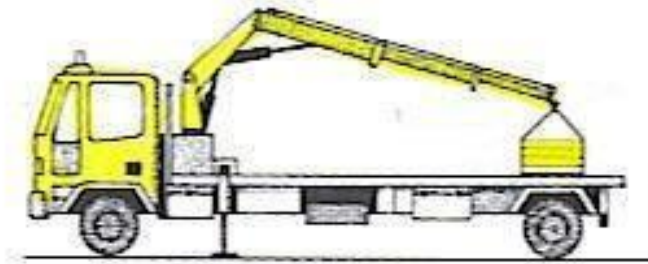


A36

Lorry Loader

Stephen Wood Training Services Ltd



General safety information for CPCS technical test

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

- **Employer's responsibilities** - must ensure workplaces under their control are safe and free from hazards. Ensure the safety of employees, self-employed, visitors, trespassers and the general public who could be affected by the work. Everything they provide for use, tools, plant and equipment must be fit for purpose, safe to use and the personnel trained to use it
 - **Employee's responsibilities**- must take care of themselves and others who may be affected by their acts or omissions. Co-operate with their employer. Do not tamper with or interfere with or misuse anything provided for safety
 - **Failure to comply with legislation**- could result in loss of you job and all the financial implications that can bring but it could also result in prosecution. The severity of the breach of legislation and any accidents or incidents related would dictate what type of court proceedings you could face. If you have fulfilled your legal requirements and can provide proof of this in court then you would likely be found Not Guilty but If you were found guilty you could face a prison sentence or a substantial fine
- To fully understand the above Act specific training and guidance is required

Method Statement- detailed description of how to carry out a job safely and efficiently. All involved in the work must be briefed on its contents. Workers must follow the Method statement unless they feel it is not suitable then they should stop and report it and have the method statement amended. Competent people must only amend Method Statement

Risk Assessment- is a legal requirement before work starts. It is a detailed assessment of the risk involved in doing and job and provides information on how to reduce the risk level down to an acceptable level.

Hazards - this is anything, which can cause harm to people plant or equipment.

- **Excavations or Trenches or Edges**– risk of collapse. The minimum distance to keep away from open excavations is at least the depth of the trench i.e. if its 2m deep you stay 2 m back



- **Working at height-** any place you can fall from and be injured is considered working at height. The top of a mound, climbing into or out of a machine. Standing by the edge of an excavation, on the back of a vehicle unloading or loading materials, on a scaffold loading bay, climbing up to the fixed operating controls on a Lorry Loader
- **Slopes-** wherever possible the weight always faces up hill i.e. empty dumper skips face downhill and loaded skips face uphill. Extreme care should be taken if working across a slope. Avoid turning on slopes if possible
- **Overhead cables-** the minimum distance to be maintained from overhead cables mounted on wooden poles is 9m from the greatest reach of the machine and 15m from cables on metal pylons. Electricity can arc or jump a gap.
- **Confined spaces-** anywhere there is restriction on operating area can be considered a confined space. There is a greater risk of accident 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 being injured). If this distance can't be maintained then the area should be fenced off and signs erected. Fumes, dust, noise, lack of visibility and insufficient room to manoeuvre are all hazards associated with confined areas
Plant operations – are regarded as “safety Critical operations” because of the potential risk of an accident. Plant Operators can cause harm to themselves or other people if they carry out an unsafe act.
- **Weather- Rain-** can make the ground soft and cause the MEWP to sink, it can add weight to equipment, it can affect your visibility, it can make manoeuvring the machine difficult as the ground could be slippery,

The basket could be slippery getting in or out, you can get wet which could cause you to be cold and get ill Wind- can affect the machine's stability, it can cause you to get cold which could affect your operating ability, it could blow materials away. If the wind is above the safe working wind speed specified for your machine then it could stop the job

LOLER - Lifting Operations and Lifting Equipment Regs

This is an amendment to a European regulation.

It deals with all aspects of Lifting and has specific requirements including.

