

Guidance Notes for Safe Use of Fork-lift Trucks



Occupational Safety and Health Branch
Labour Department



**Guidance Notes for
Safe Use of Fork-lift Trucks**

This booklet is prepared by the
Occupational Safety and Health Branch
Labour Department

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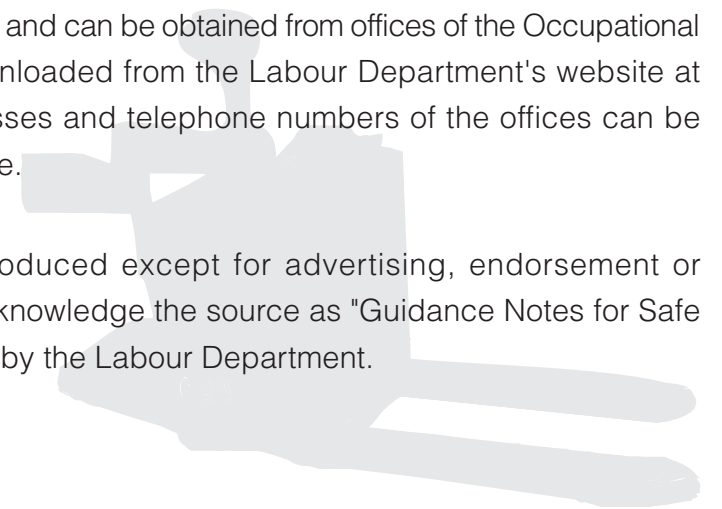




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1. Introduction

- 1.1 Fork-lift trucks (fork-lifts) are widely used for lifting, transporting and handling goods and materials in Hong Kong, especially in the industrial sector. Every year, there are quite a number of fork-lift accidents leading to serious bodily injuries, deaths or property damage. Common causes leading to these accidents include :
- (a) lack of proper training;
 - (b) no segregation of pedestrians from fork-lift operations;
 - (c) lack of edge protection to prevent falls of fork-lifts;
 - (d) operating in areas that have slippery floors;
 - (e) operating in ramps having gradients exceeding recommended safe angles;
 - (f) lack of proper maintenance of tyres; and
 - (g) inappropriate modification of fork-lifts for other purposes.
- 1.2 To effectively reduce the risks of fork-lift accidents in a workplace, a safe system of work comprising risk assessment, planning, workplace control, fork-lift selection, training of personnel, implementation, reviewing and auditing should be established and maintained.
- 1.3 This booklet provides practical guidance on how fork-lifts can be used safely and properly with a view to assisting the duty holders of workplaces in preventing accidents.
- 1.4 It should be noted that the Guidance Notes in this booklet should not be regarded as exhausting those matters which need to be covered by the relevant safety legislation, nor are they intended to relieve persons undertaking the work of their statutory responsibilities.



2. Definitions

For the purpose of these Guidance Notes, the following definitions, which are extracted from the Factories and Industrial Undertakings (Loadshifting Machinery) Regulation, the Construction Sites (Safety) Regulations and the Factories and Industrial Undertakings (Lifting Appliances and Lifting Gear) Regulations (LALGR), apply :

"certificate" (證書)

means a certificate issued to a person by the organizer of a training course which evidences that, by virtue of his attendance at the training course designed for that purpose, he is trained and competent to operate a particular type of fork-lift truck.

"competent examiner" (合資格檢驗員)

A competent examiner, in relation to the carrying out of any test and examination required by the LALGR, means a person who is :

- (a) appointed by the owner required by those regulations to ensure that the test and examination is carried out;
- (b) a registered professional engineer registered under the Engineers Registration Ordinance (Cap. 409) within a relevant discipline specified by the Commissioner for Labour; and
- (c) by reason of his qualifications, training and experience, competent to carry out the test and examination.

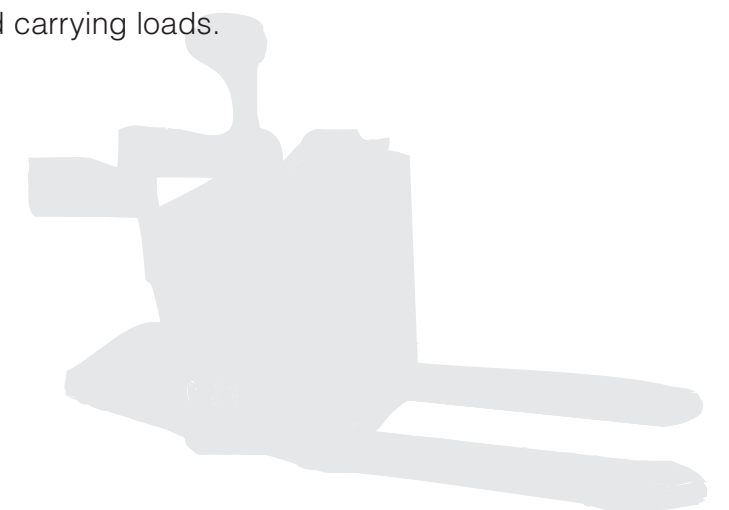
(Regulation 3(1) of the LALGR)

"construction site" (建築地盤)

means a place where construction work is undertaken and also any area in the immediate vicinity of any such place which is used for the storage of materials or plant used or intended to be used for the purpose of the construction work.

"fork-lift truck" (叉式起重車)

means any self-propelled vehicle equipped with a mast along which travels a power-operated device for elevating and carrying loads.



"responsible person" (負責人)

in relation to a fork-lift truck, means a person who is having the management or in charge of the machine but does not include a person who operates the machine, and the contractor who has control over the way any construction work which involves the use of the machine is carried out and, in the case of a fork-lift truck situated on or used in connection with work on a construction site, also means the contractor responsible for the construction site.

"training course" (訓練課程)

means a training course that is :

- (a) recognized by the Commissioner;
- (b) conducted for the purpose of instructing a person in the operation of a type of fork-lift truck; and
- (c) designed to ensure that a person is adequately trained and competent to operate a type of fork-lift truck.



3. Legal Requirements and Provisions

Legal requirements

- 3.1 Legal obligation is imposed on the responsible person of a fork-lift truck to ensure the fork-lift truck is only operated by a person who :
 - (a) has attained the age of 18 years; and
 - (b) holds a valid certificate applicable to the type of fork-lift truck to which it belongs.
<<under section 3 of the Factories and Industrial Undertakings (Loadshifting Machinery) Regulation>>
- 3.2 It is also the duty of the responsible person for ensuring the provision to each of his employees who is instructed (whether directly or indirectly) by him to operate a fork-lift truck a training course conducted for the type of fork-lift truck to which it belongs.
<<under section 4 of the Factories and Industrial Undertakings (Loadshifting Machinery) Regulation>>
- 3.3 An employee referred to in the preceding paragraph is required to attend such training course as may be provided by the responsible person of the fork-lift truck unless he holds a valid certificate applicable to the type of fork-lift truck to which that fork-lift truck belongs.
<<under section 5 of the Factories and Industrial Undertakings (Loadshifting Machinery) Regulation>>
- 3.4 Legal requirements have also been laid down in the Code of Practice on Mechanical Handling Safety in Container Yards. The proprietor of a container yard or container storage area is therefore required to comply with relevant legal requirements in the Code concerning operation of fork-lift trucks.



General duties provisions

- 3.5 Every *proprietor* is required under *Section 6A of the Factories and Industrial Undertakings Ordinance (Chapter 59)* to ensure the safety and health at work of his employees. Therefore it is the responsibility of the proprietor to assess and evaluate the risks of fork-lift operations in conjunction with the working condition and environment. The responsibility extends to include the provision of information, instruction, training and supervision for all persons employed by him. To effectively discharge the duties, the proprietor should provide or establish a safe system of work documenting all aspects of workplace control, fork-lift selection, training, implementation, reviewing and auditing.
- 3.6 Legal obligation is imposed on every *person employed* in an undertaking under *Section 6B of the Factories and Industrial Undertakings Ordinance (Chapter 59)* to take care for the safety and health of others and himself; and to co-operate with his proprietor to enable safety requirements and rules are complied with. In this respect, he must follow the rules and instructions of his proprietor to ensure a safe fork-lift operations. In case of doubt, advice from his proprietor should be sought. He should also report any defects on the fork-lift he operates immediately.

Remark

- 3.7 Similar general duties provisions are imposed on every employer and employee of workplaces respectively under *Section 6 and Section 8 of the Occupational Safety and Health Ordinance (Chapter 509)*. The same standards of compliance should therefore apply to those fork-lift operations performed in workplaces other than industrial undertakings.



4. Management of Fork-lift Operations

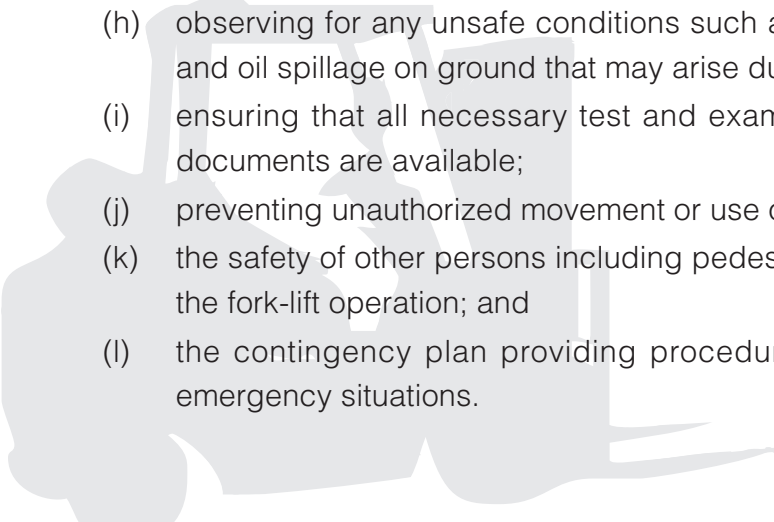
- 4.1 For the safe operations of fork-lift trucks, a safe system of work for fork-lift operations should be established and documented. This can provide a systematic and effective approach to ensure safe operations as well as the implementation of control measures for eliminating or reducing hazards associated with fork-lift operations. The safe system of work should be prepared and endorsed by the responsible person, with the advice of a competent assessor or safety officer. The safe system of work should be effectively communicated to all parties concerned. This safe system of work should include the following :
- (a) risk assessment;
 - (b) planning, developing and organizing;
 - (c) implementation;
 - (d) reviewing; and
 - (e) auditing.

Risk assessment

- 4.2 Risk assessment should be conducted to identify all potential hazards associated with the fork-lift operations. Particular attention should be paid to the working environment, the ground condition and the limitations of the types of fork-lift trucks to be used. Anticipated changes of job methods and working conditions should be considered. Danger arising from unauthorized operation of fork-lift trucks, ineffective segregation of pedestrians and fork-lift trucks, ineffective maintenance, overloading or misuse of fork-lift trucks should also be evaluated. The level of the risks associated with each hazard should be properly assessed and documented.



