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**for Public Consultation**

**Code of Practice; Safe Use of Industrial Trucks**

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## Foreword

The Health and Safety Authority (the 'Authority'), with the consent of ?????? TD, Minister of State at the Department of Enterprise, Trade and Employment, and following public consultation, publishes this code of practice entitled *Code of Practice; Safe use of Industrial Trucks*, in accordance with Section 60 of the Safety, Health and Welfare at Work Act 2005 (the '2005 Act').

This code of practice provides practical guidance as to the observance of the provisions of the Safety, Health and Welfare at Work Act 2005 with regard to the use of industrial trucks in workplaces. It sets out the basic roles and responsibilities of those who have duties in relation to ensuring the safe operation of industrial trucks and the training of industrial truck operators. It supersedes and replaces the 2001 Code of Practice, *Code of Practice; Rider-operated lift trucks: operator training*, published under the Safety, Health and Welfare at Work Act, 1989.

This code of practice comes into operation on ??????.

Notice of the publication of this code of practice was published in Iris Oifigiúil of ??????.

On the use of codes of practice in criminal proceedings, Section 61 of the 2005 Act provides as follows:

61. (1) Where in proceedings for an offence under this Act relating to an alleged contravention of any requirement or prohibition imposed by or under a relevant statutory provision being a provision for which a code of practice had been published or approved by the Authority under Section 60 at the time of the alleged contravention, subsection (2) shall have effect with respect to that code of practice in relation to those proceedings.

(2) (a) Where a code of practice referred to in subsection (1) appears to the court to give practical guidance as to the observance of the requirement or prohibition alleged to have been contravened, the code of practice shall be admissible in evidence.

(b) Where it is proved that any act or omission of the defendant alleged to constitute the contravention—

(i) is a failure to observe a code of practice referred to in subsection (1), or

(ii) is a compliance with that code of practice, then such failure or compliance is admissible in evidence.

(3) A document bearing the seal of the Authority and purporting to be a code of practice or part of a code of practice published or approved of by the Authority under this section shall be admissible as evidence in any proceedings under this Act.

Signed:

# Contents

Foreword.....	2
1. Introduction .....	7
1.1 Scope of this Code of Practice .....	7
1.2 What the Law Requires .....	8
1.2.1 Risk Assessment for Industrial Truck Operations .....	9
1.2.2 Accident Reporting.....	10
1.3 The safe systems approach [in context of rider-operated industrial truck operations].....	10
2. Safe Industrial Truck driver/operator .....	10
2.1 Operator Selection .....	11
2.2 Authorisation of Operators .....	11
2.3 Reliable and Responsible Operators .....	11
2.4 Medical Fitness .....	12
2.5 Substance Abuse .....	12
2.6 Contractor Management .....	12
2.7 Training of Operators .....	12
2.7.1 Legislation specific to this Part.....	13
2.7.2 General Aspects of Training .....	14
2.7.3 Training for Self-employed Operators .....	14
2.7.4 Selection of people for Training.....	14
2.7.5 Key Elements of Training Programmes .....	15
2.7.6 Monitoring Performance of Operators.....	16
2.7.7 Refresher and Conversion Training.....	17
2.7.7.1 Refresher training .....	17
2.7.7.2 Conversion training.....	17
2.7.8 Training for New Risks.....	17
2.7.9 Training Records .....	18
2.7.10 Management of Training for Offsite Locations and Shared Workplaces.....	18
2.7.11 Trainer Selection .....	19
2.8 Specific requirements for the training of operators of rider-operated counterbalance and reach industrial trucks .....	19
2.8.1 Scope of this part .....	19
2.8.2 Obligation to provide training.....	19
2.8.3 Basic training.....	20
2.8.4 Function specific job training .....	21
2.8.5 Training on the job under supervision .....	21
2.8.6 Selection of instructors .....	22
2.8.7 Training area and facilities .....	22

2.8.8 Training structure and content .....	23
2.8.9 Operator Assessment.....	24
2.8.10 Records.....	24
2.8.11 Authorisation .....	24
2.8.12 Transitional arrangements.....	24
2.9 Instruction and training for people working in the vicinity of industrial trucks .....	24
2.10 Training for supervisors .....	25
3. Safe vehicle .....	26
3.1 Industrial Truck Selection.....	26
3.2 Industrial Truck Purpose .....	26
3.3 Seat Belts and Restraints .....	26
3.4 Protection from Falling Objects .....	27
3.5 Roll Over Protection.....	27
3.6 Safety Guards .....	27
3.7 Auxiliary Vision Aids and Warning Systems .....	27
3.8 Safe Entry and Exit .....	27
3.9 Service and Parking Brakes .....	27
3.10 Industrial Truck Authorisation and Ignition Control Procedure .....	27
3.11 Industrial Truck Specifications and Safety Features .....	28
3.12 Visibility.....	28
3.13 Basic Industrial Truck Pre-Use Safety Checks and Defects Management.....	28
3.13.1 Safety-critical features of the industrial truck .....	28
3.14 Preventive Maintenance Programme.....	29
3.15 Industrial Truck Repairs .....	29
3.16 Inspection and Testing of Lifting Equipment .....	29
3.17 Industrial truck power sources - refuelling and recharging.....	30
3.17.1 internal combustion powered industrial trucks .....	30
3.17.2 Electrically powered industrial trucks.....	30
3.18 Industrial truck load capacity.....	31
3.18.1 Lift truck capacity .....	31
3.18.2 Attachments.....	31
4. Safe workplace .....	32
4.1 Pedestrian and Industrial Truck segregation .....	32
4.2 Pedestrian Routes .....	32
4.2.1 Physical Barriers .....	32
4.2.2 Pedestrian Crossings .....	32
4.2.3 Visibility and hazard warning .....	32
4.3 Industrial truck routes.....	33

4.3.1 Direction on industrial truck routes.....	33
4.3.2 Suitable Routes .....	33
4.3.3 Suitable Surfaces.....	33
4.3.4 Maintenance .....	33
4.3.5 Sufficient Space.....	33
4.3.6 Height Clearance.....	33
4.3.7 Adequate Lighting.....	33
4.3.8 Obstruction Free .....	33
4.4 Signage and Safety Features.....	34
4.5 Vision Aids.....	34
4.6 Ventilation.....	34
4.7 Industrial trucks on loading platforms, bridges and trailers.....	34
4.7.1 Loading platforms .....	34
4.7.2 Trailers.....	34
4.8 Using industrial trucks on the public road.....	35
5. Safe Industrial Truck Operations.....	36
5.1 Parking .....	36
5.2 Lifting loads.....	36
5.3 Instability.....	37
5.4 Operating with Attachments .....	37
5.5 Operating using a banksman/signaller/assistant.....	38
5.6 Passengers.....	38
5.7 Operating around other pedestrian activity.....	38
5.8 Personal protective clothing.....	38
5.8.1 High-visibility clothing.....	39
5.8.2 Clothing for challenging conditions .....	39
5.9 Controlling Access for Visitors and Visiting Drivers .....	39
5.10 Use in Accordance with Procedures and Rules.....	39
Appendix 1 - Example of Employee’s Training Record .....	40
Appendix 2 – COMPONENT SPECIFICATIONS FOR COUNTERBALANCE FORKLIFT TRUCK SKILLS AND REACH FORKLIFT TRUCK SKILLS.....	41
Appendix 3 - COMPONENT SPECIFICATIONS FOR QQI NFQ LEVEL 6 SPECIAL PURPOSE SPECIFICATION FOR TRAINING AND DEVELOPMENT .....	53
Component Specifications for QQI NFQ Level 6 Award - Training Delivery and Evaluation (6N3326)	57
Component Specifications for QQI NFQ Level 6 Award - Training Needs Identification and Design (6N3325) .....	62
Annex I – Types of rider-operated industrial trucks (non exhaustive list).....	67

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# 1. Introduction

Industrial trucks are powered mobile plant designed to move goods, materials or equipment. They are equipped with an elevating load carriage and, usually, a load holding attachment. Forklift trucks are the most commonly used industrial lift truck. However, in recent years, the variety of industrial trucks has increased and includes ride-on forklifts, pedestrian operated trucks, straddle carriers and reach trucks as well as a number of pieces of plant which have been designed and customised to meet individual employer needs.

Industrial trucks are amongst the most hazardous vehicle types in the workplace, and the dangers associated with their use in the workplace are often underestimated. Employees working with or around them often become complacent because industrial trucks may be quiet, in frequent use and part of the work environment. However, incidents involving industrial trucks are usually serious and often fatal. Industrial trucks are very heavy, even when unloaded, and there is little protection for pedestrians.

In the ten-year period 2010-2019, there were 490 work-related deaths in the Republic of Ireland. Of these, 217 (44%) involved vehicles, of which loaders/telehandlers accounted for 20 (9%) and forklifts accounted for 13 (6%)<sup>1</sup>. reported.

An analysis of 11510 fatal and non-fatal incidents involving a vehicle or means of transport or handling equipment, reported to the Authority between 2013 and 2022, shows that 17.64% are associated with mobile handling devices, handling trucks – barrows, pallet trucks.

The most common types of incidents involving industrial trucks are:

- Person struck by a moving truck;
- Person struck by a load falling from the truck;
- Overturn of the truck;
- Fall from a height;
- Person/Operator trapped between the mast and overhead guard;
- Fire or explosion during refuelling / recharging.
- Structural damage caused by industrial trucks to warehouse racking.

Industrial trucks most commonly cause crush injuries to operators or pedestrians moving or working nearby. An adverse incident not involving personal injury may result in costly damage to trucks, structures, fittings and goods, thus having an adverse impact on the employer's business.

## 1.1 Scope of this Code of Practice

Employers, employees and other duty-holders have obligations under the Safety, Health and Welfare at Work Act 2005, the Safety, Health and Welfare at Work (General Application) Regulations, 2007, as amended, and associated Regulations. This Code of Practice is aimed at providing practical guidelines, based on a risk management framework and a safe systems approach, to help duty-holders to identify, assess and control the risks specific to the operation of rider-operated industrial trucks.

Its objective is to:

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<sup>1</sup> A Review of Work-Related Deaths Involving Vehicles in Ireland 2010–2019

- Set out the basic roles and responsibilities of those who have duties in relation to ensuring the safe operation of industrial trucks.
- Give practical guidance on how the safe operation of industrial trucks at workplaces can be achieved, in accordance with the various legislative requirements.
- Increase the awareness of the hazards associated with the operation of industrial trucks.
- Help in the assessment of risk arising from the operation of industrial trucks and the identification of appropriate control measures.
- Encourage consistent application of safe practices.
- Provide a basis upon which safety training programmes can be developed and implemented.

For the purposes of this Code of Practice, the definition for industrial trucks from the International Standard, ISO 5053-1, Industrial trucks — Terminology and classification — Part 1, is adopted.

*Industrial trucks are wheeled vehicles having at least three wheels with a powered or non-powered driving mechanism — except those running on rails — which are designed either to carry, tow, push, lift, stack or tier in racks any kind of load, and which are controlled either by an operator or by driverless automation.*

Descriptions of rider-operated industrial truck types, extracted from this Standard, are included in Annex I.

This Code of Practice is intended to be used by the following stakeholders:

- Operators of industrial trucks
- Supervisors, managers and those in control of places of work where rider-operated industrial trucks are used
- Organisations providing training for operators of industrial trucks
- Businesses who hire or lease industrial trucks to others
- Safety representatives and trade union representatives
- Employers assessing competency and training needs when employing industrial truck operators.

You should be familiar with and use this Code of Practice if you own, hire, lease, handle, operate, store, transport, maintain or manage the use of a rider-operated industrial lift truck in the workplace.

## 1.2 What the Law Requires

The Safety, Health and Welfare at Work Act 2005 (No. 10 of 2005) applies to employers and employees in all employments and to the self-employed. The Act contains provisions for securing and improving the safety, health and welfare for all workers and those who may be affected by work activities. It sets out the requirements for the management of safety and health at work and the systems of work necessary to achieve this. It covers the responsibilities and roles of employers, the self-employed, employees and others.

The general duties of the employer cover, among other things,

- the management and conduct of work activities,
- the design, provision and maintenance of
  - (i) safe workplaces
  - (ii) safe means of access to and egress from the workplace and
  - (iii) safe plant and machinery,



- providing safe systems of work,
- provision of adequate instruction, training and supervision and any necessary information, and
- preparing risk assessments and safety statements.

Under the Act, a vehicle is a place of work. This means that industrial trucks being used for work must be fit for purpose, maintained in safe condition, and used safely. Employers must make sure that operators are familiar with the industrial truck they are driving and that they have been given appropriate instruction, information, and training to use the vehicle in the correct and safe manner, and in accordance with the manufacturer's instructions. Employees should never be required to operate under conditions that are unsafe or that do not comply with the law. Employees also have legal duties to use work equipment in a safe manner in line with procedures developed by their employer.

The Safety Health and Welfare at Work (General Application) Regulations, 2007 apply to all workplaces, and sets out more specific provisions on the workplace relating to the use of work equipment.

### 1.2.1 Risk Assessment for Industrial Truck Operations

Under Sections 19 and 20 of the Safety, Health, and Welfare at Work Act 2005 an employer is required to have a safety statement and a written risk assessment for all hazards in the place of work under his or her control. The risk assessment should be available for inspection at the workplace while work is being conducted and should be brought to the attention of employees and other persons who may be exposed to the risk in a manner and language that is likely to be understood.

As the use of industrial trucks in the workplace involve serious risk to safety a risk assessment is specifically required for this activity. An employer shall take all reasonable steps to implement the most recent risk assessment at a place of work and to implement any improvements considered necessary to ensure the safety, health, and welfare at work of employees and others who may be affected by the work activity. An employer should review the risk assessment where there are significant changes, such as those referred to in Part 2.7.7.

The risk assessment for use of industrial trucks in the workplace should contain, as a minimum, the following information:

- Description of all work activities that involve the use of industrial trucks
- Description of all industrial trucks used in the workplace
- Identification of risks associated with these activities
- Identification of those who could be harmed and how
- Risk assessment including the degree of harm that might occur
- Protective and preventive measures to control the risks
- Arrangements for selection and training of operators
- Arrangements for selection, maintenance and certification of industrial trucks
- Arrangements for segregating industrial trucks from pedestrians
- Arrangements for supervision of industrial truck operations
- Plans and procedures to be taken in the event of an emergency or serious/imminent danger
- Names and job titles of each person responsible for operating industrial trucks at the workplace and the specific truck, the activities they can perform and the industrial truck they are authorised to operate

- Names and job titles of those responsible for supervision of industrial truck operation
- Names and job titles of those responsible for implementing the risk assessment

### 1.2.2 Accident Reporting

Employers and the self-employed are required to report certain workplace accidents and dangerous occurrences to the Health and Safety Authority (HSA):

- Accidents, where an employee or self-employed person is injured at a place of work and cannot perform their normal work for more than 3 consecutive days, not including the day of the accident, are reportable.
- Road traffic accidents involving employees and the self-employed are reportable if the person was injured while driving or riding in the vehicle in the course of work and cannot perform their normal work for more than 3 consecutive days, not including the day of the accident.
- Accidents related to a place of work or a work activity where a member of the public requires treatment from a medical practitioner are reportable.
- Road traffic accidents involving members of the public are only notifiable if they relate to vehicle loads or to the construction or maintenance of roads or structures adjacent to roads.
- In the case of an accident involving an employee at work, the employer is responsible for reporting the accident. If the injured person is self-employed or a member of the public, the person responsible for reporting the accident is the person having control of the place of work at which the accident occurred, including persons providing training (in the case of death or injury of a person receiving training for employment). If a self-employed person is fatally injured, the person who is the owner or tenant in the place of work is responsible for reporting the accident. If the fatally injured person is the tenant or owner of the place of work, the next of kin has responsibility for reporting the accident.

In the event of a road traffic accident where a person is injured, An Garda Síochána should be notified.

## 1.3 The safe systems approach [in context of rider-operated industrial truck operations]

The Safe System approach emphasises the need to focus on all elements of industrial truck operations to successfully improve safety. The Safe System approach recognises that safety education and training alone cannot eliminate adverse incidents in the use of industrial trucks, and focus must also be placed on the safety arrangements and the behaviour of all persons in the workplace.

The four areas of intervention of the Safe System approach are:

1. Safe operators
2. Safe vehicle
3. Safe workplace, and
4. Safe operations.

## 2. Safe Industrial Truck driver/operator

There is more to operating an industrial truck than just driving it. Some tasks or activities such as order picking, lifting, loading, unloading, and working with specialist attachments require additional specialist skills.

Employers must ensure that industrial trucks are only operated by operators who are appropriately trained and competent to operate industrial trucks within a workplace in a safe manner. This includes:

- controlling access to industrial trucks
- appropriate operator selection and authorisation
- the provision of instruction, information and training , and
- adequate supervision

People under 18 years are not permitted to operate industrial trucks or give signals to the operator of such equipment.

The operator of an industrial truck has a legal duty, while at work, to take reasonable care to protect his or her safety, health and welfare and the safety, health and welfare of any other person who may be affected by their acts or omissions at work. Operators of industrial trucks should operate the vehicle at all times in the manner in which they have been trained. Failure to do so may result in an adverse incident occurring.

