



The Road Haulage of Round Timber

Code of Practice

TimberTransportForum
delivering solutions for a growing UK harvest



5th Edition

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Cameron Smith

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Preface

The Timber Transport Forum has prepared this 5th edition of the Code of Practice to provide a general statement of the legal and technical issues relating to the road haulage of round timber in Great Britain. The Code of Practice has no legal status, and while care has been taken in preparing this edition, it does not cover every issue, or provide detailed guidance on specific problems.



The Code of Practice has the endorsement of the constituent bodies of the Timber Transport Forum. It has been approved by Police Scotland and has the support of the Driver and Vehicles Standards Agency. The Health and Safety Executive provided support to the Timber Transport Forum in producing this guidance, which is aimed at improvements within the forest industry. This guidance may go further than the minimum you need to do to comply with the law with regard to health and safety.

The Timber Transport Forum is a voluntary partnership that brings together representatives of local government, central government agencies and the timber industry to support the many regional timber transport groups from northern England and Scotland.

See www.timbertransportforum.org.uk for more information.

The Code of Practice is primarily written for those directly involved, or who have an interest in the transportation of timber and management of timber haulage.

The Code is not a 'stand alone' document. It does not cover basic aspects of Large Goods Vehicle (LGV) driving or Department for Transport (DfT) standards, nor does it comprehensively cover all aspects of health and safety in forestry which are the focus of guidance from the Forest Industry Safety Accord (FISA).

[FISA's Forest Haulage Safety Manual](#) is specifically written for timber lorry drivers.

A list of relevant supporting documents is given on page 24.

All sectors of the transport chain have individual responsibilities for making sure that they and others follow this Code of Practice.



1. Introduction

1.1 Background

Road transport is the single most important means of timber transport in Britain and over 90% of all timber is delivered to processing plants by lorry. Timber transport contributes a substantial part of our industry's raw material costs and carbon emissions and has a major influence on the sector's overall competitiveness. The volume of timber produced each year from British forests is forecast to rise from the current 11.5 million cubic metres to 13 million cubic metres by 2030. Developing a safe and efficient timber transport system is therefore essential to the continued success of the forest industry.

Road haulage will remain the dominant form of timber transport. Even for rail, waterway and marine modes of transport, the first leg of the journey out of the forest will normally need to be by lorry.

In recent years we have removed many of the barriers to timber transport but continued investment in infrastructure and other improvements will be required.

1.2 The aim

The aim of this Code of Practice is to improve the efficiency, safety and environmental standards of timber transport.

To achieve this aim, the timber industry will need to:

- Make sufficient resources available for the management of health and safety in haulage to ensure drivers can work safely. This will also help other road users.
- Have significant research, development, resources and outputs to improve productivity and reduce the financial and carbon costs of road haulage.

- Continuously improve the environmental standard of timber transport and manage the impact of operations.
- Develop management systems to improve logistics, communication and vehicle use.
- Invest in specific facilities to improve haulage conditions; in forests and at processing facilities, railheads and ports.
- Co-operate with regional and local authorities to manage timber traffic on the most appropriate roads.
- Work with local communities to explore and resolve timber traffic issues before they become problematic.



2. Transporting timber

Road specifications and maintenance requirements may lead to restrictions in gross vehicle weights and/or configurations. However, there are other road limitations that affect how the road may be used, for example, gradients, bends, narrow sections, bridges and culverts.

These all have a direct impact on speed and safety and will inform selection of the most appropriate vehicle configuration for the route. Hauliers and drivers must be given this information before operations start.

It is recommended that the expected 'performance' of the route be considered at the planning stage and contract conditions agreed to pre-empt damage on both public and forest roads.

2.1 Route planning

Drivers and hauliers, as well as those who engage hauliers and logistics managers, should follow good practice by:

- Selecting the best route in terms of length, time, safety, community impacts and road restrictions.
- Planning the route to minimise empty driving.
- Planning operations to minimise the frequency of vehicle movements on a particular route, by spreading large

orders across several sites or forests or by stockpiling timber at a pierhead in advance of boats.

- Avoiding convoys of timber vehicles on forest and public roads.
- Co-operating with other operators to reduce overlapping transport operations.

Stockpiling timber at a pierhead prior to the arrival of the ship can reduce the frequency of vehicle movements when the ship arrives.

2.2 Public Roads

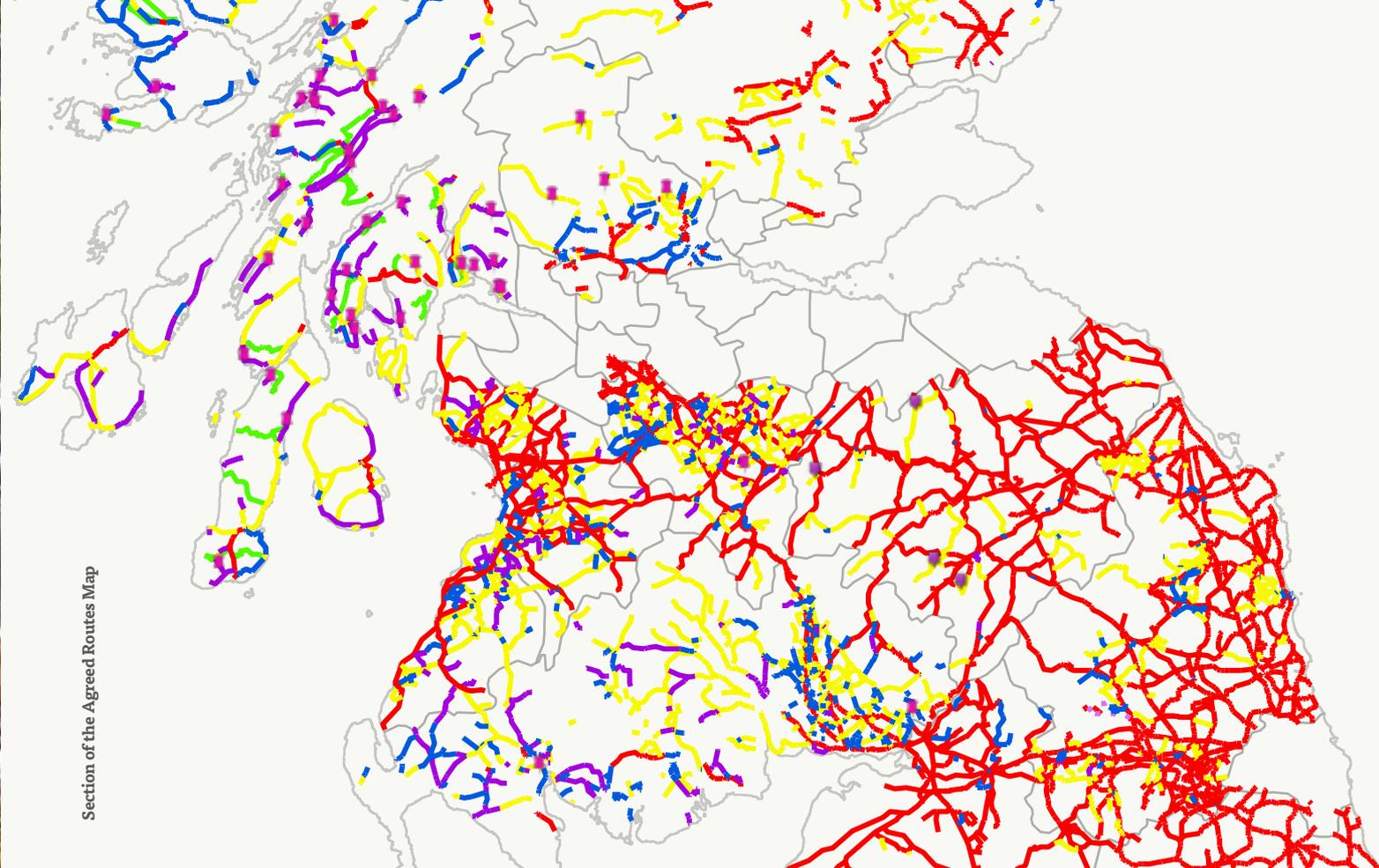
Local authorities are responsible for providing and maintaining the public local road network. The condition and strength of public roads in rural areas is variable. The forest industry liaises with some local authorities to agree which local public roads to use for transporting timber from the forests to the strategic network of trunk roads.

