2021 BO2022 TH2023

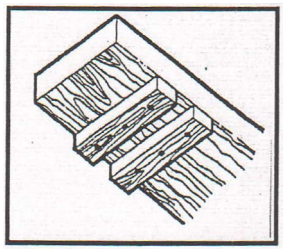


1. Check the following before using scaffolding:
    - -Base is sound, level and adjusted
    - -Legs are plumb and all braces are in place
    - -Locking devices and ties are secured
    - -Cross members are level
    - -Planks, decks and guardrails are installed securely.
2. Remove snow/ice from scaffold platforms, ladders, access areas.
3. Use an access ladder, not scaffold frame, unless the frame is specially designed to be climbed.
4. Ensure that scaffolding is securely attached to the building structure. The effects from winds increase when scaffolds are covered.
5. Protect all planked or working levels with proper guardrails, mid rails and toe boards along all open sides and at the ends of scaffold platforms
6. Replace guardrails that were removed while hoisting materials. Wear fall protection until guardrails are reinstalled.
7. DON'T
    - -Jump onto planks or platforms
    - -Force braces-level scaffold until proper fit can be made
    - -Climb or stand on cross braces or guardrails
    - -Work on scaffolds during storms or high winds



DECKS: Use wooden and metal decks according to OH&S Regulation, standards and manufacturer's instructions.

1. Cleat planks at ends to prevent lengthwise movement. Planks may be wired down, provided wire does not create a tripping hazard. Where planks overlap, rest cleated end on support.
2. Ensure that scaffold planks meet the requirements of Section 174 of the OH&S Regs.
3. Secure fabricated planks and platforms on their end supports.
4. Ensure that adjoining planks are of uniform thickness for and even platform.
5. Lay planks side by side across the full with of the scaffold.



6. Check scaffold planks for large knots, worm holes and a steeply sloping grain at the edges, spike knots, splits and checks. Discard any planks showing these or other defects.
7. Check hooks and hardware of prefabricated platform units regularly for looseness, distortion and cracks. Damage can occur if the platforms are dropped or thrown.
8. Clean ice, snow, oil and grease off planks. Platform decks should be slip-resisant and should not accumulate water.
9. STORAGE: Stack planks on a firm level surface to prevent warping. Do not paint, as this conceals defects.

Safe Work Practices
Metal Scaffolds

GR 2010 GD 2012 YB 2012 DC 2015 RS 2016 KS 2014 MH Feb 2018 TH2020 TH2021 TH2022 TH2023

GENERAL: There are various types of metal scaffolds and there are right and wrong ways of erecting all of them. The misuse of scaffolding is the cause of numerous serious injuries. Every worker who designs or construct a scaffold should be competent and know what the manufacturer's specifications are for that type of scaffold.

The scaffold type which will be best suited for the job and capable of withstanding the loads to be imposed on it must be determined before the job begins.

Ensure that:
1. The scaffold you intend to use is the correct one for the job.

2.The location in which the scaffold is to be constructed is level or is capable of the presenting secure footing by use of mudsills or some other devices.

3.The scaffold will be erected by a competent worker.

4.Legislative and manufacturer's requirements have been complied with.

5.Safe access and egress to both the scaffold and the general work area has been provided.

6.Leveling adjustment screws have not been over extended.

7.Tower scaffolds have outriggers or are guyed and have all component parts secured in place (i.e. cross braces, pins, lateral braces).

8.Scaffold work platforms have perimeter guardrail:

-HORIZONTAL RAIL:0.92 metres to l.07metres above the platform;
-INTERMEDIATE RAIL:Horizontal rail midway between scaffold platform and top rail;
-TOE BOARD:Horizontal member at platform level no less than 140mm in height above the platform level;

9. Scaffold planks are of number one grade materials with maximum spans of 3 meters on light duty and 2.3 meters on heavy duty with a maximum projection beyond the ledge of no more than 300mm.

SWP Scaffold
Inspection Checklist

GR 2010 GD 2012 YB 2014 DC 2015 RS2016 KS 2017 MH Feb 2018 TH 2020 TH2021 TH2022 TH2023

	Yes	No
1. Scaffold erection coordinated by a competent workers.	[ ]	[ ]
2. Scaffold square, straight and plumb in all directions.	[ ]	[ ]
3. All scaffold components present, tight and secure.	[ ]	[ ]
4. No tubes or members over extended and hazardous.	[ ]	[ ]
5. Base plates and screws firmly supported on all legs. (mudsills)	[ ]	[ ]
6. Leveling adjustment screws extended less than 0.3 metres and lock nuts tightened.	[ ]	[ ]
7. Tower tied to rigid support horizontally every 1.4 metres and vertically every 4.6 metres.	[ ]	[ ]
8. Free standing tower scaffold steadied with guy wire every 9.1 metres	[ ]	[ ]
9. Platform planking cleated on underside at each end with wood or angle iron.	[ ]	[ ]
10. Platform planking tied down securely.	[ ]	[ ]
11. Platform planking maximum span 2.3 metres for heavy duty and 3 metres for light duty.	[ ]	[ ]
12. Vertical ladder securely fastened in place.	[ ]	[ ]
13. Safety cage needed around vertical ladder if it is more than 6.5 meters in height	[ ]	[ ]
14. 125 mm high toe board to be placed on work surfaces from which material may fall (1.2m from permanent surface)or (3m for temporary)	[ ]	[ ]
15. Perimeter hand rail 0.9 metre to 1.07 metres high with mid rail around all work platforms.	[ ]	[ ]
16. Separate rope or hand line in place at all platforms to raise and lower tolls or materials.	[ ]	[ ]
17. Warning devices/signs provided if erected over walkways or roadways (flashing lights, reflective tape, or area roped off)	[ ]	[ ]
18. Minimum clearance from overhead power lines maintained as per OH&S Regulations.	[ ]	[ ]
19. Rolling scaffold wheel brakes locked and outriggers extended to maintain maximum height of 3 times the smallest base dimension. Separate ladders being used for scaffold access.	[ ]	[ ]
20. Scaffold constructed and maintained according to certified engineered drawings	[ ]	[ ]

Safe Work Practices
Aerial Devices JLG-600AJ

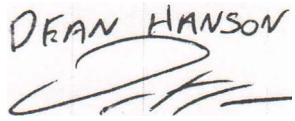
KS 2017 MH Feb 2018 TH 2020 TH2021 dh2022 TH2023

The Aerial Device is a JLG-600AJ articulating lift for use only within the range and weight parameters specified in the Operator's Manual for the JLG-600AJ model. This SWP addresses only the operation of the specified aerial device, and presumes that the operator of the truck is trained and authorized in its operation.

General

1. Only trained operators who are authorized by management are allowed to operate the lift.
2. Must have read and signed this safe work practice.
3. Do not modify or attempt to modify the structure or operation of the aerial device without management approval.
4. Operator cannot be subject to epileptic seizures, dizziness or any other disability which may impair his/her ability to operate the aerial device. If an operator becomes physically or mentally unfit, he shall disqualify himself or be disqualified by management.
5. To operate aerial device, operator shall have completed Fall Protection training, wear an approved body harness and lanyard in good condition, and must hook up the lanyard to the attachment point on the basket prior to elevation.
6. The aerial device shall not be operated with fewer than two qualified operators. Attendant on the ground shall remain in the immediate area of the truck, shall pay attention to the vehicle and the aerial device operator, and shall assist operator as needed. As directed by management, the attendant may do related work as long as he/she does not leave the immediate area of boom truck operation.
7. A copy of the Operator's Manual shall remain with the vehicle at all times
8. Regular inspections will be completed as per legislation and manufacturers recommendations
9. Pre-operation inspections. Before beginning work with Aerial Device: Visual inspection for cracks, hydraulic leaks, and other defects; function of lift controls (lower and upper controls) Lift controls must be operated from the ground position prior to being operated from the basket. When the device is used on a continuing basis during the day, the ground position lift controls need be tested only once at the beginning of the day.
10. Report any unusual observation or occurrence during truck and/or aerial device operation that may indicate required maintenance, repair or a safety defect.
11. Position the aerial lift on as level a surface as possible before beginning aerial device operations.
12. Keep objects and personnel clear of aerial device operations at all times.
13. The JLG-60AJmodel is designed to carry a maximum load of 500 pounds in the basket. The weight of operator and equipment shall not exceed 500 pounds.

16. Operator shall wear personal protective equipment (PPE) appropriate to the work to be done.
17. Securing fall protection devices to an adjacent pole, tree or structure while working from the aerial device is not permitted.
18. The operator shall not sit or climb on the edge of the basket or use planks, ladders or other means to gain greater working height.
19. Boom and basket load limits as specified by the manufacturer shall not be exceeded.
20. While the basket is occupied and in use, lower level controls shall not be operated unless permission has been obtained from the employee in the basket. Exception: in case of emergency.



Prohibition

191 Except as provided in sections 192 and 194, an employer or contractor shall ensure that no worker is raised or lowered by, or works on, a platform or load suspended from powered mobile equipment.

4 Oct 96 cO-1.1 Reg 1 s191.

Aerial devices and elevating work platforms

192(1) An employer or contractor shall ensure that:

(a) an aerial device, elevating work platform or personnel lifting unit is designed, constructed, erected, operated and maintained in accordance with an approved standard; or

(b) a professional engineer has certified that:

(i) an aerial device, elevating work platform or personnel lifting unit and its elevating system and mountings are safe for the purpose of raising workers and loads; and

(ii) the components of an aerial device, elevating work platform or personnel lifting unit and its elevating system and mountings are designed in accordance with an approved standard.

(2) An employer or contractor shall not require or permit a worker to be raised or lowered by any aerial device or elevating work platform or to work from a device or platform held in an elevated position unless:

(a) there is an adequate and suitable means of communication between the worker operating the controls and the worker raised on the platform, if they are not the same person;

(b) the elevating mechanism is designed so that, if any failure of the mechanism occurs, the platform will descend in a controlled manner so that no worker on the platform will be endangered;

(c) the controls are designed so that the platform will be moved only when direct pressure is applied to the controls;

(d) the drive mechanism of any operation for moving the platform is positive and does not rely on gravity;

(e) road traffic conditions, environmental conditions, overhead wires, cables and other obstructions do not create a danger to the worker;

(f) the brakes of the aerial device or elevating work platform are engaged, except when operated in accordance with manufacturer's recommendations;

(g) if the aerial device or elevating work platform is equipped with outriggers, the outriggers are set;

(h) pursuant to clause (i), the worker is provided with and is required to use a personal fall arrest system that meets the requirements of Part VII; and

(i) the aerial device or elevating work platform is equipped with a lanyard attachment point that is:

(i) designed and constructed to an approved standard; or

(ii) certified as safe by a professional engineer and installed and used in accordance with that design.

(3) Notwithstanding any other provision in this section but subject to section 465, an employer or contractor shall not require or permit a worker working on an exposed energized high voltage electrical conductor to work from an aerial device or elevating work platform unless the controls are operated by the worker on the device or platform.

(4) Where a worker leaves an aerial device or elevating work platform parked or unattended, an employer or contractor shall ensure that the device or platform:

(a) is locked or rendered inoperative; or

(b) is fully lowered and retracted with all hydraulic systems in the neutral position or incapable of operating by moving the controls.

(5) An employer or contractor shall ensure that:

(a) a worker who operates an aerial device or elevating work platform is trained to operate the device or platform safely; and

(b) the training includes the manufacturer's instructions and recommendations, the load limitations, the proper use of all controls and any limitations on the surfaces on which the device or platform is designed to be used.

(5.1) An employer or contractor shall ensure that, while a worker is on a work platform mounted on a forklift and the forklift is in the raised position, the operator:

(a) remains at the controls; and

(b) does not drive the forklift.

(6) An employer or contractor shall ensure that the manufacturer's operating manual for the aerial device or elevating work platform is kept with the device or platform at all times.

4 Oct 96 cO-1.1 Reg 1 s192; 10 Aug 2007 SR 67/2007 s20.

Maintenance and inspection

193(1) An employer, contractor, owner or supplier shall ensure that only competent persons maintain and inspect an aerial device, elevating work platform, suspended powered platform, personnel lifting unit or scaffold to which section 177 applies.

(2) An employer, contractor, owner or supplier shall ensure that a maintenance and inspection record tag:

(a) is provided for an aerial device, elevating work platform, suspended powered scaffold, personnel lifting unit or scaffold to which section 177 applies, and is attached to the device, platform, unit or scaffold near the operator's station; and

(b) has the following recorded on it:

(i) the date of the last maintenance;

(ii) the name and signature of the person who performed the maintenance; and

(iii) an indication that the maintenance has been carried out in accordance with the manufacturer's recommendations.

4 Oct 96 cO-1.1 Reg 1 s193.

Forklifts

194(1) An employer or contractor shall ensure that no worker is raised or lowered by, or required or permitted to work on, a forklift or any device mounted on a forklift except as provided by this section.

(2) An employer or contractor shall ensure that a work platform mounted on a forklift on which a worker may be raised or lowered or required or permitted to work is:

(a) designed and constructed to an approved standard or designed and constructed and certified safe for use by a professional engineer to support safely the maximum load that the platform is expected to support;

(b) securely attached to the forks of the forklift to prevent accidental lateral or vertical movement of the platform;

(c) equipped with guardrails and toeboards that meet the requirements of sections 122 and 123; and

(d) equipped with a screen or similar barrier along the edge of the platform adjacent to the mast of the forklift to prevent a worker from contacting the mast drive mechanism.

(3) The employer or contractor shall ensure that a worker working from a work platform mentioned in subsection (2) uses a personal fall arrest system that meets the requirements of Part VII.

(4) An employer or contractor shall comply with the requirements mentioned in section 167.

4 Oct 96 cO-1.1 Reg 1 s194; 10 Aug 2007 SR 67/2007 s21.

Safe Work Practices
Welding

WELDING-ERGONOMICS

WELDING-PPE- -EYE AND FACE

WELDING-PPE- CLOTHING

WELDING-VENTILATION

GAS WELDING & CUTTING-GENERAL

GAS WELDING & CUTTING-CYLINDER STORAGE JHA RISK 6

GAS CUTTING & WELDING-HANDLING CYLINDERS JHA RISK 6

WELDING & CUTTING-SET UP

WELDING & CUTTING-REGULATOR SET UP

WELDING & CUTTING-LEAK TEST

GAS CUTTING & WELDING-LEAKING/OVERHEATING CYLINDERS AND OPERATING FAULTS

GAS CUTTING & WELDING-LIGHTING UP & SHUTTING DOWN

ELECTRIC-INSTALLATION

ELECTRIC WELDING-MAINTENANCE AND INSPECTION

ELECTRIC WELDING- SET UP& EQUIPMENT CHECKLIST

PORTABLE ARC WELDER JHA RISK 6

PLASMA ARC CUTTING & WELDING

WELDING GALVANIZED STEEL- *added Sept. 10 2010 discussed at safety meeting*

Safe Work Practices
Welding-Ergonomics

MD 2010 DC 2012 DC 14 DC 2015 KS 2017 MH Feb 2018 TH2020 TH2021 DC2022 TH2023

WORKING POSTURE: Difficult or uncomfortable body positions cause fatigue and reduce concentration. The welding position should be stable non-fatigue posture.

1. Position scaffolding at a comfortable height with preference for seating positions. A void working in one position for long periods of time.

2. Work with material slightly below the elbow, keeping arm motions within normal work area. Use a foot rest if standing for long periods.

3. Locate materials and tools conveniently and in the same places.
   See MATERIAL HANDLING:

4. Protect hands and feet in case of load falls.

5. Get help with heavy and awkward loads.

LIFTING TECHNIQUES:

1. Spread feet apart for balance. Put front foot beside load and point it in direction of travel. Put other foot behind center of load.

2. Bend knees (not beyond 90 degrees).

3. Get a good grip, maintain a straight back and lift with legs, keeping the object close to the body.

POSITION FOR LIFTING TALL CYLINDERS:

1. Place forward foot around cylinder.

2. Lower cylinder across thigh by pressing down with rear hand while holding cylinder underneath and slightly beyond centre point.

3. Raise end to desired height, and push cylinder forward by hand.

Safe Work Practices
Welding-Personal Protective Equipment- Eye and Face

DH 2010 DC 2012 DC 2014 DC 2015 KS 2017 MH Feb 2018 TH 2020 TH2021 JB2022 TH2023

EYE AND FACE PROTECTION: The arc welding lens assembly consists of three parts. The outside lens is clear plastic or tempered glass. It protect the shade lens from damage. The center lens is a shade lens which filters out the harmful light. The inner lens is clear and must be plastic.

1. Use gaskets provided with helmets or goggles.
2. Wear arc welding helmets for all arc welding or cutting operations
3. Do not use gas welding goggles for arc welding.
4. Wear safety glasses with side shields at all times, even under welding helmets.
5. Replace pitted or cracked lenses.
6. Protect eyes from flying pieces of slag when chipping the weld.
7. Do not substitute modified glasses, sunglasses, smoked plastic or other materials for proper welding lenses.
8. Replace loose or damaged helmets. Invisible and dangerous light rays (ultraviolet) can get in undetected.
9. Contact lens users should prevent dust and particles from getting in their eyes. Foreign particles can collect behind the lens and cause sever discomfort and possibly eye damage

SELECTION OF SHADE NUMBERS

WELDING OPERATION	SHADE NUMBER SUGGESTED	WELDING OPERATION	SHADE NUMBER SUGGESTED
Torch soldering	2	Shielded metal arc:	
Torch Brazing	3or 4	2.5 to4mm(3/32to5/32)Electrodes	4 10
Oxygen cutting:		to 6.4mm(5/32 to ¼") Electrodes	12
Under 25mm(l") 25 to	3 or 4	over 6.4mm(¼") Electrodes	14
150mm(1 to 6") Over	4 or 5	Gas Tungsten Arc Welding:	
150mm(6")	6 or 8	Under 50A	10
Gas Welding:		50 to 150A	12
Under 3.2mm(1/8")	4 or 5	150 to 500A	14
302 to 12.7mm(1/8 to Yi")	5 or 6	Gas Metal Arc Welding:	
Over 12.7mm(½")	6 or 8	60 to 160A	11
Carbon Arc Welding	14	160 to 250A	12
		250 to 500A	14

For Further Information on shade number refer to CSA-Wl 17.2

SCREENS:

1. Screen electric welding operations to prevent the welding arc from affecting other workers/
2. Ensure all screens are constructed of sturdy opaque or translucent materials. Permit at least 50cm (20") bottom clearance for ventilation. Post warning to alert other workers.

Safe Work Practices
Welding-Person Protective Equipment -Clothing

DH 2010 DC 2012 DC 2014 DC 2015 KS 2017 MH Feb 2018 TH 2020 TH2021 JB2022 TH2023

PROTECTIVE CLOTHING:

1. Wear 100% wool or flame- retardant cotton clothing. Wear long-sleeved shirts with buttoned cuffs and a collar to protect the neck. Dark colors prevent light reflection. Remove shirt pockets or have flaps with buttons.

2. Pant legs without cuffs should cover the tops ofthe boots. Cuffs can collect sparks.

3. Repair all frayed edges, tears or holes in clothing.

4. Wear high-top boots to prevent sparks from going into the boots. The top of the toe of the boot should be smooth so that sparks will not get caught in the seams.

5. Boot protectors or spats can be strapped around the pant legs and boot tops to prevent sparks from bouncing in the top of the boots.

6. Remove matches and lighters from pockets. The hot welding sparks may light the matches or bum a hole through a plastic lighter, causing serious injury.

7. Leather is a good insulator. Wear gauntlet-type cuff leather gloves or protective sleeves of similar material, which protect wrists and forearms. Arrange seams inside to prevent burning of stitches and trapping of hot metal particles. Non seamed gloves with reinforcement between thumb and forefingers are preferred.

8. Wear leather aprons to protect your chest and lap when standing or sitting. Leather jackets with full sleeves, back and a high neck are good for out-or-position work.

9. Wear a flame-resistant skull cap under your helmet to prevent head bums.

10. Keep clothing free of oil or grease to avoid fire of slipping. Keep dry to reduce electrical risk.

Safe Work Practices
Welding- Ventilation

MD 2010 DC 2012 DC 2014 DC 2015 KS 2017 MH Feb 2018 TH 2020 TH2021 DC2022 TH2023

1. Fumes and gases are released from welding rods, torches and coatings on the metal. They rise in a cloud or plume from the welding site.

2. Fumes and gases are toxic and can be harmful. Check regulations and standards for recommended personal protection. Mechanical ventilation is necessary unless the work being done is in the open air.

3. Take advantage of any general ventilation such as open windows so that the fumes are blown away from your face. Keep your head out of the welding plume.

4. Local exhaust ventilation is better than general ventilation it captures the fumes and gases at the source.

-Locate exhaust openings as close as possible to the welding site.
-Discharge exhaust air where it cannot contaminate fresh air being drawn into the work room.

TYPES OF LOCAL EXHAUST:

1. FREELY MOVABLE HOOD: Exhaust through flexible ducting. Provide an air velocity of at least 0.5 mis (lO0ft/min.) across the welding site. Arrange work so that the fumes and gases are drawn away from your face.

2. DOWN DRAFT BENCH: Bench with an open grid as the work surface. Air is drawn downward through the grid, into exhaust ducting. Air speed should be great enough so that the fumes and gases do not rise into your breathing zone. Work pieces must not be so large as to cover too much of the ducting or the exhaust effect will be lost.

3. EXTRACTION NOZZLES: Fumes arid gases from around the welding site are drawn through the extraction chamber and into the exhaust system.

Safe Work Practices
Gas Welding & Cutting-General

Reviewed by DZ 2010 DH 2012 DC May 2014 DC May 2015 KS 2017 MH March 2018 TH 2020 TH2021 DC2022 TH2023

GENERAL: work involving welding, cutting and burning can increase fire and breathing hazard on any job, and the following should be considered prior to the start of work.

1. Always ensure that adequate ventilation is supplied since hazardous fumes can be created during welding, cutting or burning.

2. Where other workers may also be exposed to the hazards created by welding, cutting and burning, they must be alerted to these hazards or protected form them by the use of "screens".

3. Always have fire fighting or prevention equipment on hand before starting welding, cutting or burning.

4. Check the work area for combustible material and possible flammable vapors before starting work.

5. Never weld or cut lines, drums, tanks, etc., that have been in service without making sure that all precautions have been carried out and permits obtained.

6. Never enter, weld or cut in a confined space without proper gas tests and a required safety lookout. Ensure adequate ventilation and use specialized PPE as required.

7. When working overhead, use fire resistant material (blankets, tarps) to control or contain slag and sparks.

8. Open all cylinder valves slowly. The wrench used for opening the cylinder valves should always be kept on the valve spindle when the cylinder is in use.

9. Do not weld, cut or burn with matches or plastic lighters in pockets.

Safe Work Practices
Gas Welding & Cutting- Cylinder Storage

JHA 6

Reviewd by DZ Feb 2010 DH 2012 DC May 2014 DC March 2015 KS 2017 MH March 2018 TH 2020 TH2021 JB2022 TH2023

1. Store oxygen and fuel gas cylinders at least 6m (20 feet) apart, or separate by a 1.5m (5 foot) high wall with a half-hour fire resistance rating. Place outside on fire-proof surface. When inside storage is necessary, ensure that the room is well ventilated.

2. Keep cylinders away from open flames (including welding or cutting torches), electric arcs, molten slag, sparks and radiators. Exposure to the sun for long periods can cause a dangerous rise in pressure within a cylinder. Cylinders are not designed for temperatures above 54 C (130F).

3. Keep cylinders at least 6m (20feet) from flammable materials such as paint, oil or solvents.

4. Identify storage areas. Clearly post "no smoking" signs within those areas.

5. Keep all cylinders and fittings where they cannot be contaminated by oil or grease.

6. Secure acetylene cylinders upright, whether full or empty, so they will not fall.

7. Ensure all cylinders are marked clearly. If not, refuse delivery.

8. Keep full and empty cylinders part to prevent accidental part-filling of an empty cylinder by back-feeding.

9. Close valves of empty cylinder. Fit protection caps. Mark cylinders empty or "MT". Return cylinders promptly to the supplier.

I0. Avoid placing cylinders where they could become part of an electrical circuit and, through arcing, cause a fire.

11. Store cylinders away from elevators, stairs, doorways and aisles.

Safe Work Practices
Gas Welding & Cutting-Handling Cylinders

JHA 6

Reviewed DZ Feb 2010 DH 2012 DC May 2014 KS 2017 MH March 2018 TH 2020 TH2021 JB 2022 TH2023

1. Handle cylinders with hands and clothing which are free of grit, grease and oil.

2. Handle all cylinders as if they were full. Always secure cylinders to a firm support.

3. Protect cylinders from damage. Keep cylinders in trolleys built for them. Don't drag or slide cylinders-roll them on their bottom edge.

4. When not using a trolley to move cylinders, detach cylinder regulators and fit with valve protection cap. Caps must be in place prior to moving the cylinders. (Valve protection caps must be hand tightened.)

5. If moved by a crane, place cylinders in a proper cradle or trolley.

6. Chain or wire rope slings allow cylinders to slip. Even rubber covered slings can slip.

7. Transport cylinders in an upright position, secured on a vehicle or trolley designed for that purpose. When a vehicle is transporting 5 or more cylinders, the vehicle must have a "Compressed Gas" placard.

8. If an acetylene cylinder has been accidentally left on it side, sit it upright for at least one hour before using it.

9. When cylinders are frozen to the ground, do to pry them loose. Use warm but not boiling water to loosen and pull out by hand.

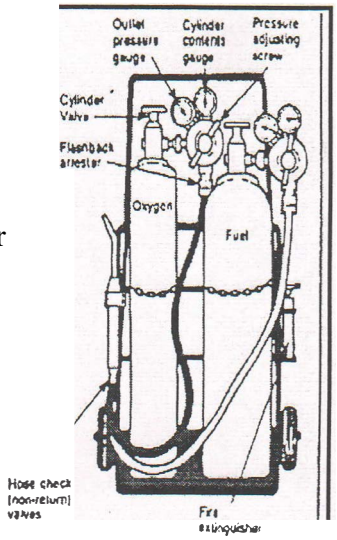
DON'T

- -Strike an electric arc on a cylinder.
- -Transfer gas from one cylinder to another.
- -Use a sling or and electromagnet to move cylinders.
- -Refer to acetylene as "gas" or oxygen as "air". Always use the proper name.
- -Hoist cylinders as rollers or supports.
- -Drop cylinders. They could burst or the valves could break off or become damaged.
- -Place an acetylene cylinder on it side
- -Rely on cylinder's color. Check cylinder stencil and tag

Safe Work Practices
Welding & Cutting -Set up, Regulator Setup &, Leak Test

Reveiwed by DZ FEb 2010 DC May 2012 DC May 14 DC May 15 KS 2017 MH March 2018 TH 2020 TH2021 BO2022 TH2023

EQUIPMENT CONNECTION:



1. Oxygen cylinders have right turning valves and connections. Fuel cylinders have left turning valves and connections.
2. "Crack" open cylinders valves slightly and then close immediately (except hydrogen gas). This blows out dust and grit that could restrict the gas flow or damage the regulator.
3. Attach the oxygen and fuel gas regulators to their cylinders (see "Regulator Set-Up"). Tighten nuts with a proper wrench. Never force poor fitting connections.
4. Install non-return valves and flashback arrestors on the torch and regulator end of the hoses (see" Leak Test").
5. Connect the green (black) hose to the oxygen regulator and the red hose to the fuel gas regulator.
6. Connect torch green hose to the oxygen inlet and red hose to the fuel gas inlet. Fingers tighten hose nuts before using a wrench. The wrench may damage unprotected threads.
7. Keep cylinders upright in a cylinder trolley for firm support.
8. Examine hoses before use for signs of damage. Secure connections with clips or crimps. Check connections and non-return valves regularly.
9. Stand to one side of regulator face when opening the cylinder valve outlet. Open cylinder valves slowly.
10. Open cylinder valves only with approved keys or hand wheels. Do not use excessive force to open or close cylinder valve.
11. Select the proper welding head or mixer, tip or cutting nozzle from the charts supplied by the manufacturer and screw it firmly into the torch.
12. Use table tops made of fire brick or steel plate. Regular brick may pop or explode from heat. Keep flames and hot metal off concrete.
13. Leave the valve wrench on the fuel gas cylinder whenever the valves are open. This permits emergency shut-off of the gas.

DON'T

-Connect a hose longer than needed-keep hose from becoming kinked or tangled

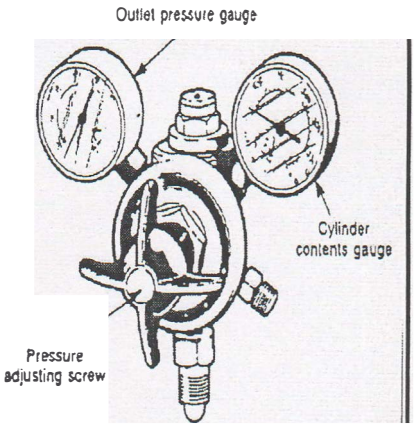
-Use tape to repair a leaky hose.

-Have oil or grease on any welding or cutting equipment-this may cause an explosion.

Safe Work Practices
Gas Welding & Cutting- Set Regulator Set Up, Leak Test

Reviewed by DZ Feb 2010 DC May 2012 DC 2014 DC 2015 KS 2017 MH Feb 2018 TH 2020 TH2021 BO2022 TH2023

REGULATOR SET-UP



1. Make sure the regulator inlet threads match the cylinder valve outlet threads. Connect the regulator to the cylinder's outlet valve.

2. Release the pressure-adjusting screw on the regulator by turning counter-clockwise. Open the downstream line to the air to drain the regulator of gas.

3. Open the cylinder valve slightly to let the needle in the cylinder contents gauge move up slowly. On an acetylene cylinder tum valve only 1 ½ turns.

4. When closing down, shut the cylinder valve and open torch valve before slackening the pressure-adjusting screw.

5. If a regulator shows excessive pressure "creep" replace immediately. "Creeping" of a regulator is shown by a gradual increase in pressure after the torch valves are closed. To check for "creep", close the welding or cutting torch valves while the regulator is open and check for increase in indicated pressure. Refer to manufacturer's operating manuals.

6. Make sure to:
   - -stand to one side and away from regulator gauge faces when opening cylinder valve
   - -leave key wrenches on cylinders in use so they can be closed quickly
   - -ensure connections between the regulators and cylinder valves are tight
   - -check accuracy of regulator pressure gauge at least yearly

7. DON'T
   - -use pipe wrenches or pliers for attaching regulators to cylinders
   - -use wrench of improper size
   - -open cylinder valve until the regulator is drained of gas and the pressure adjusting screw on the regulator is fully released.
   - -thaw a frozen regulator with warm water
   - -interchange regulators for a gas with similar equipment intended for use with other gases
   - -use oil or grease as a lubricant for tight threads
   - -any oil or grease on a regulator or fittings may cause an explosion
   - -release the pressure adjusting screw when there is pressure in the hose and hose torch valve is closed-the valve diaphragm will be damaged.

Safe Work Practices
Gas Welding & Cutting-Set-Up, Regulator Set-up, Leak Test

Reviewed by DZ Feb 2010 DC May 2012 DC May 2014 DC March 2015 KS 2017 MH 2018 TH 2020 TH2021 DC2022 TH2023

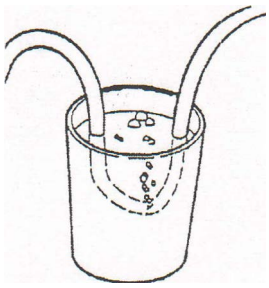
LEAK TESTING OXYGEN CONNECTIONS:

1. Make sure torch oxygen valve is closed.
2. Tum pressure-adjusting screw on the oxygen regulator to normal working pressure
3. Stand to one side and slowly open the oxygen cylinder valve. Watch the pressure rise gradually on the cylinder contents gauge. Sudden opening ofthe cylinder valve may damage the regulator or lead to a fire.
4. Set regulator to pressure recommended by supplier.
5. Check regulator for an increase in the reading "creeping" on the outlet pressure gauge. Ifit creeps close the cylinder valve. Check for a drop in pressure on regulator gauges. Any drop indicates a leak between the cylinder valve and the torch valve.
6. Check for leaks at the top ofthe cylinder.
7. Once all leaks have been corrected, re-open the cylinder valve slowly.

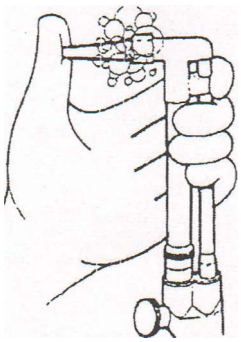
LEAK TESTING FUEL CONNECTIONS:

8. Repeat steps 1 to 7 except, in step 2 pressure-adjusting screw on the acetylene regulator pressure to produce a pressure of about 69 kPa (1 0psi).

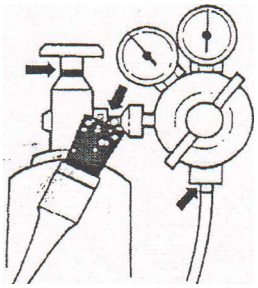
With the pressure on and the torch valves closed, hold the hose and torch np under water. Find leaks by using soapy water (non-fat soap) or approved leak test solution.



Leaks around connactions cause bubbles when sprayed with a leak detector.



Check cylinder and regulator for leaks at points marked by arrows.



Safe Work Practices
Gas Welding & Cutting-Leaking/Overheating Cylinders,Operating faults

Reviewed by DZ Feb 2010 DC May 2012 DC May 2014 DC March 2015 KS 2017 MH 2018 TH 2020 TH2021 BO2022 TH2023

LEAKING:

1. Check regularly and every time equipment is set up for gas leaks at cylinder valves, regulators and torch connections.
2. Return cylinder to supplier with protection cap in place when empty. Do not ship a leaking cylinder.
3. Close the valve on a cylinder if a leak is found around the valve stem.
4. Stop temporarily a leak through the cylinder valve by attaching a regulator.
5. Take a leaking cylinder out-of-doors, well away from any source of ignition, if the leak cannot be stopped. Clearly tag it. Call the supplier and follow their instructions.
6. Post sign on cylinders warning not to approach within 6 meters (20 feet) with a cigarette or other source of ignition.
7. Open the cylinder valve slightly and allow gas to escape slowly.

ACETYLENE CYLINDER OVERHEATING: Acetylene cylinders may become hot from severe backfire or accidental heating. to prevent an accident:

- remove source of heat
- shut cylinder valve, detach regulator
- clear all other workers away
- call supplier
- cool cylinder with a large supply of water, from behind a protective barrier.
- if the cylinder valve safety device opens and gas ignites, cool with water. Do not try to extinguish the flames. So gas does not ignite, remove all sources fo ignition from the area if it can be done safely.
- periodically stop cooling.
- check if water dries off the cylinder or if it remains wet
- when the cylinder remains wet on removal of the water, remove cylinder to an open space.
- open valve and continue to cool cylinder with water until cylinder is empty.
- periodically stop cooling.
- check if water dries off the cylinder or if it remains wet
- when the cylinder remains wet on removal of the water, remove cylinder to an open space
- open valve and continue to cool cylinder with water until cylinder is empty.

OPERATING FAULTS: Minor "explosions" known as backfires and flashbacks may occur during welding and cutting. Common causes are: ·

- torch nozzle obstructed or held too close to work
- pressures exceed capacity of cutting nozzle or welding tip- gas at higher pressure flows into lower pressure line
- a leak from regulator, hose or connection causes a drop of pressure in a line. Gas from the higher, pressure line back feeds into it
- leaking valves allow gas to seep through and mix when _the equipment is not in use.
- lighting up with both torch control valves open, but one cylinder closed.
- fuel gas may back feed into the oxygen line regulator and cylinder when an oxygen cylinder becomes empty. If the regulator is then place on a new oxygen cylinder, and the cylinder valve is opened too rapidly, the pressure can increase the temperature of the mixed gas enough to ignite it.

BACKFIRE: Return of the flame into the torch with a popping sound. The flame is either extinguished or re-ignited at the nozzle. WHAT TO DO:

1. Close oxygen torch valve.
2. Close fuel gas torch valve.
3. Check cylinder pressures.
4. Check and adjust regulator setting.
5. Cool torch and clean nozzle or tip.

FLASHBACKS: Return of the flame through the torch into the hoses and regulators. They are caused by oxygen and fuel gas in the same supply line. Flashbacks will damage equipment. A serious flashback or several minor ones make equipment unsafe. WHAT TO DO:

1. Close oxygen torch valve.
2. Close fuel gas torch valve.
3. Close fuel and oxygen gas cylinder valves.
4. Extinguish the fire.
5. Inspect torch, hose, regulators and cylinders. If cylinder is hot, cool as described above.