## 2.1 Operator Selection

Employers **must satisfy** themselves that an operator is **competent** to operate an industrial truck before allowing them to do so, taking account of the work to be done, the loads to be lifted and the work environment. Employers must have a system for assessing competence and recording this process.

An operator selection and vetting system should be in place to check that operators have the relevant knowledge, skills, qualifications, and experience. Experience should include experience in a similar role or conducting tasks similar to the intended tasks. This should include a driving licence for driving on the public road (where appropriate). There are specific training requirements for counterbalance and reach industrial trucks (see Part 2.8). Independent checks should be carried out to verify that information provided by potential operators is valid. Verification checks may include careful review of certificates and other documents as well as reference to licensing authorities, training providers, accreditation bodies, and/or a previous employer.

If an employer is in any doubt about the competence of the person they are asking to operate an industrial truck, they should default to a safe approach of providing comprehensive training before the person is asked to operate the truck.

## 2.2 Authorisation of Operators

Only authorised operators with the relevant training (see Parts 2.7 and 2.8) should be allowed to drive and operate industrial trucks in the workplace. Operators should be authorised in writing. Authorisation should be specific and limited to those industrial trucks which the operator has been trained to use. Authorisation should also be site specific.

## 2.3 Reliable and Responsible Operators

Operators must have a mature and responsible attitude towards performing assigned tasks safely and meeting their responsibilities. Supervisory procedures should be in place to ensure that operators continue to carry out their tasks in a safe manner. Any deviations from safe operation should be addressed and eliminated.

## **2.4 Medical Fitness**

Medical fitness should be considered for each individual operator.

## **2.5 Substance Abuse**

Managers and supervisors should never allow anyone who is unfit through alcohol, prescribed drugs, or other substances, to operate an industrial truck.

## **2.6 Contractor Management**

Measures should be taken to ensure that industrial truck operators who are contractors carry out their duties responsibly and safely. Procedures are required to ensure that contracted operators are vetted, trained and authorised, and made aware of rules regarding industrial truck operation on the premises.

## **2.7 Training of Operators**

Employers have a duty under occupational safety and health legislation to provide training to operators of all types of industrial trucks and the attachments they need for the jobs they do. Employers are required, under the Act, to provide information, instruction, and supervision to employees in a form and language that is likely to be understood by the employee.

This Code of Practice advises on training of industrial truck operators. To comply with their duties under the Safety, Health and Welfare at Work Act, 2005 and the Safety, Health and Welfare at Work (General Application) Regulations, 2007, as amended, employers must ensure that all operators they employ, both new and existing, are adequately trained and they must, when necessary, provide for additional or refresher assessment and training. Supervisors must also receive appropriate training.

Generally, the legislation requires that a person shall not work, nor be required to work, on, at or with any kind of work equipment unless they have been fully instructed as to the dangers arising in connection with that work and the precautions to be observed and has received sufficient training in using the equipment.

Training should be provided as a minimum:

- (a) on recruitment
- (b) on transferring an employee to new tasks
- (c) on the introduction of new work equipment or changes in the system of work
- (d) on the introduction of new technology

Training in the use of industrial trucks is particularly important because of the high risk of serious incidents. Specific requirements for the training of operators of certain (traditional) types of industrial trucks, i.e., rider-operated counterbalance and reach industrial trucks, is covered in Part 2.8 of this Code of Practice. However, an equivalent model of training in terms of content and

structure, duration, and tutor/trainee ratios should be provided for operators of all industrial truck types.

In general, training for any type of industrial truck operator should include information and/or instructions on:

- the reasons for training and the risks associated with industrial truck usage
- details of roles and responsibilities
- vehicle familiarisation training including the operating principles and controls of the industrial truck
- use of any handling attachments to be used in the workplace
- the specific work to be undertaken at own or other workplaces, e.g., loading and unloading particular kinds of vehicle; handling loads and materials of the kind normally found at that workplace, including assessment of weight, loading and unloading onto racking systems
- use of the truck in conditions that the operator may routinely meet at work including gangways, loading bays and platforms, mezzanine areas, racking, lifts, automatic doors, slopes, rough terrain,
- instruction in workplace site rules, e.g., site layout; industrial truck operating zones, one-way systems; speed limits
- safe work practices and safe systems of work, which should include safekeeping arrangements to ensure that keys/electronic fobs are never left in unattended trucks
- particular hazards including high-risk work activities such as working near excavations, overhead lines or use of the truck in bad weather conditions
- industrial truck stability
- routine inspection and maintenance in accordance with the manufacturer's handbook
- pre-use checks
- use of operator restraint systems
- operator responsibilities to themselves and others, taking care of their own health and safety, co-operating with employers, and other legal duties
- use of protective clothing, eye and ear protection
- details of how and where and to whom defects or hazards are to be reported
- details of the procedure for reporting accidents and near misses, and
- general emergency procedures.

### 2.7.1 Legislation specific to this Part

Section 8 of the Safety, Health and Welfare at Work Act, 2005 includes the following provision:

8(1) Every employer shall ensure, so far as is reasonably practicable, the safety, health and welfare at work of his or her employees.

The matters to which the duty in Section 8(1) extends include in particular:

under section 8(2)(g), providing the information, instruction, training and supervision necessary to ensure, so far as is reasonably practicable, the safety, health, and welfare at work of his or her employees.

Particular attention must also be given to the requirements for instruction, training and supervision in Section 10 of the Safety, Health and Welfare at Work Act, 2005 and

Regulations 28 and 29 of the Safety, Health and Welfare at Work (General Application) Regulations, 2007.

### 2.7.2 General Aspects of Training

For the purpose of this document an operator is anyone who operates an industrial truck, even as a secondary or occasional part of their job, and is not limited to people specifically designated as industrial truck operators.

Employers are responsible for ensuring that adequate training is provided for their employees. Employers should satisfy themselves that any training given covers all aspects of the work to be undertaken and takes full account of this document.

The employer's duty under occupational safety and health legislation to provide training extends to operators of all types of industrial truck. **The advice given in Part 2.8 of this Code can be used as the benchmark for training to be provided for all types of industrial truck operators.** This can be of help not only to employers, but also to organisations offering training for operators and instructors, and to industrial truck suppliers.

Safety representatives selected or appointed in accordance with the Section 25 of the Safety, Health and Welfare at Work Act, 2005, may be consulted about the training arrangements for industrial truck operators. If there are no appointed safety representatives, employers will need to consult with all their employees either through an agreed Safety Committee or directly in accordance with Section 25 or Section 26 of the Act. Safety representatives and employees can play an important role in encouraging the safe operation of industrial trucks.

Employees also have responsibilities with regard to training. Section 13 of the Safety, Health and Welfare at Work Act, 2005, requires them to take reasonable care for their own health and safety and that of other people who may be affected by the employee's acts or omissions at work. They must cooperate with their employers to assist them in complying with their statutory duties and attend training and undergo such assessment as may reasonably be required by his or her employer. Once trained, they should apply their increased knowledge and competence to ensure they operate their industrial truck in a safe manner at all times.

### 2.7.3 Training for Self-employed Operators

Self-employed industrial truck operators have responsibilities under Section 7 of the Safety, Health and Welfare at Work Act, 2005, to ensure they undergo the same type of training, achieving the same level of competence as employers are required to provide for their employees.

### 2.7.4 Selection of people for Training

Employers should select potential industrial truck operators carefully. Those selected for training need to have the ability to do the job in a responsible manner and the potential to become competent operators. They should have the necessary level of physical and mental fitness and learning ability for the task. Regulation 51 (b) of the General Application Regulations (S.I. 299 of 2007) requires an employer to ensure that no person under 18 years

of age is employed to give signals to the operator of lifting equipment driven by mechanical power or to operate any such equipment.

Where a potential employee presents themselves as having training and sufficient operating experience already, employers should satisfy themselves that this is the case. They should look for documentary evidence of the training award, and satisfy themselves that the training, experience and ability is in fact sufficient for the industrial trucks and handling attachments in question to be operated safely in the working environment concerned.

Where evidence of prior training is not available or reliable, employers will need to provide training before allowing the employee to operate an industrial truck.

### 2.7.5 Key Elements of Training Programmes

The principles set out in the learning outcomes of the counterbalance and reach industrial truck operator programmes in Appendix 2 can be adapted and applied in training programmes for other types of industrial truck training programmes. In some cases, for instance, on pedestrian/rider-operated pallet trucks, the training programme may follow a similar approach. In other cases, such as straddle carriers, a very different training programme will be needed. There are other specific legislative requirements for training of industrial truck operators, for example, telescopic handler operators under the Construction Skills Certification Scheme (CSCS) or the Quarry Skills certification Scheme (QSCS), and, similarly, these courses can be adapted for the training of operators of such industrial trucks in workplaces other than in construction or quarrying.

Training organisations involved in industrial truck training and the equipment manufacturer should be able to advise on suitable training. However, employers have the ultimate responsibility for ensuring that operators are adequately trained. Employers should take account of the advice on instructor selection contained in this document when choosing a training course and provider, to ensure that the provider has the relevant competence and experience and that the course content and duration is sufficient to achieve the desired learning outcomes.

Training programmes should include training for all work activities that an operator will be required to perform in the course of his/her work and for reasonably foreseeable situations that may arise in the workplace.

Length of training may vary depending on the objectives to be covered, the trainee/instructor ratio, and the ability and previous experience of the trainees. **The normal length of a course for novice operators would be 32.5 hours** (based on an assumption of 6.5 hours per working day). In certain circumstances, the length of a training course may be reduced to 3 or 4 days but, in these circumstances, the reduction should be justified in writing by the training provider taking full account of each operator's previous experience, the industrial truck they will be operating and the load types they will be lifting in the workplace. In all cases the time devoted to training needs to be sufficient to ensure that the basic training objectives and assessments of operator skills and learning outcomes can be achieved.

The ratio of trainees to instructors to trucks should enable the instructor to demonstrate each part of the practical training and each trainee to obtain adequate hands-on experience while also having an opportunity to learn from the performance of other trainees who may be in attendance. There should be adequate time for each trainee to practise operating the truck under close supervision and to prepare for the practical assessments of the learning

outcomes. **The desirable trainee:instructor:truck ratio is 2:1:1**, but in any case, the ratio should not exceed 3:1:1 except for lecture or theory sessions.

Operators with some experience of industrial trucks may need less extensive training than those with no experience of industrial trucks. However, the value of such experience should not be overestimated. The ability to drive private cars, agricultural machinery or other conventional road vehicles should not result in any reduction of the training time nor the need for proper assessment on industrial trucks, as these have very different stability and handling characteristics as well as different controls.

An operator with training on one type of industrial truck or handling attachment cannot safely operate others, for which they have not been trained, without additional, conversion training.

Once fully trained, operators should also be given the opportunity to put the skills and knowledge learnt during training into practice at their workplace to support that training. Newly acquired skills can quickly be lost if not used.

Best practice is to train an operator on one industrial truck model and allow them to develop competence and practical experience in operating this industrial truck before providing training in another model. The standard 32.5 hour course referred to above is required for training on one model of industrial truck.

It may be necessary to test the trainee on site in the workplace to verify learning.

### 2.7.6 Monitoring Performance of Operators

The provision of training does not remove the employer's responsibility to ensure that operators are fully competent to operate industrial trucks within their specific workplace and the requirement to have adequate supervision in place to ensure the operator is operating safely and in accordance with workplace protocols and systems of work.

There is no specific requirement to provide refresher training after set intervals, but even trained and experienced industrial truck operators need to be re-assessed from time to time to ensure that they continue to operate industrial trucks safely. This assessment should form part of an employer's normal monitoring procedures and be formally timetabled to ensure that it is done at reasonable intervals. This will provide evidence and indicate whether any further training is needed. The person carrying out this assessment should be competent to do so.

In addition to routine safety monitoring, re-assessment might be appropriate where operators:

- have not used trucks for some time,
- return to work after an extended absence,
- are occasional users,
- appear to have developed unsafe working practices,
- have had an accident or near miss, or
- experience a change in their working practices or environment.

Employers may find it useful to record re-assessment in their safety monitoring records. Employers can decide that automatic re-assessment after a set period of time is the best way of making sure that employees are operating safely but, where this approach is adopted, it will still be necessary to monitor performance in case retraining is required before the set period ends. The guiding principle is that the possession of a training



certificate alone does not ensure the safe operation of industrial trucks, and employers need to maintain the competence of the operator through a laid down, formal process of monitoring and assessment.

Training will not in itself ensure the competence of individuals: this will develop with experience and should be monitored. Continued supervision will be necessary to ensure that good standards of operation are maintained.

## 2.7.7 Refresher and Conversion Training

### 2.7.7.1 Refresher training

Refresher training is necessary for a number of reasons. People lose skills, if not using them regularly. It is important to maintain good driving habits. Refresher training facilitates re-assessment of a driver or employee's skills, and new skills can be learned during training. The frequency of assessing the need for refresher training should be considered as part of any safety management system, and there should be a schedule of assessments for refresher training in place.

### 2.7.7.2 Conversion training

Conversion training, to allow operators to extend the range of industrial trucks they are qualified to operate, is widely available and should be provided when an operator is required to operate a different type of industrial truck to what they were trained on. For example:

- there may be significant variations in configuration or application of controls, even in the same truck types, or
- an operator may be required to operate a significantly larger or more powerful industrial truck, or
- they may be required to operate a completely different type of truck, such as a narrow aisle man-up stacking truck or a side loader, or
- they may be required to operate on a different site or in a different environment.

Refresher and conversion training should be approached with the same attention to detail as basic training to ensure that all gaps in existing skills and knowledge are identified and covered during training.

## 2.7.8 Training for New Risks

If new risks arise in relation to the operation of an industrial truck, safety training should be provided **before** an operator is exposed to those risks. These risks include:

- changes to work processes,
- new model of industrial truck introduced to the workplace,
- modifications to a vehicle,
- use of new attachments,
- introduction of new products that need to be handled
- abnormal or awkward loads, or
- alterations to the working environment/site.

## 2.7.9 Training Records

Training records should be kept for each employee. For industrial truck training, this should include:

- dates and duration(in hours) of training each course, course content, training schedule and training ratio
- trainer and assessor details
- details on the elements of the training course i.e., basic training, job-specific training, training under supervision
- records of operator assessment
- details of the industrial truck on which the training was completed,
- details of further planned/required training.
- details of refresher or conversion training completed.

An example of a Training Record template is provided in Appendix 1. This template may be adapted in other formats to suit specific course requirements.

## 2.7.10 Management of Training for Offsite Locations and Shared Workplaces

Employers should ensure that employees who use industrial trucks on other employers' workplaces are fully trained to do so. Suitable arrangements should be in place to enable the persons in control of such workplaces to satisfy themselves on the operator's competence, before allowing use of the industrial trucks. Such visitors might be delivery drivers or maintenance or inspection personnel.

Section 21 of the Safety, Health and Welfare at Work Act, 2005, requires employers who share a place of work to co-operate in complying with and implementing health and safety provisions. They must coordinate their preventive activities and keep each other and their respective employees, and safety representatives (if any), informed about the risks to safety, health and welfare arising from the work, including the exchange of safety statements or relevant extracts of them relating to hazards and risks to employees. Suitable arrangements could include the provision of documentation on an individual basis or written assurance that all their employees who will visit the site and be expected to operate industrial trucks are trained and competent to do so. Visiting personnel will also need site specific information, which could be provided by clear signs or, where risk assessment indicates the need, site vehicle and third-party rules, to enable them to work safely. A useful precaution might be to clearly limit access to areas where people who are not familiar with the premises can operate. It is highly unlikely that visiting drivers will have undergone training which would enable them to safely use industrial trucks provided by occupiers of work-sites. Drivers with their own industrial trucks or regular contractors' operators who frequently visit the same sites may be satisfactorily trained and have sufficient site knowledge to operate safely.

Employers who do not control workplaces where their employees may operate industrial trucks need to co-operate with the persons who do control them to ensure that only people trained as described in the Code of Practice are allowed to operate industrial trucks. Such co-operation is particularly important on multi-occupied sites, such as business parks and markets where industrial trucks may be shared. The responsibility of those who control

work-sites to ensure that the workplace is safe does not lessen the employer's duty to ensure that their own employees are adequately trained.

#### 2.7.11 Trainer Selection

Training of operators should be provided by suitably competent individuals or organisations. When choosing a training provider, careful consideration should be given to the qualifications, knowledge, skills and experience of the instructor/s. Consideration should also be given to the duration of the course, the competencies covered, the time spent on practical activities and coverage of the work activities that the operator will be required to perform in the workplace etc.

## 2.8 Specific requirements for the training of operators of rider-operated counterbalance and reach industrial trucks

### 2.8.1 Scope of this part

The specific requirements in this part of the Code cover the training requirements of rider-operated counterbalance and reach industrial trucks, including articulated steering truck types. "Rider-operated" means any industrial truck capable of carrying an operator and includes trucks controlled from both seated and stand-on positions, which may be fixed or foldaway. These specific requirements have arisen because accredited courses have been developed previously for these traditional types of industrial trucks. The requirements in this part of the code do not apply directly to training of operators of other types of industrial trucks, but should be used as a benchmark for such training.

### 2.8.2 Obligation to provide training

Employers should never allow anyone to operate industrial trucks within the scope of this part of the Code, unless they have satisfactorily completed training and assessment as described in this Part, except for those undergoing such on-the-job training under adequate supervision.

