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Further Education and Training Authority



Construction Skills Certification Scheme

Safe Operation of Telescopic Handler



Construction Skills Certification Scheme

Safe Operation of Material Handlers

Telescopic Handler

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Receipt

I have received a copy of the CSCS Safe Operation of Material Handlers – Telescopic Handler notes and agree to read it carefully and comply with all the guidance and advice on safety and good working practices which it contains.

Signature	
Full Name	
Date	

Name of Company or Organisation	
Address	

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Introduction

This guide for the safe operation of Telescopic Handlers has been produced for plant operators. It sets out to provide guidance in an easy to read form, paying particular attention to the duties of the Telescopic Handler operator. It covers a wide range of operating conditions and activities, and aims to promote safe working practices which comply with current legislation and the precautions to be taken if accidents are to be avoided.

Specific sections on the preparation and operation of Telescopic Handlers contain readily accessible information in a checklist format with a simple **Do's** and **Don'ts** message.

This guide complements manufacturers' instructions and recommendations with regard to:

- general safety legislation and safe operating procedures for Telescopic Handlers
- safe and efficient use of Telescopic Handlers
- basic operator maintenance.

Manufacturer's operating manuals must always be used for the relevant machine and referred to as and when required. The manufacturer of the machine has no direct control over the operation of the machine – *it is the responsibility of the operator to work safely at all times.*

This guide does not attempt to try to cover every aspect of working conditions when using Telescopic Handlers and does not cover every make and model of Telescopic Handler available.

1. Safety, the law and you

This section provides guidance for employers, employees and the self-employed who use mobile plant equipment. Minimum legal requirements are outlined which relate to the safe use of mobile plant. Various Acts of the Oireachtas and statutory requirements, examples of which are listed below, provide the definitive legislation to be followed.

Legislation

Legislation to be followed includes the Safety, Health and Welfare at Work Act 2005 (SHAWWA). Parts of the Act and other regulations connected with the operation of plant include:

- *General Duties of Employer*
- *General Duties of Employee and Persons in Control of Places of Work*
- Protective and Preventive Measures
- Safety Representatives and Safety Consultation
- The Health and Safety Authority
- Offences and Penalties

All Health and Safety rules also apply to self-employed persons.

Regulations and Codes of Practice

Regulations made under an Act of the Oireachtas are mandatory

Safety, Health and Welfare at Work (Construction) Regulations 2013 S.I No. 291 of 2013 include

- Design and Management
- General Duties of Contractors and others
- General Safety Provisions
- Excavations, Shafts, Earthworks, Underground Works and Tunnels
- Cofferdams and Caissons
- Compressed Air
- Explosives
- General Health Hazards
- Construction Work on or Adjacent to Water
- Transport, Earthmoving and Materials-Handling Machinery and Locomotives
- Demolition
- Roads
- Construction Site Welfare Facilities
- SCHEDULE 4 - Safety Awareness Scheme
- SCHEDULE 5 - Construction Skills Certification Scheme
- SCHEDULE 6 - Procedure for Selection of Site Safety Representatives
- SCHEDULE 7 - List of Vehicles Machinery

The Safety, Health and Welfare at Work (General Application) Regulations 2007 S.I. No. 299 include:

- Workplace and Work Equipment
- Use of Work Equipment
- Personal Protective Equipment
- Manual Handling of Loads
- Display Screen Equipment
- Electricity
- Work at Height
- Control of Noise at Work
- Control of Vibration at Work
- Safety Signs at Places of Work
- First-aid
- Explosive Atmosphere at Places of Work

The introduction of the above legislation, which protects people at work and those who may be affected by their actions, has helped to improve our working environment.

The legislation concerns employers, employees and the self-employed, and makes people responsible for their actions, as well as their omissions, including others affected by their actions.

Regulations made under an Act of the Oireachtas are mandatory and may be supplemented by an Approved Code of Practice (ACoP), which advises organisations and their staff on how to comply with the law.

