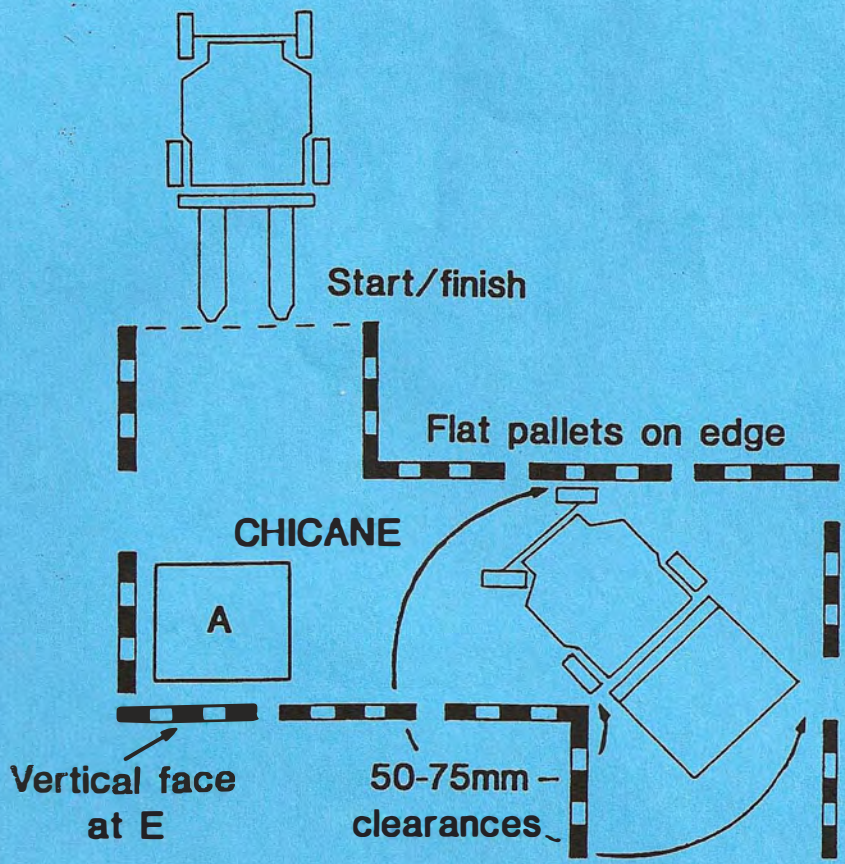
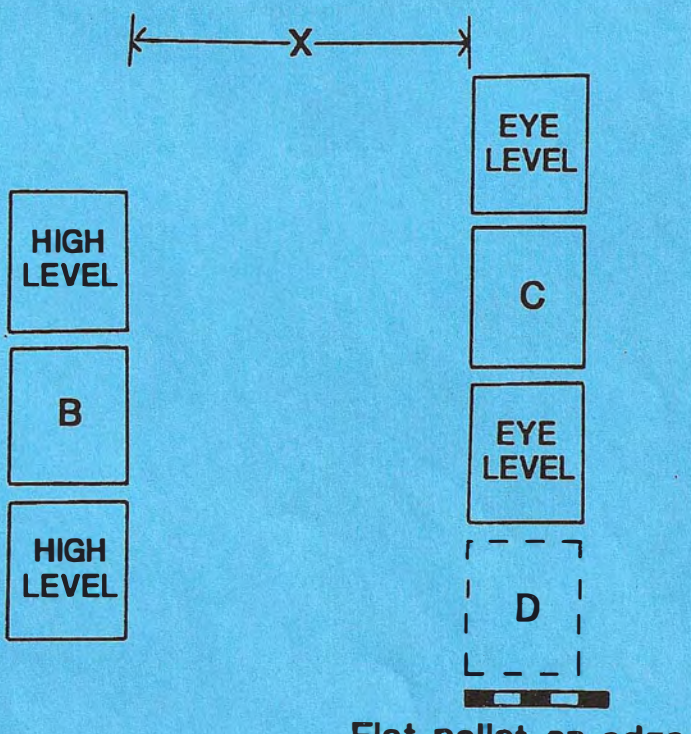
B1 - B2 - B3 - D1 - G2

Plan of Test Course - Rider Counterbalanced, Reach & Container Handling Lift Trucks





SAFETY REGULATIONS APPLICABLE TO FORK LIFT TRUCK

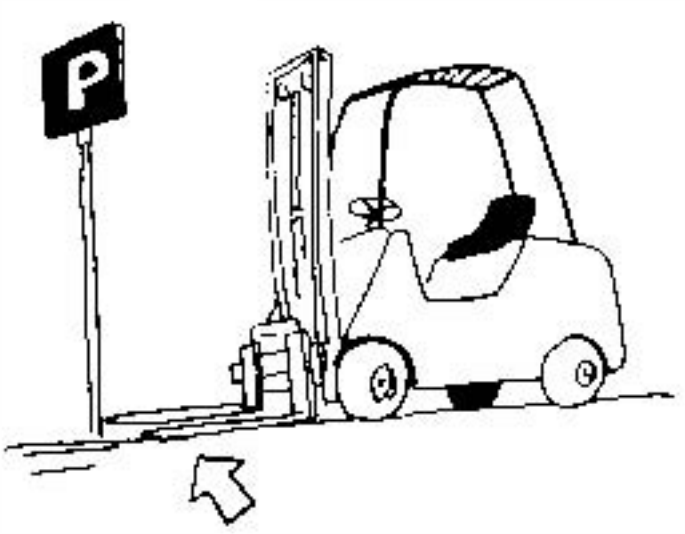
1. No passengers should be carried unless an authorised passenger seat is provided.
2. Operators should slow down and sound horn at intersections and when entering or leaving a shed.
3. Operators should always face the direction of travel.
4. Railway lines should always be crossed diagonally.
5. Before getting off, the equipment's engine will be stopped, the parking brake applied and the ignition key removed.
6. Operators should ensure that a fire extinguisher is fitted to the equipment and that they know how to use it.
7. Sudden halts should be avoided.
8. Operators should keep a distance of at least THREE truck lengths from proceeding equipments when travelling in line.
9. The forks must always rest on the floor when an equipment is parked.
10. Always check the weight of the load before attempting to lift it.
11. Never attempt to lift an improperly stacked or insecure load.
12. Forks should always be spaced to maximum width possible before liftin a load.
13. Always insert forks to fullest extent before lifting a load.
14. Forks should not be raised or lowered whilst the equipment is moving.
15. Watch for low overhead clearances. If in doubt, do not guess, get off and measure.
16. Never allow anyone to walk under the forks whether empty or loaded.
17. Lift, lower and carry loads with mast vertical or tilted to the rear.
18. Always look behind before reversing away from a stack.
19. Keep load as low as possible when moving.
20. Keep a constanct look out for danger spots; eg: inspection pits, crane areas, platform edges and ramp edges.
21. Stacks should not be bumped or pushed into position.
22. When forward vision is obscured by a load travel in reverse unless negotiating an incline.
23. When loaded, always drive forward up ramps and inclines. If forward vision is obscured, wait until somebody is available to guide you.
24. Never lift anytone on forks unless an authorised safety pallet is fitted.
25. Reverse down steep inclines with a load.

