



Lift and Escalator Industry Association

33-34 Devonshire Street London W1N 1RF
Tel: 0171 935 3013 Fax: 0171 935 3321

To: All Members
cc: Quality and Technical Committee (Code No: QTC-150)

19 June 1998

Dear Sir

KONE TYPE ADV AND ADT DOORS WITH CURTAIN OF LIGHT SAFETY EDGE

I enclose a Safety Notice which the above company has asked to be circulated to all members.

Please be guided accordingly.

Yours faithfully

A handwritten signature in black ink, appearing to read 'D M Fazakerley', written over a horizontal line.

D M Fazakerley
Director



KONE LIFTS LTD	Subject				CODE: SN 03.17.01
	<u>ADV & ADT + CURTAIN OF LIGHT SAFETY RISK.</u>				Pages: Total 6 SAFETY CATEGORY A
DEPT. TECH.SUPP	DATE 3.6.98	COMPILED BY A J Shiner	CHECKED V J Kaura	APPROVED <i>ASh</i>	ISSUE B

The corrective actions on the attached sheets must be carried out during the installation of new elevators, or if already installed, to be carried out during the next maintenance visit.

Phil Neale of Technical Support Hounslow, is responsible for coordination of corrective actions. Please copy site and lift modification details to him when modifications are completed.

Compiled by: KCO/P.Eagling

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ADV & ADT + CURTAIN OF LIGHT SAFETY RISKSN 3.17.01
Page 2 of 6
Safety Category A
ISSUE B.**1. Products affected**

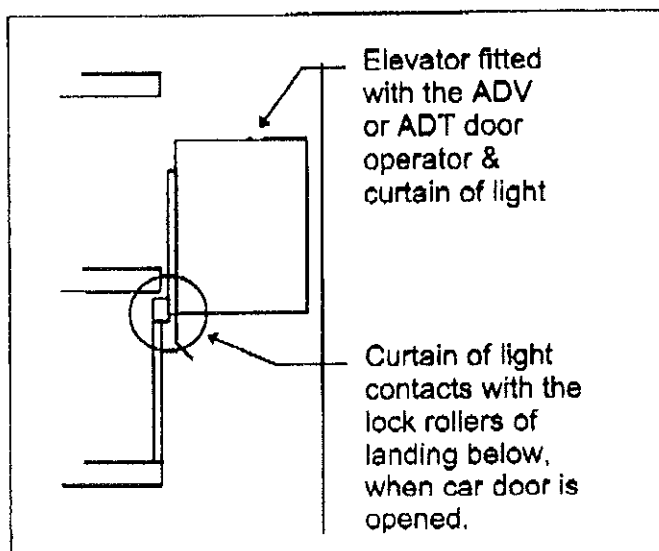
ADV1, ADV2, ADT1, ADT2 doors when there is a curtain of light (COL) safety edge fitted to the leading edge of the car doors.

This risk can also apply to other doors where that has been a COL safety edge or other equipment added which protrudes into the sill gap.

2. Description of the problem**2.1. Symptoms and nature of the accident risk**

The COL safety edge has a theoretical 1mm gap between it and the landing door rollers, in many inspected elevators this gap does not exist. It is then possible that during maintenance or emergency evacuation, when the elevator car is positioned 1 meter or more under the landing level, the opening of the car door can also open the landing doors of the floor below. This exposes the empty shaft to users. Children are especially at risk in these situations.

Figure 1. Unintentional opening of the landing door



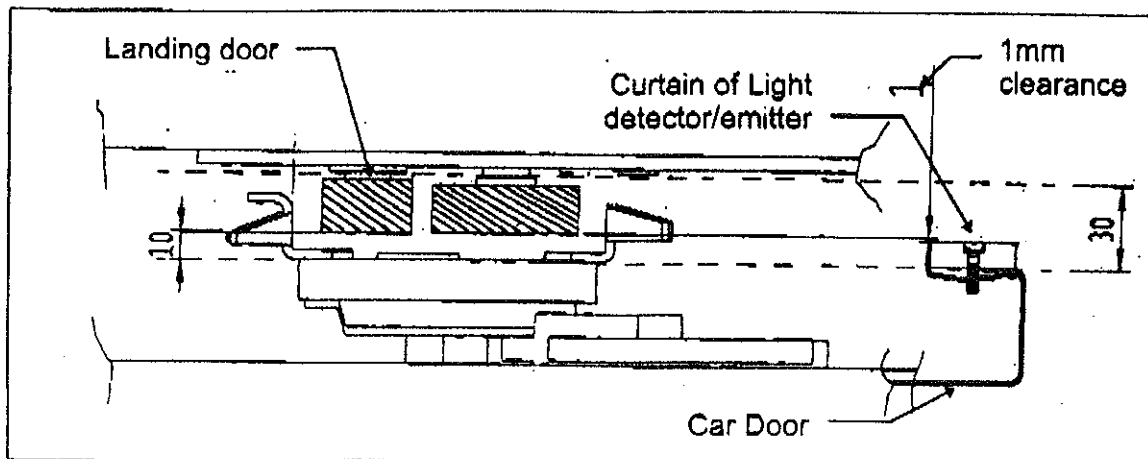
The opening of the car doors when the car is below the normal level **cannot occur during the normal operation of the elevator**. The only possibilities for the car to be out of level and the car doors opening are when there is a maintenance visit, or a callout to a trapped passenger or stuck elevator.

The opening of the landing door below exposes a real possibility of a member of the public falling into the pit. In the past 5 years there have been four reported cases (not with the ADV or ADT) when a user has walked into a darkened shaft without the elevator being at the level, three of these have been fatal.

2.2. Root cause

The clearance between the curtain of light emitter/detector unit and the landing door rollers is 1mm, and during installation, maintenance or natural wear and tear this clearance can be removed and lead to the safety risk.

Figure 2. Clearance between curtain of light and landing door rollers



3. Corrective actions

The corrective actions for this case are in two steps, first a temporary fix and then the hazard elimination. In both cases the actions can be taken during the regular maintenance of the elevators.

The KCO Safety Department will distribute a Field Letter to all KONE new elevator and modernisation design departments to warn against using the sill gap for any other components other than the lock rollers and coupler systems.

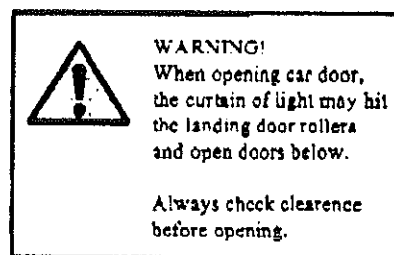
3.1. Temporary fix

All callout and maintenance employees must be made aware of this safety risk, and as part of the regular maintenance the clearance gap must be checked and maintained.

An employee can quickly check by carefully opening the car door by hand and seeing if the landing door rollers are hit by the curtain of light at each landing.

It is recommended that a warning sign is produced locally, and stuck next to the car door maintenance test buttons. An example of a sign and text are shown below in Figure 3. The placing of the sign can be seen in Figure 4.

