



ITSSAR ACCREDITED

LIFT TRUCK TRAINING COURSES

Operator Handbook



“This handbook is designed to help you complete the Theory and Practical elements of this course.

You will find lots of useful information in this handbook to help you complete the knowledge criteria of the Course.

Should you need any other help or information please speak to your instructor who will be glad to help”.

A handwritten signature in black ink, appearing to read 'CAW', with a stylized, cursive font.

Carol Wheatley
Managing – CAB Training
FLT Instructor

Introduction

Only fully qualified and accredited ITSSAR Forklift training Instructors/Examiners, who after passing rigorous courses laid down by the relevant training board can offer training and certification.

All lift truck courses are mainly practical in nature but do include an element of theory. Trainees must be minimum school leaving age (16), reasonably fit and able to hear all verbal instructions and audible warning signals.

On completion of the course all operators will be able to use the lift truck safely and efficiently in accordance with the manufactures handbook and to the standards laid down by the Health & Safety Executive's Approved Code of Practice (ACOP L117).

Operators will clearly understand the causes of instability of lift trucks and their loads, be able to carry out routine pre-shift inspections and understand the importance of defect reporting.

The operator will be able to replenish the machines energy source and operate it in a variety of environments with varied loads.

On successful completion of the course and the ITSSAR Skills Test, trainees will receive a certificate, confirming their competence to operate the relevant lift truck for the course that they have attended. It must be stressed however that the operator will need to gain experience whilst under supervision in his given workplace and will be required to undergo a further period of familiarisation training.

Please visit ITSSAR website for more info:

www.itssar.org.uk

Course Aims and Objectives

The Course will comprise theoretical and practical instruction covering the following:

- Responsibilities under the Health & Safety at Work Act, PUWER 98 & LOLER 98.
- Operators Safety Code
- Battery maintenance and charging procedures
- Pre-use inspection
- Stability
- Controls Motive/Hydraulic
- Stacking – Racking, Bulk, Corner Post Pallets
- Lorry Loading and Unloading

Types of Training.

Once a candidate has been selected, he/she will undergo 3 types of training. These are Basic, Specific Job and Familiarisation Training.

Basic Training consists of a comprehensive operator's course, in this case carried out at CAB Training, Training Centre. The course will include the theory of safe operating, practical driving skills and ends with a practical assessment of the operator's skills. The course is designed and overseen by ITSSAR

Specific Job Training is additional information and practice required to operate safely at a site. This may include training on a particular type of machine including the use of its controls, the layout of premises (highlighting danger areas), various attachments in use there and specific site rules.

Familiarisation Training is carried out on the job under normal working conditions. Close supervision by a responsible person is essential to ensure that the new operator is fully competent and safe at that site.

Always remember that manufacturers are continually updating and designing new equipment and it is the individual's responsibility as well as their employers to ensure that individuals receive additional specific and or familiarisation training before operating any truck.

More importantly to the individual, ensure that you have your employer's written consent before operating any truck.

Health & Safety Legislation

The HASAW act 1974 and other ACOPs make the training of fork lift operators a legal requirement. The reason for this is to improve and maintain the safe use of workplace transport. Fork trucks are potentially dangerous types of equipment, so all persons who deal with their use, both operators and supervisors should be adequately trained.

The ACOP stipulates:

- The periods of training individuals should attend, dependant on their previous experience and training or ability.
- Also the acceptable ratio of trainees: Instructor: Truck which is a maximum of 3: 1: 1 to ensure that safety and quality training is maintained.
- Where and how the training should be conducted, for example the environment, the materials, the area etc.
- Who should conduct the training: Instructors should be able to supply evidence of their training and post training experience on the type of truck to be used, both as an instructor and operator



The HSE no longer administers an accrediting bodies scheme. However, you can get information about voluntary accreditation schemes from HSE's website:
www.hse.gov.uk/workplacetransport/lift-trucks/accreditation.htm.

The Need to Train

Why do Fork Lift Operators need to undergo training?

Under the Health and Safety at Work Act of 1974, and under The Provision and Use of Work Equipment regulations 1998, no one should be permitted to operate a lift truck until they have been selected, trained, and authorised to do so.

The responsibility for the safe operation of lift trucks in the workplace lies with both the employers and employees. Managers, supervisors and operators alike must play their part to ensure the safety of those working on or in the vicinity of lift trucks.

The Law states that the employer has a duty as far as is reasonably practicable to ensure your safety at work. They must give you the information, instruction and training necessary to ensure that you can do your job safely and keep records of your training.

An Approved Code of Practice (ACOP L117) is published by the Health and safety Executive to assist employers and trainers to do this.

They must also provide you with the necessary protective clothing free of charge.

You must take care of yourself and others. You must co-operate with your employer in the interests of safety and not interfere with the equipment provided.

Penalties for breaking the law:

1. Summary conviction at a Magistrates Court.

- a. For breaches of sub section 2 to 6 of the Health and Safety at Work Act 1974.
Maximum fine £20,000.
- b. Failing to comply with an Improvement or Prohibition Notice.
Maximum fine £20,000.
- c. For breaches of the remaining sections of the H&S at Work Act and Subordinate regulations.
Maximum fine £20,000.

2. Indictment at a Crown Court.

- a. Certain offences involving required licences.
- b. Certain offences involving explosives.
- c. Contravention of an improvement or prohibition notice.
Maximum penalty 2 years imprisonment and an unlimited fine.

PLEADING IGNORANCE IS NO DEFENCE.

HEALTH & SAFETY AT WORK ACT 1974 (HASWA)

EMPLOYERS DUTIES

Every employer is bound by law to adhere to the health and Safety at Work (HASAW) Act 1974.

The Health & Safety at Work Act is an ACT of Parliament, it consists of not one but many regulations requiring the health and safety of people at work, to be controlled and so far as is reasonably practicable, risk free.

It says: "It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees". There are five sections of the act the specifically apply to employers.

SECTION 2(a)

Requires: "the provision and maintenance of plant and systems of work that are, so far as is reasonably practicable, safe and without risk to health".

- ❖ Machinery provided should therefore be capable of safely doing the job. Trucks will differ depending on the job they are designed to do. For example:
 - Counterbalanced or Reach
 - Battery or Engine
 - Size of Lifting Capacity

The employer should provide the correct tool for the job.

- ❖ All equipment should be correctly maintained to a safe and adequate standard. The employer is responsible for ensuring the equipment to be used is in sound operating condition.

Lift trucks should be:

- Regularly Inspected
 - Serviced and Maintained
 - Repaired
 - Maintained by Appropriately Trained Persons
- ❖ There must be safe systems of work provided for employees to work to. This means that the employer must make sure that the employees carry out their duties in a safe way.

There is a safe system of working laid down by the HSE for operating lift trucks. Correct training is based on this system, (Safety in Working with Lift trucks) HSG6. The operators Daily Inspection, forms part of the safe system of working. Remember the operator is responsible for working safely.

SECTION 2(b)

Requires: "arrangements for ensuring so far as is reasonably practicable, safety and absence of risk to health in connection with the use, handling, storage and transportation of articles and substances".

- ❖ For difficult loads, special attachments may need to be used to handle them safely. *I.e. Side Shift, Barrel Clamps, Booms, Working Platforms etc.*
- ❖ Correct pallets should be used to suit the types of loads to be handled. Racking should be suitable for the size and type of pallet and should be capable of supporting the loads etc.
- ❖ Safe transportation requires:
 - Loads to be secure on the pallet: chocked or banded
 - Loads to be within the trucks capacity: not overloaded
 - Loads to present no dangers: hazardous chemicals etc.

SECTION 2(c)

Requires: "the provision of such information, instruction, training and supervision as is necessary to ensure, so far as is reasonably practicable, the Health and Safety at Work of his employees".

- ❖ This makes training of fork lift operators a legal requirement. Each type of truck which an operator is required to use, needs him / her to be given training on that type of vehicle.

