

Forklift Operation Procedure

1 Purpose

To provide guidance and information relating to the minimum standard of safe work practice to reduce the risk of an accident or incident involving the use of forklift trucks or Pedestrian Operated Forklifts (POFs) in the workplace.

2 Scope

This Procedure applies to the use of forklift trucks and pedestrian operated forklifts on a University campus or property.

3 Procedure Overview

The University is committed to providing a safe place to work, study and visit. The safe operation of forklifts is a significant part of this program.

3.1 Method

The method used to reduce the risk of incidents involving forklifts is based on the rigorous application of risk management principles combined with education and training including:

- compliance with applicable legislation;
- risk identification;
- risk assessment;
- identification and implementation of treatments;
- communication and review of Procedures;
- training and education; and
- actions and considerations following an incident.

3.2 End State

Successful implementation of this Procedure will be achieved when:

- all operators of forklift trucks and POFs within the University are appropriately trained and qualified;
- all Supervisors of forklift operators have been educated on the requirements within the Procedure; and
- all forklift truck operations within the University have been inspected and assessed using risk management principles.

4 Procedures

4.1 Responsibilities

The Head of Organisational Unit or Divisional Manager is responsible for:

- Ensuring all personnel within their areas (including contractors and visitors) who operate forklift trucks or POFs are appropriately qualified and trained to operate the specific equipment they are using.
- Ensuring that records are kept of all training and qualifications.
- Ensuring that untrained or unqualified personnel do not operate forklift trucks or POFs.

Operators of forklift trucks and POFs are responsible for complying with this WHS Procedure and other relevant documents and guidelines such as the operators manual and WHS Regulations.

4.2 Safety Procedures in general

It is necessary that a set of safety operating Procedures is implemented for every workplace device. These Procedures should be regularly updated and made available to all Employees via training sessions.

Controls:

- Provide training and information for operators on all aspects of forklift truck operation and maintenance. Records of training sessions attended should be kept for each operator throughout their term of employment.
- Wear appropriate Personal Protective Equipment (PPE) where required for such activities as changing or charging batteries.
- Before starting each shift, conduct a thorough inspection of the forklift truck and

attachments such as lift and tilt systems, steering, brakes, controls, tyres, warning devices, load arms, brake fluid, hydraulic oil, etc.

- Establish safety Procedures for fuel handling and storage, and battery changing and charging.
- Establish a method for determining the weights of loads being handled.
- Make work areas safe for the use of forklift trucks. Fit raised edges on loading docks, install warning signs or barricades, impose speed limits, provide adequate lighting and, if necessary fit secure ramps to access work areas.

4.3 Operation

A forklift truck operator must be an authorised trainee, or hold a certificate of competency. A certificate is not required to operate a Pedestrian Operated Forklift (POF).

Operators of POFs must have completed a course of training and be deemed as competent. A record of the POF training is to be kept in the work place.

Controls:

- Use the forklift truck only for the purpose for which it was designed.
- Do not operate a forklift truck if you are fatigued.
- Wear a seatbelt where one is provided. The only exception is if a risk assessment advises otherwise, for example when operating a forklift truck on a wharf.
- Operate the forklift truck strictly in accordance with manufacturer's specifications.
- Ensure that loads are within the rated load capacity of the forklift truck. Carry loads as close to the ground as possible.
- Operate the forklift truck with the load placed fully against the truck carriage or back rest. The mast should be tilted sufficiently backward to safeguard the load.
- Use a forklift truck to raise a person **only** if the truck is designed for this purpose or there is an approved work platform attached.
- When driving, give way to pedestrians. Maintain a clear view ahead and behind (via a correctly adjusted rear view mirror) and give clear indication of your intentions. Maintain a safe distance from other vehicles.
- Observe speed limits and ensure you can make a safe stop at any time. Avoid rapid acceleration, deceleration and quick turns.

- Drive carefully on wet or slippery surfaces or when pedestrians are near.
- Reduce speed when making a turn. Take care that the tip of the fork (or load) or the rear side of the forklift truck does not touch a nearby person or object.
- Drive in reverse if vision is obscured by a bulky load.
- Ensure that the load leads when driving up gradients. On gradients, tilt the mast back sufficiently to safeguard the load and raise the forks so they clear the ground.
- When travelling on an incline with no load, place the forks on the downhill side of the forklift truck.
- Before driving a forklift truck onto a truck, trailer or rail wagon, check that the brakes of the receiving vehicle are set and the wheels are chocked.
- Remove the ignition/starter switch key when you leave the forklift truck. Ensure the controls are in neutral, the power is shut off, the park brakes are applied and the forks fully lowered.
- Never park or leave the forklift in any doorway, entrance, emergency exit or in front of fire extinguishing equipment.

