

Vehicle lifts — Installation, maintenance, thorough examination and safe use — Code of practice

ICS 43.180; 53.020.99

Committees responsible for this British Standard

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- Garage Equipment Association
- Health and Safety Executive
- Safety Assessment Federation Ltd.

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Foreword

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution. This British Standard has been prepared by Subcommittee MHE/12/-/1. It has been based on proposals from the Garage Equipment Association using the annexes from BS AU 161-1b:1983 and BS AU 161-2:1989. These standards dealt with both fixed and mobile vehicle lifts and have been superseded by BS EN 1493.

BS 7980:2003+A1:2012 supersedes BS 7980:2003, which is withdrawn.

The start and finish of text introduced or altered by Amendment No.1 is indicated in the text by tags **[A1]** **[A1]**. Minor editorial changes are not tagged.

Text introduced by or altered by Corrigendum No. 1 is indicated in the text by tags **[C1]** **[C1]**. Minor editorial corrections are not tagged.

This standard sets out various guidance and recommendations to ensure that vehicle lifts are installed, maintained, thoroughly examined and used in a safe manner.

The Health and Safety Executive (HSE) commends the use of this British Standard to those who have duties under the Health and Safety at Work etc. Act 1974 [1]. This British Standard was drawn up with the participation of HSE representatives and will be referred to in relevant HSE publications.

It has been assumed in the drafting of this British Standard that the execution of its provisions is entrusted to appropriately qualified and competent people.

As a code of practice, this British Standard takes the form of guidance and recommendations. It should not be quoted as if it were a specification and particular care should be taken to ensure that claims of compliance are not misleading.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 19 and a back cover.

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1 Scope

This British Standard provides guidance and recommendations for persons responsible for the installation, maintenance and thorough examination of vehicle lifts. It also provides guidance and recommendations on the safe use of vehicle lifts in garages and similar establishments.

This standard applies to fixed, mobile and movable vehicle lifts, which are not intended to lift persons but are designed to raise vehicles totally, for the purpose of examining and working on or under vehicles whilst in the raised position.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 4800:2011, *Schedule of paint colours for building purposes*.

A1 Text deleted. A1

BS 7671, *Requirements for electrical installations* — A1 *IET Wiring Regulations. Seventeenth edition*. A1

BS EN 1493:2010, *Vehicle lifts*.

A1 BS ISO 4309:2010, *Cranes — Wire ropes — Care and maintenance, inspection and discard*.

ISO 4347:2004, *Leaf chains, clevises and sheaves — Dimensions, measuring forces and tensile strengths*. A1

3 Terms and definitions

For the purposes of this British Standard, the following terms and definitions apply.

3.1

vehicle lift

lifting device with guided load carrying device for lifting land based means of transport such as cars, motorcycles, lorries, buses, trams, rail vehicles, industrial trucks and similar, and designed for working on or under the load

NOTE The guidance of the load-carrying device is given by the supporting structure. Additional information regarding vehicle lifts is given in Annex A.

3.1.1

manually driven vehicle lift

vehicle lift where the carrying device is driven by manual effort

3.1.2

power driven vehicle lift

vehicle lift where the carrying device is not driven by manual effort

3.1.3

fixed vehicle lift

vehicle lift fixed permanently to a single location

3.1.4

A1 Text deleted. A1

3.1.5

mobile vehicle lift

movable vehicle lift equipped with wheels, rollers, etc. such that it can be moved from one place to another A1 or be transportable, with or without load depending on design A1

3.2

competent person

person who has such practical and theoretical knowledge and such experience as is necessary to carry out their work and is aware of the limits of his/her own competence, expertise and knowledge

3.3**rated capacity**

maximum load that a lift has been designed to carry

NOTE This was previously known as safe working load (SWL).

3.4**load carrying device**

part(s) of the vehicle lift that supports the load, either by direct contact with the vehicle or through contact with pick-up plates or pads

NOTE Load carrying devices include tracks, carrying arms or other mechanical devices designed to raise and support a vehicle by designated lifting points.

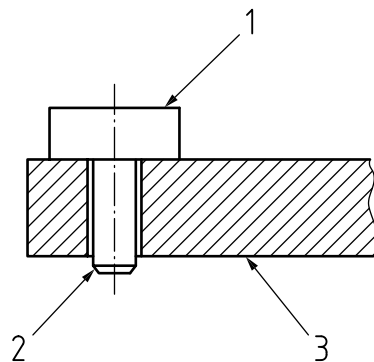
3.5**carrying arm**

load carrying device attached at one end, directly or indirectly to the lifting element and supporting the load at its other end

NOTE Carrying arms are usually used on two column lifts.

