No. 4789. AGREEMENT CONCERNING THE ADOPTION OF UNIFORM CONDITIONS OF APPROVAL AND RECIPROCAL RECOGNITION OF APPROVAL FOR MOTOR VEHICLE EQUIPMENT AND PARTS. DONE AT GENEVA ON 20 MARCH 1958[1]

ENTRY INTO FORCE of Regulation No. 53 (*Uniform provisions concerning the approval of motor cycles with regard to the installation of lighting and light-signalling devices*) as an annex to the above-mentioned Agreement of 20 March 1958

The said Regulation came into force on 1 February 1983 in respect of the German Democratic Republic and Italy, in accordance with article 1 (3) of the Agreement.

1. SCOPE

This Regulation applies to the approval of two-wheeled power-driven vehicles without side-car, having a maximum design speed exceeding 50 km/h and/or a cylinder capacity exceeding 50 cc.

2. DEFINITIONS

For the purpose of this Regulation

2.1. "Approval of a vehicle" means the approval of a vehicle type with regard to the number and mode of installation of the lighting and light-signalling devices.

2.2. "Vehicle type" means a category of vehicles which do not differ from each other in such essential respects as

2.2.1. The dimensions and external shape of the vehicle;

2.2.2. The number and position of the devices;

2.2.3. The following shall likewise not be deemed to be "vehicles of a different type":

2.2.3.1. Vehicles which differ within the meaning of paragraphs 2.2.1 and 2.2.2 above but not in such a way as to entail a change in the kind, number, position and geometric visibility of the lamps prescribed for the vehicle type in question; and

2.2.3.2. Vehicles on which lamps approved under one of the Regulations annexed to the 1958 Agreement, or lamps allowed in the country in which the vehicles are registered, are fitted, or are absent where their fitting is optional:

2.3. "Transverse plane" means a vertical plane perpendicular to the median longitudinal plane of the vehicle;

2.4. "Unladen vehicle" means a vehicle without a driver, or passenger, and unladen, but with its fuel tank full and its normal complement of tools;

2.5. "Lamp" means a device designed to illuminate the road or to emit a luminous signal; rear-registration-plate illuminating devices and reflex reflectors shall likewise be regarded as lamps;

2.5.1. "Equivalent lamps" means lamps having the same function and approved under the same Regulations annexed to the 1958 Agreement or in conformity with the same requirements; such lamps may have different characteristics from those of the lamps with which the vehicle is equipped at the time of approval, on condition that they satisfy the requirements of this Regulation;

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[1] United Nations, *Treaty Series*, vol. 335, p. 211; for subsequent actions, see references in Cumulative Indexes Nos. 4 to 14, as well as annex A in volumes 915, 917, 926, 932, 940, 943, 945, 950, 951, 955, 958, 960, 961, 963, 966, 973, 974, 978, 981, 982, 985, 986, 993, 995, 997, 1003, 1006, 1010, 1015, 1019, 1020, 1021, 1024, 1026, 1031, 1035, 1037, 1038, 1039, 1040, 1046, 1048, 1050, 1051, 1055, 1059, 1060, 1065, 1066, 1073, 1078, 1079, 1088, 1092, 1095, 1097, 1098, 1106, 1110, 1111, 1112, 1122, 1126, 1130, 1135, 1136, 1138, 1139, 1143, 1144, 1145, 1146, 1147, 1150, 1153, 1156, 1157, 1162, 1177, 1181, 1196, 1197, 1198, 1199, 1205, 1211, 1213, 1214, 1216, 1218, 1222, 1223, 1224, 1225, 1235, 1237, 1240, 1242, 1247, 1248, 1249, 1252, 1253, 1254, 1255, 1256, 1259, 1261, 1271, 1273, 1275, 1276, 1277, 1279, 1284, 1286, 1287, 1291, 1293, 1294 and 1295.

2.5.2. "Independent lamps" means lamps having separate illuminating surfaces, separate light sources and separate lamp bodies;

2.5.3. "Grouped lamps" means devices having separate illuminating surfaces and separate light sources, but a common lamp body;

2.5.4. "Combined" means devices having separate illuminating surfaces, but a common light source and a common lamp body;

2.5.5. "Reciprocally incorporated" means devices having separate light sources (or a single light source operating in different ways), but a common illuminating surface and a common lamp body;

2.5.6. "Driving lamp" means the lamp used to illuminate the road over a long distance ahead of the vehicle;

2.5.7. "Passing lamp" means the lamp used to illuminate the road ahead of the vehicle without causing undue dazzle or discomfort to oncoming drivers and other road users;

2.5.8. "Direction-indicator lamp" means the lamp used to indicate to other road-users that the driver intends to change direction to the right or to the left;

2.5.9. "Stop lamp" means the lamp used to indicate to other road-users to the rear of the vehicle that its driver is applying the service brake;

2.5.10. "Rear-registration-plate illuminating device" means the device used to illuminate the space reserved for the rear registration plate; such a device may consist of several optical components;

2.5.11. "Front position lamp" means the lamp used to indicate the presence of the vehicle when viewed from the front;

2.5.12. "Rear position lamp" means the lamp used to indicate the presence of the vehicle when viewed from the rear;

2.5.13. "Reflex reflector" means a device used to indicate the presence of a vehicle by the reflection of light from a light source not connected with the vehicle, the observer being situated near that source; for the purpose of this Regulation the retro-reflecting number plates are not considered as reflex reflectors;

2.5.14. "Vehicle hazard warning signal" means the simultaneous operation of all of a vehicle's direction-indicator lamps to show that the vehicle temporarily constitutes a special danger to other road users;

2.5.15. "Front fog lamp" means the lamp used to improve the illumination of the road in case of fog, snowfall, rainstorms or dust clouds;

2.5.16. "Rear fog lamp" means a lamp used to make the vehicle more easily visible from the rear in dense fog;

2.6. "Illuminating surface" (see annex 3);

2.6.1. "Light emitting surface" means all or part of the surface of the transparent material lens that encloses the lighting device and allows compliance with photometric and colorimetric characteristic standards;

2.6.2. "Illuminating surface of a lamp" (paragraphs 2.5.6, 2.5.7, and 2.5.15), means the orthogonal projection of the full aperture of the reflector in a transverse plane. If the lamp glass (or glasses) extend(s) over part only of the full aperture of the reflector, then the projection of that part only is taken into account. In the case of a dipped-beam headlamp, the illuminating surface is limited on the side of the cut-off by the apparent projection of the line of the cut-off on to the lens. If the reflector and glass are adjustable, the mean adjustment should be used;

2.6.3. "Illuminating surface of a light-signalling device other than a reflex reflector" (paragraphs 2.5.8 to 2.5.12, 2.5.14 and 2.5.16) means the orthogonal projection of the lamp of a plane perpendicular to its axis of reference and in contact with the transparent outer surface of the lamp, such projection being bound by the covering

of the screen edges situated in that plane and each allowing only 98 per cent of the total intensity of the light to subsist in the direction of the axis of reference; for the purposes of determining the lower, upper and lateral edges of the lamp, only screens having a horizontal or vertical edge shall be considered;

2.6.4. "Illuminating surface of a reflex reflector" (paragraph 2.5.13) means the illuminating surface of a reflex reflector in a plane perpendicular to its axis of reference and delimited by planes contiguous to the outermost parts of the reflex reflector's optical system and parallel to that axis; for the purposes of determining the lower, upper and lateral edges of the device, only screens having horizontal and vertical edges shall be considered.