4.4 Working in Confined Spaces

Exhaust emissions from forklift trucks operating in Confined Spaces can lead to carbon monoxide poisoning.

Carbon monoxide is an odourless, colourless and poisonous gas. Precautions must be taken when forklift trucks are used in Confined Spaces such as cold rooms and freezers to ensure exposure to toxic levels are kept as low as possible.

Controls

- Use electric forklift trucks instead of fuel or LP gas-powered types.
- Fit a catalytic converter to fuel or LP gas powered type to catalytically oxidise carbon monoxide to the less toxic gas carbon dioxide.
- Fit fuel control devices, to maintain an acceptable fuel-air ratio, and check them daily. Monitor fuel usage rates to detect variations in the fuel-air ratio.
- Use exhaust gas analysers as an aid during regular engine tuning.
- Monitor and record carbon monoxide levels around workers. Personal or area

monitoring can be undertaken.

4.5 Electrical safety

Exclusion zones apply when working close to overhead electrical power lines. Requirements for exclusion zones vary with voltage, and are listed in Part 3 of the Electrical Safety Code of Practice 2010, Working near overhead and underground electric lines. The Electrical supply authority should be contacted whenever a forklift truck or any part of its load has to be close to overhead electrical power lines. Safeguards and precautions required by the Authority should be observed.

In the event of a forklift truck contacting a power line the operator should:

- if practicable, stay where they are and keep others away;
- wait until the power line power is shut off before leaving the vehicle; and
- if practicable, move the vehicles off the power line.

More information on electrical safety and exclusion zones can be found at the Electrical Safety Office web site.

4.6 Flammable atmospheres and materials

Great care must be taken when operating a forklift truck in flammable atmospheres or when they are used to handle flammable materials.

Safe work practices are also vital when fuelling forklift trucks or charging batteries.

Potential ignition sources include:

- flames or sparks from an exhaust
- heat generated by the engine or exhaust
- flashback produced by vapours being drawn into the engine
- over-revving the engine
- excess speeding
- sparks and heat generated by brake components

- static electricity discharged by tyres rubbing up against something
- an arc from a starter motor or electrical equipment.

Using unprotected forklift trucks where flammable dangerous goods are stored or handled without precautions can create an immediate and severe risk of fire or explosion.

Do not allow unprotected forklift trucks into an area where mixing, transferring or decanting of fuels and other flammable materials is carried out.

Hazardous areas. Where flammable dangerous goods are stored or handled the occupier should:

- Review MSDS and package labelling to identify the hazardous properties of each flammable dangerous goods.
- Areas where flammable liquids, gases or solids are stored or handled should be classified as **hazardous areas** according to Australian/New Zealand Standard AS/NZS 60079.10.1: 2009 Explosive atmosphere classification of areas-Explosive gas atmospheres.
- Identify each hazardous area with markings, warning lights and warning signs.
- Separate ignition sources from hazardous areas by an appropriate distance or physical barriers.
- Provide training and supervision to workers about the risk of ignition sources and how to prevent fire or explosion.
- **Never** use a spark ignition, including petrol and LP gas powered forklift trucks in any hazardous area.
- Do not use any forklift trucks in any areas where flammable atmospheres exist continually (zone 0 area). These areas should be made free of any sources contributing to the flammable atmosphere, prior to forklift entry.
- Adhere to hot work permits at all times.
- Hot work permits should include strategies to:
 - monitor flammable vapour and gas using calibrated flammable atmosphere devices
 - inspect the area and forklift before entry
 - ensure adequate ventilation

- remove and shut down processes or materials that may give rise to a flammable atmosphere.
- Where flammable atmospheres may be present during normal operation (zone 1 area) use a forklift truck that is either compliant with Standard AS 2359.12: 1996 Powered industrial trucks- Hazardous areas. Ensure an appropriate hot work permit system is effectively implemented.
- Where a flammable atmosphere may occur for short periods of time (zone 2 area) use either a powered forklift truck that has been modified for use in a zone 2 area; or is not a spark ignition engine forklift and is operated with an effective hot work permit system.

