

# Accessible Goods Only Lifts (AGOLS): The Law & Levels of Safety

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**Abstract.** When a person enters a lift - whether to load it, unload it or just to travel in it - the question is whether they are entitled to believe that it offers an acceptable level of safety. Given that the function of the lift, whether manufactured to The Lift Directive or The Machinery Directive, is the same (i.e. to move goods from one level to another), would it not be reasonable to expect that the levels of safety would be the same? This paper will look at the different requirements against uncontrolled movement in the downward direction and will discuss the risks with reduced levels of protection, as well as the implications for persons in the car, including those who have to enter the car to maintain the said lift.

## 1 WHAT IS AN AGOL?

An AGOL is an “Accessible Goods Only Lift”. This means that it was intended to transport goods only and was not intended to have passengers travel in it.

## 2 THE LAW AND LIFTING APPLIANCES

The Lifting Operations & Lifting Equipment Regulations 1998 (LOLER) states in Regulation 5(1)(c) “*Every employer shall ensure that lifting equipment for lifting persons has suitable devices to prevent the risk of a carrier falling*” [1].

The question that then arises is whether this clause applies to AGOL’s as they are intended to move goods only and the clause specifically states “*for lifting persons*”.



**Photograph 1: Typical Sign on a Landing**

Following the introduction of the Supply of machinery (Safety) Regulations 1992 [2], which enacted the 1992 Machinery Directive [3], the Essential Health & Safety Requirements (EHSR's) of these Regulations set out a clause (4.1.2.6), which required machinery such as lifts to be designed and constructed so that loads could not creep dangerously, fall freely or fall unexpectedly.

In December 2009, the Supply of machinery (safety) Regulations 2008 [4] replaced the 1992 version. Clause 4.1.2.6 remained similar but clause 4.1.2.8.2 required *“that where persons have access to the carrier, the machinery must be designed and constructed in such a way as to ensure that the carrier remains stationary during access, in particular whilst being loaded and unloaded”*.

In 2010, a harmonised standard was published for AGOL's (BS EN 81-31 [5]). This standard, whilst not law in itself, presumes conformity to the EHSR's of the Machinery Directive. This standard requires rope and chain suspended lifts to be fitted with means to prevent free fall and uncontrolled movement.

During the process of maintaining an AGOL the maintenance operative will be protected by the Provision & Use of Work Equipment Regulations (PUWER) [6].

This, amongst other things, requires that the employer conduct a risk assessment to identify the hazards and determine what the risks associated with the equipment and its use are. It is anticipated that such a risk assessment would identify the obvious risk of free fall on some designs.

### **3 WHAT ARE THE ISSUES WITH AGOLS WITHOUT SAFETY GEARS?**

For many years, our industry was cautious about older designs of lifts that had no safety gear. These were generally goods only lifts with no car operating station but often had a call and send arrangement on the landings, to allow the operative to send the consignment of goods to wherever it was required. Then they would go to that floor and perform the unloading task.

The issue that was identified by the industry many years ago was that there was a risk to a person crossing the landing and car thresholds to load or unload the car, (described as a carrier in LOLER).

The industry reacted in a number of ways, including removing car operating stations where they existed on a lift with no safety gear, placing signs on the car roof advising operatives not to ride on the car roof, (where there would be no car top control anyway) and in some cases reduced height cars were introduced such that it was uncomfortable for an operative to enter the car and therefore the goods were loaded and unloaded by pushing them in from a distance on pallet trucks etc.

The issue arises when the passenger is across the threshold and there is uncontrolled movement.

Another issue that has arisen is that maintenance operatives have to travel in the lift and plug in a pendant in some cases to operate it.

The industry does not allow car top controls on lifts with no safety gear so why would lifts with no safety gear be allowed to have a pendant?

The answer is very simple. They should not as the operative is a passenger being lifted, by definition.

### **4 WHAT ARE THE RISKS**

The risks include:

- Uncontrolled movement whilst boarding or alighting
- Maintenance operative entrapment whilst undertaking maintenance
- Uncontrolled descent or ascent whilst a person is in the car

Additional risks arise as a result of some designs not having a car door and some having a car door but not a car door contact, allowing it to travel with the door open.

The HSE issued guidance on lifts with no car doors many years ago and it must therefore be considered a step backwards to allow cars to not have a car door or one with no means of proving that it is closed and locked. Given that these lifts are designed to move goods only and in an unaccompanied manner, the risk of the goods moving during travel need to be considered.

Uncontrolled movement whilst boarding or alighting is a risk on any lift with or without a safety gear. EN81-1 [7] & EN81-2 [8] amendment 3 (known in the industry as A3), dealt with uncontrolled movement and was intended to prevent the risk of shearing between the car and landing in the event of uncontrolled movement.

In the UK such incidents have occurred causing death including incidents in Woodford, Essex and in Broadgate in the City of London.

It is clearly a well-known risk which should to be eliminated by sound engineering design such as the addition of a safety gear.



**Figure 1: Newspaper coverage following fatality in London**

The above example of a lift (although not an AGOL), moving with its doors open creating a shearing affect as a passenger was across the threshold, is a real example of what could happen.

A potential issue arises with maintenance operatives, as a result of having to travel in the lift car and on some designs having to remove panels for the car walls to access the guides, ropes or chains and limit switches. In the event of uncontrolled movement whilst a limb is through the window there is an obvious risk of entrapment which would potentially result in serious injury.

Even with a safety gear installed it is not considered safe to put limbs through a window to access components due to the obvious risk of shear, even in the distance dropped by the car until the safety gear engages.

## 5 THE ARGUMENT THAT SOME DESIGNS COMPLY

Arguments have been made that on some hydraulic designs there are two ropes over the ram head diverter and that one is slightly less tensioned than the other. This means the AGOL is being raised and lowered on a single rope which, if it snaps, transfers a dynamic load to the other rope, thus preventing free fall.

It is not unknown that ropes on lifts break either due to poor maintenance or an unusual event causing an unintended load to be applied to them.



**Photograph 2: Failed hoist ropes after dynamic loading**

## 6 CONCLUSION

It is concluded that all AGOL's designed to either the Supply of Machinery (Safety) Regulations, Machinery Directive, Lift Directive [9] or the harmonised standard EN81-31 should be fitted with means of protection against uncontrolled movement.

It is concluded that LOLER requires that protection against free fall be fitted to any lifting installation.

It is also concluded that an operative undertaking maintenance on an AGOL would be protected by PUWER and a risk assessment required by this statutory instrument should identify the risk of free fall and to seek the prevention of such an occurrence.

## REFERENCES

- [1] HM Government (1998) Lifting Operations & Lifting Equipment Regulations
- [2] HM Government (1992), Supply of Machinery (Safety) Regulations
- [3] Machinery Directive 1992
- [4] HM Government (2008) Supply of Machinery (Safety) Regulations

- [5] BSI (2010), BS EN81-31 Accessible Goods Only Lifts
- [6] HM Government (1998) Provision & Use of Work Equipment Regulations
- [7] BSI (2009) BS EN81-1 Amendment A3
- [8] BSI (2009) BS EN81-2 Amendment A3
- [9] Lift Directive
- [10] LEIA Technical Warning Notice (Feb 2019)

## **BIOGRAPHY**

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David Cooper is the Managing Director of UK based lift consultants LECS (UK) Ltd. He has been in the lift & escalator industry since 1980 and is a well-known author and speaker. He holds a Master of Philosophy Degree following a 5-year research project into accidents on escalators, a Master of Science Degree in Lift Engineering as well as a Bachelor of Science Honours degree, Higher National Certificate and a Continuing Education Certificate in lift and escalator engineering. He is a co-author of "*The Elevator & Escalator Micropedia*" (1997) and "*Elevator & Escalator Accident Investigation & Litigation*". (2002 & 2005) as well as being a contributor to a number of other books including CIBSE Guide D.

He is a regular columnist in trade journals worldwide including Elevation, Elevator World and Elevatori. He has presented at a number of industry seminars worldwide including 2008 Elevcon (Thessaloniki), 2008 NAVTP (San Francisco), 1999 LESA (Melbourne), 1999 CIBSE (Hong Kong), 1999 IAEE (London), 1998 (Zurich), 1997 CIBSE (Hong Kong), 1996 (Barcelona) and 1993 (Vienna) as well as numerous presentations within the UK. He is also a Founding Trustee of the UK's Lift Industry Charity which assists industry members and/or their families after an accident at work. In 2012 David was awarded the silver medal by CIBSE for services to the Institution. David Chairs the Charity that runs the Lift Symposium and is an Honorary Visiting Fellow at The University of Northampton.