The training of counterbalance and reach industrial truck operators may be broken down into three stages:

**Basic training** – the basic skills and knowledge required for safe operation;

**Function specific job training** – knowledge of workplace operations and any special requirements and handling attachments;

**Training on the job under supervision** – operation on the job under close supervision.

These stages can be taken separately, or they may be combined or integrated, particularly where training is carried out on an employer's premises. In either case, it is essential that each stage be covered fully, with due regard to the experience, if any, of the trainees and the type or types of industrial truck which they will be expected to operate. The first two stages can be combined or integrated, but need to be carried out off the job, i.e., sheltered from production and other pressures and in advance of the third stage. The third stage

needs to be carried out on the job, but under close supervision. In the case of basic training, it must be at least to the standard set out in Appendix 2 of this Code of Practice.

### 2.8.3 Basic training

Basic training needs to cover the skills and knowledge required for the safe operation of the type of industrial truck and handling attachments (if any) which the trainee will be required to operate, including the risks arising from industrial truck operation. Such risks would include not only those directly related to the operation of trucks, but associated tasks, such as pre-use checks or the fire hazard created by possible production of hydrogen when recharging batteries. Appendix 2 lists learning outcomes.

Length of training may vary depending on the objectives to be covered, the trainee/instructor ratio and the ability and previous experience of the trainees. **The normal length of a course for novice operators would be 32.5 hours.** In all cases the time devoted to training needs to be sufficient to ensure that the basic training objectives and assessments of operator skills and learning outcomes can be achieved. Typically, all courses will be between 3 – 5 days.

Operators with some experience of industrial trucks may need less extensive training than those with no experience of industrial trucks. However, the value of such experience should not be overestimated. The ability to drive private cars, agricultural machinery or other conventional road vehicles should not result in any reduction of the training time nor the need for proper assessment on industrial trucks, as these have very different stability and handling characteristics as well as different controls. An operator with training on one type of industrial truck or handling attachment cannot safely operate others, for which they have not been trained, without additional, conversion training.

In certain circumstances, the length of a training course may be reduced to 3 or 4 days but, in these circumstances, the reduction must be justified in writing by the training provider taking full account of each operator's previous experience, the industrial truck they will be operating and the load types they will be lifting in the workplace. In all cases the time devoted to training needs to be sufficient to ensure that the basic training objectives and assessments of operator skills and learning outcomes can be achieved.

Given the wide range of industrial trucks, operator experience and company requirements, some training organisations will arrange for a course to be tailored to meet a client's requirements. The course described in Appendix 2 can be adapted for this purpose, provided always that the appropriate training objectives and learning outcomes are achieved. In this situation any certification issued should be clearly endorsed and the record of training accurately completed to reflect the content of actual training delivered (including learning outcomes achieved). Appendix 2 lists learning outcomes which need to be assessed.

The ratio of trainees to instructors to trucks should enable the instructor to demonstrate each part of the practical training and each trainee to obtain adequate hands-on experience while also having an opportunity to learn from the performance of other trainees who may be in attendance. There should be adequate time for each trainee to practise operating the truck under close supervision and to prepare for the practical assessments of the learning outcomes. **The desirable trainee:instructor:truck ratio is 2:1:1,** but in any case, the ratio should not exceed 3:1:1 except for lecture or theory sessions.

It is essential that newly trained operators be given function-specific job training as well as training under supervision as described below. Once fully trained, operators should also be given the opportunity to put the skills and knowledge learnt during training into practice at their workplace to support that training. Newly acquired skills can quickly be lost if not used.

#### 2.8.4 Function specific job training

Function specific job training is an essential element of training and will normally be done by the same trainer who provides the basic training. It will normally follow the completion of basic training but may be combined or integrated with it. The trainee: instructor: truck ratio for basic training also applies to specific job training.

This training will be tailored to the employer's special needs and include, where appropriate:

- a) Instruction on the operating principles and controls of the industrial truck to be used in the workplace, including handling attachments;
- b) Routine inspection, pre use checks and servicing of the industrial truck in keeping with the operator's handbook or instructions issued by the manufacturer need to be covered, in so far as they may reasonably be carried out by the operator.  
(a) and (b) should be repeated whenever the design of industrial truck is changed;
- c) use of the industrial truck in conditions that the operator will routinely meet at work, e.g., gangways; loading bays; racking; lifts; automatic doors; confined areas; cold stores; slopes; rough terrain; loading platforms; and bad weather conditions;
- d) instruction in site rules, e.g., site layout; industrial truck operating zones, one-way systems; speed limits; general emergency procedures; use of protective clothing and devices including operator restraints and eye and hearing protection; work near excavations, overhead lines and other hazards;
- e) training in the specific work to be undertaken at own or other workplaces, e.g., loading particular kinds of vehicle; handling loads and materials of the kind normally found at that workplace, including assessment of weight; and
- f) safe systems of work to ensure that the use of trucks by unauthorised operators is prevented. This should include arrangements to ensure that keys/electronic fobs are never left in unattended trucks, or in a place where they are freely available, and PIN numbers (where relevant) should be suitably protected.

#### 2.8.5 Training on the job under supervision

This is the third element of training. It needs to be carried out on the job and under close supervision, by someone with appropriate knowledge, possibly the trainee's usual supervisor. It should cover the application, under normal working conditions, of the skills already learned and include familiarisation with the assigned industrial truck and its controls, site layout, local emergency procedures and any other particular feature of the work that is not practicable to teach off the job. In very exceptional circumstances, such as use of industrial trucks by the emergency services at the scene of an accident or fire, where it is clearly not feasible to train on-site, realistic simulated training may be provided.

New employees or employees operating at a new site, who are already the holders of a certificate of training, should satisfactorily complete this element of training before being allowed to operate an industrial truck unsupervised.

The employer should record the satisfactory completion of this element of training in the employee's training record, such as the example in Appendix 1.

### 2.8.6 Selection of instructors

When arranging for training, employers should satisfy themselves that it is in accordance with this Code. Operator training should only be carried out by instructors who have themselves undergone appropriate training in instructional techniques and skills assessment. The instructor should be the holder of a QQI NFQ Level 6 Special Purpose Specification for Training and Development (QQI ref: 6S3372). The component specifications for this award are detailed in Appendix 3. This QQI accredited “Train the Trainer” award consists of two main modules; Training Needs Identification and Design and Training Delivery and Evaluation. It aims to develop an understanding of the methodologies and processes available to approach training delivery and evaluation. An instructor who has earned this award is equipped with the knowledge, skill and competence required to design, develop and deliver effective training sessions and implement apply best practice in assessment.

Successful training depends on the competence of instructors. Instructors should give instruction only on the types of industrial truck and attachments for which they themselves have been trained and successfully assessed as operators. They also need sufficient industrial experience to enable them to put their instruction in context and an adequate knowledge of the working environment in which the trainee will be expected to operate.

When arranging training, an employer must be satisfied that the instructors delivering the course are competent to do so. They should be asked to supply evidence of their training and post training experience on the type of industrial truck to be used, both as instructor and operator, and their knowledge of and familiarity with conditions in the industry where trainees will work. This will include expertise in any requirements particular to the operation of the truck(s) and in the work trainees will be expected to undertake.

Since training is largely accomplished through demonstration followed by supervised practice, it is essential that each demonstration by the instructor is a model, free from technical errors and misjudgements. Instructors must also be able to make effective use of instructional techniques in both the working and classroom environment.

Good instructors should:

- a) have the ability to identify the needs of different trainees and adapt their approach to suit;
- b) be able to communicate effectively;
- c) be able to lead and control; and
- d) keep their own training and experience as instructors up to date, especially if not training regularly.

Instructors need to have their skills re-assessed periodically as appropriate. Such reassessment is particularly important if instructors have not done any training for some time.

### 2.8.7 Training area and facilities

Basic training may be given at a suitable training centre or venue, or on an employer’s premises. Where practicable, training areas should be sheltered from adverse weather conditions.

Basic training needs to be carried out off the job. Even when conducted on an employer’s premises this means that the instructor and trainees, together with the industrial truck and loads, should be wholly concerned with training, kept away from normal commercial

operations, and not be diverted to other activities while training is in progress. Industrial trucks used for training must be in good mechanical condition, properly maintained (taking into account manufacturers' recommendations), conform to all legal requirements and be suitable for the particular uses to which they will be put. In particular the industrial truck must have a valid report of thorough examination in accordance with Regulation 53 of the Safety, Health and Welfare at Work (General Application) Regulations 2007.

A suitable manoeuvring area should be provided and appropriately marked. While training is in progress access to this area should be restricted to the instructor and trainees. The area will need to include facilities for simulating the manoeuvring space likely to be encountered in the workplace, including slopes. For rough terrain trucks an appropriate surface and obstacles representative of the conditions for which training is being provided is necessary.

A supply of loads appropriate to the training being given, such as loaded and unloaded pallets, bags, sacks, bales, drums, bulk materials and freight containers is necessary to make training realistic. Similarly, there should be appropriate facilities for simulating loading and unloading from racking at various heights as well as loading and unloading of road vehicles.

A training room or other suitable accommodation, together with appropriate training aids should be made available to enable the instructor to cover, under reasonable conditions, the principles of industrial truck operation.

#### 2.8.8 Training structure and content

Training should be of sufficient length to enable trainees to acquire the basic skills and knowledge required for safe operation, including knowledge of the risks arising from industrial truck operations. It should not be altered to suit immediate operational or production needs. Appropriate assessments must be undertaken to ensure that the trainee industrial truck operator has achieved the skills required to safely operate the industrial truck.

Training should follow a carefully devised programme which ensures that each stage is introduced in an appropriate sequence, building on what has gone before, and allowing adequate time for learning and practice before moving on to the next stage. The easier driving skills should be dealt with before progressing to more difficult operations such as pallet or other load handling. At each stage the instructor will need to explain and demonstrate safe operation, which should then be practised by the trainees under direct supervision.

Basic training should be given on all the types of applicable industrial truck and attachments that operators will or could be required to use in their work. If the operator is subsequently required to operate another type of industrial truck, or there is a change of handling attachment, additional conversion training will be required. Employers should also consider the need for conversion training where the truck type does not change, but the nature, size and/or weight of the load alters significantly.

The course content will depend upon the industrial truck operations the trainee will be expected to carry out. Component specifications for Counterbalance and Reach forklift truck skills courses are detailed in Appendix 2 and form the basis of a training course. Some elements of training may need to be tailored to fit all the industrial truck operations to be undertaken by the operator.

### 2.8.9 Operator Assessment

The instructor should assess a trainee's progress continuously to ensure that the required standards are achieved at each stage of basic training. Additionally, trainees are required to pass an assessment or assessments, practical and theoretical, of the learning outcomes and the skills and knowledge needed for safe operation. The course details in Appendix 2 lists learning outcomes which need to be assessed.

### 2.8.10 Records

Employers need to keep a record for each employee who has satisfactorily completed any stage of industrial truck training and assessment in accordance with this Code.

The record will need to include sufficient information to identify the employee and the nature of training completed. An example of an employee's training record is given in Appendix 1. The record should include a copy, or details, of any certificate which is issued.

The employee will need a certificate as evidence of training on a change of employment. It is in the interests of both employers and employees for employees to have the original certificate to limit the opportunities for forgery which photocopies present. The training provider should maintain records of persons trained, and be able to verify provision of training.

### 2.8.11 Authorisation

Following satisfactory completion of training, the employer should provide the employee with written authorisation to operate the type or types of industrial truck for which all three elements of training have been successfully completed.

Authorisations may be issued on an individual basis and/or recorded centrally by the employer. Authorisations should state the operator's name, the date of authorisation, the truck or trucks to which they relate and any special conditions, such as area limitations. Employers should not allow personnel to operate industrial trucks on any premises without authorisation (except in the case of a trainee under close supervision).

### 2.8.12 Transitional arrangements

Where an operator has been trained, and can demonstrate evidence of that training, under the 2001 Code of Practice, *Code of Practice; Rider-operated lift trucks: operator training*, then on the coming into operation of this Code of Practice such training will continue to be recognised

Training providers operating under the terms of the 2001 Code of Practice can, if required, continue to operate under that Code for a period of one year from the coming into effect of this Code of Practice, after which time all operator training should be in accordance with the requirements of this Code.

## **2.9 Instruction and training for people working in the vicinity of industrial trucks**



Every effort should be made to keep pedestrians segregated from areas where industrial trucks are operating. If this is not possible and it is necessary for persons to work where industrial trucks are operating, they must be made aware of the risks associated with being in those areas. They must be given clear instruction to stay away from operating industrial trucks to the greatest extent possible. If proximity to industrial trucks is necessary, people should be trained in procedures for when present in such areas, for example, the procedures for approaching the operator of an industrial truck safely.

## **2.10 Training for supervisors**

The Safety Health and Welfare at Work Act requires employers to provide adequate supervision. It is essential that supervisors have enough training and knowledge to recognise safe and unsafe practices. They need to understand the risks involved, and how to avoid or prevent them. Employers must be satisfied that supervisors are competent to carry out effective observation and recognise unsafe practice and behaviour of both operators and other persons in the vicinity of industrial trucks. To facilitate this, it may be necessary to offer appropriate training to supervisors and managers of work activities involving industrial truck operations. This does not necessarily mean that supervisors must have received full operator training, although this would be beneficial.

### 3. Safe vehicle

It is vitally important that industrial trucks are safe and suitable for the tasks for which they are used and the environment they operate in. There are many considerations relating to keeping industrial trucks safe and fit for purpose for use in the workplace, both indoors and outdoors [including any particular specialised uses such as in explosive or dusty atmospheres].

#### 3.1 Industrial Truck Selection

Industrial trucks should be selected based on their suitability for the intended tasks in the work environment. Safety should be a key priority when choosing an industrial truck.

When selecting industrial trucks, it may be necessary to take account of the need to work in challenging work environments or weather conditions, including:

- extremes of temperature
- other weather conditions
- dirt
- dust
- fumes
- excessive noise or vibration, and
- explosive atmosphere.

The space available for vehicle movements, the storage arrangements and layout in terms of capacity, heights, aisle widths, etc. and the handling performance of the industrial truck should be taken into account.

#### 3.2 Industrial Truck Purpose

Industrial trucks and attachments must be used only for tasks that they are designed for. The manufacturer's manual should be consulted for information in this regard.

#### 3.3 Seat Belts and Restraints

Each industrial truck is manufactured with a protective/restraint system that has been custom-designed by the manufacturer to provide protection to the operator. No element of this protective/restraint system should ever be removed, e.g., cab doors, or tampered with, and components of the system should be carefully maintained.

An operator restraint system is a device or system that is permanently installed to keep the operator within the protective structure of the truck. The protective structure of the truck will usually incorporate protection from falling objects and roll over protection.

Seatbelts and other restraint systems should be used when they are provided, unless a risk assessment indicates it is not safe to do so and other risk controls, which provide the same level of protection or higher, are implemented. Seatbelts keep the operator in the protective enclosure during collisions or a tip-over and prevent them from being thrown from their seat or being crushed by parts of an overturned truck. The operator should be trained in the correct use of the operator restraint system in accordance with the manufacturer's recommendations. Adequate supervision should be in place to eliminate the overriding/misuse of restraint system alarms and interlocks, e.g., engaging the seatbelt behind the seat back.

### **3.4 Protection from Falling Objects**

Adequate protection must be in place to protect the operator from falling objects. Where weather protection is necessary, only manufacturer approved weather protection covers should be used/fitted.

### **3.5 Roll Over Protection**

Adequate roll over protection must be provided on industrial trucks to protect the driver against injury from vehicle overturn.

### **3.6 Safety Guards**

Guards provided on moving or dangerous parts of industrial trucks, should be kept in position in accordance with the manufacturer's requirements. If damaged, or removed for maintenance purposes, they should be replaced before the industrial truck is returned to service.

### **3.7 Auxiliary Vision Aids and Warning Systems**

Additional visibility aids and audible warning systems may need to be fitted, depending on task-specific and site-specific risk assessments. Devices such as extra mirrors, reversing cameras, proximity sensors or parking sensors may help reduce blind spots. Warning devices such as horns, rotating beacons, LED safety lights or reversing alarms will warn pedestrians of industrial truck movement. However, employers should not be overly dependent on warning devices as a means of control as, in busy workplaces, employees may become desensitised to these, over time. Visibility aids or warning systems which are incorporated by the manufacturer to allow safe use of the industrial truck should never be removed or modified and should be maintained as part of routine maintenance. The employer's procedures should require the operator to use such safety devices and the operator, supervisors and managers should ensure that they are functional at all times.

### **3.8 Safe Entry and Exit**

There must be a safe way of getting into and out of the industrial truck.

### **3.9 Service and Parking Brakes**

Service brakes and parking brakes must be in good working order. A preventative maintenance system must be in place to ensure regular checking and maintenance and to ensure timely corrective measures are taken when brakes are not working effectively. An industrial truck with faulty brakes must never be used.

### **3.10 Industrial Truck Authorisation and Ignition Control Procedure**

A vehicle authorisation and ignition control procedure must be in place for all industrial trucks to ensure that only appropriately trained, authorised drivers have access to industrial trucks for which they have been specifically trained. This should include arrangements to ensure that keys/electronic fobs are never left in unattended trucks, or in a place where they are freely available, and PIN numbers (where relevant) should be suitably protected.