Planning, developing and organizing

- 4.3 All fork-lift operations should be planned to ensure that they are carried out safely and that all foreseeable risks have been taken into account. Planning should be carried out by personnel who have the appropriate expertise and have been appointed for this purpose. After the result of risk assessment is documented, engineering or administrative controls should be devised for elimination or reduction of the risks. In determining and formulating control measures and procedures, particular attention should be paid to how to lay out the premises so that fork-lift trucks can move safely. Adequate arrangements on the selection, use and maintenance of fork-lift trucks and associated equipment should be provided. Administrative control for ensuring that all operators have valid and appropriate certificates and that the fork-lift operations are properly supervised should also be laid down.
- 4.4 Furthermore, it is important to ensure that the roles and responsibilities of operators, supervisors and managers are properly defined and spelled out. The following essential elements for the safe use of fork-lift operations should always be included in the control measures and procedures :
- (a) selection, provision and use of suitable fork-lifts and equipment;
 - (b) maintenance, examination and testing of fork-lifts and equipment;
 - (c) the provision of the manufacturer's operation and maintenance manual;
 - (d) the provision of a logbook for each fork-lift so that details of testing, examination, inspection, maintenance/repair works carried out can be entered;
 - (e) the provision and maintenance of a safe working condition and environment for the fork-lift operations;
 - (f) the provision of properly trained and competent personnel who have been made aware of their relevant responsibilities;
 - (g) adequate supervision by properly trained and competent personnel;
 - (h) observing for any unsafe conditions such as adverse weather conditions and oil spillage on ground that may arise during the operations;
 - (i) ensuring that all necessary test and examination certificates and other documents are available;
 - (j) preventing unauthorized movement or use of fork-lift at all times;
 - (k) the safety of other persons including pedestrians who may be affected by the fork-lift operation; and
 - (l) the contingency plan providing procedures to be followed in case of emergency situations.
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Implementation

- 4.5 The responsible person has the ultimate responsibility for the execution of the control measures for the safe use of fork-lift trucks. The responsibility should also cover the provision of information, instruction, training and supervision. To ensure the effective implementation, an effective communicating arrangement should be established so that all managers, supervisors and workers are fully aware of the potential hazards, precautions to be adopted and their roles to play. Special attention should be paid to the operator's responsibilities for ensuring safety rules, safety practices, precautions and procedures are followed and the operational supervision for monitoring the operator's performance. A record keeping arrangement should also be available to monitor the performance.

Reviewing and auditing

- 4.6 The procedure or precautions laid down as well as the responsibilities established for the use of fork-lift trucks should be periodically reviewed to see how and how good the safe system of work is performing and whether adjustment or improvement is required. Particular attention should be paid to the change of any process which may render fork-lift trucks selected ineffective and may constitute hazards for which additional control measures are required. As far as possible, feedback from operators and workers should be sought during the review. This will certainly improve the effectiveness of the system and workers' acceptance.
- 4.7 An auditing plan should also be established to ensure long term adequacy and reliability of the safe system of work. The auditing process should review new or revised standards requiring protection, accident statistics, workers' acceptance, changes in processes and the availability of alternative control measures.



5. Workplace Conditions

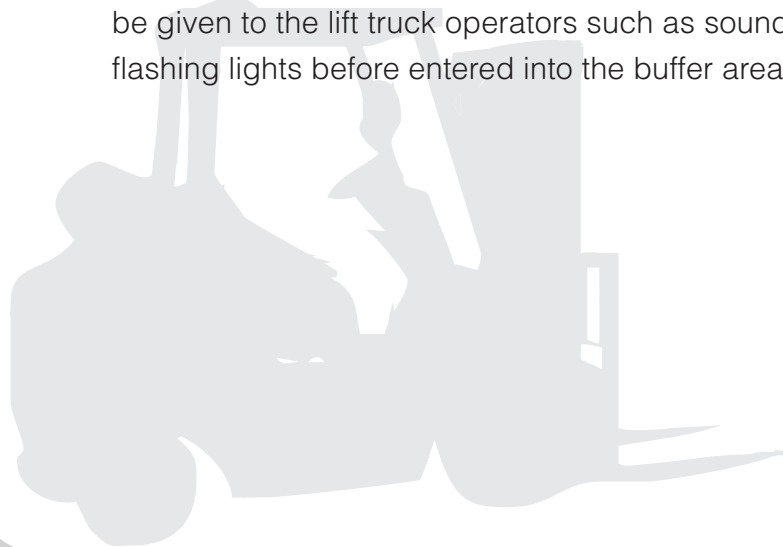
5.1 Most of the fork-lift accidents are related to failure in laying out premises for the safe movement of fork-lift trucks. Typical examples are: crashing onto pedestrian workers by fork-lift trucks due to lack of pedestrian ways or lack of fencing to guard against unauthorized entry to the workplaces; overturning of fork-lift trucks at sharp bends; and falling of fork-lift trucks over unprotected edges of loading bays. It is therefore important for the responsible person to layout the premises properly during the planning stage of the fork-lift operation. Particular attention should be paid to traffic routes, pavement for pedestrians, sharp or blind bends, junctions, limited headroom, overhead electric cables or gas pipes, loading and unloading points, floor/ground condition, direction and warning signs, and space for parking unattended fork-lift trucks.

Protecting pedestrians

5.2 Many workplaces such as factories, logistics area and construction sites have pedestrian workers working close to areas where fork-lift trucks are operating. Where possible, suitable walkways for pedestrians, physically segregated from the operating areas, should be provided. Suitable designated pedestrian crossing points should be provided so that pedestrians can cross the traffic routes and the fork-lift truck operating areas safely. Suitable direction and warning signs should be clearly marked or posted at these crossing points.

Loading and unloading areas

5.3 Loading and unloading areas should be located away from the traffic routes or the walkways for pedestrians. Where pedestrian workers are required to carry out preparation on loads to be picked up by fork-lift trucks, a buffer area surrounding the load preparation area should be designated. The buffer area should be clearly marked such as with black and yellow stripes. Suitable instructions should be given to the lift truck operators such as sounding horns and/or actuating the flashing lights before entered into the buffer area.



Parking areas

5.4 Sufficient and suitable parking areas should be provided for all fork-lift trucks. These areas should be separated from the loading/unloading areas and the main traffic route. They should be located at supervised areas to prevent easy accessibility to unauthorized personnel.

Restricted or prohibited areas

5.5 Restricted or prohibited areas for preventing unauthorized entry into the fork-lift operating areas including the traffic routes should be set up. Public access areas should be suitably fenced off from the restricted or prohibited areas. Warning notices for preventing unauthorized entry should be posted.

Obstructions

5.6 Driving areas should be free from obstructions as far as possible. Features such as support columns, racks, plant, machinery or pipe-work should be identified. They should be provided by impact absorbent packing and painted to improve their visibility. It should be noted that trees and surrounding buildings in an open area may cause obstruction to the movement of fork-lift trucks. If such is the case, they should be suitably fenced off from the traffic routes or operating areas of fork-lift trucks.



Floor edges or openings

5.7 Suitable guard-rails should be erected on unprotected floor edges or openings, excavations and pits. For edges of loading bays, suitable barriers should be provided as far as possible. The areas should be clearly marked, such as by black and yellow stripes, so as to improve their visibility.

Doorways and lift landings

5.8 Doorways and landing places of lifts should be clearly marked. Clear direction or warning signs should be provided to avoid collisions with other fork-lift trucks or crashing onto pedestrians.

Traffic routes

5.9 The traffic routes should be properly planned. They should have sufficient width and overhead clearance for the largest fork-lift truck on the premises. Particular attention should be paid to the turning radii of the fork-lift trucks and the dimensions of loads to be handled. Sharp bends and overhead obstructions should always be avoided as far as possible. Where hazards cannot be removed, the risk should be reduced by the use of barriers which are clearly marked.

5.10 To reduce the risk of collisions, a one-way system should be introduced for the traffic routes. Fixed road mirrors should also be provided on areas where operators do not have clear vision of the routes ahead. Junctions of truck movement and crossing points for pedestrians should be kept to a minimum. Sensible speed limits should be set and clearly signposted. It should be noted that road humps are not suitable for fork-lift trucks.



Surfaces or floors

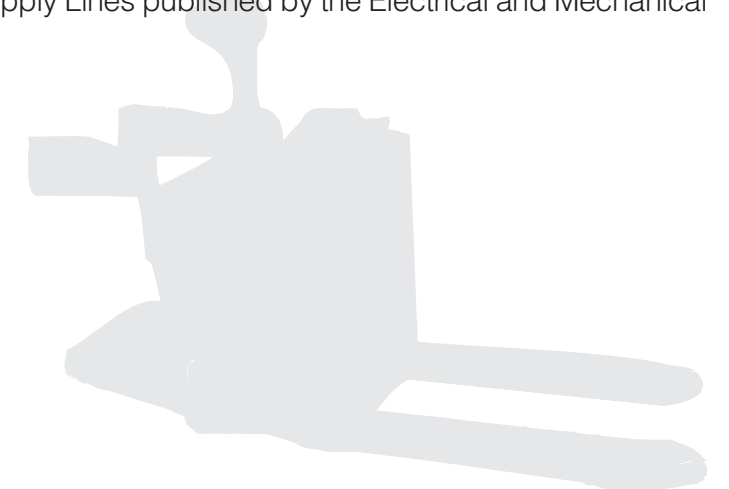
5.11 The surfaces or floors where fork-lift trucks are operating should be of adequate load-bearing capacity. They should be as level and firm as is reasonably practicable and be preferably surfaced with concrete or other suitable materials. They should provide adequate traction to ensure safe operation of fork-lift trucks. The surfaces should be kept free from potholes or loose materials.

Maximum gradient

5.12 Any gradient on which fork-lift trucks have to travel should be kept as gentle as reasonably practicable. It should be noted that no fork-lift truck should traverse across a gradient unless designed for such purpose. The maximum gradient given in the manufacturer's specification should never be exceeded. Where such maximum gradient has not been provided, it is recommended that gradients do not exceed 10% (i.e. 5.7 degrees).

Overhead electricity lines

5.13 Where a fork-lift truck has a chance of coming within a horizontal distance of 9 metres from the outermost conductor of any live overhead electricity lines, the responsible person should before works are begun, liaise with the owner of the overhead lines, e.g. a power company, to work out the exact safety requirements and devise the safe work plans. Any person working in the vicinity of overhead electricity lines shall observe the relevant provisions on taking all reasonable steps and all reasonable measures as stipulated in Section 10 of the Electricity Supply Lines (Protection) Regulation (Cap. 406H). In particular, a safe working distance must be maintained between any part of the fork-lift truck and the overhead line conductor. Reference should be made to the Code of Practice on Working near Electricity Supply Lines published by the Electrical and Mechanical Services Department.



Underground services

5.14 The danger due to underground services, such as gas mains or electric cables, should not be overlooked. Precautions should be taken to ensure that no fork-lift truck is working or moving close to any underground services. Where this is not possible, the services should be adequately protected to safeguard against any damage.

Lighting

5.15 All areas where fork-lift trucks work or travel should be adequately lit. Where practicable, lighting should be arranged to avoid glare. Extremes of light and dark between adjacent areas, to which the eye cannot be adapted so quickly for the sudden change, should be avoided.

