

LAMANVA TRAINING CENTRE

Telescopic Handler



TRAINING MANUAL

Health and Safety at Work act 1974

The health and safety at work act 1974 is designed to protect people and the environment from work place activities. It places certain duties and responsibilities on employers, employees, self-employed, designers and manufactures.

Employees Duties:

- Take reasonable care for **themselves** and **others** who may be affected by their actions.
- **Co-operate** with the **Employer**
- Do **not interfere** with **Health** and **Safety issues**.

Good timekeeping, being polite, being safe and doing a good job are all ways of ensuring repeat business with a client or principal contractor.

Employers Duties:

Employers must ensure workplaces under their control are safe and free from hazards. Ensure the safety of employees, visitors, trespassers and the general public who could be affected by the work. Everything they **provide** for use, tools, plant and equipment must be well **maintained** and **safe** without risk and the personnel are trained to use it.

- Provide a safe place of work with safe access and egress.
- To provide adequate welfare facilities.
- To provide adequate information, instruction, training and supervision

Health and Safety Legislation places the responsibility for the safety at work on everyone on the premises or site.

The levels of sanctions that can be applied (by employers and judicial bodies) to plant operators who do not comply with, or follow legislation and regulations are **verbal warning, written warning, dismissal, prosecution**.

When getting prosecuted there are three outcomes, they are **case dismissal, fine** or **imprisonment**.

In general plant operators are regarded as 'safety-critical' workers, which mean their **actions with the machine** that have **significant health & safety Consequences on themselves and others**.

*Provision & Use of Work Equipment Regulations 1998
(PUWER 98)*

Work equipment must be suitable for the purpose for which it is used.
This applies not only to complex machinery, but simple items such as hand tools

Work equipment must be maintained in a safe condition. This will require control systems to be in place to check on the condition of work equipment and take corrective action as required.

Users must be given **information, instruction and training** as appropriate. What is appropriate depends on the risk associated with the equipment and the level of competence required to keep those risks at an acceptable level. Workplace risk assessments highlight the hazards and level of risk.

Controls and their functions must be easily identifiable. The aim is to ensure that the wrong controls are not used by mistake.

Machines must be capable of being isolated from the power source.

This may be a simple function (e.g. on/off) or a high voltage source that requires special arrangements for isolation

Machines must be stable in use; machines have been known to fall over. ROPS & FOPS, (Rolling Over Protective Structures) & (Falling object Protective Structures) this is to provide **some protection** to the operator in the event of the machine **over turning** or from small falling objects.

Equipment must be capable of being maintained safely. Accidents occur during maintenance thus the risks encountered during such maintenance must be reduced.

LOLER Lifting Operations and Lifting Equipment Regs

This is an amendment to the European regulation which deals with all aspects of lifting and has specific requirements including;

- Trained and competent people doing their job
- Plant and equipment tested and certificated
- Work is **Planned** and **Supervised**
- SWL (safe working Load) WLL (working load limit) are clearly marked on All equipment
- Examination – all plant used for lifting must be examined and certificated by a **competent authorised** person. If the plant is used for lifting personnel, then it must be tested every 6 months if it not used for lifting personnel then it is tested every 12 months. The purpose of the examination is to check for structural damage.
- Lifting accessories – must be suitable for the job (SWL not exceeded), tested, certificated, and in good condition.
- Lift plan – is a detailed description of how to carry out a lift. An appointed person produces the lift plan, a lift supervisor implements the plan and supervised the job
- Contract lift – with a contract lift the crane company provides the lift plan, the equipment, all the personnel to carry out the lift (lift supervisor and slinger/ signaller) and the insurance. They are in control of every aspect of the lift assume responsibility of the lift.
- LOLER Register – operators should complete the LOLER register weekly. Pre- use inspection should be carried out as per the manufactures instructions. Record in a daily/ weekly inspection sheet and report any faults/ defects immediately.

Hazards and Risk Assessment

The definition of a hazard is where there is a **potential threat** (or risk) to life, **health, property** or the **environment**. Potential risk on site; trenches, soft ground, overhead power lines, buildings, people etc. For this reason, it is important that a risk assessment is carried out before any work on site by a competent person.

The purpose of a risk assessment is to IDENTIFY and PLACE control measures on hazards.

In general when starting work on a new site you will undergo a site induction which includes:- Access and egress, accident reporting, confined spaces, buried services, contamination, welfare facilities, electricity, emergency procedures, reporting structure, lifting operations, working from/at height, reporting procedures, reporting structures, restricted/prohibited areas, safety signs and signals, site layout, waste disposal, smoking, toilet, traffic routes etc.