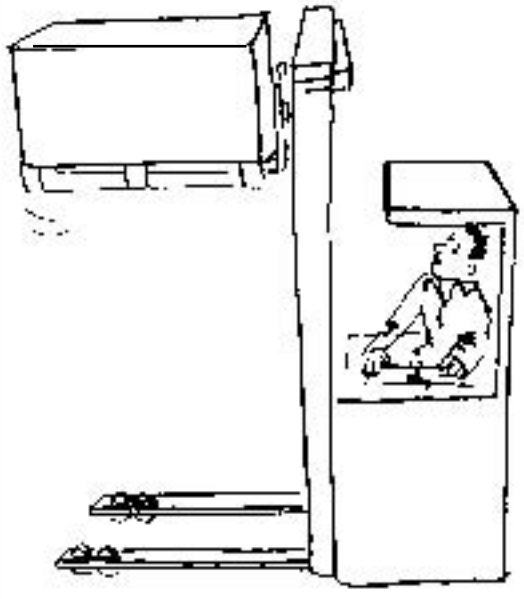
DON'T DAY-DREAM. KEEP YOUR MIND CONSTANTLY ON THE JOB

PARKING

A truck must never be left unguarded other than in its allotted parking space. There are often local parking regulations, but the following general rules should always be kept in mind:

- Do not park where the truck will create an obstruction.
- Apply the parking brake.
- Tilt the mast forward and lower the forks so that they rest evenly on the ground. This reduces the likelihood of anyone tripping over them. If the truck is laden level the load and lower it to the floor.
- Engage neutral.
- Turn off the engine and remove the key.





MAXIMUM LOAD

Never exceed the maximum lifting capacity of the truck. If this is exceeded, truck parts and material can be damaged. Overloading a truck can be fatally dangerous for both you and your workmates.

If your truck is fitted with an attachment, you must remember that the truck lifting capacity is reduced due to the weight of the attachment and the displacement of the load centre.

DAILY CHECK LIST.

NAME: _____ COMPANY: _____

VEHICLE TYPE: _____

GENERAL

Check log book
Leaks
Wheels and tyres
Steering Rams
Fuel
Engine Oil
Water (when cold)
Hydraulic Oil
Transmission Oil
Brake Fluid
Air Cleaner
Fan Belt
Battery
Overhead Guard
General Security

IN CAB

Foot Holds
Hand Grips
Doors and windows
Seat
Free Play Steering
Free Play Brakes
Free Play Clutch
Hand Brake.

LIFTING EQUIPMENT

Mast
Chain
Pipes
Jacks
Rollers
Guard
Retaining Pins
Forks
Carriage
Attachments

ENGINE RUNNING

Start Engine
Horn
Lights
Wipers and Washers
Lift Fully
Tilt Fully
Side Shift
Reach
Stabilizers
Attachments
Hand Brake Holding
Brakes Forward
Brakes Reverse
Leaks
Complete Log Book.

DELETE IF NECESSARY:

PASS

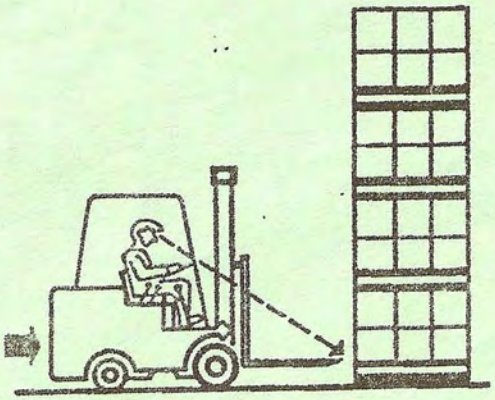
FAIL

EXAMINER SIGNATURE _____

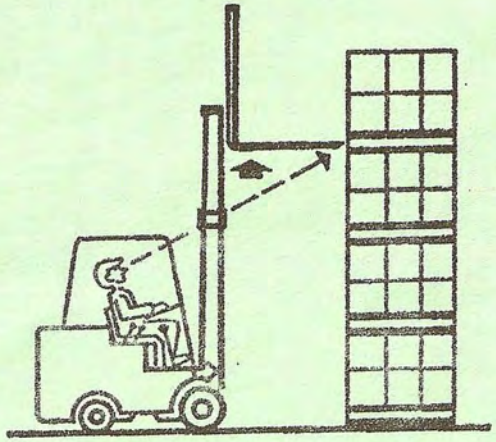
DATE _____

DE-STACKING

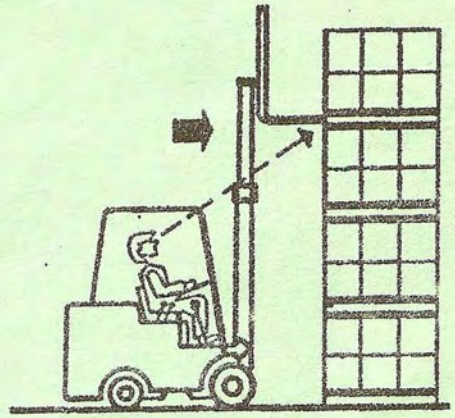
1. Approach Stack
With Forks in
Driving Position



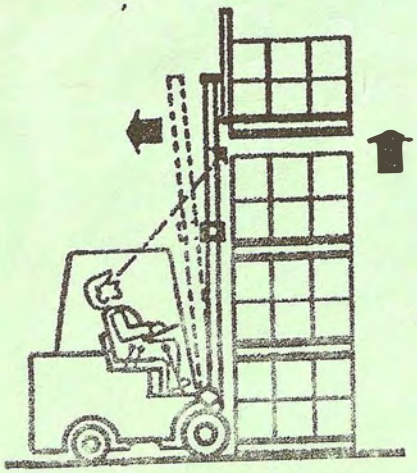
2. Stop 6" From Stack
Apply Hand Brake
Level Forks