If the advice of the ACoP is followed then generally you are meeting the requirements and complying with the law. If you, or your organisation, are prosecuted for breaking a health and safety law and it is proven you did not follow the advice in the ACoP, you must prove you have complied with the law in another way.

Penalties can be imposed on persons who are found guilty of a Health and Safety Offence (on summary conviction), which may include:

- a fine
- a term of imprisonment.

Penalties may be imposed for:

- Contravening any of the relevant statutory provisions
- disobeying a Prohibition notice
- unauthorised disclosure of information
- a breach of the conditions of a licence.

Duties of personnel

It is in the interest of every employer and employee involved in the use of plant and equipment to promote safety within their workplace.

Legal duties of employers

'Every employer shall ensure, so far as is reasonably practicable, the safety, health and welfare at work of his or her employees.' *

Employers have a duty to:

- provide a safe working environment that is without risk to health
- provide and maintain safe plant and equipment and ensure it has been designed, constructed, tested and examined to be safe
- carry out risk assessments and provide their employees with clear and appropriate information on any risks that exist in the workplace and how they intend to reduce those risks
- prepare a safety statement based on the risk assessment
- provide suitable protective clothing and equipment (PPE) to ensure the health and safety at work of their employees. *'Every employer shall ensure that any measure taken by him or her relating to safety, health and welfare at work do not involve financial cost to his or her employees'* *
- provide employees with any necessary information, including legal requirements, adequate instruction, training and supervision *'in a form, and manner and, as appropriate, language that is reasonably likely to be understood by the employee concerned'* *
- obtain the services of a competent person for Health and Safety purposes
- provide adequate welfare facilities

***Source:** *Safety, Health and Welfare at Work Act 2005*

Legal duties of employees

In general terms, the law says that you must:

- be responsible and as safe and careful as possible in your work, so as not to put the health and safety of yourself or others at risk, including members of the public
- co-operate with and assist your employer or any other person, as far as necessary, to enable them to carry out their legal duties in health and safety
- not interfere with or misuse any safety devices or equipment
- not intentionally or recklessly interfere with anything provided in the interest of health, safety and welfare
- follow your employer's procedures and the manufacturer's instructions which apply to the care and safe operation of the machine you are responsible for
- inform your employer, without unreasonable delay, of any work situation that you are aware of which presents a risk to the health and safety of yourself and others
- report (without delay) any defects in plant and equipment which might endanger safety.

All Health and Safety rules also apply to self-employed persons.

2. Accident prevention and control

Accidents are unplanned, unwanted events which can injure or kill people. Industry also pays a price with loss of working hours, loss of production and damage to plant and equipment and extra costs.

Remember that **you** as an operator of a Telescopic Handler **are the key to safety**: good safety practices not only protect you but also protect others around you.

Accidents can be caused by unsafe working practices and attitudes of people in the workplace. By following a safety programme and adopting safe working practices, unsafe conditions can be avoided. This contributes to improving safety in the workplace.

Prevention can remove or reduce the likelihood of an accident by following some basic rules, for example:

Do

- Protect yourself – wear all protective clothing and personal safety equipment issued to you or required by your working conditions
- Follow a safety programme – understand and follow safety procedures when working on site and using plant and work equipment
- Assess your ability to do the job – ensure you are fully aware of the job requirements and how they need to be carried out
- Stay alert – know where to get help. Know the first aid and emergency procedures
- Make yourself aware – study the manufacturer's operator's manual for using your plant and equipment. If the manual is not provided, ask your supervisor or the suppliers of the plant/equipment to supply one
- Report faulty/unsafe plant or equipment and any dangerous occurrences and incidents
- Travel the plant equipment safely so as not to affect its stability
- Be careful – human error is caused by carelessness, fatigue, preoccupation and lack of concentration. Ensure you watch out for others who are affected by your actions
- Ensure all personal injuries, no matter how slight, are reported and entered in the accident book (or equivalent)
- Take advantage of any training programme offered by your employer or contractor. You are never too old to learn new practices or techniques.

