Modification of tractor propulsion system, tyres and rims

Background to the Regulation and legal basis

On 22 August 2023, the Finnish Transport and Communications Agency issued the Regulation Modification of tractor propulsion (TRAFICOM/285315/03.04.03.00/2022), which entered into force on 1 September 2023.

The current Regulation lays down the technical requirements for the modification of the propulsion system of a tractor and the reports required for the modification of the propulsion system. The requirements for the modification of the propulsion system will not be changed in connection with this regulatory project.

The project adds technical requirements for the modification of tyres and rims of a category T1, T2, T3, C1, C2 or C3 vehicle, as well as provisions on the demonstration of conformity of the changes in a registration or modification inspection.

Previously, no specific provisions were laid down in legislation on the conditions under which the tyre size of a tractor may be modified. The Agency’s authorisation to issue regulations is laid down in the Vehicles Act (82/2021).

According to section 7, subsection 1 of the Vehicles Act, unless otherwise provided for in, or pursuant to, the Vehicles Act, a vehicle and its parts, systems, components and separate technical units must comply with the technical requirements applicable in Finland at the time of entry into service of the vehicle. Alternatively, the technical requirements applied in Finland since the time of first entry into service of the vehicle may be applied. The conformity assessment of a used vehicle, part, system, component and separate technical unit shall take into account natural wear and tear due to use which does not have a greater than minor impact on safety or environmental performance.

Under section 7a, subsection 1 of the Vehicles Act, notwithstanding the provisions of subsections 1-4 of section 7, a vehicle may only be modified in such a way that it does not meet the technical requirements referred to in those provisions if the modification does not have any more than a minor impact on safety or environmental performance. The Finnish Transport and Communications Agency may issue regulations on alternative technical requirements to the technical requirements referred to in section 7, subsection 1, taking into account the intended purpose of the vehicle and the practical feasibility of any modifications to the vehicle, as well as regulations on additional requirements to ensure the safety of the vehicle and a low level of adverse environmental implications after the modifications.

The Finnish Transport and Communications Agency may also issue further provisions on the technical requirements for the modification of a vehicle referred to in section 7a and the associated required reports, as well as on minor exceptions and alternative requirements to be applied to the demonstration of conformity and the requirements pursuant to sections 139 and 144, for reasons of expediency. The risk to safety, health or the environment caused by derogations and optional requirements may not increase above a negligible level.

The obligation to inspect a modified vehicle is laid down in section 143 of the Vehicles Act. Under subsection 1, paragraph 1, a motor vehicle and a vehicle connected to it or its trailer must be approved in a modification inspection prior to its use in traffic, if the vehicle’s structure has been modified in such a way that the change has a slightly greater impact on the safety or emissions of the vehicle, for example.

According to section 143, subsection 3 of the Vehicles Act, the Finnish Transport and Communications Agency may issue further provisions on the changes referred to in subsection 1 which require a modification inspection and on minor changes that do not require a modification inspection.

The requirements for a tractor, including those for tyres and rims to be fitted to such a vehicle, are laid down in particular in Regulation (EU) No 167/2013 of the European Parliament and of the Council on the approval and market surveillance of agricultural and forestry vehicles (framework Regulation for tractors and their trailers) and, preceding it, Directive 2003/37/EC of the European Parliament and of the Council on type-approval of agricultural or forestry tractors, their trailers and interchangeable machinery, together with their systems, components and separate technical units and repealing Directive 74/150/EEC, and the delegated acts relating to those acts. In addition, the requirements for tractors have been laid down in the UN Regulations annexed to the Agreement Concerning the Adoption of Uniform Conditions of Approval and Reciprocal Recognition of Approval for Motor Vehicle Equipment and Parts (Treaty Series of the Statute Book of Finland 70/1976), drafted by the United Nations Economic Commission for Europe.

In line with the Framework Regulation for tractors and their trailers, the Regulation does not apply to the approval of individual vehicles. However, under section 78 of the Vehicles Act, a T category vehicle may not be individually approved; instead, a new T category vehicle sold or first registered for road use must be EU or EC type-approved or subjected to a national small series type-approval. A registration inspection is possible as a measure similar to individual approval for an individual vehicle, but in the absence at national level of requirements deviating from the type-approval requirements, the registration inspection must show that the tractor meets the same requirements as those required for type-approval.