Ventilation

5.16 Adequate general ventilation and where necessary, exhaust ventilation should be provided and maintained in all workplaces where fork-lift trucks work. For internal combustion engines, it is important to remove exhaust fumes and that the engine should be properly maintained. The use of filter systems or catalytic converters should always be considered. If filter systems are provided, they should be properly maintained to ensure the effectiveness.



Interaction with other vehicles

5.17 For areas where fork-lift trucks might meet with other vehicles, thorough assessment on the traffic arrangement should be made. Special attention should be paid to the provision of 'Give Way' and 'Stop' signs. The parking areas as well as the loading and unloading positions for those vehicles should be clearly marked. Instructions to the personnel of those vehicles should be signposted. Arrangements for reversing of vehicles and pedestrian protection should be properly planned and supervised.

Refuelling or battery recharging areas

5.18 Suitable designated refuelling areas or battery recharging areas should be assigned. It should be noted that gasoline, diesel and liquefied petroleum gas (LPG) fork-lift truck shall only be refueled outdoors. For battery charging or liquefied petroleum gas (LPG) cylinder replacement process, it should only be performed in well-ventilated areas. These refuelling or battery recharging areas should be free of any sparking-producing or naked-flame process. 'No smoking' notices should be posted and adequate suitable fire extinguishers should be provided. These areas should be located away from the traffic routes or walkways for pedestrians. Where exempted quantities of gasoline, diesel or LPG are to be exceeded, the responsible person should, before actual operations begin, apply to the Fire Service Department for a Dangerous Goods Licence under the Dangerous Goods Ordinance (Chapter 295) or Gas Standard Office of Electrical and Mechanical Service Department to apply for construction and use approvals of LPG installation under the Gas Safety Ordinance (Chapter 51).



6. Selection of Fork-lift Trucks

- 6.1 There are a variety of fork-lift trucks in the market and each type of fork-lift trucks possesses certain basic characteristics to suit certain application. However, it should be aware that every fork-lift truck has its limitations. It is therefore important for the responsible person to lay down certain selection criteria for ensuring fork-lift trucks are properly selected to suit the job's requirements, the working conditions and the environments. Effective safety features are found provided on some of the latest designs for eliminating certain hazards. The responsible person is advised to contact the local agents or suppliers for obtaining information on the latest designs of fork-lift trucks. There are many different types of attachments designed by the manufacturers or their authorized suppliers to suit some special operations. Proper selection of fork-lift trucks at the planning stage will certainly enhance the efficiency and safety performance of the fork-lift truck operations.
- 6.2 The type of fork-lift trucks to be used should be considered against the job requirements, the operating conditions and the environments in which they operate. Points to be considered in making the selection include :
- (a) weights and dimensions of loads;
 - (b) heights of lift;
 - (c) the working conditions such as unrestricted open grounds or congested areas with narrow operating paths;
 - (d) working environments such as indoor or outdoor;
 - (e) whether warning devices such as reversing beepers, flashing lights, horns, etc are provided;
 - (f) whether roll-over protective structure (ROPS), falling object protective structure (FOPS) or other safety features are provided; and
 - (g) whether operator restraint systems are provided.



- 6.3 With all the points in the preceding paragraph considered, every fork-lift truck to be selected should be suitable for the purpose and capable of making all its lifts. Besides, relevant essential operating or safety features laid down later in section 8 should also be provided. No alteration or modification on the fork-lift truck is made except for those attachments which are provided by the manufacturer or its authorized supplier.

Types of fork-lift trucks

- 6.4 There are many types of fork-lift trucks to suit different applications. These include counterbalance type, reach truck type, pallet stacker type, high lift order picker type and many special types such as rough-terrain fork-lift trucks and side-loading fork-lift trucks for other applications. Common ones are:-

(a) The Counterbalance Type (Figure 1)

This is the most common type of fork-lift truck. It has a counterweight at the rear to balance the load on the fork arms at the front. With similar construction to a car, this type of fork-lift truck has a comfortable ride and is easy to maneuver. It can provide a powerful lifting capacity. Loads can be raised or lowered vertically and the mast may be tilted forwards or backwards. This type of forklift is only suitable for use on substantially firm, smooth, level and prepared surfaces.

(b) The Reach Truck Type (Figure 2)

The mast of this type of fork-lift truck can move forwards or reach out to pick up the load. When travelling, the load is retreated and carried within the wheelbase. This can improve the maneuverability and is suitable for operating areas where space is restricted. It has a high reaching height. This type of fork-lift truck is only suitable for use on substantially firm, smooth, level and prepared surfaces.



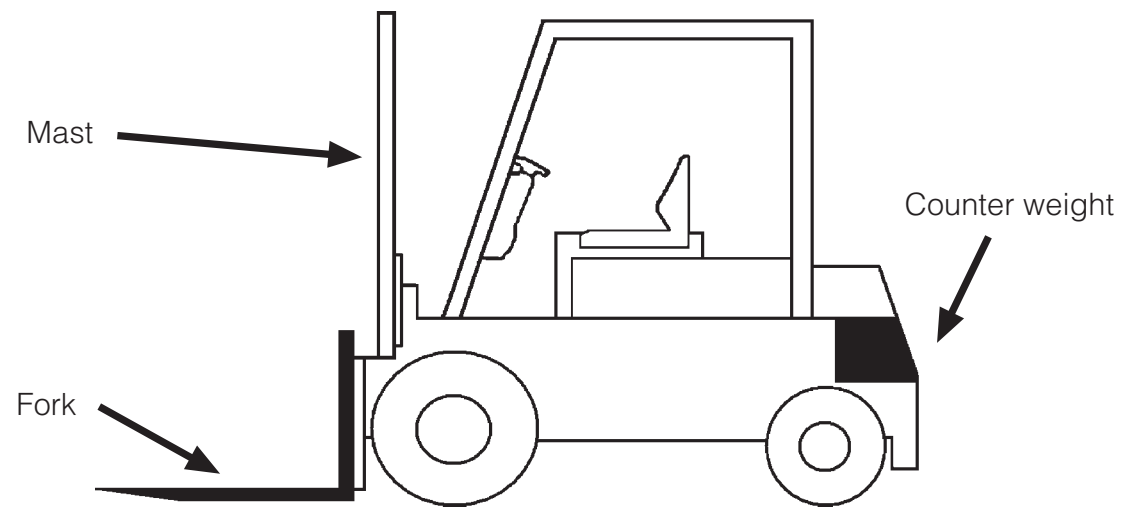


Figure 1 - Counterbalance fork-lift truck

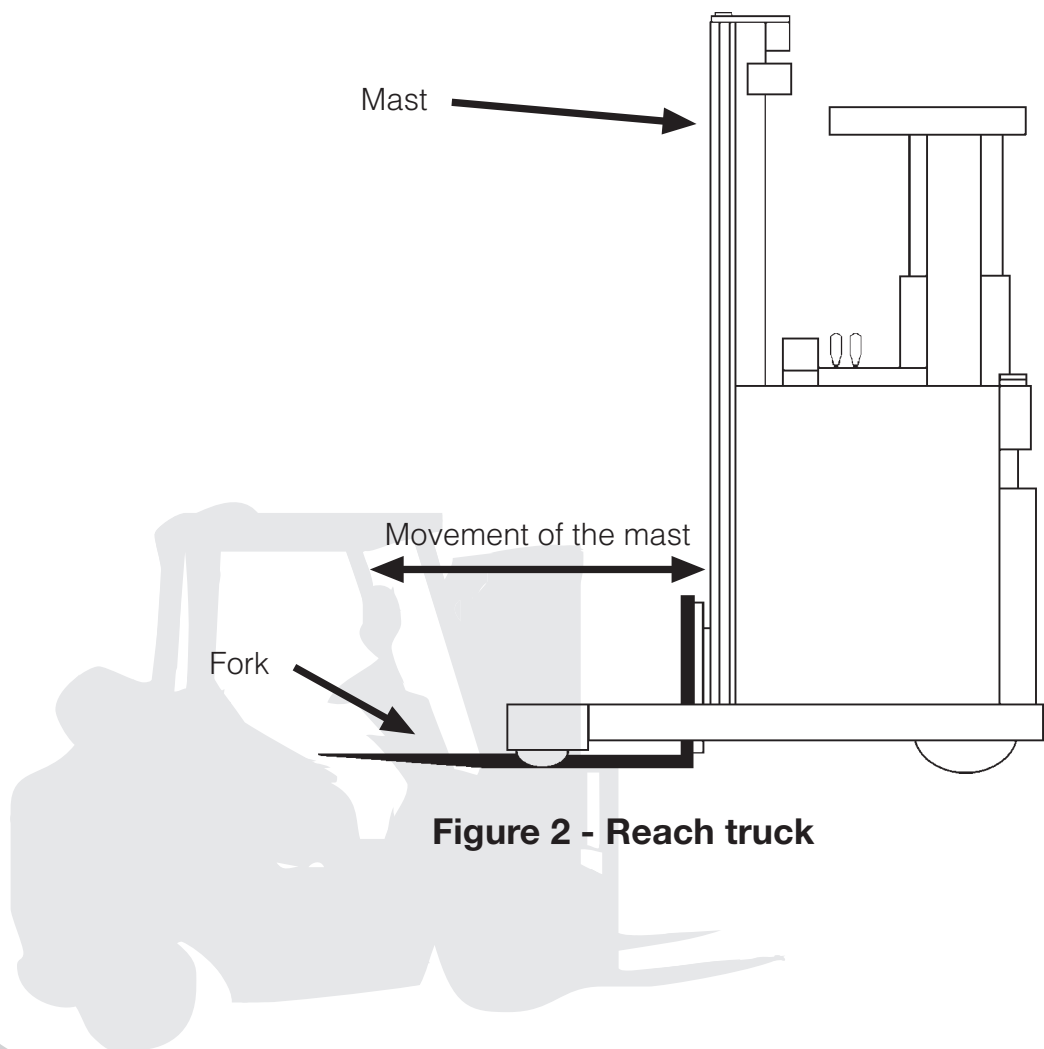


Figure 2 - Reach truck

(c) Pallet Stacker Type (Figures 3 & 4)

This type of fork-lift truck is designed to bring pallets to and from stackers easily and to move pallets over distances. It is more maneuverable in tight spaces. Most of these fork-lift trucks are of stand-on models. For pedestrian models, controls area is provided on tiller arms and some compact ones even provide folding plates for standing. Stand-on models have higher reaching heights than those attained by pedestrian models. This type of fork-lift truck is only suitable for use on substantially firm, smooth, level and prepared surfaces.