Don't

- Use plant or work equipment that you have not been trained to use
- Overload any plant or work equipment either by lifting or loading
- Operate plant and work equipment unsafely or at unsafe speeds
- Throw or drop objects from plant or work equipment
- Attempt to carry out work on moving parts of plant or work equipment with the safety guards removed
- Indulge in horseplay on plant or work equipment
- Attempt to use any type of plant or work equipment if you are under the influence of drugs, alcohol or any other substance which affects your health or judgement
- Ignore warning instructions or safety signs.

3. Safe use of Telescopic Handlers

If you are an operator of a Telescopic Handler you are legally required to be responsible for your own safety and that of others who are working nearby.

Common sense plays a major part in the safe operation and working of a Telescopic Handler. All operators should be aware of dangers and hazards, which could injure them or other site workers nearby, or cause damage to the machine.

Operators of Telescopic Handlers need to be aware of changes to ground conditions, site hazards and the problems that can occur with lifting various types of loads either at ground level or high stacking.

Simple measures taken by yourself, your employer and by following some basic rules can reduce the possibility of risk. For example:

Do

- Comply fully with instructions given by site managers and supervisors
- Follow the manufacturer's instructions (operator manuals) for the specific machine you are operating
- Take safety precautions when using your machine prior to, during and after work
- Operate within the machine's capabilities.

Don't

- Operate any machine unless you have received appropriate training and are authorised to do so
- Ignore hazards
- Misuse, tamper or interfere with your machine and any associated safety equipment provided to you
- Endanger your own health and safety, or that of anyone else, through being negligent.

Before use

- Always check that the Telescopic Handler is serviceable and safe to use
- Carry out daily checks and maintenance
- Check working areas for hazards and obstacles, which could affect the operation of the Telescopic Handler.

During operation

Do

- Look out for people working and hazards such as trenches, potholes and cables
- Face the machine and use the steps and handholds when getting on or off. Ensure you maintain three points of contact
- Wear the seat belt
- Establish the weight of the load before attempting to lift it
- Ensure the boom is fully retracted and lowered as far as possible before travelling with a load, except at creep speed
- Ensure that loads are stable and secure, and when travelling (e.g. when using fork attachments, make sure the load is well heeled to the forks)
- When travelling up hills/gradients with a load, ensure that the load is in front; when travelling down hills/gradients ensure the load is behind. Avoid as far as possible travelling across slopes
- Plan your route and avoid sudden stops and turns
- Drive and operate at a speed consistent with site conditions
- Follow recognised and approved signals (see Appendix A for approved signals)
- Keep a safe distance from other plant or vehicles
- Before leaving the machine unattended: drive clear of the working area; stop and apply brakes; disengage drive and controls; stop engine and remove ignition key
- Keep your boots as clean as possible in wet/muddy conditions. Brakes become less effective in these conditions. Wet/muddy boots can cause your feet to slip off the foot controls at vital moments.

Don't

- Carry passengers
- Exceed the loading capacity displayed on the load chart of your machine (see Appendix B for an example of a load chart)
- Allow an unauthorised person to use the machine
- Operate the controls from outside the cab of your machine
- Operate the boom whilst travelling
- Indulge in games or horseplay
- Reverse unless you can see it is safe to do so. If your vision is restricted or there are obstructions use a signaller/banksperson to assist you
- Rely on spoken commands, sites can be noisy. Follow approved signals as and when necessary
- Travel at speeds unsuitable for the ground conditions – this could affect the stability of your machine and its load
- Run the engine in an enclosed area for long periods.