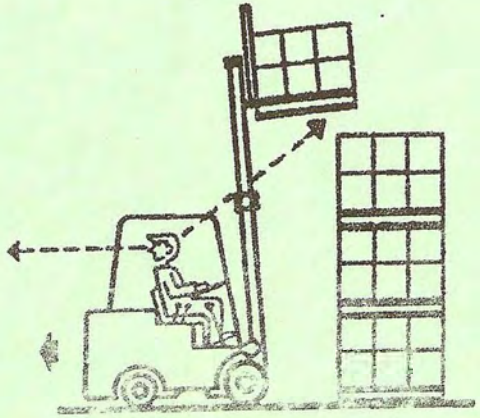
3. Lift Forks to Correct
Height



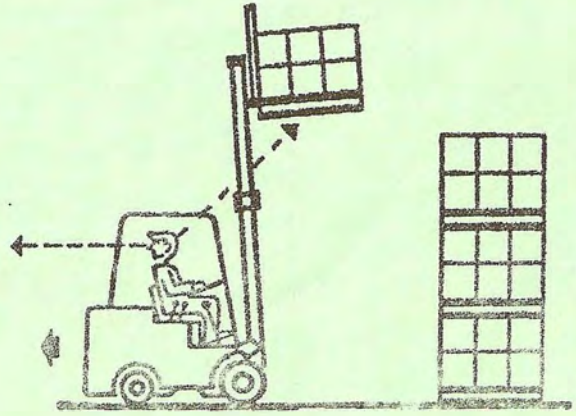
4. Hand Brake Off
Fully Insert Forks
Under Load



5. Hand Brake On. Lift
Load to Safe Height
And Apply Stabilizing
Rear Tilt



6. All Round Check
Hand brake Off
Reverse Carefully Off
Stack



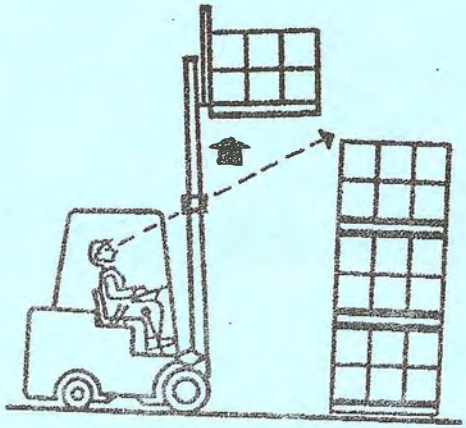
7. When Clear Stop
Apply Hand Brake and
Carefully Lower Load

8. Apply Travelling Tilt
and Move Off When Safe

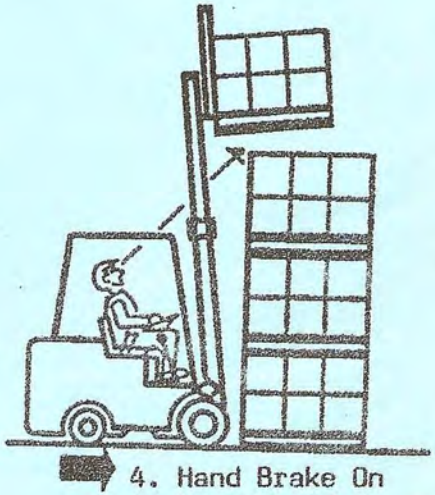
STACKING

1. Approach Stack
   Load Low & Tilted
   Back

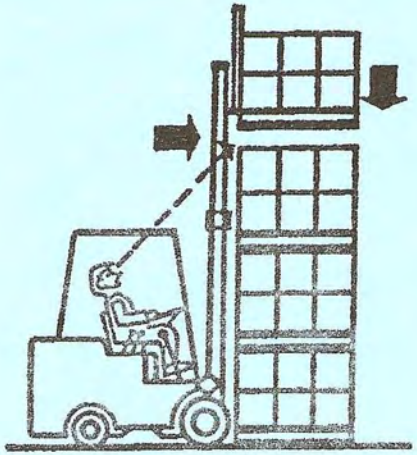
2. Stop 6" from Stack
   Hand Brake On
   Slightly Reduce Tilt



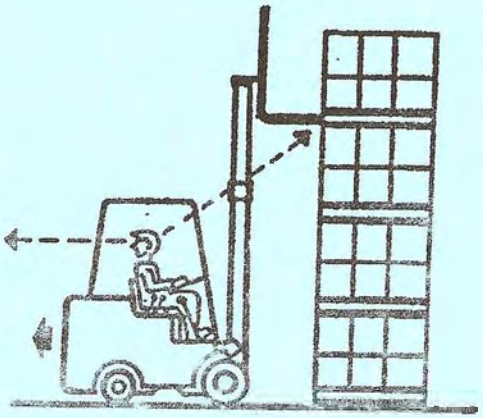
3. Lift Load to Correct Height
   + 6". Look around.
   Hand Brake Off - Drive
   Forward Till Load is Over
   Stack



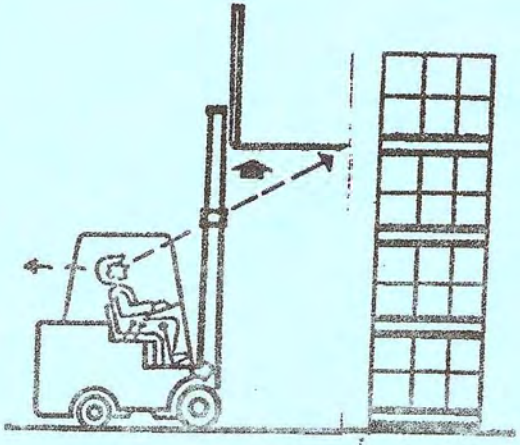
4. Hand Brake On
   Lower Load to 3"
   From Stack



5. Level Load and
   Lower onto Stack



6. Hand Brake Off
   All Round Check
   Reverse From Stack



7. When Clear
   Hand Brake On
   Lower Forks

7. Apply Travelling Tilt
   Move Off When Safe

FORK TRUCK TUITION *Newsletter*

WHO SAYS THAT ACCIDENTS DO NOT HAPPEN?