3.6**pick-up plate**

part of the load carrying device, e.g. on two column lifts with carrying arms, which has direct contact with the vehicle and which has an assigned position on the load carrying device (see Figure 1)

**Key**

1 Pick-up plate

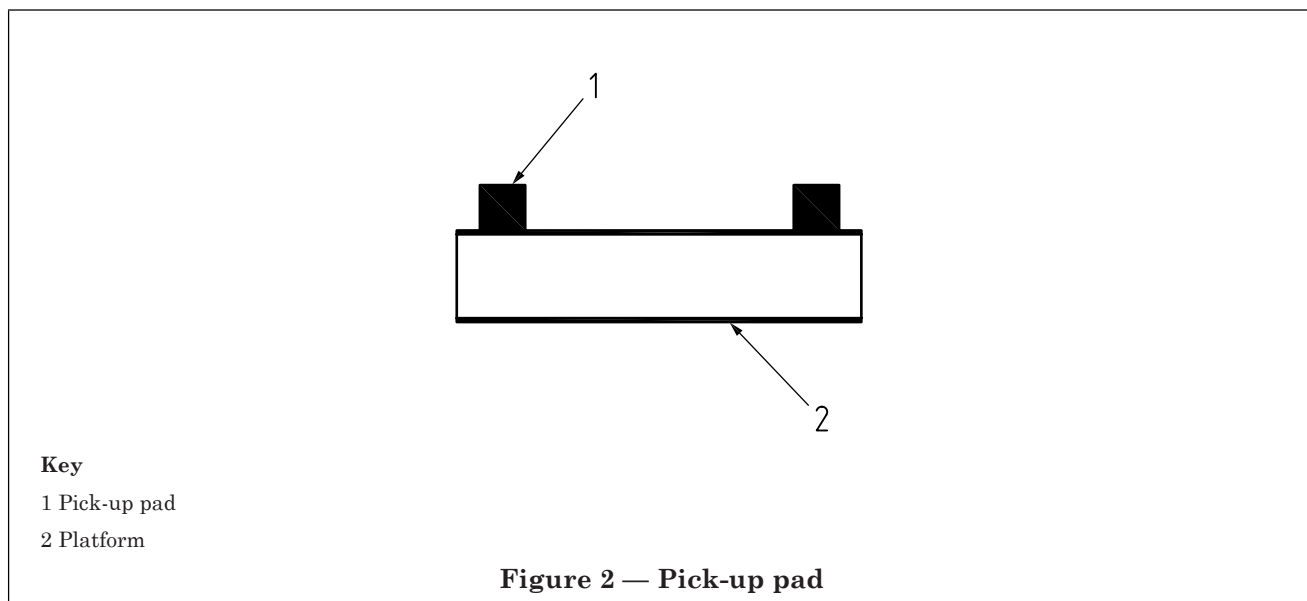
2 Pin

3 Load carrying device

Figure 1 — Pick-up plate

3.7**pick-up pad**

vehicle supporting pad which has direct contact with the vehicle but which does not have an assigned position, e.g. pads used on wheel free systems with platforms (see Figure 2)



3.8

lifting element

medium through which a force is transmitted from the power source to the load carrying device

NOTE Lifting elements include hydraulic and pneumatic cylinders, lead screw and nut systems as well as any flexible connections such as steel wire ropes and chains.

3.9

catching device

device which holds the load carrying device in case of failure of the lifting element

3.10

safety switch

switch in which the opening contacts are directly connected to the control mechanism without springs or flexible elements

NOTE The whole of the specified opening of the contacts can be achieved by operation of the control mechanism through its intended travel using the force stated by the manufacturer of the switch (see BS EN 60947-5-1: [A1](#) 2004+A1 [A1](#), 2.1).

3.11

wheel track

distance between the centre lines of the wheels on one axle or between centre lines of wheel pairs on twin wheel axles

3.12

blocked-up

physically prevented from fully lowering to the ground thus creating a clearance under the moving parts

4 Installation and commissioning of fixed vehicle lifts

4.1 General

Fixed vehicle lifts should be installed and commissioned by a competent person in accordance with the manufacturer's instructions. [A1](#) The installer should supply the manufacturer's English language operation and maintenance instructions with the lift. [A1](#)

4.2 Positioning

4.2.1 General

The vehicle lift should be installed taking account of its position and the accessibility of all parts so that periodic examinations, testing, maintenance and repairs can be readily and safely carried out.