After use

- Park on firm, level ground; apply handbrake; ensure drive is disengaged and apply all safety locks
- Lower all equipment to the ground
- Stop engine, release pressures and shut down in accordance with the manufacturer's recommendations

Additional precautions to be followed for Telescopic Handlers

Do

- Be aware that the load capacity of the Telescopic Handler will vary according to the extension of the boom and its radius
- Ensure that if your machine is fitted with stabilisers (jacks) you should be aware of the lifting capacity with and without the stabilisers down
- Ensure the Rated Capacity Indicator (RCI)/Load Moment Indicator is switched on during all load handling operations
- Ensure that before loads are raised, checks are made for overhead obstructions. Loads should not be raised where there is a possibility of contact with, or arcing from, overhead power lines.

Don't

- Leave the machine in an unsafe manner
- Allow anyone under a raised load
- Use the RCI solely as an indicator of the limits of your machine. It is not a substitute for a competent operator
- Tamper or interfere with an RCI. It is an offence to do so!

Attachments

Many Telescopic Handlers are used with a variety of attachments (e.g. forks, buckets, crane jib attachments, mortar boxes), which may affect the stability of the machine.

Do

- Be aware that attachments will alter the rated lifting capacity of the machine
- Follow the manufacturer's instructions for fitting and securing the attachment to your machine
- Check the security of any attachment at the start of each shift and report any defects immediately
- Ensure edge protection is in place when working with a fitted loaded attachment at or near excavations.

Don't

- Ever use an attachment that is faulty or damaged
- Attempt to use an attachment that is not suitable to use with your machine
- Attempt to fit an attachment that may alter the characteristics of the Telescopic Handler and reduce its actual capacity. Leave this to a competent and authorised person
- Attempt to perform an operation with the attachment that will put yourself or others at risk.

Road Travel: before taking a Telescopic Handler on public roads ensure the machine is prepared for road travel, complies with all road traffic regulations and obey all driving laws! Attachments and loads should be carried in such a way that they do not present a hazard to other road users. The boom should be in the lowest practicable position for travelling.

Storage of materials

Ideally, materials should be stored on well-drained, level hard standing capable of supporting heavy loads in all weathers.

Do

- Ensure that the bottom load has the ability to support additional loads placed upon it
- Ensure the height of the stack does not exceed three times the base dimension of the load
- Use load separators as required
- Ensure that items which are likely to roll are stacked
- Ensure that loads are stored so they can be retrieved easily.

Awkward loads

Examples of awkward loads are scaffold tubes, roof trusses and timber. Handling such loads requires extra care.

Do

- For machines using fork attachments, position the load on the forks at the centre of gravity, which should be stabilised for trial loading
- Tie items together to form a solid load
- Place the load against the heel of the forks and secure tightly in place
- Use a Slinger/Signaller to ensure that the load stays stable during the journey as necessary.

Loading out towers

These are specially erected to carry loads which are heavier than the adjacent scaffold would be permitted to take. They are either separately tied to the building, or may be constructed as a separate tower, with the inside standards tied to the outside ledgers of the access to the scaffold.

Do

- Ensure you read the notice displaying the maximum permitted weight and load distribution on the loading-out tower
- Ask the person responsible for the scaffold the permitted weights and positions of loads. Ensure you do this before attempting to place loads on the tower or scaffold
- Check that any guard-rails or toe-boards removed to allow access and loading are replaced immediately after the load has been placed
- Check the RCI at all times when lifting.

Don't

- Overload scaffolds or loading-out towers
- Drag or push loads on scaffolds or loading-out towers.

Unloading vehicles

The unloading area should be firm and level and large enough to allow the Telescopic Handler to work either side of the vehicle.

Do

- Use a signaller to guide you during unloading (where necessary)
- Keep the vehicle evenly balanced
- Ensure the load to be lifted is within the machine's lifting capabilities
- Check the load is stable after securing devices have been removed
- Ensure the load is secure prior to lifting
- Ensure safety precautions are in place to protect the public (where applicable)
- Raise the load just clear and reverse away. Lower the load to travel-height before continuing.

Loading vehicles

Do

- Load vehicles in a safe area and on level ground
- Place first load to the headboard and then in sequence (unless instructed otherwise).

Don't

- Place unstable loads on vehicles
- Overload vehicles.

