

Prevention of Trapping Hazard of Tail Lifts



These Guidance Notes are published by
the Occupational Safety and Health Branch
Labour Department

First Edition	October 2015
Second Edition	March 2021
Third Edition	March 2025 (This edition updates the standards of tripping devices and includes the supplementary information and other revisions.)

These Guidance Notes are issued free of charge and can be obtained from offices of the Occupational Safety and Health Branch or downloaded from the Labour Department’s website at https://www.labour.gov.hk/eng/public/content2_8.htm. For enquiries on addresses and telephone numbers of the offices, please visit the Labour Department’s website at <https://www.labour.gov.hk/eng/tele/osh.htm> or call 2559 2297.



Publications and Media –
Occupational Safety



Addresses and Telephone
Numbers of the Offices

These Guidance Notes may be freely reproduced except for advertising, endorsement or commercial purposes. For extracts of information, please acknowledge the source as “Guidance Notes on Prevention of Trapping Hazard of Tail Lifts” published by the Labour Department.

Guidance Notes on

Prevention of
Trapping Hazard of Tail Lifts

Contents

	Page
1 Introduction	1
2 Engineering Control Measures	2
3 Administrative Control Measures	9
4 Notes to Workers	12
5 Other Hazards Arising from the Use of Tail Lifts	13
6 References	14
7 Enquiries and Complaints	15



1. Introduction

- 1.1 **Unsafe operation of tail lifts can cause trapping injuries or even death.** Lorry owners and proprietors/employers responsible for the loading/unloading or checking of goods shall take proper safety measures for the use of tail lifts, which include conducting risk assessments, identifying the associated hazards and devising safety control measures and work procedures. Workers using tail lifts shall also take note of the safety measures set out in these Guidance Notes.



- 1.2 These Guidance Notes provide practical guidance on the safe use and operation of tail lifts. They do not modify or supplement in any way the legal effect and interpretation of any laws including the Factories and Industrial Undertakings Ordinance, Chapter 59, the Occupational Safety and Health Ordinance, Chapter 509 and subsidiary legislation made under those Ordinances. **Reference will be made to these Guidance Notes when the Labour Department enforces the Ordinances.** The provisions of the Ordinances and any regulations or Codes issued thereunder will prevail over these Guidance Notes in the event of any inconsistency.

2. Engineering Control Measures

- 2.1 The design, construction and installation of tail lifts should conform to British Standard BS EN 1756-1 or its latest version or to equivalent national/international standards or provisions.



- 2.2 The tail lift should be equipped with a two-hand control device which conforms to British Standard BS EN ISO 13851 or its latest version or to equivalent national/international standards or provisions. If one or both of the actuators (e.g. control buttons) are disengaged, the tail lift will stop its operation immediately.



Example of two-hand control device

- 2.3 The span of the edges of the actuators of the two-hand control device should not be less than 260 mm (see Figure 1).

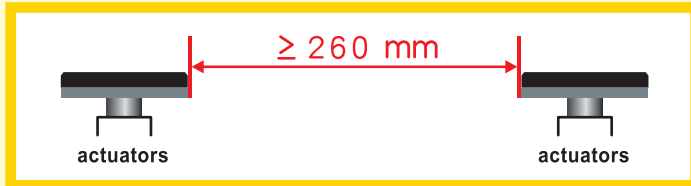


Figure 1: Span of the actuators of the two-hand control device

- 2.4 The two-hand control device should be installed with its centre line at a distance of between 300 mm and 600 mm from the rear end of the lorry body (see "L" in Figure 2) with due regard to operational needs.

