

Forklift Course Training Notes

TLILIC0003 Licence to Operate a Forklift Truck
TLI Transport and Logistics Industry Training Package



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Introduction

Welcome to The Operator School's Forklift Training Course

This training resource looks at the risks and hazards that forklift drivers have to deal with in their everyday work. These activities include checking the work instructions, pre-start checks, checking the route, vehicle and load, risk assessment, loading and load handling, safe driving techniques and shutdown.

It's really important that you understand your forklift. You must be fully trained and you must understand the **information in the operator's manual**. It should be kept in a place where an operator has easy access to it, i.e. on the forklift. If you have trouble understanding anything in the manual, ask your supervisor for help.



Housekeeping and Induction Onsite

- Mobile phones to be switched off – you will be given several breaks throughout the day.
- Fridge for cold drinks available onsite (and to store your lunch if needed).
- You will be able to order lunch at one of the nearby takeaway shops if you have not brought lunch with you. Alternatively, Harbour Town Shopping Centre is only 5 minutes away.
- Do not sit or stand on any of the machinery if the Trainer is not with you.
- This is a non-smoking facility – smokers should stand outside the front gate on the grass if they wish to smoke during a break.
- Please dispose of cigarette butts and litter appropriately in the bins provided.
- Students should ensure that they are not, by the consumption of alcohol, legal or illegal drugs, in such a state as to endanger their own health or that of their fellow trainees.
- Practical jokes and “messaging around” are prohibited.

- All trainees have the right to study in an environment that is free from any kind of harassment.
- You will be asked to leave if you are disruptive to the learning environment, or do anything to endanger yourself or any other trainee.
- Please discuss with your trainer any hazards or dangers identified.
- Emergency Assembly Point to be discussed.
- All trainees to be wearing safety boots (enclosed shoes at a minimum).
- Trainees who are not wearing a high visibility shirt are to borrow a high visibility vest from The Operator School.

Training and Certificate of Competency

A forklift operator must be trained and must hold the relevant Certificate of Competency to operate a forklift in the workplace. The Forklift Competency TLILIC2003 Licence to Operate a Forklift Truck is taken from TLI Transport and Logistics Package, Licence Class LF. The qualification you are working towards is based on general use with standard forks or other attachments.

Forklift competency requires evidence of the ability to use the components and controls of a forklift to carry out operations without damage to the machine itself, other vehicles, loads, property or injury to people. It requires the ability to read data plates, calculate the weight of loads, conduct pre-start and shut-down procedures to ensure mechanical reliability, communicate and cooperate with other personnel such as co-workers and the general public, prevent spillage of load, demonstrate emergency operating procedures and maintain operating records.

The assessment must determine that there is sufficient underpinning knowledge and practical skill with a forklift for the operator to take the licence and operate in a new workplace. The assessment must be adjustable but prescriptive to ensure transferability.

It is not about doing it once to pass an exam.

REMEMBER: You are being assessed from the moment that you enroll on your course and throughout your training. Your record of training (workbook / logbook) should be maintained when undergoing training at this facility.

Independent authorised assessors such as ourselves evaluate operators' skills against a national instrument of assessment, provided to us by Work Health and Safety Queensland (WHSQ).

A Certificate of Competency indicates the holder has achieved basic standards of competency in the safe operation of a forklift truck.

Site-specific and refresher training should be provided by the employer to maintain and enhance the operator's skill level, as should additional training for specific attachments.

Entry Requirements

- Must be 18 years of age to hold a forklift licence.
- Must be able to provide proof of identity (100 points required).
- Must be able to speak, read and understand English.

Evolution of the Licence

Old Paper Licence



Type No.	Crane details
1	Interlocked derrick crane
2	Derrick crane not having a boom clutch and pawl interlock
3	Tower crane
4	Portal boom crane
5	Gay derrick crane
6	Cable way
7	Flung top of the gayed pole type
8	Vehicle straddle truck
9	Charging crane
10-1	Mobile crane Non Steering - full only
10-2	Mobile crane Non Steering
10-3	Mobile crane with hydraulic extension boom, capacity not exceeding 80t
10-4	Mobile crane with hydraulic extension boom, capacity not exceeding 80t
10-5	Mobile crane with hydraulic extension boom, capacity exceeding 80t
10-6	Mobile crane with lattice boom, capacity not exceeding 80t
10-7	Mobile crane with lattice boom, capacity not exceeding 80t
10-8	Mobile crane with lattice boom, capacity exceeding 80t
14	Locomotive crane, all motors power operated
15	Locomotive crane, not having all motors power operated
16	Excavator
17	Excavator (small type under 0.5 cubic metres)
18	Lifter
19	Any fork lift truck
20	Shovel crane
21	Overhead traveller, travelling gantry, each cabin controlled
22	Overhead traveller or travelling gantry, each remote controlled
23	Single or double rail runway (trolley)
24	Fork lift truck of safe working load not exceeding 10,000kg
25	Multi purpose crane (with attachments, bucket, forks, loader)
26	Concrete placing boom (mobile type, tower type)
27	Vehicle loading crane

Type Motive Power Details

A	Driven by a steam engine, in charge of a steam boiler
B	Driven by a steam engine, not in charge of a steam boiler
C	Driven by other than steam power

Early Plastic Licence



Plastic Licence mostly commonly seen



New High Risk Work Licence (photographic and 5 year renewable)



Learners and Logbooks

Employers and operators must realise that the only people who can operate a forklift are:

- A licenced operator who is competent, i.e. relevant recent experience.
- A trainee.

A trainee is a person who:
is enrolled into a course of training

AND

is working **under direct supervision** of a current high risk work forklift licence holder.

- A person who has lodged a forklift licence application online with Worksafe Qld and is waiting to receive a licence in the mail.

This covers those of you who are with us on a 3-day beginner course, where your workbook and logbook will be completed internally here at The Operator School.

This also covers those of you who are with us on a 2-stage course, done in conjunction with your employer.

When you go back to your workplace, you must be **directly** supervised by someone who holds a current forklift licence and has the necessary experience, to allow for the completion of your practical work based training, which is recorded in your Forklift Logbook.

The gap between sitting the theory, completing the logbook and undertaking the final assessments should not exceed 2 months.

The workbook you complete here is a record of your formal training.

Under the new current Work Health and Safety Regulation 2011, the maximum fine for someone operating a forklift without a licence is 200 penalty points (\$20,000). Under previous Legislation this was 40 penalty points (\$4,000).

Work Health and Safety Inspectors have been given more powers to deal with Work Health and infringements they encounter but they do have to adhere to strict guidelines, as outlined in the 2011 Work Health and Safety Act and the 2011 Work Health and Safety Regulations. Fines are based on penalty points. One point = \$100.00.

Issuance of Licence

As part of your application for your high risk work licence you will have to meet the following responsibilities / requirements:

- Have photographic evidence to prove your identification.
- You will need your Statement of Attainment to show competency.
- You must not give false or misleading information.
- You must not apply for a high risk work licence if you already hold an equivalent one issued in another state by another regulator.
- You are required to declare any
 - a) Previous WHS convictions or offences.
 - b) If you have ever had an equivalent high risk licence refused, suspended or cancelled in Queensland or any other State in Australia.
 - c) Details of any enforceable undertakings that you have entered into under the Australian Work Health and Safety Act or Regulations.

Once you have completed your course (achieved competency) you are legally allowed to operate a forklift in a workplace **for up to 60 days** until you have lodged your licence application on line with Worksafe Qld. The Receipt for your Licence application fee should be stapled to the front of your paperwork as proof of your lodgement – fee is currently \$96.80.

Once you have lodged your Licence application, you are legally allowed to operate from the lodgement date until you hear from WHSQ regarding the outcome of your Licence application i.e. Licence issued or refused etc.

At 61 days, if you have not lodged your Licence application, you will have to undergo re-assessment at a minimum, possibly even further training if a long time has elapsed since your 60 day deadline.

A Forklift Licence (LF) issued in Queensland is recognized nationally. It is a photographic high risk work Licence, renewable every 5 years and is valid for any weight class of Forklift. Once you hold a Licence, if you change address you have 14 days to notify WHSQ (this can be done on line). The fine for non-notification is 12.5 penalty points (\$1,250).

Legislation and Regulations

The model Work Health and Safety legislation consists of an integrated package of a Work Health and Safety (WHS) Act, supported by Work Health and Safety (WHS) Regulations, model Codes of Practice and a National Compliance and Enforcement Policy.

Safe Work Australia is the national policy body responsible for the development and evaluation of the model WHS laws. The Commonwealth, states and territories are responsible for regulating and enforcing Work Health and Safety laws in their jurisdictions.

There are many sources of workplace health and safety information, some of the main sources are listed below.

1. Acts

These are Laws to protect the health, safety and welfare of people at work which are defined in the Work Health and Safety Act 2011.

2. Regulations

These give more details or information on particular parts of the Act. Refer to Work Health and Safety Regulations 2011.

3. Codes of Practice

The codes of practice are practical instructions on how to meet the terms of the Law. Codes of practice are admissible in court proceedings under the WHS Act and Regulations.

There are over 50 codes of practice currently adopted by Queensland as of January 2020. Therefore it is important that you are aware of the Codes of Practice that are relative to your workplace.

4. Australian Standards

Australian Standards are minimum levels of performance or quality for a hazard, work process or product.

In addition to these you may refer to Management plans or job procedures, manufacturer's instructions and operations manuals. You may also consult with your workplace WHS representative to gain the information required.

Competent Framework – “Legal Responsibilities / Due Diligence”

With the introduction of the new 2011 harmonised Work Health and Safety Legislation there is an underlying chain of responsibility under which everyone has an obligation to exercise due diligence and take responsibility for themselves. There should be a constant “checking” process taking place and no one can afford complacency or stagnation under these new laws.

In way of explanation, the Legislation states that a licence holder must exercise due diligence and exercise reasonable care to work in a safe manner and do everything within their power to prevent injury or accidents to themselves and others.

However, even when a person is legally permitted to operate a forklift, i.e. they hold a current licence, an employer must not allow them operate if they do not think that they are competent. They must look at refresher or additional training or stop them using the machines.

The licence holder himself/herself must either re-train or cease to do the work if they feel they are no longer competent i.e. surrender licence. This situation may arise if they have changed their job description and no longer operate a machine – they lose the skills and knowledge to do it.

If a WHSQ Principal Inspector walks on site they have the authority to direct any forklift licence holder to undertake a re-assessment of the competency, if they reasonably believe that the licence holder may not be competent to carry out that work.

This situation may also occur if an incident or near miss has been reported to WHSQ by an employer, a worker, a member of the public, or the guy in the factory next door that feels an unsafe practice is occurring.

A high risk work licence holder must always operate in a safe manner; exercise due diligence and not take any risks whilst operating a forklift. This is the responsibility of holding this high risk work licence.

In instances where a forklift licence holder has not exercised due diligence i.e. reasonable care, this person can be penalised by the regulator in the following way.

The Regulator can:

- Cancel a licence.
- Suspend a licence.
- Refuse to renew a Licence.
- Direct you to undergo a re-assessment to determine competency.
- Prosecute.

Communication

Communication is of paramount importance in any workplace.

Under the Work Health and Safety Act 2011 (sections 46 – 49) A PCBU (*Person Conducting a Business or Undertaking*) has a duty to consult with Workers, Health and Safety Representatives, Safety Officers, Site Engineers and Supervisors about matters that directly affect them. This extends to consulting with contractors and their workers, employees of labour hire companies, students on work experience, apprentices and trainees, as well as with the PCBU's own employees and volunteer workers.

There may be a number of different duty holders involved in work (e.g. suppliers, contractors and building owners). If more than one person in the workplace has a health and safety duty they must consult all other people with the same duty. Each duty holder must share information in a timely manner and cooperate to meet health and safety obligations.

Employers should complete an induction with you if you are new to a workplace and you need to be aware what the procedures are for recording, reporting and maintaining workplace records and information in your workplace. Your handwriting should be legible, you should submit paperwork within a timely manner and if unsure of anything – ask questions.

They should explain all the communication processes for reporting hazards, job requirements, emergency procedures, Personal Protective Equipment (PPE) etc. In any workplace there is paperwork that is specific just to that workplace. Communication methods need to be chosen at the planning stage and they may include (but not limited to) the following:

- audible and visual warning devices
- hand signals
- questioning techniques
- signage
- traffic warning systems
- two-way radio
- written instructions

If communication is lost, stop work immediately and seek clarification before proceeding, to keep you and the people around you remain safe.

Even after you have obtained your forklift licence, the training provided is generic to a basic industry standard and does not equate to experience. A PCBU still has an obligation to ensure the worker has received instruction and training on the specific piece of plant they will be required to operate and the particular job that they will be required to do.

The employer must do as much as reasonably practicable to ensure that they remain competent by providing regular training to ensure everyone in the workplace has access to the latest legislative updates or recommended practices.

Fatigue Management

Employers must provide and maintain a work environment without risks to health and safety and always ensure: -

- Inductions are undertaken for new workers.
- Operators avoid stress and fatigue.
- A safe work environment, systems and equipment is provided including making arrangements to ensure the safe use, handling and storage of plant, structures and substances.
- Safe supervision and work instructions.
- Consultation takes place with employees on the safety of the workplace.
- Personal Protective Equipment is provided and used including instruction and training on the correct use and storage of the PPE.
- Provision of training for any new machines or new attachments.
- Provision of site specific and refresher training to maintain and enhance employee's skill levels.
- Inductions take place for changes to traffic management plans, work place policies or procedures.
- A register of licenced forklift operators is maintained and ensure visiting contractors hold a current, relevant licence.

Employees must ensure that they: -

- Are in a fit state to work – not too tired etc.
- Co-operate with their employers, performing work in a safe manner.
- Are alert in identifying and reporting hazards.
- Use and look after the Personal Protective Equipment that has been provided.
- Know the safety plan and work methods.
- Are responsible to operate safely.

If due diligence is not exercised whilst operating a forklift, it could result in a licence being suspended or cancelled or the regulator may refuse an application to renew the licence.

Things all forklift truck drivers must know:

- The conditions of operating a forklift in their workplace.
- The features of forklifts.
- How to conduct pre-start checks.
- Stability principles.
- The capacity of their forklift truck – how to interpret the data plate / manual.
- How to drive a forklift safely.
- How to conduct maintenance checks.
- Parking procedure.
- Post-start checks.
- Shut down procedures.

These elements, together with a few things that we think are useful, form the basis of our forklift licence training course.

What is a forklift truck?

Forklifts transport and stack materials. **They are a short wheel based truck with a vertical sliding mast.** To be effective a forklift must be manoeuvrable. To achieve manoeuvrability forklifts are designed to be compact, making them less stable than other vehicles/mobile plant and therefore more dangerous.

There are two classifications, counterbalanced and non-counterbalanced forklift trucks.

Counterbalanced forklift trucks

Counterbalanced Forklifts use the front wheel axle in the same way as the fulcrum of a lever. The load is counterbalanced on one side by the weight of the machine on the other side (like a seesaw). All the weight behind the point of balance acts as a counterweight.



Counterbalanced



4WD forklift



Truck mounted forklift

Non-counterbalanced forklift trucks

In non-counter balanced Forklifts, the centre of the load is behind the fulcrum point. They are known as 'reach' or 'straddle' trucks (usually referred to as high reach trucks in job advertising).



This type of Forklift reaches out to deposit the load or straddles the stack for depositing the load. They should only carry loads when the reach is retracted. They are used for particular load stacking functions and are more versatile than the counterbalanced type in warehouse situations. The tilt function is usually in the carriage as opposed to the mast.

These are not Forklifts



Pedestrianised walk behind machine (does not have a sliding mast so it's not a forklift).
You do not require a licence to operate this piece of equipment but you do need to be trained.



Reach Stacker

To operate a reach stacker you need to have an RS high risk work licence (HRW). The reach stacker licence covers powered reach stackers (with a capacity of three tonnes or more) that have an attachment for lifting, lowering, moving and travelling with a shipping container.



Order Picker

Also called a Stock Picker
(Operator goes up with the controls)
Used mainly in distribution centres and warehouses.

Licences are offered here at The Operator School.



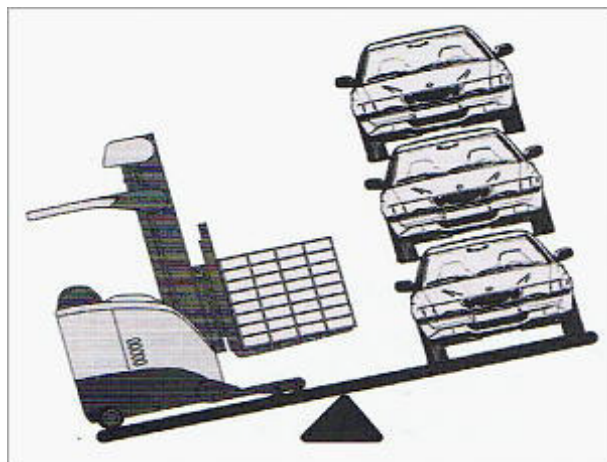
Telescopic Handler

The licensing requirements for a telehandler differ depending on the attachments and the capacity of the plant. Detailed information can be found on the QLD Government website.

Know your Workplace

All sorts of forklifts are used in all sorts of workplaces but all forklifts have one thing in common - they can be very dangerous if you don't use them safely.

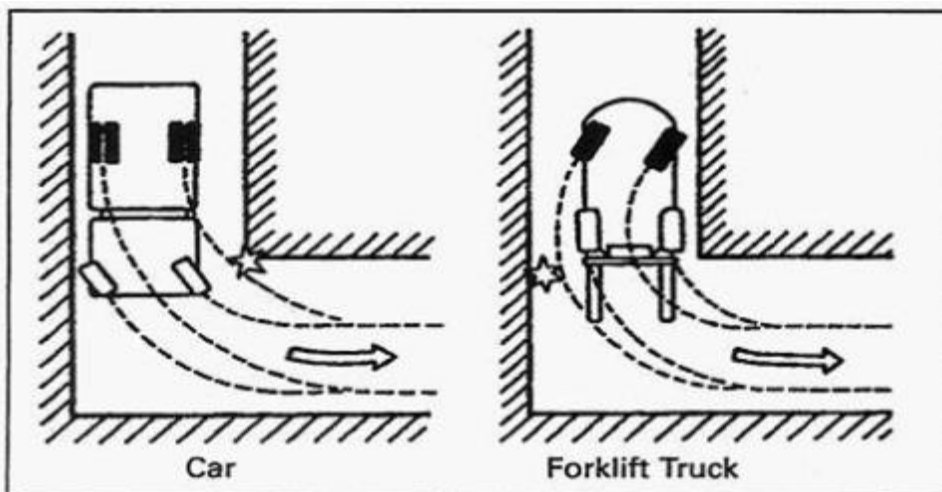
Weight of a Forklift



Did you know that a loaded medium sized forklift weighs about the same as your average heavy rigid truck – and can cause just as much damage and injury.

The heaviest part of the forklift is at the back and it swings out. This is known as **rear end swing**. The rear end of a standard counterbalanced forklift moves 3 times faster than the front when the forklift is being manoeuvred around corners.

A Forklift Truck is different from most other vehicles because it is steered by the rear wheels. This causes exaggerated tail swing.



Forklifts can hit people and they can hit things!

Forklifts can tip over with you in it!

Forklifts are very dangerous and need to be treated with caution!

This is why Work Health and Safety have re-classified forklift licences to high risk work licences.

Stopping a Forklift

A forklift's brakes are less reactive than other vehicles' but they can still cause a tip over or loss of load when applied heavily in an emergency.

At all workplaces speed limits should be prominently displayed, observed and enforced. Signs must be placed so that forklift operators can easily see them.

Just like a car or truck, the distance at which a forklift can stop in an emergency is determined by the speed at which it is traveling, the weight and security of its load (back tilt) and the road surface. Reaction times of the operator and how alert or distracted by other activities the operator is also need to be taken into consideration.

Again, just like a road vehicle, the emergency stopping distance of a fully loaded forklift is often significantly underestimated when planning for pedestrian safety. The type of load being shifted normally dictates the stopping distance.

A loaded forklift traveling at 6 km per hour (walking pace) = 3 metres to stop.

A loaded forklift traveling at 14 km per hour = 10 metres to stop.

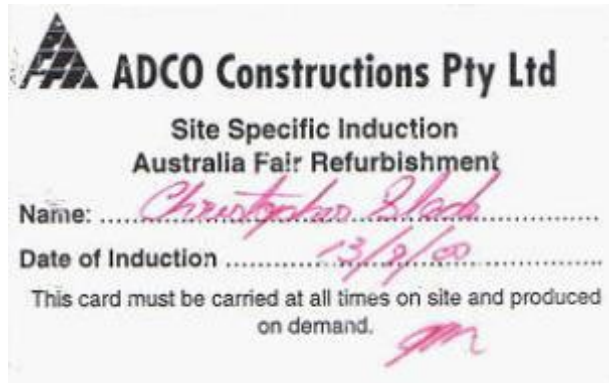
Emergency stopping distances must be taken into consideration when developing a traffic management plan.



Inductions, Permits and Paperwork

Some paperwork that may be required to carry out your work may include;

Site Inductions - Employers should complete site inductions



ADCO Constructions Pty Ltd
Site Specific Induction
Australia Fair Refurbishment
Name: *Christopher Slack*
Date of Induction: *13/9/00*
This card must be carried at all times on site and produced on demand.

Hazardous Work Permit - It may be necessary to obtain hazardous work permits (HWP) if working in a Nuclear Power Station or with explosives, chemicals etc.

