

What is the maximum gradient for a fork lift truck?

As a general rule all gradients should wherever possible be avoided, as they are a hazard to any fork lift truck operation.

The hazard will increase if the slope is icy or wet, there are significant changes in gradient, or if the ground is uneven. Make sure the surfaces used by fork lift trucks are as level and firm as possible, and preferably surfaced with concrete or other suitable material.

It is essential, when selecting a fork lift truck, that it is specified and capable of operating on the gradients you have in your workplace. While the ability to reliably climb a slope is important, safely descending a slope when carrying heavy loads is of equal importance.

The maximum allowable slope depends on the fork lift truck being used, each manufacturer provides a gradeability rating for their machines, which identify the grade that the fork lift truck can operate and stop at full load capacity. In no circumstances should a fork lift truck be driven on a slope which exceeds the maximum gradient specified by the manufacturer or supplier.

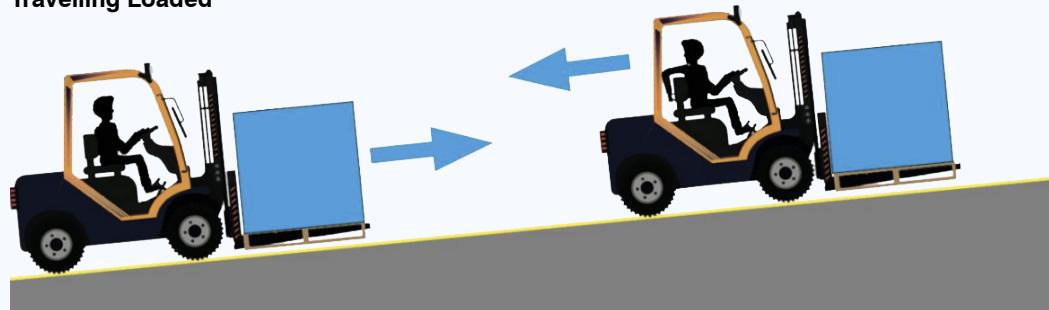
Speed on a slope

When operating fork lift trucks on slopes, maintaining travel at a speed suitable for the task, load, ground conditions and vehicle can minimize the risk of accident or injury. Follow this practice whether the truck is carrying a load or not.

Forks up-slope with a load

When traveling with a load, the load should point up-slope and tilted back, regardless of direction of travel. This will keep the load from shifting and falling off the forks.

Travelling Loaded

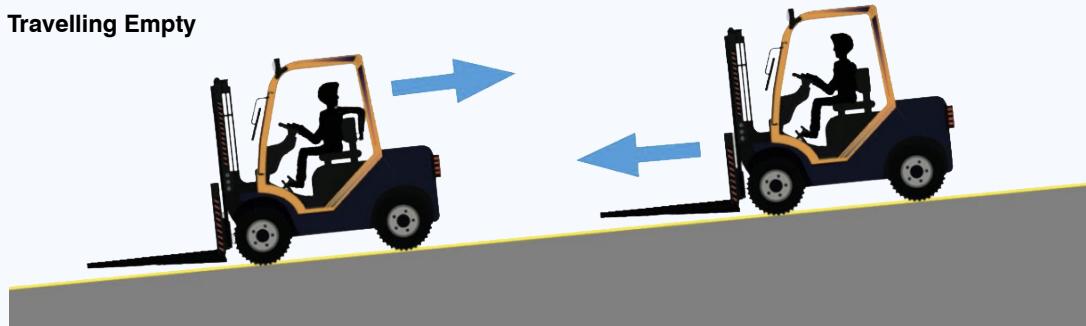


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Forks down-slope without a load

When traveling without a load, the forks should point down-slope, regardless of direction of travel. This will improve stability, traction and adhesion, and applies regardless of the direction of travel.

Travelling Empty



Load height whilst on a slope

Adjust the tilt (where fitted) to suit the gradient and raise the forks to clear the ground. Raise levels should be limited to the minimum height necessary for ground clearance.

Never turn suddenly on a slope

Accidents can happen if you make sudden on-the-go directional changes or attempt to turn a fork lift truck on a slope. Turn prior to the slope to place forks in proper direction.

