

# Material Handling Program

---

OCCUPATIONAL HEALTH & SAFETY

Revision Date: December 2016

## DEFINITIONS

**Approved** — the classification or listing regarding fire, explosion, and/or electric shock hazard by a nationally recognized testing laboratory.

**Attachment** — a device other than conventional forks or load backrest extension, mounted permanently or removably on the elevating mechanism of a truck for handling the load.

**Note:** *Common attachments are fork extensions, clamps, rotating devices, side shifters, load stabilizers, rams, and booms.*

**Authorized personnel** — persons designated by the user to operate or maintain the equipment.

**Boom** — the pivoting support member providing the guideways that permit horizontal and/or vertical movement of the load-engaging means.

**Brake:**

**Parking** — a means to prevent inadvertent movement of a stationary truck.

**Service** — the primary means used for stopping and holding the truck.

**Bridge plate** — a portable device for spanning the gap between two rail cars.

**Capacity** — the capacity of a truck equipped with load carriage and forks, or with attachments; specifically, the weight at a specified load centre that a given truck can transport in a carry position and stack to the specified elevation of the load-engaging means.

**Note:** *Capacity is used to designate the weight-handling ability of a particular truck, as equipped.*

**Carriage** — a support structure for forks or attachments, generally roller-mounted, travelling vertically within the mast of a lift truck.

**Centre control** — the operator control position located near the centre of the truck.

**Centre of gravity** — the point where a mass (weight) would be perfectly balanced if it were suspended from that single point (also called the “suspended centre of gravity”).

**Centre of gravity of a load** — that point at which the load mass is concentrated. It is located horizontally by its distance from the vertical fork face and vertically by its distance above the load-bearing surface of the forks, or by using equivalents for other load-engaging means. Except where otherwise indicated, this point is located in the vertical plane of the truck's longitudinal centreline.

**Centre of gravity of a loaded lift truck** — a dynamic point that shifts depending on the mass (weight), height, and position of the load being carried.

**Dockboard** — a portable or fixed device for spanning the gap, or compensating for differences in levels, between a loading platform and a transport vehicle.

**End control** — the operator control position located at the end opposite the load end of the truck.

**Fall arrest system** — an assembly of components joined together so that when the assembly is connected to an anchorage, it is capable of arresting a worker's fall.

**Fork** — a horizontal tine-like projection, normally suspended from the carriage, for engaging and supporting loads.

**Fork extension** — a lift truck attachment that is added to the truck fork to increase the fork's effective length for handling oversized, uniformly distributed loads.

**Height** — the vertical distance from the floor to the horizontal load-carrying surface of the forks, measured adjacent to the heel of the forks, and in the case of reach trucks, with the forks extended.

**Lateral levelling** — changing the lateral relationship between the rough terrain forklift truck-lifting mechanism and the ground. Lateral levelling is generally used to adjust the mast or boom to vertical when the truck is standing on a side slope.

**Lift truck:**

**Battery-electric** — an electric lift truck in which the power source is a storage battery.

**Counterbalanced** — a lift truck equipped with load-engaging means wherein, during normal transport, the entire load is external to the polygon formed by the wheel contacts.

**Counterbalanced front/side loader lift** — a high lift counterbalanced truck (equipped with a fixed or tiltable elevating mechanism) that is capable of transporting and tiering a load in both the counterbalanced forward position and any location up to and including 90° from the longitudinal centreline of the truck, while still able to transverse the load laterally.

**Electric** — a truck in which the principal energy is transmitted from power sources to the motor(s) in the form of electricity.

**Forklift** — a lift truck equipped with load carriage and forks for transporting and tiering loads.

**High-lift** — a lift truck equipped with an elevating mechanism designed to permit tiering.

**High-lift order picker** — a high lift truck controllable by the operator stationed on a movable platform with the load-engaging means and intended for (manual) stock selection. The lift truck can be capable of self-loading and tiering.

**High-lift platform** — a lift truck equipped with a load platform, intended primarily for transporting and tiering loaded skid platforms.

**Internal combustion engine** — a truck in which the power source is a gasoline, liquefied petroleum (LP) gas, or diesel engine.

**Low-lift** — a lift truck equipped with an elevating mechanism designed to raise the load only sufficiently to permit horizontal movement.

**Low-lift order picker** — a low lift truck controllable by an operator stationed on, or walking adjacent to, the truck and intended for (manual) stock selection. The truck can be capable of self-loading.

**Low-lift platform** — a lift truck equipped with a load platform intended primarily for transporting loaded skid platforms.

**Motorized hand** — a lift truck that is designed for control by a walking operator.

**Motorized hand/rider** — a dual purpose lift truck that is designed for control by a walking or riding operator.

**Narrow aisle** — a lift truck primarily intended for right-angle stacking in aisles narrower than those normally required by counterbalanced trucks of the same capacity.

**Non-powered** — a manually propelled lift truck used to carry, push, pull, stack, or tier material.

**Operator-up, high-lift** — a high lift truck controllable by an operator stationed on a platform that is elevatable.

**Pallet** — a self-loading, low lift truck equipped with wheeled forks of dimensions able to fit between the top and bottom boards of a double-faced pallet and having wheels capable of lowering into spaces between the bottom boards in order to raise the pallet off the floor for transporting.

**Powered** — a mobile-powered, propelled lift truck used to carry, push, pull, stack, or tier material.

**Reach** — a lift truck, generally high lift, having load-engaging means mounted in such a way that the means can be extended forward under the control of the operator to permit a load to be picked up and deposited in the extended position and transported in the retracted position.

**Rider** — a lift truck that is designed to be controlled by a riding operator.

**Rough terrain** — a wheeled-type lift truck, designed primarily as a forklift truck, that may be equipped with attachments and that is intended for operation on unimproved natural terrain as well as the disturbed terrain of construction sites.

**Side loader** — a self-loading lift truck, generally high lift, having load-engaging means mounted in such a way that the means can be extended laterally under the control of the operator to permit a load to be picked up and deposited in the extended position and transported in the retracted position.

**Straddle** — a general class of cantilever lift truck, generally high lift, with horizontal, structural wheel-supported members extending forward from the main body of the truck, intended for picking up and hauling loads between its outrigger arms.

**Variable reach rough terrain** — a rough terrain lift truck with the additional capability of extending and retracting the forks (and load) in a longitudinal direction.

**Load:**

**Backrest** — that portion of the carriage and forks serving to restrain the load when the load is tilted rearward or upward.

**Backrest extension** — a removable device that increases the load restraining area beyond that provided by the load backrest.

**Centre** — the position of the load's centre of gravity in the horizontal plane only, relative to the vertical load-engaging face of the forks (or the equivalent for other load-engaging means). It constitutes the standard or base for rating the load capacity of a lift truck (see **Centre of gravity of a load**).

**Manufacturer** — an individual or organization that develops raw materials and assemblies or subassemblies into end products.

**Mast** — the support member providing the guideways that permit vertical movement of the carriage.

**Note:** *The mast is usually constructed in the form of channels or similar sections that provide the supporting pathway for the carriage rollers.*

**Operator** — a person trained in accordance with this Standard and authorized by the person's employer to be in control of the lift truck.

**Platform** — see **Platform, Operator**.

**Overhead guard** — a framework mounted on the lift truck and positioned above the head of the riding operator to protect against falling objects.

**Parking brake** — see **Brake, Parking**.

**Personal fall arrest system** — an assembly of interconnected components and subsystems connected to a suitable anchorage that acts to arrest a worker's fall.

**Platform:**

**Operator** — a platform or area from which a standing person controls the functions of a lift truck or other material-handling device.

**Supplementary** — any platform which can be mounted on a high lift fork truck or other elevating device and does not require disassembly of any portion of the lifting system to install or remove, but is not intended to elevate personnel.

**Work** — a platform designed to be mounted on a high lift truck or other elevating device and to provide a safe working area for a person(s) elevated by and working from the platform surface.

**Professional engineer** — an engineer registered in a province or territory of Canada.

**Rated capacity** — the weight, established by the manufacturer at a required load centre, that a given truck (equipped with load carriage and forks or attachments) can transport and stack to a height established by the manufacturer.

**Note:** *Rated capacity is used as a means for comparing the weight-handling ability of trucks.*

**Retractable stabilizers** — extendible or pivoting mechanical supports used to improve the stability of a stationary lift truck.

**Safety work surface** — a surface intended to reduce the possibility of foot slippage.

**Service brake** — see **Brake, Service**.

**Stability:**

**Trapezoid** — the trapezoid formed on some lift trucks by the front-load wheels and the rear steer/ drive wheels and/or castor wheels. The relative location, inside or outside the trapezoid, of the combined centres of gravity of the truck and load determines the stability of the truck.

**Triangle** — the triangle that has one point at the centre of each front wheel and one point at the centre of the lift truck's steering wheel axle. The relative location, inside or outside the triangle, of the combined centres of gravity of the truck and load determines the stability of the truck.

**Stabilizers** — see **Retractable stabilizers**.

**Tiering** — the process of placing one load on or above another.

**Tow tractor** — a powered truck designed primarily to draw one or more non-powered trucks, trailers, or other mobile loads.

**Trainee** — the person being trained as a lift truck operator.

**Travel restraint system** — a system that prevents one or more persons from reaching an unprotected edge or opening by coupling a worker's body holding device to an anchorage using a connecting means of suitable length (such as a restraint lanyard).

## **PURPOSE**

The material handling equipment program establishes the requirements to safely operate and maintain material handling equipment, and outlines the training requirements for the equipment operators. The safe operation of lift trucks minimizes the risk of injury to workers.

## **SCOPE**

This program applies to all Algonquin College staff who operate or work in proximity to material handling equipment.