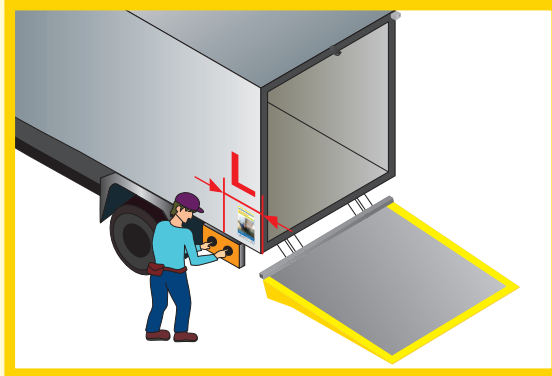
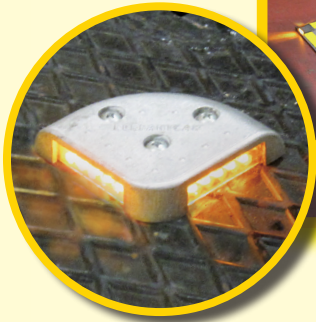


Figure 2: Location of the two-hand control device

- 2.5 The two-hand control device should only be installed, altered, modified, maintained and repaired by its manufacturer or agent.
- 2.6 It is permissible to install an additional suitable wired control device on the lorry to enable an operator to control the tail lift when the use of the two-hand control device is not possible in a restrictive environment. However, where it is necessary to use the wired control device, a safe system of work should be implemented to ensure that the operator and other workers do not have access to the dangerous trapping zone of the tail lift. Except for the above circumstance, the tail lift should not be operated by the wired control device.

- 2.7 Suitable audio and visual warning devices, such as buzzers, flashing lamps, etc., should be installed to alert workers to the trapping hazard created by the operation of the tail lift.

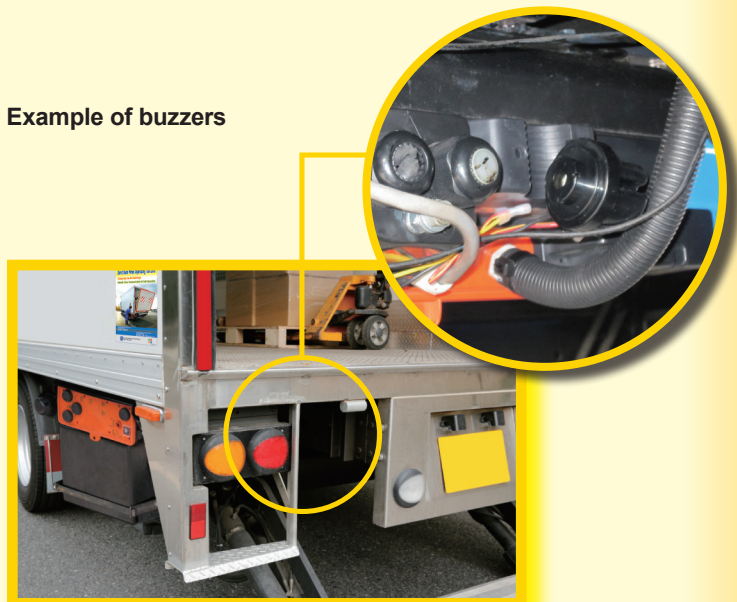
Example of flashing lamps



Another example of flashing lamps



Example of buzzers



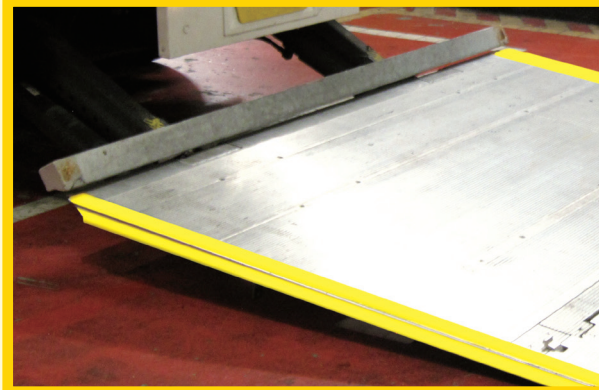
- 2.8 The tail lift should be equipped with an effective locking device to prevent it from accidental opening.



Examples of effective locking device



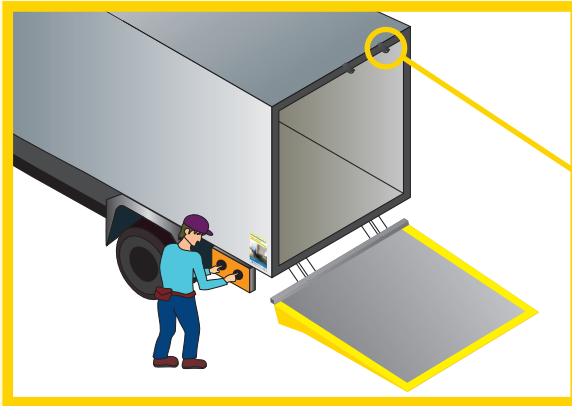
- 2.9 An effective foot protector should be installed to protect workers engaged in the loading/unloading or checking of goods against foot entrapment in the gap between the tail lift and the lorry compartment as the tail lift is ascending.



