

**RHA**

# Tail Lift and Pallet Truck Guidance Document

Safer tail lift deliveries



This guidance has been produced by a working group chaired by the RHA and including the Association of Pallet Networks, haulage and logistics companies, and Backhouse Jones Solicitors.

The Health and Safety Executive (HSE) provided support to the working group in producing this guidance, which is aimed at improvements within the transport and logistics industry. In providing examples of best practice this guidance may go further than the minimum you need to do to comply with health and safety law.

## Introduction

This guide is aimed at employers who handle pallets, particularly those who use vehicles fitted with tail lifts to deliver palletised goods to their own or customer sites to help them reduce the risk of musculoskeletal injury to drivers and other workers.

An employer has a legal obligation to ensure the health and safety of their own employees and any other third party, for example, members of the general public, site visitors, contractors, and others who may be affected by their work activities. The handling of palletised loads, including loading and unloading to and from the vehicle, and moving the pallets to and from the vehicle for collection and delivery, can put workers at risk of serious injury. It is important that employers put suitable controls in place to reduce risk.

Musculoskeletal disorders (MSDs) are injuries to the human musculoskeletal system, which includes the joints, ligaments, muscles, nerves, tendons, and structures that support limbs, neck, and back. Manual handling (including pushing and pulling), heavy manual labour, awkward postures, and a recent or existing injury can all be risk factors in the development of MSDs.

This guide is not a full and comprehensive statement of the law surrounding the handling and delivering of pallets on and off vehicles. It is a guide to best practice, and therefore may go beyond the legally required minimum in assisting operators to review their current processes and procedures, and focus on areas that may have been overlooked in the company's existing health and safety systems.

Some operators may require further review of their systems with health and safety expertise within the company or externally to meet their own specific operational needs.

This guide does not cover safety topics such as maintenance and thorough examination of tail lifts, trapping points and associated issues, nor the use and types of edge protection. These are all important considerations but more detailed guidance on these topics can be found on [HSE's website](#).<sup>1</sup>

## Background

The UK haulage and logistics industry has changed significantly in recent years. There has been a significant increase in online shopping and more business-to-customer deliveries, with an increase in bulk deliveries to customer premises.

In 2020 the average pallet weight delivered by members of the Association of Pallet Networks was 380kg, and the total number of pallets delivered was 27.85 million, of which 17.9 percent was home delivery. Home delivery and smaller businesses may not have suitable facilities to safely receive palletised goods via loading bays and docks, therefore operators have filled the equipment gap by the fitment and use of equipment such as tail lifts and pallet trucks.

The dangers of loading, unloading, and manual handling when working on or around vehicle tail lifts have been recognised in the industry for some time. There have been a number of fatalities and serious injuries where drivers and/or the load have fallen from height while the driver was manoeuvring the load onto or off the tail lift.

Historically, weight has often been the only consideration when thinking about how to safely handle palletised deliveries. However, while weight is an important factor, it is not the only factor. Other relevant factors can include:

- poorly maintained equipment;
- uneven surfaces on the floor or between tail lifts and vehicles;
- the condition and weight profile of the pallet truck.

Employers should consider all relevant factors when assessing the risks of their deliveries and take proportionate steps to control those risks.



## The Law

Delivery of palletised goods falls under several legal provisions, including:

- **The Health and Safety at Work etc. Act 1974<sup>2</sup>** - The primary piece of legislation covering occupational health and safety in Great Britain;
- **The Management of Health and Safety at Work Regulations 1999<sup>3</sup>** - The MHSWR places duties on employers and employees including those who are clients, designers, principal contractors or other contractors;
- **The Manual Handling Operations Regulations 1992 (MHOR)<sup>4</sup>** - Defined as any transporting or supporting of a load (including the lifting, putting down, pushing, pulling, carrying or moving thereof) by hand or bodily force<sup>4</sup>;
- **Provision and Use of Work Equipment Regulations 1998 (PUWER)<sup>5</sup>**
- **The Work at Height Regulations 2005<sup>6</sup>**

**One or more of these regulations may apply even if employers contract out their delivery service to others. Using a contractor does not absolve an employer of their responsibilities under health and safety legislation and these duties cannot be simply passed on to others, although they may be shared.**

When deciding how to control risks, employers should think about what methods will be most effective. Removing the risk for example by removing the need for manual handling is the most effective control. But if this is not practicable employers should think about engineering controls in preference to administrative controls, training, and personal protective equipment (PPE).