This program will identify the essential elements necessary to ensure that lift truck operation is done safely by describing:

- The medical and physical requirements necessary to operate a lift truck;
- The specific training requirements and criteria necessary to operate a lift truck, and the refresher training frequency;
- Additional 'on the job' training requirements for lift truck operators;
- The inspection criteria and requirements, including multi-user inspection requirements;
- Preventative maintenance, maintenance and repair;
- Operational hazards and controls.

## **REFERENCES & RESOURCES**

Occupational Health and Safety Act

Industrial Regulations 851/90

Canadian Standard Association Standard B335-15

Ministry of Labour's "Guideline for the Safe Operation and Maintenance of Powered Lift Trucks"

Bendigo Mitchell: <http://www.bendigomitchell.com/kb/forklift-truck-types>

Canadian Centre for Occupational Health and Safety:

[https://www.ccohs.ca/oshanswers/safety\\_haz/battery-charging.html](https://www.ccohs.ca/oshanswers/safety_haz/battery-charging.html)

Crown Battery: <http://www.crownbattery.com/news/5-steps-to-forklift-battery-maintenance>

<http://www.hhoust.com/Portals/927/PDF/fork%20extensions.pdf>

## **RESPONSIBILITIES**

### **Managers/ Supervisors**

- Communicate to workers all actual or potential hazards associated with material handling;
- Identify training needs for operators and personnel;
- Ensure that personnel designated as 'operators' receive the necessary training, and that recertification is maintained;
- Investigate reports of lift trucks coming in contact with equipment, property or people and apply necessary controls;
- Ensure operators are wearing the required PPE;
- Ensure that operators perform daily pre-use inspections;
- Review all daily inspection pre-use checklist for defects to ensure that the lift truck is safe to operate, and to coordinate maintenance/ repairs as needed;
- Ensure that operators operate the lift truck safely and as per internal and external requirements;

- Ensure that lift trucks are on a preventative maintenance schedule and that regular maintenance is conducted and documented;
- Lock-out a lift truck if it is unsafe to operate until such time as the necessary repairs are applied;
- Create safe operating procedures for tasks/ processes within your department as it pertains to lift trucks and/ or material handling (ex. transporting loads, battery charging, etc.);
- Create a traffic plan for each work area where lift trucks belonging to your department operate and communicate it to staff.

### **Workers/ Operators**

All operators will:

- Participate in the required training prior to operating a lift truck;
- Report any actual or potential hazards or changes in process that impact current controls;
- Perform pre-use inspections at the start of each shift, and report any malfunction, damage, defect to the manager;
- Report any incident involving personnel, building structures, and equipment immediately to the Manager/ Supervisor;
- Wear required PPE while operating the lift truck;
- Follow the traffic plan and all SOP's;
- Operate the lift truck in a safe manner.

### **Occupational Health and Safety**

- Provide information and guidance regarding external training providers;
- Provide information regarding legislative requirements and standards;
- Develop, implement and update the Material Handling Program.

## **PERSONAL PROTECTIVE EQUIPMENT**

Workers are required to wear safety shoes and safety glasses while operating a lift truck.

## **OPERATOR QUALIFICATIONS**

Only trained and authorized workers are permitted to operate a lift truck, if they meet they meet the necessary medical and physical requirements.

Workers will:

- Have vision of not less than 20/40 in the better eye and have good judgement of space including height and distance. If corrective lenses are required to comply with the above, the candidate shall always wear them while operating the lifting device;
- Be able to distinguish colour, if colour differentiation is required on the assigned job;
- Have the ability to hear warning signals – in the case of the hearing requirement, if the trainee requires a hearing aid to pass the examination, it shall be worn all the times while operating the lifting device;



- Have the required movement of the trunk, neck, upper and lower limbs, and have the strength, endurance, agility, and coordination to meet the demands of the job.

If an injury occurs resulting in a suspected or indicated restriction, which may prevent the operator from operating the lift truck safely, the Manager/ Supervisor can request an independent medical evaluation to ensure that the worker can safely operate the lift truck.

## **SAFE OPERATION OF A LIFT TRUCK**

### ***Hazard Identification***

Before operating a lift truck, all actual or potential hazards should be identified and communicated (as per OSHA 29 CFR 1910.269 (d)) to the operator. An assessment of potential injuries should be done in regards to the operator and the workers working in proximity to the lift trucks, taking into consideration the jobs being done, the equipment being used and the environment. Workers and Supervisors should be consulted in the hazard identification process.

All actual or potential hazards should be documented, communicated to workers, and appropriate controls implemented to prevent injury. The hazard assessment should be reviewed periodically to ensure that controls are adequate to meet any procedural changes. Any changes should be updated in the procedure and communicated to workers.

Areas where lift trucks are operated should be well lit and free of obstructions. Aisles should be clear and wide enough to allow for the lift truck and its load to safely maneuver.

### ***General Safety***

Operators should use the lift truck in the manner in which it was intended. Engaging in horseplay or unsafe, reckless behavior that puts the operator and/ or other workers at risk of injury, as well as the potential to damage the lift truck, other equipment or structures. Operators will respect the traffic plan, speed restrictions and abide by all internal and external requirements.

Lift trucks will only be operated in approved areas. Where lift trucks are needed in unauthorized areas, approval from the area Manager/ Supervisor must be provided prior to entering, staff must be made aware, and necessary precautions taken.

### ***Travelling***

When travelling in or with a lift truck, it is important to ensure that it is done safely to prevent injuries and property damage. When travelling, operators should ensure that:

- They are wearing their PPE and seat belt at all times;
- That they keep arms, legs and head inside the cab of the forklift; feet out of the immediate path of a jigger or pump truck;
- Travel with forks lowered to a few inches from the ground;
- Travel on smooth terrain as much as possible;
- When using a lift truck outdoors, ensure that the terrain is free of ice and slippery conditions;

- Avoid operating the lift truck in high volume areas or a peak times as much as possible in order to avoid congestion and heavy pedestrian interference;
- When operating in an uncontrolled pedestrian areas, such as a hallway, cordon off the area with signage and/or traffic cones to prevent pedestrians from walking through your work area;
- For start and stop activities, such as delivering packages at various locations throughout the College, park the lift truck out of the way of pedestrians to prevent congestion.

### ***Raising and Lowering a Worker***

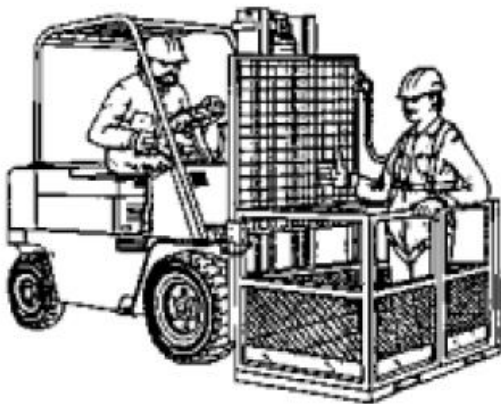
Where workers are required to be lifted by way of the lift truck, a platform specifically designed for this purpose must be used. Workers are not to stand directly on the forks for the purposes of raising or lowering.

### ***The Platform***

The platform must be designed, constructed and used to safely support the maximum load rating. A label indicating the maximum load rating must be affixed to platform. It is recommended that the platform be designed to support four times the maximum safe working load.

Pre-manufactured work platforms must conform to an engineering standard and will require a Pre-Start Safety Review to be certified by a professional engineer, if a manufactured platform is not used. The use of any other device or material such as plywood or pallets is prohibited.

The platform must be securely attached to the forks while in use to prevent accidental lateral or vertical movement. The platform must be equipped with guard rails and toe board, with a screen to prevent workers from making contact with the mast drive mechanism.



### ***Using the Platform***

If a worker is elevated on a work platform supported by a forklift:

- the operator must remain at the controls of the forklift;
- the forklift mast is to be kept vertical;

- the forklift must not be moved, except for minor adjustments that are necessary to position the platform;
- the parking brake must be applied at all times when workers are being raised or lowered on a work platform;
- each person on the platform must use a personal fall protection system (and receive working at heights training):
  - any part of the guardrail system has to be removed or lowered;
  - the worker must work while the platform's gate is open;
  - the worker must lean outside of the guardrail.

The platform must have a suitable fire extinguisher if workers on it are performing welding or cutting, or using open flames.

### ***Parking***

Lift trucks should have a designated parking area when it is not in use. Lift trucks should be parked on level ground, with the fork forks flat on the ground. The parking break should be applied. If there is a possibility that the truck could move, such as when having to park on an incline, or unlevelled ground, the wheels should be chocked. The forks should be positioned so as to not intersect a pedestrian walk area and cause a tripping hazard. When turned off and parked, the keys should be removed.

Propane lift trucks should be stored in an area with adequate ventilation.

### ***Ergonomic Practices***

When operating a lift truck, consideration to the impact that the equipment and tasks have on the body are crucial to prevent injuries. Material handling procedures, work processes and equipment design, when they are not taken into account, can leave workers with significant discomfort, injuries and fatigue. Attention to posture, reach envelopes, and frequency of similar activities can cause strain and fatigue, so it is important to plan the work and the workload to ensure that these risks are mitigated. Operators should be made aware of the hazards and the mitigation strategies in place, and instructed to report injuries or discomfort at the onset. As per the CSA Standard B335-15, the following factors shall be considered:

- Operators should face forward, or in the direction of travel;
- Wrists should be in a neutral position, or as close as possible, with the hand in line with the axis of the forearm;
- Operators should have adequate visibility of all areas in and around the lift truck without having to take on an awkward posture;
- Controls and displays should not interfere with the operators view;
- Load sizes should be kept to a reasonable size to allow for good visibility;
- The seat should be comfortable, well maintained, and able to provide support to the back and torso without limiting movement of the arms;
- Operators should be able to mount and dismount the lift truck in a safe manner- steps should be large enough to support the foot and slip resistant, and the truck should be equipped with handles that do not impair the operator's ability to operate the truck safely;
- Consideration to layout of the work area should be given to minimizing strain to the operator's body.