Method Statements

The purpose of a Method Statement when on site is to document given specific instructions on how to SAFELY perform a work-related task and it is the plant operators responsibility to COMPLY with the method statement.

Telehandler Types and uses



Telehandler- the telehandler has a variety of different rolls but its main purpose is to safely lift and move loads around the site, with an extending boom to reach a variety of heights and distances. This can be done by using one of many different attachments that can be fitted to this machine. Telehandler is fitted with big wheels for grip and traction on all types of ground conditions and can be selected for crab, 2 or 4-wheel steer to make the machine highly maneuverable.

Some examples of Attachments;

- **Forks** – lift and move pallets with different materials on (most used attachment)
- **Bucket** – pick up loose material, level off ground, load and dig
- **Grabs** – pick up material
- **Brush** – clean the road



Industrial telehandler

Fixed with rear wheel steer, can be powered by gas, electric or diesel depending on application. Used predominately in yards, warehouses or confined spaces on hard standing areas for which they have small wheels.



Articulated telehandler

The main difference with this machine is that the machine has an articulation point for steering and is mainly used for agriculture



360 Roto

Versatile machine with the ability to slew 360, can be fitted with different attachments to carry out tasks as a crane

If the telehandler is not being used then switch off the engine, lower revs when driving round, keeping to the same tracks and having a well-maintained vehicle are all ways to minimise the impact on the environment.

Daily Checks

Prestart Checks: Using the operators manual

First walk round the telehandler checking for any damage to the machine making sure there are no leaks or damage, making sure the tyres are at the correct pressure they are not damaged or have a deep cut in the side wall which could cause the tyre to deflate. Check that all the lights are in good condition and clean.

Engine compartment check:

- Engine oil level
- Hydraulic oil level
- Coolant level
- Fuel level
- Brake fluid level
- Air filter indicator

Checking the forks

- Make sure they are not damaged
- No bends
- No cracks
- All pins and clips are in
- Correctly adjusted

Mirrors – make sure they are **clean** with **no damage** and they are **adjusted** to see out of them when in the driving seat.

Running Checks

Unlock the door get in and put on the safety belt and adjust seat as needed.

Start the engine and let it warm up for about 2 to 5 minutes. Check that all the lights and the horn is working, check that the operating controls, steering, braking and movement of the telehandler is in good working order so the telehandler is able to carry out its task safely and efficiently, filling out the daily check sheet as you go.

Safety:

When checking the oil level always wear gloves, this can prevent skin diseases and prevent contamination of oil onto operating controls and cab.

If topping up the hydraulic system make sure you have a clean can with a funnel with a filter in, clean around the filler cap so no dirt can get into the system.

If the engine is hot do not remove the radiator or expansion tank cap because the system is pressurised and could cause hot water/ steam to come out and burn the operator.

Lifting with the Telehandler

SLI Safe Load Indicator or RCI Rated Capacity Indicator

Rates Capacity – maximum weight the machine can lift. This is set by the manufacture and is found in the handbook or the duties chart

This is a device that is fitted into the machine which shows forward machine stability. It gives an indication when the machine is reaching or exceeding its rated capacity (what it can lift). Most have traffic like system that starts off in the green light which means the load is safe. Then goes onto amber light which means the weight is starting to work its way up to its safe working load. Then finally it goes onto the red light and at this time an alarm will sound off which lets you know you are about to or have exceeded the safe lifting capacity of the machine.