Agreed Routes Maps have been prepared for many rural areas showing the preferred routes for timber haulage. They also identify roads where the local authority should be consulted before their use for timber haulage. Consultation allows questions of road damage, environmental impact, safety and community impact to be addressed, and helps local authorities to target their resources effectively.

If there is not an Agreed Routes Map covering a particular area, liaison with the local authority and other interested parties is recommended to discuss and agree a preferred route for the proposed contract.

The **Timber Transport Forum's Transporting Timber on Public Roads** provides guidance on the process of consultation and engagement in Scotland, setting out who should consult with whom at different stages of planning and undertaking timber transport.

Make sure hauliers are aware of any limitations of the road network,



Section of the Agreed Routes Map

that they follow the agreed routes and any conditions of use agreed with the local authority. Failure to do so could result in further restrictions being imposed by the local authority. Drivers should take particular care on minor roads to minimise the impact of haulage on other road users.

2.3 Driving

2.3.1 Safe driving

The haulier is responsible for providing drivers with adequate information, instruction and training and for monitoring driver behaviour, as well as making sure, with the driver, the safe condition and roadworthiness of their vehicle. A comprehensive collection of information on safe driving is available from the UK Logistics (www.logistics.org.uk) and the Road Haulage Association (www.rhaonline.co.uk). Freight Best Practice also includes a number of useful driver guides including: Bad Weather Driving Guide, Rural Driving Guide and the Driver Safety Guide.

2.3.2 Efficient driving

Fuel efficient driving is closely related to safe and courteous driving. There are clearly financial benefits from saving fuel and reducing diesel consumption will also benefit the environment.

Modern Euro 6 diesel engines are very clean, but diesel fuel remains a source of the greenhouse gases that contribute to global warming. All sectors of the economy are expected to contribute to meeting national targets to reduce greenhouse gas emissions. Growing trees and using wood products in place of more energy intensive materials can help reduce society’s overall emissions of greenhouse gases. There is therefore a particular incentive for the timber supply chain to minimise fossil fuel use and adopt appropriate measures and technologies to reduce its ‘carbon footprint’.

Training courses are available on fuel-efficient driving techniques. Drivers should make sure they are familiar with the technology installed on their vehicles to promote fuel-efficient driving. Monitoring fuel efficiency through telematics can also help improve operational efficiency.

Remember

- Plan the route efficiently – avoid lost mileage and wasted fuel.
- Drive carefully – at a speed that is suitable for the road and weather conditions.
- Drive carefully to be safe, economical and courteous.
- Respect the community – show consideration for rural communities and road users.



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3. Vehicle specifications

3.1 Specifications for timber transport vehicles

Advances in vehicle technology contribute substantially to safety, productivity and environmental improvements. An overview of the different vehicle types and their specifications is given in Appendix 1. This information is based on the Road Vehicle (Construction and Use) Regulations 1986 – SI 1986 No. 1078.

It is the responsibility of the landowner, forestry works manager and haulage contractor to agree the vehicle configuration, design and specification suitable for the work.

3.2 Load-weighing devices

The legal requirement for vehicle and axle weights to be restricted is very clear and there is no doubt when a driver has committed an offence. The method of assessing vehicle and axle weight by DVSA (Driver and Vehicles Standards Agency) and the Police is generally to use weighbridges. The Law may allow a defence against penalty for a weight offence on the grounds that the vehicle was going to the nearest available weighbridge. Owing to the dispersed nature of the forestry industry, travelling to the 'nearest available weighbridge'

is not always practicable and, if during that journey, the vehicle is overweight, damage may occur to both forest and public roads.

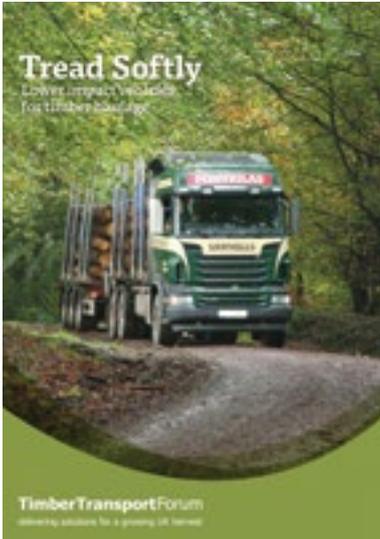
All road vehicles used for transporting roundwood on forest and public roads within Great Britain must have access to a weighing device which, from the point of loading within the forest, shows the gross vehicle weight or load weight. The device may be on the vehicle or on the machine loading the vehicle. The operator must be able to produce a document recording this information. Operators will provide this record on reasonable request to the Landowner, DVSA, Police, Department for Transport, Health and Safety Executive and mill personnel. **You should not engage hauliers unless they have access to this equipment and drivers carry ultimate responsibility for the gross weight of their vehicle.**

A number of manufacturers provide load cells for haulage vehicles, or devices for fitting to loaders, which, if calibrated regularly, can provide an approximate record of the vehicle, gross weight or load, and some also provide an axle weight record. There are also varying types of mobile weighbridges available that provide similar information.



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Load weighing devices may be fitted to lorry-mounted loaders.



This bespoke low ground pressure timber vehicle spreads the weight of the load across the road.

3.3 Overloading (vehicle)

Overloaded vehicles can impact on road safety and can cause road damage. All parties responsible within the supply chain have a duty to monitor compliance with Gross Vehicle Weights: **Overloading is illegal.**

You should:

- Tell hauliers if they have exceeded prescribed weight limits.
- Restrict payment for any load to the legal capacity of the vehicle.
- Decide on and implement a penalty system for non-compliance.

To monitor that a haulier is complying with Gross Vehicle Weights (GVW), it is recommended that a check is made of a sample of weight tickets. Bear in mind the limitations of weighing devices.

3.4 Reduced ground pressure vehicles

A range of reduced ground pressure vehicles are used in forestry operations. Many timber lorries, trailers and articulated vehicles use twin tyres or 'maxi super single' tyres to help reduce the impact of haulage on unsealed and minor public roads (an unsealed road does not have a bituminous surface). Tyre pressure control systems, (also referred to as Central Tyre Inflation systems) are commonly fitted to timber lorries. These enable the driver to adjust the tyre pressure on the

drive and trailer axles to suit the load and road conditions. They have been proven to improve traction and to further spread the load of the vehicle on the road. Lower impact vehicles for timber haulage is the subject of the Timber Transport Forum's Tread Softly publication.

Some companies use bespoke low ground pressure vehicles on weak forest and public roads. Roundwood is then transferred to road vehicles, rail wagons or coastal shipping for onward haulage.

Remember

- Use the correct vehicle configuration for the forest road.
- Overloading damages roads
- Overloading is illegal.
- Continually monitor gross vehicle weights.
- Maximum gross weight restrictions refer to a vehicle's legal loaded limit, unless otherwise stated.
- All parts of the supply chain hold responsibility for reducing overloading.