Trained people and competent people doing the job

Appointed Person – to plan the work and ensure safe systems are in place

Crane/Lift Supervisor- to ensure the work is supervised and is carried out according to the Lift Plan
Crane operator- to operate the crane safely following the given instructions

Slinger- attach the load to the crane using a suitable accessories

Signaller- gives directions to the crane operator ensuring the safe and smooth operation of the crane

- Plant and equipment tested and certified
- Work planned and supervised
- **SWL** clearly marked on all equipment

- **Thorough examination-** all plant used for lifting must be examined and certified by a competent person.

If the plant is used for lifting personnel then it must be tested every 6 months if it is not used for lifting personnel then it is every 12 months. The purpose is to check for structural damage as well as defective operation

- **Lifting accessories-** Must be suitable for the job, be tested and certified, be 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 supervises the job
- **Contract Lift-** with a contract lift the crane company provides the lift plan, the equipment, the personnel and the insurance. They are in control of every aspect of the lift and assume responsibility for the lift
- **LOLER Register-** operators should complete the LOLER register weekly. Pre-use inspections should be carried out as per the Manufactures instructions. Recorded in the daily/weekly inspection sheet and any defects recorded

To fully understand LOLER specific training and guidance is required

PUWER – Provision And Use Of Work Equipment Regs

This is an amendment to a European regulation.

It deals with the use of plant and equipment and has specific requirements including

- **Restraint systems-** seat belts must be worn at all times to prevent injury in the event of the vehicle overturning
- **ROPS (Roll over Protection Structure)** -prevent injury in the event of the vehicle overturning
- **FOPS- (Falling Object Protection Structure)** prevents injury from falling debris. If fitted to a vehicle then you do not need to wear the hard hat inside
- **Training and Instruction-** you must receive adequate instruction and training on any equipment before you can operate it
- **Fit for Purpose-** work equipment must be fit for purpose and safe to use
- **Information- Operators Manuals** and other information relating to the safe use of equipment must be with the equipment. This is to allow operators to check and gain necessary information To fully understand PUWER specific training and guidance is required

Pre Use Inspections -

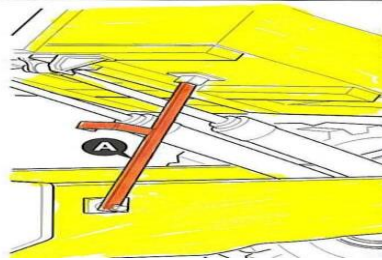
- Plant should be checked according to the manufactures specifications.
- The checks should be recorded in the defect book or daily check sheet.
- Any defects should be reported
- Suitable PPE should be worn when carrying out the prestart checks to prevent skin disease and contaminating the controls
- Engine oil, Hydraulic oil, Transmission oil, Coolant, Brake fluid,
- Tyres and the condition of the dumper should be checked



(Checks will vary depending on make and model always read the operators manual)

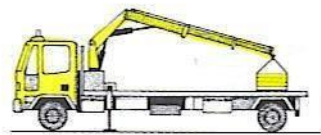
- If topping up with oil always do so in the designated area, use clean funnels and jugs or containers and clean around filler cap to prevent dirt entering the system

Most Lorry Loader Host vehicles are fitted with a radiator to keep the engine cool. This is a pressurized system which pumps water around the engine keeping temperature down. Do not open a hot radiator or filler cap as the hot liquid inside will be released under pressure and could scald or burn
 If operator maintenance or servicing requires the operator to work beneath the raised skip then the skip safety strut must be used to prevent the skip falling down and crushing the operator



- **Mirrors-** it is essential to maintain good all round observation when operating the Telescopic Handler. To assist the machine is fitted with a variety of mirrors, they must be adjusted properly, secure, clean and free from damage

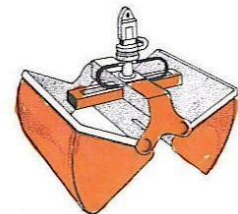
Types of Lorry Loaders and attachments uses and limitations-