Sudden directional changes can create an imbalance in the forklift, which can result in load shift or truck to overturn. To prevent this, operators should be familiar with their surroundings, avoid sudden directional changes and turning on a slope, and have a planned route to their destination - and remember rule #1, travel slowly.

Never traverse across a slope

Driving on slopes can only be done safely in two directions, straight up and straight down, never traverse across the slope or on a diagonal. To do so affects the lateral stability of the fork lift truck, as the weight falls to one side which may cause the load to shift or the truck to overturn.

Don't park on a slope

Do not park a fork lift truck on a slope unless it is an emergency. If it is an emergency, be sure to take the following precautions before leaving it.

- Parked correctly with the fork tips on the ground.
- In neutral.
- Switched off.
- Parking brake applied.
- Chocks under the wheels.

If there is no emergency or when the emergency is over, always move the fork lift truck to level ground.

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Order pickers and slopes

Manufacturers prohibit the operation of order pickers on ramps, some may even prohibit travel. To avoid the risk of injury, always read and follow the manufacturer's instructions. If the instructions do not cover the operation and travel of the order picker on a ramp, contact your local dealer for more information.

The law

Legislation in the form of Regulation 4 of [The Provision and Use of Work Equipment Regulations 1998](#) (PUWER) place certain requirements on employers and states:

Suitability of work equipment

- 4.—(1) Every employer shall ensure that work equipment is so constructed or adapted as to be suitable for the purpose for which it is used or provided.
- (2) In selecting work equipment, every employer shall have regard to the working conditions and to the risks to the health and safety of persons which exist in the premises or undertaking in which that work equipment is to be used and any additional risk posed by the use of that work equipment.
- (3) Every employer shall ensure that work equipment is used only for operations for which, and under conditions for which, it is suitable.
- (4) In this regulation "suitable" means suitable in any respect which it is reasonably foreseeable will affect the health or safety of any person.

Legislation in the form of Part I General duties Section 2 of the [Health and Safety at Work etc. Act 1974](#) states:

2 General duties of employers to their employees.

- (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.
- (2) Without prejudice to the generality of an employer's duty under the preceding subsection, the matters to which that duty extends include in particular—
 - (a) The provision and maintenance of plant and systems of work that are, so far as is reasonably practicable, safe and without risks to health.
 - (b) Arrangements for ensuring, so far as is reasonably practicable, safety and absence of risks to health in connection with the use, handling, storage and transport of articles and substances.
 - (c) The provision of such information, instruction, training and supervision as is necessary to ensure, so far as is reasonably practicable, the health and safety at work of his employees.
 - (d) So far as is reasonably practicable as regards any place of work under the employer's control, the maintenance of it in a condition that is safe and without risks to health and the provision and maintenance of means of access to and egress from it that are safe and without such risks.
 - (e) The provision and maintenance of a working environment for his employees that is, so far as is reasonably practicable, safe, without risks to health, and adequate as regards facilities and arrangements for their welfare at work.

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Approved Code of Practice

The Health and Safety Executive's (HSE) Approved Code of Practice (ACOP) and guidance [L117](#) **Rideroperated lift trucks** is aimed at employers and those responsible for the safe operation of lift trucks, as well as those in control of worksites, the self-employed, managers and supervisors. It includes an outline of the main legal requirements relating to fork lift trucks and summarises the main points of operator training.

Fork lift truck operator training is to be consistent with the standards outlined in ACOP L117.

While ACOP L117 is not law, it has been produced under section 16 of the [Health and Safety at Work etc Act. 1974](#) (HSW Act) and has special status in law.

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The information in this Fact Sheet has been assembled and interpreted to give truck owners and users basic guidance on frequently asked questions. Further important information will be given in the quoted reference documents. Responsibility for meeting the safety obligations discussed rests with the employer, and the UKMHA will not accept liability for any problem arising as a result of the content of this document. Technical Bulletins, containing more detailed information and updated as appropriate, are made available free to members of the [UKMHA SAFE USER GROUP](#).

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