## **WORKPLACE DESIGN**

Areas where lift trucks will be operated should be designed to accommodate the vehicular and pedestrian traffic in a safe manner, as well as ensuring that the design promotes a safe area for the lift truck to operate. Ample space must be provided in aisles, doorways, loading and off-loading areas, the dock, elevators, ramps, storage areas, hallways and access points. Planning the work space as well as creating a traffic plan to manage the flow of traffic, staging and work areas, and pedestrian areas, will significantly mitigate the potential for injury or accidents.

When designing the lift truck areas, consideration to the following must be given in the planning and layout:

- Ensure that overhead and side clearances at the loading docks, aisles, and storage and transfer areas, doorways allow for enough room for the lift trucks and its load to pass through safely.
- All areas where lift trucks operate should be free of obstructions/ hazards such as floors, aisles, elevators, ramps/ grades, the loading dock, grates and passageways. It is also important to ensure that these areas can support the weight of the lift truck and its load.
- Adequate ventilation in both the work areas and the battery charging/ parking areas.
- Ensure that lift truck operators have adequate visibility to operate the lift truck safely and to be able to easily recognize pedestrian traffic.
- Placement and configuration of storage racks should be such that it prevents the operators from making bodily contact with the load-support beams.

### ***Operating Environment***

In addition to a proper design, the operating area should be conducive for operators to driver lift trucks safely through the space.

Aisles should be measured to ensure that the lift trucks can operate safely in the space provided, access materials, turn, advance or back up, with loads. The aisles should be kept obstruction and debris free. Materials should not protrude (loads, equipment, materials, etc.) to ensure that they do not interfere with the safe operation of the lift truck or its load. Properly enforced housekeeping program and routine inspection of the area will mitigate the risk of obstructions.

Adequate lighting should be provided to ensure that operators have good visibility while operating, including in corners and at intersections. If lift trucks will be travelling through low light conditions, the lift trucks should be equipped with lights to maximize visibility.

At high traffic intersections and corners, convex mirrors should be installed, particularly where lift trucks and pedestrian have the potential to intersect, and where the traffic plan is unable to manage pedestrians, such as in a major hallway.

If the lift truck produce excessive noise that may increase the decibel level beyond the maximum allowable level of 85 dB, contact the Occupational Health and Safety Department to have the noise levels assessed.

### ***Clearance***

All passageways where lift truck will be operated must have an overhead clearance of at least 150mm above the lift truck or its load, whichever is the highest, when in motion. Areas where the top of the doorway or other objects that may not provide an adequate clearance height should be marked. Signage

must be made highly visible to the operators using colors, with written hazard information. The letters on the signage must be at least 50mm in height, with a contrasting background.

Passageways must also be assessed to ensure sufficient clearance in width for lift trucks and their loads to pass safely through. Each passageway must have at least 150mm on either side of the lift truck and its load (and furthest projecting point) to maneuver safely through the passageway. Where insufficient space exists, the passageway must be marked as such, with proper signage.

### ***Traffic Control Plan***

All areas where lift trucks operate, a traffic control plan should be developed and implemented indicating the areas where motorized equipment is permitted and where access to pedestrians is provided in order to ensure that a safe distance between the lift trucks and pedestrians exists. The first step is to conduct a traffic assessment to determine the routes best suited for lift trucks and for pedestrians. The needs assessment will provide information to develop a plan to develop processes and controls for the following:

- Areas of high traffic and congestion. In these areas, barriers and signage should be erected;
- The safest areas to designate pedestrian routes that are separate from the designated lift truck areas. These areas should be clearly marked with paint, tape or barriers to create separation between pedestrians and lift trucks;
- Speed control/ limits should be established, communicated and strictly enforced;
- Establish right-of-way at intersections;
- Lift trucks stopping at intersections or potentially dangerous areas before proceeding, hand or horn signals, and back-up warning devices where appropriate.

Traffic rules should be established for both lift trucks and pedestrians. Lift truck rules should include: speed limits, areas/ intersections where mirrors are required, requiring lift trucks to stop at intersections or potentially dangerous areas before proceeding, when hand, horn signals and back up alarms are required.

Similarly, rules should be established for pedestrians to ensure that they maneuver safely in these areas. The traffic plan should include rules concerning the specific/ designated pedestrian only areas, right-of-way at intersections.

The Manager/ Supervisor should ensure that operators and pedestrians working in these areas are trained on the traffic plan and the safety rules to ensure they understand their responsibilities.

A map of the traffic plan and safety rules should be provided to all workers working in these areas as well as posted in a conspicuous location within the workspace. The traffic plan should be reviewed annually to ensure that it accurately reflects the layout and existing hazards in the workplace. The traffic plan should be revised whenever a new hazard exists, or when a change to the layout/ design of the workspace or processes takes place.

### ***Pedestrians***

Lift truck operators must take reasonable precautions to ensure that they do not cause injury to personnel. Despite the existence of a traffic management plan, understanding that pedestrian can often times be unpredictable, particularly in uncontrolled areas such as hallways, outdoors, etc., will make operators vigilant and ready for the unexpected and allow them to react quickly. As such, operators will:

- Look in both directions before advancing forward or backwards;
- Will not drive a lift truck up to anyone standing in front of an object;
- Ensure that no one is in close proximity to the rear of the truck when turning;
- Be attentive at intersections, cross aisles and other locations where pedestrians may walk in the path of the lift truck;
- Not allow anyone to pass under the elevated portion of the truck, such as the forks or the load;
- Operate the lift truck at a safe distance from pedestrians while travelling with an elevated load;
- Ensure that pedestrians do not attempt to stabilize or grab onto the load if it becomes unbalanced or items shift;
- Not allow anyone to ride on the lift truck. The only person allowed on the lift truck at any given time is the operator.

## **LOADING DOCK SAFETY**

The high volume of activity at a load dock area, coupled with the presence of various physical hazards can lead to serious injuries. It is important to recognize these hazards and communicate them to workers to ensure that the load dock hazards are successfully controlled to prevent injuries. They include:

- Congestion and traffic (vehicular and pedestrian)
- Inadequate lighting
- Uneven surfaces
- Moving equipment such as: other lift trucks, rolling doors, delivery trucks, conveyors, etc.
- Housekeeping

### ***Securing Vehicles***

Before an operator enters a truck trailer, the operator should ensure that the truck has been turned off and the keys removed from the ignition. Drivers should not remain in the truck while it is being loaded or unloaded if the restraint system is not engaged. This will ensure that the truck does not leave before the loading/ unloading is complete.

If the dock is equipped with a dock lock or trailer restraint system, ensure that it is engaged and that all lights are in the proper sequence. If the trailer restraint system cannot be engaged or is not present, the wheels of the truck must be chocked. The trailer should be square with the dock, and a dock board or dock plate should be placed between the dock and the trailer if a gap exists. Place a jack under the 5<sup>th</sup> wheels assembly whenever possible for added stabilization and to provide greater balance to prevent it from teetering.

### ***Loading and Unloading Materials***

A moving trailer can result in shifting loads that have the potential to pin workers and cause injury. There should never be a worker in the trailer as a lift truck enters or exists during loading or unloading. To that effect, unauthorized pedestrians should have restricted access to the loading dock. Workers using the loading dock must be trained on the traffic plan, and pedestrian areas clearly marked on the floor to indicate the safe zones.

If a gap exists between the trailer and the dock, the use of a dock plate or board is required. The dock plate used should have the appropriate capacity, stability, size and placement to ensure that it effectively acts as a physical barrier at the dock edge to prevent falls.

## ***Pallet Safety***

Pallets are a fundamental part of warehouse and industrial life. They're immensely helpful in allowing workers to move loads around in a safe and quick manner. Their use is so ubiquitous though that we often forget just how hazardous they can be when misused. Here are some important tips to keep in mind for safely using pallets.



### ***Wood Pallet Safety Tips***

- Before using a pallet, inspect its condition to make sure it can be safely stored with a heavy load.
- If the pallet has any cracked or broken pieces, you will need to buy a new pallet.
- Make sure the stringer is in good condition. Damaged stringers should be properly repaired with plugs or mending tape to ensure pallet safety.
- Check the pallet for any protruding nails or splinters of wood.
- If a pallet does not meet these safety conditions, the pallet must be immediately taken out of use until it is repaired or replaced.
- It is important to clean wood pallets regularly, especially when dealing with food. Global Pooling Systems recently released results of a survey that found E. coli, Listeria and Salmonella growing on wooden pallets. Keep this in mind when buying wood or plastic pallets.

### ***Pallet Safety Tips when Loading***

- Make sure the size of the pallets you are loading are compatible with the safety standards of your material handling equipment.
- A pallet's load capacities must not be exceeded, especially when loading and unloading.
- Check your material handling equipment for its load capacity and loading specifications. You must not exceed the load capacity of your material handling equipment.
- Be aware that as the load center of a pallet increases, the lifting capacity of the handling equipment decreases.

## **SELECTING A LIFT TRUCK**

Different lift trucks are designed and manufactured to operate in different environments. When purchasing a lift truck, it is important to ensure that the right equipment is selected, based on the work being performed, and that it is suitable for the environment. Lift trucks have hazards specific to the type

or model, so consult a supplier or the manufacturer and obtain specs to determine the appropriate type of lift truck that is suitable for use in your work environment.