Note: *As an operator of a Telescopic Handler, you should be aware that there are regulations concerning the use of Telescopic Handlers for carrying out lifting duties. Your machine and the lifting gear you use will require certification for carrying out lifting duties. The regulations are quite clear on which items require certificates.*

Your or your company may be requested by your client to produce this certification before you commence work, or during working activities on site. You should always comply with this request. If you are unsure what to do in this situation, consult your supervisor for further guidance (see Appendix B for statutory certificate requirements).

4. Operator servicing and maintenance duties

The Operator's contribution to maintenance of the machine is of prime importance.

It is essential that adequate time and facilities are provided to carry out maintenance of your machine. Supplies of materials and substances (oils, greases, coolants etc.) should always be to hand, with suitable provision for storing them.

All maintenance should be carried out in accordance with the manufacturer's recommendations and your company's procedures.

Whatever system of maintenance and servicing is used, all operators have the responsibility to ensure the machine is in a safe condition for work.

Pre-use checks: It is estimated that the recommended pre-use checks of many manufacturers would include the checking and adjustments of the following:

- fluids – engine oil, coolant, transmission, brake, hydraulic
- tyres – rims, wheel nuts, wall and tread, pressures
- hydraulic pipe/hose condition, security leakages
- hydraulic rams condition, security, leakages
- lights, warning and safety appliances, such as reversing devices, horn protective guards
- ROPS/FOPS, seat and seat belts, driving position, mirrors
- controls, gauges, warning lights and other types of safety devices.

Running checks

- Hot/Cold starting methods
- Function of steering/brakes/hydraulic/electrical and mechanical systems
- During cold weather and extremely hot conditions always be aware of the operating temperature of the machine.

Maintenance and servicing schedules

Apart from daily pre-start checks, servicing schedules are usually based on machine running hours, therefore regular checks need to be kept on the machine's hour-meter reading.

Operators are likely to carry out only basic servicing on their machine in accordance with the manufacturer's recommendations and company procedures. In addition to pre-start and running checks, operators would usually be responsible for:

- cleaning air filter dust bowls
- draining water and sediment/fuel/water separators
- replenishing coolants, lubricants and fluids
- greasing all greasing pins and pivot points
- checking battery levels and condition of their terminals and cables
- carrying out minor adjustments.

You should only carry out the servicing on your machine if you have been trained and have been authorised to do so.

Do not attempt any major maintenance, repairs or adjustments to your machine which you are not authorised to carry out. This must be done by a suitably qualified and competent person!

Do

- Ensure the machine is on firm and level ground before attempting to carry out any operator maintenance
- Where practically possible, place signs on the machine to prevent accidental start up before carrying out your operator maintenance duties
- Carry out regular visual checks for any defects, damage, leaks
- Keep footplates and steps clean and free from mud, dirt, oil, ice and snow etc.
- Complete daily/weekly maintenance/defect sheets if your company issues them to you. All faults/defects should be reported immediately and corrected before the machine is used.

Don't

- Attempt to carry out any operator maintenance on a machine with a hot engine
- Attempt to inspect or clean the machine with the engine running
- Attempt to refuel or top up lubricants and fluids while the engine is running
- Remove the radiator cap when the engine is hot
- Add coolant to a hot engine
- Overfill the engine oil or fuel tank.

5. Telescopic Handler safety checklist

Safety starts with you. Remember! You, as a Telescopic Handler operator are the key to safety. You are legally responsible for your own safety and that of others working nearby.

Accidents are unplanned, unwanted events, which can injure or kill people. Simple measures taken by your employer and yourself can reduce the risk of them happening.

Fines can be imposed on your employer and yourself for breaching Health and Safety Regulations (in some instances it can also lead to imprisonment).

Ensure you wear all protective clothing and equipment and personal safety equipment (PPE) issued to you or required by your working conditions.

High stacking requires you to ensure you manoeuvre, set up and position the Telescopic Handler safely to stack and de-stack loads.