Appendix 1 Example of Work Permit for Internal Combustion Engine Forklift

WORK PERMIT FOR COMPRESSION IGNITION FORK-LIFT OPERATION

Location for Permit:	SINCLAIR ST ARUNDEL
Task Description:	MOVING PAINT DRUMS
Date and Time of issue:	17-11-10 13:00
Start and Finish Time Permit Effective:	18-11-10 9:00 → 17:00
Equipment to be used:	KOMATSU F.D. FLAME PROOF

Entry Permit Precautions Checklist:

- Processes giving rise to vapour emission ceased, (e.g. decanting, transferring or opening packages, spraying)
- Atmosphere checked to be below 10% of LEL using calibrated flammability meter where residual vapours expected to be present;
- Intrinsically safe ventilation means provided to reduce flammable atmosphere to below 10% before entry
- Forklift does not have fuel, oil or LPG leaks
- No frayed or kinked hoses, loose hose or pipe connections or loose cylinder fittings present
- Electric equipment in good working order (e.g. no exposed elements on broken lights, no exposed wiring)
- Tyres in good working order
- Exhaust system gas escapes through exhaust pipe only free of defects (e.g. no passing gaskets or joints, corroded or damaged exhaust manifolds pipe or mufflers)
- Brakes in good working order
- Fan belt and drive belt show no evidence of slipping
- Appropriate fire extinguisher on forklift
- Forklift appears to be safe to use, and free from defects
- Fire watcher** assigned to supervise task and remain alert to outbreaks of fire or changes that may be hazardous and ensure permit adhered to at all times
- Store or process area inspected and made free of any leaks, spills or sources of emission of flammable materials

Job Safety Analysis

Below is an example of a Job Safety Analysis Sheet

Company Name:

Site Name:

Contractor:

Activity:

Date:

Permit to work required YES NO

JSA No:

Approved by:

Activity List the tasks needed to do the job in the order they are done	Hazards List the hazards that could cause injury whilst the task is being done	Risk Control Measures List the things that could be done to minimise the risk of injury from the hazard you have identified	Who is responsible? Write the name of the person responsible (supervisor, manager etc) for putting the control measures into place

- Work Method Statement – This is generated by the employer’s policies taking into account relevant standards and codes of practice.
- Other requirements may include; dangerous goods qualifications, a pink card (railways), blue or white cards, ASIC clearances or risk assessments.
- Work Plan - Your employer has to provide you with a safe working environment and a safe working method.

Work Plan

Before you start work, you've got to have a **work plan**. This work plan should be provided by your employer and should be carried out in accordance with the workplaces Traffic Management Plan. You could be notified verbally, it could be a written document or it may be electronically generated.

- Check out where you're going to be working and who else will be working there.
- Is the machine capable of doing the job you need it to do?
- How are you going to do the job? Do you need any other equipment? Is it available?
- What paperwork do you need i.e. JSA's, permits etc.?
- What communication methods are in place? Communication methods should be confirmed in the planning stages of the job.
- Is there enough light? You need to be able to see properly and other people need to be able to see you. Is it noisy?
- Is there enough ventilation? Remember, exhaust fumes from LPG gas powered forklifts used indoors can kill you if there is not enough **ventilation**. So only work with an electrically powered forklift if you are working in an area that hasn't got enough airflow or ventilation.
- What is the weather doing? Do you need to put any risk control measures in place to allow for windy or rainy conditions? Or sun exposure whilst you are doing your work?
- What Personal Protective Equipment do you need?

This is the time to select what PPE you need and any control measures you would use prior to commencing operation with the forklift.

Site Evaluation

As far as is reasonably practicable all employers should provide workplaces that are safe for all workers as well as any visitors to the workplace.

Each workplace has conditions that can contribute to dangerous situations. Operators should inspect the workplace for any potential hazards and make sure they are eliminated or minimised before operating the Forklift. Operators should constantly monitor the situation whilst performing their tasks for potential or developing hazards.

Effective traffic management planning, intelligent systems fitted to forklifts (Smart Forklifts) and appropriate operator behaviour are the three major contributors to minimising the incidences of pedestrian injuries. As a forklift operator you need to constantly be on the lookout for hazards, because hazards create risks. This means there's a greater chance of injury or death.

What is a Hazard?

Hazard; means a situation or thing that has the potential to harm a person. Hazards at work may include *but are not limited to:* a moving forklift, noisy machinery, chemicals, electricity, working at heights, a repetitive job or bullying and violence at the workplace.

Risk; is the possibility that harm (death, injury or illness) might occur when exposed to a hazard and **risk control;** means taking action to eliminate health and safety risks so far as is reasonably practicable and if that is not possible, minimising the risks so far as is reasonably practicable.

Accidents are caused by what you do and also what you don't do. It's part of your duty of care and your responsibility to avoid harm to yourself and to other people, to keep a look out for hazards and risks and to report them. You must co-operate with anything the employer puts in place to comply with WHS requirements and not intentionally interfere with or misuse anything provided for upholding WHS regulations.

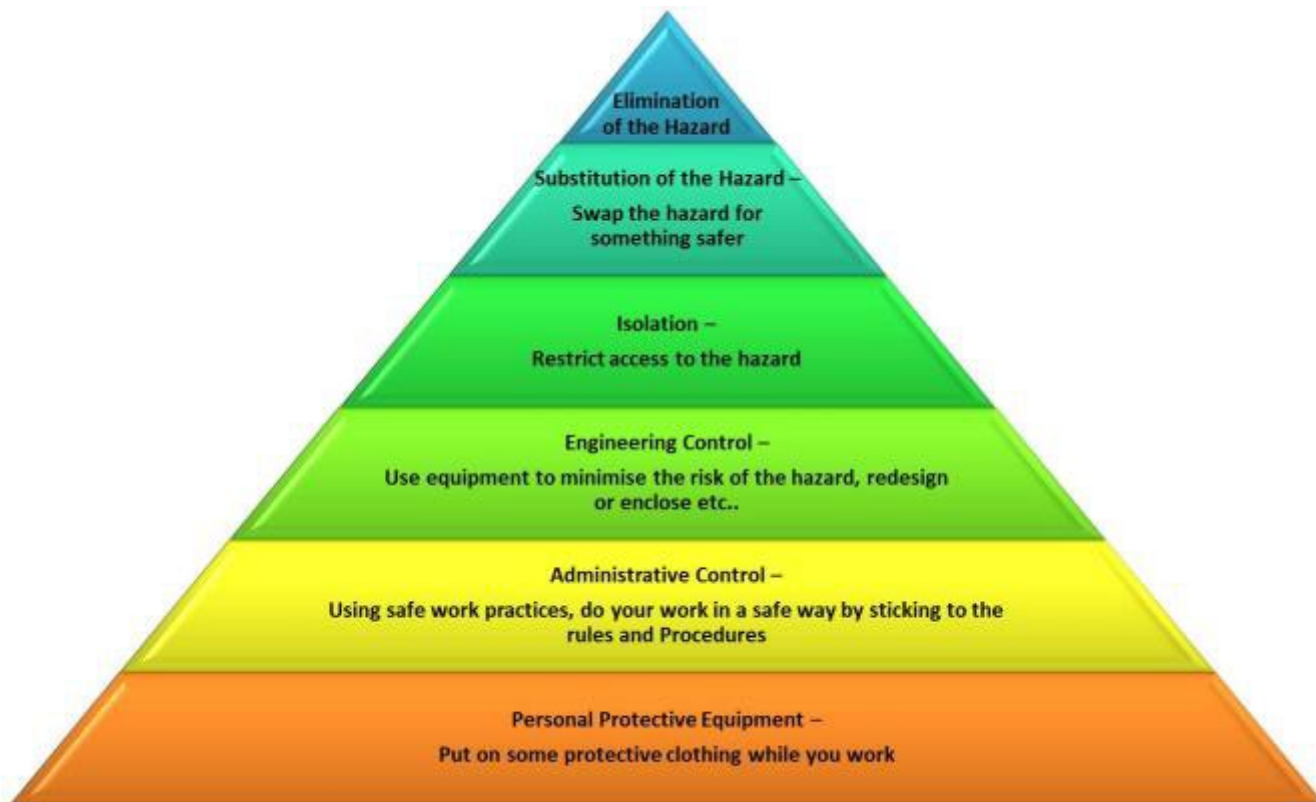
If the hazard is something that you're doing, then change the way you do it or stop doing it. Eliminate the hazard or fix it and you're definitely reducing the risk of harm.

Every worksite has its own unique hazards and learning to identify them is an important step in maintaining a safe workplace. When you are on site always check for hazards at a high level, at your eye level and at ground level.



Hierarchy of Control

When planning short- or long-term strategies the law requires that risks are eliminated otherwise the Hierarchy of Control must be considered when dealing with all hazards.



Example of application of Hierarchy of Control: Interaction of Forklifts and Pedestrians	
<i>Hierarchy of Control</i>	<i>Control Measure</i>
Eliminate	Traffic Management Plan or change layout of the worksite
Substitute	Replace forklifts with an automated conveyor system.
Isolate	Fit barricades
Engineering Control	Install speed limiters
Admin Control	Create 'no-go zones' that are clearly marked. Use signs
PPE	High visibility clothing

Administrative control measures and PPE do not control the hazard at the source. They rely on human behaviour and supervision. Used on their own, they tend to be the least effective control measures.

You might need to use a combination of control measures to minimise the risk associated with the hazard. Whatever the control measure, make sure it complies with the appropriate standards.

These can include: Legislation and Regulations (laws), Australian Standards, Manufacturers specifications and Industry standards (where applicable), site requirements and Codes of Practice.

Forklifts and Pedestrians

Put simply, pedestrians and forklifts do not mix.

Forklifts are one of the most dangerous pieces of equipment found in the workplace. Almost half of all people injured by a forklift are pedestrians.

Separation of pedestrian and forklift traffic will lower injury rates.

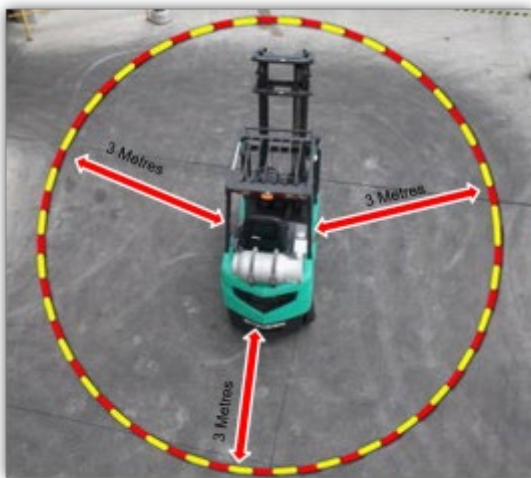
Forklift traffic should be prohibited or minimized around such areas as tearooms, time clocks, cafeterias, amenities and entrances.

Designate exclusion zones for pedestrians and forklifts of at least a 3 metre radius. This distance should expand when the height of the forklift load or the speed travelled increases.

The only people allowed within the 3 metre exclusion zone need to be suitably trained in the critical aspects of operation and have authorisation to be there. A spotter is an example of someone that may have to enter the exclusion zone.

.....Has your cleaner / yardy been trained?

If a pedestrian is within three metres of a forklift, employers are required to justify this practice through risk assessment and suitable risk control measures.



Pedestrian walkways must be clearly marked. Installing physical barriers ensures workstations are separated from forklift travel areas.


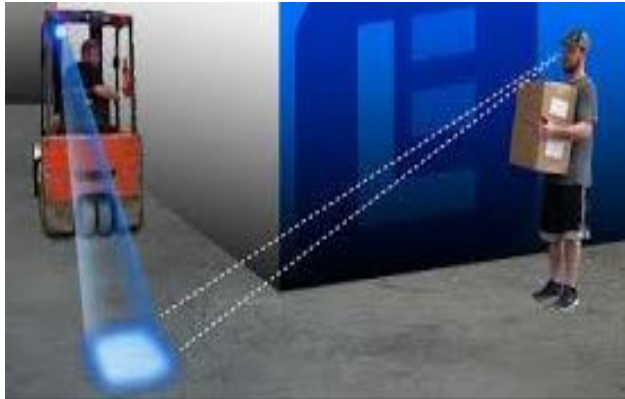


Audio and visual warnings (such as strobes and reverse beepers) are important and safety at intersections and blind corners can be enhanced by the addition of overhead dome mirrors. Slow down, give way and beep the horn twice.

Crushing is the most common form of forklift-related injury sustained by pedestrians. Steel toe capped boots will probably not prevent crushed toes.

Even when travelling at low speeds, forklifts present significant risk to the safety of pedestrians. It is a well-known statistic that nearly half of the number of pedestrians killed in forklift accidents were crushed by forklifts that were barely moving.

There are also further advances in warning aids fitted to forklifts such as *Halo Systems* and *Blue Lights*.

<p>The Halo System projects a visible safety zone around the machine that can be adjusted to suit the applicable safety distance set by the company policy.</p>	<p>The blue warning light system helps prevent dangerous collisions. As the forklift travels, a bright blue light glides across the floor about 3 metres ahead of or behind it (depending on the mounting location), letting pedestrians know that a fork truck is approaching.</p>
	

Employers should not wait until a forklift-related death or injury takes place in their workplace before separating forklifts and pedestrians. If you are attending this course as an employer or manager, make the changes needed today. New workplaces should be designed to provide separate zones for pedestrians and forklifts from the outset.

Traffic Management Plan (TMP)

Take time to look at the traffic management plan. Every workplace should have a traffic management plan and everyone should follow it. It is essential to address many of the risks associated with the use of forklifts in the workplace.

If you are operating a forklift on a public road, make sure the forklift is road registered, that you have the right class of vehicle licence to cover you for the weight of the forklift you are operating and that spotters and the necessary safety barriers are used.

Know what to do if you are loading hazardous goods – these are some of the more common signs that you will see around a workplace. Workplace policy will require an employee to undergo dangerous goods training courses to learn the specific requirements needed for dealing with the chemicals, gases, acids etc. that are kept or transported from that workplace. This will also include an understanding and the possible registration of Material Safety Data Sheets (MSDS).



Separating powered mobile plant such as forklifts from pedestrians, including truck drivers, will reduce the risk of forklift-related injuries.

The preferred way to develop a traffic management plan is to identify any hazards, assess the risks that may be caused by persons coming into contact with that hazard and then put in place risk control measures to eliminate or minimise any risks.

Consultation is central to developing a traffic management plan supported by all workplace parties. Health and safety representatives (HSRs), forklift operators, other workers and employers should all play a part. This will result in a more informed decision, a boost in job satisfaction and morale, an improved commitment to health and safety and by extension, fewer workplace injuries.

When identifying risk control measures consider the source of the risk and **develop practical, workable controls**.

Controls may include the most efficient route, traffic flows, reduced frequency of interaction with hazards, substituting a forklift with other suitable load shifting equipment and where reasonably practicable, eliminating the risk altogether. Separate people and machinery.

Pallet stackers are used to keep warehouses tidy.



One way traffic aisles.



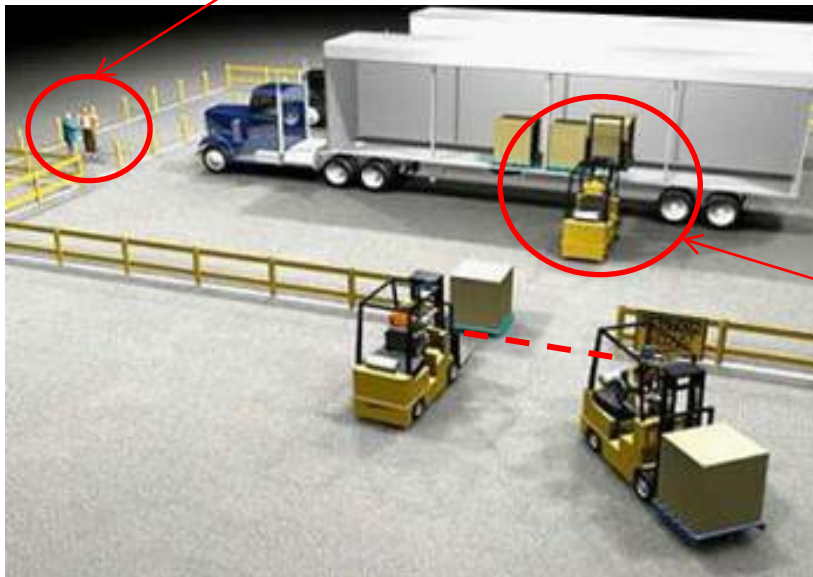
Once risk controls are in place they must be regularly reviewed to gauge effectiveness.

An effective traffic management plan can use a range of devices including pedestrian and forklift exclusion zones, safety zones for truck drivers, safety barriers, containment fences, reduced speed limiting devices (Smart Forklifts) and signs.

All those at the workplace, including visitors, must be inducted into the workplace and advised of the site's traffic management plan.

Example: Traffic Management Plan for Truck Loading/Unloading

The truck driver is in a designated exclusion zone and must be in full view of the forklift operator.



There is only one forklift permitted in the truck zone to unload and this forklift places the loads for the operators outside the unloading zone to distribute accordingly to their destination.

Hazard Identification

With every task there are many considerations you need to plan for.

- Is there enough height above the load for the forklift to lift the load up without damaging the ceiling?
- If there is a bridge to cross, check for clearances and weight limits.
- Check out heights of doors and make sure the mast of your forklift can drive through clearly.

Make sure the floor can support the weight of the forklift



Roller doors should be all the way up or all the way down.



- Is there anything else up high such as a gantry crane, lighting rails, overhead sprinkler heads, air-conditioning ducts?
- Are the doors wide enough for you to drive through without hitting anything?
It is advisable to treat a doorway as a stop sign.
- Be aware of inclines and declines.
- Are you working in a loading bay or dock? *Is the bridging plate secure?*
- Watch out for other vehicles in the area.
- Be aware of building hazards, uneven floors, location of offices, restrooms, cafés etc if working in a large warehouse.
- Check out the surfaces you'll be driving over. Rough, or uneven, or slippery surfaces can cause the forklift to tip over. Are there any oil or liquid spills? *If there is, clean them up!*
- Do not transport goods on damaged pallets. Re-stack before lifting making sure if they are bagged goods, they are pyramid lock stacked onto the pallet.
- If you have a large load or long load, you may need to use a spotter or travel in reverse to undertake the manoeuvre safely.
- Be aware of the security and contents of the load itself.
- Is there enough space to drive and turn so that you won't hit anything? Be aware of blind corners and blind alleyways with traffic intersections.
- If you observe any hazards that may impact on the safe operation of a forklift, notify your Supervisor. It may be necessary to do this in writing.

Check out any storage racking- will it hold the weight? You can check this by looking at the weight **placard** on the racking. Does the racking look okay or are any legs or rails bent / damaged?



Checking these things only takes a few minutes and a serious injury will affect you for a life time.

Operating Surfaces

You must inspect the operating surface prior to operation.

All the conditions in the pictures below need to be taken into consideration during planning of the work.



You need to determine if the surface you are driving on will hold the weight of your forklift. Are there any hazards you need to deal with in regard to terrain?

You need to think about the best path of travel for completing the work you have been given. Is it safe and efficient for the task?

If you are on a building site a 4WD forklift will be a requirement. If you are working in a warehouse on a level concrete floor you could use a forklift with solid tyres.

Lighting

To maintain a safe work environment, the workplace provided by the employer must have adequate lighting. Failure to provide adequate lighting for the task may result in an increase in fatigue and an increase in the possibility of accidents in the workplace occurring.







In many cases this can be rectified by the use of lighting on the machines themselves or appropriately positioned work lights.



Weather Conditions & Environmental Factors

There are a number of external factors that could affect forklift operations if you are working in wet and cold / icy conditions or a hot humid climate.

Sometimes these environmental factors cannot be eliminated but can be carefully planned for by altering aspects of the work plan. These include but are not limited to;

<p>Rain – May affect vision and surface conditions.</p> 	<p>Wind – Could blow the forklift over when the mast is raised.</p> 	<p>Lightning – Could strike the mast causing electrocution.</p> 
<p>Water/ice on operating surface – Creates a slippery surface affecting grip and stopping distances.</p> 	<p>Extreme heat – Could affect the operator, resulting in dehydration, fatigue and heat stroke.</p> 	<p>Ultra violet (UV) exposure – Can cause sunburn which may lead to skin cancer. Sun can make it hard to see and damage eyes.</p> 

- If operating in the rain or on a wet surface slow down. Have your load as close as practicable to the ground. Do not turn or brake rapidly as this may cause loss of traction and be aware that your vision may be affected by the conditions.
- Strong winds can affect stability as a raised load can act like a sail on a vessel and cause the machine to tip over. In high winds, keep your load low to the ground.
- It is best not to operate a forklift in conditions that can produce lightning. A mast in the raised position presents a higher chance of lightning strike in a thunder storm. The reason this is dangerous is explained in the Electricity section.

- If operating on a frozen surface, reduce speeds and allow greater stopping distances. Loss of traction is common in icy conditions and in order to minimise the chance of accident you need to maintain constant awareness of the surface conditions.
- Extreme heat and ultra violet exposure can pose a number of risks to operators like increasing fatigue rates, dehydration or heat stroke. Make sure your PPE protects you from sunburn and drink plenty of water to keep you sufficiently hydrated for the conditions you are operating in.

