Council of the European Union

Brussels, 17 October 2025
(OR. en)

12271/4/25
REV 4

LIMITE

TRANS 347
CODEC 1166
ENV 776
MI 600

PUBLIC

Interinstitutional File:
2025/0097 (COD)

WORKING DOCUMENT

From:	General Secretariat of the Council
To:	Delegations
On:	2 October 2025
No. prev. doc.:	12271/3/25 REV 3
No. Cion doc.:	8255/25 + ADD 1
Subject:	Proposal for a Directive of the European Parliament and of the Council amending Directive 2014/45/EU on periodic roadworthiness tests for motor vehicles and their trailers and Directive 2014/47/EU on the technical roadside inspection of the roadworthiness of commercial vehicles circulating in the Union - Further revised presidency compromise

In view of the Land transport working party on 23 October 2025, delegations will find in **Annex 2** a further revised Presidency compromise on the above proposal. New proposals compared to the previous version of the compromise (ST 12271/3/25 REV 3) are marked in **bold-underline,** for additions, or in ~~strikethrough~~, for deletions.

Annex 1 contains an overview on suggested changes to item 10 (ADAS and other safety related systems) of Annex I (Directive 2014/45/EU) and Annex II (Directive 2014/47/EU), consisting mainly of grouping certain points under the existing thematic topic.

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Annex 1

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Item 10 list (Commission proposal)	**Suggested new location and topic** (shaded grey: components of item 10 after restructuring)	Comments
Item 10.1	Item 4.1.1 – Headlamps - Condition and operation	
Item 10.2	Item stays, together with Intelligent speed assistance	Adaptive cruise control
Item 10.3		Adaptive deflectors have been deleted. Many sport cars today have spoilers, but it will be almost impossible for the inspector to assess, if the spoiler is necessary, for the vehicle to be stable
Item 10.4	Item 7.1.5 - Airbag	Item will be renumbered (7.1.4)
Item 10.5	Item stays	Adaptive headrest
Item 10.6	Item stays	Active hood
Item 10.7	Item stays	Automatic hold function
Item 10.8	Item 4.1.5	Levelling devices (where mandatory)
Item 10.9	Item stays	Automatic emergency braking
Item 10.10	Item 1.6 - Anti lock braking system (ABS)	
Item 10.11	Item 4.2. – Front and rear position lamp etc.	Has been inserted as a new item 4.2.2.1 – front and rear position lamp.
Item 10.12	Item 2.6 - Electronic power steering (EPS)	
Item 10.13	Item 2 - steering	Has been inserted as a new item 2.7. - electronic four-wheel steering.
Item 10.14	Item 5.3.2 - Shock absorbers	
Item 10.15	Item 1.7 - Electronic brake system (EBS)	
Item 10.16	Item 7.12 - Electronic stability control (ESC) if fitted/required	

Item 10.17	Item 4.1.1 – Headlamps - Condition and operation	
Item 10.18	Item 7.10 – Speed limitation device (if fitted/required)	
Item 10.19	Item 7.1 safety belts/buckles and restraint systems	Has been inserted as a new item 7.1.3 – Safety belt tensioners and belt limiters combining existing items 7.1.3 and 7.1.4 to a new item 7.1.3
Item 10.20		Taillight switching has been deleted. If, for example, a stoplight is defective and then uses the normal taillight (with increased voltage) as a "stoplight", then the reason for failure should only be a defective stoplight.
Item 10.21	Item 4.1.1 – Headlamps – Condition and operation	
Item 10.22	Item stays	Steering assist
Item 10.23	Item 5.3.5 – Air suspension	
Item 10.24	Item 4 – Lamps, reflectors and electronic equipment	Has been inserted as a new item 4.15. - Emergency braking signal.
Item 10.25	Item stays	Pre crash system
Item 10.26	Item 5.2 – Wheels and tyres	Has been inserted as a new item 5.2.3.1. - Tyre pressure warning
Item 10.27		Traction control has been deleted as this is not seen as a vital part to inspect.
Item 10.28	Item 2.6 – Electronic power steering (EPS)	
Item 10.29	Item stays	Roll over protection (active)
Item 10.30	Item 6.1.3 – Fuel tank and pipes (including heating fuel tank and pipes)	
Item 10.31	Item stays	Start up aid
Item 10.32	Item 1 – Braking equipment	Has been inserted as a new item 1.1.24. - Trailer stabilization.

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Item 10.33	Item 1.1.19 – Endurance braking system (where fitted or required)	
Item 10.34	Item stays	Differential lock deactivation
Item 10.35	Item 2 – Steering	Has been inserted as a new item 2.8. - Electronic controlled leading and trailing axle.
Item 10.36	Item 2.2.2 – Steering column/yokes and forks and steering dampers	In Annex II in Directive 2014/47/EU "forks" has been removed as motorcycles are not in the scope of RSI
Item 10.37	Item 1 – Braking equipment	Har been inserted as a new item 1.1.25 - Bus stop brake.
Item 10.38	Item 9 – Supplementary tests for passenger carrying vehicles categories M_2 and M_3	Has been inserted as a new item 9.7.1. – Kneeling.
Item 10.39	Item stays	Steering brake
Item 10.40		Tyre pressure control has been deleted because this is not seen as a vital system to inspect. If this system is defective, then the tyre will be flat, or if the vehicle is equipped with a tyre pressure warning system, then the system will indicate a low pressure.
Item 10.41	Item 6.1 – Chassis or frame attachments	Has been inserted as a new item 6.1.10. - Sliding joint stabilisation.
Item 10.42	Item 1.1.6 – Parking brake activator, lever control, parking brake ratchet, electronic parking brake	
Item 10.43		Front wheel locking device has been deleted because Member States, in accordance with Article 6, paragraph 3 in Directive 2014/45/EU, shall determine the items and appropriate method of testing.

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Item 10.44	Item 4.1.1 Headlamps – Condition and operation	
Item 10.45	Item 1.1.6 – Parking brake activator, lever control, parking brake ratchet, electronic parking brake.	
Item 10.46	Item stays as part of assisted steering	Lane change assistance
Item 10.47	Item stays as part of assisted steering	Lane keeping assistance
Item 10.48	Item 7.13 – eCall (if fitted, in accordance with EU type approval legislation)	
Item 10.49	Item stays	Active roll stabilization
Item 10.50	Item 3.1 – Field of vision	
Item 10.51	Item stays	Automatic vehicle alerting
Item 10.52	Item 4.12 – Non obligatory lamps and retro reflectors (X^2)	
Item 10.53	Item stays as part of assisted steering	Automated lane keeping system (ALKS)
Item 10.54	Item stays	Turning assistant (Blind spot detection system)
Item 10.55	Item 7.9 – Tachograph (if fitted/required)	
Item 10.56	Item stays, together with Adaptive cruise control	Intelligent speed assistance
Item 10.57	Item stays	Reversing detection
Item 10.58	Item stays	Driver drowsiness and attention warning
Item 10.59	Item stays	Advanced driver distraction warning
Item 10.60	Item stays	Event data recorder
Item 10.61	Item stays	Automated driving system
Item 10.62	Item stays	Driver availability monitoring systems (automated driving)

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Annex 2

2025/0097 (COD)

Proposal for a

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

amending Directive 2014/45/EU on periodic roadworthiness tests for motor vehicles and their trailers and Directive 2014/47/EU on the technical roadside inspection of the roadworthiness of commercial vehicles circulating in the Union

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 91(1) thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national parliaments,

Having regard to the opinion of the European Economic and Social Committee[1],

Having regard to the opinion of the Committee of the Regions[2],

Acting in accordance with the ordinary legislative procedure,

Whereas:

(1) Provisions regarding roadworthiness testing have been part of Union legislation for decades. They are however subject to gradual harmonisation. Union law to that effect was last revised in 2014 with the "Roadworthiness Package"[3]. To improve enforcement, consecutive revisions

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1 OJ C , , p. .

2 OJ C , , p. .

3 Directive 2014/45/EU of the European Parliament and of the Council of 3 April 2014 on periodic roadworthiness tests for motor vehicles and their trailers and repealing Directive 2009/40/EC (OJ L 127, 29.4.2014, p. 51, ELI: http://data.europa.eu/eli/dir/2014/45/oj), Directive 2014/47/EU of the European Parliament and of the Council of 3 April 2014 on the

of those rules gradually extended the scope of vehicles to be tested and the scope of the harmonised rules, including those on roadside inspections and vehicle registration documents. They specified and updated the required test methods, procedures and related documents to reflect technological progress.

(2) Directive 2014/45/EU sets out the minimum content and frequency of testing for each vehicle category, except for motorcycles, where Member States have a broader discretion. That Directive also sets out minimum requirements for the independence of testing centres and training of inspectors, testing equipment, and the content of the roadworthiness certificate. The validity of that certificate, as well as any other proof of testing, is to be recognised by Member States for the purposes of free circulation and re-registering a vehicle already registered in another Member State.

(3) Directive 2014/47/EU complements Directive 2014/45/EU by requiring Member States to carry out roadside inspections on heavy commercial vehicles above 3.5 tonnes, including buses, lorries, and their trailers with the aim of inspecting 5% of the Union fleet each year. Those inspections include an initial roadside inspection and, if deemed necessary by the inspector, a more detailed technical roadside inspection. The items tested in the detailed inspections are the same as those tested at periodic tests and may also include the inspection of cargo securing. Where a major or dangerous deficiency is found during a roadside inspection, the Member State where the inspection took place is required to notify the Member State of registration in order to enforce the repair of the vehicle that has been suspended from traffic.

(4) Due to rapid technological progress, some of the current rules for testing vehicles have become outdated and should be amended to adapt them to newer technologies and vehicles**, including electric vehicles and hybrid electric vehicles**. The testing framework should further contribute to reducing emissions from transport and to accelerating and benefiting from digitalisation in the transport sector. The framework should also be better adapted to developments in evolving vehicle technology, fleet composition and testing methods.

(5) The digital transition is one of the Union's priorities. In the context of updating the current rules on testing vehicles, it is also important to **largely** harmonise, simplify and digitalise administrative procedures and to remove the remaining barriers to free movement. These barriers include the non-recognition of periodic technical inspections conducted in Member States other than the Member State of registration. This can impede the free movement of people within the Union and their right to take up residence in a Member State other than the one where the vehicle is currently registered.

(5a) Testing during the life cycle of a vehicle should be relatively simple, quick and inexpensive, while at the same time effective in achieving the objectives of the Directives.

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technical roadside inspection of the roadworthiness of commercial vehicles circulating in the Union and repealing Directive 2000/30/EC (OJ L 127, 29.4.2014, p. 134, ELI: http://data.europa.eu/eli/dir/2014/47/oj) and Directive 2014/46/EU of the European Parliament and of the Council of 3 April 2014 amending Council Directive 1999/37/EC on the registration documents for vehicles (OJ L 127, 29.4.2014, p. 129, ELI: http://data.europa.eu/eli/dir/2014/46/oj).

(6) Some of the current emission test methods are inadequate for testing vehicles with modern air pollutant emission control technology and low baseline emissions. There is also potential to further reduce pollutant emissions through more appropriate tests and checks. Applying the best available**, proportionate and suitable** test methods would help Member States reach stricter air quality standards, namely the limit values for the protection of human health set by Directive (EU) 2024/2881 of the European Parliament and of the Council[4], especially for fine particulate matter and nitrogen oxides (NO_X).

(7) The number of fatalities and serious injuries on Union roads remains at an unacceptably high level, with 20 400 deaths in 2023. Therefore, further action is required in order to reach the targets for road safety set out in EU road safety policy framework 2021-2030[5].

(8) ~~*Deleted.*~~**Testing the roadworthiness of motorcycles has clear benefits for road safety. This has also been demonstrated by the number of Member States that already include motorcycles in their roadworthiness testing systems. Member States may exclude motorcycles with an engine capacity above 125 cm^3 from obligatory periodic testing if they have put in place effective alternative road safety measures such as roadside inspections.**

(9) According to the feedback received from Member States and industry representatives, the current legal requirements aiming to ensure that the technical data needed to carry out periodic technical inspections are available to testing centres have proven to be ineffective. It is therefore necessary to specify, without prejudice to communication requirements under Regulation (EU) 2018/858, that a minimum set of information should be made available free of charge and without undue delay to ~~[~~the competent authorities or centralised data centres tasked by the authorities **of one or more Member States** with managing access to that information ~~]~~, which should then ensure that the testing centres also have the required access.

(10) **For M1 and N1 vehicles, t**~~T~~he Member State of registration should recognise an EU temporary roadworthiness certificate issued by another Member State for a period of six months, provided that the subsequent periodic technical inspection is conducted in the Member State of registration. **This means that the vehicle must return to the Member State of registration within the validity period of the EU temporary roadworthiness certificate to undergo the subsequent periodic technical inspection.** That will contribute to facilitating the free movement of people while respecting the basic requirement that vehicles are generally to be tested in the Member State of registration. **To ensure clarity on the vehicle's status, the Member State undertaking the test shall communicate the rest result within a short period of time via MOVE-HUB to the Member State of registration.**

(11) For the same reason, a Member State of registration should be able to choose to recognise roadworthiness certificates issued by another Member State. If it does so, it should inform the other Member States and the Commission. The roadworthiness certificates concerned should be considered by all Member States as equivalent to certificates issued by the Member State of registration.

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4 Directive (EU) 2024/2881 of the European Parliament and of the Council of 23 October 2024 on ambient air quality and cleaner air for Europe (recast), (OJ L, 2024/2881, 20.11.2024, ELI: http://data.europa.eu/eli/dir/2024/2881/oj).

5 SWD(2019) 283 final https://transport.ec.europa.eu/system/files/2021-10/SWD2190283.pdf.

(12) To combat fraud related to the mileage of used vehicles, recording odometer readings is included in periodic roadworthiness testing. Odometer manipulation can impact road safety, as buyers are misled about the level of wear and tear and thus about the maintenance needs, and the vehicle is likely to have missed the required service and maintenance. However, the effectiveness of the measure has been limited because the first roadworthiness test **for vehicles of category M1 or N1** is only carried out four years after the first registration in most Member States and only every two years after that in many of them. To further tackle odometer fraud, Member States should ensure that odometer readings are taken whenever repairers authorised by vehicle manufacturers carry out maintenance or repair work on a vehicle of category M1 or N1 and that the readings are recorded in a national database or vehicle register. Authorised repairers operate within a manufacturer's distribution system. In order to further increase the number of data points in the odometer history of vehicles, Member States may provide recording access to that same national database or vehicle register to other service providers, in particular independent repair or maintenance workshops**, and also to insurance companies or car rental companies**. Member States should make those readings available to the competent authorities and the holder of the registration certificate, and should provide ~~those readings, which may include an assessment,~~ **the odometer histories (data and/or assessment)** to inspectors. In addition, Member States should require manufacturers or their representatives to transmit the odometer readings of connected vehicles every three months. In order to enable consumers to detect odometer fraud before purchasing a vehicle, Member States should also inform consumers of the availability of odometer history to the holder of the registration certificate, in particular in the context of vehicle sales. To enhance the availability of statistics on vehicle use without additional reporting burden on national administrations, Member States should make the odometer readings available to the national statistical institutes and to the Commission (Eurostat).

(13) Although electric vehicles, including hybrid electric vehicles, have been in circulation for many years, and their numbers have been steadily increasing, there are no harmonised rules on the roadworthiness testing of the high-voltage systems of such vehicles, resulting in Member States developing different test protocols. To ensure the safe operation of such vehicles throughout their useful life and avoid conflicting testing practices in the Member States, relevant test items should be included in the minimum requirements for the contents of and recommended methods for testing.

(14) **Today, modern vehicles incorporate many new advanced electronic systems to become safer and to assist the driver. Those systems may be non obligatory or obligatory for type approval where** Regulation (EU) 2019/2144 of the European Parliament and of the Council[6] requires the installation of a variety of advanced driver assistance systems, designed to avoid crashes and reduce casualties and severe injuries. However, the expected benefits

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[6] Regulation (EU) 2019/2144 of the European Parliament and of the Council of 27 November 2019 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 (OJ L 325, 16.12.2019, p. 1, ELI: http://data.europa.eu/eli/reg/2019/2144/oj).

will not be achieved if these systems deteriorate over time or are subject to tampering. Therefore, those new electronic systems should be included in periodic and roadside inspections to ensure that they deliver their expected safety benefits. To ensure the safe operation of automated vehicles and the testing of electronic safety systems throughout their useful life, relevant items to be tested should be included in the minimum requirements concerning the contents of and recommended methods for testing set out in the respective Annexes to Directives 2014/45/EU and 2014/47/EU.

(15) While road transport contributes to significant shares of harmful air pollutant emissions in particular NO_X and fine particles, the current testing methods for exhaust emissions are not adapted to more recent vehicles and technologies. Commission Recommendation (EU) 2023/688[7] was a first step in harmonising particle number measurement during roadworthiness testing. In the interests of public health, environmental protection and fair competition, the relevant items to be tested during periodic technical inspections set out in the annexes to Directives 2014/45/EU and 2014/47/EU should now include particle number measurement and the measurement of NO_X.

(15a) Recall campaigns for vehicles in accordance with Regulation (EU) 2018/858 on the approval and market surveillance of motor vehicles and their trailers, and with Regulation (EU) 2023/988 on general product safety, depend on follow-up by vehicle owners **or the holder of the registration certificate** to be effective. Roadworthiness tests could facilitate vehicle recall campaigns in case the deficiency which has led to the campaign represents a serious risk to safety or health. Therefore, a link between recall campaigns and roadworthiness tests should be established. Depending on the classification by the Member State authorities of the deficiency underlying the recall campaign, the lack of follow-up to a recall campaign may lead to a request to the owner **or the holder of the registration certificate**, expressed in the roadworthiness certificate, to present the vehicle, and in other cases, to the refusal of a test or to an unfavourable test result. The establishment of that link depends on a reliable and updated information flow from manufacturers to the authorities and subsequent to the test centres, and is without prejudice to rules ensuring that the vehicle owner has been properly informed of the recall campaign and the opportunity to present the vehicle for verification and repair.

(16) *Deleted.*

(17) ~~*Deleted.*~~ **Since light commercial vehicles are used more intensively than private cars, often in densely populated areas, they should be inspected for emissions after two years, either as part of the periodic technical inspection or, if the first periodic technical inspection occurs later than after two years, as roadworthiness test for emissions.**

(18) In addition to scheduled periodic technical inspections, vehicles should also be subject to a roadworthiness test if the safety or environmental systems and components of the vehicle have been significantly altered or modified. This includes cases where there is a change of vehicle category or emission levels, for example following the installation of a particle filter or when a vehicle is converted to run on an alternative fuel. **This does not prevent or restrict national**

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[7] Commission Recommendation (EU) 2023/688 of 20 March 2023 on particle number measurement for the periodic technical inspection of vehicles equipped with compression ignition engines, (OJ L 90, 28.3.2023, p. 46, ELI: http://data.europa.eu/eli/reco/2023/688/oj).

regulation on approval of modified or altered vehicles registered in the respective Member State.

(19) To facilitate the digital transition and to reduce costs for testing centres, roadworthiness certificates should be issued in a standardised electronic format. A paper printout of the roadworthiness certificate should also be issued to the person who presented the vehicle for testing upon request. Member States should accept both formats when the ownership of the vehicle is changed or when the vehicle is re-registered in another Member State. **This also applies to** ~~For similar reasons,~~ the report of the more detailed roadside inspection ~~should be issued in electronic format~~.

(20) It should be ensured that personal data processing for the implementation of this Directive complies with the data protection framework of the Union, in particular Regulation (EU) 2016/679 of the European Parliament and of the Council[8]. In line with the principle of data protection by default, verification techniques not requiring transmission of personal data on individual certificates should be employed for the verification of roadworthiness certificates.

(21) To provide for adequate follow-up of deficiencies where a vehicle fails a periodic technical inspection due to one or more major deficiencies in a Member State other than the Member State of registration, the result of the test and the deadline for the subsequent test should be notified to the Member State of registration and recorded in the vehicle register. The deadline for the subsequent test should be no more than two months and should take place in either Member State. In addition, when a vehicle has failed the periodic technical inspection due to one or more dangerous deficiencies, to avoid immediate risks to road safety or the environment, the Member State or competent authority should be able to decide that the vehicle in question is not to be used on public roads and request the Member State of registration to suspend the vehicle's authorisation for use in road traffic, until the deficiencies are rectified. The suspension should be recorded in the vehicle register of the Member State of registration.

(22) Tampering or manipulating a vehicle's emission control system, high-voltage system, including battery management system, silencer, or safety-related systems can cause major or dangerous deficiencies and should be punishable by effective, proportionate, dissuasive and non-discriminatory penalties. Tampering or manipulation involves among other things the deliberate deactivation, modification, or adjustment of vehicle systems and components, with the aim of changing the function as originally specified by the manufacturer, to bypass regulation or technical requirements.

(23) The current requirements set out in Directives 2014/45/EU and 2014/47/EU for Member States to cooperate with each other when implementing those Directives do not enable Member States to check a vehicle's legal and technical status in cross-border situations. To ensure greater effectiveness, including in such situations, Member States should assist one another in implementing the Directive more systematically. Therefore, it is necessary to set out rules on the exchange of information and vehicle data to allow Member States to consult each other's vehicle registers and roadworthiness databases, including the content of

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[8] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (OJ L 119, 4.5.2016, p. 1, ELI: http://data.europa.eu/eli/reg/2016/679/oj).

roadworthiness certificates and technical roadside inspection reports. That exchange should cover as well the certificate of conformity issued under Regulation (EU) 2018/858. Member States may ensure data access according to the rules on data exchange established in that Regulation.

(24) For the exchange of information on vehicles registered in the Union, the MOVE-HUB message exchange platform has been developed by the Commission to interconnect Member States' national electronic registers[9]. The platform currently hosts the interconnection of road transport undertaking registers (ERRU), driving licence registers (RESPER), professional driver training registers (ProDriveNet), tachograph driver card registers (TACHOnet), and the notification of vehicle roadside inspection failures (RSI)[10].

(25) The functionalities of the MOVE-HUB should be extended to enable the necessary exchange of information and vehicle data for the purposes of Directives 2014/45/EU and 2014/47/EU. Member States should therefore connect their electronic systems containing information on roadworthiness certificates, EU temporary roadworthiness certificates and odometer history to MOVE-HUB for the purpose of exchanging messages. Member States may continue to use their own applications or third party applications, including the European Vehicle and Driving Licence Information System (EUCARIS), to connect to the MOVE-HUB electronic system. The exchange of information and data through the MOVE-HUB should be operational within two years after the adoption of the corresponding implementing acts pursuant to Article 16 of Directive 2014/45/EU and Article 18a of Directive 2014/47/EU.

(26) Crises brought about by serious events, occurring inside or outside the Union, may significantly disrupt the operation of its roadworthiness system. During times of crisis, Member States should be able to extend the validity of roadworthiness certificates, including temporary roadworthiness certificates. Subject to the Commission's authorisation, Members States should be allowed to extend the administrative validity of expiring roadworthiness certificates and temporary roadworthiness certificates by six months. Where the crisis persists, it should be possible to further extend the validity.

(27) **Light commercial vehicles are used more intensively than private cars, often in densely populated areas.** Given the increased number of light commercial vehicles in circulation within the Union, to promote a level playing field for commercial operators across the Union and to further improve their safety and environmental performance, light commercial vehicles should also be subject to roadside inspections.

(28) For roadside inspections, the screening of the exhaust emissions of large numbers of vehicles by using remote sensing equipment is an effective measure for identifying high-emitting vehicles. **Experience made in some Member States have demonstrated that the** ~~It increases~~ detection rates **increase** significantly compared to mandatory test methods. Remote sensing

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[9] Commission Implementing Regulation (EU) 2016/480 of 1 April 2016 establishing common rules concerning the interconnection of national electronic registers on road transport undertakings and repealing Regulation (EU) No 1213/2010 (OJ L 87, 2.4.2016, p. 4. ELI: http://data.europa.eu/eli/reg_impl/2016/480/oj).

[10] Commission Implementing Regulation (EU) 2017/2205 of 29 November 2017 on detailed rules concerning the procedures for the notification of commercial vehicles with major or dangerous deficiencies identified during a technical roadside inspection (OJ L 314, 30.11.2017, p. 3, ELI: http://data.europa.eu/eli/reg_impl/2017/2205/oj).

equipment can be used systematically to screen large shares of the vehicle fleet in real on-road conditions. One single remote sensing measurement indicating high emissions above the legal limits could be related to various factors, such as temporary acceleration or a cold engine. However, multiple measurements systematically indicating significantly higher-than-average emissions could indicate a faulty emission control system or unauthorised modifications, such as tampering. Since such defects and modifications generate excessive emissions that pose risks to human health and the environment, they should be repaired, and any tampering should be sanctioned.

(28a) Remote sensing cannot substitute a roadside inspection, but can be used to select vehicles for further roadside inspection. **The verification of the remote sensing measurements may either take place as a** ~~A~~ roadside inspection ~~can be carried out~~ immediately after a remote sensing measurement or in a roadworthiness testing centre ~~in the Member State of registration~~. **Given that remote sensing identifies high-emitting vehicles irrespective of their Member State of registration, the Member State which identified the vehicle and the Member State of registration should cooperate to ensure adequate follow-up, based on harmonised values for high-emitting vehicles.**

(29) The verification at the roadside or in an inspection centre should follow the test methods set out in items 8.1 and 8.2 of Annex II to Directive 2014/47/EU and of Annex I to Directive 2014/45/EU, respectively. This means, for example, that where a diesel car or van equipped with a Euro 5b engine or newer ~~[~~or a Euro VI truck or coach~~]~~ is suspected to emit fine particles above the legal limit at the time of their approval, their emissions should be verified using particle number measurement in accordance with item 8.2.3.1 in the relevant Annex. For diesel vehicles without particle filter, the emissions will be verified using opacity measurement. ~~[~~Verification of NOx emission only applies to vehicles of emission classes Euro VI, 6d-TEMP and newer of categories M and N.~~]~~ Member States should determine the method of verification of exhaust emissions for L-category vehicles. Noise emission should be verified using a sound level meter.

(30) Directive 2014/47/EU specifies a minimum share of heavy commercial vehicles to be tested at the roadside each year in the Union but sets no target at Member State level, with the result that it is difficult to ensure the enforcement of that minimum share. To ensure that roadside inspections of commercial vehicles contribute to improved road safety and reduced air pollution across the Union, each Member State should carry out a total number of initial technical roadside inspections every year, corresponding to at least 5% of the total number of heavy commercial vehicles registered in their territory.

(31) To promote digital transformation and to reduce costs in the transport sector, Member States should require their competent authorities to accept electronic evidence of roadside inspections.

(32) Securing of cargo is crucial for road safety. A visual assessment of cargo securing should be a mandatory part of the initial roadside inspections in all Member States. A more detailed inspection of cargo securing should follow when the inspector so decides based on the outcome of the initial roadside inspection.

(33) To ensure uniform conditions for the implementation of this Directive, implementing powers should be conferred on the Commission to specify: (a) the set of technical information and data necessary for roadworthiness testing that must be made available to the competent authorities, (b) interoperability features and security measures applicable to the QR codes

introduced on roadworthiness certificates, (c) the necessary features and requirements for the format and content of the information and data to be exchanged, ~~and~~ (d) the format in which the data on periodic testing and roadside inspections are to be communicated**, (e) specify methods for the particle number (PN) measurement of positive ignition engines and for the nitrogen oxides (NOX) measurement of compression and positive ignition engines, and (f) set the common limits for exhaust or noise emissions or both that should be used to identify, through remote sensing, high-emitting vehicles when such identification should result in cross-border follow-up.** Those powers should be exercised in accordance with Regulation (EU) No 182/2011 of the European Parliament and of the Council[11].

~~(34) In order to achieve the objectives of this Directive, in particular to adapt the annexes to Directives 2014/45/EU and 2014/17/EU to any technical, operational or scientific developments, the power to adopt acts in accordance with Article 290 TFEU should be delegated to the Commission to (a) specify the methods for the PN measurement of positive ignition engines and for the NO_X measurement of compression and positive ignition engines; and (b) set the common limits for exhaust or noise emissions or both that should be used to identify high emitting vehicles. It is of particular importance that the Commission carry out appropriate consultations during its preparatory work, including at expert level, and that those consultations be conducted in line with the principles laid down in the Interinstitutional Agreement of 13 April 2016 on Better Law-Making[12]. In particular, to ensure equal participation in the preparation of delegated acts, the European Parliament and the Council should receive all documents at the same time as Member States' experts, and their experts should systematically have access to meetings of Commission expert groups dealing with the preparation of delegated acts.~~

(35) The objectives of this Directive, namely, to improve road safety, facilitate the free movement of persons and reduce pollutant emissions cannot be sufficiently achieved by the Member States acting alone as national rules governing those vehicle checks would lead to diverging requirements. Consequently, such objectives are better achieved at Union level by laying down minimum common requirements and harmonised rules concerning periodic technical inspections and technical roadside inspections of vehicles circulating within the Union. Therefore, the Union may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty on European Union. In accordance with the principle of proportionality as set out in that Article, this Directive does not go beyond what is necessary in order to achieve those objectives.

(36) ~~Although data on the operation of roadworthiness testing regimes is available at national level, such data is not available at Union level. That lack of data hampers the analysis and evaluation of the roadworthiness testing system. To address those shortcomings,~~ Member States should, in the implementation of Directive 2014/45/EU, report regularly to the Commission key data on ~~the number of testing centres in each Member State,~~ the total number of vehicles inspected per category, the areas checked~~,~~ **and** the items failed~~, and information on roadworthiness tests conducted on vehicles registered in another Member State.~~ On roadside inspections, the

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[11] Regulation (EU) No 182/2011 of the European Parliament and of the Council of 16 February 2011 laying down the rules and general principles concerning mechanisms for control by Member States of the Commission's exercise of implementing powers (OJ L 55, 28.2.2011, p. 13, ELI: http://data.europa.eu/eli/reg/2011/182/oj).

~~[12] OJ L 123, 12.5.2016, p. 1, ELI: http://data.europa.eu/eli/agree_interinstit/2016/512/oj.~~

current reporting obligations on Member States should be reduced and simplified, with less frequent reporting required.

(37) To minimise the administrative burden while ensuring the usefulness of the reported information, Member States should report on the implementation of Directives 2014/45/EU and 2014/47/EU every three years.

(38) The roadworthiness system has a direct impact on road safety, noise and emissions and should therefore be reviewed periodically. On the basis of the input from Member States' authorities, the Commission should report to the European Parliament and Council on the effectiveness of the provisions of Directive 2014/45/EU, including those on the scope, frequency of testing and recognition of temporary roadworthiness certificates, and Directive 2014/47/EU~~, including that on remote sensing~~. **A special emphasis should be placed on the experience gained with remote sensing, with a view to its general incorporation into the roadworthiness system, where appropriate.**

(39) The European Data Protection Supervisor was consulted in accordance with Article 42(1) of Regulation (EU) 2018/1725 and delivered an opinion on [DD/MM/YYYY].

(40) In accordance with the Joint Political Declaration of 28 September 2011 of Member States and the Commission on explanatory documents[13], Member States have undertaken to accompany, in justified cases, the notification of their transposition measures with one or more documents explaining the relationship between the components of a directive and the corresponding parts of national transposition instruments. With regard to this Directive, the legislator considers the transmission of such documents to be justified.