Tyre pressure control systems fitted to timber lorries can help reduce the impact on fragile roads.



4. Forest Roads

4.1 Structure and limitations

Forest roads are usually single-track with passing places. They are also usually built as ‘Water-bound Macadam’ roads. This is essentially a flexible, graded structure incorporating no binding substance such as bitumen or tar (as in Tarmac roads). Instead the road structure is free-draining, and a surface running layer of fine particles is bound together by the stone below it and moisture.

Because of this construction, forest roads are more susceptible to surface effects, such as potholes and corrugations, than roads with a bituminous surface. The flexibility of forest roads also means that they compress when a heavy load passes, so the road must be allowed to recover for up to 10 minutes before the next load. ‘Convoy’ driving can spread and ruck the road surface very quickly. Higher vehicle speeds, standing water, and very dry conditions can all increase surface damage.

The landowner or their legal appointee has duties and responsibilities for:

- Appointing a competent Forestry Works Manager (FWM).
- Providing details of known hazards on the land and access routes to the FWM.
- Co-ordinating other activities on their land to avoid unsafe conditions and conflicts.

To meet those duties the Landowner should consider the following:

- Agreeing with the FWM, a safe means of site access and exit. This could include placing warning signs, using traffic controls or improving sightlines at access points.
- Agreeing with the FWM safe places to park and position facilities and equipment, including places to turn lorries, to load timber and accommodate low loaders.
- Providing a forest access route capable of safely carrying vehicles of the configuration agreed before haulage contracts start. Landowners and FWMs must not unduly restrict access in an effort to protect a forest road from normal use, where doing so would frustrate safe and efficient working methods.
- Providing the FWM with a map that shows recommended routes to the site, and the limitations of the site for large goods vehicles along with any hazards such as overhead power lines and other restrictions which could affect haulage.
- Providing an advisory speed limit and relevant safety rules for all vehicles operating on their property, including family, farm and tenant vehicles.

- Making sure the forest road is well maintained with an adequate running width and passing places. This includes deciding, with the FWM, when to close or open the road in periods of very wet or freezing weather.
- Liaising with neighbours and other users of the land and access routes over the haulage operation and additional use of local roads. This might include, for example, time restrictions on school days.

New forest roads should be designed to take account of a presumed loading and other factors based upon vehicle specifications.

The Timber Transport Forum’s [The design and use of the structural pavement of unsealed roads](#) provides information on the construction of forest roads.

The design specification should take account of:

- Loading – based on the current Construction and Use Regulations covering maximum normal size of vehicle.
- Width – usually 3.4 m, but wider where required to account for roadside stacking and/or loading facilities.

- Gradient – generally limited to 10% except in particular circumstances for limited lengths.
- Bends – minimum bend radius with appropriate bend widening, and perhaps restricted gradients.

A major factor will always be the material used for the construction of the road. Any weaknesses in the material can usually be allowed for in the design. Roads are weaker when unable to drain adequately or when they are very dry. This is particularly true of unsealed roads compared with sealed roads. Forest roads should be designed and maintained so that water can drain freely away from the road structure.

This is best achieved by making sure that:

- Overhanging trees and encroaching vegetation are removed to promote drying of the road.
- Drains remain free-flowing.

- Culverts are not blocked.
- Harvesting operations do not bring mud and debris onto the road allowing water to pond and seep into the road structure.
- Harvesting machines do not damage the road surface allowing a route for water ingress.
- Rutting is dealt with before it seriously contributes to water retention.

Some of this can be difficult to achieve at any time of the year, but it is particularly difficult in winter. Unsealed roads are also susceptible to frost heave and can suffer serious damage if used during periods of thaw. Particular care must be taken to protect forest roads in winter conditions – roads may need to be closed during periods of icing and thawing to protect their structure. Salt should never be applied to an unsealed road. Everyone has a role to play to ensure that the road will continue to be fit for purpose.

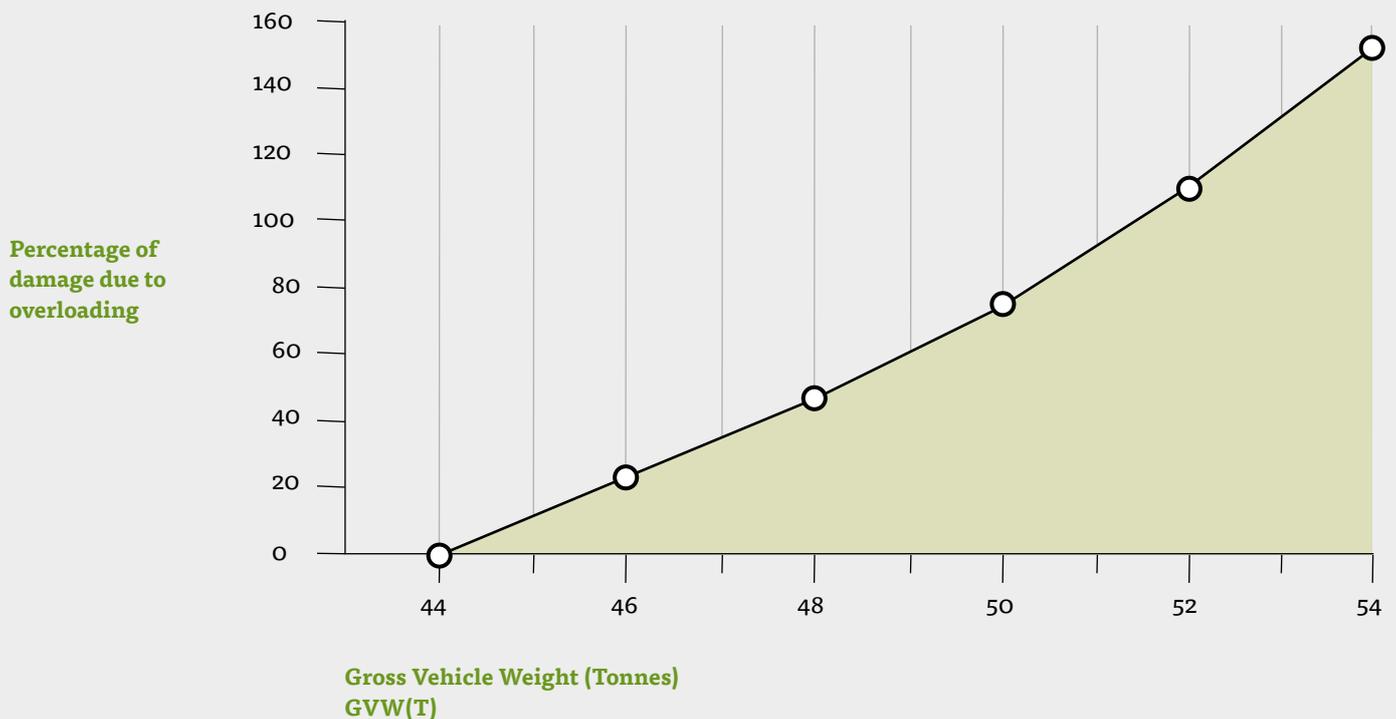


Forest road construction

4.2 Overloading (road damage)

Roads are significant financial assets, and damage to them through overloading must be avoided. If the load increases beyond the design load of the road, this can have a substantial damaging effect.

The graph shows the increased damage due to overloading of a 3+3 combination (see Appendix 1) that can legally operate at 44 tonnes GVW.