Red light and alarm goes off

Amber light

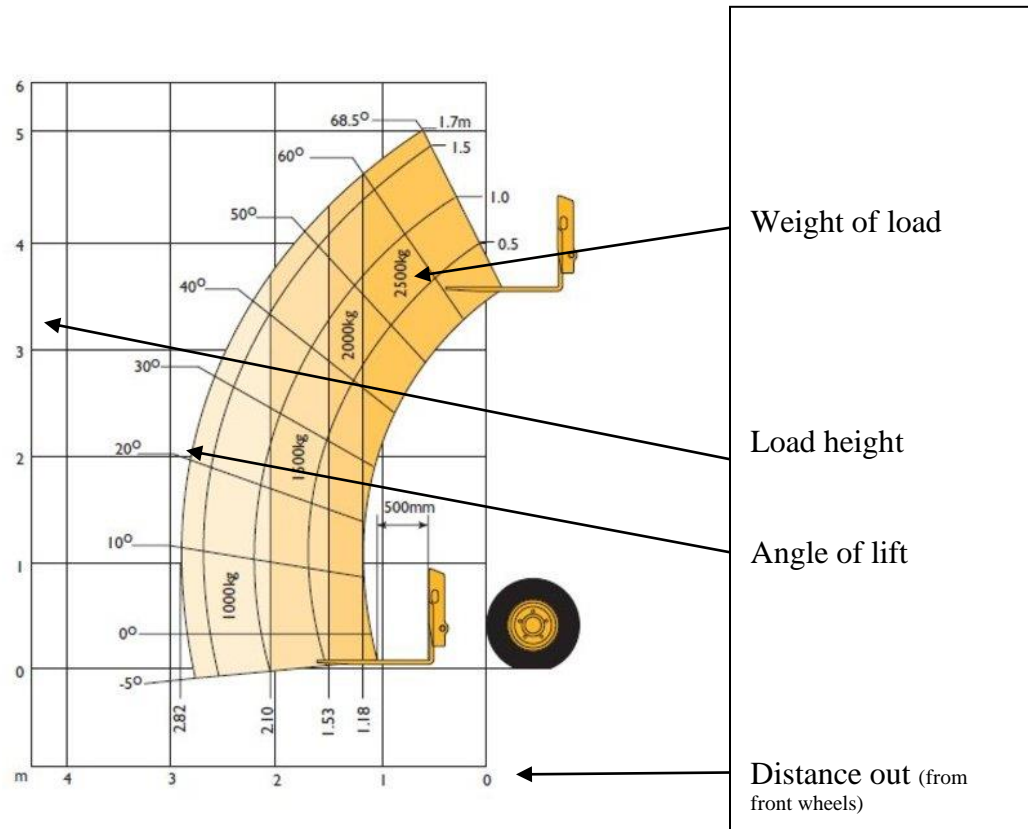
Green lights

Button to press to check all lights and alarm are working

Load chart/ duties chart

All forklifts have their lifting capacities show on the lift charts which are located in the cab and in the operator's manual.

These charts show the maximum height, reach, the boom angle and the weight of the load

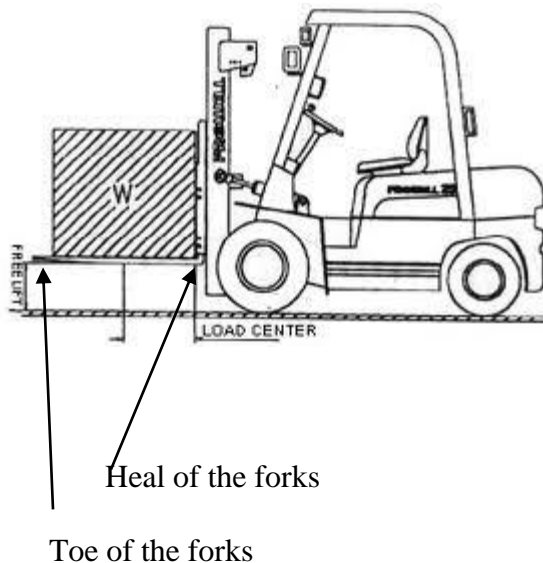


Load charts provide the information necessary to determine if a given load can be placed at the required position.

If the machine has front legs then there will be 2 different load charts, 1 with the legs down and 1 without the use of the legs.

Load centre

Forklifts are rated with a load centre



Load Centre is the point of balance of the load

Load Centre is measured from the heal of the forks

If the load Centre is increased than stipulated that model of machine then the weight must be reduced

Telehandlers are fitted with check valves (burst valves) this is a safety device that are fitted to the side of the hydraulic ram to stop the oil escaping and stopping the boom from dropping if a hose was to burst.

Quick Hitch Coupler System

Quick hitches are designed to allow the fast and effective changing of attachments. Although they improve the performance and efficiently, they have been involved in many serious and fatal accidents in recent years. The systems are safe but if not used properly or maintained they will fail.

- **Manual quick hitch** – no hydraulic system fitted and it is activated by hand. Locking devices to prevent accidental release is always a safety pin and clip
- **Semi-Automatic quick hitch** – the functions of the coupler are activated from the cab, hydraulic rams open and release the attachment and then close to secure a new attachment. The locking device is manually activated at the coupler and is mostly a safety pin and clip.
- **Automatic Quick Hitch** – all the functions are carried out from the cab including the secondary locking systems.