A lift truck driven incorrectly, or by untrained people is a dangerous machine.

SECTION 2(d)

Requires: "so far as is reasonably practicable any place of work under the employers control, the maintenance of it in a condition that is safe and without risks to health and the provision and maintenance of means of access and egress from it are safe and without such risks".

- ❖ Racking should be properly constructed and there should be no doubt as to:
 - What can be loaded onto it
 - How racking and pallets should be loaded

Clear labelling and instructions will ensure racks are correctly loaded.

- ❖ The width of aisles should be sufficient to allow for safe operation of trucks. Any truck used in an aisle must be capable of turning through 90° with about a foot to spare. Aisles that are narrow might encourage a busy operator to cut corners.
- ❖ Areas should be well lit: Trucks working outside must be provided with lights when operating in dark conditions. Cab windscreen wipers must also be provided when a truck is expected to work where conditions may require the use of them.
- ❖ Walkways should be kept clear of pallets or loads for ease of passage for pedestrians
- ❖ Parking and servicing areas should be carefully selected to suit the jobs that will be done there, for example daily inspections and battery charging. Areas should be adequately signed and fully comply with safety regulations. Operators should be encouraged to leave trucks parked in a safe manner at all times, not just abandoned in a working area. They have responsibility for safety too.

SECTION 2(e)

Requires: "the provision and maintenance of a working environment for his employees that is, so far as is reasonably practicable, safe, without risk to health and adequate as regards facilities and arrangements for their welfare at work".

- ❖ This means organising the workplace to ensure that all potential risks are reduced.
- ❖ This may include such measures as one-way systems, pedestrian crossings, or even improved ventilation to deal with the fumes from the trucks.

EMPLOYEES DUTIES

Everything that employees do is based around safe codes of practice and safe methods of working. Employees' responsibilities are covered by section 7 and 8 of the HASAW act and are not optional. Ignoring health and safety in the workplace may result in criminal prosecution.

SECTION 7a

States: "It is the duty of every employee while at work to take reasonable care for the health and safety of themselves and of other persons who may be affected by his acts or omissions at work".

If the job is done correctly without looking for shortcuts, then compliance with legislation is achieved.

SECTION 7b

States: "It is the duty of every employee at work as regards any duties or requirements imposed on his employer or any other person by or under any of the relevant statutory provisions, to co-operate with him so far as is necessary to enable that duty or requirement to be performed or complied with".

- ❖ This is about the part the employee has to play in helping the employer meet his legal obligations. Meaning the employee plays a part in making sure the employer complies with the law in his workplace.
- ❖ If the correct equipment is supplied but the employee decides not to use it he could be liable for not helping the employer to keep within the law. As a result the employee could be liable for prosecution, even if there is no accident.

Ignoring safe codes of practice could result in prosecution under section 7 of the HASAW act.

SECTION 8

States: "No person shall intentionally or recklessly interfere with or abuse anything provided in the interests of health, safety or welfare in the pursuance of any of the relevant statutory provisions".

- ❖ This section is aimed at ensuring safety equipment is used only for that purpose. Any other use will contravene section 8 of the HASAW act. Using a fire hydrant and hose to wash a lift truck is a good example of bad practice. It is a duty of the employee to report bad practice.
- ❖ Aiming to ensure that safety equipment is always in a fit state to be used. Deliberately overriding safety devices by jamming safety switches to stop them working is an example of bad practice.
- ❖ Ensuring that safety equipment can be used when needed. Vandalism of safety equipment will make it useless, and could cost lives, even yours. If safety equipment is damaged, report it. You don't know when you may need it.

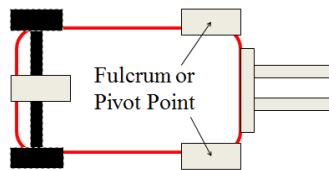
Operators Safety Code

1. Only operate equipment for which you are trained and authorized.
2. Always read the manufacturers handbook before operating the equipment.
3. Always carry out the pre-shift checks.
5. Wear spectacles if you need them to meet the official eyesight test.
6. Do not attempt to repair any equipment yourself, report all defects to a supervisor immediately.
7. Report all accidents immediately they occur.
8. Observe all speed limits, slow down for wet or slippery surfaces.
9. Don't EVER carry passengers.
10. Comply with the Highway Code or Road Traffic Act where appropriate, give signals to help other road users, and use lights after dark.
11. Diesel and L.P.G. trucks should be re-fuelled outside of buildings, if applicable.
12. Electric equipment should be recharged only in authorized charging bays.
13. Keep a constant look out for danger spots, i.e. pedestrians, inspection covers, platform edges, ramps, protruding obstacles, crane areas etc.
14. Slow down and sound your horn (Several Short Blasts) at intersections and doorways, watch out for roller shutter doors and use extra care when going through plastic curtains.
15. Always face the direction of travel, if your view is obstructed travel in reverse.
16. Never allow anyone to walk under or over the forks, whether or not a load is being lifted.
17. When parking, ensure the machine is not going to cause an obstruction.
DO NOT park in front of Fire Equipment, Electrical Boards, Fire Exits, On a slope, On gangways/pedestrian routes or where the forklift may cause an obstruction.
18. Damaged stock, pallets or loads should be reported to your Instructor Immediately.

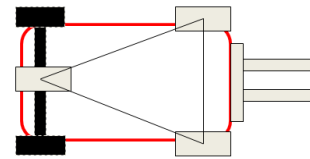
Stability

Lift Truck Stability Overview

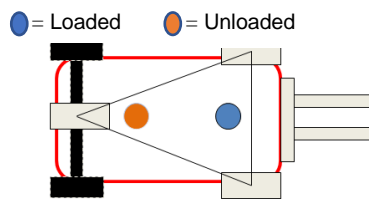
- Engineering Principles.
- Rated Capacity and capacity plate.
- Stability Factors.



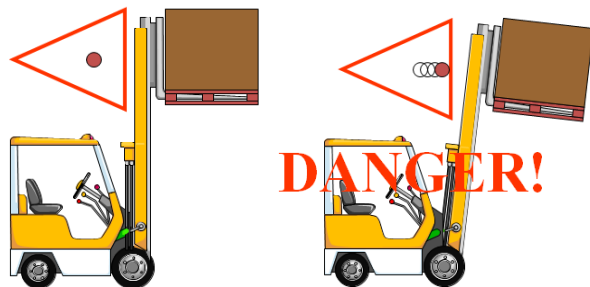
The fulcrum or pivot point is the middle of the drive wheels (front wheels)



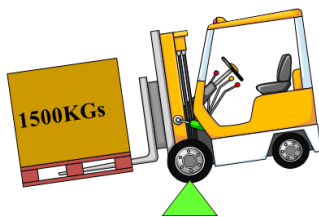
The stability triangle is between the front drive wheels and rear wheel on a three-wheel truck or middle of the rear axle on a 4 wheel truck



When is the truck more stable?
Loaded or Unloaded



DO NOT tilt the mast forward at height!
Tilting the load forward at height will move the "Combined centre of gravity forward, and could cause the truck to tip"



DO NOT leave a gap between the heel of the forks and the front side of the load, this will increase the load centre, and could cause the truck to tip forward.

The lift trucks "rated capacity" applies with the mast in the vertical position, this also applies with manufactures stated lifting capacity.

When the load centre increases the truck carrying capacity will reduce.

The rated capacity of a forklift should not exceed four fifths of the balance weight.

The balance weight of a forklift truck is established by a machine test carried out during manufacture.

Therefore, the rated capacity (or safe working load) of a truck with a balance load of 5000kgs will not exceed 4000kgs.

A capacity plate will give information on what the truck can lift, to a desired height.

It will also tell you your load centre, which is the distance from the heel of the forks, to the centre of gravity of the load. Every truck should have a capacity plate in view of the operator.

Always ensure you know the capacity of the truck you are using.