The following press reports highlight some of the typical accidents that occur in industry each year. For obvious reasons the names of individuals and companies have been omitted.

DRIVER CRUSHED TO DEATH

A man was crushed to death between a fork lift truck and the wall of a West Midlands coal yard today.

The man who has not been named, died whilst working at

Trapped

It is believed he was using the truck to remove a barrel of rubbish next to the wall but stopped and climbed on to the forks to make an adjustment. Police said it appeared that the man's foot knocked a lever which moved the forks, trapping his head against the wall. They added that there were no suspicious circumstances.

WORKER INJURED COLLEAGUE

Magistrates in CARMARTHEN fined a fork lift truck driver £200 for seriously injuring a fellow worker whilst driving a fork lift truck at work.

was operating a fork lift truck at a company in Johnstown when he ran over the feet of his colleague, as a result of which one of his feet had to be amputated.

The HSE stated that whilst had received formal training as a lift truck operator he was operating the machine in an unsafe manner and failed to pay due regard to the safety of others. pleaded guilty to the charge and his employers are to face proceedings later this month regarding the accident.

TRAGEDY AS MAN SEES SON KILLED

A tragic accident occurred on Saturday at a warehouse in Stratford upon Avon when a young lad was killed as his father drove a fork lift truck at work.

Twelve years old was being given a ride on the machine by his father on Saturday morning. It appears that he leaned outside the body of the machine and struck a support column causing massive head injuries and killing him instantly.

The HSE are investigating this accident.

HEAVY FINE AFTER MAN LOSES LEG

A SHEFFIELD engineering company has been fined £26,000 after a work lift truck driver lost his leg when his faulty truck toppled on him.

aged 26, tried to leap clear of the falling truck but was pinned to the floor by his ankle by its two tonne weight.

SHEFFIELD magistrates today heard that bosses at knew the truck had faulty brakes.

The company admitted three charges of failing to train properly, failing to maintain the vehicle and failing to report a previous accident. Despite engineers advice to stop using it, the machine was kept in service.

needed three operations on his crushed foot and now has a false left from his right knee down.

On June 14, Pauline was using the truck at premises when it turned over as he took a corner.

Health & Safety prosecutor David Redman told the court an examination of the truck revealed five faults.

THOUGHTS FOR THE DAY!

1) **Aim for perfection – half right is always half wrong.**

2) **Always hire people smarter than yourself – this shows you are smarter than them.**

3) **Never promise more than you are able to deliver.**

4) **Stainless steel sinks!**

MANSLAUGHTER CHARGES DUE TO NEGLIGENCE AT WORK!

Company Directors, contractors and managers could face prosecution under new manslaughter rules if employees or members of the public are killed at work or on a site.

The Law Commission are putting forward new proposals for a change in the prosecution process. These changes would make it easier to place the blame for deaths at work on guilty companies and managers.

Jail sentences could be imposed under two new offences being considered.

1) **Reckless Killing and**

2) **Killing by gross carelessness**

A Director, manager or contractor who then sends an employee to carry out a work activity knowing that there is serious danger to the employee, and the employee is killed as a result, could be jailed for reckless killing.

The lesser charge of killing by gross carelessness would apply if the risk of the employee being killed or suffering a serious injury should have been obvious to the person in charge.

The judge should ascertain whether the jury takes a view that the employer was reckless or only c reless. In addition judges will have the power to impose limitless fines on guilty persons and order employers to restructure their management so as to prevent future accidents.

Companies who already comply with health and safety regulations and have safety policies in place, have carried out risk assessments and provide health and safety training to employees will have nothing to fear. However, those employers who are only paying lip service to health and safety legislation and do not comply with the regulations in force will need to take steps to put their house in order.

The Law Commission recommendations will go to the Home Office which will decide on the changes necessary to the Law.

TO TRAIN OR NOT TO TRAIN!

There appears to be some confusion within certain companies regarding the need to train operators on various types of industrial trucks not at present covered by the HSC Approved Code of Practice and Supplementary Guidance "Rideroperated lift trucks - operator training" (ACoP).

A case recently came to light where a sales representative from a truck manufacturer sold a rider pallet truck to a company. At the time of the sale the company purchasing the machine was told that a selling point of this particular model was that the operator would require no training. This was due to the fact that this type of machine was not covered by the ACoP.

Unfortunately there re many other cases where it is incorrectly believed that training of operators is not required on machines other than Industrial Rider Counterbalance - Reach Trucks - Masted Rough Terrain and Telescopic Handlers (as listed in the ACoP). The fact is that whilst other types of machines are not specifically covered under the scope of the ACoP. Paragraph 7 of the Code does clearly identify that it is a general duty of the employer to provide training (under section 2 of the HSW Act), to the operators of all types and categories of machines.

It is therefore a legal requirement to train all operators on all the types of machines they are required to operate.

It therefore appears both reasonable and prudent to undertake the training of industrial truck operators under both the requirements and guidance of the ACoP wherever practical to do so, regardless of the types of machine involved.

AITT The Association of Industrial Truck Trainers
NEWSLETTER
Issue Spring 1999

Thanks for the Publicity Graham!

An article was recently published in the Industrial Handling and Storage magazine. It was written by Graham Hurford who has close links with AITT through his role as an external verifier. The following extracts are taken from the article and may be of some interest to members.

If you think training is expensive, try ignorance. Some 1200 people are injured each year as a result of lift truck accidents. This results in pain to the injured person and causes trauma to the family. However the effects of an accident do not stop there. Industry has a massive bill to pay. Apart from compensation to the injured person, there is damage to the truck, storage systems, buildings, product, disruption to the work schedule and in some cases criminal prosecution.
Fines from a prosecution are unlimited in a Crown court and should the charge be one of manslaughter then jail sentences can be imposed.
How do so many accidents occur? Let us look at some examples.

OBSERVATION ....Or lack of it - is one of the main causes.
INCORRECT TRAVEL/STEERING -- are also other major causes.
INCORRECT HANDLING OF LOADS.. etc.

In fact those of us who are actually involved physically in training are aware **HOW** accidents do occur. Inadequate supervision also often plays a considerable role in the causing of accidents.

WHY DO ACCIDENTS OCCUR?

Lack of training and lack of supervision are the main reasons. It can be seen from the causes above that both operators and supervisors have responsibilities. Regulation nine of the Provision and Use of Work Equipment Regulations (PUWER) requires all persons who use work equipment to have received adequate training for the purposes of health and safety, including training in the methods which may be adopted when using the work equipment, any risks which such use may entail and precautions to be taken. This applies equally to an employee who supervises or manages the use of work equipment.