Forklifts and Electricity

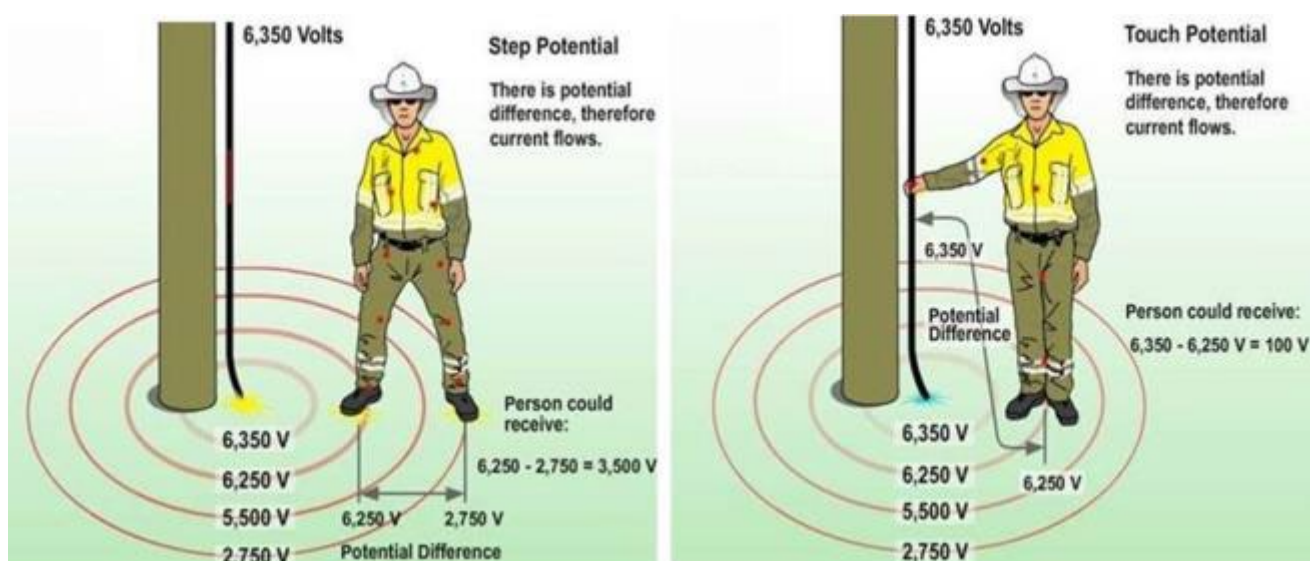
Refer to Relevant Electrical Code of Practice!

Keep a safe distance from electric power lines and conductors. Find out where all power lines are located in your workplace. Do not unload with a forklift truck under power lines. To avoid the mast making contact with the lines when the forks are raised, operators must be aware of the droop or sag in the middle of a power line. Constant vigilance and a trained observer are required whilst working or travelling in the vicinity of live electricity.

Workers and their equipment should not approach overhead powerlines any closer than the following: -

Voltage	Examples	Exclusion Zone
Powerlines with voltages up to 132kV	e.g. low voltage and high voltage distribution and sub transmission lines, usually on poles	3m
Between 132kV and 330 kV	e.g. sub transmission and transmission lines on either poles or towers	6m
More than 330 kV	e.g. transmission lines usually on towers	8m

Be aware of the difference in voltage in the event that your machine comes into contact with power lines:



Distances may vary with experienced / authorised people (these people have usually done an Electrical Awareness Course). You need to check your state for regulations/codes of practice and training courses.

If you are required to work close to power lines you should;

- apply for an exemption from the relevant authority.
- If possible the power lines should be isolated i.e. turned off.
- If not possible to turn the power line off, the power line must be insulated by a competent and authorised person.
- The use of a spotter may also be permitted depending upon the legislation within that State or territory.

If you do not know the voltage stay at least 8m clear of power lines.

There are many different identifiers that alert people of the presence of live power. Some of these may include the following;

'Tiger Tails' (also known as Torapoli Pipes) are plastic covers used to warn people they are in the presence of overhead power lines.



Installation of **Aerial Marker Balls** (for visual indication only).



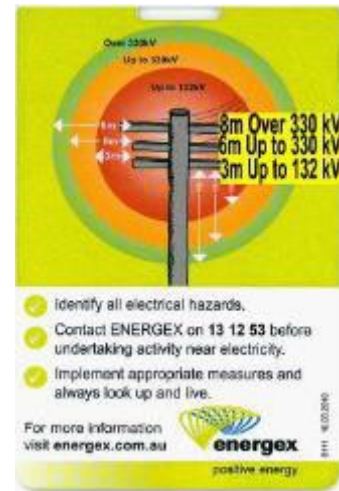
Installation of **Aerial Marker Flags** (for visual indication only).



You may see Painted Power Poles to help identify live power in certain situations.



Warning signs are a very important visual addition in maintaining awareness of live powerlines. Read the information properly before operation.



If you do make contact with power lines:

If possible, attempt to break the forklift's contact with power lines by moving the forklift itself or by moving the mast or fork arms. Be aware that the controls maybe electrified so you should not attempt to do this if there is any possibility that you are endangering yourself.



Alternatively:-

1. Stay on the machine – do not touch controls unless safe, they may be electrified.
2. Stay calm and call for assistance.
3. Do not leave the forklift until the electricity has been turned off.
4. Warn others to stay away until the power has been switched off.
5. If you are forced to leave the machine, take seatbelt off.
6. Then jump well clear with your feet together so you do not earth yourself (make sure you understand this rule).
7. Be aware of potential difference in voltage.
8. Do not make contact with the ground and the forklift at the same time.
9. Avoid any water and obstacles.
10. Jump with both feet as close together as possible to a distance of at least 8 metres away, do not walk or run as ground maybe electrified.
11. Stand this safe distance away until help arrives.
12. Fill in incident report form.
13. Make sure forklift is checked over for damage before re-use.

Preparing for Work

We have now covered identifying hazards in the workplace.

Before you start driving the forklift, there are still a few things you need to consider so you can work safely. Firstly you need to prepare yourself including what you require for personal protective equipment.

Personal Protective Equipment (PPE)

Forklift operators often have to wear PPE.

It is the responsibility of the employer to provide the necessary protective equipment (this maybe a labour hire company if you are working for them). The PPE must be in good working order and training and instruction on the PPE must be provided, up to 60 penalty points can be applied apply for non-compliance.

It is the responsibility of workers to inspect the equipment prior to use and report faults. It is also the responsibility of the worker to wear and use the equipment properly, where and when necessary, following the training and instruction that was provided. PPE must not be wilfully damaged. Up to 36 penalty points may apply for non-compliance or misuse.

Clothing should not be too loose, loose clothing can catch on controls. Long hair should be tied back. Also be aware of jewellery that can also catch on controls.

Safety Helmets

Safety helmets must be worn wherever there is a risk of objects falling from above and on any work site where the hard hat sign is displayed. Make sure that you wear a helmet marked as complying with AS 1801 *Industrial Safety Helmets*.

High Visibility Shirts / Jackets

High visibility clothing is also becoming mandatory many workplaces – it makes it easier for people to see you.

Gloves

Gloves protect your hands from:

- Heat and abrasion.
- Molten metal.
- Sharp edges.
- Chemicals (acids, alkalis, solvents, fats and oils).
- LPG freeze burn.

Eye Protection & Face Shields

You must wear eye protection that conforms to AS 1337 *Eye protectors for industrial applications* i.e. goggles, face shields etc. if you are likely to be exposed to:

- Physical damage caused by flying particles, dust, molten metal.
- Chemical damage caused by toxic liquids, gases, vapours, dusts.
- Radiation damage caused by sunlight, visible light, infra-red, laser and welding flashes.
- Acids from batteries.

Respiratory Protection

Wear a face mask or respirator that conforms to AS1716 *Respiratory protective devices* if you are likely to be exposed to:

- Toxic gases and vapours.
- Toxic or disease causing dusts, such as silica and asbestos.

Inhalation of some chemical vapours and gases can cause a wide range of unpleasant symptoms including narcosis, headaches and in some cases death.

Hearing Protection

Hearing damage is likely if you are exposed to long periods of industrial noise above 85 decibels. This is the noise level of a large truck or loader. A chainsaw for example has a noise level of about 92 decibels.

If you think it is likely that you are being exposed to dangerous noise levels ask your employer to provide you with hearing protectors complying with AS 1270 *Acoustics – Hearing protectors*.

Safety Boots

Choose boots that are comfortable, give maximum grip and give protection from pinching, jamming and crushing. A range of lightweight flexible boots with steel or plastic caps is available that comply with AS2210 *Safety footwear*.

Do not wear thongs or sandals, they can get caught in the pedals and are not acceptable in the area of high risk work.

Sun Protection

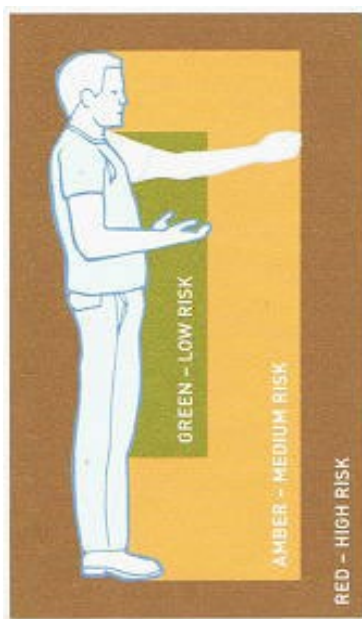
To prevent permanent damage caused by ultra violet rays always wear a hat, long sleeves, long trousers and use UV cream when working outside.

Manual Handling Techniques

This topic is a subject matter that should be covered in an entirely separate course. Your employer should provide training to you to avoid injury and minimise the cost of “downtime” to production. We touch on it here as it is part of the forklift competency.

The best working zone – between the shoulders and knees

The key to safe manual handling is to design a workplace and provide the necessary equipment to ensure employees are able to lift items from locations between shoulder and knee height at all times. This, together with ensuring the item is close to their body, is the optimal position when lifting. Adoption of this method can help to significantly reduce the number of injuries.



In addition to the height at which the load is presented to the employee, other risk factors include lifting frequency, the weight of the object, the shape of the object and over-reaching should also be taken into consideration.

7 Key Principles for Manual Order Picking

- High volume picking and packing should be done predominantly by mechanical means.
- Physical changes to workplace design, layout and plant are more effective than administrative controls to make the workplace safer.
- High frequency picking and replenishing should occur within the best working zone.
- Heavy objects should be handled within the best working zone.
- No employee should be required to routinely pick, replenish, manually stretch-wrap or palletise objects above their head height.
- Where employees work at height, the equipment used to raise them should provide close access to the objects at heights and help ensure protection against the risk of falls.
- Adequate access to objects should be provided when picking, replenishing, palletising and stretch-wrapping so awkward postures are minimised.

Common Signs in a Workplace

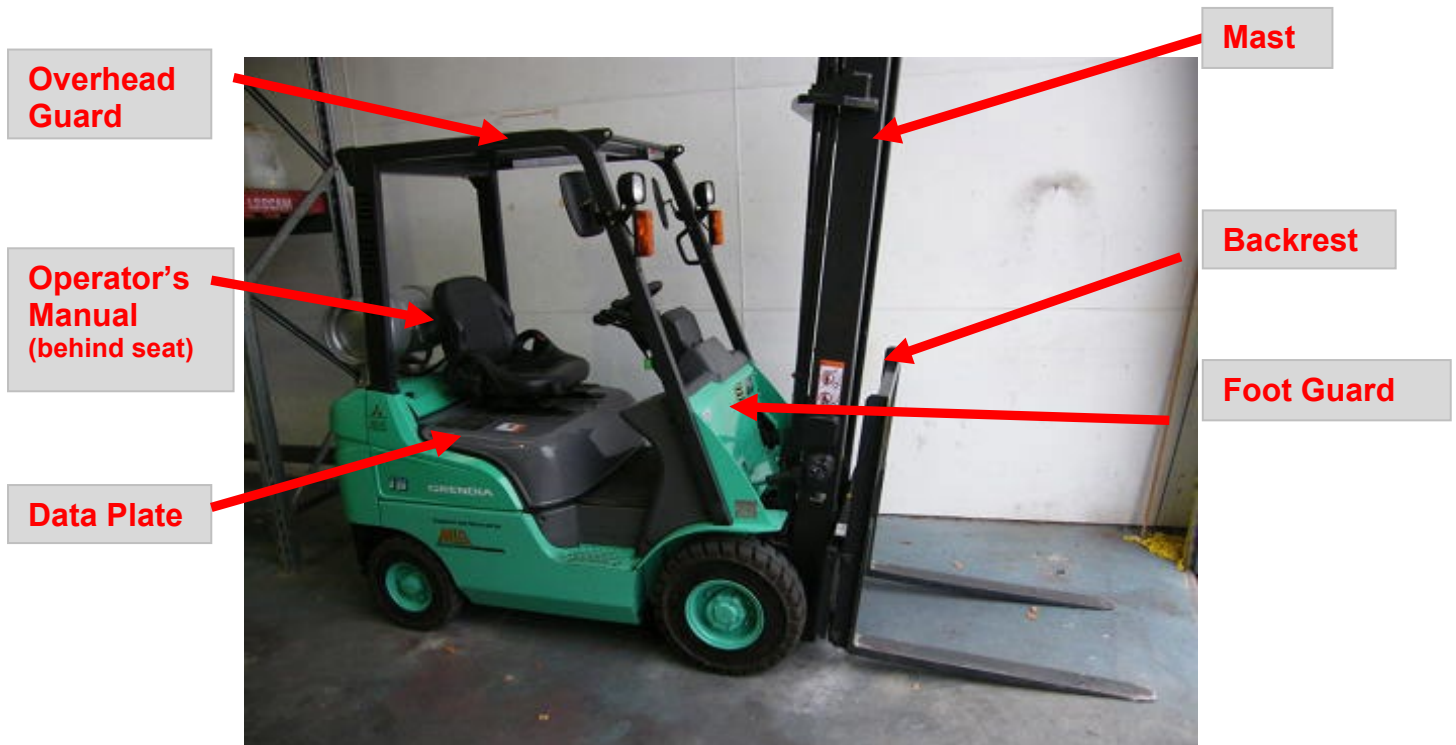
Sign		Sign	
1. 	Walking Speed	7. 	Do Not walk under a loaded forklift
2. 	Ear protection must be worn	8. 	Danger – Power Lines
3. 	No lifting or carrying of personnel on fork tynes (approved lifting platform must be used)	9. 	Railway Level Crossing (cross at 45 degree angle)
4. 	Gloves to be worn	10. 	Forklifts in the area
5. 	No Mobile Phones	11. 	Hard Hats must be worn
6. 	Seatbelt must Be worn	12. 	Passengers Prohibited (approved seat, seatbelt and footrest needed if passengers are to be carried)

Hand Signals

Depending on your workplace conditions, you may need to use or interpret these hand signals when operating or acting as a spotter although the use of 2 way radios is probably more beneficial for communication.



Components of a Forklift



There are 3 guards fitted to the standard forklift;

Structure	Function
Overhead Guard	Function of the overhead guard is to protect the operator from falling objects and overhead hazards. Can fit Lexan cover as well.
Backrest or Load Apron	Structure is positioned between the mast and the fork arms. Function is to protect the operator from falling objects and stop fouling of the mast.
Foot guard	Function is to stop objects falling on the operator's feet and stop any fouling of the foot pedals. Slippery pedals are dangerous.

Fuel and Power Systems

The three most common ways of powering a forklift are: LPG/Petrol, Diesel and Electric. We cover all three within our training.

Some forklifts are controlled by hand controls and some by foot controls, such as Linde forklifts. Some are a combination of both.

There are positive and negative aspects of using each of the above machines. The type of machine used in each workplace will depend on the workplace environment and the types of loads being shifted.

As part of this course we will cover the operational and safety aspects of the use of LPG/Petrol, Diesel and Electric forklifts.

Remember that when you are in the workplace and you come across a machine that you are not familiar with; your employer must provide training on that machine. You should also ensure that you **read the Operator's Manual**. This is also where you can find the required PPE for refuelling.

LPG, Petrol and Diesel Engines (Carbon Monoxide Poisoning)

Internal combustion engines are powered by diesel fuel, petrol or LP gas. An LP gas motor is a petrol motor converted to use gas instead of petrol.

Warning: Internal combustion engines produce the odourless but poisonous gas, carbon monoxide. A person working in a confined space (such as a cold room) where carbon monoxide is present could become seriously ill. Carbon monoxide (CO) builds up in the body and can kill in 20 minutes. Make sure that there is adequate ventilation where forklifts with internal combustion engines are operating.



Do not refuel when the engine is running. Make sure the motor is stopped and the ignition is turned off due to risk of fire or explosion.

PPE – leather gloves

If you are working in a confined space and there is a choice of forklifts to use in your workplace, eliminate the possibility of carbon monoxide poisoning by using a 'zero emissions' battery electric forklift or possibly a pallet jack.

Diesel Engines

Most diesel engines must warm up before they can start. When the ignition key is turned on, the glow plug is activated. This warms up the motor so that it will fire.

There is a delay of several seconds from ignition until the engine is turned on by the starter motor. A light on the dashboard indicates that the engine is warming. It goes out when the motor is ready to fire.

Try to avoid allowing a diesel engine to run out of fuel. Diesel engines fire on compressed vaporised fuel and will not fire if there is air in fuel lines. If a diesel engine runs out of fuel, a competent person must bleed the system of air before it can be restarted.

When operating diesel machines, always ensure you are wearing protective gloves when refuelling and have a spill kit at hand in the workplace.

Diesel engines also emit carbon monoxide gas. A badly tuned diesel engine can emit more carbon monoxide than a petrol motor. Remember that carbon monoxide is odourless, will build up and can kill.

Electric Forklifts

Most electric Forklifts are powered by a 500 amp battery. Amp = rate of flow of electric current. A 500 amp battery will in theory supply 100 amps per hour for five hours.

The battery will need recharging sooner if there is an increase in the use of electric current due to heavier work. The heavier workload the more often a battery will have to be recharged. Batteries are overworked by:

- Steep inclines.
- Excess speed.
- Heavy loads.
- Stalling and starting.
- Excessive use of the hydraulics.

When re-charging batteries and when re-filling them with water, all the necessary protective clothing should be worn. When there is a chance you could come into contact with the battery acid you should wear elbow length rubber gloves, anti-static apron and full facial protection.



In case of an emergency with an electric forklift, press the emergency stop button or pull the Anderson Plug, this will isolate the power supply.



The Anderson Plug is also the connection point for charging the battery machine.

The Hydraulic System

Forklifts are powered by an electric motor or by an internal combustion engine.

The motor operates a hydraulic pump to raise the forks. The hydraulic pump pushes oil into a control box under pressure.

Hydraulic oil leaves the tank under low pressure. It passes through a pump, leaving the pump under high pressure. It then passes through the control box. This pressure can be as high as 3,000 psi. At this pressure it can penetrate your skin and inject you with oil.

The driver can then direct the oil through the hydraulic lines under high pressure to the hydraulic rams to raise or tilt the mast by using control levers. The driver uses a controller to allow the oil into the hydraulic cylinder. When the cylinder is filled with oil, a ram inside the cylinder is raised, pushing the mast upwards. This raises the apron and forks.

There is a level marked on a sight gauge or a dipstick in the hydraulic tank. Do not fill the tank above the level marked. Make sure that the oil is kept at the correct level. Check the level before each shift. The hydraulic oil tank must not be completely filled.

Check the system for oil leaks. Leaking hydraulic oil can be very dangerous as it can cause systems to fail. Leakage of braking and steering systems can also cause slip hazards.

Single acting rams

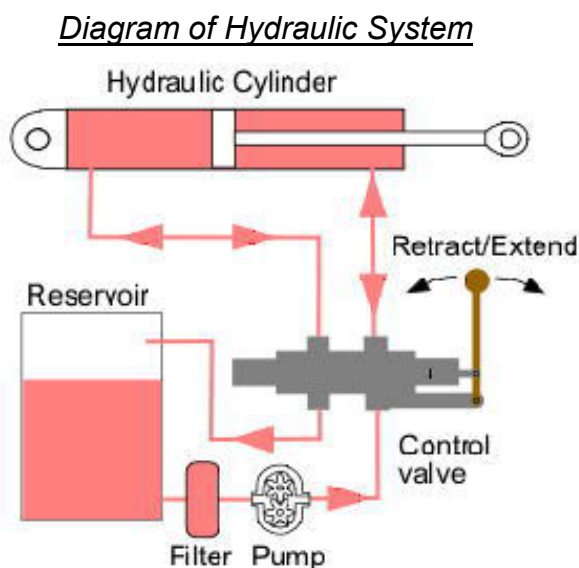
The lifting ram on most forklifts is a single acting ram. It directs the hydraulic pressure in one direction to raise the forks. Gravity lowers the forks.

To prevent the forks crashing down, the single acting rams have a restricting valve at their base to limit lowering speed to 0.6 metres per second.

Double acting rams (rams that work in both directions i.e. steering, sideshift and tilt)

Forklifts fitted with a tilt mechanism are usually hinged at the base of the mast. Above the hinge are two hydraulic rams that work in both directions called double-acting rams.

The combined action of the hinge and rams allows the mast to move safely backwards and forwards while supporting the weight of the load. Double acting rams have a check valve which stops them operating unless pressure is fed into them to allow movement.



Hydraulic Steering



Most forklifts are fitted with hydraulic steering

Pre-checks on a Forklift

Pre-checks should be done daily or at the start of each shift and records kept.

Many companies are not aware that regular documented inspections must be made of their forklift truck and they can be fined for non-compliance.

A checklist should be kept either on the forklift itself or in a designated area. In large companies with lots of machines, drivers should perform the checks before starting a shift. It should be made clear within the company who is responsible for conducting the checks and what is involved. Report any defects to the supervisor.