Three pieces of information that need to be on the capacity plate are:

1. The Rated Capacity (what the truck can lift).
2. The Lift Height (in mm)
3. The Load Centre (in mm)

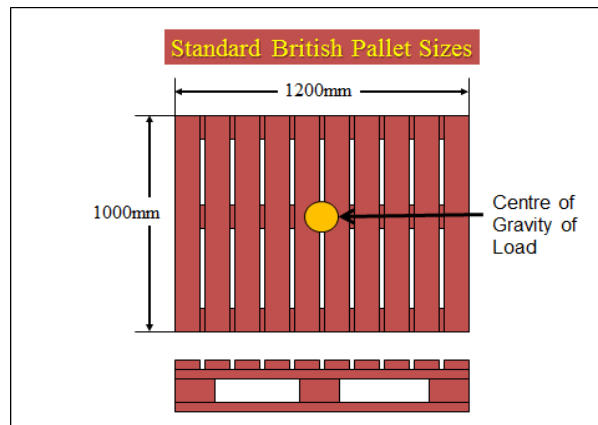
Rated Capacity & Capacity Plate



Every object has a centre of gravity.

It is the place where the load is balanced in all direction..... Try it for yourself!

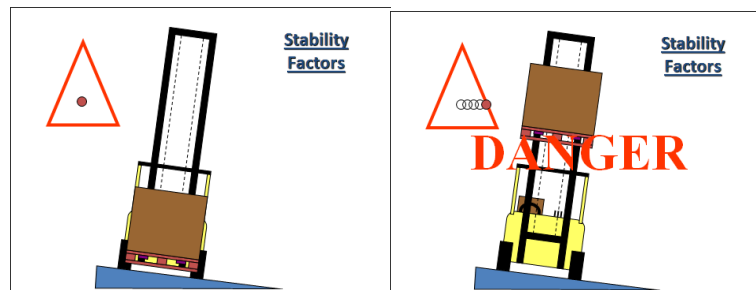
Take the TV Remote control, and balance it on two fingers.....the point at where it is balanced is where the centre of gravity is.



The load centre is measured from the heel or front face of the fork arms, to the centre of gravity of the load.

If you collect this pallet width ways, then the load centre is 500mm.

If you collect the pallet long ways, then the load centre is increased to 600mm



While this may look safe, it is a dangerous manoeuvre; as soon as you raise the load it also raises the combined centre of gravity of the truck and the load and moves it out of the stability triangle

THERE IS TWO BASIC WAYS IN WHICH A TRUCK CAN OVERTURN.

LONGITUDINAL (Lengthways).

Caused by:

1. Overturning.
2. Undercutting.
3. Tilting a raised load forward.
4. Lifting or raising the load while facing downhill on a slope.
5. Travelling forward down a slope with a load.
6. Excessive braking when loaded.
7. Erratic use of the speed control.
8. Harsh use of the hydraulic controls.
9. High winds (with a raised load).
10. A live Load

LATERAL (Sideways).

Caused by:

1. Turning at excessive speed.
2. Turning on a ramp or incline.
3. Lifting or raising a load while sideways on a slope.
4. Driving over obstacles, e.g. pieces of wood.
5. Driving into potholes.
6. Operating the truck with incorrect tyre pressures.
7. Picking up a load off-centre to the forks.
8. Incorrect use of the sideshift.
9. High winds (with a raised load)
10. A live Load

EXTENDED LOAD CENTRE

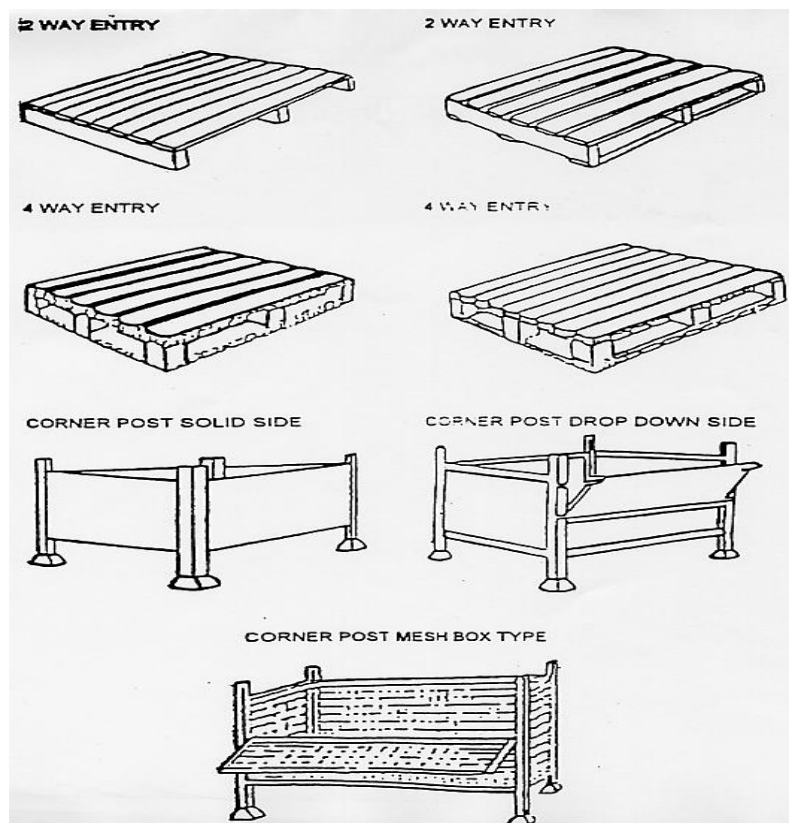
Extended load centre means when the centre of gravity is further away from the heel of the forks.

Pallet not heeled up, pallet larger than 1000mm By 1200mm. (Standard Pallet Size).
Attachments i.e. extended forks to pick up large bulk loads.
All these will reduce the lifting capacity of the truck.

LOAD HANDLING and ATTACHMENTS

In most companies the loads encountered will be mainly common and uniform. But there are many different types of pallets in common use within industry.

Here are some examples:



ASSESSMENT

Pallets and loads come in various sizes. The main sizes you will come across are British standard (GKN.CHEP) which are 1200mm x 1000mm, or Euro pallets which are 1000mm x 800mm.

The size of an evenly stacked pallet will determine that pallets load centre.

BRITISH STANDARD = 1200MM X 1000MM

EURO' S = 1000MM X 800MM

If a pallet is not evenly stacked then, to ensure the load centre conforms to the trucks requirements, the heaviest part of the pallet should be nearest the truck.

The weight of the load is also important, to ensure we do not overload our truck. The actual weight of our load must be established before we try to lift it. There are various ways to achieve this. The easiest is if our load is marked with its gross weight. If it is not, we must consider alternative ways to find out the loads weight.

- Check delivery notes
- Check load details
- Calculate load weight by weighing a box and multiplying quantity
- If all else fails – Ask your supervisor.

Never risk picking up a load if you are not sure that it falls within your trucks rated capacity.

DON'T FORGET: Load weight is the gross weight. This being the net weight of any goods plus pallet and packaging.

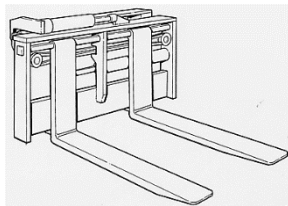
ATTACHMENTS

- Fitting an attachment may alter the characteristics of the lift truck and is likely to necessitate a reduction in the actual capacity of the lift truck. Where this is necessary it should only be carried out by a lift truck engineer or another person with equivalent qualifications. An additional capacity plate showing the derating necessary should be fitted to the truck. The derating should be related to an identified attachment.
- Attachments may be mounted on the fork arms or directly onto the carriage. In all cases the attachments should be securely fastened and care taken to ensure that the attachment or securing device does not foul any part of the mast structure during raising or lowering of the attachment. The instructions for use of the attachment supplied by the manufacturer or authorised supplier should be followed at all times.
- A wide range of removable attachments is available for use with lift trucks. Those illustrated and described here are some of the more common ones currently in use.