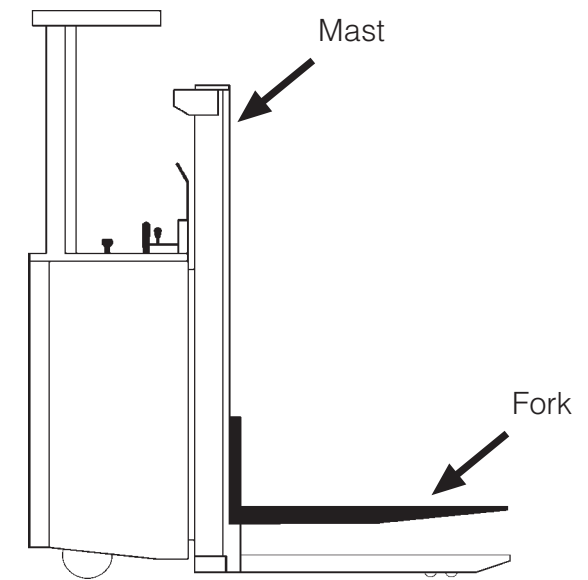


Figure 3 - Pallet stacker truck (stand-on model)

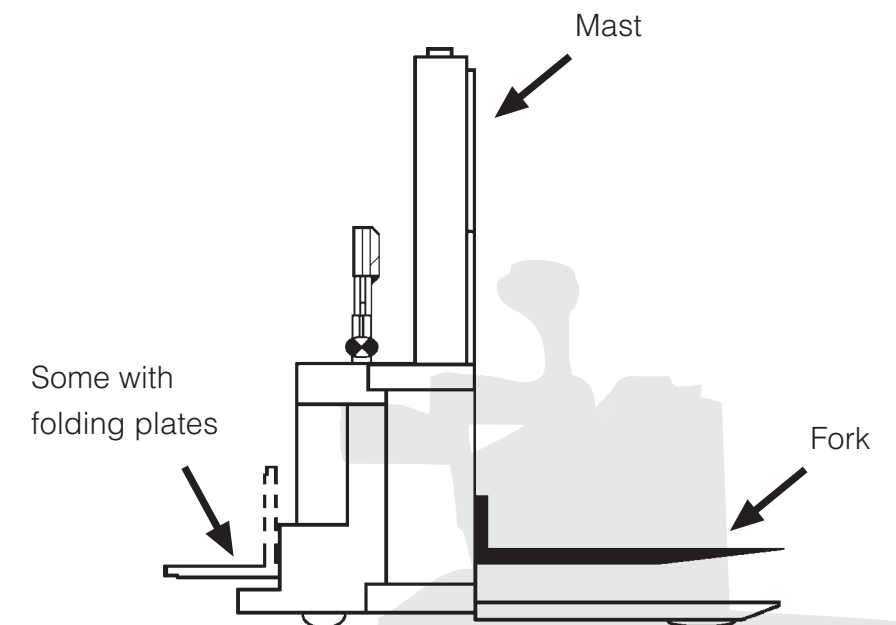


Figure 4 - Pallet stacker truck (pedestrian model)

(d) High Lift Order Picker (Figure 5)

This type of fork-lift truck is designed to elevate the operator along with a platform that is used to hold materials or packages designated for storage in high stacking racks or receptacles. Usually, there are two separate sets of controls: one for operating the truck movements and the other for controlling the elevation of the operator. Most high lift order pickers cannot be driven unless the operator has been lowered onto the floor level. This type of forklift truck can operate in very narrow aisles. It is only suitable for use on substantially firm, smooth, level and prepared surfaces.

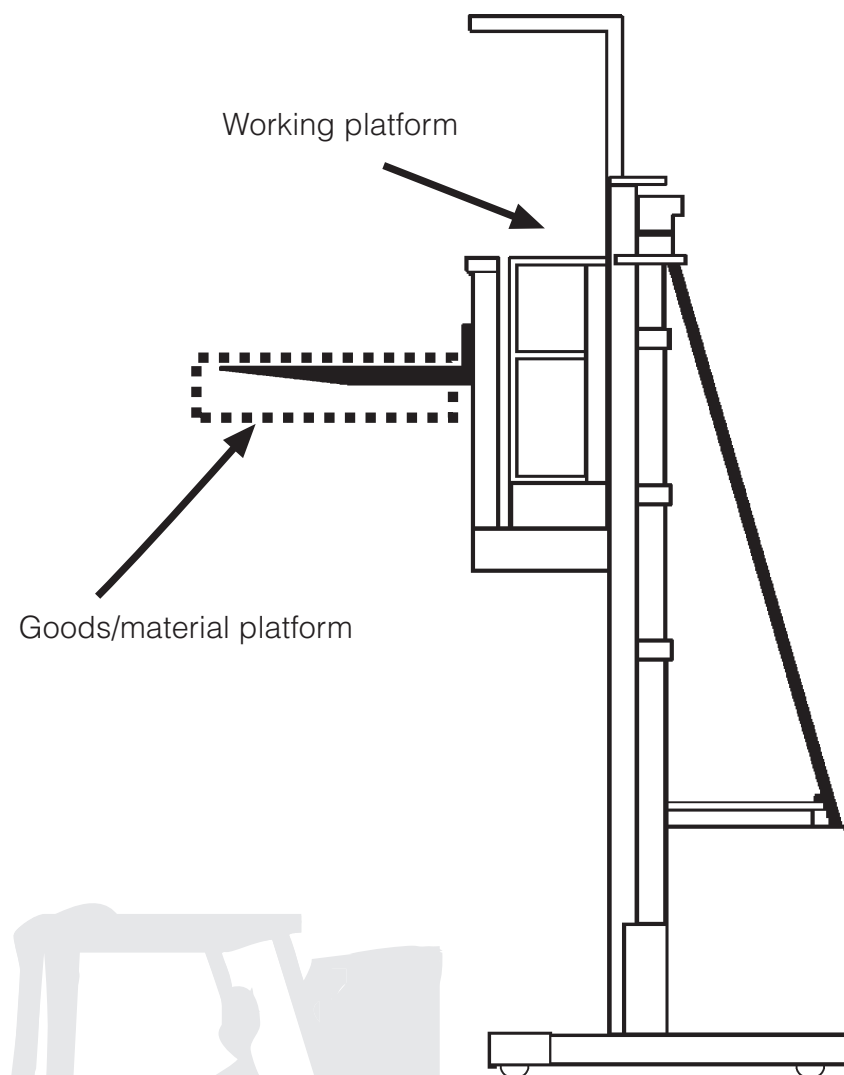


Figure 5 - High lift order picker

Power/fuel adopted

6.5 There are five main types of power to drive fork-lift trucks, namely electric power, gasoline power, diesel power, liquefied petroleum gas (LPG) power and dual fuel power. Electric fork-lift trucks are powered by large lead-acid batteries. The powers for gasoline, diesel and LPG fork-lift trucks are all derived from internal combustion engines. For dual fuel systems, the fuel for the internal combustion engine can be switched usually between gasoline and LPG.

(a) Electric Fork-lift trucks

In general, electric fork-lift trucks are suitable for indoor operations only. The advantages of electric fork-lift trucks include producing zero emissions, having quieter operations, lower fuel and maintenance cost. However, it takes a number of hours for charging a battery that has to be cooled down for another few hours before it can be used. Another disadvantages include the need for a battery charging station and having a relatively low lifting capacity. Electric fork-lift trucks are not suitable for outdoor operations.

(b) Gasoline and diesel fork-lift trucks

These two types of fork-lift trucks are capable of handling heavy loads as they can provide higher lifting capacity. Refuelling for these fork-lift trucks is efficient and easy. In general, they are only suitable to be operated outdoor, as harmful or dangerous fumes/gases would be accumulated in indoor environments. It should be noted these types of fork-lift trucks may produce exhaust gas emissions which are harmful to workers and are not so environmentally friendly even in outdoor operations.

(c) LPG fork-lift trucks

This type of fork-lift truck combines the benefits of electric and gasoline/diesel fork-lift trucks. It produced a relatively low exhaust emissions with noiseless operation that make it suitable for indoors operation. Like other internal combustion fork-lift trucks, it is suitable to be operated outdoors with relatively high speeds and gradeability. It is environmentally friendly as the exhaust emissions do not have lead and contain less carbon monoxide, carbon dioxide and oxides of nitrogen. However, it requires space for storage of spare cylinders and used cylinders and is less powerful than gasoline/diesel fork-lift trucks.

(d) Dual fuel fork-lift trucks

This type of fork-lift trucks allows easy switching of fuel (usually between gasoline and LPG) so as to optimize the fuel efficiency and performance. When higher power is required, the fuel used would be switched to gasoline. When the fork-lift truck works in or enters into an indoor environment, LPG mode would be used. However, this type of fork-lift trucks requires gasoline refuelling facilities as well as storage area for LPG cylinder.

6.6 It should be noted that due to the risk of explosion, gasoline and LPG fork-lift trucks should not be used in areas where flammable vapours/gases or dust concentration are present. For electric fork-lift trucks, they should only be used where there is a risk of flammable vapours/gases or dust concentration being present if they have been suitably protected. For diesel fork-lift trucks, they should only be used in potentially explosive atmospheres if the electrical system is protected, precautions are taken against the intake of flammable mixtures, the exhaust is protected against spark emission and hot surfaces are protected. Advice should always be sought from the manufacturer or authorized supplier.

Tyres used

6.7 There are mainly 2 types of tyres for fork-lift trucks; cushion tyres made of solid rubber and pneumatic tyres inflated with compressed air. Cushion tyres are suitable for indoor applications whereas pneumatic tyres performs better in outdoor environment.



Attachments

6.8 Most fork-lift trucks can be fitted with suitable and standardized attachments so that loads can be handled more efficiently and safely. Commonly used attachments include fork arm extensions, side stabilizers, adjustable forks, paper roll clamps and elevating beams.