Some of the benefits of having regular checks performed on each machine include:

- Protecting your own safety.
- Easy to find faults and repair them whilst still minor.
- More reliable machines and less chance of down time due to breaking down.
- Easier to identify bad drivers and staff causing damage.
- Protection against insurance problems, WHSQ fines and accidents.

Before starting the motor

Before starting the motor have an overall visual check to ensure that there is no visible damage, then check:

- There are no leaks under the machine.
- Overhead Safety Guard is fitted and in good condition.
- Load back rest extension is fitted and in good condition.
- Foot guard (metal plate immediately in front of the foot pedals) is fitted and in good condition.
- Data Plate fitted and displaying details for any attachments you are using.
- The wheels and tyres are in good condition.
- Wheel nuts are tight.
- Pneumatic (air filled) tyres have correct pressure for stability.
- Puncture Proof Tyres (solids) condition, inspecting for uneven wear, no big chunks of rubber missing and the tyres are not lifting away from the rims.
- The forks are evenly spaced, without defects and the fork locking pins are in place.
- Mast Guides are intact and cylinders are not damaged or leaking.
- The gaps between the plates are uniform (no excessive pin wear).
- The counterweight is secure.
- There are no oil leaks from the hoses to the rams (don't use bare hands to feel).
- All applicable fluid levels: **Transmission** oil, **Engine** oil, **Brake** fluid, **Hydraulic** oil, **Coolant** level. Visually check the levels in the header tank, do not take the top off the radiator. Only do this when the engine is cold.
- **Battery** is clean and secure, fluid levels are adequate and it has sufficient charge.
- Power steering fluid (*if applicable - normally hydraulic steering*).
- **Air Filter** (warning light).
- The fuel level or the LP gas level is correct and there are no leaks. Ensure to check the test date on the bottle and the compliance plate is fitted and in date (expires 10 years after stamped date).
- The windscreen is clean, if fitted.
- The seat and seatbelt are in good condition and properly adjusted.
- If fitted, the mirrors are adjusted properly.
- The controls are clearly marked.
- Attachments are compliant and secure.

Danger Tags

If damage is found on a machine, **Remove keys, Tag machine** to say “do not use” and **Report to a Supervisor**. Tags must be kept on machine or in close proximity to (not in employer’s car!). Whoever fits the danger tag is supposed to remove it (this might mean swapping of tags at the end of shift).



DATE: / /	LOCK OUT No. <input style="width: 80%;" type="text"/>
FAULT:	
NAME:	
POSITION:	
EXPECTED COMPLETION DATE: / /	
©	WS.LOT

Below is a common example that you may find in your workplace of a daily inspection checklist that should be completed before commencing operation with a machine.

FORKLIFT - Daily Inspection Checklist Week Starting...../...../.....

Company/Site..... Machine/number..... 37764

CHECK DAILY BEFORE EACH SHIFT: [✓] = OK [X] = Action needed [NA] = Not applicable	Mon	Tue	Wed	Thurs	Fri	Sat	Sun		
	SHIFT	SHIFT	SHIFT	SHIFT	SHIFT	SHIFT	SHIFT		
Machine Hour Meter.....	D	A	N	D	A	N	D	A	N
Check load-capacity plate is fitted, legible and correct.									
Inspect forks for any signs of damage.									
Check tyres, belts and look for any leaks under the truck.									
Check mast and hydraulic cylinders, look for any leaks.									
Check all fluids: oil, hydraulics, battery, fuel, coolant...									
Gas bottle (if app) security, hose connections and gauge.									
Check condition and adjustment of seat and belt									
After start up check all pedals and controls for smooth operation.									
Check brakes and parking brake for proper operation.									
Check lights, horn, and reversing beeper.									
Any other visible damage or defects									
OPERATOR DOING CHECK TO CLEARLY WRITE / SIGN THEIR NAME AT BOTTOM OF EACH COLUMN									

FAULT REPORTED BYDate/...../..... Description of fault..... NOTE: Operator to TAG OUT machine if needed.	ACTION TAKEN TO RETURN TO SERVICE: PRINT NAME Date/...../..... Signature.....
--	--

Getting on and off your Forklift

Did you know that there is a right and a wrong way to get on and off your forklift?

Where practical use the 3-point entry. Climb in forwards and have 2 hands and 1 foot on the forklift as you get on. Put the seatbelt on **securely**.

All drivers are supposed to enter and exit forklifts from the left side only as getting on or off from the right side could cause them to knock or bump the hydraulic control levers.

This is why there is only ever one grab handle for helping the driver climb into the forklift.



Many drivers are blindly unaware of this law, mostly because a qualified instructor has never taught them, they have learnt on the job from watching other badly trained drivers operate. They learn to drive yet don't know the most basic of operation, like which side to enter and exit from.

Slips, trips and falls

One in three forklift-related injuries occur when an operator gets on or off a forklift, often resulting in musculoskeletal back injuries.

Reducing the number of times operators need to get on and off their forklift can also assist in reducing the number of slips, trips and falls. This situation needs to be considered when purchasing new equipment; tyre positioners etc.

Sprains and Strains



Forklift operators often experience neck and back strains. Necks are often injured due to looking up when high stacking and looking behind whilst driving in reverse.

Aids that limit neck 'craning' can assist in reducing these types of injuries such as **swivel seats** and **LCD screens**.

Hitting bumps or driving on uneven surfaces may cause back strain. At workplaces where these injuries are common the quality and condition of forklift seats, together with road surfaces, should be reviewed and upgraded.

Anti-Slip Surfaces

Anti-slip surfaces such as rubber mats, grip tape and rubber soled boots can do much to prevent sprains, strains and other soft-tissue injuries to the neck and back which can cause long-term health problems. An employer's initial outlay in purchasing or leasing an 'operator friendly' forklift can be easily recouped by preventing these types of injuries.



Seatbelts must be worn



It is **mandatory** for seatbelts to be worn on forklifts that have them fitted. It is common practice for operators to overlook this.

The idea behind seatbelts is that they are designed to keep the operator in the seat in case the machine rolls over and prevent the driver from getting ejected into the mast. In the event of a rollover, the safest place for the operator is in the cabin with a seatbelt on. They are only ever a lap belt so they do not restrict drivers from turning to look over their shoulders. **They also prevent people from jumping when adrenaline kicks in at the moment of an accident.**

You should be aware that it is the law that they are worn. The risk to the operator if a machine turns over is grave, he or she will not be covered by the employer's insurance and the employer will have to answer to WHSQ if the seatbelt wasn't worn.

If the forklift does tip over:

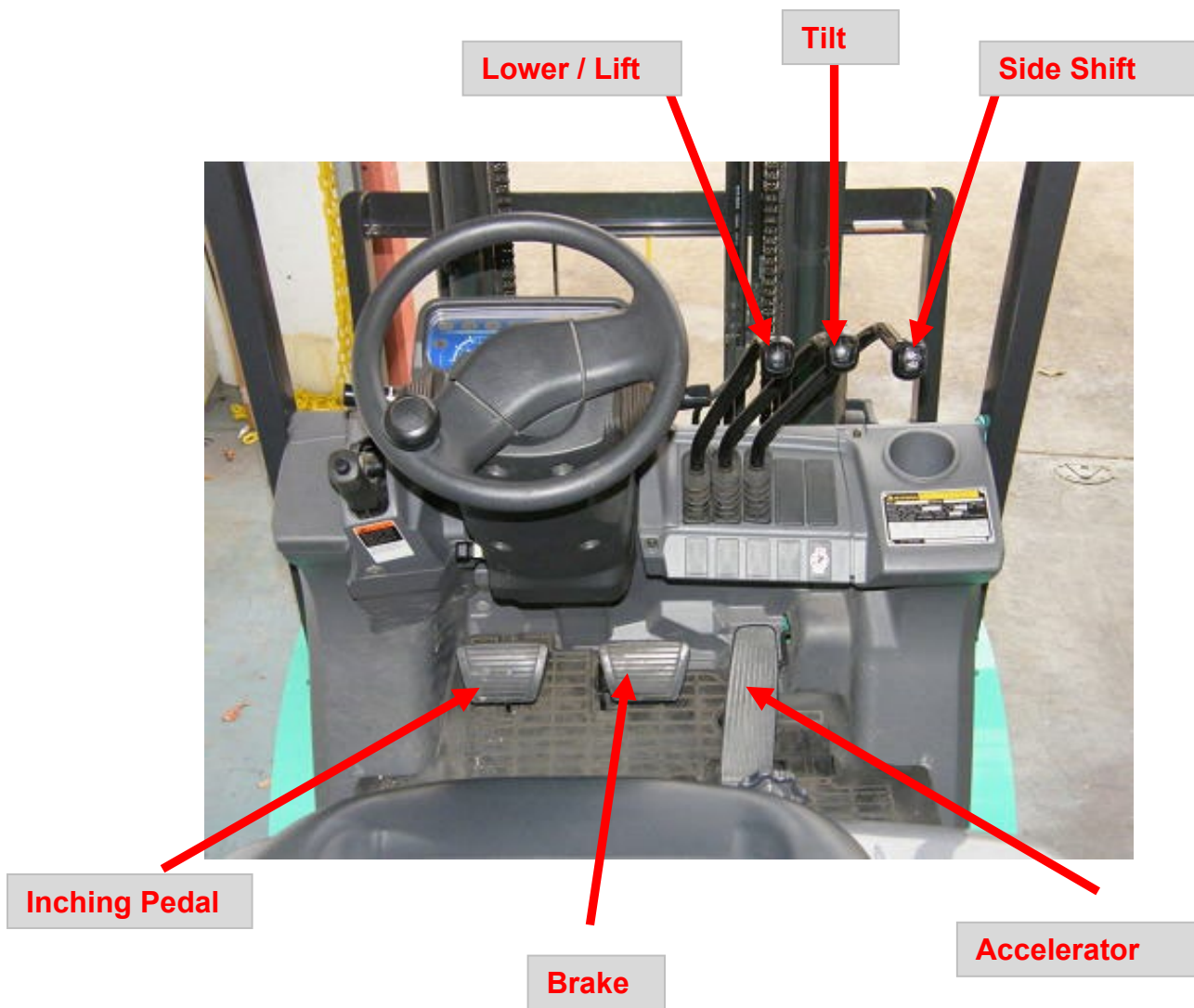
- **Do not jump out.**
- Brace yourself.
- Hold on.
- Stay inside the forklift with your seat belt on.
- Lean in the opposite direction to the overturn.

In almost every case where an operator has jumped from their forklift while it is overturning, the result has been fatal.

In a reach truck or stand-up type forklift, seatbelts should be worn if fitted. However, some manuals do advise operators in the event of an emergency to exit the machine and move away immediately. The best way to avoid having to deal with a situation like this is to know where you are at all times, especially when working around loading docks etc. and follow the rules for safe operation.

An operator should always read the manuals specific to the machine they are operating.

Controls



Due to new machines always coming onto the market, it is essential that you read your manuals. You need to be aware of the specific functions of the machine you are using, i.e. button on the tilt lever, why you don't run out of gas (hydraulic freeze).

Inching Pedal

To operate a forklift safely and effectively, you need to have an understanding of an inching pedal.



Powershift transmission with direction control

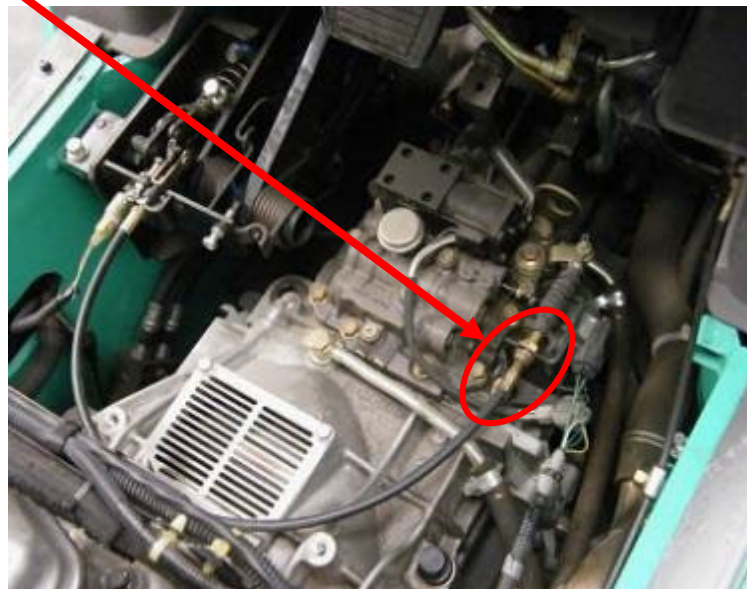


Powershift transmission with Monotrol pedal



Manual transmission

Inching Valve



An inching pedal allows for slow creeping manoeuvres at high engine speeds. In simple terms, it gradually disconnects the transmission and applies the brakes at the same time. Each machine works in a different way so it is important to read the operator's manual or ensure your employer trains you on the machine you are to operate.

Transmission Warning Light



A transmission can get too hot and this is normally caused by driving with the inching pedal partially depressed.

If you are a supervisor in a workplace - check brake lights, this will let you know if your operator is doing this!

Hydrostatics

The control pedals shown below are from a Linde forklift which uses a Hydrostatic transmission. These forklifts are common in warehouse environments.



Start Up Checks

These are function checks, done after the pre-checks, after starting the motor but before commencing to shift a load.

A forklift operator needs to check the following: -

- Seat adjustment.
- Seatbelt securely fastened and undamaged.
- Check forks are not damaged underneath, adjustment.
- Lights are working.
- Horn is working.
- Hydraulics (to full extent, to ensure functionality and lubricate cylinders before use).
- Operational warning devices.
- Gauges.
- Braking system whilst moving, travelling in both directions.
- Handbrake.
- Steering system whilst moving.
- Clutch / inching.
- Mast and tilt controls (to full extent – be aware of rust build up and wear ridges)
- Tilt and Lift and side shift systems (to full extent).
- Mirrors.

These checks could save your life. Records of these checks should be kept. If there is any damage or if anything is not working, you must write down what the problem is, take the key out, place a “Do not use tag” on it and report the fault to your supervisor.

Understanding the terminology of forklift operation, stability principles, and the data plate

This section is probably the hardest part of the course for most students. It is important that you understand this information as there are several questions relating to this chapter in the theory exam.

A good understanding will assist you in your assessment but more importantly it will result in you being a better and safer forklift operator in the workplace.

Collapsed Height

COLLAPSED HEIGHT



COLLAPSED HEIGHT



Collapsed height is the distance measured from the ground to the top (highest point) of the forklift when the forks are in their lowest position, as in the two examples above, this could be the mast or the overhead guard, it depends on the machine.

Free Lift

Free lift is the distance the fork arms can be raised before the mast height is altered.

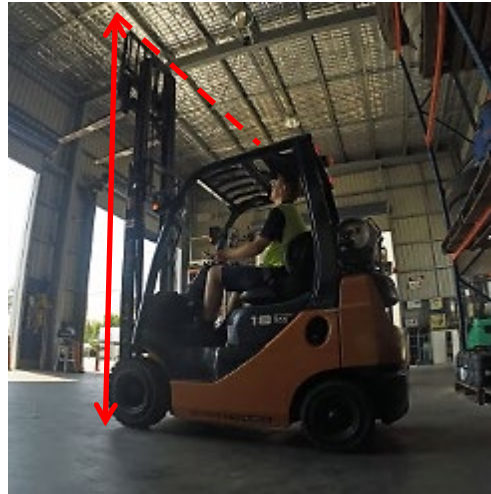
Free lift is especially important when operating inside shipping containers to avoid hitting the roof.

FREE LIFT



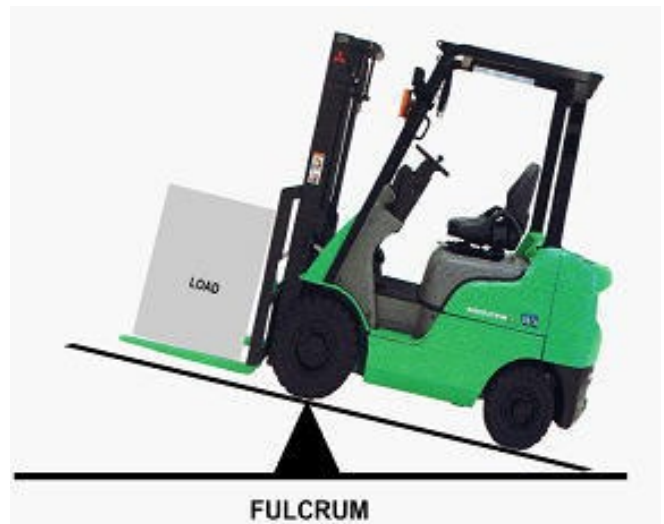
Maximum Fork Height (MFH) is the distance measured from the ground to the top of the forks when the mast is fully raised.

Overall Extended Height is the distance measured from the ground to the top of the load backrest or load guard extension, when the mast is fully raised.



Fulcrum

Fulcrum is the term given to the point of balance on a forklift truck. If a vertical line was drawn straight through the centre of the front axle to the ground beneath, this would be the fulcrum of a forklift.



ALL the weight behind the **point of balance, pivot point or fulcrum (front axle)** of the truck is acting as the counterweight.

Stability

Forklifts are unstable by design. They have no springs and even four wheel counterweighted Forklifts only have three point suspension.

The two rear wheels are attached in the centre to the main body of the machine allowing the rear to hinge sideways affecting the lateral (sideways) stability of the machine. All Forklifts have a high centre of gravity and a narrow wheelbase which adds to their overall instability.

The centre of Gravity when loaded



The centre of gravity unloaded



**If the red dots move outside the stability triangle
The truck will tip over**



Lateral Instability (sideways rollover)

Lateral Instability is the point reached when the combined centre of gravity of the load and truck is placed outside the sides of the “stability triangle”, causing the truck to tip over sideways.

Be aware of the factors listed below which can affect **lateral instability (rolling over sideways)**:

- Turning at speed.
- Driving over uneven surfaces.
- An unevenly distributed load.
- Driving with a flat or under inflated tyre.
- Driving too fast.
- Travelling / turning with the load raised – a **very dangerous** practice.
- Braking too hard when turning.
- Side shift not centred.
- Lifting a load on one fork arm.
- Hitting overhead objects.
- Driving sideways across a slope.
- Dragging a load sideways with a jib attachment.
- **The forklift operator is always responsible for their actions.**

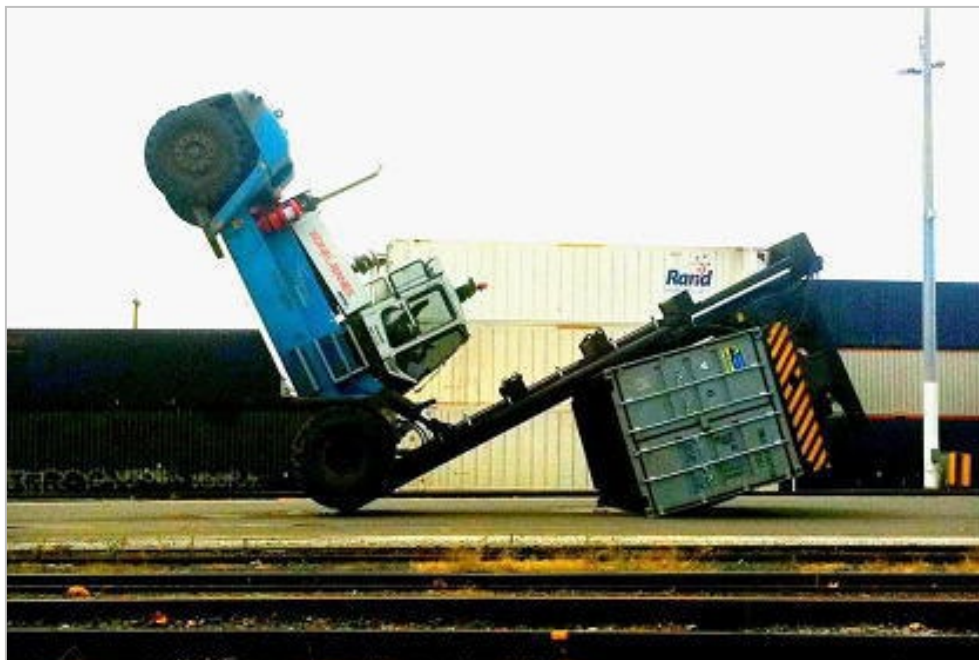


If the forklift does tip over:

- **Do not jump out.**
- Brace yourself.
- Hold on.
- Stay inside the forklift with your seat belt on.
- Lean in the opposite direction to the overturn.
- Be very aware in reach trucks – what is your safest option?

Longitudinal Instability (lengthways tip-over)

Longitudinal instability is the point reached when the combined centre of gravity of the load and truck is placed forward of the front axle causing the rear wheels to lift off the ground.



The front wheels of a forklift act as a fulcrum with the forks on one side and the machine body on the other. If the weight at the fork ends is heavier than the counterweight it will cause longitudinal instability (the forklift will tip forwards).

Be aware of the factors listed below which can affect **longitudinal instability (tipping over lengthways)**:

- Overloading.
- Uneven surfaces.
- Sloping surfaces.
- Driving too fast.
- Severe braking.
- Incorrect use of the mast tilt (especially with the load carried at a higher level).
- Load not positioned against the heel of the fork arms.
- Lifting too high.
- Shifting the load centre forward.
- Hitting overhead objects.
- Dragging a load in from the front with the jib attachment fitted.
- Lifting a load with a jib with the mast tilted forward.
- Picking up an over-length load.
- Driving reach truck with mast extended forward.
- The forklift operator is responsible for all of these actions.