The requirements for the tyres on a tractor are provided in Article 34 of (framework) Delegated Regulation (EU) 2015/208 for tractors and their trailers, which refers to Annex XXX of the same Regulation. According to the Regulation, tractor tyres are primarily those for agricultural and forestry vehicles approved under UN/ECE Regulation 106, or Framework Regulation 167/2013. Tyres for cars and their trailers, as well as for vehicles in category L, may also be approved for fitting on a tractor if the vehicle is designed for special operating conditions that require them. The vehicle type-approval authority and the technical service conducting approval tests must assess the suitability of the tyres for their intended use.

In the case of different quad tractors, it has been widely recognised that tyres for L-category vehicles approved under UN/ECE Regulation 75 are best suited to their purpose. Indeed, it is only tyres such as these that are frequently type-approved for smaller tractors on the market.

Car tyres (UN/ECE Regulations 30, 54 and 117) are less frequently found on tractors, as special operating conditions where their use on the tractor would be safer than any other tyre option provided for in the requirements are less common. Some tractors used in property management have car tyres approved already at the time of type-approval, because their specific purpose of use is road use only.

In Finland, the use of a tractor on the road in winter conditions, where the use of car tyres would be justified, may be classed as special operating conditions. Tractors are mainly type-approved for the entire European market and Finland, together with the other Nordic countries, has not proved to be the right size of market for manufacturers to have promoted the approval of car tyres for tractors. There is a great deal of research on the performance and viability of winter tyres for cars, in particular as a result of various market-driven tyre tests and government-led studies. The viability of tractors or L-category tyres in winter road conditions has barely been tested.

The Regulation therefore makes it possible to fit car tyres on certain tractors. However, the use of car tyres is not limited to winter tyres only, since it has not been considered necessary to prohibit their use in other conditions.

Drafting of the Regulation

The Regulation was drafted by the Finnish Transport and Communications Agency. Notification of the commencement of the drafting project to amend the Regulation was posted on the Finnish Transport and Communications Agency's website and also sent by email to subscribers to the mailing list for the drafting of new road transport regulations.

Written opinions on the draft Regulation are requested between 27 May and 22 July 2024. The request for opinions was posted on the Finnish consultation service lausuntopalvelu.fi. In addition, the request for opinions was sent by email to subscribers to the mailing list for the drafting of new road transport regulations. Stakeholders and citizens have also had the opportunity to comment on the project as the preparation progresses.

The finalised Regulation will be published in Finlex and on the website of the Finnish Transport and Communications Agency. Notification of the issuance of the Regulation will be posted on the Finnish Transport and Communications Agency's website and also sent by email to subscribers to the mailing list for the drafting of new road transport regulations.

The draft Regulation was notified according to the notification procedure for technical regulations (Directive (EU) 2015/1535 of the European Parliament and of the Council).

Feedback from consultation

Assessment of the impact of the Regulation

Further provisions on the modification of tractors have not previously been issued under the Vehicles Act. In principle, therefore, the modification of tractors has been limited, in accordance with the general rule laid down in section 7 of the Vehicles Act, to modifications which satisfy the requirements at the time of entry into service of the vehicle or any subsequent requirements. The provisions on the modification of tyres and rims on a tractor are intended to clarify the requirements for tyres and rims retrofitted to the tractor.

The aim of this Regulation is to clarify the legal situation and to support the practical application of the law by issuing more detailed provisions on the prerequisites for the modification of tractor tyres and rims. The Police, inspectors, agencies selling tractors and ordinary citizens have all said that they want the requirements to be made clearer. In particular, they wanted clarification of the conditions under which the use of tyres approved in different ways is permitted on the tractor.

The Regulation allows for less stringent requirements for the type-approval of tyres and rims to be fitted to a tractor.

The Regulation is also predicted to result in fewer adverse environmental impacts by enabling vehicles to use quieter tyres with lower rolling resistance in the future.

In addition, it is thought that the adoption of the Regulation will to contribute to road safety, in particular with regard to winter conditions.

For example, the use on smaller tractors of tyres approved for cars would be justifiable on the basis of road safety and, in part, the avoidance of adverse environmental effects, but the legality of their use on the road is not clear.

The adoption of the Regulation would contribute to the aims of reducing the regulatory burden by not requiring reliance solely on heavy vehicle type-approval requirements when changing the tyre size of a tractor.

A regulation of the Finnish Transport and Communications Agency's may not, due to matters related to regulatory powers, regulate warranty or liability matters related to vehicles. However, it must be ensured that consumers are aware of the warranties and liabilities associated with their vehicle after the conversion.

Detailed rationale

The title of the Regulation would be amended to refer in the future to changes in the vehicle's tyres and rims in addition to the modification of the propulsion system.

1 Scope

In the case of propulsion modifications, the Regulation concerns the modification and replacement of an engine of a category T1, T2, C1 or C2 vehicle with a design speed not exceeding 60 km/h and the demonstration of conformity of these changes in a registration or modification inspection. No changes have been made to this in this regulatory project.

With regard to changes to tyre size, section 1 of the Regulation is amended to extend the scope of the Regulation to include the change of tyres and rims of a category T1, T2, T3, C1, C2 or C3 vehicle with a design speed not exceeding 60 km/h to tyre sizes other than those approved in the type-approval or previously recorded in the register. These categories of vehicles cover the vast majority of tractors registered in Finland.

According to the framework Regulation for tractors and their trailers, category T1 tractors, which fall within the scope of this Regulation, are wheeled tractors, with the closest axle to the driver having a minimum track width of not less than 1,150 mm, with an unladen mass, in running order, of more than 600 kg, and with a ground clearance of not more than 1,000 mm; for tractors with a rotating driving position (rotating seat and steering wheel), the axle closest to the driver is equipped with the highest diameter tyres.

According to Article 4 of the Framework Regulation for tractors and their trailers, tractors of category T2 are wheeled tractors with a minimum track width of less than 1,150 mm, with an unladen mass, in running order, of more than 600 kg, with a ground clearance of not more than 600 mm; if the height of the centre of gravity of the tractor (measured according to ISO 789–6:1982 in relation to the ground) divided by the average minimum track for each axle exceeds 0.90, the maximum design speed shall be restricted to 30 km/h.

Category T3 comprises wheeled tractors with a mass in running order not exceeding 600 kg.

In addition, the category of tractors is followed by the letter ‘a’ for wheeled tractors with a maximum design speed not exceeding 40 km/h and the letter ‘b’ for wheeled tractors with a maximum design speed exceeding 40 km/h.

Category C comprises track-laying tractors propelled by endless tracks or by a combination of wheels and endless tracks, with subcategories defined by analogy with category T. A category C tractor may be fitted with tyres in addition to the tracks, so the Regulation also applies to their tyre changes.

2 Definitions

New indents are added to the section to cover the definitions of tyre and rim modifications. In addition, the definitions are re-listed. There are no substantive changes to the definitions in the present Regulation, i.e. to the definitions of load-bearing structure (new indent 2), natural gas (new indent 6), rated power (new indent 8), SCR system (new indent 9) and power measurement certificate (new indent 12).

The new indent 1 concerns tyres intended for cars and their trailers, which means tyres approved in accordance with UN/ECE Regulations 30, 54 or 117, and tyre-stud combinations intended for vehicles of categories M and N and their trailers in accordance with the Technical Requirements and Type-Approval Regulation of the Finnish Transport and Communications Agency for studded tyres on vehicles (TRAFICOM/383441/03.04.03.00/2022, the so-called Studded Tyre Regulation).

The new indent 3 concerns the definition of tyres intended for L-category vehicles, which refers to tyres approved under UN/ECE Regulation 75.

According to the new fourth indent, a tractor used in agriculture and forestry means a vehicle within the meaning of section 7 of the Act on Fuel Charges (1280/2003).

According to the new indent 5, meanwhile, tyres for use in and approved for agriculture and forestry mean tyres approved in accordance with UN/ECE Regulation 106 or Regulation (EU) 2015/208 or other agricultural and forestry tyres, or tyres for power-driven machines or other tyres used for purposes of work which are not approved as tyres for motor vehicles and their trailers or as tyres for L-category vehicles.

Under the new indent 7, a tractor equipped as a power-driven machine means a vehicle within the meaning of section 6, subsection, paragraphs 1 and 2 of the Act on Fuel Charges.

According to the new indent 10, tyre width means the metric width marked on the tyre or, if this is not available, the nominal width checked against STRO (Scandinavian Tire & Rim Organisation) or ETRTO (European Tyre and Rim Technical Organisation) standards. According to the new indent 11, a tyre’s outer diameter, meanwhile, means the normal diameter indicated for the relevant tyre size according to the relevant STRO or ETRTO tyre standards.

3 General requirements

Section 3 introduces provisions on the obligation to present a vehicle for a modification inspection following changes to the vehicle’s tyres and rims. As a matter of principle, modifications to the vehicle must be presented for a modification inspection unless otherwise provided by law or stipulated. The Regulation therefore lays down further conditions for modifications to tyres and rims which do not require the vehicle to be presented for a modification inspection.

4 Changes to the registered information

The section is amended to take account of future changes in the register resulting from changes in tyre sizes. For example, the tyre size is entered in the register, but it must include, inter alia, load capacity and speed endurance as additional information relating to the tyre's properties.

5 Replacement of a tractor engine

No changes have been made to this section of the Regulation.

6 Conversion of a tractor engine to gas-powered

No changes have been made to this section of the Regulation.

7 Impact of the modification of an engine on power, speed and noise

The title of this section is clarified as regards the effect of the modification of an engine on power, speed and noise. The section was previously headed Impact of a modification on power, speed and noise. The section exclusively relates to the modification of propulsion, so the heading is changed to refer more clearly to propulsion changes.

8 Changes in the structure of a tractor in connection with engine replacement or modification

No changes have been made to this section of the Regulation.

9 Modification of tractor tyre size

The conditions for changing the tyre size of a tractor reflect the corresponding requirements for cars, their trailers and L-category vehicles (motorcycles, tricycles and quadricycles), but take into account the specific characteristics of the structure and use of tractors.

Tyre sizes for tractors in the transport register

The transport register and related notification obligations and responsibilities are governed by the Act on Transport Services (320/2017).

For bigger tractors, a large number of different tyre sizes and their combinations are often type-approved. The manufacturer may limit to a specific vehicle version and individual the relevant tyre sizes in their certificate of conformity. In addition, only some of the tyre sizes approved for the tractor and authorised by the manufacturer may have been recorded in the register during the registration inspection or when the prior notification was made.

Since the type-approval of tractors has, as a general rule, only been compulsory since 1 July 2009, the older register entries may have just recorded the details of the tyres on the tractor at the time of the registration inspection, although the manufacturer may have also permitted the use of other tyre sizes for the tractor. Instead of type-approval, it is also possible to present the vehicle for a registration inspection.

The tyre sizes recorded in the tractor register may be supplemented in part by adding all the tyre sizes recorded by the manufacturer in the certificate of conformity without a modification inspection, by correcting the technical details made by the vehicle inspection station.

The Regulation also lays down requirements for the use on the tractor of tyres deviating from the tyre sizes recorded in the register.

9.1 General conditions for tyre size modifications

In principle, the tractor's tyres and rims may be replaced without presenting the vehicle for a modification inspection under the conditions set out in section 9, unless otherwise provided by law or stipulated. For example, cyclic service under Regulation (EU) No 167/2013 of the European Parliament and of the Council of 5 February 2013 on the approval and market surveillance of agricultural and forestry vehicles could contribute to limiting changes affecting speed. The vehicle could also, without further regulation, exceed the dimensions or masses permitted under the Road Traffic Act. In addition, following modification, vehicles might fall within the scope of another regulation of the Agency, such as the Regulation on Special Transport and Special Transport Vehicles (TRAFICOM/420073/03.04.03.00/2019), in which case the conditions of that Regulation must be complied with instead of this Regulation.

9.1.1 Prerequisites for changing the tyre size of agricultural and forestry tractors

It is not necessary or reasonable to regulate with particular precision a change of the tyres of a tractor used in agriculture or forestry and equipped as a power-driven machine, since tractors used for these purposes are often highly multifunctional and the required tyre options can vary enormously. The tractor may be equipped with wider tyres, e.g. when driven on a wet field or in a forest.

The set of tyres used depends in practice on the instructions given by the tractor manufacturer on the tyre sizes which may be used on the tractor in consideration of matters of transmission and structural durability. Modern agricultural and forestry tractors are, as a rule, four-wheel drives, so that the durability of the transmission system means that tyre sizes must in any case be very precise.

However, the requirements are that the design speed may not be increased beyond the given tolerance. The tolerance is the same as that given in Annex III to Delegated Regulation (EU) No 205/2018 supplementing Regulation (EU) No 167/2013 (framework Regulation for agricultural and forestry vehicles) for determining design speed for type-approval requirements. Due to variations in tyre sizes, tolerances must be allowed. The increase in speed due to an increase in the outer diameter of the tyre is offset by tyre wear.

The cut-off point has been established because the classification of tractors and the driving licence requirements are based on the tractor's design speed and there is no particular reason to increase the speed.

For safe tyre installation, it is important to follow the instructions on tyre and rim compatibility provided by the manufacturer, STRO (Scandinavian Tire & Rim Organisation) or ETRTO (European Tyre and Rim Technical Organisation). This ensures that the tyre remains on the rim.

A clarification has been added to the section to allow tractors for use in agriculture and forestry and equipped as power-driven machines to also be fitted with tyres approved for cars and L category vehicles.

Agricultural and forestry tractors and tractors equipped as power-driven machines are defined in the Act on Fuel Charges (1280/2003).

9.1.2 *Prerequisites for changing the tyre size of a tractor used for other than agricultural and forestry purposes*

Tractors are not only used in the situations referred to in section 9.1.1 but also for property management and gardening activities and, increasingly, as a general means of transport. Such tractors are typically used repeatedly and for long periods on the road, often in densely populated areas.

As a general means of transport, tractors have become more widespread, especially among young drivers, as the right to drive a tractor of up to 60 km/h is granted at the age of 15.

Because tractors are mainly used on the road, their users are often young, and they are not subject to periodic roadworthiness testing, the regulations are more precise than in section 9.1.1.

In particular, the statistics show an increasing number of accidents in the case of quad tractors, so the requirements have been designed to improve the safety features of these vehicles and to avoid adverse impacts.

However, the requirements are not so strict as to cause drawbacks associated with tractors used for property management or gardening work. For these tractors too, the requirements offer clarity in order to provide clear room for manoeuvre to replace tyres and rims.

Tyre changes on these tractors must not result in an increase in the vehicle's design speed. In practice, the outer diameter of the tyre on the driving axle may not be increased compared to the greatest figure recorded in the register. The manufacturer of the tractor has designed the control of the vehicle for a certain maximum speed. Furthermore, the vehicle classification of tractors, and therefore the requirements for driving licences, are based on the maximum design speed for the vehicle, meaning an increase in speed cannot be allowed. A tolerance of 3 km/h and 5% is given, corresponding to the tolerance allowed in Annex III to Commission Delegated Regulation (EU) 2015/208 for the determination of the design speed in type-approval testing of tractors. The dimensions of tractor tyres, especially those intended for off-road conditions, may be imprecise due to production techniques, so some tolerance should be allowed for modification. The tolerance values given for type-approval testing are also based on this. The design speed decreases naturally with tyre wear.

Any change in the width of the tyre or rim may not result in an increase in the overall width of the vehicle by more than 51 mm. As a general rule, the widest point on tractors is at the tyres or mudguards. Mirrors, direction-indicator, front, side, rear and parking lights and foldable components such as liftable footrests and flexible mudguards are excluded from the width measurement for the tractor as recorded in the register.

According to Framework Regulation (EU) No 167/2013, for approved tractors, the definition of width is set out in Delegated Regulation (EU) 2015/208 and the older definition is from ISO 612-1978, which is the same in terms of content. In practice, this requirement, together with the requirement limiting the change to the track, also restricts a change to the width of the tyre, but gives a margin for adjustment in the choice of tyre size. The tolerance given the width measurement also facilitates the choice of tyre size. The tolerance allows for an increase in width due to change to the track. Changes beyond the width tolerance may be accepted in a modification inspection under the conditions set out in section 9.2.

A change of 51 mm to the track is permitted when rims are being replaced in the case of tractors equipped with rollover protection structures, such as a safety bar, frame or cab. The dimensions of the rims are often in inches and, unlike in the case of cars, the rims are not sold in sizes measured to the nearest millimetre. The re-

quirement allows a change of size of one inch either side of the vehicle. It must be possible to change the track slightly, so that, for example, tyres which are narrower than the original tyre size can be fitted without an excessively undesirable effect on the stability of the vehicle and to prevent the wider tyres and rims from striking vehicle structures. Just changing the rims for those that widen the track, with the tyre sizes remaining the same, can facilitate the installation of snow chains on smaller tractors. Any major change to the track will lead to an increase in the stress on vehicle bearings and steering joints and the size of the change is therefore restricted. A bearing under stress may break unexpectedly while the vehicle is being driven, which may result in the vehicle's tyre becoming detached. Loose steering joints can lead to reduced control of the vehicle. A track that is too wide may also lead to the vehicle being affected by an unfavourable steering movement when uneven ground is being driven over on just one side of the tyres. Excessive narrowing of the track is restricted by the vehicle's structures. A tyre and rim fitted too far inwards would strike the vehicle's structures and therefore be in breach of the requirements of the Regulation. Tractors are not subject to periodic roadworthiness tests, unless they are used for licensed transport. In addition, they are largely self-maintained, so the play may not necessarily be noticed or corrected in time. Any further change to the track is not considered necessary.

The track width for a tractor without a rollover protection structure may be increased by 51 mm but may not be reduced. The types of tractors with no protective structure are usually quad tractors steered using guide rods, or rather old tractors. The same criteria apply to a change in the track of such a tractor as what is stated in the previous paragraph. The requirement ensures that, following the change, the stability of the tractor is not impaired. In practice, if a tractor overturns it will cause serious injuries to the driver and any passenger, so no undermining of the stability of the vehicle can be allowed.

It should be noted that the classification between categories T1 and T2 under Framework Regulation EU 167/2013 is based on the track measurement, so that any change that would affect the classification of the vehicle requires the vehicle to be presented for a modification inspection.

The permissible change to the nominal rim diameter with no obligation to have a modification inspection conducted is 26 mm, i.e. it is in practice possible to fit a rim one inch larger or smaller. The change is the same as that for cars in the Regulation on modifications to their structure. A change of 51 mm, i.e. a two-inch change in the nominal rim diameter is permitted in a modification inspection.

The change in the nominal rim diameter compared to that recorded in the register allows the use of a different rim size when a tractor is being used with different sets of tyres or pairs of tyres in the absence of a separate modification inspection. For example, in the case of summer tyres and winter tyres, or if the tractor is equipped for a different purpose, rims and tyres of different sizes can therefore be used.

In addition, the rims must be suitable for the wheel hubs. Rims with oval bolt holes, suitable for different pitch circles, may not be fitted to a vehicle. Only matching sections intended to reduce the centre hole of the rim may be installed between the vehicle's hub and the rim.

With some tractor quads, the installation of snow chains is possible only by widening the track, and spreader sections are known to be used for this. However, there is currently no approval procedure for spreader sections, so there is no background information on their durability. The fitting of these sections is therefore not included among the permitted tyre changes. Rims that widen the track and narrower tyres also provide more space if snow chains cannot be fitted otherwise.

As in other vehicle categories, the replacement of tyres and rims is subject to the condition that they do not strike the vehicle structures in any steering or suspension position. This requirement is also applicable to tractors.

Tyres must be appropriate and safe for the rims, and therefore the requirement is to comply with the instructions on compatible tyres and rims from STRO (Scandinavian Tire & Rim Organisation), ERTRO (European Tyre and Rim Technical Organisation) or the tyre manufacturer.

With no modification inspection, it is permissible for tractors other than those with guide rods to be used on freely rotating axles, i.e. in practice also tyres for cars or quadricycles on the front axle, provided that the conditions in this section are met. For example, on more traditional tractor models, where the driven rear tyres are larger than the freely rotating front tyres, car tyres can therefore be used on the front axle. Such tractors could thus benefit from a wider range of winter on the market for use on the front axle. Tyres on a freely rotating axle do not affect the vehicle's design speed, so it is not necessary to assess the tyre change in the modification inspection.

The ratio between the height of the cross-section and the width of a tyre intended for motor vehicles and their trailers and used on a tractor may not be less than 60%. This requirement restricts the use of particularly low profile tyres on tractors. Tractors have, in principle, high profile tyres and the manufacturer has taken this into account when designing the controllability of the vehicle. A vehicle changes its behaviour when its profile changes and the impact of a change in profile on the tractor's cornering stability has not been studied and no specific need for very low-profile tyres has been identified, so a cut-off point has been established. The requirement is not particularly strict: the 60 % profile is fairly neutral and is the general tyre profile used in cars.

At the time of entry into force of the Regulation, the requirements for splash guards are only for tractors with a design speed exceeding 60 km/h and must continue to be met in the event of tyre changes. It may only be possible to comply with the requirements by modifying the mudguards or fenders, so their modification must be permitted in order, for example, to allow the fitting of a wider tyre. The splash guard or anti-splash system on other tractors may be modified when a tyre is changed, for example by installing wider fenders.

9.2. Modifications permitted in a modification inspection

The tractor must be presented for a modification inspection if tyres for cars and trailers are fitted to its trailer axle(s). A tyre fitted to the trailer axle affects the vehicle's design speed and this should therefore be assessed in the modification inspection. Tyre sizes which comply with different size standards but often deviating from the previous registration data should be recorded in the vehicle registration information in order to ensure clear traffic control for all parties involved.

During the preparation phase, the Finnish Transport and Communications Agency weighed the limitation of the authorisation of car tyres for different types of tractors. The manoeuvrability and controllability of quads are designed by the manufacturer to work with certain types of tyres. Considerations of safety dictate that the fitting of tyres intended for cars and their trailers is excluded from the tyre changes permitted for tractors with guide rods in the draft Regulation.

Tractors must, in principle, be fitted with tyres for agricultural purposes but for tractors intended for special operating conditions, tyres for L-category vehicles or for cars and their trailers may be acceptable based on an assessment by the approval authority and the technical service.

As a general rule, tyres intended for L-category vehicles are approved for tractors with guide rods. Car tyres are not known to be approved for any tractor steered by means of a guide rod.

For vehicles registered as quadricycles of category L7e (ATVs), the requirement is to use tyres principally intended for L-category vehicles in accordance with the Delegated Regulation (EU) No 3/2014 supplementing the framework Regulation (EU) No 168/2013 and, as in the case of tractors, agricultural tyres or tyres for cars and their trailers could also be approved on the basis of an assessment by the approval authority and the technical service, if specific operating conditions so require. Car tyres are not known to be type-approved for any L7e quadricycle of the handlebar type.

The Finnish Transport and Communications Agency is not aware that manufacturers of quadricycles controlled by means of guide rods have used car tyres on the vehicles that they manufacture to any great extent.

The fitting of tyres for cars and their trailers entails a change in the steering and controllability of the quad. In normal driving situations, the difference may be undetected, but the impact in extreme situations can be unexpected. The effect of car tyres on the controllability of quads in extreme conditions has not been independently studied.

The most common accident with a tractor quad is loss of control of the vehicle and its toppling over as a result. The most serious injuries occur when the situation has resulted in the rollover of the quad.

The Finnish Transport and Communications Agency has investigated the availability of low tread tyres specifically designed for quads in accordance with UN/ECE Regulation 75, in addition to tyres with aggressive tread patterns for off-road use. There are also studded tyres for quads on the market. This Regulation also covers and authorises the fitting of tyres for those that deviate from the originals recorded in the register. If it is difficult to find tyres fit for purpose to match the tyre sizes recorded in the original register for the quad tractor, other tyre sizes may be used subject to the conditions permitted under the Regulation.

The Finnish Transport and Communications Agency is of the view that it is safer for tractor quads to use quad tyres rather than car tyres in order to maintain the controllability and manoeuvrability of the quad tractor, as designed by its manufacturer.

In the case of tractors other than those fitted with guide rods, there is a similar situation where they are originally designed by the manufacturer to be equipped with off-road tyres and thus the same reasoning would apply to them as tractors with guide rods, although they are equipped with protection structures in case of rollover. Such tractors are also, as a rule, wider and the centre of gravity remains unchanged when driven, so the risk of rollover is lower.

The Finnish Transport and Communications Agency is of the view that the other benefits of car tyres justify allowing the use of such tyres on tractors other than those steered by means of guide rods.

A change of 51 mm, i.e. in practice a change to the nominal rim diameter of two inches, can be accepted in the modification inspection. For example, in small side-by-side seating tractors, the usual 12-inch rim could increase to 14 inches in connection with a modification inspection. The rim size subjected to a modification inspection may be changed in accordance with section 9.1.1 by a further one (1) inch, so the maximum permissible change in nominal rim diameter could be three (3) inches in total. In the case of the use of tyres intended for cars and their trailers, the requirement in section 9.1.1 for the ratio of the height of the cross-section must be observed, which may restrict the nominal rim diameter change.

If a tractor is used for licensed transport and is equipped with a tachograph, it must be calibrated if its operation is affected by a change in tyre size. In practice, such a change with no obligation to carry out a roadworthiness test would represent a reduction in the design speed of more than 3 km/h and 5%. A tractor used for licensed transport means, for example, a vehicle used for the transportation of goods. Licensed transport is laid down in chapter 2, section 3 of the Act on Transport Services (320/2017).

Entry into force of the Regulation

The Regulation shall enter into force on ...2024.