(41) Directive 2014/45/EU and 2014/47/EU should therefore be amended accordingly,

HAVE ADOPTED THIS DIRECTIVE:

Article 1

Amendments to Directive 2014/45/EU

Directive 2014/45/EU is amended as follows:

(1) Article 2 is amended as follows:

(a) in paragraph 1, the sixth indent is replaced by the following:

'– two- or three-wheel vehicles – vehicle categories L3e, L4e, L5e and L7e with an engine capacity of more than 125 cm^3, or with a maximum continuous rated or net power above 11 kW;

– wheeled tractors of categories T5, T1b, T2b, T3b, T4.1b, T4.2b and T4.3b the use of which mainly takes place on public roads for commercial road haulage purposes.';

(b) in paragraph 2, the seventh indent is replaced by the following: '

[13] OJ C 369, 17.12.2011, p. 14.

— vehicles in categories L3e, L4e, L5e and L7e, with an engine capacity of more than 125 cm3, or with a maximum continuous rated or net power above 11 kW, where the Member State has put in place effective alternative road safety measures for two- or three-wheel vehicles, taking into account in particular relevant road safety statistics covering the last five years. Member States shall notify such exemptions to the Commission.';

(2) Article 3 is amended as follows:

(a) point (1) is replaced by the following:

'(1) 'vehicle' means any not rail-borne motor vehicle or its trailer, except trolleybuses, i.e. vehicles connected to an electric conductor;'

(b) the following point (6a) is inserted:

'(6a)) 'connected vehicle' means any vehicle manufactured with a wireless connection that is capable of transmitting odometer readings;';

(c) point (10) is replaced by the following:

'(10) 'approval' means a procedure whereby a Member State certifies that a vehicle satisfies the relevant administrative provisions and technical requirements referred to in Regulations (EU) No 167/2013, (EU) No 168/2013 and (EU) 2018/858;';

(d) point (12) is replaced by the following:

'(12) 'roadworthiness certificate' means a roadworthiness test report in digital format, or a printout thereof, which can be verified in accordance with Article 8(2) and is issued by the competent authority or a testing centre;';

(e) the following point (12a) is inserted:

(12a) 'EU temporary roadworthiness certificate' means a roadworthiness certificate issued by the competent authority, or a testing centre established in a Member State other than the Member State of registration of the vehicle in accordance with Article 8;';

'Article 4

Responsibilities

1. Each Member State shall ensure that vehicles registered in its territory are periodically tested in accordance with this Directive.

2. Without prejudice to paragraph 4, roadworthiness tests shall be carried out by the Member State of registration of the vehicle, by a public body entrusted with that task by that Member State or by bodies or establishments designated and supervised by that Member State, including authorised public or private bodies.

3. Member States may recognise a roadworthiness certificate issued by a Member State other than the Member State of registration of the vehicle. In such cases, that roadworthiness certificate shall be considered equivalent to the roadworthiness certificate issued by the Member State of registration. Member States which decide to recognise a roadworthiness certificate issued by another Member State shall inform the Commission and the other Member States accordingly.

4. In the case of M_1 and N1 vehicles, roadworthiness tests may, in accordance with Article 8, also be carried out in a Member State other than the Member State of registration of the vehicle. The Member State of registration shall recognise the validity of an EU temporary roadworthiness certificate issued in that other Member State.

5. Vehicle manufacturers shall make available technical information in a format specified by implementing acts referred to in paragraph 6 free of charge, and without undue delay, to relevant competent authorities, in a non-discriminatory manner and in a machine-readable format. [Those competent authorities may decide to task centralised data centres to organise the dataflow from manufacturers and manage access to the technical information.] The competent authorities [or centralised data centres] shall make that technical information available to the testing centres.

6. The Commission shall adopt implementing acts to specify the set of technical information necessary for roadworthiness testing of the items to be tested, on the use of the recommended test methods, and to establish detailed rules concerning the data format, and the procedures for accessing the relevant technical information. Such technical information may include, in particular, instructions and data on the use of the electronic vehicle interface, diagnostic trouble codes, and software versions, and descriptions and illustrations of warning indicators or tell-tales.

   Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 19(2).

7. Member States shall ensure that the responsibilities for keeping a vehicle in a safe and roadworthy condition are set out in national law.';

(4) the following Article 4a is inserted:

'*Article 4a*

Recording of odometer readings

1. Each Member State shall ensure that odometer readings are recorded in a national database or vehicle register in connection with periodic roadworthiness tests of category M_1 and N_1 vehicles and from repairers authorised by vehicle manufacturers when they carry out repair or maintenance work on such a vehicle. Member States shall also require vehicle manufacturers or their representatives to transmit the odometer readings of connected vehicles which they have produced every three months starting from the date of first

registration of the vehicle. These odometer readings shall be recorded in that national database or national vehicle register.

2. Member States may also require that other service providers who carry out repair or maintenance work on such a vehicle, record odometer readings in the database or national vehicle register referred to in paragraph 1.

3. Member States shall make the odometer history of vehicles registered by them available to inspectors, to the holder of the registration certificate and to competent authorities in the Member States responsible for roadworthiness testing, for vehicle re-registration, ~~and~~ vehicle approval **and for the register or database referred to in paragraph 1**.

4. Member States shall take appropriate measures to make potential buyers of second-hand vehicles aware of the access of the holder of the registration certificate to the vehicle's odometer history referred to in paragraph ~~2~~**3**.

5. Member States shall also make available the odometer data stored in the national databases or national vehicle registers referred to in paragraph 1 to the national statistical institutes and to the Commission (Eurostat) in accordance with Articles 17a and 17b of Regulation (EC) No 223/2009*.

6. In the case of tampering or manipulation of odometers with the aim of reducing or misrepresenting the distance record of a vehicle, such tampering or manipulation shall be punishable by effective, proportionate, dissuasive and non-discriminatory penalties.

(5) Article 5 is replaced by the following:

'Article 5

Date and frequency of testing

1. Vehicles shall be subject to a roadworthiness test at least within the following intervals, without prejudice to the period of flexibility applied in Member States under paragraph 4:

   (a) vehicles of category M1 and N1: four years after the date on which the vehicle was first registered, and thereafter every two years; **In addition, vehicles of category N1 shall also be subject to a roadworthiness test for the items listed in Section 8.2 of Annex I, two years after the date on which the vehicle was first registered;**

   (b) vehicles of category M_1 used as taxis or ambulances, vehicles of categories M_2, M_3, N_2, N_3, O_3 and O_4: one year after the date on which the vehicle was first registered, and thereafter annually;

   (c) wheeled tractors of categories T5, T1b, T2b, T3b, T4.1b, T4.2b and T4.3b the use of which mainly takes place on public roads for commercial road haulage purposes: four years after the date on which the vehicle was first registered, and thereafter every two years.

   For the purposes of point (a) of the first subparagraph, in the case of the roadworthiness tests referred to in Article 4(4), **the next roadworthiness test may not fall within the period of**

duration of the temporary roadworthiness certificate. ~~Member States shall determine the date for the subsequent roadworthiness test in a way that no test is required during the period of obligatory recognition~~.

2. Member States shall establish appropriate intervals within which vehicles of categories L3e, L4e, L5e and L7e with an engine capacity of more than 125 cm3 or with a maximum continuous rated or net power above 11 kW, are to be subject to a roadworthiness test.

3. Notwithstanding the date of a vehicle's last roadworthiness test, vehicles shall undergo a roadworthiness test when the safety and environmental systems and components of the vehicle have been significantly altered or modified.

4. Member States or competent authorities may establish a reasonable period during which the roadworthiness test is to be carried out, not exceeding the intervals laid down in paragraph 1.';

(6) Article 6 is amended as follows:

(a) paragraph 1 is replaced by the following:

'1. For vehicle categories falling within the scope of this Directive, with the exception of categories L3e, L4e, L5e and L7e, Member States shall ensure that roadworthiness tests cover at least the areas referred to in point 2 of Annex I.';

(b) paragraph 2 is replaced by the following:

'2. For each area referred to in paragraph 1, the competent authorities of the Member State or the testing centre shall carry out a roadworthiness test covering at least the items referred to in point 3 of Annex I, using the recommended or an equivalent method approved by a competent authority applicable to the testing of those items, as set out in point 3 of Annex I. The test may also include a verification as to whether the respective parts and components of the vehicle correspond to the required safety and environmental characteristics that were in force at the time of approval or, if applicable, at the time of retrofitting.

The tests shall be carried out using techniques and equipment currently available without the use of tools to dismantle or remove any part of the vehicle.

By 18 months after the entry into force of this amending Directive the Commission shall adopt implementing acts to specify the methods for the particle number (PN) measurement of positive ignition engines and for the nitrogen oxides (NOx) measurement of compression and positive ignition engines provided for in item 8.2 of point 3 of Annex I. The test procedures based on those implementing acts shall be operational in the testing centres within three years after their adoption.';

(~~b~~**c**) paragraph 3 is replaced by the following:

'3. For vehicle categories L3e, L4e, L5e and L7e, with an engine capacity of more than 125 cm^3 or with a maximum continuous rated or net power above 11 kW, Member States shall determine the areas, items and appropriate methods of testing.'**;**

(d) The following paragraph is added:

‘4. For the purpose of issuing an EU temporary roadworthiness certificate according to Article 4(4), where the vehicle is manufactured for driving on the other side of the road, it shall not be subject to tests of items in Annex I, that the vehicle is not manufactured to comply with in the Member State undertaking the test.’;

(7) Article 8 is replaced by the following:

‘Article 8

Roadworthiness certificate and EU temporary roadworthiness certificate

1. Member States shall ensure that testing centres or, where relevant, the competent authorities, which have carried out a roadworthiness test on a vehicle issue a roadworthiness certificate or, in the case referred to in Article 4(4), an EU temporary roadworthiness certificate, for that vehicle indicating at least the standardised elements of the corresponding harmonised Union codes as laid down in Annex II.

With effect from [entry into force + 4 years + 1 day], Member States shall ensure roadworthiness certificates and EU temporary roadworthiness certificates are issued as electronic attestations of attributes to European Digital Identity Wallets in accordance with Regulation (EU) No 910/2014 of the European Parliament and of the Council**.

Member States shall ensure that roadworthiness certificates and EU temporary roadworthiness certificates contain the information necessary for authentication and validation of those certificates.

Member States shall inform the Commission of trusted issuers of roadworthiness certificates and of EU temporary roadworthiness certificates which they shall keep up to date. The Commission shall make a list of those issuers publicly available through a secure channel and in an electronically signed or sealed form suitable for automated processing.

1a. An EU temporary roadworthiness certificate shall be valid for six months. The competent authority shall communicate without undue delay, and at the latest within **five** ~~10~~ calendar days, the result of the test to the Member State of registration.

Unless the Member State of registration recognises roadworthiness certificates issued by the Member State concerned in accordance with Article 4 paragraph 3, the subsequent roadworthiness test shall take place in the Member State of registration of the vehicle; the EU temporary roadworthiness certificate shall contain information to that effect.

2. Member States shall require that testing centres or, where relevant, the competent authorities, provide, on request, a printout of the roadworthiness certificate or EU temporary roadworthiness certificate to the person presenting the vehicle for testing. Those printouts shall be user-friendly and shall contain an interoperable [barcode][QR code], which allows the verification of its authenticity, validity and integrity. By six months after the adoption of the implementing acts referred to in paragraph 9, the [barcode][QR code] shall comply with the technical specifications set out in those implementing acts. The information contained in the certificate shall also be displayed in human-readable form and shall be provided in at least the official language or languages of the issuing Member State.

3. Notwithstanding Article 5, in the case of re-registration of a vehicle already registered in another Member State, each Member State shall recognise the roadworthiness certificate issued by that other Member State, whether in electronic or paper format, as if it had itself issued that certificate, provided that the roadworthiness certificate is still valid in terms of the frequency intervals established for periodic roadworthiness tests by the re-registering Member State.

3a. Member States shall communicate any new specimen of the roadworthiness certificate or EU temporary roadworthiness certificate, and the description of the set of data issued to roadworthiness certificates as electronic attestations of attributes to the Commission and to the other Member States without undue delay. The Commission shall publish those specimens and descriptions of the sets of data.

4. In addition to the provisions of paragraph 3, Member States shall recognise the validity of a roadworthiness certificate, whether in digital or paper format, where there is a change in ownership of a vehicle having a valid proof of periodic roadworthiness test.

5. Testing centres shall communicate electronically to the competent authority of the Member State concerned, the information included in the roadworthiness certificates **or EU temporary roadworthiness certificates** which they issue. Such communication shall take place **without undue delay** ~~within a reasonable time~~ after each roadworthiness certificate **or EU temporary roadworthiness certificate** is issued. Member States shall determine the period during which the competent authority is to retain that information. The duration of that period shall not be less than 36 months, without prejudice to the national tax systems of the Member States.

6. Member States may decide that the information included in the previous roadworthiness certificate **or EU temporary roadworthiness certificate** is made available to the inspectors.

7. Member States shall ensure that the results of the roadworthiness test are notified, or made available electronically, as soon as possible to the authority responsible for registration of the vehicle. That notification shall contain the information included in the roadworthiness certificate.

8. By [date of entry into force + 2 years], the Commission shall adopt implementing acts to lay down the technical specifications and rules regarding the following:

   (a) securely issuing and verifying the certificates referred to paragraphs 1 and 2;

   (b) ensuring the protection and security of personal data;

   (c) laying down the common data structure of roadworthiness certificates and EU temporary roadworthiness certificates;

   (d) issuing and verifying a valid, secure and interoperable [barcode][QR code];

   (e) notifying trusted issuers of roadworthiness certificates and EU temporary roadworthiness certificates.

   Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 19(2).

** Regulation (EU) No 910/2014 of the European Parliament and of the Council of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC (OJ L 257, 28.8.2014, p. 73, ELI: http://data.europa.eu/eli/reg/2014/910/oj)';

(8) Article 9 is replaced by the following:

'*Article 9*

Follow-up of deficiencies

1. In the case of minor deficiencies only, the test shall be deemed to have been passed, the deficiencies shall be rectified, and the vehicle shall not be re-tested.

2. In the case of major deficiencies, the test shall be deemed to have been failed. The Member State or the competent authority shall decide on the period during which the vehicle in question may be used before it is required to undergo another roadworthiness test, which shall take place not later than two months after the initial test. The result of the test and the time limit until the subsequent test shall be notified to the Member State of registration and recorded in the vehicle register in accordance with Article 3a(1) of Council Directive 1999/37/EC***. That subsequent test may take place in the Member State where the vehicle failed the initial test, or in the Member State of registration.

3. In the case of dangerous deficiencies, the test shall be deemed to have been failed. The Member State or the competent authority may decide that the vehicle in question is not to be used on public roads and that the authorisation for its use in road traffic is to be suspended for a limited period of time, without requiring a new process of registration. Such request for suspension shall be notified to the Member State of registration and the suspension shall be recorded in the vehicle register in accordance with Article 3a(1) of Directive 1999/37/EC. When the deficiencies are rectified, a new roadworthiness certificate shall be issued by the competent authority in the Member State of registration without delay testifying that the vehicle is in a roadworthy condition.

4. Tampering or manipulation of the vehicle's emission control system, high-voltage system, including battery management system, silencer, or safety-related systems, that cause major or dangerous deficiencies, shall be punishable by effective, proportionate, dissuasive and non-discriminatory penalties.

*** Council Directive 1999/37/EC of 29 April 1999 on the registration documents for vehicles, (OJ L 138, 1.6.1999, p. 57, ELI: http://data.europa.eu/eli/dir/1999/37/oj)';

(8a) In Article 10, the first subparagraph of paragraph 1 is replaced by the following:

'1. The testing centre or, if relevant, the competent authority of the Member State that has carried out a roadworthiness test on a vehicle registered in its territory or a roadworthiness test in accordance with Article 4(4) shall provide a proof, such as an indication on the vehicle registration document, a sticker, a certificate or any other easily accessible information, for

each vehicle which has passed such a test. The proof shall indicate the date by which the next roadworthiness test is to take place.';

(9) Article 16 is replaced by the following:

'*Article 16*

Exchange of data between Member States' authorities

1. Member States shall assist one another in the implementation of this Directive. They shall exchange information and data in particular with the aim of checking, at the time of roadworthiness testing, the vehicle's legal and technical status, where necessary in the Member State in which it is registered.

   a. Member States shall provide access to vehicle registration data, data regarding the content of the certificates of conformity **if available**, the result in the last roadworthiness certificate or, in the case referred to in Article 4(4), the EU temporary roadworthiness certificate issued during the last three years, technical roadside inspection reports of at least the last three years, and the odometer history of the vehicle stored in national databases **and covering at least the last three years**, to the competent authorities of and testing centres authorised by other Member States.

   b. Member States shall interconnect their electronic systems on data contained in roadworthiness certificates, EU temporary roadworthiness certificates and on odometer history through the MOVE-HUB electronic system developed by the Commission in such a way that the competent authorities and authorised testing centres of any Member State are able to consult the relevant database or the national vehicle register of any other Member State in real time.

2. By [PLEASE INSERT DATE: 2 years after the entry into force of this directive], the Commission shall adopt implementing acts laying down the necessary arrangements for the implementation of the functionalities of the MOVE-HUB electronic system and specifying the minimum requirements for the format and content of the information and data to be exchanged by Member States regarding vehicles subject to roadworthiness testing. Those implementing acts shall ensure the protection of personal data and shall be adopted in accordance with the examination procedure referred to in Article 19(2).

3. The electronic systems interconnections provided for in paragraph 1 shall be operational within two years after the adoption of the implementing acts referred to in paragraph 2.';

(10) Article 17 is amended as follows:

(a) the first indent is replaced by the following:

'– update only the vehicle category designations referred to in Article 2(1), Article 5(1) and (2), and Article 6(1) and (2) as appropriate in the event of changes to the vehicle

categories resulting from amendments to the type-approval legislation referred to in Article 2(1), without affecting the scope and frequency of testing;';

(b) the third indent is replaced by the following:

'– adapt point 3 of Annex I, following a positive assessment of the costs and benefits involved, in respect of the list of test items, methods, reasons for failure and assessment of deficiencies.

(11) Article 20 is replaced by the following:

'*Article 20*

Reporting

~~1. [[Five] years after the entry into force of this Directive], with a view to facilitating the preparation of the Commission's report referred to in paragraph 2, Member States shall provide the Commission with statistics on vehicle inspections carried out, specifying the number of vehicles inspected per category and failure rates by category.~~

~~2.~~ **By [two years from the date referred to in Article 20a(1)** ~~[Six] years from the date of entry force of this Directive]~~, the Commission shall submit a report to the European Parliament and the Council on the implementation and effects of this Directive, in particular as regards the effectiveness of the provisions on its scope, notably in relation to L-category vehicles, the frequency of testing, the mutual recognition of roadworthiness certificates in cases of re-registration of vehicles originating from another Member State, and the recognition of EU temporary roadworthiness certificates. The report shall also analyse whether it is necessary to update the Annexes, particularly in the light of technical progress and practices.';

(12) the following Article 20a is inserted ~~*Deleted.*~~

Article 20a

Communication of information to the Commission

1. [Three] years after the date of entry into force of this Direcitve and every three years thereafter, Member States shall communicate to the Commission through the online reporting platform referred to in Article 28 of Regulation (EU) 2018/1999 of the European Parliament and of the Council**** ('e-platform'), the data collected relating to each of the previous three calendar years and concerning the vehicles inspected in their territory. Those data shall include the following (per calendar year):

~~(a) the number of testing centres per Member State;~~

(**a**~~b~~) the total number of vehicles inspected;

(**b**~~e~~) the number of vehicles inspected per category;

(**c**~~d~~) the areas checked, and the items failed, in accordance with point 3 of Annex I to this Directive.~~;~~

~~(e) the number, category and [failure rate][test result] of vehicles tested registered in another Member State.~~

~~The first report shall cover the years 2027, 2028 and 2029, separately.~~

2. The Commission shall adopt implementing acts laying down the format to be used by Member States for communication of the data referred to in paragraph 1 through the e-platform. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 19(2).

The Commission shall report to the European Parliament and to the Council regarding the data collected pursuant to paragraph 1.

**** Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council (OJ L 328, 21.12.2018, p. 1, ELI : http://data.europa.eu/eli/reg/2018/1999/oj).';

(13) Article 22 is replaced by the following:

'*Article 22*

Extension of validity of roadworthiness certificates in case of crisis

1. For the purposes of this Article, the following definitions shall apply:

(a) 'crisis situation' means an exceptional, unexpected and sudden, natural or human - made event of extraordinary nature and scale that takes place inside or outside of the Union, with significant direct or indirect impacts on the area of road transport and that also prevents or significantly impairs the possibility for the owners or holders of vehicles registered in the Member States or relevant national authorities from carrying out roadworthiness tests;

(b) ‘crisis period’ means the period during which a Member State is authorised by the Commission, in accordance with the procedure referred to in paragraph 2, to adopt the measures referred to in this Article.

2. In the event of a crisis situation covering all or part of the territory of a Member State, that Member State may refer the matter to the Commission, by means of a duly motivated request, with a view to the adoption of a decision authorising that Member State to adopt the measures referred to in this Article for all or part of its territory. Such measures may be applied for a maximum period of six months. The Commission may authorise the measures to be extended, at the request of the Member State, for additional periods of six months, as long as the crisis situation persists.

3. The Commission may decide that the crisis period started before the matter was referred by the Member State in question pursuant to paragraph 2.

4. If the Commission receives duly motivated requests by two or more Member States relating to a single crisis situation covering all or part of their territories, it may adopt a single decision applying to all of those Member States.

5. Notwithstanding Article 5(1), Article 10(1) and point 8 of Annex II, the competent authorities of the Members States may extend the period of validity of roadworthiness certificates of all or certain categories of vehicles that have expired or would otherwise expire during the crisis period, for a maximum period of six months. That period may be renewed for successive additional periods of six months, as long as the crisis persists and the Commission authorises it.

6. The measures adopted by the Member States on the basis of this Article shall be immediately notified to the Commission, which shall inform the other Member States and publish a notice in the Official Journal of the European Union.’;

(14) Annex I, Annex III and Annex IV are amended in accordance with Annex I to this Directive.

Article 2

Amendments to Directive 2014/47/EU

Directive 2014/47/EU is amended as follows:

(1) Article 1 is replaced by the following:

'Article 1

Subject matter

This Directive lays down minimum requirements for a regime of technical roadside inspections of the roadworthiness of commercial vehicles, and for **the progressive use of** remote sensing of vehicles, circulating within the territory of the Member States.';

(2) Article 2 is amended as follows:

(a) in paragraph 1 the following point (aa) is inserted:

'(aa) motor vehicles designed and constructed primarily for the carriage of goods, having a maximum mass not exceeding 3.5 tonnes – vehicle category N1;';

(b) the following paragraph 1a is inserted:

'1a. Member States, which carry out annual roadworthiness tests**, including a measurement of particle number and NOx emissions in accordance with item 8.2 of Annex I to Directive 2014/45/EU**, on vehicles registered in their territory of category N1 starting two years after the vehicle was first registered, may exclude that vehicle category from the scope of application of this Directive.';

(c) paragraph 2 is replaced by the following:

'2. This Directive shall not affect the right of Member States to carry out technical roadside inspections on vehicles not referred to in paragraph 1, and to check other aspects of road transport and safety, or to carry out inspections in places other than public roads. Nothing in this Directive shall prevent a Member State from limiting the use of a particular type of vehicle to certain parts of its road network for reasons of road safety.';

(3) Article 3 is amended as follows:

(a) point (13) is replaced by the following:

'(13) 'roadworthiness certificate' means a roadworthiness test report as defined in Article 3, point (12), of Directive 2014/45/EU;';

(b) point 18 is deleted;

(c) the following points (21) and (22) are added:

‘(21) ‘remote sensing’ means the screening of vehicles by measuring on-road exhaust emissions, including nitrogen oxides and particulate matter, or noise levels of vehicles passing in the proximity of fixed or mobile roadside equipment, or by plume chasing in the case of screening vehicles for air pollutant emissions;

(22) ‘plume chasing’ means the measuring of on-road air pollutant emissions of vehicles followed by a chasing vehicle equipped with an appropriate sampling device and measuring instrument;’;

(6) in Article 5, paragraphs 1 and 2 are replaced by the following:

‘1. For vehicles referred to in Article 2(1), points (a), (b), (c) and (d), Member States shall carry out a total number of initial technical roadside inspections, per calendar year, corresponding to at least 5 % of the total number of those vehicles that are registered in their territory.

2. For vehicles referred to in Article 2(1), point (aa), Member States shall carry out a total number of initial technical roadside inspections, per calendar year, corresponding to at least ~~1~~ **0,5** % of the total number of those vehicles that are registered in their territory.

(7) in Article 6, paragraph 1 is replaced by the following:

‘For the attribution of a risk profile to an undertaking, Member States may use the criteria set out in Annex I. That information shall be used to perform checks on undertakings with a high risk rating score more closely and more often. The risk rating system shall be operated by the competent authorities of the Member States.

For vehicles referred to in Article 2(1), points (a) to (c), Member States shall ensure that the information concerning the number and severity of deficiencies set out in Annex II and, where applicable, Annex III to this Directive found on vehicles operated by individual undertakings is introduced into the risk rating system established pursuant to Article 9 of Directive 2006/22/EC.’;

(8) in Article 7, paragraph 1 is replaced by the following:

‘1. Member States shall require drivers to have at their disposal the roadworthiness certificate corresponding to the most recent periodic roadworthiness test and the report of the most recent detailed technical roadside inspection. Member States shall require their authorities to accept electronic evidence of such roadworthiness tests and roadside inspections.’;

(9) Article 9 is replaced by the following:

'Article 9

Selection of vehicles for initial technical roadside inspection

~~1.~~ When identifying vehicles to be subject to an initial technical roadside inspection, inspectors may select, as a priority, vehicles operated by undertakings with a high-risk profile in accordance with the criteria set out in Annex I to this Directive or as referred to in Directive 2006/22/EC. Vehicles may also be selected randomly for inspection, or where there is a reasonable suspicion that the vehicle presents a risk to road safety or to the environment~~, including on the basis of remote sensing~~.

(9) The following Article is inserted:

'Article 9a

Remote sensing

1.~~2.~~ Member States may use remote sensing technology to screen motor vehicles for their air pollutant and noise emissions and may on the basis of remote sensing select vehicles for an initial technical roadside inspection**. Member States may also use remote sensing to identify potentially high-emitting vehicles, the emissions of which may be verified in a testing centre as defined in Directive 2014/45/EU.** Member States that use remote sensing technology shall notify the Commission.

2. The Commission may, based on information provided by Member States using remote sensing in accordance with Article 20(3), adopt implementing acts laying down a set of common remote sensing limits for exhaust or noise emissions, or for both, and associated accuracy requirements such as repeated measurement, to be used to identify high-emitting vehicles which need follow-up in another Member State in accordance with 18(3); different requirements may be set for fixed or mobile remote sensing equipment, or plume chasing, and limits may be set for identifying vehicles with defective emission control systems and vehicles with tampered emission control systems.';

(10) Article 10 is amended as follows:

(a) in paragraph 1, the second subparagraph is amended as follows:

(aa) point (a) is replaced by the following:

'(a) shall check the latest roadworthiness certificate and technical roadside inspection report, where available, in accordance with Article 7(1) and Article 18a(1);';

(bb) point (c) is replaced by the following:

'(c) shall carry out a visual assessment of the securing of the vehicle's cargo;';

(b) paragraph 2 is replaced by the following:

'2. On the basis of the outcome of the initial inspection, the inspector shall decide whether the vehicle or its trailer should be subject to a more detailed roadside inspection, and inspection of cargo securing in accordance with Article 13.';

(c) paragraph 3 is replaced by the following:

'3. A more detailed technical roadside inspection shall cover those items listed in Annex II that are considered necessary and relevant, taking into account in particular the safety of the brakes, tyres, wheels, chassis and nuisance, and the recommended methods applicable to the testing of those items.

By 18 months after the entry into force of this amending Directive the Commission shall adopt implementing acts to specify the methods for the particle number (PN) measurement of positive ignition engines and for the nitrogen oxides (NOx) measurement of compression and positive ignition engines provided for in item 8.2 of point 3 of Annex II. The test procedures based on those implementing acts shall be operational in the inspection facilities within three years after their adoption.';

(11) Article 13 is replaced by the following:

'Article 13

Inspection of cargo securing

1. During roadside inspections, vehicles may be subject to a more detailed inspection of their cargo securing in accordance with Annex III, in order to ensure that the cargo is secured in such a way that it does not interfere with safe driving, or pose a threat to life, health, property or the environment. Checks shall be carried out to verify that during all kinds of operation of the vehicle, including emergency situations or uphill starting manoeuvres:

   (a) loads can only minimally change their position relative to each other, against walls or surfaces of the vehicle;

   (b) loads cannot leave the cargo space or move outside the loading surface.

2. Without prejudice to the requirements applicable to the transport of certain categories of goods, such as goods covered by Directive 2008/68/EC of the European Parliament and of the Council******, cargo securing and inspection of the securing of cargo shall be carried out in accordance with the principles and, where appropriate, the standards laid down in Section I of Annex III to this Directive. The latest version of the standards laid down in point 5 of that Section may be used.

3. The follow-up procedures referred to in Article 14 shall also apply in the case of major or dangerous deficiencies related to cargo securing.

4. Member States shall ensure that personnel involved in cargo securing checks are appropriately trained for that purpose.

****** Directive 2008/68/EC of the European Parliament and of the Council of 24 September 2008 on the inland transport of dangerous goods (OJ L 260, 30.9.2008, p. 13, ELI: http://data.europa.eu/eli/dir/2008/68/oj).';

(12) in Article 14, the following paragraph 4 is added:

‘4. Tampering or manipulation of the vehicle’s emission control system, high-voltage system, including battery management system, silencer or safety-related systems, that cause major or dangerous deficiencies, shall be punishable by effective, proportionate, dissuasive and non-discriminatory penalties.’;

(13) in Article 16, paragraph 2 is replaced by the following:

‘2. On completion of a more detailed inspection, the inspector shall draw up a report in accordance with Annex IV. Member States shall ensure that the driver of the vehicle is provided with an electronic copy of the inspection report.’;

(14) **Article 18 is amended as follows:**

(a) ~~in Article 18,~~ paragraph 1 is replaced by the following:

‘1. In cases where major or dangerous deficiencies, or deficiencies resulting in a restriction or prohibition on the use the vehicle, are found in a vehicle not registered in the Member State of inspection, the contact point shall notify the results of the inspection to the contact point of the Member State of registration of the vehicle. That notification shall contain the elements of the roadside inspection report as set out in Annex IV and shall be communicated to the contact point of the Member State of registration through the messaging system (RSI system) referred to in Article 3 of Commission Implementing Regulation (EU) 2017/2205*******.

The Commission shall adopt implementing acts laying down detailed rules concerning the procedures for the notification of vehicles with major or dangerous deficiencies to the contact point of the Member State of registration pursuant to the first subparagraph of this Article. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 23(2).

******* Commission Implementing Regulation (EU) 2017/2205 of 29 November 2017 on detailed rules concerning the procedures for the notification of commercial vehicles with major or dangerous deficiencies identified during a technical roadside inspection, (OJ L 314, 30.11.2017, p. 3, ELI: http://data.europa.eu/eli/reg_impl/2017/2205/oj).’;

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(b) the following paragraph is added:

'3. In cases where a Member State using remote sensing in accordance with Article 9a has identified a vehicle registered in another Member State as a high-emitting vehicle applying the thresholds and accuracy levels established in the implementing act referred to in Article 9a(2), the Member State shall notify the competent authority of the Member State of registration, via the contact point referred to in Article 17, of the remote sensing measurement results and, if relevant, of the subsequent technical roadside inspection. Where no subsequent roadside inspection took place, the Member State which measured the emissions may request the competent authority of the Member State of registration to take appropriate follow-up action, such as submitting the vehicle to a roadside inspection or a roadworthiness test involving the measurement of the relevant emissions.';

(15) the following Article 18a is inserted:

'*Article 18a*

Exchange of data between Member States' authorities

1. Member States shall assist one another in the implementation of this Directive. They shall exchange information and data in particular with the aim of checking, at the time of roadside inspection of a vehicle, its legal and technical status, where necessary, in the Member State in which it is registered.

(a) Member States shall provide access to vehicle registration data, data regarding the content of the certificates of conformity, the test result in the last roadworthiness certificate, any EU temporary roadworthiness certificate issued during the last three years, technical roadside inspection reports of at least the last three years, and the odometer history of the vehicle, stored in national databases, to the competent authorities of, and testing centres authorised by, other Member States.

(b) Member States shall interconnect their electronic systems on data contained in roadworthiness certificates and on odometer history through the MOVE-HUB electronic system developed by the Commission, in such a way that the competent authorities of any Member State are able to consult the relevant database or national vehicle register of any other Member State in real time.

(c) 2. By [PLEASE INSERT DATE: 2 years after the entry into force of this directive], the Commission shall adopt implementing acts laying down the necessary arrangements for the implementation of the functionalities of the MOVE-HUB electronic system and specifying the minimum requirements for the format and content of the information and data to be exchanged by Member States regarding the vehicles subject to roadside inspections. Those implementing acts shall ensure the protection of personal data and shall be adopted in accordance with the examination procedure referred to in Article 23(2).

3. The electronic systems interconnections provided for in paragraph 1 shall be operational within two years after the adoption of the implementing acts referred to in paragraph 2.';

(16) Article 20 is replaced by the following:

'*Article 20*

Communication of information to the Commission

1. **[Three] years from the date of entry into force of this Direcitve and** ~~By 31 March 2030 and by 31 March~~ every three years thereafter, Member States shall communicate to the Commission, through the online reporting platform referred to in Article 28 of Regulation (EU) 2018/1999 of the European Parliament and of the Council********, ('e-platform'), the data collected relating to each of the previous three calendar years and concerning the vehicles inspected in their territory. Those data shall include the following information, per calendar year:

(a) the total number of vehicles inspected;

(b) the number of vehicles inspected per category;

~~(c) the country of registration of each vehicle inspected;~~

(**c** ~~d~~) in the case of more detailed inspections, the areas checked and the items failed, in accordance with point 10 of Annex IV of this Directive**.** ~~;~~

~~(e) the results of the remote sensing measurements carried out in accordance with Article 4a of this Directive.~~

~~The first report shall cover the years 2027, 2028 and 2029, separately.~~

The Commission shall report the data collected to the European Parliament and to the Council.

2. The Commission shall adopt implementing acts laying down detailed rules concerning the format for communicating the data referred to in paragraph 1 through the e-platform. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 23(2). Until the entry into force of such rules, Member States shall use the standard reporting form set out in Annex V.

~~The Commission shall report the data collected to the European Parliament and to the Council.~~

3. Member States having notified to the Commission the use of remote sensing in accordance with Article 9a(1), shall communicate to the Commission within one year of such notification the levels of exhaust or noise emissions, where relevant, per vehicle category, as well as accuracy requirements such as repeated measurement, which they have established to identify high-emitting vehicles, together with summaries of related measuring results. Member States shall communicate to the Commission any changes to those levels and requirements.';

******** Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU,

2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council (OJ L 328, 21.12.2018, p. 1, ELI : http://data.europa.eu/eli/reg/2018/1999/oj).';

(17) In Article 21, the second and third indents are replaced by the following:

'– update point 3 of Annex II in respect of methods in the event that more efficient and effective test methods become available, without extending the list of items to be tested;
– adapt point 3 of Annex II, following a positive assessment of the costs and benefits involved, in respect of the list of test items, methods, reasons for failure and assessment of deficiencies in the event of a modification of mandatory requirements relevant for type-approval in Union safety or environmental legislation;';

(18) Article 24 is replaced by the following:

'*Article 24*

Reporting

By [two years from the date referred to in Article 20(1)], the Commission shall submit a report to the European Parliament and the Council on the implementation and effects of this Directive. The report shall analyse, in particular, its effect in terms of improvement of road safety and reduction in emissions.

(18a) the following Article 24a is inserted:

'Article 24a

Review

Within two years after receiving the Member States' reports regarding remote sensing in accordance with Article 20(3), the Commission shall assess the effectiveness of remote sensing in accordance with Article 9a and, where appropriate, make a proposal to amend it.';

(19) Annexes II, III, IV, and V are amended in accordance with Annex II to this Directive.

Article 3

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by [PLEASE INSERT DATE: 2 years following the entry into force of this Directive]. They shall immediately communicate the text of those measures to the Commission.

When Member States adopt those measures, they shall contain a reference to this Directive or be accompanied by such a reference on the occasion of their official publication. Member States shall determine how such reference is to be made.

2. Member States shall communicate to the Commission the text of the main measures of national law which they adopt in the field covered by this Directive.

Article 4

This Directive shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

Article 5

This Directive is addressed to the Member States.

Done at Brussels,

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ANNEX I

Annexes I, III and IV to Directive 2014/45/EU are amended as follows:

(1) Annex I is amended as follows:

in point 1, the second paragraph is replaced by the following:

> 'The test must cover at least the items listed in point 3 provided that the systems and components are fitted to the vehicle. The test may also include a verification as to whether the relevant parts and components of that vehicle correspond to the required safety and environmental characteristics that were in force at the time of approval or, where applicable, at the time of retrofitting.';

in point 2, the following point is added:

> '(10) ADAS and other safety related systems.';

point 3 is amended as follows:

(i) the heading and the introduction are replaced by the following:

> '3. CONTENTS AND METHODS OF TESTING, REASONS FOR FAILURE, AND ASSESSMENT OF DEFICIENCIES OF VEHICLES
>
> The test shall cover at least the items, and use the minimum standards and the recommended methods, listed in the table set out in this point.
>
> The components and systems of the vehicle shall be inspected visually or by means of the electronic interface, or both, where applicable, using the following inspection criteria:
>
> a) the inspection of the fitment includes the evaluation of any relevant diagnostic trouble codes **made available be the vehicle manufacturers in accordance with Article 4(5) and (6)** and an examination of whether the fitted systems and components comply for example, with the following:
>
> – the given design, specified attachment/number, specified circuit, required marking;
>
> b) the inspection of the condition includes an examination of whether the fitted systems and components are for example:
>
> – damaged, corroded, or aged;
> – properly fastened, secured, assembled, and routed;
> – operating freely and easily;
> – indicating failure via the malfunction indicator lamp (MIL) or, where applicable, via the on-board monitoring (OBM) system;
> – ready to be inspected (readiness of the OBD system);
>
> c) the inspection of the functioning includes an examination of the actuation and/or activation including that of the pedals, levers, switches, or operating devices, which initiate an action

and of the electronically controlled systems and components, for example, actuators, to ensure that they are operating correctly in terms of timing and function;

d) the inspection of the performance and efficiency is a metrological inspection of a component or system for compliance with, or achievement of, specified limit values, which may also include calculation, such as the following:

– testing the brakes on a brake tester and calculating the efficiency (where applicable by means of reference values);
– activation of a safety system and evaluating sensor values and/or measuring the performance with external test equipment.

For each vehicle system and component subject to testing, the assessment of deficiencies is to be carried out, on a case-by-case basis in accordance with the criteria laid down in the table set out in this point.

Deficiencies not listed in this Annex shall be assessed in terms of the risks that they pose to road safety.';'

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(ia) in the table, the following item 0.3 is inserted:

‘

0.3. Vehicle under ongoing recall campaign (X)[2] Member States may verify if the vehicle is subject to an ongoing recall campaign. In the case of minor default, the need to present the car under the recall campaign may be indicated on the roadworthiness certificate as a notification to the vehicle owner **or the holder of the registration certificate**		(a) In case the fault for which the vehicle was recalled was not rectified, and the fault was classified as: – not affecting the safe operation of the vehicle or the environment – **Affecting safe operation of the vehicles or the environment** – dangerous to health of persons, making the return of the vehicle under the campaign necessary: vehicle can only be tested after passing through the recall campaign	X	**X**	X

’;

(ii) in the table, items 1.1.3 to 1.1.6 are replaced by the following:

‘

1.1.3. Vacuum pump or compressor and reservoirs	Visual inspection of the components at normal working pressure. Check time required for vacuum or air pressure to reach safe working value and function of warning device, multi-circuit protection valve and pressure relief valve. Brake application means depression of the brake pedal/lever which allows the full flow of air/fluid application pressure to the brake assemblies.	(a) Insufficient pressure/vacuum to give assistance for at least four brake applications after the warning device has operated (or gauge shows an unsafe reading); at least two brake applications after the warning device has operated (or gauge shows an unsafe reading).		X	X
		(b) Time taken to build up air pressure/vacuum to safe working value is too long according to the require-ments[1]		X	
		(c) Multi-circuit protection valve or pressure relief valve		X	

		not working.			
		(d) Air leak causing a noticeable drop in pressure or audible air leaks. Air leak causing a critical drop in pressure.		X	X
		(e) External damage likely to affect the function of the braking system. Secondary braking performance not met.		X	X
1.1.4. Low pressure warning device	Functional check	Malfunctioning or defective warning device. Low pressure not identifiable.	X	X	
1.1.5. Hand-operated brake control valve	Visual inspection of the components while the braking system is operated.	(a) Control cracked, damaged or excessively worn.		X	
		(b) Control insecure on valve or valve insecure.		X	
		(c) Loose connections, defective fixing, or leaks in system.		X	
		(d) Unsatisfactory operation.		X	

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1.1.6. Parking brake **activator, lever control, parking brake ratchet, electronic actuated parking brake including four-wheel parking brake** **Description electronic actuated parking brake: the parking brake function is triggered or transmitted electronically or electromechanically.** **Description four-wheel parking brake: the system applies the maximum brake pressure in the wheel cylinders at all four wheels.** **.**	Visual inspection of the components while the braking system is operated **complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface.**.	(a) Ratchet not holding correctly.		X	
		(b) Wear at lever pivot or in ratchet mechanism. Excessive wear.	X	 X	
		(c) Excessive movement of lever indicating incorrect adjustment.		X	
		(d) ~~Activator~~ **System or any component** missing~~, damaged or inoperative.~~		X	
		(e) System or component damaged		**X**	
		(f) Software version or -integrity incorrect		**X**	
		(g) Wiring damaged		**X**	
		(h) Warning device shows system malfunction.		**X**	
		(i) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	 **X**	 **X**
		(j) System or components not operating, or implausible operation		**X**	
		(k) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	 **X**	 **X**

’;

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(iii) in the table, item 1.1.13 is replaced by the following:

‘

1.1.13. Brake linings and pads	Visual inspection.	(a) Lining or pad excessively worn (minimum mark reached). Lining or pad excessively worn (minimum mark not visible).		X 	 X
		(b) Lining or pad contaminated (oil, grease etc.). Braking performance affected.		X 	 X
		(c) Lining or pad missing or wrongly mounted, or of obviously incorrect type.			X
		(d) Wear indicator electrical harness disconnected or damaged	X		

’;

(iv) in the table, item 1.1.18 is replaced by the following:

‘

1.1.18. Slack adjusters and indicators	Visual inspection of the components while the braking system is operated, if possible.	(a) Adjuster damaged, seized or having abnormal movement, excessive wear, or incorrect adjustment.		X	
		(b) Adjuster defective.		X	
		(c) Incorrectly installed or replaced.		X	

’;

(v) in the table, item 1.1.19 is **replaced by the following:**~~deleted;~~

‘

1.1.19. Endurance braking system (where fitted or required) **Description: an additional braking system that can maintain braking over a period of time without a significant reduction in performance, for example in accordance with UNECE-R 13 and Regulation (EU) 2019/2144.**	**Visual inspection (with command activated and not activated, if possible) complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	**(a) System or any component missing (for example Insecure connectors or mountings)**	-	**X**	-
		(b) System or components damaged	-	**X**	-
		(c) Software version or -integrity incorrect	-	**X**	-
		(d) Wiring damaged	-	**X**	-
		(e) Warning device shows system malfunction.	-	**X**	-
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(g) System or components not operating, or implausible operation	-	**X**	-
		(h) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**

’;

(vi) in the table, item 1.1.23 is replaced by the following **items 1.1.23 to 1.1.25**:

‘

1.1.23. Overrun brake	Visual inspection and by operation	(a) Not working properly, for example, stroke of the drawbar exceeds 2/3 of the total overrun travel		X	

		(b) Breakaway cable defect or missing		X	
1.1.24 Trailer stabilisation **Description: through selective braking of the trailer by the service brakes, the complete vehicle train is stabilised.**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	(a) **System or any component missing**	-	**X**	-
		(b) **System or components damaged**	-	**X**	-
		(c) **Software version or -integrity incorrect**	-	**X**	-
		(d) **Wiring damaged**	-	**X**	-
		(e) **Warning device shows system malfunction.**	-	**X**	-
		(f) **System indicates failure via the electronic vehicle interface** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(g) **System or components not operating, or implausible operation**	-	**X**	-
		(h) **Other failure** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
1.1.25 Bus stop brake	**Visual inspection complemented, where**	(a) **System or any component missing**	-	**X**	-

Description: the system ensures the application of brake pressure when stationary, independent of the brake pedal activation. Buses can only start moving when the doors are closed.	**made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	(b) **System or components damaged**	-	**X**	-
		(c) **Software version or -integrity incorrect**	-	**X**	-
		(d) **Wiring damaged**	-	**X**	-
		(e) **Warning device shows system malfunction.**	-	**X**	-
		(f) **System indicates failure via the electronic vehicle interface** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(g) **System or components not operating, or implausible operation**	-	**X**	-
		(h) **Other failure** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**

’;

(vii) in the table, items 1.2.1 and 1.2.2 are replaced by the following:

‘

1.2.1. Performance	During a test on a brake tester or, if impossible, during a road test, apply the brakes progressively up to maximum effort.	(a) Inadequate braking effort on one or more wheels. No braking effort on one or more wheels.		X	X

	It must be ensured, where possible, that the mechanical service brakes are inspected without interference/blending of regenerative braking or other continuous braking.				
		(b) Braking effort from any wheel is less than 70 % of the maximum effort recorded from the other wheel on the same axle. Or, in the case of testing on the road, the vehicle deviates excessively from a straight line. Braking effort from any wheel is less than 50 % of the maximum effort recorded from the other wheel on the same axle in the case of steered axles.		X	X
		(c) No gradual variation in brake effort (grabbing).		X	
		(d) Abnormal lag in brake operation of any wheel.		X	
		(e) Excessive fluctuation of brake force during each complete wheel revolution. Or, in the case of testing on the road, excessive vibration is produced at the service brake pedal/lever or steering wheel.		X	
1.2.2. Efficiency	Test with a brake tester or, if one cannot be used for technical reasons, by a road test using a deceleration recording instrument to establish the braking ratio which relates (a) to the maximum authorised mass or, (b) in the case of semi-trailers, to the sum of the authorised axle loads, or (c) to reference values. Vehicles or a trailer with a maximum permissible mass exceeding 3,5 tonnes must be inspected following the standards	Does not give at least the minimum figure as follows ([1]): 1. Vehicles registered for the first time after 1/1/2012: — Category M_1: 58 % — Categories M_2 and M_3: 50 % — Category N_1: 50 % — Categories N_2 and N_3: 50 % — Categories O_2, O_3 and O_4: — for semi-trailers: 45 % ([2]) — for draw-bar trailers: 50 %		X	

	given by ISO 21069 or equivalent methods. For vehicles not inspected following the standards given by ISO 21069 or equivalent methods, if the minimum figure of braking ratio is not achieved,, at least meaningful brake testing must be performed. Meaningful brake testing is performed if brake efficiency is below the service, secondary or parking values prescribed in 1.2.2 or 1.3.2 or 1.4.2 but all the following conditions are met: — the braking system is in good condition with no obvious defects, — wheels of all axles lock because adhesion between the tyre and brake tester surface was exhausted during the brake test; if wheels on some axles do not lock, it must be safely concluded that the braking efficiency values prescribed in 1.2.2 or 1.3.2 or 1.4.2 would be achieved when the vehicle is loaded, — brake actuation level by the inspector must always be proportional to the current load of the axle. Information on system values may be retrieved using electronic vehicle interface. Road tests should be carried out under dry conditions on a flat, straight road. In cases where vehicles of R or T category are tested on the road **or on a brake tester, and the minimum figure of braking ratio is not achieved, at least** meaningful brake testing is performed if all the above conditions are met. In case of doubt, the braking efficiency shall be demonstrated in loaded or partially loaded condition.	2. Vehicles registered for the first time before 1/1/2012: — Categories M_1, M_2 and M_3: 50 % ([3]) — Category N_1: 45 % — Categories N_2 and N_3: 43 % ([4]) — Categories O_2, O_3 and O_4: 40 % ([5])		X	
		3. Other categories Categories L (both brakes together): — Category L1e: 42 % — Categories L2e, L6e: 40 % — Category L3e: 50 % — Category L4e: 46 % — Categories L5e, L7e: 44 % Category L (rear wheel brake): all categories: 25 % of the total vehicle mass Category T: 40% .		X	
		Less than 50 % of the above values reached			X

’;

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(viii) in the table, item 1.3.1 is replaced by the following:

‘

1.3.1. Performance	If the secondary braking system is separate from the service braking system, use the method specified in 1.2.1. It must be ensured that, where possible, the mechanical brakes are inspected without interference/blending of regenerative braking or other continuous braking.	(a) Inadequate braking effort on one or more wheels.		X	
		No braking effort on one or more wheels.			X
		(b) Braking effort from any wheel is less than 70 % of the maximum effort recorded from another wheel on the same axle specified. Or, in the case of testing on the road, the vehicle deviates excessively from a straight line.		X	
		Braking effort from any wheel is less than 50 % of the maximum effort recorded from the other wheel on the same axle in the case of steered axles.			X
		(c) No gradual variation in brake effort (grabbing).		X	

’;

(ix) in the table, item 1.4.1 is replaced by the following:

‘

1.4.1. Performance	Apply the brake during a test on a brake tester or by road test.	Brake inoperative on one side or, in the case of testing on the road, the vehicle deviates excessively from a straight line.		X	
		Less than 50 % of the braking effort values as referred to in point 1.4.2 reached in relation to the vehicle mass during testing.			X

’;

(x) in the table, item 1.5 is replaced by the following:

‘

1.5. Endurance braking system performance	Visual inspection and, where possible, test whether the system functions, i.e. by road test.	(a) Malfunction indicator indicates a fault.		X	
		(b) System not functioning.		X	

’;

(xi) in the table, item 1.6 is **replaced by the following**~~deleted;~~**:**

‘

1.6. Anti-lock braking system (ABS) **Description: the system automatically prevents wheel-locking during braking by selective reduction of the wheel brake force, for example in accordance with UNECE-R 13 and Regulation (EU) 2019/2144.**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface.**	**(a) System or any component missing**	-	**X**	-
		(b) System or components (for example wheel speed sensor) damaged	-	**X**	-
		(c) Software version or -integrity incorrect	-	**X**	-
		(d) Wiring damaged	-	**X**	-
		(e) Warning device shows system malfunction.	-	**X**	-
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**

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		(g) System or components not operating, or implausible operation		**X**	
		(h) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	 **X**	 **X**

’;

(xii) in the table, item 1.7 is replaced by the following:

‘

1.7 Electronic brake system **Description: a brake pedal sensor and/or pressure sensor records the braking request and calculates the optimal brake force for each wheel, so that there is optimal activation of all wheel brakes.**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface, or by road test.**	(a) **System or any component missing**		**X**	
		(b) **System or components damaged**		**X**	
		(c) **Software version or -integrity incorrect**		**X**	
		(d) **Wiring damaged**		**X**	
		(e) **Warning device shows system malfunction.**		**X**	
		(f) **System indicates failure via the electronic vehicle interface** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	 **X**	 **X**
		(g) **System or components not operating, or implausible operation**		**X**	
		(h) **Other failure** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	 **X**	 **X**
1.7.**1** Electric regenerative braking	Visual inspection of the indicator of electric	(a) Warning device indicates malfunctioning.		X	

	regenerative braking, and, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, by using the electronic vehicle interface, or by road test.	(b) The system does not noticeably decelerate the vehicle (except when the battery is full), or the charge indicator (if fitted) does not display "on charge" when regeneration is activated.		X	
		(c) Vehicle interface indicates system malfunction.		X	
		(d) Vehicle interface indicates system malfunction.		X	

';

(xiia) in the table, item 2.2.2 is replaced by the following:

'

2.2.2. Steering column and forks and steering dampers **including electronic dampers** **Description electronic damping: Steering damping is controlled electronically.**	With the vehicle over a pit or on a hoist and the mass of the vehicle on the ground, push and pull the steering wheel in line with column, push steering wheel / handle bar in various directions at right angles to the column/forks. -Visual inspection of play, and condition of flexible couplings or universal joints **complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface.**	**(a) Excessive movement of centre of steering wheel up or down.**		**X**	
		(b) Excessive movement of top of column radially from axis of column.		**X**	
		(c) Deteriorated flexible coupling.		**X**	
		(d) Attachment defective. **Very serious risk of unlinking.**		**X**	 **X**
		(e) Unsafe modification[3]			**X**
		(f) System or any component missing		**X**	

		(g) System or components damaged	-	**X**	-
		(h) Software version or -integrity incorrect	-	**X**	-
		(i) Wiring damaged	-	**X**	-
		(j) Warning device shows system malfunction.	-	**X**	-
		(k) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(l) System or components not operating, or implausible operation **Steering affected**	-	**X**	**X**
		(m) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**

';

(xiii) in the table, item 2.6 is **replaced by the following items 2.6 to 2.8:**~~deleted;~~

'

2.6. Electronic Power Steering (EPS), including Superimposed steering	**Visual inspection and consistency check between the angle of the steering wheel and the angle of the wheels when switching on/off the engine, complemented, where made possible by**	(a) **System or any component missing**	-	**X**	-
		(b) **System or components damaged**	-	**X**	-

Description: the supporting power for steering is generated by an electric motor. **Description superimposed steering: depending on the driving situation, the system varies the transmission ratio of the steering.**	**the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	(c) **Software version or -integrity incorrect**	-	**X**	-
		(d) **Wiring damaged**	-	**X**	-
		(e) **Warning device shows system malfunction.**	-	**X**	-
		(f) **System indicates failure via the electronic vehicle interface** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X** **X**	
		(g) **System or components not operating (for example Power assistance not working), or implausible operation (for example inconsistency between the angle of the steering wheel and the angle of the wheels.)** **Steering affected**		**X**	**X**
		(h) **Other failure** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
2.7 Electronic four-wheel steering **Description: two axles are steered, with a steering angle greater than 3° on all steered wheels, for example in accordance with UNECE-R 79 and Regulation (EU) 2019/2144**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	(a) **System or any component missing**	-	**X**	-
		(b) **System or components damaged**	-	**X**	-
		(c) **Software version or -integrity incorrect**	-	**X**	-
		(d) **Wiring damaged**	-	**X**	-
		(e) **Warning device shows system malfunction.**	-	**X**	-
		(f) **System indicates failure via the electronic vehicle interface** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**

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		(g) System or components not operating, or implausible operation **Steering affected**	-	**X**	**X**
		(g) **Other failure** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
2.8 Electronically controlled leading and trailing axle **Description: the steered axles are additional axles with electronically controlled steering. The steering force is generated by a hydraulic pump or by the lateral force on the wheels.**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	**(a) System or any component missing**	-	**X**	-
		(b) System or components damaged	-	**X**	-
		(c) Software version or -integrity incorrect	-	**X**	-
		(d) Wiring damaged	-	**X**	-
		(e) Warning device shows system malfunction.	-	**X**	-
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(g) System or components not operating, or implausible operation **Steering affected**		**X**	**X**
		(h) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**

';

(xiiia) in the table, item 3.1 is replaced by the following:

'

3.1. Field of vision **including indirect field of vision via Camera monitor** **Description camera monitor: the system which generates at least a part of the indirect field of vision by a camera monitor combination (for example in accordance with UNECE-R 46).**	Visual inspection from driving seat **complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	(a) Obstruction within driver's field of view that materially affects his view in front or to the sides (outside cleaning area of windscreen wipers). Inside cleaning area of windscreen wipers affected or outer mirrors not visible.	X	X	
		(b) System or any component missing	-	**X**	-
		(c) System or components damaged	-	**X**	-
		(d) Software version or -integrity incorrect	-	**X**	-
		(e) Wiring damaged	-	**X**	-
		(f) Warning device shows system malfunction.	-	**X**	-
		(g) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(h) System or components not operating, or implausible operation	-	**X**	-
		(i) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**

(xiv) in the table, items 4.1.1, 4.1.2 and 4.1.3 are replaced by the following:

‘

4.1.1. Condition and operation **Including functions such as cornering light, high beam assist, adaptive headlights and bending functions.** **Description cornering light: during cornering, an extra headlamp is activated. Operates up to 40 km/h, for example in accordance with UNECE-R 48 or UNECE-R 119** **Description high beam assist: the system automatically activates and deactivates the high beam according to the driving situation and lighting conditions.** **Description adaptive headlight: the illumination of the surrounding road area and/or the direct illumination of road users in the danger area in front of the vehicle is optimised by dynamic.** **Description bending light: during cornering and depending on the steering angle and speed, the light beam is swivelled and/or an additional headlight is activated, for example in accordance with UNECE-R 48; UNECE-R 98; UNECE-R 112; or UNECE-R 123.**	Visual inspection **complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**.	(a) Defective or missing light source. Multiple light sources (in the case of LED, up to 1/3 not functioning). Seriously affected visibility (single light source, or, in the case of LED, less than 2/3 functioning).	X	X	
		(b) Slightly defective projection system (reflector and lens). Heavily defective or missing projection system (reflector and lens).	X	X	
		(c) Lamp not securely attached.		X	
		(d) System or any component missing		**X**	
		(e) System or any component damaged		**X**	
		(f) Software version or -integrity incorrect		**X**	
		(g) Wiring damaged	-	**X**	-
		(h) Warning device shows system malfunction.	-	**X**	-
		(i) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X** **X**	
		(j) System or components not operating, or implausible operation	-	**X**	-
		(k) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X** **X**	
4.1.2. Alignment	Determine the horizontal and vertical aim of each headlamp on dipped beam using a headlamp aiming device.	(a) Aim of a headlamp not within limits laid down in the requirements[1]. If there are no specific requirements, the following reference values shall be used, where h is the height of headlamp (lowest point of the light-emitting surface):		X	

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		(i) M, N categories: — h ≤ 0,8m: upper limit -0.5%; lower limit -2.5% — 0.8 < h ≤ 1m: upper limit -0.5%; lower limit -3% — h > 1m: upper limit -1% e inferior -3% — h > 1.2m, category N3G (all-terrain): upper limit -1.5%; lower limit -3.5% (ii) L category (Commission Delegated Regulation (EU) No 3/2014): — upper limit -0.5% — h ≤ 0,8m: lower limit -2,5% — h > 0.8m: lower limit -3,0% (-2,5% on L3e category) (iii) T category: — upper limit -0.5% — h ≤ 1,2m: lower limit -4% h > 1,2m: lower limit -6%			
4.1.3. Switching	Visual inspection and by operation	(a) Switch does not operate in accordance with the requirements[1] (Number of headlamps illuminated at the same time)	X		
		Maximum permitted light brightness to the front exceeded.		X	
		(b) Function of control device impaired.		X	

’;

(xv) in the table, item 4.1.5 is replaced by the following:

‘

4.1.5 **Automatic and m~~M~~**anual levelling devices (where mandatory) **Description automatic levelling devices: depending on the load and (optional) pitch angle, the system regulates the headlamp’s**	Visual inspection **complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface** .	**(a) System or any component missing**	-	**X**	-
		(b) System or components damaged	-	**X**	-

vertical aim, for example in accordance with UNECE-R 121.					
		(c) Software version or -integrity incorrect	-	**X**	-
		(d) Wiring damaged	-	**X**	-
		(e) Warning device shows system malfunction.	-	**X**	-
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X** **X**	
		(g) System or components not operating, or implausible operation		**X**	
		(h) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X** **X**	
		(i) Manual device cannot be operated from driver's seat.		**X**	

’;

(xvi) in the table, item**s** 4.2.1 **and 4.2.2 are**~~is~~ replaced by the following:

‘

4.2.1. Condition and operation	Visual inspection and by operation.	(a) Defective or missing light source		X	
		Multiple light sources (in the case of LED, up to 1/3 not functioning); one of several lateral light sources defective.	X		
		Single light sources: in the case of LED, less than 2/3 functioning; Two or more of several lateral light sources defective		X	
		(b) Defective lens.		X	
		(c) Lamp not securely attached.	X		
		Very serious risk of falling off.		X	
4.2.2. Switching	Visual inspection and by operation.	(a) Switch does not operate in accordance with the requirements[1].		X	
		Rear position lamps and side marker lamps can be switched off when headlamps are on.		X	
		(b) Function of control device impaired.		X	
4.2.2.1 Automatic light **Description: depending on the ambient brightness, the system automatically switches on and off the driving light.**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	**(a) System or any component missing**	-	**X**	-
		(b) System or components damaged	-	**X**	-
		(c) Software version or -integrity incorrect	-	**X**	-
		(d) Wiring damaged	-	**X**	-
		(e) Warning device shows system malfunction.	-	**X**	-

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		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(g) System or components not operating, or implausible operation	**-**	**X**	**-**
		(h) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**

’;

(xvii) in the table, items 4.3.1 and 4.3.2 are replaced by the following:

‘

4.3.1. Condition and operation	Visual inspection and by operation.	(a) Defective or missing light source. Multiple light sources; in the case of LED up to 1/3 not functioning. Single light sources; in the case of LED less than 2/3 functioning. No light source functioning.	X	X	X
		(b) Slightly defective lens (no influence on emitted light). Heavily defective lens (emitted light affected).	X	X	

		(c) Lamp not securely attached. Very serious risk of falling off.	X	 X	
4.3.2. Switching	Visual inspection and by operation	(a) Switch does not operate in accordance with the requirements[1]. Delayed operation. No operation at all.	X	 X	 X
		(b) Function of control device impaired.		X	

’;

(xviii) in the table, item 4.4.1 is replaced by the following:

‘

4.4.1. Condition and operation	Visual inspection and by operation.	(a) Defective or missing light source Multiple light sources (in the case of LED up to 1/3 not functioning). Single light sources; in the case of LED less than 2/3 functioning. No light source functioning.	X	 X	 X
		(b) Slightly defective lens (no influence on emitted light). Heavily defective lens (emitted light affected).	X	 X	
		(c) Lamp not securely attached. Very serious risk of falling off.	X	 X	

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’;

(xix) in the table, item 4.5.1 is replaced by the following:

4.5.1. Condition and operation	Visual inspection and by operation.	(a) Defective or missing light source. Multiple light sources (in the case of LED up to 1/3 not functioning). Single light sources; in the case of LED less than 2/3 functioning.	X	X	
		(b) Slightly defective lens (no influence on emitted light). Heavily defective lens (emitted light affected).	X	X	
		(c) Lamp not securely attached. Very serious risk of falling off or dazzling oncomingtraffic.	X	X	

’;

(xx) in the table, item 4.6.1 is replaced by the following:

‘

4.6.1. Condition and operation	Visual inspection and by operation.	(a) Defective or missing light source Multiple light sources (in the case of LED up to 1/3 not functioning). Single light sources; in the case of LED less than 2/3 functioning.	X	X	
		(b) Defective lens	X		
		(c) Lamp not securely attached. Very serious risk of falling off	X	X	

’;

(xxi) in the table, item 4.7.1 is replaced by the following:

‘

4.7.1. Condition and operation	Visual inspection and by operation.	(a) Lamp throwing direct or white light to the rear.	X		
		(b) Defective or missing light source. (Multiple light source; in the case of LED up to 1/3 not functioning). Defective or missing light source. (Single light source; in the case of LED **less than 2/3** ~~up to 1/3 not~~ functioning).	X	X	
		(c) Lamp not securely attached. Very serious risk of falling off.	X	X	

’;

(xxii) in the table, item 4.11, the title in the first column of the table is replaced by the following:

‘Electrical wiring (except high-voltage wiring)’;

(xxiia) in the table, item 4.12 is replaced by the following:

‘

4.12. Non obligatory lamps and retro-reflectors, **for example basic exterior lights (X)[2]** **Description basic exterior lights: the system switches on/switches off the basic lighting devices (for example indicators).**	Visual inspection **complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface** ~~and by operation~~.	**(a) A lamp/retro-reflector fitted not in accordance with the requirements[1].** **Emitting/reflecting red light to the front or white light to the rear.**	**X**	**X**	
		(b) Lamp operation not in accordance with the requirements[1]. **Number of headlights simultaneously operating exceeding permitted light brightness; Emitting red light to the front or white light to the rear.**	**X**	**X**	

		(c) Lamp/retro-reflector not securely attached. **Very serious risk of falling off.**	**X** -	**X**	
		(d) System or any component missing		**X**	
		(e) System or components damaged		**X**	
		(f) Software version or -integrity incorrect		**X**	
		(g) Wiring damaged		**X**	
		(h) Warning device shows system malfunction.		**X**	
		(i) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(j) System or components not operating, or implausible operation		**X**	
		(k) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	X	**X**	**X**

’;

(xxiii) in the table, item 4.13, the title in the first column of the table is replaced by the following:

‘Battery (or batteries, except high-voltage batteries)’;

(xxiv) the following item**s** 4.14 **and 4.15 are**~~is~~ inserted:

‘

4.14 High-voltage systems					
4.14.1 Electrical safety	Visual inspection complemented by using the vehicle interface **where made possible by the technical characteristics of the vehicle, and where the necessary data is available).**	(a) Indicator or vehicle interface shows system malfunction		X	
		(b) Software version or -integrity incorrect		X	
4.14.2 Traction battery enclosure	Visual inspection.	(a) Slightly deteriorated Heavily deteriorated	X	 X	
		(b) Defective attachment Very serious risk of falling off		X	 X
		(c) Obstructed ventilation port(s)	X		
4.14.3 ~~Traction battery~~ **Rechargeable energy storage system (REESS), traction battery and battery management system** **Description: REESS means the rechargeable energy storage system that provides electric energy for electric propulsion. The REESS may include subsystem(s) together with the necessary ancillary systems for physical support, thermal management, electronic control and enclosures**	Visual inspection, complemented by using the vehicle interface (where made possible by the technical characteristics of the vehicle, and where the necessary data is available).	(a) Marks of leakage Leaking (presence of droplets)		X	 X
		(b) Incorrect software or hardware, or readiness-code not active		X	
4.14.4 High voltage electrical wiring					
4.14.4.1 High voltage wiring harness and connector	Visual inspection ~~and by operation~~ with the vehicle over a pit or on a hoist, including inside the engine compartment and the boot (where applicable)	(d) Slightly deteriorated Heavily deteriorated	X	 X	 X

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		Risk of short-circuit fault			
		(e) Wiring insecure or not adequately secured	X		
		Fixings loose, touching sharp edges, connectors likely to be disconnected		X	
		Wiring likely to touch hot parts, rotating parts or the ground, connectors disconnected			X
		(f) Imminent risk of fire, formation of sparks			X
4.14.4.2 Ground braid, including their attachment	Visual inspection and by operation.	Slightly deteriorated	X		
		Heavily deteriorated		X	
4.14.4.3 Ground continuity (X)[2]	Measurement using an ohmmeter	Test not feasible	X		
		Too high resistance (over 100 Ohms)		X	
4.14.4.4 Charging inlet cover	Visual inspection and by operation.	Deteriorated	X		
		Missing		X	
4.14.4.5 Charging inlet	Visual inspection and by operation.	(a) Deteriorated	X		
		Trace of beginning of melting or electric arcs		X	
		Foreign material, modified, or moisture		X	
4.14.4.6 Charging cable (if available)	Visual inspection and by operation.	(a) Deteriorated	X		
4.14.5. High voltage electrical and electronical equipment (X)[2]					
4.14.5.1. High voltage electrical and electronical equipment	Visual inspection and by using the electronic vehicle interface.	(a) Slightly deteriorated	X		
		Heavily deteriorated		X	
		(b) Attachment defective		X	
		(c) Leaking		X	
4.14.5.2. Traction motor	Visual inspection Check of operational readiness of the systems by an applicable interface (OBD or OBM)	(a) Shield is deformed, not in-place or damaged, or corroded		X	
		(b) Warning marking missing or illegible		X	
		(c) Connection of wiring harness insecure or corroded		X	

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	Measurement of equipotential bonding, where made possible by the technical characteristics of the vehicle	(d) Electrical insulation damaged or deteriorated likely to cause injury when contacted.		X	X	
		(e) Fault readiness of the traction motor		X		
		(f) Type-approved hardware and software not in accordance with the requirements1		X		
4.14.5.3 Electronic converters, motor, and inverter	Visual inspection	(a) Not in accordance with requirements[1]		X		
		(b) Inadequately secured		X		
	Check of operational readiness of the systems by an applicable interface (OBD or OBM)	(c) Damaged or corroded components	X			
		Likely to cause injuries or to fall off		X		
	Measurement of equipotential bonding, where made possible by the technical characteristics of the vehicle	(d) Shields not in place or damaged		X		
		(e) Damaged or deteriorated electrical insulation		X		
		(f) Fault readiness of the converter and inverter systems		X		
		(g) Wrong version of type-approved hardware and software		X		
4.14.6. Insulation resistance (X)[2]						
4.14.6.1. Insulation resistance of the vehicle charging inlet and resistance of the protective earthing	Read insulation resistance by the electronic vehicle interface, where made possible by the technical characteristics of the vehicle and where the necessary data is made available	(a) Insulation resistance is not in accordance with requirements or predefined values from the vehicle manufacturer		X		
		(b) Resistance of the protective earthing is not in accordance with requirements		X		
4.14.6.2. Insulation resistance between the high-voltage system and chassis	Visual inspection	(a) Insulation monitoring system shows malfunction		X		
	Read insulation resistance by the electronic vehicle interface, where made possible by the technical characteristics of the vehicle and where the necessary data is made available	(b) Insulation resistance value not in accordance with requirements		X		
4.14.7. Anti-starting system						
4.14.7.1. Anti-starting system	Visual inspection and by operation when possible.	(a) Indicator malfunction	X			

	Functional check by verifying that the vehicle cannot move by itself with the charging cable plugged, and the driver's weight lifted out of the seat	(b) Inoperative, i.e., vehicle can move with connected charging cable or with no driver present		X	
4.15 Emergency braking signal **Description: during strong deceleration, hazard warning lights and/or additional luminous surfaces are activated and/or the following traffic is warned by flashing brake lights, for example in accordance with UNECE-R 48 or UNECE-R 13.**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	(a) **System or any component missing**	**-**	**X**	**-**
		(b) **System or components damaged**	**-**	**X**	**-**
		(c) **Software version or -integrity incorrect**	**-**	**X**	**-**
		(d) **Wiring damaged**	**-**	**X**	**-**
		(e) **Warning device shows system malfunction.**	**-**	**X**	**-**
		(f) **System indicates failure via the electronic vehicle interface** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(g) **System or components not operating, or implausible operation**	**-**	**X**	**-**
		(h) **Other failure** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**

’;

(xxv) in the table, item 5.1.3 is replaced by the following:

‘

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5.1.3. Wheel bearings	Visual inspection with the vehicle over a pit or on a hoist. Wheel play detectors may be used and are recommended for vehicles having a maximum mass exceeding 3,5 tonnes. Rock the wheel or apply a lateral force to each wheel and note the amount of upward movement of the wheel relative to the stub axle.	(a) Excessive play in a wheel bearing. Directional stability impaired; danger of demolishment.		X	X
		(b) Wheel bearing too tight, jammed. Danger of overheating; danger of demolishment.		X	X
		(c) Audible signs of bearing wear or damage.		X	

’;

(xxvi) in the table, item 5.2.3 is replaced by the following:

‘

5.2.3. Tyres	Visual inspection of the entire tyre by either rotating the road wheel with it off the ground and the vehicle over a pit or on a hoist, or by rolling the vehicle backwards and forwards over a pit.	(a) Tyre size, load capacity, approval mark or speed category not in accordance with the requirements1 and affecting road safety, or environmental performance in accordance with Regulation (EU) 2024/1257 (emission type approval of components and separate technical units). Insufficient load capacity or speed category for actual use, tyre touches other fixed vehicle parts impairing safe driving.		X	X
		(b) Tyres on same axle or on twin wheels of different sizes.		X	
		(c) Tyres on same axle of different construction (radial/ cross-ply).		X	
		(d) Any serious damage or cut to tyre. Cord visible or damaged.		X	X
		(e) Tyre tread wear indicator becomes exposed. Tyre tread depth not in accordance with the require-ments[1].		X	X

		(f) Tyre rubbing against other components (flexible anti spray devices).	X		
		Tyre rubbing against other components (safe driving not impaired)		X	
		(g) Re-grooved tyres not in accordance with requirements[1].		X	
		Cord protection layer affected.			X
		(h) Tyre obviously underinflated.	X		

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5.2.3.1 Tyre pressure warning **Description: the system detects loss of tyre pressure through integrated sensors and/or by implausible values for wheel speed, for example in accordance with Regulation (EU) 2019/2144 and UNECE-R 141.**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	**(a) System or any component missing**	-	X	-
		(b) System or components damaged	-	X	-
		(c) Software version or -integrity incorrect	-	X	-
		(d) Wiring damaged	-	X	-
		(e) Warning device shows system malfunction.	-	X	-
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	X	X	X
		(g) System or components not operating, or implausible operation	-	X	-
		(h) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	X	X	X

’;

(xxvii) in the table, item**s** **5.3.2** ~~5.3.2.1~~ is replaced by the following:

‘

5.3.2 Shock absorbers **including**	Visual inspection with vehicle over a pit or a	**(a) System or any component missing**	-	X	-

electronic damping **Description: depending on the driving situation, the rebound and compression stage of the shock absorbers is adjusted by the system.**	hoist or using special equipment if available **complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	**(b) System or components damaged showing signs of server leakage or malfunction or shock absorber loose.**	-	**X**	-
		(c) Software version or -integrity incorrect	-	**X**	-
		(d) Wiring damaged	-	**X**	-
		(e) Warning device shows system malfunction.	-	**X**	-
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(g) System or components not operating, or implausible operation	-	**X**	-
		(h) Other failure (for example insecure attachment) **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
~~5.3.2.1. efficiency testing of damping (X)[2]~~	~~Using special equipment and comparing left/ right differences, or based on oscillation behaviour or damping of the vehicle~~	~~(a) Significant difference between left and right.~~		~~X~~	
		~~(b) Given minimum values not reached.~~		~~X~~	

’;

(xxviiia) in the table, item 5.3.5 is replaced by the following:

‘

5.3.5. Air suspension, including height levelling **Description height levelling: the system changes the clearance between vehicle chassis and the road.**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	**(a) System or any component missing**	-	**X**	-
		(b) System or components damaged	-	**X**	-
		(c) Software version or -integrity incorrect	-	**X**	-
		(d) Wiring damaged	-	**X**	-
		(e) Warning device shows system malfunction.	-	**X**	-

		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(g) System or components not operating, or implausible operation	**-**	**X**	**-**
		(h) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(i) Audible system leakage		**X**	

’;

(xxviiib) in the table, item 6.1.3 is replaced by the following:

‘

6.1.3. Fuel tank and pipes (including heating fuel tank and pipes **and hydrogen installation)** **Description hydrogen installation: the hydrogen is stored in the vehicle and is used to propel the vehicle, either by combustion in an internal combustion engine or by conversion in a fuel cell with an additional electric engine.**)	Visual inspection with vehicle over a pit or on a hoist, use of leak detecting devices in the case of LPG/CNG/LNG/**H** systems **complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**.	(a) Insecure tank or pipes, creating particular risk of fire.			X
		(b) Leaking fuel or missing or ineffective filler cap. Risk of fire; excessive loss of hazardous material.		X	X
		(c) Chafed pipes. Damaged pipes.	X	X	
		(d) Fuel stopcock (if required) not operating correctly.		X	
		(e) Fire risk due to: — leaking fuel; — fuel tank or exhaust not properly shielded; — engine compartment condition.			X
		(f) LPG/CNG/LNG **or hydrogen** system not in accordance with requirements; any part of the system defective[1]			X

		(g) System or any component missing		**X**	
		(h) System or components damaged		**X**	
		(i) Software version or -integrity incorrect		**X**	
		(j) Wiring damaged		**X**	
		(k) Warning device shows system malfunction.		**X**	
		(l) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	X	**X**	**X**
		(m) System or components not operating, or implausible operation		**X**	
		(n) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**

';

(xxviiic) in the table, the following item 6.1.10 is inserted:

'

6.1.10 Sliding joint stabilisation **Description: The articulated joint is stabilised by damping, depending on vehicle speed, cylinder pressure of the articulated dampers, steering and articulation-angle.**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	**(a) System or any component missing**	-	**X**	-
		(b) System or components damaged	-	**X**	-

		(c) Software version or -integrity incorrect	-	X	-
		(d) Wiring damaged	-	X	-
		(e) Warning device shows system malfunction.	-	X	-
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
		(g) System or components not operating, or implausible operation	-	X	-
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X

';

(xxviiid) in the table, items 7.1.3 and 7.1.4 are replaced by the following:

'

7.1.3 Safety belt tensioner and belt force limiter **Description: In the event of an accident, the seat belt is tensioned to place the passengers in a setpoint position and/or limits the belt force, electrically controlled and, thus, limits the forces acting on the persons for example in accordance with UNECE-R 16 or UNECE-R 94.**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	**(a) System or any component missing, or not suitable with the vehicle**	-	X	-
		(b) System or components damaged	-	X	-
		(c) Software version or -integrity incorrect	-	X	-

		(d) Wiring damaged	-	**X**	-
		(e) Warning device shows system malfunction.	-	**X**	-
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board**	**X**	 **X**	 **X**
		(g) System or components not operating, where applicable, or implausible operation	-	**X**	-
		(h) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board**	**X**	 **X**	 **X**

';

(xxviiie) in the table, item 7.1.5 is replaced by the following:

'

7.1.4. Airbag **Description: In case of an accident, inflatable airbags reduce the risk of injury by their absorbing effect, for example in accordance with UNECE-R 12; UNECE-R 14; or UNECE-R 16.**	Visual inspection **complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	**(a) System or components (for example seat occupancy detection) obviously missing.**	-	**X**	-
		(b) System or components damaged	-	**X**	-
		(c) Software version or -integrity incorrect	-	**X**	-
		(d) Wiring damaged	-	**X**	-
		(e) Warning device shows system malfunction.	-	**X**	-
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation**	**X**	 **X**	

		Affecting safe operation of the vehicle **Danger to health of persons on board**			**X**
		(g) System or components obviously not operating (for example not suitable with the vehicle)	-	**X**	-
		(h) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board**	- **X**	 **X**	- **X**

';

~~(xxviii) in the table, items 7.1.3, 7.1.4, 7.1.5 and 7.1.6 are deleted;~~

(xxix) in the table, item 7.8 is replaced by the following:

'

7.8. Speedometer	Visual inspection or by operation during road test or by using the electronic vehicle interface, or any combination of these.	(a) Not fitted in accordance with the requirements[1]. Missing (if required).	X	 X	
		(b) Operation impaired. Not operational at all.	X	 X	
		(c) Not capable of being sufficiently illuminated. Not capable of being illuminated at all.	X	 X	

';

(xxx) in the table, item~~s~~ 7.9 ~~and 7.10 are deleted~~ **is replaced by the following**;

‘

7.9. Tachograph (if fitted/required) **Description: a system to record the driving time, breaks, rest periods as well as periods of other work undertaken by a driver, for example, in accordance with Regulation (EU) No 165/2014 of the European Parliament and of the Council*****	Visual inspection **complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface.**	**(a) System or any component missing (for example seals, plaques), or not fitted in accordance with the requirements[1] (for example plaque out of date).**	-	X	-
		(b) System or components damaged (for example illegible plaque)	-	X	-
		(c) Software version or -integrity incorrect	-	X	-
		(d) Wiring damaged	-	X	-
		(e) Warning device shows system malfunction.	-	X	-
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	X	X X	 X
		(g) System or components not operating, or implausible operation (for example tampered or manipulated, or size of tyres not compatible with calibration parameters, or incorrect set speed, if checked).	-	X	-
		(h) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	X	X	 X

’;

(xxxa) in the table, item 7.10 is replaced by the following:

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‘

7.10. Speed limitation device (if fitted/required) Description: While driving, the system prevents exceeding a defined maximum speed. Relevant, if mandatory, for example in accordance with UNECE-R 89 and Regulation (EU) 2019/2144.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing (for example seals, plaques), or not fitted in accordance with the requirements[1].	-	X	-
		(b) System or components damaged	-	X	-
		(c) Software version or -integrity incorrect	-	X	-
		(d) Wiring damaged	-	X	-
		(e) Warning device shows system malfunction.	-	X	-
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X X	 X
		(g) System or components not operating, or implausible operation (for example tampered or manipulated, or size of tyres not compatible with calibration parameters, or incorrect set speed, if checked).	-	X	-
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X 	 X

’;

(xxxi) in the table, item 7.11 is replaced by the following:

‘

7.11. Odometer, if available	Visual inspection, and/or using electronic interface (OBD or OBM). If the inspection shows, that the odometer has been manipulated, the inspector shall indicate this on the roadworthiness certificate as a notification to the vehicle owner	(a) Obviously inoperative.		X	

’;

(xxxia) in the table, item 7.12 is replaced by the following:

‘

7.12. Electronic Stability Control (ESC) if fitted/required **Description: the system stabilizes the vehicle or the complete vehicle train in critical, dynamic driving situations, for example in accordance with Regulation (EU) 2019/2144 and UNECE-R 140.**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	**(a) System or any component (for example wheel speed sensors) missing**	-	**X**	-
		(b) System or components (for example wheel speed sensors) damaged	-	**X**	-
		(c) Software version or -integrity incorrect	-	**X**	-
		(d) Wiring damaged	-	**X**	-
		(e) Warning device shows system malfunction.	-	**X**	-
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(g) System or components not operating, or implausible operation	-	**X**	-
		(h) Other failure **Not affecting the safe operation**	**X**		

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		Affecting safe operation of the vehicle **Danger to health of persons on board or of other road users**		**X**	**X**

’;

(xxxii) in the table, ~~items 7.12 and~~ **item** 7.13 **is replaced by the following:**~~are deleted;~~

‘

7.13 eCall (if fitted, inaccordance with EU type approval legislation					
Automatic eCall **Description: the system is triggered automatically by in-vehicle sensors or manually, it transmits a minimum set of data (EN 15722) via mobile communication network and establishes an audio connection based on the (emergency) number between the vehicle passengers and the public safety answering point, in accordance with Regulation (EU) 2015/758 of the European Parliament and of the Council**, and Commission Delegated Regulation (EU) 2017/79***.**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface** **For eCall systems which uses older cellular networks, and those networks are no longer in service causing the eCall-system to indicate malfunction, this shall not be a reason for failure.**	**(a) System or any component missing**	-	**X**	-
		(b) System or components damaged	-	**X**	-
		(c) Software version or -integrity incorrect	-	**X**	-
		(d) Wiring damaged	-	**X**	-
		(e) Warning device (eCall MIL) shows system malfunction.	-	**X**	-
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board**	**X**	**X**	**X**
		(g) System or components not operating, or implausible operation: **- audio components (for example failing echo-test);**	-	**X**	-
		(h) Other failure (for example mobile network communication device, electronic control unit, or GPS			

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		signal failure) **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board**	**X**	**X**	**X**

’;

(xxxiia) in the table, the following item 7.14 is inserted:

7.14 – Vehicle diagnostic link (OBD port)	**Method**	**Reason for failure**	**Minor**	**Major**	**Dangerous**
7.14.1 – Vehicle diagnostic link (OBD port)	**Visual inspection complemented with use of electronic interface.**	**(a) Interface not accessible**		**X**	
		(b) Obviously inoperative		**X**	
		(c) System or component damaged		**X**	
		(d) System or component missing		**X**	

’;

(xxxiii) in the table, items 8.1 and 8.2 are replaced by the following:

‘

8.1. Noise					
8.1.1. Noise suppression system	Subjective evaluation (unless the inspector considers that the noise level may be borderline, in which case a measurement of noise emitted by stationary vehicle using a sound level meter may be conducted)	(a) Noise levels in excess of those permitted in the requirements[1].		X	
8.2. Exhaust emissions					
8.2.1. Exhaust emissions control equipment	Visual inspection complemented, where made possible by the technical characteristics of the	(a) Emission control equipment fitted by the manufacturer absent, modified or obviously defective.		X	

	vehicle and where the necessary data is made available, with the use of electronic interface (OBD or OBM read-out)	(b) Leaks which would affect emission measurements.		X	
		(c) Warning device malfunctioning, warning indicator / tell-tale inoperative.		X	
		(d) MIL activated, warning device shows system malfunction.		X	
		(e) System indicates failure via the electronic vehicle interface.		X	
		(f) Exhaust emission control unit modified affecting safety and/or the environment.		X	
		(g) Any other emission relevant control unit modified affecting safety and/or the environment.		X	
		(h) Presence of electronic devices not authorised by the vehicle manufacturer nor approved during homologation changing signals to or from the engine or pollution control unit(s).		X	
		(i) OBD or OBM read-out indicating significant malfunction.		X	

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8.2.2 Exhaust emission measurement – positive ignition engines	Test procedures: For vehicles that had a particle number (PN) limit at type-approval; Euro VI, Euro 6c and newer or for M1 and N1 registered for the first time after 31 August 2019 and M2, M3, N2 and N3 registered for the first time after **31 December 2013** ~~1 January 2014~~: Particle number measurement in accordance with 8.2.2.1. For all vehicles: Gaseous emissions test in accordance with 8.2.2.2. For vehicles as of emission classes Euro VI, 6d-TEMP and newer or for M1 and N1 registered for the first time after 31 august 2019 and M2, M3, N2 and N3 registered for the first time after **31 December 2013** ~~1 January 2014~~ NO_X measurement in accordance with 8.2.2.3.				
8.2.2.1 Particle number measurement	Vehicle preparation: — [to be specified in accordance with implementing acts] Measuring instrument preparation: — The device to measure PN is powered on for at least the warm-up time indicated by the manufacturer; — Self-checks of the instrument [to be specified in accordance with implementing acts], to monitor the proper operation of the instrument during operation and trigger a warning or message in case of malfunction;	Measurement result exceeds **the threshold of particles per cubic centimetre** [to be specified in accordance with implementing acts] ($1/cm^3$)		X	

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	Before each test, the good condition of the sampling system shall be verified, including checking the sampling hose and probe for damage. Test procedure: — The software of the particle counter automatically guides the instrument operator through the test procedure; — The probe is inserted at least 0,20 m into the outlet of the exhaust system. In justified exemptions where sampling at this depth is not possible, the probe is inserted at least 0,05 m. The sampling probe shall not touch the walls of the tailpipe; — If the exhaust system has more than one outlet, the test shall be done to all of them. In this case, the highest measured PN concentration measured at different exhaust system outlets shall be considered as the vehicle's PN concentration; — The vehicle operates [as specified in accordance with implementing acts]. In case the engine of a vehicle is not switched on at static conditions then the start/stop system shall be deactivated by the test operator. For hybrid and plug-in hybrid vehicles, the thermal engine shall be switched on; — After the probe has been inserted into the tailpipe, the following steps shall be followed: 1. A stabilization period of at least 15 seconds with the engine running at idle speed. 2. After the stabilisation period, the PN concentration emissions are measured **during a sufficient period of time**~~. The duration of the test shall be at least [XX] seconds (total measurement duration)~~ [to				

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	be specified in accordance with implementing acts]. After the completion of the test procedure, the instrument reports (and stores) the PN concentration of the vehicle and a “PASS” or “FAIL” message: — If the test result is less than or equal to the limit, the instrument reports a “PASS” message. — If the test result is greater than the limit, the instrument reports a “FAIL” message.				
8.2.2.2. Gaseous emissions	Measurement using an exhaust gas analyser in accordance with the requirements[1]. Measurements not applicable for two-stroke engines.	(a) Either gaseous emissions exceed the specific levels given by the manufacturer;		X	
		(b) Or, if this information is not available, the CO emissions exceed, (i) for vehicles not controlled by an advanced emission control system, — 4,5 %, or — 3,5 % according to the date of first registration or use specified in requirements[1]. (ii) for vehicles controlled by an advanced emission control system, — at engine idle: 0,5 % — at high idle: 0,3 % or — at engine idle: 0,3 % ([7]) — at high idle: 0,2 % or — at engine idle: 0,2 % ([8]) — at high idle: 0,1 % according to the date of first registration or use specified in requirements[1].		X	
		(c) Lambda coefficient outside the range 1 ± 0,03 or not in accordance with the manufacturer's specification;		X	

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8.2.2.3. NO_X measurement	**Vehicle preparation, measuring instrument preparation, check of the sampling system and test procedure follow item 8.2.3.3, as further specified by way of implementing acts to reflect the environment of positive ignition engine** ~~Vehicle preparation:~~ ~~[to be specified in accordance with implementing acts];~~ ~~[…]~~ ~~Measuring instrument preparation:~~ ~~[to be specified in accordance with implementing acts or combined with PN testing above];~~ ~~Self checks of the instrument [to be specified in accordance with implementing acts];~~ ~~Before each test, the good condition of the sampling system shall be verified, including checking the sampling hose and probe for damage.~~ ~~Test procedure:~~ ~~[to be specified in accordance with implementing acts or combined with PN testing above].~~	Measurement result exceeds [NO_X limit to be specified in accordance with implementing acts].		X	

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8.2.3 Exhaust emission measurement – compression ignition engines	Test procedures: For vehicles as of emission classes Euro 5b and Euro VI and newer or for M1 and N1 registered for the first time after ~~31 August 2019~~ **31 December 2012** and M2, M3, N2 and N3 registered for the first time after 31 December **2012** ~~2013~~: Particle number (PN) measurement in accordance with 8.2.3.1 For vehicles up to emission classes Euro 5a and Euro V: Opacity measurement in accordance with 8.2.3.2. For vehicles equipped with particle filters, or for M1 **registered -for the first time after 2 July 2007** and N1 registered for the first time after **31 August 2010** ~~31 august 2019~~ and M2, M3, N2 and N3 registered for the first time after 30 September 2008, Member States may apply PN measurement in accordance with 8.2.3.1 instead of opacity measurement. For vehicles as of emission classes Euro 6d-TEMP and Euro VI and newer or for M1 and N1 registered for the first time after 31 august 2020 and M2, M3, N2 and N3 registered for the first time after 31 December 2013:: NO_X measurement in accordance with 8.2.3.3.				
8.2.3.1 Particle number measurement	Vehicle preparation: At the beginning of the test the vehicle's engine should be: — Hot, i.e., engine coolant temperature above 60 °C but preferably above 70 °C — Conditioned, by operating for a period of time at low idling and/or performing stationary accelerations up to maximum 2 000 rpm engine speed or by driving. The recommended total conditioning time is at least 300 seconds. During the test, the vehicle shall not be performing an active particulate filter regeneration. A fast pass test is possible with engine coolant temperature below 60 °C. However, if the vehicle fails to pass the test, the test shall be repeated, and the vehicle should fulfil the requirements set for the engine coolant temperature and the conditioning. Measuring instrument (as specified in Sections 3, 4, and 5 of Commission Recommendation (EU) 2023/688, as adopted on	Measurement result exceeds 250 000 ($1/cm^3$). For vehicles up to emission class Euro 5a and Euro V, equipped with particle filters, Member States may apply a limit up to 1 000 000 ($1/cm^3$)		X	

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	20 March 2023) preparation: — The instrument is powered on for at least the warm-up time indicated by the manufacturer; — Self-checks of the instrument as defined in Section 5 of Commission Recommendation (EU) 2023/688, as adopted on 20 March 2023, to monitor the proper operation of the instrument during operation and trigger a warning or message in case of malfunction; Before each test, the good condition of the sampling system shall be verified, including checking the sampling hose and probe for damage. Test procedure: — The software of the particle counter automatically guides the instrument operator through the test procedure; — The probe is inserted at least 0,20 m into the outlet of the exhaust system. In justified exemptions where sampling at this depth is not possible, the probe is inserted at least 0,05 m. The sampling probe shall not touch the walls of the tailpipe; — If the exhaust system has more than one outlet, the test shall be done to all of them. In this case, the highest measured PN concentration measured at different exhaust system outlets shall be considered as the vehicle's PN concentration; — The vehicle operates at low idling. In case the engine of a vehicle is not switched on at static conditions then the start/stop system shall be deactivated by the test operator. For hybrid and plug-in hybrid vehicles, the thermal engine shall be switched on; — After the probe has been inserted into the tailpipe, the following steps shall be followed: 1. A stabilization period of at least 15 seconds with the engine running at idle speed. Optionally, before the stabilization period 2-3 accelerations up to maximum 2 000 rpm engine speed are performed, 2. After the stabilisation period, the PN concentration emissions are measured. The duration of the test shall be at least 15 seconds (total measurement duration). The test				

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	result shall be the average PN concentration of the measurement duration. If the measured PN concentration is more than two times the limit, the measurement may stop immediately before waiting for 15 seconds to elapse. The test result shall be reported. After the completion of the test procedure, the instrument reports (and stores) the average PN concentration of the vehicle and a “PASS” or “FAIL” message: — If the test result is less than or equal to the limit, the instrument reports a “PASS” message. — If the test result is greater than the limit, the instrument reports a “FAIL” message.				
8.2.3.2. Opacity Vehicles registered or put into service before 1 January 1980 are exempted from this requirement	Exhaust gas opacity to be measured during free acceleration (no load from idle up to cut-off speed) with gear lever in neutral and clutch engaged and, if specified in accordance with the type-approval regulations, reading of OBD in accordance with the manufacturer's recommendations and other requirements. Vehicle preconditioning: 1. Vehicles may be tested without preconditioning, although for safety reasons checks should be made that the engine is warm and in a satisfactory mechanical condition.	(a) For vehicles registered or put into service for the first time after the date specified in requirements[1]. opacity exceeds the level recorded on the manufacturer's plate on the vehicle;		X	

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	2. Precondition requirements: (i) Engine shall be fully warm, for instance the engine oil temperature measured by a probe in the oil level dipstick tube to be at least 80 °C, or normal operating temperature if lower, or the engine block temperature measured by the level of infrared radiation to be at least an equivalent temperature. If, owing to the vehicle configuration, this measurement is impractical, the establishment of the engine's normal operating temperature may be made by other means, for example by the operation of the engine cooling fan. (ii) Exhaust system shall be purged by at least three free acceleration cycles or by an equivalent method. Test procedure: Engine and any turbocharger fitted, to be at idle before the start of each free acceleration cycle. For heavy-duty diesels, this means waiting for at least 10 seconds after the release of the throttle. To initiate each free acceleration cycle, the throttle pedal must be fully depressed quickly and continuously (in less than one second) but not violently, so as to obtain maximum delivery from the injection pump.	(b) Where this information is not available or requirements[1] do not allow the use of reference values, — for naturally aspirated engines: 2,5 m^{-1}, — for turbo-charged engines: 3,0 m^{-1}, or — for vehicles identified in requirements[1] or first registered or put into service for the first time after the date specified in requirements[1]: 1,5 m^{-1} ([9]) or 0,7 m^{-1} ([8])			

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	During each free acceleration cycle, the engine shall reach cut-off speed or, the speed specified by the manufacturer or, if this data is not available, then two thirds of the cut-off speed, before the throttle is released. This could be checked, for instance, by monitoring engine speed or by allowing a sufficient time to elapse between initial throttle depression and release, which in the case of vehicles of categories M_2, M_3, N_2 and N_3, should be at least two seconds. Vehicles shall only be failed if the arithmetic means of at least the last three free acceleration cycles are in excess of the limit value. This may be calculated by ignoring any measurement that departs significantly from the measured mean, or the result of any other statistical calculation that takes account of the scattering of the measurements. Member States may limit the number of test cycles. To avoid unnecessary testing, Member States may fail vehicles which have measured values significantly in excess of the limit values after fewer than three free acceleration cycles or after the purging cycles. Equally to avoid unnecessary testing, Member States may pass vehicles which have measured values significantly below the limits after fewer than three free acceleration cycles or after the purging cycles.				

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Item	Method	Reasons for failure	Assessment of deficiencies		
			Minor	Major	Dangerous
8.2.3.3. NO_X measurement	Vehicle preparation: For vehicles as of emission classes Euro 6d-TEMP the outside temperature should be between 0◦C and 30◦C and altitude lower or equal to 700 meters above sea level and engine temperature above 70◦C. For vehicles as of emission classes Euro VI the outside temperature should be between -7◦C and 35◦C, altitude lower or equal to 1600 meters above sea level and engine temperature above 70◦C. For conditions that are not covered by the above mentioned conditions, either use OBD or a visual inspection. Prior to testing, the vehicle's exhaust aftertreatment system shall be warmed up, to the conditions that allow effective abatement of NO_X emissions by the selective catalytic reduction (SCR) unit of the vehicle by at least a 5-minute drive or an equivalent method. Once the condition is reached, the vehicle shall not be turned off and the measurement shall be performed within 3 minutes for M_1 and N_1 vehicles and within 3.5 minutes for M_2, M_3, N_2 and N_3 vehicles. Where possible, the vehicle's readiness to be tested shall be ascertained by checking the indicator lamp on the dashboard or via the vehicle interface (OBD or OBM read-out). During the test, the vehicle shall not be performing an active particulate filter regeneration. Measuring instrument preparation: — The device to measure NO_X emissions is powered on for at least the warm-up time indicated by the manufacturer; — Self-checks of the instrument [to be specified in accordance with implementing acts] to monitor the proper	Measurement result exceeds 40 ppm		X	

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	operation of the instrument during operation and trigger a warning or message in case of malfunction; Before each test, the good condition of the sampling system shall be verified, including checking the sampling hose and probe for damage. Test procedure: — The software of the NO_X analyser automatically guides the instrument operator through the test procedure; — The probe is inserted at least 0,20 m into the outlet of the exhaust system. In justified exemptions where sampling at this depth is not possible, the probe is inserted at least 0,05 m. The sampling probe shall not touch the walls of the tailpipe; — If the exhaust system has more than one outlet, the test shall be done to all of them. In this case, the highest measured NO_X concentration measured at different exhaust system outlets shall be considered as the vehicle's NO_X concentration; — The vehicle operates at low idling; — After the probe has been inserted into the tailpipe, the following steps shall be followed: 1. A stabilization period of at least 15 seconds with the engine running at idle speed. 2. After the stabilisation period, the NO_X concentration emissions are measured. The duration of the test shall be at least 15 seconds (total measurement duration). The test result shall be the average NO_X concentration of the measurement duration. After the completion of the test procedure, the instrument reports (and stores) the average NO_X concentration of the vehicle and a "PASS" or "FAIL" message: — If the test result is less than or equal to the limit, the instrument reports a "PASS" message.				

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	— If the test result is greater than the limit, the instrument reports a “FAIL” message.				

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’;

(xxxiv) in the table, item 8.4.1, is replaced by the following:

‘

8.4.1. Fluid leaks	Visual inspection	Any excessive fluid leak, other than water, likely to harm the environment or to pose a safety risk to other road users. Steady formation of drops that constitutes a very serious risk.		X 	 X

’;

’;

(xxxiva) in the table, a new item 9.7.1 is inserted as follows:

‘

9.7.1 Kneeling **Description: the system allows a road vehicle to be lowered to make it easier for passengers to board and disembark.** **.**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	**(a) System or any component missing**		**X**	
		(b) System or components damaged		**X**	
		(c) Software version or -integrity incorrect		**X**	
		(d) Wiring damaged		**X**	
		(e) Warning device shows system malfunction.		**X**	
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(g) System or components not operating, or implausible operation		**X**	

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		(h) Other failure **Not affecting the safe operation**	**X**		
		Affecting safe operation of the vehicle		**X**	
		Danger to health of persons on board or of other road users			**X**

’;

(xxxivb) in the table, the following item 9.13 is added:

‘

9.13. Alarm and fire suppression system	**Visual inspection and by operation (where appropriate) and/or using electronic interface**	**Reason for failure**	**Minor**	**Major**	**Dangerous**
9.13.1. Alarm system (if fitted, in accordance with EU type approval legislation)		**(a) Not operational at all, not working properly.**		**X**	
		(b) System indicates failure via the electronic interface.		**X**	
		(c) Missing		**X**	
		(d) Not in accordance with requirements[1]		**X**	
		(e) Activated		**X**	

’;

(xxxv) in the table, the following item 10 is added:

‘

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10. ADAS AND OTHER SAFETY RELATED SYSTEMS					
~~10.1. Cornering light Description: during cornering, an extra headlamp is activated. Operates up to 40 km/h, for example in accordance with UNECE R 48 or UNECE R 119.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or -integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	~~X~~
10.**1**~~2~~ Adaptive cruise control **and intelligent speed assistance.** **Description adaptive cruise control: The system maintains the vehicle's speed, depending on the preferred speed and distance to the vehicle in front.**	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged, or sensors obviously misaligned		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	

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Description intelligent speed assistance: system to aid the driver in maintaining the appropriate speed for the road environment by providing dedicated and appropriate feedback, for example in accordance with Regulation (EU) 2019/2144 and Commission Delegated Regulation (EU) 2021/1958***.**		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
		(g) System or components not operating, or implausible operation		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
~~10.4 Airbag~~ ~~Description: In case of an accident, inflatable airbags reduce the risk of injury by their absorbing effect, for example in accordance with UNECE R 12; UNECE R 14; or UNECE R 16.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or components (for example seat occupancy detection) obviously missing.~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board~~	~~X~~	~~X~~	~~X~~

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		~~(g) System or components obviously not operating (for example not suitable with the vehicle)~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board~~	~~X~~	~~X~~ ~~X~~	~~X~~
10.~~5~~**2** Active Headrest Description: the system reduces the danger of a whiplash injury in the event of a rear end collision by changing the position of the headrest towards the head.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board	X	 X	 X
		(g) System or components not operating, where applicable, or implausible operation		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board	X	 X	 X
10.~~3~~**6** Active hood	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the	(a) System or any component missing		X	
		(b) System or components damaged		X	

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Description: by automatically lifting the bonnet, the system ensures a larger collapsible zone in the event of an accident involving a pedestrian.	necessary data is made available, with the use of electronic interface	(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
		(g) System or components not operating (for example outdated), where applicable, or implausible operation		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
10.4~~7~~ Automatic hold function Description: the system independently holds the vehicle after stopping using the service brake and/or parking brake and automatically releases them when starting.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X

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		(g) System or components not operating, or implausible operation		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
~~10.8 Automatic headlamp levelling~~ ~~Description: depending on the load and (optional) pitch angle, the system regulates the headlamp's vertical aim, for example in accordance with UNECE R 121.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	~~-~~	~~X~~	~~-~~
		~~(b) System or components damaged~~	~~-~~	~~X~~	~~-~~
		~~(c) Software version or -integrity incorrect~~	~~-~~	~~X~~	~~-~~
		~~(d) Wiring damaged~~	~~-~~	~~X~~	~~-~~
		~~(e) Warning device shows system malfunction.~~	~~-~~	~~X~~	~~-~~
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	 ~~X~~	 ~~X~~	 ~~X~~
		~~(g) System or components not operating, or implausible operation~~	~~-~~	~~X~~	~~-~~
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	 ~~X~~	 ~~X~~	 ~~X~~
10.~~5~~9 Automatic emergency braking system Description: the system independently starts braking in order	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the	(a) System or any component missing		X	
		(b) System or components damaged, or sensors obviously misaligned		X	

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to avoid a collision with an obstacle or another road user, or to reduce the consequences of an inevitable impact.	necessary data is made available, with the use of electronic interface	(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
		(g) System or components not operating, or implausible operative (for example audio components)		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
~~10.10 Anti-lock braking system Description: the system automatically prevents wheel-locking during braking by selective reduction of the wheel brake force, for example in accordance with UNECE R 13 and Regulation (EU) 2019/2144.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components (for example wheel speed sensor) damaged~~	-	~~X~~	-
		~~(c) Software version or -integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	 ~~X~~	 ~~X~~

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		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.11 Automatic light~~ ~~Description: depending on the ambient brightness, the system automatically switches on and off the driving light.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or -integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~Electro-mechanic power steering~~ ~~Description: the supporting power~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-

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~~for steering is generated by an electric motor.~~	~~necessary data is made available, with the use of electronic interface~~	~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	~~X~~
		~~(g) System or components not operating (for example Power assistance not working), or implausible operation (for example inconsistency between the angle of the steering wheel and the angle of the wheels.)~~ ~~Steering affected~~	-	~~X~~	~~X~~
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.13 Electronic four-wheel steering~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-

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		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	~~-~~	~~X~~	~~-~~
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.14 Electronic damping~~ ~~Description: depending on the driving situation, the rebound and compression stage of the shock absorbers is adjusted by the system.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	~~-~~	~~X~~	~~-~~
		~~(b) System or components damaged~~	~~-~~	~~X~~	~~-~~
		~~(c) Software version or integrity incorrect~~	~~-~~	~~X~~	~~-~~
		~~(d) Wiring damaged~~	~~-~~	~~X~~	~~-~~
		~~(e) Warning device shows system malfunction.~~	~~-~~	~~X~~	~~-~~
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	~~-~~	~~X~~	~~-~~

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		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.15 Electronic brake system~~ ~~Description: a brake pedal sensor and/or pressure sensor records the braking request and calculates the optimal brake force for each wheel, so that there is optimal activation of all wheel brakes.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface, or by road test.~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.16 Electronic stability program~~ ~~Description: the system stabilizes the vehicle or the complete vehicle train in critical, dynamic driving situations, for example in accordance with Regulation (EU) 2019/2144 and UNECE R 140.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component (for example wheel speed sensors) missing~~	-	~~X~~	-
		~~(b) System or components (for example wheel speed sensors) damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-

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		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~
~~10.17 High beam assist~~ ~~Description: the system automatically activates and deactivates the high beam according to the driving situation and lighting conditions.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-

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		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.18 Speed limiter~~ ~~Description: While driving, the system prevents exceeding a defined maximum speed. Relevant, if mandatory, for example in accordance with UNECE R 89 and Regulation (EU) 2019/2144.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing (for example seals, plaques), or not fitted in accordance with the requirements.~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation (for example tampered or manipulated, or size of tyres not compatible with calibration parameters, or incorrect set speed, if checked).~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.19 Belt tensioner and belt force limiter~~ ~~Description: In the event of an accident, the seat belt is tensioned to~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the~~	~~(a) System or any component missing, or not suitable with the vehicle~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-

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~~place the passengers in a setpoint position and/or limits the belt force, electrically controlled and, thus, limits the forces acting on the persons for example in accordance with UNECE R 16 or UNECE R 94.~~	~~necessary data is made available, with the use of electronic interface~~	~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board~~	~~X~~	~~X~~ ~~X~~	
		~~(g) System or components not operating, where applicable, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board~~	~~X~~	~~X~~ ~~X~~	
~~10.21 Bending light~~ ~~Description: during cornering and depending on the steering angle and speed, the light beam is swivelled and/or an additional headlight is activated, for example in accordance with UNECE R 48; UNECE R 98; UNECE R 112; or UNECE R 123.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	

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		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~
10.~~6~~22 **~~Assissted~~ steering systems** Steering assist Description: depending on the driving situation, the steering angle is automatically changed, without intervention by the driver. Relevant if the steering intervention occurs at a speed of more than 15 km/h, for example in accordance with UNECE-R 79. **Lane change assistance** **Description: at a lane change, the system warns the driver about vehicles in the next lane and steers the vehicle back.**	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
		(g) System or components not operating, or implausible operative (for example audio components)		X	

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Lane keeping assistance **Description: the system warns the driver when the vehicle is unintentionally leaving its lane and steers the vehicle back, e.g. in accordance with Regulation (EU) 2019/2144 and Commission Implementing Regulation (EU) 2021/646*.** **Automated lane keeping system (ALKS)** **Description: a system which is activated by the driver, and which keeps the vehicle within its lane by controlling the lateral and longitudinal movements of the vehicle for extended periods without the need for further driver input (for example in accordance with UNECE-R 157).**		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
~~10.23 Height levelling~~ ~~Description: the system changes the clearance between vehicle chassis and the road.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	~~-~~	~~X~~	~~-~~
		~~(b) System or components damaged~~	~~-~~	~~X~~	~~-~~
		~~(c) Software version or integrity incorrect~~	~~-~~	~~X~~	~~-~~
		~~(d) Wiring damaged~~	~~-~~	~~X~~	~~-~~
		~~(e) Warning device shows system malfunction.~~	~~-~~	~~X~~	~~-~~

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		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~
~~10.24 Emergency braking signal~~ ~~Description: during strong deceleration, hazard warning lights and/or additional luminous surfaces are activated and/or the following traffic is warned by flashing brake lights, for example in accordance with UNECE R 48 or UNECE R 13.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-

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		~~(f) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
10.~~7~~25~~.~~ Pre-crash system Description: in a critical driving situation, the vehicle is prepared for the crash so that the risk of injury to the passengers and/or other road users is reduced.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
		(g) System or components not operating, or implausible operation (for example power windows)		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
~~10.26 Tyre pressure warning~~ ~~Description: the system detects loss of tyre pressure through integrated sensors and/or by implausible values for wheel speed, for example in accordance with Regulation (EU) 2019/2144 and UNECE R 141.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or -integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-

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		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	~~X~~
~~10.28 Superimposed steering~~ ~~Description: depending on the driving situation, the system varies the transmission ratio of the steering.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating (for example power assistance not working), or implausible operation (for example inconsistency between the angle of the steering wheel and the angle of the wheels.)~~ ~~Steering affected~~	-	~~X~~	~~X~~

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		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
10.~~8~~29 Roll over protection (active) Description: in the event of an imminent rollover, support elements are extended to secure the survival space, for example in accordance with Regulation (EU) 2019/2144 and UNECE-R 21.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
		(g) System or components not operating, or implausible operation		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
~~10.30 Hydrogen installation~~ ~~Description: the hydrogen is stored in the vehicle and is used to propel the vehicle, either by combustion in an internal combustion engine or by conversion in a fuel cell with an additional electric engine.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	~~-~~	~~X~~	~~-~~
		~~(b) System or components damaged~~	~~-~~	~~X~~	~~-~~
		~~(c) Software version or -integrity incorrect~~	~~-~~	~~X~~	~~-~~
		~~(d) Wiring damaged~~	~~-~~	~~X~~	~~-~~

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		~~(e) Warning device shows system malfunction.~~	~~-~~	~~X~~	~~-~~
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	 ~~X~~
		~~(g) System or components not operating, or implausible operation~~	~~-~~	~~X~~	~~-~~
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	 ~~X~~
10.~~9~~31~~~~ Start-up aid Description: aiding start-up, for example by raising the lift axle or by momentarily applying brake pressure or by automatic release of the parking brake.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X X	 X
		(g) System or components not operating, or implausible operation		X	

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		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
~~10.32 Trailer stabilization~~ ~~Description: through selective braking of the trailer by the service brakes, the complete vehicle train is stabilised.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	~~-~~	~~X~~	~~-~~
		~~(b) System or components damaged~~	~~-~~	~~X~~	~~-~~
		~~(c) Software version or integrity incorrect~~	~~-~~	~~X~~	~~-~~
		~~(d) Wiring damaged~~	~~-~~	~~X~~	~~-~~
		~~(e) Warning device shows system malfunction.~~	~~-~~	~~X~~	~~-~~
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	~~-~~	~~X~~	~~-~~
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.33 Endurance brake~~ ~~Description: an additional braking system that can maintain braking over a period of time without a significant reduction in performance, for example in~~	~~Visual inspection (with command activated and not activated, if possible) complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made~~	~~(a) System or any component missing (for example Insecure connectors or mountings)~~	~~-~~	~~X~~	~~-~~
		~~(b) System or components damaged~~	~~-~~	~~X~~	~~-~~
		~~(c) Software version or integrity incorrect~~	~~-~~	~~X~~	~~-~~

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~~accordance with UNECE R 13 and Regulation (EU) 2019/2144.~~	~~available, with the use of electronic interface~~	~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(j) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
10.**10**~~34~~ Differential lock deactivation Description: when this system is activated, the differential locks are unlocked depending on parameters (for example wheel slip, steering angle, speed).	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X

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		(g) System or components not operating, or implausible operation Steering affected		X 	 X
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X 	 X
~~10.35 Electronically controlled leading and trailing axle~~ ~~Description: the steered axles are additional axles with electronically controlled steering. The steering force is generated by a hydraulic pump or by the lateral force on the wheels.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	 ~~X~~	 ~~X~~	 ~~X~~
		~~(g) System or components not operating, or implausible operation~~ ~~Steering affected~~	-	~~X~~	 ~~X~~

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		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
~~10.36 Electronic steering damper~~ ~~Description: Steering damping is controlled electronically.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	~~-~~	~~X~~	~~-~~
		~~(b) System or components damaged~~	~~-~~	~~X~~	~~-~~
		~~(c) Software version or integrity incorrect~~	~~-~~	~~X~~	~~-~~
		~~(d) Wiring damaged~~	~~-~~	~~X~~	~~-~~
		~~(e) Warning device shows system malfunction.~~	~~-~~	~~X~~	~~-~~
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~ ~~Steering affected~~	~~-~~	~~X~~	~~X~~
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(a) System or any component missing~~	~~-~~	~~X~~	~~-~~

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~~10.37 Bus stop brake~~ ~~Description: the system ensures the application of brake pressure when stationary, independent of the brake pedal activation. Buses can only start moving when the doors are closed.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.38 Kneeling~~ ~~Description: the system allows a road vehicle to be lowered to make it easier for passengers to board and disembark.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~

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		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	~~X~~
10.**11**~~39~~ Steering brake Description: during cornering, dosed braking is applied to one or more wheels.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
		(g) System or components not operating, or implausible operation Steering affected		X	X
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X

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~~10.41 Sliding joint stabilisation Description: The articulated joint is stabilised by damping, depending on vehicle speed, cylinder pressure of the articulated dampers, steering and articulation angle.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.42 Four wheel parking brake Description: the system applies the maximum brake pressure in the wheel cylinders at all four wheels.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-

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		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.44 Adaptive headlights~~ ~~Description: the illumination of the surrounding road area and/or the direct illumination of road users in the danger area in front of the vehicle is optimised by dynamic adaption of the light beams.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-

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		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.45 Electrically actuated parking brake~~ ~~Description: the parking brake function is triggered or transmitted electronically or electromechanically.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	~~-~~	~~X~~	~~-~~
		~~(b) System or components damaged~~	~~-~~	~~X~~	~~-~~
		~~(c) Software version or integrity incorrect~~	~~-~~	~~X~~	~~-~~
		~~(d) Wiring damaged~~	~~-~~	~~X~~	~~-~~
		~~(e) Warning device shows system malfunction.~~	~~-~~	~~X~~	~~-~~
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	~~-~~	~~X~~	~~-~~
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.46 Lane change assistance~~ ~~Description: at a lane change, the system warns the driver about vehicles in the next lane and steers the vehicle back.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	~~-~~	~~X~~	~~-~~
		~~(b) System or components damaged~~	~~-~~	~~X~~	~~-~~
		~~(c) Software version or integrity incorrect~~	~~-~~	~~X~~	~~-~~
		~~(d) Wiring damaged~~	~~-~~	~~X~~	~~-~~

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		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	~~X~~
~~10.47 Lane keeping assistance~~ ~~Description: the system warns the driver when the vehicle is unintentionally leaving its lane and steers the vehicle back, e.g. in accordance with Regulation (EU) 2019/2144 and Commission Implementing Regulation (EU) 2021/646*.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-

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		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.48 Automatic eCall~~ ~~Description: the system is triggered automatically by in-vehicle sensors or manually, it transmits a minimum set of data (EN 15722) via mobile communication network and establishes an audio connection based on the (emergency) number between the vehicle passengers and the public safety answering point, in accordance with Regulation (EU) 2015/758 of the European Parliament and of the Council**, and Commission Delegated Regulation (EU) 2017/79***.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device (eCall MIL) shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation:~~ ~~– audio components (for example failing echo test);~~ ~~– minimum set of data incorrect~~	-	~~X~~	-
		~~(h) Other failure (for example mobile network communication device, electronic control unit, or GPS signal failure)~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board~~	~~X~~	~~X~~	~~X~~
		(a) System or any component missing		X	

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10.**12**~~49~~ Active roll stabilisation Description: via appropriate actuators the system produces a roll movement which counters the vehicle's body roll movement depending on the current driving situation.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
		(g) System or components not operating, or implausible operation		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
~~10.50 Camera monitor~~ ~~Description: the system which generates at least a part of the indirect field of vision by a camera monitor combination (for example in accordance with UNECE R 46).~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or -integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	 ~~X~~	 ~~X~~	 ~~X~~

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		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	~~X~~
10.**13**~~51~~ Acoustic vehicle alerting Description: at low speed, the system generates an external, specific sound in order to warn, for example pedestrians.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
		(g) System or components not operating, or implausible operative		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
~~10.52 Basic exterior lights~~ ~~Description: the system switches~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-

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~~on/switches off the basic lighting devices (for example indicators).~~	~~necessary data is made available, with the use of electronic interface~~	~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.53 Automated lane keeping system (ALKS)~~ ~~Description: a system which is activated by the driver, and which keeps the vehicle within its lane by controlling the lateral and longitudinal movements of the vehicle for extended periods without the need~~ ~~for further driver input (for example in accordance with UNECE R 157).~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~

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		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	~~X~~
10.**14**~~54~~ Turning assistant **(Blind spot detection system)** Description: a system to inform the driver of a possible collision with a traffic participant (for example bicycle) near side (for example in accordance with UNECE-R 151).	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
		(g) System or components not operating, or implausible operation		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
~~10.55 Tachograph~~ ~~Description: a system to record the driving time, breaks, rest periods as~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the~~	~~(a) System or any component missing (for example seals, plaques), or not fitted in accordance with the requirements (for example plaque out of date).~~	-	~~X~~	-

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~~well as periods of other work undertaken by a driver, for example, in accordance with Regulation (EU) No 165/2014 of the European Parliament and of the Council****.~~	~~necessary data is made available, with the use of electronic interface~~	~~(b) System or components damaged (for example illegible plaque)~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation (for example tampered or manipulated, or size of tyres not compatible with calibration parameters, or incorrect set speed, if checked).~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.56 Intelligent speed assistance~~ ~~Description: system to aid the driver in maintaining the appropriate speed for the road environment by providing dedicated and appropriate feedback, for example in accordance with Regulation (EU) 2019/2144 and Commission Delegated Regulation (EU) 2021/1958*****.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-

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		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(g) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
10.**15**~~57~~ Reversing detection Description: system to make the driver aware of people and objects at the rear of the vehicle with the primary aim of avoiding collisions when reversing, for example in accordance with Regulation (EU) 2019/2144 and UNECE-R 158.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
		(g) System or components not operating, or implausible operation		X	

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		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
10.**16**~~58~~ Driver drowsiness and attention warning Description: system that assesses the driver's alertness through vehicle systems analysis and warns the driver if needed, for example in accordance with Regulation (EU) 2019/2144 and Commission Delegated Regulation (EU) 2021/1341******.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
		(g) System or components not operating, or implausible operation		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
10.**17**~~59~~ Advanced driver distraction warning Description: system that helps the driver to continue to pay attention to the traffic situation and that warns the driver when he or she is distracted, for example in accordance with Regulation (EU)	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	

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2019/2144 and Commission Delegated Regulation (EU) 2023/2590*******.		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
		(g) System or components not operating, or implausible operation		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
10.**18**~~60~~ Event data recorder Description: system with the only purpose of recording and storing critical crash-related parameters and information shortly before, during and immediately after a collision, for example in accordance with Regulation (EU) 2019/2144, Commission Delegated Regulation (EU) 2022/545********, and UNECE-R 160.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation	X		
		(g) System or components not operating, or implausible operation (for example data not accessible)		X	
		(h) Other failure Not affecting the safe operation	X		
10.**19**~~61~~ Automated driving system Description: systems that are capable of performing the entire	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the	(a) System or any component missing		X	
		(b) System or components damaged		X	

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dynamic driving task of the fully automated vehicle on a sustained basis, for example in accordance with Regulation (EU) 2019/2144 and Commission Implementing Regulation (EU) 2022/1426*********.	necessary data is made available, with the use of electronic interface	(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
		(g) System or components not operating, or implausible operation (for example HMI)		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
10.**20**~~62~~ Driver availability monitoring systems (automated driving) Description: System that assesses whether the driver is capable of taking over the driving function of a self-driving vehicle, if necessary, in certain situations, for example in accordance with Regulation (EU) 2019/2144 and UNECE-R 157.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X

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		(g) System or components not operating, or implausible operation (for example HMI)		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X

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* Commission Implementing Regulation (EU) 2021/646 of 19 April 2021 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 motor vehicles with regard to their emergency lane-keeping systems (ELKS) (OJ L 133, 20.4.2021, p. 31, ELI: http://data.europa.eu/eli/reg_impl/2021/646/oj).

** Regulation (EU) 2015/758 of the European Parliament and of the Council of 29 April 2015 concerning type-approval requirements for the deployment of the eCall in-vehicle system based on the 112 service and amending Directive 2007/46/EC (OJ L 123, 19.5.2015, p. 77, ELI: http://data.europa.eu/eli/reg/2015/758/oj).

*** Commission Delegated Regulation (EU) 2017/79 of 12 September 2016 establishing detailed technical requirements and test procedures for the EC type-approval of motor vehicles with respect to their 112-based eCall in-vehicles systems, of 112-based eCall in-vehicle separate technical units and components and supplementing and amending Regulation (EU) 2015/758 of the European Parliament and of the Council with regard to the exemptions and applicable standards (OJ L 12, 17.1.2017, p. 44, ELI: http://data.europa.eu/eli/reg_del/2017/79/oj).

**** Regulation (EU) No 165/2014 of the European Parliament and of the Council of 4 February 2014 on tachographs in road transport, repealing Council Regulation (EEC) No 3821/85 on recording equipment in road transport and amending Regulation (EC) No 561/2006 of the European Parliament and of the Council on the harmonisation of certain social legislation relating to road transport (OJ L 60, 28.2.2014, p. 1, ELI: http://data.europa.eu/eli/reg/2014/165/oj).

***** Commission Delegated Regulation (EU) 2021/1958 of 23 June 2021 supplementing Regulation (EU) 2019/2144 of the European Parliament and of the Council by laying down detailed rules concerning the specific test procedures and technical requirements for the type-approval of motor vehicles with regard to their intelligent speed assistance systems and for the type-approval of those systems as separate technical units and amending Annex II to that Regulation (OJ L 409, 17.11.2021, p. 1, ELI: http://data.europa.eu/eli/reg_del/2021/1958/oj).

****** Commission Delegated Regulation (EU) 2021/1341 of 23 April 2021 supplementing Regulation (EU) 2019/2144 of the European Parliament and of the Council by laying down detailed rules concerning the specific test procedures and technical requirements for the type-approval of motor vehicles with regard to their driver drowsiness and attention warning systems and amending Annex II to that Regulation (OJ L 292, 16.8.2021, p. 4, ELI: http://data.europa.eu/eli/reg_del/2021/1341/oj).

******* Commission Delegated Regulation (EU) 2023/2590 of 13 July 2023 supplementing Regulation (EU) 2019/2144 of the European Parliament and of the Council by laying down detailed rules concerning the specific test procedures and technical requirements for the type-

approval of certain motor vehicles with regard to their advanced driver distraction warning systems and amending that Regulation (OJ L, 2023/2590, 22.11.2023, ELI: http://data.europa.eu/eli/reg_del/2023/2590/oj).

******** Commission Delegated Regulation (EU) 2022/545 of 26 January 2022 supplementing Regulation (EU) 2019/2144 of the European Parliament and of the Council by laying down detailed rules concerning the specific test procedures and technical requirements for the type-approval of motor vehicles with regard to their event data recorder and for the type-approval of those systems as separate technical units and amending Annex II to that Regulation (OJ L 107, 6.4.2022, p. 18, ELI: http://data.europa.eu/eli/reg_del/2022/545/oj).

********* Commission Implementing Regulation (EU) 2022/1426 of 5 August 2022 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 the automated driving system (ADS) of fully automated vehicles (OJ L 221, 26.8.2022, p. 1, ELI: http://data.europa.eu/eli/reg_impl/2022/1426/oj).

(2) Annex III is amended as follows:

(a) in section I 'Facilities and equipment', the first paragraph is amended as follows:

(i) point (10) is replaced by the following:

'(10) A 4-gas analyser in accordance with Directive 2014/32/EU of the European Parliament and of the Council*;

* Directive 2014/32/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of measuring instruments (OJ L 96, 29.3.2014, p. 149, ELI: http://data.europa.eu/eli/dir/2014/32/oj).';

(ii) **point 15 is replaced and** the following points (16) and (17) are added:

'(15) A device to detect LPG/CNG/LNG **and hydrogen** leakage, if such vehicles are tested;

(16) device to measure particle number emissions **from diesel engines** with sufficient accuracy;

(17) [From ~~one year~~ **[three years]** after the entry into force of implementing acts laying down detailed rules on measuring nitrogen oxides **and particle number emissions**], a device to measure nitrogen oxide (NO_X) emissions **and a device measuring particle number emissions in petrol engines with sufficient accuracy**.';

(b) in section II, Table I is replaced by the following:

'*Table I* (*)

Minimum equipment required for the purpose of performing a roadworthiness test

Vehicles		Category	Equipment required for each item listed in section I															
	Maximum mass		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

1. Motorcycles			[1]																	
		L1e	P	x								x	x		x	x	x			
		L1e	**E**	**x**											**x**	**x**	**x**			
		L3e, L4e	P	x								x	x		x	x	x			
		L3e, L4e	D	x								x		x	x	x	x			
		L3e, L4e	**E**	**x**											**x**	**x**	**x**			
		L2e	P	x	x							x	x		x	x	x			
		L2e	D	x	x							x		x	x	x	x			
		L2e	**E**	**x**	**x**										**x**	**x**	**x**			
		L5e	P	x	x							x	x		x	x	x			
		L5e	D	x	x							x		x	x	x	x			
		L5e	**E**	**x**	**x**										**x**	**x**	**x**			
		L6e	P	x	x							x	x		x	x	x			
		L6e	D	x	x							x		x	x	x	x			
		L6e	**E**	**x**	**x**										**x**	**x**	**x**			
		L7e	P	x	x							x	x		x	x	x			
		L7e	D	x	x							x		x	x	x	x			

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		L7e	**E**	**x**	**x**										**x**	**x**	**x**			
2. Vehicles for the carriage of persons																				

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Vehicles		Category		Equipment required for each item listed in section I																
	Maximum mass			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	Up to 3 500 kg	M_1, M_2	P	x	x		x					x	x		x	x	x	x	x	x
	Up to 3 500 kg	M_1, M_2	D	x	x		x					x		x	x	x	x		x	x
	Up to 3 500 kg	**M_1, M_2**	**E**	**x**	**x**		**x**								**x**	**x**	**x**			
	> 3 500 kg	M_2, M_3	P	x	x	x		x	x	x	x	x	x		x	x	x	x	x	x
	> 3 500 kg	M_2, M_3	D	x	x	x		x	x	x	x	x		x	x	x	x		x	x
	> 3 500 kg	**M_2, M_3**	**E**	**x**	**x**	**x**		**x**	**x**	**x**	**x**				**x**	**x**	**x**			
3. Vehicles for the carriage of goods																				
	Up to 3 500 kg	N_1	P	x	x		x					x	x		x	x	x	x	x	x
	Up to 3 500 kg	**N_1**	**E**	**x**	**x**		**x**								**x**	**x**	**x**			
	Up to 3 500 kg	N_1	D	x	x		x					x		x	x	x	x		x	x
	> 3 500 kg	N_2, N_3	P	x	x	x		x	x	x	x	x	x		x	x	x	x	x	x
	> 3 500 kg	N_2, N_3	D	x	x	x		x	x	x	x	x		x	x	x	x		x	x
	> 3 500 kg	**N_2, N_3**	**E**	**x**	**x**	**x**		**x**	**x**	**x**	**x**				**x**	**x**	**x**			

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4. Special vehicles derived from a category N vehicle, T5, T1b, T2b, T3b, T4.1b, T4.2b and T4.3b																				
	Up to 3 500 kg	N_1	P	x	x		x					x	x		x	x	x	x	x	x
	Up to 3 500 kg	N_1	D	x	x		x					x		x	x	x	x		x	x
	Up to 3 500 kg	**N_1**	**E**	**x**	**x**		**x**								**x**	**x**	**x**			

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Vehicles		Category		Equipment required for each item listed in section I															
	Maximum mass			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	> 3 500 kg	N_2, N_3, M1 **T5**, T1b, T2b, T3b, T4.1b, T4.2b and T4.3b	P	x	x	x		x	x	x	x	x	x		x	x	x	x	x	x
	> 3 500 kg	N_2, N_3, M1 **T5**, T1b, T2b, T3b, T4.1b, T4.2b and T4.3b	D	x	x	x		x	x	x	x	x		x	x	x	x		x	x
	> 3 500 kg	**N_2, N_3, M1, T5, T1b, T2b, T3b, T4.1b, T4.2b and T4.3b**	**E**	**x**	**x**	**x**		**x**	**x**	**x**	**x**				**x**	**x**	**x**			
5. Trailers	Up to 750 kg	O_1		x												x				
	> 750 to 3 500 kg	O_2		x	x		x									x				
	> 3 500 kg	O_3, O_4		x	x	x			x	x	x					x				

* The vehicle categories which are outside the scope of this Directive are included for guidance.

[1] P…petrol (positive ignition); D…diesel (compression ignition) ; **E…electric (BEV – battery electric vehicle)'**;

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(3) Annex IV is amended as follows:

(a) in point 2, point (a), points (i) and (ii) are replaced by the following:

‘(i) vehicle technology:

— braking systems;

— steering systems;

— fields of vision;

— light installation, lighting equipment and electronic components;

— axles, wheels and tyres;

— chassis and bodywork;

— nuisance and emissions;

— alternative drives (high-voltage, hybrid, hydrogen systems);

— additional requirements for special vehicles;

(ii) testing methods (including the necessary training for inspecting vehicles equipped with high-voltage systems);’

(b) point 3 is replaced by the following:

‘*3. Certificate of competence*

The certificate or equivalent documentation issued to an inspector authorised to carry out roadworthiness tests shall include at least the following information:

— identification of the inspector (first name, surname);

— vehicle categories for which the inspector is authorised to carry out roadworthiness tests and, where relevant, areas of specialised competence of the inspector;

— name of the issuing authority;

— date of issue.’.

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ANNEX [II]

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Annexes II, III, IV and V to Directive 2014/47/EU are amended as follows:

(4) Annex II is amended as follows:

(a) in point 1, the following point (10) is added:

‘(10) ADAS and other safety related systems.’;

(b) point 3 is amended as follows:

(i) the heading is replaced by the following:

‘3. CONTENTS AND METHODS OF TESTING, REASONS FOR FAILURE, AND ASSESSMENT OF DEFICIENCIES OF VEHICLES’;

(ii) in the table, items 1.1.3 to 1.1.6 are replaced by the following:

‘

1.1.3. Vacuum pump or compressor and reservoirs	Visual inspection of the components at normal working pressure. Check time required for vacuum or air pressure to reach safe working value and function of warning device, multi-circuit protection valve and pressure relief valve. Brake application means depression of the brake pedal/lever which allows the full flow of air/fluid application pressure to the brake assemblies.	(a) Insufficient pressure/vacuum to give assistance for at least four brake applications after the warning device has operated (or gauge shows an unsafe reading); at least two brake applications after the warning device has operated (or gauge shows an unsafe reading).		X X
		(b) Time taken to build up air pressure/vacuum to safe working value is too long according to the require-ments[1]		X	
		(c) Multi-circuit protection valve or pressure relief valve not working.		X	
		(d) Air leak causing a noticeable drop in pressure or audible air leaks. Air leak causing a critical drop in pressure.		X X
		(e) External damage likely to affect the function of the braking system.		X	
1.1.4. Low pressure warning device	Functional check	Malfunctioning or defective warning device. Low pressure not identifiable.	X	 X	
1.1.5. Hand-operated brake control valve	Visual inspection of the components while the braking system is operated.	(a) Control cracked, damaged or excessively worn.		X	
		(b) Control insecure on valve or valve insecure.		X	
		(c) Loose connections, defective fixing, or leaks in system.		X	
		(d) Unsatisfactory operation.		X	

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1.1.6. Parking brake **activator, lever control, parking brake ratchet, electronic actuated parking brake including four-wheel parking brake** **Description electronic actuated parking brake: the parking brake function is triggered or transmitted electronically or electromechanically.** **Description four-wheel parking brake: the system applies the maximum brake pressure in the wheel cylinders at all four wheels.** **.**	Visual inspection of the components while the braking system is operated **complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface.**.	(a) Ratchet not holding correctly.		X	
		(b) Wear at lever pivot or in ratchet mechanism. Excessive wear.	X	 X	
		(c) Excessive movement of lever indicating incorrect adjustment.		X	
		(d) ~~Activator~~ **System or any component** missing~~, damaged or inoperative.~~		X	
		(e) System or component damaged		**X**	
		(f) Software version or -integrity incorrect		**X**	
		(g) Wiring damaged		**X**	
		(h) Warning device shows system malfunction.		**X**	
		(i) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	 **X**	 **X**
		(j) System or components not operating, or implausible operation		**X**	
		(k) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	 **X**	 **X**

’;

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(iii) in the table, item 1.1.13 is replaced by the following:

‘

1.1.13. Brake linings and pads	Visual inspection.	(a) Lining or pad excessively worn (minimum mark reached). Lining or pad excessively worn (minimum mark not visible).		X 	 X
		(b) Lining or pad contaminated (oil, grease etc.). Braking performance affected.		X 	 X
		(c) Lining or pad missing or wrongly mounted, or of obviously incorrect type.			X
		(d) Wear indicator electrical harness disconnected or damaged	X		

’;

(iv) in the table, item 1.1.18 is replaced by the following:

‘

1.1.18. Slack adjusters and indicators	Visual inspection of the components while the braking system is operated, if possible.	(a) Adjuster damaged, seized or having abnormal movement, excessive wear, or incorrect adjustment.		X	
		(b) Adjuster defective.		X	
		(c) Incorrectly installed or replaced.		X	

;

(v) in the table, item 1.1.19 is **replaced by the following:**~~deleted;~~

‘

1.1.19. Endurance braking system (where fitted or required) **Description: an additional braking system that can maintain braking over a period of time without a significant reduction in performance, for example in accordance with UNECE-R 13 and Regulation (EU) 2019/2144.**	**Visual inspection (with command activated and not activated, if possible) complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	**(a) System or any component missing (for example Insecure connectors or mountings)**	-	**X**	-
		(b) System or components damaged	-	**X**	-
		(c) Software version or -integrity incorrect	-	**X**	-
		(d) Wiring damaged	-	**X**	-
		(e) Warning device shows system malfunction.	-	**X**	-
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(g) System or components not operating, or implausible operation	-	**X**	-
		(h) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**

’;

(vi) in the table, item 1.1.23 is replaced by the following **items 1.1.23 to 1.1.25**:

‘

1.1.23. Overrun brake	Visual inspection and by operation	(a) Not working properly, for example, stroke of the drawbar exceeds 2/3 of the total overrun travel		X	

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		(b) Breakaway cable defect or missing		X	
1.1.24 Trailer stabilization **Description: through selective braking of the trailer by the service brakes, the complete vehicle train is stabilised.**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	(a) **System or any component missing**	-	**X**	-
		(b) **System or components damaged**	-	**X**	-
		(c) **Software version or -integrity incorrect**	-	**X**	-
		(d) **Wiring damaged**	-	**X**	-
		(e) **Warning device shows system malfunction.**	-	**X**	-
		(f) **System indicates failure via the electronic vehicle interface** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X** **X**	
		(g) **System or components not operating, or implausible operation**	-	**X**	-
		(h) **Other failure** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X** **X**	
1.1.25 Bus stop brake	**Visual inspection complemented, where**	(a) **System or any component missing**	-	**X**	-

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Description: the system ensures the application of brake pressure when stationary, independent of the brake pedal activation. Buses can only start moving when the doors are closed.	**made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	(b) **System or components damaged**	-	**X**	-
		(c) **Software version or -integrity incorrect**	-	**X**	-
		(d) **Wiring damaged**	-	**X**	-
		(e) **Warning device shows system malfunction.**	-	**X**	-
		(f) **System indicates failure via the electronic vehicle interface** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(g) **System or components not operating, or implausible operation**	-	**X**	-
		(h) **Other failure** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**

’;

(vii) in the table, items 1.2.1 and 1.2.2 are replaced by the following:

‘

1.2.1. Performance	During a test on a brake tester or, if impossible, during a road test, apply the brakes progressively up to maximum effort.	(a) Inadequate braking effort on one or more wheels. No braking effort on one or more wheels.		X	X

	It must be ensured, where possible, that the mechanical service brakes are inspected without interference/blending of regenerative braking or other continuous braking.				
		(b) Braking effort from any wheel is less than 70 % of the maximum effort recorded from the other wheel on the same axle. Or, in the case of testing on the road, the vehicle deviates excessively from a straight line. Braking effort from any wheel is less than 50 % of the maximum effort recorded from the other wheel on the same axle in the case of steered axles.		X	X
		(c) No gradual variation in brake effort (grabbing).		X	
		(d) Abnormal lag in brake operation of any wheel.		X	
		(e) Excessive fluctuation of brake force during each complete wheel revolution. Or, in the case of testing on the road, excessive vibration is produced at the service brake pedal/lever or steering wheel.		X	
1.2.2. Efficiency(E)	Test with a brake tester at the presented weight or, if one cannot be used for technical reasons, by a road test usinga deceleration recording instrument ([1]).	Does not give at least the minimum figure as follows ([2]): Categories M_1, M_2 and M_3: 50 % ([3]) Category N_1: 45 % Categories N_2 and N_3: 43 % ([4]) Categories O_3 and O_4: 40 % ([5]) Category T: 40%		X	
		Less than 50 % of the above values reached			X

’;

(viii) in the table, item 1.3.1 is replaced by the following:

‘

1.3.1. Performance (E)	If the secondary braking system is separate from the service braking system, use the method specified in 1.2.1. It must be ensured that, where possible, the mechanical brakes are inspected without interference/blending of regenerative braking or other continuous braking.	(a) Inadequate braking effort on one or more wheels.		X	
		No braking effort on one or more wheels.			X
		(b) Braking effort from any wheel is less than 70 % of the maximum effort recorded from another wheel on the same axle specified. Or, in the case of testing on the road, the vehicle deviates excessively from a straight line.		X	
		Braking effort from any wheel is less than 50 % of the maximum effort recorded from the other wheel on the same axle in the case of steered axles.			X
		(c) No gradual variation in brake effort (grabbing).		X	

’;

(ix) in the table, item 1.4.1 is replaced by the following:

‘

1.4.1. Performance (E)	Apply the brake during a test on a brake tester or by road test.	Brake inoperative on one side or, in the case of testing on the road, the vehicle deviates excessively from a straight line. Less than 50 % of the braking effort values as referred to in point 1.4.2 reached in relation to the vehicle mass during testing.		X	X

’;

(x) in the table, item 1.5 is replaced by the following:

‘

1.5. Endurance braking system performance	Visual inspection and, where possible, test whether the system functions, i.e. by road test.	(a) Malfunction indicator indicates a fault.		X	
		(b) System not functioning.		X	

’;

(xi) in the table, item 1.6 is **replaced by the following**~~deleted;~~**:**

‘

1.6. Anti-lock braking system (ABS) **Description: the system automatically prevents wheel-locking during braking by selective reduction of the wheel brake force, for example in accordance with UNECE-R 13 and Regulation (EU) 2019/2144.**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface.**	**(a) System or any component missing**		**X**	
		(b) System or components (for example wheel speed sensor) damaged		**X**	
		(c) Software version or -integrity incorrect		**X**	
		(d) Wiring damaged		**X**	
		(e) Warning device shows system malfunction.		**X**	
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**

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		(g) System or components not operating, or implausible operation		**X**	
		(h) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	 **X**	 **X**

’;

(xii) in the table, item 1.7 is replaced by the following:

‘

1.7 Electronic brake system **Description: a brake pedal sensor and/or pressure sensor records the braking request and calculates the optimal brake force for each wheel, so that there is optimal activation of all wheel brakes.**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface, or by road test.**	(a) **System or any component missing**		**X**	
		(b) **System or components damaged**		**X**	
		(c) **Software version or -integrity incorrect**		**X**	
		(d) **Wiring damaged**		**X**	
		(e) **Warning device shows system malfunction.**		**X**	
		(f) **System indicates failure via the electronic vehicle interface** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	 **X**	 **X**
		(g) **System or components not operating, or implausible operation**		**X**	
		(h) **Other failure** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	 **X**	 **X**
1.7.**1** Electric regenerative braking	Visual inspection of the indicator of electric	(e) Warning device indicates malfunctioning.		X	

	regenerative braking, and, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, by using the electronic vehicle interface, or by road test.	(f) The system does not noticeably decelerate the vehicle (except when the battery is full), or the charge indicator (if fitted) does not display "on charge" when regeneration is activated.		X	
		(g) Vehicle interface indicates system malfunction.		X	
		(h) Vehicle interface indicates system malfunction.		X	

';

(xiia) in the table, item 2.2.2 is replaced by the following:

'

2.2.2. Steering column/yokes ~~and forks~~ **and steering dampers including electronic dampers** **Description electronic damping: Steering damping is controlled electronically.**	~~With the vehicle over a pit or on a hoist and the mass of the vehicle on the ground,~~ Push and pull the steering wheel in line with column, push steering wheel~~/ handle bar~~ in various directions at right angles to the column~~/ forks~~**.** Visual inspection of play, and condition of flexible couplings or universal joints **complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface.**	**(a) Excessive movement of centre of steering wheel up or down.**		**X**	
		(b) Excessive movement of top of column radially from axis of column.		**X**	
		(c) Deteriorated flexible coupling.		**X**	
		(d) Attachment defective. **Very serious risk of unlinking.**		**X**	 **X**
		(e) Unsafe modification[3]			**X**
		(f) System or any component missing		**X**	

		(g) System or components damaged	-	**X**	-
		(h) Software version or -integrity incorrect	-	**X**	-
		(i) Wiring damaged	-	**X**	-
		(j) Warning device shows system malfunction.	-	**X**	-
		(k) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	 **X**	 **X**
		(l) System or components not operating, or implausible operation **Steering affected**	-	**X**	 **X**
		(m) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	 **X**	 **X**

’;

(xiii) in the table, item 2.6 is **replaced by the following items 2.6 to 2.8:**~~deleted;~~

‘

2.6. Electronic Power Steering (EPS), including Superimposed steering	**Visual inspection and consistency check between the angle of the steering wheel and the angle of the wheels when switching on/off the engine, complemented, where made possible by**	(a) **System or any component missing**	-	**X**	-
		(b) **System or components damaged**	-	**X**	-

Description: the supporting power for steering is generated by an electric motor. **Description superimposed steering: depending on the driving situation, the system varies the transmission ratio of the steering.**	**the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	(a) **Software version or -integrity incorrect**	-	**X**	-
		(b) **Wiring damaged**	-	**X**	-
		(c) **Warning device shows system malfunction.**	-	**X**	-
		(d) **System indicates failure via the electronic vehicle interface** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X** **X**	
		(e) **System or components not operating (for example Power assistance not working), or implausible operation (for example inconsistency between the angle of the steering wheel and the angle of the wheels.)** **Steering affected**	-	**X**	**X**
		(f) **Other failure** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
2.7 Electronic four-wheel steering **Description: two axles are steered, with a steering angle greater than 3° on all steered wheels, for example in accordance with UNECE-R 79 and Regulation (EU) 2019/2144**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	(a) **System or any component missing**	-	**X**	-
		(b) **System or components damaged**	-	**X**	-
		(c) **Software version or -integrity incorrect**	-	**X**	-
		(d) **Wiring damaged**	-	**X**	-
		(e) **Warning device shows system malfunction.**	-	**X**	-
		(f) **System indicates failure via the electronic vehicle interface** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**

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		(g) System or components not operating, or implausible operation Steering affected	-	X	X
		(g) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
2.8 Electronically controlled leading and trailing axle Description: the steered axles are additional axles with electronically controlled steering. The steering force is generated by a hydraulic pump or by the lateral force on the wheels.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing	-	X	-
		(b) System or components damaged	-	X	-
		(c) Software version or -integrity incorrect	-	X	-
		(d) Wiring damaged	-	X	-
		(e) Warning device shows system malfunction.	-	X	-
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
		(g) System or components not operating, or implausible operation Steering affected		X	X
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X

’;

(xiiia) in the table, item 3.1 is replaced by the following:

‘

3.1. Field of vision **including indirect field of vision via Camera monitor** **Description camera monitor: the system which generates at least a part of the indirect field of vision by a camera monitor combination (for example in accordance with UNECE-R 46).**	Visual inspection from driving seat **complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	(a) Obstruction within driver's field of view that materially affects his view in front or to the sides (outside cleaning area of windscreen wipers). Inside cleaning area of windscreen wipers affected or outer mirrors not visible.	X	X	- -
		(b) System or any component missing	-	**X**	-
		(c) System or components damaged	-	**X**	-
		(d) Software version or -integrity incorrect	-	**X**	-
		(e) Wiring damaged	-	**X**	-
		(f) Warning device shows system malfunction.	-	**X**	-
		(g) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(h) System or components not operating, or implausible operation	-	**X**	-
		(i) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**

'

(xiii**b**) in the table, item 4.1.1 is replaced by the following:

‘

4.1.1. Condition and operation **including functions such as cornering light, high beam assist, adaptive headlights and bending functions.** **Description cornering light: during cornering, an extra headlamp is activated. Operates up to 40 km/h, for example in accordance with UNECE-R 48 or UNECE-R 119** **Description high beam assist: the system automatically activates and deactivates the high beam according to the driving situation and lighting conditions.** **Description adaptive headlight: the illumination of the surrounding road area and/or the direct illumination of road users in the danger area in front of the vehicle is optimised by dynamic.** **Description bending light: during cornering and depending on the steering angle and speed, the light beam is swivelled and/or an additional headlight is activated, for example in accordance with UNECE-R 48; UNECE-R 98; UNECE-R 112; or UNECE-R 123.**	Visual inspection **complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**.	(b) Defective or missing light source. Multiple light sources (in the case of LED, up to 1/3 not functioning). Seriously affected visibility (single light source, or, in the case of LED, less than 2/3 functioning).	X	X	
		(b) Slightly defective projection system (reflector and lens). Heavily defective or missing projection system (reflector and lens).	X	X	
		(c) Lamp not securely attached.		X	
		(d) System or any component missing		**X**	
		(e) System or any component damaged		**X**	
		(f) Software version or -integrity incorrect		**X**	
		(g) Wiring damaged	-	**X**	-
		(h) Warning device shows system malfunction.	-	**X**	-
		(i) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X** **X**	
		(j) System or components not operating, or implausible operation	-	**X**	-
		(k) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X** **X**	

‘

(xiv) in the table, item 4.1.5 is replaced by the following:

‘

4.1.5 **Automatic and m~~M~~anual** levelling devices (where mandatory) **Description automatic levelling devices: depending on the load and (optional) pitch angle, the system regulates the headlamp's vertical aim, for example in accordance with UNECE-R 121.**	Visual inspection **complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface** .	**(a) System or any component missing**	-	**X**	-
		(b) System or components damaged	-	**X**	-
		(c) Software version or -integrity incorrect	-	**X**	-
		(d) Wiring damaged	-	**X**	-
		(e) Warning device shows system malfunction.	-	**X**	-
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(g) System or components not operating, or implausible operation		**X**	
		(h) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(i) Manual device cannot be operated from driver's seat.		**X**	

’;

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(xv) in the table, item**s** 4.2.1 **and 4.2.2 are**~~is~~ replaced by the following:

‘

4.2.1. Condition and operation	Visual inspection and by operation.	(a) Defective or missing light source Multiple light sources (in the case of LED, up to 1/3 not functioning); one of several lateral light sources defective. Single light sources: in the case of LED, less than 2/3 functioning; Two or more of several lateral light sources defective	X	X X	
		(b) Defective lens.		X	
		(c) Lamp not securely attached. Very serious risk of falling off.	X	 X	
4.2.2. Switching	Visual inspection and by operation.	(a) Switch does not operate in accordance with the requirements[1].		X	
		Rear position lamps and side marker lamps can be switched off when headlamps are on.		X	
		(b) Function of control device impaired.		X	
4.2.2.1 Automatic light **Description: depending on the ambient brightness, the system automatically switches on and off the driving light.**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	**(a) System or any component missing**	-	**X**	-
		(b) System or components damaged	-	**X**	-
		(c) Software version or -integrity incorrect	-	**X**	-
		(d) Wiring damaged	-	**X**	-

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		(e) Warning device shows system malfunction.	**-**	**X**	**-**
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X** **X**
		(g) System or components not operating, or implausible operation	**-**	**X**	**-**
		(h) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X** **X**

’;

(xvi) in the table, item 4.3.1 is replaced by the following:

‘

4.3.1. Condition and operation	Visual inspection and by operation	(a) Defective or missing light source. Multiple light sources; in the case of LED up to 1/3 not functioning). Single light sources; in the case of LED less than 2/3 functioning. All light sources not functioning.	X	X	X
		(b) Slightly defective lens (no influence on emitted light). Heavily defective lens (emitted light affected).	X	X	

		(c) Lamp not securely attached. Very serious risk of falling off,	X	 X	

’;

(xvii) in the table, item 4.4.1 is replaced by the following:

‘

Item	Method	Reasons for failure	Assessment of deficiencies		
			Minor	Major	Dangerous
4.4.1. Condition and operation	Visual inspection and by operation.	(a) Defective or missing light source Multiple light sources (in the case of LED up to 1/3 not functioning). Single light sources; in the case of LED less than 2/3 functioning. No light source functioning.	 X	 X	 X
		(b) Slightly defective lens (no influence on emitted light). Heavily defective lens (emitted light affected).	X	 X	
		(c) Lamp not securely attached. Very serious risk of falling off.	X	 X	

’;

(xviii) in the table, item 4.5.1 is replaced by the following:

‘

4.5.1. Condition and operation	Visual inspection and by operation	(a) Defective or missing light source Multiple light source; in thecase of LED up to 1/3 not functioning.	X		
		Single light sources; in the case of LED less than 2/3 functioning.		X	
		(b) Slightly defective lens (no influence on emitted light).	X		
		Heavily defective lens (emitted light affected).		X	
		(c) Lamp not securely attached.	X		
		Very serious risk of falling off or dazzling oncoming traffic.		X	

’;

(xix) in the table, item 4.6.1 is replaced by the following:

‘

4.6.1. Condition and operation	Visual inspection and by operation.	(a) Defective or missing light source Multiple light sources (in the case of LED up to 1/3 not functioning).	X		
		Single light sources; in the case of LED less than 2/3 functioning.		X	
		(b) Defective lens.	X		
		(c) Lamp not securely attached.	X		
		Very serious risk of falling off.		X	

’;

(xx) in the table, item 4.7.1 is replaced by the following:

‘

4.7.1. Condition and operation	Visual inspection and by operation.	(a) Lamp throwing direct or white light to the rear.	X		
		(b) Defective or missing light source. (Multiple light source; in the case of LED up to 1/3 not functioning). Defective or missing light source. (Single light source; in the case of LED **less than 2/3** ~~up to 1/3 not~~ functioning).	X	X	
		(c) Lamp not securely attached. Very serious risk of falling off.	X	X	

’;

(xxi) in the table, in item 4.11, the title in the first column is replaced by the following:

‘Electrical wiring (except high-voltage wiring)’;

(xxia) in the table, item 4.12 is replaced by the following:

‘

4.12. Non obligatory lamps and retro-reflectors, **for example basic exterior lights (X)[2]** **Description basic exterior lights: the system switches on/switches off the basic lighting devices (for example indicators).**	Visual inspection ~~or by operation~~ **complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	**(a) A lamp/retro-reflector fitted not in accordance with the requirements[1].** **Emitting/reflecting red light to the front or white light to the rear.**	**X**	**X**	
		(b) Lamp operation not in accordance with the requirements[1]. **Number of headlights simultaneously operating exceeding permitted light brightness; Emitting red light to the front or white light to the rear.**	**X**	**X**	

		(c) Lamp/retro-reflector not securely attached. **Very serious risk of falling off.**	**X** -	**X**	
		(d) System or any component missing		**X**	
		(e) System or components damaged		**X**	
		(f) Software version or -integrity incorrect		**X**	
		(g) Wiring damaged		**X**	
		(h) Warning device shows system malfunction.		**X**	
		(i) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(j) System or components not operating, or implausible operation		**X**	
		(k) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	X	**X**	**X**

’;

(xxii) in the table, in item 4.13, the title in the first column is replaced by the following:

‘Battery (or batteries, except high-voltage batteries)’;

(xxiii) the following item**s** 4.14 **and 4.15 are**~~is~~ inserted:

‘

4.14 High-voltage systems					
4.14.1 Electrical safety	Visual inspection complemented by using the vehicle interface **where made possible by the technical characteristics of the vehicle, and where the necessary data is available).**	(a) Indicator or vehicle interface shows system malfunction		X	
		(b) Software version or -integrity incorrect		X	
4.14.2 Traction battery enclosure	Visual inspection.	(d) Slightly deteriorated Heavily deteriorated	X	 X	
		(e) Defective attachment Very serious risk of falling off		X	 X
		(f) Obstructed ventilation port(s)	X		
4.14.3 ~~Traction battery~~ **Rechargeable energy storage system (REESS), traction battery and battery management system** **Description: REESS means the rechargeable energy storage system that provides electric energy for electric propulsion. The REESS may include subsystem(s) together with the necessary ancillary systems for physical support, thermal management, electronic control and enclosures**	Visual inspection, complemented by using the vehicle interface (where made possible by the technical characteristics of the vehicle, and where the necessary data is available).	(c) Marks of leakage Leaking (presence of droplets)		X	 X
		(d) Incorrect software or hardware, or readiness-code not active		X	
4.14.4 High voltage electrical wiring					
4.14.4.1 High voltage wiring harness and connector	Visual inspection ~~and by operation~~ with the vehicle over a pit or on a hoist, including inside the engine compartment and the boot (where applicable)	(a) Slightly deteriorated Heavily deteriorated	X	 X	 X

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		Risk of short-circuit fault			
		(b) Wiring insecure or not adequately secured	X		
		Fixings loose, touching sharp edges, connectors likely to be disconnected		X	
		Wiring likely to touch hot parts, rotating parts or the ground, connectors disconnected			X
		(c) Imminent risk of fire, formation of sparks			X
4.14.4.2 Ground braid, including their attachment	Visual inspection and by operation.	Slightly deteriorated	X		
		Heavily deteriorated		X	
4.14.4.3 Ground continuity (X)[2]	Measurement using an ohmmeter	Test not feasible	X		
		Too high resistance (over 100 Ohms)		X	
4.14.4.4 Charging inlet cover	Visual inspection and by operation.	Deteriorated	X		
		Missing		X	
4.14.4.5 Charging inlet	Visual inspection and by operation.	(a) Deteriorated	X		
		Trace of beginning of melting or electric arcs		X	
		Foreign material, modified, or moisture		X	
4.14.4.6 Charging cable (if available)	Visual inspection and by operation.	(b) Deteriorated	X		
4.14.5. High voltage electrical and electronical equipment (X)[2]					
4.14.5.1. High voltage electrical and electronical equipment	Visual inspection and by using the electronic vehicle interface.	(a) Slightly deteriorated	X		
		Heavily deteriorated		X	
		(b) Attachment defective		X	
		(c) Leaking		X	
4.14.5.2. Traction motor	Visual inspection Check of operational readiness of the systems by an applicable interface (OBD or OBM)	(g) Shield is deformed, not in-place or damaged, or corroded		X	
		(h) Warning marking missing or illegible		X	
		(i) Connection of wiring harness insecure or corroded		X	

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	Measurement of equipotential bonding, where made possible by the technical characteristics of the vehicle	(j) Electrical insulation damaged or deteriorated likely to cause injury when contacted.		X	X	
		(k) Fault readiness of the traction motor		X		
		(l) Type-approved hardware and software not in accordance with the requirements1		X		
4.14.5.3 Electronic converters, motor, and inverter	Visual inspection	(a) Not in accordance with requirements[1]		X		
		(b) Inadequately secured		X		
	Check of operational readiness of the systems by an applicable interface (OBD or OBM)	(c) Damaged or corroded components	X			
		Likely to cause injuries or to fall off		X		
	Measurement of equipotential bonding, where made possible by the technical characteristics of the vehicle	(d) Shields not in place or damaged		X		
		(e) Damaged or deteriorated electrical insulation		X		
		(f) Fault readiness of the converter and inverter systems		X		
		(g) Wrong version of type-approved hardware and software		X		
4.14.6. Insulation resistance (X)[2]						
4.14.6.1. Insulation resistance of the vehicle charging inlet and resistance of the protective earthing	Read insulation resistance by the electronic vehicle interface, where made possible by the technical characteristics of the vehicle and where the necessary data is made available	(a) Insulation resistance is not in accordance with requirements or predefined values from the vehicle manufacturer		X		
		(b) Resistance of the protective earthing is not in accordance with requirements		X		
4.14.6.2. Insulation resistance between the high-voltage system and chassis	Visual inspection	(a) Insulation monitoring system shows malfunction		X		
	Read insulation resistance by the electronic vehicle interface, where made possible by the technical characteristics of the vehicle and where the necessary data is made available	(b) Insulation resistance value not in accordance with requirements		X		
4.14.7. Anti-starting system						
4.14.7.1. Anti-starting system	Visual inspection and by operation when possible.	(a) Indicator malfunction	X			

	Functional check by verifying that the vehicle cannot move by itself with the charging cable plugged, and the driver's weight lifted out of the seat	(b) Inoperative, i.e., vehicle can move with connected charging cable or with no driver present		X	
4.15 Emergency braking signal **Description: during strong deceleration, hazard warning lights and/or additional luminous surfaces are activated and/or the following traffic is warned by flashing brake lights, for example in accordance with UNECE-R 48 or UNECE-R 13.**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	(a) **System or any component missing**	**-**	**X**	**-**
		(b) **System or components damaged**	**-**	**X**	**-**
		(c) **Software version or -integrity incorrect**	**-**	**X**	**-**
		(d) **Wiring damaged**	**-**	**X**	**-**
		(e) **Warning device shows system malfunction.**	**-**	**X**	**-**
		(f) **System indicates failure via the electronic vehicle interface** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(g) **System or components not operating, or implausible operation**	**-**	**X**	**-**
		(h) **Other failure** **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**

’;

(xxiv) in the table, item 5.1.3 is replaced by the following:

‘

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5.1.3. Wheel bearings (+ E)	Visual inspection using. wheel play detectors if available. Rock the wheelor apply a lateral force to each wheel and note the amount of upwardmovement of the wheel relative to the stub axle.	(a) Excessive play in a wheel bearing. Directional stability impaired; danger of demolishment.		X	X
		(b) Wheel bearing too tight, jammed. Danger of overheating; danger of demolishment.		X	X
		(a) Audible signs of bearing wear or damage.		X	

‘

(xxiva) in the table, item 5.2.3 is replaced by the following:

‘

5.2.3. Tyres	Visual inspection of the entire tyre by either rotating the road wheel with it off the ground and the vehicle over a pit or on a hoist, or by rolling the vehicle backwards and forwards over a pit.	(a) Tyre size, load capacity, approval mark or speed category not in accordance with the requirements[1] and affecting road safety. Insufficient load capacity or speed category for actual use, tyre touches other fixed vehicle parts impairing safe driving.		X	X
		(b) Tyres on same axle or on twin wheels of different sizes.		X	
-	-	(c) Tyres on same axle of different construction (radial/ cross-ply).		X	
		(d) Any serious damage or cut to tyre. Cord visible or damaged.		X	X
		(e) Tyre tread wear indicator becomes exposed. Tyre tread depth not in accordance with the requirements1.		X	X

		(f) Tyre rubbing against other components (flexible anti spray devices). Tyre rubbing against other components (safe driving not impaired)	X	X	
		(g) Re-grooved tyres not in accordance with requirements1. Cord protection layer affected.		X	X
		(h) Tyre obviously underinflated.	**X**	-	-
5.2.3.1. Tyre pressure warning Description: the system detects loss of tyre pressure through integrated sensors and/or by implausible values for wheel speed, for example in accordance with Regulation (EU) 2019/2144 and UNECE-R 141	**Visual inspection complemented, where made possible by the physical characteristics of the vehicle and where the necessary data is made available, with the use of elecgtronic interface,**	**(a) System or any component missing**		**X**	
		(b) System or components damaged		**X**	
		(c) Software version or -integrity incorrect		**X**	
		(d) Wiring damaged		**X**	
		(e) Warning device shows system malfunction.		**X**	
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(g) System or components not operating, or implausible operation		**X**	

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		(h) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**

‘

(xxivb) in the table, item 5.3.2 is replaced by the following:

‘

5.3.2 Shock absorbers **including electronic damping** **Description electronic damping: depending on the driving situation, the rebound and compression stage of the shock absorbers is adjusted by the system.**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	**(a) System or any component missing**	**-**	**X**	**-**
		(b) System or components damaged showing signs of server leakage or malfunction or shock absorber loose.	**-**	**X**	**-**
		(c) Software version or -integrity incorrect	**-**	**X**	**-**
		(d) Wiring damaged	**-**	**X**	**-**
		(e) Warning device shows system malfunction.	**-**	**X**	**-**
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(g) System or components not operating, or implausible operation	**-**	**X**	**-**
		(h) Other failure (for example insecure attachment) **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**

‘

’;

(xxivc) in the table, item 5.3.5 is replaced by the following:

‘

5.3.5. Air suspension, including height levelling Description height levelling: the system changes the clearance between vehicle chassis and the road.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing	-	X	-
		(b) System or components damaged	-	X	-
		(c) Software version or -integrity incorrect	-	X	-
		(d) Wiring damaged	-	X	-
		(e) Warning device shows system malfunction.	-	X	-
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
		(g) System or components not operating, or implausible operation	-	X	-
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
		(i) Audible system leakage		X	

’;

(xxivd) in the table, item 6.1.3 is replaced by the following:

‘

6.1.3. Fuel tank and pipes (including heating fuel tank and pipes **and hydrogen installation)** **Description hydrogen installation: the hydrogen is stored in the vehicle and is used to propel the vehicle, either by combustion in an internal combustion engine or by conversion in a fuel cell with an additional electric engine.**)	Visual inspection with vehicle over a pit or on a hoist, use of leak detecting devices in the case of LPG/CNG/LNG**H** systems **complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**.	(a) Insecure tank or pipes, creating particular risk of fire.			X
		(b) Leaking fuel or missing or ineffective filler cap. Risk of fire; excessive loss of hazardous material.		X	X
		(c) Chafed pipes. Damaged pipes.	X	X	
		(d) Fuel stopcock (if required) not operating correctly.		X	
		(e) Fire risk due to: — leaking fuel; — fuel tank or exhaust not properly shielded; — engine compartment condition.			X
		(f) LPG/CNG/LNG **or hydrogen** system not in accordance with requirements; any part of the system defective[1]			X
		(g) System or any component missing		**X**	
		(h) System or components damaged		**X**	
		(i) Software version or -integrity incorrect		**X**	
		(j) Wiring damaged		**X**	
		(k) Warning device shows system malfunction.		**X**	
		(l) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	X	**X**	**X**
		(m) System or components not operating, or implausible operation		**X**	
		(n) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle**	**X**	**X**	

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		Danger to health of persons on board or of other road users			X

’;

(xxivd) in the table, the following item 6.1.10 is inserted:

‘

6.1.10 Sliding joint stabilisation Description: The articulated joint is stabilised by damping, depending on vehicle speed, cylinder pressure of the articulated dampers, steering and articulation-angle.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing	-	X	-
		(b) System or components damaged	-	X	-
		(c) Software version or -integrity incorrect	-	X	-
		(d) Wiring damaged	-	X	-
		(e) Warning device shows system malfunction.	-	X	-
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
		(g) System or components not operating, or implausible operation	-	X	-
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X

’;

(xxive) in the table, items 7.1.3 and 7.1.4 are replaced by the following:

‘

7.1.3 Safety belt tensioner and belt force limiter **Description: In the event of an accident, the seat belt is tensioned to place the passengers in a setpoint position and/or limits the belt force, electrically controlled and, thus, limits the forces acting on the persons for example in accordance with UNECE-R 16 or UNECE-R 94.**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	**(a) System or any component missing, or not suitable with the vehicle**	-	**X**	-
		(b) System or components damaged	-	**X**	-
		(c) Software version or -integrity incorrect	-	**X**	-
		(d) Wiring damaged	-	**X**	-
		(e) Warning device shows system malfunction.	-	**X**	-
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board**	**X**	 **X**	 **X**
		(g) System or components not operating, where applicable, or implausible operation	-	**X**	-
		(h) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board**	**X**	 **X**	 **X**

’;

(xxivf) in the table, item 7.1.5 is replaced by the following:

‘

7.1.4. Airbag **Description: In case of an accident, inflatable airbags reduce the risk of injury by their absorbing effect, for example in accordance with UNECE-R 12; UNECE-R 14; or UNECE-R 16.**	Visual inspection **complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	**(a) System or components (for example seat occupancy detection) obviously missing.**	-	**X**	-
		(b) System or components damaged	-	**X**	-
		(c) Software version or -integrity incorrect	-	**X**	-
		(d) Wiring damaged	-	**X**	-
		(e) Warning device shows system malfunction.	-	**X**	-
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board**	**X**	 **X**	 **X**
		(g) System or components obviously not operating (for example not suitable with the vehicle)	-	**X**	-
		(h) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board**	- **X**	 **X**	- **X**

’;

~~(xxv) in the table, items 7.1.3, 7.1.4, 7.1.5 and 7.1.6 are deleted;~~

(xxvi) in the table, item 7.8 is replaced by the following:

‘

7.8. Speedometer	Visual inspection or by operation during road test or by using the electronic vehicle interface, or any combination of these.	(a) Not fitted in accordance with the requirements[1]. Missing (if required).	X	X	
		(b) Operation impaired. Not operational at all.	X	X	
		(c) Not capable of being sufficiently illuminated. Not capable of being illuminated at all.	X	X	

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’;

(xxvii) in the table, items ~~7.9 and 7.10 are deleted~~ **is replaced by the following**;

‘

7.9. Tachograph (if fitted/required) **Description: a system to record the driving time, breaks, rest periods as well as periods of other work undertaken by a driver, for example, in accordance with Regulation (EU) No 165/2014 of the European Parliament and of the Council****.**	Visual inspection **complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface.**	**(a) System or any component missing (for example seals, plaques), or not fitted in accordance with the requirements[1] (for example plaque out of date).**	-	**X**	-
		(b) System or components damaged (for example illegible plaque)	-	**X**	-
		(c) Software version or -integrity incorrect	-	**X**	-
		(d) Wiring damaged	-	**X**	-
		(e) Warning device shows system malfunction.	-	**X**	-
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road**	**X**	**X**	**X**

		users			
		(g) System or components not operating, or implausible operation (for example tampered or manipulated, or size of tyres not compatible with calibration parameters, or incorrect set speed, if checked).	-	X	-
		(h) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	X	X X	

';

(xxviia) in the table, item 7.10 is replaced by the following:

'

7.10. Speed limitation device (if fitted/required) (+E) **Description: While driving, the system prevents exceeding a defined maximum speed. Relevant, if mandatory, for example in accordance with UNECE-R 89 and Regulation (EU) 2019/2144.**	Visual inspection **complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	**(a) System or any component missing (for example seals, plaques), or not fitted in accordance with the requirements[1].**	-	X	-
		(b) System or components damaged	-	X	-
		(c) Software version or -integrity incorrect	-	X	-
		(d) Wiring damaged	-	X	-
		(e) Warning device shows system malfunction.	-	X	-
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle**	X	X	

		Danger to health of persons on board or of other road users			**X**
		(g) System or components not operating, or implausible operation (for example tampered or manipulated, or size of tyres not compatible with calibration parameters, or incorrect set speed, if checked).	-	**X**	-
		(h) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**

';

(xxviii) in the table, item 7.11 is replaced by the following:

'

7.11. Odometer, if available	Visual inspection, and/or using electronic interface (OBD or OBM). If the inspection shows, that the odometer has been manipulated, the inspector shall indicate this on the roadworthiness certificate as a notification to the vehicle owner	(a) Obviously inoperative.		X	

';

(xxviiia) in the table, item 7.12 is replaced by the following:

'

7.12. Electronic Stability Control (ESC) if fitted/required (X)[1]	**Visual inspection complemented, where made possible by the technical**	**(a) System or any component (for example wheel speed sensors) missing**	-	**X**	-

Description: the system stabilises the vehicle or the complete vehicle train in critical, dynamic driving situations, for example in accordance with Regulation (EU) 2019/2144 and UNECE-R 140.	**characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	**(b) System or components (for example wheel speed sensors) damaged**	-	**X**	-
		(c) Software version or -integrity incorrect	-	**X**	-
		(d) Wiring damaged	-	**X**	-
		(e) Warning device shows system malfunction.	-	**X**	-
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(g) System or components not operating, or implausible operation	-	**X**	-
		(h) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**

’;

(~~xxxii~~**xxix**) in the table, ~~items 7.12 and~~ **the following item** 7.13 **is inserted:**~~are deleted;~~

‘

7.13 eCall (if fitted, inaccordance with EU type approval legislation					
Automatic eCall	**Visual inspection complemented, where made possible by the technical**	**(a) System or any component missing**	-	**X**	-

Description: the system is triggered automatically by in-vehicle sensors or manually, it transmits a minimum set of data (EN 15722) via mobile communication network and establishes an audio connection based on the (emergency) number between the vehicle passengers and the public safety answering point, in accordance with Regulation (EU) 2015/758 of the European Parliament and of the Council, and Commission Delegated Regulation (EU) 2017/79***.**	**characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface** **For eCall systems which uses older cellular networks (2g/3g) and those network are no longer in service and the eCall-system indicates malfunction, this shall not be a reason for failure.**	**(b) System or components damaged**	-	**X**	-
		(c) Software version or -integrity incorrect	-	**X**	-
		(d) Wiring damaged	-	**X**	-
		(e) Warning device (eCall MIL) shows system malfunction.	-	**X**	-
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board**	**X**	 **X**	 **X**
		(g) System or components not operating, or implausible operation: **- audio components (for example failing echo-test);**	-	**X**	-
		(h) Other failure (for example mobile network communication device, electronic control unit, or GPS signal failure) **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board**	 **X**	 **X**	 **X**

';

(xxx) in the table, items 8.1 and 8.2 are replaced by the following:

8.1. Noise

8.1.1. Noise suppression system (+E)	Subjective evaluation (unless the inspector considers that the noise level may be borderline, in which case a measurement of	(a) Noise levels in excess of those permitted in the requirements[1].		X	

	noise emitted by stationary vehicle using a sound level meter may be conducted) evaluation (unless the inspector considers that the noise level may be borderline, in which case a measurement of noise emitted by stationary vehicle using a sound level meter may be conducted).	(b) Any part of the noise suppression system loose, damaged, incorrectly fitted, missing or obviously modified in a way that would adversely affect the noise levels. Very serious risk of falling off.		X	X
	Alternatively, measurement using remote sensing equipment and confirmed by standard test methods	(c) Remote sensing measurement showing significant non-compliance.		X	

8.2. Exhaust emissions

8.2.1. Exhaust emissions control equipment	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface (OBD or OBM read-out)	(a) Emission control equipment fitted by the manufacturer absent, modified or obviously defective.		X	
		(b) Leaks which would affect emission measurements.		X	
		(c) Warning device malfunctioning, warning indicator / tell-tale inoperative.		X	
		(d) MIL activated, warning device shows system malfunction.		X	
		(e) System indicates failure via the electronic vehicle interface.		X	
		(f) Exhaust emission control unit modified affecting safety and/or the environment.		X	
		(g) Any other emission relevant control unit modified affecting safety and/or the environment.		X	
		(h) Presence of electronic devices not authorised by the vehicle manufacturer nor approved during homologation changing signals to or from the engine or pollution control unit(s).		X	
		(i) Insufficient reagent, if applicable.		X	
		(j) OBD or OBM read-out indicating significant malfunction.		X	

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Item	Method	Reasons for failure	Assessment of deficiencies		
			Minor	Major	Dangerous
8.2.2 Exhaust emission measurement – positive ignition engines	Test procedures: For vehicles that had a particle number (PN) limit at type-approval; Euro VI, Euro 6c and newer or for M1 and N1 registered for the first time after 31 august 2019 and M2, M3, N2 and N3 registered for the first time after **31 December 2013** ~~1 January 2014~~: Particle number measurement in accordance with 8.2.2.1. For all vehicles: Gaseous emissions test in accordance with 8.2.2.2. For vehicles as of emission classes Euro VI, 6d-TEMP and newer or for M1 and N1 registered for the first time after 31 august 2019 and M2, M3, N2 and N3 registered for the first time after **31 December 2013** ~~1 January 2014~~ NO_X measurement in accordance with 8.2.2.3..				
8.2.2.1 Particle number measurement €	Vehicle preparation: — [to be specified in accordance with implementing acts] Measuring instrument preparation: — The device to measure PN is powered on for at least the warm-up time indicated by the manufacturer; — Self-checks of the instrument [to be specified in accordance with implementing acts], to monitor the proper operation of the	Measurement result exceeds **the threshold of particles per cubic centimetre** [to be specified in accordance with implementing acts] ($1/cm^3$)		X	

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	instrument during operation and trigger a warning or message in case of malfunction; Before each test, the good condition of the sampling system shall be verified, including checking the sampling hose and probe for damage. Test procedure: — The software of the particle counter automatically guides the instrument operator through the test procedure; — The probe is inserted at least 0,20 m into the outlet of the exhaust system. In justified exemptions where sampling at this depth is not possible, the probe is inserted at least 0,05 m. The sampling probe shall not touch the walls of the tailpipe; — If the exhaust system has more than one outlet, the test shall be done to all of them. In this case, the highest measured PN concentration measured at different exhaust system outlets shall be considered as the vehicle's PN concentration; — The vehicle operates [as specified in accordance with implementing acts]. In case the engine of a vehicle is not switched on at static conditions then the start/stop system shall be deactivated by the test operator. For hybrid and plug-in hybrid vehicles, the thermal engine shall be switched on; — After the probe has been inserted into the tailpipe, the following steps shall be followed: 3. A stabilization period of at least 15 seconds with the engine running at idle speed. 4. After the stabilisation period, the PN concentration emissions are measured **during a sufficient period of time** [to be				

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	specified in accordance with implementing acts]. After the completion of the test procedure, the instrument reports (and stores) the PN concentration of the vehicle and a “PASS” or “FAIL” message: — If the test result is less than or equal to the limit, the instrument reports a “PASS” message. — If the test result is greater than the limit, the instrument reports a “FAIL” message.				
8.2.2.2. Gaseous emissions (E)	Measurement using an exhaust gas analyser in accordance with the requirements[1]. Measurements not applicable for two-stroke engines. Alternatively, measurement using remote sensing equipment and confirmed by standard test methods.	(a) Either gaseous emissions exceed the specific levels given by the manufacturer;		X	
		(b) Or, if this information is not available, the CO emissions exceed, (i) for vehicles not controlled by an advanced emission control system, — 4,5 %, or — 3,5 % according to the date of first registration or use specified in requirements[1]. (ii) for vehicles controlled by an advanced emission control system, — at engine idle: 0,5 % — at high idle: 0,3 % or — at engine idle: 0,3 % ([7]) — at high idle: 0,2 % or — at engine idle: 0,2 % ([8]) — at high idle: 0,1 % according to the date of first registration or use specified in requirements[1].		X	
		(c) Lambda coefficient outside the range 1 ± 0,03 or not in accordance with the manufacturer's specification;		X	

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8.2.2.3. NO_X measurement (E)	**Vehicle preparation, measuring instrument preparation, check of the sampling system and test procedure follow item 8.2.3.3, as further specified by way of implementing acts to reflect the environment of positive ignition engine** Alternatively, measurement using remote sensing equipment and confirmed by standard test methods in accordance with item 8.2.2. in this table or with item 8.2.2 in point 3 of Annex I to Directive 2014/45/EU. ~~Vehicle preparation:~~ ~~[to be specified in accordance with implementing acts];~~ ~~[…]~~ ~~Measuring instrument preparation:~~ ~~[to be specified in accordance with implementing acts or combined with PN testing above];~~ ~~Self-checks of the instrument [to be specified in accordance with implementing acts];~~ ~~Before each test, the good condition of the sampling system shall be verified, including checking the sampling hose and probe for damage.~~ ~~Test procedure:~~ ~~[to be specified in accordance with implementing acts or combined with PN testing above].~~	(a) Measurement result exceeds [NO_X limit to be specified in accordance with implementing acts].		X	
		(b) OBD or OBM read-out indicating significant malfunction.		X	

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Item	Method	Reasons for failure	Assessment of deficiencies		
			Minor	Major	Dangerous
8.2.3 Exhaust emission measurement – compression ignition engines	Test procedures: For vehicles as of emission classes Euro 5b and Euro VI and newer or for M1 and N1 registered for the first time after ~~31 August 2019~~ **31 December 2012** and M2, M3, N2 and N3 registered for the first time after 1 January 2014: Particle number (PN) measurement in accordance with 8.2.3.1 For vehicles up to emission classes Euro 5a and Euro V: Opacity measurement in accordance with 8.2.3.2. For vehicles equipped with particle filters, or for M1 **registered -for the first time after 2 July 2007** and N1 registered for the first time after **31 August 2010** ~~31 august 2019~~ and M2, M3, N2 and N3 registered for the first time after 1 January 2014, Member States may apply PN measurement in accordance with 8.2.3.1 instead of opacity measurement. For vehicles as of emission classes Euro 6d-TEMP and Euro VI and newer or for M1 and N1 registered for the first time after 31 august 2019 and M2, M3, N2 and N3 registered for the first time after 1 January 2014:: NO_X measurement in accordance with 8.2.3.3.				
8.2.3.1 Particle number measurement (E)	Vehicle preparation: At the beginning of the test the vehicle's engine should be: — Hot, i.e., engine coolant temperature above 60 °C but preferably above 70 °C — Conditioned, by operating for a period of time at low idling and/or performing stationary accelerations up to maximum 2 000 rpm engine speed or by driving. The recommended total conditioning time is at least 300 seconds. During the test, the vehicle shall not be performing an active particulate filter regeneration. A fast pass test is possible with engine coolant temperature below 60 °C. However, if the vehicle fails to pass the test, the test shall be repeated, and the vehicle should fulfil the	Measurement result exceeds 250 000 ($1/cm^3$)**.** For vehicles up to emission class Euro 5a and Euro V, equipped with particle filters, Member States may apply a limit up to 1 000 000 ($1/cm^3$)		X	

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	requirements set for the engine coolant temperature and the conditioning. Measuring instrument (as specified in Sections 3, 4, and 5 of Commission Recommendation (EU) 2023/688, as adopted on 20 March 2023) preparation: — The instrument is powered on for at least the warm-up time indicated by the manufacturer; — Self-checks of the instrument as defined in Section 5 of Commission Recommendation (EU) 2023/688, as adopted on 20 March 2023, to monitor the proper operation of the instrument during operation and trigger a warning or message in case of malfunction; Before each test, the good condition of the sampling system shall be verified, including checking the sampling hose and probe for damage. Test procedure: — The software of the particle counter automatically guides the instrument operator through the test procedure; — The probe is inserted at least 0,20 m into the outlet of the exhaust system. In justified exemptions where sampling at this depth is not possible, the probe is inserted at least 0,05 m. The sampling probe shall not touch the walls of the tailpipe; — If the exhaust system has more than one outlet, the test shall be done to all of them. In this case, the highest measured PN concentration measured at different exhaust system outlets shall be considered as the vehicle's PN concentration; — The vehicle operates at low idling. In case the engine of a vehicle is not switched on at static conditions then the start/stop system shall be deactivated by the test operator. For hybrid and plug-in hybrid vehicles, the thermal engine shall be switched on; — After the probe has been inserted into the tailpipe, the following steps shall be followed: 3. A stabilization period of at least 15 seconds with the engine running at idle speed. Optionally, before the stabilization period 2-3 accelerations up to maximum 2				

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	000 rpm engine speed are performed, 4. After the stabilisation period, the PN concentration emissions are measured. The duration of the test shall be at least 15 seconds (total measurement duration). The test result shall be the average PN concentration of the measurement duration. If the measured PN concentration is more than two times the limit, the measurement may stop immediately before waiting for 15 seconds to elapse. The test result shall be reported. After the completion of the test procedure, the instrument reports (and stores) the average PN concentration of the vehicle and a "PASS" or "FAIL" message: — If the test result is less than or equal to the limit, the instrument reports a "PASS" message. — If the test result is greater than the limit, the instrument reports a "FAIL" message.				
8.2.3.2. Opacity Vehicles registered or put into service before 1 January 1980 are exempted from this requirement	Exhaust gas opacity to be measured during free acceleration (no load from idle up to cut-off speed) with gear lever in neutral and clutch engaged and, if specified in accordance with the type-approval regulations, reading of OBD in accordance with the manufacturer's recommendations and other requirements. Vehicle preconditioning: 1. Vehicles may be tested without preconditioning, although for safety reasons checks should be made that the engine is warm and in a satisfactory mechanical condition.	(a) For vehicles registered or put into service for the first time after the date specified in requirements[1]. opacity exceeds the level recorded on the manufacturer's plate on the vehicle;		X	

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Item	Method	Reasons for failure	Assessment of deficiencies		
			Minor	Major	Dangerous
	2. Precondition requirements: (i) Engine shall be fully warm, for instance the engine oil temperature measured by a probe in the oil level dipstick tube to be at least 80 °C, or normal operating temperature if lower, or the engine block temperature measured by the level of infrared radiation to be at least an equivalent temperature. If, owing to the vehicle configuration, this measurement is impractical, the establishment of the engine's normal operating temperature may be made by other means, for example by the operation of the engine cooling fan. (ii) Exhaust system shall be purged by at least three free acceleration cycles or by an equivalent method.	(b) Where this information is not available or requirements[1] do not allow the use of reference values, — for naturally aspirated engines: 2,5 m^{-1}, — for turbo-charged engines: 3,0 m^{-1}, or — for vehicles identified in requirements[1] or first registered or put into service for the first time after the date specified in requirements[1]: 1,5 m^{-1} ([9]) or 0,7 m^{-1} ([8])			
	Test procedure: Engine and any turbocharger fitted, to be at idle before the start of each free acceleration cycle. For heavy-duty diesels, this means waiting for at least 10 seconds after the release of the throttle. To initiate each free acceleration cycle, the throttle pedal must be fully depressed quickly and continuously (in less than one second) but not violently, so as to obtain maximum delivery from the injection pump.				

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Item	Method	Reasons for failure	Assessment of deficiencies		
			Minor	Major	Dangerous
	During each free acceleration cycle, the engine shall reach cut-off speed or, the speed specified by the manufacturer or, if this data is not available, then two thirds of the cut-off speed, before the throttle is released. This could be checked, for instance, by monitoring engine speed or by allowing a sufficient time to elapse between initial throttle depression and release, which in the case of vehicles of categories M_2, M_3, N_2 and N_3, should be at least two seconds. Vehicles shall only be failed if the arithmetic means of at least the last three free acceleration cycles are in excess of the limit value. This may be calculated by ignoring any measurement that departs significantly from the measured mean, or the result of any other statistical calculation that takes account of the scattering of the measurements. Member States may limit the number of test cycles. To avoid unnecessary testing, Member States may fail vehicles which have measured values significantly in excess of the limit values after fewer than three free acceleration cycles or after the purging cycles. Equally to avoid unnecessary testing, Member States may pass vehicles which have measured values significantly below the limits after fewer than three free acceleration cycles or after the purging cycles. Alternatively, measurement usingremote sensing equipment and confirmed by standard test methods in accordance with item 8.2.3 of this table or with item 8.2.3 in point 3 of Annex I to Directive 2014/45/EU.				

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Item	Method	Reasons for failure	Assessment of deficiencies		
			Minor	Major	Dangerous
8.2.3.3. NO_X measurement (E)	Vehicle preconditioning: For vehicles as of emission classes Euro 6d-TEMP the outside temperature should be between 0◦C and 30◦C and altitude lower or equal to 700 meters above sea level and engine temperature above 70◦C. For vehicles as of emission classes Euro VI the outside temperature should be between -7◦C and 35◦C, altitude lower or equal to 1600 meters above sea level and engine temperature above 70◦C. Prior to testing, the vehicle's exhaust aftertreatment system shall be warmed up, to the conditions that allow effective abatement of NO_X emissions by the selective catalytic reduction (SCR) unit of the vehicle by at least a 5-minute drive or an equivalent method. Once the condition is reached, the vehicle shall not be turned off and the measurement shall be performed within 3 minutes for M_1 and N_1 vehicles and within 3.5 minutes for M_2, M_3, N_2 and N_3 vehicles. Where possible, the vehicle's readiness to be tested shall be ascertained by checking the indicator lamp on the dashboard or via the vehicle interface (OBD or OBM read-out). During the test, the vehicle shall not be performing an active particulate filter regeneration. Measuring instrument preparation:	(a) Measurement result exceeds 40 ppm		X	

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	— The device to measure NO_X emissions is powered on for at least the warm-up time indicated by the manufacturer; — Self-checks of the instrument [to be specified in accordance with implementing acts] to monitor the proper operation of the instrument during operation and trigger a warning or message in case of malfunction; Before each test, the good condition of the sampling system shall be verified, including checking the sampling hose and probe for damage. Test procedure: — The software of the NO_X analyser automatically guides the instrument operator through the test procedure; — The probe is inserted at least 0,20 m into the outlet of the exhaust system. In justified exemptions where sampling at this depth is not possible, the probe is inserted at least 0,05 m. The sampling probe shall not touch the walls of the tailpipe; — If the exhaust system has more than one outlet, the test shall be done to all of them. In this case, the highest measured NO_X concentration measured at different exhaust system outlets shall be considered as the vehicle's NO_X concentration; — The vehicle operates at low idling; — After the probe has been inserted into the tailpipe, the following steps shall be followed: 1. A stabilization period of at least 15 seconds with the engine running at idle speed. 2. After the stabilisation period, the NO_X concentration emissions are measured. The duration of the test shall be at least 15 seconds (total measurement duration). The test result shall be the average NO_X concentration of the measurement duration. After the completion of the test procedure, the instrument reports (and stores) the average NO_X concentration of the vehicle and a "PASS" or "FAIL" message:				

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	— If the test result is less than or equal to the limit, the instrument reports a “PASS” message. — If the test result is greater than the limit, the instrument reports a “FAIL” message. Alternatively, measurement usingremote sensing equipment and confirmed by standard test methods in accordance with item 8.2.3 in this table or item 8.2.3 in point 3 of Annex I to Directive 2014/45/EU.				

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(xxxi) in the table, item 8.4.1, is replaced by the following:

8.4.1. Fluid leaks	Visual inspection	Any excessive fluid leak, other than water, likely to harm the environment or to pose a safety risk to other road users. Steady formation of drops that constitutes a very serious risk.		X 	 X

(xxxia) in the table, a new item 9.7.1 is inserted as follows:

‘

9.7.1 Kneeling **Description: the system allows a road vehicle to be lowered to make it easier for passengers to board and disembark.** **;**	**Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface**	**(a) System or any component missing**	-	**X**	-
		(b) System or components damaged	-	**X**	-
		(c) Software version or -integrity incorrect	-	**X**	-
		(d) Wiring damaged	-	**X**	-
		(e) Warning device shows system malfunction.	-	**X**	-
		(f) System indicates failure via the electronic vehicle interface **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**
		(g) System or components not operating, or implausible operation	-	**X**	-
		(h) Other failure **Not affecting the safe operation** **Affecting safe operation of the vehicle** **Danger to health of persons on board or of other road users**	**X**	**X**	**X**

’;

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(xxxib) in the table, the following item 9.13 is added:

‘

9.13. Alarm and fire suppression system	**Visual inspection and by operation (where appropriate) and/or using electronic interface**	**Reason for failure**	**Minor**	**Major**	**Dangerous**
9.13.1. Alarm system (if fitted, in accordance with EU type approval legislation)		**(a) Not operational at all, not working properly.**		**X**	
		(b) System indicates failure via the electronic interface.		**X**	
		(c) Missing		**X**	
		(d) Not in accordance with requirements[1]		**X**	
		(e) Activated		**X**	

’;

(xxxii) in the table, the following item 10 is added:

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10. ADAS AND OTHER SAFETY RELATED SYSTEMS					
~~10.1. Cornering light Description: during cornering, an extra headlamp is activated. Operates up to 40 km/h, for example in accordance with UNECE R 48 or UNECE R 119.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	~~-~~	~~X~~	~~-~~
		~~(b) System or components damaged~~	~~-~~	~~X~~	~~-~~
		~~(c) Software version or -integrity incorrect~~	~~-~~	~~X~~	~~-~~
		~~(d) Wiring damaged~~	~~-~~	~~X~~	~~-~~
		~~(e) Warning device shows system malfunction.~~	~~-~~	~~X~~	~~-~~
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	 ~~X~~	 ~~X~~	 ~~X~~
		~~(g) System or components not operating, or implausible operation~~	~~-~~	~~X~~	~~-~~
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	 ~~X~~	 ~~X~~	 ~~X~~
10.~~1~~2 Adaptive cruise control **and intelligent speed assistance.** **Description adaptive cruise control: The system maintains the vehicle's speed, depending on the preferred speed and distance to the vehicle in front.**	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged, or sensors obviously misaligned		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	

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Description intelligent speed assistance: system to aid the driver in maintaining the appropriate speed for the road environment by providing dedicated and appropriate feedback, for example in accordance with Regulation (EU) 2019/2144 and Commission Delegated Regulation (EU) 2021/1958***.**		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
		(g) System or components not operating, or implausible operation		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
~~10.4 Airbag Description: In case of an accident, inflatable airbags reduce the risk of injury by their absorbing effect, for example in accordance with UNECE R 12; UNECE R 14; or UNECE R 16.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or components (for example seat occupancy detection) obviously missing.~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board~~	~~X~~	 ~~X~~	 ~~X~~

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		~~(g) System or components obviously not operating (for example not suitable with the vehicle)~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board~~	~~X~~	~~X~~ ~~X~~	~~X~~
10.~~5~~**2** Active Headrest Description: the system reduces the danger of a whiplash injury in the event of a rear end collision by changing the position of the headrest towards the head.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board	X	X	X
		(g) System or components not operating, where applicable, or implausible operation		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board	X	X	X
10.~~3~~**6** Active hood	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the	(a) System or any component missing		X	
		(b) System or components damaged		X	

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Description: by automatically lifting the bonnet, the system ensures a larger collapsible zone in the event of an accident involving a pedestrian.	necessary data is made available, with the use of electronic interface	(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
		(g) System or components not operating (for example outdated), where applicable, or implausible operation		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
10.4~~7~~ Automatic hold function Description: the system independently holds the vehicle after stopping using the service brake and/or parking brake and automatically releases them when starting.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X

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		(g) System or components not operating, or implausible operation		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
~~10.8 Automatic headlamp levelling Description: depending on the load and (optional) pitch angle, the system regulates the headlamp's vertical aim, for example in accordance with UNECE R 121.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	~~-~~	~~X~~	~~-~~
		~~(b) System or components damaged~~	~~-~~	~~X~~	~~-~~
		~~(c) Software version or integrity incorrect~~	~~-~~	~~X~~	~~-~~
		~~(d) Wiring damaged~~	~~-~~	~~X~~	~~-~~
		~~(e) Warning device shows system malfunction.~~	~~-~~	~~X~~	~~-~~
		~~(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users~~	~~X~~	 ~~X~~	 ~~X~~
		~~(g) System or components not operating, or implausible operation~~	~~-~~	~~X~~	~~-~~
		~~(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users~~	~~X~~	 ~~X~~	 ~~X~~
10.~~5~~9 Automatic emergency braking system Description: the system independently starts braking in order	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the	(a) System or any component missing		X	
		(b) System or components damaged, or sensors obviously misaligned		X	

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to avoid a collision with an obstacle or another road user, or to reduce the consequences of an inevitable impact.	necessary data is made available, with the use of electronic interface	(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
		(g) System or components not operating, or implausible operative (for example audio components)		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
~~10.10 Anti-lock braking system Description: the system automatically prevents wheel-locking during braking by selective reduction of the wheel brake force, for example in accordance with UNECE R 13 and Regulation (EU) 2019/2144.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components (for example wheel speed sensor) damaged~~	-	~~X~~	-
		~~(c) Software version or -integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	 ~~X~~	 ~~X~~

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		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	- - ~~X~~
~~10.11 Automatic light~~ ~~Description: depending on the ambient brightness, the system automatically switches on and off the driving light.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~Electro-mechanic power steering~~ ~~Description: the supporting power~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-

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~~for steering is generated by an electric motor.~~	~~necessary data is made available, with the use of electronic interface~~	~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	~~X~~
		~~(g) System or components not operating (for example Power assistance not working), or implausible operation (for example inconsistency between the angle of the steering wheel and the angle of the wheels.)~~ ~~Steering affected~~	-	~~X~~	~~X~~
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.13 Electronic four-wheel steering~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-

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		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	~~-~~	~~X~~	~~-~~
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.14 Electronic damping~~ ~~Description: depending on the driving situation, the rebound and compression stage of the shock absorbers is adjusted by the system.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	~~-~~	~~X~~	~~-~~
		~~(b) System or components damaged~~	~~-~~	~~X~~	~~-~~
		~~(c) Software version or integrity incorrect~~	~~-~~	~~X~~	~~-~~
		~~(d) Wiring damaged~~	~~-~~	~~X~~	~~-~~
		~~(e) Warning device shows system malfunction.~~	~~-~~	~~X~~	~~-~~
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	~~-~~	~~X~~	~~-~~

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		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.15 Electronic brake system~~ ~~Description: a brake pedal sensor and/or pressure sensor records the braking request and calculates the optimal brake force for each wheel, so that there is optimal activation of all wheel brakes.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface, or by road test.~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.16 Electronic stability program~~ ~~Description: the system stabilizes the vehicle or the complete vehicle train in critical, dynamic driving situations, for example in accordance with Regulation (EU) 2019/2144 and UNECE R 140.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component (for example wheel speed sensors) missing~~	-	~~X~~	-
		~~(b) System or components (for example wheel speed sensors) damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-

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		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~
~~10.17 High beam assist~~ ~~Description: the system automatically activates and deactivates the high beam according to the driving situation and lighting conditions.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-

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		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.18 Speed limiter~~ ~~Description: While driving, the system prevents exceeding a defined maximum speed. Relevant, if mandatory, for example in accordance with UNECE R 89 and Regulation (EU) 2019/2144.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing (for example seals, plaques), or not fitted in accordance with the requirements.~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation (for example tampered or manipulated, or size of tyres not compatible with calibration parameters, or incorrect set speed, if checked).~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.19 Belt tensioner and belt force limiter~~ ~~Description: In the event of an accident, the seat belt is tensioned to~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the~~	~~(a) System or any component missing, or not suitable with the vehicle~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-

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~~place the passengers in a setpoint position and/or limits the belt force, electrically controlled and, thus, limits the forces acting on the persons for example in accordance with UNECE R 16 or UNECE R 94.~~	~~necessary data is made available, with the use of electronic interface~~	~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board~~	~~X~~	~~X~~ ~~X~~	
		~~(g) System or components not operating, where applicable, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board~~	~~X~~	~~X~~ ~~X~~	
~~10.21 Bending light~~ ~~Description: during cornering and depending on the steering angle and speed, the light beam is swivelled and/or an additional headlight is activated, for example in accordance with UNECE R 48; UNECE R 98; UNECE R 112; or UNECE R 123.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	

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		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~
10.~~6~~22 **~~Assissted~~ steering systems** Steering assist Description: depending on the driving situation, the steering angle is automatically changed, without intervention by the driver. Relevant if the steering intervention occurs at a speed of more than 15 km/h, for example in accordance with UNECE-R 79. **Lane change assistance** **Description: at a lane change, the system warns the driver about vehicles in the next lane and steers the vehicle back.**	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
		(g) System or components not operating, or implausible operative (for example audio components)		X	

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Lane keeping assistance **Description: the system warns the driver when the vehicle is unintentionally leaving its lane and steers the vehicle back, e.g. in accordance with Regulation (EU) 2019/2144 and Commission Implementing Regulation (EU) 2021/646*.** **Automated lane keeping system (ALKS)** **Description: a system which is activated by the driver, and which keeps the vehicle within its lane by controlling the lateral and longitudinal movements of the vehicle for extended periods without the need for further driver input (for example in accordance with UNECE-R 157).**		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
~~10.23 Height levelling~~ ~~Description: the system changes the clearance between vehicle chassis and the road.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	~~-~~	~~X~~	~~-~~
		~~(b) System or components damaged~~	~~-~~	~~X~~	~~-~~
		~~(c) Software version or integrity incorrect~~	~~-~~	~~X~~	~~-~~
		~~(d) Wiring damaged~~	~~-~~	~~X~~	~~-~~
		~~(e) Warning device shows system malfunction.~~	~~-~~	~~X~~	~~-~~

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		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	~~-~~	~~X~~	~~-~~
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.24 Emergency braking signal~~ ~~Description: during strong deceleration, hazard warning lights and/or additional luminous surfaces are activated and/or the following traffic is warned by flashing brake lights, for example in accordance with UNECE R 48 or UNECE R 13.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	~~-~~	~~X~~	~~-~~
		~~(b) System or components damaged~~	~~-~~	~~X~~	~~-~~
		~~(c) Software version or integrity incorrect~~	~~-~~	~~X~~	~~-~~
		~~(d) Wiring damaged~~	~~-~~	~~X~~	~~-~~
		~~(e) Warning device shows system malfunction.~~	~~-~~	~~X~~	~~-~~
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	~~-~~	~~X~~	~~-~~

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		~~(f) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
10.7~~25~~ Pre-crash system Description: in a critical driving situation, the vehicle is prepared for the crash so that the risk of injury to the passengers and/or other road users is reduced.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
		(g) System or components not operating, or implausible operation (for example power windows)		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
~~10.26 Tyre pressure warning~~ ~~Description: the system detects loss of tyre pressure through integrated sensors and/or by implausible values for wheel speed, for example in accordance with Regulation (EU) 2019/2144 and UNECE R 141.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or -integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-

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		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	~~X~~
~~10.28 Superimposed steering~~ ~~Description: depending on the driving situation, the system varies the transmission ratio of the steering.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	~~X~~
		~~(g) System or components not operating (for example power assistance not working), or implausible operation (for example inconsistency between the angle of the steering wheel and the angle of the wheels.)~~ ~~Steering affected~~	-	~~X~~	~~X~~

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		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
10.~~8~~29 Roll over protection (active) Description: in the event of an imminent rollover, support elements are extended to secure the survival space, for example in accordance with Regulation (EU) 2019/2144 and UNECE-R 21.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
		(g) System or components not operating, or implausible operation		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
~~10.30 Hydrogen installation Description: the hydrogen is stored in the vehicle and is used to propel the vehicle, either by combustion in an internal combustion engine or by conversion in a fuel cell with an additional electric engine.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or - integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-

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		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	~~X~~
10.~~9~~31 Start-up aid Description: aiding start-up, for example by raising the lift axle or by momentarily applying brake pressure or by automatic release of the parking brake.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X X	X
		(g) System or components not operating, or implausible operation		X	

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		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
~~10.32 Trailer stabilization~~ ~~Description: through selective braking of the trailer by the service brakes, the complete vehicle train is stabilised.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.33 Endurance brake~~ ~~Description: an additional braking system that can maintain braking over a period of time without a significant reduction in performance, for example in~~	~~Visual inspection (with command activated and not activated, if possible) complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made~~	~~(a) System or any component missing (for example Insecure connectors or mountings)~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-

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~~accordance with UNECE R 13 and Regulation (EU) 2019/2144.~~	~~available, with the use of electronic interface~~	~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(j) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
10.**10**~~34~~ Differential lock deactivation Description: when this system is activated, the differential locks are unlocked depending on parameters (for example wheel slip, steering angle, speed).	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X

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		(g) System or components not operating, or implausible operation Steering affected		X 	 X
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X 	 X
~~10.35 Electronically controlled leading and trailing axle~~ ~~Description: the steered axles are additional axles with electronically controlled steering. The steering force is generated by a hydraulic pump or by the lateral force on the wheels.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	 ~~X~~	 ~~X~~	 ~~X~~
		~~(g) System or components not operating, or implausible operation~~ ~~Steering affected~~	-	~~X~~	 ~~X~~

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		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
~~10.36 Electronic steering damper~~ ~~Description: Steering damping is controlled electronically.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	~~-~~	~~X~~	~~-~~
		~~(b) System or components damaged~~	~~-~~	~~X~~	~~-~~
		~~(c) Software version or integrity incorrect~~	~~-~~	~~X~~	~~-~~
		~~(d) Wiring damaged~~	~~-~~	~~X~~	~~-~~
		~~(e) Warning device shows system malfunction.~~	~~-~~	~~X~~	~~-~~
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~ ~~Steering affected~~	~~-~~	~~X~~	~~X~~
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(a) System or any component missing~~	~~-~~	~~X~~	~~-~~

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~~10.37 Bus stop brake~~ ~~Description: the system ensures the application of brake pressure when stationary, independent of the brake pedal activation. Buses can only start moving when the doors are closed.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.38 Kneeling~~ ~~Description: the system allows a road vehicle to be lowered to make it easier for passengers to board and disembark.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~

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		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~
10.**11**~~39~~ Steering brake Description: during cornering, dosed braking is applied to one or more wheels.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
		(g) System or components not operating, or implausible operation Steering affected		X	X
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X

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~~10.41 Sliding joint stabilisation Description: The articulated joint is stabilised by damping, depending on vehicle speed, cylinder pressure of the articulated dampers, steering and articulation angle.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.42 Four wheel parking brake Description: the system applies the maximum brake pressure in the wheel cylinders at all four wheels.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-

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		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.44 Adaptive headlights~~ ~~Description: the illumination of the surrounding road area and/or the direct illumination of road users in the danger area in front of the vehicle is optimised by dynamic adaption of the light beams.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-

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		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.45 Electrically actuated parking brake~~ ~~Description: the parking brake function is triggered or transmitted electronically or electromechanically.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	~~-~~	~~X~~	~~-~~
		~~(b) System or components damaged~~	~~-~~	~~X~~	~~-~~
		~~(c) Software version or integrity incorrect~~	~~-~~	~~X~~	~~-~~
		~~(d) Wiring damaged~~	~~-~~	~~X~~	~~-~~
		~~(e) Warning device shows system malfunction.~~	~~-~~	~~X~~	~~-~~
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	~~-~~	~~X~~	~~-~~
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.46 Lane change assistance~~ ~~Description: at a lane change, the system warns the driver about vehicles in the next lane and steers the vehicle back.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	~~-~~	~~X~~	~~-~~
		~~(b) System or components damaged~~	~~-~~	~~X~~	~~-~~
		~~(c) Software version or integrity incorrect~~	~~-~~	~~X~~	~~-~~
		~~(d) Wiring damaged~~	~~-~~	~~X~~	~~-~~

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		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	~~X~~
~~10.47 Lane keeping assistance~~ ~~Description: the system warns the driver when the vehicle is unintentionally leaving its lane and steers the vehicle back, e.g. in accordance with Regulation (EU) 2019/2144 and Commission Implementing Regulation (EU) 2021/646*.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-

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		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.48 Automatic eCall~~ ~~Description: the system is triggered automatically by in-vehicle sensors or manually, it transmits a minimum set of data (EN 15722) via mobile communication network and establishes an audio connection based on the (emergency) number between the vehicle passengers and the public safety answering point, in accordance with Regulation (EU) 2015/758 of the European Parliament and of the Council**, and Commission Delegated Regulation (EU) 2017/79***.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device (eCall MIL) shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation:~~ ~~- audio components (for example failing echo-test);~~ ~~- minimum set of data incorrect~~	-	~~X~~	-
		~~(h) Other failure (for example mobile network communication device, electronic control unit, or GPS signal failure)~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board~~	~~X~~	~~X~~	~~X~~
		(a) System or any component missing		X	

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10.**12**~~49~~ Active roll stabilisation Description: via appropriate actuators the system produces a roll movement which counters the vehicle's body roll movement depending on the current driving situation.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
		(g) System or components not operating, or implausible operation		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
~~10.50 Camera monitor Description: the system which generates at least a part of the indirect field of vision by a camera monitor combination (for example in accordance with UNECE R 46).~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or -integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	 ~~X~~	 ~~X~~	 ~~X~~

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		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	~~X~~
10.**13**~~51~~ Acoustic vehicle alerting Description: at low speed, the system generates an external, specific sound in order to warn, for example pedestrians.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
		(g) System or components not operating, or implausible operative		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
~~10.52 Basic exterior lights~~ ~~Description: the system switches~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-

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~~on/switches off the basic lighting devices (for example indicators).~~	~~necessary data is made available, with the use of electronic interface~~	~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.53 Automated lane keeping system (ALKS)~~ ~~Description: a system which is activated by the driver, and which keeps the vehicle within its lane by controlling the lateral and longitudinal movements of the vehicle for extended periods without the need~~ ~~for further driver input (for example in accordance with UNECE R 157).~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~

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		~~(g) System or components not operating, or implausible operation~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~ ~~X~~	~~X~~
10.**14**~~54~~ Turning assistant **(Blind spot detection system)** Description: a system to inform the driver of a possible collision with a traffic participant (for example bicycle) near side (for example in accordance with UNECE-R 151).	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
		(g) System or components not operating, or implausible operation		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
~~10.55 Tachograph~~ ~~Description: a system to record the driving time, breaks, rest periods as~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the~~	~~(a) System or any component missing (for example seals, plaques), or not fitted in accordance with the requirements (for example plaque out of date).~~	-	~~X~~	-

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~~well as periods of other work undertaken by a driver, for example, in accordance with Regulation (EU) No 165/2014 of the European Parliament and of the Council****.~~	~~necessary data is made available, with the use of electronic interface~~	~~(b) System or components damaged (for example illegible plaque)~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-
		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation (for example tampered or manipulated, or size of tyres not compatible with calibration parameters, or incorrect set speed, if checked).~~	-	~~X~~	-
		~~(h) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
~~10.56 Intelligent speed assistance~~ ~~Description: system to aid the driver in maintaining the appropriate speed for the road environment by providing dedicated and appropriate feedback, for example in accordance with Regulation (EU) 2019/2144 and Commission Delegated Regulation (EU) 2021/1958*****.~~	~~Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface~~	~~(a) System or any component missing~~	-	~~X~~	-
		~~(b) System or components damaged~~	-	~~X~~	-
		~~(c) Software version or integrity incorrect~~	-	~~X~~	-
		~~(d) Wiring damaged~~	-	~~X~~	-
		~~(e) Warning device shows system malfunction.~~	-	~~X~~	-

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		~~(f) System indicates failure via the electronic vehicle interface~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
		~~(g) System or components not operating, or implausible operation~~	~~-~~	~~X~~	~~-~~
		~~(g) Other failure~~ ~~Not affecting the safe operation~~ ~~Affecting safe operation of the vehicle~~ ~~Danger to health of persons on board or of other road users~~	~~X~~	~~X~~	~~X~~
10.**15**~~57~~ Reversing detection Description: system to make the driver aware of people and objects at the rear of the vehicle with the primary aim of avoiding collisions when reversing, for example in accordance with Regulation (EU) 2019/2144 and UNECE-R 158.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
		(g) System or components not operating, or implausible operation		X	

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		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
10.**160**~~58~~ Driver drowsiness and attention warning Description: system that assesses the driver's alertness through vehicle systems analysis and warns the driver if needed, for example in accordance with Regulation (EU) 2019/2144 and Commission Delegated Regulation (EU) 2021/1341******.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
		(g) System or components not operating, or implausible operation		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	X	X
10.17~~59~~ Advanced driver distraction warning Description: system that helps the driver to continue to pay attention to the traffic situation and that warns the driver when he or she is distracted, for example in accordance with Regulation (EU)	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	

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2019/2144 and Commission Delegated Regulation (EU) 2023/2590*******.		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
		(g) System or components not operating, or implausible operation		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
10.**18**~~60~~ Event data recorder Description: system with the only purpose of recording and storing critical crash-related parameters and information shortly before, during and immediately after a collision, for example in accordance with Regulation (EU) 2019/2144, Commission Delegated Regulation (EU) 2022/545********, and UNECE-R 160.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation	X		
		(g) System or components not operating, or implausible operation (for example data not accessible)		X	
		(h) Other failure Not affecting the safe operation	X		
10.**19**~~61~~ Automated driving system Description: systems that are capable of performing the entire	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the	(a) System or any component missing		X	
		(b) System or components damaged		X	

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dynamic driving task of the fully automated vehicle on a sustained basis, for example in accordance with Regulation (EU) 2019/2144 and Commission Implementing Regulation (EU) 2022/1426*********.	necessary data is made available, with the use of electronic interface	(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
		(g) System or components not operating, or implausible operation (for example HMI)		X	
		(h) Other failure Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X
10.**20**~~62~~ Driver availability monitoring systems (automated driving) Description: System that assesses whether the driver is capable of taking over the driving function of a self-driving vehicle, if necessary, in certain situations, for example in accordance with Regulation (EU) 2019/2144 and UNECE-R 157.	Visual inspection complemented, where made possible by the technical characteristics of the vehicle and where the necessary data is made available, with the use of electronic interface	(a) System or any component missing		X	
		(b) System or components damaged		X	
		(c) Software version or -integrity incorrect		X	
		(d) Wiring damaged		X	
		(e) Warning device shows system malfunction.		X	
		(f) System indicates failure via the electronic vehicle interface Not affecting the safe operation Affecting safe operation of the vehicle Danger to health of persons on board or of other road users	X	 X	 X

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		(g) System or components not operating, or implausible operation (for example HMI)		X	
		(h) Other failure Not affecting the safe operation	X		
		Affecting safe operation of the vehicle		X	
		Danger to health of persons on board or of other road users			X

‘

* Commission Implementing Regulation (EU) 2021/646 of 19 April 2021 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 motor vehicles with regard to their emergency lane-keeping systems (ELKS) (OJ L 133, 20.4.2021, p. 31, ELI: http://data.europa.eu/eli/reg_impl/2021/646/oj).

** Regulation (EU) 2015/758 of the European Parliament and of the Council of 29 April 2015 concerning type-approval requirements for the deployment of the eCall in-vehicle system based on the 112 service and amending Directive 2007/46/EC (OJ L 123, 19.5.2015, p. 77, ELI: http://data.europa.eu/eli/reg/2015/758/oj).

*** Commission Delegated Regulation (EU) 2017/79 of 12 September 2016 establishing detailed technical requirements and test procedures for the EC type-approval of motor vehicles with respect to their 112-based eCall in-vehicles systems, of 112-based eCall in-vehicle separate technical units and components and supplementing and amending Regulation (EU) 2015/758 of the European Parliament and of the Council with regard to the exemptions and applicable standards (OJ L 12, 17.1.2017, p. 44, ELI: http://data.europa.eu/eli/reg_del/2017/79/oj).

**** Regulation (EU) No 165/2014 of the European Parliament and of the Council of 4 February 2014 on tachographs in road transport, repealing Council Regulation (EEC) No 3821/85 on recording equipment in road transport and amending Regulation (EC) No 561/2006 of the European Parliament and of the Council on the harmonisation of certain social legislation relating to road transport (OJ L 60, 28.2.2014, p. 1, ELI: http://data.europa.eu/eli/reg/2014/165/oj).

***** Commission Delegated Regulation (EU) 2021/1958 of 23 June 2021 supplementing Regulation (EU) 2019/2144 of the European Parliament and of the Council by laying down detailed rules concerning the specific test procedures and technical requirements for the type-approval of motor vehicles with regard to their intelligent speed assistance systems and for the type-approval of those systems as separate technical units and amending Annex II to that Regulation (OJ L 409, 17.11.2021, p. 1, ELI: http://data.europa.eu/eli/reg_del/2021/1958/oj).

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****** Commission Delegated Regulation (EU) 2021/1341 of 23 April 2021 supplementing Regulation (EU) 2019/2144 of the European Parliament and of the Council by laying down detailed rules concerning the specific test procedures and technical requirements for the type-approval of motor vehicles with regard to their driver drowsiness and attention warning systems and amending Annex II to that Regulation (OJ L 292, 16.8.2021, p. 4, ELI: http://data.europa.eu/eli/reg_del/2021/1341/oj).

******* Commission Delegated Regulation (EU) 2023/2590 of 13 July 2023 supplementing Regulation (EU) 2019/2144 of the European Parliament and of the Council by laying down detailed rules concerning the specific test procedures and technical requirements for the type-approval of certain motor vehicles with regard to their advanced driver distraction warning systems and amending that Regulation (OJ L, 2023/2590, 22.11.2023, ELI: http://data.europa.eu/eli/reg_del/2023/2590/oj).

******** Commission Delegated Regulation (EU) 2022/545 of 26 January 2022 supplementing Regulation (EU) 2019/2144 of the European Parliament and of the Council by laying down detailed rules concerning the specific test procedures and technical requirements for the type-approval of motor vehicles with regard to their event data recorder and for the type-approval of those systems as separate technical units and amending Annex II to that Regulation (OJ L 107, 6.4.2022, p. 18, ELI: http://data.europa.eu/eli/reg_del/2022/545/oj).

********* Commission Implementing Regulation (EU) 2022/1426 of 5 August 2022 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 the automated driving system (ADS) of fully automated vehicles (OJ L 221, 26.8.2022, p. 1, ELI: http://data.europa.eu/eli/reg_impl/2022/1426/oj).

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(5) Annex III is amended as follows:

The first sentence in Chapter II, Section 3, is replaced by the following:

‘Table 1 sets out rules that shall be applied during a cargo securing inspection to determine whether the condition of the transport is acceptable.’;

(6) Annex IV is amended as follows:

on the front side of the form, point 6 is replaced by the following:

‘6. Category of vehicle[(a)]

(a) N_1 (up to 3,5 t) □

N_2 (3,5 to 12 t) □

N_3 (more than 12 t) □

O_3 (3,5 to 10 t) □

O_4 (more than 10 t) □

M_2 (more than 9 seats[(b)], up to 5 t) □

M_3 (more than 9 seats[(b)], more than 5 t) □

T1b □

T2b □

T3b □

T4.1b □

T4.2b □

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T4.3b □

Other vehicle category:

(please specify).';

point 10 is amended as follows:

(i) point (10) is replaced by the following:

'(10) ADAS and other safety related systems [(f)]';

(ii) the following point (11) is added:

(11) Cargo securing[(f)]';

the reverse side of the form is amended as follows:

(i) the following item 4.14 is inserted:

'4.14 High-voltage systems

4.14.1 Electrical safety

4.14.2 Traction battery cover

4.14.3 Traction battery

4.14.4 High-voltage electrical wiring

4.14.5 High-voltage electrical and electronical equipment

4.14.6 Insulation resistance

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4.14.7 Anti-starting system';

(ii) items 8.2.1 to 8.2.2.2 are replaced by the following:

'8.2.1 Exhaust emissions control equipment

8.2.2 Exhaust emission measurement – positive ignition engines

8.2.2.1 Particle number measurement

8.2.2.2 Gaseous emissions

8.2.2.3 NO_X measurement

8.2.3 Exhaust emission measurement – compression ignition engines

8.2.3.1 Particle number measurement

8.2.3.2 Opacity

8.2.3.3 NO_X measurement';

(iii) the following item 10 is added:

'10. ADAS and other safety related systems in accordance with Annex II to Directive 2014/47/EU'.

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(7) Annex V is replaced by the following:

'*ANNEX V*

STANDARD FORM FOR REPORTING TO THE COMMISSION

The standard form shall be drawn up in a computer-processable format andtransmitted by electronic means using standard office software.

Each Member State shall produce both the following tables:

(a) one summary table per year;
(b) for each country of registration of vehicles checked in a more detailed inspection, a separate table containing information on checked and detected deficiencies for each vehicle category.

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Summary table

of all (initial and more detailed) inspections

Reporting Member State: Reporting period year [X]

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Vehicle Category:	N_1		N_2		N_3		M_2		M_3		O_3		O_4		T1b, T2b, T3b, T4.1b, T4.2b, and T4.3b		Other categories (optional)		Total	
Country of registration	Number of vehicles checked (1)	Number of vehicles failed (2)	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed
Belgium																				
Bulgaria																				
Czech Republic																				
Denmark																				
Germany																				
Estonia																				
Ireland																				
Greece																				
Spain																				
France																				
Croatia																				
Italy																				
Cyprus																				
Latvia																				
Lithuania																				

Vehicle Category:	N_1		N_2		N_3		M_2		M_3		O_3		O_4		T1b, T2b, T3b, T4.1b, T4.2b, and T4.3b		Other categories (optional)		Total	
Country of registration	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed
Luxembourg																				
Hungary																				
Malta																				
Netherlands																				
Austria																				
Poland																				
Portugal																				
Romania																				
Slovenia																				
Slovakia																				
Finland																				
Sweden																				
Albania																				
Andorra																				
Armenia																				
Azerbaijan																				

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Vehicle Category:	N_1		N_2		N_3		M_2		M_3		O_3		O_4		T1b, T2b, T3b, T4.1b, T4.2b, and T4.3b		Other categories (optional)		Total	
Country of registration	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed
Belarus																				
Bosnia and Herzegovina																				
Georgia																				
Kazakhstan																				
Liechtenstein																				
Monaco																				
Montenegro																				
North Macedonia																				
Norway																				
Republic of Moldova																				
Russian Federation																				
San Marino																				
Serbia																				
Switzerland																				
Tajikistan																				
Türkiye																				
Turkmenistan																				

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Vehicle Category:	N_1		N_2		N_3		M_2		M_3		O_3		O_4		T1b, T2b, T3b, T4.1b, T4.2b, and T4.3b		Other categories (optional)		Total	
Country of registration	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed
Ukraine																				
United Kingdom																				
Uzbekistan																				
Other third countries (please specify)																				

(1) Total number of vehicles checked (at initial and more detailed inspections), including those without deficiencies, as well as those with minor, major or dangerous deficiencies.

(2) Failed vehicles with major or dangerous deficiencies as per Annex IV.

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Results of more detailed inspections

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Reporting Member State:
Name of the reporting Member State
Country of Registration:
Name of the country of vehicle registration

PERIOD: year [x]

Vehicle Category:	N_1		N_2		N_3		M_2		M_3		O_3		O_4		T1b, T2b, T3b, T4.1b, T4.2b, and T4.3b		Other categories (optional)		Total	
	Number of vehicles checked (1)	Number of vehicles failed (2)	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed

Defect detail

	Checked	Failed	Checked	Failed	Checked	Failed	Checked	Failed	Checked	Failed	Checked	Failed	Checked	Failed	Checked	Failed	Checked	Failed	Checked	Failed
(0) Identification																				
(1) Braking equipment																				
(2) Steering																				
(3) Visibility																				
(4) Lighting equipment and electrical system																				
(5) Axles, wheels, tyres, suspension																				
(6) Chassis and chassis attachments																				

Vehicle Category:	N_1		N_2		N_3		M_2		M_3		O_3		O_4		T1b, T2b, T3b, T4.1b, T4.2b, and T4.3b		Other categories (optional)		Total	
	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed	Number of vehicles checked	Number of vehicles failed
	Checked	Failed	Checked	Failed	Checked	Failed	Checked	Failed	Checked	Failed	Checked	Failed	Checked	Failed	Checked	Failed	Checked	Failed	Checked	Failed
(7) Other equipment including tachograph and speed limitation devices																				
(8) Nuisance including emissions and spillage of fuel and/or oil																				
(9) Supplementary tests for M_2/M_3																				
(10) Electronic safety systems																				
(11) Cargo securing																				
Total number of failures																				

(1) Total number of vehicles checked (at initial and more detailed inspections), including those without deficiencies, as well as those with minor, major or dangerous deficiencies.

(2) Failed vehicles with major or dangerous deficiencies as per Annex IV.