WHAT CAN BE DONE?

The Association of Industrial Truck Trainers (AITT), through its members, can provide training to both operators and management on all aspects of safety within all types of industry.
In particular, operators can be trained to the basic certificate of training, as required under the Rider Operated Lift Trucks - Operator Training ACOP. Having achieved that, operators can then go on and work towards the Level 2 Lift Truck Operations National Vocational Qualification again with the AITT.
These qualifications will be cost effective because they up-skill your workforce. This means work will be completed efficiently and effectively which in turn helps bottom line profits.
Remember, lift truck operation is a job which requires 100% concentration 100% of the time. So support your operators by giving them thorough training and ensure your supervisors are equally well trained.

Graham Hurford

LARGEST-EVER LOCAL AUTHORITY SAFETY FINE FOR SAINSBURY'S

In what is thought to be the largest-ever penalty for a health and safety prosecution brought by a Local Authority - and the fourth biggest-ever safety fine the supermarket giant Sainsbury's was fined a massive £425,000. The fine was levied after the food store admitted deliberately disconnecting safety mechanisms which directly resulted in the death of an employee.
Winchester Crown Court heard that a worker died after he was crushed by a lift truck which had its safety cut-off switch deliberately disconnected.

Basingstoke and Deane Borough Council prosecuted Sainsbury's after the accident at the company's Houndmills distribution depot in Basingstoke, Hampshire, on 4th December 1996.
Prosecuting on behalf of the Council, Dominic Grieve told the court that Sainsbury's employee Maurice Dinsey was sent to inspect a reach truck at the site when it toppled over and crushed him, he died later the same day from his injuries.

Sentencing Sainsbury's, Judge Kay said: "The story is a picture of working procedures that date back to the dark ages".

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IMPROVING SAFETY STANDARDS

VEHICLE LOADING AND UNLOADING

INTRODUCTION

Road haulage plays a large part in the movement of materials and a considerable amount of valuable time can be wasted if a vehicle is delayed whilst being loaded or unloaded. Although vehicles must be turned round quickly, particular emphasis must be placed on safe operation, because, tragically, a vast number of accidents and an enormous amount of damage occurs at the loading bay.

PRE-LOADING/UNLOADING CHECKS:

Check delivery notes for address and commodity.

Supervise the positioning of the vehicle and make sure that the driver has applied the parking brake.

Chock the wheels particularly if the vehicle to be loaded/unloaded is an articulated trailer from which the tractor has been uncoupled.

Before loading ensure that the vehicle floor is clear of obstruction and sound.

LOADING/UNLOADING PROCEDURES (over the side):

Make sure that the goods to be loaded are in delivery order, i.e. the first on will be the last off.

When loading an uncoupled articulated trailer place at least two pallet loads of the first delivery order over the rear axle to maintain the stability of the trailer, these loads can be positioned correctly later.

Commence loading the last deliveries tight up to the headboard, or front of the vehicle.

Distribute the total weight evenly from side to side and over all axles.

Keep the loads tight together to prevent movement in transit.

When loading several customers' orders on one vehicle, arrange each consignment so that the load will remain stable at each unloading stage.

Commence unloading from rear of vehicle working from alternate sides.

Do not load or unload all one side of a vehicle, as this strains the chassis and could cause the vehicle to tip.

LOADING/UNLOADING PROCEDURE (over the tail end):

Extra caution is always required on the loading dock.

Examine dock levellers or bridge plates to confirm their safe working load. (A capacity plate is generally displayed on this type of equipment).

Check hinge bolts and securing pivots for cracks or distortions before use.

Make sure that the dock leveller or bridge plate is lipped well on to the vehicle floor.

Do not drive on to the floor of the vehicle until it has been established that its floor is strong enough to support the weight of the truck and its load.

When loading or unloading an un-coupled articulated trailer over the tail end, a reliable support must be placed under its front end to prevent it tipping during the loading/unloading operation.

In closed vans, be careful not to damage the sides, and exercise caution when reversing out.

Do not 'drag' loads out of a van.

Always check goods being loaded/unloaded against the delivery notes and report any errors or damage.

Do not overload any vehicle, they also have a *Safe Working Load.*

If in doubt about the capacities of dock levellers, bridge plates, lorry floors, etc., check with the supervisor.

SUMMARY:

Before loading or unloading, check that the vehicle is at the right address with the correct goods and parked safely. Whilst loading or unloading remember the vehicle must be stable at all times. Check the capacity of the equipment being used, and if in doubt – ask. Never take chances.

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IMPROVING SAFETY STANDARDS

SAFE OPERATING PRACTICES

INTRODUCTION:

The number of accidents in which fork lift trucks are involved is far too high. One of the major causes responsible for this situation is fork truck operators ignoring, or being unaware of the rules. There are a wide variety of working conditions in which fork trucks are used, and it would be impossible to cover them all in this handout. However, experience has proved that certain basic practices must be adhered to in order to ensure the safety of operators and others.

PERSONAL FACTORS:

Operators must adopt a sense of responsibility. They must realise that they are handling a very expensive item of equipment, moving and stacking valuable goods in a confined area, probably where other people work.

Before starting work with the truck the operator must always carry out the DAILY INSPECTION and report any faults found immediately. They must not use an unsafe truck.

Whilst at work the operator must abide by all the relevant rules, i.e. HEALTH & SAFETY AT WORK ACT, COMPANY RULES, OPERATING RULES, etc.

OPERATING PROCEDURES:

The operator should be thoroughly familiar with the contents of the "Operating and Safe Working Handbook" published by the manufacturer for the particular truck being operated.

Controls must be operated smoothly at all times — practice vehicle sympathy.

Before moving an unladen truck the forks must be raised clear of the ground, but not more than 6" remember!

Prior to and whilst moving, ALWAYS LOOK in the direction of travel.

Trucks must be driven at a speed consistent with the prevailing conditions — avoiding bumps or kerbs, and approaching railway tracks, etc. with caution (diagonally).

The operator's body must be kept within the confines of the truck.

On a ramp or incline — before starting up or down the forks must be raised and the mast tilted to clear the camber of the ground. Then travel:—

GOING UP — LOAD LEADING
GOING DOWN — LOAD TRAILING

NEVER turn across an incline.

A fork truck should only be driven into a lift when the operator has been directly instructed to do so by the supervisor.