2.7. "Apparent surface" in a specific direction means the orthogonal projection of the light-emitting surface on a plane perpendicular to the direction of observation;

2.8. "Axis of reference" (or "reference axis") means the charactertistic axis of the light signal determined by the manufacturer of the lamp for use as the direction reference (H = 0°, V = 0°) for angles of field for photometric measurements and for installing the lamp of the vehicle;

2.9. "Centre of reference" means the intersection of the axis of reference with the light-emitting surface; it is specified by the manufacturer of the lamp;

2.10. "Angles of geometric visibility" means the angles which determine the minimum solid-angle zone in which the apparent surface of the lamp must be visible; this solid-angle zone is defined by the segments of a sphere whose centre coincides with the centre of reference of the lamp and whose equator is parallel to the carriageway; the segments are determined from the axis of reference; the horizontal angles β correspond in longitude, the vertical angles α to latitude; within the angles of geometric visibility there must be no obstacle to the propagation of light from any part of the apparent surface of the lamp; no account is taken of obstacles existing at the time of approval, where required, of the lamp;

2.11. "Extreme outer edge", on either side of the vehicle, means the plane parallel to the median longitudinal plane of the vehicle and touching the lateral extremity of the vehicle, disregarding the projection or projections;

2.11.1. Of rear-view mirrors,

2.11.2. Of direction indicators;

2.12. "Over-all width" means the distance between the two vertical planes defined in paragraph 2.11 above;

2.13. "One lamp" means any assembly of two or more lamps, whether identical or not, having the same function and the same colour, which is constituted by devices the projection of whose aggregate illuminating surfaces on a transverse plane occupies not less than 60 per cent of area of the smallest rectangle circumscribing the projections of the said illuminating surfaces, provided that such assembly is approved as a single lamp where approval is required. This definition does not apply to driving lamp, the passing lamp or the front fog lamp;

2.14. "Distance between two lamps which face in the same direction", the distance between the orthogonal projections in a plane perpendicular to the axes of reference of the outline of the two illuminating surfaces as defined according to the case mentioned in paragraph 2.6;

2.15. "Operating tell-late" means a tell-tale showing that a device has been switched on and is operating correctly;

2.16. "'Circuit-closed' tell-tale" means a tell-tale showing that a device has been switched on, but not showing whether it is operating correctly or not.

3. APPLICATION FOR APPROVAL

3.1. The application for approval of a vehicle type with regard to the installation of its lighting and light-signalling devices shall be submitted by the vehicle manufacturer or his duly accredited representative.

3.2. It shall be accompanied by the following documents and particulars in triplicate:

3.2.1. A description of the vehicle type with regard to the items mentioned in paragraphs 2.2.1 and 2.2.2 above; the vehicle type shall be specified;

3.2.2. A list of the devices intended by the manufacturer to form the lighting and light-signalling equipment; the list may include several types of device for each function; each type shall be duly identified (national or international approval mark, if approved, name of manufacturer, etc.); in addition, the list may include in respect of each function the additional annotation "or equivalent devices";

3.2.3. A diagram of the lighting and light-signalling installation as a whole, showing the position of the various devices on the vehicle; and

3.2.4. A drawing or drawings of each lamp showing the illuminating surface as defined in paragraph 2.6 above.

3.3. An unladen vehicle fitted with a complete set of lighting and light-signalling equipment and representative of the vehicle type to be approved shall be submitted to the technical service conducting approval tests.

4. APPROVAL

4.1. If the vehicle type submitted for approval pursuant to this Regulation meets the requirements of the Regulation in respect of all the devices specified in the list, approval of that vehicle type shall be granted.

4.2. An approval number shall be assigned to each type approved. The first two digits shall indicate the series of amendments incorporating the most recent major technical amendments made to the Regulation at the time of issue of the approval. The same Contracting Party may not assign the same number of another vehicle type or to the same vehicle type or to the same vehicle type submitted with equipment not specified in the list referred to in paragraph 3.2.2 above, subject to the provisions of paragraph 8 of this Regulation.

4.3. Notice of approval or of refusal of approval of a vehicle type pursuant to this Regulation shall be communicated to the Parties to the Agreement which apply this Regulation, by means of a form conforming to the model in annex 1 to this Regulation and of diagrams supplied by the applicant for approval of the installation as referred to in paragraph 3.2.3 in a format not exceeding A4 (210 × 297 mm), or folded to that format and on an appropriate scale.

4.4. There shall be affixed, conspicuously and in a readily accessible place specified on the approval form, to every vehicle conforming to a vehicle type approved under this Regulation an approval mark consisting of:

4.4.1. A circle surrounding the letter "E" followed by the distinguishing number of the country which has granted approval;* and

4.4.2. The number of this Regulation followed by the letter "R", a dash, and the approval number to the right of the circle prescribed in paragraph 4.4.1.

* I for the Federal Republic of Germany, 2 for France, 3 for Italy, 4 for the Netherlands, 5 for Sweden, 6 for Belgium, 7 for Hungary, 8 for Czechoslovakia, 9 for Spain, 10 for Yugoslavia, 11 for the United Kingdom, 12 for Austria, 13 for Luxembourg, 14 for Switzerland, 15 for the German Democratic Republic, 16 for Norway, 17 for Finland, 18 for Denmark, 19 for Romania, 20 for Poland and 21 for Portugal; subsequent numbers shall be assigned to other countries in the chronological order in which they ratify the Agreement concerning the Adoption of Uniform Conditions of Approval and Reciprocal Recognition of Approval for Motor Vehicle Equipment and Parts, or in which they accede to that Agreement, and the numbers thus assigned shall be communicated by the Secretary-General of the United Nations to the Contracting Parties to the Agreement.

4.5. If the vehicle conforms to a vehicle type approved, under one or more other Regulations annexed to the Agreement, in the country which has granted approval under this Regulation, the symbol prescribed in paragraph 4.4.1 need not be repeated; in such a case the Regulation and approval numbers and the additional symbols of all the Regulations under which approval has been granted in the country which has granted approval under this Regulation shall be placed in vertical columns to the right of the symbol prescribed in paragraph 4.4.1.

4.6. The approval mark shall be clearly legible and shall be indelible.

4.7. The approval mark shall be placed close to or on the vehicle data plate affixed by the manufacturer.

4.8. Annex 2 to this Regulation gives examples of the arrangement of the approval marks.

5. GENERAL SPECIFICATIONS

5.1. The lighting and light-signalling devices shall be so fitted that in normal conditions of use, and notwithstanding the vibrations to which they may be subjected, they retain the characteristics prescribed by this Regulation and enable the vehicle to comply with the requirements of this Regulation. In particular, it shall not be possible for the lamps to be inadvertently maladjusted.