Figure 6 - Fork arm extension

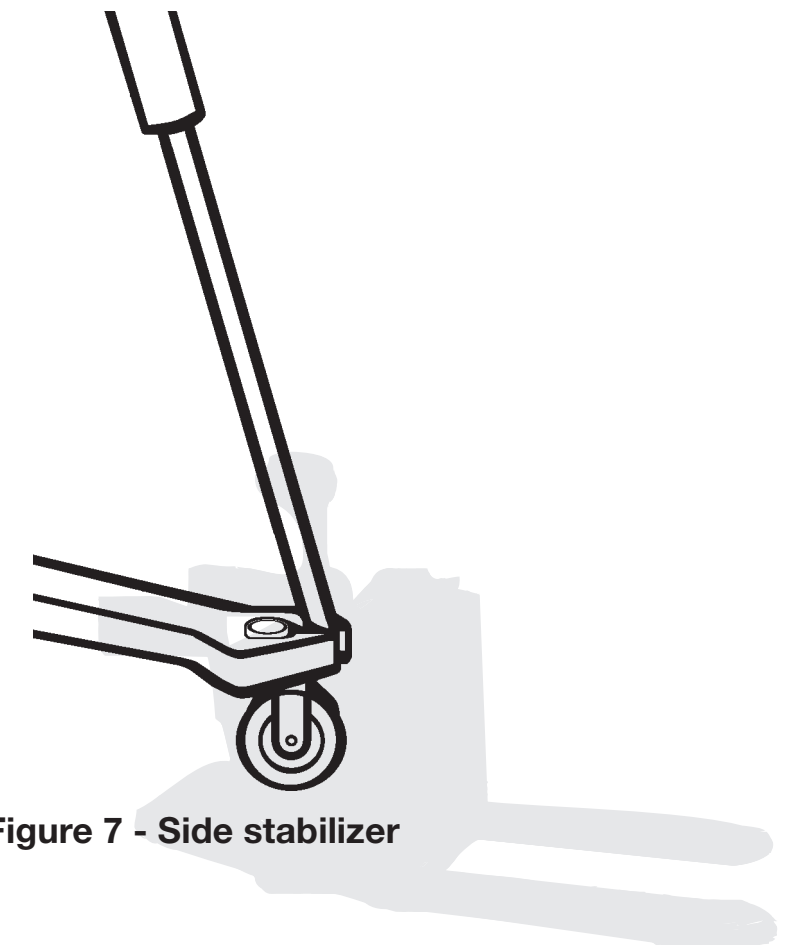


Figure 7 - Side stabilizer

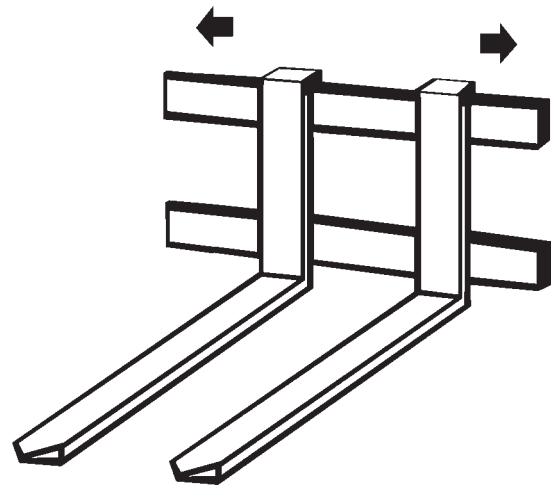


Figure 8 - Adjustable fork

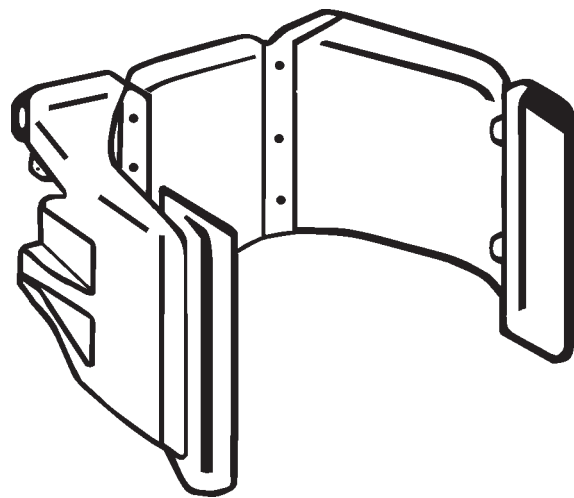


Figure 9 - Paper roll clamp

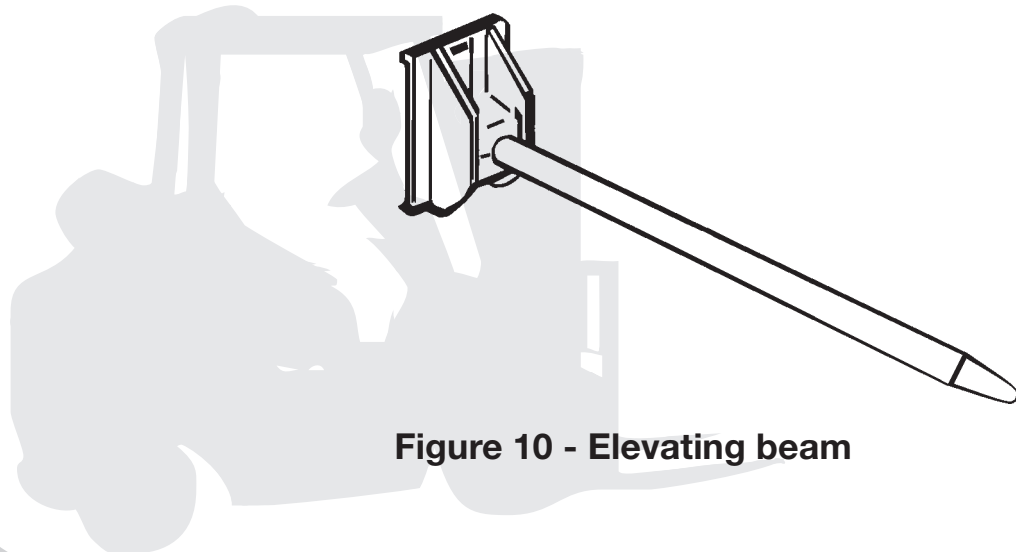


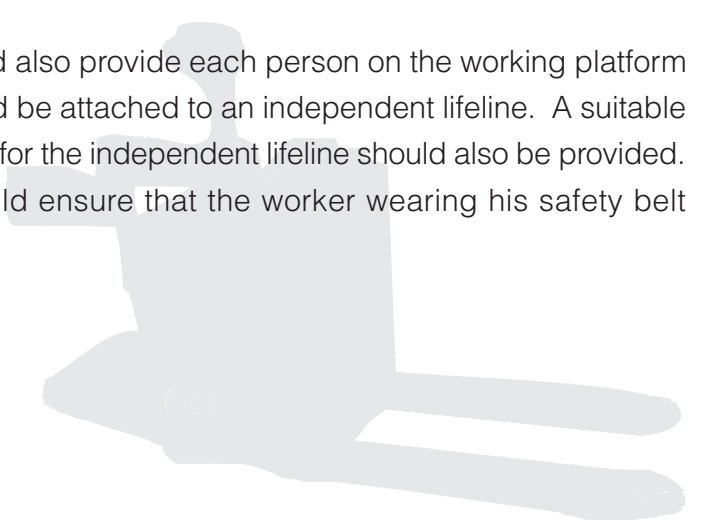
Figure 10 - Elevating beam

6.9 The manufacturer or authorized supplier should always be consulted before an attachment is selected as fitting an attachment may alter the characteristics of the fork-lift truck and reduce its lifting capacity. It should be noted that no attachment should be fitted to a fork-lift truck unless consultation has to made to the manufacturer or authorized supplier and suitability has been confirmed. Where a fork-lift truck is provided with an attachment involving capacity derating, an additional capacity plate showing the lifting capacity of the fork-lift truck the attachment fitted should be provided on the fork-lift truck. The instructions for the safe use of the attachment is usually provided by the manufacturer or authorized suppliers. These instructions should be made known to the operator and the personnel associated with its use.

6.10 No working platform should be fitted onto fork-lift trucks unless they are suitably designed by the manufacturer or authorized supplier. For a suitably designed working platform on a fork-lift truck, the responsible person should ensure that it is not used for carrying person unless it is :

- (a) properly installed or assembled according to the operating instructions issued by the manufacturer or authorized supplier;
- (b) provided with sufficient safe mean of access;
- (c) provided on all sides with top guard-rails of adequate strength. Their height should be not less than 900 millimetres and not more than 1 150 millimetres;
- (d) provided on all sides with intermediate guard-rails of adequate strength. Their height should not less than 450 millimetres and not more than 600 millimetres;
- (e) provided on all sides with toe-boards or other similar barriers of not less than 20 millimetres in height;
- (f) provided with a marking showing its safe working load and the maximum number of persons it permit; and
- (g) properly maintained.

6.11 The responsible person should also provide each person on the working platform with a safety belt, which should be attached to an independent lifeline. A suitable anchorage on the fork-lift truck for the independent lifeline should also be provided. The responsible person should ensure that the worker wearing his safety belt properly.



7. Markings and Documentation

Identification

7.1 The fork-lift truck should have a permanent durable plate bearing the following information :

- (a) manufacturer's name;
- (b) machine model;
- (c) serial number;
- (d) year of manufacture;
- (e) unladen weight;
- (f) battery weight if applicable;
- (g) capacity;
- (h) load centre distance; and
- (i) maximum reaching height.

7.2 Identification numbers should be clearly marked on all removable attachments of fork-lift trucks to show which fork-lift trucks they belong to. It is important that these attachments should be used only on the fork-lift trucks or identical models for which they are specifically designed by the manufacturers or the authorized suppliers.

Safe working load

7.3 The safe working load of fork-lift truck is a function of the capacity, lift height and load centre distance, the load centre distance being the distance from the centre of gravity of the load to the front face of the fork shank. A permanent durable safe working load chart should therefore be provided on the fork-lift truck.

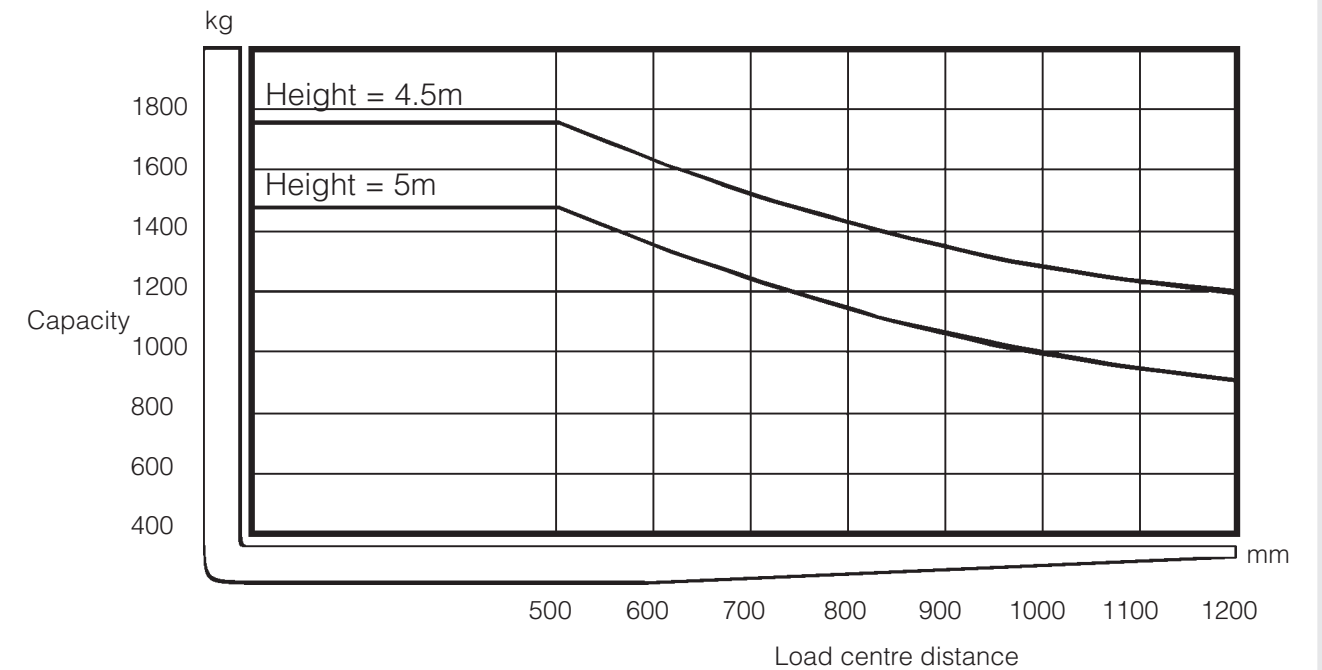


Figure 11 - Safe working load chart

Manufacturer's manuals and logbooks

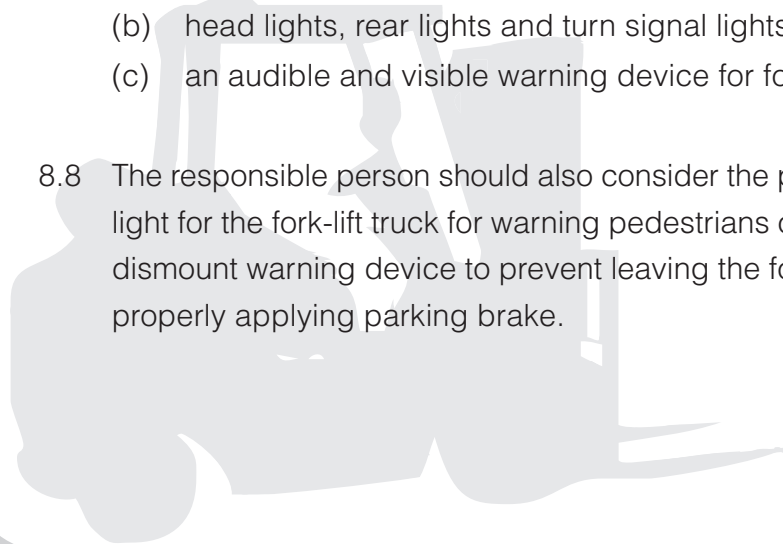
7.4 Manufacturer's manuals containing all pertinent data relating to operations and maintenance for each specific model of fork-lift trucks in use should be provided.