All loads must be approached squarely with the forks central under the WEIGHT and adjusted for a clean entry.

The operator must ensure that the load is within the rated capacity of the truck, secure and correctly housed on the forks, before attempting to move it.

Persons must not be allowed to pass under raised forks.

The load must be carried as close to the floor as is practicable.

When the load being carried obscures forward vision the truck should be driven with the load trailing.

STACKING GOODS:

To build stacks directly against a wall, or where they would obstruct doorways, staircases, emergency exits, fire-points, etc. creates a hazard.

When building a bulk or free standing stack the operator should make sure that the floor is clear of obstructions, that the pallets are sound and each load is levelled off before it is stacked.

Loads should be stacked close together to conserve space, but the operator should be aware of protruding forks, which may foul the stack immediately behind the load being handled.

The operator must ensure that the bottom layer (e.g. pallets and goods) will support the weight of the complete stack. Check that it is safe before leaving it.

When loading pallets onto racking it is important to check that the lateral beams are secure, weight must be distributed evenly over the whole section of racking, and each pallet load housed accurately on the beams.

The SAFE WORKING LOAD of the racking you are working with must not be exceeded.

Box or Corner post pallets also have a safe working load and this generally decreases as the stack increases in height.

Post pallets stacked too close together can cause the locating cups to foul the adjacent stack. The operator must be sure that the pallet is correctly located on top of the one below before withdrawing the forks.

When building any form of stack remember the goods will have to be de-stacked, so sufficient room must be left for trucks to manoeuvre *SAFELY.*

PARKING:

When leaving the truck it must be parked correctly, make sure that it does not obstruct gangways, doorways, etc., apply the parking brake, tilt the mast forward and lower the forks right to the floor; turn the circuit switch off and remove the key to prevent unauthorised persons driving the truck.

At the end of the day or shift, the truck will require re-fuelling or the traction batteries re-charging ready for the next work cycle.

NOTE:

If an operator is called upon to use the truck on the public highway they should check that it is taxed and insured and they have the necessary driving licence.

SUMMARY:

A safe, competent operator is one who takes pride in the way they operate their fork truck, respects the goods they handle, and follows the correct operating procedures. They never take chances.

A set of 7 specially designed safety posters are available from F.T.T. at a nominal cost which will help to remind truck operators of their responsibility.

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IMPROVING SAFETY STANDARDS

BATTERY CARE FOR THE FORK TRUCK OPERATOR

INTRODUCTION:

The performance of an electric fork truck is largely determined by the efficiency of its traction battery. This battery is an extremely costly part of the truck and generally carries a long guarantee by the battery manufacturer. A neglected battery will result in a considerable increase in truck downtime and a loss of its guarantee. It is usually an engineer's responsibility to maintain the battery and its charging equipment, but it is often the truck operator's job to carry out the simple day-to-day tasks involved in general battery care.

GENERAL SAFETY POINTS:

Do not smoke in the charging area and never use a naked flame as a light when checking batteries.

The battery cells contain acid, therefore a supply of clean water must be available so that should a person come into contact with the acid it can be washed off immediately.

Disconnect the battery from the truck or charger before commencing an inspection or maintenance on the battery.

Make sure that loose metal objects such as tools, steel rules in top pockets, or metal wristlet straps cannot accidentally fall on to, or come into contact with the top of the battery.

MEASURING SPECIFIC GRAVITY:

A battery's specific gravity (s.g.) should be measured with a hydrometer before and after each charge and these readings recorded in the battery log book.

A fully charged cell will have an s.g. reading of 1.280 at 60° F.

A discharted cell will have an s.g. reading of 1.140 at 60° F.

As the battery ages these readings will vary slightly. A correction must also be made to allow for variations in the temperature of the acid. For each 2½° F above 60° F add 0.001 to the reading; for each 2½° F below 60° F subtract 0.001 from the reading.

Do not use the battery when the s.g. reading is below 1.140.

If the battery has been overdischarged, i.e. below 1.140 S.G. *DO NOT* switch on to fast (normal) charge immediately; *first* switch to slow (equalising) position, and then check specific gravity periodically until 1.140 S.G. is reached. The battery may then be charged normally.
Note: Modern electric chargers are designed to cater for this situation automatically.

USING THE HYDROMETER:

Check that the hydrometer is clean and free from damage. Holding it well away from the body squeeze the bulb several times to expel any foreign bodies.

Draw up a quantity of electrolyte from a cell into the glass barrel until the hydrometer floats freely.

Taking the reading from the point where the scale on the float emerges from the electrolyte. Make sure that the electrolyte is returned to the cell from which it was taken.

Dry off any spillage from the top of the battery immediately.

CHARGING PROCEDURE:

At the end of the day or shift the battery will generally require charging.

Disconnect the battery from the truck and remove the battery covers.

Take s.g. readings and record.

Check the electrolyte levels in all cells, the liquid should completely cover the plates.

Top up if necessary with distilled water until the plates are just covered. Do not overfill. Dry off any spillage immediately and ensure that all cells tops are replaced.

Ensure that the charger is switched off and examine the charger cables and plugs for damage, then connect the charger cable plug to the battery plug.

THERE ARE A WIDE RANGE OF DIFFERENT TYPES OF BATTERY CHARGERS. It is of the utmost importance that the instructions produced by the individual charger's manufacturer are followed very carefully, both when switching on at the commencement of the charge and before switching off on completion of the charge.

Switch off the charger before disconnecting the charger's lead from the battery and hang the charger lead up off the floor.

Take s.g. readings and record. Ensure that the battery tops are dry and the cell tops secure. Connect the battery to the truck, replace the battery lids and lock them where necessary.

If s.g. readings have not reached a fully charged state, inform your supervisor immediately as this may indicate a charger, or battery fault.

EQUALISING CHARGES

Most modern battery chargers are designed to provide an equalising charge as a part of the normal charge cycle. Others, in particular the older type of charger do not have this facility and equalising has to be dealt with as a separate function.

It is extremely important that the manufacturers instructions on this aspect of battery care are followed most carefully.

GENERAL CARE

Always adhere to the recommendations for battery maintenance in the manufacturer's handbook.

Always adhere to the charger manufacturer's instructions for the particular charger in use. Remember that these instructions may vary from one type of charger to another.

Add only distilled or special battery water to the battery cells and use only a glass or non-metalic clean container for storing this liquid and for transferring it to the battery.