*Consider:*

- The hazards the lift truck may introduce and whether it can be adequately controlled to prevent an accident or injury;
- The maximum load capacity- consider what types of materials will be transported
- The reach capabilities;
- The features needed to perform the work- suitable for the loads to be handled;
- The terrain which it travels on, and atmospheric conditions of the workplace- indoor use, outdoor use, etc.;
- The design and layout of the workplace.

## **TYPES OF LIFT TRUCKS**

### ***Counterbalance***

A counterbalance forklift truck are the most common type of forklift. A counterbalance has forks that protrude from the front of the truck. This type of machine is ideal for use to load or unload from truck and tractor trailers, from storage areas where the truck can drive up to the exact location of the load without reaching. As the name suggests, the counterbalance truck operates with a weight at the rear of the truck off-setting the load to be lifted at the front.

This type of lift truck is ideal for used in shipping/ receiving/ dock areas, where items are stored in racking, etc.



Counterbalance Forklift

### ***Reach Trucks***

A reach truck, which is sometimes called an order picker, has an upright design that allows it to operate in very tight spaces while still offering the maneuverability, and extensive reach capabilities. A reach truck has the ability to reach beyond its stabilizing legs and of heights in excess of 10 meters. Unlike the counterbalance, it uses its stabilizing legs and batteries to negate the need for any counterbalance weight within the truck.

Reach trucks are ideal small or tight work environments, where tight turning radiuses or narrow aisles exist, or where a counterbalance would not have the enough space to safely maneuver. They are so necessary where loads are stored at greater heights.





Reach Truck

### ***Powered Pallet Truck/ Jigger***

Similar to a hand pump truck, this motorized pallet truck is used by sliding its forks into the pallet. The load is lifted using the powered controls, located on the handle. The truck travels by pulling the handle down and steering it from side to side. When the handle is let go, the equipment has a safety mechanism that will cause it to stop immediately to prevent accidents and injuries. Suitable for environments with palletized loads, that can easily be transported on smooth terrain.



Pallet Truck/ Jigger

### ***Hand Pump Truck***

A pump truck is a non-motorized piece of equipment used to move palletized loads, from one area to another, without any reaching capabilities. Pump trucks operate by sliding the forks into the pallet, and pumping the handle to raise the forks off the ground, and moving the load by pulling the handle. The front wheels of this equipment are mounted inside the end of the forks, and as the hydraulic jack is raised, the forks are separated vertically from the front wheels, forcing the load upward until it clears the floor. The pallet is only lifted enough to clear the floor for subsequent travel. Pump trucks are a cost effective alternative to motorized equipment and suitable for environments that are not conducive for motorized equipment, or where small loads can easily be transported (on smooth terrain) short distances and with loads smaller, stable loads.



Hand Pump Truck

## **Lift Truck Safety**

### ***Components***

In order to ensure the safe operation of lift truck, it is important to ensure that the required safety devices and information are in place and fully function prior to each use. Every truck should be equipped with:

- A plate or sticker clearly displaying the maximum rated load and the variation of the rated safe load capacity with the reach of the equipment;
- A screen, guard, grill or other device to protect the operator from falling or protruding materials, as per Reg. 851 Sec. 54 (1)(b);
- A seat belt (which must be worn at all times while in and operating the vehicle);
- A fire extinguisher;
- Warning devices such as back alarms and lights, as appropriate for the workplace.

### ***Fork Extensions***

Fork extensions are designed for the occasional need to handle large, bulky loads. An additional set of longer forks is often the better choice. If fork extensions are to be used, good safety procedures must be followed. Consult the operator's manual before using fork extensions to ensure that the lift truck is able to be used in this manner. Some general safety guidelines to follow when using fork extensions:

- The length of the extensions should not exceed 1 ½ times the length of the forks- for example, on forks that are 48" long the longest extensions that can be used are 72";
- The extensions should be built to fit that particular width of the fork being used. The inside width of the extension must not exceed the width of the fork by more than ½";
- The load should never be picked up with the tip of the extension. The center of the load must always be over the fork and should not exceed 50% the length of the fork extension;
- Do not overload the lift truck. The capacity of the lift truck diminishes very rapidly as the load center is moved out from the back of the fork. Check with the lift truck manufacturer to obtain the load chart showing maximum lift capacities at various load centers BEFORE using the for extensions;
- Fork extensions are designed for light, bulky loads. When moving heavy loads exceeding the maximum allowed load center, longer forks should be used instead. It is important to ensure that the load capacities are calculated before moving the objects to ensure that it is not exceeding the load center.

### ***Overhead Guards***

An overhead guard is intended to provide protection from falling objects from above. It cannot provide protection against every possible impact. Good judgment and care, when load handling, should always be observed to prevent injuries. Lift trucks should be equipped with an overhead guard that meets the CSA B335-15 Standard's requirements, and must be appropriate for the type of work performed.

## **BATTERY POWERED LIFT TRUCKS**

Lift truck batteries pose a significant hazard in the workplace. Batteries contain sulfuric acid, a highly corrosive chemical, contained in the battery fluid, which, have the potential to explode.

While the battery is charging, hydrogen gas is produced, or “off gassed”, into the air. At certain concentrations, between 4-72% hydrogen in the air, it can become an explosion hazard, if not adequately ventilated out of the area. It is therefore important to ensure that lift trucks charge their batteries in a designated area, that is well ventilated, and that is restricted to trained operators only. The battery charging area should not be in close proximity to an ignition source of any kind.

Batteries contain sulfuric acid, which is a corrosive chemical that can cause significant burns when it comes into contact with skin. As such, batteries should not be handled by the operator. If a battery begins to leak, it should be reported to the Manager immediately, the lift truck should be placed out of service and a technician called to change the battery. If battery acid is spilled, the acid should be neutralized and contained, then promptly cleaned up by trained personnel.

### ***Battery Charging***

The charging of lift truck batteries can be hazardous. Batteries contain sulfuric acid, a highly corrosive chemical, in the battery fluid itself, which is handled improperly can explode. And while the battery is charging, hydrogen gas is produced, or off gassed, into the air. It is therefore important to ensure that lift trucks charge their batteries in a designated area, that is well ventilated, and that is restricted to trained operators only. Proper ventilation will reduce the likelihood of an explosion. The battery charging area should not be in close proximity to an ignition source of any kind.

Before charging the battery, ensure that the battery requires charging. It should not be charged after each use. Lift truck batteries should not be charged unless they dip below 30% charge, and should be disconnected once it is fully charged. Batteries should not remain connected once they fully charged. This can significantly reduce its lifespan, as well as increase the risk that it could explode.

Prior to charging the battery, the operator will visually inspect the charger cable to ensure the connector and wiring are not damaged. If damaged is observed, it should be reported to the Manager and the cable should be removed from use. The charger cable should be connected the charger cable to the battery, not the machine.

Before handling the battery, workers must wear the required PPE to prevent contact with battery acid.

### ***Equalize the Battery***

Flooded or wet cell batteries should be equalized on a regular basis. This process reverses the chemical process of stratification, when the battery acid becomes more concentrated at the bottom of the battery. When the acid and water become stratified, the battery is no longer able to hold a charge as well. Equalizing rebalances the electrolyte concentration and also helps to remove sulfate crystals from the battery plates. Equalizing can only take place with a battery charger has an equalizing setting. Many batteries need equalization approximately each five to ten charging cycles, but be sure to check the maintenance specifications for a battery before initiating the process.

### ***Check Fluid Levels***

Forklift batteries need to have the right amount of water to work at optimum capacity. Approximately every five charge cycles, be sure to check the forklift battery fluid levels by opening up the battery.

Once the battery is cooled, check two to three cells and ensure that there is enough fluid to cover the plastic battery element. If unsure, check all cells. If there is not enough fluid upon inspection, move on to the next step and add water. If the levels are not appropriate, top off the fluid in the battery. This will be necessary approximately every 10 charges if it is brand new by adding enough water to cover the battery's plastic element protector. Do not overfill the battery. Extra space is needed for the expansion that happens when the battery is in use. Note that maintenance free batteries do not need to be topped off. Only top off a battery after the battery is fully charged. It is also important to use the right water, which measure between 5 and 7 on the pH scale and is within recommended limits for impurities. Impure water can lead to battery damage.

Forklifts can be used in extreme environments, so it is essential to consider the ambient temperature for the battery when in use. Keeping any battery at a safe temperature, where its operating temperature does not exceed 45°C (113°F), will help to prolong its life. If this is not possible, be sure there is plenty of air circulating in and around the battery compartment for optimal cooling.

### ***Battery Changing***

Lift trucks requiring a battery change will be reported to the Manager or designate. A technician will be called to provide service. Operators do not change their own batteries. Each department will follow their own departmental preventative maintenance schedules, as per the manufacturer's instructions, to ensure that batteries are changed at the appropriate frequency.

### ***Emergency Procedures in the Event of an Acid Splash***

Battery acid is a corrosive chemical that can cause severe burns to tissue such as eyes and skin. To minimize injuries, the follows procedures should be followed (consult the MSDS/ SDS to ensure the appropriate steps are taken).

#### **Acid Splash to the Eyes:**

1. Remove safety glasses and hold the eye open in order to flush eye at the eye wash station, with temped water, for at least 20 minutes;
2. Seek medical attention;
3. Report the incident to your Manager or Supervisor.

### ***Eye Wash Stations***

An eye wash station must be in close proximity to the battery charging area in the event of accidental contact of acid to the eyes. Please refer to ANSI Standard Z358.1-2014, "Standard for Emergency Eyewashes and Shower Equipment", for applicable requirements. In these areas, an eye wash bottle is **not** suitable to meet the necessary requirements. An eye wash station that provides at least 20 minutes of continuous flushing, with temped water, is required. Instead, a plumbed or gravity fed eye wash station is required.



