Structural modification of a car and its trailer

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Contents

Regulation background and legal basis

Regulation on the modification of the structure of a car and its trailer (hereinafter referred to as *Regulation on structural modifications*), which entered into force on 1 March 2021 (TRAFICOM/194495/03.04.03.00/2019). That Regulation was amended by the Regulation of 5 June 2023 amending section 6.3 of the Regulation amending the structure of a car and its trailer (TRAFICOM/534395/03.04.03.00/2022).

Since the entry into force of the Regulation on structural modifications on 1 March 2021, certain needs for amending the Regulation have arisen in the application practice, which the present Regulation seeks to take into account. It is necessary to take into account certain changes that can, subject to certain conditions, be approved in a modification inspection without an exemption. These include the fixing of building maintenance equipment and road maintenance equipment, as well as changes to the bodywork of vehicles.

In addition, new requirements for new cars and their trailers have been introduced and are entering into force. New requirements for vehicles are due in particular to the new EU Safety Regulation (EU) 2019/2144[1] and its Implementing Regulation (EU) 2021/535[2]. Requirements related to these EU regulations, such as protection of the vehicle from cyberattacks, software updates, and prohibited and permitted

[1] Regulation (EU) 2019/2144 of the European Parliament and of the Council on type-approval requirements for motor vehicles and their trailers, and systems, components and separate technical units intended for such vehicles, as regards their general safety and the protection of vehicle occupants and vulnerable road users, amending Regulation (EU) 2018/858 of the European Parliament and of the Council and repealing Regulations (EC) No 78/2009, (EC) No 79/2009 and (EC) No 661/2009 of the European Parliament and of the Council and Commission Regulations (EC) No 631/2009, (EU) No 406/2010, (EU) No 672/2010, (EU) No 1003/2010, (EU) No 1005/2010, (EU) No 1008/2010, (EU) No 1009/2010, (EU) No 19/2011, (EU) No 109/2011, (EU) No 458/2011, (EU) No 65/2012, (EU) No 130/2012, (EU) No 347/2012, (EU) No 351/2012, (EU) No 1230/2012 and (EU) 2015/166.

[2] Commission Implementing Regulation (EU) 2021/535 laying down rules for the application of Regulation (EU) 2019/2144 of the European Parliament and of the Council as regards uniform procedures and technical specifications for the type-approval of vehicles, and of systems, components and separate technical units intended for such vehicles, as regards their general construction characteristics and safety.

changes related to the tyre pressure monitoring system, need to be stated in the Regulation on structural modifications.

The Vehicles Act, on which the Regulation on structural modifications is mainly based, has also been amended since the Regulation of 1 March 2021, and these legislative amendments must be taken into account in the Regulation on structural modifications.

Drafting of the Regulation

The Regulation was drafted by the Finnish Transport and Communications Agency. The opinions of the Finnish Transport and Communications Agency officials responsible for monitoring inspection guidelines, the processing of exemptions and the supervision of inspections and those of stakeholders in the field of vehicle inspection on required changes have been taken into account in the preparation of the Regulation.

Written statements on the draft Regulation are being requested between 20 November 2024 and 17 January 2025. The Regulation will be simultaneously notified to the Commission in accordance with Directive (EU) 2015/1535.

Detailed reasons for the amendments to the Regulation

1.1 Scope

The scope of application of the Regulation will be amended to correspond to the provisions of section 7a of the amended Vehicles Act, which authorise the Transport and Communications Agency to issue more detailed provisions on vehicle modifications. Before section 7a of the Vehicles Act, which entered into force on 1 April 2023, provisions on the modification, repair, and refurbishment of a vehicle were laid down in section 7 of the Vehicles Act, and it provided for the power to issue provisions not only on the modification of the structure but also on repair and refurbishment. According to the legislative materials for section 7a of the Vehicles Act, ‘repair’ means bringing the vehicle to a condition corresponding to the state it was in before the defect or deficiency occurred, while other work done on the vehicle constitutes modification (HE 291/2022). The scope of application will be amended to reflect the authorisation provided in section 7a of the Vehicles Act so that no further provisions on repair will be issued.

The scope also includes a mention of the fact that the Regulation also lays down provisions on changes requiring a modification inspection as well as changes not requiring one. These have already been mandated and provided for in the past, but have not been mentioned before in the scope of application.

1.2 Definitions

At the beginning of the definitions section, it is specifically stated that the definitions of the Vehicles Act are also applied in the Regulation. The definitions in the Vehicles Act would in any case be applied in accordance with the general principles of application, as the Regulation is issued by virtue of the Vehicles Act.

Since the definitions of the Vehicles Act are applied in the Regulation, the definition of the Framework Regulation defined in section 2, paragraph 3 of the Vehicles Act as a framework regulation for cars and their trailers is deleted from section 9 in the list. In addition, the definition of a register, which is already laid down in section 2, paragraph 36 of the Vehicles Act, is deleted from the definitions.

The term ‘metric width’ in the definition of tyre width in point 8 of the definitions is changed to ‘nominal width in the metric system’.

The definition of the baseplate structure is deleted from the definitions and the subject is transferred to section 3.1.3 of the Regulation (baseplate structure), which is the only section where the term is used.

The term ‘literature’ in section 16 of the definitions also extends to information in electronic format, although it is not specifically mentioned in the section. This has led to a lack of clarity in the activities of some operators.

A new section 19 on the definition of electrical safety equipment is added to the definitions section. In the past, it has not been necessary to define electrical safety equipment, but technological developments in new cars and their trailers have led to an increase in the number of safety equipment items and systems in vehicles to an extent where it is necessary to specify the application of the provisions on electrical safety equipment to such systems more clearly in the Regulation. Electrical safety equipment is defined as equipment and systems that operate electrically and are intended to prevent accidents, protect people in the vehicle or other road users in the event of an accident, or provide the authorities with information on accidents. The definition thus covers not only conventional equipment, such as airbags and seatbelt pretensioners, but also, for example, collision warning devices, lane keeping systems and advanced emergency braking systems.

2.1 General requirements

This section lays down the general requirements for the modification of the structure of a vehicle. A provision is added at the beginning of the section stating that any modifications made to the vehicle under this Regulation must be submitted for a modification inspection, unless otherwise specified in this Regulation. Section 2.5 of the Regulation, lays down, inter alia, the changes permitted without the need for a modification inspection after the vehicle has been put into service. The general requirements also stipulate that modifications that are less significant than those referred to in the Regulation do not require a modification inspection. The minor or significant nature of modifications in view of the Regulation may require case-by-case consideration, but it is impossible to take account of all modifications to vehicles in the Regulation.

The general rule stated at the beginning of the section in the previous Regulation, that changes to the high-voltage components of electric and hybrid vehicles require an exemption from the Finnish Transport and Communications Agency to be approved in the modification inspection, unless otherwise provided in the Vehicles Act or by virtue of it, is deleted and changes in the high-voltage system for cars weighing no more than 7.5 tonnes are provided for in section 3.20, which allows the replacement of the traction battery to be approved in the modification inspection, subject to certain conditions. Otherwise, modification of the high-voltage system will be subject to the normal conditions, i.e. it will require an exemption from the Finnish Transport and Communications Agency for the purposes of the modification inspection.

The provision from the previous section 3 of the Regulation, stating that the modification of a vehicle to one resembling the reference vehicle may be approved in a modification inspection without the need for an exemption, is also moved to this section. In the past, the provision was an exception in section 3, particularly concerning prohibited modifications to vehicles put into service in 1998 or later, but the provision applies to all vehicles, so it is moved to section 2.1 (general requirements).

Provisions concerning vehicles subject to cybersecurity requirements have been added. These provisions aim to ensure the cybersecurity of vehicles even after modifications and additions to the vehicle's electronic systems. In practice, the requirement applies to vehicles put into service on or after 7 July 2024, as the requirements concerning the protection against cyberattacks applicable to vehicles being put into service entered into force on that date. Requirements for the pro-

tection of vehicles against cyberattacks are laid down in EU regulations and UN Regulation No 155 concerning type-approval. As proof of compliance with the protection of a vehicle against cyberattacks, a modification inspection may accept a statement from the manufacturer or the person making the modification that the risks posed by the change to the vehicle’s cybersecurity have been assessed and the necessary risk mitigation measures have been taken. The national individual approval also requires a report on the performance of the risk assessment and risk mitigation measures in accordance with Annex 5 to the UN Regulation if additions or modifications have been made to the vehicle's electronic systems since the previous approval. The provision on the cybersecurity requirement shall take precedence over any other changes specified in the Regulation, i.e. if the other changes specified in the Regulation also affect the vehicle's electronic systems and the vehicle is subject to a cybersecurity requirement, the cybersecurity report referred to in this section shall also be presented in the modification inspection.

A provision is added regarding the demonstration of the vehicle's compliance when the vehicle is restored to its original condition. The provision is necessary, for example, in situations where a non-compliant modification has been detected in the vehicle, such as during a police roadside check or a periodic roadworthiness test, and the vehicle is restored to its original condition. It can be practically impossible to find ways of repeating a new or newly registered vehicle's compliance demonstration for a vehicle that may have been in use for decades, and it is not appropriate to make it unreasonably difficult to restore the vehicle to its original condition when compliance was in any case established when the vehicle was first put into service. When a vehicle is restored to its ‘original condition’, the vehicle manufacturer is the best party to clarify the requirements that applied to that vehicle when new and what the original vehicle was like. There may be an easier way to demonstrate compliance than having to refer to the manufacturer's statement, for example in situations where the inspector can, by comparing the information in the owner's manual, the list of spare parts, or the repair manual with the vehicle, establish that the vehicle is in a condition equivalent to the original.

2.2 Requirements for the reference vehicle

The requirements for the reference vehicle are amended so that, for vehicles put into service before 1 January 1998, the literature report on belonging to the same model series and model generation can be used to indicate the actual date of entry into service, instead of recording it as 1 January 1978. In the case of newer vehicles, the proof of belonging to the model series shall be provided by means of a certificate from the manufacturer. The new date of entry into force specified in the Regulation corresponds to the date of EC type-approval for passenger cars, which entered into force on 1 January 1998. The change is justified because vehicles from that time are already more than 26 years old and it may not be possible to obtain the manufacturer's certificate confirming their model series or model generation.

2.4 Modifying a vehicle before its initial entry into service

Section 2.4 provides for modifications which may be made to a vehicle without requiring a change to the approval of the whole vehicle, provided that, after the modifications have been made, the vehicle meets the requirements of any relevant statute or regulation applying to the modifications at the time of the vehicle’s entry into service or at a later date. It is specified at the beginning of the section that the vehicle must also remain in compliance with the requirements applied at the time of entry into service.

In addition to equipment, components have been added to the beginning of the second paragraph of this section to clarify the permitted modifications.

The subsection of section 16 is amended to allow, before the first entry into service, only the modification or installation of driver assistance systems which are not mandatory for the vehicle. New vehicles require a wide range of driver assis-

tance systems with internationally established requirements. The Regulation does not define ‘driver assistance systems’, but the wording now excludes systems mandatory for the vehicle before its first entry into service from the group of installations and modifications permitted without a new approval. The list of driver assistance devices (cruise control, parking assistance, lane change assistance, camera systems, and reversing radar) is deleted from subsection 16 of the list in this section. The change is justified because the list was not comprehensive to begin with and new systems are constantly being introduced.

A new section 25 is added to the list, providing for software updates from the manufacturer that do not require a modification inspection or affect approval. More details on software updates are provided in section 3.15.

An optional alcolock is also added as section 26 to clarify that the addition of the device in question to a vehicle does not require a modification inspection, but no exceptions from the other requirements are provided for the installation of the device in question.

In the last paragraph of the section, a reference to UN Regulation No 154 is added, which defines the WLTP measurement method referred to in this section of the Regulation.

2.5 Modifications permitted without the need for a modification inspection after a vehicle has been put into service

2.5.1 Modifications permitted to all vehicles without the need for a modification inspection

In subsection 1 of section 2.5.1, it is added that, in addition to a parking permit it is permitted to install other similar signs required by the authorities on the windscreen and on the front side windows without the need for a modification inspection. At the same time, in section 3.17 (Windscreen and other windows), the requirement to affix the signs required by the authorities to the windscreen and to the front side windows, such as road toll or vehicle emission stickers, in such a way that they do not obstruct the driver's field of vision, is deleted. The intention is to continue to allow the signs referred to in section 3.17, but to clarify that this is a change that does not require a modification inspection. This provision is more in line with the provision on the parking permit, as it concerns similar changes. It is still a requirement that the symbols and signs do not interfere with visibility from the car and do not affect the functioning of the car's safety systems.

The wording of section 7 concerning changes in the colour of the vehicle is amended without changing the substance of the provision. The change to the vehicle will be the change in the colour of the vehicle, not a change in the colour information, as in the current Regulation. Consequently, the Regulation specifies that information concerning a change of a vehicle's colour may be recorded during a periodic roadworthiness test in accordance with section 156, subsection 2 of the Vehicles Act, and that a change of colour alone does not require a modification inspection.

Subsection 9 of this section has previously allowed modifications to the tyre pressure monitoring system (TPMS) and its deactivation or reactivation, provided that the deactivated or non-functional TPMS does not interfere with the operation of other systems. A tyre pressure monitoring system has long been mandatory for cars and vans, but the new Safety Regulation (EU) 2019/2144 and its Implementing Regulation (EU) 2021/535 have extended this requirement to other vehicles in categories M and N as well. Originally, changes to the tyre pressure monitoring system were allowed without a modification inspection mainly because, in the early stages, there were challenges in the system's operation with the winter tyres required for Finnish weather conditions. Since the system has long been mandatory for cars and vans, it has also been possible to develop it with different tyres for a long time now. Taking into account the system’s potential for reducing environmental impact and promoting road safety, there are no grounds for disconnecting the system in the scope provided for in the previous Regulation. Therefore, the

provision is amended to allow changes to the TPMS or to deactivate or re-enable the TPMS only if the vehicle was put into service before the end of the transition period on 1 January 2026 or if the vehicle is not required to have a TPMS. In addition, as with the previous Regulation, there is a requirement that a deactivated or inoperable system does not interfere with the operation of other systems.

The requirements for a separate brake pedal acting on the service brake, as required under section 40 of the Driving Licence Act and section 22, subsection 2 of the Government Decree on Driving Licences, for an instructor in a car used for driving instruction, are added to subsection 10. This section specifies matters relating to the attachment of the pedal to the co-driver's seat. The provisions relating to the attachment of the pedal are justified by the shortcomings that have come to light with regard to the attachment of such pedals. It was estimated during the preparatory work that approximately 2 000 driving tests are failed annually because driving test examiners find shortcomings in the attachment or other operation of the dual control pedal. Although the installation of an additional brake pedal does not entail an obligation to have a modification inspection carried out, the pedal requirements make it possible to harmonise the assessment of defects and deficiencies in the additional brake pedals in periodic roadworthiness tests, in which the brake pedal must be inspected.

2.5.2 Modifications allowed without the need for a modification inspection for vehicles put into service before 1 January 1998

The section provides for modifications to vehicles put into service before 1 January 1998 which are considered to have a negligible effect on road safety within the meaning of section 143 of the Vehicles Act and which therefore do not give rise to an obligation to have a modification inspection carried out. The requirements for older vehicles are less stringent and fewer than for newer vehicles, which also means that they can be modified more freely.

The wording of subsection 10 regarding changes to the suspension permitted without a modification inspection has been amended. The previous wording, which prohibited modifications affecting the suspension travel, has been deleted as the provision was intended to address modifications that hinder the normal functioning of the suspension. The relevant provision can already be found in section 3.11.2 referred to in the text. Thus, the change to the text reconfirms the current situation, i.e. allows normal changes to the suspension without the need for a modification inspection and prohibits changes that alter the normal operation of the suspension. Examples of such changes include the installation of traction bars that prevent the movement of the entire suspension travel or tensioners on coil springs that compress the spring.

A new subsection 11 has been added to allow the replacement of the original catalytic converter with an accessory catalytic converter without a modification inspection. The change can be considered justified because catalytic converters equivalent to the original may not be available for older vehicles and some of these vehicles are equipped with single-acting catalytic converters, in which case an accessory catalytic converter can be expected to achieve the exhaust gas cleaning performance equivalent to the original. In the periodic roadworthiness tests of vehicles, exhaust emissions shall be measured by means of in-service measurements to assess the operation of at least the three-way catalytic converters.

3 Modifying the structure of cars with a maximum technical classification weight of 7,500 kg

Section 3 and its subsections concern the modification of the structure of a vehicle weighing up to a maximum of 7 500 kg.

The list at the beginning of section 3, which enumerates the modifications that may not be approved for vehicles put into service after 1 January 1998 without an exemption granted by the Finnish Transport and Communications Agency, is

deleted and moved to the subsection concerning each modification in section 3. In addition, the provision that formed the last paragraph of that section, which also allows a vehicle put into service on or after 1 January 1998 to be converted to one corresponding to the reference vehicle without an exemption being granted, is moved to the general requirements in section 2.1 of the Regulation.

3.1 Frame

Following the reworking of the reference structure at the beginning of section 3, the provision stating that the frame modifications referred to in the subsections of section 3.1 may not be made to a vehicle put into service on or after 1 January 1998 is moved to section 3.1. The approval of changes to the frame of such a vehicle in a modification inspection requires an exemption granted by the Finnish Transport and Communications Agency.

3.1.2 Body with a separate bodywork

Section 3.1.2 specifies that the extension of the frame is limited to vehicles in category N and that the approval of the measure also requires extension of the bodywork to the same degree.

The legal references in this section have been amended by adding a reference to the latest Commission Implementing Regulation (EU) 2021/535 relating to rear lateral displacement (swing-out).

The provision in the last paragraph, according to which modifications must be made in accordance with the manufacturer's instructions, is deleted, as section 2.1 already provides for compliance with the manufacturer's instructions.

3.1.3 Base plate structure

This section of the Regulation specifies that it applies to a baseplate structure in which a separate baseplate attached to the body by means of bolted connections acts as a load-bearing structure.

3.2 Modification of the body structure

The heading of section 3.2 is changed from ‘body structure’ to ‘modification of the body structure’. The purpose of the amendment is to distinguish changes to the body structure from the replacement of the body structure, the provisions for which will be found in section 3.3. The previous sections 3.3 Doors and roof pillars and 3.4 Plastic parts are moved to sections 3.4 and 3.5. The sections are being moved so that changes to the body structure and body replacements are discussed in subsequent sections because they are related.

3.2.1 Modification of the body width

The provision in this section concerning the widening of the bodywork of the vehicle by a maximum of 200 millimetres is clarified to only apply to vehicles put into service before 1 January 1998. To clarify what constitutes prohibited modifications, it is added that the bodywork may not be subjected to any modifications that would impair its strength, while modifications that strengthen the original structure are not prohibited.

In accordance with the earlier reference provision at the beginning of section 3, it is stipulated that the width of the bodywork of a vehicle put into service on or after 1 January 1998 may be altered only by the addition of a series of prefabricated wideners or other equivalent components intended for the vehicle.

3.2.2 Flip and removable front-end

Since the reference structure stipulating which modifications may not be made to vehicles put into service on or after 1 January 1998 is deleted from the beginning of section 3 of the Regulation, a provision is added to section 3.2.2 of the Regula-

tion that, subject to the conditions referred to in the section, the flip or removable front-end may only be fitted to a vehicle put into service before 1 January 1998.

As regards the reinforcement of the front-end, alternative methods to the construction of the tube frame provided for in the current Regulation have been made possible. The objective of the amendment is to enable technology-neutral reinforcement also with, for example, a carbon-fibre or steel casing structure corresponding to the original strength.

In subsection 2, the phrase ‘at least’ is added to specify that the modified structural strength does not have to be identical to that of the original structure, but may also be greater than the original.

Subsection 3 is amended by making the requirement to prevent the structure's intrusion into the cab less stringent so that it now reads: is prevented in a manner at least equivalent to the original structure. The amendment highlights the impossibility of preventing intrusion in all accidents, but keeps the requirement to design the structure to be at least as safe as the original in the event of an accident.

3.2.3 Modifying the roof

Provisions have been added at the beginning of section 3 to the effect that changes to the roof are permitted for vehicles put into service before 1 January 1998. The word ‘significantly’ has been added to the requirement to not reduce the original strength when raising the roof, with the intention of clarifying that altering the structure within the given limit values does not require additional reinforcement of a structure equivalent to the original, even though it can be assumed that it will not be entirely as strong as the original structure.

3.2.4 Transforming a vehicle into a convertible

The provision previously laid down at the beginning of section 3, to the effect that the provisions on convertibility apply to vehicles put into service before 1 January 1998, is added to this section.

3.2.5 Bumpers

Following the dismantling of the reference structure concerning prohibited modifications to vehicles put into service on or after 1 January 1998, found in section 3 of the Regulation, section 3.2.5 on the subject of bumpers is amended to allow for the modification and removal of the bumpers of vehicles put into service before 1 January 1998. The Regulation does not change in this respect, since the modifications to vehicles put into service on or after 1 January 1998 provided for in section 3.2.5 were previously prohibited in section 3, with the exception of modifications required due to the fitting of other equipment permitted without a modification inspection or exemption.

In section 3.2.5, the provision on modifications permitted to vehicles irrespective of the date of their entry into service is amended to allow modifications which are necessary for the fitting of authorised equipment, such as the modifications necessary for fitting the additional lamps permitted in section 2.4 on the bumper. If the modification is presented for approval in a modification inspection, compliance can be verified by the inspector.

3.2.6 Modification of an open cargo space

A new section 3.2.6 on the modification of an open cargo space is added. The length of the pallet on the vehicle may be extended, but it must be at least the length of the frame from the rear of the vehicle. The extension of the frame is provided for in section 3.1.2. As with the extension of the frame, the extension of the pallet referred to in the section applies to vehicles in category N, but the extension of the pallet is limited to apply only to the extension of an open pallet. The pallet may be narrowed or widened. The widening is limited to 200 millimetres, corresponding to the limit for widening the bodywork. The maximum narrowing

permitted for the pallet is set at 500 millimetres. It is also stipulated that the modifications must be implemented in such a way that the lateral protection requirements that may apply to the vehicle are met and that the modification does not pose a risk to pedestrians. In some cases, the change may affect the road tax levied on the vehicle, such as in the case of a vehicle referred to in section 23 of the old Road Tax Act (1482/1994), which is subject to reduced road tax due to meeting the requirements set for the size of the cargo space. In these cases, the approval of modifications to the vehicle's cargo space resulting in non-compliance with the conditions for reduced car tax will result in an unfavourable situation for the customer with regard to taxation. In a modification inspection, the inspector should inform the customer of the tax consequences, as inspectors are under an obligation to provide advice.

3.2.7 Raising the body frame

A new section is added to the Regulation, laying down the conditions for approving the raising of the body frame of a vehicle and for entering it in the register for the purposes of a modification inspection. The provision is justified because the previous provision already provided for the maximum change to the height of the suspension in connection with modifying the suspension and raising the bodywork.

3.3 Body replacement

The section of the Regulation titled ‘Body replacement’ will become section 3.3 because the old sections 3.3 Doors and roof pillars and 3.4 Plastic parts will be moved to become the new sections 3.4 and 3.5. At the same time, body replacements are divided into two new sections: 3.3.1 Replacing the body frame, which corresponds in content to the previous section on body replacement, and 3.3.2 Other body changes. Body replacements under the Regulation were previously prohibited for vehicles put into service on or after 1 January 1998. Now, only body frame replacements under section 3.3.1 would be limited to vehicles put into service before 1 January 1998.

3.3.1 Replacing the body frame

A comparison between the originals (the vehicle from which the replacement bodywork originates and the original structure of the vehicle to be modified) and the vehicle undergoing the modification is added as an alternative means of indicating that the structure is at least equivalent to the original in terms of its strength. The purpose of the amendment is to simplify the demonstration of adequate structural strength in a modification inspection, because making strength calculations can be complicated in some cases and it is challenging to ensure the accuracy of calculations in the context of such an inspection.

The obligation always to fit a roll bar to the vehicle has been deleted in cases where the replacement bodywork is an open body and has been reworded as follows: In the case of the replacement of an open body originally equipped with a roll bar, the vehicle undergoing the modification shall be fitted with a roll bar corresponding to the original or complying with the requirement in section 3.6.

With regard to the replacement of the bodywork on a separate-frame vehicle put into service before 1998, the section has been clarified by stipulating that the replacement bodywork must be designed for a body of the same model year or be newer, instead of the previous wording, which stipulated that the bodywork must be originally intended for a car corresponding to its model year or be newer. The previous wording may have given the impression that the replacement bodywork should have been originally intended for the vehicle being modified.

3.3.2 Other body changes

A new section is added, laying down the conditions for changing the cargo spaces of category N vehicles. The section stipulates that the cargo space may be replaced with another type of cargo space. In practice, this permits changing the open cargo space (platform) to a closed cargo space and vice versa, as well as

otherwise modifying the structure. In some cases, the change may affect the road tax levied on the vehicle, such as in the case of a vehicle referred to in section 23 of the old Road Tax Act (1482/1994), which is subject to reduced road tax due to meeting the requirements set for the size of the cargo space. In these cases, the approval of modifications to the vehicle's cargo space resulting in non-compliance with the conditions for reduced car tax results in an unfavourable situation for the customer with regard to taxation. In a modification inspection, the inspector should inform the customer of the tax consequences, as inspectors are under an obligation to provide advice.

3.4 Doors and roof pillars

The previous section 3.3 Doors and roof pillars is moved to become section 3.4. At the same time, the section is amended to apply to a vehicle put into service before 1 January 1998. The modifications under this section are prohibited for vehicles put into service on or after 1 January 1998 at the beginning of section 3.

3.5 Plastic parts

The previous section 3.4 Plastic parts is moved to become section 3.5. Linguistic changes are made to the text of the Regulation. In addition, the provisions permitting the modifications referred to in this section for vehicles put into service before 1 January 1998 are moved to this section. A requirement corresponding to the roll bar requirement for doors made of plastic has been added for doors that are otherwise weaker than the original, for example, doors which have a lighter structure, from which material has been removed, or from which the surface sheet has been replaced with reinforced plastic in the original door frame.

3.6 Installing a roll bar and safety frame

The minimum diameter of the front diagonal support tubes required for the roll bar is reduced from 42 mm to 38 mm at the request of car enthusiast associations.

The minimum diameter of the other tube parts of the roll bar remains at 42 mm, but the minimum wall thickness of the tube would be changed from 3 mm to 2.5 mm.

Safety frames with the dimensions required under the Regulation can still be considered sufficiently safe to be permitted for all roll bars being installed. Provisions concerning the horizontal tube of the roll bar are added. They specify, for example, the installation height, which is critical for road safety, particularly in the event of a side collision, and when a seat belt installation is possibly involved, which is critical for the installation height. The position of the roll bar's rear diagonal support is also made more flexible. In addition to the previously required installation in the horizontal part of the main arch, the Regulation also allows installation in the vertical part of the main arch if the distance from the upper surface of the main arch does not exceed 130 mm. The requirement governing the number of rear diagonal supports has also been made less stringent, and now only one is needed.

The requirement for the vertical position of the horizontal support of the main arch is written into this section. The height requirement includes an additional provision to take into account the safe functioning of safety belts in cases where some of the belts are attached to the relevant horizontal tube.

3.6.1 Fitting of safety belts with a roll bar or frame

The heading of section 3.6.1 is clarified to refer to the fitting of safety belts when installing a roll bar or safety frame.

3.7 Seat change

An exception is added for the removal of the side airbag to allow the approval of its removal in a modification inspection in the case of a driver/passenger with re-

duced mobility. A condition for the approval of a modification is that, as stated in this section, the modification must not interfere with the operation of other restraint systems or the tell-tale.

3.8.1 Engine replacement and modification

A report on the strength of the engine fastenings is now required in addition to earlier requirement of being appropriate. The requirements for the report on strength have already been defined earlier and require the demonstration of sufficient strength with calculations. Alternatively, sufficient strength can be demonstrated by equivalence.

3.8.3 Exhaust emissions after engine replacement or modification

The text of the second paragraph is clarified to the effect that the previous wording ‘in-service exhaust emission requirements’ refers to the exhaust emission requirements and methods to be applied during a periodic roadworthiness test. In practice, this means checking emissions in accordance with the Regulation on the criteria for periodic roadworthiness tests of vehicles. According to that Regulation, the checking of exhaust emissions goes beyond the measurement of emissions, so a corresponding change in wording is made to the third paragraph of this section. A provision is also added to the paragraph stating that exhaust emission values must also be satisfied when engine control software is installed or changes are made to existing software. The purpose of this addition is to clarify, for example in the case of engine replacement/modification, the mandatory adjustment of engine control in some situations, for example, with regard to fuel supply mapping.

The previous final paragraph of the section is merged with the preceding paragraph, and the wording of the provision is clarified so that the vehicle must meet the emission requirements applied to approval at the time of the vehicle’s entry into service, and the engine power must meet the requirements of section 3.8.1 whenever changes more extensive than the vehicle manufacturer's updates are made to the engine management software of a vehicle put into service on or after 1 September 2009, or a separate software accessory is installed in the vehicle without any change to the vehicle's propulsion power. Previously, the wording was unclear with regard to the provision from which the last paragraph was intended to be an exception.

3.8.5 Measuring vehicle noise

The provision on the method for measuring the noise as stated in the section is amended so that it does not refer to measurement method A in UN Regulation No 51, which is no longer present in more recent UN Regulations. The method of measurement for a stationary vehicle provided in that UN Regulation is still required. Measuring the noise of a vehicle in motion at the vehicle testing sites in accordance with the requirements of the UN Regulation is not possible in practice. The Regulation also specifies that a sound level meter may be used as a measuring instrument in accordance with the Regulation of the Finnish Transport and Communications Agency on the facilities and equipment of an inspection site. The requirement for a sound level meter under that provision complies with the same standard as required by UN Regulation No 51, but the measuring instrument category required by the UN Regulation is 1 and testing sites are required to have a measuring instrument in category 2.

3.9 Power train

The provision from section 3 of the Regulation stating that changes to the towing method permitted by the Regulation are allowed for vehicles put into service before 1 January 1998 is moved to section 3.9.

3.10 Axles and the underframe

A provision is added to the effect that the modifications referred to in this section are permitted for cars put into service before 1 January 1998. Previously, section 3

required an exemption for modifications to a car put into service on or after 1 January 1998. The exception to the fitting of underframe sets permitted for those put into service from 1998 onwards, which was contained in section 3 of the Regulation, is covered in section 3.11.2 on the subject of suspension, and is therefore provided for in that section.

A provision allowing the approval of the narrowing of a rigid axle by not more than 400 mm in a modification inspection is also added. A requirement has been added to the effect that a welding report of the modification must be presented in the modification inspection. The purpose of the provision is to reduce the need for exemptions for moderate modifications to rigid axles, as the appropriateness of such changes can be verified in a modification inspection.

3.11.1 Steering equipment

A provision is added to the beginning of section 3.11.1 on steering equipment, to the effect that the modifications referred to in this section are permitted for a vehicle put into service before 1 January 1998. Previously, the beginning of section 3 referred to the sections of the Regulation which prohibited certain modifications to vehicles put into service on or after 1 January 1998. Following the reworking of the reference structure, this is now separately provided for in those sections in which certain modifications are permitted only for vehicles put into service before 1 January 1998.

3.11.2 Suspension

Prerequisites for the approval of a tool-adjustable underframe set are added. The change is justified because the requirements differ from those for an underframe set that can be adjusted without tools. The installation of an underframe set adjustable with hand tools is also permitted on a vehicle equipped with a load-sensing brake valve, provided that the installation height at which the operation of the vehicle's brakes and the distribution of braking forces have been checked is recorded in the vehicle's registration data in the modification inspection. On the basis of this information, it is possible to confirm during a vehicle inspection or a police roadside check that the vehicle's height corresponds to that confirmed in a previous inspection and to assume that the adjustment of the brakes remains balanced.

The previous provisions on the installation of an adjustable underframe set are clarified, so that they apply to an underframe set that is adjustable by means other than hand tools, such as with a separate adjusting device. The provisions concerning underframe sets not adjustable with hand tools are amended by deleting from point 1 in the list the provision that an additional air spring set suitable for the type of axle and suspension may be installed on the rear axle. The provision was an exception to the rule that the adjustment must affect both axles to the same degree, so that the vehicle cannot be adjusted asymmetrically in the longitudinal or lateral directions. The provision relating to the installation of an additional air spring kit has been added to the first paragraph of the section on suspension and is therefore still permitted without an exemption. However, the additional air spring kit shall, except in the case of an underframe set adjustable with hand tools, be able to adjust both axles to the same degree, so that the vehicle cannot be adjusted asymmetrically in the longitudinal or lateral directions.

The provision that no additional air springs may be installed on a vehicle equipped with a load-sensing brake valve is added to the list of changes in vehicle chassis height as a new item. This requirement is justified because, at worst, the modification in question may, among other things, cause a significant rear brake failure when the vehicle is laden.

3.12 Brakes

Section 3.12 of the Regulation lays down provisions on brake modifications. The prohibition at the beginning of section 3 against making the brake modifications re-

ferred to in the section to a vehicle put into service on 1 January 1998 and equipped with electrical safety devices which act on the brakes is moved to section 3.12.

3.13 Tyres and rims

The provision concerning the change of track width with rims is extended to also apply to a change of track width with parts related to rims. The addition means that the vehicle's maximum track width also applies to the fittings (‘spacers’) intended by the vehicle or rim manufacturer for installation between the wheel hub and the rim of the vehicle.

A provision has also been added to allow the rims to be modified in accordance with the instructions given by the rim manufacturer. The purpose of this provision is to clarify the situation regarding the modification of the rim structure and to prohibit the modification of such components and the approval of such modifications without guidelines provided by the rim manufacturer.

A provision corresponding to section 4.8, which applies to vehicles weighing more than 7 500 kg has been added, allowing for an alternative tyre size that changes the dynamic rolling radius to be recorded for the drive axle only on a vehicle in which no speed limitation device or tachograph is required. The addition is justified and necessary because this section of the Regulation also applies, for example, to light lorries requiring such equipment.

In addition, a provision is added to the effect that, if tyres which limit the permissible mass on the axle in use to less than the technically permissible mass on the axle are approved for a vehicle, the tyres shall nevertheless be such as to enable the vehicle as a whole to be loaded to the permissible mass on the road without exceeding the load-bearing capacity of the tyres. The provision corresponds to that in section 104, subsection 4 of the Road Traffic Act on the use of such tyres in traffic.

3.14 Electrical safety equipment

The beginning of the section specifies that electrical safety equipment may not be modified or removed unless otherwise provided for in this Regulation, in other regulations, or elsewhere in the law.

The definition of electronic safety equipment referred to in the section has been added to section 1.2, subsection 21 of the Regulation.

The section has been amended to allow the removal of electrical safety equipment if it was not mandatory at the time of the vehicle's first entry into service and the vehicle is modified to correspond to a reference vehicle without such safety equipment. Making the vehicle correspond to the reference vehicle means, for example, that the markings indicating the presence of an electrical safety device must be removed in such a way that the user of the vehicle cannot be given a false impression of the matter. The amendment clarifies the acceptability of modifications in a modification inspection, in particular with regard to electrical safety equipment fitted to vehicles which do not need it according to the regulations applied on the date of the vehicle's entry into service. The section also includes the obligation to record such changes in the vehicle's registration data, so that, for example, a future buyer of the vehicle can be made aware of the change made to the vehicle when making the purchase decision. These records also make it easier to monitor the existence of such changes in the context of an accident investigation.

3.15 Software

Section 3.15 on software changes is amended.

Vehicle systems, equipment and features are increasingly being modified with software changes, including wirelessly over a remote connection. United Nations Economic Commission for Europe Regulation No 156 defines software update

management procedures for vehicles type-approved in accordance with the same Regulation. According to the requirements, the manufacturer shall, inter alia, have in place a procedure to assess whether a software update adds, modifies or enables software update functionalities that were not installed or available at the time of the vehicle's type-approval, or modifies or deactivates other parameters or functionalities defined by law, and to identify and record the effect. The assessment shall determine (a) whether the information in the approval documents needs to be altered, (b) whether the test results still apply to the vehicle after the alteration, and (c) whether changes to vehicle functions affect the vehicle's type-approval.

Since the vehicle manufacturer's software update management must already be assessed in accordance with UN Regulation No 156 and requires, for example, the manufacturer to judge whether the software update affects the type-approved functions of the vehicle and whether, for example, a new type-approval must be applied for in respect of another function after the change, the approval of such software changes in the modification inspection is not considered necessary.

The provisions on software changes permitted without a modification inspection are amended so that software updates approved by the manufacturer may be provided that do not adversely affect the vehicle’s emissions, steering, brakes or safety may be made without a modification inspection. In addition, software updates approved by the vehicle manufacturer, which result in the vehicle conforming to a type-approved vehicle produced by the same manufacturer as regards the system modified by the software update and the systems essentially related to it, are permitted without a modification inspection. Modifications permitted without a modification inspection also include bug fixes approved by the vehicle manufacturer, as was the case in the previous Regulation. The changes mentioned in the list in the paragraph are all permitted independently of one another.

3.17 Windscreen and other windows

The wording of the section on the windscreen and other windows has been amended to unambiguously express the prohibition of affixing film to the windscreen and the front side windows. There are no approval requirements for film, and its installation may impair fulfilment of the visibility requirements and the operation of various safety systems and other equipment. At the same time, the prohibition on affixing film to the other windows and the prohibition on making other modifications that may cause harmful reflections have been deleted. Film affixed to windows other than windscreens or front side windows rarely causes reflections that compromise road safety, but if this were the case, the removal of such reflective film could be demanded under the general safety requirements in section 3 of the Vehicles Act.

The mention of the signs required by the authorities to be affixed to the windscreen or the front side windows, such as stickers indicating the payment of a toll or the emission level of the vehicle, has been deleted. However, these have been included in section 2.5.1 of the Regulation with the extension of point one in the list of modifications to all vehicles to also cover other required markings on windscreens and front side windows. The purpose of the change is to improve the readability of the Regulation by moving the permitted amendments to the relevant section.

This section provides more detailed information on the calibration of the safety equipment required during replacement of the windscreen and the documentation required for the ensuing modification inspection. The section clarifies the point that replacement of a windscreen with one corresponding to the original and the calibration of safety equipment required as a result may be carried out without the need for a modification inspection.

The requirement for the right-hand rear-view mirror has been clarified for a situation in which rearward visibility is reduced due to a change in the vehicle struc-

ture. The wording of the section has been clarified so that an additional mirror does not need to be fitted if the vehicle already features the rear-view mirror in question. The section has also been amended to make it clearer that the replacement of the rear window does not provide any exemption from the requirement for the presence of a right-hand mirror.

3.18 Vehicle category

The first sentence of this section is clarified as regards the preconditions for changes to the vehicle category. After the modification, the vehicle must meet the requirements that apply to it on the basis of the new vehicle classification and the date of entry into service. The same provision has already been laid down in section 7, subsection 3 of the Vehicles Act, so the provision is informative in nature.

3.18.1 Transforming a passenger car into a utility car

This section has had its wording revised.

In the second paragraph, the wording is clarified to the effect that the load capacity of a van must be equal to or greater than the acceptable passenger load of the vehicle, which means the passenger load acceptable in a modification inspection following the change. It was possible to interpret the previous wording as referring to the passenger load originally authorised for a passenger car.

With regard to the EU Regulation referred to in the third paragraph, the wording is amended to correspond to the term ‘Framework Regulation for cars and their trailers’ as described in the Vehicles Act. Vehicles put into service on or after 9 April 2011 are required to comply with the requirements of the Framework Regulation in respect of, for example, load anchorage points and partitions.

3.19 Building maintenance equipment

Provisions concerning building maintenance equipment temporarily fitted to a vehicle have been added as a separate section. The provisions are justified because fitting such equipment to pick-up trucks for light equipment is a common way to deliver multi-purpose equipment that can be used, for example, to maintain the yards and driveways of properties. The provisions allow the fitting of building maintenance equipment, such as sweeping and gritting equipment and snow ploughs, to vehicles on which such equipment is used on a seasonal basis to be approved in a modification inspection. The provisions lay down certain constraints regarding the fitting of such equipment to vehicles, so that their approval process in a modification inspection does not require an exemption from Traficom when these constraints are complied with. Fitting building maintenance equipment and the structures intended for its installation to a vehicle may result in the vehicle not complying in all respects with the requirements applicable at the time of its entry into service, which is why it is necessary for the Regulation to take into account exceptions to the technical requirements applicable to the vehicle that may be accepted in a modification inspection following the fitting of building maintenance equipment to the vehicle.

The first paragraph states that building maintenance equipment intended to be temporarily fitted to a vehicle and the structures intended for its installation may be approved in a modification inspection, which should have been permitted previously as well, provided that, after the modification, the vehicle meets the requirements that applied to it on the date of its entry into service or later.

Newer cars are increasingly equipped with front and rear radar or camera systems designed to avoid collisions and improve the safety of other road users. Fitting building maintenance equipment or the structures intended for its installation to a vehicle must not unnecessarily interfere with the operation of the vehicle's radar systems or pose a risk to other road users, such as pedestrians.

Lighter vehicles are used for various property maintenance tasks on a seasonal basis. The vehicle may be mainly used for transportation, but it may need to be used for clearing or gritting a property's yards and driveways in winter and for purposes such as sweeping in spring and autumn. In such a case, building maintenance equipment is intended to be fitted to the vehicle only temporarily and can be changed regularly on the vehicle according to need, as described above. Since the vehicles are mainly used for the purpose of carrying passengers or goods, there is no justification for automatically exempting them from equipment and systems designed to improve road safety. The requirement for a manufacturer's statement explaining how the building maintenance equipment can be fitted in such a way as to minimise interference with the operation of electrical safety equipment is justified, because other special purpose vehicles may also be granted exemptions from certain safety equipment under EU type-approval procedures if the manufacturer demonstrates that the vehicle, as a special purpose vehicle, cannot meet all the requirements. However, even in such cases, the manufacturer shall endeavour to meet the requirements as fully as possible to the extent appropriate, in accordance with the principle of proportionality.

It is stipulated in this section that a change in the width of the vehicle caused by building maintenance equipment and its attachments shall not exceed 500 mm. It has also been clarified in the section that when the dimensions change, the dimensions generally allowed for road use must not be exceeded.

The section also makes it possible to exceed the technical axle masses allowed for the vehicle when using building maintenance equipment, provided that a certificate issued by the vehicle manufacturer of exceeding the masses is presented in the modification inspection and any related conditions are recorded in the vehicle's registration data. Allowing such modifications for vehicles with a total mass not exceeding 7 500 kg can be considered justified, as the axle masses originally approved for larger vehicles are so great that they should suffice for the fitting of building maintenance equipment.

The section also requires the modifications to be entered in the register, indicating the modifications approved in the modification inspection and any conditions associated with them, e.g. for the purposes of future monitoring of the modifications. Such conditions may include, for example, providing the identification details of the approved equipment, or making the modifications required in the manufacturer's instructions to the vehicle's structure or safety systems.

3.20 High-voltage system

A separate section on high-voltage systems has been added to the Regulation, stating the conditions for replacing the traction batteries of electric and hybrid vehicles with batteries different from the original. This section requires that a certificate issued by the vehicle manufacturer on the suitability of the traction battery for the vehicle undergoing modification is presented at the time of the modification and that the altered details are recorded in the vehicle register when the modification inspection is conducted. The purpose of the provision is to facilitate the replacement of the traction battery of electric and hybrid vehicles with one that differs from the original and which may, for example, have a longer range, or with a cheaper replacement part when replacing the battery. Limiting batteries to the options offered by the vehicle manufacturer is justified, as a freer approach to the replacement of traction batteries could pose a risk to safety. This provision is an exception to the Regulation on technical requirements for motor vehicles and their trailers, which, according to the current wording of section 3.9, states that, for vehicles in categories M and N equipped with one or more electric traction motors with an operating voltage of at least 60 volts DC or at least 30 volts AC, a report by an expert approved in a modification inspection, demonstrating that the vehicle meets at least the requirements equivalent to UN Regulation No 100, shall be accepted as sufficient proof of compliance with the safety requirements of the electric power train.

4 Modifying the structure of vehicles with a technically permissible maximum mass exceeding 7500 kg

Section 4 of the Regulation and its subsections apply to the modification of the structure of vehicles in category N_2, N_3, M_1 and M_3 and vehicles of a similar nature registered in the category ‘other’ and weighing more than 7 500 kilograms. Vehicles in category M2 have a gross vehicle mass not exceeding 5 tonnes, and their modification is therefore subject to the requirements of section 3 of the Regulation.

At the beginning of section 4, there is a clarification that the conformity of the changes referred to in the subsections of that section may be verified with inspections carried out by an inspector, unless otherwise specified in the Regulation. For example, modifications carried out in accordance with the manufacturer's instructions are specifically provided for in several sections, and the inspector must be presented with the manufacturer's instructions in order to verify compliance in such cases.

4.2 Modification of the body structure

The heading of section 4.2 is changed from ‘body structure’ to ‘modification of the body structure’. The purpose of the change is to clarify the provision by harmonising the content for ‘light’ and ‘heavy-duty’ vehicles. The text on underrun protection and lateral protection at the end of the section on the modification of the body structure is shortened to only refer to compliance with the requirements applicable on the date of the vehicle’s entry into service or subsequent requirements. The purpose is to clarify that this provision does not provide for exemptions from the underrun and lateral protection requirements due to changes to the body structure.

4.3.1. Engine modification or replacement

A report on the strength of the engine fastenings is now required in addition to earlier requirement of being appropriate. The requirements for the report on strength have already been defined earlier and require the demonstration of sufficient strength with calculations. Alternatively, sufficient strength can be demonstrated by equivalence.

Point 3 in the list is amended so that modifications to engine power must also take into account modifications that reduce it. Such modifications may affect, for example, the gross combination mass of the towing vehicle, and the revision of the provision is therefore justified.

4.3.2 Exhaust emissions after engine replacement or modification

The clerical error in the first sentence of paragraph 7 is corrected. The text in this section erroneously refers to a modification of exhaust emissions when the intention is to refer to demonstrating compliance with emission requirements in cases where modifications not approved by the vehicle manufacturer are made to the vehicle's engine management software, or when a separate software component is installed in the vehicle without changing the vehicle's propulsion.

4.3.3. Measuring vehicle noise

The heading of the section has been changed from ‘car noise limit values’ to ‘measuring vehicle noise’. This section of the Regulation has been harmonised with the corresponding section for light vehicles. The provision on the method for measuring the noise as stated in the section is amended so that it does not refer to measurement method A in UN Regulation No 51, which is no longer present in more recent UN Regulations. The method of measurement for a stationary vehicle provided in that UN Regulation is still required. Measuring the noise of a vehicle in motion at the vehicle testing sites in accordance with the requirements of the UN Regulation is not possible in practice. The Regulation also specifies that a sound level meter may be used as a measuring instrument in accordance with the Regu-

lation of the Finnish Transport and Communications Agency on the facilities and equipment of an inspection site. The requirement for a sound level meter under the above-mentioned provision complies with the same standard as required by UN Regulation No 51, but the measuring instrument category required by the UN Regulation is 1 and testing sites are required to have a measuring instrument in category 2.

4.8 Tyres and rims

The provision in this section, which, under section 104, subsection 4 of the Road Traffic Act, allows tyres to be fitted to a vehicle that limit the permissible axle mass in use to less than the technically permissible mass for the axles, is supplemented by the provision in the same section of the Road Traffic Act, stipulating that the tyres must, however, be such that it is possible to load the whole vehicle to the permissible mass on the road without exceeding the load-bearing capacity of the tyres. A provision has also been added to allow the rims to be modified in accordance with the instructions given by the rim manufacturer. The purpose of this provision is to clarify the situation regarding the modification of the rim structure and to prohibit the modification of such components and their approval without guidelines provided by the rim manufacturer.

4.9 Electrical systems

Provisions have been added concerning modifications to the electrical systems installed in the vehicle. Under the section, it is permitted to approve in a modification inspection the removal of electrical safety equipment originally fitted to a vehicle, provided that such electrical safety equipment is not necessary according to the requirements in force at the time of entry into service and the vehicle is modified to correspond to a reference vehicle without such safety equipment. In connection with the modification inspection required by the modification, an obligation has been added for the inspector to record the details of the removal of the electronic safety equipment in the register, so that, for example, in the event of a change of ownership, the buyer is aware of the modification made to the vehicle's safety equipment.

The provision regarding taking into account the effects of changes to the vehicle's electrical systems on the operation of complex electronic systems has also been simplified. Furthermore, the illustrative list of the effects of adding axles, changing the wheelbase, or changes to the vehicle’s intended use that affect the centre of gravity has been deleted.

4.11 Software

Section 4.11 on software changes is amended to reflect the current state of the implementation of modifications. Vehicle systems, equipment and features are increasingly being modified with software changes, including wirelessly over a remote connection. United Nations Economic Commission for Europe Regulation No 156 defines software update management procedures for vehicles type-approved in accordance with the same Regulation. According to the requirements, the manufacturer shall, inter alia, have in place a procedure to assess whether a software update adds, modifies or enables software update functionalities that were not installed or available at the time of the vehicle's type-approval, or modifies or deactivates other parameters or functionalities defined by law, and to identify and record the effect. The assessment shall determine (a) whether the information in the approval documents needs to be altered, (b) whether the test results still apply to the vehicle after the alteration, and (c) whether changes to vehicle functions affect the vehicle's type-approval. Since the vehicle manufacturer's software update management must already be assessed in accordance with UN Regulation No 156 and requires, for example, the manufacturer to judge whether the software update affects the type-approved functions of the vehicle and whether, for example, a new type-approval must be applied for in respect of another function after the change, the approval of such software changes in the modification inspection is not considered necessary.

The provisions on software changes permitted without a modification inspection are amended so that bug fixes approved by the manufacturer that do not adversely affect the vehicle's emissions, steering, brakes or safety may be made without a modification inspection. In addition, software updates approved by the vehicle manufacturer, which result in the vehicle conforming to a type-approved base vehicle produced by the same manufacturer as regards the system modified by the software update and the systems essentially related to it, are permitted without a modification inspection. Heavy-duty vehicles in particular are approved in several stages or equipped after type approval. However, the UN Regulation on software updates concerns the type-approval of a vehicle, which, in the case of heavy-duty vehicles in particular, is used for the type-approval of the base vehicle. For the purposes of Framework Regulation (EU) 2018/858 on cars and their trailers, 'base vehicle' means any vehicle that is used at the initial stage of a multi-stage type-approval. Modifications permitted without a modification inspection also include bug fixes approved by the vehicle manufacturer, as was the case in the previous Regulation. The changes mentioned in the list in the paragraph are all permitted independently of one another.

4.12 Windscreen and other windows

The wording of the section on the windscreen and other windows has been amended to unambiguously express the prohibition of affixing film to the windscreen and the front side windows. There are no approval requirements for film, and its installation may impair fulfilment of the visibility requirements and the operation of various safety systems and other equipment. At the same time, the prohibition on affixing film and making alterations to other windows that may cause harmful reflections has been deleted. Film affixed to windows other than windscreens or front side windows rarely causes reflections that compromise road safety, but if this were the case, the removal of such reflective film could be demanded under the general safety requirements in section 3 of the Vehicles Act.

The mention of the signs required by the authorities to be affixed to the windscreen or the front side windows, such as stickers indicating the payment of a toll or the emission level of the vehicle, has been deleted as from section 3.17. However, these have been taken into account in section 2.5.1 at the beginning of the Regulation by extending point 1 on the list of modifications to all vehicles to also cover other required markings on windscreens and front side windows in addition to permitting a parking permit to be affixed to the windscreen.

As with section 3.17, the provision on the calibration of safety equipment required in connection with the replacement of the windscreen and the report required for the ensuing modification inspection has also been made more specific. The section clarifies the matter that the replacement of a windscreen with one corresponding to the original and the necessary calibration of safety equipment may be carried out without the need for a modification inspection.

4.13 Vehicle category

The first sentence of this section is clarified as regards the preconditions for changes to the vehicle category. After the modification, the vehicle must meet the requirements that apply to it on the basis of the new vehicle classification and the date of entry into service. The same provision has already been laid down in section 7, subsection 3 of the Vehicles Act, so the provision is informative in nature.

The section also amends the reference to the EU Framework Regulation for cars and their trailers as defined in the Vehicles Act.

4.14 Road maintenance equipment

Provisions concerning temporarily fitted road maintenance equipment are added to the Regulation as a separate item. The provisions allow the fitting of road maintenance equipment, such as sweeping and gritting equipment and snow ploughs,

to vehicles to be approved in a modification inspection if such equipment is used on a seasonal basis. The provisions lay down certain constraints regarding the fitting of such equipment to vehicles, so that their approval process in a modification inspection does not require an exemption from Traficom when these constraints are complied with. Fitting road maintenance equipment and the structures intended for its installation to a vehicle may result in the vehicle not complying in all respects with the requirements applicable at the time of its entry into service, which is why it is necessary for the Regulation to take into account exceptions to the technical requirements applicable to the vehicle that may be accepted in a modification inspection following the fitting of road maintenance equipment to the vehicle. The requirements are broadly equivalent to the provision in section 3.19 of the Regulation (Building maintenance equipment) for vehicles with a total mass not exceeding 7 500 kg, excluding the option to exceed the masses temporarily, which is not considered necessary for vehicles with a total mass exceeding 7 500 kg.

5 Modification of the trailer structure

In the past, the provisions on changes to the structure of a trailer have referred to the application of the relevant sections on cars. However, the characteristics of cars and trailers, and changes to their structures, differ to such an extent that there has been confusion about how to apply the regulations for cars to trailers. For this reason, provisions concerning the modification of the structure of trailers have been set forth in the Regulation. A provision has been added at the beginning of the section to the effect that the conformity of the changes provided for in the subsections of the section may be verified by means of inspections carried out by an inspector in a modification inspection, unless other proof of conformity is required in certain other sections.

5.1 O1 and O2 category trailer

The subsections of section 5.1 provide for the modification of the structure of lightweight trailers, i.e. trailers in categories O_1 and O_2. Such trailers are lighter and simpler in structure than O_3 and O_4 category trailers, which is why the Regulation has separate sections for modifications of O_1 and O_2 category trailers and O_3 and O_4 category trailers.

5.1.1 Frame

Provisions have been added concerning the extension of the vehicle frame and the reports or statements required of it in the modification inspection. For verifying the appropriateness of the modification, the section requires a welding report to verify the appropriateness of the connection method and an account of the distribution of masses, which is to ensure the stability of the trailer in a normal loading situation.

5.1.2 Modification of the body structure

As regards modification of the body structure, the earlier Regulation referred to the modification of a car’s body structure, providing, inter alia, for the installation of a flip or a removable front-end or the transformation of the car into a convertible, and the provisions are therefore not suitable for the modification of the structure of a trailer.

The Finnish Transport and Communications Agency has received some questions about modifying the body structure of light trailers, for example whether the installation of a hot tub or sauna would be permitted. According to the Regulation, changes to the body structure of a trailer are permitted if they do not pose a risk and the vehicle can be shown to comply with the requirements affected by the change during the modification inspection or on the basis of reports presented to the inspector. The modifications to the body structure authorised under the Regulation are not intended to be limited to any particular type of modification: the purpose is to permit such modifications if, after the modification, the vehicle meets the relevant requirements. For example, if a change to the body structure

affects the vehicle’s category, the vehicle must meet the requirements for the new vehicle category.

A strength calculation and welding report on the strength of the body structure and its attachment to the frame shall be presented in the modification inspection. The altered unladen mass of the vehicle shall be determined during the modification inspection by weighing it and measuring the altered dimensions. The width of the body structure may be altered by no more than 200 mm, and in any case not beyond the width permitted for the vehicle on the road.

5.1.3 Axles and the underframe

This section allows the axles of light trailers to be replaced with axles suitable for the vehicle's axle masses. The replacement axle must be suitable for at least the axle masses recorded in the vehicle's registration data. If modifications are made to the braking devices in connection with a change of axles, the requirements of section 5.1.5 shall be applied to the brake modifications.

In addition, the vehicle may have shock absorbers replaced with ones that are suitable for the vehicle's registered axle masses. Shock absorbers shall not restrict the suspension travel. The purpose of the amendment is also to enable the replacement of shock absorbers with parts that differ from the original shock absorbers if, for example, the purpose of the modification is to acquire certain features with different types of shock absorbers, such as the replacement of conventional absorbers using oil with gas versions.

5.1.4 Suspension

This section permits the replacement of the springs and suspension type of light trailers with those suitable for the vehicle and its registered masses.

The modification of the suspension type shall be carried out with prefabricated components, with the exception of the spring mounts, and a statement from the spring manufacturer indicating the masses for which the springs are suitable shall be required in the modification inspection.

The purpose of this amendment is to facilitate the modification of trailer suspensions to a type different from the original. The change is justified because, for example, some users need to change the suspension to suit its intended use more effectively.

5.1.5 Brakes

This section permits the modification of the vehicle's brakes to match the original in terms of their effective dimensions, provided that the thrust head is also compatible with the other braking devices and a statement to that effect is provided by the manufacturer of the braking devices. The amendment also aims to enable the use of spare parts sold as accessories when replacing braking devices. This amendment is justified because, for example, braking devices identical to the original are no longer available for some older trailers. It has also been made clearer that the operation of the vehicle's brakes must be tested in a modification inspection to the same extent as in a periodic roadworthiness test.

5.1.6 Tyres and rims

This section stipulates that the tyres and rims of a vehicle may be replaced with components suitable for the vehicle and its axle masses, provided that the components do not come into contact with the vehicle's structures in any suspension position. In line with the provisions on a car's tyres and rims, another provision has been added to allow the rims to be modified in accordance with the rim manufacturer's instructions. The purpose of this provision is to clarify the situation regarding the modification of the rim structure and to prohibit the modification of such

components and their approval without guidelines provided by the rim manufacturer.

5.1.7 Lights

Together with section 5, section 5.1.7 of the Regulation permits the approval of changes to the lights if, following modifications to the vehicle, an inspection carried out by an inspector can establish that the requirements in force at or after the date of entry into service have been met.

5.1.8 Vehicle category

This section permits changes to the vehicle category of trailers on the same conditions as for cars, with the difference that conformity can be checked by an inspector. Light trailers are subject to fewer and often less strict requirements than cars, which is why conformity can often be verified with checks performed by the inspectors themselves.

5.2 O3 and O4 category trailer

Clarifications have been made regarding the manufacturer's certificates issued by merged manufacturers in the case of an acquisition, and the possibility of accepting manufacturer's instructions issued by the acquiring company in an inspection has been added for these situations.

5.2.1 Frame

This section stipulates that modifications to the vehicle frame shall only be made in accordance with the manufacturer's instructions. The welding seams created in connection with bodywork modifications shall be presented to the inspector without surface treatment, zinc coated, or painted. The provision is justified from the perspective of road safety, because the frames of heavy-duty trailers undergo great stress and it must be possible to inspect the modifications with sufficient precision to check their strength and the appropriateness of the changes.

5.2.2 Body structure

The section stipulates that reports in accordance with the Regulation on cargo baskets and securing a load must be presented of changes to the cargo basket in the modification inspection.

After a modification to the body structure, the vehicle shall comply with the requirements for underrun protection and lateral protection in force at or after the date of the vehicle’s entry into service. The relevant provisions have already been issued in an Agency Regulation, and there is no reason to repeat them. Instead, reference should be made to the earlier Regulation.

5.2.3 Axle, axles and underframe

Provision is made for changes to the axle, axle system, and chassis of heavy-duty trailers. The requirements have been introduced as a separate section following the reworking of the previous reference structure in the Regulation, but the content of the section corresponds to the current legal situation with regard to the changes.

5.2.4 Steering equipment and suspension

This section provides for the conditions for the approval of modifications to the steering equipment and suspension of heavy-duty trailers. It is broadly in line with the requirements under the previous reference structure for heavy-duty vehicles.

5.2.5 Brakes

This section provides for the conditions for the approval of brake modifications to heavy-duty trailers. This section is in line with section 4.7 on the brakes of heavy-duty vehicles, and the reworking of the reference structure aims to clarify the re-

quirements applicable to trailers while maintaining the previous legal situation. A mitigation simplifying the demonstration of conformity, e.g. in cases where the anti-lock braking system on older trailers is replaced with electrically controlled brakes, has been added to the end of the section. The conformity of the modification could be demonstrated in these cases by presenting, during the modification inspection, a statement from the vehicle manufacturer indicating which type-approved vehicle the modified vehicle corresponds to with regard to the braking system after the modification.

5.2.6 Tyres and rims

This section lays down the conditions for the approval of tyres and rims for heavy-duty trailers. This section is in line with section 4.8 on the tyres and rims of heavy-duty vehicles, and the reworking of the reference structure aims to clarify the requirements applicable to trailers while maintaining the previous legal situation.

In line with the car tyre and rim provisions, another provision has been added to allow the rims to be modified in accordance with the rim manufacturer's instructions. The purpose of this provision is to clarify the situation regarding the modification of the rim structure and to prohibit the modification of such components and their approval without guidelines provided by the rim manufacturer.

5.2.7 Electrical systems

The first paragraph concerns the vehicle's electrical safety equipment, as defined in section 1.2, subsection 21 of the Regulation. The provision concerning the removal of electrical safety equipment has been amended in the same way as for other categories of vehicles.

Changes to the vehicle’s electrical systems shall take into account the connections between complex electronic systems, e.g. if axles are added, if the wheelbase is changed or if the intended use of the vehicle is changed so that the its centre of gravity is moved higher. The interaction between the systems shall also be taken into account if some of the systems are disabled. The vehicle manufacturer's report on the operation of the systems after the modifications must be presented in the modification inspection.

5.2.8 Lights

The wording of this section corresponds to section 4.10, which provides for corresponding changes to the lights of heavy-duty vehicles and which previously had to be complied with also when changing the lights of heavy-duty trailers. With the reworking of the reference structure, the provisions have been moved to a separate section, which is expected to clarify the conditions for approving trailer modifications, even though there has been no change in the current legal situation.

5.2.9 Vehicle category

The wording of this section corresponds to section 4.13 on a similar change of vehicle category for heavy-duty vehicles, which previously had to be complied with for changes to heavy-duty trailers. With the reworking of the reference structure, the provisions have been moved to a separate section, which is expected to clarify the conditions for approving trailer modifications, even though there has been no change in the current legal situation.

6 Vehicle propulsion modifications

The provision in section 6 concerning the demonstration of the emission requirements for vehicles after changes to the propulsion power by means of an inspection equivalent to the inspection of the emissions during a periodic roadworthiness test or with reference to the requirements applicable to the approval of a vehicle at the time of entry into service is amended to apply to changing the propulsion power from petrol to diesel or vice versa. For other propulsion changes, the demonstration of emissions is provided for in the subsections of section 6.

An informative text has been added concerning the modification of the high voltage system of electric and hybrid vehicles. The text indicates that these requirements can be found in section 3.20 of the Regulation (High-voltage system).

6.1 Electric propulsion system

It is specified that the section on the modification of the brakes and power steering only applies to vehicles equipped with hydraulic vacuum-assisted brakes. The amendment is justified because changes to other braking systems, where replacing the propulsion power produced by a conventional combustion engine with an electric pump, could pose significant risks from a road safety perspective. In practice, this means that heavy-duty lorries and buses equipped with compressed-air brakes are excluded from the exemption. The technical requirements for compressed-air brakes include those that call for a certain level of performance from an air compressor, and it is not justified to allow exemptions from the demonstration of compliance as provided for in the Regulation on the structure and equipment of vehicles. Ensuring the functioning of the power steering of heavy-duty vehicles is justified, because in the event of a failure, the steering power increases significantly more than in a similar situation in a car or van. Therefore, it is justified to also require a reliable report on the functioning of the power steering in the manner intended by the manufacturer after modifications.

Compilation of statements and opinions

To be supplemented after the consultation procedure.

Assessment of the impact of the regulation

It is thought that the Regulation will facilitate the work of vehicle inspectors by clarifying the conditions for the approval of modifications to vehicles. The aim of the amendment is to standardise the quality of modification inspections, to ensure the equal treatment of inspection customers in modification inspections and to ensure that vehicles on the road are safe and do not cause additional negative environmental impacts.

The reworking of reference structures, in particular for trailers, is expected to facilitate and harmonise the work of vehicle inspectors in terms of the permitted modifications, the ways in which they have been implemented, and their approval.

Regulation schedule

The Regulation enters into force on x.x.2025.

Communication regarding the Regulation

The initiation of the project and the decision on the regulation project have been published on the Finnish Transport and Communications Agency website and communicated by email to the bodies registered in the notification list regarding preparation of the road transport regulation. The complete Regulation will be published on the Finnish Transport and Communications Agency website and Finlex. The issuing of the Regulation will be communicated on the website of the Finnish Transport and Communications Agency and individually to stakeholders.