Always ensure the correct tyre pressures are maintained to avoid altering the stability of the machine.

Never extend the boom whilst travelling.

Driving the Telescopic Handler on the road will require you to prepare your machine for road travel, comply with all road traffic regulations and obey all driving laws.

Loads should always be kept stable and secure and as low as possible when travelling.

Installing attachments on your Telescopic Handler may alter its rated lifting capacity. Always follow the manufacturer's instructions.

Never operate the stabilisers when the boom is raised above its travelling position, with or without a load.

Give warning to all persons involved of when you intend to start lifting and placing loads. Use approved hand signals and ensure they are agreed and understood by everyone involved.

Only operate a Telescopic Handler that you have been trained to use and are familiar with.

Passengers should not be carried on your Telescopic Handler (even for the shortest of journeys).

Enlist the services of a signaller/banksperson to assist you if your vision is restricted or there are obstructions in the vicinity. Ensure there is edge protection.

Report all accidents (no matter how slight), faulty/damaged plant and equipment and any dangerous incidents. Stay alert, know where to get help, know the emergency procedures on site.

Always drive your Telescopic Handler with due consideration for others and adjust your speed to suit weather and site conditions.

Travel your Telescopic Handler safely, so as not to affect its stability. Take extra care when travelling on slopes or on hillsides. When travelling uphill with a loaded machine, ensure the load is in front. When travelling downhill ensure the load up the hill.

Inspect your Telescopic Handler and working area at regular intervals before use to spot any defects, hazards or distractions. Take nothing for granted!

Observe all warning/safety signs and traffic regulations on site.

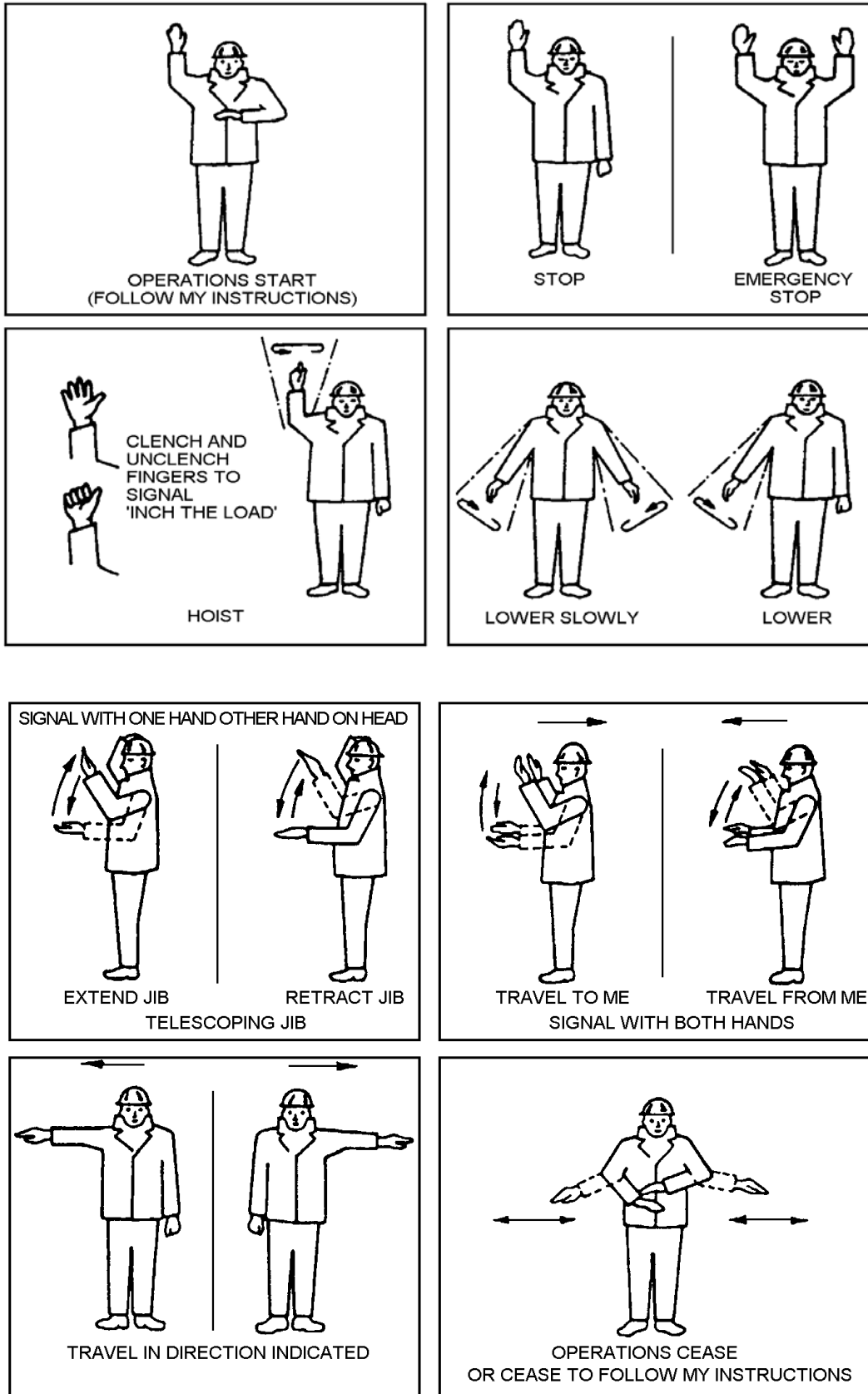
Never carry out a manoeuvre with your Telescopic Handler if it is likely to endanger yourself and others (even if your work colleagues request it to try and cut corners on a job). If in any doubt seek guidance from your supervisor.