5.2. The illuminating lamps shall be so installed that correct adjustment of their orientation can easily be carried out.

5.3. For all light-signalling devices the reference axis of the lamp when fitted to the vehicle shall be parallel to the bearing plane of the vehicle on the road; in addition, it shall be perpendicular to the median longitudinal plane of the vehicle in the case of side reflex reflectors and parallel to that plane in the case of all other light-signalling devices. A tolerance of $\pm 3°$ shall be allowed in each direction. In addition, if specifications for fitting are provided by the manufacturer they shall be complied with.

5.4. In the absence of specific instructions, the height and orientation of the lamps shall be verified with the vehicle unladen and placed on a flat horizontal surface, its median longitudinal plane being vertical and the handlebars being in the position corresponding to the straight ahead movement. The tyre pressures shall be those prescribed by the manufacturer for the particular conditions of loading required in this Regulation.

5.5. In the absence of specific instructions lamps constituting a pair and having the same function shall:

5.5.1. Be mounted symmetrically in relation to the median longitudinal plane;

5.5.2. Be symmetrical to one another in relation to the median longitudinal plane;

5.5.3. Satisfy the same colorimetric requirements; and

5.5.4. Have identical nominal photometric characteristics.

5.6. In the absence of specific instructions, lamps having different functions may be independent or be grouped, combined or incorporated in one device, on condition that each such lamp satisfies the requirements applicable to it.

5.7. The maximum height above ground shall be measured from the highest point and the minimum height from the lowest point of the illuminating surface. For passing lamps, the minimum height from the ground shall be measured from the bottom of the lens or the reflector, whichever of these is the higher.

5.8. In the absence of specific instructions, no lamps other than direction-indicator lamps and the vehicle-hazard warning signal shall be flashing lamps.

5.9. No red lights shall be visible towards the front and no white light shall be visible towards the rear. Compliance with this requirement shall be verified as shown hereunder (see drawing in annex 4):

5.9.1. Visibility of red light towards the front: red light must not be directly visible to an observer moving in zone 1 of a transverse plane situated 25 m forward of the foremost point of the vehicle;

5.9.2. Visibility of white light towards the rear: white light must not be directly visible to an observer moving in zone 2 of a transverse plane situated 25 m rearward of the rearmost point on the vehicle;

5.9.3. In their respective planes, the zones 1 and 2 explored by the eye of the observer are bound:

5.9.3.1. In height, by two horizontal planes 1 m and 2.2 m respectively above the ground;

5.9.3.2. In width, by two vertical planes, forming frontwards and rearwards angles of 15° outwards from the vehicle's median longitudinal plane. These planes contain respectively the vertical intersection lines of vertical planes parallel to the vehicle's median longitudinal plane and delimiting the vehicle's over-all length and of transversal planes delimiting the vehicle's over-all width.

5.10. The electrical connexions shall be such that the front position lamp, the rear position lamp and the registration-plate illuminating device cannot be switched on or off otherwise than simultaneously.

5.11. In the absence of specific instructions, the electrical connexions shall be such that the driving lamp, the passing lamp and the fog lamp cannot be switched on unless the lamps referred to in paragraph 5.10 above are likewise switched on. This requirement need not, however, be satisfied in the case of the driving lamp and passing lamp where their luminous warnings consist in switching on the passing lamp intermittently at short intervals, or in switching on the driving lamp intermittently, or in switching on the passing lamp and driving lamp alternately at short intervals.

5.12. *Tell-tale lamps*

5.12.1. Every tell-tale lamp shall be readily visible to a driver in the normal driving position.

5.12.2. Where a "circuit-closed" tell-tale is prescribed by this Regulation, it may be replaced by an "operating" tell-tale.

5.13. *Colours of the lights*

The colours of the lights referred to in this Regulation shall be as follows:

Driving lamp	white or selective yellow
Passing lamp	white or selective yellow
Direction-indicator lamp	amber
Stop lamp	red
Rear-registration-plate illuminating device	white
Front position lamp	white (selective yellow or a mixture of a selective yellow and white shall be permitted if this light is incorporated in a selective yellow headlight)
Rear position lamp	red
Rear reflex reflector, non-triangular	red
Side reflex reflector, non-triangular	amber
Vehicle-hazard warning signal	amber
Front fog lamp	white or less saturated selective yellow
Rear fog lamp	red

The definition of the colours of the lamps shall conform to that given in annex 5 to the Convention on Road Traffic (1968).

5.14. Every vehicle submitted for approval pursuant to this Regulation shall be equipped with the following lighting and light-signalling devices:

5.14.1. Driving lamp (paragraph 6.1);

5.14.2. Passing lamp (paragraph 6.2);

5.14.3. Direction indicator lamps (paragraph 6.3);

5.14.4. Stop lamp (paragraph 6.4);

5.14.5. Rear-registration-plate illuminating device (paragraph 6.5);

5.14.6. Position lamps

5.14.6.1. Front (paragraph 6.6);

5.14.6.2. Rear (paragraph 6.7);

5.14.7. Non-triangular red rear reflex reflector (paragraph 6.8).

5.15. It may, in addition, be equipped with the following lighting and light-signalling devices:

5.15.1. Vehicle-hazard warning signal (paragraph 6.9);

5.15.2. Fog lamps

5.15.2.1. Front (paragraph 6.10);

5.15.2.2. Rear (paragraph 6.11);

5.15.3. Amber side reflex reflectors (paragraph 6.12).

5.16. The fitting of each of the lighting and light-signalling devices mentioned in paragraphs 5.14 and 5.15 above shall be effected in conformity with the relevant requirements in paragraph 6 of this Regulation.

5.17. The fitting of any lighting and light-signalling devices other than those mentioned in paragraphs 5.14 and 5.15 is prohibited for the purposes of type approval.

6. INDIVIDUAL SPECIFICATIONS

6.1. *Driving lamp*

6.1.1. Number
One of a type corresponding to the maximum design speed of the vehicle.*

6.1.2. Arrangement
No special requirement.

6.1.3. Position

6.1.3.1. In width: an independent driving lamp may be installed above or below the passing lamp, in which case the geometric centre shall be situated in the longitudinal median plane of the vehicle. A driving lamp reciprocally incorporated with the passing lamp shall be installed with its geometric centre situated in the longitudinal median plane of the vehicle;

6.1.3.2. In length: at the front of the vehicle. This requirement shall be deemed to be satisfied if the light emitted does not cause discomfort to the driver either directly, or indirectly through the rear-view mirrors and/or other reflecting surfaces of the vehicle.

6.1.3.3. In all cases the edge of the illuminating surface of an independent driving lamp shall be not more than 100 mm away from the edge of the illuminating surface of the passing lamp.