Hook

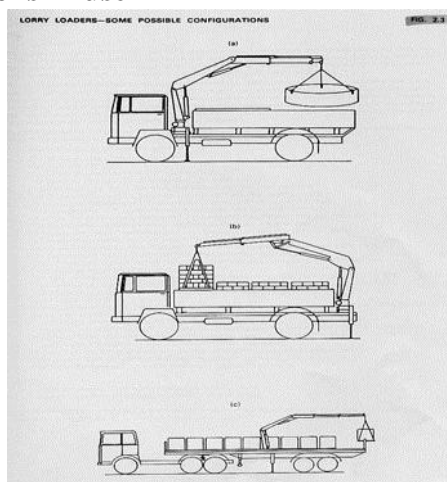


Brick Grab



Articulated Telescopic

- **Lorry Loader Hook-** used to transport a variety of different loads where self-loading reduces the cost of hiring in another crane. Loads must be secure before traveling on the public highway and the load and axel loading must not exceed the weight limits of the vehicle
- **Brick Grabs-** use to deliver palliated loads like brick and block. Loads must be secure and the weight limits of the vehicle should not be exceeded. After delivery of the load the vehicle bed should be sweep clean
- **Clam Shell-** used to deliver and remove bulk materials
- **Different Crane configurations in use**

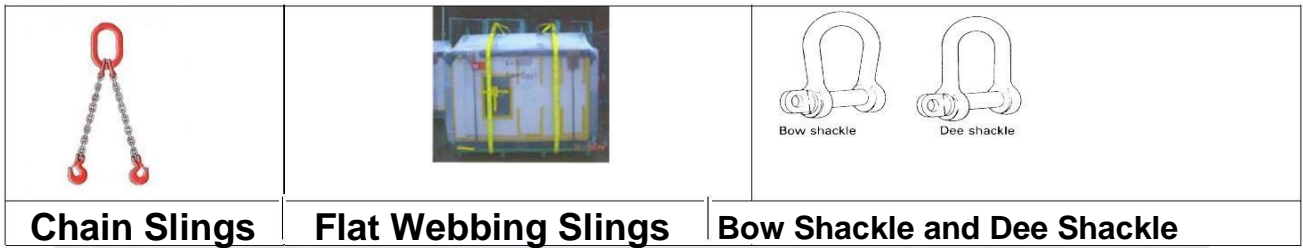


- **Knuckle Boom Cranes** – have articulated joints and can fold in on its self for storage and transportation, it can also lift and place loads at short radii
- **Extension Jibs** – can be fitted to most lorry loaders when extra height or reach is required. Manufactures instructions must be followed when fitting to prevent accidents or damage. The fitting of an extension will reduce the lifting capacity
- **A.S.L.I- (Automatic Safe load Indicator also known as the Rated Capacity Indicator)** gives an indication when the machine is reaching or exceeding its rated capacity. **Do not use it as a guide to the weight being lifted. Test at the start of each shift and before any heavy lifts. Check the indicator lights frequently when lifting**

Environmental issues -

- **Refueling-** should only be done in a designated area. Clean containers and funnels should be used. Any spillage should be cleared up using suitable equipment. Waste should be disposed off in designated bins.
- **Condensation-** the machine should be refueled at the end of the shift to prevent condensation building up in the tank as the machine cools down
- **Reducing environmental damage-** Operate safely, operate efficiently, Tip materials in designated places, don't mix materials, Switch off when not in use, Don't overfill when refueling, check tyre pressures, report leaks or damage, clear up spillage, dispose of waste in designated bins. Follow method statements and COSHH assessments
- **Designated routes-** should be adhered too. This will avoid damaging unspoilt ground, or completed work, or unnecessary contact will other plant or people

Types of Lifting Accessories uses and limitations -



Chain Slings

Flat Webbing Slings

Bow Shackle and Dee Shackle

Colour Coded Marked Roundslings

* M = Mode Factor						
Type	Colour	G'rated Min. Break Strength Kgs	W.L.L. Straight Lift * (M=1) Kgs	S.W.L. Choked M=0.8 Kgs	S.W.L. 45° Lift M=1.8 Kgs	S.W.L. 90° Lift M=1.4 Kgs
E30	Violet	6,000	1,000	800	1,800	1,400
E60	Green	12,000	2,000	1,600	3,600	2,800
E90	Yellow	18,000	3,000	2,400	5,400	4,200
E150	Red	30,000	5,000	4,000	9,000	7,000
E240	Blue	48,000	8,000	6,400	14,400	11,200
E360	Grey	72,000	12,000	9,600	21,600	16,800
E600	D. Brown	120,000	20,000	16,000	36,000	28,000
E900	Orange	180,000	30,000	24,000	54,000	42,000