Fork arm extensions

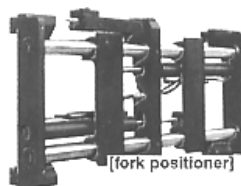
These may be hydraulically operated telescopic fork arms replacing the fixed fork arms or simple box sections which may be slipped onto the fork arms and secured in place. They may be used to reach loads in deep racking or to handle extra depth loads.

Side shift carriage



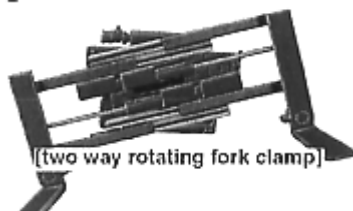
This attachment may be mounted either on the existing fork carriage or in place of it. A side shift carriage enables horizontal sideways movement of the fork arms to allow precise positioning.

Fork positioner



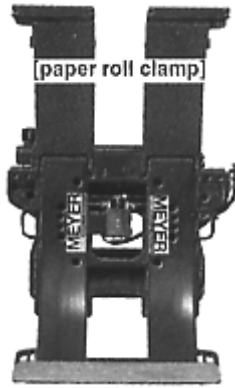
This is a hydraulically operated attachment that allows the operator, while remaining in the operating position, to change the position of the fork arms relative to each other. The fork arm centres can therefore be adjusted to accommodate different load widths

Rotator

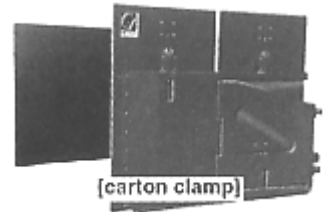


This attachment is mounted on the fork carriage and usually used in conjunction with another attachment. It allows the load to be rotated vertically about an axis parallel to the longitudinal axis of the lift truck. Some rotators have the facility to tilt the load forward from the vertical to the horizontal and beyond and are usually known as 'tipplers'.

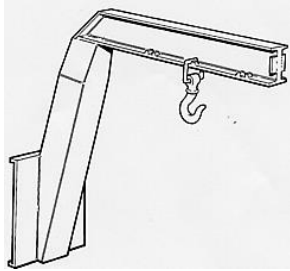
Clamps



These attachments are designed for a variety of purposes such as lifting reels, bales or cartons. They may be used in conjunction with a rotator. The clamps may be faced with rubber or other material to improve grip.

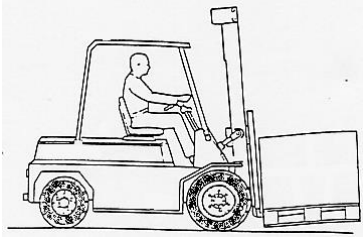


Crane jib



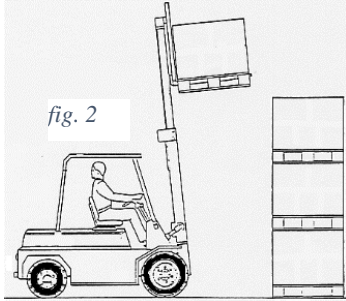
This attachment may be mounted directly on the fork carriage or carried on the fork arms. A crane jib may be of a fixed length or extendible or embody a number of lifting points. On some it is possible to vary the angle of the jib from the horizontal.

STACKING



1. Approach the stack, square, in the correct travel position with the load low. (See fig. 1)

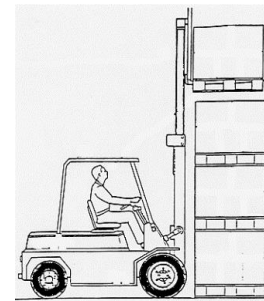
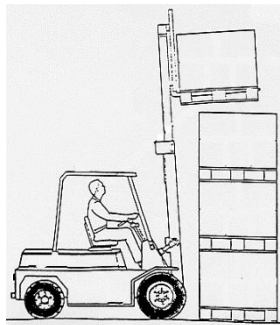
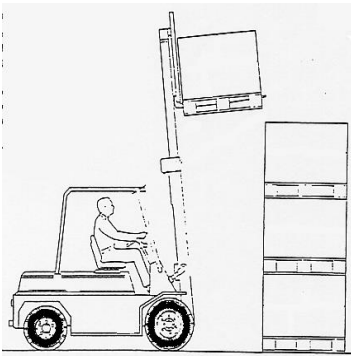
fig. 1



2. Slow Down and stop approximately 6" to 12" from the face of the stack to prevent pedestrians from walking between the stack and the truck. (See fig. 2)

3. Apply parking brake, put the vehicle into neutral and reduce backward tilt to an amount sufficient to stabilise the load.

4. Look up and check for obstructions then raise the pallet to the desired stacking height, clearing by 3" to 4" and release parking brake. Take care not to dislodge loads in adjacent stacks. (See fig. 2)



5. When the load is clear of the top of the stack, drive slowly forward over it making sure the pallet is square over the stack. (See fig. 3)
6. When load is over the stack, stop and apply the parking brake, put the vehicle into neutral and bring the mast to the vertical position. (See fig. 4)

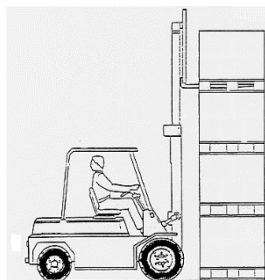


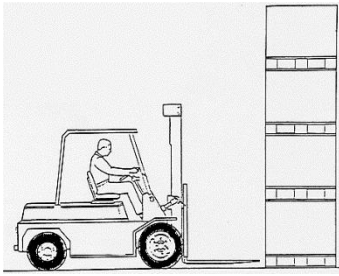
fig. 5



fig. 6

7. Slowly and smoothly lower the pallet onto the stack. (See fig. 5)
8. Remember that by bringing the mast to a vertical position the load will move forward slightly, therefore before levelling the load, a slight overhang of the load against the stack is required. This overhang will need to increase as the height of the stack increase
9. Once the load is securely stacked, release the parking brake and withdraw the forks cleanly, looking in the direction of travel. Slight forward tilt of the fork arms may be of assistance. Stop with the tips approx. 6" or 150mm away from the stack. Beware! Failure to ensure clearance of your forks within the load could result in you dislodging the load back onto you or even pulling the stack over
10. Apply the parking brake; put the vehicle in neutral and lower forks to travel position. (See fig. 6)

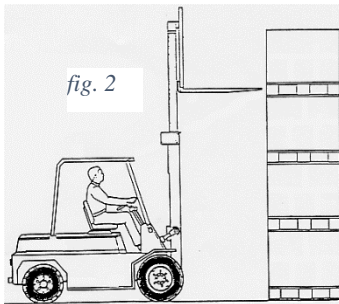
DE-STACKING



1. Approach the stack, square, in the correct travel position. Halt at the face of the stack, approximately 6" to 12" and apply the parking brake. Bring the mast to a vertical position with the forks level, if necessary, adjust the fork spread to suit the width of the load and ensure that the weight of the load is within the capacity of the fork lift truck.