4.3 Roadside facilities

Forest road design must also take account of timber extraction, stacking and loading operations. Timber is brought to roadside for loading onto road vehicles. Due to the width and structure of a normal forest road, some extra roadside facilities such as turning areas and loading bays will be required. The number and type of these will depend on the rate and method of extraction and this should be agreed in advance of work so that any construction work can be completed.

Roadside facilities can help safe extraction, stacking and timber loading, while protecting the road. Facilities should include:

- Welfare facilities for all staff using the site.
- Parking places for site staff.
- Trailer and service vehicle parking bays.
- Machine maintenance areas.
- Adequate turning areas for lorries.
- A one-way system to minimise reversing (where possible).
- Passing places.
- Stacking or loading places on clear, flat ground.
- Additional tracks to keep harvesting machines off the road (where possible).
- Armoured sections where extraction machines have to use the road.
- Ramps to allow safe access to felling site.
- Skyline bases.
- Silt traps and other controls to avoid environmental damage and pollution.

Careful consideration of the need for and design of roadside or in-forest facilities will help the safe and efficient loading of stacked timber.

4.4 Road defect reporting

Dealing promptly with road defects is important, especially on roads that are being heavily used. It is important to be clear about what constitutes a 'defect'. Unsealed roads are subject to potholing, rutting and corrugations, as well as to accumulations of loose material – this is normal. However, as these features worsen, they will, at the very least, hinder operations and slow other road users. In these circumstances, agreement will be required on when to intervene.

It is the responsibility of all road users to report defects early – before the defect has become serious enough to make using the road unsafe. FISA has produced a template timber haulage [safe access report](#).

The reporting procedure should be set up as part of the contract and make clear:

- Where and who to report to.
- The information required.
- How replies are handled.
- The responsibilities of the landowner, forestry works manager, contractor and sub-contractor.

This does not mean that a road will receive an immediate repair, but it does put into practice a system where the road can be assessed, and repairs carried out promptly. In some instances, the landowner may reserve the right to close the road or provide an alternative route. Road defects should be repaired using the most appropriate materials to make sure the repair lasts.

4.5 Extraction and timber stacks

Hazards to timber haulage must be considered when producing the harvesting site plan and site safety rules. The controls devised must be clearly stated in the Forestry Works Manager's site-specific risk assessment. Extraction points on forest roads should be located to reduce risks in both extraction and haulage. Hazards identified in the site plan should be clearly described and site safety rules provided to the haulier and drivers. Extracted timber must be stacked safely (in accordance with FISA Safety Guides [503 Extraction by Forwarder](#) and [804 Electricity at Work - Forestry](#)) to make loading safe and straightforward.

The following points represent good practice:

- Designated passing points and turning places should not be obstructed by timber, vehicles or equipment.
- Site stacks should be located at least 10m from overhead and underground power lines.
- Stacks should be located so they do not obstruct sightlines around corners in the road.
- Ideally, the stacks should be placed on even ground and not between growing trees or rocks.

- If timber has to be stacked on slopes, ensure stacks are positioned to allow the lorry to load facing downhill.
- If the ground is not firm and there is a risk of the stack collapsing, use bearers under the stack and monitor stack conditions, reacting as necessary to any significant change.
- Timber should be stacked at a safe distance from the road but still easily accessible to the lorry.
- Stacks height should not exceed product length and should not normally exceed the height for a haulier to be able to see across the top of the stack. The stack height should be included in the site risk assessment and re-assessed if circumstances change.
- The stacks should be free from branches, stones and other material.
- The stack face on the road edge should be flush; the profile should not have steep slopes.
- Stacks should allow water to drain away.

Remember

- Report road defects.
- Plan the loading site.
- Stack timber safely.
- Provide effective signage and risk assessments.
- Maximum gross weight restrictions refer to a vehicle's legal loaded limit, unless otherwise stated.
- Issue site safety rules to drivers.

Logs on bearers



Logs stacked in water



Logs correctly stacked



Logs stacked over ditch



Logs correctly stacked



Roughly stacked logs





5. Loading timber

5.1 Safety

5.1.1 Public safety

To make sure the public are safe, a risk assessment process must be undertaken. The risk assessment is drawn up by the FWM in consultation with the Haulage Contractor utilising information provided by the Landowner. The risk zone for a timber lorry with a loading crane is 50m (twice the length of the loader boom plus the length of the product). Safety signage may be required to warn the public of operations and barriers should be used if necessary. For an example of effective signs used in forest operations please refer to Appendix 2. Consider fitting and using reversing warning signals or flashing beacons if vehicles are working in areas regularly accessed by the public.

Remove timber evenly from across the stack leaving it in a stable state.

5.1.2 Driver safety

Drivers should comply with the site safety rules, which should also specify the personal protective equipment (PPE) that they must wear. If loading is done by others, the site safety rules should state

where the vehicle driver should be while timber is being loaded.

Safe working practices must be followed, appropriate to the remote location of many forest sites.

A procedure for lone-working will be required. Drivers must report their position while working off the public highway so that colleagues know how to reach them. If there is an accident while working alone, a swift rescue response could very well save a life. Where possible avoid lone working and use a 'buddy system' to maintain visual contact with others.

Drivers should always carry a suitably stocked first aid kit in their cab. They should be trained in how to provide first aid response to typical injuries and incidents. First aid training can be delivered via Driver CPC or via HSE-approved first aid courses. You can find more information on first aid on the HSE website at www.hse.gov.uk.

5.1.3 Safety during vehicle recovery

Lorry and plant recovery operations are high risk and often require specialist equipment which is tested, certified and operated by experts. What may seem a simple recovery can quickly become complicated, risking serious injury to those involved. Everyone involved in vehicle recovery must be trained, use the correct equipment and be aware of specific risk assessments.

You can find more information in [FISA Safety Guide 703 Debogging and Recovery of Forestry Machines](#).

5.1.4 Load shedding and overturning

Hauliers must make sure that timber has been properly loaded and that adequate load restraints are used. Keeping to the correct speeds for the road and weather conditions will reduce the likelihood of shedding a load – see Section 5.3. When driving on single track roads, wheels should not leave the tar macadam surface as this can cause damage to the road and verge. In most cases the verge will not support the weight of the vehicle and there is a risk of overturning.



The haulier should:

- Always keep to the legal or recommended speed limit.
- Drive appropriately for weather and road conditions.
- Avoid uneven loading of the vehicle.
- Observe gross vehicle weights.
- Use the available road space responsibly – keeping wheels away from hazardous or soft ground.

5.1.5 Avoiding Collisions

Several actions can help to minimise the risk of collisions. Using information from the Landowner, the FWM must inform Hauliers of the following:

- Tell the haulier about other road users they can expect while working in the forest.
- Select routes to minimise the risk of collision with other road users, for example, by using one-way systems if appropriate.

- Make sure there are enough operational signs (see Appendix 2).
- Make sure, where practicable, there is good visibility and adequate sightlines around corners.
- Make sure stacks of timber are positioned so they do not compromise sightlines.
- Make sure that there are enough passing places.

The haulier must:

- Observe the speed limits set by the landowner.
- Park vehicles so they do not hinder operations and other road users.
- Drive to suit the prevailing conditions.
- Be aware of other road users.

5.1.6 Adverse weather

Bad weather can increase hazards to road haulage and be a contributory factor in accidents.

The landowner and forestry works manager are responsible for deciding whether the forest roads should remain open or be closed during extreme weather. However, the final decision on whether the road is safe to use rests with the driver. As forest roads are particularly fragile during periods of frost and thaw, the landowner or forestry works manager may decide to restrict road access during this time.