6.1.4. Geometric visibility
The visibility of the illuminating surface, including its visibility in areas which do not appear to be illuminated in the direction of observation considered, shall be ensured within a divergent space defined by generating lines based on the perimeter of the

* Type A: ⩾25 lux up to 100 km/h;
Type B: ⩾32 lux over 100 km/h.

Headlamps complying with the corresponding Regulations for four-wheeled vehicles are acceptable for all motor cycles. After 1 October 1984 type approvals granted for motor cycles equipped with class A headlamps shall cease to be valid.

illuminating surface and forming an angle of not less than 5° with the axis of reference of the headlamp.

6.1.5. Orientation
Forwards. The lamp may move with the steering.

6.1.6. May be "grouped" with the passing lamp and the other front lamps.

6.1.7. May not be "combined" with any other lamp.

6.1.8. May be "reciprocally incorporated"

6.1.8.1. with the passing lamp;

6.1.8.2. with the front position lamp;

6.1.8.3. with the front fog lamp.

6.1.9. Electrical connexions
The passing lamp may remain switched on at the same time as the driving lamp(s).

6.1.10. "Circuit-closed" tell-tale
Mandatory, non-flashing blue signal lamp.

6.1.11. Other requirements
Maximum intensity of the driving lamp shall not exceed 120,000 cd.
(The approval value).

6.2. *Passing lamp*

6.2.1. Number
One.

6.2.2. Arrangement
No special requirement.

6.2.3. Position

6.2.3.1. In width: the centre of reference shall be in the median longitudinal plane of the vehicle;

6.2.3.2. In height: not less than 500 mm nor more than 1,200 mm above the ground;

6.2.3.3. In length: at the front of the vehicle. This requirement shall be deemed to be satisfied if the light emitted does not cause discomfort to the driver either directly, or indirectly through the rear view mirrors and/or other reflecting surfaces of the vehicle.

6.2.4. Geometric visibility
Defined by angles α and β as specified in paragraph 2.10:
$\alpha = 15°$ upwards and 10° downwards;
$\beta = 45°$ to the left and to the right.
The presence of partitions or other items of equipment near the headlamps shall not give rise to secondary effects causing discomfort to other road users.

6.2.5. Orientation

6.2.5.1. Forwards. The lamp may move with the steering.

6.2.5.2. The vertical orientation of the passing beam shall remain between 0.5 per cent and −2.5 per cent of downward inclination for the conditions of loading "vehicle plus driver"* and "manufacturer's maximum permitted load", the load being distributed in accordance with the manufacturer's specification for loading and for the adjustment of the suspension (if any) for these conditions of loading.

6.2.5.3. The reference orientation corresponding to the "vehicle plus driver" shall be set between −1 per cent and −1.5 per cent. This pre-determined reference value shall be indicated on a plate on each vehicle.

* Driver: a simulated mass of 75 kg ± 1 kg.

6.2.5.4. If necessary, the vehicle shall be equipped with a device by means of which the orientation of the passing beam can be easily aligned for the load states mentioned in paragraph 6.2.5.2 above, without the need of tools.

6.2.6. May be "grouped" with the driving lamp and other front lamps.

6.2.7. May not be "combined" with any other lamp.

6.2.8. May be "reciprocally incorporated"

6.2.8.1. with the driving lamp;

6.2.8.2. with the other front lamps.

6.2.9. Electrical connexions
The control for changing over to the passing lamp shall switch off the driving lamp simultaneously. The passing lamp may remain switched on at the same time as the driving lamp.

6.2.10. Tell-tale
Optional; non-flashing green signal lamp.

6.2.11. Other requirements
None.

6.3. *Direction-indicator lamp*

6.3.1. Number
According to the arrangement (see appendix below).

[6.3.2. Arrangement
A. Two side indicators (category 3 as specified in Regulation No. 6 or category 31 as specified in Regulation No. 50). Permitted until 31.12.1984.
B. Two front indicators (category 1 as specified in Regulation No. 6 or category 11 as specified in Regulation No. 50).
Two rear indicators (category 2 as specified in Regulation No. 6 or category 12 as specified in Regulation No. 50).][1]

6.3.3. Position

6.3.3.1. In width:
Arragement A: the space between the inner edges of the two illuminating surfaces shall be not less than 560 mm;
Arrangement B: for front indicators, the following requirements shall all be met:
(1) There shall be a minimum distance of 300 mm between illuminating surfaces,
(2) The indicators shall be situated outside the longitudinal vertical planes tangential to the outer edges of the illuminating surface of the headlamp(s),
(3) There shall be a minimum distance of at least 100 mm between the illuminating surfaces of the indicators and headlamps closest to one another.
For rear indicators, the clearance between the inner edges of the two illuminating surfaces shall be at least 240 mm on the condition that the prescriptions of paragraph 2.10 are applied even when the registration plate is mounted;

6.3.3.2. In height: not less than 350 mm nor more than 1,200 mm above the ground;

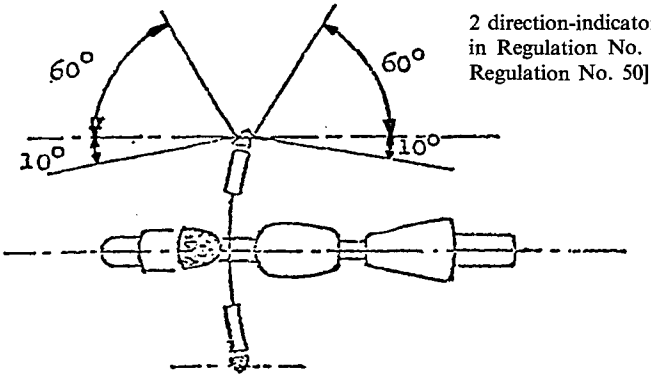
6.3.3.3. In length: no special requirements for arrangement A; for arrangement B of paragraph 6.3.3.1, the forward distance between the centre reference of the rear indicators and the transverse plane which constitutes the rearmost limit of the vehicle's over-all length shall not exceed 300 mm.

6.3.4. Geometric visibility
Horizontal angles: see appendix below.
Vertical angles: 15° above and below the horizontal.

[1] The modification of the text appearing between brackets was effected on 17 August 1982 by the Group of Experts on the Construction of Vehicles of the Inland Transport Committee of the Economic Commission for Europe at its sixty-seventh session. See also p. 315, appendix to paragraph 6.3.