Colliding with another vehicle and towing disabled forklifts have also caused overturns and fatalities.

Australian Standard Pallets

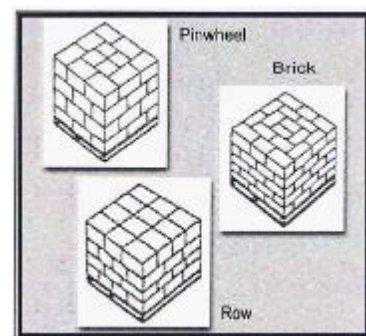


An Australian Standard Pallet (Loscam / Chep) is 1165 x 1165 mm long, Industry work on 1200 x 1200 mm long. Therefore, most machines in Australia are rated at a 600 mm load centre - the distance from the heel of the fork arms to the centre of gravity of the standard pallet load (see *Load Centre Distance*). The safe working load limit (SWL) of a hardwood pallet is 2 tonne.

Stacking Pallets

One of the most important factors that need to be considered when stacking a pallet is the strength of the cartons to support the load.

The strongest part of the carton is in the vertical edges of the carton and 2/3 of the load bearing strength is in these edges.



- Make sure the surface is stable and flat.
- Re-stack damaged or unstable loads
- Place the heaviest Load on the bottom
- Don't stack load too high that it becomes unstable



Data Plates

Safe Working Load (SWL)

Most forklifts have two safe working loads stamped on the load rating plate. They are the:

- Mast vertical SWL
- Mast forward tilt SWL

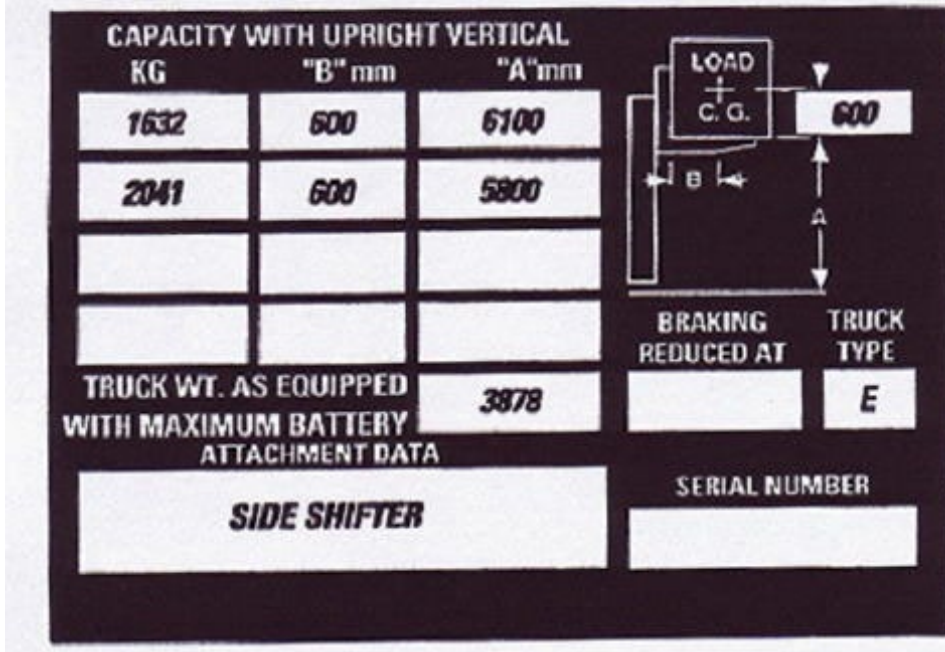
The load rating plate is usually found next to the driver's seat. If attachments are fitted a separate load rating notice needs to be displayed. To prevent accidents the weight of the load must always be checked against the specifications of the forklift.

Below is the data plate from a forklift with attachments also recorded.

FORKLIFT TRUCK CAPACITY NOTICE PLATE								
MITSUBISHI LIFT TRUCK			MODEL G18ZNL		SERIAL NUMBER F3770750			
Maximum Lift Height 4000			Maximum Back Tilt 6 Degrees		Battery Mass Maximum kg			
Tyre Type P/SPROOF			Pressure Drive kPa		Steer kPa		Minimum kg	
Unladen Weight 2890 kg			Drive Axle 1210 kg		Steer Axle 1680 kg		Battery Volts	
CAPACITY WITH MAST VERTICAL					CAPACITY AT 6 DEGREES FORWARD TILT			
Lifting Attachment Details	Length mm	Mast Lift Height mm	Load Centre mm	Capacity kg	Length mm	Mast Lift Height mm	Load Centre mm	Capacity kg
Forks								
Side Shift	1070	4000	600	1470	1070	4000	600	900
Side Shift/Fork Pos								
Slippers 216	1600	4000	900	1100	1600	4000	900	650
J1B39615		4000	500	1250				
J1B30615		4000	1000	800				
Distributed by:			MLA Holdings Pty Ltd QUEENSLAND (07) 3376 7488		N.S.W. (02) 9898 5844 S.A. (08) 8349 8699		VICTORIA (03) 9465 9177 W.A. (08) 9353 3233	

Example:

DIAGRAM 1.



- A) You can lift 2041 kg with a load centre of 600mm, to a maximum fork height of 5800mm.
- B) You can lift to a height of 6100mm at a load centre of 600mm with a reduced maximum load of 1632kg.

Operators must be able to understand the load plate and the conditions of loading at all times. The load centre distance rating is taken from the heel of the fork arms to the centre of gravity of the load.

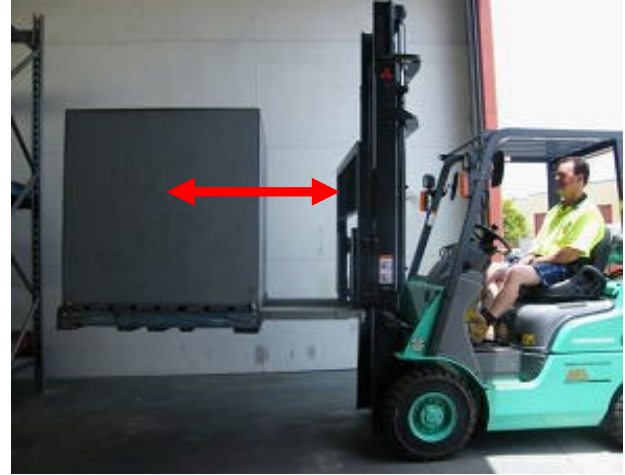
Do not use a forklift that does not have a load / data plate.

If slippers (extensions) are placed on the forks, the load centre increases allowing larger loads/pallets to be lifted. However this greatly reduces the load rating of the forklift.

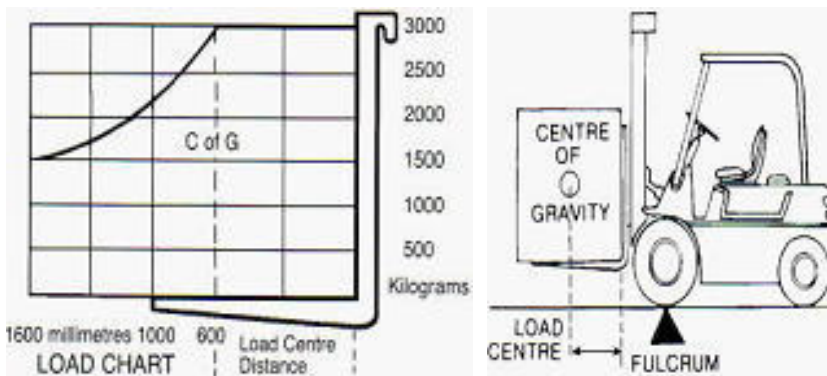
SWLs must not be exceeded. If the load weight is too great, the forklift can tip over. As the mast is tilted forward, the centre of gravity moves away from the fulcrum so that the SWL decreases.

Load Centre Distance

Load centre distance is the horizontal distance measured along the fork arms from the centre of gravity (C of G) of a load to the heel of the fork arms. Most forklifts are rated as 600 mm as an Australian standard pallet is 1200 mm long. It is nothing to do with the length of the tynes / forks.

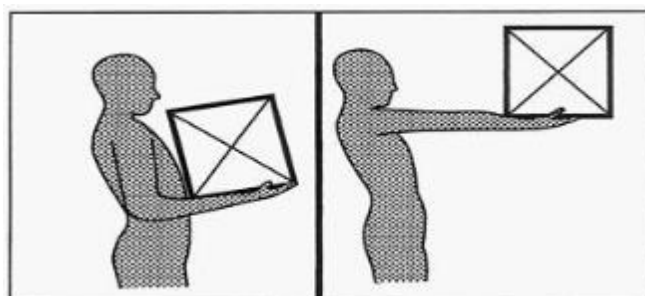


The load must be against the heel of the forks or the capacity of the machine will be reduced.

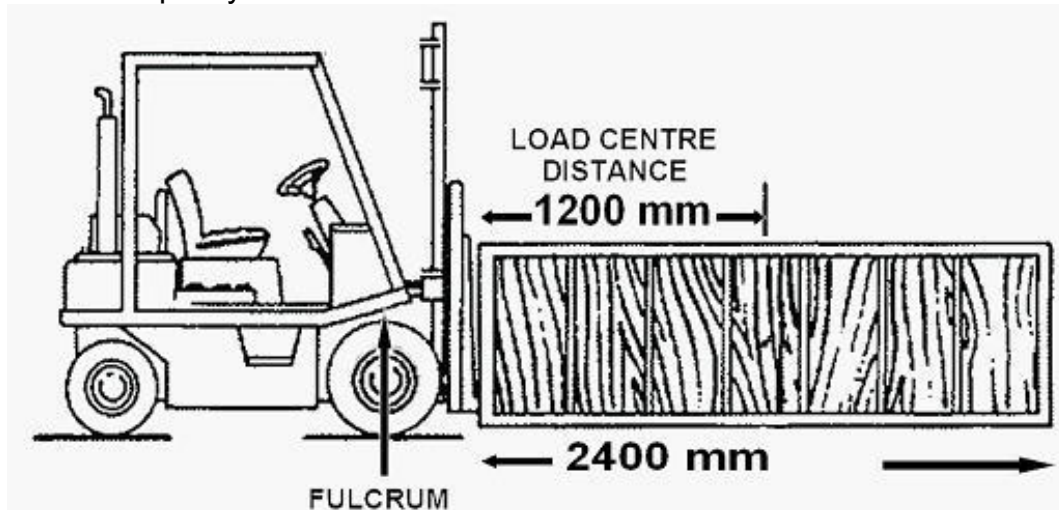


The heaviest part is not always at the middle of the load. So, the load centre distance will be different for different loads.

You must know what load centre distance is, because if you don't, the forklift can get out of balance and could tip over. In principle, it is just like us when we carry something. We can carry heavier loads when we carry them closer to our bodies. The further out we hold the weight out from our chest, the less weight we can carry. It's more likely we will tip over. This is the same for the forklift.



For example, if a box 2,400mm long is lifted by a Forklift the load rating is assessed 1,200 mm out from the backrest giving a reduced SWL. An increase in load centre reduces the forklift's capacity.



In this case the load rating is assessed 1,200 mm from the front face of the forks / backrest

Some load plates give various load ratings according to the load height, load centre and mast tilt. Forklift operators must know and understand the load rating for each different circumstance. The rated capacity of a forklift must always be noted and never exceeded.

Rated Capacity

It is important that you understand the rated capacity of your forklift
In simple terms rated capacity means:

The Rated Capacity refers to:

How long the load is? **Length** (Load Centre of Gravity)

How heavy? **Weight**

How high? **Height**

RATED CAPACITY MAST VERTICAL With Forks		
MAX. CAPACITY (kg)	LOAD CENTRE (mm)	HEIGHT (mm)
1570	600	3700
With Attachment		
1450	600	3700

Load Calculations

How can you work out the weight of the load?

- It might be written on the load.
- It should be written on the consignment details or delivery note/weighbridge certificate.
- Ring the manufacturer.
- Ask an experienced person or your supervisor.

Weights of commonly handled materials	Kilograms (kg) per cubic metre
Concrete	2,400
Copper	10,000
Lead	12,000
Steel	7,300
Water	1,000

You can add it up by weighing one item, and then multiply that weight by how many items there are and you will have the total weight. Don't forget to add the weight of the pallet if you are moving goods stacked on a pallet. A properly constructed hardwood pallet weighs between 30kgs and 40kgs and has a SWL of 2000 kg.

For example, the calculation could be:

- 20 bags @ 20 kg per bag = 400 kg
- Weight of pallet 60 kg = 60 kg
- No of bags (20) x weight of each bag (20) + weight of pallet 60 kg = total load weight
- $20 \times 20 + 60 = 460$ kg

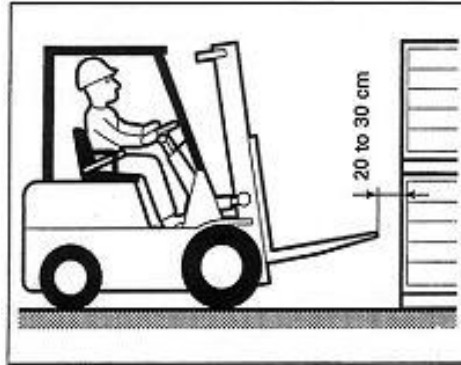
You must find out the weight of the load before lifting as “trial lifts” can be very dangerous.

Safe Operation

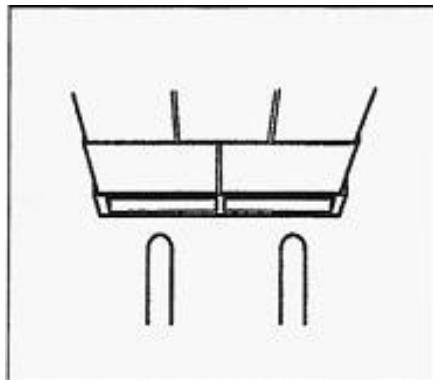
LOADING AND SAFETY OPERATION (CAN VARY ON APPLICATION)

Unloading or De-Stacking (taking a pallet out of the racking)

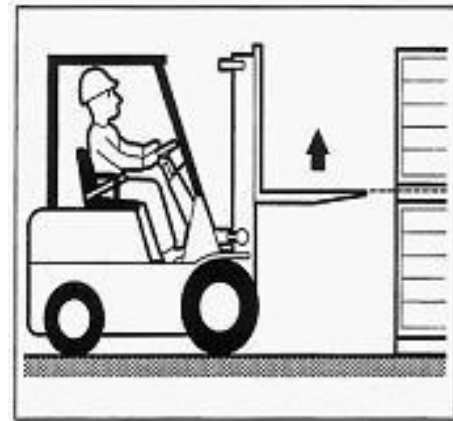
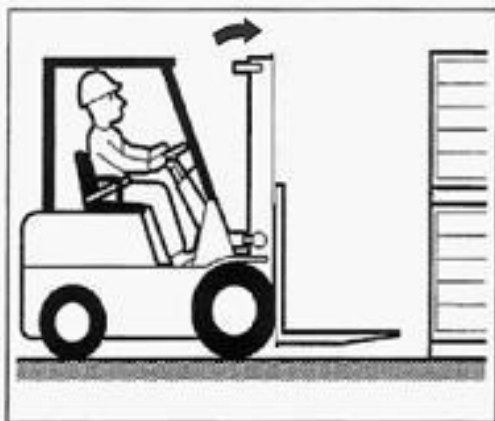
1. Slowly approach the load stop truck 20-30 cm short of the load (up to 1 metre away).
2. Make sure the truck is square with the load.



3. Secure forklift. The handbrake should be applied when raising or lowering the load (where necessary). If not using the handbrake, foot must be on the footbrake or firmly on the inching pedal.
4. Make sure that the forks are centred on either side of the mast.

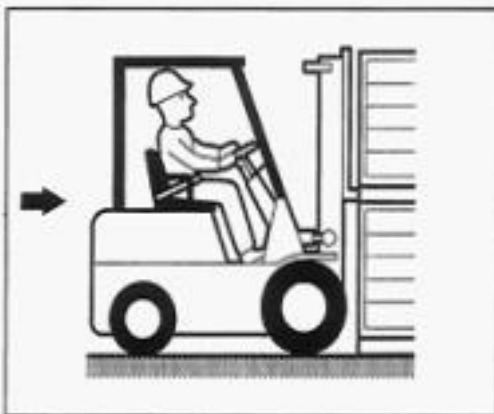


5. Tilt the mast forward to the vertical position (ensure blades of tyres are horizontal) raise to correct height.



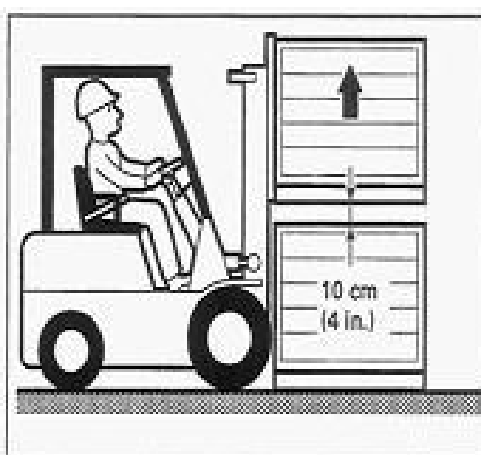
Confirm the fork insertion position, slowly move the truck forward into the pallet all the way to the backrest – listen for rubbing etc.

- Do not enter the pallet with the mast tilted back or forward. (This will bind the forks and damage the pallet).
- Do not allow the forks to protrude through a pallet. They can damage what is on the other side of the stack.
- If **pallets** are damaged restack the load onto undamaged pallets.
- Hydraulic controls should be operated smoothly. If the controls are pushed quickly the operation will be jerky.

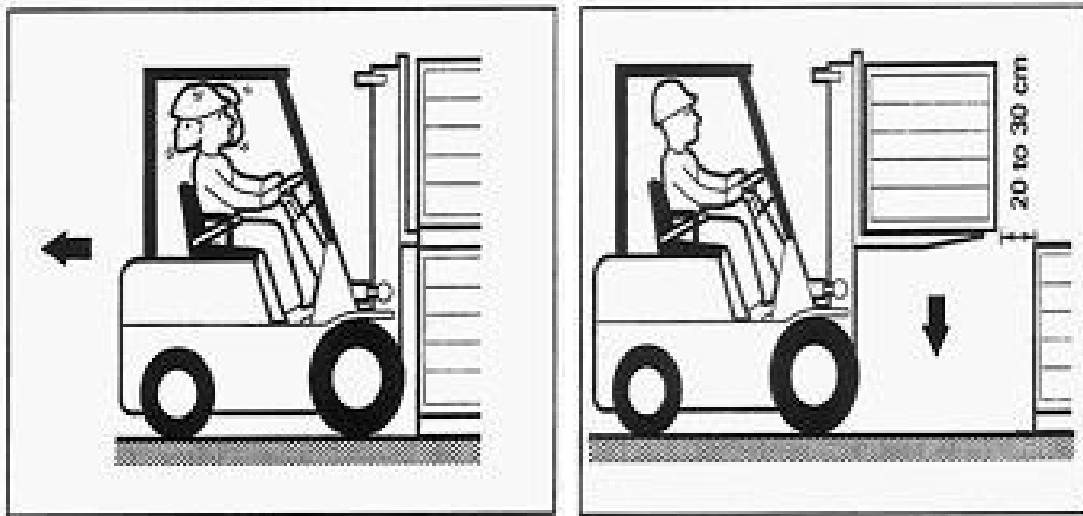


6. Carefully raise the load clear of the stack. Ensure the load remains horizontal or slightly tilted backwards (maybe wise to keep mast vertical – assess the situation first as there could be something on top of the load).

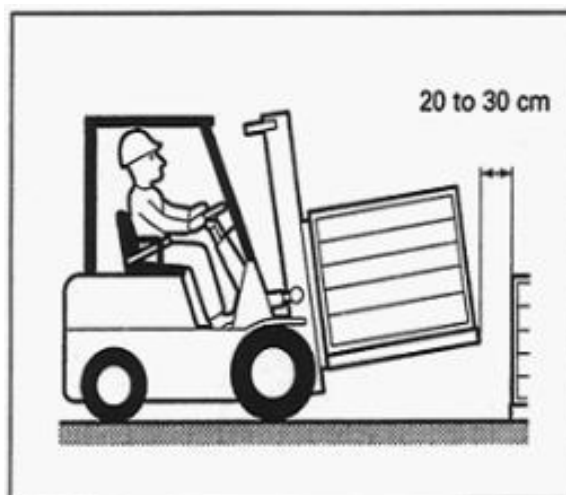
- The load should always rest against the heel of the fork arms. This will ensure that the load centre is in the right place.
- If the load weight is unevenly distributed on the pallet put the heavy end of the load against the heel of the fork arms.
- When lifting the load, if the forks flex forward, tilt the mast backward in order to maintain the stability of the load, ensuring load is not tilted forward.



7. Check over both shoulders – reverse back slowly watching load until reaching safe clearance distance (20-30 cm) then slowly lower load to safe travel height, watching and listening for hazards and noises.



8. Place load in safest travel position, 10-15 cm from ground tilted back (maximum axle height):
- Apply correct amount of tilt according to load and terrain.
 - Check that the load is stable and distributed evenly.