Unsealed roads may be treated with grit or sand, but never salt, as this will damage the road structure. Where possible, schedule work for the seasons of 'better' weather. This will reduce the need for road closures and restricting access.

5.2 Safe loading

It is important that vehicles are loaded safely to avoid injury to the operator, the public or other third parties.

The following points represent good practice:

- A site risk assessment should be carried out before work starts – more information can be found at www.hse.gov.uk.
- Drivers must comply with the site safety rules.
- Compliance with the site safety rules should be monitored.
- Personal protective equipment should be worn as detailed in the site safety rules.
- There should be enough signs during the loading operation to warn others of the hazards.
- Training or instruction to drivers should be provided where required and their work monitored to ensure safe practice during loading operations.
- Loading and unloading should be planned to minimise working at heights. Maintain three points of contact when climbing on or off machines – more information can be found at www.hse.gov.uk.

- The loader and associated equipment must be maintained to minimise the possibility of failure and comply with Lifting Operations and Lifting Equipment Regulations (LOLER) and Provision and Use of Work Equipment Regulations (PUWER) Legislation.
- The haulier must make sure all operators are aware of the maximum loads for each piece of equipment.
- Where trailers are left in the forest for later loading, the landing legs on the trailer should be positioned on a suitable bearer.
- Stacks must be left safe and stable after loading.

Several factors may present hazards during loading and driving in the forest, for example powerlines and road failure.

5.2.1 Power lines

Overhead and underground power lines are a hazard for vehicles, especially during loading. All forestry operations should follow the [FISA Safety Guide 804 Electricity at work: forestry](#).

Site planning by the Forestry Works Manager is particularly important to make sure the areas set aside for loading are a safe distance from power lines. When the loader arm is raised it can 'earth' electricity from an overhead power line without

actually touching it, particularly in damp weather. Drivers must not move off unless the lorry-mounted loader is properly stowed.

Where it is necessary for machinery to cross below overhead power lines the Forestry Works Manager must consult the Network Operator to establish the height of the lines and the maximum safe height of vehicles. Underground power lines may also be a hazard in areas such as wind farms, where liaison with the electricity company will be required.

The position of power lines and the maximum height of equipment that can safely pass under lines must be clearly signed. 'Goalposts' should be used where there is a power line within a harvesting site. Signs and goalposts must be maintained throughout the operations, monitored regularly and any defect reported promptly to the Forestry Works Manager.

Where civil engineering works alter road levels, make sure that safe clearances are maintained.



'Goal posts' should be used where there are overhead power lines within a forest site.



The driver is responsible for making sure the load is safe and secure.

As an additional measure, electrical cable detectors can be fitted to lorries. These produce a visual and audible warning when the vehicle is in proximity to overhead electrical cables.

5.2.2 Road failure

Road inspection and defect reporting are the first steps in minimising failure, to which all road users can contribute. During the loading operation there are several factors that the haulier needs to consider, and which are their responsibility.

- Correct loading of the vehicle; axle weights must be considered when positioning the load. Uneven loading of a large goods vehicle will increase the load on certain axles rather than equalise the load over all the axles.
- The position of the vehicle on the road; where practicable, position the vehicle away from the edges of the road, particularly on unsealed forest roads as the edges are not physically restrained and are more likely to fail.
- Where required, use load-spreaders under outriggers to reduce damage.

5.3 Security of loads

The legal requirements for load restraint are contained in the Road Vehicles (Construction and Use) Regulations and the Road Traffic Acts. The Department for Transport (DfT) issued advice in a [Code of Practice \(October 2002\)](#) on the

[Safety of Loads on Vehicles](#) and this has been supported by DVSA guidance [Load securing: vehicle operator guidance](#) (November 2018). The advice includes the following points:

5.3.1 Headboards

- Where headboards are fitted as part of load restraint systems, make sure they are properly maintained.
- The headboard should be high enough to stop the load moving forward.
- Whenever possible place the load against the headboard.
- Where there is no headboard, additional restraints will be needed to stop the full load moving forward.

5.3.2 Straps and lashing or anchorage points

This section provides recommendations for the minimum standards to secure roundwood loads on road vehicles.

The driver is ultimately responsible for making sure that the load is safe and secure. So, in certain circumstances, the driver may decide that additional restraints are required.

The load securing system must be sufficient to stop the total weight of the load moving forwards under severe braking, and enough to withstand a force equivalent to half the weight moving backwards and sideways.

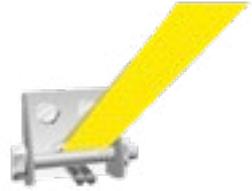
- Do not load timber to a height, or in such a way, to make either the vehicle or load unstable.
- Logs should be loaded along the length of the vehicle or trailer. Preferably lay logs top to tail to ensure an even balance of the load.
- Do not transverse (cross) load timber on a flat-bed truck unless suitable side gates are used to the full height of the load.
- Restrain each outer log by at least two upright supports. Place logs that are shorter than the distance between two uprights inside the load.
- The upright supports should be strong enough to prevent the load spreading them apart.
- Where logs are supported by only two uprights, the ends of the outer logs should extend at least 300 mm (12 inches) beyond the uprights.
- The centre of each top outside log must be no higher than the inside logs that crown the load and enable it to be properly tensioned by the load straps.

Use load straps to secure the load

Lashing Points

Where possible, straps should be fixed to the vehicle in a manner that prevents them from sliding under severe braking. Otherwise they should always be securely attached to the trailer chassis.

Where used, lashing points should be of adequate strength, meeting the requirements of EN12640, and be suitable and convenient for attaching the end of the ratchet straps.



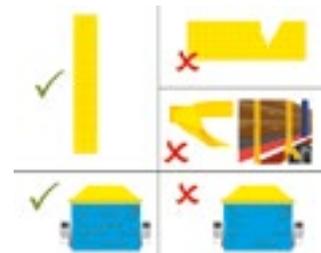
Load Straps

All load straps should meet EN12195-2. Each individual load strap should have a tag showing the standard and the STF – the standard tension force. It is recommended that this should be a minimum of 400daN to allow this pre-tension to be applied.

Vehicles should have spare load straps on board at all times, stored securely on the vehicle.

Load Strap and Tensioner Inspection

- Check that only legibly marked and labelled load straps and tensioners are used.
- Check the straps for tears, cuts, nicks and breaks in load bearing fibres and retaining stitches and replace damaged items. Check for knots in any length under tension.



Timber up to 3.3 metres

Two load straps on front bay nearest cab if no headboard.

Two on front bunk of drag trailer.



Timber longer than 3.3 metres

Two load straps per bay.



- For vehicles fitted with cab-height headboards, secure each bay or bunk of roundwood with at least one correctly rated strap.
- All vehicles not fitted with a cab-height headboard should have the bay or bunk nearest the cab secured with at least two correctly rated straps.
- The front load of a drag trailer should be secured with at least two correctly rated straps.
- All loads of roundwood timber longer than 3.3m should be secured with at least two correctly rated straps.
- Secure each bay or bunk of de-barked (bark removed) roundwood loads and any timber that is slippery, using a minimum of two appropriately rated straps irrespective of vehicle type or configuration.
- Secure all other bays or bunks of timber with at least one appropriately rated strap.
- Use additional straps for shorter timber or when road conditions are challenging
- Bridged loads, where one bunk of timber overlaps others are sometimes useful to balance loads across axles. If a bridged load is necessary, then each element (the lower bunks and the bridging bunk) should be strapped individually using the correct number of straps.
- Check the load and re-tension the load straps if necessary, before moving from the forest road to public road, and at regular intervals during the journey.
- Any rear projection of loads that are between one and two metres must be marked to make them visible to other road users (See section Appendix 1 for overhanging load requirements).

