



Economic Commission for Europe**Inland Transport Committee****World Forum for Harmonization of Vehicle Regulations****Working Party on General Safety Provisions****131st session**

Geneva, 13–17 April 2026

Item 4(a) of the Provisional Agenda

Awareness of the Proximity of Vulnerable Road Users:**UN Regulation No. 46 (Devices for Indirect Vision)****Proposal for the 08 Series of Amendments to Regulation
No. 46 (Devices for Indirect Vision)****Submitted by the expert from Germany on behalf of the Task Force on
UN Regulation No. 46***

The text reproduced below was prepared by the expert from Germany on behalf of the Task Force on UN Regulation No. 46 (TF UN-R 46). It is based on the discussions of the meetings of TF UN-R 46. Participants of the Task Force were experts from France, Germany, Japan, Kingdom of the Netherlands, Republic of Korea, European Association of Automotive Suppliers (CLEPA) and International Organization of Motor Vehicle Manufacturers (OICA). The modifications to the current text of the UN Regulation are marked in bold for new or strikethrough for deleted characters.

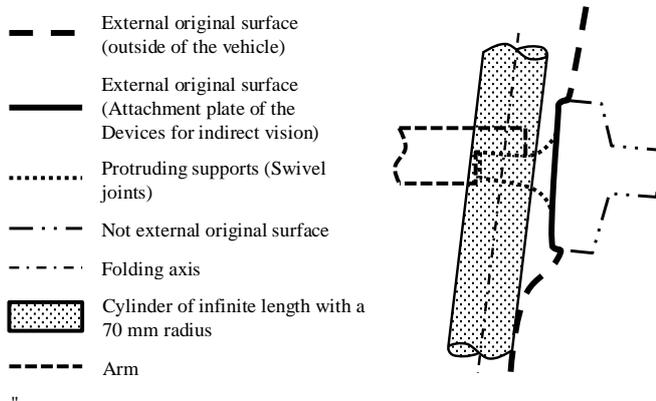
* In accordance with the programme of work of the Inland Transport Committee for 2026 as outlined in proposed programme budget for 2026 (A/80/6 (Sect. 20), table 20.7), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

I. Proposal

Figure 1a in Paragraph 2.7., amend to read:

"2.7. "External original surface" means the outside of the vehicle including the bonnet, the lid of the luggage compartment, the doors, the wings (fender), the roof, the lighting and light-signalling devices, the visible strengthening components, the support plate of devices for indirect vision and additional external original design surfaces defined by the manufacturer excluding protruding supports for devices of indirect vision.

Figure 1a



Insert new paragraph 2.9., to read:

"2.9. 'Protruding Supports' are fixed supports of the indirect vision device, and may include parts of the indirect vision device, which are always blocking the pendulum's movement, even if the housing moves."

Insert new paragraph 6.1.1.10., to read:

"6.1.1.10. Devices for indirect vision and/or their attachment shall not project beyond the external bodywork of the vehicle substantially more than is necessary to comply with the requirements concerning fields of vision.

When the device for indirect vision is in its folded position, neither the arm nor the protruding support shall project beyond the housing of the device for indirect vision or the [overall] vehicle width."

Insert new paragraph 6.2.1.4., to read:

"6.2.1.4. Devices for indirect vision and/or their attachment shall not project beyond the external bodywork of the vehicle substantially more than is necessary to comply with the requirements concerning fields of vision.

When the device for indirect vision is in its folded position, neither the arm nor the protruding support shall project beyond the housing of the device for indirect vision or the [overall] vehicle width."

Paragraph 6.2.1.4., amend to read:

"6.2.1.4. ~~For~~ Parts of the camera and the monitor installed outside the vehicle which are made of a material with a Shore A hardness of less than 60 are exempt from the relevant provisions, and which are mounted on a rigid support, the requirements of paragraph 6.2.2.1.1. above shall only apply to the support."

Paragraph 6.2.2.1.5., amend to read:

"6.2.2.1.5. ~~The requirements of paragraph 6.2.2.1.1. do not apply to CMS if their lower edge is mounted not less than 2 m above the ground when the vehicle is under a load corresponding to its maximum technical permissible mass. In the case of parts of the camera and the monitor installed inside the vehicle which are made of a material with a Shore A hardness of less than 50 and which are mounted on a rigid support, the requirements of paragraph 6.2.2.1.1. above shall only apply to the support.~~"

Insert a new paragraph 6.2.2.1.6., to read:

"6.2.2.1.6. **The requirements of paragraph 6.2.2.1.1. do not apply to CMS if their lower edge is mounted not less than 2 m above the ground when the vehicle is under a load corresponding to its maximum technical permissible mass.**"

Paragraph 6.3.2.1.1., amend to read:

"6.3.2.1.1. The test rig consists of a pendulum capable of swinging about two horizontal axes at right angles to each other, one of which is perpendicular to the plane containing the "release" trajectory of the pendulum.