(See fig. 1)

fig. 1



2. Look upwards to check for clearance, raise the fork arms to a position permitting clear entry into the pallet. The forks should be nearer to the top of the entry point in order to compensate for the taper of the forks. (See fig. 2)

3. At height your forks will look to be higher than they actually are.

4. By ensuring that your forks are level before entering your load, the task will be made safer and easier.

5. Release the parking brake and check all around.

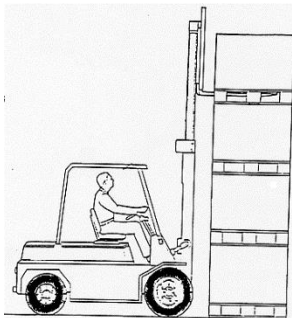


fig. 3

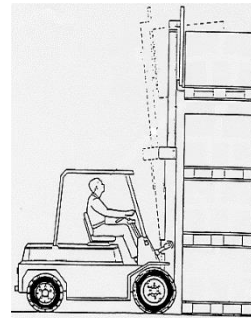


fig. 4

6. Fully insert forks and ensure that the heel of the forks lightly touches the load (kisses the load!)

7. Apply the parking brake and raise the load clear of the stack. (See fig. 3)

8. Once the load is cleared of the stack, carefully apply backward tilt, just sufficient to stabilise the load. (See fig. 4)

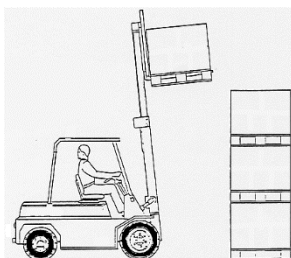


fig. 5

9. When the load is clear of the stop of the stack, check that the way is clear, then move slowly backwards until the load and fork arms is clear of the face of the stack, taking care not to dislodge loads in adjacent stacks, and apply the parking brake and engage neutral.

(See fig. 5)

10. Lower the load carefully and smoothly to the correct travelling height applying further backward tilt.

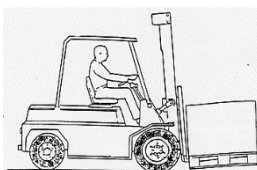


fig. 6

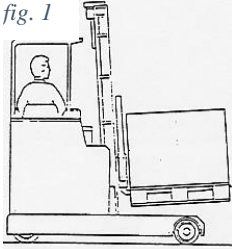
11. Check all around before releasing parking brake and moving off. (See fig. 6)

STACKING & DE-STACKING WITH REACH TRUCKS

Reach trucks should not be driven, whether loaded or not, with the reach mechanism extended except when inching at the face of the load, stack or rack. The parking brake should be applied, and the vehicle should be engaged in neutral before operating the reach mechanism. No one should step over the reach legs or put any part of their body between the mast and power unit if the reach truck is capable of being operated. The reach movement should not be used for pushing or dragging loads and the load should be carried on the fork arms and not resting on the reach legs unless the reach truck is specifically designed for the purpose.

Stacking

fig. 1



1. Approach the load in the correct travel position, to within 6" to 12" to:
(See fig. 1)
 - a. Prevent pedestrians from walking between the stack and the truck.
 - b. Increase accuracy of adjustments
 - c. Reduce risk of making contact with the stack
2. Slow down and stop at the face of the stack, apply the parking brake and reduce backward tilt to an amount just sufficient to maintain the load stability
3. Look up and check for obstructions, then raise the load to the desired stacking height. (See fig. 2)
4. When the load is clear of the top of the stack, move forward if necessary, to bring the reach truck close to the stack ensuring that the truck is square onto the stack, and re-apply the parking brake.

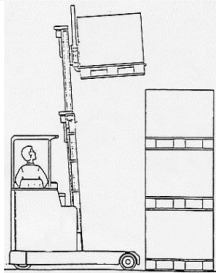


fig. 2

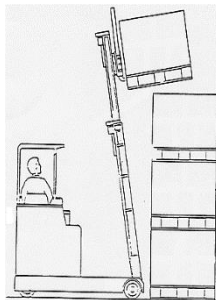


fig. 3

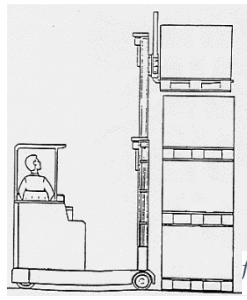


fig. 4

5. Reach out smoothly, taking care not to dislodge loads in adjacent stacks. (See fig. 3)
6. When the load is squarely over the stack, bring the mast to the vertical position and lower the load onto the stack gently and smoothly. (See fig. 4)
Note: Modern reach trucks have fixed masts. This means tilt is achieved by pivoting the carriage plate. We still need to ensure the load is level before we lower the load onto the stack.

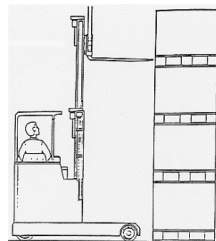


fig. 5

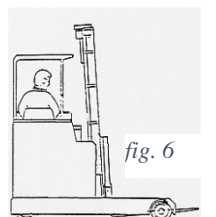
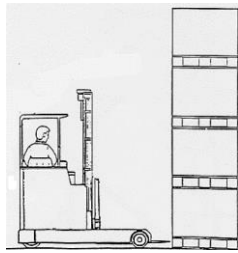


fig. 6

7. When the load is securely stacked, lower the fork arms until free of the pallet and reach in. When freeing the fork arms, slight forward tilt may be of assistance; otherwise it should seldom be necessary to use a forward tilt. (If the fork arms are not fully clear of the stack, the reach truck should be moved back a short distance, after ensuring the way is clear). Beware! Failure to ensure clearance of your forks within the load could result in you dislodging the load or even pull the stack over. (See fig. 5)
8. When the fork arms are clear of the stack, re-apply the parking brake, engage neutral if the reach truck has been moved. Lower the forks into the travel setting and check the way is clear before moving off. (See fig. 6)
9. Check all around before releasing parking brake and moving off.

DE-STACKING



1. Halt approximately 6" to 12" from the stack and apply the parking brake and engage neutral. (See *fig. 1*)

2. Bring the mast to the vertical position or ensure the forks are level. If necessary, adjust the fork arm spread to suit the width of the load and ensure that the weight of the load is within the capacity of the reach truck.

fig. 1

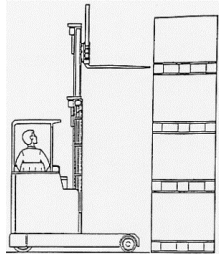


fig. 2

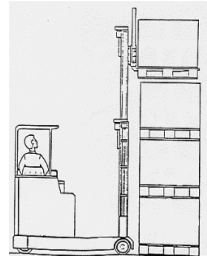


fig. 3

3. Look up and check for obstructions, then raise the fork arms to a position permitting clear entry into the pallet or dunnage strips. The forks should be nearer to the top of the entry point in order to compensate for the taper of the forks. At height, your forks will look higher than they are. (See *fig. 2*)
4. Move forward if necessary, to bring the reach truck square on and close to the stack and re-apply the parking brake, ensuring the vehicle is in neutral. Fully insert the fork arms by reaching out until the load guard gently touches the load or pallet base. (See *fig. 3*)

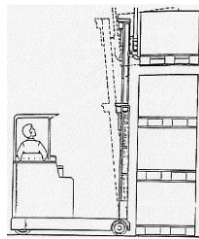


fig. 4

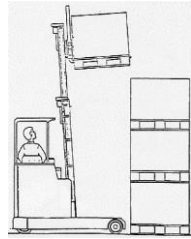


fig. 5

5. Lift the load until it is clear of the stack and carefully apply backward tilt just sufficient to stabilise the load. (See *fig. 4*)
6. When the load is clear of the top of the stack, reach in. When necessary, move the reach truck slightly backwards away from the stack, ensuring that the way is clear and taking care not to dislodge loads in adjacent stacks. Re-apply the parking brake if the reach truck is moved. (See *fig. 5*)

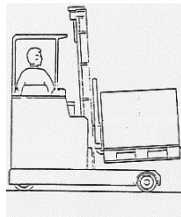


fig. 6

7. Lower the load carefully and smoothly to the correct travelling position. Apply sufficient back tilt to stabilise the load before checking the way is clear and moving off. (See *fig. 6*)

DAILY INSPECTION or PRE-USE CHECK.