NON RETURN VALVE: A device designed to prevent the back flow of gases. When fitted to the torch end of the hose it reduces the chance of oxygen and fuel gas mixing, but may not stop a flashback reaching the hose, regulator and cylinder. for this reason, a flash arrestor is preferred.

FLASHBACK ARRESTOR: A device designed to prevent the back flow of gas, and stop the flashback flame front.
Prevents the flashback reaching the regulator and cylinder. Fit small flashback arrestors between the torch and hose. Install larger units at regulator outlets. Maintain regularly to ensure satisfactory performance. Use of flashback arrestors does not reduce the need to follow safe operating procedures.

GENERAL: Use torch as described in manufacturer's instructions. A procedure for one torch is not always safe for another.

PRESSURE SETTING:

1. Open the oxygen cylinder valve slowly and fully.

2. Open the fuel gas cylinder valve about 1/4 a turn but no more than l ½ turns.

3. For welding, open the oxygen torch valve; tum the pressure-adjusting screw on oxygen regulator to desire pressure and close torch oxygen valve.

4. Open the fuel torch valve ¼ turn. Adjust fuel gas to working pressure. (Refer to manufacturer's recommendations for pressure settings.) Set gas pressures as low as possible.

PURGING: Purging removes mixed gases in hoses which can cause a flashback when lighting up.

5. Do not purge equipment in confined spaces or in the presence of any ignition source.

6.To purge, in tum open and close each torch valve for I second for every 3m (lO feet) of hose.

7. Purge hoses before using and after each shut down of more than 1/2 hour.

LIGHTING UP:

8. Open the torch fuel gas valve about ¼ turn. Do not open fuel and oxygen valves at the same time.

Make sure that the torch is not pointed at any person, cylinder, or combustible material.

9. Immediately light the gas at the tip/nozzle with a spark lighter or a pilot flame. Do not use matches, hot metal, or welding arc.

10. Increase the fuel gas flow until the flame stops smoking.

11. Open the torch oxygen valve and adjust the flame to that required for the process.

12. Check regulator, set pressures, and adjust if necessary.

13. When the flame is adjusted to the manufacturer's recommendations but is too large (hot) or small (cold) to do the job, change the tip size

SHUTTING OFF TORCH: .

1. Close torch fuel gas valve then close oxygen valve. This is satisfactory for temporary stops not involving leaving the equipment. (Check the manufacturer's recommendations. Some recommend closing oxygen valve first.)

2. In case of backfire or flashback, close torch oxygen valve first. This cuts off the oxygen supply to the internal flame.

CLOSING DOWN.

1.Shut off torch as described above.

2.Close fuel gas cylinder valve and then closed oxygen cylinder valve. Drain fuel gas line by opening torch fuel gas. When both gauge needles have fallen to "0", close the fuel gas torch valve.

3.Drain oxygen line by opening torch oxygen valve. allow both gauge needles to fall to "0". Close the torch oxygen valve.

4.Back off regulator pressure-adjusting screw until no spring tension is felt.

5.Regulators and torches can now be disconnected or, if shut down temporarily, hang up the torch and hoses to prevent damage.

DO -shut off the gas at the regulators to change torches, do not crimp the hose.

-Close cylinder valves when work is finished. Put valve protection caps in place and release pressure in regulators and hose lines before cylinders are moved or place in storage.

-mark completed pieces "HOT" with chalk

DON'T -put down a torch until the valves have been completely shut off

-hang torches from a regulator or other equipment so that they come 'in contact with the sides of gas cylinders. If the flame is not out or if a leaking torch ignites it may heat the cylinder.

-leave the hoses pressurized. Always tum off the supply form the cylinder, bleed the lines, and with lines open, back off regulator. Lines should then be coiled without kinks.

-Relight torches from hot work. If gases do not light instantly, ignition may be violent.

Safe Work Practices Electric Welding-Installation

Reviewed By Don Z Feb 2010 DC May 2012 DC 2014 DC 2015 KS 2017 MH 2018 TH 2020 TH2021 BO2022 TH2023

INSTALLATION:

ENGINE DRIVEN EQUIPMENT:

-Locate on a level base protected from weather. Block wheels to prevent movement. Equipment used outside may require temporary shelter.
-Ensure fuel tank has no leaks and cooling fan is guarded.
-duct engine exhaust outside when used inside.

GROUNDING:

-Wear eye protection; ground according to manufacturer's instructions.
-Check that welding machine frame is grounded, with special attention to ground connectors. --Do not ground to pipelines carrying gases, flammable liquids or electric conductors.
-Keep plugs and sockets connecting welding machines to power clean and free of moisture. --De-energize electrical power when connecting power plug to the power socket.
-Stand well away from plug and socket when power is turned on.
-Install caps on plugs and sockets when not in use.

CONNECTIONS AND CABLES:

-Locate main switch near equipment so power can be shut off easily.
-Locate main power lines overhead and connect them to each machine location.
-Spread out welding cable prior to use. Check weld lead cables for damaged insulation and lead cables for exposed conductors. Check welding cables for full insulation along their length.
-Ensure welding cable is large enough to carry the current required. As the total length of cable in the welding circuit increases, the current canying capacity of that cable decreases. Therefore, for a given application, it may be necessary to increase cable size.
-Replace weld lead spliced within 3m (l0feet) of the electrode holder.
-check for leaks in gas hoses if metal inert gas (MIG) or tungsten inert gas (TIG) welding.
-Inspect equipment periodically for loose or corroded connections, cable damage, dirty or defective jaws of electrode holders, and ground clamps.
-Connect to the transformer or generator with the proper plugs or lugs.
-Do not use bolts for clamping stranded or plaided conductors. They usually work loose.
-Use proper cable couplings to extend leads.

Safe Work Practices
Electric Welding- Maintenance and Inspection

Reviewed By Don Z Feb 2010 DC May 2012 DC 2014 DC 2015 KS 2017 MH 2018 TH 2020 TH2021 BO2022 TH2023

GENERAL: Ensure that the welding equipment has required power supply capacity and is grounded. Only qualified electricians should install and repair electrical equipment. Provide properly sized fuses or circuit breakers for overload protection-size for machine current requirements. Locate main power terminals inside welding machine cover. Ensure terminals are accessible only with tools.

MAINTENANCE PERSONNEL:

-Inspect regularly and keep records . Check oil level and moisture content in oil-cooled transformers.
-Prevent overheating. check with portable ammeters to ensure that load current has not increased beyond the capacity of the welding machine, cable or torch.
-clean equipment according to manufacturer's recommendations. -Ensure welding set has adequate ventilation and internal cooling fans, if present, are operating properly.

WELDERS: Check daily all external connection. Report defective electrode holders and guns, insulation, overheating or suspected defects.
-Ensure all connections are tight and contact area are clean.
-Check welding leads for damage.
-Report and clean up all fuel leaks in engine driven equipment. Ensure exhaust gases are vented.
-Avoid spilling fuel when filling tanks(clean up spills).
-Connect cables sized for maximum welding amperage.

ELECTRODE HOLDERS INSPECTION:

-Check for : loosed metallic screws in the holder, burned or cracked insulation which exposes electrical conductor, overheating and damage at a cable connection.
-Secure the "welding return" and "welding ground" cables to the work with a bolt or strip conductor. For stranded conductors use a cable lug or a grounding clamp. Cable strands are unlikely to hold firm for long periods under the head of a bolt.
-Ensure welding lead and return are fixed for maximum welding amperage.

Safe Work Practices
Electric Welding-Set Up & Equipment Use Checklist

Reviewed By Don Z Feb 2010 DC May 2012 DC 2014 DC 2015 KS 2017 MH 2018 TH 2020 TH2021 BO2022 TH2023

SET UP CHECKLIST:

1. Locate welding leads away from main power leads to prevent accidental contact with high voltage.
2. Cover lug terminals to prevent shorting out by a metal object.
3. Locate equipment so that it will not be tampered with by unauthorized personnel.
4. Minimize welding machine exposure to corrosive fumes, welding sparks or excessive dirt.
5. Locate power switches where they can be quickly disconnected in an emergency.
6. Clear combustible materials from work area. Cover combustible objects with a fire resistant blanket if you cannot move them.
7. Use only a proper earthing clamp or bolted terminal.
8. Have a fire extinguisher nearby.
9. Make sure welding machine is grounded.

IO. **DON'T**

-block walkways. Welding leads should run above head level or be covered so that they are not a tripping hazard. Locate leads and cables so they do not obstruct passageways, ladders and stairways.
-locate welding equipment near overhead cranes or work aisles.
-ground welding equipment to chains, hoist, or elevator cables.
-locate equipment with machine base in water. Thoroughly dry and test machine before using.
-Overload machine or force cables to carry currents beyond their rated capacity.
-ground to pipelines carrying gas or flammable liquids, or to conduits carrying electric wires.
-coil or loop cables around your body.
-allow leaks and condensation to run back in the machine. Use cooling water line drip loops.

EQUIPMENT USE CHECKLIST

I. Make sure you have solid footing and support yourself against stable objects. Your sense of balance my be affected with your welding shield covering your face.
2. Hold the weight of the welding lead in one hand while welding with the other hand.
3. Store electrode holders where they cannot contact workers, fuels or compressed gas leaks.
4. Remove all electrodes from holders and disconnect the machine from power source when welding is stopped for any period of time. Retract or cut off wire electrodes in semi-automatic holders to prevent contact.
5. Burn electrode stubs to no less than 38 to 50mm (1 ½ to 2") in length. Burning them shorter damages the electrode holder insulators, and may resulting accidental shorting out.
6. Keep electrode holders and electrodes dry. If exposed to water or steam, dry thoroughly before further use.
7. Place electrode stubs in a container to prevent others from slipping and falling on them.
8. Position yourself where welding fumes do not rise directly into your face.
9. Shield other workers from your welding arc.
10. Wear protective clothing, including eye and foot protection. (See "Welding-Protective Clothing" and "Welding-Eye and Face Protection"
11. Use chalk to mark completed work "HOT"
12. Chip slag so that the pieces fly away from you. Remove combustible materials from slag path before chipping.

13.**DON'T**

-change electrodes with bare hands, wet gloves or when standing on wet floors or grounded surfaces.
-Weld near de-greasing operations. This causes the formation of hazardous gases.
-Cut or weld on containers, tanks, or drums until they have been thoroughly cleaned and properly ventilated.
-Cool electrode holders by dipping water.
-Switch the polarity with with an electric welder in operation. Turn off the equipment to change polarity.

Safe Work Practices
Portable Arc Welders

JHA risk 6

Reviewed By Don Z Feb 2010 DC May 2012 DC 2014 DC 2015 KS 2017 MH 2018 TH2020 TH2021 DC2022 TH2023

GENERAL: Portable arc welders are a piece of equipment that has to be treated like a vehicle. Do not operate them indoors.

1. Be sure the machine is firmly attached to the transporting unit.

2. Check all fluid levels, water, oils and gas to be sure they are at acceptable levels for operations.

3. When fueling, DO NOT; "top off' the gas tank. Gasoline expands as the outside temperature rises, and this may result in seepage and an ensuing fire.

4. Do not fuel the machine while it is running.

5. Be sure the radiator and gas caps are in proper working order and securely attached.

6. Do a "walk around" to check for damage and obvious leaks.

7. Any repairs should be done by qualified mechanics or technicians.

8. Make sure all cable are wound securely when transporting.

9. Ensure the side cover are kept closed to protect the machine from any damage from external objects and outside weather, as well as to protect the operator and others from the moving parts of the machine.

Safe Work Practices
Plasma Arc Cutting & Welding

Reviewed By Don Z Feb 2010 DC May 2012 DC 2014 DC 2015 KS 2017 MH 2018 TH 2020 TH2021 JB2022 TH2023

General: Read and follow all instruction in the Operating Manual:

1. GASES AND FUMES: Gases and fumes produced during the plasma cutting process can be dangerous and hazardous to your health.

-Keep all fumes and gases from the breathing area. Keep your head out of the welding fume plume.
-Use an air-supplied respirator if ventilation is not adequate to remove all fumes and gases.
-The kinds of fumes and gases from the plasma arc depend on the kind of metal being used, coatings on the metal, and the different processes. You must be very careful when cutting or welding any metal which may contain one or more of the following:

Antimony	Chromium	Mercury
Arsenic	Cobalt	Nickel
Barium	Copper	Selenium
Beryllium	Lead	Silver
Cadmium	Manganese	Vanadium

-Always read the SDS that should be supplied with the material you are using. These SDS's will give you the information regarding the kind and amount of fumes and gases that may be dangerous to your health.
-Use special equipment, such as water or down draft cutting tables, to capture fumes and gases.
-Do not use the plasma torch in an area where combustible or explosive gases or materials are located.
-Phosphine, a toxic gas, is generated from the vapors of chorolinated solvents and cleansers. Remove all sources of these vapors.

2. ELECTRIC SHOCK: Electric shock can injure or kill. The plasma arc process uses and produces high voltage electrical energy. This electric energy can cause severe or fatal shock to the operator or others in the workplace.

-Never touch any parts that are electrically "live" or "hot".
-Wear dry gloves and clothing. Insulate yourself from the work piece or other parts of the welding circuit.
-Repair or replace all worn or damaged parts.
-Extra care must be taken when the workplace is moist or damp.
-Install and maintain equipment according to manufacturers. instructions.
-Disconnect the power source before performing any service or repairs.

3. FIRE AND EXPLOSION: Fire and explosion can be caused by hot slag, sparks or the plasma arc.

-Be sure any combustible or flammable material in the workplace is removed or protected.
-Ventilate all flammable or explosive vapors from the workplace.
-Do not cut or weld on containers that may have held combustibles.
-provide a fire watch when working in an area where fire hazards may exist.
-Hydrogen gas may be formed and trapped under aluminum work pieces when they are cut underwater or while using a water table. DO NOT cut aluminum alloys underwater or on a water table unless the hydrogen gas can be eliminated or dissipated. Trapped hydrogen gas that is ignited will cause and explosion.

4. NOISE: Noise can cause permanent hearing loss. Plasma arc processes can cause noise levels to exceed safe limits. Use hearing protection to prevent permanent hearing loss.

-Wear protective ear plugs and/or ear muffs. Protect others in the workplace.
-noise levels should be monitored to be sure the decibels do not exceed safe levels.

5. PLASMA ARC RAYS: The plasma arc process produces very bright ultra violet and infra red light, which will damage your eyes and burn your skin if you are not properly protected.

-Always wear a welding helmet or shield, as well as other protective eye wear.·
-Wear welding gloves and other suitable clothing to protect your skin form the arc rays and sparks
-keep helmet and safety glasses in good condition. Replace lenses when cracked, chipped or dirty.
-Protect others in the workplace from arc rays. use protective booths, screens or shields.
-Use the shade of lens recommended in the "Eye and Face Protection" Safe Work Place Practice.

Welding Galvanized Steel -- Safely

Background

Galvanizing has been used to protect iron and steel from rusting for over a hundred years in places as diverse as the wire rope used for the suspension cables on the Brooklyn Bridge to gutters on houses.

Galvanizing is simply coating of zinc over steel. Like paint, galvanizing protects steel from rusting by forming a barrier between the steel and the environment, but galvanizing goes one giant step further than paint -- it also provides electrochemical protection of the steel. Since zinc is electrochemically more reactive than steel, it oxidizes to protect the steel near it; as a result, even if a galvanized steel surface is scratched down to the bare steel, the galvanizing coating will prevent the steel from rusting. Galvanized steel is, therefore, a superior product to steel with any other type of coating on it since it protects the steel even when the coating is damaged in handling or in service.

Welding of Galvanized Products

Welding of galvanized steel is done almost exactly the same way as welding of the bare steel of the same composition; the same welding processes, volts, amps, travel speed, etc. can be used with little modification when the switch is made from uncoated steel to galvanized steel -- unless the zinc coating is unusually thick.

The difference between welding galvanized steel and welding uncoated steel is a result of the low vaporization temperature of the zinc coating. Zinc melts at about 900°F and vaporizes at about 1650°F. Since steel melts at approximately 2,750°F and the welding arc temperature is 15,000 to 20,000°F, the zinc that is near the weld does not stand a chance -- it's vaporized! By the time the weld pool freezes, the zinc is gone. This has two immediate consequences:

- The vaporized zinc increases the volume of welding smoke and fumes.
- The zinc at and near any welds is actually burned off by the heat of the arc, removing the protective zinc coating.

Zinc Fumes -- A Safety Hazard?

When zinc vapor mixes with the oxygen in the air, it reacts instantly to become zinc oxide. This is the same white powder that you see on some noses at the beach and the slopes. Zinc oxide is non-toxic and non carcinogenic. Extensive research[1] into the effects of zinc oxide fumes has been done, and although breathing those fumes will cause welders to think that they have the flu in a bad way, there are no long-term health effects. Zinc oxide that is inhaled is simply absorbed and eliminated by the body without complications or chronic effects. Current research[2] on zinc oxide fumes is concentrated in establishing the mechanism by which zinc oxide causes "metal fume fever," how its effects are self-limiting and why zinc oxide fume effects ameliorate after the first day of exposure even though the welder may continue to be exposed to zinc during subsequent days ("Monday-morning fever"). Other research[3] is being done using zinc oxide fumes together with various drugs which results in a synergetic effect for treatment of cancer and AIDS. Another area of research is use of zinc compounds as the active ingredients in throat lozengers that are recognized as significantly effective in reducing the duration and intensity of the common cold.

Typical "metal fume fever" begins about 4 hours after exposure, and full recovery occurs within 48 hours. The symptoms include fever, chills, thirst, headache and nausea. All of these symptoms, pain and suffering, as well as lost work (and play) time, can be avoided entirely by simply not inhaling the zinc oxide fumes. This can easily be done using any of the methods described later.

Unlike other heavy metals, such as copper, lead and mercury, zinc is an essential micro nutrient. Zinc is essential to the proper growth of plants and animals. Zinc forms part of the enzyme system that regulates biological processes throughout the body. As shown on any multi-vitamin/mineral bottle, the recommended minimum adult intake is 15 mg/day.

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[1]Walsh, Sandstead, Prasad, Newberne and Fraker, Environmental Health Perspectives, Volume 102, Supplement 2, June 1994, 5-46. Provides summary plus 471 references.

[2] Kuschner,D'Alessandro, et. al., Pulmonary Responses to Purified Zinc Oxide Fumes, Journal of Investigative Medicine, 1995:43:371-378.

[3]Robert Sabin, Zinc Activated Profile, COPE, March/April 1995: 16,17

Welding Galvanized Steel -- Safely

The zinc that is generally used for hot dipped galvanized coating has a naturally occurring lead content around 1/2%. Since lead is not soluble in zinc over 0.9%, it cannot exceed 0.9% concentration. This lead may be vaporized along with zinc during welding. Since lead does not vaporize until it gets over 3000°F, and since some of it is soluble in steel, proportionately less lead is vaporized than zinc; lead oxide fumes, however, should not be inhaled, and the practices recommended below for avoiding inhaling zinc oxide fumes will also prevent inhalation of lead oxides. There is also some concern about residual lead where galvanized products will be in contact with children, such as when it is used on playground equipment without a high-qualify top coating.

Some galvanized product manufacturers use zinc that is 99.99% pure zinc, so the presence of lead is of no concern when welding these products or due to contact. Similarly, galvanized products that have very thin organic coatings or have been chemically treated to improve the adherence of top coatings are welded safely when the practices recommended below for avoiding inhaling zinc oxide fumes are observed.

Properties of Galvanized Steel Welds

The successful welding of galvanized steel is so widely accepted that there is very little recently-published mechanical property data comparing uncoated versus galvanized weld properties. The welding industry recognized fifty years ago that welds on galvanized steel and welds on uncoated steel are of comparable strength if the quality of the welds is comparable. Recent publications on welding galvanized steels deal with weld toughness, porosity control, weld appearance, restoring corrosion resistance and other issues that are much more complex than the strength of the weld.

When using SMAW ("stick") welding, galvanized steel can be welded in the same manner as uncoated steel. When using MIG or flux cored welding, one may have to adjust the voltage slightly to control spatter, and one may have to clean the welding gun of spatter and zinc oxide deposits more frequently that when welding uncoated steel. Hobart makes a flux cored wire called “Galvacore” that some users have had good success with when welding galvanized steel.

When difficulty is encountered welding galvanized steel that was not encountered during welding uncoated steel, it is usually because the Welding Engineer has not accounted for the volume of gas that is evolved by the vaporization of zinc during welding. The thicker the zinc coating, the more fumes are generated, and those fumes have to be able to escape easily into the atmosphere and not be forced through the liquid weld metal.

For example, welding galvanized plates to form a T-joint is a commonly troublesome situation. Since the galvanized edge of one plate is butted against another galvanized surface, the zinc vapors that are formed at the abutting surfaces will not be able to escape to atmosphere easily as the zinc is vaporized. Instead, they will blow into the weld pool, creating porosity or a poor weld surface. This is aggravated when welding conventionally hot-dipped products, since the edges frequently have excessively heavy zinc coatings. One solution is to separate the parts by 1/16 inch using wire spacers or fixtures which will leave a gap for the zinc vapors to escape easily. Other approaches are to use a slight (15°) bevel on one member (Figure 1), to remove the zinc from the faying surfaces by shearing or mechanically cuting the plate where the faying surfaces will meet, and to abrasively remove most of the zinc from one or both of the faying surfaces (Figure 2). Any of these methods will significantly reduce the amount of zinc between the parts, and this will reduce the volume of gas evolved, improving weld quality.

Figure 1

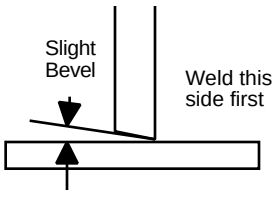
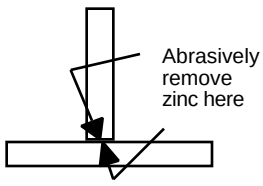


Figure 2



The welding engineer should also check the welding electrodes which are being used for high silicon levels. Excessive silicon can cause zinc to penetrate the weld metal, leading to cracking, especially when the zinc coating is thick. The silicon in welding electrodes should not exceed 0.85%; this means that commonly used ER70S-6 filler metals should not be used when welding galvanized steel.

Avoiding and Filtering Fumes

The first line of defense in dealing with zinc oxide fumes is welder training. Welders should be taught -- even when welding uncoated materials -- to keep their heads out of the fume plume and to position themselves relative to the air flow around themselves so fumes and dust do not collect inside their welding shields. If a welder finds white dust inside his welding shield when welding galvanized products, he is not positioning himself properly. When welding galvanized products that have thin, uniform coatings and the process is gas-shielded MIG or flux core, the fumes generated are sparse and the shielding gas blows them away from the welder; this is frequently sufficient to avoid metal fume fever without further action.

To complement proper positioning, a fully effective method to preventing inhaling zinc fumes is to wear a suitable respirator (mask). Some of the commercial products which are suitable are:

Manufacturer	Product	Description	Cost (each)
3M (800-328-1667)	9920	Half-Mask, Disposable	4.50
3M	9925	Half-Mask, Disposable	5.00
3M	9970	Half-Mask, Disposable	6.50
Moldex	3400	Half-Mask, Disposable	6.00

The prices shown are list prices for purchase of 40 or more; these items are usually available with some discount.

These masks are similar to a painter's mask; although there are other larger and more complicated masks, these work, while providing minimal interference and discomfort to the welder. The higher priced masks contain activated charcoal which removes some odors as well as the zinc oxide; welders who use these masks frequently wear them even when they are not welding on galvanized steel, since they make the air smell better and they filter out other particulate matter in the welding fume plume.

Masks that are not properly fitted will not be effective in protecting the welder since the zinc oxide can be pulled through any openings between the mask and the welder's face. Welders who are given masks or any other kind of personal protection equipment have to be trained how to adjust them so that they work correctly. In addition, OSHA regulations (29CFR Part 1910.134(b) requires that fabricators have a written procedure for use of personal protective equipment such as respirators and masks; that the equipment be selected from that approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health; that the equipment selection be based on the hazard to which the welder is exposed; that only employees who are physically capable of doing the job and know how to use the safety equipment are assigined to perform work; that respirators are cleaned and disinfected regularly, stored in a convenient, sanitary location and kept in good repair; that the work area be monitored for changes in exposure; that the medical status of employees is reviewed regularly; and that the program be reviewed on a regular basis to appraise its effectiveness. OSHA does not currently require periodic medical evaluation of employees, but that is under consideration. Disposable masks eliminate some of the hassle associated with meeting these OSHA regulations.

More complex and expensive than masks are the "personal environment systems" in which the welder has air supplied to a loose-fitting helmet and outer shroud which drapes over the his shoulders. Portable fans or compressed air supply filtered air to each welder under positive pressure, keeping any welding fumes out of his breathing area.

Supplier	Product	System Cost (Approx)
3M	Whitecap W-8200B	600 (CA)
Racal Airstream	AH-17	550 (BP)
Racal Airstream	AH31, 33 or 39	425 to 615 (CA)
Neoterik	CB14-77	227 (CA)
Neoterik	MB14-77	472 (BP)
Hornell Speedglas	Fresh-Air	880 (BP)

(CA indicates compressed air supplied, BP means battery powered)

It should be noted that any compressed air supply has to be "oil-free" air; normal shop air contains oil which, if inhaled, will coat the lungs in a short period of time, causing irreversable death.

Welding Galvanized Steel -- Safely

The other approach to removing the air from the welder's breathing space is to capture it so that the fumes never rise into the welder's face. Source capture devices are usually flexible ducts attached to an exhaust or filter system. Suppliers of fixed single welding station fume extraction systems are:

Supplier	Phone	Product	System Cost ( ) (est)
Nederman, Inc	313-729-3344	FilterBox	3500 to 7000
Nederman, Inc	313-729-3344	Electrostatic Filter	4,200
Torit (Donaldson Co.)	612-887-3900	Trunkline	4,000 to 7,000
Morris Mobile Clean	800-541-0817	MC-2000	3,000
Morris Mobile Clean	800-541-0817	MobileVac	2,200

One difficulty with "source capture" devices is that their range is limited to less than a foot from the end of the flexible duct; this means that the welder has to move the duct if he moves outside its capture range.

Another type of "source capture" device that can be used when "MIG" welding is a welding gun that has a vacuum nozzle attached directly to the welding gun. All "MIG" welding gun manufacturers, including Tweco, Lincoln, Hobart and Binzel make these modified guns and filter units. The primary disadvantage is that they are slightly bulkier than guns without vacuum attachments. This can make welding more difficult for the welder.

The optimum method for capturing welding fumes over a large area is a downdraft work table. This is because the fumes are drawn downward away from the welder's breathing zone. Interestingly, the effective capture distance of a downdraft table can be easily extended to over a foot simply by addition of a small overhead fan directed downward. Downdraft tables are available from:

Supplier	Phone Number
Weldsale Company	215-739-7474
Aercology	203-399-7941
Eutectic Corporation	800-323-4845

Downdraft work table will cost approximately 1,200 for a small (30" by 36") table to 5,000 for a large (4' by 8') work station plus the cost of fan, duct and, if necessary, filter system. Downdraft work stations for assembly line work, where welding is done in isolated areas, is much less costly. Downdraft ventilation is not only better than overhead ventilation, but it is usually less expensive, since many of the components are off-the-shelf items, and the ventilation system is integrated into a convenient work table.

Welding fumes and zinc oxide dust can be removed by general ventilation; however, American National Standards Institute (ANSI) Z49.1 limits zinc to 5mg/cubic meter. General ventilation or tall ceilings (over 16 feet) are needed for all welding operation to ensure adequate dilution of smoke and other pollutants associated with welding. This is true whether or not zinc is involved.

Overhead exhaust systems can be designed and engineered to remove welding-related pollutants as well as zinc oxide dust from the air. These systems can exhaust to the outside atmosphere or they can be recirculating systems. Recirculating systems can be supplied by:

Supplier	Phone
Torit (Donaldson Co.)	612-887-3900
Nederman, Inc	313-729-3344
Airomax	609-933-1780

Overhead exhaust or filtering systems will cost between 50,000 and 100,000 for four large welding stations, such as would be used for fabrication of scaffold components or playground equipment.

One of the primary considerations for engineered exhaust systems is that the flow of the air must be controlled properly. The general flow rate of the air should be 150 to 200 feet per minute, and the flow pattern should be such that the air flows from

Welding Galvanized Steel -- Safely

the welders left to right or right to left. Air flow should not come from behind the welder, since this creates a “smokestack” effect which brings fumes directly into the welder’s breathing zone.

Restoring Corrosion Resistance

The heat from welding vaporizes the protective zinc coating near the weld. Even though the remaining zinc continues to provide some protection to the zinc-free areas, the appearance is poor, and the zinc-free areas will rust when exposed to the environment. Paints which are high in elemental zinc (i.e., "Zinc-rich"), properly applied, will effectively restore full corrosion protection to the weld areas. These paints are available in either spray cans or in containers suitable for brush or spray application. This paint can be applied to the weld after sand blasting or wire brushing to remove all welding slag followed by wiping the weld clean with a rag. Thermal- sprayed zinc is also effective in restoring corrosion resistance, but the surface has to be sufficiently roughened, usually by sand blasting or coarse abrasive conditioning to enable thermal-sprayed zinc to stick properly.

Alternative Filler Metals

Is it possible to avoid the corrosion problems resulting from vaporizing the zinc by using, for example, stainless steel welding electrodes?

Carbon steel, whether galvanized or uncoated, can be readily welded using stainless steel electrodes. Stainless steel, however, is electropositive (cathodic) to zinc and also to carbon steel. This means that, in the presence of moisture, both the zinc and the expsoed carbon steel immediately next to the weld metal will corrode to protect the stainless steel - not a happy situation!

Another possible filler metal is aluminum bronze (Copper with 7 to 15% aluminum). This alloy has a melting point lower than the steel, bonds well to the steel, flows nicely against the galvanize, and is more like brazing than welding. However, aluminum bronze is electropositive (cathodic) to zinc and also to carbon steel (more electropositive than stainless steel, in fact.). This means that both the zinc and the expsoed carbon steel immediately next to the weld metal will corrode to protect the aluminum bronze - again, not a happy situation!

Why not galvanize after welding?

Why not avoid the entire problem of dealing with welding over galvanized steel by galvanizing after fabrication? Steel products, after all, were always galvanized after fabrication because there used to be no practical way to restore the effectiveness of galvanizing after welding.

Galvanizing after fabrication is still done routinely, but it has to be done very carefully. The fabrication has to be cleaned in acid, the acid has to be neutralized, and then the fabrication had to be immersed in a pot of liquid zinc at over 900°F. One has to be very careful that the fabrication is dry when it is lowered into the zinc, since any trapped water will flash to steam, exploding zinc everywhere. One also has to be careful that the zinc can flow easily into and out of any nooks and crannies to achieve complete coverage; this is especially difficult if the fabrication is made of tubes, since the tube has to be open at both ends to allow the zinc to flow properly. Achieving uniform coverage on any but the simplest fabrication can be very difficult. Finally, the fabricated product has to be able to fit into the pot of molten zinc -- a difficult challenge with large structures.

Plates, sheets, wires, structural shapes and especially tubes are very easy to galvanize before being made into products, since their shapes are simple - no nooks or crannies, no hidden cavities, no place for water to get trapped.

Products which are ordinary hot dipped galvanized as opposed to being galvanized "in line" exhibit special problems when welding, mostly due to the uneveness of the coating. Edges and corners -- typically right where welding is being done -- frequently have very thick, heavy zinc deposits which may interfere with welding much more than where the zinc has been applied evenly. In addtion, hot dipped products typically have rough finshes which do not top coat very well, and top coating, especially with powder topcoats, has to be done within 48 hours to avoid difficulty with white rust formations.

Summary

In short, it’s usually a lot easier and less expensive to galvanize steel before it is welded into useful products than it is to galvanize it afterwards.

Welding Galvanized Steel -- Safely

1) Galvanized steel can be welded using the same arc welding processes that are being used for fabrication today.

2) Galvanized steel can be arc welded safely with little increase in cost or welder discomfort.

3) Corrosion resistance at welds can be effectively restored by application of paint coatings which are high in elemental zinc or by thermal spraying zinc over the weld areas.

4) Galvanizing simple shapes can be controlled better than psot-fabrication galvanizing, resulting in smoother surfaces and a more uniform top coating appearance.

Portions of this article appeared as an article in *The Fabricato*r, March, 1997. Reprints of that article are available form Sperko Engineering.

Safe Work Practices
Forklift Trucks

FORKLIFT TRUCKS

FORKLIFT TRUCKS- ERGONOMICS

FORKLIFT OPERATOR'S DAILY CHECK

THE PROFESSIONAL FORKLIFT OPERATOR

FORKLIFT TRUCKS- MAINTAINING CONTROL

FORKLIFT TRUCKS- MAINTAINING STABILITY

FORKLIFT TRUCKS- LOAD HANDLING

FORKLIFT TRUCKS- LOADING/UNLOADING VEHICLES

FORKLIFT TRUCKS -HANDLING OF LPG FUEL

FORKLIFT TRUCKS- FORK SAFETY

COMMON FACTORS IN FORKLIFT HAZARDS

FORKLIFT TRUCK MAINTENANCE

Safe Work Practices
Forklift Trucks

Reviewed by DC April 20IO RDR 2012 TH 2014 DC 015 KS 2017 MH 2018 TH 2020 TH2021 DC2022 TH2023

1. Inspect forklift daily. Report all malfunctions to the designated authority. Do not operate an unsafe forklift.

2. Report accidents/incidents immediately to the supervisor.

3. Do not permit riders on any forklift.

4. Ensure that battery retainers, fuel tanks, gas caps are secure before starting/moving forklift.

5. Observe and obey the load capacity of the forklift.

6. Sound horn before moving forklift when other vehicles or workers are in the area.

7. Place forks as far under the load as possible. Drive with load against heel of rack with mast tilted back. Be sure forks are spaced correctly to support load. Carry the load as low as possible.

8. Do not move loads which are poorly piled or stacked.

9. Match speed to driving surfaces, load and workplace conditions. Travel in reverse when load is blocking frontal vision.

10. Do not drive with arms, head or legs outside the forklift. Check operating clearance space.

11. Watch for overhead obstructions at all times, especially when stacking or removing material.

12. Do not make quick starts, jerky stops, or quick turns, particularly when stacking.

13. Do not run over loose objects.

14. Know the forklift wheel position in relation to edge ofloading docks, truck, box cars and/or platforms. Be careful when backing up.

15. Do not handle steering wheel if your hands or gloves are greasy or slippery.

16. Park forklift with controls in neutral, brakes applied and forks in a down position with the motor switch off.

17. Do not allow anyone to stand, walk or work under elevated forks.

18. Always be prepared to stop. Sound horn.

19. Do not elevate anyone on the forks unless in approved man cage that is secured to forklift truck.

Safe Work Practices
Forklift Trucks - Ergonomics

TH 2020 TH2021 EY2022 TH2023

VEHICLE CAPABILITY:

1. Ensure the forklift is capable of handling the required lift and load size.
2. Ensure the forklift is designed to operate in the assigned area of operation. Refer to National Fire Protection Association Fire Safety Standard for Powered Industrial Trucks, NFPA505.
3. The forklift must remain stable in all lift and operating positions.
4. Load capacity must be clearly marked on the forklift.
5. Ensure the forklift can make the necessary turns within its area of operation.
6. Ensure sufficient width and overhead clearance for the forklift to clear structures and walkways.
7. Ensure the forklift has the required height and/or reach to place the load.

OPERATOR VISIBILITY:

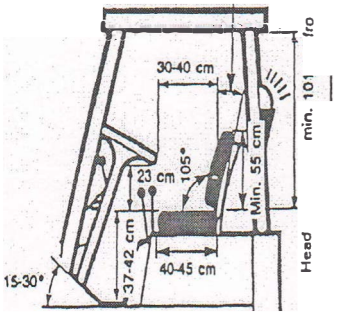
1. The operator must have clear view.
   - -upward,
   - -of the ground(l.e. squatting person at five metres),
   - -in directions of work and travel without assuming a twisted or awkward position.
2. Visual obstructions, should be designed out of the vehicle or overcome using mirrors, external window, T.V., video camera, etc.

Seating

1. The seat should be provided with a shock-absorbing system.
2. Seat upholstery should resist wear and provide ventilation and thermal insulation.
3. The seat should have a backrest with lower back support.
4. The front edge of the seat should be rounded
5. Seat must have a seatbelt.

SAFETY CONSIDERATION: Make sure the forklift is equipped with these safety devices:

-back-up alarm.
-rear view mirror.
-high visibility colour. Back of forklift striped with paint or reflective tape
-fire extinguisher.
-Roll-over protection.
-guarding or shielding of exhaust stack, service platform, etc.,
-special tires(comfort, traction).
-seatbelt.