The end of the pendulum comprises a hammer formed by a rigid sphere with a diameter of 165 ± 1 mm, and at least on the impact side a 5 ± 1 mm thick rubber covering of Shore A hardness 50.

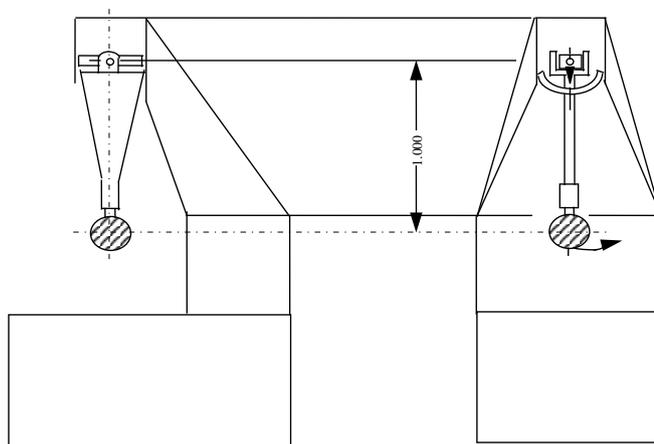
The end of the hammer may be formed by any other rigid shape having at least on the impact side a spherical shape and a 5 ± 1 mm thick rubber covering of Shore A hardness 50, if the equivalence of this shape is demonstrated through a mathematical model, to the satisfaction of the Type Approval Authority.

A device is provided which permits determination of the maximum angle assumed by the arm in the plane of release.

A support firmly fixed to the structure of the pendulum serves to hold the specimens in compliance with the impact requirements specified in paragraph 6.3.2.2.7. below.

Figure 1c ~~shows an example below gives the dimensions (in mm) of the a test rig and the special design specifications:~~

Figure 1c



"

Paragraph 6.3.2.2.5., amend to read:

"6.3.2.2.5. When, under the conditions governing adjustment laid down in paragraphs 6.3.2.2.1. and 6.3.2.2.2. above, parts of the device for indirect vision **or the protruding support as shown in Figure 1a** limits the return of the hammer before and after the impact, the point of impact shall be displaced through the centre of the reflecting surface, in a direction perpendicular to the axis of rotation or pivoting in question.

The displacement shall be no greater than is strictly necessary for the execution of the test. The necessary displacement shall be agreed upon by the Type Approval Authority or Technical Service; it shall be limited in such a way that:

- (a) Either the sphere delimiting the hammer remains at least tangential to the cylinder as defined in paragraph 6.1.1.6.;
- (b) Or, in the case of mirrors, the point of contact with the hammer is located on the reflecting surface at least 10 mm from the periphery of the reflecting surface."

Paragraph 12.6., amend to read:

"12.6. "Ocular reference point" (**ORP**) means the middle point between the driver's ocular points."

Insert new paragraph 12.10., to read:

"12.10.) "[Overall] Vehicle width" means a dimension which is measured according to ISO standard 612-1978, term No. 6.2.

Commented [RGP1]: 12.10

List of devices and equipment that are not required to be taken into account for the determination of the vehicle width:

Item	Vehicles categories					
	M ₁	M ₂	M ₃	N ₁	N ₂	N ₃
1. Devices for indirect vision as defined in paragraph 2.1. of UN Regulation No 46	x	x	x	x	x	x
2. The deflected part of the tyre walls at the point of contact with the road surface	x	x	x	x	x	x
3. Tyre failure tell-tale devices	—	—	x	x	x	x
4. Tyre-pressure indicators	—	—	x	x	x	x
5. Side-marker lamps	x	x	x	x	x	x
6. Lighting equipment						
6.1. End-outline marker lamps	x	x	x	x	x	x
6.2. Side-retro-reflectors	x	x	x	x	x	x
6.3. Direction-indicator lamps	x	x	x	x	x	x
6.4. Rear position lamps	—	—	—	x	x	
6.5. Service-door lighting systems	—	x	x	—	—	—
7. Access ramps, lift platforms and similar equipment (when undeployed and provided that they do not exceed 10 mm from the side of the vehicle and the corners of the ramps facing forwards or rearwards are rounded to a radius of not less than 5 mm; the edges must be rounded to a radius of not less than 2,5 mm).	—	x	x	—	x	x
8. Retractable lateral guidance devices intended for use on guided bus system, if not retracted.	—	—	x	—	—	—
9. Retractable steps when deployed and the vehicle is in stand-still position;	x	x	x	x	x	x
10. Watching and detection aids including radars	x	x	x	—	x	x
11. Aerodynamic devices and equipment The vehicle width, including that of conditioned body with insulated walls, shall not exceed 2 600 mm, including the measured projections, with the devices and equipment fixed in both the retracted or folded and the in-use positions.	—	x	x	—	x	x
12. Customs sealing devices and their protection	—	—	—	x	x	x
13. Devices for securing the tarpaulin and their protection not projecting by more than 20 mm where they are no more than 2,0 m from the ground level and no more than 50 mm where they are more than 2,0 m from the ground level. The edges shall be rounded to a radius of not less than 2,5 mm.	—	—	—	x	x	x
14. Protruding flexible parts of a spray-suppression system referred to in this Regulation.	—	—	—	—	x	x
15. Flexible mudguards not covered under entry 14.	—	x	x	x	x	x

16. Snow chains	x	x	x	x	x	x
17. Safety railings on vehicle transporters. Only for vehicles designed and constructed to transport at least two other vehicles and for which the safety railings are more than 2,0 m but not more than 3,70 m from the ground and do not project by more than 50 mm from the outermost side of the vehicle. The vehicle width shall not exceed 2 650 mm.					x	x
18. Antennas used for vehicle-to-vehicle or vehicle-to-infrastructure Communication	x	x	x	x	x	x
19. Flexible hoses of tyre pressure monitoring systems provided that they do not protrude by more than 70 mm on each side from the outermost width of the vehicle						x

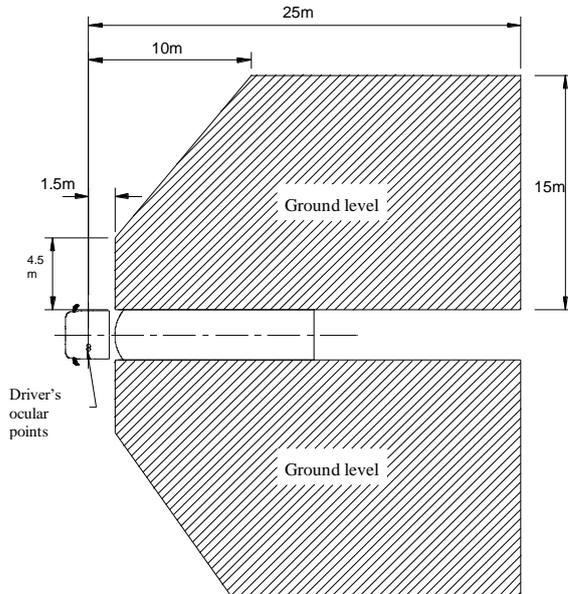
Figure 7 in Paragraph 15.2.4.4.2., amend to read:

"15.2.4.4.2. Wide-angle view device on the passenger's side

The field of vision shall be such that the driver can see at least a 15 m wide, flat, horizontal portion of the road, which is bounded by a plane parallel to the median longitudinal vertical plane of the vehicle and passing through the outermost point of the vehicle on the passenger's side and which extends from at least 10 m to 25 m behind the driver's ocular points.

In addition, the road shall be visible to the driver over a width of 4.5 m, which is bounded by a plane parallel to the median longitudinal vertical plane and passing through the outermost point of the vehicle starting from a point 1.5 m behind the vertical plane passing through the driver's ocular points (see Figure 7).

Figure 7
Class IV fields of vision



Paragraph 15.2.4.9.2., amend to read:

"15.2.4.9.2. Classes II, III, IV, V, and VI devices for indirect vision and Class VII mirrors

In the fields of vision specified above, obstruction due to the bodywork and its components, such as other cab devices for indirect vision, door handles, outline marker lights, direction indicators and front and rear bumpers, as well as reflective-surface cleaning components, shall not be taken into account if they are responsible for a total obstruction of less than 10 per cent of the specified field of vision. **For Classes II, III and VII, this requirement shall be tested by projection on to a vertical plane at right angles to the longitudinal centre plane of the vehicle at a minimum distance of [2] m behind the ORP. Potential obstructions due to the bodywork and its components beyond the selected plane shall be considered by projection on to the plane. This may be tested by virtual methods according to Schedule 8 of the 1958 agreement.**

Any obstruction shall not limit the view to the horizon. In the case of a vehicle designed and constructed for special purposes where, due to its special features, it is not possible to meet this requirement, the obstruction of the required field of vision of a Class VI mirror caused by the special features may be more than 10 per cent but not more than necessary for its special function."

Paragraph 16.1.1.3., amend to read:

"16.1.1.3. Overlay requirements within the minimum required field of vision

Overlays shall display only safety-related ~~rearward~~ **indirect** vision information.

All overlays shall be considered as an obstruction regardless of their transparency.

Each overlay shall not exceed 2.5 per cent of the required field of view displayed surface of the corresponding class.

The total surface of all obstructions shall not exceed the provision of paragraph 15.2.4.9.1. or 15.2.4.9.2. at the same time.

Overlay and any other obstruction surface shall be determined (for example on screenshots) taking into account the worst case(s)."

Paragraph 16.1.1.3.1., amend to read:

"16.1.1.3.1. Safety-Related ~~Rearward~~ **Indirect** Vision Information

Safety-related ~~rearward indirect~~ vision information **within the minimum required field of vision** refers to information that directly enhances the driver's ability to identify, assess, and respond to potential hazards or obstacles in the ~~rearward indirect~~ field of vision. This includes, but is not limited to:

- (a) Hazard alerts highlighting vehicles, cyclists, or pedestrians;
- (b) Distance lines or markers to highlight the distance to other vehicles;
- (c) Parking guidance lines.

Any additional information proposed by the vehicle manufacturer as safety-related ~~rearward indirect~~ vision information shall be evaluated and approved by the Technical Service and Type Approval Authority.

Indicators like blind spot monitoring indicators, side indicators, temperature warnings **shall be displayed outside of the minimum required field of vision.**"

Delete footnote 2 in Annex 2, paragraphs 11.1.1 and 11.2.1.

Insert new paragraph 22.34. and consequent subparagraphs, to read:

"22.34. **Transitional Provisions of the 08 Series of Amendments"**

22.34.1. **As from the official date of entry into force of the 08 series of amendments, no Contracting Party applying this Regulation shall refuse to grant or refuse to accept type approvals under this Regulation as amended by the 08 series of amendments.**

22.34.2. **As from 1 September [2029], Contracting Parties applying this Regulation shall not be obliged to accept type approvals to any of the preceding series of amendments, first issued after 1 September [2029].**

22.34.3. **Until 1 September [2031], Contracting Parties applying this Regulation shall accept type approvals to the 07 series of amendments, first issued before 1 September [2029].**

22.34.4. **As from 1 September [2031], Contracting Parties applying this Regulation shall not be obliged to accept type approvals issued to any of the preceding series of amendments to this Regulation.**

22.34.5. **Notwithstanding paragraphs 22.34.2. and 22.34.4., Contracting Parties applying this Regulation shall continue to accept type approvals issued according to the 04, 05, 06 and 07 series of amendments to this Regulation, for the vehicles and devices for indirect vision which are not affected by the changes introduced by the 08 series of amendments.**

22.34.6. **Contracting Parties applying this Regulation may grant type approvals according to any of the preceding series of amendments to this Regulation.**

22.34.7. **Contracting Parties applying this Regulation shall continue to grant extensions of existing approvals to any of the preceding series of amendments to this Regulation."**

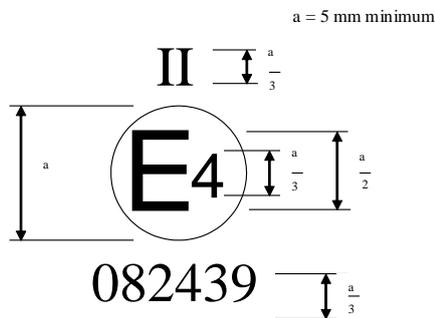
Annex 5, amend to read:

"Annex 5

Arrangement of Approval Mark of a Device for Indirect Vision

(See paragraph 5.4. of the Regulation)

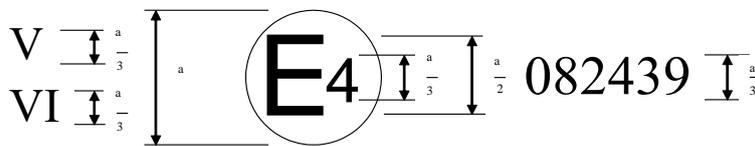
Example 1



The above approval mark affixed to a device for indirect vision indicates that the device is a main rear-view device, of Class II, which has been approved in the Netherlands (E 4) pursuant to Regulation No. 46 and under approval number 072439 **082439**. The first two digits of the approval number indicate that Regulation No. 46 already included the 07 08 series of amendments when the approval was granted.

Note: The approval number and the additional symbol shall be placed close to the circle and either above or below the "E" or to the left or right of that letter. The digits of the approval number and the additional symbols may be on the same side of the "E" or one on one side and the other on the other side and point in the same direction. The additional symbol shall be directly next or opposite to the approval number. The use of Roman numerals as approval numbers shall be avoided so as to prevent any confusion with other symbols.

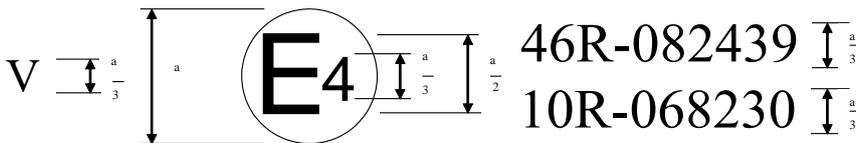
Example 2
One Approval Number for Two Classes



The above approval mark affixed to a device for indirect vision indicates that the device is a close-proximity view device, of Class V, and a front-view device, of Class VI, which has been approved in the Kingdom of the Netherlands (E 4) pursuant to Regulation No. 46 and under approval number 072439 **082439**. The first two digits of the approval number indicate that Regulation No. 46 already included the 07 08 series of amendments when the approval was granted.

Note: The approval number and the additional symbol(s) shall be placed close to the circle and on the same side or one to the left and one to the right of that letter. The digits of the approval number and the additional symbols shall point in the same direction. The use of Roman numerals as approval numbers shall be avoided so as to prevent any confusion with other symbols.

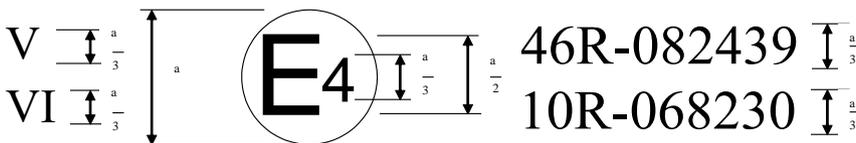
Example 3
Combined Approval Mark for UN Regulation No. 46 and UN Regulation No. 10



The above approval mark affixed to a device for indirect vision indicates that the device is a close-proximity view device, of Class V, which has been approved in the Kingdom of the Netherlands (E 4) pursuant to Regulation No. 46 and under approval number ~~072439~~ **082439** and pursuant to Regulation No. 10 and under approval number 068230. The first two digits of the approval number indicate that Regulation No. 46 already included the ~~07 08~~ series of amendments and Regulation No. 10 already included the 06 series of amendments when the approval was granted.

Note: The approval numbers and the additional symbols shall be placed close to the circle and either above or below the "E" or to the left or right of that letter. The digits of the approval number and the additional symbols may be on the same side of the "E" and point in the same direction. The use of Roman numerals as approval numbers shall be avoided so as to prevent any confusion with other symbols.

Example 4
Combined Approval Mark for UN Regulation No. 46 (One Number for Two Classes) and UN Regulation No. 10



The above approval mark affixed to a device for indirect vision indicates that the device is a close-proximity view device of Class V, and a front-view device of Class VI, which has been approved in the Kingdom of the Netherlands (E 4) pursuant to Regulation No. 46 and under approval number ~~072439~~ **082439** and pursuant to Regulation No. 10 and under approval number 068230. The first two digits of the approval number indicate that Regulation No. 46 already included the ~~07 08~~ series of amendments and Regulation No. 10 already included the 06 series of amendments when the approval was granted.

Note: The approval numbers and the additional symbols shall be placed close to the circle and on one side or one to the left and one to the right of the "E" or on the same side of the letter. The digits of the approval number and the additional symbols shall point in the same direction. The additional symbols shall be directly or opposite to the approval numbers. The use of Roman numerals as approval numbers shall be avoided so as to prevent any confusion with other symbols."

II. Justification

1. This proposal aims for further clarification of:
 - (a) the allowed obstruction for devices of Class II, III and VIII;
 - (b) the definition of the external original surface and the position of the cylinder;
 - (c) the usage of indicators and overlays in the required field of vision;
 - (d) protruding supports and their possible interference with the pendulum.
 2. It further contains corrections to existing figures.
 3. For detailed explanations see the report of the TF UN-R 46 (GRSG-130-32), distributed at the 130th session of the Working Party on General Safety Provisions.
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