Give your partner a daily check-up

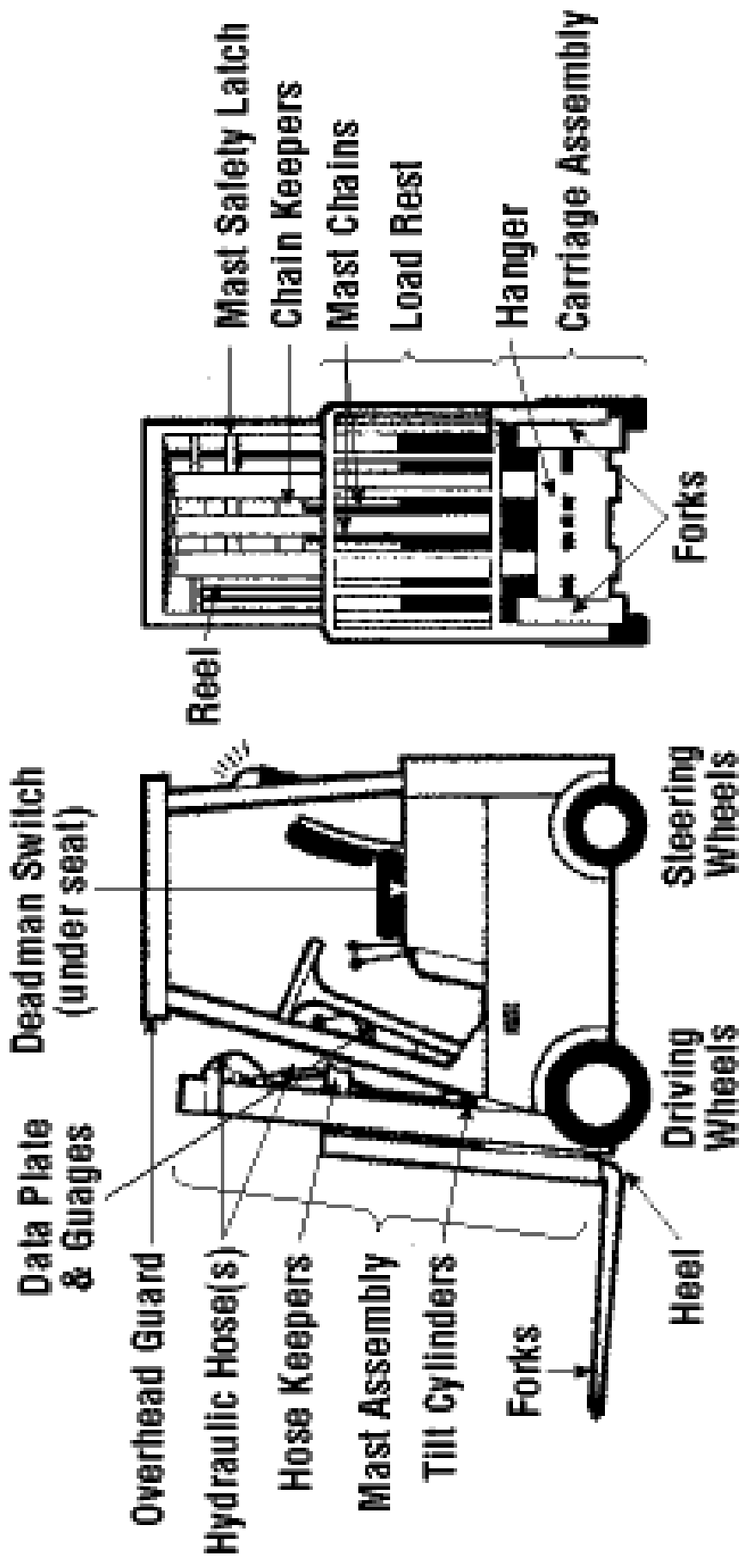
Good Maintenance is important!!!

- Check your machine daily to make sure it's in good operating condition. Follow all manufacturer's and company procedures carefully.
- Be sure all dials, gauges, and equipment work properly.
- Check tyre condition and air pressure if appropriate.
- Check for water and oil leaks, particularly in the hydraulic system.
- Test brakes, steering, horn, warning lights, backup alarms, and other controls.
- Make sure the fire extinguisher is in place and properly serviced.
- Check for cracks at the heel of the forks.
- Look for bent or damaged forks – this usually means a serious safety problem.
- Never attempt to alter or repair the forks yourself. They either need to be replaced, or repaired by the manufacturer.
- Clean your truck at the start or end of each shift to remove dust, dirt, and grease.
- Use non-combustible cleaning agents on the forklift.
- Don't drive a forklift if anything is sparking, smoking, or if any temperature gauges register above normal. Report the problem.

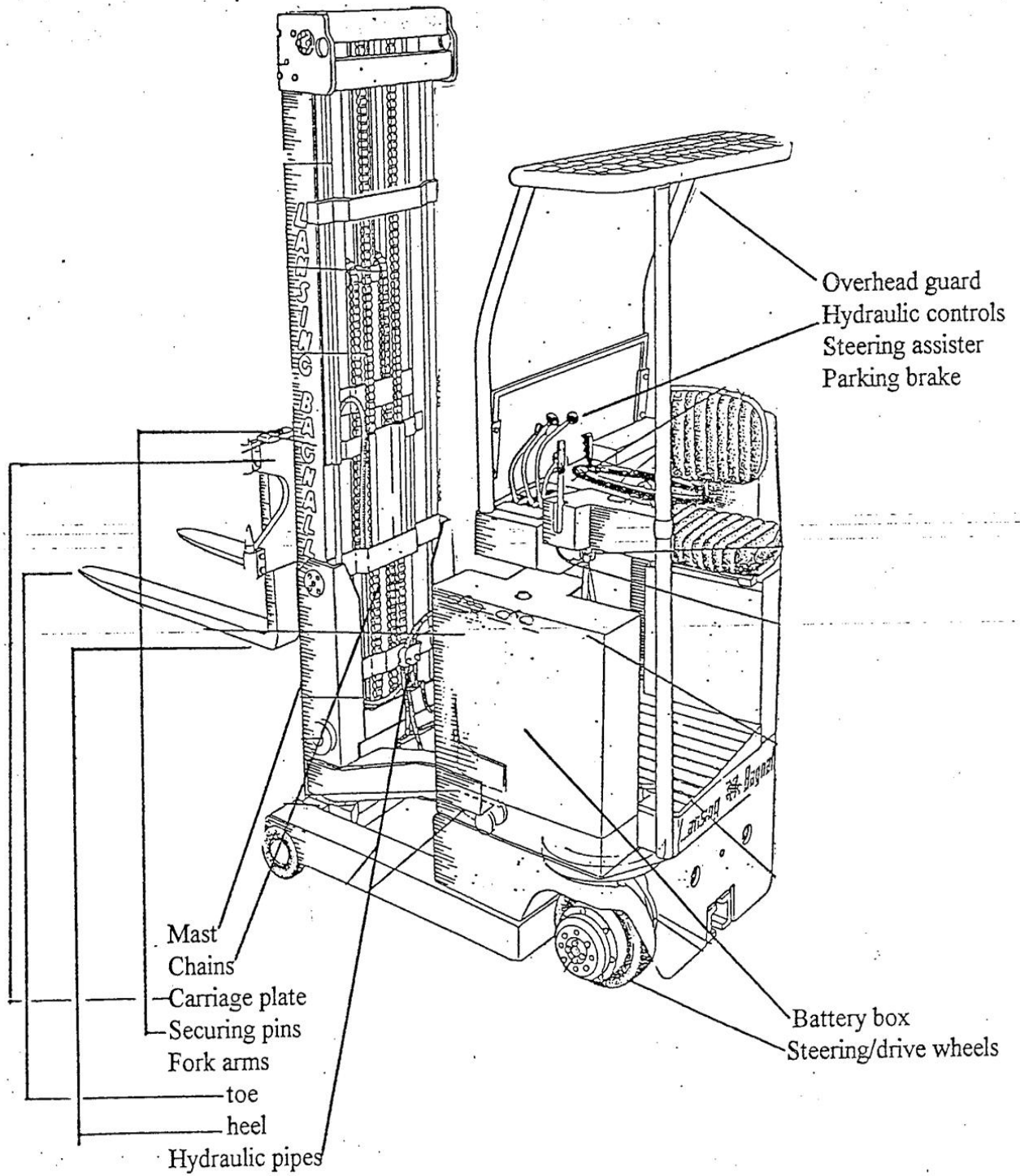
And while you're inspecting, always keep your hands away from parts that can move.