**The HSE website<sup>7</sup>** is updated regularly in respect of these issues. This link will take you to the summary of MSDs.



## Risk Assessment

Employers must ensure that all tasks involving the use of the tail lift are risk assessed and measures put in place to control them as far as is reasonably practicable. **This is a legal requirement.**

The risk assessment should also document any existing or potential control measures to reduce the risk of MSD injury. Driver assistance in the risk assessment process is vital as they have first-hand knowledge of the risks associated with the delivery, but ultimately it is the employer's responsibility. It is vital that risk assessment is not a paper exercise but a procedure that is followed in practice every time and managed to ensure that it is followed. Regular reviews and refresher training or toolbox talks can keep plans up to date and remind everyone of safe procedures.

Pushing and pulling palletised handling activities involving the use of a vehicle tail lift will require at the very least a generic manual handling risk assessment. **When carrying out a risk assessment, employers should consider:**

- site conditions
- weight and dynamics of the loads
- floor conditions - which are a significant factor and may vary due to the season, surface, incline/decline, and the weather
- providing suitable and well-maintained equipment

Employers should also consider what information needs to be communicated to others involved in the delivery chain, including members of the public who may try to assist or be in the immediate vicinity of the vehicle during unloading, and who may not have an understanding of the health and safety requirements of using manual handling equipment.

In relation to pushing or pulling pallet trucks, the posture of the body will be a significant risk indicator. Observe the general posture being used while the pushing or pulling operation is being carried out. **The task is likely to be lower risk if:**

- the forces required to stop/start a load are less than 200N (or 20kgf) or 100N (10kgf) to keep the load in motion (guideline figures taken from The Manual Handling Operations Regulations 1992):

- the force is applied with the hands; and
- the torso of the operative is largely upright and not twisted;
- the hands are between hip and shoulder level; and
- the distance involved is no more than about 20m.

An additional indicator that the task is lower risk is if the load can be moved and controlled easily with only one hand.

However, the task can be deemed as higher risk even where the task meets the conditions above and a more detailed risk assessment will be necessary if there are risk factors such as slopes, uneven floors, confined spaces or trapping hazards.

Tests carried out by HSE showed that starting/stopping forces for pushing/pulling a loaded pallet truck could exceed the guideline figures (200N) by 50 percent with pallets loaded in excess of 750kg under optimal test conditions. In more 'real world' conditions, these figures increased considerably even with lighter loads. The physical abilities of the operative are also very important factors to be taken into account when identifying the relevant risks of manual handling operations.

Whilst weight is a significant factor to ensure the safe handling of pallets, it is not the only factor. Other relevant factors such as height, security, nature of the contents, the size of the contents (can the operative see where they are going in a forward direction?) and stability must also be considered in any risk assessment and safe systems of work. Site conditions may change seasonally (i.e. inclement weather such as ice) during the day (i.e. parking accessibility) so it is important to consider these factors in the assessment process and is why driver involvement is crucial.

Elements such as the vehicle bed, manoeuvring the pallet truck on to and off the tail lift, camber, incline/decline, and weather conditions can all have significant effects on the risk of injury (see **'Know the site conditions'** below).

A dynamic risk assessment can be carried out by a trained and competent delivery driver where site or load conditions are outside the scope of the generic risk assessment.