Keep the battery and its container clean and dry. Any corrosion to metal work caused by acid must be neutralised with a solution of sodium bicarbonate or diluted ammonia. Further corrosion can be prevented by thoroughly cleaning and drying the effected areas, then smearing the battery terminals with petroleum jelly and applying acid proof paint to such metal areas as the battery container.

Ensure that all cell tops are kept tight and the vent holes clear.

If the battery is not in use or is to be stored for any length of time, keep it fully charged and stored in a cool dry place.

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IMPROVING SAFETY STANDARDS

FORK TRUCK STABILITY

1. INTRODUCTION

A safe, competent operator *always* works within the capacity of his truck. He considers the following:-

(a) The WEIGHT of the load

(b) The LOAD CENTRE

(c) The necessity to operate all controls with CAUTION, especially if the load is elevated.

(d) Factors which can cause a truck to overturn: i.e., STABILITY

We will proceed to consider each of these items in turn.

2. The WEIGHT of the load

A truck can lift a certain maximum weight of load. This information is indicated on the truck's capacity plate for the benefit of the operator. A typical (although simplified) truck capacity plate is shown (Fig. 1).

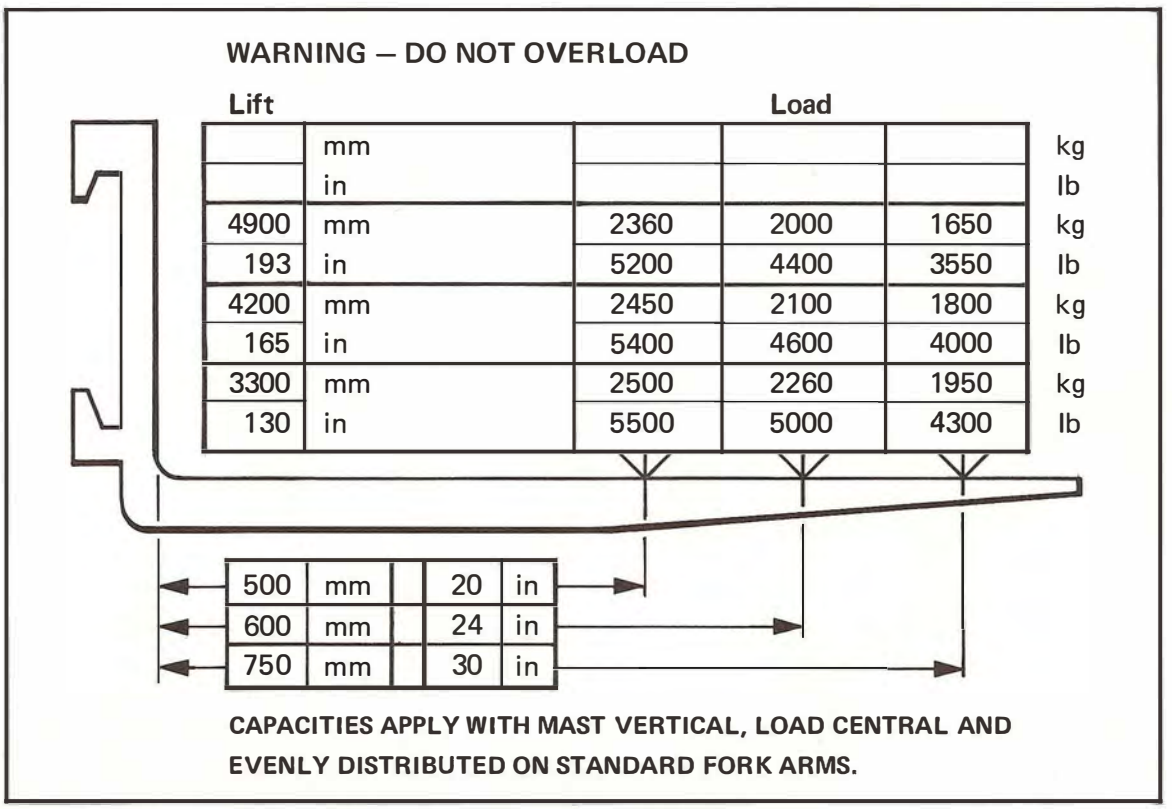


Fig. 1

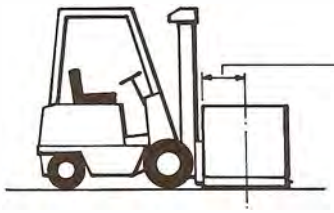
The maximum weight which can be lifted by this truck is 2500 kg (5500 lb), even at low lift heights and with small size loads. Remember that the weight of loads indicated on the truck's capacity plate is MAXIMUM. It must NEVER be exceeded; and in some applications the actual loads handled should be considerably less.

3. THE LOAD CENTRE

It is not just load weight that can overload a truck; it is also the position of that load on the forks of the truck.

To define this we *assume* a uniform load so that its *centre* is halfway through the load – see (Fig. 2).

(Fig. 2)



Load centre is defined as the horizontal distance from the back of the forks to the centre of the load.

Hence the capacity rating of a fork truck is stated as, say:

2500 kg at 500 mm centres
or alternatively 5500 lb at 20 in centres

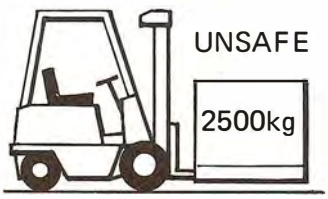
meaning that it can lift a maximum of 2500 kg (5500 lb), provided that the centre of that load is no more than 500 mm (20 in) from the back face of the forks.

Bearing in mind that load centres and load weight can vary, and since a fork truck is rather like a see-saw, we must consider load centres (as well as weight) when dealing with truck SAFETY. See (Fig. 3).

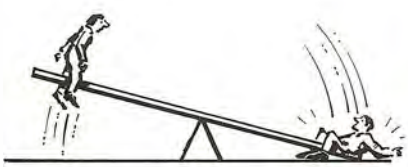
(Fig. 3)

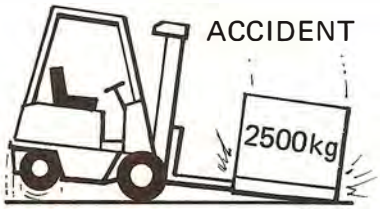
(a) **THE SAFE CONDITION**

(b) **APPROACHING DANGER!**



(c) **ACCIDENT!**





NOTE: Exactly the same WEIGHT further out along the forks (at *increased* load CENTRES) can create a hazard. (The same man moving out along the see-saw upsets the balance).