Pre-use inspection of the Quick Hitch

1. Check for any damage
2. Check for cracks
3. Oil leaks
4. Pins and clips are in
5. All fits correctly

After changing the attachments there are 2 ways of checking the attachment is secure;

1. Put the attachment through its full working range
2. Put the attachment onto the floor and try and rotate out

Steering

Most telehandler have three different types of steering

- Two wheel steer – used on hard ground surfaces to stop excessive wear on the tyres
- Four wheel steer – most used on site to give the machine manoeuvring ability
- Crab steer – where both wheels face the same way (steer fully right the machine will move off towards the right but the operator still faces forward).

General Safety

Always use safety strut or support when carrying out any work under or near a raised boom. Safety bars are normally coloured red.

Ensure you are trained to operate the plant & equipment, Qualifications & Certificates offer credibility, proof of skills, employment prospects and promotional prospects.

Always read the operators manual, the manual should be on the machine or easy access to it if you need to find something out. Other personnel that may need to use the manual are supervisors, planners, and maintenance staff, if removed replace as soon as possible.

Always face the machine using three points of contact (two feet and one hand at all times) when climbing on or off. **Never jump.**

A hard hat on construction sites must always be worn unless you are sitting in an enclosed cab that meets the falling objects protective structure (FOBS) criteria.

Wear the seat belt if fitted as in the event of a roll over keeps the operator within the confines of the operating seat which *may* MINIMISE injury by not being flung around.

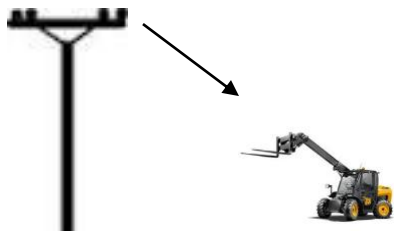
Do not carry passengers on the machine unless a seat is provided.

If placing a load the operator is responsible for ensuring the load is left safe

Be aware of people entering the working area of the machine.

Never leave machine unattended with the engine running.

When travelling near open trenches make sure the telehandler is more than the depth of the trench away (2m trench, stay 2m away) because if not it could cause the sides of the trench to collapse.



The distance you must be away from the powerlines will be determined by the voltage of the electrical lines. This can be determined by its support, if it's on wooden posts or metal pylons. This is important because certain weather conditions electric can arc (jump).

Working at heights - any place you can fall from and get injured is considered working at height. Getting in/out of the machine, carrying out daily checks, servicing etc.

Confined space – anywhere there is a restriction on operating area can be considered a confined space. There is a greater risk of accidents or damage. The minimum distance which should be maintained between a fixed obstacle and the machine is 600mm (this is deemed to be the smallest distance a person can go through without injury). If this distance can't be maintained, then the area should be fenced off and signs erected. Fumes, noise, lack of visibility and insufficient room to manoeuvre are all hazards associated with confined areas.

If the telehandler is leaning sideway when attempting to lift or place a load this could cause the load to fall off, damage the pallet or even make the machine tip over

Weather

- Wind – can affect the stability, if the wind is above the safe working speed specified for your machine then it could stop the lifting operation from taking place.
- Rain – this could make the ground soft and could cause the machine to sink or tip over, make the weight of the load heavier, loads to slip off the forks or pallet and could affect visibility

Operations

Procedures for lifting a load

- Approach the load squarely
- Stop when the forks are about 200mm from the load
- Handbrake on and out of gear
- Adjust the forks to ensure the load will be central to the carriage to fully support the load in transit.
- Set the forks to the level and correct height depending on the location of the load
- Drive in or boom into the pallet depending on the site conditions and load
- If driven in stop when load is heeled handbrake on and in neutral
- Lift the load clear
- Apply sufficient tilt to stabilise the load
- Retract or reverse clear
- Lower/ lift load to correct travel position
- At all-time throughout lift keep full observation

Travel at a speed consistent with the site conditions and the load being carried

What you need to know about the load

- Weight of load
- Load centre
- Liquid load for movement when going around corners
- Size and density of the load

Travelling with the load

- Check round the forklift is clear
- Engage gear
- Visual check then release the handbrake and move off

Hazards when travelling with the load

- Check for load security
- Route (soft, uneven and sloping ground)
- Overhead power lines
- Other machinery
- Buildings
- People

Travelling on slopes

As a general rule a Telehandler should travel on slopes with the heaviest part of the machine up hill to maintain stability.