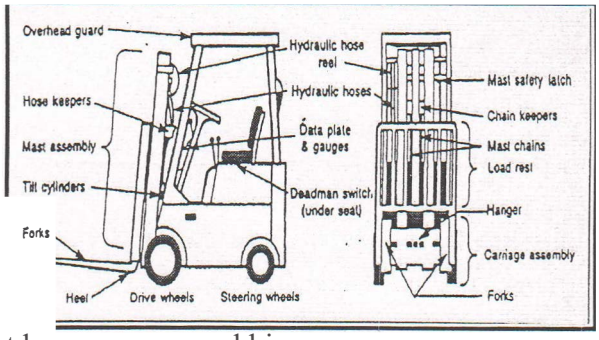


Safe Work Practices
Forklift Operator's Daily Check

Reviewed by: DC 2010 RDR 2012 DC 2015 KS 2017 MH 2018 TH 2020 TH2021 CC2022 TH2023

Perform a walk-around visual and operational check daily. Inspect the general condition and cleanliness before getting on the forklift.

VISUAL PRE-START CHECK:



I. Ensure fire extinguisher is present and charged.

2. LPG Gas and Diesel:-engine oil level, fuel level, radiator water level.

3. Electric:-electrolyte level
-battery plug connections
-battery cables(exposed wires)
-ensure hold-downs are working

4. General:

-check for fluid leaks-make sure hoses are held securely, not loose, worn or rubbing
-check for damage-missing/loose bolts, nuts guards, chains, hydraulic hose reels.
-check wheel/tire condition
-check chain anchor pins(worn, loose, or bent).
-check forks to ensure positioning latches are in working condition.
-make sure carriage teeth are not broken, chipped or worn
-check the horn and lights
-as you walk around the forklift check for objects on the ground that could cause and accident, overhead obstructions and nearby objects to avoid as you drive away.

OPERATIONAL PRE-USE CHECK:

5. Test operate all moving parts:

-foot brake-pedal holds, stops smoothly
-parking brake-should hold against slight acceleration
-dead man seat brake-should hold when operator rises from seat
-clutch and gearshift-smooth shifting, no jumping or jerking
-noises
-dash control panel-all lights and gauges operational
-steering-smooth movement
-lift mechanism-raise forks to maximum height; lower forks completely checking for smooth operation
-tilt mechanism-moves smoothly hold: tilt mast all the way forward and backward checking for smooth operation
-leaks-check cylinders and hoses for leads after above checks

6. Record/report any problems identified and ensure proper maintenance and repairs are scheduled.

Safe Work Practices
The Professional Forklift Operator

RDR 2012 DC 2015 MH 2018 TH 2020 TH2021 JJ2022 TH2023

1. Only skilled and competent workers are permitted to operate forklifts.
2. Know the recommended load limit of the forklift and never exceed it. Know how to assess the weight of the load you are required to lift.
3. Perform a visual and operational check of the forklift at the start of the shift.
4. Never overload a forklift- to do so may cause a loss of steering.
5. Check for adequate overhead clearance before raising a load.
6. Operate the forklift smoothly when stopping, starting, lifting and tilting.
7. Keep pedestrians away and raise and lower the load smoothly.
8. Stay in truck in the event of an overturn.
9. Keep hands, arms, head, feet and legs inside the confines of a moving forklift.
10. Report immediately any collisions, damage or near-miss accidents to the supervisor.
11. Stop when a group of people is walking across the rout being traveled. Lower the load to the floor and wait until the people get by before proceeding.
12. Operate in a congested area only as fast as condition safely permit.
13. Stay constantly alert to changing or unusual conditions.
14. Prepare for the unexpected and check:

-hands-use leather gloves when moving or shifting loads or checking skids.
-boots-wear fully-Jaced safety boots to give impact protection when moving loads or skids and laced to give necessary ankle support when mounting and dismounting.
-lift truck. Load and route.

15. Whenever anything develops that affects the normal operation of the forklift, make a note of it and inform the supervisor immediately.
16. Operator must wear the seatbelt.

DON'T

-try to move or adjust any part of the load, the forklift or surroundings while on the forklift.

-lift a load that extends above the load backrest unless no part of the load can possibly slide back toward operator.
-allow anyone but the operator to ride on the forklift
-use pallets elevated by forklifts as an improvised work platform.
-permit anyone to stand or walk under the elevated part of the forklift, whether loaded or unloaded.

Safe Work Practices
Forklift Trucks- Maintaining Control

Reviewed by DC 2010 RDR 2012 DC 2015 MH 2018 TH 2020 TH2021 EY2022 TH2023

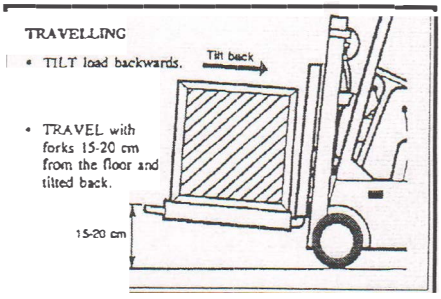
1 .Inserting Forks into a Pallet:

-Ensure forks are level, high enough to go into the pallet, as wide apart as possible, and all the way under the load.

2. Lifting, Tilting, Stacking a Load:

-Lift the load straight up until it is clear, then tilt back.
-Watch that the load does not catch on adjacent loads or obstructions.
-Do not raise or lower the forks unless the lift truck is stopped and braked.
-Ensure the forks are free of the load before you back up.

3. Traveling:



-Tilt the load backwards.
-Travel with forks 15-20cm from the floor and tilted back.
-Match speed to driving conditions, load and workplace conditions.
-Obey posted traffic signs and watch for pedestrians.
-Decrease speed at all comers, sound horn and watch the swing of both the rear of the lift truck and the load. Avoid sudden stops.
-Travel in reverse when your vision is blocked by a load, and always looking in the direction of travel.
-Check for adequate overhead clearance when entering an area or raising the forks.

4. Driving in Reverse:

-Face to the rear.
-Sound horn before moving.
-Proceed slowly.
-Stop where vision is limited or blocked; sound the horn and proceed slowly.

5. Traveling Up or Downhill:

-Keep the forks pointed downhill without a load.
-Keep the forks pointed uphill with a load.
-Do not tum until you are on level ground.

6.Dangers on Route:

-be alert for the following dangers on the floor or roadway:
*people *rough surfaces *oil/wet spots *loose objects/holes *other vehicles

7.Parking: Every time you leave the lift truck unattended, secure it.

- Park in approved location -Turn off the motor switch.
- Disconnect the battery or go through propane shut down procedures.
- Set the brakes.
- Lower the forks or load to the floor.
- Neutralize the controls.

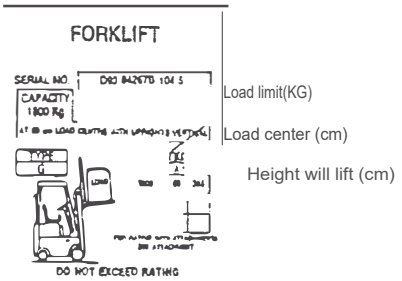
8.Operator Safety: In the event of an overturn, stay in the forklift

9.Safe Loads: Do not handle unstable loads.

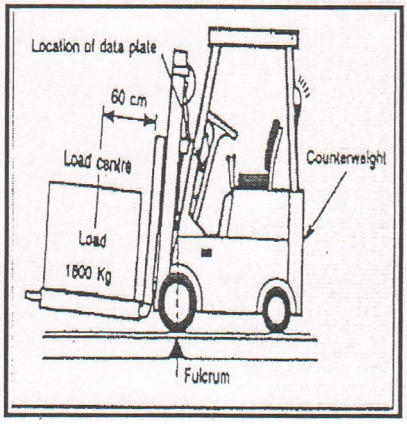
Safe Work Practices
Forklift Trucks-Maintaining Stability

Reviewed by DC 201 RDR 2012 DC 2015 MH 2018 TH 2020 TH2021 KM2022 TH2023

LOAD LIMIT: Do not exceed the recommended load limit ofthe lift truck. Each lift truck has a maximum load limit, which is shown on the data plate ofthe lift truck.



LOAD CENTRE: A lift truck is designed on the principle ofa teeter-totter.
--Position load according to recommended load centre. The load limit ofthe lift truck decreases as the load centre is increased.
-Do not add extra weight to counterbalance an overload.
-Insert the forks all the way under the load.
-Keep the load close to the front wheels to keep the lift truck stable.
-Check for adequate overhead clearance before raising a load.



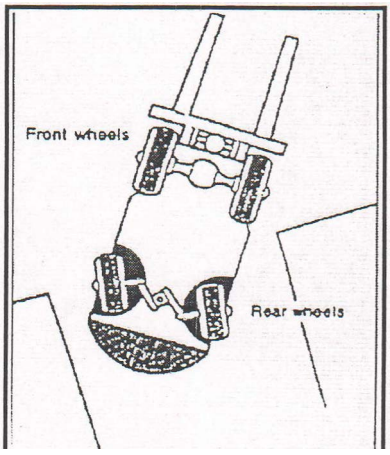
ELEVATING THE LOAD: When the load is raised, the lift truck is less stable.

-When raising a load.

-Do not raise or lower the forks unless the lift truck is stopped and braked .
-Lift the load straight up or tilted slightly back.
-do not lift a load that extends above the load backrest unless no part of the load can possible slide back toward the operator.

-STEERING:

-The weight of the load is carried by the front wheels' turning is done with the rear wheels.
-Do not tum a lift truck steering wheel sharply at fast speeds.
-Do not overload a lift truck. It can cause a loss of steering control.
-Do not add extra weight to counterweight to improve steering.

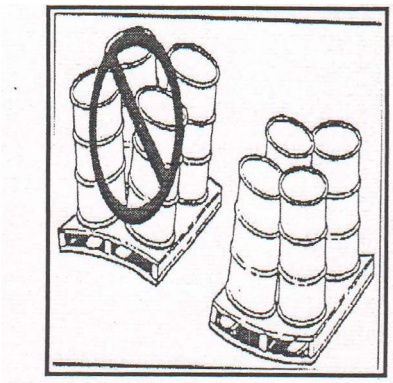


MOVING A LOAD:

-Keep the forks 15-20 cm off the ground.
-Ensure vision is not blocked by the load.
-Drive slowly
-Avoid sudden stops.

Safe Work Practices
Forklift Trucks-Load Handling

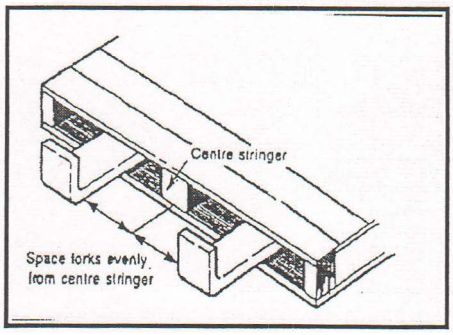
Reviewed by: DC 2010 DH 2010 DC 2015 MH 2018 TH 2020 TH2021 RW2022 TH2023



1. Check the load to ensure
   - -it is stacked correctly and securely
   - -the pallet is in good condition
   - -the load is within the recommended load limit of the forklift.

2. Ensure that the mast of the forklift is in an upright position before inserting the forks into the pallet.

3. Ensure forks are adjusted for the most spread possible for the load.



4. When moving steel, especially in winter must be secured to forks.

5. Space forks as widely as possible to provide more even distribution of weight.

6. Space forks evenly from the center of the pallet (center stringer) to balance the load.

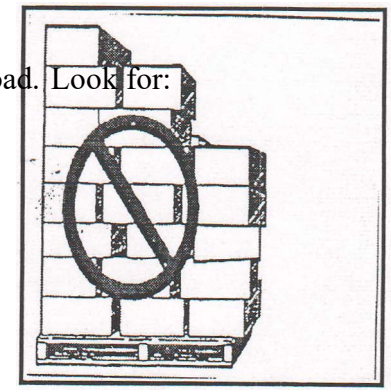
7. Ensure forks are level before inserting them into the pallet.

8. Ensure forks do-not protrude past the back of the pallet when stacking in tight areas.

9. Ensure that the load is secured before moving. If it is not, re-pile or strap load to skid.

10. Remove damaged pallets from service.

11. Ensure that palletized loads are stable, neat, cross-tied if possible, and evenly distributed.



12. Check the route you are going to travel before moving the load. Look for:
    - -overhead and doorway clearances.
    - -dock plates must be secure.
    - -weight capacity of floors, dock plates, etc.
    - -proper lighting.
    - -floor in good condition.
    - -obstructions.

HB Construction Inc.

1. Ensure that the vehicle's brakes are set and its wheels are properly chocked (blocked). Post signs not to move vehicle.
2. Install fixed jacks to support a semi-trailer to prevent upending of trailer not coupled to tractor.
3. Check that the height of the entrance door of the vehicle is adequate to clear forklift height by at least 5cm.
4. Check floors to see they will support the combined weight of the forklift and the load.
5. Keep forks pointed downhill when traveling without a load on a ramp. Keep forks pointed uphill when traveling with a load on a ramp.
6. Stay clear of edges of docks, rail cars or ramps. Edges should be clearly marked.
7. Do not tow or push railway cars or trucks with the forklift.
8. Do not leave forklifts running inside vehicle for long periods of time without ventilation.
9. Inspect the interior condition of the vehicle for trash, loose objects and obstructions. Check for holes or weak floors and overhead clearance. Ensure proper lighting.
10. DOCKS AND DOCK PLATES:

-ensure that dock plate is properly secured before driving over it. Drive carefully and slowly over the plate. Do not spin wheels. Make sure that the plate will carry the load. (Load weight should be clearly marked.)
-Install anti-slipping material in any area that could be a hazard because of weather conditions.
-Ensure that docks-and dock plates are clear of obstructions and not oily or wet.

11. RAILWAY CARS:

-cross railway track on a diagonal.
-set handbrakes, wheel blocks and derailer before entering railway car.
-do not park forklift within three metres of railway tracks.
-do not open railway car doors with forklift forks.

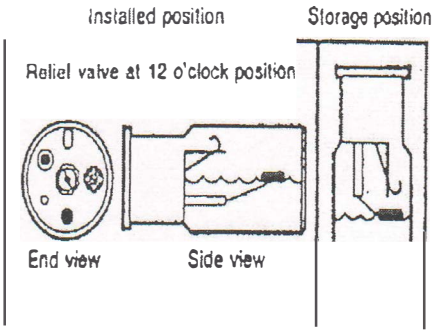
12. ELEVATORS:

-do not enter any elevator unless specifically authorized to do so. Before entering any elevator, ensure that the forklift plus load weight does not exceed the elevator capacity. Approach the elevator slowly, stop at a safe distance from the elevator gate and enter squarely.
-Neutralize the forklift controls, shut off motor and apply the brakes on the elevator.

Safe Work Practices
Forklift Trucks - Handling of LPG Fuel

Reviewed by RDR 2010 DH 2012 DC 2015 MH 2018 TH 2020 TH2021 JJ2022 TH2023

1. Position tank so liquid does not come in contact with the relief valve.
2. Check to see locking pin engages into cylinder.
3. Store cylinders outside, in an upright position in an area where they can be secured and protected from being struck. Remember valve should be closed tightly.
4. Put cylinder down gently - do not drop it. Always protect the valve.
5. Avoid contact with propane - rapid vaporization causes frostbite. Wear protective gloves while making or breaking connections.
6. Use only components approved by the Canadian Gas Association (CGA), Canadian Standards Association (CSA), Canadian Transport Commission (CTC), Underwriters Laboratories Inc. (UL) or Underwriters Laboratories Canada (ULC).
7. Ensure that repairs to the carburetor or fuel supply system are done by authorized personnel.
8. Exchange removable cylinders outdoors or in well-ventilated areas, away from sources of ignition.
9. Close valve before breaking connection.
10. CHANGING FUEL TANKS



-Wear eye protection and leather gloves.
-Close valve on cylinder.
-Run engine until it stops. This ensures that the connection hose is empty.
-Shut off engine.
-Open connecting nut (inspect valves for leaking). Do not use metal tools.
-Disconnect hose and holding straps.
-Remove empty cylinder.
-Replace with a full cylinder in proper position.
-Connect holding straps.
-Tighten connecting nut(wiggle hose).
-Open valve on cylinder slowly and check for leaks. Use soap water solution. Smell, listen, look.
-If the valve leaks, re-follow this procedure. If it continues to leak, change the cylinder. If changing the cylinder does not correct the problem, change the hose.
-Open valve fully (slowly).
-Check that hose is turned inward.
-Secure hose downward.
-Secure cylinder.
-Start motor and resume operation.

Safe Work Practices
Forklift Truck-Fork Safety

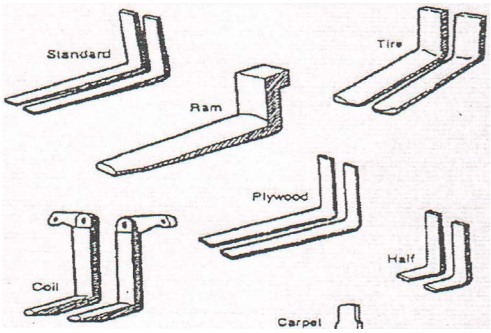
Reviewed by RDR Feb 2010 DH 2012 DC 2015 MH 2018 TH 2020 TH2021 JJ2022 TH2023

FORK INSPECTION SCHEDULE: Under normal operation conditions, forks should be inspected daily and every six months.
DAILY: A visual inspection of forks(by operator) on the pre-start check , with special attention to permanent deformation and cracks.
SIX MONTHS: A thorough inspection of forks looking for cracks and deformation. This inspection may be required more often, depending on the use of the equipment.

1. Check fork blades for wear. Forks are constantly subjected to abrasion by concrete floors, steel shelving, etc., This abrasion can reduce the thickness of a fork until it is not capable of lifting to design capacity.

2. Check for distortion. forks can be bent out of shape. Depending on the degree of distortion, some forks can be straightened. contact the fork manufacturer for further information on straightening forks.

3. Check for cracks in heel and hanger. Cracks may appear on forks where (a) attachments are welded on or (b) in the inside radius of the bend area. Crack can be discovered by periodic inspection using a test (magnetic particle or dye penetrate). These blemishes may be ground out and polished by approved grinding methods, depending on the depth of the crack.



4. Replace with quality forks. When you order or re-order forks, make sure you are getting high quality forks that will perform your lifting jobs in a safe and dependable manner. Insist on forks that are forged or have an upset heel.

5. Use the proper forks. Custom designed forks are needed for:

-unusual lifting conditions -spark-free areas

-high-heat furnace areas -special object lifting

DON'T

-overload. Operator should be aware of the capacity of the forklift, as well as the capacity of the forks. Overloading may bend and weaken forks, Periodic inspection for abrasion and bent forks should be carried out.
-repair your worn forks. The repair of forks should not be undertaken by anyone other than the fork manufacturer.
-modify forks without consulting with your forklift suppliers.

Safe Work Practices
Common factors in Forklift Hazards

Reviewed by RDR 2010 DC 2015 MH 2018 TH 2020 TH2021 JJ2022 TH2023

SYSTEMS-FEATURES OF FORKLIFT OPERATIONS:

l.. Lack or improper training of workers for those portions of their jobs that involve interaction with forklift trucks.

2. Production factors-speed, stress.

3. Lack of availability of tools and attachments and accessories.

4. Improper assignment of forklifts and operators.

5. Poor maintenance of forklifts.

6. Age of forklifts.

BEHAVIORAL/OPERATIONAL FACTORS:

7. Improper backing up.

8. Improper turning.

9. Improper warnings to others of forklift's presence.

10. Requesting/giving rides on the forklift or load.

11.Walking and working in the general area of forklift operations.

12. Poor communication during shared tasks or in shared places.

13. Parking the forklift.

14. Improper blocking of wheels on semi-trailers and railway cars, checking on blocking and bed-surfaces.

15. Non-acceptable behaviors-horseplay, showoff driving, jerky driving.

16. Inadequate servicing of the forklift.

OBSERVABLE CHARACTERISTICS OF THE WORKPLACE

17. Crowded aisles

18. Crowded, cluttered aisles.

19. Intersections and doors.

20. Concentrations of traffic.

21. Condition of the driving surface.

22. Other conditions-noise, odors, toxic gases, dust, lighting.

23. Many ramps, different surfaces.

24. Condition of the loading dock.

CHARACTERISTICS OF THE LOAD

25. Poor palletizing.

26. Pallets in poor repair.

27. Load too heavy.

28. Load unstable or blocking vision.

HAZARDS OF THE LIFT TRUCKS:

29. Malfunction of brakes.

30. Malfunction of steering.

31. Malfunction of clutch, shift linkage or transmission.

32. Leaks in hydraulic systems and /or transmissions.

33. Safety devices lacking, inadequate or malfunctioning.

34. Emission from forklift.

35. Obstructions to driver vision.

36. Poor layout of controls and displays.

Safe Work Practices
Material Handling

Hoisting

Rigging

Hitches

Hand signals- Overhead Crane

Crane & Hoist Hand Signals

Wire Rope Slings

Chain Slings

Slinging onto Overhead Crane Hooks

Overhead Crane Operations JHA RISK 6

Use of Shackles

Synthetic Web Slings

Safe Work Practices
Hoisting

Reviewed Jan 2010/GR 2012 DH May 2014 MH March 24/DCApril 2016 RS March 2018 MH TH 2020 TH2021 CC2022 TH2023

General: Determine the weight of the object or load prior to a lift to make sure that the lifting equipment can operate within its capabilities.

Balance Loads

Estimate the center of gravity or point of balance. The lifting device should be positioned immediately above the estimated center of gravity.

Landing the load

Prepare a place to land the load, lower the load gently and make sure it is stable before slackening the sling or chain.

ONLY DESIGNATED EMPLOYEE'S ARE ALLOWED TO USE HOISTS

1. Where chain slings are used, select only alloy chain slings and NEVER exceed the working load limits.

2. Make sure the hoist or crane is directly over the load.

3. Use sling of proper reach. Never shorten a line by twisting or knotting. With chain slings, never use bolts or nuts.

4. Never permit anyone to ride the lifting hook or the load.

5. Make sure all personnel stand clear from the load being lifted, and all personnel in path of travel of load are aware of lift.

6. Never work under a suspended load.

7. Never leave a load suspended when the hoist or crane is unattended.

8. Inspect each chain or sling for cuts, nicks, bent links, bent hooks, etc. before each use, If in doubt, don't use it.

9. Ensure that safety latches on hooks are in good working condition.

10. Ensure that the signaler is properly identified and understand techniques of proper signaling.

11. Make sure a tagline is used to control load.

12. Hands must never be placed under the load while blocking. Use a stick or place hands on side of block and push.

Safe Work Practices

Rigging

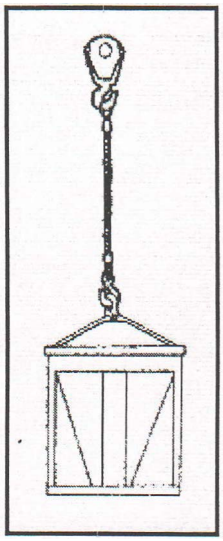
GR2010 DH2012 MH 2014 DC2016 MH2018 TH2019 TH 2020 TH2021 JJ2022 TH2023

*The information does not take precedence over OH&S. All Employees should be familiar with the OH&S Act and Regulations

General: Rigging looks like an easy operation that requires no skill or experience. But if you have an idea that just anybody can do it, you're on the wrong track. Too many men have lost fingers or hands or have suffered more serious injuries because they thought, "Anybody can do that". Here are some do's and don'ts to remember

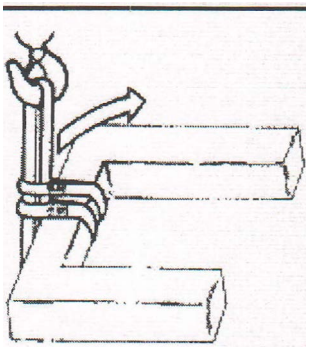
1. Name one member of the crew to act as a signalman and instruct the equipment operator to recognize signals from that person only. Ensure that signal man understands techniques of proper signaling.
2. Each rigger must be sure he's in the clear before he gives an "all ready" to the signalman. When you have positioned the sling or choker you're using, release it, if possible, before you give the "all ready" signal. If you must hold the sling or choker in position, be sure your hand is clear of pinch points. In fact, your hand should be far enough away that there is no possibility of a frayed wire catching your glove and jerking your hand into a pinch point. (Of course, frayed cables should never be used.)
3. Watch out for the roll or swing of the load. Since it's almost impossible to position the hook exactly over the load center, there will almost always be a swing or roll. Anticipate the direction of the swing or roll, and work away from it.
4. Never place yourself between material, equipment or any stationary object and the load swing. Also, stay away from stacked material that may be knocked over by a swinging load.
5. Never stand under the load and keep from under the boom as much as possible. Chances are that nothing will break, but it is always a possibility.
6. Look over the place where the load is to be set. Remove unnecessary blocks or other objects that might fly up if struck by the load.
7. When lowering or setting the load, be sure your feet and all other parts of your body are out from under. Set the load down easily and slowly so that if it rolls on the blocking, it will be a slow shift that you can get away from.
8. Use tag lines to control the leads.

Vertical Hitch



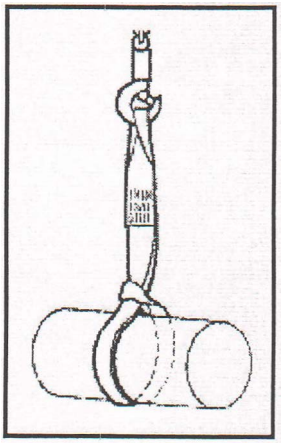
In most cases use more than one sling. A single rope sling load tends to rotate in a twisting action that unwinds cables causing them to weaken.
Do not use for lifting loose materials, loose or unbalanced loads.

Turning Hitch



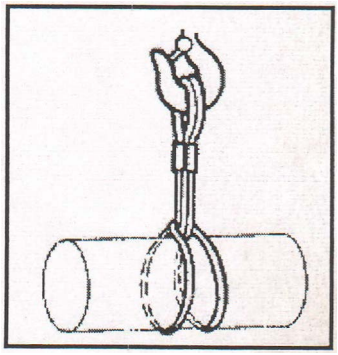
Use a doubled choker to turn loads.
Place both sling eyes on top of the load pointing in the opposite direction of the turn. This sling will remain tight while the load is turning.
Never use a basket hitch to turn a load.

Choker Hitch



The sling tightens on a load as it is lifted.
Do not use on loose bundles.
Use choker hitches at 75% or less of rated sling capacity

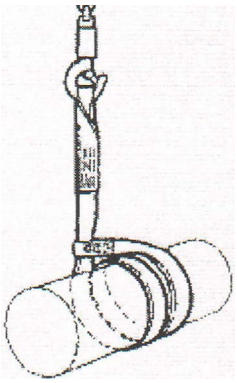
Double Choker Hitch



Provides more contact area to secure a load

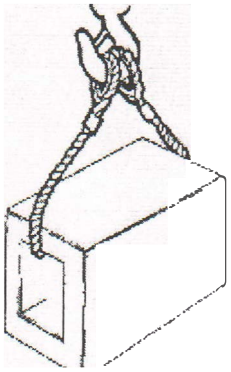
Double Wrap Choker Hitch

This hitch compresses the load and prevents it from slipping out of the sling.
Where overhead space is limited, a double wrapped choker hitch is acceptable.



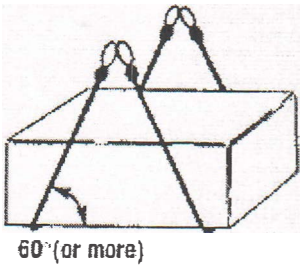
Basket Hitches

Provide relatively good control and eliminate the tendency of the load to twist, compared with a vertical hitch.
Do not use on a load that is difficult to balance.



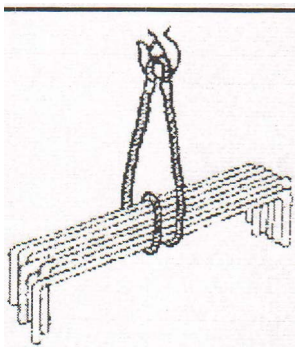
Double Basket Hitches

Balance loads by keeping slings a part
Prevent sling slippage by keeping the angle between the load and sling 60 degrees or more.

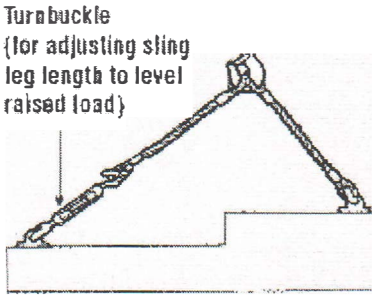


Double Wrap Basket Hitches

Provide more contact for handling loose material and pipe.
Tend to draw the load together.

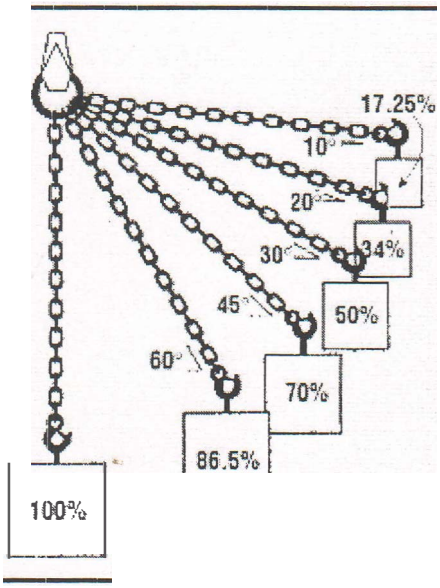


Bridle Hitches



Are made of 2,3,or 4 single leg hitches.
Are used for hoisting an object that has lifting lugs or attachments.
Position the hook over the centre of gravity of the load.
Adjust sling leg lengths with turnbuckles to level raised load. Check each sling leg angle to ensure sling is not overloaded.

Sling load limit affected by angle



The angle affects the working load limit. The smaller the angle, the less load a sling can carry.

i.e. Sling rated at 1000lbs
- 90degree-1000lbs
- 60degree-865lbs
- 45degree-700lbs.
- 30degree-500lbs.
- 20degree-340lbs.
- 10degree-172.5lbs.

Degree is measured from the horizontal

Source CCOHS:various

Safe Work Practice
Hand Signals-Overhead Crane

Reviewed by TH 2010 DH 2012 MH 2014 DC 2015 RS 2016 TH 2020 TH2021 DC2022 TH2023

Signals must be given by a standard method. Hand signals can be used if the crane operator can see the signaller clearly.

A signaller is required where:

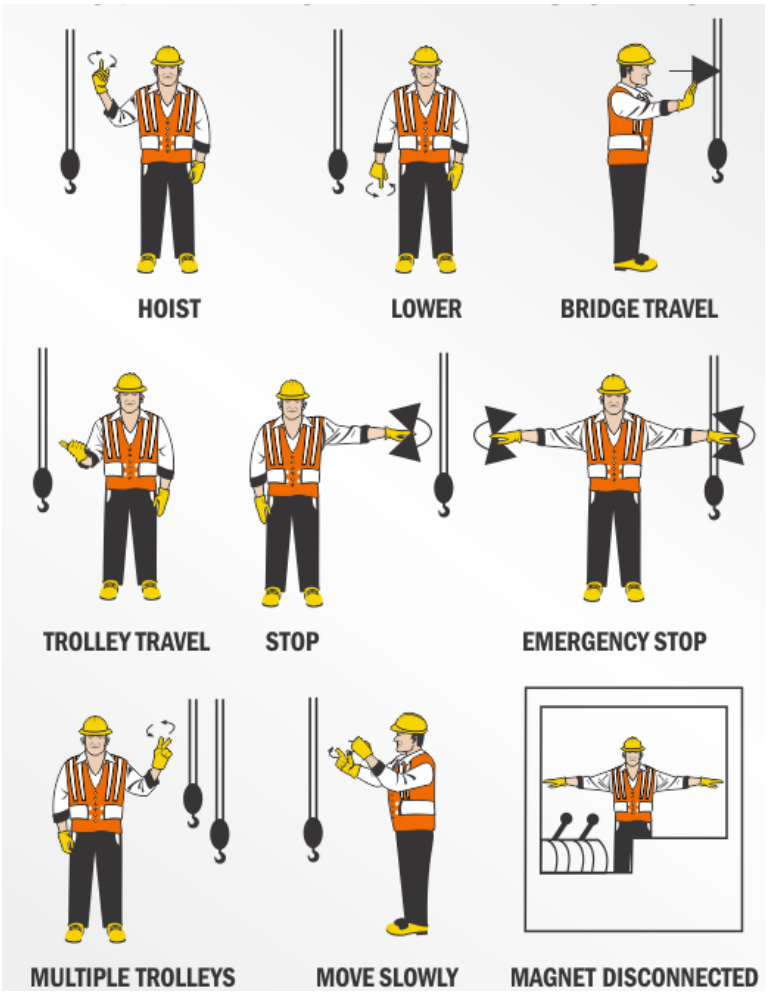
- A crane is working near power lines
- The crane operator cannot at all times see the hook, load, or crane's path of travel

The signaller must:

- Be in clear view of the crane operator
- Have a clear view of the load and the equipment.
- Keep person outside of the crane's operating area.
- Never direct a load over a person

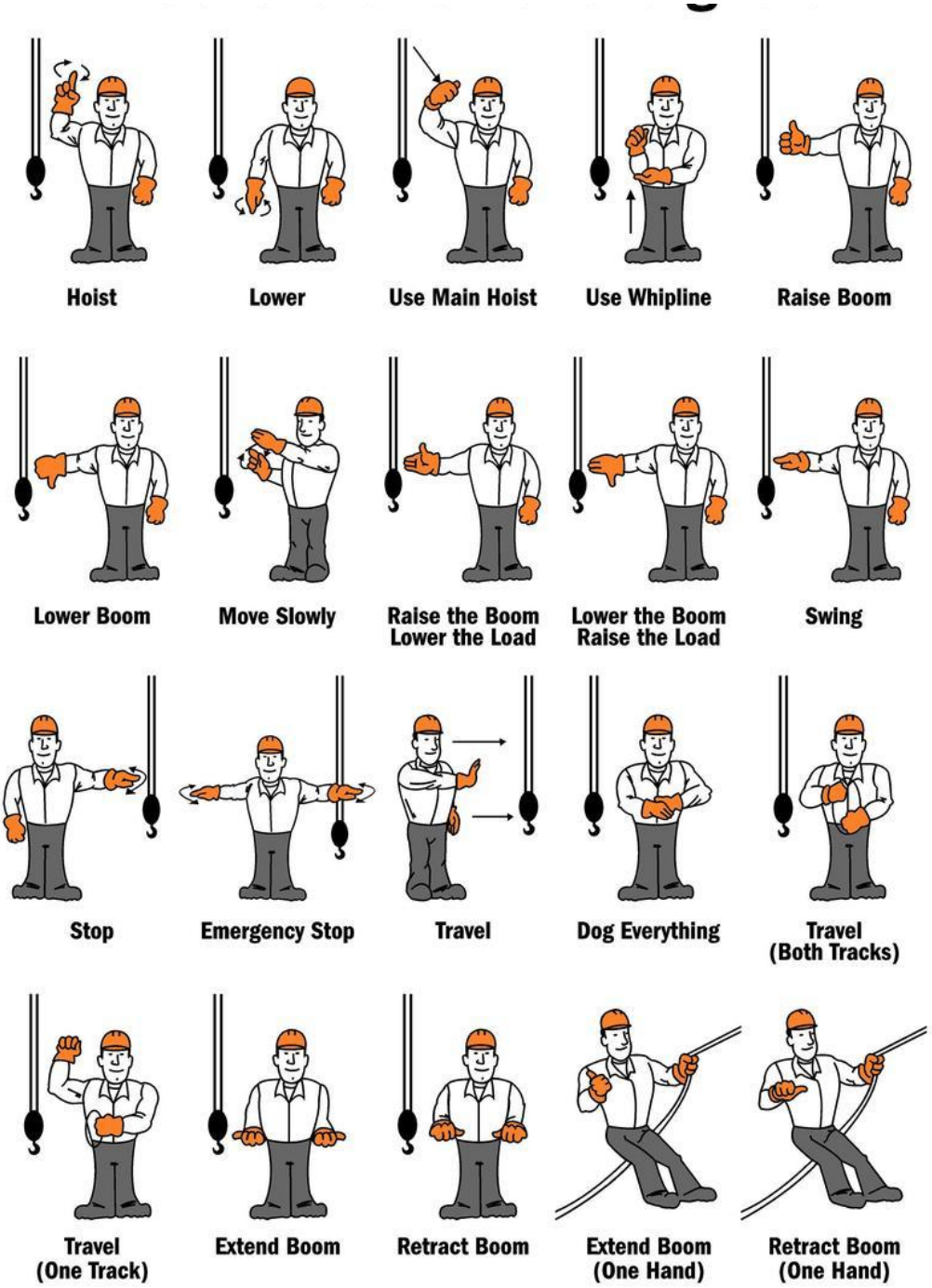
The crane operator must move the crane on signals from only one signaller.