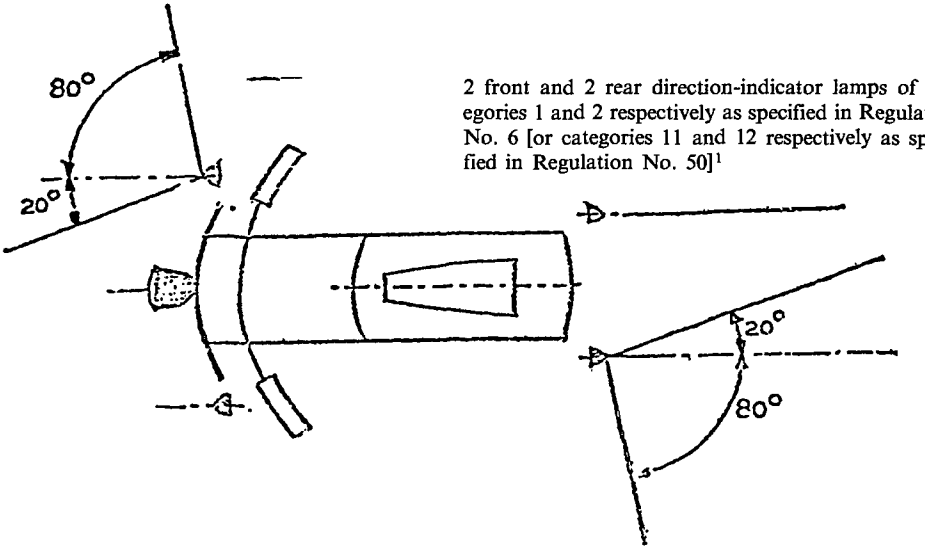
Appendix to paragraph 6.3

ARRANGEMENT A



2 direction-indicator lamps of category 3 as specified in Regulation No. 6 [or category 31 as specified in Regulation No. 50][1]

ARRANGEMENT B



2 front and 2 rear direction-indicator lamps of categories 1 and 2 respectively as specified in Regulation No. 6 [or categories 11 and 12 respectively as specified in Regulation No. 50][1]

[1] The modifications of the texts appearing between brackets were effected on 17 August 1982 by the Group of Experts on the Construction of Vehicles of the Inland Transport Committee of the Economic Commission for Europe at its sixty-seventh session.

The vertical angle below the horizontal may be reduced to 5°, however, if the height of the lights is less than 750 mm.

6.3.5. Orientation
According to the fitting arrangement. The front (arrangement B) and side (arrangement A) direction indicators may move with the steering.

6.3.6. May be "grouped" with one or more lamps.

6.3.7. May not be "combined" with any other lamp.

6.3.8. May not be "reciprocally incorporated" with any other lamp.

6.3.9. Electrical connexions
Direction-indicator lamps shall switch on independently of the other lamps. All direction-indicator lamps on one side of a vehicle shall be switched on and off by means of one control.

6.3.10. "Operating" tell-tale
Mandatory for all direction-indicator lamps of arrangement B.
It shall be a flashing green lamp, visible in all normal driving conditions which, in the event of defective operation of any of the direction indicators, is extinguished, remains alight without flashing, or shows a marked change of frequency.

6.3.11. Other requirements
The characteristics indicated below shall be measured with no other load on the electrical system than that required for the operation of the engine and the lighting devices.

6.3.11.1. In the case of all vehicles which supply direct current to the direction indicators:

6.3.11.1.1. The light flashing frequency shall be 90 ± 30 times per minute;

6.3.11.1.2. The flashing of the direction indicators on the same side of the vehicle shall occur synchronously and in phase;

6.3.11.1.3. Operation of the light-signal control shall be followed within not more than one second by the appearance of the light and within not more than one-and-one-half seconds by the first extinction of the light.

6.3.11.2. In the case of a vehicle which supplies alternating current to the direction indicators, where the speed of the engine is between 50 per cent and 100 per cent of the engine speed corresponding to the net maximum speed of the vehicle:

6.3.11.2.1. The light flashing frequency shall be 90 ± 30 times per minute;

6.3.11.2.2. The flashing of the direction indicators on the same side of the vehice may occur synchronously or alternately. The front lights shall not be seen at the rear and the rear lights at the front, in the regions shown in annex 4;

6.3.11.2.3. Operation of the light-signal control shall be followed within not more than one second by the appearance of the light and within not more than one-and-one-half seconds by the first extinction of the light.

6.3.11.3. In the case of a vehicle which supplies alternating current to the direction indicators, where the speed of the engine is between the idling speed indicated by the manufacturer and 50 per cent of the engine speed corresponding to the maximum speed of the vehicle:

6.3.11.3.1. The light flashing frequency shall be between 90 + 30 and 90 − 45 times per minute;

6.3.11.3.2. The flashing of the direction indicators on the same side of the vehicle may occur synchronously or alternately. The front lights shall not be seen at the rear, and the rear lights at the front, in the regions shown in annex 4;

6.3.11.3.3. Operation of the light-signal control shall be followed within not more than one second by appearance of the light and within not more than one-and-one-half seconds by the first extinction of the light.

6.3.11.4. In the event of failure, other than a short circuit, of one direction indicator lamp, the other(s) indicating the same direction must continue to flash or remain alight, but the frequency in this condition may be different from that prescribed.

6.4. *Stop lamp*

6.4.1. Number
One.

6.4.2. Arrangement
No special requirement.

6.4.3. Position

6.4.3.1. in width: the centre of reference shall be in the median plane of the vehicle;

6.4.3.2. in height: not less than 350 mm nor more than 1,200 mm above the ground;

6.4.3.3. in length: at the rear of the vehicle.

6.4.4. Geometric visibility
Horizontal angle: 45° to left and to right.
Vertical angle: 15° above and below the horizontal. The vertical angle below the horizontal may be reduced to 5°, however, if the height of the lamp is less than 750 mm.

6.4.5. Orientation
Towards the rear of the vehicle.

6.4.6. May be "grouped" with one or more other rear lamps.

6.4.7. May not be "combined" with any other lamp.

6.4.8. May be "reciprocally incorporated" with the rear position lamp.

6.4.9. Electrical connexions
Shall light up at any service brake application.

6.4.10. "Circuit-closed" tell-tale
Prohibited.

6.4.11. Other requirements
None.

6.5. *Rear-registration-plate illuminating device*

6.5.1. Number
One. The device may consist of several optical components designed to illuminate the space reserved for the registration plate.

6.5.2. Arrangement
6.5.3. Position
6.5.3.1. In width
6.5.3.2. In height
6.5.3.3. In length
6.5.4. Geometric visibility
6.5.5. Orientation
} Such that the device illuminates the space reserved for the registration plate.

6.5.6. May be "grouped" with one or more rear lamps.

6.5.7. May be "combined" with the rear position lamp.

6.5.8. May not be "reciprocally incorporated" with any other lamp.

6.5.9. Electrical connexions
No special requirement.

6.5.10. Tell-tale
Its function shall be performed by the tell-tale prescribed for the position lamp.

6.5.11. Other requirements
None.

6.6. *Front position lamp*

6.6.1. Number
One.

6.6.2. Arrangement
No special requirement.

6.6.3. Position

6.6.3.1. In width:
— Independent lamp: the centre of reference shall be in the median longitudinal plane;
— Lamp reciprocally incorporated with a headlamp; see that headlamp;

6.6.3.2. In height: not less than 350 mm nor more than 1,200 mm above the ground;

6.6.3.3. In length: at the front of the vehicle.

6.6.4. Geometric visibility
Horizontal angle: 80° to left and to right.
Verticle angle: 15° above and below the horizontal. The vertical angle below the horizontal may be reduced to 5°, however, if the height of the lamp is less than 750 mm.

6.6.5. Orientation
Forwards. The lamp may move with the steering.

6.6.6. May be "grouped" with any other front lamp.

6.6.7. May be "reciprocally incorporated" with any other front lamp.

6.6.8. Electrical connexions
No special requirement.

6.6.9. "Circuit-closed" tell-tale
Mandatory. Non-flashing green signal lamp. This tell-tale shall not be required if the instrument panel (dashboard) lighting can be switched on or off only simultaneously with the position lamp.

6.6.10. Other requirements
None.

6.7. *Rear position lamp*

6.7.1. Number
One.

6.7.2. Arrangement
No special requirement.

6.7.3. Position

6.7.3.1. In width:
The centre of reference shall be in the median plane of the vehicle;

6.7.3.2. In height: not less than 350 mm nor more than 1,200 mm above the ground;

6.7.3.3. In length: at the rear of the vehicle.

6.7.4. Geometric visibility
Horizontal angle: 80° to left and to right.
Vertical angle: 15° above and below the horizontal. The vertical angle below the horizontal may be reduced to 5°, however, if the height of the lamp is less than 750 mm.

6.7.5. Orientation
Rearwards.

6.7.6. May be "grouped" with any other rear lamp.

6.7.7. May be "combined" with the rear-registration-plate illuminating device.

6.7.8. May be "reciprocally incorporated" with the stop lamp, or the rear non-triangular red reflex reflector, or both, or with the rear fog lamp.

6.7.9. Electrical connexions
No special requirement.

6.7.10. "Circuit-closed" tell-tale
Its function shall be performed by the device prescribed for the front position lamp.

6.7.11. Other requirements
None.

6.8. *Rear reflex reflector, red, non-triangular*

6.8.1. Number
One.

6.8.2. Arrangement
No special requirement.

6.8.3. Position

6.8.3.1. In width: the centre of reference shall be in the median plane of the vehicle;

6.8.3.2. In height: not less than 350 mm nor more than 900 mm above the ground.

6.8.4. Geometric visibility
Horizontal angle: 30° to left and to right.
Vertical angle: 15° above and below the horizontal. The vertical angle below the horizontal may be reduced to 5°, however, if the height of the light is less than 750 mm.

6.8.5. Orientation
Rearwards.

6.8.6. May be "grouped" with any other lamp.

6.8.7. Other requirements
The illuminating surface of the reflex reflector may have parts in common with that of any other red lamp situated at the rear.

6.9. *Vehicle-hazard warning signal*

6.9.1. The signal shall be given by simultaneous operation of the direction-indicator lamps in accordance with the requirements of paragraph 6.3 above.

6.9.2. Electrical connexions
The signal shall be given by means of a separate control enabling all the direction-indicators to be supplied with current simultaneously.

6.9.3. "Circuit-closed" tell-tale
Mandatory. Flashing red signal lamp or, in the case of separate tell-tales, the simultaneous operation of the tell-tales prescribed in paragraph 6.3.10.

6.9.4. Other requirements
Light flashing 90 ± 30 times per minute.
Operation of the lamp-signal control shall be followed within not more than one second by the appearance of the light and within not more than one-and-one-half seconds by the first extinction of the light.
The vehicle-hazard warning signal shall remain capable of being actuated even when the device which controls the starting and stopping of the engine is in such a position that operation of the engine is impossible.

6.10. *Front fog lamp*

6.10.1. Number
One.

6.10.2. Arrangement
No special requirement.

6.10.3. Position

6.10.3.1. In width: the centre of reference shall be in the median longitudinal plane of the vehicle; or the edge of the illuminating surface which is nearest to that plane shall be not more than 250 mm away from it;

6.10.3.2. In height: not less than 250 mm above the ground. No point on the illuminating surface shall be higher than the highest point on the illuminating surface of the passing lamp;

6.10.3.3. In length: at the front of the vehicle. This requirement shall be deemed to be satisfied if the light emitted does not cause discomfort to the driver either directly, or indirectly through the rear-view mirrors and/or other reflecting surfaces of the vehicle.

6.10.4. Geometric visibility
Defined by angles α and β as specified in paragraph 2.10:
α = 5° upwards and downwards;
β = 45° to left and to right except for an off-centre light, in which case the inward angle β = 10°.

6.10.5. Orientation
Forwards. The lamp may move with the steering.

6.10.6. May be "grouped" with any other front lamps.

6.10.7. May not be "combined" with any other front lamp.

6.10.8. May be "reciprocally incorporated" with a driving lamp and with a front position lamp.

6.10.9. Electrical connexions
It shall be possible to switch the fog lamp on or off independently of the driving lamp and passing lamp.

6.10.10. "Circuit-closed" tell-tale
Optional; non-flashing green signal.

6.10.11. Other requirements
None.

6.11. *Rear fog lamp*

6.11.1. Number
One.

6.11.2. Arrangement
No special requirement.

6.11.3. Position

6.11.3.1. In width: no special requirements;

6.11.3.2. In height: not less than 350 mm nor more than 900 mm above the ground;

6.11.3.3. In length: at the rear of the vehicle.

6.11.3.4. The distance between the illuminating surface of the rear fog lamp and that of the stop lamp shall not be less than 100 mm.

6.11.4. Geometric visibility
Defined by angles α and β as specified in paragraph 2.10:
α = 5° upwards and 5° downwards;
β = 25° to right and to left.

6.11.5. Orientation
Rearwards.

6.11.6. May be "grouped" with any other rear lamp.

6.11.7. May not be "combined" with any other lamp.

6.11.8. May be "reciprocally incorporated" with a rear position lamp.

6.11.9. Electrical connexions
They shall be such that the rear fog lamp can light up only when one or more of the following lamps are switched on: driving lamp, passing lamp, front fog lamp.
If there is a front fog lamp, it shall be possible to switch off the rear fog lamp independently of the front fog lamp.

6.11.10. "Circuit-closed" tell-tale
Mandatory. Non-flashing amber signal lamp.

6.11.11. Other requirements
None.

6.12. *Side reflex reflector, amber, non-triangular*

6.12.1. Number per side
One or two.

6.12.2. Arrangement
No special requirement.

6.12.3. Position

6.12.3.1. In width: no special requirement;

6.12.3.2. In height: not less than 350 mm nor more than 900 mm above the ground;

6.12.3.3. In length: should be placed in such a position that under normal conditions it may not be masked by the driver's or passenger's clothes.

6.12.4. Geometric visibility
Horizontal angles, β: 30° to the front and to the rear.
Vertical angles, α: 15° above and below the horizontal.
The vertical angle below the horizontal may be reduced to 5°, however, if the height of the reflector is less than 750 mm.

6.12.5. Orientation
The reference axis of the reflex reflectors must be perpendicular to the vehicle's median longitudinal plane and directed outwards.

