Health and Safety Executive

Car transporters

SIM 5/2007/03

Target Audience:

HSE and local authority inspectors

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Summary

This SIM updates and amplifies guidance in SIM 5/2001/23 (issued jointly with Engineering Sector as 3/2001/07). Key changes and additions cover application of LOLER, WAHR, SMR, use of deck infills, design of positioning guides on the top deck to avoid vehicles driving off the front and loading/unloading on the road at car dealers.

Background

1 Falls from car transporters, often from the upper decks, continue to occur and sometimes result in death or serious injuries. Serious accidents often involve people falling more than 2 metres over the edges. Lower falls occur, including through openings in the decking and from ladders, but these are less common and a survey of recent accident reports indicates that serious injuries are less likely.

2 The following advice is based on accident experience as well as discussions with fleet operators and members of the HSE-run Road Distribution Action Group. Because of the great variation in loads that are transported, operational problems often arise unexpectedly. Because of this, it is essential that drivers are fully involved in all aspects of developing safe systems of work with transporters. Often, their knowledge and experience can significantly contribute to solving problems.

Legal requirements

3 The requirements of the Work at Height Regulations 2005 apply to car transporters. Employers have to avoid work at height where this is reasonably practicable and, where it is not, prevent falls as far as reasonably practicable.

4 Duty holders are required to carry out an assessment of all the risks associated with the movement of vehicles on and off car transporters. The assessment should identify the hazards, evaluate the risks and determine the precautions for each category of vehicle (car, off-road vehicle, people carrier, light commercial van etc) to be carried and for each design of transporter.

Edge protection

5 There are many designs of car transporter, each with a different method of loading/unloading. However, whenever loading and unloading is taking place there is a risk of falling from the upper decks, especially when getting in or out of vehicles or moving along the decking. The upper decks are generally 2 metres or more above the ground and the industry has agreed that it is reasonable and relatively inexpensive to fit safety rails where there is a risk of falling with the potential to cause injury.

6 For most types of car transporter, edge protection on the upper decks comprising fixed posts and rails of plastic coated steel wire rope tensioned between the posts should be effective to prevent persons from falling from the edges. Where there is any slackness in the wire rope, the maximum sag should be no more than 20 mm. There should be at least 2 rails, a top rail and an intermediate rail half way between the top rail and the decking. If a toe board is provided the intermediate rail should be half way between the top of the toe board and the top rail, and there should be a gap of at least 10 mm under the toe board to allow for drainage of rainwater. The posts and rails may be dismountable so that a particular transporter can be used for both wide-bodied and normal width vehicles.

7 There has been considerable discussion about what is an effective height for the top rail. Where it is reasonably practicable to provide edge protection on the upper decks, an acceptable height for the upper rails should be at least 910 mm measured from the lowest part of the rail to the decking, but operators should be advised that the recommended height is the current minimum standard for earth-moving plant, ie 1000 mm.

8 Standard strength requirements exist for rails on mobile machinery to prevent them being damaged when people lean on or against them (see BS EN ISO 2867). Under such circumstances, the rails are required to withstand horizontal and vertical forces of 1000N at any point without permanent visible deformation of the rails or supporting posts. Similar standards should be applied to car transporters. Maintenance of rails and wires is essential. Several incidents have occurred where either wires or posts have failed due to corrosion or inadequate fixing in position.

9 In the past, Department for Transport (DfT) requirements, which restrict the width of vehicles, have prevented fitting certain types of guard rail. However, DfT have indicated that they will take the position that the guardrails on a car transporter are not a structural part of the vehicle. This should be clarified by revisions to DfT's Road Vehicles (Construction and Use) Regulations in 2008. This means that offset (kinked) handrails can be used which allow the driver to access wider loads such as vans and large family cars.

10 Where transporters for salvage vehicles (a quite separate industry from general car delivery) are loaded using a FLT, guardrails are impractical and unnecessary if people do not go onto the upper deck.

11 It may not be practical to fit guard rails to certain parts of car transporter decks, particularly those which are moved into position only when loading and unloading is taking place. In addition, there have been problems on some designs of car transporter in the area between the tractor unit and trailer, where the sliding decking has prevented the fitting of posts to support the rails used to bridge the unit and trailer.

12 Another problem area may be where ladder access is necessary on the side of the transporter. Normally, there are no problems fitting posts and rails to the peak deck above the cab, which is the most exposed and hazardous part of the transporter but where they are fitted the width of some vans could create problems with access in and out of loaded vehicles.

Decking and ladders

13 Additional risks exist where there are openings in the centre of the decking through which people could fall. Where reasonably practicable, all openings should be covered. However, it is rarely practicable to cover the gap between the runways on the upper deck, because this is needed to allow vehicles to be tied down from the deck below. There are very few recorded falls from this cause.

14 Drivers may have to step across the gap between the upper decks if, for example, they need to tie down over vehicle wheels. (Some makers who do not fit dedicated tie down hooks to vehicle undersides specify this.) This securing method is used widely on the continent where longer, lower transporter vehicles are used. Drivers should be able to cross the transporter safely either via suitable crossing points or by stepping across a minimised gap.

15 On the lower deck, there are often areas where space is needed for items such as hydraulic rams to move, or access is needed for regular maintenance. The risks of injury are generally low. Nevertheless, operators should provide as far as possible a solid surface to allow work standing on the lower deck, which often involves looking up to tie down and release overhead vehicles. In practice, most areas immediately behind the vehicle cab can be filled in, cross members can be plated over to increase their width or coated in anti slip material. In many cases, work can be done standing on the ground and infilling is not needed. In every case, operators should provide the best infilling that can be achieved, taking into account working practice. Depending on vehicle design and operation, this may result in significant open areas.

16 To reduce the risk of slipping on wet or greasy surfaces, the decking should have an anti-slip surface and suitable rainwater drainage points. Surfaces should be regularly checked for diesel, oil and lubricating grease; and materials for dealing with such spillages as well as snow and ice, should be readily available for drivers for use when they are away from their base depots.

17 Where possible, all surfaces should be maintained free from potential tripping hazards.

18 All ladders, including any fitted to the front of the tractor unit, should be of sufficient height, width and strength, and securely fixed in position. Unless it is safe to do so, persons should not be expected to carry out tasks from ladders that require the use of both hands. An example of such a task is tying down the vehicle over the cab using the front ladder. The use of hand ratchets which can be operated with one hand may be appropriate for this location, so that the person undertaking the task can hold onto a fixed anchor point fitted to the front of the decking with the other. Instruction and training on safe methods

must be given to the operator. Other ladders on the side are provided only for access and work from these should not normally be necessary.

19 If risk assessment indicates that any significant slipping risk remains after taking all the precautions at paragraph 17, then anti slip footwear should be worn while working on a car transporter. Slips account for the highest number of accidents recorded by transporter operating companies. In these circumstances, anti slip shoes will be regarded as legally required and must hence be provided free of charge to employees.

Other precautions

20 Drivers often have to work in areas where they could bang their heads against hard objects, e.g. when tying down vehicles on the upper deck. Where the risk assessment highlights any activity where this could cause injury, employers should consider providing, and encouraging drivers to use, bump caps.

21 To further reduce the risk of slips, trips and falls, vehicles should only be loaded/unloaded in areas where the lighting is adequate. Where car transporters are fitted with loading lights, these should be positioned so that they do not dazzle drivers moving vehicles on/off or when tying down.

22 On the top deck particularly, positioning guides that act as end stops are usually provided at the front of the peak deck. Following several recent incidents where vehicles were accidentally driven right off the front of car transporters, HSE has recommended that the height of such devices, relative to the lowest point of the tyre, (allowing for restraints where the wheel drops into a gap), should be at least 25% of the tyre diameter of vehicles being transported.

Training

23 All drivers, maintenance staff and other persons required to work on car transporters should be adequately trained in the hazards and precautions identified in the risk assessments. Employers should keep adequate training records to demonstrate that training has been carried out.

24 Particular attention should be given to the precautions, which should be adopted for:

1) parts of car transporters carrying normal width vehicles where rails or deck gap covers may not reasonably be fitted; and
2) carrying wide-bodied vehicles on upper decks.
3) familiarisation training on all types of new vehicles to minimise the risk of driver error resulting in an incident such as driving off the transporter. This should include automatics, four by fours, and left hand drive vehicles.
4) any activities that may lead to sudden unexpected movement that may result in either a slip, fall or muscle injury.

LOLER

25 When LOLER was introduced, a decision was made and communicated widely throughout the industry that LOLER did not apply to car transporters because their lifting mechanisms were considered height adjustment devices. HSE have since reviewed the position and consider that LOLER does apply to both new and existing vehicles. The Regulations should be applied proportionately to the risk and provided equipment is regularly inspected and safe as judged by a competent person, and particularly in view of HSE's initial views, the fine detail should be applied sensibly. This may apply to such things as SWL marking on older vehicles where the maker is no longer in business. In practical terms the accident history does not indicate any significant problem but overloading is always a possibility and the SWL should be determined, guided by the advice of a competent person. Usually, a load test and visual examination of structural elements will be sufficient.

26 In practical terms, on the basis that an effective maintenance programme is already in place, the main additional consequences of this will be

- Each lifting deck should be marked with its safe working load, or information clearly indicating this should be available in the vehicle handbook.

- Thorough examination will be needed for transporters following major refurbishment or repair, and at intervals to detect deterioration arising from wear and tear. In practice the frequency of the periodic examination will depend on the views of the competent person but initial HSE view is that 12 monthly will often be appropriate.

- For transporters being put into service for the first time, a declaration of conformity should be available from the final manufacturer for the transporter machinery as required by the Supply of Machinery (Safety) Regulations 1992 as amended. If the operator has received such declaration made not more than 12 months before the transporter is put into service then an initial examination is not required. Otherwise, an initial thorough examination is needed before the transporter is put into service for the first time. Although the vehicle itself, i.e. the tractor unit and trailer chassis is exempt from the Regulations, any moving or lifting parts on the transporter body are covered and strictly, a declaration will be needed for these. HSE is currently unaware of any maker who provides this and this point will be discussed further and clarified in future.

- All makers and operators should to familiarise themselves with the requirements of LOLER.

Loading and unloading at car dealers

27 The practice of loading and unloading car transporters on the road is widespread. Even where dealerships provide an area for these activities, it is very often filled with display vehicles. Collisions occasionally occur and transporter drivers are at higher risk

than many delivery drivers, as they often have to work around the vehicle and stand in the road. Drivers have been struck by passing vehicles.

28 Any solution to this problem will depend on long-term co-operation between the dealer and the haulier. While planning deliveries and risk assessment of sites in advance can often help, it is unlikely the problem will be eliminated easily. Local authorities are often the enforcing authority for main dealers and where problems arise, a joint approach may be most productive in achieving improvements. Numerous deliveries of every kind take place from vehicles parked on the road and in one sense car transporters are no different from other delivery vehicles. However, where improvements can be made they should.

Action by inspectors

29 Action is required where any car transporter is found where there is a risk of a fall liable to cause personal injury. Operators should be able to demonstrate that they have assessed the risks involved for each category of vehicle likely to be carried on each type of transporter in their fleets and provided the appropriate safeguards.

30 Inspectors should be aware that many operators of car transporters have already introduced some, and possibly all of the precautions outlined in this SIM. While there had previously been no agreed industry standard and a considerable number of transporters are still operating without the necessary precautions, it is now some 4-5 years since many of the issues here were first raised and any action by inspectors should reflect this passage of time, during which operators of transporters have had considerable time to make improvements.

Enquiries

31 Any enquiries concerning this advice should be directed to STSU: Transportation Section.