A dynamic risk assessment does not replace the employers' responsibility to assess, in advance, the risks of workplace handling activities to identify hazards and appropriate controls - preferably with driver involvement.

HSE guidance on risk assessment [can be found here](#).<sup>8</sup>

Operatives will require documented training on the factors to consider and should record if they are required to carry out a dynamic risk assessment.

**As with all working environments, where possible employers should be eliminating the risk to the health and safety of all those who could be affected by the activity. The use of equipment that can eliminate the risk must be considered where such equipment is available; an example of such a piece of equipment is the electric-powered pallet truck. Where this equipment is a cost-effective solution it should be considered as a possible solution.**

An HSE example risk assessment [can be found here](#).<sup>9</sup>

Employers should involve drivers and other key people in the assessment process as they will have key knowledge of the risks they encounter on a daily basis. This also helps the operative buy in to the process and the safety risks.

Safe systems of work can be developed from the risk assessments which should be reviewed, trained and enforced alongside an organisation's other health and safety policies.



## Communication

As much of the movement of goods is contracted out to other operators, the provision and transfer of accurate, useful information is critical to keeping people safe. Knowledge of the weight, type of load, and delivery site conditions should be shared. This will allow transport companies to ensure that the most suitable handling equipment is used and that the operative is well prepared for the conditions they can expect on site.

Issues such as damaged pallets and unexpected site conditions should be communicated back to the appropriate staff to minimise the risk of the issue happening time and again. Reoccurring problems which go unresolved could result in complacency which risks the health and safety of the operative and others, and/or a significant disruption to the smooth running of the supply chain.

There should be a documented procedure to assist with this type of reporting process which should be clear and easy to use, and should be kept in case of an incident to demonstrate compliance.

Agreement should be made on how the pallet is loaded. Issues such as pallets being insufficiently wrapped or

heavy items being stacked at the top rather than at the bottom of the pallet can have significant consequences. Also pallets stacked too high or wide (e.g. an oversized pallet) might not allow a safe delivery if the operative cannot see where they are going, or the pallet doesn't fit.

Ideally there should be communication with the end customer/consignee and supplier to establish how the goods will be delivered and what is involved.

There should also be a clear message across all the organisations involved to establish and maintain the health and safety of the operative and anyone else handling the pallet, or in the vicinity of the unloading operation.

If the operative or anyone else in the chain believes the goods cannot be delivered safely they should be empowered to refuse to deliver until an alternative safer means of delivery is worked out. Experience has shown that you could be exposing people to risk of injury if the operative thinks he/she must deliver regardless of any misgivings they may have, i.e. they want to get the job done. It is important to ensure that operatives know they will be supported if they decide to stop the delivery on safety grounds.

## Use the right equipment

The equipment you use should be suitable for the task and well maintained. A reporting protocol for operatives who become aware of issues with any equipment used to handle the loads should be adopted to ensure they are not 'coping' with a problem rather than seeking to have it repaired. Whatever system is used, it should be simple and straightforward so that operatives are not discouraged from reporting issues.

You should ensure that the pallet truck and the tail lift are rated for the loads that will be moved. Heavier loads, in accordance with your risk assessment, may require power assisted pallet trucks, or some other method of movement that does not risk injury to the driver or anyone else.