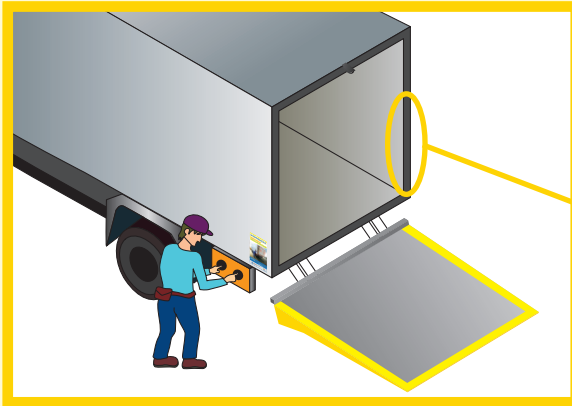
Example of effective foot protector

- 2.10 The whole process of opening and closing of the tail lift should be maintained at a slow and even speed.
- 2.11 An effective tripping device should be installed at the rear end of the lorry body or on the tail lift to stop the operation of the tail lift immediately upon detection of any persons or their heads in the dangerous trapping zone, so as to prevent any persons from being trapped.
- 2.12 The acceptable standard of an effective tripping device should be able to prevent the trapping of a human head on the “non-operator side” of the tail lift (i.e. the side opposite to the two-hand control device). An effective safe system of work should also be implemented simultaneously to prevent any part of a human body from being trapped on both sides of the tail lift.
- 2.13 Any tripping device (such as artificial intelligence (AI), infra-red or laser device) that meets or surpasses the specifications set out in paragraphs 2.11 and 2.12 above and provides with effective protection is acceptable.

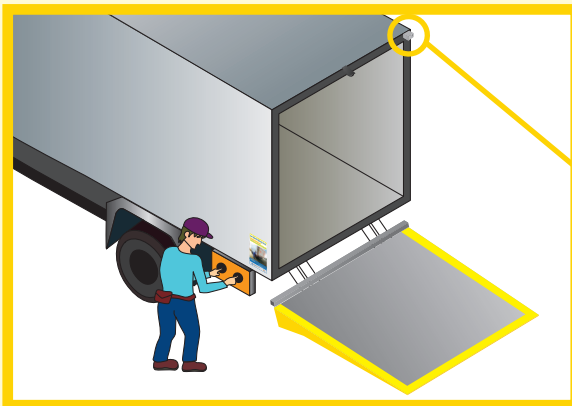
Examples of tripping devices



AI camera



Sufficient number of infra-red sensors



Laser sensor

Example of laser tripping device

Laser sensor



- 2.14 The lorry should still comply with the requirements on maximum dimensions of vehicles under the Road Traffic (Construction and Maintenance of Vehicles) Regulations (Cap. 374A) after all such devices are installed.

3. Administrative Control Measures

- 3.1 The tail lift, including its safety devices, should be regularly inspected by a competent person and properly maintained to ensure its safe and effective operation. Relevant records should be kept properly for reference purpose.



- 3.2 No one is allowed to go near the closing nip between the tail lift and the rear end of the lorry body when the tail lift is in operation.



- 3.3 The tail lift should be kept at its fully opened or closed position, unless loading or unloading is in progress. If inspection to the lorry compartment is required, the tail lift should be kept fully opened and remain stationary throughout the process.



- 3.4 An effective communication system should be established among the workers engaged in the loading/unloading or checking of goods, the tail lift operator and the lorry driver.



- 3.5 Warning notices should be posted in prominent positions to alert workers to the trapping hazard.



- 3.6 All the workers involved shall be provided with the necessary safety information, instruction, training and supervision.



- 3.7 No person shall wilfully and without reasonable cause, remove, render inoperative, misuse, damage or interfere with any safety device provided in pursuance of these Guidance Notes.