However, as stop signal should be obeyed from anyone.



Safe Work Practice
Mobile Crane Hand signals

Reviewed by MH 2014 DC 2015 RS 2017 TH 2020 TH2021 DC2022 TH2023



Safe Work Practices
Wire Rope Slings

Reviewed April 2010 DC May 2012 May 2014 MH2016 DC 2017 MH 2018 TH 2020 TH2021 TH2022 TH2023

General:

1. Slings shall not be loaded in excess of the rated capacity. Consideration shall be given to the effects of angles. (See effect of angel chart shown on next page).
2. Select slings having suitable characteristics for the type of load, hitch and environment.
3. Slings shall not be shortened by twisting, knotting or using wire rope clips.
4. Slings shall not be lengthened by knotting, choking, or basketing slings together, or by any other unapproved method. Suitable fittings must interconnect slings.
5. Slings shall be hitched in a manner providing control of the load.
6. Sharp edges in contact with slings should be padded.
7. Keep all portions of the human body from between the sling and the load, and from between the sling and the lifting hook.
8. Personnel should stand clear of the suspended load.
9. Shock loading should be avoided.
10. Slings should be stored in an area where they will not be subject to mechanical damage, moisture, or extreme heat.
11. Loads applied to a hook should be centered in the base of the hook to prevent point loading of the hook.
12. Sling leg slings with hand tucked splices shall not be allowed to rotate.
13. In a basket hitch, proper slings must be selected to balance the load and restrict slippage in order to prevent the load from falling out of the sling.
14. In a choker hitch, slings shall be long enough so that the choker fitting chokes onto the sling eye or body and never onto any fittings.
15. Slings should not be used at angles of less than 30 degree from the horizontal.
16. Slings should not be dragged on the floor or over an abrasive surface.
17. When lifting points are below the center of gravity, loads tend to be unstable. Proper rigging must restrict load rotation to avoid tipping and loss of control.

Inspection:

1. Always inspect slings before each use. Upon receipt of new slings, inspect that it has not been damaged in shipment.
2. Remove slings from service if:

-The rated capacity tag is missing or illegible.
-Ten broken wires in 1 rope lay or 5 broken wires in 1 strand in 1 rope lay.
-Kinking, crushing, bird caging, knotting, or any other damage resulting in distortion of the rope structure.
-wear or other loss of one-third of the original diameter of the individual wires.
-any evidence of heat or chemical damage on any part of the sling, including melting or charring.
-Metal fittings that are cracked, deformed, pitted, corroded or excessively worn.
-Hooks with throat openings increased by more than 15 percent or twisted out of plane by more than 10 degrees.

Safe Work Practice
Chain Slings

Reviewed by DC 2010 DH 2012 MH 2014 DC 2015 MH 2018 TH 2020 TH2021 EY2022 TH2023

Inspection-Prior to use

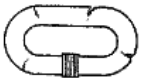
All slings (new, altered, modified, or repaired) should be inspected by a competent person before they are used in the workplace to make sure they are built to specifications, not damaged, and will be appropriate for the work being performed.

Yearly Inspection

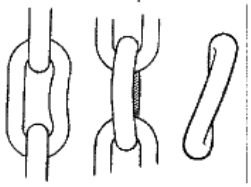
A competent person must also inspect chain slings periodically, and at least once a year. Inspection frequency is based on how often the sling is used, the types of lifts being performed, the conditions in which the sling is being used, and past experience with service life of similar slings and usage. If the sling is used in more severe conditions, then the inspection should be performed every 3 months. Inspections must be recorded.

a) Wear exceeds 15% of a link diameter.

b) Cut, nicked, cracked, gouged, burned, weld splattered, or corrosion pitted.



c) Deformed, twisted or bent chain links or components.



d) Stretched. Links tend to close up and get longer.

Using Slings Safely

- Always know how to properly use the equipment, slinging procedures before attempting the lift operation.
- Inspect the slings and accessories before use for any defects.
- Replace broken safety latches.
- Find out load weight before lifting. Do not exceed rated load of the sling.
- Check whether chain slings fit freely. Do not force, hammer or wedge chain slings or fittings into position.
- Keep hands and fingers from between load and chain when tensioning slings and when landing loads.
- Ensure the load is free to be lifted.
- Make a trial lift and trial lower to ensure the load is balanced, stable and secure.
- Balance the load to avoid overstress on one sling arm or the load slipping free.
- Lower the working load limit if severe impact may occur.
- Pad sharp corners to prevent bending links and to protect the load.
- Position hooks of multi-leg slings facing outward from the load.
- Cordon off the area.
- Reduce the load limit when using chain in temperatures above 425°C (800°F).
- Store chain sling arms on racks in assigned areas and not lying on the ground. The storage area should be dry, clean and free of any contaminants which may harm the sling.

What you should avoid using chain slings

- Avoid impact loading: do not jerk the load when lifting or lowering the sling. This motion increases the actual stress on the sling.
- Do not leave suspended loads unattended.
- Do not drag chains over floors or attempt to drag a trapped sling from under a load. Do not use a sling to drag a load.
- Do not use worn-out or damaged slings.
- Do not lift on the point of the hook.
- Do not overload or shock load a sling.
- Do not trap slings when landing the load.
- Do not splice a chain by inserting a bolt between two links.
- Do not shorten a chain with knots or by twisting other than by means of an integral chain clutch.
- Do not force or hammer hooks into place.
- Do not use homemade connections. Use only attachments designed for the chain.
- Do not heat treat or weld chain links: the lifting capacity will be reduced drastically.
- Do not expose chain links to chemicals without the manufacturer's approval.
- Do not stand in line with or next to the leg(s) of the sling that is under tension.
- Do not stand or pass under a suspended load.
- Do not ride on sling

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Safe Work Practice
Sling onto overhead crane hooks

Reviewed by DH 2012 MH 2014 DC 2015 MH 2018 TH 2020 TH2021 KM2022 TH2023

How to sling a load on a crane hook:

- Visually inspect the crane before use.
- Determine the weight of the load to be lifted.
- Select the right sling for each job using the manufacturer's tables. A slinger must be familiar with these tables showing the safe capacities of slings. (A slinger or rigger is the person who hooks loads onto cranes using various types of slings.)
- Inspect each item of lifting equipment before and after lifts.
- Tag defective slings and dispose of damaged ones.
- Make clear signals according to standard signals. Refer to SWP Crane and Hoist Hand Signals for examples.
- Signal the crane operator from only the one slinger who is in charge of lift. The only exception is a stop signal.
- Protect slings from damage by sharp edges with corner saddles, padding, or wooden blocks.
- Warn all people to get out of the load area before starting the lift.
- Protect your hands and fingers: when slack is being taken out of a sling, keep them from between the sling and load so they will not be trapped and crushed. Step away before the lift is made.
- Make sure a load is high enough to clear all objects before signaling for the crane to move.
- Walk ahead of the moving load and warn people to keep clear. Use guide ropes to prevent rotation or other uncontrolled motion.
- Hook unused sling legs to the sling ring.
- Set down loads on blocking – never directly on a sling.
- When not in use, hang slings on racks or store according to manufacturer's directions.

What to avoid when slinging unto a overhead crane hook:

- Do not exceed the capacities of slings, fixtures and cranes.
- Do not twist or tie knots in slings or use bolts, nails or pieces of wire to shorten slings.
- Do not splice together broken slings.
- Do not ride on hooks or loads.
- Do not allow workers to walk or work under a load.
- Do not lift a load over a worker.
- Do not attempt to pull or push loads to a spot that is not under the hoist.
- Do not drag slings. Avoid pulling slings out from under loads by crane.
- Do not leave unused slings, accessories, or blocking lying on the floor.
- Do not carry a load by inserting the point of the hook into a link of the chain.
- Do not hammer a sling into place.
- Do not leave loose materials on a load.
- Do not use slings that are stretched, broken, or defective.
- Do not leave suspended loads unattended. Do not expose slings to temperatures beyond the range recommended by the manufacturer

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Safe Work Practice
Overhead Crane Operations

Reviewed by DH 2012 MH 2014 DC 2015 TH 2020 TH2021 CC2022 TH2023

JHA Risk 6

Before Overhead Crane Operations

- Make sure you have the required training, qualifications, or certification as determined by your jurisdiction to operate the crane.
- Make sure the crane is suitable to lift and travel the load.
- Make sure the job site is planned and laid out. Allow room for emergency vehicles to enter if necessary. Do not work near overhead power lines, etc.
- Check ground conditions to ensure stability.
- Visually inspect the crane before use.
- Make sure all loose materials, parts, blocking and packing have been removed from the load before lifting.
- Remove any slack from the sling and hoisting ropes before lifting the load.
- Make sure that the lifting device seats in the saddle of the hook.
- Verify that the load is not heavier than the maximum load capacity.

Moving Loads safely:

- Move crane controls smoothly. Avoid abrupt, jerky movements of the load.
- Follow signals only from one slinger in charge of the lift, except a stop signal.
- Use agreed upon signals.
- Make sure everyone is away from the load before hoisting. Sound a bell, siren or other warning device and start to hoist slowly.
- Make sure all slings, hooks, hardware, etc. are appropriate for the loading being lifted, are in good working order, and that all angles for the slings are appropriate.
- Make sure nothing links or catches on the load while raising it or travelling.
- Make sure that nothing obstructs the movement of a load.
- Lift the load a small amount to verify that the braking system is functioning properly before proceeding with the lift.
- Keep the load under control when lowering a load. If the braking system stops working, the load can usually be lowered by reversing the hoist controller to the first or second point.
- Set the load on blocking, not the sling itself.
- Do not lower the load below a level that corresponds to less than two full wraps of wire rope left on the drum.
- Stay in a crane cab during power failure. Place controls in "off" position, attract attention and wait for help.

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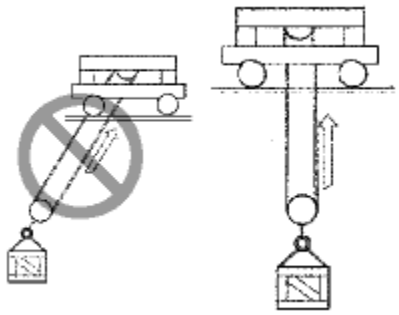
Don't

- **Do not** carry anything in your hands when going up and down ladders. Items that are too large to go into pockets or belts should be lifted to or lowered from the crane by rope.
- **Do not** operate a crane if limit switches are out of order, or if cables show defects.
- **Do not** lower the blocks below the point where less than two full wraps of cable remain on the drum.
- **Do not** attempt lifts beyond the rated load capacity of a crane or slings.
- **Do not** lift a load from the side. Centre the crane directly over the load before hoisting to avoid swinging the load.



- **Do not** allow anyone to ride on a load or hooks.
- **Do not** leave slings dangling from the load hook. Have sling hooks placed on the sling ring when carrying slings to the load.
- **Do not** raise loads higher than necessary to clear objects.
- **Do not** move or pass a load over workers.
- **Do not** reverse a motor until it has come to a full stop except to avoid accidents.
- **Do not** walk on the crane runway.
- **Do not** leave suspended loads unattended.

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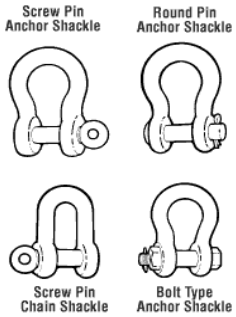
Safe Work Practice
Use of Shackles

Reviewed by MH 2012 MH 2012 DC 2015 GD 2017 TH 2020 TH2021 EY2022 TH2023

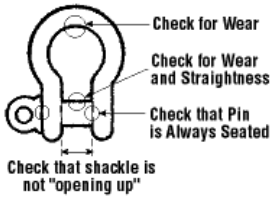
Choosing Shackles:

A shackle has two main paths, the body and the pin. The body can have the anchor shape (bow) or a chain shape (D type). Each body shape can be used, depending on the specific application, with a screw pin or bolt-type pin.



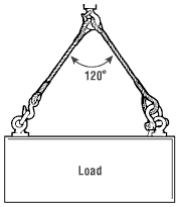
- When selecting the right shackle, refer to manufacturers' tables for the safe working loads of the shackles. The rated capacity should be imprinted on the shackle and be visible.
- Shackles are sized according to the diameter of the bow section rather than the pin size. Never use a shackle if the distance between the eyes is greater than listed in the manufacturer's tables.
- Consult with the manufacturer if using shackles in extreme conditions (e.g., temperature higher than 204°C or lower than -40°C, or exposure to corrosive fumes).
- Use a shackle when 2 or more ropes must be placed on a hook.

Inspecting Shackles:



- Inspect shackles regularly.
- Inspect the shackle eye and pin holes for stretching (elongation) and wear
- Inspect the shackle body for bending. A bent shackle indicates excessive side-loading.
- Inspect all shackle pins for distortion, surface blemishes, wear and fractures.
- All pins must be straight and all screw pins must be completely seated.
- Replace shackles that are bent, show excessive wear by more than 10% of the original diameter, or have an elongated eye or shackle pin holes

Do Not:



- Do not replace the shackle pin with a bolt or unidentified pins.
- Do not allow a shackle to be pulled at an angle.
- Do not use screw pin shackles or fit pins in contact with moving parts if the pin can roll and unscrew.
- Do not exceed 120 degrees for the angle when using multiple leg slings.
- Do not force, hammer or wedge shackles into position.
- Do not use round pin shackles restrained only by a cotter pin for overhead lifting

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Safe Work Practice
Synthetic Web Slings

Reviewed by MH 2012 MH 2014 Dc 2015 GD 2017 TH 2020 TH2021 JJ2022 TH2023

General: Always inspect before each use..

1. Slings shall not be loaded in excess of the rated capacity. Consideration shall be given to the effect of angles.
2. Select slings having suitable characteristics for the type of load, hitch and environment.
3. Slings shall not be shortened by twisting, knotting or other unapproved methods.
4. Slings shall not be lengthened by knotting, choking, or basketing slings, together, or by any other unapproved method. Suitable fittings must interconnect slings.
5. Slings shall be hitched in a manner providing control of the load.
6. Web slings shall always be protected from being cut or damaged by comers, edges, protrusions or abrasive surfaces.
7. Keep all portions of body from between the sling and the load, and from between the sling and the lifting hook.
8. Personnel should stand clear of the suspended load.
9. Personnel shall not ride the sling or a load suspended by a sling.
10. Shock loading shall be avoided.
11. Slings should not be pulled from under a load when the load is resting on them.
12. Twisting and kinking slings shall be avoided.
13. Loads applied to a hook should be centered in the base of the hook to prevent point loading of the hook.
14. Before lifting, make certain that the sling, attachments, or load shall not snag.
15. In a basket hitch, proper slings must be selected to balance the load and restrict slippage in order to prevent the load from falling out of the sling.
16. In a choker hitch, slings shall be long enough so that the choker fitting chokes onto the sling eye or body and never onto any fittings.
17. Slings should be stored in an area where they will not be subject to mechanical damage, moisture, extreme heat or ultraviolet light.
18. Do not expose slings to chemicals that are not compatible with the sling materials.
19. Exposure to sunlight or ultraviolet light will degrade the strength of synthetic web.
20. Slings should not be used at angles of less than 30 degrees from horizontal.
21. Slings should not be dragged on the floor or over an abrasive surface.
22. When lifting points are below the center of gravity, loads tend to be unstable. Proper rigging must restrict load rotation to avoid tipping and loss of load control.
23. For lift of non symmetrical loads using multiple sling legs, an analysis should be performed by a qualified person to prevent the overloading of any leg

Safe Work Practices
Equipment

General Equipment Operations

Getting on and Off Heavy Equipment JHA RISK 6

Refueling Truck and Heavy Equipment JHA RISK 6

Excavator start up

Excavator shut down

Heavy Powered Mobile Equipment

TDG Regulations

Safe Work Practices
General Equipment Operations

Reviewed by TH 2010 RDR2012 DC 2015 MH 2018 TH 2020 TH2021 EY2022 TH2023

1. No worker shall be transported in any vehicle or mobile equipment unless the worker is seated and secured by a seat-belt or other restraining device while the vehicle of equipment is in motion.

2. All workers must be trained on the Power Mobile Equipment specific to the equipment they are operating.

3. No worker shall be transported on the top of a load that is being moved by a vehicle or a unit of powered mobile equipment.

4. No material is to be placed in interior compartment that is not secured so as to prevent injury to operator or other workers.

5. A visual inspection of equipment must be performed prior to start up, to ensure that no worker, including the operator is endangered by the start-up of the equipment.

6. Seatbelts, if equipped must be worn at all times.

7. Prior to performing maintenance or repairs. Please read Job Procedures for Lock out of Equipment and Working under Elevated Equipment.

8. Inspection logs to be completed at time of refueling.

9. Workers must operate equipment in accordance with "Saskatchewan OH&S Acts and Regulations".

Safe Work Practice
Getting on and off Heavy equipment

Risk 6

Reviewed by Don H 2010 RDR 2012 DC 2015 MH 2018 TH 2020 TH2021 DC2022 TH2023

1. General: It is a task we complete several times a day, and sometimes can be done without thinking. Taking your time and following this practice will help eliminate preventable injuries.

2. Ensure that the machine is equipped with side grab rails and steps

3. Clean mud off boots before climbing onto the machine.

4. Face the machine and step onto the first step.

5. Maintain 3-point contact at all times--2 hands and I foot or 2 feet and 1 hand

6. Climb into cab or other areas provided with non-slip surfaces.

7. To get off machine, make sure the machine is locked out and further movement prevented. Shut off machine if necessary.

8. Step out of cab onto the ladder and while facing the machine descent using 3-poing contact method.

Safe Work Practice JHA Risk 6

Fueling Trucks and Heavy Equipment

Reviewed by Don H April 2010 JK 2012 TH 2014 DC 2015 MH 2018 TH 2019 TH2021 RW2022 TH2023

PPE Required:
Gloves
Safety Glasses
HI Vis
Spill Kit

Potential Hazards:
Fire and Explosion-shut off vehicle, don't not use electronic devices, no smoking, avoid creating spark
Inhalation/skin absorption-PPE Gloves, safety glasses, long sleeves. Pinch points-ensure vehicle in park. Manual transmissions-parking brake applied and in first gear. If on grade chock wheels
Fuel Spills-locking in on position only with nozzle locking mechanism, do not place objects to hold in on position. Ensure hose is secured prior to turn on pump. Do not leave unattended while pump is on. Ensure spill kit readily available
Burn Hazard-surfaces may be hot, wear appropriate hand protection long sleeves and long pants. Be aware of location of exhaust pipes.
Falling Hazard-Never place nozzle in unsecure location where it may fall causing injury or property damage.

1. Park vehicle parallel to the fuel pump and flat level ground. Position equipment\vehicle to have its fuel tank opposite the pump.
2. Ensure in park apply parking brake.
3. Shut engine off before starting the fuel pump.
4. Remove any loose debris around filler cap before removing and place nozzle in opening. Cardlock
5. Follow the instruction on the screen.
6. Make sure the pump meter is returned to zero before pumping.
7. Heed all warnings located at filling area.
8. Place the nozzle of the hose in the fuel tank of the vehicle, start the pump, fill the tank by depressing the lever on the nozzle. Do not overfill the tank or use any device to hold

the nozzle open while fueling other then what is part of the nozzle.

9. When the fuel tank is filled, shut off the pump and place the nozzle back on the mount.
10. Retrieve print out from card lock.

Fuel Truck

11. Turn power on pump.
12. Do not use any object to hold nozzle in on position other then the nozzle locking mechanism.
13. Be aware of hot surfaces such as exhaust.
14. When full shut off pump, replace filler cap ensuring no debris enters opening.
15. Ensure hose of fuel truck stored properly.
16. Any spills are to be contained immediately. Use oil dry on any small spills. Absorbent pads are to be used on larger spills. All spills are to be reported to the office.
17. Fuel spilled on hands or exposed skin is to be wash off ASAP.

Safe Work Practices
Excavator Start up

Reviewed by Don H 2012MH 2012DC 2015 MH 2018 TH2021 CC2022 TH2023

Read and understand manufacturer's operating manual. Use proper method of getting on and off the equipment.

1. Do a walk around inspection of fluid levels, structural damage, grease points, attachment for excessive wear.
2. Record inspection in log book.
3. Adjust seat for comfort and visibility. Make sure cab and windows are clean. Ensure gauges are operational. Proceed to start equipment.
4. Allow equipment to warm up. Move hydraulics slowly to allow hydraulic oil to warm up.
5. Check for problems in any of the operations.

- -always be aware of what is in your swing radius
- -always watch for things moving into your swing radius
- -always watch where the front end is swinging to
- -prevent front end and attachment from hitting obstacles
- -always dig away from hazards
- -move the front end in a smooth and precise manner
- -level ground (if possible) where machine is to work

Excavating

- -move machine into position
- -line up stakes or marks so that you can move excavated material out of the excavation area quickly and efficiently
- -maintain a 1 meter space between excavation and spoil pile

Digging

- -curl bucket out so teeth are pointing to ground
- -at same time, move the arm out form the machine
- -lower bucket in and bring the arm into the machine, adjusting bucket level by raising and/or lowering boom so that the bucket can be filled
- -after bucket is filled, lift boom so that bucket can be swung without hitting any obstacles.
- -do not overload bucket (this may cause the machine to tip when swung over side)
- -start swing towards the spoil disposal area
- -move the arm out from the machine
- -as bucket comes over disposal area, curl bucket open and dump all material
- -reverse swing back to excavation area
- -repeat this process until excavation is complete

Safe Work Practice
Excavator Shut down

Reviewed by DH 2010 MH 2012 DC 2015 MH 2018 TH 2020 TH2021 CC2022 TH2023

1. Park excavator only in designated spot. Must be level and clear from other equipment.
2. Engage lockout lever-check to ensure it is working.
3. Idle engine down to idle speed for 5 to 15 minutes or until temperature gauge drops substantially.
4. After engine has cooled down, turn key to OFF position.
5. **Engine Cool down is essential for avoiding turbo charger and injector failure.**
6. Make sure all radios, etc. are turned off.

Safe Work Practices

Heavy/Powered Mobile Equipment

TH2021 BO2022 TH2023

1. Only trained, competent and authorized workers are permitted to operate heavy equipment.

2. ***Prior to start up, make a complete visual inspection of equipment and the surrounding area to ensure that equipment's condition to operate safely and that no one is endangered by the start-up.*** A written record of each inspection must be carried with the unit, and the written records of any maintenance carried out must be maintained in the office.

3. Equipment damage or defects of any kind must be reported to the supervisor immediately. If repairs cannot be carried out prior to commencing work, steps must be taken to control any hazard posed by the unsafe condition until it can be corrected.

4. Lights, brakes and warning signals must be operative.

5. Equipment must be equipped with seat belts and roll-over protective structures if required.

6. Any equipment or material being transported in the cab must be positioned or secured to prevent injury to the operator or to others.

7. No fuel tank may be carried in an enclosed cab unless the fuel tank is equipped with a filler spout and vents that extend to the outside of the cab.

8. A fire extinguisher must be available.

9. When equipment maintenance, repairs or other work is being performed on or under an elevated part of the equipment, the elevated part must be securely blocked to prevent accidental movement.

10. An equipment operator is not permitted to move or cause to be moved any load or part of the equipment when a worker may be endangered. Workers are not permitted in the vicinity of the equipment where the worker may be endangered by the swinging movement of a load or a part of the equipment.

11. An effective restraining device must be used to protect the operator and other workers against the shifting of a load when the equipment is used to transport equipment or materials that may shift under emergency stopping conditions.

Safe Work Practices
Heavy/Powered Mobile Equipment

12. Workers are not permitted to ride on the top of a load. Where equipment is used to transport a worker, the worker must be restrained form falling from the vehicle, and no part of the worker's body may extend beyond sides of the vehicle.

13. Ensure regular lubrication and repair of moving parts. Cleaning, oiling or repairing of the equipment must not be done while the equipment is in operation.

14. When operating heavy equipment, do not use reverse unless absolutely necessary.

15. Use a spotter if possible where visibility is reduced and there is other equipment and workers present.

16. 3 point contact when entering and exiting equipment.

17. Park in well lit areas is possible,

18. When parking position attachments (forks) flat on ground to avoid tripping hazards. If forks/ buckets must be left elevated hazard must be conspicuously marked.

Safe Work Practices
Equipment Mobilization (Loading and unloading)

Added Feb 2013 MH 2014 DC 2015 DH 2018 TH 2020 TH2021 JB2022 TH2023

1. Only Competent Truck Drivers or competent Equipment Operators shall be allowed to load and unload equipment without direct supervision.

2. A spotter shall be designated to assist where high ambient noise levels or poor visibility interferes with the operator loading the equipment or ability to see objects on all sides of the equipment during the loading/unloading process.

3. Eye contact and confirmed communication must be ensured with all personnel in vicinity of equipment PRIOR to equipment beginning the load/unload process.

4. Equipment shall be lined up with the trailer and ramps so that no turning shall be necessary during loading & unloading.

5. Truck drivers must not park their truck or trailer in an area where equipment will enter within 15 meters of any power line during the loading or unloading process.

6. For any loading and unloading the trailer must be secure from movement, the load must be balanced(side to side) and the trailer wheels must be parked on hard, level and stable ground so as to further ensure the deck remains level.

7. The truck and trailer shall have their parking brakes applied during the loading and unloading process.

8. Equipment tracks must be appropriately clear of snow, ice and mud prior to loading and unloading.

9. If a trailer is equipped with an air ride system, the system must be deflated prior to loading and unloading.

10. No one shall be allowed to stand to either side of the trailer deck, in the potential fall zone of equipment during the loading or unloading process.

11. Equipment must be carefully inspected prior to load/unloading. Equipment deficiencies which may affect loading or unloading are to be reported to supervisor **Do Not** operate equipment which is in a an unsafe condition. Do Not operate equipment,

12. Securement of equipment shall be according to Saskatchewan Highways Law and Regulations and the SWP for Equipment securement.

13. Three point contact is to be used when mounting and dismounting equipment, including truck cabs and trailer decks.

14. Only the person operating the controls is to be on the equipment when it is being loaded/unloaded.

15. Seat belts which are supplied by the equipment manufacturer shall be worn when equipment is being loaded or unloaded.

16. When loading and unloading dozers, the blade is to be kept as low as possible on ascent or descent from the trailer, so as to ensure a low center of gravity. The same consideration shall be made for any powered mobile equipment which has attachments (booms etc.)

17. When crossing any balance point, progress is to be kept slow and steady. Any sudden movements, stopping, acceleration, decelerating and turning are to be avoided

18. Unnecessary movement of the equipment while on the trailer deck shall be avoided.

19. Upon completion of loading or unloading all ground engaging attachments shall be lowered.

20. Chains are not to be used for lifting or towing. They are difficult to visually inspect and as such have the potential to unexpectedly break while under tension. Chain is only to be used for the securement purposes and only grade 70 chain (or higher) shall be employed.

21. Prior to transport, decks, platforms, steps, ramps and equipment shall be cleared of any oil, grease, ice, snow, dunnage, loose tools, gravel as well as any other loose items.

22. All loads must be fully secure, regardless of the distance being travelled.

23. For loading equipment or material with winch tractor please refer to Winch Tractor SWP.

24. When loading equipment that requires cab to be lowered, two personnel must be present. 1 to lower cab and 1 to ensure that all hoses are not in way of being damaged.

Job Procedure

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Excavator Quick Attach

Construction of Abutments

Concrete stringer Erection JHA RISK 6

Pile Driving with Diesel Hammer

Diesel Hammer Maintenance

Job Procedure Asphalt Paver	Critical JHA 9	
PPE Required: Hi Vis Vest CSA Approved Steel Boots Hard Hat Long sleeves long pants Gloves	Equipment required: Appropriate keys Appropriate fluids	Date Developed: May 15/2019 Reviewed March 2020 March2022 March 2021 May 2023

Potential Hazards:
Electrocution-always inspect wires and cables for damage before operating the machine. Damaged wires and cables could cause and electrical shock that could result in serious injury or death.
If your machine comes in to contact with electric power lines

- Stayin the operator's seat.
- Warn others to stay away and not touch controls or any part of machine
- If contract can be broken, drive the machine away for the danger zone.
- If contact cannot be broken, stay in operators' seat until told that power is off.

Suffocation-Never operate the internal combustion engine on this machine in an enclosed area with poor ventilation.
Crush Hazard- Keep bystanders away from the work area before and during operation. Operator blind spots ensure no workers near when operating tilt bucket.
Modification Hazard- never modify the Leeboy Model 1000F tilt hopper paver. Any modification can affect the safe operation of the paver and may cause personal injury of death.
Exposure Hazard-Always wear PPE including appropriate clothing, gloves, work shoes, and eye and hearing protection, as required by the task at hand.
Fire and Explosion Hazard-diesel fuel is flammable and explosive under certain conditions. Have appropriate safety equipment and fire extinguishers available.
Exhaust Hazard-Internal combustion engines create carbon monoxide gas during operation and special precautions are required to avoid carbon monoxide poisoning.
Entanglement Hazard- If engine must be serviced while it is operation, remove all jewelry, tie back long hair and keep hands and clothing away from moving parts.
Burn Hazard: Some paver surfaces become very hot during operation and shortly after shutdown. Keep hands and other body parts away from hot surfaces. Wear heat resistant gloves.

Do not operate this equipment unless you are trained to do so and are familiar with the operating manual and the following job procedure.

Start Up

1. Walk around the machine; visually inspect the tracks, burners (Electric Screed) and hopper.
2. Check engine fluids and ensure paver properly lubricated.

3. Check all electrical functions before distributing asphalt.

4. Ensure all covers and guards are in place.

5. Clear auger before starting engine.

6. Spay cleaning solvent or release agent on any part of the paver that comes in contact with asphalt.

7. Start machine and warm up at a low idle.

8. Cycle all hydraulic circuits.

9. Rev up machine and move to the paving site, checking the steering and speed control on the way.

Operating instruction (See Operators manual)

Shut down-

1. Idle the paver down.
2. Diesel the hopper, augers, chains and extension to loosen any asphalt stuck on the machine.
3. Clean excess asphalt from the paver at the end of the shift OFF the existing asphalt surfaces.
4. Purge the augers and flight chain bearing and grease all lube points at the end of the day while paver is hot.
5. Park the paver off the asphalt surface, on level ground and with the brake on.
6. Remove all garbage (coffee cups and lunch material) and any loose object.
7. Fill out equipment report and note any repair work if required.

Also Refer to
SWP-Solvents and Flammables
SWP-Propane
SWP-Refueling Trucks and Heavy
Equipment SWP-Heavy powered mobile
equipment JP-Asphalt Paver

Job Procedure: Driving	Critical JHA 9	
PPE Required: Site requirements	Equipment required: Fire extinguisher, first aid kit, tow rope, winter survival kit (seasonable)	Date Developed: June 2018 Reviewed March 2021 March 2022

Hazard Identification:
Personal Injury

- Muscle pull/strain, pinch points, slip trip and fall. Serious injury/fatality

Vehicle/Equipment

- Equipment/vehicle accidents/incidents, struck by

Environmental

- Visibility, weather

Blind spots

- Know the blind spots

Every employee that undertakes driving as parts of his or her work HB Construction Inc. must operate the vehicle safely, legally and as described in this procedure.

The purpose of this procedure is to ensure that our employees are clear on the general driving rules and procedures they are to apply when driving for work on behalf on HB Construction Inc.
These procedures apply to all employees that undertake work-related driving for HB Construction Inc.

Preparation:

1. Complete pre trip walk around and inspection.
2. If the inspection identifies any conditions that will affect the safe operation of the vehicle, report it to your supervisor immediately and do not use that vehicle until repairs are made.
3. Check that you have your driver's license, and registration in the vehicle. SGI Valid Safety inspection if applicable.
4. Adjust the drivers seat to correct position. Adjust mirrors for optimal visibility.

Driving

5. Use your seat belt whenever the vehicle is motion. Make sure passengers use theirs.
6. Operate the vehicle according to requirements of the Motor Vehicle Act and tis Regulations, and company rules
7. Know your driving limitations. Undertake driving only in those circumstances and conditions that you know you can be successful. Do not undertake driving that requires driving skills beyond your capabilities.
8. Use the vehicle within its intended applications (e.g. road type, number of passengers, load or weight limitations, etc.)

9. Drive respectfully- pay attention to your driving environment, anticipate the actions of other motorists, cyclists, and pedestrians, and identify hazards and respond proactively. Take all reasonable measures necessary to avoid collisions and injuries.
10. Do not engage in high-risk driving behaviors-speeding, aggressive driving, failing to yield, improper passing or lane changes, etc.
11. Avoid distractions.
12. Drive with the headlights on always
13. Do not exceed posted speed limits.
14. Reduce your speed according to road and weather conditions.

Parking

15. Park only in designated parking areas. Do not block exits, walkways or fire hydrants.
16. When they are available, use pull-through parking spots. Otherwise, use back in parking so you have optimal visibility when exiting the paring spot.
17. Ensure the transmission is in “Park”. If the vehicle has a manual transmission, select 1st gear and set the parking brake.
18. If parking on a grade, use wheel chocks. Turn the front tires towards the curb.
19. Close all window and lock the doors.
20. Discourage vandalism and theft by stowing valuables in the glove box or trunk. For pickups with toolboxes, store valuables and loose items in the toolbox. Lock the toolbox.

Also refer to:
Company rules
Job Procedure Backing up
SWP Motor Vehicle
The Highway Traffic Act
OH&S Reg. 133 Risk from vehicular traffic

JOB PROCEDURES

Manual Lifting

Reviewed: Jan 2010 reviewed 2013,2014, 2015, 2021,2022,2023

Equipment & Material Required: None
PPE Required: Hand/foot Protection, gloves as required

1. Know your limit when lifting or moving heavy or bulky objects. If the load is too heavy, get someone to assist you or use mechanical lifting equipment. Get proper instruction on back care and lifting methods.
2. Before lifting, make sure that the path where you will carry the load is clear and free of obstructions.
3. Make sure there is a place and a way to set the load without injuring you fingers.
4. Warm up before lifting to avoid muscle strain.
5. Get a good footing.
6. Bend your knees, get a good grip on the object to be lifted.
7. Tighten your abdominal muscles and lift by straightening your legs. Keep your back straight, keep your arms and the object being lifted close to your body.
8. Lift slowly and take small steps.
9. Push, don't pull loads.
10. Keep yom balance and do not twist or tum as your lift and carry. Move your feet to tum your body directions.
11. To put the object down again, do not bend from the waist. Keep your back straight and bend your knees, keeping the object close to your body until it is placed in a secure position.

Job Procedure Cutting Torch Operation		
PPE Required: Leather gloves, foot protection, safety glasses/cutting googles	Equipment required: oxygen/acetylene, gauges, hoses, fire extinguisher, crescent wrench, striker, and water pail	Date Developed: 2010 Reviewed: GR2013,DC2015 MH2018, TH2020 JB2022 TH2023

Potential Hazards:

Burn Hazard: Always wear long sleeve pants and long pants. Do not wear frayed or oily clothing. Wear leather gloves. Allow work piece to cool before handling or place in bucket of water to cool.

Explosion hazard: Never perform cutting operations near flammables. Fire extinguisher must be within 15m. **Ensure hoses not in area where hot slag could fall/land and damage hose. May 3/23**

Environmental hazard: Risk of grass/forest fire when cutting in field. Ensure fire extinguisher charged and near by. Emergency response plan for wildfire.

Eye Injury: Wear eye protection at all times.

1. Using non-flammable material, secure bottles to stationary object.
2. Quickly open valve to blow out any accumulated dirt before mounting gauges.
3. Mount gauges on bottles; red hose to acetylene, green hose on oxygen.
4. Open valves on torch end to bleed out lines.
5. "Zero out" gauges by turning regulator dial counter-clockwise.
6. Close valves on torch end to complete "zero out" procedure.
7. Turn bottles on slowly, until fully open.
8. Check for leaks
9. Turn acetylene on ¼ turn at torch handle and light with striker.
10. Increase acetylene level until black smoke lessens.
11. Turn oxygen on at torch handle.
12. Increase oxygen level until flame tip becomes blue and short with no "feathers".
13. Procedure must be completed by qualified person before attempting to cut.

See also:

SWP Gas Welding & Cutting General
Gas Welding & Cutting Cylinder storage
Gas Welding & Cutting Handling cylinders
Welding & Cutting Set up Regulator setup & Leak test
Gas Welding & Cutting-Leaking/Overheating cylinders, and operating faults
Gas Welding & Cutting-Lighting up & Shut down

JOB PROCEDURES

Portable Fire Extinguishers

Reviewed by TH 2010 RDR 2013 DC 2015 GD 2016 MH 2018 TH 2020 TH2021 TH2022 TH2023

Equipment and Material Required: Portable Fire Extinguisher PPE Required:

1. *Always keep your back to an exit when extinguishing afire.*
2. Stand 10-20 feet away from the fire (depending on size of extinguisher).
3. Pull the pin. Slam the bottom of the extinguisher on the floor to dislodge sediment which can prevent the extinguisher from discharging.
4. Aim hose or nozzle at the base of the fire.
5. Squeeze the lever above the handle. Observe if spray actually contacts the base of the fire and adjust aim as necessary.
6. Sweep from side to side, moving carefully toward the fire if safe to do so.
7. Sweep spray back and forth until the flames appear to be out.
8. Once the fire appears to have been extinguished, watch the fire area closely until you are certain the fire will not re-ignite.
9. If the fire re-ignites, repeat the process.
10. Maintain a fire watch until you are ***absolutely sure*** the fire has been extinguished.
11. If there is a possibility the fire may re-ignite, call the fire department and have them inspect the fire site.
12. Ensure the extinguisher is recharged as soon as possible after use and returned to its proper location.

Warning: Portable fire extinguishers discharge faster than you think-many within 15 to 30 seconds. See "Portable Fire Equipment & Use" in the Emergency Preparedness section of this manual for approximate discharge times for various types of portable fire extinguishers.

OH&S Regulations 1996

Chain saws

146

(1) An employer, contractor or supplier shall ensure that a chain saw is:

- equipped with an effective chain brake or a chain and bar that is designed to minimize the possibility of a kickback; and
- designed and constructed so that the chain stops when the engine is at idle.

(2) Where a chain saw is to be used by a worker operating from an elevated cage or basket, the width of which is less than twice the length of the chain saw, an employer or contractor shall ensure that a secondary platform is installed outside the cage or basket and is used to store the chain saw and to start the chain saw engine.

(3) An employer or contractor shall ensure that a worker who operates a chain saw:

- stops the chain while the worker is walking with the saw;
- does not operate the saw at a height that is higher than the worker's shoulder level;
- holds the saw firmly in both hands while operating the saw; and
- maintains the chain saw, cutting chain and safeguards in safe operating condition.

(4)A worker who operates a chain saw:

- shall stop the chain while the worker is walking with the saw;
- shall not operate the saw at a height that is higher than the worker's shoulder level;
- shall hold the saw firmly in both hands while operating the saw;
- shall maintain the chain saw, cutting chain and safeguards in safe operating condition;
- and shall maintain the chain saw so that the chain stops when the engine is at idle.

Job Procedure
Chain saw Operations

Reviewed DH 2010 RDR 2013 DC 2015 GC 2016 MH 2018 TH 2020 TH2021

PPE Required: CSA approved Safety boots, Long sleeve shirt and long pants, leather gloves, Safety glasses, face shield, cut resistant chaps if required	Tools Required: Chain saw, Fuel, chain oil, sharpening file	Date Developed: Jan 2010 Sept 2021 TH2023

Potential Hazards:

Skin absorption of fuels: Always long sleeve and long pants, gloves. Wash off splashed fuel ASAP

Inhalation of fumes: Always fuel chainsaw in well ventilated area, never operate chain saw in enclosed building.

Fuel/oil spill: Use funnels or appropriate spot while refueling

Explosion: Never fuel hot saw

Cuts/Scrapes/Gashes: Always wear leather gloves when inspecting/sharpening chain, never inspect while chainsaw running, ensure chain brake effective, ensure chain and bar designed to minimize the possibility of a kickback. Make sure chain sharp, dull chains are more dangerous then sharp chains, never cut above shoulder height, ensure dogs not worn or saw will kick back, always stand to side of blade and not directly behind it, place feet a minimum shoulder width apart, and firmly hold saw with 2 hands at all times. Apply chain brake when walking with saw.

Pulled Muscle/Strain: Always start saw on ground. Place foot in D handle and pull rope, ensure chain brake is on. Carry saw by front handle only as close to body as possible

Slips/Trips/Falls: Keep area of chain saw operation clear of debris, check surroundings often.

Confined space with chain saw: If basket or cage is less then two chainsaw width ensure secondary platform installed to store and start chainsaw.

Burns/Fire: Allow change saw to cool before storing

1. Check Fuel and Chain oil level-Never fuel while hot.
2. Make sure chain is sharp, correct tension, chain brake functions.
3. Place chain saw on ground, with foot in d handle pull rope.
4. Remove chain brake and ensure chain stops when idling.
5. Stand to the side of the blade, not behind.
6. Observe the work area for tripping hazards, workers, equipment.
7. Observe the work. If cutting used lumber, check for nails or other foreign objects such sand, gravel etc.
8. If falling trees ensure area has been cleared of workers and warned of activity
9. When chain saw not in use, ensure properly stored.

JOB PROCEDURES

Starting an Air Compressor

Reviewed TH2021 DH2022 TH2023

Equipment and Material Required:
PPE Required:

1. Pre-operational check:
-fuel, oil, anti-freeze levels (top up if required).
-fan belts, air filter (change or tighten as required).
-walk around the unit to check for obvious leaks.
-turn all air valves off.

2a Starting a diesel compressor:
-pull throttle control approximately ¾ of way out
-push in and hold the glow plug button
-push the starter button until unit starts
-hold glow plug button until adequate oil pressure is achieved

2b Starting gasoline compressor:
-pull throttle control approximately ¾ of the way out
-pull out the choke
-push the starter button until unit starts

3. Run the compressor for a warm-up period (about 15 minutes or until operating temperature is reached).

4. Once the unit has warmed up, push the throttle control in until the compressor reaches normal idle speed.

HB Construction Inc May 2014
Reviewed:Jan 2010 Richard Riddoch 2013 Gerald Daschuk March 24/2015 DC

JOB PROCEDURES
Chop Saw/Cut-off Saw

Reviewed by RDR2020 GD2013 DC2015 TH2021 DH2022 TH2023

PPE Required:

-Safety Boots
-Safety Glasses
-Face Shield
-Hearing Protection
-Long sleeved shirt

Equipment required:
-cord in good repair if required
-supports for overhanging work
-secure surface

1. Ensure guard installed properly and operational.
2. Ensure on/off switch operational
3. Set saw on floor or secure surface.
4. Check for gaseous or explosive atmospheres before starting the machine.
6. Ensure over hanging portion of the work piece is properly supported and level to the base of the machine.
7. Keep body positioned to either side of the work piece, but not in line with the wheel.
8. Inspect the wheel for chips or cracks and change the blade if any are found.
9. Ease the blade into the work piece- do not force it or overload the motor.
10 When the material is cut through, disengage the trigger and bring the blade back to the upright position. Do not let go the handle and let the blade spring back by itself.
11. ***Never us the side of the wheel as a grinder.***

JOB PROCEDURES Cut-off Saw/Angle grinder Portable Hand Operated		JHA 6
PPE Required: CSA approved Safety boots, Loong sleeve and long pants, leather or cut resistant gloves, Safety glasses, face shield. Additional site requirements: Hard hat with safety shield	Tools required: Cut off saw w/guard Power cord Cut off blades Clamps/material securement device Water for cooling material	Date developed: Feb 2010 Reviewed: RDR2010 TH2023 DC2013 DC2014 DC2015 GD2016 TH2021 DH2022

Potential Hazards:

Explosion: Sparks can ignite flammable. Ensure no flammables in immediate area.

Cuts/Scrapes/Gashes: Always wear leather gloves, long sleeves and long pants. Keep a firm grip with two hands on saw at all times. **Never** use trigger lock. Always ensure blade has stopped before placing on a surface when job complete. **Never** use surface to stop blade.

Burns/Fire: Ensure sparks are directed away from operator and other workers. Weather leather gloves, metal becomes very hot from grinding. Ensure cord properly grounded to grounded outlet. **Do Not** let cord lie in water/puddles.

Pulled Muscle/Strain: If possible adjust material to comfortable working height.

Inhalation of fumes: Where appropriate respiratory protection. Cartridge respirators are mandatory while working with galvanized material.

1. Check to ensure trigger lock not on. Trigger is operational not stuck. Check blade information to ensure proper blade for machine (ie RPM's). Check blade for cracks, chips, nicks. Replace if any blade damage.
2. Ensure material to be cut is secured.
3. Check for gaseous or explosive atmosphere before starting the machine.
4. Ensure all guards are in place and operational.
5. Connect saw to properly grounded outlet.
6. Ensure over-hanging portion of work piece supported.
7. Keep body positioned on either side of work piece, not in line with the wheel.
8. Hold saw firmly with both hands, work at waist height if possible. Never reach overhead with the saw.
9. Ease the blade into he work piece- do not force it or overload the motor.
10. When material is cut through or process complete, disengage trigger, bring the blade to a full stop before resting machine on surface. Do NOT let go of the handle and le the blade run freely.
11. Do not touch surface until material has cooled. Use water if available to cooled.
12. Return cut-off tool to proper storage area when complete. Do not leave laying in work area.

JOB PROCEDURES
Overhead Crane Operation

JHA RISK6

TH2023

Equipment Required:
PPE Required: Foot protection, head protection

1. Do not exceed the maximum lifting weight of the crane (5 tons).
2. Ensure sure workers are aware of the movement of the crane and its load.
3. Move the crane smoothly. Avoid abrupt, jerky movements.
4. Remove slack from slings, chains or hoisting ropes before lifting.
5. Lift only with center of load directly under the crane and never at an angle.
6. Make sure everyone is clear of the load before lifting, and that no one moves under the suspended load.
7. Never leave a suspended load unattended. Before leaving the area, the load must be adequately supported or lowered to the floor.
8. Quarterly inspection required.
9. Check hooks prior to each use
10. Follow manufactures operators manual.
11. Must be trained in operation of hoist.

JHA Nov 21

HB Construction Inc. May 2014
Reviewed: Jan 2010 Dean Hanson Feb 2013 Derrek Corbett March 24/2015 DR/LG/GD

JOB PROCEDURES

JHA RISK 3

Charging a battery

Material and Equipment Required: Battery charger
PPE Required: Safety glasses, and gloves

1. Make sure charger is in good working order:
-cord is in good shape
-cables and clamps in good shape
-dials in OFF position

2. Check battery terminals for cleanliness, tightness.

3. Connect clamps to battery:
-red to positive
-black to negative

4. Plug charger into power supply (keep plugs/charger out of water, oil, etc.)

5. Select voltage. If you are not sure, ask the mechanic.

6. Select desire amount of charging time.

(If you set the timer on HOLD make sure you don't forget, and always let at least one other person know to check on it. Put a note on blackboard to remind yourself that you had plugged in your battery charger.)

JHA May 2021 TH2023

HB Construction Inc. May 2013
Reviewed Jan 2010 Tracy Hanson Oct 2012 Dean Hanson March 24/2015 DC
APR/16 GD

JOB PROCEDURES
Excavation

JHA RISK 9

Equipment and Material Required: Excavator
PPE Required: As per site requirements.

1. Determine soil type and the slope required.
2. Locate all underground utility lines. Mark clearly where they enter and leave the work area. Ensure markings are visible from the cab.
3. Where operation is to be undertaken involving the disturbance of soil within 600 millimetres of an existing underground utility, the utility must be exposed by hand.
4. Take note of any overhead hazards or objects that may be in equipment path.
5. Complete equipment inspection
6. Ensure excavation slope is appropriate for soil type.
7. Ensure all equipment, spoil piles rocks and construction materials are kept at least one metre from the edge of an excavation or trench.
8. Ensure an excavation or trench that a worker may be required or permitted to enter is kept free from any accumulation of water.
9. Ensure the slope of the spoil pile adjacent to an excavation or trench has a slope at an angle not steeper than one horizontal to one vertical.
10. Ensure no powered mobile equipment or vehicle is operated or located near an excavation or trench so as to affect the stability of the walls of the excavation.
11. Do not hang tracks over edges of straight wall or attempt at any time to excavate under tracks.
12. For more information refer to OH&S ACT 257-265

JHA Oct 2021 TH2023

HB Construction Inc. May 2014
Reviewed: Jan 2010 DH March 2013 MH

march 24/2015 DC
APR/16 GD

March 24/2015

JOB PROCEDURES

Safe Loading, Unloading, and securing of Heavy Equipment on Lowbed

TH2021 TH2023

March 14/13

Review Date	Developed By:	Approved by:
Oct 28/2010	Brent Dyck, Dean Hanson	

Equipment and Material Required	Personal Protective Equipment Required
Chains, Boomers	As required by site

1. Ensure brakes are applied, trailer bed is level and loading, unloading is done out of heavy traffic area if possible.
2. Ensure trailer bed width is sufficient for equipment.
3. Ensure trailer bed is clean. Remove mud, ice , snow, etc.
4. If possible have someone help to guide you during the load/unload process.
5. Test brakes on equipment before load/unload process
6. Use seat Belt.
7. Use 3-point contact entering or exiting cab.
8. After loading equipment lower and secure hydraulic attachments
9. Secure equipment to trailer using chains, boomers and chain down procedure from Jeep and Tridem procedure.
10. All glass on equipment must be tarped or covered in cardboard to protect from rocks

APR/16GD

JOB PROCEDURES
WORKING UNDER ELEVATED EQUIPMENT

JHA Risk 9

TH2023

Potential Hazards
Crushing-Chock wheels, de-energize equipment, use jack stands, inspect jack before use, do not exceed jack's rated capacity,
Operating bottle jack JHA Risk 9
Falling debris- wear safety glasses
Skin absorption-wear protective gloves
Cuts/Scrapes-wear protective gloves
Slip/trips/falls-use 3 point contact

PPE Required- Safety footwear, safety glasses, gloves, long sleeves and long pants

1. Ensure equipment to be repaired is on level stable ground.
2. De-energize equipment, follow lock out procedure.
3. Ensure equipment stable (wheels chocked, parking brake applied)
4. Raise equipment only the minimum height required to complete task.
5. Jack stands must be placed prior to entry under the equipment.
6. Jack stands must be rated for load capacity of equipment.
7. Assess the risks prior to entry under the elevated equipment.
8. If equipment is not stable, lower and readjust and rejack
9. Wear PPE while under elevated equipment.
10. Immediately after maintenance completed lower elevated equipment to ground.
11. Ensure jack stands are removed prior to lower jack.
12. Only use mfg jack equipment for raising and lowering jack.

JOB PROCEDURES
Lock-Out Tag-Out Mobile Equipment

- DH2022 TH2023

APPROVED
mudi 24/2015
Dean Hanson Feb 2013

Review Date	Developed By:	Approved by:
Jan 2015	Brent Dyck	DH

Equipment Needed:	Personal Protective Equipment
Lock out Tags/Tag out Form	Site required PPE

1. The machine requiring repairs must have the keys removed from the ignition and stored in a designated place.
2. The machine requiring repair must have all hydraulic attachments (booms, blades, etc) lowered to the ground and the machine will be left in a state of Zero Energy.
3. A "Lock Out" tag will be placed either on the door of the machine or in some other visible area (ignition) of the machine.
4. The "Lock Out" tag will be left in place for the duration of the repair.
5. After repairs are complete, documentation must be done which states the date the machine went out of service, the type of repair work completed and the date the machine returned to service.
6. All see Job Procedure for Working under Elevated Equipment.

JOB PROCEDURES
Excavator-Hydraulic Quick Attach

March 24/2015 Re P22/16 GD DH2022 TH2023

Review Date	Developed By:	Approved by:
Jan 2020	Various	

Equipment and Material Required	Personal Protective Equipment

1. Position buckets and attachment so that they are easy to engage and disengage.
2. Place buckets or attachments just above ground level.
3. Turn Quick Attach switch to DISENGAGE position and hold.
4. Indicator bolt should come out; if it does not:
   - -turn Quick attach switch the other way
   - -if bolt still does not move, turn switch back and forth until it does.
   - NOTE: in cold weather, hydraulic lines take time to warm up to activate cylinder.
5. Move arm(stick) back and forth ½ metre to free debris causing wedges to stick.
6. If wedges are still stuck, use a hammer on sedges to release them.
7. Once wedges are opened, curl bucket out to free back of quick attach from back pin on bucket or attachment.
8. Move arm out from machine(you may have to raise or lower boom slightly) until front cup of quick attach is free on the front pin on bucket or attachment.
9. Make sure you are within 3 metres of bucket or attachment.
10. Line up arm with front pin of bucket or attachment.
11. Lower boom and adjust arm into position so that quick attach comes behind front pin of bucket or attachment.
12. When lined up, move arm in to machine so that the front cup on the quick attach comes around the front pin on the bucket or attachment.
13. Curl bucket until bucket or attachment begins to move towards machine.
14. Check to make sure quick attach is completely around both pins on bucket or attachment.
15. Turn switch to ENGAGE position and hold.
16. Ensure indicator bolt moves fully in.
17. Raise boom, move arm in and out and curl bucket or attachment in to make sure quick attach is fully engaged.

JOB PROCEDURE Construction of Abutments		
PPE Required: CSA approved Safety boots, Hard hat, Hi viz Safety glasses, leather gloves, Long sleeve shirt and long pants, dust mask	Equipment required: Drills, Hammers, ladders, hardware, timbers	Approved Date: Jan 2010 Reviewed: MH13 DC15 TH21 DH2022 TH2023

Potential Hazards:

Skin Absorption: Always wear leather gloves, long sleeve shirt and pants. Timbers are treated with Pentachlorophenol (See SDS).

Inhalation of dust: Avoid inhalation of dust while cutting timbers. Wear appropriate respiratory mask.

Cuts/Scrapes/Gashes: Wear leather gloves.

Pulled Muscle/Strain: Use proper lifting techniques while placing timbers. Use two people when possible. Use proper tool for job and ergonomics to avoid repetitive strain

Slips/Trips/Falls: Keep excavated area clear of debris and tools. Use only appropriate ladders/scaffolds to gain access. **Do not use** make shift scaffolding.

Crushing: Ensure proper slopes of excavated area as per the soil type. Ensure no overhead work while working in excavated area.

1. Ensure no risk of falling debris prior to entry of excavated area.
2. Ensure clear paths for entry/exit of excavated area.
3. Check supplies of hardware to ensure available.
4. Ensure all ladders/scaffolds are in good repair and appropriate for the job.
5. Cutting of piles to elevation and blowing holes for bolts, refer to SWP “Welding”
6. No equipment is allowed to be operated overhead while workers are in excavated area.
7. Personnel completing work outside the excavated area that may affect workers in excavated area shall warn effected workers prior to beginning.
8. See JP for Chain saw operation for cutting of timbers.
9. Install timbers from bottom row, working up. Never leave timbers unattended if fastening has not been completed.
10. Remove debris from excavated area as soon as practicable.

Refer also to: SDS Sheets Pentachlorophenol
SWP Ladders/Scaffolding
SWP Welding
JP Chainsaw operations
SWP Proper lifting
SWP Hand tools ergonomics

JOB PROCEDURE Concrete Stringer Erection		
PPE Required: Site Requirements	Equipment Required: Rigging hardware, Two way radio's, tag line	Developed date: Jan 2010 Last reviewed Mar 2020 TH2023

Hazard Identification:
Personal Injury

- Muscle pull strain
- pinch points
- slip trip and fall
- Serious injury/fatality Crushing from suspended load

Environmental

- Visibility, weather

Prior to Stringer Erection

1. Determine the weight of the load and rigging hardware, the capacity of the hoisting device.
2. Determine the working load limit of the hoisting rope, slings, and hardware.
3. Determine swing path
4. Pre-job safety meeting identifying roles during stringer erection
5. Inform workers that no one is allowed under a suspended load.
6. Designate signal man.
7. Only the "designated signalman" can give directions to crane operator with the exemption of the "Emergency stop" signal
8. Determine order the stringers will be erected
9. Determine path of the stringers to ensure no obstructions and no overhead lines
10. Tag lines are attached if applicab
11. Crane is situated on stable level ground.
12. Inspect stringers, check that dowel holes are not clogged with foreign debris or concrete lumps
13. Bearing pads are properly placed with no debris on the precast caps
14. Review lift plan if applicable

Rigging

1. Rigging shall only be attached to stringers at the designated lifting points.
2. Ensure rigging is of the correct rating.
3. Inspect rigging.

Lift

1. Ensure all crew is aware of lift beginning, non required workers are clear of area
2. Ensure contact with the designated signalmen
3. Consider factors such as wind prior to lift.

4. Once all clear and radio contact confirmed the operator shall lift stringer in a controlled manner and only to a height that is necessary.
5. Operator shall rotate stringer from its original position to a position over the dowel pins of the precast caps.
6. Operator will slowly lower stringers onto the dowel pins of the precast caps.
7. Operator/signalmen will indicate when the stringers are in their final position

Post lift

1. Stringers are inspected for any damage.
2. Positioning is confirmed to be adequate.
3. Rigging is removed and reattached to next stringer, or properly stored if final lift.

Also refer to:
SWP Hoisting
SWP Rigging
SWP Slings
OH&S Reg. 199 Hoist, Cranes and lifting devices

JOB PROCEDURE

Diesel Hammer Maintenance

Reviewed DH2010 DC 2013 MH2013 DC2015 TH2021 DH2022 TH2023

PPE Required: Hard hat, safety glasses, safety boots, leather gloves	Equipment required: Fluids, grease gun, Hammer maintenance manual	Developed 2010

Potential Hazards:

Skin absorption: Always wear long sleeved shirts and long pants and leather gloves. Wash any splashed skin ASAP.

Slips/Trips/Falls: Beware of uneven terrain. Use only approve ladders

Hourly

Grease impact block and cylinder end ring every hour with special grease (5 pump strokes per nipple from the grease gun). The lubrication points are identified. Do not lubricate when impact block is hanging out. When pile under batter or inclination in addition to greasing the impact block and cylinder end ring every hour by using a grease gun. It is also necessary to grease the upper cylinder as well.

Daily

Check oil level in lube oil tank The tank should be at least half full.

Disconnect lube oil pressure lines from pump

Fill lube oil pressure line from below using a force feed oil can until oil runs from each pipe socket. Then reconnect hoses with pump.

Always top up lube oil tank when refuelling.

Cleaning the combustion chamber. Once daily before the first start, the lube oil accumulated int eh combustion chamber must be removed. Otherwise it is possible that the combustion of additional lube oil will cause the piston to reach as high as the safety catch groove. Set fuel pump to “0”. Remove plug. Raise and drop position five time (cold blow), so that the oil can escape through the threaded opening. On completion replace plug.

Weekly

The trip gear has to be lubricated (5 pump strokes per nipple from the grease gun) every week.

Lubricate the guide tubes of the lead once per week.

JOB PROCEDURE

Pile Driving with Diesel Hammer

Reviewed MH2013 DC2015 TH2021 DH2022 TH2023

PPE Required: Hard hat, safety footwear, hearing protection, leather gloves, hi vis	Equipment needed: Two way radio, signal men, rope	Developed Jan 2010

Potential Hazards:

Line strike: Ensure line locates are completed and underground facilities are marked.

Skin Absorption: use funnels or nozzle when fuelling. Wash off any splashed fuel ASAP

Hearing damage: All employees working in close proximity to active pile driving operations must wear ear muffs for hearing protection.

Crushing/Falling debris: Only authorized personnel should be in the vicinity of pile driving operations. Always be aware of surroundings and keep in communication with pile driving operator.

Prestart Check

1. Always confirm line locates are completed and there is no underground facility
2. After hammer assembly, ensure all tools are removed prior to the erection of hammer.
3. Ensure pre operation checks have been completed by the Crane Operator.
4. All rigging is suitable for the load being lifted.
5. A signalman is identified on the crew.

Hammer Erection

1. The designated signal person is positioned in full view of the operator where the operator's view of the intended path of travel or any part of it or the crane load is obstructed or where a person my endangered by any part of the carne or its load.
2. Standard Crane signals must be used.
3. All workers shall be familiar with machine operations hand signals, however the operator shall accept signal only form the designated signalman except for an emergency stop signal, which may be given by any worker.
4. During hoisting, tag lines must be used where necessary to control rotation of the load.
5. No suspended loads shall be left unattended by the operator.

Pile driving

1. Always test rig in all four directions before driving starts.
2. Crew members must be accounted for and aware of pile driving in vicinity before all clear signal from signal man.
3. Beware oof falling objects from leads or hammer.
4. Piles to be driving should be visual inspected for any defects.

5. Crew members should be at least 50 feet away from the hammer driving for hearing protection and safety.
6. Workers required to take pile refusal measurements, operate hammer, and guide piles shall be aware of the potential hazards.

Take Hammer out of operation

With Piles Drive pile to at least half its length. Set down hammer on piles. Raise trip gear slightly . Put on protective cover. Attach protective rail and screw on exhaust port covers.

Crane-Switch off engine, and remove ignition key. Close flaps doors and window. Lock door.

Without pile: Either set down lead and pile hammer on the ground and raise rope of trip gear slightly, or secure hammer at bottom of lead with safety mechanism of catch fork.

Removing from lead: Additional requirements. Tighten piston securing screw. Attach impact block securing clamp. Remove ropes from variable delivery fuel pump. If transport skid is on hand , place hammer on it and secure. If transport skid is not available, place hammer on square timbers.

HB Construction Inc.
General Safety Rules

1. Required PPE must be worn accordingly to PPE policy.

2. Report to your supervisor all incidents and near misses, no matter how minor.

3. Report immediately all accidents resulting in injury or property damage during the shift it happened.

4. Perform all work in accordance with provincial safety legislation, safe work practices, job site rules and your supervisor's direction.

5. Maintain good housekeeping in your work area.

6. Operate all vehicles and mobile equipment in accordance with site rules and highway regulations.

7. Equipment log books to be documented as required by maintenance policy.

8. Consuming or being in possession of alcohol or illegal drugs on any company job-site, is prohibited.

9. Fighting, horseplay, practical jokes, or otherwise interfering with other workers is prohibited.

10. Theft, vandalism or any other abuse or misuse of company property is prohibited. Damaging, disabling, or interfering with safety, firefighting and first aid equipment is prohibited.

11. All unsafe acts and conditions, including "near miss" incidents, are to be reported to appropriate supervision promptly.

13. First aid treatment is to obtained promptly for any injury.

14. Arriving for work or remaining at work when ability to perform the job safely is impaired.

15. Only those tools that are in good repair, with all guards and safety devices in place, shall be used.

HB Construction Inc.
Disciplinary Procedures

HB Construction's discipline and appeal procedures are intended to be corrective rather than punitive, placing the emphasis on identifying the reasons why an employee is not conforming to established standards of performance or behavior, and ensuring the employee's viewpoint is considered in the resolution of the situation.

It is important to recognize that not every corrective discussion between an employee and a supervisor constitutes disciplinary action. Many work methods which are now considered unsafe to too risky have been a "traditional" way of doing things. These old work methods must be replaced with new ones. And the process of explaining and demonstrating these methods is a form of on-the job training. However, the need for repeated correction of poor work habits due to negligence or a poor work attitude on the part of the employee will result in disciplinary action.

Disciplinary Procedure: The purpose of this procedure is to provide a basis for ensuring fair and consistent handling of all situations in which disciplinary action may be deemed necessary, and to identify and correct situations where there may be barriers which prevent the employees form meeting company standards

Verbal Warning: When an employee violates a regulation, company general rules, safe work practices or performance standards, the immediate supervisor will discuss the matter with the employee to hear the employee's side of the issue and explain the reason for the regulation or standard.

Written Warning: If the employee repeats the same infraction, or a different one, the supervisor will prepare a written warning, which will be delivered to the employee. The employee may also e suspended to consider the situation. Where a suspension is implemented, the employee will report to the immediate supervisor at a pre-arranged time prior to returning to work.

In most cases, an employee will be given three warning prior to their employment with HB Construction being terminated. The three warnings may be in any combination of verbal and/or written form. Depending of the seriousness of the incident, the warning process may be by-passes completely (for example, fighting, gross negligence, harassment, horseplay, theft, etc.), and immediate suspension or dismissal implemented.

Record of Disciplinary Action

4.2

This form is intended to assist in maintaining internal consistency in all cases of disciplinary action. ***Part 1 should be completed prior to meeting with the worker.***

Worker Name	Subcontractor (if applicable)

Date of Incident

Description of Incident

PART 1

1. Has the regulation or performance standard been consistently enforced in the past?
   Yes [ ] No [ ]

2. Have other workers violated this regulation or performance standard?
   Yes [ ] No [ ]
   If yes, describe the actions taken in other cases.

3. Have this subcontractor's workers previously violated the same regulation or performance standard?
   Yes [ ] No [ ]
   If yes, what action was taken?

4. Have this subcontractor's workers previously been subject to any other disciplinary action?
   Yes [ ] No [ ]
   If yes, provide the date and the reason for the disciplinary action.

5. Do you have all the facts? Yes [ ] No [ ]

PART 2	Worker Name:
	Subcontractor: (if applicable)

1. Supervisor / Site Representative's account of the incident

2. Worker's account of the incident

3. Who else witnessed the incident?

4. Was the worker aware of the regulation or performance standard?
   Yes [ ] No [ ]

5. Was the performance standard published in written form (for example, in the employee handbook)? Yes [ ] No [ ]

   Was it clearly communicated? Yes [ ] No [ ]

6. What disciplinary action was taken in this case?

Follow-up Date:

Follow-up Action Required of Worker and / or Subcontractor:

Follow-up Action Required of Supervisor / Site Representative:

Date	Supervisor / Site Representative's Signature
Date	Involved Worker / Subcontractor's Signature

HB Construction
Personal Protective Equipment

It is the policy of HB Construction to have all workers use the proper PPE when and where required. All PPE must be in good condition and be maintained according to manufacturer's recommendations.

PPE requirements when on the job site:

- hand protection
- CSA approved steel-toed boots
- Coveralls with high visibility striping (or other approved high visibility outerwear (eg. parkas with high vis striping)
- CSA approved hard hats
- Safety glasses and hearing protection when required by legislation, jobs site rules or nature of work being performed.
- specialized PPE when required.
- These requirements may not apply to workers when they are inside offices, lunchrooms, or the cabs of vehicles, unless specified by job site rules.

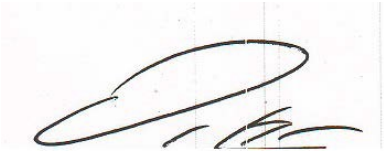
All PPE used at job site shall be inspected quarterly. Specialized PPE prior to each use. PPE requirements when in shop

- hand protection
- CSA approved steel-toed boots
- Long trousers with shirts with sleeves (long or short)
- -Hard hats when required by legislation, or nature of work being performed.
- Safety glasses and hearing protection when required by legislation or nature of work being performed.
- Specialized PPE when required.

These requirements may not apply to workers when they are inside offices or lunchrooms.

All PPE when working in shop must be visually inspected prior to use and disposed of or repair if it does not meet requirements of as set out by the company.

For HB Construction employees, hard hats, coveralls (high vis striping), safety glasses, hearing protection, hand protection and required specialty PPE will be supplied by the company. Each subcontractor is responsible to provide the required PPE for their own workers.



Dean Hanson
DH Jan 6/2011 DH Feb 2/2012 DH Mar 14/2014 DH May 5/2015 DH April 8/2016 DH May 25/2017 TH Dec 2018 DH 2020 DH April 2021 DH April 1/2022 TH2023

HB Construction
Fall Protection Policy

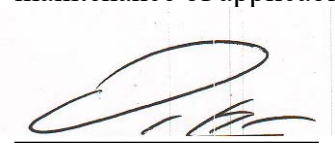
It is the policy of HB Construction that any worker who could fall into any hazardous substance or material, onto any operating machine or who work at heights of 3 meters or more in the case of temporary installation or 1.2 meters or more in the case of permanent installation, be protected from the hazard of falling. Fall Protection Plans shall be developed and implemented whenever a fall hazard exists.

The intent of a Fall Protection Plan is to:

-Assist the site supervisor and workers to identify possible fall hazards before work commences
-Assist in selecting a fall protection system(s) appropriate to the work
-Assist in providing a safe and efficient environment for the workers at risk

It is the responsibility of the site supervisor to ensure that fall protection plans are sufficient and/or developed as required and that all workers are instructed in the contents of any Fall Protection Plan.
Further, the site supervisor is responsible for ensuring that all workers follow the plan as directed.

No worker will be allowed to carry out any task where a fall protection system may be required until such a time as he/she has been trained on the installation, limitations, inspection, and maintenance of applicable fall protection systems.



Dean Hanson

DH Jan 6/2011
DH March 14/14
DH May 5/15
DH April 8/16
TH Feb 2017
TH May 2019
DH March 2020
DH April 2021
DH April 2022
DH June 2023

Employee

Date

PPE Inspection

Hard Hat (Less then 3 years from mfg.) No stickers on hard hats	
Boots CSA approved good condition	
Coveralls (reflective stripes good condition)	
Eye protection	
Specialized PPE	
Welding helmet	
Respirator	
Face shield	

Personal first aid kit Retag first aid kit when complete

Description of item	Minimum quantities	
Antiseptic wound cleansing towel, individually wrapped	6	
Splinter forceps/tweezers, fine point, stainless steel, minimum 11.4 cm (4.5″)	1	
Antibiotic ointment, topical, single use	2	
Adhesive bandages, sterile, assorted sizes (standard strip, large fingertip, knuckle, large patch)	16	
Biohazard waste disposal bag (single use)	1	
Compress/pressure dressing with ties, sterile, 10.2 × 10.2 cm (4″ × 4″)	2	
Gauze pad, sterile, individually wrapped, 7.6 × 7.6 cm (3″ × 3″)		
Triangular bandage, cotton, with two safety pins, 101.6 × 101.6 × 142.2 cm (40″ × 40″ × 56″)	1	
Conforming stretch bandage, relaxed length, individually wrapped, 5.1 cm × 1.8 m (2″ × 2 yd.)	1 roll	
Examination gloves, disposable, medical grade, one-size, non-latex, powder free	2 pair	
Hand/skin cleansing towel, individually wrapped (or equivalent)	4	
Adhesive tape, 2.5 cm × 2.3 m (1″ × 2.5 yd.)	1 roll	
Contents list	1	
Extra items		

To be completed on First working day of each quarter
Jan-Mar April-June July-Sept Oct-Dec

PPE Selection
Safety Footwear

Safety footwear is designed to protect feet against a wide variety of injuries. Impact, compression and puncture are the most common types of foot injury.

- Choose footwear according to the hazard. Refer to CSA standard Z196 “Protective Footwear”
- Select CSA certified footwear. Ensure that it has the proper rating for the hazard and the proper sole for the working conditions.
- Lace up boots fully. High cut boots provide support against ankle injury.
- Use protective coatings to make foot-wear water-resistant.
- Inspect footwear regularly for damage.
- Repair or replace worn or defective foot wear.

Selection of Safety Footwear		
Marking	**Criteria**	**Intended Application**
	Green triangle indicates sole puncture protection with a Grade 1 protective toecap.	For heavy industrial work environments, especially that of construction where sharp objects (such as nails) are present.
	Yellow triangle indicates sole puncture protection with a Grade 2 protective toecap.	For light industrial work environments requiring puncture protection as well as toe protection.
	Blue rectangle indicates a Grade 1 protective toecap with no puncture-resistant sole.	For industrial work environments not requiring puncture protection.
	Grey rectangle indicates a Grade 2 protective toecap with no puncture-resistant sole.	For industrial and non-industrial work environments not requiring puncture protection.
	White rectangle with orange Greek letter omega indicates electric-shock protective footwear.	For industrial work environments where accidental contact with live electoral conductors can occur. **Warning:** Electrical shock resistance deteriorates with wear and in a wet environment.
	Yellow rectangle with black SD letters indicates static-dissipative footwear.	For industrial work environments where a static discharge can create a hazard for workers or equipment. **Warning:** This footwear should not be used where contact with live electrical conductors can occur.
	Yellow rectangle indicates sole puncture protection with a Grade 2 protective toecap. (super-static dissipative footwear)	For industrial work environments where a static discharge can create a hazard for workers or equipment. **Warning:** This footwear should not be used where contact with live electrical conductors can occur.
	Red rectangle with white C letter indicates electrically conductive footwear.	For industrial work environments where low-power electrical changes can create a hazard for workers or equipment. **Warning:** This footwear should not be used where contact with live electrical conductors can occur.
	Dark grey rectangle with M letter indicates metatarsal protection. **Note:** Toe protection is required for all metatarsal protective footwear.	For industrial work environments where heavy objects can hurt the metatarsal region of the foot.
	White label with green fir tree symbol footwear provides protection when using chainsaws.	For forestry workers and others who work with or around hand-held chainsaws and other cutting tools.