Figure 3. Warning sign for the car door header



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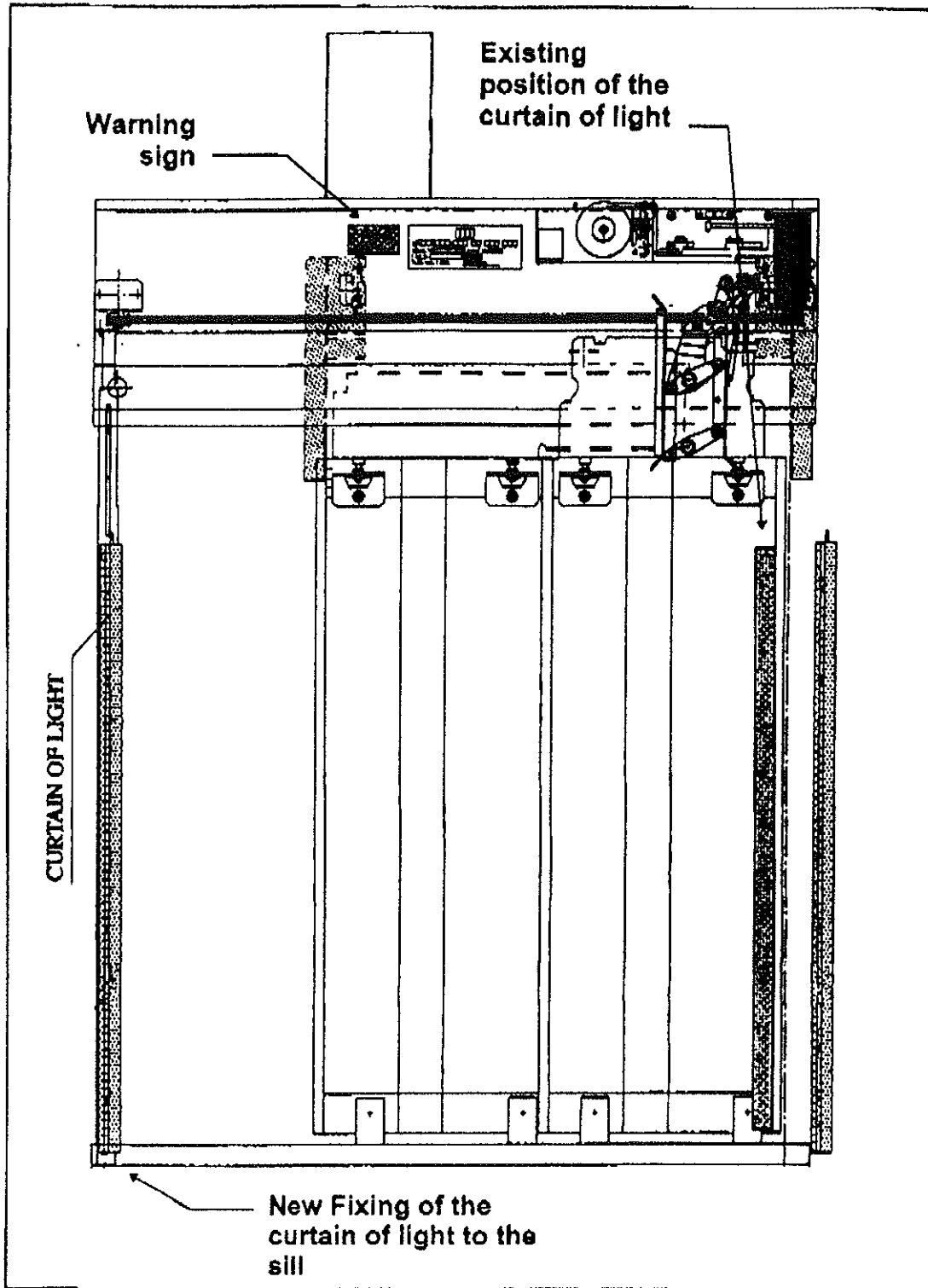
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3.2. Hazard Elimination

The position of the COL safety edge will be moved from the door leading edge to a fixing on the sill as seen in figure 4 below. The modification kit is available from the Pero factory and can be ordered using the form in Appendix 1.

Figure 4. Fixing of curtain of light to the car doors and to the car sill

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3.3. *Permanent Solution*

The curtains of light will always be provided with fixings to the end of the car sills for all new deliveries.

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4. Maintenance

4.1. *Before modification*

The clearance between the curtain of light and the lower landing door rollers must always be checked carefully before opening the car doors. The warning label should be fitted until the permanent fix is made to the elevator.

4.2. *After modification*

No special requirements

5. Special instructions

If You have any questions regarding this Express Information, please contact:

- BU1 Door Technical Engineer, (Tel: +39 2 3392 3322, Fax: +39 2 3391 0298), or
- KONE Safety Manager, Peter Eagling (Tel: +358 204 75 4479, or Fax: +358 204 75 43 77).

Appendix 1. Modification Kit Order Form

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To: **Gerald Wagner** Fax Number: +39 2 3391 0298
 Tel Number: +39 2 3392 3322

Address: **Technical Engineer Door Factory**
KONE BU1
Via Figino, 41
20016
Pero
ITALY

Date:/...../1998

From: Location (Country/Office/Unit):

Telephone: Fax:

Type of Door: ADV ADT
 Centre Opening Side Opening

Identification number of elevator to be modified:

Address for the delivery of the modification kit:

Contact person and telephone number at delivery address (If different from above):

A