### **3.11 Industrial Truck Specifications and Safety Features**

Operators must be made aware of specifications and safety features particular to each industrial truck, and how and when to use them. Information in the manufacturer's manual, instructions handbook, or technical specifications should be used for this purpose.

### **3.12 Visibility**

Windshields to the rear and front of the vehicles, where fitted, should be kept clean so that the operator has clear visibility at all times. Similarly, glass on doors, where fitted, should also be kept clean so that the operator has clear visibility to the left and the right of the vehicle. Some overhead guards have clear perspex on them and are also required to be maintained in a clean condition- this is especially important when lift trucks are conducting stacking/de-stacking operations

### **3.13 Basic Industrial Truck Pre-Use Safety Checks and Defects Management**

There should be a system for operators to carry out and record pre-use basic safety checks. The operator should carry out a pre-use check of both the industrial truck and any attachments before they operate it at the beginning of each shift. Only operators who have been fully trained and appropriately authorised should carry out such pre-use checks. A system should be in place so that the pre-use check is recorded, and any defects observed can be reported. Any safety-critical defects noted should be corrected before the industrial truck is used.

#### **3.13.1 Safety-critical features of the industrial truck**

The following is a non-exhaustive list of safety-critical components of an industrial truck which should be checked as part of the pre-use check system. Other components may be added depending on the particulars of an individual truck.

Forks

Carriage

Mast

Wheels and tyres

Brakes

Lights

Back Rest Extension / Load Guard

Overhead Guard / Roll-Over Protection Frame

Seat design, Safety Belt, and vibration considerations

- Visibility
- Energy Source
- Hydraulics
- Operator's Compartment
  - Access
  - Lights, Windscreen and Mirrors
  - Fire Extinguisher
  - Ignition and Electrical System
  - Reversing Alarm and Horn
  - Warning Lights
  - Hydraulic Controls

A defect reporting system is required to identify and record vehicle defects. Drivers, employees and contractors must be made aware of the steps to take when damage or defects are noticed. The management system in place should make sure that where safety-critical defects arise the industrial truck is clearly identifiable and withdrawn from use until the defect has been rectified and the vehicle is safe to use.

### **3.14 Preventive Maintenance Programme**

A regular preventive maintenance programme must be in place for each industrial truck, meeting as a minimum the recommendations in the manufacturer's instructions. A risk assessment should consider increasing the frequency of preventive maintenance where the truck is operating in arduous conditions or environments. A safety management system must be in place to make sure that checks, servicing and repairs are carried out on industrial trucks as required. The system must include a written record of these activities.

### **3.15 Industrial Truck Repairs**

Repairs should be done promptly by authorised and qualified people only.

### **3.16 Inspection and Testing of Lifting Equipment**

An inspection and testing programme must be in place for industrial trucks that lift people or materials. This programme should include a thorough examination, by a competent person, of the lifting equipment itself and all lifting accessories, in accordance with Regulation 52 of the Safety, Health and Welfare at Work (General Application) Regulations 2007, S.I. No. 299 of 2007. Lifting accessories are any item placed between lifting equipment and the load, and include attachments fitted to the industrial truck. The Regulations also set out the requirements for reports by competent persons and the employer's duty to keep records and registers of lifting equipment. In the case where industrial trucks are hired or leased both the hire company and users hiring a lift truck have a

duty to ensure they are safe to use and are thoroughly examined at the appropriate intervals. The user must agree with the hire company and confirm who will carry out safety-related maintenance and thorough examinations. The user will need to ensure that necessary examinations are carried out and defects reported and remedied as necessary. A copy of the last examination report must accompany the industrial truck and be available for inspection by a HSA Inspector at the location where the industrial truck is in use.

In general, these statutory examinations must be carried out every 12 months for lifting equipment that lifts materials and every 6 months for lifting equipment that lifts persons, but full details are laid out in Schedule 1, Part B of the General Application Regulations, 2007, as amended.

### **3.17 Industrial truck power sources - refuelling and recharging**

The two main power sources for powered industrial trucks are:

- a. internal combustion, which uses a traditional engine that runs on liquid petroleum gas (LPG), compressed natural gas (CNG), gasoline, diesel, or other fuel; and
- b. electric, which uses an on-board battery.

Other power sources may become more widespread in the future.

There are risks associated with each, particularly when it comes to re-fuelling (combustion) or re-charging (electric), so proper control measures must be in place.

#### **3.17.1 internal combustion powered industrial trucks**

Refuelling of industrial trucks powered by internal combustion engines should be carried out outside in a designated area as there is a risk of fire and explosion. The designated area should be well ventilated to reduce the possibility of a build-up of flammable vapours if there is a spillage or leakage of fuel, and away from drains, pits, gulleys, etc. Smoking, naked flames or other ignition sources (including mobile phones) should be prohibited in this area. The transport, storage and use of gas cylinders and bulk LPG should only be carried out according to information and instruction obtained from the LPG supplier.

#### **3.17.2 Electrically powered industrial trucks**

Battery-powered or electric industrial trucks produce zero emissions and run more quietly, so they may be more suitable for use indoors. They are powered by large lead-acid or lithium batteries, which must be routinely charged, and the hazards associated with the use and maintenance of batteries must be controlled. Charging and charging of batteries must be carried out in a designated area as charging can give off an explosive gas and there is also a risk of electrolytes spilling. There is also a potential risk of electrocution.

Operators who charge or work with batteries must be trained and instructed to:

- carry out general low-level battery care and maintenance according to the manufacturer's instructions
- use a designated, well-ventilated area where smoking, naked flames or other ignition sources (including mobile phones) are prohibited
- wear the appropriate PPE, for example an acid-proof apron, protective gloves and suitable eye protection.

Refuelling areas should be equipped with eyewash, appropriate fire extinguishers and spill kits.

## 3.18 Industrial truck load capacity

### 3.18.1 Lift truck capacity

The rated capacity plate must be attached to the truck, be legible and be clearly visible to the operator. The capacity of an industrial truck should be considered before it is selected to do the work it is required to do. This means considering the size and shape of the loads, the route to be travelled and the height to be reached. One of the major causes of industrial truck incidents is incorrect use of the truck with respect to its load limit and capacity. All industrial trucks are rated to a certain safe lifting capacity and safe lifting height by their manufacturer. The size and weight of the load, its position (height and reach) on the forks and relative to the truck itself, and the load's weight distribution affect the truck's true maximum capacity. 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. This is calculated with the truck on level ground with the mast vertical. This should be stated on the capacity plate or capacity chart. It is vital that the operator understands these rated capacities. Industrial trucks should be operated according to the manufacturer's instructions and within the manufacturer's design parameters. An industrial truck should never be loaded beyond its actual capacity.

### 3.18.2 Attachments

It is common to use suitable attachments on an industrial truck so that some loads can be handled more efficiently and safely. Examples of such attachments are fork extensions, booms, rotating heads, drum clamps, paper roll clamps, bale clamps, load stabilisers, concrete skips, etc. Attachments should only be fitted by a person trained to do so. Attachments should be securely fastened to the industrial truck and no part of the attachment or securing device should interfere with any part of the mast structure during raising or lowering of the attachment. Attachments, or loads, should not reduce visibility for the driver.

Adding an attachment to an industrial truck reduces its lifting capacity, due to the additional weight of the attachment itself and because an attachment typically extends the truck's load centre. The instruction handbook should be consulted, or advice should be sought from the supplier or manufacturer before fitting and using any attachments. Fitting an attachment to an industrial truck will reduce the truck's rated capacity, known as derating, and change how the truck behaves. Derating should only be done by a person with appropriate knowledge and experience. A new rating plate, specifically relating to the attachment and truck in combination, must be secured to the truck to indicate this reduction in capacity before it is used with the attachment. It will also be necessary to provide additional training for the operator in the use of the truck and attachment combination. The report of thorough examination should take into account any attachments used on the industrial truck.

Working platforms on industrial trucks are attachments but they should not be used for the purpose of lifting persons other than in exceptional circumstances and subject to the conditions laid down in Regulation 48 of the General Application Regulations 2007, as amended.

## 4. Safe workplace

The employer has responsibility for safety in the workplace and must ensure that risks associated with industrial trucks in the workplace, including those affecting staff, customers, suppliers, contractors, delivery personnel and visitors are assessed and controlled effectively. Having and keeping a safe workplace requires a well-designed and maintained premises that enables safe operation and interplay between industrial trucks, other vehicles and equipment, people and structures.

### 4.1 Pedestrian and Industrial Truck segregation

Pedestrians and vehicles should be segregated to the greatest extent possible. Pedestrians should be prohibited from entering areas where industrial trucks are operating. Well-designed traffic routes for both industrial trucks and pedestrians, combined with good signage, will help to separate pedestrian activity from areas where industrial trucks are operating.

### 4.2 Pedestrian Routes

Pedestrian routes and industrial truck routes should be clearly defined and marked and separated completely from each other where possible.

#### 4.2.1 Physical Barriers

Physical barriers to protect pedestrians should be provided wherever possible to separate pedestrian activities from areas where industrial trucks are operating, e.g., at building entry and exit points and cross-over points.

#### 4.2.2 Pedestrian Crossings

Where the routes cannot be completely separated, pedestrian crossing points on industrial truck routes should be defined, designated and clearly marked. Clear and unambiguous warning signs should be provided to inform people that industrial trucks operate in the premises or area.

#### 4.2.3 Visibility and hazard warning

It is essential that drivers and pedestrians have a clear view of their surroundings, and that pedestrians can be seen by drivers as they move around the workplace. Sharp bends and blind spots should be avoided so that pedestrians have clear sight of industrial trucks moving towards their path. Where bends cannot be eliminated, visibility aids, for example convex mirrors or CCTV may be of use. Particular care should be taken where industrial trucks are required to drive or reverse through doorways.

Where at all possible, hazards should be removed at source. Where hazards cannot be removed, they should be clearly marked, for example with black and yellow diagonal stripes. Features of the building or operating area, such as overhead obstructions, support columns, racking, pipework or other plant should be clearly marked and provided with protection against accidental damage. Edges of loading bays and ramps are a particular hazard and should be clearly marked, for example, by black and yellow diagonal stripes. Where practicable, barriers should be installed around edges.



## 4.3 Industrial truck routes

### 4.3.1 Direction on industrial truck routes

A one-way system should be used on industrial truck routes, where the workplace layout can accommodate it. A one-way traffic system helps pedestrian safety also.

### 4.3.2 Suitable Routes

Traffic routes must be suitable for the type, size and quantity of industrial trucks. Slopes should be eliminated or reduced to the greatest extent possible. Industrial trucks should never be driven up or down slopes that exceed the maximum gradient specified by the manufacturer or authorised supplier, and travelling or turning across a slope should never be allowed.

Speed humps are unsuitable for most industrial trucks, so if they are used to reduce the speed of other types of vehicles, bypasses should be provided for industrial trucks. However, industrial truck operators should clearly understand, through signage and instruction, that the speed restriction still applies to industrial trucks.

### 4.3.3 Suitable Surfaces

Unless all the industrial trucks in use at a workplace are designed to operate on rough or uneven surfaces, all surfaces should be firm and even.

### 4.3.4 Maintenance

Traffic routes should be well maintained. Any damage to surfaces or structures should be promptly reported, and repairs carried out without delay.

### 4.3.5 Sufficient Space

Traffic routes should be high enough and wide enough for the largest industrial trucks and loads and should take account of spaces required to manoeuvre safely, allowing some margin for driver error. If a one-way system cannot be implemented, there should be sufficient space for vehicles to pass each other.

### 4.3.6 Height Clearance

Height clearance must be taken into account, giving consideration to all possible types of industrial trucks and other vehicles which may be used. Overhead obstructions should be clearly marked and industrial trucks should not routinely operate in such areas.

### 4.3.7 Adequate Lighting

Traffic routes should be provided with adequate lighting. Particular attention should be paid to areas where lighting conditions change, e.g., moving from natural light into artificial light or un-lit spaces.

### 4.3.8 Obstruction Free

Traffic routes should be maintained free from obstructions, and other hazards.

## 4.4 Signage and Safety Features

Good signage is a key component of a safe workplace. All vehicle and pedestrian traffic routes should be clearly marked using regulation signboards<sup>2</sup>. Routes must be well signed and marked for both day and night use. This may involve the use of retro-reflective strips, markings and features for use outside of daytime hours or when visibility is poor due to weather or light conditions.

## 4.5 Vision Aids

Features such as fixed mirrors or camera systems can be used to provide greater vision at locations where lines of vision are restricted, e.g., sharp bends and blind spots.

## 4.6 Ventilation

In workplaces where lift trucks are powered by internal combustion engines it is important that there is adequate ventilation to remove exhaust fumes, and that the engines are properly maintained. Filter systems or catalytic converters may be used to reduce the risk from fumes emitted but these systems are not a substitute for providing adequate workplace ventilation. Where such filters or converters are used, they must be checked regularly to maintain their effectiveness. Systems to monitor for the presence of gases such as carbon monoxide could be helpful, either to establish if there is a problem or to make sure the ventilation control measures are adequate. If the build-up of fumes from combustion engines is an issue due to several industrial trucks operating indoors then use of powered ventilation systems should be considered.

## 4.7 Industrial trucks on loading platforms, bridges and trailers

Protocols should be put in place to manage the truck (LGV, HGV) driver / industrial truck operator interface to ensure that a drive away situation is prevented during loading/unloading operations.

### 4.7.1 Loading platforms

Loading platforms should be constructed so that they can safely carry the maximum foreseeable load, i.e., the weight of the industrial truck and the maximum load it will be required to carry. The rated capacity of the loading platform be clearly displayed. Similarly, if a structure is being used to bridge the gap between a loading platform and a trailer, it also must be capable of carrying the load. The side of any such structure should have protection to prevent the industrial truck from running off.

### 4.7.2 Trailers

Sometimes, it may be necessary to drive an industrial truck onto a trailer for loading or unloading. The trailer deck must be strong enough to support the industrial truck and load. All trailers should always be braked and chocked when parked.

Trailers of articulated lorries are less stable when they have been disconnected from their towing units. In such circumstances, the landing legs at the front of the trailer must be able

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<sup>2</sup> Regulation 160 of the Safety, Health and Welfare at Work (General Application) Regulations 2007

to support the additional weight of an industrial truck. It might be the case that the balance of the trailer is compromised by the lift truck travelling past the location of the legs causing an up-ending issue. In all situations where industrial trucks are required to travel onto uncoupled semi-trailers a specific risk assessment and loading/unloading plan is required. This risk assessment should consider the use of extra support to the landing legs, e.g., by means of a “trestle”.

Any bridge plates used must be strong enough to support the industrial truck and its load and be securely fixed in place. The rated capacity of the bridge plate should be clearly displayed.

Where ramps are used to provide access into the rear of trailers, they must be properly secured to the rear of the trailer so that one cannot move relative to the other. The ramps should be marked with the maximum load they are designed to carry, and they should be regularly inspected. In planning the system of work, an operator should not be required to drive an industrial truck onto a ramp without ensuring that the ramp is designed to carry the overall load (weight of industrial truck and its load) and is wide enough to allow the industrial truck to be safely driven onto the trailer. The sides of any such ramp should have protection to prevent the industrial truck from running off.

Driving onto trailers with no edge protection, such as flat beds or curtain siders, should only take place in very exceptional circumstances. Where this cannot be avoided a task specific risk assessment should be carried out to determine a safe system of work with adequate controls to prevent persons being injured. This should be communicated to the industrial truck operator and all other persons involved in the activity.

An exclusion zone for pedestrians, including the driver of the truck and other employees should be put in place while this type of activity is being conducted.

## **4.8 Using industrial trucks on the public road**

There may be some circumstances where industrial trucks have to be used outside the workplace, for example to load or unload lorries which cannot enter the workplace and are parked on public roads. An additional risk assessment should be carried out to include extra hazards which are not part of the typical work activity, such as movement of road vehicles and pedestrians.

An industrial truck being operated on the public road must comply with the appropriate road traffic legislation.

## 5. Safe Industrial Truck Operations

Industrial truck operations need to be carefully planned to minimize the possibility of accidents.

### 5.1 Parking

An industrial truck should be unloaded and parked safely on level ground with the parking brake applied, the forks or attachment fully lowered, the engine switched off and the keys/electronic fobs returned to the responsible person or the keypad de-energised at the end of each use. An industrial truck should never be left unattended with the keys in the ignition or the keypad energised.

### 5.2 Lifting loads

When suspending or lifting a load the operator should ensure, so far as reasonably practicable, that the load is lifted such that they are in full control during the activity.

Operators should be able to work out whether loads of varying shapes and masses can be safely lifted by the industrial lift trucks to ensure they do not exceed the capacity of the machine. If they have any doubt, they should be enabled to look for competent advice.

Loads should be firmly placed against the carriage or back-rest with the mast tilted back enough to stop the load slipping, falling, or rolling off the fork arms. Loads that have the ability to slip, fall or roll off the fork arms or pallet should be restrained with straps or similar equipment.

Loads should always be carried as near to the ground as reasonably practicable. Operators should never drive an industrial lift truck with a raised load, except when inserting a load into or out of a racking system or stack. They should however never turn with a raised load.

Loads should not be lifted or suspended over a person. Persons, including signallers, should not be permitted in or adjacent to the path of travel. Where appropriate, and only during raising/depositing, the load tag lines may be used for guiding the load but tied off to the truck during travel.