Plumbed eye wash station



Gravity fed eye wash station

### **Acid Splash to the Skin:**

1. Remove acid soaked clothing immediately;
2. Flush acid contacted skin with clean, temped water, for at least 20-30 minutes;
3. If redness or burns occur, contact Security at ext. 5000 to seek immediate medical attention;
4. Report the incident to your Manager or Supervisor.

### **Acid is Ingested:**

1. Remove the workers from the battery area and provide fresh air;
2. Wash mouth out with large amounts of water;
3. Do not induce vomiting;
4. Contact Security and seek immediate medical attention;
5. Monitor Worker's breathing and condition.

### ***Battery Acid Spills Clean Up***

If the acid spill is 1 liter or less, and the responder feel he/ she is able to manage the containment and clean-up, they may do so. For spills greater than 1 liter or where responders do not feel confident that they can contain the spill, Security should be called at 5000.

### ***Acid Spills Kit***

Areas where lift trucks batteries are charging/ regularly parked, should have spill kits. These kits should include acid neutralizers and absorbents that are specifically made for acids and corrosives, as well as other basic items for spill cleanup. The kit should contain:

- **An appropriate container:** You need a container that can hold acids or other aggressive fluids, like the bucket in the Battery Acid Spill Kit. This container is labeled and highly visible, waterproof, and can be used to store contaminated sorbents until they can be disposed of properly.
- **Personal protective equipment (PPE):** Depending on the materials handled at your site, your acid spill kit may need a variety of PPE to protect users from aggressive liquids. Basic PPE may include safety goggles, chemical-resistant gloves, aprons, and boot covers, and enough for multiple responders;
- **Absorbent materials:** Spill kits should include absorbent pads and rolls, and hazmat absorbent. Your kit will also need an acid neutralizer, which absorbs and solidifies acids;
- **Cleaning supplies:** Hand brooms or scoops can help spread and clean up absorbent neutralizers. You'll also need disposal bags to hold used absorbents and contaminated materials.



Sample Spill Kit and contents

## ***Spills Clean Up Procedure***

Each department should develop a spills response procedure specific to their department. Consult the MSDS/ SDS to ensure that all necessary steps are identified in the procedure. The Corporate Spills Clean Up procedure can be modified to suit your department. It is as follows:

1. The spill is under one liter, and the responder feels competent managing the spill, then it is safe to proceed with the clean-up procedure; if the spill is over one liter, contact Security at ext. 5000.
2. Secure the area and contact Security at (5000). Be prepared to answer their questions. If the spill is greater than one liter or unknown chemical, inform Security and follow their instructions. Inform them that you are preparing to manage a chemical spill. Request that a trained security guard come immediately, to assist with the chemical cleaning process.
3. DO NOT clean up chemical spills, unless another trained employee assists. Always use the buddy system.
4. Eliminate all potential sources of ignition and secure the area with barrier tape. Ensure an appropriate fire extinguisher is available.
5. Designate one employee responsible for containment and one for clean-up, and put on PPE.
6. A third trained responder should be stationed close by to relay information to Security.
7. Direct all employees and students to leave spill area.
8. Use universal absorbent sock to contain the spill, and avoid spill from going down drains.
9. Make sure that all the appropriate response equipment is present before commencing.
10. Vent the area by opening windows or doors, where possible.
11. Place absorbent socks around the spill to prevent it from spreading.
12. Slowly put neutralizing agent on the edges of the spill and slowly work your way inward, to prevent splattering. Once the fizzing stops, it is neutralized. It is then safe to proceed with disposal.
13. Carefully remove and isolate any contaminated materials.
14. Using universal spill materials absorb the chemical and place into the prepared container.
15. Apply a light spray of water to the spill area at least 3 times, and absorb, placing the absorbents into the prepared container after each time.
16. After the last absorbent process has been completed, apply a final light spray of water and test the pH of the area to ensure that no residue of the spilled materials remain.
17. Place all contaminated materials in the container and seal.
18. Person responsible for containment and cleanup remove all spill clothing and isolate in container.
19. Collect any remaining materials and along with personal protective clothing discard into container. With appropriate protective gloves fold into the last bag and seal container.
20. Complete hazardous waste label and attach to the side of the container.
21. Place the container in a safe place for transfer, and ensuring label is plainly visible.
22. All personnel involved in the clean-up shall follow appropriate hygiene clean-up procedures.
23. Contact Security and inform them that you have completed the spill response and where the chemical waste has been placed.

Complete the Spills Response Report and forward to the Occupational Health and Safety Department (Ext. 7142 or Benkiem@algonquincollege.com). (See Appendix A)

All personnel responsible for acid spills clean up require acid spills clean up training.

## **PROPANE LIFT TRUCKS**

Propane is an invisible, odourless, colorless gas that is flammable gas that is stored in a compressed cylinder. Propane is typically scented with a chemical called mercaptan, which gives the propane a rotten egg-like odour, so that it is detectable in the event of a gas leak. Exposure to high levels of propane fuel occurs, generally, while filling tanks or from a leak from the tank or fuel delivery system. Propane gas is heavier than air; so leakage from a vehicle parked or stored near an unventilated pit or a lower level room is a hazard.

Complete combustion of propane results in the formation of carbon dioxide and water vapour. *Carbon monoxide* is a by-product of combustion when there is not enough oxygen to burn the propane completely. Carbon monoxide and carbon dioxide are hazards when propane-powered equipment is used in enclosed, poorly ventilated areas. Symptoms of carbon monoxide and carbon dioxide overexposure include headache, fatigue, dizziness and nausea. Carbon monoxide is a toxic gas that interferes with the ability of the red blood cells to carry oxygen. Exposure to very high concentrations of carbon monoxide (more than 4,000 ppm) can result in coma or death.

*Carbon dioxide* is an asphyxiant gas, exposure to extremely high concentrations (above 100,000 ppm) can result in death. Such life-threatening concentrations are very unlikely to occur in most workplace situations. However, symptoms of headache, fatigue and dizziness may show that there is inadequate ventilation in the workplace. The frequency of complaints of these symptoms increases as the carbon dioxide levels increase above 800-1,000 ppm.

### ***Refueling***

Fuel tanks should be removed by a trained, competent person, using the proper protective equipment. Department with a propane lift truck are required to develop safe operating procedures for refueling, and tank removal and installation, and subsequent training. Training should include propane handling, cylinder storage, cylinder components, removal and installation and emergency procedures.

### ***Storage***

Propane tanks should be stored on the ground, and secured to prevent tipping, in a well ventilated area, or preferably outdoors, and away from sources of heat, spark or flame. Workers driving a propane powered lift truck or who handle propane cylinders are required to have propane handling training.

## **TRAINING**

All lift truck operators will receive training before they are permitted to operate a lift truck. This training shall include a theory component, a practical component and a workplace specific component, with documentation to support that their knowledge and ability reflect their ability to operate the equipment safely. Operators must successfully complete and pass the theory portion of the training before practical training can be administered. The practical evaluation must be completed with 3 weeks of the theory portion of the training in order to ensure that the person be considered 'competent'.

### ***Certification Training***

Certification training is required for lift truck usage. Workers are required to be knowledgeable and obtain the skills necessary to operate, maneuver and inspect a lift truck. Upon completion of the 'theory' training, workers will be provided with hands-on training on the lift truck. Workers are required to demonstrate the safe operation of a lift truck to the instructor before being certified. Training must be refreshed every 3 years. Detailed training competencies can be found in Appendix B, taken directly from the CSA standard B335-15.

### ***Workplace Specific Training***

All operators who successfully complete the lift truck training (theory and practical components) should then receive on the job training.

This should include:

- Awareness of workplace specific hazards;
- A review of the traffic plan;
- How to identify hazardous situations and how to correct the situation;
- All operational and procedural requirements;
- Regularly monitored and supervised to ensure that they operate the lift truck in a safe manner, on an ongoing basis, and corrected when engaged in unsafe acts.

Training should be specific to the 'make' of the lift truck, meaning that the manufacturer's instructions must be reviewed with the worker to ensure that they understand the specific operating requirements of that particular make of truck. If they will be operating a Toyota lift truck, then they should receive their training on a Toyota lift truck. This is very important, as features vary from manufacturer to manufacturer, as does the handling of each make of lift truck.

## **INCIDENT REPORTING AND CONTROL**

All incidents involving a lift truck are to be reported to the Manager immediately. Contact causing injury or damage, and near misses, should be reported as soon as possible so that steps can be taken to prevent a recurrence. Once reported, an Online Quick report should be completed and an investigation conducted. Depending on the severity of the incident, the lift truck may require an inspection by to assess the level of damage, if any, before it is put back into service.



## **INSPECTIONS & MAINTENANCE**

Lift truck inspections will be carried out, by trained personnel, in order to detect damage, failure, deformation, etc. that may impact the use of the lift truck safely. If deficiencies are detected, the truck must be removed from service and not used until it has been repaired.

### ***First Use Inspection***

A lift truck must be inspected by a competent person before it is used for the first time. This is to ensure that it is capable of handling its maximum load. This applies to new, used, rented or leased equipment. In the case of rented or leased equipment, the supplier can provide documentation to prove that the equipment has been inspected and is in compliance.

### ***Pre-Shift Inspections***

All operators are required to perform a pre-shift inspection prior to operating the lift truck. This must place at the beginning of every shift. (See Appendix C - The Lift Truck Operator Inspection Checklist) If equipment is found to have a defect or unsafe to operate, it will be indicated on the checklist and reported to the Manager. The equipment will be removed from service and tagged "out of service" until such time as it has been repaired. Operators must not attempt to repair, adjust or tamper with any lift truck. Vehicles will serviced by a qualified service technician.