6.12.6. May be "grouped" with the other signalling devices.

7. MODIFICATIONS OF THE VEHICLE TYPE OR OF THE INSTALLATION OF ITS LIGHTING AND LIGHT-SIGNALLING DEVICES

7.1. Every modification of the vehicle type, or of the installation of its lighting or light-signalling devices, or of the list referred to in paragraph 3.2.2 above, shall be notified to the administrative department which approved that vehicle type. The department may then either:

7.1.1. Consider that the modifications made are unlikely to have appreciable adverse effects and that in any case the vehicle still meets the requirements; or

7.1.2. Require a further test report from the technical service responsible for conducting tests.

7.2. Confirmation or refusal of approval, specifying the alternatives, shall be communicated by the procedure specified in paragraph 4.3 above to the Parties to the Agreement which apply this Regulation.

8. CONFORMITY OF PRODUCTION

8.1. Every vehicle bearing an approval mark as prescribed by this Regulation shall conform, as regards the installation of lighting and light-signalling devices and their characteristics, to the vehicle type approved.

8.2. In order to verify conformity as prescribed in paragraph 8.1 above, a sufficient number of random checks shall be made on serially manufactured vehicles bearing the approval mark required by this Regulation.

9. PENALTIES FOR NON-CONFORMITY OF PRODUCTION

9.1. The approval granted for a vehicle type pursuant to this Regulation may be withdrawn if the requirement laid down in paragraph 8.1. above is not met or if the vehicle has failed to pass the checks prescribed in paragraph 8 above.

9.2. If a Party to the Agreement which applies this Regulation withdraws an approval it has previously granted, it shall forthwith so notify the other Contracting Parties to the Agreement which apply this Regulation, by means of a copy of the approval form bearing at the end, in large letters, the signed and dated annotation "APPROVAL WITHDRAWN".

10. PRODUCTION DEFINITIVELY DISCONTINUED

If the holder of an approval ceases production of a vehicle approved in accordance with this Regulation, he shall so inform the authorities that granted the approval. Upon receiving the relevant communication that authority shall inform thereof the other Parties to the Agreement applying this Regulation, by means of a copy of the approval form bearing at the end, in large letters, the signed and dated annotation "PRODUCTION DISCONTINUED".

11. NAMES AND ADDRESSES OF TECHNICAL SERVICES RESPONSIBLE FOR CONDUCTING APPROVAL TESTS, AND OF ADMINISTRATIVE DEPARTMENTS

The Parties to the Agreement which apply this Regulation shall communicate to the United Nations secretariat the names and addresses of the technical services responsible for conducting approval tests and of the administrative departments which grant approval and to which forms certifying approval or refusal or withdrawal of approval, issued in other countries, are to be sent.

LIST OF ANNEXES

Annex 1. Communication concerning the approval (or refusal or withdrawal of approval or production definitely discontinued) of a vehicle type with regard to the installation of lighting and light-signalling devices, pursuant to Regulation No. ...

Annex 2. Arrangement of the approval marks

Annex 3. Definition of the terms of paragraphs 2.6 and 2.7 of this Regulation

Annex 4. Forward visibility of red lights and rearward visibility of white lights.

ANNEX 1

(Maximum format: A4 (210 × 297 mm))

NAME OF ADMINISTRATION

Communication concerning the approval (or refusal or withdrawal of approval or production definitely discontinued) of a vehicle type with regard to the installation of lighting and light-signalling devices, pursuant to Regulation No. ...

Approval No. .....

1. Trade name or mark of vehicle .....
2. Vehicle type .....
3. Manufacturer's name and address .....
4. If applicable, name and address of manufacturer's representative .....
   .....
5. Lighting devices present on the vehicle submitted for approval*,** .....
   .....

5.1. Driving lamp: yes/no***
5.2. Passing lamp: yes/no***
5.3. Direction-indicator lamp: yes/no***
5.4. Stop lamp: yes/no***
5.5. Rear-registration-plate illuminating device: yes/no***
5.6. Front position lamp: yes/no***
5.7. Rear position lamp: yes/no***
5.8. Rear reflex reflectors, red, non-triangular: yes/no***
5.9. Vehicle-hazard warning signal: yes/no***
5.10. Front fog lamps: yes/no***
5.11. Rear fog lamps: yes/no***
5.12. Side reflex reflectors, amber, non-triangular: yes/no***

6. Variants .....
   .....
7. Vehicle submitted for approval on .....
8. Technical service responsible for conducting approval tests .....
   .....

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* Show for each device, on a separate form (list prescribed in paragraph 3.2.2 of this Regulation), the types of devices, duly identified, meeting the installation requirements of this Regulation.

** Attach diagrams of the vehicle as indicated in paragraph 3.2.1 of this Regulation.

*** Strike out what does not apply.

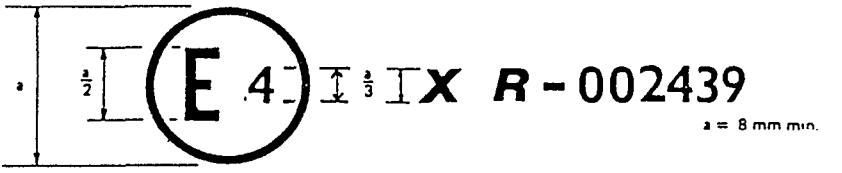
9. Date of report issued by that service .....
10. Number of report issued by that service .....
11. Approval granted/refused*** .....
12. Position of approval mark on vehicle .....
.....
13. Place .....
14. Date .....
15. Signature .....

ANNEX 2

ARRANGEMENT OF APPROVAL MARKS

Model A

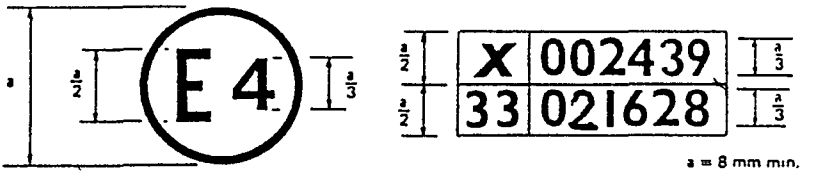
(See paragraph 4.4 of this Regulation)



The above approval mark affixed to a motor cycle shows that the vehicle type concerned has, with regard to the installation of lighting and light-signalling devices, been approved in the Netherlands (E 4) pursuant to Regulation No. X.* in its original form.