## Know the site conditions

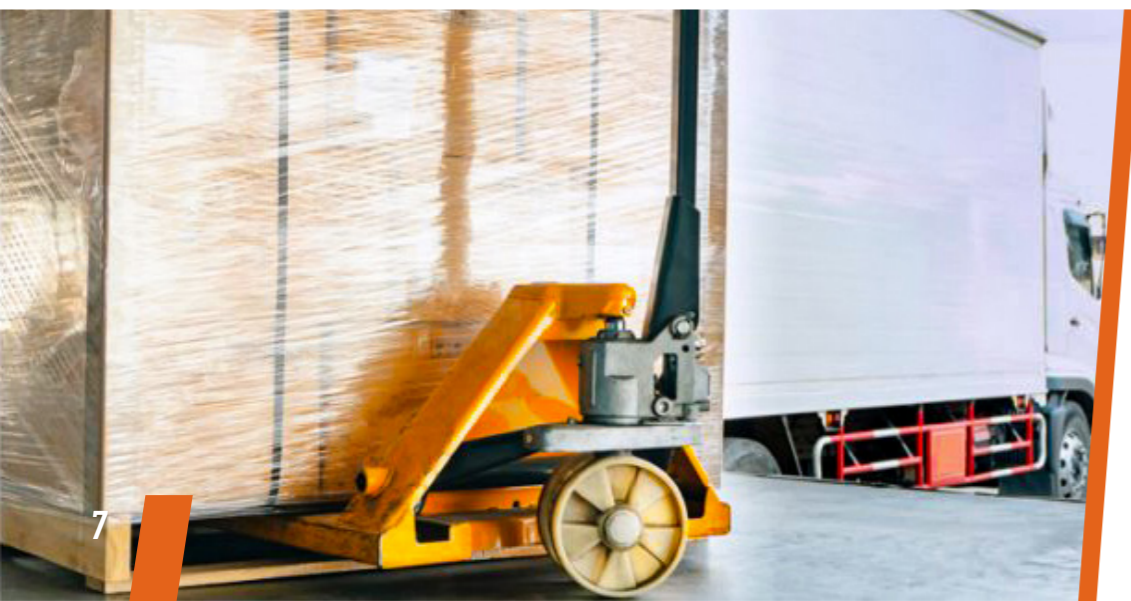
With an increase in the number of deliveries to domestic premises requiring a tail lift, advance knowledge of conditions at the point of delivery is becoming increasingly important. Site conditions, particularly when delivering to domestic premises, will vary considerably.

Testing showed that variations in floor slope and roughness significantly impacted upon the forces required. In some cases, floor roughness doubled the starting forces required to move a palletised load against that required force to move the same pallet on a smooth floor.

Seasonal weather conditions can affect the risks involved during a delivery (e.g. ice or wet ground conditions) and may increase the risk of slipping when delivering. Also, access to premises may be restricted during certain times of the day, such as deliveries to pedestrianised shopping areas, or parking may be restricted during certain hours (e.g. school run traffic, etc.). This may involve further distances pushing or pulling the loads.

Employers should ensure there is a mechanism in place where information about the delivery location can be accurately captured and then filtered down through the chain. This will ensure that deliveries can be properly planned, and where adverse site conditions are known a suitable alternative means of delivery can be arranged.

This approach is not infallible as details given may be inaccurate. Actual conditions (if adverse) should be reported back through the chain and procedures need to be in place for the operative to follow where the goods cannot be safely delivered.



## On and off the tail lift

Depending on the slope of the tail lift significant forces can be required to get the pallet on to the tail lift and then on to the vehicle bed. Caution is required when attempting to move loads on to the tail lift from the floor.

This is also true for moving pallets from the vehicle bed to the tail lift. The tail lift is often not completely flush with the vehicle bed. Where the tail lift is slightly raised or 'toe-up' then additional force is required to overcome this.

Where a tail lift slopes downwards there will be the increased risk of 'roll-off'. This risk may be more pronounced where additional effort/force is required to move the pallet on to the tail lift due to its weight or the tail lift not being flush with the vehicle bed.

It is advisable to identify the safe levels of 'toe-up' and slope of tail lift. Where lifts do not meet the accepted tolerances they should not be used without further restrictions, e.g. weight; or they should be repaired. A reporting protocol for tail lift issues should be adopted

to ensure staff are not 'coping' with a problem rather than seeking to have it repaired. All reported issues must be promptly rectified, documented and continually monitored.

Note the suspension of the vehicle might move causing instability. The training of the driver is critical to become familiar with the operation of the vehicle.

