

LEIA Safety Information Sheet Hydraulic Lifts - Fitting of Mechanical Restraints

Prepared by the LEIA Safety and Environment Committee



SAFETY INFORMATION SHEET

THE FITTING OF MECHANICAL RESTRAINTS

Preamble

This Information Sheet is one of a series produced by LEIA Safety and Environment Committee on topics relevant to the Lift and Escalator Industry. Whilst every effort has been taken in the production of these sheets, it must be acknowledged that they should be read in conjunction with the relevant legislation, codes of practice etc. They should not be taken as an authoritative interpretation of the law but guidance to it.

Introduction

Due to the inherent risks of hydraulic systems it should be recognised that only competent personnel should be employed when fitting mechanical restraints. Prior to any work being carried out a risk assessment must be conducted. A safe system of work and safe working practices must be followed or the risk of an accident is high. It is good practice, to take note of any safe refuge space before entering the pit.

A means of mechanical restraint, such as a prop, scotch, guide-clamp or similar device, should be provided and used when working under a lift car as part of a safe system of work.

Check, once the restraint is fitted, that access and egress to and from the pit is still possible with the toe guard in place, depending upon the length of the prop.

Most companies require this device to be in position when working on the hydraulic system or when working in the pit for any length of time. Some companies define this as when the proposed task takes longer than the time taken to fit the prop. However the device must always be put in place if invasive work is going to be undertaken on the equipment (see BS7255 Annex G Table G1)

Fitting Mechanical Restraints

The lift should be switched to Inspection Control. The lift car should then be positioned at a suitable point in the shaft away from the bottom level for safe access/egress. If the lift travel from the bottom level to the upper floor is short and it is appropriate, remove the lift car toe guard prior to entering the lift pit to fit any mechanical restraints.

Once fitted in position, Lock Off and Tag Out the machinery.

The prop or device must be capable of supporting the car weight and a safety margin. The use of equipment that has not been designed, manufactured or selected to be adequate for specific site conditions can be dangerous. Account must be taken of any load inside the lift car before using the prop. Props are usually painted yellow and kept permanently within the pit or a notice posted to indicate where they are stored/located. The location for fitting the prop or device in the pit, to support the car during maintenance, should be clearly identified. Also there should be a corresponding support point on the underside of the lift car.

Props should be placed in a socket or bracket which will support them in the upright position (self-supporting), the pit can then be vacated whilst the lift is lowered.

Should it be necessary to physically support the prop whilst the lift car is lowered, a risk assessment should be made before undertaking the fitting of the prop. Operatives should ensure clear communication between themselves and a final check should be carried out for clearance and

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obstructions prior to lowering the lift. Lower the lift using the hand lowering button or lever until the car sits firmly on the device or prop(s) checking they are aligned correctly with the lift car support points and it is safely landed before work is carried out on the hydraulic system.

The hydraulic pressure gauge, if fitted, should read zero, and the main shut off/ gate valve should be in the closed position.

Reinstating the Lift

To re-instate the lift, the same procedure should take place in reverse order, i.e. the lift main shut off/ gate valve is opened, and if fitted, the low pressure switch overridden (remove the override facility as soon as possible). The hydraulic system is then pressurised by either using the hand pump or the system pump from the controller contactors using the test button's, which will cause the lift to rise. The lift should be positioned as before, the electrical supply isolated and the main shut off or gate valve closed. Entry is made into the pit to remove and stow away the prop or device to its correct position.

Reopen the main shut off / gate valve; reinstate the electrical supply, the lift can be switched from maintenance control back into service.

For any clarification of this information sheet contact your company Safety Advisor or the LEIA Safety and Training Manager.

References

BS7255:2012 Code of practice for safe working on lifts