5.3.3 Securing lorry mounted timber loaders

Under normal circumstances, the boom or jib of the loader should be bedded into a 'valley' or 'trough' created in the top of the roundwood load and strapped in position. In this case, it is not considered necessary to strap the load and the boom separately. However, if for capacity reasons, it is necessary to build the load level with the top of the bolsters the load should be

strapped independently of the boom or jib, which should be strapped separately, to ensure adequate load restraint.

5.3.4 General advice

- Loads leaving the forest should be free of debris, brash and loose bark.
- Load the vehicle to facilitate unloading at the delivery point; for example, have suitable clearance between the upright supports and do not have interlocking bays.
- Drivers should be provided with the means to check the height of the loaded vehicle and must ensure that it will pass under any bridge or obstruction that may be met on route. The maximum vehicle height must be clearly displayed in the vehicle.
- Make sure headboards, (where fitted), bolsters and upright supports are securely fixed to the vehicle frame.
- Pins and bolsters should be fit for purpose. Pins should not spread beyond the width of the trailer when loaded. Do not use loose bolsters.
- Check straps are tight before exiting from a forest road onto the public road and at regular intervals during the journey.
- The vehicle operator is responsible for providing suitable load securing equipment for each load carried and for making sure that drivers or loading staff are competent and trained to use it.
- Inspect and maintain all load-securing equipment. There are not set inspection intervals but straps used to secure timber on open vehicles will be subject to adverse weather conditions and can be damaged by cutting or wear. Visibly damaged or worn straps should be discarded.

All parties involved in the provision and maintenance of equipment, driver training and instruction have responsibility for load security. The driver is responsible for using the equipment provided and for checking that the load is secure.

If a load does move during the journey, the driver should pull over as soon as is safely possible, braking gently and avoiding sharp steering. They should assess the load and seek support to address the problem.

5.4 Preventing water and ground pollution

The forest industry is striving to reduce the impact of the supply chain on the environment. Drivers must be aware of the consequences of fuel or oil spills and know who to contact if there is a pollution incident. All vehicles must have a pollution control kit. The UK Forestry Standard section on Requirements for Forests and Water is the accepted standard for all work in the forest which could affect water quality; use these requirements as the basis for risk assessments and refer to them in contracts.

Drivers should be made aware of the Requirements for Forests and Water and be in no doubt about the action that they must take if there is any accidental breach of the UK Forestry Standard and a danger of polluting watercourses. The penalties that can be imposed by the Environment Agency (for England and Wales), and the Scottish Environment Protection Agency are severe. Adhering to the UK Forestry Standard requirements may assist a defence in the event of an incident. The following points represent good practice:

- Clean the loading site immediately after loading operations have been completed.
- Do not leave any rubbish at the work site.
- Avoid carrying mud and debris from the forest onto the public road.

Remember

- Secure the load.
- Carry a pollution control kit and know how to use it.



6. Unloading timber

The requirements for unloading timber depend on how the timber will be unloaded and the site arrangements at processing plants, ports or railheads.

The site access, internal layout and exit should be well designed and easy for the driver to follow, including for instance:

- Clear signs.
- Suitable lighting if operating in hours of darkness.
- Welfare facilities with a safe area to park away from heavy plant.
- Warning of any overhead hazards.
- A site plan (sign, map or both) with marked access to (for example) assistance, risk zones, first aid points, fire-fighting equipment, spill kit storage and disposal area.
- A clear driving route and unloading area with limited risk of conflicting operations. Eliminate, reduce or control the need for reversing vehicles.

The driver and others involved in the unloading operation should wear appropriate personal protective equipment including high-visibility clothing, hard hats and protective boots. Other personal protective equipment that is defined in the site-specific rules should be used or worn.

Site-specific instructions will build on the general requirements given here. The unloading site should have rules clearly displayed or drivers should be given a copy of the rules before they go to the unloading site, or both. The site rules should specify:

- Smoking policy
- Speed limits and other restrictions on vehicle movements.

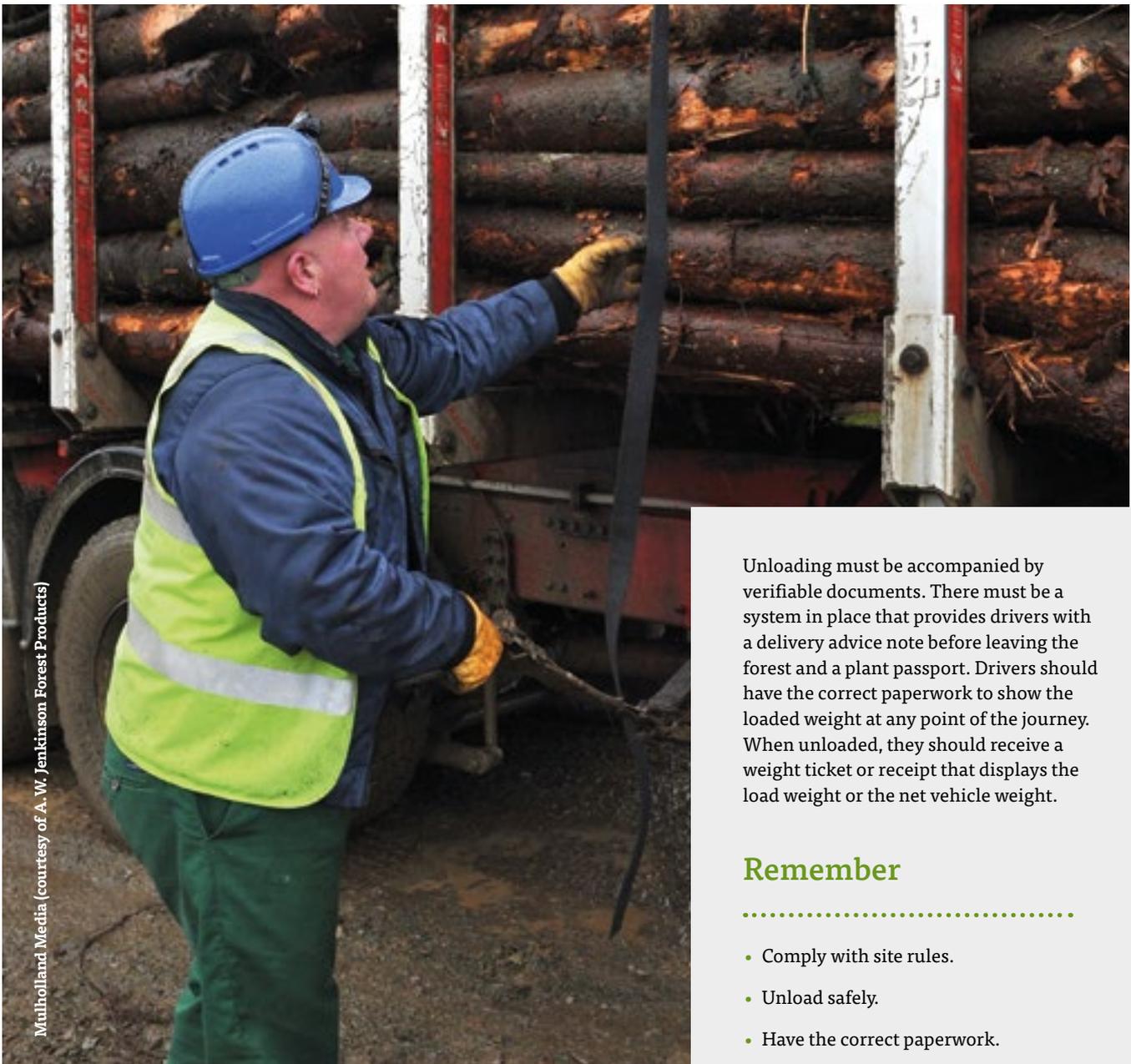
- The number of vehicles authorised to be in the unloading area at any one time.
- Restrictions on staying in the cab during unloading and the policy on passengers and pets. Do not wander outwith the designated area of work and remain in safe areas until instructed by site staff.
- Safety distances and risk factors. No tandem unloading should take place without a specific risk assessment.