PPE Eye and Face Protection

CCHOS 1997-2020

General Information: The PPE is designed to protect the workers from such hazards as:

- Flying objects and particles
- Molten metals
- Splashing liquids
- Ultraviolet, infrared and visible radiation(welding)

The PPE has two types. The first type, "**basic eye protection**", includes:

- Eye cup goggles
- Mono-frame goggles and spectacles with or without side shields.

The second type, "**face protection**" includes:

- Metal mesh face shields for radiant heat
- Chemical and impact resistant (plastic) face shields
- Welders shields or helmets with specified cover
- Filer plates and lenses

Hardened glass prescription lens and sport glasses are not an acceptable substitute for the proper required industrial safety eye protection.

Comfort and fit are very important in the selection of safety eyewear. Lens coatings, venting or fitting may be needed to prevent fogging or to fit with regular prescription eyeglasses. Contact lenses should NOT be worn at the work site. Contact lenses may trap or absorb particles or gases causing eye irritation or blindness. Hard contact lenses may break in the eye when hit.

Basic eye protection must be worn with face shields. Face shields alone aren't enough to fully protect the eyes from work hazards.

Do

- Ensure eye protection fits properly(close to the face)
- Clean safety glasses daily-mor often if needed
- Store safety glasses ins a safe, clean, dry place when not in use
- Replace pitted, scratched, ben or poorly fitted safety glasses. Damaged Face/eye shields interfere with vision and will not provide the protection it was designed to deliver.

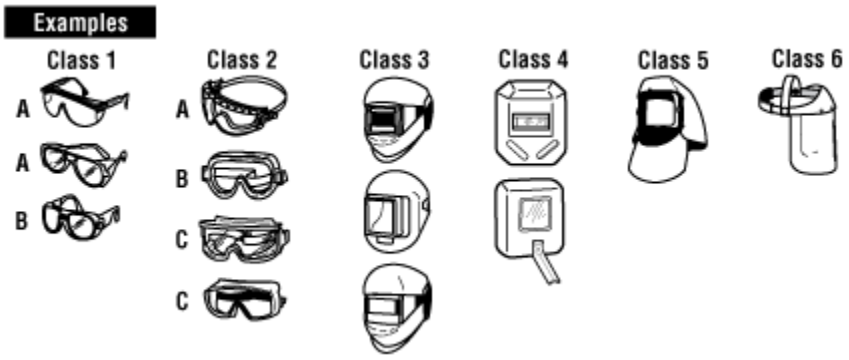
Don't

- Modify Eye face protection
- Use eye/face protection which does not have a CSA certification

Eye Protection for Welders: Welders and welders' helpers should also wear the prescribed equipment. Anyone else working in the area should wear eye protection where there is a chance they could be exposed to a flash

PPE-Selection of Eye & Face Protection

CSA Standard Z94.3.1-16 Guideline for selection, use and care of eye and face protectors, 2016



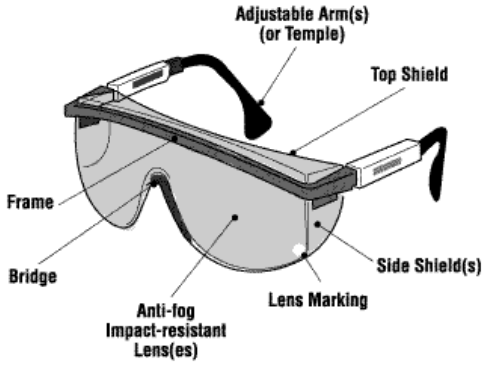
Nature of hazard	Hazardous Activities involving but not limited to	Recommended protectors
Flying Objects	Chipping, scaling, stonework, drilling, grinding, buffing, polishing, hammer mills, crushing, heavy sawing, planing, wire and strip handling, hammering, unpacking, nailing, punch press, lathework	Class 1A - Spectacles Class 2A, 2B - Goggles Class 5A, 5B - Hoods Class 6A, 6D - Face shields
Flying particles, dust, wind, etc.	Woodworking, sanding, light metal working and machining, exposure to dust and wind, resistance welding (no radiation exposure), sand, cement, aggregate handling, painting, concrete work, plastering, material batching and mixing	Class 1A - Spectacles Class 2A, 2B - Goggles Class 5A, 5B - Hoods Class 6A, 6D - Face shields
Heat, sparks, and splash from molten materials	Babbiting, casting, pouring, molten metal, brazing, soldering, spot welding, stud welding, hot dipping operations	Class 1B - Spectacles Class 2C - Goggles Class 5C, 5D - Hoods Class 6B, 6C, 6D - Face Shields
Acid splash, chemical burns	Acid and alkali handling, degreasing, pickling and plating operations, glass breakage, chemical spray, liquid bitumen handling	Class 2B - Goggles Class 5B - Hoods Class 6A - Face Shields
Abrasive blasting materials	Sand blasting, shot blasting, shotcreting	Class 2B - Goggles Class 5B - Non-Rigid Hoods Class 6A - Face Shields
Glare, stray light (where slight reduction of visible radiation is required)	Reflection, bright sun and lights, reflected welding flash, photographic copying	Class 1A - Spectacles Class 2A, 2B - Goggles Class 5A, 5B - Hoods Class 6A - Face Shields
Injurious optical radiation (where moderate reduction of optical radiation is required)	Torch cutting, welding, brazing, furnace work, metal pouring, spot welding, photographic copying	Class 1B - Spectacles Class 2C - Goggles Class 5C - Hoods Class 6B - Face Shields
Injurious optical radiation (where large reduction of optical radiation is required)	Babbiting, casting, pouring, molten metal; brazing, soldering, spot welding, stud welding, hot-dipping operations	Class 3 - Helmet Class 4 - Handshield
Laser radiation	Laser cutting, laser surgery, laser etching	Class 2D - Goggles
Electric arc flash	Electrical installation, electrical maintenance, troubleshooting of electrical systems, disconnecting live electrical systems	Class 2E - Goggles Class 5E - Hoods Class 6D - Face shields

PPE Safety Glasses

CCHOS 1997-2020

How to recognize Safety Glasses

Lenses: CSA-certified eye and face protectors must meet the criteria for impact resistance as outlined in the standard. Only devices made of approved materials are permitted. Not all tinted safety glasses offer UV protection. Check specifications to ensure UV protection provided.



Markings: The manufacturer or supplier certification mark must be present on all approved safety lenses, frames (front and temple), removable side shields, and other parts of the glasses, goggles, or helmets.

Frames: Safety frames are stronger than street-wear frames and are often heat resistant. They are also designed to prevent lenses from being pushed into the eyes.

Fit

- Ensure your safety eye wear fits properly. Eye wear should cover from the eyebrow to the cheekbone, and across from the nose to the boney area on the outside of the face and eyes.
- Eye wear should fit over the temples comfortably and over the ears. The frame should be as close to the face as possible and adequately supported by the bridge of the nose.
- Users should be able to see in all directions without any major obstructions in their field of view

Care

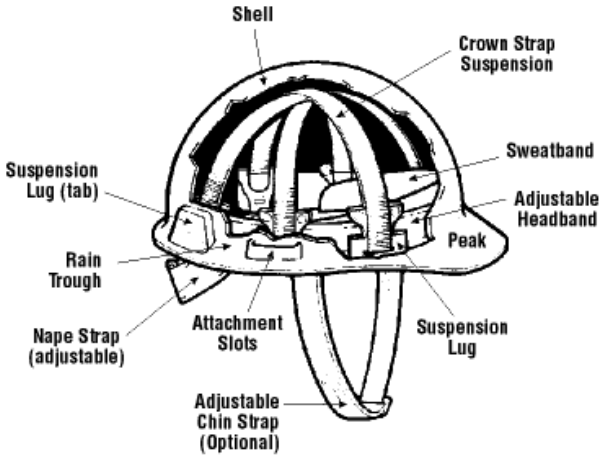
- Clean your devices daily. Follow the manufacturer's instructions.
- Avoid rough handling that can scratch lenses. Scratches impair vision and can weaken lenses.
- Store your devices in a clean, dry place where they cannot fall or be stepped on. Keep them in a case when they are not being worn.
- Replace scratched, pitted, broken, bent or ill-fitting devices immediately. Damaged devices interfere with vision and do not provide protection.
- Replace damaged parts only with identical parts from the original manufacturer to ensure the same safety rating.
- Do not change or modify the protective device.

PPE Selection & Care of Headwear

Source CCHOS 1997-2020

Headwear consists of a shell and the suspension. These work together as a system and both need regular inspection and maintenance.
If you are at risk for head injury at your workplace, you should wear the appropriate head protection. Choose the correct headwear for the job. Refer to CSA Standard Z94.1-15 "Industrial Protective Headwear - Performance, Selection, Care, and Use" or the legislation that applies in your jurisdiction.

- Classes of headwear can include:
    - Type 1 - protection from impact and penetration at the crown (top) and
    - Type 2 - protection from impact, penetration at the crown (top) and laterally (sides and back)
    - Each type is also available in the following classes:
        - Class E (20 000 V electrical rating) - non-conducting material (electrical trades)
        - Class G (2200 V electrical rating) - non-conducting material (general trades)
        - Class C (no electrical rating)



DO

- Inspect and replace a shell that shows signs of wear, scratches or gouges. Shells exposed to heat, sunlight and chemicals can become stiff or brittle. A visible pattern of tiny cracks may develop. Over time, weathered hats can become dull in colour or have a chalky appearance.
- Replace headwear when any of the above signs of wear start to appear.
- Replace headwear that has been struck, even if no damage is visible.
- Remove and destroy any headwear if its protective abilities are in doubt.

PPE Selection & Care of Headwear

Source CCHOS 1997-2020

Don't

- Do not transport headwear in rear windows of vehicles. Heat and UV light can damage the material, making it brittle and less protective.
- Winter liners should be inspected to ensure they do not interfere with fit of headwear.
- Do not draw the chin strap over the brim or peak of the headwear.
- Do not wear baseball style hats under the headwear as it interferes with the suspension.
- Only wear the hard hat with the peak at the back, if the suspension has been adjusted so the nape strap remains at the back of the head. Check with the manufacturer to ensure the headwear was designed to be worn this way.

- Do not drill holes, alter or modify the shell. Alterations may reduce the protection provided by the headwear.
- Do not paint the plastic shell. Paint solvents can make plastic headwear brittle and more susceptible to cracks. Paint can also hide cracks that may develop. Instead, use reflective marking tape to make numbers or symbols for identification purposes. Some headwear may be painted, but check with the manufacturer for approval.

Suspension

The suspension system is as important as the shell. It holds the shell away from the head and acts as a shock-absorber. It also holds the shell in place on the head and allows air to flow freely.

- Adjust headband size so that headwear will stay on when the wearer is bending over, but not so tight that it leaves a mark on the forehead.
- Ensure that the suspension is in good condition. The main purpose of the suspension is to absorb energy.
- Look closely for cracked or torn adjustment slots, frayed material or other signs of wear.
- Check the suspension lugs carefully. Long periods of normal use can damage the suspension. Perspiration, hair oils, dirt, insecticides, hair sprays and hair treatments can speed up the deterioration of suspension materials.
- Replace the suspension if it has torn or broken threads.
- Only use liners if approved by manufacturer.
- Do not put anything between the suspension and the shell. There must be a clearance inside the headwear while it is being worn. In case of a blow to the head, that space helps absorb the shock.
- Do not use a suspension made by one manufacturer with products made by another manufacturer.
- Do not change or alter any of the suspension, liner or shell.

PPE - Hearing Protection

PPE-04a

*This information does not take precedence over O.H.&S. All workers should be familiar with the O.H.&S. Act and Regulations.

Noise Reduction Rating (NRR): The noise reduction capability of hearing protection is given as NRR. The actual protection provided by a hearing protector is estimated to be seven decibels less than NRR (NRR-7) dB(A).

Improper fit and a low percentage of time worn greatly reduces the effectiveness of hearing protection. Select hearing protection that is:

- correct for the job. Refer to CSA Standard Z94.2, "Hearing Protectors".
- capable of adequately reducing sound frequencies. Check manufacturer's literature.
- comfortable enough to be accepted and worn during all exposure to noise.

Ear plugs are inserted to block the ear canal. They may be premolded (preformed) or moldable (such as glass down, foam plastic, waxed cotton). Canal caps are made up of two ear plugs held over the ends of the ear canal by a rigid headband. Ear muffs are made up of sound-attenuating (weakening) material and soft ear cushions which fit around the ear and hard outer cups. They are held together by a head band.

- Do not use radio headsets as a substitute for hearing protectors.
- Do not modify hearing protectors.

Care:
- Refer to manufacturer's instructions
- Check hearing protection regularly for wear and tear
- Replace unit if head bands are stretched and don't keep ear cushions snugly against the head.
- Disassemble ear muffs to clean.
- Wash hearing protectors with a mild liquid detergent in warm water, rinse in clear warm water.
- Ensure that sound-attenuating material inside cushions does not get wet.
- Use a soft brush to remove skin oil and dirt which can harden ear cushions.
- Squeeze excess moisture from the plugs or cushions and place on a clean surface to air dry.

Fit:
- Follow manufacturer's instruction.
- Ensure hearing protector tightly seals within the ear canal or against the side of the head.

COMPARISON OF HEARING PROTECTION

Ear Plugs

Advantages:
- small and easily carried
- convenient to use with other PPE
- more comfortable in hot, humid work areas
- convenient for use in confined work areas
- cheaper than ear muffs

Disadvantages:
- require more time to fit
- more difficult to insert and remove
- require good hygiene practices
- may irritate the ear canal
- easily misplaced
- more difficult to see and monitor usage

Ear Muffs

Advantages:
- designed so that one size fits most head sizes
- easily seen at a distance to assist monitoring of use
- not easily misplaced or lost
- may be worn with minor ear infections

Disadvantages:
- less portable and heavier
- more inconvenient for use with other PPE
- more uncomfortable in hot, humid work areas
- more inconvenient for use in confined work areas
- more difficult to wear with glasses

The "rule of thumb" for hearing protection is: use hearing protection when you can't carry on a conversation at a normal volume of voice when you are 3 feet apart. Remember, this is only a rule of thumb. Any sound over 80dba requires hearing protection. Hearing loss can be very gradual, usually happening over a number of years. *If your hearing protection does not take the sharp edge off the noise, or if workers have headaches or ringing, pain or discomfort in the ears, your operation requires the advice of an expert.* Workers should have their hearing tested at every two years, more often if they work in a high-noise area.

Source: CCOHS (1997)

PPE - Ear Plug Fitting Instructions

PPE-04b

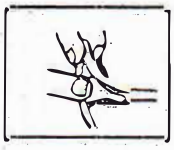
**This information does not take precedence over O.H.&S. All workers should be familiar with the O.H.&S. Act and Regulations.*

DISPOSABLE EAR PLUG FITTING INSTRUCTIONS

Before fitting any ear plugs, make sure your hands are clean.

Before fitting any ear plugs, make sure your hands are clean. Hold the ear plug between your thumb and forefinger. Roll and compress the entire ear plug into a small, crease-free cylinder. While still rolling, use your other hand to reach over your head and pull up and back on your outer ear. This straightens the ear canal, making way for a snug fit.

Insert the ear plug and hold for 20 to 30 seconds. This allows the ear plug to expand and fill your ear canal.



Test the fit. In a noisy environment, and with earplugs inserted, cup both hands over your ears and release. You should not notice a significant difference in the noise level. If the noise seems to lessen when your hands are cupped over your ears, your ear plugs are probably not fitted properly. Remove and refit.

Always remove ear plugs slowly, twisting them to break the seal. If you remove them too quickly, you could damage your ear drum.

REUSABLE EAR PLUG FITTING INSTRUCTIONS

Before fitting any ear plugs, make sure your hands are clean. Reach around your head and pull up and back on your outer ear. This straightens out the ear canal, making way for a snug fit.

Hold the stem end of the ear plug and insert it well inside your ear canal until you feel it sealing and the fit is comfortable.

Test the fit. In a noisy environment, and with ear plugs inserted, cup both hands over your ears and release. You should not notice a significant difference in the noise level. If the noise seems to lessen when your hands are cupped over your ears, your ear plugs are probably not fitted properly. Remove and refit.

Always remove ear plugs slowly, twisting them to break the seal. If you remove them too quickly, you could damage your ear drum.

Reusable ear plugs should be inspected and cleaned often in soapy water. If they become hard, torn or deformed, they should be replaced.

PPE - Limb & Body Protection

PPE-05a

**This information does not take precedence over O.H.&S. All employees should be familiar with the O.H.&S. Act and Regulations.*

General Information: Due to the nature of the construction workplace and the number of different hazards, it is not possible to cover specialized limb and body protection in detail. These types of hazards are known as "*job exposures*" (exposure to fire, temperature extremes, body impacts, corrosives, molten metals, cuts from sharp or abrasive materials). PPE in the category would be items such as:

- leg, arm, chin and belly guards,
- specialty hand pads and grips,
- leather aprons and leggings,
- full body suits,
- flame and chemical resistant clothing, and
- various types of plastic boot covers and overshoes.

For more information on the type of specialty PPE you require, check your local Occupational Health & Safety office. With all PPE, following the manufacturer's instructions on its use, care and cleaning is critical and will help you get the full service life from your specialty PPE.

Hand PPE (Gloves and Mitts): PPE for the hands include: finger guards, thimbles and cots, handpads, mitts, gloves and barrier creams. Choose hand PPE that will protect against the job hazard. Gloves should fit well and be comfortable. This type of PPE has to protect against chemicals, scrapes, abrasions, heat and cold, punctures and electrical shocks.

Types: PPE for the hands come in many forms, each designed to protect against certain hazards. Gloves most commonly used in the construction industry are made from leather, cotton, rubber, synthetic rubbers and other man-made materials, or combinations of materials.

Vinyl-coated or leather gloves are good for providing protection while handling wood or metal objects. When selecting hand PPE, keep the following in mind: look for anything at the job-site that may be a hazard to the hands. If gloves are to be used, select the proper type for the job to be done. Inspect and maintain hand PPE regularly. If in doubt about the selection or need for glove or hand PPE, consult your safety supplier, Material Safety Data Sheet (MSDS), or local Occupational Health & Safety Office.

Do:	• inspect hand PPE for defects before use • wash all chemicals and fluids off gloves before removing them • ensure that gloves fit properly • use the proper hand PPE for the job • follow manufacturer's instructions on the care and use of the hand PPE you are using • ensure all skin is covered (no gap between the sleeve and the hand PPE).
Don't:	• wear gloves when working with moving machinery (gloves can get tangled or caught) • wear hand PPE with metal parts near electrical equipment • use gloves or hand protection that is worn out or defective

Source: CCOHS (1997)

PPE - Hand Protection

PPE-05b

This information does not take precedence over O.H.&S.. All employees should be familiar with the O.H.&S. Act and Regulations.

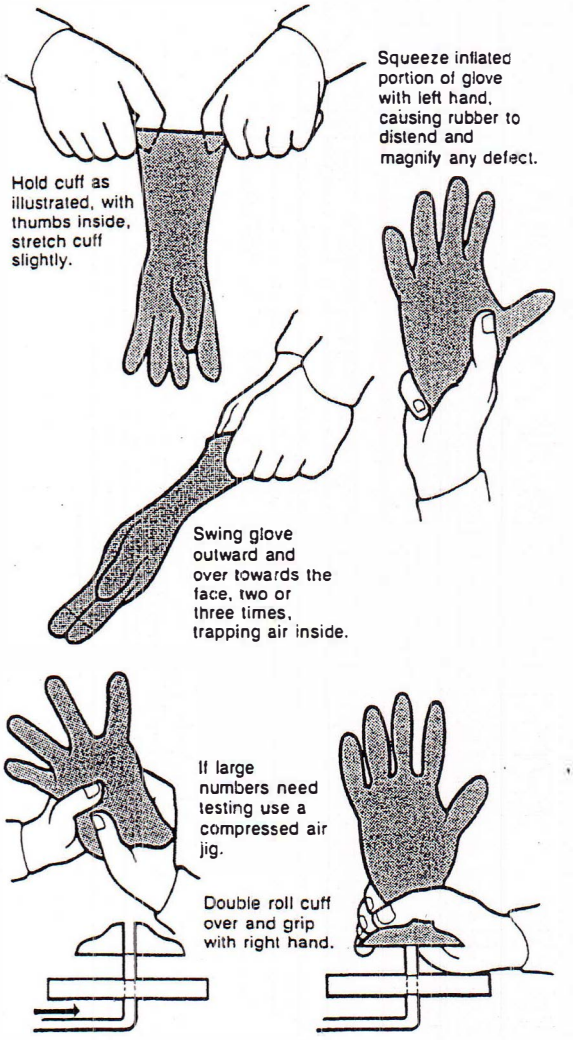
Hand protection is designed to protect hands against a wide variety of hazards. The protection can be provided in a number of different ways: barrier creams, finger guards, cots and thimbles, hand pads, mitts and gloves.

- CHOOSE hand protection that adequately protects from the hazard.

GUIDE TO THE SELECTION OF HAND PROTECTION

Hazard	Degree of Hazard	Protective Material
Abrasion	Severe Less severe	- Reinforced heavy rubber, staple-reinforced heavy leather - Rubber, plastic, leather, polyester, nylon, cotton
Sharp edges	Severe Less severe Mild with delicate work	- Metal mesh, staple-reinforced heavy leather, Kevlar-steel mesh - Leather, terry cloth (Aramid fiber) - Lightweight leather, polyester, nylon, cotton
Chemicals and fluids	Refer to ACGIH Guideline for the Selection of Chemical Protective Clothing. The manufacturer, product MSDS, or CCOHS.	- Dependant on chemical job-rated rubber or synthetic of the following material: Natural rubber, neoprene, nitrile butyl rubber, Viton, polyvinyl chloride, polyvinyl alcohol and others
Cold		- Leather, insulated plastic or rubber, wool, cotton
Electricity		- Rubber-insulating gloves tested to appropriate voltage (CSA Standard Z259.4-M1979) with leather outerglove
Heat	High temperatures (over 350°C) Medium high (up to 350°C) Warm (up to 200°C) Less warm (up to 100°C)	- Asbestos, neoprene-coated asbestos - Nomex, Kevlar, neoprene-coated asbestos, heat-resistant leather with linings - Nomex, Kevlar, heat-resistant leather, terry cloth (Aramid fiber) - Chrome-tanned leather, terry cloth
General Duty		- Cotton, barrier creams, terry cloth, leather
Product Contamination		- Thin-film plastic, lightweight leather, cotton, polyester, nylon
Radiation		- Lead-lined rubber, plastic or leather

- FOLLOW manufacturer's instructions for care and maintenance of gloves.
- ENSURE gloves fit properly.
- ENSURE all exposed skin is covered by gloves. Gloves should be long enough so that there is no gap between the glove and sleeve.
- DO NOT WEAR gloves with metal parts near electrical equipment.
- DO NOT USE worn or torn gloves.
- DO NOT WEAR gloves while working on moving equipment; they can become caught.
- WASH off all chemical- protective gloves with water before removing them.
- INSPECT and test gloves for defects before using.
- TEST all rubber or synthetic gloves for leaks by inflating them.



Source: Canadian Centre for Occupational Health & Safety (1997)

PPE - Chemical Protective Gloves

PPE-05c

*This information does not take precedence over O.H.&S.. All employees should be familiar with the O.H.&S. Act and Regulations.

- CHOOSE a material and style of glove that adequately protects hands from the hazard.
- REVIEW the following sources to determine the material's ability to protect hands against the hazard.
  - MSDS/Label Chemical Manufacturer.
  - Manufacturer of gloves (review recent permeability information)
  - CCOHS Data Bases/Inquiries Service
- INSPECT and test gloves for defects before using.
- FOLLOW manufacturer's instructions for care and maintenance.
- ENSURE gloves fit properly.
- WASH off all chemical-protective gloves with water before removing them.
- EVALUATE material resistance under conditions of use. Resistance of specific materials can vary from product to product.
- MAINTAIN gloves carefully.

Refer to SAFETY INFOGRAM K10 for general information on hand protection.

*CHEMICAL PERMEATION OF GLOVE MATERIAL Breakthrough time in hours is calculated as an average.

Pure Chemical	Butyl Rubber	Neoprene	PVC	Natural rubber	Nitrile	Viton	Poly-ethylene
PCBs	>8	>8		<1		>8	>1
Sulphuric acid >70%		>1	<1	>1	>1	>1	>4
Hydrochloric acid	>8	>4	>2	>2	>4	>1	<1
Sodium Hydroxide <70%	>8	>4	>4	>2	>4	>4	>8
Nitric Acid <30%		>4	>4	>4	>4		<1
Ethylene glycol		>2	>1	>2	>2		>2
Vinyl chloride					>4	>4	
Pentachlorophenol		>1	>2		>4		
Methanol	>8	<1	<1	<1	<1	>1	>8
Phosphoric Acid >70%		>4	>4	>4	>4		>4

Pure Chemical	Butyl rubber	Neoprene	PVC	Natural rubber	Nitrile	Viton	Poly-ethylene
Ammonium hydroxide		>4	>2	>2	>4		
Xylene	<1	<1	<1	<1	<1	>8	
Toluene diisocyanate	>8			<1	>4	>8	
Trichloroethane	>4	<1	<1	<1		>8	<1
Formaldehyde	>8	>2	<1	<1	>8	>8	>4
Perchloroethylene	<1	<1	<1	<1	>4	>8	<1
Phenol >70%	>8	>4	<1	<1	<1	>8	>4
Acetic acid		>4	>2	>2	>4	>1	>4
Chromic acid		>1	>4	>1	>4		
Hydrogen peroxide		>1	>4	>4			

<1 (0-0.9) >1 (1-1.9) >2 (2-3.9) 1/4 shift >4 (4-7.9) 1/2 shift >8 (>8) full shift

*GLOVE MATERIAL RATINGS

Material (Designation in Matrices)	Abrasion Resistance	Cut Resistance	Flexibility	Heat Resistance	Ozone Resistance	Puncture Resistance	Tear Resistance
Butyl Rubber (Butyl)	F	G	G	X	X	G	G
Chlorinated Polyethylene (CPE)	X	G	G	G	X	G	G
Natural Rubber	X	X	X	F	P	X	X
Nitrile-Butadiene Rubber (NBR)	X	X	X	G	F	X	G
Neoprene	X	X	G	G	X	G	G
Nitrile Rubber (Nitrile)	X	X	X	G	F	X	G
Nitrile Rubber/Polyvinyl Chloride (Nitrile/PVC)	G	G	G	F	X	G	G
Polyethylene	F	F	G	F	F	P	F
Polyurethane	X	G	X	G	G	G	G
Polyvinyl Alcohol (PVA)	F	F	P	G	X	F	G
Polyvinyl Chloride (PVC)	G	P	F	P	X	G	G
Styrene-butadiene Rubber (SBR)	X	G	G	G	F	F	F
Viton	G	G	G	G	X	G	G

X-Excellent G-Good F-Fair P-Not Recommended

Ratings are subject to variation depending on formulation thickness, and whether the material is supported by fabric.

*Adapted from ACGIH Guidelines for the Selection of Chemical Protective Clothing

Source: Canadian Centre for Occupational Health & Safety (1997)

PPE - Safety Belts, Harnesses & Lanyards PPE-06a

*This information does not take precedence over O.H.&S.. All employees should be familiar with the O.H.&S. Act and Regulations.

General Information

Body belts and harnesses are used in construction to provide workers working at heights above ground level with freedom of movement and protection from falls. These devices will arrest a fall and absorb some of the shock of the fall. The systems are usually worn around the body and attached to a lanyard, fall arresting device or rope grab. Better quality systems usually have some form of shock absorber in the system.

A lifeline should never be used as a service line. The only time a lifeline becomes a load bearing line is in the event of a fall. At all other times it should be just slack enough to permit free movement on the service lines.

In the construction industry, full-body harness systems used with a shock absorber are preferred over waist safety belts.

It is very important to get quality advice in the selection, purchase and maintenance of your fall-arresting equipment. See CSA Standards:

- "Fall Arresting Safety Belts and Lanyards for the Construction and Mining Industries: Z259.1-1981;
- Fall Arresting Devices, Personal Lowering Devices and Life Lines" Z259.2 - M1979; and
- "Lineman's Body Belt and Lineman's Safety Strap" Z259.3 - M1978.

Do:	• obtain expert advice before purchasing a fall-arresting device • properly train and practice with the system you decide to use • use webbing type harnesses instead of leather harnesses • use only the manufacturer's components for replacement parts • inspect carefully before each use (inspection to be performed by a trained worker) • have the harness fitted snugly to the worker using the system • *ensure that the anchor points are secure and able to support the load in the event of a fall* • follow the manufacturer's instructions on care and use • ensure all lines used with the systems meet required standards (CSA, CGSB, NIOSH, ANSI). • use only the proper safety and rated fastenings with the system • *use a full body harness with shock absorber whenever possible*
Don't:	• modify, change or put additional holes in the harness or hardware • jerry-rig the system • use the system for any other than its intended use • use the lifeline for a service line

Source: CCOHS (R02/02)

PPE - Care of Safety Belts, Harnesses & Lanyards

PPE-06b

**This information does not take precedence over O.H.&S.. All employees should be familiar with the O.H.&S. Act and Regulations.*

Equipment:

- Inspect your equipment daily.
- Replace any equipment involved in a fall.
- Replace defective equipment.
- Refer questionable defects to an inspector.

Webbing (Body of Belt, Harness or Lanyard):

- Inspect entire surface of webbing for damage. Beginning at one end, bend the webbing in an inverted "U". Holding the body side of the belt toward you, grasp the belt with your hands six to eight inches apart.
- Watch for frayed edges, broken fibres, pulled stitches, cuts or chemical damage. Broken webbing strands generally appear as tufts on the webbing surface.
- Replace according to manufacturer's guidelines.

Buckle:

- Inspect for loose, distorted or broken grommets. Do not cut or punch additional holes in waist strap or strength members.
- Check belt without grommets for torn or elongated holes which could cause the buckle tongue to slip.
- Inspect the buckle for distortion and sharp edges. The outer and centre bars must be straight. Carefully check corners and attachment points of the centre bar. They should overlap the buckle frame and move freely back and forth in their sockets. The roller should turn freely on the frame.
- Check that rivets are tight and cannot be moved. The body side of the rivet base and outside rivet burr should be flat against the material
- Inspect for pitted or cracked rivets which indicate chemical corrosion.

Rope:

- Rotate the rope lanyard and inspect from end to end for fuzzy, worn, broken or cut fibres. Weakened areas have noticeable changes in the original rope diameter.
- Replace when rope diameter is not uniform throughout, following a short break-in period.

Hardware (Forged Steel Snaps, "D" Rings):

- Inspect hardware for cracks or other defects. Replace the belt if the "D" ring is not at a 90° angle and does not move vertically independent of the body pad or "D" saddle.
- Inspect tool loops and belt sewing for broken or stretched loops.
- Check bag rings and knife snaps to see that they are secure and working properly. Check tool loop rivets. Check for thread separation or rotting, both inside and outside the body pad belt.
- Inspect snaps for hook and eye distortions, cracks, corrosion or pitted surfaces. The keeper (latch) should be seated into the snap nose without binding and should not be distorted or obstructed. The keeper spring should exert sufficient force to close the keeper firmly.

Safety Strap Inspection:

- Inspect for cut fibres or damaged stitches inch by inch by flexing the strap in an inverted "U". Note cuts, frayed areas or corrosion damage.
- Check friction buckle for slippage and sharp buckle edges.
- Replace when tongue buckle holes are excessively worn or elongated.

Cleaning: Basic care prolongs the life of the unit and contributes to its performance.

- dry belt and other equipment away from heat, steam and out of long periods of sunlight
- store in a clean, dry area free of fumes, sunlight or corrosive materials.

Nylon & Polyester:

- Wipe off all surface dirt with a sponge dampened in plain water. Rise sponge and squeeze it dry. Dip the sponge in a mild solution of water and commercial soap or detergent. Work up a thick lather with a vigorous back and forth motion.
- Rinse webbing in clean water.
- Wipe the belt dry with a clean cloth. Hang freely to dry, but away from excessive heat.

Cotton:

- Clean like nylon. For heavy dirt or grease, soak belts in a solution of one tablespoon of grease cutter to one gallon of water. Consult supplier.
- After soaking, rinse again; then hang to dry.

Source: CCOHS (1997)

HB Construction
Maintenance Program Policy

All tools, equipment and facilities will be properly maintained to reduce risk of injuries to workers or damage to property. All preventative maintenance will be carried out be competent personnel according to manufacturer's recommendation's, regulatory standards, and established maintenance schedules of HB Construction. All maintenance completed must be documented by the employee who completes maintenance. Date, Hours/and or Km 's, Equipment, employee name, and task performed must be recorded.

All workers will regularly check all tools and equipment that they are working with, and will take out of service any tools or equipment that pose a hazard due to a need for repair.

Dean Hanson

DH Jan6/11
DH Feb2/12
DH Mar 14/14
DH May 5/13
DH April 8/16

DH Feb 2017

TH May 24/2019
DH March 2020

DH April 2021 TH
April 1/2022
TH2023

HB Construction
Maintenance Program

All construction activity involves people working with tools and equipment, In addition to ensuring that workers use the tools and equipment properly, it is vital that tools and equipment be properly inspected, maintained and kept in good repair. An effective maintenance program provides for monitoring, periodic checks and maintenance of equipment, thereby minimizing the risk of injuries, property damage and lost production due to equipment breakdown. The expertise of management and workers is essential in setting schedules; and once schedules are set, it is essential that they are followed.

Recording and Monitoring: At each scheduled maintenance date, the prescribed maintenance procedures must be followed and recorded in a maintenance log. The people responsible for operating and/or maintaining the equipment must monitor that equipment to ensure that appropriate checks and maintenance are done. Management must also monitor the entire program to ensure that it is functioning in accordance with company policy, and that the individuals responsible for performing the maintenance work are adequately qualified.

Heavy Equipment Log Books: All heavy equipment will have a log book that is to be filled out each time the equipment is refueled. Operators are to inform supervisor is there is a safety defect found with equipment, remove keys from disabled equipment. Place "Out of Service" tag in visible location, and record in Lock Out Record Book.

Semi Truck and Trailers-safety certification as required by regulation. Preventative maintenance as per maintenance schedule

Light Vehicle-monthly inspection will be conducted and preventative maintenance will be required every 5000km.

Responsibility for Tools at Job Site and/or Shop: Any tool that is found to be damaged must be

tagged out, "Out of Service".

1. The worker will inform the foreman of the problem and return the damaged tool either to the foreman or to the tool crib, and take a replacement tool. Defective tools which are returned to the tool crib must be tagged "Out of Service" with the tags provided.

2. The management will decide whether the tool is to be repaired or replaced. A tool awaiting inspection and/or repair will be red-tagged to indicate it is not job-ready. Once the inspection and/or repair is completed, the tool will be green tagged and returned to the tool crib.

HB Construction Inc. Maintenance Schedule

Heavy Equipment	Type of Inspection	Schedule
Excavators, loaders, crawlers, skid steers	Complete log book	Each refueling
	Complete inspection	Oil change interval
	Preventative maintenance	100 hours and/or manufacturers recommendations
	Critical items-controls, overall function	Each use
	Repairs	When defects identified

Semi Truck	Complete safety and certification	Yearly SGI certification Quarterly PME
	Preventative maintenance	Every 5000 kms and/or manufacturer's recommendation
	Repairs	When defects identified

Trailers	Complete safety and certification	Yearly SGI Certification Quarterly PME
	Preventative maintenance	Manufacture recommendation
	Repairs	When defects identified

Compressors, welders, generators	Complete inspection	Manufacturer's recommendations
	Preventative maintenance	Every 100 hours and/or manufacturer's recommendations
	Repairs	When defects identified

Rigging	Visual inspection	Before each use
	Complete inspection	Yearly

Small tools	Visual inspection	Before each use
	Complete inspection	Upon return to shop after job site use

LOCKOUT PROCEDURE

TOOLS: IF ANY TOOL IS FOUND DEFECTIVE, PLEASE PLACE A RED “OUT OF SERVICE” TAG ON TOOL AND PLACE IN SITE VAN OR TOOL CRIB AT SHOP. TOOL CAN NOT BE USED UNTIL IT HAS BEEN REPAIRED OR REPLACED. REPAIRED TOOLS WILL RECEIVE A GREEN TAG.