Loaded forks always face uphill

Empty forks always face down hill

Avoid driving across the slope as there is an increased risk of overturning

Loading and unloading Lorries

- Make sure the vehicle is on solid, level ground
- Vehicle has its brake on and chocked
- Safe area
- Access and area clear for telehandler to move round
- Heaviest load should be placed over the rear axel
- Load the lorry evenly

Loading and Unloading Towers

- Ensure the area of operation is level, safe and free from obstruction
- Tower is in a good, checked survivable condition
- SWL of the weight is known
- Tower SWL is known and clearly marked on the tower

Stability

Possible causes of making the telehandler tip over

- Driving to fast
- Turning to sharply
- Uneven load
- Overloaded
- To steep slopes or driving across slopes
- Uneven ground/ trenches, potholes in the ground
- Soft ground

Soft, wet clay/ground

This could cause the telehandler to lose grip, slide and even turn over

The telehandler have raised lugs on the tyres, this is to help with grip for movement, braking and steering. If the lugs are worn this could reduce the grip for movement, braking and steering.

If the telehandler is to carry a wide load, ensure the load is secured and stable, travel route checked prior to travelling and if needed get a banksman to guide you.

Operating in pedestrian areas

Before working in a pedestrianised area make sure there is an alternative route for the pedestrians with signs and barriers. Taking into account the machines movements, fumes and noise.

Shut down procedures

On completion of the working day make sure the telehandler is refuelled to prevent condensation building up in the tank.

- Park telehandler in a safe place
- Handbrake on and in neutral
- Let engine cool down before switching off engine
- Remove key, lock door and isolate the machine
- Climb off machine (facing Telehandler 3 points of contact)
- Walk round the machine checking for any damage

A lot of telehandlers have turbo charged engines and need to be run down for several minutes before switching off the engine. If this is not carried out it could damage and shorten the life of the turbo.

Do not park the telehandler on pedestrian walkways, near trenches, emergency exits or on slopes

Highways

If the machine is being travelled or working on a public highway the road traffic act applies:

- UK driving licence, class B
- Aged 18 years for vehicles between 3.5 and 7.5 tonne
- Aged 21 years for machines exceeding 7.5 tonne

Travelling the machine on a public highway

- Make sure the machine is clean
- Taxed, insured and number plate
- Tyres, brakes and light meet the road legal standards
- Lights out at the back of the machine
- Machine is in two-wheel steer
- Forks are folded back or taken off

If the telehandler has to transport a load along the public highway from one site to another then a 1000 yards grace is given.

Loading and Unloading from a Transporter

Before loading or unloading check:

- The transporter is capable of taking the weight of the machine
- Firm, level ground for the transporter
- Safe area round the transporter (no personnel walking round)
- No overhead power lines
- Telehandler is clean with an empty skip
- Ramps of the transporter are in line with the wheels of the Telehandler
- Banksman to guide operator on

The loading operations is the responsibility of the transporter driver but if the operator is to load the telehandler on behalf of the transporter driver, they must make sure the telehandler is in the agreed position on the bed of the transporter, with the handbrake on, in neutral, keys out and door locked

Signals (BS7121)



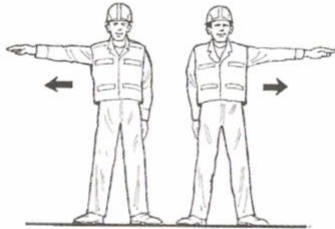
Operations start
(Follow my instructions)



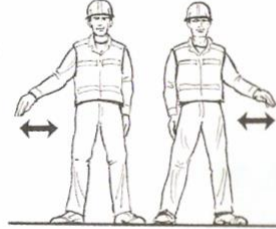
Emergency stop
Wave hands to and fro



Stop



Travel in direction indicated



Slew in direction indicated



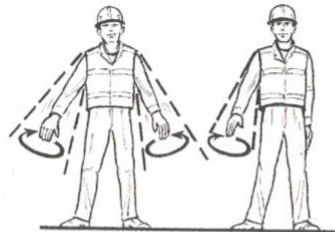
Come to me
Wave hands beckoning



Move away from me
Wave hands pushing away



Operations cease
or
Cease to follow



Slowly lower load or attachment **Lower load or attachment**



Inch load **Slowly raise load or attachment**
Clench and unclench fingers to signal 'inch the load'

Signal with one hand - the other hand on your head



Extend dipper
Wave hands beckoning palms upwards



Retract dipper
Wave hands pushing away palms downwards



Dipper up



Dipper down