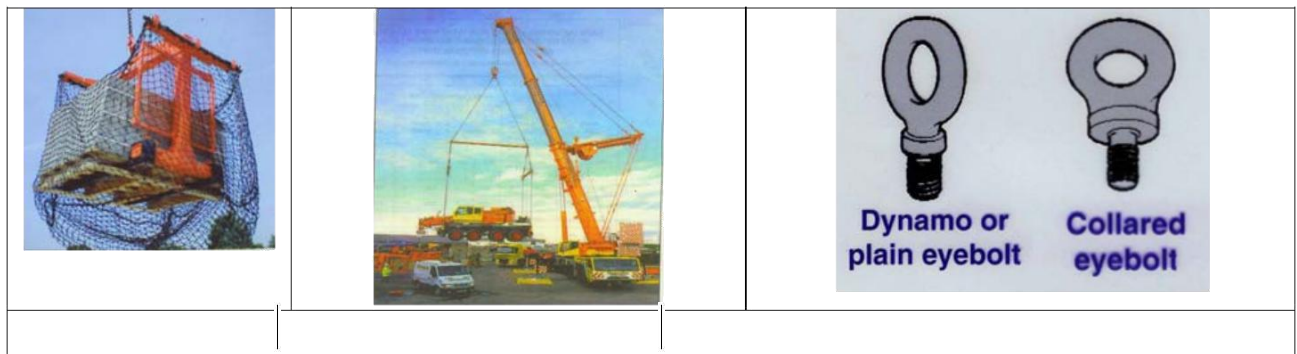
The W.L.L. is woven into the outer protective casing for ease of identification - even when soiled.

The outer protective casing is made from Monofilament yarn - reinforced by textile yarn - for long service life.

The core of a Roundsling is made up from an endless hank of polyester fibre containing millions of threads

Permanently marked with individual sling number. Conforms to B.S. Requirements

- **Chain Slings**- Single leg, Two Leg and Four leg chains are used in construction. Chains are very robust and versatile. The ability to sling a variety of different loads.
- **Flat Webbing Slings**- Used for lifting loads which could be damaged by chains, (ply wood or fair faced materials) Their colour and the number of Black Lines indicate the SWL
- **Bow Shackle**- Used to attach multiple legs to the hook to prevent bunching or point Loading, can lift at angles
- **Dee Shackle**- designed for straight lifting or joining



Brick Forks

Spreader Beam

Eye Bolts

- **Brick Forks-** Designed for lifting palletized loads. Must use a safety net and the smallest item lifted must be smaller than the mesh on the net
- **Spreader Beam-** designed for lifting Long or Awkward loads
- **Eye Bolts-** Dynamo is designed for straight lifts and a Collared eye bolt can lift at an angle up to 15° of vertical

This is only a few examples of the many types of lifting accessories in use

Pre Use Inspections -

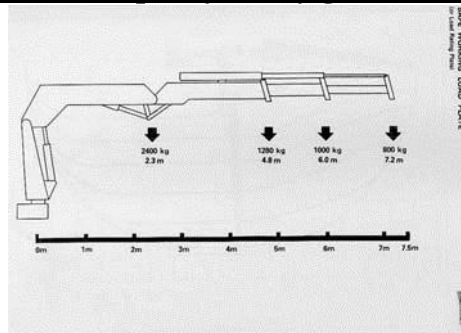
- Lifting accessories should be checked according to the manufactures specifications.
- The checks should be recorded in the defect book or daily check sheet.
- Any defects should be reported
- Suitable PPE should be worn when carrying out the prestart checks to prevent skin disease and injuries caused by sharp edges or broken wires etc