EQUIPMENT: IF EQUIPMENT HAS A DEFECT THAT EFFECTS SAFE OPERATION:

OPERATOR IS RESPONSIBLE TO

- REMOVE KEYS FROM DISABLED EQUIPMENT
- PLACE TAG OUT INDICATOR IN VISIBLE LOCATION
- NOTIFY SUPERVISOR
- RECORD LOCKOUT IN RECORD BOOK

BEFORE EQUIPMENT OPERATES, REPAIR WORK MUST BE COMPLETED, AND THE RECORD BOOK MUST BE SIGNED AND DATED BY REPAIRMAN.

LOCK OUT TAG OUT RECORD

UNIT/TOOL	LOCK OUT DATE	REPAIR WORK COMPLETED	RETURN DATE

HB Construction Inc.
Tractor/Trailer/Equipment Inspection

Tractor/Trailer/Equipment	**Date**
KM's and/or Hours	**Technician/Employee**

	OK	Faulty	Repaired
Tires(no excessive cuts or wear)			
Retorqued			
Horn(operative)			
Mirrors(present/not broken)			
Lights			
Headights(Hi/Lo)			
Tail Lights			
Brake Lights			
License Lights			
Turn signals			
Emergency Flashers			
Clearance Lights			
Beacon			
Gauges			
Heater(Defroster/AC)			
Window Washer/Wipers			
Windshield condition			
Seat Belts(present operative no frays)			
Cargo (loose objects properly stored and secured)			
Fire Ext. (present charged inspected)			
First Aid Kit(present,supplies complete)			
Flares/reflectors(present/good condition)			
Radiator-Hoses-fan blades			
Belts tight in good condition			
U-Joints			
Clutch Adjustment			
Springs and shocks			

	OK	Faulty	Repaired
Frame			
Exterior(clean, record new damage)			
Exhaust system			
Air cleaner			
Fluid Levels			
Engine Oil			
Tran Fluid			
Power Steering			
Brake Fluid			
Differentials			
Transfer Case			
Hydraulic Fluid			
Hub Levels			
Brakes			
master cylinder			
Parking Brake			
Brake pedal travel			
Brake lines			
air leakage			
Steering wheel			
Tie Rod Ends			
Ball Joints			
Entire Assembly			
Fifth Wheel-jaw and locks			
Fifth Wheel Greased			
Slack adjusters greased			
Landing Gear			

Driver side

Axle	1	2	3	4
Lining				
Drum				
Travel				
Cam Rotation				

Passenger Side

Axle	1	2	3	4
Lining				
Drum				
Travel				
Cam Rotation				

Inspection Policy: All Units are to be inspected at a minimum of once per quarter. Also note if tire removed on any tractor or trailer drum thickness must be measured and recorded.

Notes

Date: _____ Hours: _____

Equipment: _____ Location:_____

Operator: _____

Daily Checks:

□ Cab Cleanliness_____

□ Steps and Handholds_____

□ Instruments (Gauges, Fault lights, etc.)

□ Lights_____

□ Back up alarm_____

□ Fire extinguisher (Charge level)_____

□ Beacon_____

□ Motor oil level_____

□ Coolant level_____

□ Def Level_____

□ Spill Kit _____

Weekly Checks:

□ Buckets, Cylinders, linkage_____

□ Pins and bushings_____

□ Hydraulic Oil level_____

□ Transmission Oil Level_____

□ Pump Drive oil level_____

□ Grease boom pins_____

□ Hydraulic hose condition_____

Operator comments: (Potential problems, General, etc.)

_____

_____

HB Construction Inc.

Employee Training and Safety Meetings

HB Construction Inc. will provide their workers with the following:

- Safety orientations for all new hires
- Weekly safety meetings involving all available workers
- Specific training as required by the OH&S Legislation and HB Construction Inc. Company Policy.

Subcontractors shall provide the same as above for their workers.

Dean Hanson

March 2020 April 5/2021 DH

Feb 2019 April 1/2022 DH

DH May June 6/2023

5/2015 May

26/2014 Feb

2/2012 Fan

6/2011

EMPLOYEE ORIENTATION FORM

Date: _____Worker: _____

		Yes	No
1.	Company Health and Safety Policy		
2.	Return-to-Work Policy/Program		
3.	Workers' Three Basic Rights		
4.	Identification of the Worker Health and Safety Representative/Designate		
5.	Responsibilities of workers, forepersons (supervisors), Employer		
6.	Emergency Procedures, First Aid		
7.	Injury Reporting Procedure		
8.	Company Rules/Disciplinary Procedures		
9.	Personal Protective Equipment		
10.	Workplace Inspection Requirements		
11.	Hazard Identification and Reporting		
12.	Safe Work Practices		
13.	Safe Job Procedures		
14.	Safety Meetings		
15.	Harassment Policy		
16.	Special Requirements		
17.	Hearing Conservation		
18.	Facilities tour		
19.	Employee Handbook		

Remarks:_____

This will certify that I have been given the company orientation briefing on the above noted subjects as indicated by me with an "INITIAL" and that I have fully reviewed and understood its contents.

Signature: _____Date: _____

Company Rep.: _____Date: _____

Previous Training

Certificate	Expiry

HB Construction Inc.

_____ Hazard Identification _____ Inspection _____ Tool box talk

Project: _____ Location: _____ Date: _____

Work to be done: _____

Frequency
3 Frequent(hourly/daily)
2 Occasional (weekly/monthly)
1 Rare (a few per year)

Probability
3 Might well happen ("happens often")
2 Unusual but possible
1 Happens rarely

Tasks	Hazards	Frequency x Probabilty= Likelihood	Controls to eliminate

Assigned corrective action: _____

Review incidents/near misses/corrective action/previous meeting:

Comments:

Safety checklist:

_____ ERP _____ Fire Extinguishers _____ Environment

_____ PPE _____ Line locates _____ Electrical systems

_____ First Aid Kits _____ back up alarms/beacons _____ Ladders/scaffolds

Crew members present:

HB Construction Inc.

Inspection Policy

It is the policy of HB Construction Inc. to maintain a program of safety inspections. The objective of this program is to control hazards in the workplace. Company tools, equipment and facilities are included.

Workers and foremen are responsible for conducting informal inspections on an ongoing basis in their areas of responsibility.

Formal Shop inspections shall be conducted by management and /or designate on a quarterly basis. Forma site inspections shall be conducted by the supervisor/foreman or designate on a regularly scheduled basis. Site inspection schedules will be determined to best suit each individual job site.

Dean Hanson

March 2020 DH

Feb 4/2019 DH

Apr 8/2016 DH

May 5/2015 DH

May 26/2014

DH Mar 14/2013

DH Feb 2/2012

DH Jan 6/2011

April 5 2021 DH

April 1/2022 DH

June 8/2023

General Guidelines for Conducting an Inspection 99/03

**This information does not take precedence over OH&S. All employees should be familiar with the OH&S Act and Regulations.*

A safety inspection is an observational tour of the workplace to check for compliance with established safe work practices, procedures, regulations and safety rules. It is a **fact-finding mission rather than a fault-finding exercise**.

Ongoing (Informal) Inspections: The supervisor must be constantly watching for unsafe acts and conditions. In fact, all employees should be conducting ongoing inspections. Often potential problems can be corrected simply by briefly instructing a worker. Keep the tone positive, and acknowledge positive results.

Planned (Formal) Inspections: Prepare for a formal inspection by:

- reviewing the first aid book, minutes of Toolbox Meetings, previous inspection reports - check to ensure recommended corrective action has been completed; where corrective action has NOT been completed, mark and highlight these items on the current inspection report
- notifying individuals in charge of areas to be inspected - ask them for relevant information such as equipment that is down, or other existing known hazards
- make sure you have the required PPE for each area you will be inspecting - if the required PPE is not available, note it on the inspection report and **do not enter that area**

Get in the habit of looking around any area before entering, whether it's a room, a stairwell, a piece of equipment. Don't ignore little things (shallow holes in the floor, etc.); under certain circumstances, they can become big problems. Your inspection should examine all aspects of the workplace:

- physical environment: noise, vibration, lighting, temperature, ventilation
- equipment and materials being used: maintenance records, condition of tools (check electrical ground), seat belts (where necessary) and fire extinguishers in all equipment, air compressors (equipped with regulator and hoses secure), external ground on all generators for welding equipment (not required by OH&S, but a sound safety practice)
- worker interaction with the process: equipment usage, PPE, materials storage, WHMIS
- compliance with OH&S legislation and company policies, procedures and rules

Principles to Observe During the Inspection:

1. Warn workers of immediate danger to life or health.
2. Shut down and lock/tag out any machinery that will remain hazardous until it is repaired.
3. Do not operate equipment yourself.
4. If you do not have enough knowledge of the situation to make an accurate safety judgment, consult with someone who does.
5. Look at things from every angle. Consider any unsafe conditions or acts, not only those listed on the inspection report form.
6. Where appropriate, measure the levels of chemicals, noise, radiation, and/or biological agents in the atmosphere. (Note: always wear the necessary PPE when doing this.)
7. Clearly describe each hazard and its location in your notes
8. Try to make your observations without disrupting normal work activities.
9. Examine equipment both when it is stopped (static) and when it is running (dynamic).
10. Photograph hard-to-describe situations or problems (if allowed on the work site).
11. Prioritize each identified deficiency and deal with each issue. Assign an individual to undertake the corrective action and specify a target date for completion. Record in report.
12. FOLLOW UP.

HB Construction Inc.

_____ Hazard Identification _____ Inspection _____ Tool box talk

Project: _____ Location: _____ Date: _____

Work to be done: _____

Frequency
3 Frequent(hourly/daily)
2 Occasional (weekly/monthly)
1 Rare (a few per year)

Probability
3 Might well happen ("happens often")
2 Unusual but possible
1 Happens rarely

Tasks	Hazards	Frequency x Probabilty= Likelihood	Controls to eliminate

Assigned corrective action: _____

Review incidents/near misses/corrective action/previous meeting: _____

Comments: _____

Safety checklist:

_____ ERP _____ Fire Extinguishers _____ Environment

_____ PPE _____ Line locates _____ Electrical systems

_____ First Aid Kits _____ back up alarms/beacons _____ Ladders/scaffolds

Crew members present:

_____ _____

_____ _____

_____ _____

_____ _____

HB Construction Inc Office/Shop/Yard Inspection Report

Priority 1=High 2=Medium 3=Low

X=Action Required √=In Place --=Not Applicable

Date:	Inspection Completed By: Management Reviewed By:

Prior to starting tour, **REVIEW LAST INSPECTION REPORT AND/OR ACTION PLAN**

Office	Status	Priority	Comments	Done
Adequate Lighting				
Drinking water				
Slip/Trip Hazards				
Exits Clear & unobstructed				
Floors(clean&tidy)				
Toilet facilities(clean,stocked)				
First Aid Kit (stocked)				
Emergency Numbers posted				
Eye Wash Station(check exp)				
MSDS Available(current)				
Safe Access to material and storage				
Fire ext (charged and insp'd)				
Comments:				

Room:	Status	Priority	Comments	Done
Fire ext (available, charged, inspected)				
Guards in Place				
General Housekeeping				
Proper PPE in use and available				
Slip and Trip Hazards				
Tools and equipment properly stored				
Containers Labelled				
Appropriate warning signs				
Exits clear and unobstructed				
Comments:				

Room:	Status	Priority	Comments	Done
Fire ext (available, charged, inspected)				
Guards in Place				
General Housekeeping				
Proper PPE in use and available				
Slip and Trip Hazards				
Tools and equipment properly stored				
Containers Labelled				

Appropriate warning signs				
Exits clear and unobstructed				
Comments:				

Room:	**Status**	**Priority**	**Comments**	**Done**
Fire ext (available, charged, inspected)				
Guards in Place				
General Housekeeping				
Proper PPE in use and available				
Slip and Trip Hazards				
Tools and equipment properly stored				
Containers Labeled				
Appropriate warning signs				
Exits clear and unobstructed				
Comments				

Room:	**Status**	**Priority**	**Comments**	**Done**
Fire ext (available, charged, inspected)				
Guards in Place				
General Housekeeping				
Proper PPE in use and available				
Slip and Trip Hazards				
Tools and equipment properly stored				
Containers Labeled				
Appropriate warning signs				
Exits clear and unobstructed				
Comments:				

Room:	**Status**	**Priority**	**Comments**	**Done**
Fire ext (available, charged, inspected)				
Guards in Place				
General Housekeeping				
Proper PPE in use and available				
Slip and Trip Hazards				
Tools and equipment properly stored				
Containers Labelled				
Appropriate warning signs				
Exits clear and unobstructed				
Comments:				

Storage/Yard	**Status**	**Priority**	**Comments**	**Done**
Material Properly stored				
Safe Access				
Adequate Lighting				

Clear Emergency exits				
Appropriate warning signs				
Comments:				

Yearly sound monitoring required for main shop
Tool rest to be checked at each inspection
Check Tool rack at main shop for proper hanging of (shovel, rakes, brooms, etc.)

First aid kit risk assessment (CSAZ1220-17)

The Government of Saskatchewan has made amendments to *The Occupational Health and Safety Regulations, 1996*. Effective April 1, 2021, *The Occupational Health and Safety Regulations, 2020* came into effect. Below are links to the updated regulations document, regulations overview and summary comparison table:

The Occupational Health and Safety Regulations, 2020

***The Occupational Health and Safety Regulations, 2020* - Overview**

OH&S Regulations Comparison Table

As part of a Canada-wide initiative to remove barriers to internal trade, investment and labour mobility, Saskatchewan employers and contractors are now required to maintain first aid kits based on the Canadian Standards Association (CSA) standard Z1220-17. **Click here** for instructions on how to obtain access to this CSA standard.

The new regulation requires an employer to complete a workplace first aid kit risk assessment. The assessment will determine the risk classification of the worksite, which is then used to determine the first aid kits, first aid personnel and training that are required on the worksite.

The first aid kit risk assessment needs to be reviewed annually and when business circumstances change. This assessment should be completed in consultation with the employer, Occupational health committee (OHC) or representative.

In this package we have enclosed a First Aid Kit Risk Assessment template that meets the (CSA) standard Z1220-17 and appendix with supporting documents for your review.

For additional information or assistance please call the Motor Safety Association at (306)721-0688 or email: **info@motorsafety.ca**

First aid kit risk assessment (CSA) Standard Z1220-17

Business name:		**Location:**	
Department:		**Date:**	

- Assess the frequent overall job tasks in each department of the business to identify and rate the severity, frequency and probability of an incident occurring that may require first aid.
- Hazards such as biological, chemical, physical, ergonomic, psychosocial and environmental should be considered in this risk assessment.
- When completing this risk assessment, consider the number of workers, past injury trends and stats, proximity of first aid attendees, work shifts, hours worked, modes of transferring injured workers and possible special needs of workers.

Part A:
Rate each frequent job task using a scale of 1 = (Low) 2 = (Moderate) 3 = (High)
Then calculate the sum of severity+ frequency + probability to determine total risk rating per job.

Job task	Severity	Frequency	Probability	Total risk rating per job

Part B: **Rate travel time and distance to the nearest medical facility.**	◯ **Low =** The work site is 15 minutes or less to nearest medical facility. **(Score 1)**
	◯ **Moderate =** The work site is 15-30 minutes from a medical facility. **(Score 2)**
	◯ **High** =The work site is greater than 30 minutes to a medical facility. **(Score 3)**

Part C: **Workplace risk rating:**	◯ **Low** = A workplace in which activities with a small likelihood of the occurrence of harm and a low severity of that harm. **(Score 1)**
	◯ **Moderate =** A workplace in which activities that are neither low nor high risk. **(Score 2)**
	◯ **High =** A workplace in which activities with a higher likelihood of the occurrence of harm and a greater severity of that harm. **(Score 3)**

Part D:
Use the calculation below only for the job task with the highest risk rating score from Part A.

Highest risk rated job task +	**Travel time rating +**	**Workplace risk rating +**	
Part A	**Part B**		**Part C**
Final score of highest risk task, to determine first aid kit(s) and attendant(s) required for Part E and Part H:			

Part E:	**First aid kit type selection.** **When selecting first aid kit types use only the highest risk rated job task to ensure business meets first aid kit requirements. Refer to Appendix A for first aid kit content information.**	
Low risk (Rating 5-7)	**Moderate risk (Rating 8-11)**	**High risk (Rating 12-15)**
Type 1: Personal first aid kit (for lone workers only) Type 2: Basic first aid kit (for two or more workers)	Type 2: Basic first aid kit	Type 3: Intermediate first aid kit

Part F:	**Select staff size from chart below. When ordering first aid kit(s) inform your first aid kit supplier of Part D to confirm the quantity and the type of first aid kits that are required. Employers can obtain additional first aid kits that exceed the minimum requirement for multiple buildings per location.**		
◯ **2-25 Staff**	◯ **26-50 Staff**	◯ **51-100 Staff**	◯ **100+ Staff**

Part G: **Based on potential job tasks and travel time to nearest medical facility; does your location require additional supplies to provide enhanced first aid care from table below? (Note that some equipment requires specialized training.) The below list is not exhaustive. Additional supplies may be required based on the hazards present for the task or worksite.**
◯ No
◯ Yes *(select from item and quantity from below)*

Category	Item	Quantity
Airway	Airway suction device	
	Airway adjuncts - nasopharyngeal (adult sizes)	
Breathing	Airway adjuncts - oropharyngeal (adult sizes)	
	Bag-valve mask (adult)	
	Equipment used to deliver oxygen	
	Pulse oximeter	
Circulation	Stethoscope	
	Blood pressure monitoring equipment	
Immobilization	Multi-purpose blanket	
	Head immobilization device	
	Extrication devices (e.g. scoop-style stretcher)	
	Extrication device (e.g. solid bottom basket stretcher with padding)	
	Extrication collar (adjustable)	
	Immobilization restraints	
Medications	Acetylsalicylic acid (ASA)* (single use)	
	Epinephrine self-injector* (two doses)	
Wound Care	Burn dressings (for use in settings where water is not readily available)	
	Tube gauze with applicator	
	Wound closures (e.g. butterfly closures)	
	Additional tourniquets	
	Alcohol swabs, individually wrapped (for wounds where oil, grease, or dirt could be present)	
	Saline irrigation solution, sterile (single use)	
	Eye wash solution, sterile	
Other	Eye pads	
	Universal trauma/paramedic shears (minimum 18 cm)	
	Lower extremity splints (rigid or malleable)	
	Automated external defibrillator (AED)	
	Penlight with batteries	
	Pocket guide to first aid	

Part H:
In the table below select the number of staff and apply final score of highest risk task from Part D to determine first aid attendant and training requirements per Saskatchewan OH&S Regulations - Table 9.

Number of staff	Low risk (Rating 5-7)	Moderate Risk (Rating 8-11)	High Risk (Rating 12-15)
2-25	Class A Attendant	Class A Attendant	Class A Attendant
26-50	Class A Attendant	Class B Attendant	Class A Attendant Class B Attendant
51-100	Class A Attendant	Class A Attendant Class B Attendant	Class A Attendant Class B Attendant One trained person with license to practice
100+	Two Class A Attendants	Two Class A Attendants Two Class B Attendants	Two Class A Attendants Two Class B Attendants One trained person with license to practice

Date completed:		**Completed by (print name):**	
Reviewed by OHC (print name(s)):		**Signatures:**	

Where multiple work sites or locations exist, a first aid kit risk assessment will need to be completed for each physical work site.

Review this risk assessment annually and whenever there are significant changes in business activities, departments or tasks.

Refer to (CSAZ1220-17), Saskatchewan OH&S Regulations 2020 - Part 5 & Table 9 for more information.

See Appendix A - First Aid Kit Types.

See Appendix B - Completed First Aid Kit Risk Assessment.

Appendix A - First aid kit types

Type 1 personal first aid kits must be provided to workers who work away from the workplace or don't have access to the workplace first aid kit. The table below provides the content and minimum quantities required.

Type 1 : Personal first aid kit		
Item number	**Description of item**	**Minimum quantities**
1	Antiseptic wound cleansing towel, individually wrapped	6
2	Splinter forceps/tweezers, fine point, stainless steel, minimum 11.4 cm (4.5")	1
3	Antibiotic ointment, topical, single use	2
4	Adhesive bandages, sterile, assorted sizes (standard strip, large fingertip, knuckle, large patch)	16
5	Biohazard waste disposal bag (single use)	1
6	Compress/pressure dressing with ties, sterile, 10.2 × 10.2 cm (4" × 4")	2
7	Gauze pad, sterile, individually wrapped, 7.6 × 7.6 cm (3" × 3")	
8	Triangular bandage, cotton, with two safety pins, 101.6 × 101.6 × 142.2 cm (40" × 40" × 56")	1
9	Conforming stretch bandage, relaxed length, individually wrapped, 5.1 cm × 1.8 m (2" × 2 yd.)	1 roll
10	Examination gloves, disposable, medical grade, one-size, non-latex, powder free	2 pair
11	Hand/skin cleansing towel, individually wrapped (or equivalent)	4
12	Adhesive tape, 2.5 cm × 2.3 m (1" × 2.5 yd.)	1 roll
13	Contents list	1

Note: All first aid content materials must be latex free.

Type 2 basic first aid kits are for workplaces with moderate risk work activities. The table below provides the content and minimum quantities required for each of the three sizes (small, medium and large).

Type 2 : Basic first aid kit				
Item number	**Description of item**	**Minimum Quantities**		
		Small 2–25 workers per shift	**Medium** 26–50 workers per shift	**Large** 51–100 workers per shift
1	Emergency blanket, aluminized, non-stretch polyester, minimum 132 × 213 cm (52″ × 84″)	1	1	1
2	Bandage scissors, stainless steel (with angled, blunt tip) minimum 14 cm (5.5″)	1	1	1
3	Splinter forceps/tweezers, fine point, stainless steel, minimum 11.4 cm (4.5″)	1	1	1
4	Biohazard waste disposal bag, single use	1	2	2
5	CPR resuscitation barrier device, with one-way valve	1	1	1
6	Examination gloves, disposable, medical grade, one-size, non-latex, powder free	4 pairs	8 pairs	16 pairs
7	Antibiotic ointment, topical, single use	6	12	24
8	Hand/skin cleansing towel, individually wrapped (or equivalent)	6	12	24
9	Adhesive tape, 2.5 cm (1″)	2.3 m	4.6 m	9.1 m
10	Antiseptic wound cleansing towel, individually wrapped	25	50	100
11	Compress/pressure dressing with ties, sterile, 10.2 × 10.2 cm (4″ × 4″)	2	4	8
12	Triangular bandage, cotton, with 2 safety pins, 101.6 × 101.6 × 142.2 cm (40″ × 40″ × 56″)	2	4	8
13	Conforming stretch bandage, relaxed length, individually wrapped, 5.1 cm × 1.8 m (2″ × 2 yd.)	1 roll	2 rolls	3 rolls
14	Conforming stretch bandage, relaxed length, individually wrapped, 7.6 cm × 1.8 m (3″ × 2 yd.)	1 roll	2 rolls	3 rolls
15	Abdominal pad, sterile, individually wrapped, 12.7 × 22.9 cm (5″ × 9″)	1	2	2
16	Adhesive bandages, sterile, assorted sizes (standard strip, large fingertip, knuckle, large patch)	25	50	100
17	Gauze pad, sterile, individually wrapped, 7.6 × 7.6 cm (3″ × 3″)	12	24	48
18	Contents list	1	1	1

Type 3 intermediate first aid kits are for workplaces with higher risk work activities and include all of the content of the Type 2 first aid kits with additional items due to the higher risk of first aid events. The table below provides the content and minimum quantities required for each of the three sizes (small, medium and large).

Type 3 : Intermediate first aid kit				
Item number	Description of item	Minimum quantities		
		Small 2–25 workers per shift	**Medium** 26–50 workers per shift	**Large** 51–100 workers per shift
1	Emergency blanket, aluminized, non-stretch polyester, minimum 132 × 213 cm (52″ × 84″)	1	2	2
2	Bandage scissors, stainless steel (with angled, blunt tip) minimum 14 cm (5.5″)	1	1	1
3	Splinter forceps/tweezers, fine point, stainless steel, minimum 11.4 cm (4.5″)	1	1	1
4	Non-adherent dressing, sterile, individually wrapped, 5.1 × 7.6cm (2″ × 3″)	4	8	16
5	Compress/pressure dressing with ties, sterile, 15.2 × 15.2 cm (6″ × 6″)	1	2	4
6	Tourniquet, arterial	1	1	1
7	Antibiotic ointment, topical, single use	6	12	24
8	Hand/skin cleansing towel, individually wrapped (or equivalent)	6	12	24
9	Adhesive tape, 2.5 cm (1″)	2.3 m	4.6 m	9.1 m
10	Antiseptic wound cleansing towel, individually wrapped	25	50	100
11	Compress/pressure dressing with ties, sterile, 10.2 × 10.2 cm (4″ × 4″)	1	2	4
12	Triangular bandage, cotton, with two safety pins, 101.6 × 101.6 × 142.2 cm (40″ × 40″ × 56″)	2	4	8
13	Conforming stretch bandage, relaxed length, individually wrapped, 5.1 cm × 1.8 m (2″ × 2 yd.)	1 roll	2 rolls	4 rolls
14	Conforming stretch bandage, relaxed length, individually wrapped, 7.6 cm × 1.8 m (3″ × 2 yd.)	1 roll	2 rolls	4 rolls
15	Abdominal pad, sterile, individually wrapped, 12.7 × 22.9 cm (5″ × 9″)	1	2	4
16	Adhesive bandages, sterile, assorted sizes (standard strip, large fingertip, knuckle, large patch)	25	50	100
17	Gauze pad, sterile, individually wrapped, 7.6 × 7.6 cm (3″ × 3″)	12	24	48
18	Gauze pad, sterile, individually wrapped, 10.2 × 10.2 cm (4″ × 4″)	6	12	24
19	Elastic support/compression bandage, 7.6 cm (3″)	1	2	2
20	Eye dressing pad, sterile, and eye shield with elastic strap	2 sets	2 sets	4 sets
21	Cold pack, instant (or equivalent)	1	2	4
22	Biohazard waste disposal bag (single use)	2	4	8
23	CPR resuscitation barrier device with one-way valve	1	1	1
24	Examination gloves, disposable, medical grade, one-size, non-latex, powder free	4 pairs	8 pairs	16 pairs
25	Splint, padded, malleable, minimum size 10.2 × 61 cm (4″ × 24″)	1	1	2
26	Glucose tablets, 4g (10 per package) or acceptable alternative*	1 package	2 packages	3 packages
27	Contents list	1	1	1

First aid kit risk assessment (CSA) Standard Z1220-17

Business name:		**Location:**	
Department:		**Date:**	

- Assess the frequent overall job tasks in each department of the business to identify and rate the severity, frequency and probability of an incident occurring that may require first aid.
- Hazards such as biological, chemical, physical, ergonomic, psychosocial and environmental should be considered in this risk assessment.
- When completing this risk assessment consider the number of workers, past injury trends & stats, proximity of first aid attendees, work shifts, hours worked, modes of transferring injured workers and possible special needs of workers.

Part A:
Rate each frequent job task using a scale of 1 = (Low) 2 = (Moderate) 3 = (High)
Then calculate the sum of severity+ frequency + probability to determine total risk rating per job.

Job task	Severity	Frequency	Probability	Total risk rating per job
REPLACING CAB ROOF	3	3	2	8
DETAILING EQUIPMENT	2	1	1	4
CHANGING OIL ON A PIECE OF EQUIPMENT	2	2	1	5
REMOVING AND REPLACING WHEELS	3	3	1	7
REMOVING AND REPLACING A RADIATOR	2	2	1	5

Part B: Rate travel time and distance to the nearest medical facility?

- (●) **Low =** The work site is 15 minutes or less to nearest medical facility. **(Score 1)**
- ( ) **Moderate =** The work site is 15-30 minutes from a medical facility. **(Score 2)**
- ( ) **High** =The work site is greater than 30 minutes to a medical facility. **(Score 3)**

Part C: Workplace risk rating:

- ( ) **Low** = A workplace in which activities with a small likelihood of the occurrence of harm and a low severity of that harm**. (Score 1)**
- (●) **Moderate =** A workplace in which activities that are neither low nor high risk**. (Score 2)**
- ( ) **High =** A workplace in which activities with a higher likelihood of the occurrence of harm and a greater severity of that harm. **(Score 3)**

Part D: Use the calculation below only for the job task with the highest risk rating score from Part A

Highest risk rated job task +	Travel time rating +	Workplace risk rating +	
8	1	2	
Part A	**Part B**	**Part C**	
Final score of highest risk task, to determine first aid kit(s) and attendant(s) required for Part E and Part H			11

Part E: **First aid kit type selection.**
When selecting first aid kit types use only the highest risk rated job task to ensure the business meets first aid kit requirements. Refer to Appendix A for first aid kit content information.

Low risk (Rating 5-7)	Moderate risk (Rating 8-11)	High risk (Rating 12-15)
Type 1: Personal first aid kit (for lone workers only) Type 2: Basic first aid kit (for two or more workers)	Type 2: Basic first aid kit	Type 3: Intermediate first aid kit

Part F: **Select staff size from chart below. When ordering first aid kit(s) inform your first aid kit supplier of Part D to confirm the quantity and the type of first aid kits that are required. Employers can obtain additional first aid kits that exceed the minimum requirement for multiple buildings per location.**

( )	**2-25 Staff**	(●)	**26-50 Staff**	( )	**51-100 Staff**	( )	**100+ Staff**

Part G:
Based on potential job tasks and travel time to nearest medical facility; does your location require additional supplies to provide enhanced first aid care from table below? (Note that some equipment requires specialized training.) The below list is not exhaustive. Additional supplies may be required based on the hazards present for the task or worksite.

○	No
◉	Yes *(select from item and quantity from below)*

Category	Item	Quantity
Airway	Airway suction device	
	Airway adjuncts - nasopharyngeal (adult sizes)	
Breathing	Airway adjuncts - oropharyngeal (adult sizes)	
	Bag-valve mask (adult)	
	Equipment used to deliver oxygen	
	Pulse oximeter	
Circulation	Stethoscope	
	Blood pressure monitoring equipment	
Immobilization	Multi-purpose blanket	1
	Head immobilization device	
	Extrication devices (e.g. scoop-style stretcher)	
	Extrication device (e.g. solid bottom basket stretcher with padding)	
	Extrication collar (adjustable)	
	Immobilization restraints	
Medications	Acetylsalicylic acid (ASA)* (single use)	
	Epinephrine self-injector* (two doses)	
Wound Care	Burn dressings (for use in settings where water is not readily available)	
	Tube gauze with applicator	
	Wound closures (e.g. butterfly closures)	
	Additional tourniquets	
	Alcohol swabs, individually wrapped (for wounds where oil, grease, or dirt could be present)	1
	Saline irrigation solution, sterile (single use)	1
	Eye wash solution, sterile	
Other	Eye pads	
	Universal trauma/paramedic shears (minimum 18 cm)	1
	Lower extremity splints (rigid or malleable)	1
	Automated external defibrillator (AED)	
	Penlight with batteries	1
	Pocket guide to first aid	1

Part H:
In the table below select the number of staff and apply final score of highest risk task from Part D to determine first aid attendant and training requirements per Saskatchewan OH&S Regulations - Table 9.

Number of staff	Low risk (Rating 5-7)	Moderate risk (Rating 8-11)	High risk (Rating 12-15)
2-25	Class A Attendant	Class A Attendant	Class A Attendant
26-50	Class A Attendant	Class B Attendant	Class A Attendant Class B Attendant
51-100	Class A Attendant	Class A Attendant Class B Attendant	Class A Attendant Class B Attendant One trained person with license to practice
100+	Two Class A Attendants	Two Class A Attendants Two Class B Attendants	Two Class A Attendants Two Class B Attendants One trained person with license to practice

Date completed:	April 14th, 2021	**Completed by (print name):**	BILL SMITH
Reviewd by OHC (print name(s)):	KAREN JENSON, TOM JOHNSON	**Signatures:**	SIGN HERE

Where multiple work sites or locations exist, a First Aid kit Risk Assessment will need to be completed for each physical work site.

Review this risk assessment annually and whenever there are significant changes in business activities departments, or tasks.

Refer to (CSAZ1220-17), Saskatchewan OH&S Regulations 2020 - Part 5 & Table 9 for more information.

See Appendix A - First Aid Kit Types.

See Appendix B - Completed First Aid Kit Risk Assessment.

HB Construction Inc.

Investigation Policy

The purpose of this policy is to ensure that incidents are investigates so that causes can be determined, and corrective actions can be implemented to prevent recurrence.

At HB Construction Inc. all incidents shall be reported. The following types of incidents shall be investigated:

1. Incidents that cause property damage or interrupt operations with a loss or potential loss exceeding $5000.00
2. Incidents which cause or may cause the death of a worker or that require a worker to be admitted to a hospital as in in-patient for a period of 24 hours or more; and
3. Incidents that b regulation must be reported to Occupational Health and Safety of other regulatory agencies.

Responsibilities

1. All workers shall repot all incident to their immediate supervisor.
2. Supervisors shall review incident reports and make recommendations to management respecting the need for further investigation of any incident.
3. Management shall review all incident and investigation reports and ensure that recommended corrective action is implemented where required.
4. Each subcontractor is responsible to ensure that any reportable incident which occurs during the performance of any work on a HB Construction Inc. job site is reported to HB Construction Inc. site representative with 24 hours of occurrence. Where a written report is required by this policy statement, the report must be received by the HB Construction Inc. site representative within in one week.

Dean Hanson

March 2020 April 1/2022
June 2023
Feb 2019

May 2016

May 2015

Mar 2013

Feb 2012

Jan 2011

OSHA Recordability Determination

MEDICAL TREATMENT	FIRST AID TREATMENT
The following are generally considered medical treatment. Work-related injuries for which this type of treatment was provided or should have been provided are almost always recordable. • treatment of infection • application of antiseptics during second or subsequent visit to medical personnel • treatment of second or third degree burn(s) • application of sutures (stitches) • removal of foreign bodies embedded in the eye • removal of foreign bodies from wound if procedure is complicated because of depth of embedment, size or location • use of prescription medications (except a single dose administered on first visit for minor injury or discomfort) • use of hot or cold soaking therapy during second or subsequent visit to medical personnel • cutting away dead skin (surgical debridement) • application of heat therapy during second or subsequent visit to medical personnel • use of whirlpool therapy during second or subsequent visit to medical personnel • positive x-ray diagnosis (fractures, broken bones, etc.) • admission to a hospital or equivalent facility for treatment	The following are generally considered first aid treatment (eg. one-time treatment and subsequent observation of minor treatment) and should not be recorded if the work-related injury does not involve loss of consciousness, restriction of work or motion, or transfer to another job. • application of antiseptics during first visit to medical personnel • treatment of first degree burn(s) • application of bandage(s) during any visit to medical personnel • use of elastic bandage(s) during first visit to medical personnel • removal of foreign bodies not embedded in eye if only irrigation is required • removal of foreign bodies from wound, if the procedure is uncomplicated and is, for example, by tweezers or other simple techniques • use of non-prescription medication and administration of single dose of prescription medication on first visit for minor injury or discomfort • soaking therapy on initial visit to medical personnel or removal of bandages by soaking • application of hot or cold compress(es) during first visit to medical personnel • application of ointments to abrasions to prevent drying or cracking • application of heat therapy during first visit to medical personnel • use of whirlpool bath therapy during first visit to medical personnel • negative x-ray diagnosis • observation of injury during visit to medical personnel The following procedure, by itself, is not considered medical treatment: • Administration of tetanus shot(s) or booster(s). However, these shots are often given in conjunction with the more serious injuries; consequently, injuries requiring tetanus shots may be recordable for other reasons.

9.2

GENERAL GUIDELINES FOR CONDUCTING INVESTIGATION

Whenever there is an incident or accident in the workplace, an investigation should be conducted to should be conducted to identify the underlying cause(s) of the event. More time and energy should be spent investigating those situations that have the highest potential for injury or property damage if they were to happen again, but do not minimize the importance of situations that seem to be less serious, especially if they happen more than once.