Unloading at the sawmill. Receiving staff must be properly trained to unload safely.

In addition:

- Drivers must comply with the individual site rules and work to the site operator's instructions at all times.
- Compliance with rules and instructions should be monitored.
- Both the site operator and haulier are responsible for having an accident or damage reporting procedure. Any incident on site must be reported to the site operator immediately.
- The loader should be positioned for safe and efficient unloading.
- The load must only be unstrapped in the designated unstrapping area and not before.
- Stabilisers should always be used when unloading with a vehicle-mounted loader.
- Access to vehicle and trailer beds should be properly controlled.
- Drivers unloading their vehicles must leave the stacks as instructed.
- Receiving staff must be properly trained to unload vehicles safely and avoid damage.
- The vehicle should be cleaned of all debris in the designated area and before leaving the site. Cleaning must either be done from the ground or using fall protection systems provided on the trailer or at the site.
- The loader and stow pins and bolsters should be carefully secured and all fixings checked before leaving.



Mulholland Media (courtesy of A. W. Jenkinson Forest Products)

Unloading must be accompanied by verifiable documents. There must be a system in place that provides drivers with a delivery advice note before leaving the forest and a plant passport. Drivers should have the correct paperwork to show the loaded weight at any point of the journey. When unloaded, they should receive a weight ticket or receipt that displays the load weight or the net vehicle weight.

Remember

- Comply with site rules.
- Unload safely.
- Have the correct paperwork.



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7. Biosecurity

There are an increasing number of pests and diseases of plants and trees that pose a threat to forests and woodlands in Great Britain. Outbreaks can have a severe economic impact on forestry and related industries.

They can cause financial loss, and have a major impact on other sectors, such as wood processing and tourism. The spread of endemic pests, while less newsworthy, can have an equally detrimental impact. The forestry sector encourages good biosecurity practice by all persons entering or working in forests and woodlands. Good biosecurity practice means working in a way that minimises the risk of contamination and the spread of pests and diseases.

Professional operators (e.g. processors, management companies, timber merchants, hauliers) who commission the movement of conifer and *Castanea* species (e.g. sweet chestnut) with bark must issue a protected zone plant passport to accompany each load. This will enable the UK to retain Protected Zone status for conifer bark beetles and other known and emerging pests.

This helps to ensure that the UK protects its commercial and conservation interests in forests and woodlands and can continue to export material to other protected zones in the EU.

Protected Zone plant passports must accompany all movements within Great Britain of round timber from conifer species, and *Castanea* species, together with bulk bark, brash and wood chipped on harvesting sites. Anyone responsible for the movement of these products (or Christmas trees over 3m) needs to become a Registered Authorised Professional Operator. The registration process includes completing a short “e-learning” package. The plant passport may be a stand-alone ticket or be incorporated into a delivery advice note. Standard (not protected zone) plant passports will also be required for the movement of *Juglans*, *Platanus* and *Pterocarya* round timber and bark.

Remember

- Ensure loads of round timber leaving the forest are free of debris and brash.
- Remove any build-up of soil and organic material on vehicles and machinery, including cabs, wheels and foot wells, before leaving each site. When lone working, cleaning of vehicles must be done from the ground.
- Processing plants should have a designated area suitable for drivers to clean down their vehicles before leaving the site. If this involves working at height use fall protection systems provided on the trailer or at the site.
- Use proper off-site wash-down facilities regularly.



Murray Rowan (courtesy of JST Services Ltd)

8. Improving roundwood haulage

8.1 Continuous improvement and co-operation

The Timber Transport Forum aims to facilitate co-operation across the industry for continuous improvement. The Forum's Technical Working Group advises on technical issues involved in continuous improvement and co-operation relating to timber haulage. The Forest Industry Safety Accord's Haulage Working Group develops safety guidance and issues safety bulletins. Hauliers and their employers should contribute to continual improvement through regular discussions and agreement on follow-up measures and targets.

8.2 Communication

Co-operation relies on effective communication between those involved in timber transport and related operations. Take the time to establish working relations between all parties, share contact details and agree suitable means of prompt communication.

8.3 Training

Many organisations train drivers for large goods vehicle licences across the private sector, although most training is of a general nature. The Driver CPC (Certificate of Professional Competence) is for LGV and PCV drivers who drive professionally throughout the UK. All drivers must complete a total of 35 hours Periodic Training every five years to keep their

Driver CPC valid. Some independent driver training providers are developing 'forestry specific' driver training courses for Driver CPC. There is little organised training for loader operation in the transport of round timber, but generic loader operation training is available. Timber hauliers must ensure their drivers are suitably trained and practiced in loading and unloading timber.

Supporting documents

Timber Transport Forum Publications

www.timbertransportforum.org.uk

[The design and use of the structural pavement of unsealed roads](#)
provides information on the Construction of forest roads.

[Tread Softly; Lower impact vehicles for timber haulage 2014.](#)

[Loading Timber from Roadside Forests 2016.](#)

[Transporting Timber on Public Roads; Consultation and Engagement Guidance \(Scotland\) 2019.](#)

Forest Industry Safety Accord Publications

www.ukfisa.com

Managing Health and Safety in Forestry 2019

Forest Haulage Safety Manual.

FISA Guide 503 Extraction by Forwarder.

FISA Guide 703 Debogging and Recovery of Forestry Machines.

FISA Guide 706 Timber Haulage.

FISA Guide 804 Electricity at Work – Forestry and Arboriculture.

FISA Safe Access Report.

Other Publications

UK Forestry Standard

www.gov.uk/government/publications/the-uk-forestry-standard

The Work at Height Regulation 2005

www.hse.gov.uk/pubns/indg401.pdf

Safety of Loads on Vehicles: Code of Practice – (DfT)

www.gov.uk/government/publications/safety-of-loads-on-vehicles-code-of-practice

Load securing: vehicle operator guidance DVSA 2018

www.gov.uk/government/publications/load-securing-vehicle-operator-guidance/load-securing-vehicle-operator-guidance

Drivers' Handbook – Logistics UK

www.logistics.org.uk

The RHA Professional Drivers' Handbook – Road Haulage Association (RHA)

www.rhaonline.co.uk

Rural Driving Guide – Freight Best Practice

www.transport.gov.scot/our-approach/industry-guidance/freight-transport/#42445

Appendix I

(A1.1) Maximum weights for artics and drawbar combinations

Vehicle type	Number of axles	Maximum weight (kg)
Articulated Vehicle	3	26000
Rigid lorry + trailer	3	22000
Rigid lorry + trailer A	3	26000
Articulated Vehicle	4	36000
Articulated Vehicle B	4	38000
Rigid lorry + trailer	4	30000
Rigid lorry + trailer A	4	36000
Articulated Vehicle	5 or more	40000
Rigid lorry + trailer	5 or more	34000
Rigid lorry + trailer A	5 or more	40000
Articulated Vehicle C	6 or more	41000
Rigid lorry + trailer A/C	6 or more	41000
Articulated Vehicle D	6 or more	44000
Rigid lorry + trailer A/D	6 or more	44000

A = Distance between the rear axle of the lorry and the front axle of the trailer is not less than 3m.