When handling a suspended load the operator should:

- be trained and experienced in lifting suspended loads
- secure the load across both fork arms for balance, using a suitable attachment designed to be used on the industrial lift truck
- not exceed the de-rated capacity of the industrial lift truck or the rated capacity of the attachment (which ever has the lowest capacity)
- only lift the load vertically (straight up) with no dragging or off-vertical lifts
- move slowly and cautiously (never in excess of 6km/h) when the load is raised, and
- travel with the load as low as reasonably practicable (Ideally the bottom of the load should be no more than 300mm from the floor).
- check that the travel route is clear of any hazards including overhead obstructions
- only carry a single load at one time

- in the event of a load oscillation (swinging of the load), smoothly cease travel and lower the load to the ground.

If bulk bags, like flexible intermediate bulk containers or similar loads, are suspended from the forks of an industrial lift truck, the lifting capacity should be reduced by a safety factor of at least 20 percent to allow for the dynamic forces introduced as a result of sudden stops, starts or turns causing the load to swing.

### 5.3 Instability

A common risk for an industrial lift truck is to tip over by rolling or overturning sideways, or by pitching forward when the back wheels lift off the ground. A loss of stability creates a risk of serious injury or harm to the operator and pedestrians.

Industrial lift trucks can tip over if the operator:

- drives with a raised load with the fork arms too high
- turns too fast (either laden or unladen)
- travels over unsuitable (soft or uneven) ground
- carries an unevenly balanced load
- speeds up too quickly in reverse
- brakes too quickly, especially on a loaded industrial lift truck
- brakes or speeds up while cornering or driving down a slope
- collides with another vehicle
- drives across slopes or uneven ground
- strikes low doors or overhead structures, or
- uses it to tow, push or pull something when it is not designed for this.

Braking systems can vary on different industrial trucks, and the manufacturer should be consulted regarding the appropriate direction of travel (laden and unladen) when travelling up or down a slope.

Rapid tail swing can cause an industrial lift truck to tip over. The speed of rear end swing will be up to three times that of the industrial lift truck's forward speed. To avoid rapid tail swing, operators should reduce speed when turning. They should be aware the tail swing causes exaggerated movement of the tail and fork tips.

To avoid overturning, operators should:

- centre loads—this means having their centre of gravity on the industrial lift truck's longitudinal centre line
- correctly secure the load on the pallet
- carry loads as close as reasonably practicable, to the ground or other supporting surfaces
- make sure inflatable tyres are correctly inflated as under-inflated tyres can reduce stability
- not travel across a slope greater than that recommended by the manufacturer, and
- slow down when driving across a sloping, uneven or wet surface.

### 5.4 Operating with Attachments

An industrial truck should only be equipped with lifting attachments that are appropriate for the load to be lifted or moved. The attachment should be securely fastened to the industrial truck, either mounted on the forks or directly onto the carriage as recommended by the manufacturer and in such a way so as not to interfere with any part of the mast structure during raising or lowering of the attachment.

An attachment must not be used without taking account of advice from the supplier or manufacturer. Information about the attachment (from the manufacturer of the attachment) should be available in order to calculate the safe working capacity of the ensemble. A risk assessment should be carried out for the use of any attachments for the industrial truck, and operators should be suitably trained in the dangers and uses of such attachments.

## **5.5 Operating using a banksman/signaller/assistant**

There may be circumstances where the use of a banksman/signaller to assist the operator of an industrial truck may be an appropriate risk reduction measure. Banksmen/signallers are operatives trained to direct vehicle movement on or around site. Only trained and authorised persons should be used for this purpose. The hierarchy of control places segregation of people and vehicles as the top priority, and banksmen/signallers should only be used in circumstances where other control measures are not possible. They should operate from a location where they can be seen by the operator but where they cannot be impacted by the industrial truck, its attachments or the load being carried.

Under no circumstances should a pedestrian be asked to hold a load in position.

## **5.6 Passengers**

Passengers should never be carried, unless the industrial truck is designed for this and has a designated seat and seat belt.

## **5.7 Operating around other pedestrian activity**

Pedestrians should be prohibited, to the greatest extent possible, from entering areas where industrial trucks are operating. If this is not completely possible procedures must be put in place to warn pedestrians of the industrial truck activities. Notices should be displayed to instruct operators to sound horns at appropriate locations. If additional visibility aids and audible warning systems are fitted to the vehicle they should be used. Devices such as extra mirrors, reversing cameras or presence-sensing equipment which sounds a warning or stops the truck when an object or person is detected may help reduce risk. Warning devices such as horns, rotating or flashing beacons, LED safety lights or reversing alarms can be used to warn pedestrians of industrial truck movement.

## **5.8 Personal protective clothing**

### 5.8.1 High-visibility clothing

Pedestrians in the vicinity of operating industrial trucks should be provided with high-visibility clothing, as determined by a risk assessment, as an additional measure to lower the risks to their safety. Employers should ensure that high visibility clothing, as determined by the risk assessment, should be correctly worn by operators at all times during activities where they have reason to leave the operating position.

### 5.8.2 Clothing for challenging conditions

It may also be necessary to provide operators with personal protective equipment which protects them from challenging work conditions, such as adverse weather conditions, extremes of cold, etc. A risk assessment should be carried out to determine the appropriate equipment required.

## 5.9 Controlling Access for Visitors and Visiting Drivers

Visiting drivers and pedestrians should be directed to report at the workplace entrance, or at reception, for instructions before entering the workplace.

Access must be controlled with regard to the movements of:

- employees
- customers
- delivery personnel
- visitors, and
- the general public.

## 5.10 Use in Accordance with Procedures and Rules

Supervisors and managers must monitor industrial truck activities to ensure that industrial trucks are used in accordance with the procedures and rules laid down in the safety management system.

## Appendix 1 - Example of Employee's Training Record

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Company name:

Company address:

Employee's full name:

Department:

Employee number:

PPN number:

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### **Basic training**

Industrial truck type(s) used for training:

Model/Capacity:

Attachments:

Organisation carrying out training:

Course description, content delivered, training materials used, location:

Duration and dates of course:

Hours per day\_\_\_\_\_, number of days\_\_\_\_\_ from \_\_\_\_\_ to \_\_\_\_\_

Name of instructor:

Reference number:

Date of assessment/s:

Name of assessor:

Reference number:

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### **Specific job training**

Industrial truck(s) used for training:

Model: \_\_\_\_\_ Number: \_\_\_\_\_

Operating height:

Attachment type:

Load types:

Instructed by:

Duration of training (hours):

Date of training:

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### **Training under supervision**

Industrial truck(s) used for training:

Model: \_\_\_\_\_ Number: \_\_\_\_\_

Site location:

Activities supervised/competencies achieved:

Supervised by:

Duration of training (hours):

Date of training:

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## Appendix 2 – COMPONENT SPECIFICATIONS FOR COUNTERBALANCE FORKLIFT TRUCK SKILLS AND REACH FORKLIFT TRUCK SKILLS

### Counterbalance Forklift Truck Skills 5N5831

#### 1. Component Details

Title	Counterbalance Forklift Truck Skills
Teideal as Gaeilge	Scileanna Frithchothromú Forc-ardaitheoir
Award Type	Minor
Code	5N5831
Level	5
Credit Value	5
Purpose	The purpose of this award is to equip the learner with the knowledge, skill and competence to operate a counterbalance forklift truck safely and efficiently in line with the manufacturer’s guidelines and current health and safety regulations and guidelines
Learning Outcomes	<p>Learners will be able to:</p> <ol style="list-style-type: none"><li>1 Explain the importance of having adequate training in operating a counterbalance lift truck safely, correctly and efficiently and the rules and regulations applicable to its safe operation</li><li>2 Describe the features and components of a counterbalance forklift truck</li><li>3 Summarise the duties and responsibilities of employees and employers in the work place as detailed in current health and safety legislation</li><li>4 Comment on the role of the Health and Safety Authority in maintaining standards for counterbalance forklift truck operation</li><li>5 Identify the fulcrum point of a counterbalance forklift truck</li><li>6 Explain the hydraulic principles applied in the operation of a forklift truck</li><li>7 Identify the hazards associated with forklift trucks and the safety precautions to be taken including:<ul style="list-style-type: none"><li>- preventing collisions with pedestrians</li><li>- forklift truck tip-over</li><li>- recharging electric lift trucks</li><li>- refuelling diesel and liquid petroleum gas (LPG) lift trucks</li></ul></li></ol>

- 8 Investigate the purpose of safety devices and the procedures for their use to include stabilizers, level indicators and load indicators
- 9 Determine the weight and load centre of various loads and their most appropriate stacking and destacking procedures
- 10 Utilise a load capacity chart to determine if a given load is within the rated capacity of a forklift truck
- 11 Explain the factors which affect forklift truck stability including the stability triangle and the use of handling attachments
- 12 Comment on the importance of having vehicle key custody arrangements in place
- 13 Demonstrate how to correctly mount and dismount a counterbalance forklift truck to include adjusting the seat to a suitable working position and correct use of the instruments and controls
- 14 Use the correct procedure for connecting and disconnecting lift truck batteries to and from a charger
- 15 Determine the safety, soundness and rating of structures designed to receive loads from a counterbalance forklift truck
- 16 Perform the daily 'start up' maintenance check on a counterbalance forklift truck in accordance with manufacturer's guidelines
- 17 Carry out pre-shift inspections on the counterbalance forklift truck in accordance with manufacturer's guidelines, including the completion of the forklift driver's 'Inspection Report' to record and report on any defects found
- 18 Drive a laden and un-laden counterbalance forklift truck with the forks in the correct travel positions including:
  - on inclining and level ground
  - in a forward and reverse direction
  - manoeuvring around obstacles
  - through chicanes
- 19 Operate a counterbalance forklift truck to stack and de-stack loads at various locations, including ground level, eye level, high level and vertical face
- 20 Operate a counterbalance forklift truck to stack and de-stack loaded and unloaded pallets, racks, corner post pallets, freestanding loads and vertical face loads, while correctly inserting and withdrawing the forks on loaded and unloaded pallets

Assessment

## General Information

All assessment should be planned in accordance with the programme assessment strategy developed as part of the programme submission for validation. See Policies and Criteria for Validation of Programmes. Assessment should be undertaken consistently and reflect current assessment guidelines. See [www.qqi.ie](http://www.qqi.ie).

All FET assessment is criterion referenced. Successful achievement of the award is based on learners attaining the required standards of knowledge, skill or competence consistent with the minimum intended programme learning outcomes.

The techniques set out below are considered the optimum approach to assessment for this component. In exceptional circumstances providers may identify alternative assessment techniques through the provider's application for programme validation which are reliable and valid but which are more appropriate to their context.

Assessment of a number of components may be integrated across programmes for delivery, provided that the learning outcomes of each minor award are assessed.

Group or team work may form part of the assessment, provided each learner's achievement is separately assessed.

All providers are required to submit an assessment plan as part of their application for programme validation. Assessment Plans will include information relating to scheduling and integration of assessment. See current FET validation guidelines at [www.qqi.ie](http://www.qqi.ie).

## Assessment Techniques

In order to demonstrate that they have reached the standards of knowledge, skill and competence identified in all the learning outcomes, learners are required to complete the assessment(s) below.

The assessor is responsible for devising assessment instruments (e.g. project and assignment briefs, examination papers), assessment criteria and mark sheets, consistent with the techniques identified below and QI's assessment requirements.

Programme validation will require providers to map each learning outcome to its associated assessment technique. All learning outcomes must be assessed and achieved in accordance with the minimum intended module learning outcomes set out in the validated programme.

Examination - Practical 70%

Examination - Theory 30%

## Description

Examination - Practical

An examination provides a means of assessing a learner's ability to recall and apply knowledge, skills and understanding within a set period of time and under clearly specified conditions. A

practical examination assesses specified practical skills demonstrated in a set period of time under restricted conditions.

#### Examination - Theory

An examination provides a means of assessing a learner's ability to recall and apply knowledge, skills and understanding within a set period of time and under clearly specified conditions. A theory-based examination assesses the ability to recall, apply and understand specific theory and knowledge.

Recognition of Prior Learning (RPL)	To support the development and implementation of RPL with regard to access, granting credit/exemptions and achievement of awards/parts of awards, providers should refer to QQI's Statutory Guidelines for Quality Policies and Criteria for Validation of Programmes and the Principles and Operational Guidelines for the Recognition of Prior Learning in Further and Higher Education and Training available at <a href="http://www.qqi.ie">www.qqi.ie</a>
Grading	Pass 50% - 64% Merit 65% - 79% Distinction 80% - 100%
Specific Validation Requirements	The provider must have all of the following in place to offer this award: Training area with access to counterbalance and reach forklift trucks
Supporting Documentation	1. The Health, Safety and Welfare at Work Act, 2005 2. The Safety, Health and Welfare at Work [General Application] Regulations 2007. Provisions in respect of the Workplace and Work Equipment
Access	To access programmes leading to this award the learner should have reached the standards of knowledge, skill and competence associated with the preceding level of the National Framework of Qualifications. This may have been achieved through a formal qualification or through relevant life and work experience.
Transfer	Successful completion of this component award enables the learner to transfer to programmes leading to other certificates where this component is a mandatory or an elective requirement.

## 2. FET Award Standards

QQI award standards are determined within the National Framework of Qualifications (NFQ), <http://www.nfq-qqi.com>. QQI determines standards for the education and training awards that it makes itself and that are made by providers to whom it has delegated authority to make an award. Providers offering programmes leading to QQI awards must have their programme(s) validated in accordance with current validation policy (see [www.qqi.ie](http://www.qqi.ie)).

Award standards are designed to be consistent with the NFQ's award classes i.e. major, special purpose, supplemental and minor awards. They are expressed in terms of learning outcomes i.e. concise statements of what the learner is expected to know or be able to do in order to achieve a particular award. Learning outcomes for FET awards are contained within the associated specifications:

AWARD CLASS	STANDARDS	AWARDS
Major Award	Certificate Specification	Certificate (Levels 1 to 5) Advanced Certificate (Level 6)
Supplemental Award	Supplemental Specification	Supplemental Certificate (Level 3 to 6)
Special Purpose	Specific Purpose Specification	Specific Purpose Certificate (Levels 3 to 6)
Minor Award	Component Specification	Component Certificate (Levels 1 to 6)

Award standards are thresholds, they describe standards of knowledge, skill or competence to be acquired, and where appropriate, demonstrated, by a learner before an award may be made.

Award standards will be reviewed from time to time as necessary. Minor changes may be made by the QQI executive outside the review cycle where necessary. Changes to standards are published on QQI's website. Providers with validated programmes and providers with delegated authority to make awards are responsible for monitoring relevant standards and making necessary responses to changes.

## 3. FET Credit

Every FET certificate and component specification includes an FET credit value (Table 1). FET credit is quantified in multiples of 5 FET credits (up to 50 hours of learner effort). Learner effort is based on the time taken by typical learners at the level of the award to achieve the learning outcomes for the award. It includes all learning time involved including: guided learning hours, self-directed learning and assessment.

Table 1: FET Credit Values

NFQ Level	Major Awards Credit Values	Default Credit Values Minor Awards	Other Permitted Minor Award Credit Values	Special Purpose and Supplemental Award Credit Value Ranges
1	20	5	10	

2	30	5	10	
3	60	10	5, 20	>5 and <60
4	90	10	5, 15, 20	>5 and <90
5	120	15	5, 10, 30	>5 and <120
6	120	15	5, 10, 30	>5 and <120

### Guide to Level

Learning outcomes at this level include a broad range of skills that require some theoretical understanding. The outcomes may relate to engaging in a specific activity, with the capacity to use the instruments and techniques relating to an occupation. They are associated with work being undertaken independently, subject to general direction.