7.5 The language used in the majority of the workplace in Hong Kong, especially among the shop-floor operations and the middle supervisory staff, is Chinese. It is essential that all the written instructions, the documents and literatures given by the fork-lift truck manufactures in relation to the safe use and maintenance of the fork-lift truck, if not in Chinese, be translated into Chinese so that the operatives have no difficulty in understanding them. Suitable arrangement should also be made to enhance communication in workplace where people would use languages other than Chinese or English.

7.6 If the fork-lift truck is not supplied with a logbook then one should be started, maintained and kept on the work site for the regular, periodic recording of all inspections, tests, repairs, maintenance, and hours of service related to the machine. All entries should be dated and signed by the operator, maintenance staff or supervisor. The responsible person should ensure that the log book remains with the fork-lift truck and is kept up-to-date.

8. Construction and Safety Features

- 8.1 Every fork-lift truck should be of good construction and adequate strength. It should be made of sound material and be free from patent defect. It should be suitable for the purpose for which it is used.
- 8.2 The fork-lift truck should have an efficient braking system that can stop the laden fork-lift truck smoothly and rapidly. This braking system should also hold the fork-lift truck in place when parked. All controls should be located within reach of the operator and allow him ample room for operation.
- 8.3 A suitable overhead guard should be provided on a fork-lift truck if there is foreseeable risk of falling objects or any part of a load to be lifted would be above the head of the operator. The guard should have adequate strength and not interfere with the operator's visibility and operation of the fork-lift truck. Any opening thereon should be small enough to offer adequate protection.
- 8.4 An operator restraint system or a suitable seat belt should be provided. The fork-lift truck should also be provided with a roll-over protective structure (ROPS) when there is a risk of rolling over. The ROPS provided should be strong enough to protect the operator in case of a rollover.
- 8.5 A load backrest extension should be fitted if the type of load handled by the fork-lift truck presents a falling hazard. The load backrest extension should be high enough to prevent the load from rolling over the top of the extension.
- 8.6 Every dangerous part of the fork-lift truck that is within reach should be effectively guarded, such as exposed gears or driving belts.
- 8.7 The fork-lift truck should be provided with the following safety devices :
- a clearly audible honning device;
 - head lights, rear lights and turn signal lights; and
 - an audible and visible warning device for fork-lift truck during reversing.
- 8.8 The responsible person should also consider the provision of a flashing overhead light for the fork-lift truck for warning pedestrians of its approach and an operator dismount warning device to prevent leaving the fork-lift truck unattended without properly applying parking brake.



9. Maintenance

General Precautions

- 9.1 Fork-lift trucks should be properly maintained so that they can operate safely and efficiently. It is essential that a preventive maintenance programme be in place so that the risk of accidents due to breakdowns is reduced to a minimum. Manufacturer's instructions or manuals usually recommend specific tasks be carried out at stated intervals and these should always be followed. Any repairs or replacement of components should be in accordance with the manufacturer's recommendations or specifications. Attention should also be paid to minimize the operational noise emanated by fork-lift trucks.
- 9.2 The logbook recommended in sub-section 7.6 should be kept for every fork-lift truck. All relevant information of the fork-lift truck such as specifications of the lifting chain, hydraulic controls, forks, tyres and work hours should be given. The availability and source of replacement items should be noted in the logbook.
- 9.3 All maintenance staff should be fully aware of the hazards involved in working on fork-lift trucks. Maintenance staff should have an adequate working knowledge of the fork-lift trucks they are required to maintain. Relevant manufacturer's manuals should be provided for them.
- 9.4 All repairs on fork-lift trucks should be made by competent mechanics. Repairs to the fuel and ignition system which involve fire hazards should be conducted only in designated repair locations. When working on the electrical system the battery should be disconnected.

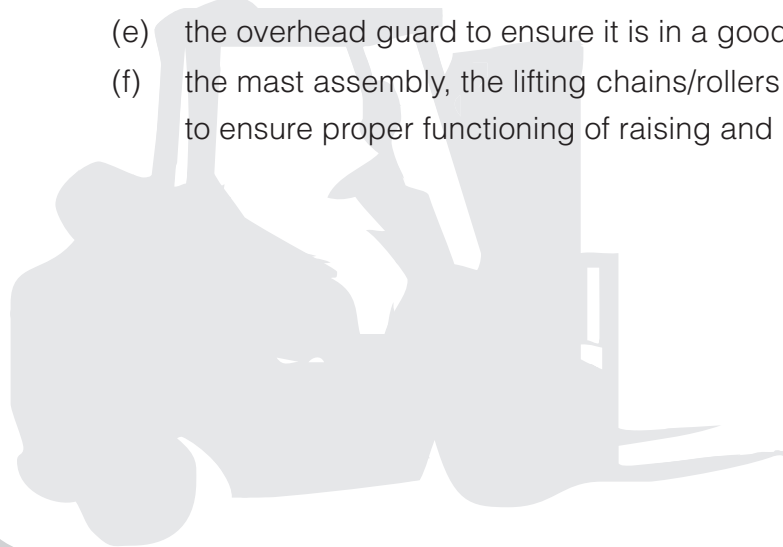


Pre-operation inspection

- 9.5 At the beginning of each shift or working day, the operator, if authorized and competent, should carry out an inspection to ensure that the fork-lift truck is in a serviceable state without any defect. The following items, as appropriate, should be checked :
- (a) items as required by the manufacturer's instructions;
 - (b) the fuel supply and the fuel level to ensure that they are in good conditions;
 - (c) the radiator to ensure that the water level is adequate and the fan is in good condition. Where screens are provided, debris found should be removed;
 - (d) the condition and inflation pressure, if applicable, of the tyres;
 - (e) the service brake and the parking brake include the brake fluid to ensure that they function effectively;
 - (f) the lubricating oil level and/or the hydraulic fluid level to ensure their adequacy;
 - (g) signalling/warning lights or devices to ensure that they function effectively;
 - (h) mirrors, if fitted; and
 - (i) the forks or attachments, if provided, for signs of obvious wear and damage.

Weekly inspection

- 9.6 Where the fork-lift trucks are in constant use, weekly inspection by a competent mechanic or by the operator, if authorized and competent, is also recommended. The following items, as appropriate, should be checked :
- (a) All items of the pre-operation inspection in sub-section 9.5;
 - (b) the steering function to observe any abnormalities;
 - (c) the hydraulic controls to ensure that they function properly;
 - (d) the hydraulic cylinders and valves to observe for any leakage;
 - (e) the overhead guard to ensure it is in a good condition; and
 - (f) the mast assembly, the lifting chains/rollers and the limit switches, if fitted, to ensure proper functioning of raising and lowering.



Periodic servicing/inspection

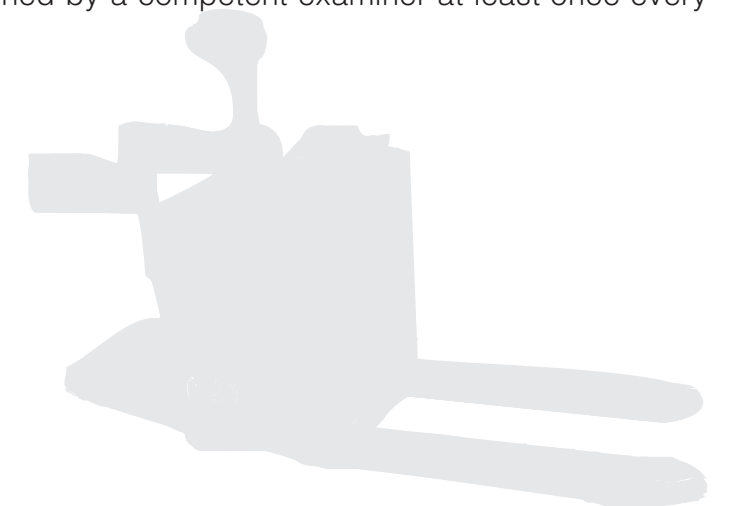
- 9.7 Most manufacturers require other servicing or inspections at stated intervals be conducted on certain components or mechanisms apart from the daily inspection. These servicing or inspections are intended to determine the need for repair or replacement of parts as required to ensure the safety and reliability of the fork-lift truck. Reference should therefore be made to the manufacturer's operation and maintenance manuals.

Use of checklists

- 9.8 The use of "Checklist" for carrying out the above pre-operation or daily inspections and regular servicing/inspections is recommended. The results of inspections should be entered onto the checklists and submitted to the person responsible for the safe use of the fork-lift truck when no defect is found in the inspections. Should the person carrying out an inspection find any defect or abnormality in the fork-lift truck, he should report immediately to the person responsible for the safe use of the fork-lift truck. The fork-lift truck should be taken out of service until the faults have been rectified and clearance is given by the person responsible for the safe use of the fork-lift truck. Sufficient space on the "Checklist" for reporting defects is recommended.

Examination and testing

- 9.9 Where working platforms are provided on fork-lift trucks, apart from fulfilling the requirements laid down in sub-section 6.10 and 6.11, the fork-lift trucks should be thoroughly examined and tested by a competent examiner before use or after undergoing substantial repair. The fork-lift trucks with working platforms should be further thoroughly examined by a competent examiner at least once every six months thereafter.