B = 2 axle tractor unit and 2 axle trailer, the tractor unit does not exceed 18000, the trailer axle weights do not exceed 20000 kg in total and the drive axle is fitted with twin tyres and road friendly suspension.

C = Axle weight of each drive axle does not exceed 10500 kg. trailer limited to a maximum of 24000 kg and each trailer axle has road friendly suspension. Each vehicle in the combination has at least 3 axles and EITHER each drive axle is fitted with twin tyres and road friendly suspension OR each drive axle which is not a steering axle is fitted with twin tyres and the axle weight does not exceed 8500 kg.

D = Complies with (C) and the tractor unit is fitted with a Euro II or Euro III emission standard low pollution engine. For operations over 41000 kg the motor vehicle must be fitted with an engine meeting at least Euro II standard or be fuelled by gas.

Appendix I

(A1.2) Maximum weight for rigids

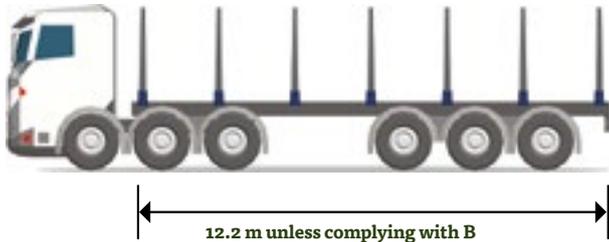
Vehicle type	Number of axles	Maximum weight (kg)
Rigid motor vehicle	2	18000
Drawbar trailer (excluding centre axle trailer)	2	18000
Drawbar trailer (excluding centre axle trailer)	3 or more	24000
Rigid motor vehicle	3	25000
Rigid motor vehicle A	3	26000
Rigid motor vehicle	4 or more	30000
Rigid motor vehicle A	4 or more	32000

A = Each driving axle which is not a steering axle is fitted with twin tyres and road-friendly suspension, OR each drive axle has twin tyres and the maximum weight for each axle does not exceed 9500 kg.

Appendix I

(A1.3) Maximum overall lengths

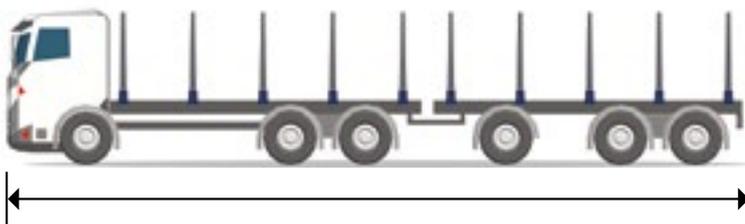
Overall length for artics



A = 15.5 m

B = 16.5 m if kingpin to rear of trailer does not exceed 12 m and no part of the trailer is outside 2.04 m radius in front of the Kingpin

Overall length for drawbar

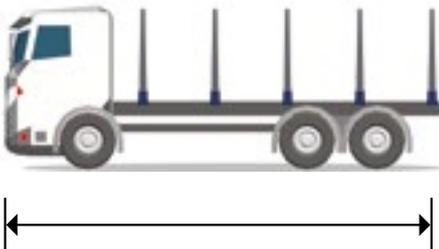


18 m OR 18.75 m if:

A: Maximum total load deck length is 15.65 m

B: The distance from the front of the motor vehicles loadspace to the rear of the trailer does not exceed 16.4 m

Overall length for rigid lorries



The maximum length for rigid lorries is 12 m

Further information on maximum overall lengths can be found at:

<https://www.gov.uk/government/publications/maximum-length-of-vehicles-used-in-great-britain/maximum-length-of-vehicles-used-in-great-britain>

Overhanging load restrictions

The table below sets out the requirements for loads that overhang the rear of vehicles.

Further information on loads that overhang the front, rear or sides of vehicles can be found on the Department for Transport website

<https://www.gov.uk/government/publications/overhanging-loads-on-vehicles/overhanging-loads>

Projection	Requirement
<1 m	No marking.
>1 m but not exceeding 2 m	Marked to be clearly visible.
>2 m but not exceeding 3.05 m	Approved end marker board indirectly illuminated at night and attendant carried in lorry.
>3.05 m	Approved side and end marker boards indirectly illuminated at night, police notification and attendant carried in lorry.

(A2.1) Effective signs for forest operations



Forestry and Land Scotland | Coilltearachd agus Fearann Alba

Forestry work

We're carrying out forest operations in this forest. Where necessary, we've temporarily closed or diverted some routes for **your safety**.

Our Safety Rules and signs are to **protect you** and our workers.

Safety Rules

- Please follow all signs and instructions
- Keep away from machines, equipment and log stacks
- Beware of log lorries

Thank you



Danger
Forestry work
Follow all signs & instructions

Stop
Do not go further
Forest operations

KNOW THE CODE BEFORE YOU GO
forestryandland.gov.scot

Enjoy Scotland's outdoors responsibly

- take responsibility for your own actions
- respect the interests of other people
- care for the environment.

forestryandland.gov.scot



Forestry and
Land Scotland

Coilltearachd agus
Fearann Alba



Danger

Forestry work

Follow all signs & instructions



THINK SAFE
STAY SAFE

forestryandland.gov.scot

(A2.1) Effective signs for forest operations





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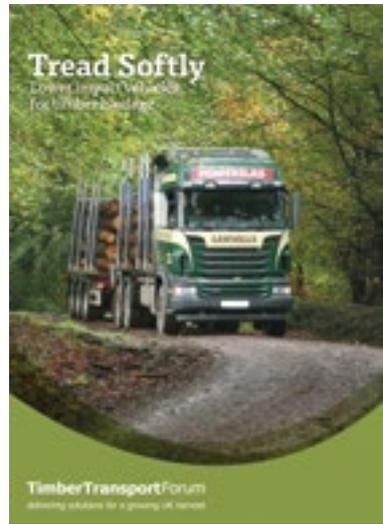
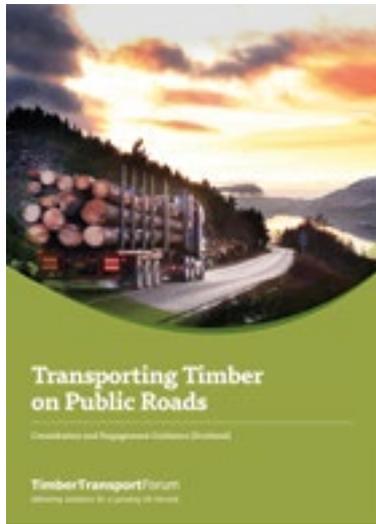
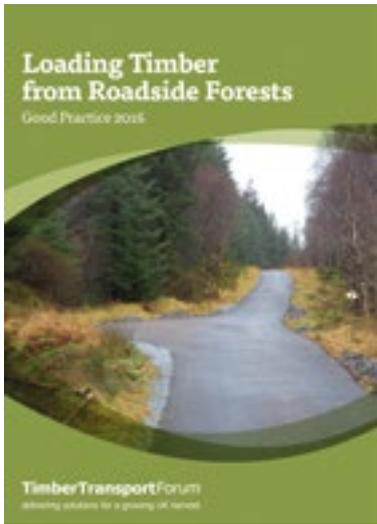


Keep off log stacks



**THINK SAFE
STAY SAFE**

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