Maintenance is very important.

Keep maintenance records neat and up-to-date. Report any problems to your supervisor and let a trained mechanic fix them. Place a **"Do Not Operate"** tag or sign on the forklift and remove the keys so that no one else can use it.



LIFT TRUCK COMPONENT TERMINOLOGY



**Daily Inspection or
Pre-Use Checks**

Item	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Shift							
Fork Arms							
Carriage							
Stop Bolts							
Load Back Rest							
Mast and Rollers							
Chains/Securing Pins							
Lift Cylinders							
Wheels (nuts & rims)							
Tyres (condition & pressures)							
Overhead Guard							
General Bodywork							
Capacity Plate							
Check Fuel/Battery/Oil & Water							
Check Hydraulic Oil Tank (before using hydraulic controls)							
Check Oil Hoses for Leaks							
Check Seat for Security & Condition							
Check Horn							
Check Beacon Flashing							
Check all Warning Lights							
Start the Truck							
Check ALL Brakes							
Check Hydraulic Controls							
Checked by - Initials							
Park Truck and report any faults to supervisor							
Faults to be logged in fault report book							
Sign Inspection Log book if truck is serviceable							

FILLING INSTRUCTIONS AND SAFETY NOTES FOR LIFTING CALOR REFILLABLE CYLINDERS USED ON FORK LIFT TRUCKS.



Safety Rules:

No smoking, naked lights or other sources of ignition should be permitted in the vicinity of the refuelling site and signs to this effect must be displayed.

The area must be kept free from grass, weeds, rubbish and other readily ignitable materials.

Suitable Fire extinguishers (Dry Powder) should be sited adjacent to the installation. Protective rubber gloves should be provided and worn at all times when refuelling is taking place.

VEHICLE CYLINDER REFUELLING INSTRUCTIONS.

1. Park truck, set brake and switch off engine. Close Service Valve 'F' on cylinder.
2. Check by Contents Gauge that cylinder is not already full.
3. Remove Filler Valve Dust Cap.
4. Connect the Filling Nozzle to the Filler Valve on the cylinder by means of the union connection (normal right – hand thread). Ensure that the Vent Valve (if fitted) is closed.
5. Open Valve 'K' underneath storage tank (electric pump) or Valve 'D' on top of storage tank (hand pump) as appropriate.
6. Open Valve 'J' on end of Filling Hose and note reading of Contents Gauge on cylinder. If this indicates $\frac{3}{4}$ (70%) or above, open Fixed Level Gauge Valve 'E' on cylinder, switch on electric pump, or operate hand pump, and commence filling. When a visible spray of LPG issues from the Fixed Level Gauge Valve 'E' immediately close Filler Valve 'J' on end of hose and cease filling.
7. With Valve 'J' closed, open Vent Valve (if fitted) and allow the small amount of gas trapped in the Filling Connection to escape. Do not attempt to break this connection until all gas flow has ceased from the vent valve.
8. Disconnect Filler Hose from cylinder and stow correctly. Finally replace dust cap on cylinder.
9. Keep Valve 'K' underneath storage tank (or Valve 'D' on top of tank) closed at all times when the installation is not in use.
10. If the Fork Lift Truck cylinder is removed for filling, this should be done with the cylinder in the horizontal position, with the locating hole in the shroud positioned at the lowest point.

NOTES:

- (i) When refuelling, truck must be at least 3m (10ft) from storage tank.
- (ii) It is important that the filling hose should be inspected prior to use on every occasion, as damaged hoses can result in serious incidents. If any damage is detected, do not use the hose, and immediately contact your nearest Service Office for assistance.
- (iii) Do not drop the Filling Connection or drag the hose along the ground. This will result in damage to the union and subsequent leakage.
- (iv) Never fill beyond the Max Level 'F' (or 80 %) on the Contents Gauge, or after liquid spray emerges from the Fixed Level Gauge when the valve is opened.

If, for any reason, the cylinder has been inadvertently overfilled, it is essential that the truck engine should be run to reduce the quantity of gas in the cylinder to the correct amount before the truck is left unattended.

Safety Data Information Sheet

PROPANE.

Substance Identification Number : 1978 HAZCHEM Code 2WE

General:

Commercial propane is supplied as a liquid under pressure in various sizes of steel cylinders, or in bulk for storage in steel pressure vessels on site. Containers are equipped with a hand wheel valve and the outlet is fitted with a gas-tight plastic plug for transportation. The gas is scented to provide a characteristic odour.

SAFETY INFORMATION.

Warning:

Flammable gas – No smoking or naked lights – Keep container in well ventilated place – Liquid may cause frostbite.

Health Hazards:

Eye: Contact by liquid can cause burns similar to frostbite. If affected, immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention.

For protection, wear chemical goggles.

Skin: Contact by liquid can cause burns similar to frostbite. If affected, immediately wash area with cold water for at least 15 minutes. Get immediate medical attention.

For protection, wear gloves and impervious clothing.

Inhalation: Asphyxia in high concentrations. At lower concentrations, lack of oxygen will cause dizziness, nausea, increased depth and frequency of breathing, and ultimately unconsciousness. If affected, immediately remove patient to uncontaminated area. If patient has stopped breathing, commence artificial respiration. Summon immediate medical attention. For protection, if ventilation is inadequate, the use of positive pressure air line respirator is required.

ACTION IN CASE OF FIRE:

Vacate the area and call the Fire Brigade. Small fires can be attacked with dry powder fire extinguishers. If it is safe to do so, close the container valve. Cool neighbouring cylinder(s) or tank(s) with water. Do not use water to extinguish LPG fires

BATTERY LOG

TRUCK DETAILS:

DATE:

6	7	18	19
5	8	17	20
4	9	16	21
3	10	15	22
2	11	14	23
1	12	13	24

Use the box beside the number to record the SG readings before charge.

Use the box under the numbers to record the SG readings after charge.

Low charge 1140

Typical values : Medium 1225

High 1280

Unusual readings were recorded for the following cells :

.....
REMOVING FROM CHARGE.

1. SWITCH OFF CIRCUIT BREAKER.
2. SWITCH OFF MAIN ISOLATOR.
3. REMOVE CHARGING LEAD FROM BATTERY CONNECTOR ON FORKLIFT TRUCK.
4. REPLACE CHARGING LEAD ONTO CHARGER STOWAGE POINT, ENSURE THAT CABLE IS NOT TRAILING ON THE FLOOR.
5. CARRY OUT HYDROMETER READING AND ENTER INTO BATTERY LOGBOOK.
6. YOU MAY NEED TO TOP UP INDIVIDUAL CELLS IF SO, YOU WILL BE UNABLE TO TAKE ANY READINGS.
7. ALWAYS USE THE CORRECT PPE & EQUIPMENT PROVIDED FOR TOPPING UP THE CELLS AND FOLLOW MANUFACTURERS RECOMMENDATIONS.
8. ENSURE ANY SPILLS ARE CLEANED UP.
9. ENSURE ALL BATTERY TOPS ARE SECURE AND ANY FURRING IS REMOVED FROM BATTERY TERMINALS.
10. REPLACE SEAT AND ENSURE IT IS SECURE.
11. REPLACE FORKLIFT POWER PLUG TO BATTERY SOCKET ON THE FORKLIFT TRUCK.
12. CONTINUE PRE-USE CHECKS AS PER INSPECTION SHEET.

PLACING ON CHARGE.

