

Training Standard

A16 Industrial Forklift



AN NOCN JOB CARD

Title	Industrial Forklift Truck – Counterbalanced Forklift Truck A16 Novice and Experienced
<p>Novice Durations</p>	<p><u>Novice:</u></p> <p>Total Duration of Training (excluding testing):</p> <ul style="list-style-type: none"> • 3 – 5 Days* <p>Minimum Practical Engagement Time (per person):</p> <ul style="list-style-type: none"> • Flexible** <p>Instructor: Candidate: Machine Ratio's</p> <ul style="list-style-type: none"> • 1 Instructor: 3 Candidate: 1 Machine <p>Delegates must cover all learning outcomes of the standard in full</p> <p>Note:</p> <ul style="list-style-type: none"> • 1 Day = 7 hours • *Duration for novice standards are dependant on number of delegates • **Flexible – all experienced routes: The trainer must decide and be able to demonstrate a thorough initial assessment and document their decisions for choosing the experienced route based on the delegates knowledge and skills through a documented profiling approach. • The total duration must be met along with the minimum seat time per individual, the theory time can be flexed based on the needs of the delegates where some may need more practical time.
<p>Experienced Durations</p>	<p><u>Experienced:</u></p> <p>Total Duration of Training (excluding testing)</p> <ul style="list-style-type: none"> • Flexible** <p>Minimum Practical Seat Time:</p> <ul style="list-style-type: none"> • Flexible** <p>Instructor: Candidate: Machine Ratio's</p> <ul style="list-style-type: none"> • 1 Instructor: 3 Candidate: 1 Machine <p>Delegates must cover all learning outcomes of the standard in full</p> <p>Note:</p> <ul style="list-style-type: none"> • 1 Day = 7 hours • *Duration for novice standards are dependant on number of delegates • **Flexible – all experienced routes: The trainer must decide and be able to demonstrate a thorough initial assessment and document their decisions for choosing the experienced route based on the delegates knowledge and skills through a documented profiling approach. <p><i>The total duration must be met along with the minimum seat time per individual, the theory time can be flexed based on the needs of the delegates where some may need more practical time.</i></p>

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Title	Industrial Forklift Truck – Counterbalanced Forklift Truck A16 Novice and Experienced
<p>Purpose/Scope</p>	<p>The Purpose of this standard is to give the operator the required skills and knowledge to safely operate an Industrial Forklift Truck.</p> <p>Scope:</p> <p>Roles and responsibilities:</p> <ul style="list-style-type: none"> Describe the nature of the sector of industry and their role and responsibilities as a plant operator. <p>Preparing for work:</p> <ul style="list-style-type: none"> Naming and explaining purpose of principal components, the basic construction, controls and terminology Conforming with manufacturer’s requirements as per the operator’s handbook, and other types of information source and relevant regulations and legislation Undertaking all pre-use checks Explain need and function of appropriate documentation. <p>Travelling and maneuvering:</p> <ul style="list-style-type: none"> Configure, ready for travel Travel to manoeuvre in confined spaces (with and without loads). <p>Setting up for work:</p> <ul style="list-style-type: none"> Configure and set for lifting and transferring duties Explain actions required for hazards, underground and overhead services. <p>Working tasks:</p> <ul style="list-style-type: none"> Lift and remove various loads up to the full working height of the forklift Transfer and place loads accurately at given locations Place and remove loads from a vehicle Maintain safe working situations. <p>Completing work:</p> <ul style="list-style-type: none"> Maintain safe and tidy working areas. <p>Shutting down:</p> <ul style="list-style-type: none"> Carry out shut down and securing procedures Explain the loading and unloading procedures for machine transporting.
<p>Occupational Relevance</p>	<p>Training delivered against this standard would be relevant to the following occupational group(s):</p> <ul style="list-style-type: none"> Operative and craft
<p>Delegates pre-requisites</p>	<p>Profiling: The trainer will demonstrate and document their decisions for choosing either the Novice or Experienced route based on the delegates knowledge and skills through documented profiling.</p> <p>Novice: The Novice training course is for candidates who have limited or no demonstrable practical experience of operating the category of plant in a construction environment.</p> <p>Experienced: The Experienced training course is for candidates who hold a current industry recognised red card within the plant category or has equivalent experience.</p>

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Instructor Requirements	<p>As a minimum, course instructors must be able to demonstrate that, in relation to this standard, they have:</p> <p>Essential:</p> <ul style="list-style-type: none"> • either <ol style="list-style-type: none"> a. a current card issued by one of the CSCS partner plant schemes at instructor/trainer/assessor level bearing the category of Industrial Forklift Truck. or b. a current card issued by one of the CSCS partner plant schemes at operator level bearing the category of Industrial Forklift Truck. • Level 3 Award in Education and Training or equivalent qualification listed in Appendix 3 of the Requirements for Approved Training Organisations • health and safety qualification at or equivalent to construction site management level such as: <ul style="list-style-type: none"> – Site Safety Plus Site Management Safety Training Scheme (SMSTS) – Site Safety Plus Site Supervision Safety Training Scheme (SSSTS) – IOSH Managing Safely in Construction – IOSH Safety, Health & Environment for Construction Site Managers – 5-day CISRS Managers course – 5-day CCDO Demolition Managers course and end test – 5-day NPORS Construction Site Safety Manager. • in addition to the required qualifications, the trainer must be able to demonstrate 'operational' experience of operating the telescopic handler relating to the training they are delivering. This can be demonstrated with a minimum of 2 years' experience. <p>Desirable:</p> <ul style="list-style-type: none"> • SCQF Level 5/NVQ Level 2 Plant Operations in the specific category being trained • Level 3 Certificate in Assessing Vocational Achievement
Delivery	<p>Training and assessment may be delivered in an on or off-site environment</p> <p>Where training and assessment takes place within a working construction site environment, training must be segregated from productive work within a prescribed training area, which has been risk assessed and has appropriate control measures in place as required by current legislation and regulations.</p> <p>All equipment required for the training must be set aside specifically for the training session and be available for the entire training duration. Equipment is not to be shared with the working construction site.</p> <p>Welfare facilities must be provided wherever training and assessment takes place, and this should meet relevant legislation.</p> <p>All materials and equipment must be of a suitable quality and quantity for delegates to achieve the learning outcomes delivery and assessment criteria,</p>

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	<p>and must comply with relevant legislation, regulations and industry agreed requirements.</p> <p>Irrespective of the number of delegates, effective learning must be maintained for all delegates.</p> <p>The following training delivery methods may be used in the delivery of this standard:</p> <ul style="list-style-type: none"> • face to face learning environment (such as a classroom/workshop/site office) for theoretical learning and assessment • on or off the job site environment for practical learning and assessment • simulator for practical training <p>Note: if a simulator is used, it can only comprise of a total of 20% of overall practical training and must not be used in any assessment.</p> <p>This standard is considered to contain 70% or more practical training.</p>
<p>Assessment</p>	<p>For the successful completion of training, delegates must complete an end of course practical assessment and knowledge test that has a clear pass or fail criteria as set out by the card scheme. The marking criteria must effectively measure every aspect of each learning outcome and additional guidance for training and assessment.</p> <p>Assessment must adhere to the standard of the CPCS Theory and Practical Test.</p>
<p>Quality Assurance</p>	<p>CPCS will quality assure against this standard and ensure that all Learning Outcomes have been met. The centre must retain evidence that the learning outcomes are referenced and achieved. This must be held by the training centre for a minimum of six years.</p> <p>CPCS will undertake un-announced or announced quality assurance visits of the training to ensure compliance with the Scheme of Works and the requirements of the Tester and Trainer Scheme Booklet</p> <p>To ensure that compliance checks are effective, NOCN Job Cards Quality Assurance personnel must be given unrestricted access to all activities associated with the delivery of the Training Standards</p> <p>Further quality assurance requirements are set out in the Test Centre Scheme Booklet</p>
<p>Approval Date</p>	<p><i>Date of publication</i></p>
<p>Renewal</p>	<p>There are no mandatory renewal or recommended refresher requirements for this standard</p>
<p>Review Cycle</p>	<p>On request or 5 years from approval date</p>

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<p>State the reasons for operator training, the risks associated with lift-truck operations and the causes of lift-truck accidents</p>	<ul style="list-style-type: none"> • Training should be given on all types of lift truck and attachments that operators will or could be required to use in their work • Employers should also consider the need for conversion training where the truck type does not change, but the size and weight alters significantly. • Operator training should always include three stages: <ol style="list-style-type: none"> 1. <i>Basic Training – the basic skills and knowledge required to operate a lift truck safely and efficiently</i> 2. <i>Specific Job Training – knowledge and understanding of the operating principles and controls of the lift truck to be used and how it will be used in their workplace</i> 3. <i>Familiarisation Training – applying what has been learnt, under normal working conditions, on the job.</i> • Hazards associated with lift-truck operations: <ol style="list-style-type: none"> 1. <i>Pedestrians</i> 2. <i>Ground conditions</i> 3. <i>Other traffic</i> 4. <i>Lighting</i> 5. <i>Lift-truck stability</i> 6. <i>Explosive atmospheres</i> 7. <i>Refuelling/ recharging</i> 8. <i>Confined spaces – manoeuvring, exhaust gases</i> 9. <i>Working platforms</i> 10. <i>Maintenance.</i> • Causes of lift-truck accidents: <ol style="list-style-type: none"> 1. <i>Pedestrian workers often work in close proximity to forklift trucks</i> 2. <i>Inadequate training</i> 3. <i>Warehouses and factories – narrow aisles, crowded areas and blind spots</i> 4. <i>Travel speed of forklift - overturn</i> 5. <i>Stability of loads – loading and unloading</i> 6. <i>Stability of racking system.</i>
<p>State the responsibilities of operators to themselves and others, including their</p>	<ul style="list-style-type: none"> • Legislation, Regulations and Guidance: <ol style="list-style-type: none"> 1. <i>Health and Safety at Work etc Act 1974</i>

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<p>duties under the Health and Safety at Work etc Act 1974 (HSW Act) to take reasonable care of their own health and safety and that of other people, and co-operate with employers and others to help them comply with their legal duties</p>	<ol style="list-style-type: none"> 2. <i>Provision and Use of Work Equipment Regulations (PUWER) 1998</i> 3. <i>Lifting Operations and Lifting Equipment Regulations (LOLER) 1998</i> 4. <i>Management of Health and Safety of Work (MHSW) Regulations 1999</i> 5. <i>Workplace (Health, Safety and Welfare) Regulations 1992</i> 6. <i>Control of Substances Hazardous to Health Regulations (COSHH) 2002</i> 7. <i>Construction (Design and Management) Regulations (CDM) 2015</i> 8. <i>Road Traffic Act</i> 9. <i>L117 – Rider-operated lift trucks – Operator training and safe use.</i> <ul style="list-style-type: none"> • Risk Assessments, Method Statements and Permit to Work.
<p>Identify the basic construction and main components of the lift truck, stating its principles of operation and load-handling capabilities and capacities</p>	<ul style="list-style-type: none"> • Differing types of machines • Functions and applications • Instruments and controls • Braking system • Tyres and wheels • Cooling system • Fuel system • Transmission • Steering system • Hydraulic system • Electrical system • Mast components • ROPS • FOPS • Optional attachments.

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<p>Identify, as appropriate, handling attachments which may be used with the lift truck</p>	<ul style="list-style-type: none"> • Attachments: <ol style="list-style-type: none"> 1. <i>Forks – fork extensions – the extension length should never exceed 66% of the current fork length</i> 2. <i>Side shifters – enables you to move a load from side to side, so you can make small adjustments to the alignment of the pallet</i> 3. <i>Fork Positioner – allows the forklift forks to be positioned hydraulically</i> 4. <i>Push-Pull attachment – enable transportation of loads with inexpensive and space saving slip-sheets which are usually made of plastic or cupboard</i> 5. <i>Multiple Pallet Handler – are used to handle both a single pallet, or the forks can be spread hydraulically to lift, carry and side shift multiple pallets side by side</i> 6. <i>Booms</i> 7. <i>Rotating heads – allows you to rotate the forks hydraulically 360° in a revolving motion, safely and efficiently when moving loads, inverting and dumping loads</i> 8. <i>Drum clamps – transportation of drums, attachments slide over the forks or can be carriage mounted used to transport and/or tilt and empty a drum</i> 9. <i>Paper roll clamps – enable you to increase productivity in paper handling operations, whilst leaving the roll damage free</i> 10. <i>Bale clamps – enable you to increase productivity in bale handling operations.</i> • Fitting an attachment will require a reduction in the actual capacity of the lift truck, called derating • Attachments may be mounted on the forks or directly onto the carriage • Always follow the instructions for using the attachment supplied by the manufacturer or authorised supplier. • Working platforms on lift trucks are attachments – for working at height operations: <ol style="list-style-type: none"> 1. <i>Integrated working platforms – controls that are linked to and isolate the truck controls so that only a person in the platform can control the lift height of the platforms and truck movements</i> 2. <i>Non-integrated working platforms – no controls in the platform. All lift truck and platform movements are controlled by the truck operator.</i> • A non-integrated working platform may only be used in exceptional circumstances for 'occasional unplanned use.

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<p>Locate and state the purpose of all controls and instruments and how to use them</p>	<ul style="list-style-type: none"> • Meters, gauges, indicator and warning lamps: <ol style="list-style-type: none"> 1. <i>Fuel meter</i> 2. <i>Water temperature meter</i> 3. <i>Hour meter</i> 4. <i>Cooling water level warning lamp</i> 5. <i>Air cleaner</i> 6. <i>Torque converter oil temperature warning lamp</i> 7. <i>Fuel level warning lamp</i> 8. <i>Emergency seat belt warning lamp</i> 9. <i>Parking brake warning lamp</i> 10. <i>Oil pressure warning lamp</i> 11. <i>Charge warning lamp</i> 12. <i>Glow plug indicator lamp (diesel engine)</i> 13. <i>Fuel filter warning lamp (diesel engine)</i> 14. <i>Joystick warning lamp.</i> • Key switch • Horn button • Lighting switch • Forward – reverse lever • Hand-brake • Brake pedal • Accelerator pedal • Joystick lever.
<p>Place the forks or other handling attachment in predetermined positions using the appropriate controls</p>	<p>Travelling:</p> <ul style="list-style-type: none"> • While travelling, the mast should be tilted back and the forks be lowered approximately 200mm (8in) above the ground. <p>Stopping and parking:</p> <ul style="list-style-type: none"> • When leaving the lift truck, set the handbrake, adjust the mast to an upright position, lower the forks until they rest on the ground and turn off the key.

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<p>Identify various forms of load, and state the procedures for their stacking, de-stacking and separation; assess the weight, and, where relevant, the load centre of a load, and decide if the load with its known weight and load centre is within the truck's actual capacity (safe working load)</p>	<p>Various forms of loads:</p> <ul style="list-style-type: none"> • Palletised loads: <ol style="list-style-type: none"> 1. <i>Pallets should be of sound construction, and be of adequate strength for the loads</i> 2. <i>Where pallets loads are stacked, the lower pallets should be of suitable strength and in good condition to be able to support the weight above</i> 3. <i>The stability of the stacked pallets should be maintained, avoiding excessive stack heights</i> 4. <i>Pallets or other supports used for forming loads should be regularly inspected for damage.</i> • Bales: <ol style="list-style-type: none"> 1. <i>Bales should be stacked with care to ensure their stability</i> 2. <i>If possible stacks should lean into their centre</i> 3. <i>Extra care should be taken with synthetic bales, which have a tendency to slip when new.</i> • Coiled Wire: <ol style="list-style-type: none"> 1. <i>Coiled wire may be stacked horizontally or vertically. Wedges or other supports must be used to prevent the stack from spreading.</i> • Glass bottles and cans: <ol style="list-style-type: none"> 1. <i>Care should be taken stacking bottles and cans, whether full or empty, using wedges as necessary</i> 2. <i>They should be stacked in cases, boxes, cartons or racks designed to hold them</i> 3. <i>If pallets are used, horizontal bonding should be incorporated</i> 4. <i>The overall weight of stacks should not be borne by the glass itself.</i> • Drums, casks and cylinders: <ol style="list-style-type: none"> 1. <i>Drums, casks and cylinders may be stacked on their sides and ends unless specifically required to stand upright on instructions from their manufacturer or supplier</i> 2. <i>If stacked on their sides, wedges should be fixed at the ends of each row to prevent movement</i>

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Learning outcomes and assessment criteria <i>Delivery to include and the candidate will be able to:</i>	Additional guidance to support learning outcomes <i>Training content to contain the following as a minimum:</i>
	<p>3. <i>If gas cylinders are stored on end, restraining chains should be fitted to prevent them toppling. The valves of gas cylinders under pressure must be always be protected</i></p> <p>4. <i>Power-operated clamps enable cylindrical objects such as cable drums or pipes to be stacked on end, allowing greater economy of space and greater stability.</i></p> <ul style="list-style-type: none"> • Sheet materials: <ol style="list-style-type: none"> 1. <i>Sheet materials, including glass, may be stacked flat or on edge</i> 2. <i>Sharp edges should be protected to prevent injury to workers and passers-by</i> 3. <i>The supports used in edge-on stacking must be of adequate strength to bear the side loading of the vertical sheets</i> 4. <i>Owing to the weight of metal and glass sheet in bulk, care should be taken not to overload racks and the floor.</i> • Pipes: <ol style="list-style-type: none"> 1. <i>Suitable racks should be provided for pipes and similar materials</i> 2. <i>Large-diameter pipes can be stacked on their sides</i> 3. <i>Wedge, chocks or other means should be used to restrain the bottom tier which are stacked and which could cause the stack to collapse by rolling or moving</i> 4. <i>Where the collapse of a stack could cause damage or injury, material to be removed should always to be taken from the top of the stack or from the top tier first.</i> <p>De-stacking:</p> <ul style="list-style-type: none"> • Most accidents involving the collapse of stacked materials occur during de-stacking. • The stack should be taken down tier by tier, so that no parts is in danger • As there is a high tripping hazard in the working area of a stack, tidiness and systematic work methods are essential • Care should be taken to ensure when working on stacks to avoid overhead obstructions • Proper signalling arrangements should be made and a marshaller should be in position • All stacking and de-stacking should be carried out under competent supervision. <p>Segregation:</p> <ul style="list-style-type: none"> • Flammable liquids, gas cylinders, aerosols, materials liable to combustion and hazardous chemicals should not be stored in the same area as other goods

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	<ul style="list-style-type: none"> • Chemicals liable to react with each other or other materials should not be stored together unless adequately protected from contacting each other, either directly or by spillage • The storage area or building should be signposted to indicate that it contains flammable or hazardous chemical materials and that smoking and naked flames are prohibited • Liquefied and compressed gas cylinders should be stored in well ventilated areas.
<p>State the factors which affect machine stability, including turning, especially the speed and sharpness of turn; load security and integrity; rated capacity and rated load centres; centres of gravity; ground conditions; and speed and smoothness of operation</p>	<p>Machine stability:</p> <ul style="list-style-type: none"> • Turning: <ol style="list-style-type: none"> 1. <i>The smaller the radius of a turn to be made, the lower the speed of the lift truck should be</i> 2. <i>When making a sharp turn, always drive the truck at low speed.</i> • Loading: <ol style="list-style-type: none"> 1. <i>Adjust distance between the forks symmetric to the centre line of the lift truck. The wider the interval between forks, the better the balance. Be sure to apply the fork stoppers after setting the forks</i> 2. <i>Confirm that the load is stable and tilt it backward.</i> • Transportation: <ol style="list-style-type: none"> 1. <i>When transporting loads, the lift truck should be driven carefully at slow speed with the load kept low and tilted back.</i> 2. <i>When the load is big enough to block forward visibility, drive the truck backward.</i> • Stability <ol style="list-style-type: none"> 1. <i>Masted forklifts overturn when they become unstable for a wide range of reasons, and operators need to understand the conditions that can cause instability, both longitudinally (front and rear) and laterally (sideways)</i> 2. <i>Before any load is carried, the operator must check the manufacturer's maximum rated capacity for the machine, the load centre that applies and where any de-rating must be undertaken</i> 3. <i>Where a large load is to be carried and the centre of gravity of that load exceeds the machine's load centre, then the carrying capacity must be reduced</i>

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	<ol style="list-style-type: none"> 4. <i>Longitudinal stability of a forklift is maintained by the counterbalance effect, which is when the weight towards the rear of the machine overcomes the weight of the load on the forks. Increasing the load on the forks reduces the counterbalance effect, making the machine less stable</i> 5. <i>Raising a load can further affect stability. If a load is raised to full height with full back tilt of the masted applied, the machine's centre of gravity moves both upwards and backwards</i> 6. <i>If a load is lifted and the forklift is leaning sideways, the machine is less stable</i> 7. <i>No loads should be lifted unless the forklift is level and the ground firm and stable enough to support the weight</i> 8. <i>Travelling with a raised mast is hazardous, and greatly increases instability</i> 9. <i>Where a load needs to be placed at height, the forklift must be on firm level ground and facing the placing point.</i>
<p>Follow correct procedures when loading and unloading vehicles</p>	<p>Loading and unloading procedures:</p> <ul style="list-style-type: none"> • Loading: <ol style="list-style-type: none"> 1. <i>Adjust distance between the forks symmetric to the centre line of the lift truck. The wider the interval between forks, the better the balance. Be sure to apply the fork stoppers after setting the forks</i> 2. <i>Approach slowly, straight toward the load, and stop just in front of it. Adjust the mast to vertical position, matching the height of the forks to the position of the pallet.</i> 3. <i>Advance slowly and completely insert forks beneath the load. Set the forward-reverse lever to Neutral and apply the handbrake</i> 4. <i>Then raise the load. Confirm that the load is stable and tilt it backward. Release the handbrake and back the lift truck slowly.</i> • Transportation: <ol style="list-style-type: none"> 1. <i>When transporting loads, the lift truck should be driven carefully at slow speed with the load kept low and tilted back</i> 2. <i>When the load is big enough to block forward visibility, drive the lift truck backward.</i> • Unloading:

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	<ol style="list-style-type: none"> 1. <i>Slowly approach the unloading site and stop facing straight ahead</i> 2. <i>Move the forward-reverse lever into Neutral and apply the handbrake</i> 3. <i>After adjusting the mast to the vertical position, raise the load above the stack on which it is to be placed</i> 4. <i>Release the handbrake and advance slowly into the proper position</i> 5. <i>Apply the handbrake and place the forward-reverse lever in Neutral</i> 6. <i>Slowly lower the forks to set down the load</i> 7. <i>After moving the forward-reverse lever to reverse, release the handbrake and back the lift truck up until the forks separate completely from the load.</i> <ul style="list-style-type: none"> • Trailers: <ol style="list-style-type: none"> 1. <i>Trailers of articulated lorries are less stable when they have been disconnected from their towing units</i> 2. <i>They should always be braked when parked</i> 3. <i>Make sure the trailer deck is strong enough to support the lift truck and load</i> 4. <i>If the lift truck has to drive onto the trailer for loading or unloading, provide and securely fix bridge plates, strong enough to support the lift truck and its load</i> 5. <i>You should also ensure the landing legs at the front of the trailer can support the additional weight of a lift truck</i> 6. <i>Where ramps are used to provide access into the rear of trailers, make sure they are properly secured to the rear of the trailer so that one cannot move relative to the other</i> 7. <i>The ramps should be marked with the maximum load they are designed to carry and they should be regularly inspected</i> 8. <i>Take extra care when loading and unloading from curtain-siders as they have no edge protection, so you should carry out a risk assessment and consider what may happen if the lift truck goes out of control.</i>
<p>Make visual checks to ascertain the safety, soundness, and rating of structures designed to receive loads, and place and remove loads on and from those structures at various heights</p>	<p>Loading platforms:</p> <ul style="list-style-type: none"> • Permanent loading platforms, as used in warehouses or in factories, should be constructed and designed to carry the foreseeable maximum load safely

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	<ul style="list-style-type: none"> • Temporary loading platforms, for example on building sites, should be clearly marked with the maximum load they are designed to carry, and lift truck operators should be advised of this • When manoeuvring, ensure the lift truck does not damage the platform or its supporting structure. • Racking system failure: <ol style="list-style-type: none"> 1. <i>Design fault i.e. rack is inherently unsafe</i> 2. <i>Installation fault</i> 3. <i>Materials handling equipment fault</i> 4. <i>Materials handling equipment operator fault</i> 5. <i>Supervision and control fault</i> 6. <i>Store or warehouse structural fault.</i>
<p>Pick-up and place loads, and drive and manoeuvre the machine forward and in reverse, laden and unladen, on inclines, in restricted spaces and on level ground (including rough terrain as applicable), following correct procedures and precautions</p>	<p>Lift-truck operating areas:</p> <ul style="list-style-type: none"> • All lift-truck operating areas should be suitably designed and properly maintained • Make sure the surfaces used by lift trucks are as level and firm as possible, and preferably surfaced with concrete or other suitable material • Some lift trucks, however, are designed to operate on rough or uneven surfaces • Repair potholes and remove accumulations of loose material on the ground as they are particularly hazardous to small-wheeled lift trucks • Road humps are unsuitable for lift trucks. If they are used to reduce the speed of other traffic, provide a bypass for lift trucks • Try to eliminate gradients where possible. Never allow lift trucks to be driven up or down gradients that exceed the maximum specified by the manufacturer or authorised supplier • Make sure roads, gangways and aisles have sufficient width and overhead clearance for the largest lift truck using them to do so safely, whether loaded or unloaded • Use one-way traffic systems to reduce the risk of collisions • When travelling on gradients with a load, always drive forward on upward slopes and in reverse on downwards slopes

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Learning outcomes and assessment criteria <i>Delivery to include and the candidate will be able to:</i>	Additional guidance to support learning outcomes <i>Training content to contain the following as a minimum:</i>
	<ul style="list-style-type: none"> • Drive slowly on slopes • Drive in the reverse direction on upward slopes when without a load, and drive forward on downward slopes • Use the brake pedal and engine brake together when driving downhill so as to maximise the effectiveness of the engine brake • Do not use lift trucks with internal combustion engines in confined spaces or where there is inadequate
Park the machine, following correct procedures and precautions	When you have finished working: <ul style="list-style-type: none"> • Park the forklift in a safe place, on level ground, never on a slope • Leave the forklift with the mast tilted forwards and the forks fully lowered, with the tips on the floor • Apply the parking brake, select neutral, switch off the engine and remove the key • Return keys or other activating devices to their place of safe-keeping • Report any malfunctions or defects immediately to a supervisor • Wherever possible, suitable areas for recharging or maintenance.
Where applicable state the purpose of, and demonstrate how to use, safety devices including stabilisers, level indicators, and load indicators, if fitted, including the importance of using seat restraints	<ul style="list-style-type: none"> • Variable reach trucks: <ol style="list-style-type: none"> 1. <i>Some types have stabilisers or chassis levelling devices.</i> 2. <i>Ensure the stabiliser legs are in the down position and the weight of the machine is supported</i> 3. <i>Some machines are fitted with optional stabiliser indicator lights. The lights will illuminate when both stabilisers legs are in the down position and the weight of the machine is supported</i> 4. <i>Isolate the stabiliser control levers before operating the machine.</i> • Some machines are fitted with a device which warns of approaching overload (longitudinal load moment indicator (LLMI) or (longitudinal load moment control (LLMC), Never ignore the warnings from these devices and check their calibration periodically according to the manufacturer's instructions

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Learning outcomes and assessment criteria <i>Delivery to include and the candidate will be able to:</i>	Additional guidance to support learning outcomes <i>Training content to contain the following as a minimum:</i>
	<ul style="list-style-type: none"> • Any lift truck fitted with a roll-over protective structure (ROPS) to protect operators from the risk of injury resulting from 180° or more roll-over should be fitted with a restraining system.
<p>Carry out inspection and maintenance tasks appropriate to operators as required by the machine manufacturers (including pre-shift checks) and any relevant legislation</p>	<p>Always follow the manufacturer's or authorised supplier's instructions on inspection, maintenance and servicing. You should make sure there is a:</p> <ul style="list-style-type: none"> • A documented pre-shift check: <ol style="list-style-type: none"> 1. <i>Damage to tyres</i> 2. <i>Tyre pressures on pneumatic tyres</i> 3. <i>The condition of the wheels</i> 4. <i>Tightness and security of wheel nuts</i> 5. <i>A functional test on the parking brake, service brakes and steering gear</i> 6. <i>Fluid levels</i> 7. <i>Batteries of battery operated lift trucks are adequately charged and leak free and battery retention device is in place</i> 8. <i>A functional test on systems for lifting, tilting and manipulation, including attachments</i> 9. <i>Visual inspection of hydraulic system</i> 10. <i>Condition and security of the overhead guard and load back-rest extension</i> 11. <i>The forks, for cracks, bent or damaged fork tips and missing or damaged fork positioning locks</i> 12. <i>The chains, for secure anchor pins, fixing bolts, damaged or elongated links and lubrication</i> 13. <i>Any audible warning signal</i> 14. <i>Lights</i> 15. <i>Mirrors and any other visibility aids, if fitted.</i> • Planned and routine maintenance: <ol style="list-style-type: none"> 1. <i>Thorough and regular planned maintenance in accordance with the manufacturer's recommendations.</i> • Thorough examination

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Learning outcomes and assessment criteria <i>Delivery to include and the candidate will be able to:</i>	Additional guidance to support learning outcomes <i>Training content to contain the following as a minimum:</i>
	<ol style="list-style-type: none"> 1. <i>Lifting parts of the lift truck, such as the mast, chains, carriage, forks and tilt mechanism, need thoroughly examined by a competent person at least every 12 months</i> 2. <i>The competent person will issue a 'report of thorough examination'</i> 3. <i>Lift trucks and attachments used to lift people, even on an occasional basis, and lifting accessories must be thoroughly examined at least every six months.</i>
<p>State what to do in an emergency while in control of a lift truck, for example, if there is a tip over</p>	<p>Restraining systems and protective structures</p> <ul style="list-style-type: none"> • Counterbalanced trucks, rough-terrain trucks and side-loading trucks, one side only, must be fitted with an operator restraining system (for example a seat belt) • If the risk assessment indicates that there is a risk of the vehicle overturning and where the operator may be trapped between the truck and the ground • If the forklift begins to overturn, you are safest when you stay in the seat, hold on firmly, and lean in the opposite direction of the fall rather than trying to jump • Brace your feet and hold yourself inside the operator compartment by holding onto the steering wheel with both hands.
<p>State why it is essential to have vehicle key custody arrangements</p>	<p>Controlling the use of lift trucks</p> <ul style="list-style-type: none"> • Lift trucks should be fitted with a device to prevent unauthorised use, such as a switch with a removable key, a keypad with a PIN number or a programmable fob • Keep keys, where used, in a secure place • They should be issued by a responsible person and retained by the operator until the end of the work period • Never leave lift trucks unattended with the keys in the ignition or the keypad energised • At the end of the shift, lift trucks should be parked safely on level ground with the parking brake applied • On LPG trucks, the gas supply should be turned off at the storage tank if the truck is to be left for some time, for example at the end of a shift or overnight.
<p>Operation of the truck within the safety limits defined by the manufacturer</p>	<p>Lift truck capacity:</p> <ul style="list-style-type: none"> • The capacity of a lift truck is important because you need to ensure it will do the work you want it to do • The size of the loads will affect the capacity

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Learning outcomes and assessment criteria <i>Delivery to include and the candidate will be able to:</i>	Additional guidance to support learning outcomes <i>Training content to contain the following as a minimum:</i>
	<ul style="list-style-type: none"> • The actual capacity (safe working load) is the maximum load that can be carried at a set distance from the heels of the forks to a specified height • Do not load lift trucks beyond their actual capacity.
Carrying out a pre-shift check when the truck is to be used	Pre-shift checks: <ul style="list-style-type: none"> • A documented pre-shift check: <ol style="list-style-type: none"> 1. <i>Damage to tyres</i> 2. <i>Tyre pressures on pneumatic tyres</i> 3. <i>The condition of the wheels</i> 4. <i>Tightness and security of wheel nuts</i> 5. <i>A functional test on the parking brake, service brakes and steering gear</i> 6. <i>Fluid levels</i> 7. <i>Batteries of battery operated lift trucks are adequately charged and leak free and battery retention device is in place</i> 8. <i>A functional test on systems for lifting, tilting and manipulation, including attachments</i> 9. <i>Visual inspection of hydraulic system</i> 10. <i>Condition and security of the overhead guard and load back-rest extension</i> 11. <i>The forks, for cracks, bent or damaged fork tips and missing or damaged fork positioning locks</i> 12. <i>The chains, for secure anchor pins, fixing bolts, damaged or elongated links and lubrication</i> 13. <i>Any audible warning signal</i> 14. <i>Lights</i> 15. <i>Mirrors and any other visibility aids, if fitted.</i>
Correct mounting and dismounting procedure and correct driving position (Including the importance of using seat restraints and seat belts)	Correct mounting and dismounting procedure and correct driving position <ul style="list-style-type: none"> • Face the forklift and use the steps and handholds when getting in or out of the vehicle • Use three points of contacts • Keep hands, feet and other parts of your body inside the operator’s compartment all the times • Never put any part of your body into the mast structure or between the mast and the truck

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Learning outcomes and assessment criteria <i>Delivery to include and the candidate will be able to:</i>	Additional guidance to support learning outcomes <i>Training content to contain the following as a minimum:</i>
	<ul style="list-style-type: none"> • Any lift truck fitted with a roll-over protective structure (ROPS) to protect operators from the risk of injury resulting from 180° or more roll-over should be fitted with a restraining system.
Competent use of controls	Controls and instruments: <ul style="list-style-type: none"> • Meters, gauges, indicator and warning lamps: <ol style="list-style-type: none"> 1. <i>Fuel meter</i> 2. <i>Water temperature meter</i> 3. <i>Hour meter</i> 4. <i>Cooling water level warning lamp</i> 5. <i>Air cleaner</i> 6. <i>Torque converter oil temperature warning lamp</i> 7. <i>Fuel level warning lamp</i> 8. <i>Emergency seat belt warning lamp</i> 9. <i>Parking brake warning lamp</i> 10. <i>Oil pressure warning lamp</i> 11. <i>Charge warning lamp</i> 12. <i>Glow plug indicator lamp (diesel engine)</i> 13. <i>Fuel filter warning lamp (diesel engine)</i> 14. <i>Joystick warning lamp.</i> • Key switch • Horn button • Lighting switch • Forward – reverse lever • Hand-brake • Brake pedal • Accelerator pedal • Joystick Lever.
Movement of the truck with forks or attachments in the correct travel position, laden and unladen	Movement of the truck: <ul style="list-style-type: none"> • While traveling, the mast should be tilted back and the forks be lowered approximately 200mm (8 in) above the ground or attachments kept just clear of the ground but as low as possible

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Learning outcomes and assessment criteria <i>Delivery to include and the candidate will be able to:</i>	Additional guidance to support learning outcomes <i>Training content to contain the following as a minimum:</i>
	<ul style="list-style-type: none"> • In a principle, if the forklift is carrying a load up an incline then it would normally be driven forwards up the slope and reversed down the slope. If unladen, the opposite applies – the forklift is reversed up the slope and driven down the slope • When driving up a slope with a load, the mast needs to be slightly tilted back and the forks and load kept just clear of the ground but as low as possible.
<p>Correct insertion and withdrawal of forks or other handling attachments without damage to the pallet or load</p>	<p>Correct insertion and withdrawal of forks:</p> <ul style="list-style-type: none"> • Adjust distance between the forks symmetric to the centre line of the lift truck • The wider the interval between forks, the better the balance • Be sure to apply the fork stoppers after setting the forks • Approach slowly, straight toward the load, and stop just in front of it • Adjust mast to vertical position, matching the height of the forks to the position of the pallet • Advance slowly and completely insert forks beneath the load • Set the forward-reverse lever to neutral and apply the handbrake.
<ul style="list-style-type: none"> • Manoeuvring a laden and unladen truck forward and in reverse in a narrowly confined area • Performing both a left and a right 90° turn (if appropriate for the type of truck) with a loaded truck in a narrowly confined area without touching the sides of the area 	<p>Travel to and manoeuvre in confined spaces:</p> <ul style="list-style-type: none"> • Driving controls • Ground conditions • Inclines and techniques • Hazards • Environmental protection/ minimise damage • Load protection • Working area/ routes • Site travel.
<p>Stacking and de-stacking loads:</p> <ul style="list-style-type: none"> • at different levels • in front of a fixed vertical face • on the floor alongside similar loads 	<p>Stacking and de-stacking loads:</p> <ul style="list-style-type: none"> • Palletised loads: <ol style="list-style-type: none"> 1. <i>Pallets should be of sound construction, and be of adequate strength for the loads</i> 2. <i>Where pallets loads are stacked, the lower pallets should be of suitable strength and in good condition to be able to support the weight above</i> 3. <i>The stability of the stacked pallets should be maintained, avoiding excessive stack heights</i>

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Learning outcomes and assessment criteria <i>Delivery to include and the candidate will be able to:</i>	Additional guidance to support learning outcomes <i>Training content to contain the following as a minimum:</i>
	<p>4. <i>Pallets or other supports used for forming loads should be regularly inspected for damage.</i></p> <ul style="list-style-type: none"> • Bales: <ol style="list-style-type: none"> 1. <i>Bales should be stacked with care to ensure their stability</i> 2. <i>If possible stacks should lean into their centre</i> 3. <i>Extra care should be taken with synthetic bales, which have a tendency to slip when new.</i> • Coiled Wire: <ol style="list-style-type: none"> 1. <i>Coiled wire may be stacked horizontally or vertically. Wedges or other supports must be used to prevent the stack from spreading.</i> • Glass bottles and cans: <ol style="list-style-type: none"> 1. <i>Care should be taken stacking bottles and cans, whether full or empty, using wedges as necessary</i> 2. <i>They should be stacked in cases, boxes, cartons or racks designed to hold them</i> 3. <i>If pallets are used, horizontal bonding should be incorporated</i> 4. <i>The overall weight of stacks should not be borne by the glass itself.</i> • Drums, casks and cylinders: <ol style="list-style-type: none"> 1. <i>Drums, casks and cylinders may be stacked on their sides and ends unless specifically required to stand upright on instructions from their manufacturer or supplier</i> 2. <i>If stacked on their sides, wedges should be fixed at the ends of each row to prevent movement</i> 3. <i>If gas cylinders are stored on end, restraining chains should be fitted to prevent them toppling. The valves of gas cylinders under pressure must be always be protected</i> 4. <i>Power-operated clamps enable cylindrical objects such as cable drums or pipes to be stacked on end, allowing greater economy of space and greater stability.</i> • Sheet materials: <ol style="list-style-type: none"> 1. <i>Sheet materials, including glass, may be stacked flat or on edge</i> 2. <i>Sharp edges should be protected to prevent injury to workers and passers-by</i>

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Learning outcomes and assessment criteria <i>Delivery to include and the candidate will be able to:</i>	Additional guidance to support learning outcomes <i>Training content to contain the following as a minimum:</i>
	<ol style="list-style-type: none"> 3. <i>The supports used in edge-on stacking must be of adequate strength to bear the side loading of the vertical sheets</i> 4. <i>Owing to the weight of metal and glass sheet in bulk, care should be taken not to overload racks and the floor.</i> <ul style="list-style-type: none"> • Pipes: <ol style="list-style-type: none"> 1. <i>Suitable racks should be provided for pipes and similar materials</i> 2. <i>Large-diameter pipes can be stacked on their sides</i> 3. <i>Wedge, chocks or other means should be used to restrain the bottom tier which are stacked and which could cause the stack to collapse by rolling or moving</i> 4. <i>Where the collapse of a stack could cause damage or injury, material to be removed should always to be taken from the top of the stack or from the top tier first.</i> <p>De-stacking:</p> <ul style="list-style-type: none"> • Most accidents involving the collapse of stacked materials occur during de-stacking. • The stack should be taken down tier by tier, so that no parts is in danger • As there is a high tripping hazard in the working area of a stack, tidiness and systematic work methods are essential • Care should be taken to ensure when working on stacks to avoid overhead obstructions • Proper signalling arrangements should be made and a marshaller should be in position • All stacking and de-stacking should be carried out under competent supervision.
<p>Loading/unloading a vehicle (a suitable simulation may be used where a vehicle is not available)</p>	<p>Loading and unloading procedures:</p> <ul style="list-style-type: none"> • Loading: <ol style="list-style-type: none"> 1. <i>Adjust distance between the forks symmetric to the centre line of the lift truck. The wider the interval between forks, the better the balance. Be sure to apply the fork stoppers after setting the forks</i> 2. <i>Approach slowly, straight toward the load, and stop just in front of it. Adjust the mast to vertical position, matching the height of the forks to the position of the pallet.</i> 3. <i>Advance slowly and completely insert forks beneath the load. Set the forward-reverse lever to Neutral and apply the handbrake</i>

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Learning outcomes and assessment criteria <i>Delivery to include and the candidate will be able to:</i>	Additional guidance to support learning outcomes <i>Training content to contain the following as a minimum:</i>
	<p>4. <i>Then raise the load. Confirm that the load is stable and tilt it backward. Release the handbrake and back the lift truck slowly.</i></p> <ul style="list-style-type: none"> • Transportation: <ol style="list-style-type: none"> 1. <i>When transporting loads, the lift truck should be driven carefully at slow speed with the load kept low and tilted back</i> 2. <i>When the load is big enough to block forward visibility, drive the lift truck backward.</i> • Unloading: <ol style="list-style-type: none"> 1. <i>Slowly approach the unloading site and stop facing straight ahead</i> 2. <i>Move the forward-reverse lever into Neutral and apply the handbrake</i> 3. <i>After adjusting the mast to the vertical position, raise the load above the stack on which it is to be placed</i> 4. <i>Release the handbrake and advance slowly into the proper position</i> 5. <i>Apply the handbrake and place the forward-reverse lever in Neutral</i> 6. <i>Slowly lower the forks to set down the load</i> 7. <i>After moving the forward-reverse lever to reverse, release the handbrake and back the lift truck up until the forks separate completely from the load.</i> • Trailers: <ol style="list-style-type: none"> 1. <i>Trailers of articulated lorries are less stable when they have been disconnected from their towing units</i> 2. <i>They should always be braked when parked</i> 3. <i>Make sure the trailer deck is strong enough to support the lift truck and load</i> 4. <i>If the lift truck has to drive onto the trailer for loading or unloading, provide and securely fix bridge plates, strong enough to support the lift truck and its load</i> 5. <i>You should also ensure the landing legs at the front of the trailer can support the additional weight of a lift truck</i> 6. <i>Where ramps are used to provide access into the rear of trailers, make sure they are properly secured to the rear of the trailer so that one cannot move relative to the other</i> 7. <i>The ramps should be marked with the maximum load they are designed to carry and they should be regularly inspected</i>

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Learning outcomes and assessment criteria <i>Delivery to include and the candidate will be able to:</i>	Additional guidance to support learning outcomes <i>Training content to contain the following as a minimum:</i>
	<p>8. <i>Take extra care when loading and unloading from curtain-siders as they have no edge protection, so you should carry out a risk assessment and consider what may happen if the lift truck goes out of control.</i></p>
<p>Correct parking of the truck</p>	<p>When you have finished working:</p> <ul style="list-style-type: none"> • Park the forklift in a safe place, on level ground, never on a slope • Leave the forklift with the mast tilted forwards and the forks fully lowered, with the tips on the floor • Apply the parking brake, select neutral, switch off the engine and remove the key • Return keys or other activating devices to their place of safe-keeping • Report any malfunctions or defects immediately to a supervisor • Wherever possible, suitable areas for recharging or maintenance.

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Additional information about this standard

Emphasis to be placed on the following topics:

- Travel speeds – Appropriate speed in proportion to the conditions, particularly when carrying a load. Travel speeds around corners and on uneven ground. Appreciation of centres of gravity. Mandatory wearing of seat belts.
- Travelling on inclines – Understanding of travelling and steering up, down and across inclines.
- Weight transfer – Reduced carrying capacity with extending masts.

Note: *The listed training content should not be considered exhaustive and subjects may be added to reflect the individuals' working environment.*

To identify a machine within this category, a typical industrial forklift would normally have the listed features and be used within the described characteristics.

Category features:

- Wheel mounted multi-axled chassis containing a central operating position; hydraulic and electrical units and counterweight components
- Front-mounted multi-sectioned tilt able mast with adjustable fork carriage, all hydraulically operated.

Category characteristics:

- Able to travel in forward and reverse and change direction during travel with most types having rear-steering
- Limited to travelling on smooth surfaces and some incline-driving capability.

Theory Resource:

- PUWER 1998 Regulations
- LOLER 1998 Regulations
- HSE GS6
- Approved Codes of Practice
- Operator's manual
- Specifications for types of Industrial Type Forklifts
- Copies of various types of load rating charts.

Measure of this training standard

The candidate is required to pass the following tests:

CPCS Theory Test: Industrial Forklift Truck

- Course Instructors can use the published CPCS Theory Questions during training to confirm that the learner is able to demonstrate the required knowledge understanding and retention to undertake the CPCS Standard Technical Theory Test.

CPCS Practical Test: Industrial Forklift Truck

- Course Instructors can use the published CPCS Practical Test criteria during training to confirm that the learner is able to demonstrate the required practical ability and understanding to undertake the CPCS Standard Technical Practical Test.

Note - Course Instructors can find the current versions of the CPCS Technical Test Theory Questions and CPCS Technical Practical Test NOCN Job Cards website and are subject to review, ensure you are using the most current version as printed versions are uncontrolled.

www.nocnjobcards.org