9. Check over both shoulders and travel away looking in the direction of travel.

Travelling

- Make sure that no one is in the way or standing next to you before driving away.
- Carry loads as low as possible at all times – 150 mm off the floor front axle height.
- Always travel with the load tilted backwards and low to the ground.
- Stay left in two way traffic aisles.
- If the load is wide you might need to take a different route.
- If your load extends above the backrest extension height, band them together to reduce the risk of falling.
- If you can't see clearly you should drive backwards or use a spotter.
- Follow the travel path you've set out in the work plan.
- Obey the speed limits.
- Read the signs, know what they mean and follow their directions.
- Look out for barriers; you don't want to hit them.
- Pay attention all the time. Things are constantly changing.
- Keep a safe distance from other forklifts.
- Allow enough distance and time, so that you can stop safely.
- Always keep your load lowered when you're driving.
- Use horns and lights to warn people you're in the area, when you drive in and out of doors and when you go around corners.

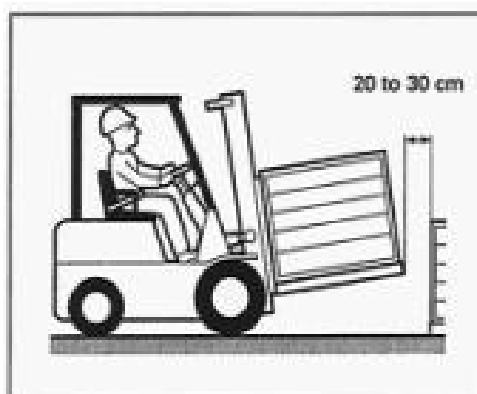
The impact of being reckless when picking up and placing loads in a warehouse could result in costing the company money by damaging stock and machinery and an increased possibility of the injury of staff.

When you drive a forklift, concentrate. If there is a near miss or an accident, report it to your supervisor immediately and fill in the paperwork. Just write down the facts such as when it happened, who was there, what happened and where it happened.

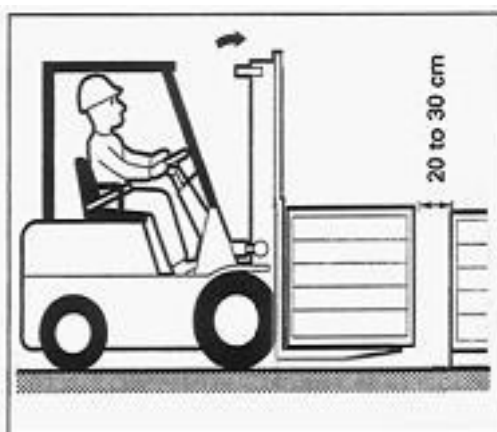
When you do this it will help identify hazards and risks and then changes can be made to make the workplace safer for everyone.

Loading / Stacking a pallet into racking

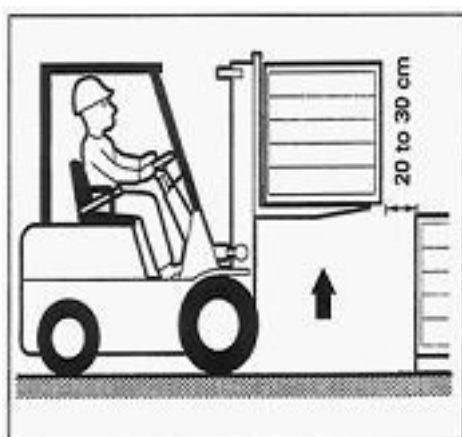
1. Slowly approach stack or racks making sure that you are square.



2. Stop the forklift 20 to 30 cm short of the rack / stack you wish to unload onto.
3. Bring the forklift truck to a complete stop in front of the load.
 - The handbrake should be applied when raising or lowering the load (*where necessary*). If not using the handbrake, vehicle must be secure, with foot on brakes or hard on the inching pedal.
4. Tilt the mast to the vertical position so the pallet is horizontal.



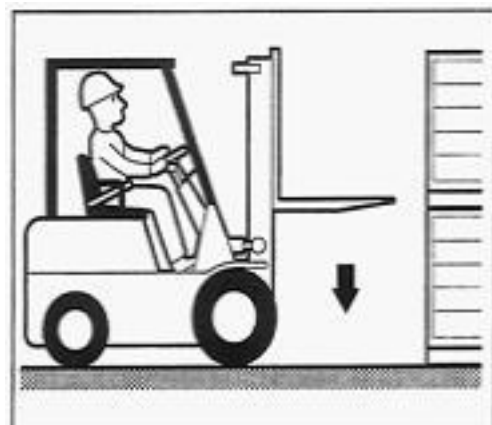
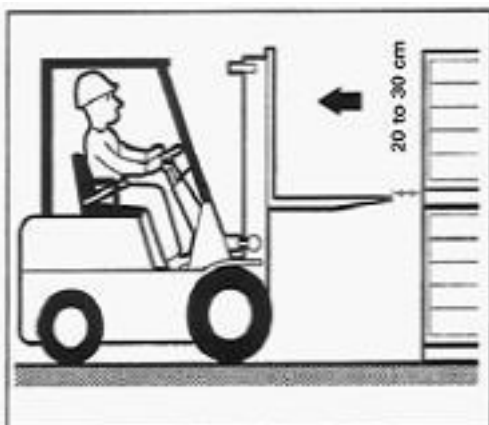
5. Raise the load carefully to the correct height – ensure clearances are safe and that you have positioned yourself squarely facing the stack or rack. As pallet gets to eye level check that the load is positioned level on the forks.



6. Slowly move forward over the load / rack and lower load:
 - When stacking onto a shelf, take care not to hit the load.
 - When putting the load down, always bring the load over the stack before lowering.
7. Lower mast; ensure pallet hooks onto crossbeams of racking.



8. Check over both shoulders, slowly reverse out, watching to ensure tyres stay horizontal and listen for noises.



9. Once clear of the rack / stack by 20-30 cm, stop the truck and slowly lower the mast.
10. Place forklift in safe travel position and move away looking in direction of travel.



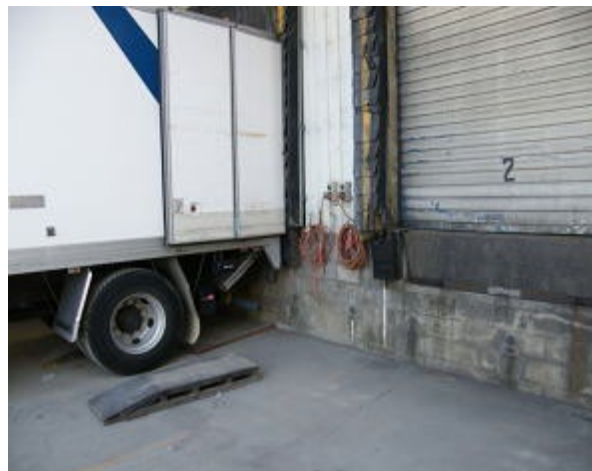
Loading Trucks

- Always load pallets alternately on both sides of a truck. A truck can overturn if one side is empty and the other side has a full load.
- Make room by shifting the truck if there is no room to load both sides.

Loading Pantechnicos (large vans)

Make sure:

- A bridging / docking plate is used to join the truck to the loading dock (no gaps).
- That the bridging plate is rated (for the machine and the load).
- That the mast is not too high to enter the van (collide with the roof).
- There is sufficient ventilation.
- That the truck will support the combined weight of the Forklift and load.
- That the bridge plate is in place and secure.



- That the van wheels are chocked.
- That the driver of the van has removed the keys from the ignition and has left the cabin during loading.
- The load is kept low during loading.

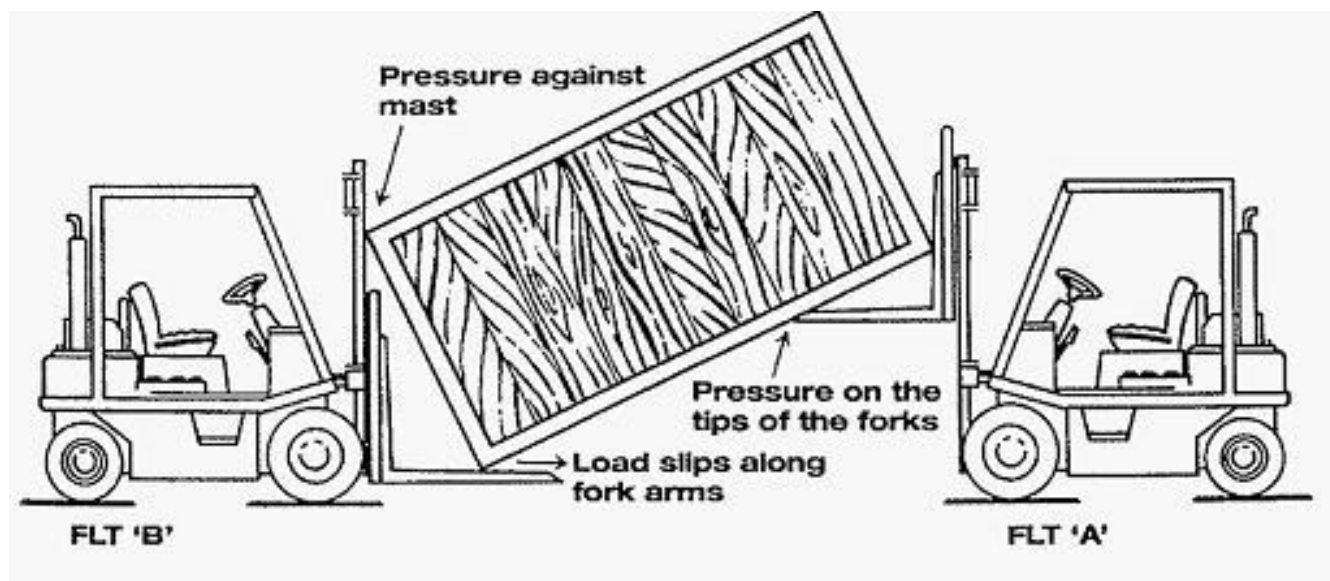
Lifting loads with two forklifts

Lifting a load with two forklifts is very hazardous. The precautions listed below must be followed when lifting with two forklifts:

- Dual lifts should only be carried out by **experienced operators**.
- The operation must be controlled by an **experienced third person** that has responsibility.
- Each forklift must not lift more than 75 per cent of its rated capacity given stability, position of load centre and other factors affecting the Safe Working Load.
- The load must only be carried the distance necessary to **clear the load carrier**.
- Order picking and turret type-high lift industrial trucks must not be used for dual lifts.
- Loads must be raised and lowered simultaneously.

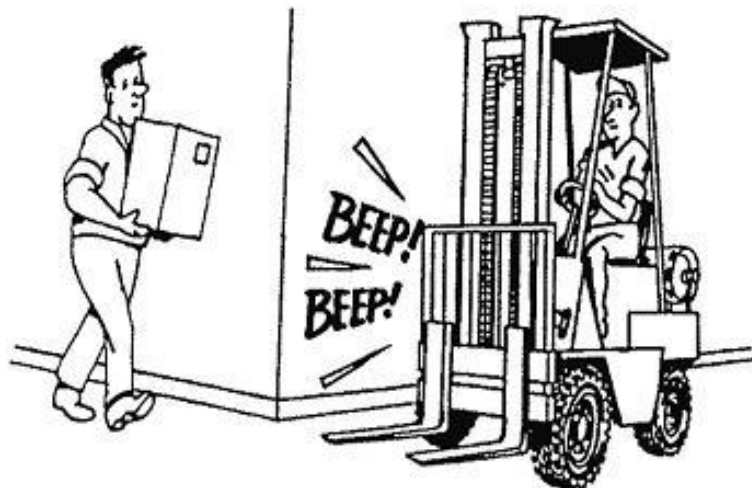
If one forklift lowers more quickly than the other, the load becomes uneven. In the diagram it shows forklift 'B' lowering more quickly than forklift 'A' causing:

- The weight to move immediately to the tip of the fork arms on 'A'.
- Pressure put on the mast of 'B' which could cause it to bend or break.
- The load to slip along the fork arms changing the position of the load centre.

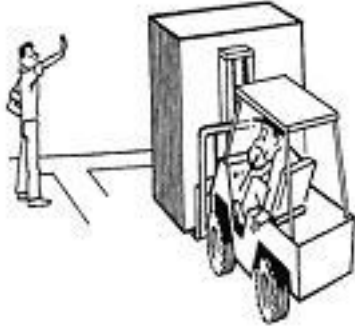


General Safety Rules for Safe Operation

- No one should walk behind a forklift while it is loading or stacking or walk under an elevated load.
- Do not overload pallets (2 tonne SWL Australian pallet). Overloading can damage the forklift as well as present additional health and safety risks to operators and pedestrians in the workplace.
- Bagged goods should be pyramid load stacked onto pallets. If you have to re-stack a pallet manually because a load is damaged or unstable, ensure that you get trained in the correct manual handling technique from your employer.
- If you are tier stacking (stacking a load on top of another load):
 - Ensure loading area is stable and flat.
 - The Heaviest Load should be on the bottom to avoid crushing.
 - Do not stack too high resulting in the load becoming unstable (3 high is a general rule).
- The weight, the shape and size of a load affects the way it should be lifted - always give consideration to this.
- Do not allow more than a third of the top section of an unwrapped load to stand above the top of the load backrest extension. A load not supported by the load apron can fall back and tangle with the mast or if the load is very high, it can topple back onto the driver.
- Make sure that no one is in the way or standing next to you before driving away.
- **Do not speed**
- Never travel, turn or tilt the forks while the load is raised as the load will be unstable and the lift truck could tilt over.
- **Blow the horn and drive slowly when approaching a blind corner and make a wide turn, treat as a give way.** You could also do this when crossing aisles of traffic and in noisy environments. If you are in doubt, lower your load, switch off the engine, get off and check or get a spotter to guide you.



- It is advisable to treat doorways as a stop sign.
- Ensure roller doors are all the way up or all the way down.
- Have someone (a spotter) guide you when driving with a bulky load that blocks clear vision.



- Do not put slings around forks to lift things.



- Do not raise a load with just one fork. It can cause damage and instability of the machine.

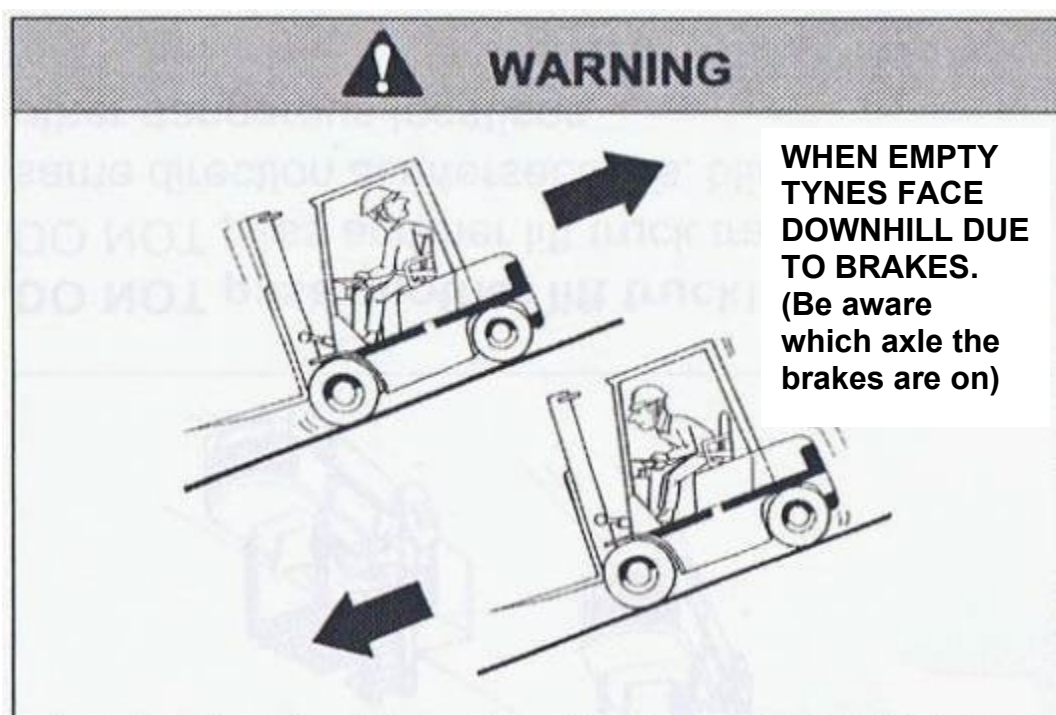
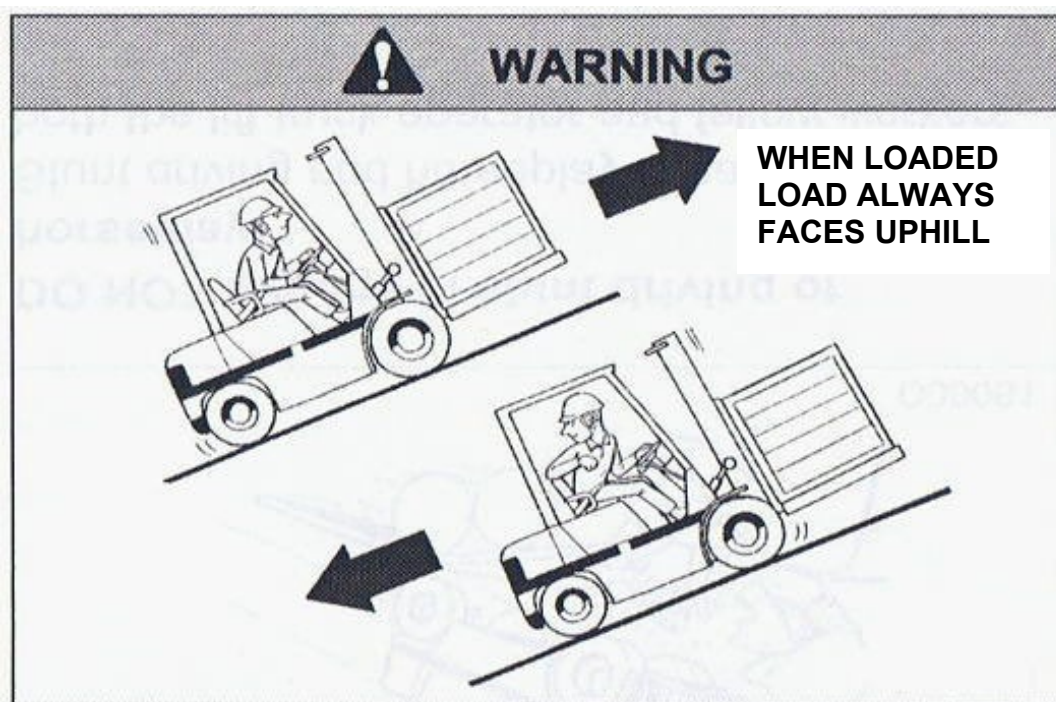
- Do not lift or carry passengers on the forks.



- Reduce speed and proceed with caution on wet or greasy surfaces.
- Always drive up and down inclines slowly. (Check manufacturer's specifications for any special features that the forklift you are operating has for operating up and down hills).



- Do not attempt to drive or turn a forklift when it is on a sloping surface. (This could affect lateral stability and cause it to tip over sideways).



- Never use the forklift (partially raised with a pallet on) as a workbench.
- Never walk under the forks – hydraulics may fail.
- Never use the forklift as a towing or pushing device.

- Never place any part of your body between the mast uprights or outside the operator's compartment whilst operating the forklift, no matter how slow you are going. You will not be able to stop a machine with your foot or any other body part and the reality is that your hand, foot etc. would be cut off or crushed.



- Do not turn sharply at speed. Forklifts overturn very easily. They are narrow wheel based trucks with a high centre of gravity.
- Do not jump out if your forklift is overturning, stay seated and brace yourself. Make sure that no part of your body is outside of the forklift frame. Reach trucks may be different depending upon the configuration.
- Stay as close as possible to the inside of narrow corners when turning and watch out for pedestrians or objects.
- Never place additional counterweights onto the rear of the lift truck to increase the loading capacity; it is not designed for it. (Refer to the Loading Capacity Table.)

- Watch out for rear end swing. Forklifts steer from the rear and the rear end will swing out on the side opposite to the direction of the turn and may hit someone or something.



- Do not allow the forklift to run out of fuel. Power steering and brakes may immediately malfunction if the fuel runs out. On newer machines the hydraulics will “freeze”.
- Do not ‘plug’ the direction controller to stop. Use the brake provided. However, in newer workplaces, most modern electric forklifts have a regenerative feature which allows plugging. Check with the manufacturer for specifications.
- Forklift must not be used to carry a passenger unless the truck has been designed to carry a seated passenger. The passenger seat needs to be fitted with a seatbelt and be located within the zone of protection provided by the operator protective device that is required to be fitted to the industrial lift truck
- Gravity alone lowers the load in most counterbalanced forklifts. Revving the engine will only waste fuel.
- Do not drive a reach truck with the reach extended out as this alters the load centre distance.
- When getting off a forklift ensure the parking brake is set, the forks are lowered and controls are neutralized. **The machine must be switched off to dismount.** Use 3 points of contact to get off.
- In case of an emergency you must give way to Police, Fire, Ambulance or other emergency vehicles at all times.

Reversing

Look over both shoulders before reversing.

The most common bad habit that forklift drivers develop is reversing without looking at what or who is behind them.

It may sound strange as you would never reverse your car without looking behind you, but for some reason some forklift drivers do not.

Often when you look at a company forklift they will be near perfect in their paintwork around the front and down to bare metal at the rear. This is due to this lack of observation and banging into things.

The correct procedure is to look over both shoulders before moving off, then to turn around and look over one shoulder whilst travelling backwards with a customary glance around to inspect the load and the surroundings, keeping control of the whole situation.




Drivers with a physical disability that prevent them from looking clearly over both shoulders whilst reversing may be unsafe to drive a forklift.