So the capacity plate tells us that any given height of lift, the load weight has to be REDUCED if the load centres INCREASE (see Fig. 1),

e.g. at 3300 mm lift 2500 kg is OK at 500 mm centres
(130 in) (5500 lb) (20 in)

but 2500 kg at 600 mm or 750 mm load centres is OVERLOAD
(5500 lb) (24 in) (30 in)

At 600 mm (24 in) LOAD CENTRES the maximum load must not exceed 2260 kg (5000 lb). Alternatively, only 1950 kg (4300 lb) at 750 mm (30 in) load centres.

There is a rough and ready rule of thumb (which errs on the safe side). If the capacity plate indicates that the truck can lift a certain weight at a certain load centre and we wish to know what DECREASED weight can be safely lifted at an INCREASED load centre we do the following simple sum:

WEIGHT multiplied by known LOAD CENTRE, divided by the new increased LOAD CENTRE gives us the NEW MAXIMUM LOAD

e.g. Supposing a truck is rated to handle 4000 lb at 20 in load centres, but we need to handle a load at 30 in load centres. The MAXIMUM load at 30 in load centres is 4000 multiplied by 20 and divided by 30 = 2667 lb.

Similarly – where a truck is rated to handle 2000 kg at 500 mm load centres, but we need to handle a load at 700 mm load centres. The MAXIMUM LOAD at 700 mm load centres is 2000 multiplied by 500 and divided by 700 = 1430 kg

NOTE:

As stated, this is a rough rule of thumb for safety purposes for trucks that do not have the 30 in load centre capacity stamped on the capacity plate. It should not be compared with the capacity plate in (Fig. 1) where many other factors have been incorporated.

4. STACKING

A fork lift truck is of no value unless it lifts a load for stacking.
But lifting a load introduces more hazard unless it is done carefully.

Refer back to our capacity plate (Fig. 1)
At 24 in centres a maximum load of 5000 lbs can be lifted to 130".
Lift to 165" and the "capacity" is reduced to 4600 lb.
Now lift to 193" and the "capacity", still at 24 in centres is reduced to 4400 lb.
Thus, a load which is just "safe" at floor level, might represent a very definite hazard when lifted up.

KNOW YOUR TRUCK AND KNOW YOUR LOAD

And even this is not the end of the story. Everything we've said up to the present has not mentioned MOVEMENT, and, of course, a fork truck moves! It travels forwards and backwards; it lifts, lowers and tilts its loads; it goes round corners. All of which add a factor called MOMENTUM.

We realise what this is if we're in a bus and the driver stops suddenly. All the passengers are thrown forward in their seats and the conductor standing in the gangway is in real trouble! The bus movement had given everyone some MOMENTUM, which carries on, even when the bus stops.

Suffice to say that all movements on a fork truck should be carried out *smoothly*. Smooth starting and stopping, careful lifting and lowering, steady tilting. And if you have to turn a sharp corner, do it slowly and with the forks lowered. Even tilting can create a hazard, if not done carefully especially if the load is lifted. Travelling with the load elevated should be kept to the essential minimum and done steadily.

5. STABILITY

Safety with a fork lift truck is largely a question of *stability* i.e., keeping all of its wheels firmly on the ground at all times. So far we have discussed factors which can cause the back of the truck to lift due to lifting excess weight or lifting a load too far out along the forks, or lunging the truck forward due to momentum.

A greater proportion of fork trucks overturning takes place SIDEWAYS, however. Provided simple rules are obeyed, a truck need *never* topple sideways.

1. Never turn a truck with a raised load or even with raised empty forks.

2. When negotiating a turn, drive steadily.

3. Always travel in the correct direction up and down gradients and never drive across a gradient so that the truck leans sideways.

4; Watch out for potholes or obstructions that could tip the truck: if the ground is uneven, drive slowly.

6. SO:-

(a) Ensure the weight of the load you lift is within the permitted limits shown on or calculated from the capacity plate.

(b) Ensure "load centres" are within those specified and the weight is appropriate.

(c) Remember the higher you lift, the lower the truck capacity — Check the capacity plate.

(d) Operate smoothly and obey the rules for Safe Operating.

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IMPROVING SAFETY STANDARDS

DAILY INSPECTION – TAKEOVER PROCEDURES

INTRODUCTION:

At the beginning of the day or shift, or whenever taking over a truck from another person, a fork truck operator must always examine the truck to be used. One or two minutes should be spent checking that the truck is both safe and fit to carry out the work expected of it. A conscientious person will create a habit of carrying out this examination systematically to ensure that any important points are not overlooked.

CHECK:

Inspect forks, carriage, mast, hoist chain, (and reach channels of reach truck) for cracks, distortions, excessive dirt or any foreign bodies which may be fouling the mechanism.

Check tyres (test pressures on pneumatics) for undue wear or damage, remove flints, swarf, etc., from the tread.

Examine the general condition of the machine, check on top of the mast section, tie bars, and overhead guard, for articles which may have been left there which will fall when the truck is operated. Make sure that the seat is secure and examine the bodywork for damage, rust, broken hinges, or locks, etc.

On engine driven trucks check the coolant and lubricating oil levels. Top up to the marks indicated when necessary.

Using the dipstick provided, check the level of hydraulic oil in the reservoir. This must be done with the forks lowered fully and the reach fully in. The oil must be maintained at the level recommended by the manufacturer. Report any serious loss of oil immediately. Top up with only the correct grade of clean hydraulic oil.

Operate all controls, hydraulic control levers, horn, lights, direction indicators if fitted, any attachments and accelerators to ensure that they function correctly.

Driving the truck slowly, test the efficiency of both foot and handbrake.

Report *all* faults to the supervisor or foreman immediately upon completion of the inspection. Do NOT attempt repairs unless directly instructed to do so.

If unsure of correct tyre pressures, or which type of hydraulic fluid or lubricating oil to be used, refer to the manufacturer's handbook.

A faulty truck should not be used until it has been repaired.

SUMMARY:

Good fork truck operating begins before the truck itself is operated. A careful examination can reveal possible hazards or mechanical defects which can be put right before they become serious, thus preventing accidents and reducing truck downtime.

NOTE:

Posters illustrating the parts of the truck that should be checked are available at a nominal cost.

We also produce a Daily Inspection Log Book to enable the operator to record the examination of the truck.