Shut down, secure and isolate your Telescopic Handler in accordance with the manufacturer's recommendations and your company's procedures.

APPENDIX A

Recommended signals

The signaller should stand in a secure position where he/she can see the load and can be seen clearly by the driver and should face the driver if possible. Each signal should be distinct and clear.



APPENDIX B Statutory Requirements for Telescopic Handler

- The Safety Health and Welfare at Work (General Applications) Regulations 2007 came into operation on 1st November 2007 and are quite clear on what items of plant require certification.
- Forms for recording Tests/Inspections are no longer prescribed. Any form can be used provided it contains the information specified in Part E of Schedule 1 of the Regulations

Lifting Accessories (Chains, Ropes and lifting Accessories)

Regulation No	What is required	Who completes it	When is it required
57. [1] (a) (v)	Certificate of Test & Examination.	Manufacturer / Supplier.	When supplied and while Lifting Gear is in use.
57. [1] (a) (v)	Report of Results of thorough examination	Competent Person.	Every six months.
57. [1] (i)	Report of annealing or appropriate heat treatment.	Competent Person.	When Heat Treated and at intervals as specified by the Competent Person.

Notes:

- Lifting accessories include: chains, chain slings, rope slings (except a fibre rope sling), or similar gear, rings, links, hooks, plate clamps, shackles, swivels and spreader beams etc.
- A Certificate of Test and Examination is not required for a fibre rope or a fibre rope sling. Regulation 57 states “in the case of a fibre rope or a fibre rope sling, information from the manufacturer on its safe working load is available” and “it is marked in plain legible figures and letters with a Safe Working Load and a means of identification.

Telescopic Handler

Regulation No	What is Required	Who completes it	When is it required
52. [3]	Certificate of Test & Thorough Examination	Competent Person.	Before taken into use in any place of work for the first time or after any substantial alteration or repair affecting its strength or stability
52. [3]	Report of Results of thorough examination of	Competent Person.	Every 12 months or after substantial alteration or repair.
43. [1] (f)	Report of results of weekly inspection of: (a) Lifting Appliance. (b) Safe Load Indicator.	Operator.	Weekly.

Note:

If a Telescopic Handler is used to lift persons, then it must be thoroughly examined every 6 months