A1 The suitability of the floor or surface, e.g. concrete, etc., should be assessed in order to confirm its capability of supporting localized loads that could be imposed by the maximum loads on the vehicle lift. **A1**

Regulation 6 of LOLER [2] requires that lifting equipment is positioned or installed in such a way as to reduce, to as low as is reasonably practicable, the risk of the equipment or load striking a person. Therefore, in addition to the positioning of the lift, the lifting operation being carried out should be assessed before the equipment is installed.

Fixed vehicle lifts should be positioned so that throughout their range of movement any moving part is either at least 600 mm away from, or not more than 12 mm away from the nearest fixed structure. Fixed vehicle lifts should be not less than 600 mm away from any other adjacent fixed structure throughout the movement of the lift.

Where a fixed vehicle lift is installed adjacent to any other equipment that moves vertically, the clearance between the equipment and the lift should be at least 600 mm.

Consideration should be given prior to installation to the position of adjacent doorways and other possible hazards.

4.2.2 Surface and recessed lifts

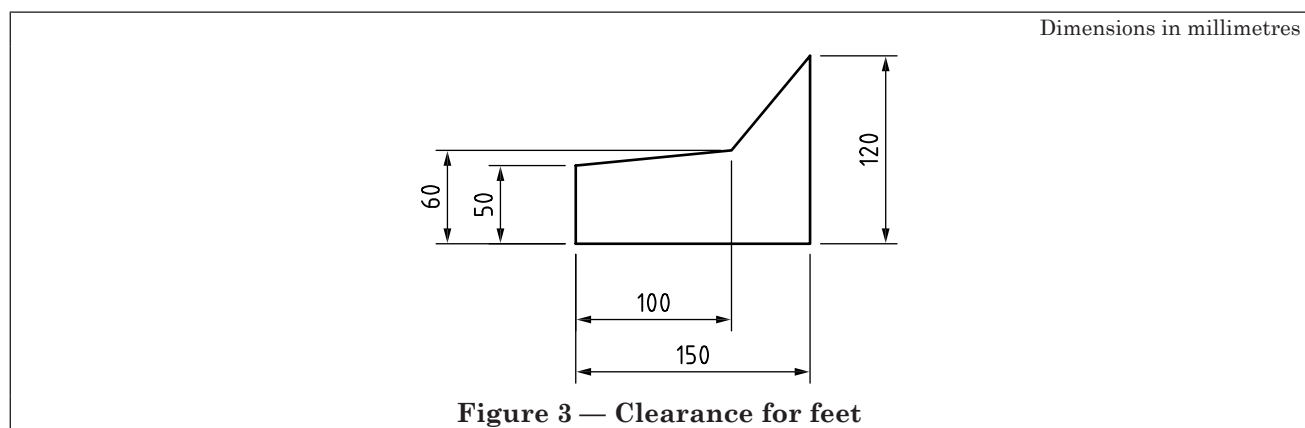
4.2.2.1 General

The installation of surface and recessed lifts should provide toe protection. If the lift is fitted into a recess it can be blocked-up to provide toe protection beneath the moving structure. If this is not possible, toe protection should be provided in accordance with **A1** Figure 4 or Figure 5 **A1** as appropriate, where the dimensions should be taken from the extremity of the toe protection. Toe protection can also be achieved if, during the lowering of the lift, the movement is automatically halted at a distance of 120 mm before the danger position. The movement can then be restarted by operation of an additional lowering control or by releasing and reactivating the normal lowering control. It is essential that the final portion of the travel is accompanied by an audible warning signal. In either case it is also essential that it is not possible to override the stopping device such that the lift travels to its initial position without stopping.

Vehicle lifts with CE Marking and modifications to existing vehicle lifts should conform to

A1 BS EN 1493:2010, 5.17.2 **A1** regarding safety distances for toe protection **A1** (see Figure 3) **A1**.

A1



4.2.2.2 Drive through application (see **A1** Figure 4 **A1**)

It is essential that toe clearance is provided by having:

- a minimum space of 120 mm between the exposed end of the moving structure and the recess end wall together with a minimum clearance space of 150 mm × 50 mm below the moving structure;
- a minimum space of 300 mm between the exposed outer side of moving platforms and the recess side wall together with a minimum clearance space of 150 mm × 50 mm below the moving platforms.