10. Operating Precautions and Procedures

10.1 General safety precautions : -

- (a) The safe working load of a fork-lift truck should never be exceeded.
- (b) No person should be lifted on the forks, whether directly or indirectly, unless a specially designed working platform provided by the manufacturer or authorized agent.
- (c) Operating controls from outside of the operator cabin should always be prohibited.
- (d) Reaching the load, the fork arms or its related mechanism by standing on/near the operator cabin or operating area should be prohibited.
- (e) The operator should not pick up a load if someone is standing close to it.
- (f) The operator should report to his supervisor when oil or water is found accumulated on the ground/floor.
- (g) No person should be allowed to stay or walk underneath the load.
- (h) Any load appears unsuitable, including one supported by a damaged pallet or one the weight of which is unknown, should not be lifted by the fork-lift truck.
- (i) Carrying a load that block forward visibility should be avoided. Where this cannot be avoided, the fork-lift truck should be driven in reverse.
- (j) Running over cables or flexible pipes, etc. on the ground/floor should be avoided unless they are suitably protected.
- (k) No fork-lift truck should be raised, lowered or supported by the tail gate of a truck/lorry.
- (l) Before goods are loaded to or unloaded from the tail gate of a truck/lorry, suitable steps should be taken to ensure that no person remains on the tail gate or its vicinity.



10.2 Safety precautions on travelling : -

- (a) Where a seat belt is provided, it should be used by the operator.
- (b) The operator should keep his hands and feet inside the structure of the fork-lift truck unless he is giving a turn signal.
- (c) Jumping from a fork-lift truck should be prohibited.
- (d) No passengers should be permitted to ride on a fork-lift truck unless a properly designed seat is provided.
- (e) Before travelling, the mast should be tilted back and the forks should be maintained between 10 centimetres and 15 centimetres above the driving surface (Figure 12).



Figure 12 - Showing the position of the forks during travelling



- (f) Travelling with the load raised, unless during stacking or de-stacking, should be prohibited (Figure 13).



Figure 13 - Travelling with the load raised is dangerous

- (g) Before passing under or passing between structures, the headroom or clearance should be checked to ensure safe movement of the fork-lift truck.
- (h) A safe distance should be maintained when following another fork-lift truck.
- (i) All traffic signals should be followed by the operator.
- (j) The operator should not drive a fork-lift truck up to anyone standing in front of an object.
- (k) The operator should ensure no pedestrians in the rear swing area before turning the fork-lift truck.
- (l) The operator should slow down his fork-lift truck and sound the horn at cross aisles, doorways or other locations where pedestrians get onto the travelling route of the fork-lift truck.

- (m) Travelling at a high speed when making a turn may lead to overturning of the fork-lift truck and should be prohibited.
- (n) The operator should slow down the travelling speed when operating in a wet condition.
- (o) The parking brake should always be applied before leaving the fork-lift truck. The controls should be in the neutral positions. The fork arms should be tilted forward and lowered to the ground/floor (Figure 14).



Figure 14 - The fork arms should be lowered to the ground/floor when unattended



10.3 Safety precautions on travelling on ramps :-

- (a) Loaded fork-lift trucks should always point the forks uphill when travelling on ramps, regardless of the direction of travel (Figure 15).



Figure 15 - Loaded fork-lift trucks on ramps

- (b) Unloaded fork-lift trucks should point the forks downhill when travelling on ramps (Figure 16).



Figure 16 - Unloaded fork-lift trucks on ramps

- (c) The speed of the fork-lift truck should be maintained in a slow manner.
- (d) When the vision of the operator is obstructed by the load carried on the fork-lift truck, a signaller should be provided to guide the operator.
- (e) Making a turn on a ramp may lead to overturning and should be avoided.
- (f) Parking on ramps should always be avoided.

10.4 Safety precautions on travelling on bridge plates :-

- (a) Bridge plates should have an adequate safety margin to support the fork-lift trucks.
- (b) The maximum permissible load should be clearly shown on the bridge plates.
- (c) Bridge plates should be securely fixed in position to prevent accidental movement.
- (d) Bridge plates should have a high friction surface to provide adequate traction.
- (e) Means should be provided to prevent movement of the fork-lift truck being loaded or unloaded on the bridge plate.
- (f) Where a tail gate of a truck/lorry is being used as a bridge plate, it should be suitably supported on a level and substantial structure such as a proper loading bay.

10.5 Safety precautions on parking :-

- (a) Fork-lift trucks should be parked on level surfaces.
- (b) The forks of fork-lift trucks should be lowered to the floor/ground.
- (c) The masts of fork-lift trucks should be tilted forward, if applicable.
- (d) All controls should be placed in the neutral positions.
- (e) Before leaving the fork-lift truck, the engine should be switched off, the parking brake should be applied and the key or activating device should be removed from the fork-lift truck to prevent unauthorized operation.

10.6 Safety precautions on reversing :-

- (a) Special care should be exercised by the operator to ensure that there are no pedestrians before reversing a fork-lift truck.
- (b) Where conditions allow, the operator should also sound the horn before reversing.
- (c) Reversing should be performed in a careful and slow manner.
- (d) Where there are 'blind spots' or there is no clear vision behind, a signaller should be provided to guide the operator.

10.7 Prevention of unauthorized operation :-

- (a) Keys or other activating devices for fork-lift trucks should be kept in the safe custody by a responsible supervisor.
- (b) The keys or activating devices should only be issued to authorized operators, who should retain them until the end of the work period.
- (c) The keys or activating devices should be returned to the responsible supervisor for safe keeping after the fork-lift truck operations.

10.8 General stacking and de-stacking principles :-

- (a) When the mast of a fork-lift truck is being raised or lowered, regardless of loaded or unloaded, the fork-lift truck may become unstable because of the change in its centre of gravity. The truck should therefore be maintained in the stationery condition before the mast/boom is raised or lowered. The parking brake should also be applied.
- (b) Stacking and de-stacking should not be performed on ramps because the fork-lift truck or the stack may become unstable and overturn as a result.
- (c) Attention should be paid to the fork-tips extending beyond the load as they may contact other loads in the rack or stack.
- (d) Loads should be against the vertical face of the fork arms or back-rest extension.



10.9 Stacking procedure with counterbalance fork-lift trucks :-

- (a) Before lifting, the weight of the load and its centre of gravity should be assessed to ensure that the load does not exceed the safe working load of the fork-lift truck.
- (b) When approaching the stack, the load should be kept low and tilted backwards. The fork-lift truck should be stopped at the face of the stack. The parking brake should then be applied and the controls, if applicable, be set to neutral positions.
- (c) The backward tilt should be reduced slightly just sufficient to stabilize the load. Before the load is lifted to the desired stacking position, the operator should check out for any obstruction.
- (d) The operator should then move the fork-lift truck forwards slowly. When the load is over the stack, it should be stopped with the parking brake applied and the controls, if applicable, set to neutral. The backtilt is reduced until the load is level. The load is then lowered slowly and smoothly onto the stack.
- (e) The fork arms should be lowered until free of the pallet. The forks can then be withdrawn by reversing. When clear of the stack, the operator should apply the parking brake and select the controls, if applicable, to neutral. The forks should then be lowered to just above the floor/ground level. A slight backtilt should also be applied before moving off.



10.10 De-stacking procedure with counterbalance fork-lift trucks :-

- (a) The fork-lift truck should be stopped at the face of the stack. The parking brake should then be applied and the controls, if applicable, be set to neutral positions.
- (b) The mast should be brought to the vertical position. The fork spread should then be adjusted to suit the width of the load.
- (c) The weight of the load and its centre of gravity should be assessed to ensure that the load does not exceed the safe working load of the fork-lift truck.
- (d) The fork arms should then be raised to the required position for entry into the pallet. The fork-lift truck should then be driven forward slowly for insertion of the fork arms until the heels of the fork gently touch the pallet or load.
- (e) The parking brake should then be applied and the controls, if applicable, be set to neutral positions. The load should be lifted up slowly until it is clear of the stack. A slight backward tilt should then be applied to stabilize the load.
- (f) The fork-lift truck should be moved backwards slowly until the load and fork arms are clear of the stack.
- (g) The parking brake should be applied and the control, if applicable, be set to neutral positions before lowering the load to the correct travelling position. The forks should be tilted back further before moving off.

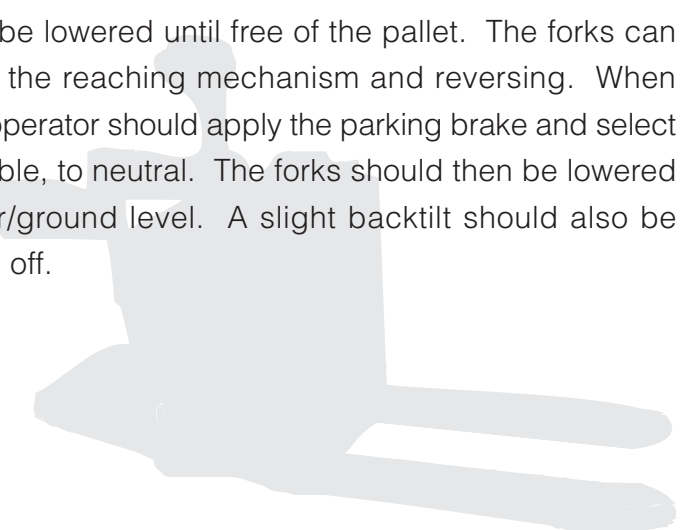


10.11 General safety precautions concerning reach trucks :-

- (a) Reach trucks should not be driven with the reach mechanism extended, regardless of the loading condition, except when inching at the face of the load, stack or rack.
- (b) Before operating the reach mechanism, the parking brake should always be applied.
- (c) Stepping on the reach legs or leaving any part of a person's body between the mast and power unit should be prohibited.
- (d) No load should be pushed or dragged by the reaching mechanism.
- (e) Loads should only be carried by the fork arms and no loads should be rested on the reach legs.

10.12 Stacking procedure with reach trucks :-

- (a) Before lifting, the weight of the load and its centre of gravity should be assessed to ensure that the load does not exceed safe working load of the fork-lift truck.
- (b) When approaching the stack, the load should be kept low and tilted slightly backwards. The fork-lift truck should be stopped at the face of the stack. The parking brake should then be applied and the controls, if applicable, be set to neutral positions.
- (c) The backward tilt should be reduced slightly just sufficient to stabilize the load. Before the load is lifted to the suitable level, the operator should check out for any obstruction.
- (d) The operator should then move the fork-lift truck forwards slowly. When the load is approaching the stack, it should be stopped with the parking brake applied and the controls, if applicable, set to neutral. The reaching mechanism should then be operated to reach out smoothly until the load is over the stack. The backtilt is reduced until the load is level. The load is then lowered slowly and smoothly onto the stack.
- (e) The fork arms should be lowered until free of the pallet. The forks can then be withdrawn by the reaching mechanism and reversing. When clear of the stack, the operator should apply the parking brake and select the controls, if applicable, to neutral. The forks should then be lowered to just above the floor/ground level. A slight backtilt should also be applied before moving off.