1. PARK TRUCK NEXT TO BATTERY CHARGER.
2. SWITCH OFF AND REMOVE KEY.
3. DISCONNECT PLUG FROM BATTERY CONNECTION ON THE FORKLIFT TRUCK.
4. CHECK THAT MAIN ISOLATOR IS IN THE OFF POSITION.
5. CHECK THE LEADS OF THE CHARGER AND MAKE SURE THERE ARE NO SPLITS IN THE CABLE BEFORE TURNING ON THE CHARGER!
6. CONNECT BATTERY CHARGER LEAD TO BATTERY CONNECTOR ON THE FORKLIFT.
7. SWITCH THE MAIN ISOLATOR TO ON.
8. SWITCH CIRCUIT BREAKER TO THE ON POSITION.
9. THE CHARGER WILL START AUTOMATICALLY.

ALWAYS FOLLOW THE MANUFACTURERS INSTRUCTIONS WHICH CAN DIFFER ON DIFFERENT MACHINES.

Course Content for Lift Truck 1 day Safety Refresher Operator Course

Theoretical

The need to train & statutory requirements
Counterbalance Principles Rated Capacities - stability and instability
Operator Safety Code
Suitable safety films
Multi choice theory test

Practical Skill Instruction

Introduction to the machine
Daily checks and test
Demonstrations all procedures for steering and stacking
Practice
Practical skill test

Counter Balance and Reach lift trucks

Course Registration & Outline 8.15-8.30am Class	Need to Train And Statutory Requirements HASAWA Etc 8.30-9.15am Class	Counterbalance Principles Rated Capacities - stability and instability Operator Safety Code Suitable safety films 9.25am-11.30 Class	Introduction to the machine 11.30am-12.15pm Area	LUNCH	Pre use inspection Demonstration 12.45pm-1.15pm Class	Revision advanced steering/stacking and de-stacking Associated knowledge test, pre-use inspection and Practical testing Course Closure 1.15pm-4.45pm
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1 Day Safety Refresher and Test Basic Operator Course Programme

All course timings are approximate

Course Content for Lift Truck 3 day Basic Operator Course

Theoretical

The need to train & statutory requirements
Counterbalance Principles Rated Capacities - stability and instability
Re-fuelling
Operator Safety Code
Suitable safety films
Multi choice theory test

Practical Skill Instruction

Introduction to the machine
Control familiarisation
Daily checks/refuelling procedures
Battery charging & simple battery maintenance
Driving and steering procedures, (unladen & laden)
Load weight assessment
Load handling
Stacking / destacking procedures
Bulk stacking / destacking
Stacking / destacking cup post pallets
Handling awkward loads & vehicle loading / unloading
Pre-use check test
Practical skill test

Example Programme: 3 Day Experienced Operator Course

Counterbalance or Reach Trucks									
D A Y 1	Course Registration & Outline	Need to Train And Statutory Requirements HASAWA Etc.	Introduction to the Machine Motive and Steering Controls Starting-Stopping-Emergency Stops Steering Control Familiarisation Basic Steering Through Various Courses		L U N C H	Simple Practice & 90° Approaches Left/Right	Simple Hydraulic Principles & the Lift Truck	Basic Load Handling Introduction to Hydraulic Controls Stacking/Destacking Unladen Pallets At Various Levels	Battery Charging & Simple Battery Maintenance
	8.30-8.45am Class	8.45-9.30am Class	9.30am-12.45pm Area			1.30-2.15pm Area	2.15-2.45pm Class	2.45-4.00pm Area	4.00-4.45pm Area
	Operators Safety Code	Daily Pre-Shift Checks & Refuelling Procedures	Basic Load Handling Laden Pallets at Low Level Manoeuvring With Loads	Engineering Principle Rated Capacity Stability & Instability		Handling Various Loads Load Weight Assessment Stacking/Destacking at Various Heights Bulk Stacking/Destacking Travelling on Ramps	Load Handling Stacking/Destacking Cup Post Pallets Various Levels	Safety Film	
8.15-9.30am Class	9.30-10.15am Area	10.15-11.45am Area	11.45am-12.45pm Class	1.30-3.30pm Area	3.30-4.15pm Area	4.15-4.30pm Class			
D A Y 3	Revision and Pre-shift Checks	Load Handling Practical Revision Stacking/ Destacking In Racking	Load Handling Vehicle Loading & Unloading	Handling Awkward Loads	General Supervised Practice	Multi Choice Theory Pre-Use Check Test & Practical Skills Test	Course Feedback & Closure		
8.30-9.15am Area	9.15-11.15am Area	11.15-12.00pm Area	12.00-12.45pm Area	1.30-3.00pm Area	3.00-4.15pm Class & Area	4.15-4.45pm Class			

Course Content for Lift Truck 5 day Basic Operator Course

Theoretical

The need to train & statutory requirements
Counterbalance Principles Rated Capacities - stability and instability
Re-fuelling
Operator Safety Code
Suitable safety films
Multi choice theory test

Practical Skill Instruction

Introduction to the machine
Control familiarisation
Daily checks/refuelling procedures
Battery charging & simple battery maintenance
Driving and steering procedures, (unladen & laden)
Load weight assessment
Load handling
Stacking / destacking procedures
Bulk stacking / destacking
Stacking / destacking cup post pallets
Handling awkward loads & vehicle loading / unloading
Pre-use check test
Practical skill test

Example Programme: Basic 5 Day Operator Course

Counterbalance or Reach Truck								
D A Y 1	Course Registration Outline 8.30-8.45am Class	Need to Train Statutory Requirements 8.45-9.30am Class	Introduction to the Equipment 9.30-10.30 Area	Introduction To Motive & Steering Controls Demonstrations & Practice 10.45am-12.45pm Area	L U N C H	Basic Steering Exercise Course/Obstacles 1.30-3.00pm Area	Steering techniques Various Courses 90° Approaches 3.15-4.00pm Area	Battery Charging Procedures 4.00-4.45pm Area
D A Y 2	Operators Safety Code 8.30-9.30 Class	Daily Pre-Shift Checks 9.30-10.30am Area	Revision Steering Practice 10.45-11.15am Area	Engineering Principles Rated Capacities Stability 11.15am-12.45pm Class		Simple Hydraulics 130-2.00pm	Basic Load Handling Introduction to Hydraulic Controls Handling Empty Pallets at low level 2.00-3.45pm Area	Basic load Handling Stacking/Destacking Empty Wooden Pallets At various levels 3.45-4.45pm Area
D A Y 3	Revision Pre-Shift Checks 8.30-9.30am Area	Revision Basic Load Handling 9.15-9.45am Area	Load Handling Stacking and Destacking Open Area at Various Heights Bulk Stacking Empty Wooden Pallets 9.45am-12.45pm Area			Bulk Stacking And Destacking Laden Pallets 1.30-3.00pm Area	Manoeuvring With Loads Courses & Ramps 3.15-4.15pm Area	Safety Film 4.15-4.45pm Class
D A Y 4	Revision* Pre-Shift Checks 8.30-9.15am Area	Battery* Maintenance 9.15-10.00am Area	Stacking & Destacking Cup Post Pallets And Racking Systems 10.00am-12.45pm Area			Further Practice Stacking & Destacking Various Loads Etc. 1.30-3.00pm Area	Vehicle Loading & Unloading 3.00-4.45pm Area	
D A Y 5	Practical Revisions General NB. Each Trainee in turn should put The batteries on charge or carry Out refueling procedures 9.15-10.00am Area		Handling Awkward Loads and General Practice 10.00am-12.30pm Area	Briefing for Theory & Skills Tests 12.30-12.45pm Class		Multi Choice Theory Tests 1.30-2.00 Class	Pre-Use & Practical Skills Test 2.00-4.15pm Area	Course Feedback & Closure 4.15-4.45pm Class

***Note:** Even where company rules prohibit operators from doing this in practice, they should be instructed in the techniques to make them complete operators.

Notes: