

## SPECIALISED PLANT AND MACHINERY OPERATIONS

It is important that the instructors/trainers/assessors read all the information provided in the Guidance Notes prior to commencing any instruction, training and/or assessment.

### TRAINING OUTCOMES

A module credit will be awarded to the candidate for the successful completion of this module. Instruction, training and/or assessment of mandatory modules MOD 1 and MOD 2 must be undertaken and the CITB Health and Safety Test must be successfully completed (after appropriate training) for the issue of the Specialised Plant and Machinery Operations Intermediate Certificate for Rough Terrain Forklift/Masted Truck.

#### Module ICT 14 Rough Terrain Forklift/Masted Truck

To successfully complete this module, the trainee with a rough terrain forklift/masted truck must be able to:

1. Identify the basic construction, purpose and function of components and the purpose and use of all controls and gauges.
2. Identify and comply with manufacturers' instructions in accordance with the operator's handbook, other information sources i.e. rating plates, and applicable legislation.
3. Explain all relevant documentation.
4. Carry out all pre-use and running checks.
5. Configure the forklift for site and road travel.
6. Travel the forklift over different types of terrain, including rough, undulating ground and substantial inclines, both with and without a load.
7. Manoeuvre in confined areas, using forward and reverse direction, both with and without a load.
8. Set up the forklift in order to lift various loads.
9. Ensure load integrity and security.
10. Transport loads.
11. Lift various loads within the full working range of the forklift.
12. Explain precautions to be taken for overhead services and other hazards.
13. Keep within safe working parameters.
14. Place and retrieve loads accurately at various points.
15. Place and retrieve loads from a vehicle bed or trailer.
16. Place the forklift in an out-of-service condition.
17. Explain the loading and unloading procedure on and off a transporter.

**TRAINING SYLLABUS**

It is recommended that mandatory modules MOD 1 and MOD 2 be completed before delivery of this module. As stated in the Guidance Notes, instructors/trainers/assessors are encouraged to integrate subjects from each module in the development of programmes for candidates with little or no experience.

	<b>Subject</b>	<b>References</b>
<b>MOD 1</b>	<b>Introduction to the Industry:</b> <ol style="list-style-type: none"> <li>1. Construction industry structure.</li> <li>2. The role of the plant operator.</li> <li>3. Finding and using information relevant to a specific task.</li> <li>4. Construction registration schemes.</li> <li>5. Qualifications and continuous professional development.</li> <li>6. Trained Operator Achievement Test.</li> </ol>	Manufacturer's instructions, machine handbooks, test and thorough examination certificates. Awarding Body and scheme handouts. Qualification literature.
<b>MOD 2</b>	<b>Site Safety Awareness:</b> <ol style="list-style-type: none"> <li>1. Principles and aims of health and safety at work.</li> <li>2. Employee's duties and responsibilities under law.</li> <li>3. Safety signs.</li> <li>4. Dealing with hazards.</li> <li>5. Accident prevention and control.</li> <li>6. Selection and use of personal protective equipment.</li> <li>7. Handling plant-related harmful substances.</li> <li>8. Trained Operator Achievement Test.</li> </ol>	Current legislation, Approved Codes of Practice and Government body guidance.
<b>ICT 14</b>	<b>Rough Terrain Forklift/Masted Truck:</b> <ol style="list-style-type: none"> <li>1. Basic construction, names of components and the purpose and use of all controls and gauges.</li> <li>2. Use of the operator's handbook, other information sources, Approved Codes of Practice and legislative documents.</li> <li>3. Operator documentation, certificates, method statements, lift plans, duties charts etc.</li> <li>4. Pre-use, start, running checks and close-down procedure.</li> <li>5. Preparing the forklift for site and road travel.</li> <li>6. Travelling the forklift over different terrain, including rough, undulating ground and substantial inclines, while unloaded and loaded.</li> <li>7. Manoeuvring progressing to confined spaces in a forward and reverse direction with and without loads.</li> <li>8. Setting the forklift to lift and move different loads.</li> <li>9. Load characteristics, integrity and security while picking, moving and landing, including landing loads in high places.</li> <li>10. Lifting, moving and placing various loads accurately, including loading and unloading a vehicle or trailer.</li> <li>11. Precautions and actions for overhead services and other hazards.</li> <li>12. How to stay within safe working parameters.</li> <li>13. Placing the forklift in an out-of-service condition.</li> <li>14. Loading and unloading procedures on and off a transporter.</li> <li>15. Trained Operator Achievement Test.</li> </ol>	Manufacturer's instructions, machine handbooks, test and thorough examination certificates. Current legislation, Approved Codes of Practice and Government body guidance.