(Checks will vary depending on type of accessories always read the instructions)

Rated Capacity- maximum weight the machine can lift. This is set by the manufacture and is Found in the handbook or on the duties chart

- **Rating Plate and Duties Chart-**All lifting equipment have their lifting capacities shown on rating plates/duties charts located in the cab and in the manual. These charts show the maximum Height that a load be lifted depending on the reach of the machine, the angle of the boom and the weight of the load i.e. Maximum capacity in any given configuration



- **SWL-** is the Safe Working Load or maximum weight that a lifting accessories or lifting equipment can lift within a given angle or configuration.
- **Inspection of chains-** Chains should be inspected daily before use looking for **Damage to the hooks or safety clips, Stretching or twisting of links, Cracks or cuts, Component connectors for wear or damage, Master link for cracks or damage, Identification marks and SWL / WLL**

- **Marking on Lifting Accessories**-All lifting accessories must be marked with-**SWL** -Safe working Load or **WLL** – Working Load Limit and an Identification number

Crane Operation and Stability

- **Travelling or operating** the machine affects the stability. Overloading the machine, travelling across slopes, carrying uneven loads, turning at speed, poor tyre pressure, too close to excavations Incorrect use of stabilizers can all lead to instability and possible overturning.

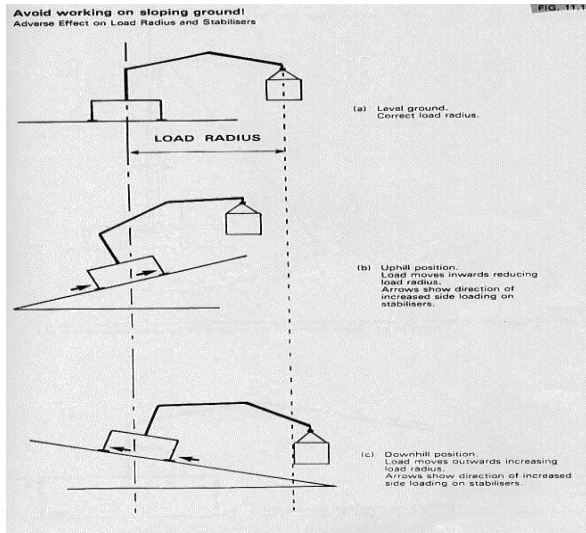


- **Centre of gravity-** is the point of balance of a load or of the machine. The higher a load is lifted the higher the centre of gravity of the machine goes. This can affect the stability of the machine. As the load moves forward (i.e. as a Tele-handler booms out or a dumper tips the load) the centre of gravity moves forward this could cause the machine to tip up if the machine is over loaded or not operated on suitable ground.
- **Stabilizers-** increases the footprint of the crane and provides additional stability and reduces the risk of overturning. Pressure is applied to the ground through the stabilizers and this pressure can be reduced by using track mats to spread the weight, or by reducing the size of the load lifted
- **Weather-** can affect the lifting operations
 - Wind-** Severe wind can stop the job and can make the load swing and difficult to handle. Can add weight to a load, could blow the crane over
Wind speeds should be constantly monitored during the day to ensure safe working conditions are maintained
 - Rain-** Water can add up to 25% to the weight of a load, it can affect visibility, it can make the work area slippery, and can soften the ground around the stabilizers
 - Snow and frost-** can add weight to the load, make ground conditions slippery, and can make assessment of the ground conditions difficult
- **Hoist Rope/Falls of line-** The more falls of line used the greater the Lifting Capacity and the slower the crane speed. The less falls of rope the smaller the Lifting Capacity and the Faster the crane speed. If the Hook Block accidentally hits the ground this may cause the rope to cross on the drum, which could cause the rope to be damaged or crushed if a load is applied
- **Radius –** This is the distance measured from the centre of the slew ring to the centre of the hook. The greater the radius the less the machine can lift. It is very important to ensure the hoist rope is vertical when lifting to prevent the load swinging out and increasing the radius, as the crane might not be able to lift the load at the new radius. Care should also be taken when lifting on slopes as the load could also swing out of radius and affect the stability of the crane
- **Out Reach-** is measured from the edge of the vehicle to the centre of the hook. The Outreach varies depending on how you set up the vehicle i.e. you will have greater outreach over the side of the vehicle than over the rear

Setting up to lift a load

- Hand Brake
- Site Inspection for Support Conditions & Hazards-
- Check for underground services, manholes, cellars or tanks, newly backfilled excavations.
- **Extend and Fully & Lock Stabilizer legs Every Time (on firm Level Ground)**
- Use pads/track mats if needed

- Check Working position for visibility and to avoid being under load or Boom
- Remote Control units- ensure the batteries are charged, the unit is not damaged, it has sufficient range, the controls are clearly marked, it functions correctly, the emergency stop works.
- Suitable attachment fitted or lifting accessories are available
- The lift plan is in place and all involved in the lift are briefed and familiar with the contents
- Avoid lifting on slopes as the load could swing out and increase the radius and make the crane unstable or tip over



- Prepare the area before lifting the load but if the load has to be held suspended the operator must stay at The controls

What you need to know about the load -

- The weight of the Load to prevent overloading

Factors which affect the weight of the load- Shape and size, Type of material and density, Wet or Dry (water can add up to 25% to the weight of a load, Hollow or Solid, Full or Empty, Moving parts or liquid Load which could a change of weight distribution during a lift

Gross weight- is the weight of the load plus packaging, the pallet, any lifting accessories used in the list

- Is the material contaminated- ensuring you wear correct PPE
- Type of material- ensuring you handle it correctly
- Is it liquid- might slosh around when moving and affect stability
- Is it sharp edged- spillage might cause tyre damage
- Loose or dusty might require eye protection or respiratory protection
- Centre of gravity of the load, the point of balance of the load

Loading and unloading Vehicles - Before loading/unloading check-

- Vehicle is on level solid ground
- Vehicle is secure, stabilizers are correctly for lifting

- Vehicle is capable of taking the weight
- Lorry bed is in good condition and wide enough to take the load
- Suitable material is available to land the load on
- The working area is Large enough to manoeuver in and free from overhead obstructions
- No pedestrians or other traffic
- Access to storage area is clear
- The area is well lit for night work
- No potholes etc
- Suitable provision is made to prevent falls from height

Communication- Hand signals.

- Easiest and cheapest method of communication
- Distinctive clothing should be worn
- Signals conform to a recognized standard and are agreed with the crane operator
- Signals are clear and distinct
- Signaller should remain visible at all times
- Driver only accepts from the designated signaller



Radio –

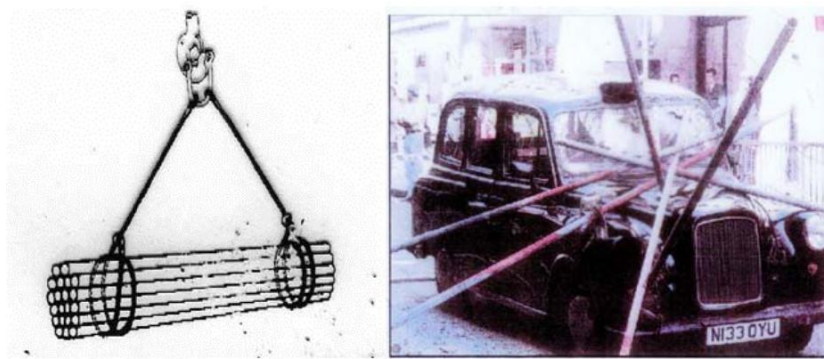
- Radio should be check to ensure it is in working order
- Batteries are charged
- Designated radio channel selected
- No interference on the channel
- Volume set
- Signaler should identify himself
- Operator only takes signals from designated Signaler
- Commands should be given at regular intervals
-

Other means of communication -

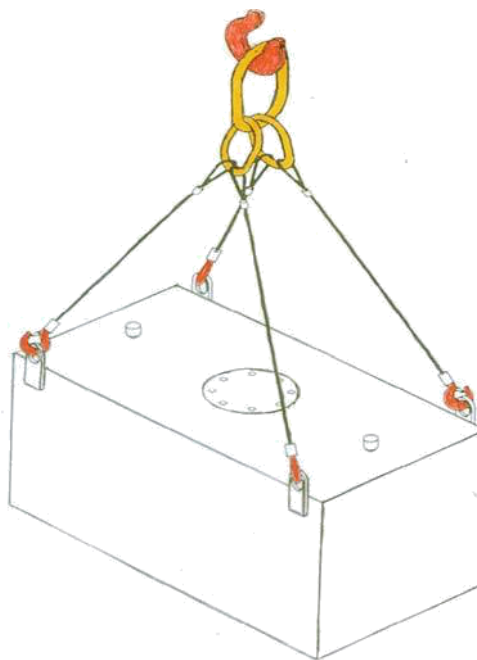
- CCTV, Flags, Lights, Whistles, Phone, Intercom

Slinging Methods

- Hooks should always face out



- Tubular bundles should be double wrapped
- Choke Hitch reduces the SWL by 20%



- When lifting tanks or containers ensure the lifting eyes are secure
- Do not lift using Bundle ties always pass the chains



- Lifting loads with off set centres of gravity- all the weight can be on one leg, the Load could Slip,
- The load could swing, and it could even swing out of the radius of the crane and tip the crane
- Paletted loads are liable to fragment so they should be lifted with a **Brick Forks or Grab**
- Shrink-wrapped loads make brick grabs slip!!!! Remove all wrapping in the area of contact
- Specialist **eyebolts** are often designed for a specific product so it is vital to use the right eyebolt for the job you are doing. They are only as good as the socket they fix into

- **Big Bags**-Mainly used to lift aggregates. Almost all are designed for use once only. Must be lifted keeping the 4 loops parallel. They require a lifting frame. They are not suitable for high lifting and should not be used for rubble or scaffold clips etc.

Safe Usage and Practices -

- Never shock load slings.
- Keep loads balanced to prevent overloading slings.
- Always lift loads straight up.
- Never rest a load on a sling, or pinch a sling between the load and the floor.
- A sling should not be pulled from under a load when the load is resting on the sling.
- Make sure the hook is always over the centre of gravity of the load before lifting it.
- Do not apply a load to a twisted, knotted or kinked chain.
- Do not force or hammer hooks or chains into position
- Hands and Fingers shall not be placed between the s l i n g and the load while the sling is being tightened around the load.
- Clean chains regularly as dirt and grit can cause excessive wear at the link bearing points.
- Never shorten a sling with knots, bolts or other makeshift devices.
- Protect the chain's surface from contact with sharp corners, which can cause permanent damage through gouging or abnormal stress and wear.

Travelling the machine on the Public Highway

- Machine must be clean
- Taxed and insured
- Tyres, brakes and lights (lights set in travel position) meeting road legal standards
- Number plate
- Stow and secure Loader in parking supports
- Retract and secure Stabilizers
- Disengage PTO
- Load Security & dimensions for Clearance
- Traversing loaders should be secured on bed in accordance with manufacturers recommendations • Mirrors set and clean
- A suitable route is planned taking in to account the weight of the vehicle, the width and height of the vehicle, any possible width restrictions or low bridges, other traffic or pedestrians, toll charges or vehicle restrictions which may be in operation.
- Operator must hold the correct Full UK Driving license category C or C1, and be over 18 for Lorry Loaders up to 7.5 t and be over 21 for Lorry Loaders over 7.5 t

Parking the Lorry Loader-

- Park on level ground
- Do not block entrances or exits
- Do not park on soft or wet ground
- Do not block pedestrian routes
- Do not leave on stockpiles or close to trenches
- Handbrake on and out of gear
- Lower Crane down fully and stow correctly
- Allow engine to idle for 1-2 minutes before switching off to allow turbo to slow down.

Failure to do this could damage the turbo

- Release hydraulic pressure
- Remove key and isolate to prevent unauthorized use