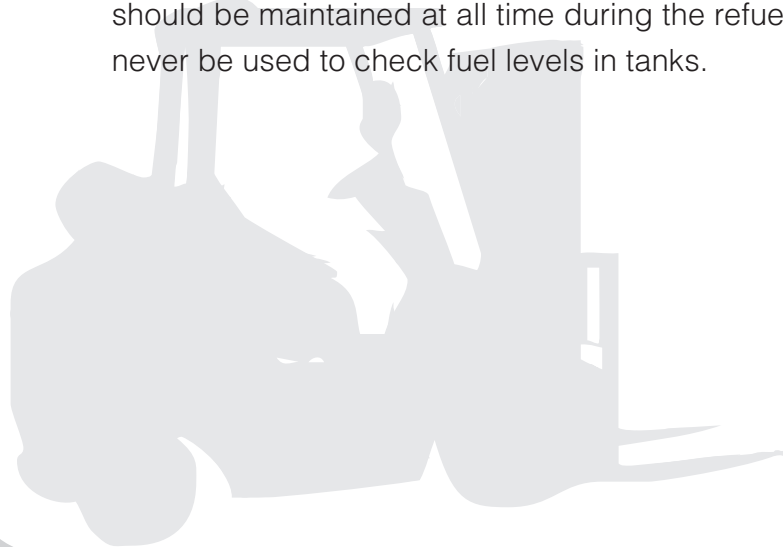


10.13 De-stacking procedure with reach trucks :-

- (a) The fork-lift truck should be stopped at the face of the stack. The parking brake should then be applied and the controls, if applicable, be set to neutral positions.
- (b) The mast should be brought to the vertical position. The fork spread should then be adjusted to suit the width of the load.
- (c) The weight of the load and its centre of gravity should be assessed to ensure that the load does not exceed the safe working load of the fork-lift truck.
- (d) The fork arms should then be raised to the required position for entry into the pallet. The fork-lift truck should then be driven forward, if necessary, to bring the reach truck close to the stack. The parking brake should then be applied and the controls, if applicable, be set to neutral positions. The reaching mechanism should then be operated to reach out for insertion of the fork arms until the heels of the fork gently touch the pallet or load.
- (e) The load should be lifted up slowly until it is clear of the stack. A slight backward tilt should then be applied to stabilize the load.
- (f) The fork-lift truck should be moved backwards slowly until the load and fork arms are clear of the stack.
- (g) The parking brake should be applied and the control, if applicable, be set to neutral positions before lowering the load to the correct travelling position. The forks should be tilted back further before moving off.

10.14 Safety precautions on refuelling process involving gasoline or diesel fork-lift trucks :-

The engine of a gasoline or diesel fork-lift truck should be stopped before refuelling. It should not be restarted unless the fuel line has been removed from the fork-lift truck and the filler cap has been properly replaced on the tank. Particular attention should be paid to avoid fuel spilling over the engine or exhaust system. If spillage does occur, the fuel should be wiped away properly before restarting the engine. Contact between the metal outlet of the refuelling hose and the fuel tank opening on the fork-lift truck should be maintained at all time during the refuelling process. Naked flames should never be used to check fuel levels in tanks.



10.15 Safety precautions on cylinder charging involving LPG fork-lift trucks :-

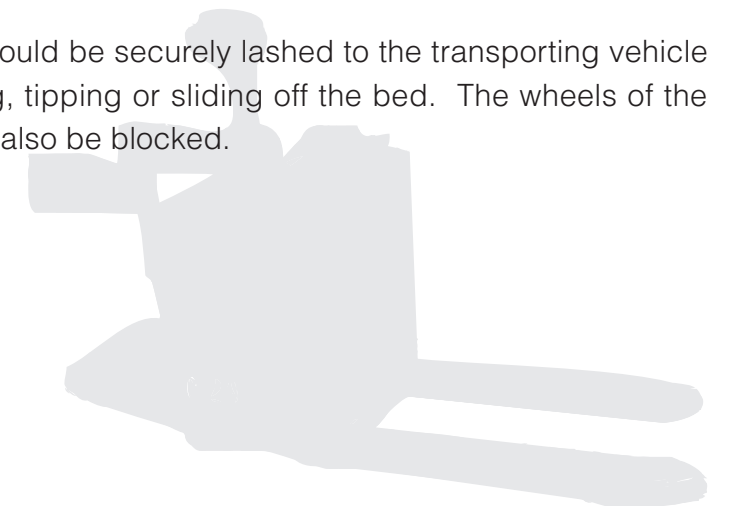
The engine of a LPG fork-lift truck should be stopped before changing of LPG cylinder is carried out. It should be noted that suitable gaskets and tubing, if applicable, should be used. After connecting up the LPG cylinder onto the fork-lift truck, a careful check with soapy water to ensure no leakage should be conducted. The LPG cylinder should always be turned off at the valve when the fork-lift truck is left unattended.

10.16 Safety precautions on use and maintenance of rechargeable batteries :-

Improper use or maintenance of rechargeable batteries may lead to electric shocks or short circuit of live electrical conductors. In January 2005, this Department has issued a set of Guidance Notes on Safety and Health at Work - Use and Maintenance of Rechargeable Battery for offering advice and guidance on the safety and health associated with the handling, usage, charging and maintenance of rechargeable batteries used for industrial purpose. The safety precautions as spelt out in those Guidance Notes should always be followed.

10.17 Safety precautions on transportation :-

- (a) Most manufacturers have provided transportation instructions. Reference should therefore be made to the manufacturer's manual before a fork-lift truck is to be transported.
- (b) The transporting vehicle should have adequate loading capacity and bed dimensions to accommodate the fork-lift truck it transports.
- (c) Loading or unloading should be carried out on a level surface. The wheels of the transporting vehicle should be blocked before loading or unloading.
- (d) Before loading or unloading, the parking brake of fork-lift truck should be applied with controls, if applicable, set in neutral positions. The key or activating device should be switched off.
- (e) Where designated lifting points are provided on the fork-lift truck, they should always be used when applying the lifting slings or other lifting gear.
- (f) The fork-lift truck should be securely lashed to the transporting vehicle to prevent bouncing, tipping or sliding off the bed. The wheels of the fork-lift truck should also be blocked.



10.18 Safety precautions of handling hazardous substances :-

It is important to note that handling of hazardous substances or dangerous materials may cause grave hazards or impose serious health problems. It is essential that a proper assessment should be carried to identify all potential hazards associated with the handling operations. Preventive measures including procedural arrangements and the selection of suitable fork-lift trucks for the operations should be properly introduced and implemented. The responsible person should consult the local agents or suppliers of fork-lift trucks to ensure the fork-lift trucks selected are suitable for the operations.

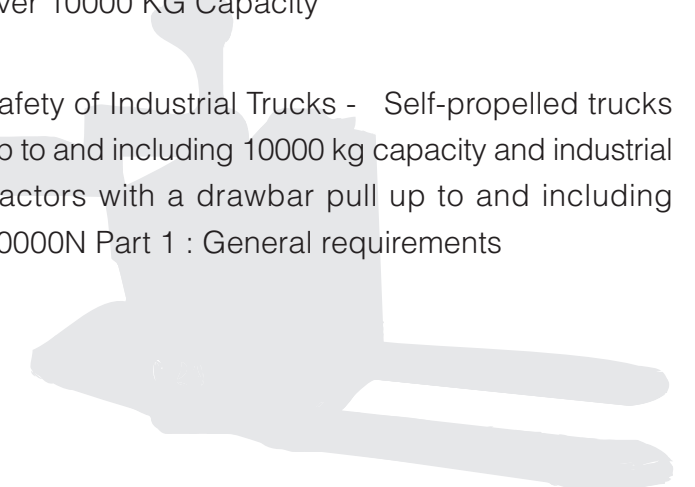
10.19 Safety precautions on weather condition :-

Adverse weather conditions such as heavy rain, rainstorm and/or lightning that may affect the safe operations of fork-lift trucks, proper arrangements for stopping outdoor operations or providing additional supervision, as appropriate, should be laid down. Adequate instructions should also be given to personnel associated with the use of the fork-lift trucks to prevent them from being endangered.



Reference

1. BS 3726:1978 : Specification for Counterbalanced lift trucks - Stability
ISO 1074:1975 - Basic tests
2. BS 4430-2:1969 : Recommendations for the Safety of Powered
Industrial Trucks Part 2 : Operation and Maintenance
3. BS 4436:1978 : Specification for Reach and straddle fork lift trucks
ISO 3184:1974 - Stability tests
4. BS 5777:1979 : Methods of test for Verification of stability of pallet
ISO 5766:1978 stackers and high lift platform trucks
5. BS EN 1175-1:1998 : Safety of Industrial Trucks - Electrical Requirements
- Part 1 : General Requirements for Battery Powered
Trucks
6. BS EN 1175-2:1998 : Safety of Industrial Trucks - Electrical Requirements
- Part 2 : General Requirements for Internal
Combustion Engine Powered Trucks
7. BS EN 1175-3:1998 : Safety of Industrial Trucks - Electrical Requirements
- Part 3 : Specific Requirements for Electric Power
Transmission Systems of Internal Combustion Engine
Powered Trucks
8. BS EN 1526:1998 : Safety of Industrial Trucks - Additional Requirements
for Automated Functions on Trucks
9. BS EN 1551:2000 : Safety of Industrial Trucks Self Propelled Trucks
over 10000 KG Capacity
10. BS EN 1726-1:1999 : Safety of Industrial Trucks - Self-propelled trucks
up to and including 10000 kg capacity and industrial
tractors with a drawbar pull up to and including
20000N Part 1 : General requirements



11. BS EN 1726-2:2000 : Safety of Industrial Trucks - Self-Propelled Trucks up to and including 10000 kg capacity and Tractors with Drawbar pull up to and including 20000N Part 2 : Additional Requirements for Trucks with Elevating Operator Position and Trucks Specifically Designed to Travel with Elevated Loads
12. BS EN 1757-1:2001 : Safety of Industrial Trucks - Pedestrian Propelled Trucks - Part 1 : Stacker Trucks
13. BS EN 1757-2:2001 : Safety of Industrial Trucks - Pedestrian Propelled Trucks - Part 2 : Pallet Trucks
14. BS ISO 509:1996 : Implementation of ISO 509 : 1996 Pallet trucks Principal
15. Safety in Working with Lift Trucks (3rd edition 2000), Health and Safety Executive, UK
16. Forklift Safety Guide (current), Montana Department of Labour & Industry, US
17. Code of Practice on Mechanical Handling Safety in Container Yards (1st edition August 2001), Occupational Safety and Health Branch, Labour Department, Hong Kong
18. Guidance Notes on Safety and Health at Work - Use and Maintenance of Rechargeable Battery (1st edition January 2005), Occupational Safety and Health Branch, Labour Department, Hong Kong
19. Safety Practice in Operating Fork Lift Trucks, Occupational Safety and Health Branch, Labour Department, Hong Kong



Enquiries

If you wish to obtain further information about this booklet or require advice on occupational safety and health, please contact the Occupational Safety and Health Branch of the Labour Department through :

Telephone : 2559 2297 (auto-recording after office hours)
 Fax : 2915 1410
 E-mail : enquiry@labour.gov.hk

Information on the services offered by the Labour Department and on major labour legislation can also be found by visiting our Home Page at <http://www.labour.gov.hk>.

You can also obtain information on the various services provided by the Occupational Safety and Health Council through its telephone hotline at 2739 9000.

Complaints

If you have any complaints about unsafe workplaces and practices, please call the Labour Department's occupational safety and health complaint hotline at 2542 2172.