Model B

(See paragraph 4.5. of this Regulation)



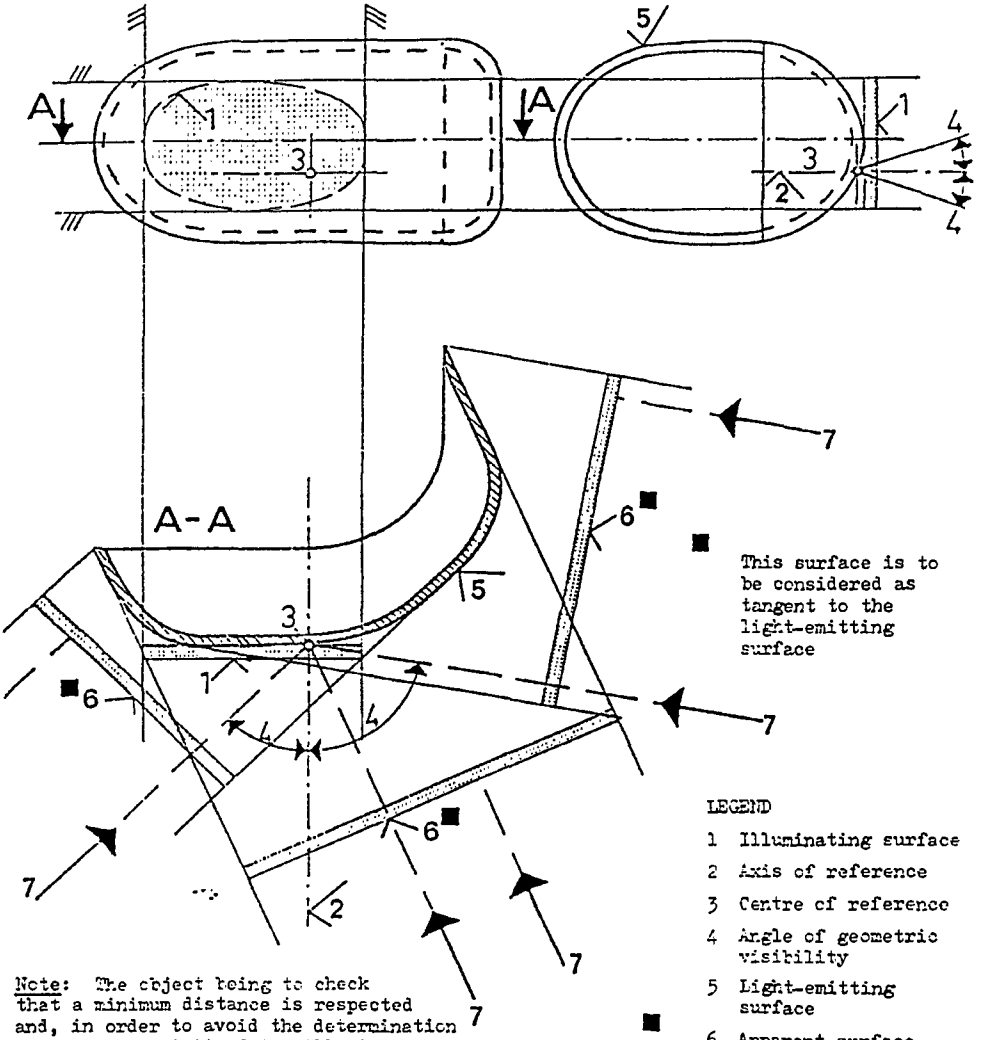
The above approval mark affixed to a motor cycle shows that the vehicle type concerned has been approved in the Netherlands (E 4) pursuant to Regulations Nos. X and 33.** The approval numbers indicate that, at the dates when the respective approvals were given, Regulation No. "X" was in its original form and Regulation No. 33 already included the 02 series of amendments.

* To be assigned by the Secretary-General after communication of the Regulation by the Parties to the 1958 Agreement.

** The latter number is given as an example only.

ANNEX 3

DEFINITION OF THE TERMS OF PARAGRAPHS 2.6 AND 2.7 OF THIS REGULATION



LEGEND

1 Illuminating surface
2 Axis of reference
3 Centre of reference
4 Angle of geometric visibility
5 Light-emitting surface
6 Apparent surface
7 Direction of observation

Note: The object being to check that a minimum distance is respected and, in order to avoid the determination of the exact limit of the illuminating surface, simplified methods may be used providing that they do not lead to interpretations which would not correspond to the provisions of minimum distance required by the Regulation.

ANNEX 4

FORWARD VISIBILITY OF RED LIGHTS AND REARWARD VISIBILITY OF WHITE LIGHTS
(See paragraph 5.9 of this Regulation)

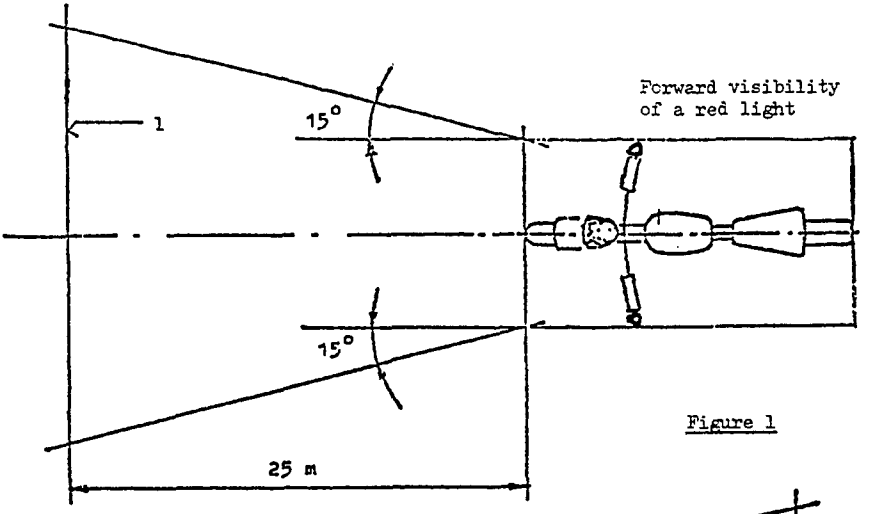


Figure 1

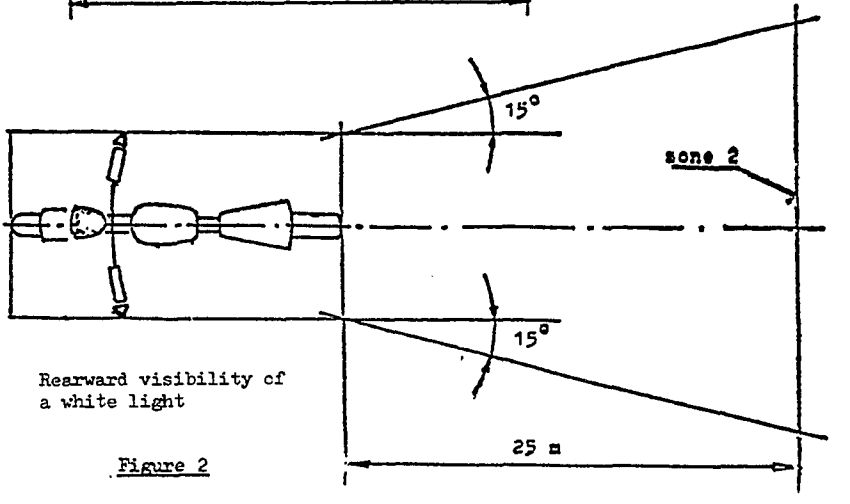


Figure 2

Authentic texts: English and French.
Registered ex officio *on 1 February 1983.*