Inspection and sole use of the lift truck should be limited to the operator who performed the inspection at the beginning of the shift. If multiple operators use the equipment throughout a shift, the first operator will perform the inspection; however, subsequent users should review the inspection checklist prior to operating the lift truck. All operators are responsible for reporting any malfunctions or defects they encounter while operating the lift truck to their Manager as soon as possible.

### ***Maintenance & Inspection***

Regular maintenance is required on lift trucks to ensure optimal performance and safe handling. Planned maintenance shall be conducted as per the manufacturer's instructions. Regular and preventative maintenance, repairs or adjustments, will be done only by trained, authorized personnel.

A regular maintenance check will include the inspection of (but not limited to, check the manufacturer's requirements for regular maintenance inspections):

- Surface cracks on the forks heel and welds
- Straightness of the blade and shank (the deviation may not exceed 0.5% of the length of the blade and height of the shank)
- Fork angle (the deviation cannot be greater than 3 degrees)
- Difference in height of the fork tips (cannot exceed 3%)
- Positioning lock
- Wear:
  - Fork blade and shank
  - Fork hooks
  - Legibility of marking

An inspection template is available in Appendix C.

### ***Maintenance Records***

Departments are responsible for ensuring that records for lift truck pre-use inspections, scheduled and unscheduled maintenance and repairs (including modification, parts replacement, testing, etc.).

# Appendix A

**SPILLS RESPONSE REPORT**

**GENERAL**

Name: \_\_\_\_\_ Contact #: \_\_\_\_\_

Supervisor: \_\_\_\_\_ Contact #: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Department: \_\_\_\_\_

Location: \_\_\_\_\_

Describe Situation: \_\_\_\_\_

\_\_\_\_\_

**CHEMICAL**

Identity of released chemical or its components:

Quantity Spilled (approx): \_\_\_\_\_

Is MSDS available? (Y) (N)

Is Material Flammable/Combustible? (Y) (N)

Is it an acid? (Y) (N)

Is it a Base (Y) (N)

Actions Taken: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**CONTACTS**

- Security Services (5000)
- Occupational Health and Safety Department (7142)
- CANUTEC (996-6666)
- Ministry of Environment (1-800-268-6060)
- Ottawa Fire Department (911)
- Poison Information (737-1100)

Form completed by: \_\_\_\_\_ Signature: \_\_\_\_\_

## **Appendix B**

# Training Criteria for Lift Trucks from CSA B335-15 Safety Standard for Lift Trucks

## 6 Operator training requirements

Note: See also CSA Z1001 for OHS training principles.

### 6.1 General

#### 6.1.1

Clause 6 specifies the knowledge, practical, and evaluation requirements of a lift truck training program. Subjects in this Clause specify content requirements as well as a suggested method of instruction and evaluation.

Notes:

- 1) Operator training should be part of a larger comprehensive lift truck safety program that includes ongoing
  - a) identification and prompt correction of hazardous situations; and
  - b) monitoring and supervision to ensure that lift trucks are operated in a safe manner.
  
- 2) The subjects addressed in Clause 6 on operator training correspond to operational and procedural criteria in Clause 4.

#### 6.1.2

Immediately following each of the subject headings is a delivery key:

Each key is marked with an X in the appropriate box(es) to identify the method of instruction and evaluation required for that section.

- Theory    Hands-on    Knowledge verification    Practical evaluation
- a) *Theory* involves instruction-led information utilizing various methods of delivery, including, but not limited to, group discussions, individual exercises, interactive lectures, videos, slides, overheads, utilizing props (models), case studies, brainstorming, discussion groups, and workshops.
  - b) *Hands-on* involves the trainee (under the direct supervision of a trainer) using his/her physical ability to practice the operation of lift trucks.
  - c) *Knowledge verification* involves evaluation to confirm the level of comprehension with regard to the theoretical information conveyed. Evaluation methods include, but are not limited to, written, oral, or pictorial (visual) testing, or any combination thereof.
  - d) *Practical evaluation* involves trainee's demonstrating their proficiency in the operation of lift trucks and being measured against predetermined criteria.

#### 6.1.3

The trainee shall be instructed on the safe operational procedures of a lift truck in accordance with the manufacturer's operator manual, the user's operating guidelines, and government regulations.

Instruction shall be given on the following:

- a) legislation and regulations applicable to the operation of lift trucks;
- b) company policies and procedures;
- c) operating manual;
- d) lift truck features and safety equipment;
- e) stability;
- f) capacity plate and location;
- g) preoperational inspection;
- h) start-up;
- i) travelling, with and without a load;
- j) pedestrians;
- k) load handling;
- l) ramps and grades;
- m) personnel lifting, lowering, and supporting;
- n) elevators;
- o) workplace-specific hazards;
- p) procedures for shutdown/leaving the operator's position; and
- q) refuelling/recharging.

#### 6.1.4

This list should be expanded or abbreviated by the instructor in accordance with the requirements of the specific lift truck and job for which the training is given.

#### 6.1.5

It is recognized that people learn at different rates. Training sessions need to be of sufficient duration to ensure that the requisite information is adequately presented and understood. The information as required by Clause 6 must be conveyed to the trainee. The form in which this information is to be delivered can be left to the discretion of the instructor. All instructor-led training shall be conducted by a person qualified in accordance with Clause 7. Annex E contains information regarding suggested training times.

#### 6.1.6

The trainee shall be evaluated throughout the learning process to determine whether the objectives of the training course are being met.

#### 6.2 Legislation

Theory    Hands-on    Knowledge verification    Practical evaluation

The trainee shall be instructed on

- a) the employers', supervisors', and workers' duties, rights, and penalties under the applicable occupational health and safety legislation; and
- b) the legislation and regulations (local, provincial, territorial, and federal) specific to the particular industry and workplace.

#### 6.3 Company policies and procedures

Theory    Hands-on    Knowledge verification    Practical evaluation

The trainee shall be instructed on

- a) the user's site specific policies and procedures;
- b) emergency procedures; and
- c) site-specific operating conditions and restrictions.

#### 6.4 Operating manual

Theory    Hands-on    Knowledge verification    Practical evaluation

The trainee shall be instructed on

- a) where to access the operating manual as outlined by the user;
- b) information contained in the operating manuals for those lift trucks and attachments being trained on and used; and
- c) operating procedures in the event that the operating manual is unavailable.

#### 6.5 Lift truck features and safety equipment

Theory    Hands-on    Knowledge verification    Practical evaluation

The trainee shall be instructed on

- a) lift truck classifications and their applications/limitations;
- b) types and designations and their applications/limitations (including trucks designed to operate in hazardous locations – see Clause 4.5.1);
- c) types of attachments and their applications/limitations;
- d) the main components and controls, and their functions;
- e) operator blind spots associated with the design of the lift truck (components, permanent equipment, attachments, etc.);

- f) instrumentation; and
- g) features and equipment for enhancing the safe operation of a lift truck and the limitations of their application. This includes, but is not limited to,
  - i) visual warning systems (e.g., lights, rotating warning lights, and flashers);
  - ii) operator restraint systems;
  - iii) mirrors;
  - iv) fire extinguishers;
  - v) audible warning systems (e.g., backup alarms, buzzers, and horns);
  - vi) safety decals and markings;
  - vii) the load backrest and load backrest extension; and
  - viii) the overhead guard.

#### 6.6 Stability

Theory    Hands-on    Knowledge verification    Practical evaluation

The trainee shall be instructed on all the factors affecting the stability of the lift truck. These factors shall include

- a) counterbalance principles;
- b) the lift truck stability triangle and trapezoid;
- c) the centre of gravity of the lift truck;
- d) the centre of gravity of the load;
- e) the combined centre of gravity;
- f) the load centre;
- g) longitudinal and lateral stability; and
- h) the effects of speed, acceleration, braking, raising or lowering loads while travelling, sharp cornering, height, attachments, grade/ramps, and loads.

#### 6.7 Capacity plate and location

Theory    Hands-on    Knowledge verification    Practical evaluation

The trainee shall be instructed on the location, format, and information indicated on the capacity plate, including, but not limited to,

- a) the capacity rating at a given load centre;
- b) the type/designation;
- c) the maximum lifting height of forks/attachments;
- d) the attachment type;
- e) the truck mass (weight);
- f) the minimum/maximum battery mass (weight); and
- g) additional capacity plates indicating additions or changes to the equipment (if applicable).

The lift truck shall only be operated if the load is within the rated capacity. No attempt shall be made to increase the capacity of the truck without approval from the manufacturer.

#### 6.8 Preoperational inspection

Theory    Hands-on    Knowledge verification    Practical evaluation

The trainee shall be instructed, and given hands-on training and practical evaluation, on

- a) how to conduct a visual and operational inspection of the lift truck and its attachments by following a checklist;



- b) when, what, and how to wear required personal protective equipment during the inspection;
- c) how to recognize, record, and report items requiring replacement or repair;
- d) the approved method for immediate removal from service of a lift truck that is unsafe; and
- e) if an inspection form is used, the process for keeping forms on file.
- f) The checklist shall be used in accordance with the manufacturer's operating manual. Examples of inspection checklists are provided in Annex A.

#### 6.9 Start-up

Theory    Hands-on    Knowledge verification    Practical evaluation

The trainee shall be instructed on

- a) assuming the appropriate driving position using the mounting procedure applicable to the class of lift truck to be used (e.g., maintain three-point contact; avoid stepping on the deadman pedal first when mounting);
- b) engaging the operator restraint system (where required by Clause 4.9.2.3);
- c) placing the directional controls in neutral and applying the parking brake;
- d) disengaging the clutch on trucks equipped with manual transmission;
- e) starting the engine or turning the switch of the electric truck to the ON position; and
- f) monitoring the gauges/instrumentation.