Ultimately tail lifts should conform with the manufacturers' specifications including the weight parameters. The training of the operatives using this equipment should cover all these issues.



## Summary

Tail lift and palletised goods delivery is obviously an activity which carries a significant risk of harm to those carrying it out and potentially third parties if the company fails to have regard to the risks involved and the health and safety of those involved in the activity. As such this guidance is designed to assist in identifying what needs to be done to mitigate those risks and so far, as reasonably practicable prevent accidents occurring whilst this activity is taking place.

**At the very least a compliant organisation should have documents and equipment which addresses these issues and the list below should help identify some of the key areas to look at:**

- 1) Consider eliminating the risk of musculoskeletal injury by using equipment, for example, electrically powered pallet trucks.
- 2) Carry out suitable risk assessments of all (hazardous) pallet handling operations undertaken with an unpowered pallet truck, the tail lift condition and pallet truck usage; also, risk assess other equipment like tail lifts to establish the risks involved in these activities such as weight, size and scale of the pallets.

The Driver Checklist on the following page is designed to assist drivers in case they come across something unexpected such as an obstruction that prevents them delivering safely, and remind them of the steps they should take to protect themselves and others.

## Document links

- 1 <https://www.hse.gov.uk/>
- 2 <https://www.hse.gov.uk/pubns/hsc13.pdf>
- 3 <https://www.legislation.gov.uk/uksi/1999/3242/regulation/3/made>
- 4 <https://www.hse.gov.uk/pubns/priced/l23.pdf>
- 5 <https://www.hse.gov.uk/work-equipment-machinery/puwer.htm>
- 6 <https://www.hse.gov.uk/work-at-height/the-law.htm>
- 7 <https://www.hse.gov.uk/msd/legislation.htm>
- 8 <https://www.hse.gov.uk/simple-health-safety/risk/index.htm>
- 9 <https://www.hse.gov.uk/risk/casestudies/pdf/roadhaulage.pdf>
- 10 <https://www.hse.gov.uk/work-equipment-machinery/puwer.htm>

3) Safe systems of work must be established, enforced and reviewed.

4) Ensure that all staff are given appropriate training, instructions, and support so that they are empowered and competent to assess the conditions at the point of collection and delivery.

They should also know how to carry out a dynamic risk assessment in unusual or unforeseen circumstances and be confident that they can stop the delivery if they believe it to be unsafe, and will be supported to do so.

Operatives should be monitored to ensure they are following the protocols and where they are found not to be, appropriate action should be taken.

5) All equipment used must be well maintained, serviced, and regularly inspected to ensure it remains in a fit and serviceable condition; this should be documented. Staff should be encouraged to report any defective or damaged equipment in a timely manner.

**Employers have responsibilities under **POWER**<sup>10</sup> to ensure that work equipment is appropriate for use, inspected, and maintained.**

## Tail Lift Delivery – Driver Checklist

This checklist will help to remind drivers of the steps they should take before carrying out a delivery. It does not replace the steps that operators should take in advance of the delivery to ensure the safety of the driver and others.

Driver name:

Vehicle registration:

Date:

Consignment No:

**Yes    No**

Can your vehicle be parked safely and without causing an obstruction?

Is the delivery location on a flat surface without slopes or inclines?

Are the goods in a suitable condition to be moved (wrapped and securely banded to a good quality pallet)?

Can the pallet be manoeuvred and tail-lifted safely without risking injury or damage?

If there are pedestrians around the tail lift is it possible to restrict pedestrian access?

Have you planned and agreed a suitable route to the point of kerbside delivery?

Do you feel it is safe to proceed with tail-lifting the pallet(s) from or on to your vehicle?

**Please note: Never let untrained persons assist you with the delivery.**

**If you have ticked 'NO' to any of the above, do not continue. Contact the office for further instructions or assistance.**

Driver signature: