UKMHA
UK MATERIAL HANDLING ASSOCIATION

Technical Bulletin | TB01
Sept 2020

Operator Restraining Systems (Seat Belts) on Forklift Trucks

Aim

The aim of this bulletin is to provide members of the UK Material Handling Association with clear guidance on the requirement to fit operator restraining systems to forklift trucks.

Rationale

Since 2002 all new counterbalanced, rough-terrain and side-loading forklift trucks must be fitted with an operator restraining system, such as a seat belt.

For older forklift trucks, an operator restraining system must be fitted, where it is used in situations where there is a risk of it overturning. Also, if the risk assessment indicates, that as the result of an overturn, the operator may be trapped between the machine and the ground.

Furthermore, an operator restraining system is required if a forklift truck has a cab and is being used in situations where it can roll-over, where the operator may be flung around in the overturn.

Legal Responsibilities

The Management of Health and Safety at Work Regulations 1999, Regulation 3 (MHSWR) compels employers to carry out a suitable and sufficient risk assessment, of the risk to the health and safety of employees and others, to which they are exposed whilst at work. Employers are required to make arrangements for implementing the health and safety measures identified as necessary by the risk assessment. Such as taking action to eliminate the hazard, or if that's not possible, controlling the risk.

The Provision and Use of Work Equipment Regulations 1998, Regulation 26 (PUWER) requires that mobile work equipment (including forklift trucks) has suitable roll-over protective structure(s) to minimise the risks to workers carried, should roll-over occur.

Roll-over Protective Structures (ROPS) i.e. frames or cabs, are normally fitted on mobile work equipment where there is at risk from 180° or more roll-over, where the operator may be crushed between the machine and the ground. A variable reach forklift truck can roll-over 180° or more.

Which Forklift Trucks are Most at Risk of Overturning?

Centre-control, seated, counterbalanced forklift trucks below 10,000 kg capacity, such as masted and variable-reach forklift trucks (e.g. telehandlers) are at greater risk of overturning than other types of machine, because of the operating environment in which they are used; side-loaders are also at risk of overturning. Therefore, operator restraining systems will normally be required on these types of forklift trucks.

There is a particular risk of overturning when a forklift truck is maneuvered at close to its maximum speed. When a rough terrain machine is used at any speed, there is a risk of overturning when operated on rough terrain, due to uneven surface, gradients or soft ground.

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Some forklift trucks can be at risk of overturning even when the load is carried in the proper forks-lowered position, for example, when the machine is suddenly maneuvered when travelling at speed. These risks are increased if the load is carried in an elevated position or if the machine is unladen. Driving over edges, large objects or obstructions can also cause a forklift truck to overturn.

When Should Operator Restraint be Fitted?

An operator restraining system must be fitted to any forklift truck that fulfils the legal requirement to be fitted with Roll-over Protective Structures (ROPS). Or if the mandatory risk assessment required by MHSWR, identifies that a fork lift truck with a seated ride-on operator, can roll-over in use and there is a risk of the operator being crushed between the machine and the ground.

Furthermore, where there is a risk of anyone being carried by mobile work equipment (including forklift trucks) being crushed by its rolling-over. **PUWER Regulation 26** requires that mobile work equipment must be fitted with a suitable operator restraining system, for example a seat belt.

There are exceptions to the above legal requirement, that mobile work equipment be fitted with an operator restraining system. As indicated below:

If mobile work equipment is equipped with:

- A structure which ensures that the work equipment does no more than fall on its side.
- A structure giving sufficient clearance to anyone being carried if it overturns further than that.

Compliance with this legal requirement is not required where:

- It would increase the overall risk to safety.
- It would not be reasonably practicable to operate the mobile work equipment in consequence.
- In relation to an item of work equipment provided for use in the undertaking or establishment before 5th December 1998 it would not be reasonably practicable.
- The forklift truck operator needs to dismount repeatedly and frequently (e.g. to position loads on the forks or check stock levels); and
- The forklift truck is used on a smooth, firm, level surface (e.g. concrete floor); and
- The forklift truck is unlikely to be operated at speeds or in ways which could cause overturn due to the nature of the operations being carried out and the area in which it is working.

When is Operator Restraint Not Required to be Fitted?

Is not required if the stability characteristics of the forklift truck are sufficient to prevent overturning, when used in the operating environment for which it was designed.

Nor is it required on masted forklift trucks which can only roll-over through 90° and if the operator cannot be trapped between the machine and the ground. For example, if the forklift truck has a cab with self-closing and latching doors, which have no facilities for retaining them open whilst the machine is in use.

Forklift trucks with a side-seated operator and cab accessed from the rear (e.g. masted reach trucks), or which have a stand-on operator are not required to be equipped with an operator restraint system. Since the operator is unlikely to be trapped between the machine and the ground in the event of an overturn.

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If the results of the mandatory risk assessment permit the use of a forklift truck not equipped with an operator restraint system. An employer must ensure the machine is only used for the application and in the manner permitted by the risk assessment. Any restriction on use should be clearly recorded within the risk assessment, with it being signed by both the forklift truck provider/employer and subsequently by the operator of the task.

If the forklift truck is to operated for any application or in any manner not permitted by the risk assessment, then another machine equipped with operator restraint must be used.

When Should Operator Restraint be Used?

An operator restraint system should always be used when a forklift truck is in motion unless:

- The operator needs to dismount repeatedly and frequently e.g. to position loads on the forks or check stock levels.
- The forklift truck is unlikely to be operated at speed or in ways which could cause overturn, due to the nature of the operations being carried out and the area in which it is working.
- The forklift truck is used on a smooth, firm and level surface e.g. concrete floor.

Operator restraint always needs to be fitted and worn in areas where the forklift truck is unladen, has an elevated load, is maneuvering whilst traveling at speeds approaching its maximum, driving over obstructions, or on gradients and terrain which can lead to overturning at lower speeds.

Where operator restraint is not required in certain zones of premises, control measures need to be put in place, such as identifying the different zones, setting and enforcing lower speed limits. Signage may be displayed in the forklift truck, or at appropriate access points to the zones where operator restraint use is required and where lower speeds limits apply. Similarly, operators should be trained and supervised on the use of restraint systems and speed limits.

Warning Stickers

Warning stickers may be displayed in a forklift truck, to signify that it is not fitted with an operator restraint system (seat belt) and a risk assessment must be carried out before it is used on a new task.

Warning stickers, similar to those shown below are available to purchase from the UKMHA.

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Older Fork Lift Trucks – Fitment of Restraining System

Substantial structural modification may be necessary on some older forklift trucks (provided for use before 5th December 1998), to allow seat belts or other types of operator restraining system to be fitted.

Some older equipment may not be capable of being fitted with an operator restraining system, because anchorage/mounting points of sufficient strength cannot be provided.

This will particularly apply to some forklift trucks provided for use before 5th December 1998.

Engineering analysis should be carried out before fitting operator restraining systems to an older forklift truck that is not equipped with anchorage/mounting points. Said analysis should assess whether it is reasonably practicable to fit adequate anchorage/mounting points to the equipment. Also, the structural integrity of any anchorage/mounting provided should be evaluated.

What if Operator Restraint Cannot be Fitted?

Where the risks are sufficiently high and operator restraint cannot be fitted, a different forklift truck which is equipped with a restraining system must be used.

However, where the risks are less acute and operator restraint can only be fitted with substantial structural modification, e.g. on some older fork lift trucks. You must demonstrate, such as by risk assessment that the risks involved are sufficiently low not to justify the necessary modifications.

Practical Considerations

For forklift trucks to which the regulations governing the fitting/use of operator restraining systems would normally apply:

- The hire of non-compliant (i.e. not fitted with operator restraint) mobile work equipment should no longer be taking place. Except in exceptional circumstances where the risk of roll-over and overturn are negligible and where determined through risk assessment.
- The UK Material Handling Association members must give clear, impartial advice to the employers of those who operate any forklift truck not fitted with an operator restraint system. Where the member has responsibility for the maintenance of such machines, or where the member is asked for such advice.

Preventing Overturning

When using forklift trucks it is important to ensure that:

- Operators are adequately trained;
- Forklift trucks and the surfaces on which they operate are maintained; and
- Forklift trucks are driven at appropriate speeds, taking into account the conditions in which they are operating.

Some risks can be eliminated or minimised by selecting forklift trucks which are appropriate for the surfaces and gradients on which they are to be used.

Speed limits should be set and enforced wherever necessary. Speed humps to slow down forklift truck movements and other similar devices are not recommended because, even at low speeds, they can increase the risk of overturning.

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Summary of Requirements

Subject to the criteria outlined in the above all new, including newly acquired forklifts trucks, be they used or rental equipment should be equipped with an operator restraint system.

Any exception to this will need to be determined through risk assessment, which is the responsibility of the employer of the operator of the machine. The forklift truck supplier/hirer would normally be expected to provide information on safe and hazardous working practices, where they should be used and associated risks when used in different situations.

In general terms, if a forklift truck without an operator restraint system is to be used, the working area must be smooth and level, with an enforceable speed restriction of no more than 4 mph, which is the equivalent to a brisk walking pace. Enforcement may be assisted by the fitting of a speed control system or warning device.

If the results of the mandatory risk assessment permit the use of a forklift truck not equipped with an operator restraint system. The employer must ensure that the machine is only used in the manner permitted and for the application that was the subject of the risk assessment. The potential for operator error should be included in the risk assessment.

It is recommended that any restrictions on use are clearly recorded on the risk assessment and that it is signed by both the forklift truck provider/employer and subsequently by any operator.

It should remain clear that the responsibility for risk assessment and the safe use of mobile work equipment rests solely with the employer.

Further Information

The Provision and Use of Work Equipment Regulations 1998, Regulation 27 is the main reference document.

Additional guidance is available from the following publication:

- The British Industrial Truck Association Limited (BITA) Guidance Note – **GN60 Operator restraint.**

Appendix

Appendix 1 – Risk Assessment – Use of Forklift Trucks Without Seat Restraints

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APPENDIX 1 – TECHNICAL BULLETIN 01 – RISK ASSESMENT

Activity covered by this assesment

USE OF FORKLIFT TRUCKS WITHOUT SEAT RESTRAINTS

SIGNIFICANT HAZARDS	ASSESMENT OF RISK			
	INSIGNIFICANT	LOW	MEDIUM	HIGH
1 Need to traverse slopes				
2 Need to climb or descend inclines				
3 Need to move on rough/corrugated ground				
4 Frequency of potholes, lumps and bumps				
5 Need to negotiate other obstacles				
6 Need to move across slippery surfaces				
7 Opportunity to travel at speed				
8 Opportunity to corner at speed				
9 Interface with pedestrians				

Assessment of Risks

A. If any one of the above hazards are rated medium or high risk, then a forklift truck fitted with operator restraints must be used.

B. If any of hazards 1, 2, 3, 4, 6 or 8 are risk rated low then a forklift truck with operator restraints must be used.

C. If hazard 5 is risk rated low then the nature of the obstacle must be considered in relation to other hazards, such as likely speeds, with a decision made accordingly.

D. If hazard 7 is considered low risk then consideration could be given to the fitment of speed limiters or audible/visual warning devices, to indicate if a fork lift truck is being operated above an agreed speed limit. For a forklift truck without operator restraints, a safe speed would not be in excess of a fast walking pace – i.e. 4 mph.

E. If all hazards are risk rated insignificant, then a forklift truck without operator restraints may be used. Even under these circumstances, the potential dangers should be made clear to those operators concerned. All managers and supervisors must be made aware of any restrictions that have been imposed and are to be alert to the need for even greater vigilance.

RESTRICTIONS ON USE AS A RESULT OF THIS ASSESSMENT

THIS RISK ASSESSMENT MUST BE COMPLETED ON SITE, IT FORMS PART OF A GENERIC RISK ASSESSMENT UNDER **THE MANAGEMENT OF HEALTH AND SAFETY AT WORK REGULATIONS 1999, REGULATION 3** (MHSWR).

Task, Site and Location specific details must be included within the risk assessment on the next page.

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IMPORTANT – THE RISK ASSESMENT IS SITE SPECIFIC

This risk assessment must be completed to ensure that all potential hazards and risks are identified, controlled and communicated to those concerned for each task, site and location. The risk assessment must be reviewed if there is reason to suspect that it is no longer valid, or there has been a significant change in the matters to which it relates and where as a result of any such review changes to the risk assessment are required to ensure it remains suitable and sufficient.

SITE ADDRESS:
LOCATION AT SITE:
TASK/ACTIVITY:

RESTRICTIONS:

1. If this risk assessment indicates that a forklift truck with operator restraints must be used on the above task at the above site location. Then a machine without operator restraints must not be used.
2. If this risk assessment specifies restrictions on the use of a forklift truck, not fitted with operator restraints. Then any operator required to undertake the task with such a machine should be required to sign and date a copy of this risk assessment, with suitable supervisory and managerial measures put in place.

NAMES OF COMPETENT PERSON(S) APPOINTED TO TAKE ACTION:			
Employees: Y/N	Client: Y/N	Location: Y/N	Site: Y/N
Contractor: Y/N	Sub-Contractor: Y/N	Other Occupier of site/location: Y/N	
ON-SITE ASSESMENT SIGNED: **NAME:**			**DATE:**
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