Every investigation should produce the following results:
-accurate, unbiased descriptions of exactly what happened
-a determination of the immediate cause, and also of the underlying or contributing causes
-analysis of associated costs (where required)
- corrective action that reduces the probability of a recurrence
-positive effect on employee morale

Prepare: Before commencing an investigation, be sure you are equipped with the necessary tools to do the job:

-required safety equipment and clothing for the area(s) you weigh to enter
-if you are not familiar with the area(s), you will need someone to accompany you or orient you concerning the hazards you could encounter
-writing materials for notes, statements, sketches, etc.
-a camera if appropriate (cannot be used in explosive atmosphere)
-testing equipment if necessary
-measuring tape
-required permits and notifications

Steps in the Investigation Process:

1. **Get an Overview of the Situation:** Find out briefly what happened ad who saw it.
2. **Gather Physical Evidence:** Make notes of what you observe at the scene; take photographs (where possible) an/or draw diagrams (include date and time taken, and by whom, on each photo or sketch). Look for things such as:

-positions of injured workers
-condition of equipment and materials
-where objects are in relation to each other (measure between structural points, not moveable objects)
-the angle something came from or the force behind an object
-safety devices that were in use, and their positions
-housekeeping in the area
-noise and lighting levels, etc.

Note: Before removing anything from scene, ensure that the authorities having jurisdiction (police, fire, OH&S, etc.) who are involved are made aware of this move and are in agreement with it.

3. **Interview Witnesses:** Talk with everyone who was in the area at the time of the incident/accidents, or just before or just after it happened. The following techniques can make your interviews more effective:

-Conduct the interview at the scene, if possible, or in a comfortable place such as a private office.
-Keep the interview positive. Do your best to put the interviewee at ease, ensuring each person that the investigative process is a fact-finding mission, not an attempt to lay blame.
-interview one person at a time, and privately.
- Ask open-ended questions (Questions which require more than a simple "yes" or "no" answer); don't ask leading questions.
-Do not talk down to the person or rush them to answer quickly.
-Paraphrase what people tell you to make sure you understand

-Watch for clues from the person's body language.
-Record a statement for each witness (don't use a tape recorder if it makes the person uncomfortable); have them sign it, and give them a copy as soon as possible.
-Thank the person, and ask them to come back to you if they think of anything else.

Six basic questions you should include in any interview are:
-**Who** was injured?
-**What** were the materials, machines, equipment, or conditions involved?
-**When** did it happen?
-**Where** did it happen?
-**Why** did it happen?
-**How** did it happen?

Keep in mind that:
-different people have different perceptions
-information may be overlooked because the witnesses are under emotional stress
-people may "cover" for themselves or each other in an attempt to avoid further trouble.

4. **Check Background Information:** Check for additional information that may be relevant to the equipment, people or conditions involved. Check prior records such as technical data sheets, maintenance reports, past accident reports, training reports, safe work practices and procedures, etc.

5.**Determine Causes:** Your investigation needs to identify not only what happened, but also what caused it to happen. There is rarely, if ever a single cause behind an incident or accident--even the most simple situations come out of a combination of factors. Causes are likely to fall into five categories, an you should look for causes in all five of these categories in every investigation you conduct. (Note: The following is simply a list of suggested questions to as, not a checklist to follow):

Task
-Was a safe work procedure being used?
-Had conditions changed to make the normal procedure unsafe?
-Were appropriate tools and materials available:
-Were they used?
-Were safety devices working properly?
-Were lockout and/or tag-out procedures used when necessary

Material:
-Was there an equipment failure?
-If so, what caused it to fail?
-Was the machinery poorly designed?
-Were hazardous substances involved?
-Were they clearly identified?
-Was a less hazardous alternative substance available?
-Was the raw material unsafe in some way?
-Was personal protective equipment called for?
-If so, was it used?

Environment: (at the specific time of the incident):
-What were the weather conditions?

Was poor housekeeping a problem?
-Was it too hot or too cold?
-Was noise a problem?
-Was there adequate light?
-Were toxic gases, dusts or fumes present?

Personnel:
-were workers experienced in what they were doing?
-Had they been adequately trained?
-Were they physically capable?
-What was the status of their health?
-Were they tired?
-Were they under stress(personal and/or work-related)?

Management:
-Were safety rules in effect?
-Were they being enforced?
-Was adequate supervision given?
-Had hazards been previously identified?
-Had procedures been developed to overcome them?
-Were unsafe conditions corrected?
-Was regular maintenance of equipment carried out?
-Were regular safety inspections carried out?

6. **Recommend Corrective Action:** Determine specific corrective actions for each of the causes, and assign responsibility. Each corrective step should be assigned a target date for completion. The corrections may be implemented in stages, depending on hazard priority, training priorities, budge, etc. Your knowledge of the work site and the crew gives you a perspective that no one else in the company may have, and that perspective is important in making the best possible decisions. Your recommendations are not just another part of the report form to fill out. They are your conclusions about how to meet your responsibilities as a supervisor and do what is best for the company--they are your conclusions about how to protect your workers, get the job done most efficiently, and save money for the company.

7.**Determine Costs:** Estimate the costs of the accident/incident, including the hidden (uninsured) costs.

8.**Write the Investigation Report:** The report is a comprehensive summary of information related to the incident or accident. When describing the nature of any injuries sustained, use non specific language until medical evidence is available. (For example, rather than saying "Joe has a broken leg" say "we suspected Joe had a broken leg".) Likewise, use "approximately" when referring to time, In addition to the report form itself, you should write a chronological sequence of events on a separate sheet.

9. **Follow-up:** Once the report is filed and the recommended corrective action approved and assigned, it is essential to follow up to see that those corrective actions take place as scheduled.

Track the progress of corrective actions to ensure they are effective in correcting the problem. Involve other people in the follow-up when appropriate, and include documentation of follow-up activities wit the original report.

SECTION

1 EMPLOYER

IDENTIFIES THE COMPANY, CREW AND ACTIVITY BEING PERFORMED AT THE TIME THAT THE INCIDENT HAPPENED.
THE LOCATION OF THE INCIDENT PLACE IS IDENTIFIED.

2 PERSONAL INJURY

MUST BE FILLED IN WHENEVER A WORKER RECEIVES AN INJURY THAT INVOLVES A VISIT TO:

A. A DOCTOR'S OFFICE
B. A HOSPITAL OR MEDICAL CLINIC
C. A CHIROPRACTOR'S OFFICE
D. A NURSE IN AN ISOLATED AREA

3 PROPERTY DAMAGE

IDENTIFIES THE EQUIPMENT, MATERIAL, TOOL OR PROPERTY THAT HAS BEEN DAMAGED.
CAUSES OF DAMAGE MAY BE:
- ACCIDENT
- NEGLECT TO SERVICE
- HORSE PLAY

4 DESCRIPTION

THE SUPERVISOR DESCRIBES IN THEIR OWN WORDS, HOW THE INCIDENT HAPPENED.
- HOW, WHY, WHEN, WHERE, WHO
- ARE THERE ANY WITNESSES?
- LIST THEIR NAMES
- HELP THE WITNESS WRITE DOWN ANY INFORMATION THAT THEY HAVE CONCERNING THE INCIDENT FOR FUTURE REFERENCE.
- MARK - DATE AND TIME ON STATEMENT AND ASK THE WITNESS TO SIGN HIS STATEMENT.
- FOREWORD TO HEAD OFFICE WITH REPORT.

5 ANALYSIS -1

REVIEW THE LIST OF UNSAFE ACTS AND CONDITIONS, AND INDICATE WHICH WERE INVOLVED LEADING UP TO THE INCIDENT.

UNSAFE ACTS	UNSAFE CONDITIONS
ACCOUNT FOR APPROX. 90% OF ALL INCIDENT	ACCOUNT FOR APPROX. 10% OF ALL INCIDENT

1. **Operating equipment without authority**
2. **Failure to warn**
3. **Failure to secure**
4. **Operating at improper speed**
5. **Making safety devices inoperable**
6. **Removing safety devices**
7. **Using defective equipment**
8. **Using equipment improperly**
9. **Failing to use personal protective equipment properly**
10. **Improper loading**
11. **Improper placement**
12. **Improper lifting**
13. **Improper position for task**
14. **Servicing equipment in operation**
15. **Horseplay**
16. **Under influence of alcohol and/or other drugs**

1. **Inadequate guards or barriers**
2. **Inadequate or improper protective equipment**
3. **Defective tools, equipment or materials**
4. **Congestion or restricted action**
5. **Inadequate warning system**
6. **Fire and explosion hazards**
7. **Poor housekeeping: disorder**
8. **Hazardous environmental conditions: gases, dust, smoke, fumes, vapors**
9. **Noise exposures**
10. **Radiation exposures**
11. **High or low temperature exposures**
12. **Inadequate or excess illumination**
13. **Inadequate ventilation**

6 ANALYSIS

IN YOUR OPINION - WHY WAS THE WORKER NOT WORKING SAFELY - OR WHY WAS THE UNSAFE CONDITION ALLOWED TO DEVELOP WITHOUT CORRECTION.

PERSONAL FACTORS	JOB FACTORS

1. **Inadequate capability**
2. **Lack of knowledge**
3. **Lack of skill**
4. **Stress**
5. **Improper motivation**

1. **Inadequate leadership/supervision**
2. **Inadequate engineering**
3. **Inadequate purchasing**
4. **Inadequate maintenance**
5. **Inadequate tools/equipment**
6. **Inadequate work standards**
7. **Wear and tear**
8. **Abuse or misuse**

7 LOSS SEVERITY POTENTIAL

FROM YOUR EXPERIENCE WOULD YOU SAY THAT THIS TYPE OF INCIDENT COULD CAUSE:

MAJOR INJURY	MAJOR FINANCIAL LOSS
SERIOUS INJURY	SERIOUS FINANCIAL LOSS
MINOR INJURY	MINOR FINANCIAL LOSS

8 PROBABLE RECURRENCE RATE

FROM YOUR EXPERIENCE WOULD YOU SAY THAT INCIDENTS LIKE THIS ONE OCCUR FREQUENTLY, OCCASIONALLY, OR RARELY?

9 PREVENTION

INVESTIGATION NORMALLY POINTS OUT ACTIONS OR CHANGES THAT WOULD HELP PREVENT SIMILAR INCIDENTS IN THE FUTURE.
- TAKE CREDIT FOR STEPS THAT YOU HAVE TAKEN.
- LIST ANY RECOMMENDATIONS THAT NEED TO TAKE PLACE.

10 INVESTIGATOR

HEAD OFFICE NEEDS TO KNOW WHO INVESTIGATED THE INCIDENT AND COMPLETED THE REPORT, OR WHO SUPPLIED THE INFORMATION TO HELP COMPLETE THE REPORT.

11 REVIEWER

HEAD OFFICE WILL REVIEW THE REPORT AND TAKE ANY ACTION REQUIRED OR SUGGESTED.

A. MAKE RECOMMENDATIONS AS NECESSARY
B. FOLLOW-UP TO ENSURE ACTION IS BEING TAKEN.
C. CAUSES THE WCB FORMS TO BE COMPLETED AND FORWARDED TO THE BOARD.

SUPERVISOR'S INCIDENT INVESTIGATION REPORT

EMPLOYER

COMPANY 1		CREWS ACTIVITY		CLAIMS No.
INCIDENT SITE		DATE OF OCCURRENCE	TIME	AM ○ PM ○ DATE REPORTED

PERSONAL INJURY

INJURED'S NAME 2	DATE EMPLOYED	AGE
OCCUPATION	TIME ON JOB	
NATURE OF INJURY	PART OF BODY INJURED	
OBJECT/EQUIPMENT/SUBSTANCE/INFLICTING INJURY		
PERSON WITH MOST CONTROL OF OBJECT/EQUIPMENT/SUBSTANCE		

PROPERTY DAMAGE

PROPERTY DAMAGE 3	
ESTIMATED COSTS	ACTUAL COST
NATURE OF DAMAGE	
OBJECT/EQUIPMENT/SUBSTANCE/INFLICTING DAMAGE	
PERSON WITH MOST CONTROL OF OBJECT/EQUIPMENT/SUBSTANCE	

DESCRIPTION

DESCRIBE CLEARLY HOW THE INCIDENT OCCURRED: ATTACH ACCIDENT DIAGRAM FOR ALL INCIDENTS.

4

CAUSES

WHAT ACTS, FAILURES TO ACT AND/OR CONDITIONS CONTRIBUTED MOST DIRECTLY TO THIS INCIDENT?

5

WHAT ARE THE BASIC OR FUNDAMENTAL REASONS FOR THE EXISTENCE OF THESE ACTS AND/OR CONDITIONS?

6

LOSS SEVERITY POTENTIAL 7 ○ Major ○ Serious ○ Minor

PROBABLE RECURRENCE RATE 8 ○ Frequent ○ Occasional ○ Rare

PREVENTION

WHAT ACTION HAS OR WILL BE TAKEN TO PREVENT RECURRENCE? PLACE X BY ITEMS COMPLETED

9

1. ☐
2. ☐
3. ☐
4. _____

DOCTOR WHO TREATED INJURED

INVESTIGATED BY 10	DATE	REVIEWED BY 11	DATE

White - Head Office Canary - O.H. Committee Pink - Field Office

Notification of Incidents and Dangerous Occurrences Occupational Health and Safety

Section 8(1) of the occupational health and safety regulations **(Incidents causing serious bodily injury).** Requires that an employer or contractor shall give notice to the division (OH&S) as soon as is reasonably possible of every accident at place of employment that:

(a) cause or may cause the death of a worker; or
(b) will require a worker to be admitted to the hospital as an in-patient for a period of 72 hours or more.

(2) The notice required by subsection (1) must include:

(a) the name of each injured or deceased worker;
(b) the name of the employer of each injured or deceased worker;
(c) the date, time and location of the incident;
(d) the circumstances related to the incident;
(e) the apparent injuries; and
(f) the name, telephone number and fax number of the employer or contractor or a person designated by the employer or contractor to be contacted for additional information.

The following is included under "**Dangerous Occurrences"** of OH&S regulations, and must be reported directly to occupational health and safety

(a) the structural failure or collapse of:
  (i) a structure, scaffold, temporary false work or concrete formwork; or
  (ii) all or any part of an excavated shaft, tunnel, caisson, coffer dam, trench or excavation;
(b) the failure of a crane or hoist or the overturning of a crane or unit of powered mobile equipment;
(c) an accidental contact with an energized electrical conductor;
(d) the bursting of a grinding wheel;
(e) an uncontrolled spill or escape of toxic, corrosive or explosive substance;
(f) a premature detonation or accidental detonation of explosives;
(g) the failure of an elevated or suspended platform; and
(h) the failure of an atmosphere-supplying respirator.

Fatal Injury At The Work Place

A fatal injury to an employee requires that a special procedure be followed in both reporting and investigating the cause.

For assistance reference the worker's compensation act. Also see Occupational Health and Safety regulations.

Supervisors Responsibility
They will notify:

Police (RCMP or Municipal)
Ambulance
Occupational Health and Safety office
Safety Director Heavy Construction Safety Association

Assistance in dealing with next of kin:

Assistance may be requested from family members, Clergymen, Priest, local Police dept., immediate Supervisor or from Heavy Construction Safety Association.

Complete supervisor's Incident Investigation Report and forward to your head office.

Head office will then notify:
(i) Company President
(ii) Worker's Compensation Board claims branch
(iii) Ensure Occupational Health and Safety has been notified
(iv) May arrange for a letter of condolence from company to immediate family
(v) Visit or arrange for a senior company official to visit the family

Heavy Construction Safety Association can assist in:
(a) Investigate incident along with field supervisor and OH&S officer.
(b) Prepare special reports to WCB for company
(c) Help next of kin in their dealings with the Worker's Compensation Board

For more information on incident investigation look in your OH&S regulations.

Important Phone Numbers:

Fire Department 911	OH&S Regina Office www.worksafesask.ca	(306) 787-4496; 1-800-567-7233
Police Department 911	OH&S Saskatoon Office www.worksafesask.ca	(306) 933-5052; 1-800-667-7590
Ambulance 911	Worker's Compensation www.wcbsask.com	(306) 787-4370; 1-800-667-7590

Heavy Construction Safety Association of Saskatchewan Inc.
Office (306) 585-3060 www.hcsas.sk.ca

HB Construction

Hazard / Near Miss Report /Incident

To be completed by an employee or contractor reporting a hazard or near miss.

Location: ☐ Shop ☐ Field (Specify) _____

Indicate type of incident or hazard (please tick)

☐ Incident ☐ Near miss

☐ Workplace hazard ☐ Hazardous work practice

Description of incident, hazard or near miss

_____

_____

_____

Follow up Req'd ☐ Yes ☐ No ☐ Complete

If yes,explain: _____

_____

Date/Time: _____ Signature: _____

HB Construction

Hazard / Near Miss Report /Incident

To be completed by an employee or contractor reporting a hazard or near miss.

Reported by:

Reported to:

Location: ☐ Shop ☐ Field (Specify) _____

Indicate type of incident or hazard (please tick)

☐ Incident ☐ Near miss

☐ Workplace hazard ☐ Hazardous work practice

Description of incident, hazard or near miss

_____

_____

_____

Follow up Req'd ☐ Yes ☐ No ☐ Complete

If yes,explain: _____

_____

Date/Time: _____ Signature: _____

HB Construction
Emergency Preparedness

INTRODUCTION

No matter how complete our safety program is or how careful we are there is always a risk of an emergency. Emergency preparedness means having plans in place that we hope we'll never have to use, but which ensure we have the resources to deal with an emergency situation if one arises. At a minimum, we must be capable of:

-providing first aid to the injured
-providing transportation to medical aid for the injured (an injured worker must **never** be allowed to transport himself)
-conducting initial-attack fire fighting
-promptly contacting outside agencies for assistance

Even with the best of paramedical services, there will always be some delay before help arrives. What is done by the layman during those essential minutes may make the difference. Although, by law, we are only required to have a specific number of workers trained in first aid and CPR, all employees are encouraged to maintain valid first aid and CPR certificates. Emergencies can arise anywhere at any time. Your knowledge of emergency procedures could save the life of a co-worker, friend, or family member.

Mock Emergency and Fire Drills

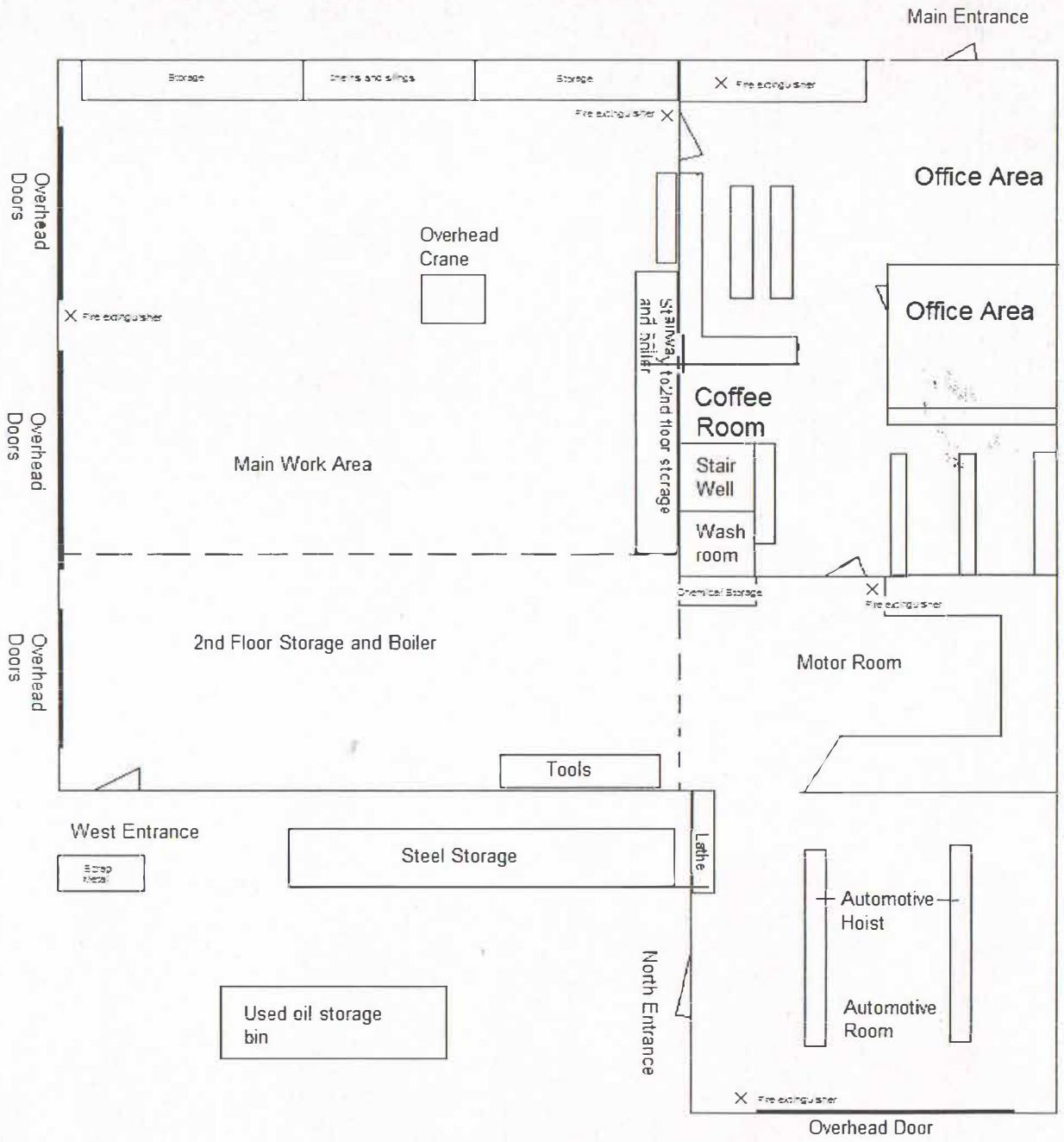
Fire drills shall be completed at minimum annually.
Mock emergency Response shall be conducted at minimum annually.

Pre-Emergency Procedures

1. Familiarize yourself with the emergency action and fire prevention plan for your building or work area.
2. Have emergency telephone numbers clearly posted.
3. Do not prop or wedge stairwell doors in the open position at any time for any reason.
4. Report and/or correct hazardous conditions in your work area.
5. Report all fires, no matter how small.
6. Submit recommendations concerning any unique evacuation or safety problems in your work area to your supervisor.
8. Have current First Aid certified employees names and certificate expiration dates clearly posted.

Hwy #3 East

Muster Point



Back Alley of Albert St. and Donald St.

10.2

EMERGENCY PROCEDURES-FIRE

In case of fire, the following steps must be taken:

1. Warn all employees -verbally, radio contact, sound alarm with blow horn located at all exits.
2. Immediately go to Muster Point (Northeast of main shop).
3. Call 911, if no phone available designated employee will use phone at Northeast Service.
4. Ensure that all employees are accounted for at designated muster point. If employees are not accounted for and are assumed to be at different location contact with radio or cell phone. If no cell phone available designated employee will use phone at Northeast Service
5. If safe to do so, move any endangered equipment to safety.
6. If safe and practical, fight fire with available resources (fire extinguishers, pumper trailers, water packs).
7. If fire is located near forestry call SERM in addition to 911.
8. In case of injury, render first aid as required and contact ambulance or other resources as required.

ALL EMERGENCIES	911
SERM	306-865-4400
RCMP	306-865-5550
HB CONSTRUCTION INC	306-865-2524
DEAN HANSON CELL	306-865-7642
	306-865-6635

POST FIRE PROCEDURE:

1. Document details of fire in Incident report or Near Miss Report, depending on severity of fire.
2. Check fire-site frequently to ensure fire is completely extinguished if was non severe.

Emergency Procedure-Electrical Contact with Heavy equipment

If Heavy equipment contacts energized overhead line:

1. Immediately try to break contact with line.
2. If able to break free move equipment safe distance and immediately notify supervisor.

If unable to break free and safe to remain in equipment:

1. Warn all bystanders to stay at least 10m (33 fee) from machine.
2. If bystanders in area have them call 911.
3. If no bystanders in area use cell phone to call 911. Use of radio communication may not be safe. If unable to call for help remain in equipment until you are able to do us.
4. Remain in equipment until the line has been de-energized.

If not safe to remain in equipment:

1. Make sure you have a clear and wire free exit.
2. Cross your arms, put your legs together and jump as far as you can landing on both feet.
3. Keeping your legs together hop or shuffle at least 10 m away.
4. Call 911.
5. Ensure the area remains secured until help has arrived and line has been de-energized.

Emergency Procedure

Equipment Roll Over

In event of equipment rollover:

1. If possible, get out of the equipment immediately.
2. If not able to exit equipment call for help with any means available (two way radio, cell phone, voice).
3. If injured or other immediate hazards call 911.
4. Follow Emergency procedure for injuries.
5. DO NOT try to start overturned equipment.
6. If uninjured and able to exit equipment;
    a. De-energize equipment if possible (master switch, battery disconnect)
    b. Assess situation for electrical and fire hazards, call 911 if there is risk of fire.
    c. Secure the area around the overturned equipment.
    d. Use spill kits to minimize any fuel/oil spills
    e. If equipment/resources available and safe to do so, try to upright the equipment.
    f. If able to upright equipment, DO NOT start until maintenance staff has inspected equipment and deemed safe to start.
    g. Report to supervisor ASAP.

Emergency Response Plan
Trench Collapse

1. Call 911 if service available. If cell service not available one worker to go for help if practical and not required as a rescuer, operator, or watchman
2. Alert all workers at the site of the emergency.
3. Complete head count to account for all workers.
4. Do not move any equipment in area of collapse.
5. Assess the situation before entering trench.
6. If rescue requires entry in the trench, use a ladder is available for entry, if not enter as far away as possible from collapse to reduce risk of further collapsing.
7. If rescue requires entry into trench one worker must stay on watch outside of trench watching conditions.
8. Rotate rescuers and watchman to give rest breaks.
9. Depending on severity hand digging is the best option, if life and death situation equipment may be required.
10. Excavating with equipment shall be a sufficient distance from victim to place any pressure but to provide an area for quicker hand removal of collapse.
11. Provided first aid in the trench collapse if required, only with a watchmen present at trench lip.
12. Do not leave trench unattended upon completion of rescue. If victim requires emergency service. 1 worker must remain at site until trench area has been secured from entry.

EMERGENCY PROCEDURES-INJURIES

In case of a worker being injured, the following steps must be followed:

1. Regardless of the severity of an injury, an employee must obtain any necessary first aid and notify their supervisor immediately.

2. Any employee at the scene of an injury must provide assistance if required and must ensure that supervisor has been notified.

3. Supervisors must ensure that first aid is provided as needed and the first aid registry is completed.

4. In the case of a serious injury, in addition to the above, any person in the area must:
- Ensure that injured person is not moved unless there is risk of further injury.
- Ensure that necessary first aid is provided
- Notify supervisor immediately.
- Provide location of accident, their name, name of injured person, extent of injuries and how injuries were attained(if known) when outside medical assistance is required.
- Accompany injured worker who needs to be transported (supervisor or delegate and, if needed, first aid attendant).
- Notify chairperson of Occupational Health & Safety (O.H.&S) committee immediately
- Notify Occupational Health &Safety if worker will be hospitalized for more than 3 days

5. In case of a fatality, in addition to the above, the following steps will be followed:
- R.C.M.P. and Occupational Health & Safety must be immediately notified.
- Cover the body with blanket or suitable covering.
- Get names and means of contacting any people who may heave witnessed the accident or may have knowledge of the circumstances.
- Secure the scene and ensure that nothing is moved or tampered with, including, if possible, the body,.
- Nothing is to be moved without the permission of the R.C.M.P. or an officer form Occupational Health & Safety Division.

EMERGENCY PROCEDURES FUEL/OIL SPILL

The Safety Data Safety Sheets (SDS) of WHMIS contain detailed information on hazards and emergency procedures for specific oils and fuels that are used at HB Construction Inc. The steps below are general procedures to be followed in an emergency situation where time is not available to review the SDS.

Preparedness:
1. Spill kits required in all PME greater than 100HP.
2. Small equipment spill kit to be located under steps of safety trailer
3. No fueling or maintenance within 100m of stream
4. Emergency numbers shall included spill report contact
5. Copy of AHPP permit to be onsite at all times and reviewed prior to start of work

IN CASE OF FUEL/OIL SPILL THE FOLLOWING STEPS MUST BE FOLLOWED:

1. Remove any sources of ignition to reduce possibility of fire.

2. If possible to do so, find and stop leak at source.

3. Contain the spill with available resources (earth dams, pails, plastic, etc.)

4. Refer to the SDS for the product spilled for any special precautions/procedures.

5. Use absorbent materials (spill kits) to soak up spill and clean area.

6. Scrape up contaminated materials and place in closed containers for disposal.

7. **Do not** wash or dump contaminated materials into or near lakes, streams, sewers, etc.

8. Notify supervisor and appropriate authorities.

Emergency Phone Numbers

HB Construction Inc.
103 Donald St Hudson Bay, SK

Ambulance

Fire 911

Police

Local RCMP	306-865-5550
Local Hospital	306-865-5600
Serm	306-865-4400
Poison Control Centre	1-800-667-4545
Spill Report Centre	1-800-667-7525
Saskpower	310-2220
Saskenergy	1-800-0427

Employees with First Aid
Dean Hanson 306-865-6635
Jayden Borstmayer 306-852-8998
Tracy Hanson 306-865-9070
Derrek Corbett 306-865-7476
Kevin McInnes 306-470-8068
Robert Wilson 306-865-9370
Derrick Crittenden 306-865-6115
Barry Onyskiw 306-470-7013

OH&S Committee
Employer Representatives
Tracy Hanson

Employee Representative
Barry Onyskiw
Derrek Corbett

Traffic Accommodation Supervisor
Jayden Borstmayer 306-852-8998
Tracy Hanson 306-865-9070

Portable Fire Equipment Use

FIRE CLASSIFICATIONS & EXTINGUISHING AGENTS

CLASS	TYPE OF FIRE	EXTINGUISHER TYPE	EXTINGUISHING METHOD
A	paper, wood, cloth, plastic, etc.	1. pressurized water tank 2. hose lines 3. multi-purpose (ABC dry chemical)	cooling
B	flammable liquids such as gasoline, oil, paint, alcohol, grease, etc.	1. pressurized dry chemical 2. carbon dioxide & halon 3. multi-purpose (ABC dry chemical)	smothering
C	electrical equipment, appliances, wiring, etc.	1. pressurized dry chemical 2. carbon dioxide & halon 3. multi-purpose (ABC dry chemical)	non-conductive agent
Note:	The use of multi-purpose extinguishers on smoldering materials such as couches or chairs will require additional cooling with water. Do not re-hang a discharged extinguisher until it has been recharged by a licensed service company.		

EFFECTIVE RANGES & DISCHARGE TIMES OF EXTINGUISHERS

TYPE	RANGE	DISCHARGE TIME
water	30 feet	60 seconds
hose	approximately 40 feet	unlimited
dry chemical	4 feet to 15 feet	10 to 18 seconds
carbon dioxide (CO_2)	6 feet	10 to 18 seconds

Basic Fire Extinguisher Operation

- Pull the safety pin (usually a twist-pull action).
- Aim the nozzle, horn or hose at the base of the fire.
- Squeeze the trigger handle.
- Sweep from side to side (watch for reflash).

Motor Vehicle Accident Reporting / Investigation Procedure (R03/04)

It is the responsibility of every employee who drives, is in control of, or is responsible for any company-owned or rented motor vehicle which is involved in an accident (no matter how slight) to notify the proper authorities. All accidents must be reported, including when an animal is injured or killed (in the case of a domestic animal, search for the owner and report the circumstances).

The employee involved in the accident must:

First:

- Stop immediately and provide needed first aid; call an ambulance if necessary.
- Avoid obstructing traffic.
- Place emergency flags or flares, if available.
- Notify the police.
- Notify your supervisor and the office that you have been involved in an accident so that they may be of assistance to you.
- If another vehicle/driver was involved, get the driver's license number and the vehicle license plate number.

Second:

- Be courteous - Avoid arguments.
- Do not sign any statements.
- Do not admit negligence or fault.
- Do not assume liability for yourself or for the company.

Third:

- Completely fill out any required accident report forms.
- Obtain proper identification (name, license #, vehicle description) from anyone else involved in the accident.
- Obtain witnesses' names and phone numbers.
- Obtain a copy of the incident report, including the incident report number from the police.

SUPERVISOR'S RESPONSIBILITY

1. Ensure that the driver has made all the required notifications and has properly filled out all the required forms.

2. Investigate the accident and gather information to determine what may have led to the incident. Forward all information to the office so that all the required notifications can be made.

3. Discuss the findings of the investigation with the driver and co-workers so that similar incidents may be avoided in the future.

Medical Emergency Procedures

First Aid training is very important - proper treatment of a seriously injured person could save a life. In the case of an injury:

1. Do not move the victim until he can be placed on a stretcher, except if he is in further danger. Do not attempt to treat a seriously injured person unless you know what your are doing.

2. If the person is not breathing, commence artificial respiration at once, making certain that the air passages are free.

3. If the victim is bleeding, elevate the bleeding part and apply direct pressure.

4. Loosen tight clothing at the neck, chest and waist.

5. Keep the injured person warm, but not above normal body temperature.

6. Get help as quickly as possible. When calling for emergency medical assistance:

   a) Describe the victim's condition as best you can (i.e. burned, bleeding, broken bones, unconscious, etc.).

   b) Give the victim's exact location in the building or on the site, including the building's address and/or legal land description.

   c) Give your name and the phone number from which you are calling. Do not hang up! Let emergency personnel end the conversation. They may have special instructions on what to do until help arrives.

   d) Administer first aid. Follow recommended first aid procedures. Make the victim as comfortable as possible.

   e) Assign someone to go to a visible position and direct the emergency personnel to your location.

Emergency Response Plan

Worksite Name: _____ Date: _____
Muster Point(s): _____ Supervisor: _____
Location Description: _____
Land Location: _____

POTENTIAL EMERGENCIES (Based on Hazard Assessment)	The following are identified potential emergencies: _____ _____ _____ _____ _____
EMERGENCY PROCEDURES (Ensure Evacuation Procedure is reviewed)	In the event of an emergency (type or general) _____ _____ occurring within or affecting the work site, the (designated person) _____ makes the following decisions and ensures the appropriate key steps are taken: • • •
LOCATION OF EMERGENCY EQUIPMENT	Emergency equipment is located at: • Fire Alarm: _____ • Fire Extinguisher:_____ • Fire Hose:_____ • Radios:_____ • Other:_____
WORKERS TRAINED IN THE USE OF EMERGENCY EQUIPMENT (List of names of workers trained and equipment trained on)	1. _____ 2. _____ 3. _____ 4. _____
EMERGENCY RESPONSE TRAINING REQUIREMENTS	**Type of Training** / **Frequency** _____ / _____ _____ / _____ _____ / _____ _____ / _____ _____ / _____
LOCATION AND USE OF EMERGENCY FACILITIES **Time to Medical Facility:** **_____**	The nearest emergency services are located: • Fire Station: _____ • Ambulance: _____ • Police: _____ • Hospital: _____ • Other: _____

FIRE PROTECTION REQUIREMENTS (Ensure fire procedure is reviewed)	• _____ are located _____ _____
ALARM AND EMERGENCY COMMUNICATION REQUIREMENTS	• _____ _____ _____
FIRST AID (Ensure first aid procedure is reviewed)	<u>First Aid Supplies are located at:</u> • First Aid kit type:_____ Location: _____ • Other: _____ <u>First Aiders are:</u> • Name: _____ Location: _____ Shift or hours of work:_____ Transportation for ill or injured workers is by _____ Call _____
MATERIAL SAFETY DATA SHEETS (MSDS) (Ensure Spill Procedure is reviewed)	Material Safety Data Sheets are located: _____ _____ Spill Kits are located: _____
DESIGNATED RESCUE AND EVACUATION WORKERS	The following workers are trained in rescue and evacuation: • Name: _____ Location: _____ • Name: _____ Location: _____ • Name: _____ Location: _____ • Name: _____ Location: _____
OTHER EMERGENCIES (Ensure all other applicable procedures are reviewed i.e. Line Hit Procedure)	List Emergency Procedures Reviewed: _____ _____ _____ _____

Completed on: _____ Signed: _____

REPORTS AND STATISTICS

Safety program management is a dynamic and constantly-evolving process. To ensure that our safety program continues to be as effective as possible, we must maintain records to keep track of the process. As well as providing proof that we are meeting the various regulatory requirements, these records provide the information necessary to assess the program, make the necessary modifications, and plan for future activities.

All safety reports will be reviewed by management and will be maintained on file. Forms must be neatly and completely filled out, signed and dated (if required) by the appropriate worker, supervisor and/or manager.

Reports: Documentation of the various safety program components such as:

- -new employee orientations
- -hazard assessments
- -incident investigation reports
- -minutes of toolbox meeting
- -reports of formal inspections

First Aid Register

Employee's name: **Department:**	....

Date of treatment:	
Time of treatment:	
Person giving first aid:	
Nature of injury:	.....
Treatment provided:	.....