Controls: When working in explosive or flammable areas, use only forklift trucks specifically designed for use in these areas, and ensure that they comply with the relevant Standards.

- All Employees **must** attend training on how to eliminate the risks involved in handling flammable atmospheres and materials and potential ignition sources.
- Ensure there is a **strictly enforced** no Smoking Policy in refuelling areas or battery charging areas.
- Naked flames are **not** be used when checking levels of battery cells.
- Handle and store liquid fuel and LP gas in accordance with the relevant Standards.
- Ensure adequate ventilation in workplaces where using forklift trucks powered by LP gas, petrol or diesel fuel.
- Refuel, park and store LP gas-powered forklift trucks in well ventilated areas that are safely away from combustible material and sources of heat or ignition. Ensure that the LP gas cylinder is turned off at the valve when the forklift truck is not in use.
- Removing and replacing LP gas cylinders should only be carried out by correctly trained Employees. Procedures must comply with relevant Standards.
- The re-charging and changing of batteries should only be carried out by correctly trained Employees and in strict accordance with the relevant standard. Before changing or re-charging batteries, ensure the park brake is applied and the vent caps are functioning correctly.
- To prevent the build-up of flammable gasses, hold the battery cover open while the battery is on charge.
- When changing or charging batteries, use the correct tools and keep metal objects away from battery cells.

- Do not use liquids with a flashpoint of less than 61deg C for cleaning forklift trucks.

4.7 Pedestrian Operated Forklifts

Pedestrian Operated Forklifts (POFs) differ from forklift trucks because they are not intended to be controlled by an operator riding on the vehicle. While similar safe operating and maintenance Procedures apply to all types of forklifts, the following control measures relate specifically to POFs.

Controls:

- Only trained operators may operate a POF.
- Make pre-operational and post-operational safety checks.
- The POF must be suitable for the grades intended to be travelled.
- Wear appropriate personal protective equipment, such as **high visibility vest** and **steel capped footwear**.
- Do not operate a POF if hands or footwear are greasy.
- Check the work area for damaged flooring, overhead obstructions, ramps and docks. Do not work too close to the edges of ramps or docks.
- When travelling in reverse take care not to bump into objects, run over loose objects or trip over objects.
- Do not use a POF in an unauthorised area or explosive atmospheres.
- Keep arms, hands, legs and feet away from the lifting mechanism and wheels.
- Sound the horn when approaching intersecting aisles or blind corners.
- When operating a POF on grades, ramps or inclines, face the load uphill, do not make turns. If it is necessary to park the POF on an incline, make sure the wheels are securely chocked.
- Do not ride on the POF, or allow another person to ride on it.
- Do not exceed the safe lift limit of the POF when handling a load. These limits are specified on the data plate.
- Spread forks far enough apart to maintain a good balance (about 75% of the load width) and place the forks as far under the load as possible.

- Tilt the POF forward only when it is over a stack, rack or vehicle. Tilt the POF backwards only enough to stabilise the load.
- Secure attachments as per the manufacturer's instructions, and remember that attachments may affect the load centre of gravity.
- When parking:
 - use the handbrake
 - lower forks to the ground
 - tilt forward if possible
 - do not leave key in the ignition if unattended.

4.8 Maintenance

Forklift trucks and POFs must be inspected frequently and maintained according to standards and manufacturer's instructions.

A copy of the manufacturers operating instructions must be kept in a readily available place for operators.

Procedures should be in place for reporting and investigating dangerous occurrences or any variations from normal operation.

Controls:

- Only a trained, qualified person may inspect, maintain or repair forklift trucks. Only licensed gas fitters may repair and/or replace parts on LP gas-powered forklift trucks.
- Only qualified tyre fitters should remove and fit tyres. To prevent injury should the assembly fail, a safety cage should be used when inflating and/or fitting tyres on split rim wheel assemblies. The hose for the compressed air should be fitted with a clip-on chuck so the fitter does not have to be in front of the wheel rim while inflating the tyre.
- Keep forklift trucks clean so it is easier to detect worn or defective parts. Clean with water, not flammable liquids.
- Keep detailed records of every inspection, service, maintenance, repair and modification carried out on a forklift truck. Record dates, names of authorised people involved, meter readings etc.
- Establish a Procedure for dealing with unsafe or damaged forklift trucks. The Procedure

should include isolating and tagging the vehicle, and reporting the problem to the appropriate person.

- Use only a qualified person to inspect and assess damage, and do not use an unsafe or damaged forklift truck until the qualified person has rendered it safe and removed the tags.
- Document full details of damage (e.g. cause, nature, the repairs required, assessment of the vehicle's safety, etc.). A copy of this should form part of the inspection and maintenance records.

4.9 Prohibited practices

The following practices are prohibited in all University workplaces. It is the responsibility of everyone in the workplace to ensure that these practices do not occur.

- A forklift truck must not be used as a towing or push device, unless appropriate attachments are fitted.
- A tow rope must never be attached to the mast to pull or drag loads.
- Unless of an authorised design, fork extensions should not be fitted.
- A person should not push on the point of one or both forks. Nor should a person stand or walk under the elevated forks, even when a load is not being carried.
- The back-rest extension and overhead guard of the forklift truck should not be removed, unless specifically authorised.
- A forklift truck should not be left stationary, with the engine running, in Confined Spaces.
- A forklift truck must not be parked or stacked on an incline, or operated on gradients with the load elevated more than necessary.
- A passenger must never be carried on the forks or load.
- An operator's arms, hands, legs and head must not leave the confines of the cab or be placed between the uprights of the mast.
- A forklift should not cross railway lines, unless the lines are recessed into the surface; or be driven over a bridge plate, unless it is securely fixed and can support the total weight.
- There must be a strictly enforced no Smoking Policy in a refuelling or battery charging area.
- Naked flames should not be used when checking the level of electrolyte in battery cells.

5 References

Nil.

6 Schedules

This procedure must be read in conjunction with its subordinate schedules as provided in the table below.

7 Procedure Information

Accountable Officer	Chief People Officer
Responsible Officer	Executive Director (Facilities Management)
Policy Type	University Procedure
Policy Suite	Work Health and Safety Policy
Subordinate Schedules	
Approved Date	31/1/2024
Effective Date	31/1/2024
Review Date	3/4/2024
Relevant Legislation	AS 2359.12: 1996 Powered industrial trucks - Hazardous areas (restricted access) Electrical Safety Code of Practice 2020 - Working near overhead and underground How to Manage Work Health and Safety Risks Code of Practice 2021 Work Health and Safety Act 2011 (Qld) Work Health and Safety Regulation 2011 (Qld)
Policy Exceptions	Policy Exceptions Register
Related Policies	
Related Procedures	Confined Spaces Procedure Incident and Hazard Reporting and Investigation Procedure Smoke-Free Procedure

Related forms, publications and websites	Electrical Safety Office
Definitions	Terms defined in the Definitions Dictionary
	Smoking The inhalation and exhalation of the smoke of burning tobacco, herbs or drugs. Smoking also refers to the use of electronic cigarettes or other devices. Electronic cigarettes include but are not limited to e-cigarettes, e-cigars, vapour pens, or a personal vapour and includes any product where there is a hand to mouth action and/or results in the expulsion of a vapour. Source: Adapted from Queensland University of Technology and the Tobacco and Other Smoking Products Act 1998 (Qld).
	Definitions that relate to this procedure only
	Confined Space Defined in 'A guide to working safely in a Confined Space', means an enclosed or partially enclosed space that: 1. is at atmospheric pressure when anyone is in the space; and 2. is not intended or designed primarily as a workplace; and 3. could have restricted entry to, or exit from, the place; and 4. is, or is likely to be entered by a person to work; and 5. at any time, contains, or is likely to contain, any of the following: a. an atmosphere that has potentially harmful levels of contaminant; b. an atmosphere that does not have a safe oxygen level; c. anything that could cause engulfment. Under this definition Confined Spaces at the University include but are not limited to: • all sewerage pits with a depth greater than 1.5 metres;

- all storm water pits with a depth greater than 1.5 metres;
- all pump pits.

Forklift Truck

Refers to an industrial lift truck equipped with a vertically elevating load carriage frame. Horizontal load forks (or a similar lifting mechanism) project from the front of the frame. Forklift trucks can be powered by electric motors or internal combustion engines running on petrol, diesel or LPG fuels. Forklift trucks are controlled by an onboard operator who must hold a certificate. Trainee operators must work under the supervision of an employer-appointed competent, certified forklift operator.

Pedestrian Operated Forklift

Pedestrian operated forklifts (POFs) differ from forklift trucks because they are not intended to be controlled by an operator riding on the vehicle. While similar safe operating and maintenance Procedures apply to all types of forklifts, a certificate is not required to operate POFs.

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