**TRAINED OPERATOR ACHIEVEMENT TEST****Equipment specification**

1. Serviceable rough terrain masted forklift that meets current legislation, having at least a 1 tonne lift capacity and:
  - a) standard forks
  - b) ROPS, FOPS and seatbelt
  - c) rough terrain capability
  - d) the operator's manual.
2. Loads of known weights to consist of:  
**Load A:** 1 x load not less than 50% of the forklift's rated capacity  
**Load B:** 3 x similar size palletised loads suitable for stacking safely.
3. Lorry bed equipped with a headboard (this may be simulated but must have the same dimensions including the ground/bed height).
4. Loading out tower not less than 75% of forklift's maximum lift height, able to safely support **Load A**.
5. An area which must have:
  - a) level ground
  - b) rough, uneven terrain
  - c) a slope(s) not less than 18% (1:5.5) incline with sufficient manoeuvring area at the top and bottom
  - d) a straight run of at least 20 metres.
6. Cones/materials etc., to create restrictions for travelling and manoeuvring.

**Exercise specification**

**Note:** Prior to the start of the test, the Instructor must ensure that the forks are set to the widest position.

The candidate is required to:

1. Carry out full pre-start and running checks as required by the manufacturer.
2. Prepare the forklift for travel, and travel to the location of **Load A**. The route is to include:
  - a) travelling up and down the slope(s)
  - b) travelling over rough, uneven terrain
  - c) passing through a chicane executing full right- and left-hand turns in a forward and reverse direction. There must be a clearance of no more than 300 mm or 10% of the machine's width (whichever is the greater) between the chicane sides and the forklift, when executing each turn.
3. Pick up **Load A** and travel the route again as in item 2. Whilst travelling up the incline, stop and re-start the forklift (the chicane may be adjusted to compensate for load width).

*continued.....*

**TRAINED OPERATOR ACHIEVEMENT TEST****Exercise specification continued**

4. Place **Load A** onto the loading out tower. When placed, manoeuvre the forklift away from the tower.
5. Retrieve **Load A** and lower to ground level.
6. Travel with **Load A**, in reverse, in a straight line for a minimum distance of 20 metres. When completed place the load at a given point.
7. Place 3 x **Load B** onto the vehicle bed with 2 loads squared up to the headboard, following a sequence of loading the vehicle bed fully. There must be no more than 75 mm clearance between the loads, and the loads and vehicle headboard.
8. Remove 3 x **Load B** from the vehicle bed and stack vertically on top of one another. The stacking place must be at least 20 metres from the vehicle bed.
9. On completion of item 7, de-stack 3 x **Load B** and place alongside each other with no more than 75 mm clearance between each load.
10. Demonstrate undercutting by both lifting and placing a load.
11. Travel the forklift to a park position, shut down and secure.

**Note:** Item 10 may be incorporated with any of the lifting manoeuvres.

**TRAINED OPERATOR ACHIEVEMENT TEST MARKING FORM**

Candidate name: ..... Signature: .....

Registration No.: ..... Date/time of test : ..... /...../200 .....am/pm

Machine make and model: .....

**Section A: During the test did the candidate?**

Yes No

1. Carry out pre-start and running checks		
2. Clear any restrictions encountered whilst travelling and reversing		
3. Keep clear of all hazards whilst travelling		
4. Travel the forklift correctly on inclines in a loaded and unloaded state		
5. Restart correctly on inclines with no opposite movement from the intended direction		
6. Keep limbs or body inside the confines of the forklift when working		
7. Keep the forklift in a straight line during the specified reversing exercise		
8. Ensure all loads secure whilst on the forks and after placing		
9. Assess loads for weight and integrity prior to entry		
10. Place/remove the loads onto/from the vehicle bed using the appropriate sequence		
11. Ensure that loads/pallets etc., were not damaged whilst handling		
12. Space the forks to match the loads		
13. Keep within the safe working load of the forklift		
14. Apply the parking brake and select neutral prior to lifting or placing loads		
15. Carry out undercutting correctly		
16. Keep the machine stable at all times		
17. Correctly carry out shut-down and securing procedures		
18. Conform with legislation and manufacturers' instructions		
<b>To be successful in this section the candidate must achieve all the items</b>		