#### 6.10 Travelling with and without a load

Theory    Hands-on    Knowledge verification    Practical evaluation

The trainee shall be instructed on

- a) starting and stopping, with and without a load;
- b) braking methods and characteristics, with and without a load;
- c) procedures to be followed at aisle intersections and blind corners;
- d) establishing eye contact with pedestrians;
- e) procedures to be followed when travelling over railway tracks;
- f) rear wheel steering techniques (including manoeuvring in areas of limited space);
- g) keeping all parts of the body within the operator's compartment;
- h) not allowing riders unless a safe place to ride has been provided by the manufacturer;
- i) ensuring visibility is clear in the direction of travel and, in the event of restricted visibility, driving in reverse or with the aid of a signaller (see Clause 6.13 for specific ramp applications);
- j) keeping the load-engaging means or the load itself low (usually within 10 to 15 cm of the floor, depending on the condition of the surface) and tilted backward (when carrying a load, the load is tilted back only enough to support the load);
- k) maintaining a safe operating distance from other lifting devices, pedestrians, elevated surfaces, ramp edges, and machinery;
- l) adjusting the operating speed to maintain vehicle control applicable to the type of device, load, pedestrian traffic, obstructions, and driving environment, including slippery surfaces;
- m) observing the weight restrictions of operating surfaces;
- n) traffic controls applicable to a specific work location (e.g., driving on the right side when approaching oncoming traffic); and
- o) the procedure to follow in the event of a tip-over, as applicable to a particular truck model.

#### 6.11 Safe operation around pedestrians

Theory    Hands-on    Knowledge verification    Practical evaluation

The trainee shall be instructed on

- a) operating the vehicle with caution when approaching pedestrian areas;
- b) ensuring no person stands or passes under the elevated forks/attachments whether the truck is empty or loaded;
- c) ensuring areas are clear of pedestrian traffic while stacking and destacking procedures are being performed;
- d) the importance of looking in the direction of travel before allowing the lift truck to move; and
- e) all workplace policies and procedures with regard to pedestrians.

*Note: The instructor can also make reference to other sections dealing with pedestrian-related items, such as Clause 4.9.4.*

## 6.12 Load handling

Theory    Hands-on    Knowledge verification    Practical evaluation

### 6.12.1 Load selection, security, and integrity

The trainee shall be instructed on

- a) adjusting the forks arm spread and/or attachments appropriately to maintain stability as well as the measures to avoid injury when attaching or detaching forks from the mast or fork carrier;
- b) assessing the type and weight distribution of the load (e.g., extra long, high, wide, off-centre, or liquid loads);
- c) ensuring that the load, including forks and attachments, is within the rated capacity;
- d) securing, manipulating, and positioning loads prior to lifting (e.g., forks engaging at least two-thirds of the load length to be lifted);
- e) checking and removing loose articles on the load;
- f) specific procedures for the attachment being used; and
- g) ensuring pallets and/or containers are in safe condition, for example, no broken runners or legs.

### 6.12.2 Load pickup and placement

The trainee shall be instructed on

- a) load-handling techniques, including
  - i) positioning, including squaring lift truck to the load;
  - ii) lifting and lowering the load; and
  - iii) placement of the load;
- b) adjusting the tilting angle of the mast, noting the impact of high or multi-stacked loads;
- c) procedures associated with reach capabilities; and
- d) inserting or withdrawing forks from a load (e.g., clearance, fork height, tilt angle).

### 6.12.3 Stacking/destacking

The trainee shall be instructed on

- a) stacking/destacking techniques (i.e., sequencing);
- b) freestanding stack height limitations that maintain stability and avoid crushing lower levels;
- c) keeping the truck stationary and levelled when lifting or lowering loads;
- d) the hazards of falling objects and the limitations of overhead guard;
- e) placing the load on a surface or structure capable of supporting the load;
- f) minimize impact loads on the pallet rack;
- g) ensure the weight of loads placed in the racks do not exceed the load capacity of the rack structure;
- h) report damage of a pallet rack as soon as it occurs to workplace supervision;

- i) maintaining clearance around fire extinguishers, fire aisles, elevators and stairways, and exits;
- j) checking overhead clearance; and
- k) ensuring the truck is a safe distance from any hazards (e.g., live power lines, steam and gas pipes).

#### **6.12.4 Docks, trucks, shipping containers, and rail cars**

The trainee shall be instructed on verifying the following items prior to entering the truck, trailer, shipping container, or railcar:

- a) sufficient clearance is provided to allow for the safe passage of the lift truck and its load;
- b) the vehicles are adequately restrained to prevent accidental movement;
- c) the vehicles have been inspected for floor stability and integrity;
- d) sufficient lighting and visibility is present;
- e) as required by Clause 4.9.7.3, the uncoupled trailer is supported by a nose support system or jack stand(s); and
- f) the dock/bridge plate being used is designed and in a condition to support the weight and dimensions of the loaded lift truck and is firmly in position with sufficient overhang.

The trainee shall be made aware that travelling at excessive speed or sudden acceleration and braking can jar the dock/bridge plate loose or cause it to spin out from under the lift truck.

While on any elevated dock, platform, or freight car, a safe distance shall be maintained from the edge.

#### **6.13 Ramps and grades**

Theory    Hands-on    Knowledge verification    Practical evaluation

The trainee shall be instructed on

- a) the procedures for operating a lift truck on ramps and grades, bearing in mind the maximum permissible slope (in accordance with manufacturer's specifications);
- b) ascending and descending ramps, with and without loads (see Clause 4.9.8 for procedural requirements);
- c) operating in gear on ramps or grades;
- d) approaching the grade straight and not at an angle;
- e) the hazards associated with excessive speeds, turning, and parking on a ramp or incline; and
- f) ensuring that all clearances are sufficient (e.g., grade, lateral, height, etc.).

#### **6.14 Personnel lifting, lowering, and supporting**

Theory    Hands-on    Knowledge verification    Practical evaluation

The trainee shall be instructed on

- a) the lifting, lowering, and supporting of personnel using only platforms specifically designed for these purposes and not allowing anyone to stand on the forks or climb on the upright assembly;
- b) securing the platform to the forks and/or mast carriage assembly;
- c) keeping the platform levelled;
- d) following the prescribed legislation/regulations for fall protection of personnel on the platform (e.g., guardrails, travel restraint system, fall-arrest system, etc.);
- e) remaining at the controls of the lift truck at all times while a person is on the platform;
- f) not travelling with personnel on the platform; and
- g) lifting and lowering the platform to test operation before allowing anyone on it.

## 6.15 Elevators

Theory  Hands-on  Knowledge verification  Practical evaluation

The trainee shall be instructed on

- a) ensuring the elevator rated capacity can support the loaded lift truck;
- b) ensuring the elevator floor is level with the building floor;
- c) the need for sufficient clearance to allow for the safe passage of the lift truck and its load;
- d) entering the elevator slowly and squarely with load end forward;
- e) proper shut-down procedures (i.e., controls shall be placed in neutral, load/forks lowered to the ground, power shut off, and brakes set);
- f) additional specific worksite procedures for elevators; and
- g) following the prescribed legislation/regulations for lift truck operation on elevators.

## 6.16 Workplace-specific hazards

Theory  Hands-on  Knowledge verification  Practical evaluation

The trainee shall be instructed on

- a) the operation and application of lift trucks for hazards unique to the particular workplace (e.g., explosive atmospheres, flammable liquids, combustible dusts).  
*Note: The instructor should reference the applicable legislative requirements (e.g., Transportation of Dangerous Goods Act (TDG), Workplace Hazardous Materials Information System (WHMIS)), and relevant Standards (e.g., ANSI/NFPA 505 and ANSI/UL 558 and 583).*
- b) accumulation of exhaust emissions (carbon monoxide) in restricted spaces (e.g., railway cars, trucks); and
- c) workplace requirements for personal protective equipment.

## 6.17 Procedures for shutdown/leaving the operator's position

Theory  Hands-on  Knowledge verification  Practical evaluation

### 6.17.1 Shutdown

The trainee shall be instructed on

- a) parking the lift truck in areas designated by the user (e.g., away from fire-fighting equipment, doorways, exits, pedestrian walkways, elevators, ramps);
- b) the correct steps involved in shutdown (see Clause 4.9.11);
- c) the dismounting procedure applicable to the class of lift truck to be used (e.g., three-point contact); and
- d) additional requirements when leaving the truck for an extended period of time in accordance with manufacturer's instructions (e.g., turning off the propane feed or disconnecting the battery/fuel cell connector cables).

### 6.17.2 Leaving the operator's position

The trainee shall be instructed on the correct steps for leaving the operator's position (see Clause 4.9.12).

## 6.18 Refuelling/recharging

Theory  Hands-on  Knowledge verification  Practical evaluation

### 6.18.1 General

The trainee shall be instructed on

- a) wearing appropriate personal protective equipment;
- b) positioning and securing the vehicle;
- c) precautions with respect to the hazards of the energy source being used; and
- d) manufacturer's/supplier's requirements and applicable legislation.

### 6.18.2 Propane cylinder exchange

The trainee shall be instructed on

- a) propane (e.g., properties/characteristics, odourization, toxicity, specific gravity/density, solvency, flammability, vapour pressure, refrigeration effects);
- b) cylinder storage (e.g., storage requirements, signage);
- c) cylinder components (e.g., container/cylinder specifications, cylinder valves and gauges);
- d) cylinder removal and exchange (e.g., disconnecting/removal procedure, visual inspection, leak testing, installation of cylinders); and
- e) emergency procedures (e.g., extinguishing fires, preventative measures, first aid).

### 6.18.3 Refuelling other hydrocarbons (diesel, gasoline, natural gas, and propane)

The trainee shall be instructed on refuelling procedures.

### 6.18.4 Battery recharging/exchange

The trainee shall be instructed on battery recharging/charging procedures.

*Note: See Annex D for additional guidance on batteries and battery charging.*

## 6.19 Practical skills training

The trainee shall be given operational training and practice on

- a) preoperational inspection;
- b) start-up;
- c) travelling, with and without load (including pedestrian safety);
- d) load handling, including
  - i) load selection and security;
  - ii) load pickup and placement;
  - iii) stacking/destacking; and
  - iv) handling specific to docks, trucks, and rail cars;
- e) driving on ramps and grades;
- f) personnel lifting;
- g) using elevators;
- h) shutdown; and
- i) refuelling/recharging.

The initial training and practice should be conducted in an area separate from other workplace activities and personnel.

Training practice shall be conducted under direct supervision.

Trainees reporting previous experience in lift truck operation, as determined and/or verified by the user, should undergo classroom training as well as practical evaluation. Additional training time can be necessary based upon this evaluation.

## **6.20 Evaluations**

### **6.20.1 General**

The trainee shall be evaluated throughout the learning process to determine whether the objectives of the training course are being met.

### **6.20.2 Knowledge verification**

Following the completion of theory instruction, all trainees shall be evaluated on the following items:

- a) legislation and regulations applicable to the operation of lift trucks;
- b) lift truck features;
- c) stability;
- d) capacity plate;
- e) preoperational inspection;
- f) start-up;
- g) travelling, with and without a load;
- h) pedestrians;
- i) load handling;
- j) ramps and grades;
- k) personnel lifting;
- l) elevators;
- m) workplace specific hazards;
- n) shutdown; and
- o) refuelling/recharging.

### **6.20.3 Practical skills evaluation**

Following the completion of instruction and practice, all trainees shall be evaluated. The evaluation shall be conducted on the specific work tasks and using the classification of lift truck to which trainees are assigned, based on the following items:

- a) preoperational inspection;
- b) start-up;
- c) travelling, with and without a load (including pedestrian safety);
- d) load handling:
  - i) load selection and security;
  - ii) load pickup and placement;
  - iii) stacking/destacking; and
  - iv) handling specific to docks, trucks, and rail cars;
- e) driving on ramps and grades;
- f) personnel lifting;
- g) using elevators;
- h) shutdown; and
- i) refuelling/recharging.

## **6.21 Retraining and upgrade training**

### **6.21.1 Retraining**

Operators of lift trucks shall receive retraining in accordance with the requirements of the authority having jurisdiction and, in the absence of such requirements, shall receive retraining at intervals not

**FIGURE 4.1**  
**Internal combustion lift truck preoperation inspection checklist**  
**(diesel, gasoline, and LP)**  
**(See Clause 4.9.1.)**

Date:	Truck number:
Model:	Serial number:

**Trained lift truck operator:** Before commencing the shift with your truck, indicate below that all items have been checked.

Items	OK	Repair req'd.	Criteria
Key off (visual check)			
Overhead guard			Are there broken welds, missing bolts, or damaged areas?
Hydraulic cylinders			Is there leakage or damage in the lift, tilt, and attachment cylinders?
Hydraulic fluid level			Check leaks, check level (if accessible).
Mast assembly			Are there broken welds, cracked or bent areas, and worn or missing stops?
Lift chains and rollers			Is there wear, damage, and signs of rust or any sign that lubricant is required? Is there any unusual noise?
Forks and lock pins			Are the forks cracked, bent, worn, or mismatched? Is there excessive oil or water on the blades? Do the locking pins engage?
Fork retention			Are there fork stops or a load backrest that prevents the forks from sliding off the end of the fork carrier?
Tires/wheels			Are the tires and wheels in good condition? Check wheel nuts.
Propane cylinder			Is the cylinder guard bracket properly positioned and locked down?
Fuel hoses and lines			Is there any hose or fuel line damage?
Fuel leaks			Is there any propane or gasoline odour? Are there any signs of fuel leaks?
Engine oil level			Check level, check leaks.
Battery inspection			Are the cell caps and terminal covers in place? Are the cables missing insulation? Is the battery secure?
Fluid leaks			Are there any signs of fluid leaks (engine oil, transmission oil, coolant) on the floor?
<b>Key on (operational check)</b>			
Gauges			Are they all working?
Steering			Check operation. (Is there unusual noise or excessive free-play?)
Service brakes			Check pedal height and travel, check operation. (Does truck stop in forward and reverse?)
Parking brakes			Check operation.
Lights			Are they working (if equipped)?
Mast assembly			Check operation of lift and tilt circuits.
Warning devices (horn, etc.)			Horn: is it working? Backup alarm and warning light (if equipped): do they work?
Operator restraint			Is it working (if equipped)?
Load handling attachments			Check for leaks and proper operation.
Hour meter reading (start of shift)	Operator signature		Supervisor signature

## Electrical lift truck preoperation inspection checklist

(See Clause 4.9.1.)

Date:	Truck number:
Model:	Serial number:

**Trained lift truck operator:** Before commencing the shift with your truck, indicate below that all items have been checked.

Items	OK	Repair req'd.	Criteria
Overhead guard			Are there broken welds, missing bolts, or damaged areas?
Hydraulic cylinders			Is there leakage or damage in the lift, tilt, and attachment cylinders?
Hydraulic fluid level			Check leaks, check level (if accessible).
Mast assembly			Are there broken welds, cracked or bent areas, and worn or missing stops?
Lift chains and rollers			Is there wear, damage, and signs of rust or any sign that lubricant is required? Is there any unusual noise?
Forks and lock pins			Are the forks cracked, bent, worn, or mismatched? Is there excessive oil or water on the blades? Do the locking pins engage?
Fork retention			Are there fork stops or a load backrest that prevents the forks from sliding off the end of the fork carrier?
Tires/wheels			Are the tires and wheels in good condition? Check wheel nuts.
Battery inspection			Are the cell caps and terminal covers in place? Are the cables missing insulation? Is the battery secure?
Fluid leaks			Are there any signs of fluid leaks on the floor?
<b>Key on (operational check)</b>			
Gauges			Are they all working?
Steering			Check operation. (Is there any unusual noise or excessive free-play?)
Service brakes			Check pedal height and travel, check operation. (Does truck stop in forward and reverse?)
Parking brakes			Check operation.
Lights			Are they working (if equipped)?
Mast assembly			Check operation of lift and tilt circuits.
Warning devices (horn, etc.)			Horn: Is it working? Backup alarm and warning light (if equipped): do they work?
Operator restraint			Is it working (if equipped)?
Load handling attachments			Check for leaks and proper operation.
Hour meter reading (start of shift)	Operator signature		Supervisor signature



**Figure A.3**  
**General lift truck preoperation inspection checklist**  
 (See Clause 4.9.1.)

<b>POWERED LIFT TRUCK EQUIPMENT PRE-OPERATIONAL INSPECTION REPORT</b>														
The pre-operational inspection must be performed before each shift and a copy of the report is to be kept in an accessible location in the receiving area. Should any defect or unsafe item be noted during the inspection, the equipment is to be locked-out of service immediately by the operator and management must be notified.														
Equipment make: _____ Equipment model: _____														
Truck number: _____														
DATES: (from) _____ (to) _____														
Visual — key turned OFF	SUN		MON		TUE		WED		THU		FRI		SAT	
	day	night	day	night	day	night	day	night	day	night	day	night	day	night
Tires — in good condition (no gouges, chunking or bond failure; adequate tread)														
Battery — fully charged, correct water level, vent caps in place														
Lift/lower system — no damage to chains, hoses, limit switches														
Controls — move smoothly without binding, returns to neutral when released														
Guards — guards and covers installed														
Decals — warning, safety and operational decals in place														
Mat guard — not cracked or chipped if glass														
Oil leaks — check floor under lift truck for any signs of leakage														
Specification plate — capacity rating and load centre verified														
Propane — tank secured to <u>lockoff</u> , no icing at connections, no signs of leakage														
Fire extinguisher — mounted on <u>lockoff</u> and charged														
INITIALS OF INSPECTING PERSON														
Operational — key turned ON	SUN		MON		TUE		WED		THU		FRI		SAT	
	day	night	day	night	day	night	day	night	day	night	day	night	day	night
Horn — works when depressed														
Steering — smooth, without binding or excess play														
Directional/speed control — moves smoothly without binding, returns to neutral when released														
Brakes — functioning properly														
Lift/lower system — controls move freely, returns to neutral when released, perform proper functions														
Brakes — pedal moves freely without binding, stops truck quickly														
Deadman brake — functions properly, travel circuits disabled (ride on reach stackers only)														
Emergency disconnect — shuts down travel and lift functions when depressed														
Safety — all limit switches, warning lights, working lights are functioning properly														
INITIALS OF INSPECTING PERSON														
DEFICIENCIES MUST BE REPORTED TO MANAGEMENT AND DETAILED ON BACK OF THIS FORM														
SUPERVISORY SIGN-OFF: _____														
(Date)							(Signature)							

**Figure A.4**  
**Deficiency report**  
(See Clause 4.9.1.)

**POWERED LIFT TRUCK EQUIPMENT**  
**DEFICIENCY REPORT**

Equipment make: \_\_\_\_\_ Equipment model: \_\_\_\_\_

Truck no.: \_\_\_\_\_

Date	Reported by	Noted deficiency item	Reported to	Corrective action taken

Supervisory sign-off: \_\_\_\_\_  
[name] [signature]