Strand	Sub-strand	Nature of learning
Knowledge	Breadth	Broad range of knowledge
	Kind	Some theoretical concepts and abstract thinking, with significant depth in some areas. Some underpinning theory
Know How & Skill	Range	Demonstrate a broad range of specialised skills and tools
	Selectivity	Evaluate and use information to plan and develop investigative strategies and to determine solutions to varied unfamiliar problems
Competence	Context	Act in a range of varied and specific contexts, taking responsibility for the nature and quality of outputs; identify and apply skill and knowledge to a wide variety of contexts
	Role	Exercise some initiative and independence in carrying out defined activities; join and function within multiple, complex and heterogeneous groups
	Learning to Learn	Learn to take responsibility for own learning within a managed environment
	Insight	Assume full responsibility for consistency of self-understanding and behaviour

Extract from 'Determinations for the Outline National Framework of Qualifications': NQAI

## Reach Forklift Truck Skills 5N5832

### 1. Component Details

Title	Reach Forklift Truck Skills
Teideal as Gaeilge	Scileanna Forc-ardaitheoir Rochtana
Award Type	Minor
Code	5N5832
Level	5
Credit Value	5
Purpose	The purpose of this award is to equip the learner with the knowledge, skill and competence to operate a reach forklift truck safely and efficiently in line with the manufacturer's guidelines and current health and safety guidelines and regulations
Learning Outcomes	<p>Learners will be able to:</p> <ol style="list-style-type: none"><li>1 Explain the importance of having adequate training in operating a reach lift truck safely, correctly and efficiently and the rules and regulations applicable to its safe operation</li><li>2 Describe the features and components of a reach forklift truck</li><li>3 Summarise the duties and responsibilities of employees and employers in the work place as detailed in in current health and safety legislation</li><li>4 Comment on the role of the Health and Safety Authority in maintaining standards for forklift truck operation</li><li>5 Identify the fulcrum point of a reach forklift truck</li><li>6 Explain the hydraulic principles applied in the operation of a reach forklift truck</li><li>7 Identify the hazards associated with forklift trucks and the safety precautions to be taken including:<ul style="list-style-type: none"><li>- preventing collisions with pedestrians</li><li>- forklift truck tip-over</li><li>- recharging electric lift trucks</li><li>- refuelling diesel and liquid petroleum gas (LPG) lift trucks</li></ul></li><li>8 Investigate the purpose of safety devices and the procedures for their use to include stabilizers, level indicators and load indicators</li><li>9 Determine the weight and load centre of various loads and their most appropriate stacking and destacking procedures</li><li>10 Utilise a load capacity chart to determine if a given load is within the rated capacity of a forklift truck</li></ol>

- 11 Explain the factors which affect forklift truck stability including the stability triangle and the use of handling attachments
- 12 Comment on the importance of having vehicle key custody arrangements in place
- 13 Demonstrate how to correctly mount and dismount a reach forklift truck to include adjusting the seat to a suitable working position and correct use of the instruments and controls
- 14 Use the correct procedure for connecting and disconnecting lift truck batteries to and from a charger
- 15 Determine the safety, soundness and rating of structures designed to receive loads from a reach forklift truck
- 16 Perform the daily 'start up' maintenance check on a reach forklift truck in accordance with manufacturer's guidelines
- 17 Carry out pre-shift inspections on the reach forklift truck in accordance with manufacturer's guidelines, including the completion of the forklift driver's 'Inspection Report' to record and report on any defects found
- 18 Drive a laden and un-laden reach forklift truck:
  - on inclining and level ground
  - in a forward and reverse direction
  - manoeuvring around obstacles
  - through chicanes
- 19 Operate a reach forklift truck to stack and de-stack loads at various locations, including ground level, eye level, high level and vertical face
- 20 Operate a reach forklift truck to stack and de-stack loaded and unloaded pallets, racks, corner post pallets, freestanding loads and vertical face loads, while correctly inserting and withdrawing the forks on loaded and unloaded pallets

#### Assessment

#### General Information

All assessment should be planned in accordance with the programme assessment strategy developed as part of the programme submission for validation. See Policies and Criteria for Validation of Programmes. Assessment should be undertaken consistently and reflect current assessment guidelines. See [www.qqi.ie](http://www.qqi.ie).

All FET assessment is criterion referenced. Successful achievement of the award is based on learners attaining the required standards of knowledge, skill or competence consistent with the minimum intended programme learning outcomes.

The techniques set out below are considered the optimum approach to assessment for this component. In exceptional circumstances providers may identify alternative assessment techniques through the provider's application for programme



validation which are reliable and valid but which are more appropriate to their context.

Assessment of a number of components may be integrated across programmes for delivery, provided that the learning outcomes of each minor award are assessed.

Group or team work may form part of the assessment, provided each learner's achievement is separately assessed.

All providers are required to submit an assessment plan as part of their application for programme validation. Assessment Plans will include information relating to scheduling and integration of assessment. See current FET validation guidelines at [www.qqi.ie](http://www.qqi.ie).

## Assessment Techniques

In order to demonstrate that they have reached the standards of knowledge, skill and competence identified in all the learning outcomes, learners are required to complete the assessment(s) below.

The assessor is responsible for devising assessment instruments (e.g. project and assignment briefs, examination papers), assessment criteria and mark sheets, consistent with the techniques identified below and QQI's assessment requirements.

Programme validation will require providers to map each learning outcome to its associated assessment technique. All learning outcomes **must** be assessed and achieved in accordance with the **minimum intended module learning** outcomes set out in the validated programme.

Examination - Practical 70%

Examination - Theory 30%

## Description

Examination - Practical

An examination provides a means of assessing a learner's ability to recall and apply knowledge, skills and understanding within a set period of time and under clearly specified conditions.

A practical examination assesses specified practical skills demonstrated in a set period of time under restricted conditions.

Examination - Theory

An examination provides a means of assessing a learner's ability to recall and apply knowledge, skills and understanding within a set period of time and under clearly specified conditions.

A theory-based examination assesses the ability to recall, apply and understand specific theory and knowledge.

Recognition of Prior Learning (RPL)	To support the development and implementation of RPL with regard to access, granting credit/exemptions and achievement of awards/parts of awards, providers should refer to QQI's Statutory Guidelines for Quality Assurance, the Policies and Criteria for Validation of Programmes and the Principles and Operational Guidelines for the Recognition of Prior Learning in Further and Higher Education and Training available at <a href="http://www.qqi.ie">www.qqi.ie</a>	
Grading	Pass	50% - 64%
	Merit	65% - 79%
	Distinction	80% - 100%
Specific Validation Requirements	The provider must have all of the following in place to offer this award: Training area and Reach Forklift truck(s)	
Supporting Documentation	1. The Health, Safety and Welfare at Work Act, 2005 2. The Safety, Health and Welfare at Work [General Application] Regulations 2007. Provisions in respect of the Workplace and Work Equipment in particular	
Access	To access programmes leading to this award the learner should have reached the standards of knowledge, skill and competence associated with the preceding level of the National Framework of Qualifications. This may have been achieved through a formal qualification or through relevant life and work experience.	
Transfer	Successful completion of this component award enables the learner to transfer to programmes leading to other certificates where this component is a mandatory or an elective requirement.	

## 2. FET Award Standards

QQI award standards are determined within the National Framework of Qualifications (NFQ), <http://www.nfq-qqi.com>. QQI determines standards for the education and training awards that it makes itself and that are made by providers to whom it has delegated authority to make an award. Providers offering programmes leading to QQI awards must have their programme(s) validated in accordance with current validation policy (see [www.qqi.ie](http://www.qqi.ie)).

Award standards are designed to be consistent with the NFQ's award classes i.e. major, special purpose, supplemental and minor awards. They are expressed in terms of learning outcomes, i.e. concise statements of what the learner is expected to know or be able to do in order to achieve a particular award. Learning outcomes for FET awards are contained within the associated specifications:

AWARD CLASS	STANDARDS	AWARDS
Major Award	Certificate Specification	Certificate (Levels 1 to 5)

Supplemental Award	Supplemental Specification	Advanced Certificate (Level 6) Supplemental Certificate (Level 3 to 6)
Special Purpose	Specific Purpose Specification	Specific Purpose Certificate (Levels 3 to 6)
Minor Award	Component Specification	Component Certificate (Levels 1 to 6)

Award standards are thresholds; they describe standards of knowledge, skill or competence to be acquired, and where appropriate, demonstrated, by a learner before an award may be made.

Award standards will be reviewed from time to time as necessary. Minor changes may be made by the QQI executive outside the review cycle where necessary. Changes to standards are published on QQI's website. Providers with validated programmes and providers with delegated authority to make awards are responsible for monitoring relevant standards and making necessary responses to changes.

### 3. FET Credit

Every FET certificate and component specification includes an FET credit value (Table 1). FET credit is quantified in multiples of 5 FET credits (up to 50 hours of learner effort). Learner effort is based on the time taken by typical learners at the level of the award to achieve the learning outcomes for the award. It includes all learning time involved including: guided learning hours, self-directed learning and assessment.

Table 1: FET Credit Values

NFQ Level	Major Awards Credit Values	Default Credit Values Minor Awards	Other Permitted Minor Award Credit Values	Special Purpose and Supplemental Award Credit Value Ranges
1	20	5	10	
2	30	5	10	
3	60	10	5, 20	>5 and <60
4	90	10	5, 15, 20	>5 and <90
5	120	15	5, 10, 30	>5 and <120
6	120	15	5, 10, 30	>5 and <120

#### Guide to Level

Learning outcomes at this level include a broad range of skills that require some theoretical understanding. The outcomes may relate to engaging in a specific activity, with the capacity to use the instruments and techniques relating to an occupation. They are associated with work being undertaken independently, subject to general direction.

Strand	Sub-strand	Nature of learning
Knowledge	Breadth	Broad range of knowledge
	Kind	Some theoretical concepts and abstract thinking, with significant depth in some areas.
		Some underpinning theory

Know How & Skill	Range	Demonstrate a broad range of specialised skills and tools
	Selectivity	Evaluate and use information to plan and develop investigative strategies and to determine solutions to varied unfamiliar problems
Competence	Context	Act in a range of varied and specific contexts, taking responsibility for the nature and quality of outputs; identify and apply skill and knowledge to a wide variety of contexts
	Role	Exercise some initiative and independence in carrying out defined activities; join and function within multiple, complex and heterogeneous groups
	Learning to Learn	Learn to take responsibility for own learning within a managed environment
	Insight	Assume full responsibility for consistency of self-understanding and behaviour

*Extract from 'Determinations for the Outline National Framework of Qualifications': NQAI*

# Appendix 3 - COMPONENT SPECIFICATIONS FOR QQI NFQ LEVEL 6 SPECIAL PURPOSE SPECIFICATION FOR TRAINING AND DEVELOPMENT

## Special Purpose Specification

### NFQ Level 6 Training and Development 6S3372

#### 1. Certificate Details

<b>Title</b>	Training and Development
<b>Teideal as Gaeilge</b>	Oiliúint agus Forbairt
<b>Award Type</b>	Special Purpose
<b>Code</b>	6S3372
<b>Level</b>	6
<b>Credit Value</b>	30
<b>Purpose</b>	The purpose of this award is to enable the learner to acquire the knowledge, skill and competence to identify training and development needs and to deliver and evaluate a training intervention within a range of training and development contexts.
<b>Statements of Knowledge, Skill and Competence</b>	Learners will be able to:
<b>Knowledge</b>	
<i>Breadth</i>	Demonstrate a broad range of knowledge of training and development practice and the role of training and development across a range of organisations.
<i>Kind</i>	Demonstrate an understanding of key principles and theoretical concepts underpinning training and development within a range of contexts
<b>Know How &amp; Skill</b>	
<i>Range</i>	Apply a comprehensive range of specialised skills and tools to develop strategies required for training and development needs identification, delivery and evaluation in a range of contexts.
<i>Selectivity</i>	Select from appropriate tools and techniques to identify training and development needs, deliver and evaluate a training intervention.
<b>Competence</b>	
<i>Context</i>	Apply training and development concepts, technical skills and creative thinking to a range of contexts.
<i>Role</i>	Implement a training and development plan to include the identification of training and development needs within an organisation and delivery and evaluation of training interventions.

*Learning to Learn* Evaluate own learning and assist others to identify their learning styles and needs within a training and development context.

*Insight* Reflect on personal and professional practice, evaluating the impact on others within a training and development context.

The learning outcomes associated with this award are outlined in the associated Component Specifications

**Access** To access programmes leading to this award the learner should have reached the standards of knowledge, skill and competence associated with the preceding level of the National Framework of Qualifications. This may have been achieved through a formal qualification or through relevant life and work experience.

**Transfer** Achievement of this award will enable the learner to transfer to other appropriate programmes leading to awards at the same level of the National Framework of Qualifications.

**Progression** Achievement of this award will enable the learner to progress to other appropriate programmes leading to awards at the next or higher levels of the National Framework of Qualifications.

**Progression Awards Grading** Learners who successfully complete this award may progress to a range of different awards.

Pass

Merit

Distinction

The grade achieved will be determined by the grades achieved on the components

## 2. Certificate requirements

The total credit value required for this certificate is 30. This will be achieved by completing:

Award Code	Title	Level	Credit Value
<b>All of the following component(s)</b>			
6N3326	Training Delivery and Evaluation	6	15
6N3325	Training Needs Identification and Design	6	15

## 3. Supporting Documentation

1. None.

## 4. Specific Validation Requirements

There are no specific validation requirements.

## 5. Europass Certificate Supplement

The Europass Certificate Supplement for this award can be accessed at: [www.qqi.ie](http://www.qqi.ie).

## 6. FET Award Standards

QQI award standards are determined within the National Framework of Qualifications (NFQ), <http://www.nfq-qqi.com>. QQI determines standards for the education and training awards that it makes itself and that are made by providers to whom it has delegated authority to make an award. Providers offering programmes leading to QQI awards must have their programme(s) validated in accordance with current validation policy (see [www.qqi.ie](http://www.qqi.ie)). Award standards are designed to be consistent with the NFQ's award classes i.e. major, special purpose, supplemental and minor awards. They are expressed in terms of learning outcomes i.e. concise statements of what the learner is expected to know or be able to do in order to achieve a particular award. Learning outcomes for QQI awards are contained within the associated specifications:

<b>AWARD CLASS</b>	<b>STANDARDS</b>	<b>AWARDS</b>
<b>Major Award</b>	<b>Certificate Specification</b>	<b>Certificate (Levels 1 to 5) Advanced Certificate (Level 6)</b>
<b>Supplemental Award</b>	<b>Supplemental Specification</b>	<b>Supplemental Certificate (Level 3 to 6)</b>
<b>Special Purpose</b>	<b>Specific Purpose Specification</b>	<b>Specific Purpose Certificate (Levels 3 to 6)</b>
<b>Minor Award</b>	<b>Component Specification</b>	<b>Component Certificate (Levels 1 to 6)</b>

Award standards are thresholds, they describe standards of knowledge, skill or competence to be acquired, and where appropriate, demonstrated, by a learner before an award may be made.

Award standards will be reviewed from time to time as necessary. Minor changes may be made by the QQI executive outside the review cycle where necessary. Changes to standards are published on QQI's website. Providers with validated programmes and providers with delegated authority to make awards are responsible for monitoring relevant standards and making necessary responses to changes.

## 7. FET Credit

Every FET certificate and component specification includes an FET credit value (Table 1). FET credit is quantified in multiples of 5 FET credits (up to 50 hours of learner effort). Learner effort is based on the time taken by typical learners at the level of the award to achieve the learning outcomes for the award. It includes all learning time involved including: guided learning hours, self-directed learning and assessment.

**Table 1: FET Credit Values**

NFQ Level	Major Awards Credit Values	Default Credit Values Minor Awards	Other Permitted Minor Award Credit Values	Special Purpose and Supplemental Award Credit Value Ranges
1	20	5	10	
2	30	5	10	
3	60	10	5, 20	>5 and <60
4	90	10	5, 15, 20	>5 and <90
5	120	15	5, 10, 30	>5 and <120
6	120	15	5, 10, 30	>5 and <120

**Guide to Level**

Learning outcomes at this level include a comprehensive range of skills which may be vocationally-specific and/or of a general supervisory nature, and require detailed theoretical understanding. The outcomes also provide for a particular focus on learning skills. The outcomes relate to working in a generally autonomous way to assume design and/or management and/or administrative responsibilities. Occupations at this level would include higher craft, junior technician and supervisor.

Strand	Sub-strand	Nature of learning
Knowledge	Breadth	Specialist knowledge of a broad area
	Kind	Some theoretical concepts and abstract thinking, with significant depth in some areas.
Know How & Skill	Range	Demonstrate a broad range of specialised skills and tools
	Selectivity	Formulate responses to well defined abstract problems
Competence	Context	Utilise diagnostic and creative skills in a range of functions in a wide variety of contexts
	Role	Exercise substantial personal autonomy and often take responsibility for the work of others and/or for the allocation of resources; form and function within, multiple and complex heterogeneous groups.
	Learning to Learn	Learn to take responsibility for own learning within a managed environment.
	Insight	Express an internalised, personal world view, reflecting engagement with others.

*Extract from 'Determinations for the Outline National Framework of Qualifications': NQAI*



## Component Specifications for QQI NFQ Level 6 Award - Training Delivery and Evaluation (6N3326)

### 1. Component Details

Title	Training Delivery and Evaluation
Teideal as Gaeilge	Seachadadh Oiliúna agus Meastóireacht
Award Type	Minor
Code	6N3326
Level	6
Credit Value	15
Purpose	The purpose of this award is to equip the learner with the knowledge, skill and competence to deliver, assess and evaluate a training and development intervention.
Learning Outcomes	<p>Learners will be able to:</p> <ol style="list-style-type: none"><li>1 Outline the concepts and theories underlying the delivery and evaluation of training interventions</li><li>2 Explore the elements which impact on the effectiveness of a training session to include, the learning environment, the trainer, learning methodologies and the group dynamics of participants</li><li>3 Demonstrate an awareness of a range of issues to include equality, diversity and disability in the context of current legislation with regard to training provision</li><li>4 Appraise a range of evaluation models, approaches, tools and techniques used in the evaluation and monitoring of a training and development intervention</li><li>5 Deliver appropriate training content and materials using a range of training aids</li><li>6 Formulate appropriate evaluation tools, techniques and approaches for a training session to determine whether or not training needs were met and objectives fulfilled</li><li>7 Provide constructive feedback to participants in relation to training intervention</li><li>8 Apply a comprehensive range of specialised training delivery and evaluation skills in the delivery of an appropriate training intervention</li><li>9 Devise a training evaluation process to include the identification of key stakeholders, feedback from the trainee, challenges within the process and the conduct or methodology of the evaluation</li></ol>

10 Select from a range of evaluation tools, techniques and approaches for a training session to determine whether or not training needs were met and objectives fulfilled

11 Report on a training and development evaluation to include the identification of areas of success and of improvement opportunities.