4. Notes to Workers

- 4.1 Workers should take note of the safety measures set out in these Guidance Notes for the proper use of tail lifts.
- 4.2 No one is allowed to go near the closing nip between the tail lift and the rear end of the lorry body when the tail lift is in operation.
- 4.3 If inspection to the lorry compartment is required, the tail lift should be kept fully opened and remain stationary throughout the process.
- 4.4 Effective communication should be maintained among the workers engaged in the loading/unloading or checking of goods, the tail lift operator and the lorry driver.
- 4.5 Workers should make full and proper use of the safety devices provided in pursuance of these Guidance Notes.
- 4.6 In case the tail lift, including its safety devices, is found to be not functioning properly, the operation should be stopped at once and the proprietors/employers should be informed accordingly.

5. Other Hazards Arising from the Use of Tail Lifts

- 5.1 Apart from trapping hazard, there are other hazards arising from the operation of tail lifts, including workers falling from the tail lift or being hit by goods falling from the tail lift platform, etc. Lorry owners and proprietors/employers responsible for the loading/unloading of goods should therefore provide relevant safety measures and suitable protective devices, such as guard-rails and toe-boards, to eliminate the hazards and ensure the safety and health of workers at work.

- 5.2 While complying with the requirements of these Guidance Notes, lorry owners and proprietors/employers responsible for the loading/unloading or checking of goods are also reminded to note and observe other government departments' requirements. Examples include the regulations and guidelines of the Transport Department for load carrying vehicles, the Fire Services Department for dangerous goods vehicles, the Electrical and Mechanical Services Department for LPG cylinder wagons, the Civil Engineering and Development Department for explosives delivery vehicles, etc.

- 5.3 Moreover, as required by the Transport Department, the tail lift should not be operated in such a condition as to cause danger to other road users, hold up traffic or cause inconvenience to others. Do not park the lorry near a street corner for loading/unloading activities or extend the tail lift to the adjacent carriageway. Pedestrians and other drivers should be alerted/guided during the operation of the tail lift. Lorry driver must ensure the tail lift is properly closed before moving the vehicle.

6. References

- (i) BS EN 1756-1:2021 Tail lifts - Platform lifts for mounting on wheeled vehicles - Safety requirements - Part 1: Tail lifts for goods
- (ii) BS EN ISO 13851:2019 - Safety of machinery - Two-hand control devices - Principles for design and selection
- (iii) “Guidance Note No. GN 2 - Approval of an Explosives Delivery Vehicle” issued by the Civil Engineering and Development Department
- (iv) “Guidance Note GU10 - Code of Practice for The Design and Construction of LPG Cylinder Wagon” issued by the Electrical and Mechanical Services Department
- (v) “Standard Fire Safety Requirements for Vehicles Used for Conveyance of Class 2/ 3/ 3A Dangerous Goods” issued by the Fire Services Department
- (vi) “Code of Practice for the Loading of Vehicles” issued by the Transport Department
- (vii) “Tips for Improving the Use of Vehicle Mounted Tail Lift” issued by the Transport Department
- (viii) “Vehicle Safety and Standards Division Technical Bulletin No: 1/2008 - A Guide to Install the Additional Lighting and Retro-reflective Aids on Vehicles Equipped with Tail Lift” issued by the Transport Department

7. Enquiries and Complaints

Enquiries

If you wish to enquire about these Guidance Notes or require advice on occupational safety and health (OSH) matters, please contact the Occupational Safety and Health Branch of the Labour Department (LD) through:

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

Information on the services offered by LD and major labour legislation is also available on our website at <https://www.labour.gov.hk>. The latest OSH information can be obtained through the “OSH 2.0” Mobile Application of LD. For details on the services offered by the Occupational Safety and Health Council, please call 2739 9000.



Labour Department's Website



“OSH 2.0” Mobile Application

Complaints

If you have any complaints about unsafe operations and environments at workplaces, please call the LD's OSH complaint hotline at 2542 2172 or fill out and submit an online OSH complaint form on the LD's website. All complaints will be treated in the strictest confidence.



Online OSH Complaint Form



**Labour Department
Occupational Safety and Health Branch**