Ensure reversing beeper is working and use spotters, horn etc. when necessary.

Did you know that mirrors aren't to be used for reversing?

Forklift rear vision mirrors are only there to see if there are cars, trucks or faster vehicles and equipment trying to come past. They are not to be used for reversing; operators should turn their head and physically look.

Linde Material Handling 

Operation 4
Standard equipment

⚠ WARNING

When using mirrors, ensure that the rearview mirror is only designed for monitoring the traffic behind the vehicle.

Reversing is therefore only permitted when looking backwards directly.

Towing

Forklifts are designed to lift and carry loads.

Tow pins are used for vehicle recovery.

Some machines are designed to tow trailers; this should be considered before purchasing.



Driving a forklift on the road – Providing vehicle is road registered

When driving a forklift on the road in Queensland, an operator needs:-

- A current photographic High Risk Work LF (Forklift) Class Licence.



- A current Class C (car, or above) Driving Licence (open, provisional or probationary).



- The machine needs to be road registered (or an exemption organised with The Department of Transport and Main Roads).
- It is also worth checking insurance policies during this process to make sure coverage includes driving on public roads.
- Previous requirements to hold a UD or the appropriate class of heavy vehicle licence were removed in January 2014. Changes to the Legislation can be found at:- *Transport Operations (Road Use Management – Driver Licensing) Regulation 2010*, except section 172 which deals with the transitional arrangements for class UD licence holders.

What is classed as a **public road** is a grey area when it comes to car parks, shared driveways etc. but obviously it is best to err on the side of caution and make sure that all the insurance requirements are met.

These requirements may not be the same in every state, so check with the Road Traffic Authority in the State you are working in.

Attachments

An attachment is anything that goes onto the front of the forklift other than the standard tye forks i.e. jib, carpet spikes, safety cage/work platform, set of slippers etc.

Attachments will affect the stability and SWL of a forklift.

Make sure the attachment has been properly manufactured and has a compliance plate.

Make sure you use an approved attachment and that the data plate of the forklift reflects the load rating for that attachment.

Make sure that the attachment is secured to the forklift properly and is undamaged. Do not rotate the load on attachments when the forklift is moving, it can de-stabilise the machine.

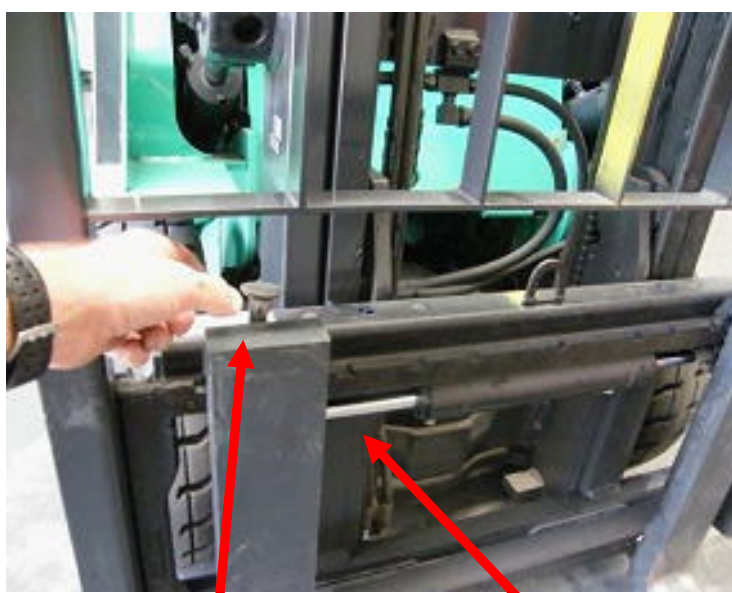
On some machines a side shift can be referred to as an attachment or they can be factory fitted to a machine as standard.

You should read the operator's manual and must be trained before using any attachment. This is where you find out all you need to know for securing and using attachments on your forklift.

Under current Work Health and Safety Regulations – there are penalties and fines that can be enforced for non-compliant attachments and attachments that are used incorrectly of up to 60 penalty points (\$6,000).

Side Shift Attachments

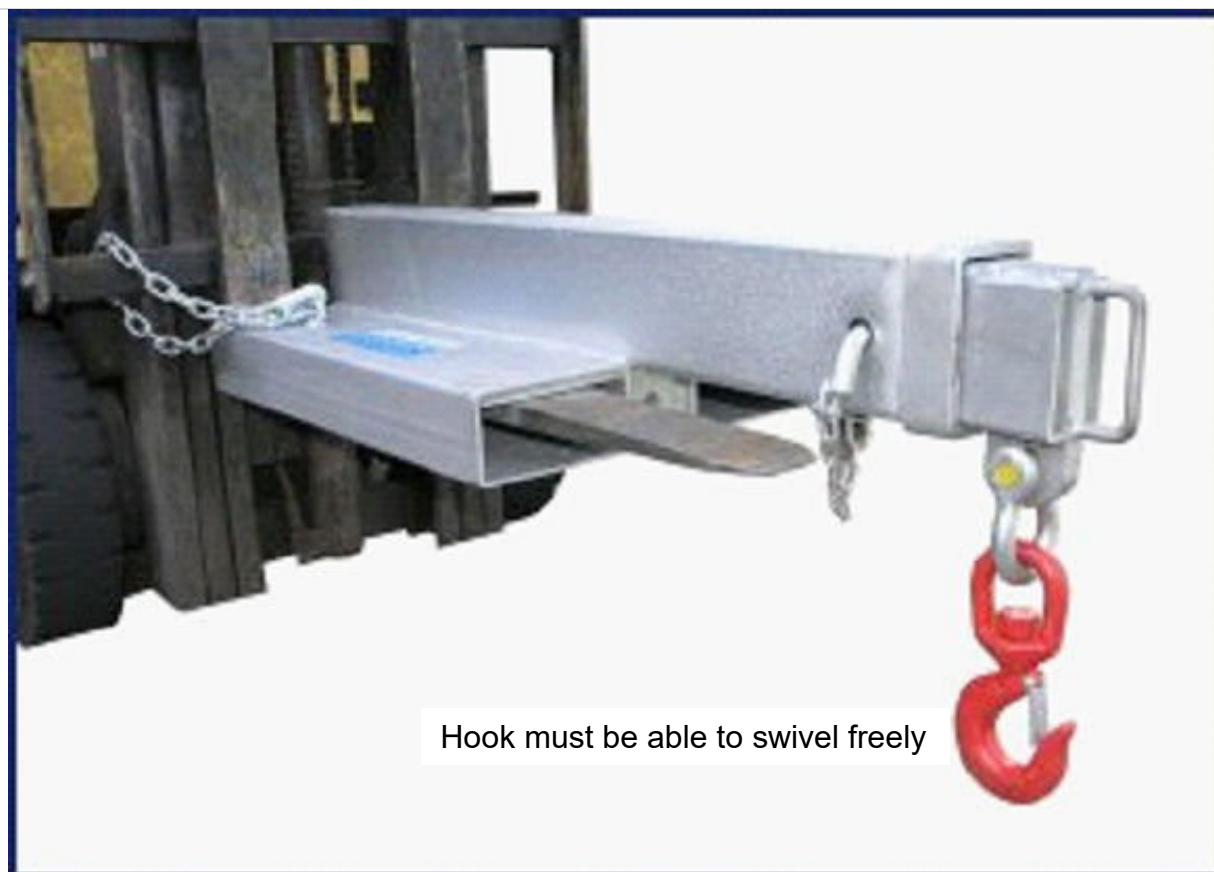
A side shift attachment allows the operator to move the load to the left and right of centre. This is particularly useful when placing loads into tight spaces and when tier stacking goods. However, when side shift is used the lateral stability of the forklift is compromised, for this reason it is important that **you ensure that the side shift has been centralized before travelling so that lateral stability is maintained.**



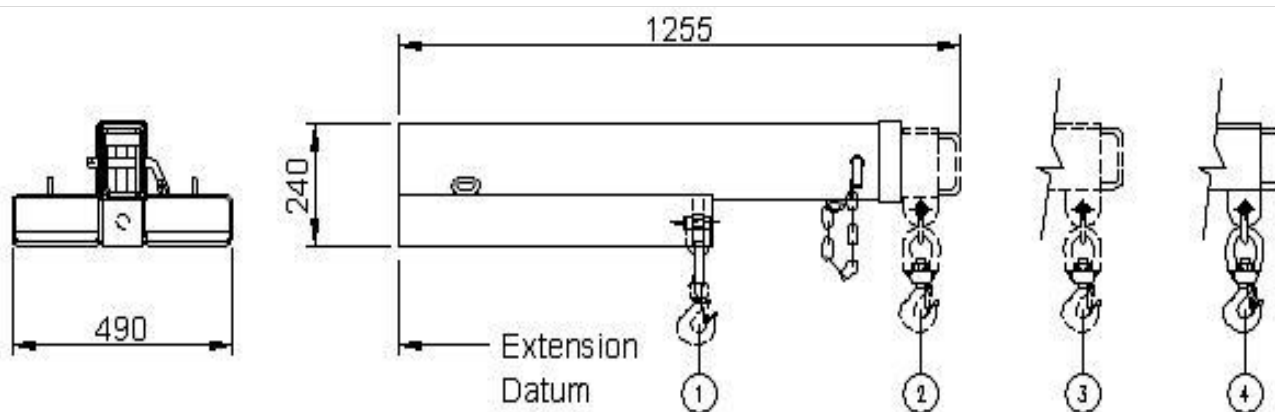
Locking Pin

Side Shift

General purpose jib attachment

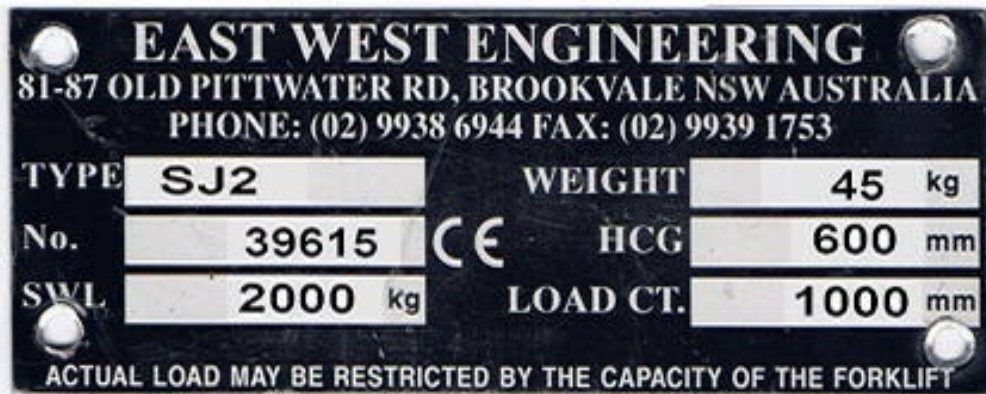


Simply slide the jib onto the fork tynes and secure with safety chain.
 Jib supplied with a swivel hook and shackle.
 Safe working load: 4500 kg max
 Overall length when closed: 1.255m
 Weight 95 kg



FJCS45 Fixed Jib	Safe Working Load (SWL) per position			
POSITION	1	2	3	4
EXTENSION (mm)	670	1165	1545	1925
SWL (kg)	4500	2900	1300	750

Data plate on a jib



SWL = Safe Working Load

Operational requirements

- Use caution: jib attachments are more unstable than forks because they have a higher centre of gravity and as an operator you are also dealing with a load that has potential to swing.
- The jib and load should be kept **as low as possible**.
- The mast should be kept vertical or tilted backwards.
- Travel at low speeds and make **turns slowly**.
- Make sure that jib attachments are **properly fitted and secured**.
- **Centre the hook directly over the load** before lifting to ensure stability.
- The SWL must be displayed on all jib attachments above the lifting points where a lifting hook is attached.
- Hooks must be able to move at least 15° in all directions and swivel freely.

Slings, wires, chains and shackles

Slings, wires, chains and shackles are used when using jibs and other forklift attachments. There are generally three types of slings:

- Synthetic.
- Steel core rope.
- Chain.

Synthetic slings

If a synthetic sling is frayed, worn or split it must be discarded, because the sling could fail during a lifting operation.



Safe Lifting Is Never Guessing 

1. Consult sling load chart for configurations not shown.
2. Do not use sling if this tag is removed.
3. Inspect sling for damage before each use.
4. Do not use if there is any sign of cut webbing, snagging, heat or chemical damage, excessive wear, damaged seams, any other defects, or presence of grit, abrasive materials or other deteriorious matter.
5. Do not tie knots in sling.

SLINGTECH 340 Victoria St Werrihill Park NSW 2164

Vertical 	Choke 	Basket 	60° 
WLL = 2,000Kg	SWL = 1,600Kg	SWL = 4,000Kg	SWL = 3,400Kg

100% POLYESTER

2008/2009	2010	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
●							●						

- Easy to use.
- Read the tags (can be for 1 lift only).
- Can be colour coded or can count the stitch pattern.
- Might be amortisation date.
- Inspect before every use (tested according to industry / manufacturers recommendations).
- Don't take chances.
- If in doubt do not use it.

Steel core rope (wires)

Things to look for when checking steel core rope:



- Wire is not stretched or affected by heat, rust or acid attack.
- That the eye splicing is not damaged.
- That the tags are not missing.
- That the tags are legible.
- Whether more than 10% of the wires are broken within a length that is 8 times the diameter of the wire rope.
- Whether there is any “bird-caging” of the wire.
- Not user friendly – gloves must be worn.

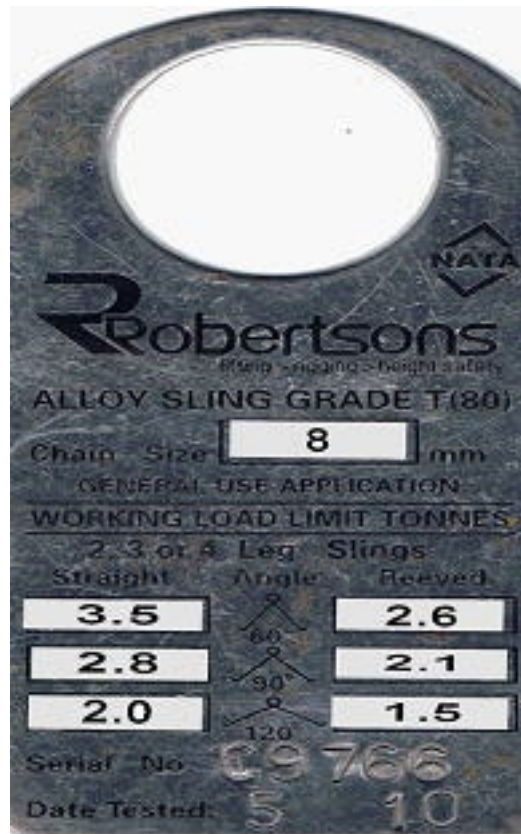
If you are going to use a chain sling, you need to make sure that its safe working load is appropriate. You will be able to determine this by referring to the metal tag attached to the end link of the chain.

Multi Legged Chains




- Inspect for damage before every use.
- Check WLL / SWL on chain.
- For double or multi legged chain slings the WLL / SWL can be obtained by either the tag or by calculations using the approved formula (can vary on the angles used).
- Check test dates / certificates for compliance.
- Do not use unrated / not tagged chains.

Chain Tag



Chains and slings must share a common SWL tag

Example of Test Certificate



Robertsons
lifting - rigging - height safety

Certificate of Test and Examination

Customer Name And Address: The Operator School, 3 Nugent Court, Helensvale

Customer Order No.: lba

Test/Report Date: 15/05/10

Certificate No.: 106180

Sales Order No.: 323697

Job No.: 151309

Test Type: Proof Test

Laboratory: GOLD COAST Accreditation No.: 14150


Identification Markings	Description	Effective Length	Finish	W.L.L.	Angle	QTY	Minimum Load / Force Applied (kN)
C9766	Chain Sling 8mm 2 Leg Gr.80	1280mm	Self Colour	3.5t	60 degrees	1	07.8kN

Manufacturer: Robertsons

Complies to Test Procedure: AS 3775.1

Result: Pass

Additional Notes on Test Results



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This document shall not be reproduced, except in full, without written approval of the laboratory.

Site: _____ Location: _____

The above articles were tested and examined by a competent person.

Signed: _____

Authorised Signatory: **Brett Moya**

Head Office BRISBANE SOUTH 4 Buncrana St Lodgebrook Q 4170 P 67 3801 0011 F 67 3809 0000	ROBERTSONS BRISBANE NORTH 4 Jubilee Rd Brisbane Q 4059 P 67 3800 1400 F 67 3801 0011	GOLD COAST 33 Diner Drive Surfers Paradise Q 4219 P 07 5525 8273 F 07 5525 8240	TOOWOOMBA 243 Taylor St Toowoomba Q 4330 P 07 4634 8566 F 07 4634 8522	MACKAY 179 Beaufort Rd Mackay Q 4730 P 07 4992 5000 F 07 4992 5000	GLADSTONE 4 Sandringham Gladstone Q 4709 P 07 4992 4511 F 07 4992 4500	MELBOURNE 8 Bayne St Melbourne VIC 3010 P 03 9387 5833 F 03 9387 2444	DARWINING 25 South Way Darwining QLD 4708 P 06 9484 3344 F 06 9451 1322	PERTH 16-18 Newcastle Rd Newcastle WA 1916 P 08 9484 4322 F 08 9451 1322	SYDNEY 63 Blount St North Sydney NSW 2150 P 02 9186 3044 F 02 9484 4120	ASO LIFTING NEWCASTLE 33 Fernhill Drive Newcastle NSW 2316 P 02 4966 8823 F 02 4966 8011	MUSWELLOPOOK Lot 45 Thomas Mitchell Drive Muswellbrook NSW 2333 P 02 4911 5508 F 02 4911 5513
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Shackles

Bow shackle



Dee shackle



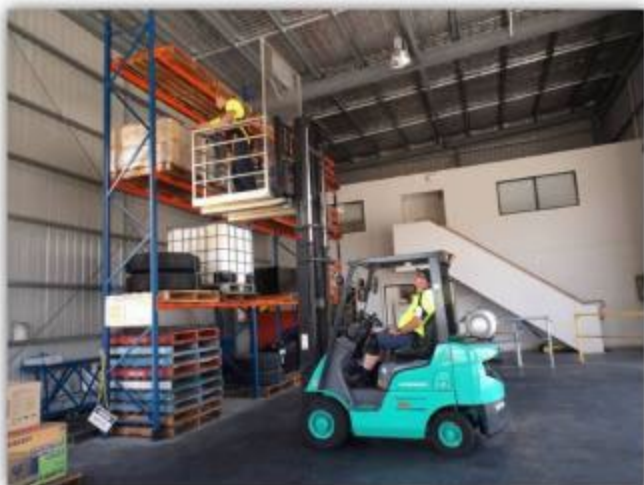
- When using shackles make sure pin is secure – with lockwire or split pin.
- 10% max wear is allowed, anymore and the shackle should be replaced.

Forklift extensions or slippers

- Slipper forks (extensions) are often used to slip over existing fork arms to extend their reach. Although quite common, they are often used incorrectly. It must be remembered that they can alter the load centre distance.
- The slippers must not be any longer than 1.5 times the fork arm length i.e. if the fork arms are 100cms long, the slippers must not be any longer 150cms.



Work Platforms



In Queensland harnesses are highly recommended but not enforced

Maintenance work platforms with a meshed in work area securely attached to the forks can be used to raise people performing minor maintenance tasks.

- Workers who have not completed the necessary safety training should not use platforms. Platforms should only be attached to a complying designated forklift with a load capacity data plate stating attachments that may be used. To use a forklift with a maintenance work platform attached to it, it must have restricting hydraulic valves fitted to it in case of failure or burst hoses.
- Before anyone is raised on a forklift, safe work procedures must be in place to ensure they can be rescued if an incident or breakdown occurs.
- Know the weight you will be lifting and do not exceed the rated capacity.
- Person being lifted must not stand on a chair, step ladder, or climb on the side of the cage to gain extra height.
- While every step must be taken to minimise the chance of an incident, it is important to know what to do in such a situation.
- Handbrake should be applied and vehicle placed in neutral when someone is in a cage.
- To comply with Australian Standards the tilt and side-shift mechanisms must be locked out to prevent use whilst operating.

Bale Clamp

Bale clamps are used for the movement of non-palletised loads. They are commonly used in recycling applications and in handling cotton, wool, textile and metal scrap bales. If the load you are carrying reduces visibility, drive in reverse.



Rotator



The forklift rotator attachment is designed for aiding warehouse operations for tasks such as emptying bins, rotating loads, etc. Many of these attachments allow continuous rotation in both directions and good visibility for the driver. Never rotate the load whilst in motion

Paper Roll Clamp

Paper roll clamps allow you to handle paper rolls regardless of diameter, weight or type of paper. The paper roll clamp attachment is commonly used in the paper handling industry. Remember the stability of the load may be compromised on declined surfaces.



Carpet spike (Pole)

A carpet spike is 1.8 metres long. This reduces the capacity of the forklift dramatically.

An example: a 2.5 tonne rated forklift fitted with a carpet spike is de-rated to approximately 600kg maximum load. This attachment is very long. Where possible, drive in reverse through doorways.



Grab attachment / drum clamp / carrier

ys; either
ed with a strap

ate to allow
place in an

Operator's Obligations

Manufacturers should provide information and recommendations on the selection, use and maintenance of the range of attachments they offer.

They should also explain the dynamic effects and operating characteristics that may occur when a particular attachment is fitted to a forklift.