## Assessment

### General Information

All assessment should be planned in accordance with the programme assessment strategy developed as part of the programme submission for validation. See Policies and Criteria for Validation of Programmes. Assessment should be undertaken consistently and reflect current assessment guidelines. See [www.qqi.ie](http://www.qqi.ie).

All FET assessment is criterion referenced. Successful achievement of the award is based on learners attaining the required standards of knowledge, skill or competence consistent with the minimum intended programme learning outcomes.

The techniques set out below are considered the optimum approach to assessment for this component. In exceptional circumstances providers may identify alternative assessment techniques through the provider's application for programme validation which are reliable and valid but which are more appropriate to their context.

Assessment of a number of components may be integrated across programmes for delivery, provided that the learning outcomes of each minor award are assessed.

Group or team work may form part of the assessment, provided each learner's achievement is separately assessed.

All providers are required to submit an assessment plan as part of their application for programme validation. Assessment Plans will include information relating to scheduling and integration of assessment. See current FET validation guidelines at [www.qqi.ie](http://www.qqi.ie).

### Assessment Techniques

In order to demonstrate that they have reached the standards of knowledge, skill and competence identified in all the learning outcomes, learners are required to complete the assessment(s) below.

The assessor is responsible for devising assessment instruments (e.g. project and assignment briefs, examination papers), assessment criteria and mark sheets, consistent with the techniques identified below and QQI's assessment requirements.

Programme validation will require providers to map each learning outcome to its associated assessment technique. All learning outcomes must be assessed and achieved in accordance with the minimum intended module learning outcomes set out in the validated programme.

Project	40%
Skills Demonstration	40%
Learner Record	20%

## Description

### Project

A project is a response to a brief devised by the assessor. A project is usually carried out over an extended period of time. Projects may involve research, require investigation of a topic, issue or problem or may involve process such as a design task, a performance or practical activity or production of an artefact or event

### Skills Demonstration

A skills demonstration is used to assess a wide range of practical based learning outcomes including practical skills and knowledge. A skills demonstration will require the learner to complete a task or series of tasks that demonstrate a range of skills.

### Learner Record

A learner record is the learner's self-reported and self-reflective record in which he/she describes specific learning experiences, activities, responses and skills acquired.

## Recognition of Prior Learning (RPL)

To support the development and implementation of RPL with regard to access, granting credit/exemptions and achievement of awards/parts of awards, providers should refer to QQI's Statutory Guidelines for Quality Assurance, the Policies and Criteria for Validation of Programmes and the Principles and Operational Guidelines for the Recognition of Prior Learning in Further and Higher Education and Training available at [www.qqi.ie](http://www.qqi.ie)

## Grading

Pass	50% - 64%
Merit	65% - 79%
Distinction	80% - 100%

## Specific Validation Requirements

There are no specific validation requirements

## Supporting Documentation Access

None

To access programmes leading to this award the learner should have reached the standards of knowledge, skill and competence associated with the preceding level of the National Framework of Qualifications. This may have been achieved through a formal qualification or through relevant life and work experience.

## Transfer

Successful completion of this component award enables the learner to transfer to programmes leading to other certificates

where this component is a mandatory or an elective requirement.

## 2. FET Award Standards

QQI award standards are determined within the National Framework of Qualifications (NFQ), <http://www.nfq-qqi.com>. QQI determines standards for the education and training awards that it makes itself and that are made by providers to whom it has delegated authority to make an award. Providers offering programmes leading to QQI awards must have their programme(s) validated in accordance with current validation policy (see [www.qqi.ie](http://www.qqi.ie)).

Award standards are designed to be consistent with the NFQ's award classes i.e. major, special purpose, supplemental and minor awards. They are expressed in terms of learning outcomes i.e. concise statements of what the learner is expected to know or be able to do in order to achieve a particular award. Learning outcomes for FET awards are contained within the associated specifications:

AWARD CLASS	STANDARDS	AWARDS
Major Award	Certificate Specification	Certificate (Levels 1 to 5) Advanced Certificate (Level 6)
Supplemental Award	Supplemental Specification	Supplemental Certificate (Level 3 to 6)
Special Purpose	Specific Purpose Specification	Specific Purpose Certificate (Levels 3 to 6)
Minor Award	Component Specification	Component Certificate (Levels 1 to 6)

Award standards are thresholds, they describe standards of knowledge, skill or competence to be acquired, and where appropriate, demonstrated, by a learner before an award may be made.

Award standards will be reviewed from time to time as necessary. Minor changes may be made by the QQI executive outside the review cycle where necessary. Changes to standards are published on QQI's website. Providers with validated programmes and providers with delegated authority to make awards are responsible for monitoring relevant standards and making necessary responses to changes.

## 3. FET Credit

Every FET certificate and component specification includes an FET credit value (Table 1). FET credit is quantified in multiples of 5 FET credits (up to 50 hours of learner effort). Learner effort is based on the time taken by typical learners at the level of the award to achieve the learning outcomes for the award. It includes all learning time involved including: guided learning hours, self-directed learning and assessment.

Table 1: FET Credit Values

NFQ Level	Major Awards Credit Values	Default Credit Values Minor Awards	Other Permitted Minor Award Credit Values	Special Purpose and Supplemental Award Credit Value Ranges
1	20	5	10	
2	30	5	10	
3	60	10	5, 20	>5 and <60
4	90	10	5, 15, 20	>5 and <90
5	120	15	5, 10, 30	>5 and <120
6	120	15	5, 10, 30	>5 and <120

### Guide to Level

Learning outcomes at this level include a comprehensive range of skills which may be vocationally-specific and/or of a general supervisory nature, and require detailed theoretical understanding. The outcomes also provide for a particular focus on learning skills. The outcomes relate to working in a generally autonomous way to assume design and/or management and/or administrative responsibilities. Occupations at this level would include higher craft, junior technician and supervisor.

Strand	Sub-strand	Nature of learning
Knowledge	Breadth	Specialist knowledge of a broad area
	Kind	Some theoretical concepts and abstract thinking, with significant depth in some areas.
Know How & Skill	Range	Demonstrate a broad range of specialised skills and tools
	Selectivity	Formulate responses to well defined abstract problems
Competence	Context	Utilise diagnostic and creative skills in a range of functions in a wide variety of contexts
	Role	Exercise substantial personal autonomy and often take responsibility for the work of others and/or for the allocation of resources; form and function within, multiple and complex heterogeneous groups.
	Learning to Learn	Learn to take responsibility for own learning within a managed environment.
	Insight	Express an internalised, personal world view, reflecting engagement with others.

*Extract from 'Determinations for the Outline National Framework of Qualifications': NQAI*

# Component Specifications for QQI NFQ Level 6 Award - Training Needs Identification and Design (6N3325)

## 1. Component Details

Title	Training Needs Identification and Design
Teideal as Gaeilge	Oiliúint Riachtanais a Aithint agus Dearadh
Award Type	Minor
Code	6N3325
Level	6
Credit Value	15
Purpose	The purpose of this award is to equip the learner with the knowledge, skill and competence to identify training and development needs at an organisation and or individual level, to devise a training plan and to explore the scope of training and development design to meet those needs.
Learning Outcomes	<p>Learners will be able to:</p> <ol style="list-style-type: none"><li>1 Examine the internal and external environmental factors influencing training and development requirements</li><li>2 Differentiate between the concepts of learning, training, development and education</li><li>3 Examine the impact of organisation strategy, policy, vision and mission on training and development</li><li>4 Examine the purpose of training and development in an organisational and or individual setting</li><li>5 Outline the benefits of training needs analysis at an organisation and or individual level 2</li><li>6 Assess a range of approaches and techniques to conduct a training needs analysis</li><li>7 Outline the stages in conducting a training needs analysis</li><li>8 Assess a range of Instructional System Design (ISD) models</li><li>9 Apply a comprehensive range of specialised skills and tools in identifying the barriers to training and attitudes to training in an organisation</li><li>10 Devise a training plan based on prioritised training needs to include a cost benefit analysis</li><li>11 Design a training intervention, that incorporates a range of design factors to include trainees, adult learning theories, motivation theories, objectives, exercises, training methods, learning aids, location and facilities</li><li>12 Develop appropriate training content and materials using a range of learning aids to include web based facilities, software, flipcharts and handouts</li></ol>

- 13 Evaluate a range of performance management approaches in the context of identifying training and development needs
- 14 Conduct a Training Needs Analysis (TNA) to identify training and development needs for an organisation and or individual
- 15 Identify TNA outcomes in terms of gaps in knowledge, skills and attitudes.

## Assessment

### General Information

All assessment should be planned in accordance with the programme assessment strategy developed as part of the programme submission for validation. See **Policies and Criteria for Validation of Programmes**. Assessment should be undertaken consistently and reflect current assessment guidelines. See [www.qqi.ie](http://www.qqi.ie).

All FET assessment is criterion referenced. Successful achievement of the award is based on learners attaining the required standards of knowledge, skill or competence consistent with the **minimum intended programme learning outcomes**.

The techniques set out below are considered the optimum approach to assessment for this component. In exceptional circumstances providers may identify alternative assessment techniques through the provider's application for programme validation which are reliable and valid but which are more appropriate to their context.

Assessment of a number of components may be integrated across programmes for delivery, provided that the learning outcomes of each minor award are assessed.

Group or team work may form part of the assessment, provided each learner's achievement is separately assessed.

All providers are required to submit an assessment plan as part of their application for programme validation. Assessment Plans will include information relating to scheduling and integration of assessment. See current FET validation guidelines at [www.qqi.ie](http://www.qqi.ie).

### Assessment Techniques

In order to demonstrate that they have reached the standards of knowledge, skill and competence identified in all the learning outcomes, learners are required to complete the assessment(s) below.

The assessor is responsible for devising assessment instruments (e.g. project and assignment briefs, examination papers), assessment criteria and mark sheets, consistent with the techniques identified below and QQI's assessment requirements.

Programme validation will require providers to map each learning outcome to its associated assessment technique. All learning outcomes must be assessed and achieved in

accordance with the **minimum intended module learning outcomes** set out in the validated programme.

Assignment 40%

Project 60%

## Description

### Assignment

*An assignment is an exercise carried out in response to a brief with specific guidelines as to what should be included. An assignment is usually of short duration and may be carried out over a specified period of time.*

The assessor will devise two assignment with a weighting of 20% each.

### Project

*A project is a response to a brief devised by the assessor. A project is usually carried out over an extended period of time. Projects may involve research, require investigation of a topic, issue or problem or may involve process such as a design task, a performance or practical activity or production of an artefact or event.*

## Recognition of Prior Learning (RPL)

To support the development and implementation of RPL with regard to access, granting credit/exemptions and achievement of awards/parts of awards, providers should refer to **QQI's Statutory Guidelines for Quality Assurance**, the **Policies and Criteria for Validation of Programmes** and the **Principles and Operational Guidelines for the Recognition of Prior Learning in Further and Higher Education and Training** available at [www.qqi.ie](http://www.qqi.ie)

## Grading

Pass 50% - 64%

Merit 65% - 79%

Distinction 80% - 100%

## Specific Validation Requirements

There are no specific validation requirements

## Supporting Documentation Access

None

## Transfer

To access programmes leading to this award the learner should have reached the standards of knowledge, skill and competence associated with the preceding level of the National Framework of Qualifications. This may have been achieved through a formal qualification or through relevant life and work experience. Successful completion of this component award enables the learner to transfer to programmes leading to other certificates where this component is a mandatory or an elective requirement.



## 2. FET Award Standards

QQI award standards are determined within the National Framework of Qualifications (NFQ), <http://www.nfq-qqi.com>. QQI determines standards for the education and training awards that it makes itself and that are made by providers to whom it has delegated authority to make an award. Providers offering programmes leading to QQI awards must have their programme(s) validated in accordance with current validation policy (see [www.qqi.ie](http://www.qqi.ie)).

Award standards are designed to be consistent with the NFQ's award classes i.e. major, special purpose, supplemental and minor awards. They are expressed in terms of learning outcomes i.e. concise statements of what the learner is expected to know or be able to do in order to achieve a particular award. Learning outcomes for FET awards are contained within the associated specifications:

AWARD CLASS	STANDARDS	AWARDS
Major Award	Certificate Specification	Certificate (Levels 1 to 5) Advanced Certificate (Level 6)
Supplemental Award	Supplemental Specification	Supplemental Certificate (Level 3 to 6)
Special Purpose	Specific Purpose Specification	Specific Purpose Certificate (Levels 3 to 6)
Minor Award	Component Specification	Component Certificate (Levels 1 to 6)

Award standards are thresholds, they describe standards of knowledge, skill or competence to be acquired, and where appropriate, demonstrated, by a learner before an award may be made.

Award standards will be reviewed from time to time as necessary. Minor changes may be made by the QQI executive outside the review cycle where necessary. Changes to standards are published on QQI's website. Providers with validated programmes and providers with delegated authority to make awards are responsible for monitoring relevant standards and making necessary responses to changes.

## 3. FET Credit

Every FET certificate and component specification includes an FET credit value (Table 1). FET credit is quantified in multiples of 5 FET credits (up to 50 hours of learner effort). Learner effort is based on the time taken by typical learners at the level of the award to achieve the learning outcomes for the award. It includes all learning time involved including: guided learning hours, self-directed learning and assessment.

**Table 1: FET Credit Values**

NFQ Level	Major Awards Credit Values	Default Credit Values Minor Awards	Other Permitted Minor Award Credit Values	Special Purpose and Supplemental Award Credit Value Ranges

1	20	5	10	
2	30	5	10	
3	60	10	5, 20	>5 and <60
4	90	10	5, 15, 20	>5 and <90
5	120	15	5, 10, 30	>5 and <120
6	120	15	5, 10, 30	>5 and <120

### Guide to Level

Learning outcomes at this level include a comprehensive range of skills which may be vocationally-specific and/or of a general supervisory nature, and require detailed theoretical understanding. The outcomes also provide for a particular focus on learning skills. The outcomes relate to working in a generally autonomous way to assume design and/or management and/or administrative responsibilities. Occupations at this level would include higher craft, junior technician and supervisor.

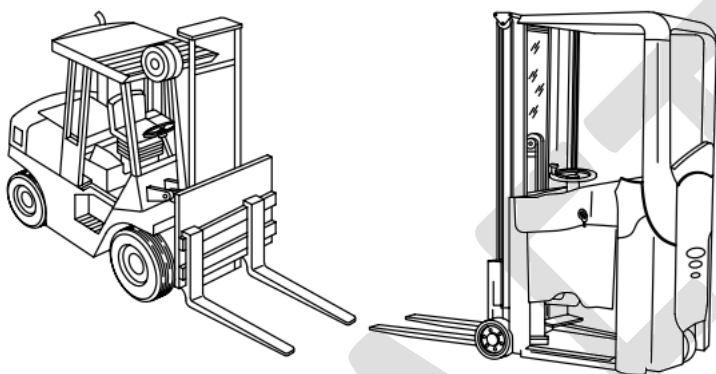
Strand	Sub-strand	Nature of learning
Knowledge	Breadth	Specialist knowledge of a broad area
	Kind	Some theoretical concepts and abstract thinking, with significant depth in some areas.
Know How & Skill	Range	Demonstrate a broad range of specialised skills and tools
	Selectivity	Formulate responses to well defined abstract problems
Competence	Context	Utilise diagnostic and creative skills in a range of functions in a wide variety of contexts
	Role	Exercise substantial personal autonomy and often take responsibility for the work of others and/or for the allocation of resources; form and function within, multiple and complex heterogeneous groups.
	Learning to Learn	Learn to take responsibility for own learning within a managed environment.
	Insight	Express an internalised, personal world view, reflecting engagement with others.