**Section B: During the test the candidate did not:**

No of faults Penalty Penalty points

1. Mount and dismount the forklift correctly		x2	
2. Wear the seat safety belt		x5	
3. Carry out full observation before moving the forklift		x3	
4. Maintain full observation when travelling the forklift		x3	
5. Carry out full observation before reversing the forklift		x6	
6. Use the appropriate gear ratios when travelling		x2	
7. Keep the forks or load clear of the ground when travelling		x3	
8. Keep the forks and loads low when travelling		x3	
9. Match the forklift travel speed to the ground type and conditions		x3	
10. Position the forklift correctly for lifting and placing loads		x3	
11. Enter and exit the loads cleanly with the forks		x2	
12. Ensure the loads were heeled at all times		x3	
13. Lower the load within 100 mm distance after removing from vehicle bed		x2	
14. Place the loads at the required position, within the specified tolerance		x3	
15. Use steering/braking/hydraulic/transmission controls smoothly and correctly		x3	
<b>To be successful in this section the candidate must not exceed 10 penalty points</b>	Total penalty points		



**TRAINED OPERATOR ACHIEVEMENT TEST**

<b>Section C: Knowledge test Rough Terrain Forklift/Masted Truck</b>		<b>Assessor's mark (Possible mark)</b>
<b>Part 1: Safety awareness associated with this category</b>		
<b>Q1.</b>	<b>List THREE visual observations the operator should make when travelling around the site.</b>	<b>(3 marks)</b>
A.	..... ..... .....	
<b>Q2.</b>	<b>List at least THREE of the documents you would expect to find on a serviceable, rough terrain forklift truck.</b>	<b>(3 marks)</b>
A.	..... ..... .....	
<b>Q3.</b>	<b>During operations, who is responsible for avoiding overhead hazards?</b>	<b>(1 mark)</b>
A.	.....	
<b>Part 2: The use of this category within construction</b>		
<b>Q4.</b>	<b>State TWO reasons why it is important that there is effective communication between different construction operatives.</b>	<b>(2 marks)</b>
A.	..... .....	
<b>Q5.</b>	<b>Give TWO examples of where the forklift's oil chart may be found.</b>	<b>(2 marks)</b>
A.	..... .....	

<b>Section C: Knowledge test Rough Terrain Forklift/Masted Truck</b>		<b>Assessor's mark (Possible mark)</b>
<b>Part 3: Operator knowledge</b>		
<b>Q6.</b>	<b>A forklift truck's rated capacity load is at 500mm centres. What effect would it have on the load if the load centre were lengthened?</b>	<b>(1 mark)</b>
A.	..... .....	
<b>Q7.</b>	<b>State THREE considerations when placing the first load on a rigid flat-bed lorry.</b>	<b>(3 marks)</b>
A.	..... ..... .....	
<b>Q8.</b>	<b>In what position and at what height should the forks be when travelling with a load?</b>	<b>(2 marks)</b>
A.	..... .....	
<b>Q9.</b>	<b>When travelling an unladen forklift truck up a steep gradient, in which direction should the truck be driven and why?</b>	<b>(2 marks)</b>
A.	..... .....	
<b>Q10.</b>	<b>Give at least TWO requirements when carrying a load on the forks, of where the load should be positioned.</b>	<b>(2 marks)</b>
A.	..... .....	
<b>Q11.</b>	<b>What effect does the fitting of an attachment have on a forklift truck's rating?</b>	<b>(1 mark)</b>
A.	..... .....	

<b>Section C: Knowledge test Rough Terrain Forklift/Masted Truck</b>		<b>Assessor's mark (Possible mark)</b>
<b>Q12.</b>	<b>What TWO precautions should be applied to the machine during the lifting and placing of a load?</b>	(2 marks)
A.	..... .....	
<b>Q13.</b>	<b>State at least TWO actions you could take if a large load obscures your view.</b>	(2 marks)
A.	..... ..... .....	
<b>Q14.</b>	<b>During operation, when is it permissible to use a slight forward tilt of the mast?</b>	(1 mark)
A.	.....	
<b>Q15.</b>	<b>List at least SIX considerations for loading and unloading a rough terrain forklift truck on and off a transporter.</b>	(6 marks)
A.	..... ..... ..... ..... ..... ..... ..... ..... .....	

<b>Section C: Knowledge test Rough Terrain Forklift/Masted Truck</b>		<b>Assessor's mark (Possible mark)</b>
<b>Q16.</b>	<b>With a rigid rough terrain forklift, when should you start to make the turn when negotiating a sharp corner?</b>	(1 mark)
A.	..... .....	
<b>Q17.</b>	<b>How should the forks be positioned when picking up a load?</b>	(1 mark)
A.	..... .....	
Total possible marks = 35      Pass marks = 28 <div style="text-align: right;"><b>Candidate total</b></div>		