In some instances it may be necessary to de-rate the forklift capacity and restrict some of the operating controls.

Attachments such as side shift devices, jibs and extension forks must have rated capacities and information on the type of forklift that is suitable for use in connection with such attachments.

The revised capacity when an attachment is used is to be endorsed on the load plate.

Non-approved attachments

A growing amount of companies are being fined for using non-approved attachments – 60 penalty points (\$6,000) under 2011 Work Legislation.

If attachments are used they must be approved.

In order to adhere to legislative requirements, all forklifts must have a data plate fitted to them that clearly indicates how much weight they are capable of lifting. These plates are stamped and fitted by the manufacturer and display the amount of weight that can be lifted safely. Any alterations to the machine would change the amount that could be safely lifted – examples of this would be fitting attachments.

Each attachment used must be mentioned on the data plate so that the driver knows exactly how much weight can be lifted when each particular attachment is being used.

FORKLIFT TRUCK CAPACITY NOTICE PLATE									
MITSUBISHI LIFT TRUCK			MODEL TC182N		SERIAL NUMBER IF3270750				
Maximum Lift Height 4000			Maximum Back Tilt 6 Degrees		Battery Mass Maximum <input type="text"/> kg				
Tyre Type PNEUMATIC			Pressure Drive <input type="text"/> kPa		Steer <input type="text"/> kPa		Minimum <input type="text"/> kg		
Unladen Weight 2890 kg			Drive Axle 1210 kg		Steer Axle 1680 kg		Battery <input type="text"/> Volts		
CAPACITY WITH MAST VERTICAL					CAPACITY AT 6 DEGREES FORWARD TILT				
Lifting Attachment Details	Length mm	Mast Lift Height mm	Load Centre mm	Capacity kg	Length mm	Mast Lift Height mm	Load Centre mm	Capacity kg	
Forks									
Side Shift	1070	4000	600	1470	1070	4000	600	900	
Side Shift/Fork Pos									
Slippers 216	1600	4000	900	1100	1600	4000	900	650	
J1B39615		4000	500	1250					
J1B30615		4000	1000	800					
Distributed by:		MLA Holdings Pty Ltd QUEENSLAND (07) 3376 7488			N.S.W. (02) 9898 5844 S.A. (08) 8349 8699			VICTORIA (03) 9465 9177 W.A. (08) 9353 3233	

Therefore, if you have 10 forklifts, you can only use an attachment on the machine that has that attachment details recorded on its data plate, even though that attachment might fit on the other 9 machines you have in use.

Maintenance of forklifts

Similar to the situation with your car, basic maintenance can be done by a forklift operator (such as oil, tyres, water and battery etc, - these are a part of your pre-checks). Any major repairs that need doing should be reported to your supervisor and should not be undertaken by yourself unless you have the necessary training and skills to undertake the job. **You must be qualified, competent and authorised to do the work.**

Servicing of Forklifts

Services should be done to schedule at hour intervals specified by the manufacturer (recorded on an hour meter) or timeframe (refer to Manual or service provider).



Hour meter

Re-fuelling

Gas bottle gauges



Changing LP gas bottles

LP gas is a highly volatile explosive; do not smoke while changing LP gas bottles. Change gas bottles in a well-ventilated area well clear of a naked flame or source of ignition. LP gas bottles must be changed only by those trained and authorised to do so.

Beware of burns from escaping gas, the gas is very cold and can cause frost burns.

Take the following steps in the order below when changing LP gas bottles: **Read Operator's Manual**

1. Wear goggles and suitable gloves i.e. leather.
2. Turn cylinder valve off.
3. Run engine still it stops then switch engine off (to evacuate the lines).
4. Disconnect take off hose.
5. Remove safety straps.
6. Change the bottle, check for damage.
7. Connect the safety straps.
8. Reconnect take off hose.
9. Turn on cylinder valve slowly – approximately 1-1.5 turns.
10. Check for leaks - look, listen and smell – use soap solution if necessary.

Filling LP gas bottles

The decanting operation should only be carried out by a trained operator who must remain in attendance during the entire decanting operation. Correct PPE must be worn which includes eye protection, safety boots, adequate anti-static clothing (high cotton content) and thermally insulated gloves. No naked flames are permitted within near the decanting cylinder which should be positioned upright for filling.

1. Inspect both the filling cylinder and the decanting cylinder for apparent damage, dents or corrosion (paying particular attention to the underside of the cylinder). Listen for leaks (normally detected by a hissing sound or odour. The bleed valve must be in place and functioning. If a leak is suspected, test by applying soapy water. If a leak is evident small bubbles will appear.
2. Ensure compliance of the hydrostatic test date. This date is a month / year test date located on the rim of the cylinder which has 10 years life from the stamped test date. **A cylinder which does not have a current inspection date stamp must not be filled under any circumstances.**
3. Unlock the decant vessel cover and ensure the dead-man's valve on the filling assembly is closed.
4. Touch the main decanting cylinder with bare hands to discharge static electricity.
5. Put on protective gloves and connect the filling hose to the empty cylinder.
6. Open the valve on the customer's cylinder by turning the valve handle in an anti-clockwise direction.
7. Check the bleed valve is directed away from the operator and into a well ventilated area. Open the bleed valve one half turn in an anti-clockwise direction.
8. Open the main valve on the decant vessel by turning in an anti-clockwise direction.
9. Release the safety catch and activate the dead-man's valve on the filling assembly to start the filling process. The operator must stay in attendance during the entire process. **Do not use any device to hold the dead-man's valve open.**
10. Fill the cylinder until a steady white mist emerges from the bleed valve. This indicates that the cylinder is full. If the fluid is surging there may be sporadic bursts of mist appearing before going to a steady mist.
11. Immediately release the dead-man's valve to stop filling. **Important: If the cylinder is overfilled it decreases the space in the cylinder for expansion should the temperature increase and this could cause the cylinder to vent. For this reason you need to immediately stop filling when the white mist first appears.**
12. Remove a glove and touch the main decant vessel with bare hands to discharge any static electricity. Replace glove and close the main valve on the recently filled cylinder.
13. Wait until the white mist stops emerging before closing the bleed valve.
14. Carefully disconnect the filling assembly hose from the filled cylinder. When breaking the connection a small amount of vapour will discharge.

15. Confirm the cylinder is leak free by applying soapy water with a spray bottle to the outlet of the main valve, the thread where the main valve is attached to the cylinder and the bleed valve opening.

If LPGas in liquid form comes into contact with bare skin or eyes, immediately wash the area with cold or warm water for at least 10 minutes and seek medical help.

Gas compliance plate

LP gas bottles should be inspected and stamped by a competent person every 10 years. All LP gas Forklifts must have an installer's compliance plate, see example below.

**INDUSTRIAL EQUIPMENT
COMPLIANCE PLATE**

The installation to which this notice is affixed complies with the requirement of Australian Standard AS 4983.

FUEL TYPE: _____

○ INSTALLATION DATE: _____ ○

STATE: _____

COMPLIANCE NO: _____

INSTALLERS LIC. NO: _____

WORKSHOP (REP) NO: _____

EQUIPMENT SERIAL NO: _____

Storing LP Gas Bottles

- Store cylinders upright in an enclosure, preferably outside of buildings and protected from direct sunlight.
- Secure cylinders to prevent falling over.
- Store cylinders below 45°C.
- Keep away from flammable or combustible materials.
- Keep away from ignition sources.
- Keep away from vehicular traffic and other thoroughfares.
- Prevent leaking gases from collecting in enclosed or low-lying spaces - gas is heavier than air.
- Protect from physical damage.
- Protect regulators and other fittings from impact.



Charging batteries

Charging cables carry a heavy current. They are of a fixed length that must not be altered. Make sure that insulation on the cables is in good condition before use. The following precautions must be taken when recharging batteries:

- Charging must be carried out in a well-ventilated, open area. Ventilation is important because highly **explosive hydrogen gas** is produced during charging.
- Each charger should have its own power source with clear access to the switch.
- Any cover over the battery should be held open to allow free escape of fumes.
- Cell vent caps should be kept in place to prevent the spraying of electrolyte. Make sure that the vent caps are working.
- Do not smoke or allow naked flame near charging batteries.
- Do not allow any metal objects (spanners etc) to rest on charging batteries.

Forklift battery chargers must be turned off when not being used

Forklift batteries explode, they contain sulphuric acid. Every time a forklift battery is charged, hydrogen is released due to the electrolysis of the water. Hydrogen is a very explosive gas. Any spark or flame around the charging battery will cause it to explode – with potentially quite harmful results.

Every time an operator plugs a forklift into, or unplugs from a charger, a spark can jump from one plug to the other. This plugging and unplugging process all takes place either directly over the top of the battery or right next to it. Any sparks around the battery can cause them to explode.

Forklift batteries are held in a thick metal carrier. When they explode the top blows off them with an enormous amount of force and acid usually blows out. People standing near are very lucky if they avoid injury whenever one explodes but the solution is simple. .

Operators should switch the forklifts and chargers off before connecting or disconnecting from the chargers. It's an easy fix to a dangerous problem, but one that can prevent a nasty accident on your site. A sign posted in the charging area stating that chargers are to be switched off is just one step towards preventing an accident.

Forklifts should be re-charged at the end of every shift, opportunity charging should be avoided.

Filling Batteries

Wear the correct PPE - rubber gloves, a rubber apron, face shield and eye protection when setting up the batteries for charging. Battery acid can cause nasty burns. All of the necessary equipment can be obtained for under \$100 from a safety equipment shop. Not a lot of money for an employer to spend to be compliant and to avoid any nasty accidents.



If batteries need topping up with water, this should be done **after the charging process** as the liquid expansion whilst batteries are charging can result in an acid overflow and damage.

To fill, connect the filling hose to the distilled water source using an approved device (as pictured) and activate the flow. The battery cells will fill uniformly and the water will cease to flow when the cells are full. The cell floats are a visual indicator of the fluid levels of each cell.



1. **Read the manual.**
2. **Get trained.**
3. **All chargers have different requirements.**
4. **Remember – a recently charged battery is an explosive device, full of hot sulphuric acid waiting for a spark!**

Flammable liquid stores

A hazardous work permit maybe required to comply with regulations on site.

Gas bottles should be stored in a well ventilated area, away from ignition sources (preferably a locked cage outside).

Forklifts may need to be modified or 'flame proofed' to work in a hazardous atmosphere and have a compliance plate to that effect.

'Flame proofed' diesel powered forklifts have an exhaust water wash box, which must be flushed out and refilled every shift (to eliminate sparks).

'Flame proofed' battery powered forklifts usually have a remote battery (no electrics fitted to the machine).

Forklifts must not be connected to the battery charger near to any area where flammable liquids are handled in open containers.

Petrol and LPG forklifts are never flame proofed because of their spark ignition system.

Flammable liquid stores and areas where flammable liquids are used are usually zoned as having a 'hazardous atmosphere'.

Shutting down the equipment

When you are preparing to shut down the forklift at the end of a work period you must make sure that you shut down in accordance with the manufacturer's specifications:

Do not park a forklift:

- Near access areas, access ways, passageways and walkways.
- Near first aid facilities.
- Near re-fuelling zones.
- Near blind corners.
- Within 2 metres of any rail track.
- Near emergency exits.
- Near overhangs or power switches.
- Fire Fighting appliances/hose reels.

The site should be well away from other work activities ensuring that the machine will not become a hazard to others.

Ensure the following:

- Equipment safety locks are in place.
- The fork arms are lowered, with the tips on the ground.
- The handbrake is engaged.
- The forklift is in a low or neutral gear (in accordance with operational manual).
- The engine is turned off.
- If you have been operating an LP gas machine, shut off the LP gas supply by turning the cylinder valve to the off position. Check to see if there are any leaks from the LP gas system.
- If you have been operating an electric forklift, you may need to connect its batteries to a recharging unit, in accordance with the operational procedures applying in your workplace.
- If you park the forklift on an incline / decline, make sure the handbrake is applied and the wheels are chocked, to prevent the vehicle from rolling forwards or backwards (this is emergency situation only and is a 2 man job).
- You dismount the forklift in a safe manner, using the 3-point exit using the handrails and footrest. Do not jump from the machine.
- You comply with all safety rules on site.

Remove the ignition key and secure the key in accordance with your workplace's operational procedures.

Forklift keys must be removed (site specific)

You might not be aware but it is actually against regulations to leave the keys in an unattended forklift. (An unattended forklift is defined as being when the operator is not in view of the machine or they are more than 8 metres from the forklift.)

This is to prevent unauthorised use of the machine. Many companies receive fines because an unauthorised operator (casual staff, truck driver, contractor etc.) has used their forklift and had an accident. If an unauthorised person has access to your forklift, they won't be covered under your insurance and you risk being fined.

Obviously, there are some practical disadvantages to removing the keys from the machine as employees will take them home, they will get lost etc. Ensure you follow a safe procedure specific to your site and that unauthorised movement of the forklift is prevented.

Make sure that the area is safe and clear at all times.

Post (after operation) checks and shut down

Post-operational check

You must conduct a check of the forklift after operation, this can be in-depth or just a quick walk around to make sure everything is okay. If there's any paperwork to fill out, then do it.

It is important to make sure that the forklift it is not left in a condition that could become dangerous to other people, either because of where it is left or because of the physical condition you left it in.

The following procedures are just as important as operating the machine. Make sure you follow each stage carefully, and make sure you know the reasons for proper shutdown procedures.

Post-operational checks need to be carried out, in order to:

- Detect any structural damage that may have occurred during the operation of the forklift.
- Make sure all the forklift's systems (fuel etc) are closed down and the forklift will not present any hazards to others in the workplace.
- Detect any leaks in oil/hydraulic lines that could affect safe operation of the vehicle when it is next started.
- Make sure the forklift is ready and safe for use by the next operator.
- Any faults found, take the key out, tag the machine out of service and report to your supervisor.

To prepare the forklift for its next use, you should also carry out any minor servicing it needs, such as:

- Re-fuelling.
- Make sure the work cabin is clean and free of clutter.
- Reporting any faults or service requirements to your supervisor.
- Completing log book entries.

Note: A post-operational check can save you getting the blame for something you did not do!

Breakdown

In the event of a breakdown with a hydraulic machine, it is important to understand the impact of the fault.

If braking functions are lost, you will need to bring the machine to a stop as quickly and as safely as possible. The machine you are operating is very heavy and your ability to stop may be reliant on terrain and loss of momentum. Failure of braking functions could easily result in an accident.

If hydraulic functions are lost, there are many functions that can be impacted. Your load may suddenly drop or your steering function may be disabled with the loss of hydraulic pressure. These faults may cause an accident or injury, especially if operating in close proximity to other personnel.

If your machine breaks down or you find a fault;



Remove the **Keys**



Tag machine to say “do not use”

- Tags must be kept on machine or in close proximity to (not in employer’s car!). Whoever fits the danger tag is supposed to remove it (this might mean swapping of tags at the end of shift).



Report the problem to the supervisor.

In case of an emergency

In the case of an emergency you must make sure that you:

- Alert personnel i.e. your immediate supervisor, colleagues in the vicinity.
- Tell them the nature of the incident i.e. a spill, an accident, a near miss.
- Inform staff of the unsafe areas and get warning signs, barriers etc.
- Provide directions to emergency services if required.
- Give way to all emergency vehicles.



When the immediate situation is dealt with you would then complete the necessary paperwork for reporting the incident i.e. accident book, risk assessment, WHSQ if required within the format and timelines stated in the Legislation – see next page.

Emergency plan

Under section 43 of the Work Health and Safety Regulation 2011 an employer has a duty to prepare, maintain and implement an emergency plan. The maximum penalty for non-compliance:

Maximum penalty – 60 penalty units

The employer needs to consider the size of its business, the hazards it is dealing with, number of employees and then make provision for the following:-

- (a) emergency procedures, including –
 - (i) an effective response to an emergency; and
 - (ii) evacuation procedures; and
 - (iii) notifying emergency service organisations at the earliest opportunity; and
 - (iv) medical treatment and assistance; and
 - (v) effective communication between the person authorised by the employer to coordinate the emergency response and all persons at the workplace;
- (b) testing of the emergency procedures, including the frequency of testing.
- (c) information, training and instruction to relevant workers in relation to implementing the emergency procedures.

Site of an accident

Notifiable incident

Under current legislation a **notifiable incident** means —

- the death of a person; or
- a serious injury or illness of a person; or

- a dangerous incident.

Duty to Notify of a Serious Incident

A person who conducts a business or undertaking must ensure that the regulator is notified immediately after becoming aware that a notifiable incident arising out of the conduct of the business or undertaking has occurred.

Maximum penalty for non-compliance — 100 penalty units

The notice must be given as required under this section and by telephone or in writing (fax, email etc).

A person giving notice by telephone must —

- give the details of the incident requested by the regulator; and
- if required by the regulator, give a written notice of the incident within 48 hours of that requirement being made.

A person conducting a business or undertaking must keep a record of each notifiable incident for at least 5 years from the day that notice of the incident is given to the regulator under this section.

Maximum penalty for non-compliance — 50 penalty units

Duty to Preserve Incident Sites

The person with management or control of a workplace at which a notifiable incident has occurred must ensure so far as is reasonably practicable, that the site where the incident occurred is not disturbed until an inspector arrives at the site or any earlier time that an inspector directs.

Maximum penalty for non-compliance — 100 penalty units

The site of an accident (including those involving plant, substance, structure or thing associated with the notifiable incident) must not be interfered with unless:

- It is necessary to save a life or relieve suffering.
- To remove a deceased person.
- Essential to make the site safe or to minimise the risk of further notifiable incident.
- It is associated with a police investigation.
- A WHSQ Inspector or the regulator has given permission for the accident site to be cleared and cleaned up.

First Aid

Forklift operators work in a high risk industry. Not only are there many minor injuries but also there are also serious injuries where the injured person will need first aid to restore breathing, heartbeat or to stem blood flow.

Know the location of the first aid room and the nearest first aid kit. There must be a first aid kit on every floor of a multistorey building site or within 100 metres of any part of the workplace.

The standard first aid symbol in Australia is a white cross on a green background.



First aid kits on worksites should have a carrying handle. There must be a notice near to the first aid room with the name(s) of those in the workplace that hold an approved occupational first aid certificate.

It is recommended that Forklift operators take the time to do an approved first aid certificate.

Causes of Forklift Accidents

Analysis of forklift accidents reported to WHSQ indicates that the main causes of accidents are:

- Excessive speed.
- Not looking in the direction of travel.
- Carrying/lifting passengers.
- Poor stacking procedures.
- Poor forklift maintenance.
- Inadequate operator training.
- Exceeding the rated capacity of the forklift.
- Travelling with the load raised.
- Getting on and off the forklift.
- Safety of Non Operators.

Driving with raised forks, cornering too fast, striking low doors or beams, driving across inclines and uneven ground are the main causes of forklifts overturning.

Forklifts tip over too often. Changes to workplace practices and people's behaviour in and around forklifts need to be made.

Other People

Forklifts are more likely to injure bystanders than the operators themselves.

An operator should pay attention to the following;

- Who is in your exclusion zone?
- Why is he/she there?
- Lower your tynes.
- Shut the machine down.
- When the person has gone carry on working.
- Horns, beepers and strobes should be used.
- Everyone working around machinery needs to be trained in safe work practices.

If an accident almost happens, this is a near miss. You must report it to your supervisor and fill in an **incident report, see the example on the following page.**

Hazard Report Form

What are you reporting? (tick box) **Hazard** **Incident** **Accident**

Details of person making this report

Name:	Date:
Position:	Work location:

Hazard report

Please explain exactly what happened. Include date and time of incident. Who was involved? If any injury was sustained and any first aid treatment performed. Include the names of any witnesses.

Signature of person completing this section:	Date:
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Incident analysis (to be completed by supervisor)

Action initiated: <input type="checkbox"/> First aid treatment <input type="checkbox"/> Other _____	<input type="checkbox"/> Immediate danger posed by hazard has been eliminated <input type="checkbox"/> Maintenance request submitted <input type="checkbox"/> All appropriate managers notified <input type="checkbox"/> Other _____
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Sign-off

Name of person conducting investigation:	Date commenced:
--	-----------------

Signature of person conducting investigation:

So think about what you're doing, all the time. It's a matter of life and death.

Managing the risks, if you are an employer

Employers have a primary duty to provide a safe workplace. Providing a safe work environment, training, well maintained machinery and effective traffic management plans all play an important part in reducing the risks posed by forklifts in the workplace.

All employees including managers and supervisors have a duty to ensure the actions they take, or neglect to take, do not put themselves or others at risk. Everyone needs to ensure that safe forklift practices are observed. Small changes in behaviour can deliver significant safety improvements.

Simple safety practices like maintaining and obeying speed limits, observing stop signs, slowing down and sounding the warning device (horn) at intersections can all help to minimize risks.

Too often, safe forklift practices are only introduced at a workplace after a worker has been killed or injured. Action must be taken before incidents happen to eliminate injuries and save lives.

Safe forklift operating procedures are often disregarded once an operator has gained a Certificate of Competency. A Certificate of Competency provides an operator with skills to operate a forklift in a safe manner.

Induction into a new workplace or changed environments, unfamiliar machines etc. mean that additional training and safe work procedures are a must!

We trust that you have enjoyed the formal training and that you have learnt the fundamentals of what it takes to be a safe operator. Please remember to take your time, practice what you have learnt here on this course and stay safe.

Your Assessment papers are kept for 30 years and can be used in a court of law. Think about it!

Remember just because other people have been driving for a long time does not always mean they are a good operator – select an appropriate trainer / mentor. Don't be a "sheep"!