*Extract from 'Determinations for the Outline National Framework of Qualifications': NQAI*

## Annex I – Types of rider-operated industrial trucks (non exhaustive list)

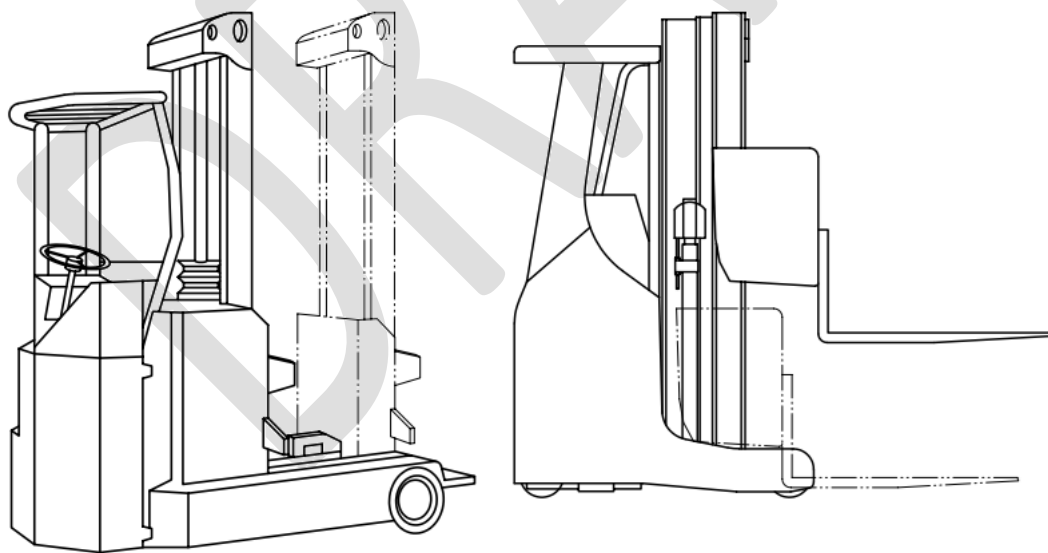
Extract from:

ISO 5053-1:2020 Industrial trucks Vocabulary Part 1: Types of industrial trucks



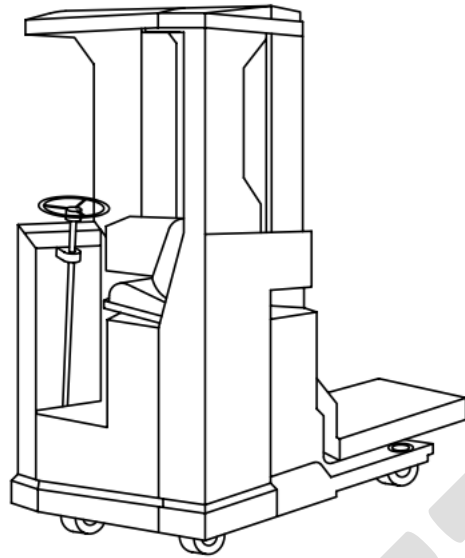
### **counterbalance lift truck**

stacking lift truck fitted with fork arms (or with the fork arms replaced by another device) on which the load, either palletized or not, is put in a cantilever position in relation to the front wheels and balanced by the mass of the truck

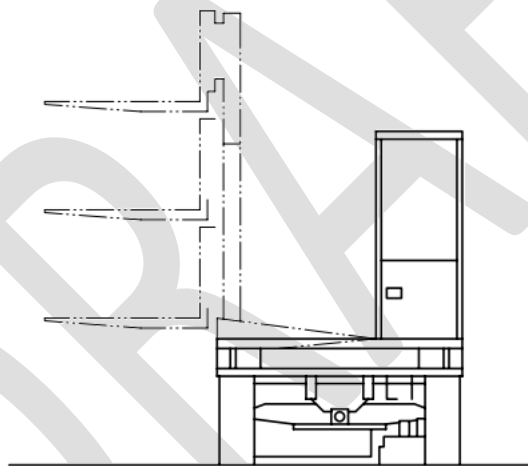


### **reach truck [with retractable mast] [with fork arm carriage]**

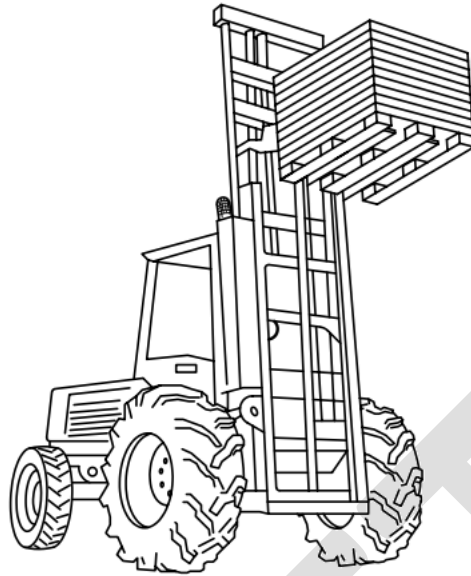
stacking lift truck with outriggers where the load can be repositioned by moving the [retractable mast] [fork arm carriage]



**platform truck**  
stacking lift truck with a load platform extending over the frame structure

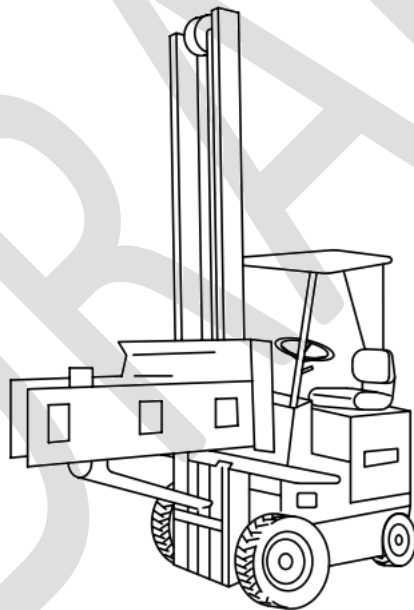


**side-loading truck**  
<one side only> lift truck with mast structure or fork arm carriage which can be extended and retracted between the axles and perpendicular to the longitudinal axis of the truck, allowing it to pick up and raise a load in a counterbalanced position in relation to one side of the truck and stack or unstack alongside the truck



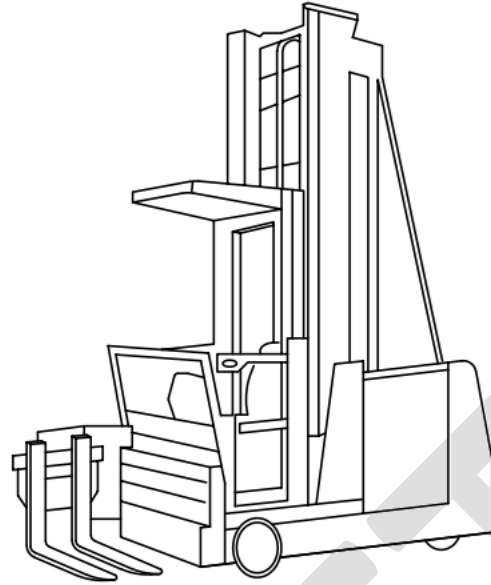
**rough-terrain truck**

wheeled counterbalanced truck, intended primarily for operation on unimproved natural terrain and on the disturbed terrain of, for example, construction sites



**lateral-stacking truck**

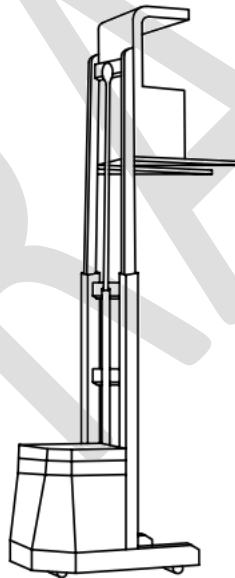
<both sides> high-lift stacking truck capable of stacking and retrieving loads on both sides of the direction of travel



**lateral- and front-stacking truck**

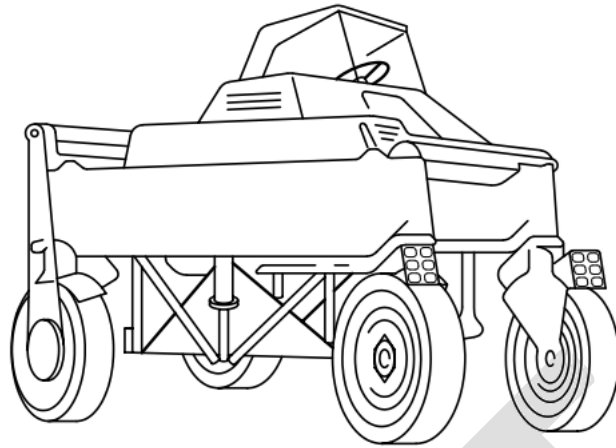
turret truck

<three sides> high-lift stacking truck capable of stacking and retrieving loads ahead and on either or both sides



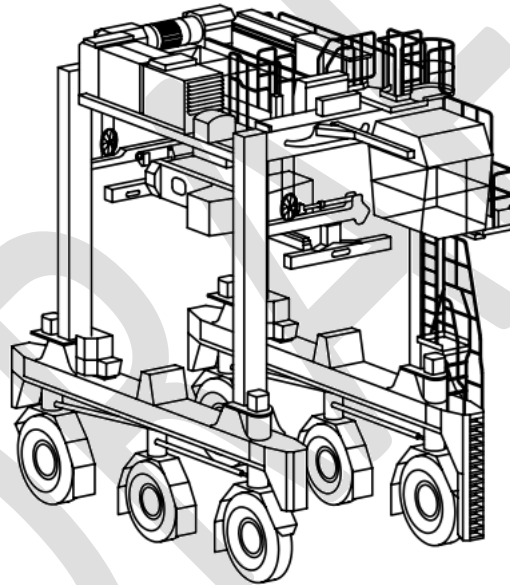
**order-picking truck**

lift truck fitted with an operator's platform which can be raised with the platform or fork arms, allowing the operator to load or unload goods from racking to the load-carrying attachment



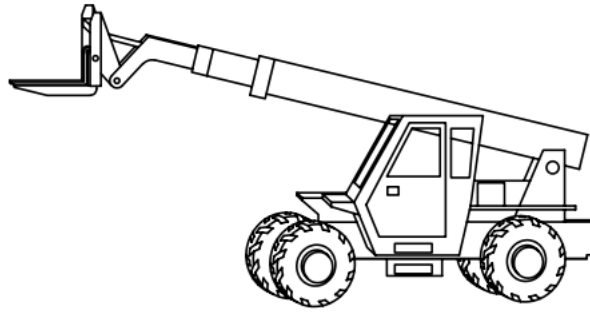
**non-stacking low-lift straddle carrier**

lift truck where the frame and lift unit straddle the load to raise and move it



**stacking high-lift straddle carrier**

lift truck where the frame and lift unit straddle the load to raise, move and stack it



**variable-reach truck**

telescopic handler

tele-handler

lift truck fitted with one or more articulated arms, telescopic or not, non-slewing or having a slewing movement of not more than 5° either side of the longitudinal axis of the truck used for stacking loads



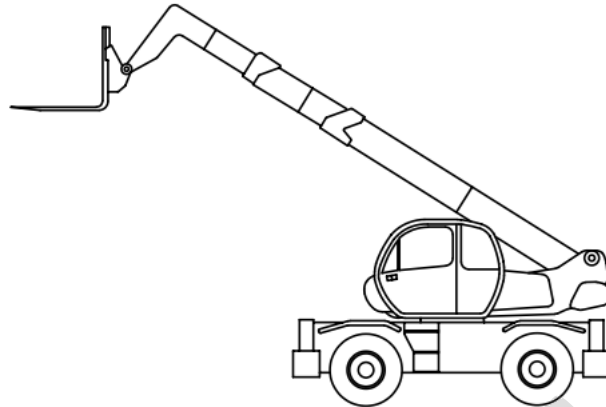
**rough-terrain variable-reach truck**

telescopic handler

tele-handler

variable-reach truck intended primarily for operation on unimproved natural terrain and on the disturbed terrain of, for example, construction sites



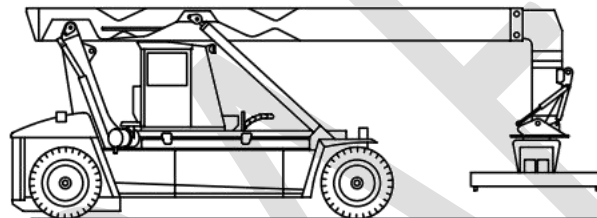


**slewing rough-terrain variable-reach truck**

rotating telescopic handler

rotating tele-handler

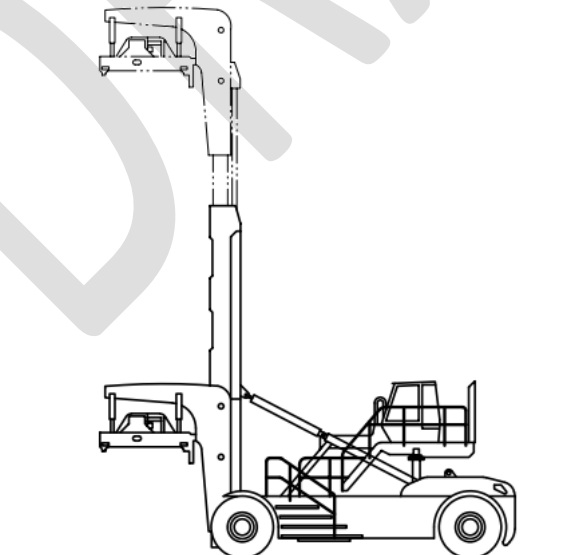
rough-terrain variable-reach truck with an upper structure which can rotate around a vertical axis of the chassis in a circular motion greater than 5° either side of the longitudinal axis of the truck



**variable-reach container handler**

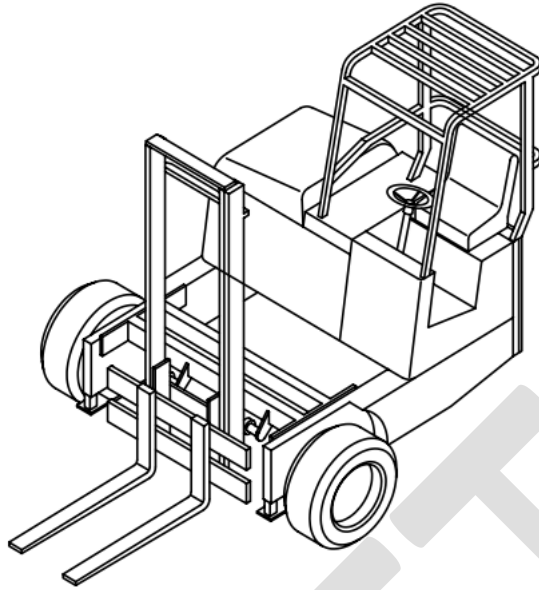
reach stacker

lift truck fitted with one or more articulated arms, telescopic or not, non-slewing used for stacking containers (empty or laden)



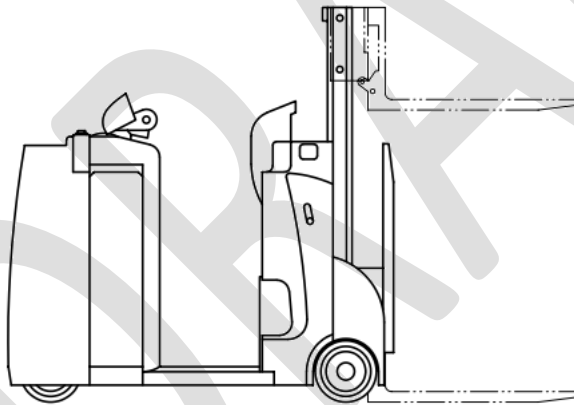
**counterbalance container handler**

lift truck fitted with a spreader used for stacking containers (empty or laden)



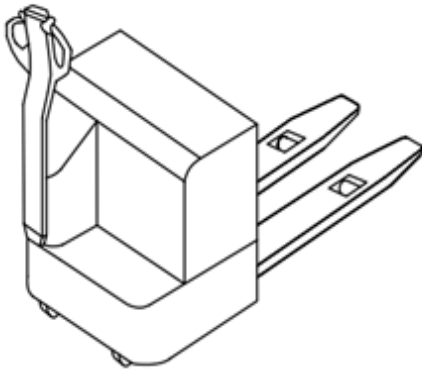
**lorry-[truck-] [trailer-] mounted truck**

wheeled, operator-controlled truck with a powered driving mechanism, designed either to carry, stack or tier in racks any kind of load, and capable of self-loading to, and self-unloading from, a carrier vehicle using its load-lifting means

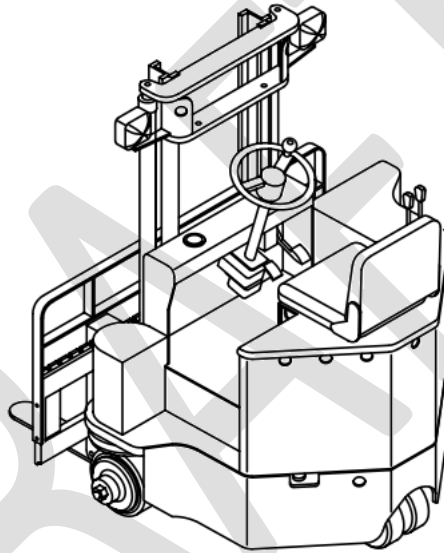


**towing and stacking tractor**

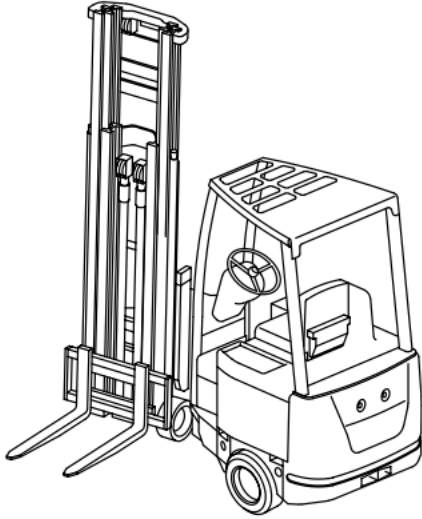
truck which combines towing of trailers and stacking or moving goods



**pallet truck**  
pedestrian-controlled or rider-controlled non-stacking lift truck fitted with forks



**multi-directional lift truck**  
truck which can travel and turn in forward, backward, left, and right directions with load handling and stacking functions



**articulated counterbalance lift truck**

stacking lift truck, either pedestrian-controlled or ride-on-controlled, fitted with fork arms (or other device), on which the load, palletized or not, is put into a cantilever position in relation to the front wheels; and where the front wheels, load and mast are rotated to substantially 90° in relation to the rear of the truck, thus allowing operation in narrow aisles while maintaining the general purpose ability of a counterbalance lift truck.