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EN

Acts whose titles are printed in light type are those relating to day-to-day management of agricultural matters, and are generally valid for a limited period.

The titles of all other acts are printed in bold type and preceded by an asterisk.

II

*(Non-legislative acts)***ACTS ADOPTED BY BODIES CREATED BY
INTERNATIONAL AGREEMENTS**

Only the original UN/ECE texts have legal effect under international public law. The status and date of entry into force of this Regulation should be checked in the latest version of the UN/ECE status document TRANS/WP.29/343, available at:
<http://www.unece.org/trans/main/wp29/wp29wgs/wp29gen/wp29fdocsts.html>

**Regulation No 11 of the Economic Commission for Europe of the United Nations (UN/ECE) —
Uniform provisions concerning the approval of vehicles with regard to door latches and door
retention components**

Incorporating all valid text up to:

Supplement 2 to the 03 series of amendments — Date of entry into force: 17 March 2010

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1. SCOPE

This Regulation applies to vehicles of categories M1 and N1 ⁽¹⁾ with respect to latches and door retention components such as hinges and other supporting means on doors, which can be used for the entry or exit of the occupants.

2. DEFINITIONS

For the purposes of this Regulation.

2.1. 'Approval of a vehicle' means the approval of a vehicle type with regard to door latches and door retention components.

2.2. 'Vehicle type' means a category of motor vehicles which do not differ in such essential respects as:

2.2.1. designation of the vehicle type by the manufacturer;

2.2.2. the type of latch;

2.2.3. the type of door retention component;

2.2.4. the way in which the latches and door retention components are fitted to and retained by the structure of the vehicle;

2.2.5. type of sliding doors.

2.3. 'Auxiliary door latch' is a latch equipped with a fully latched position with or without a secondary latch position, and fitted to a door or door system equipped with a primary door latch system.

2.4. 'Auxiliary door latch system' consists, at a minimum, of an auxiliary door latch and a striker.

2.5. 'Back door' is a door or door system on the back end of a motor vehicle through which passengers can enter or depart the vehicle or cargo can be loaded or unloaded. It does not include:

(a) a trunk lid; or

(b) a door or window composed entirely of glazing material and whose latches and/or hinge systems are attached directly to the glazing material.

2.6. 'Body member' is that portion of the hinge normally affixed to the body structure.

2.7. 'Child Safety Lock System' is a locking device which can be engaged and released independently of other locking devices and which, when engaged, prevents operation of the interior door handle or other release device. The lock release/engagement device may be manual or electric and may be located anywhere on or in the vehicle.

2.8. 'Doors' means hinged or sliding doors which lead directly into a compartment that contains one or more seating positions and which are not folding doors, roll-up doors and doors that are designed to be easily attached to or removed from motor vehicles manufactured for operation without doors.

2.9. 'Door closure warning system' is a system that will activate a visual signal located where it can be clearly seen by the driver when a door latch system is not in its fully latched position and while the vehicle ignition is activated.

2.10. 'Door Hinge System' is one or more hinges used to support a door.

2.11. 'Door latch system' consists, at a minimum, of a latch and a striker.

2.12. 'Door member' is that portion of the hinge normally affixed to the door structure and constituting the swinging member.

⁽¹⁾ As defined in Annex 7 to the Consolidated Resolution on the Construction of vehicles (R.E.3), document TRANS/WP.29/78/Rev.1/Amend.2, as last amended by Amendment 4.

- 2.13. 'Door system' is the door, latch, striker, hinges, sliding track combinations and other door retention components on a door and its surrounding doorframe. The door system of a double door includes both doors.
- 2.14. 'Double door' is a system of two doors where the front door or wing door opens first and connects to the rear door or bolted door, which opens second.
- 2.15. 'Fork-bolt' is the part of the latch that engages and retains the striker when in a latched position.
- 2.16. 'Fork-bolt opening direction' is the direction opposite to that in which the striker enters the latch to engage the fork-bolt.
- 2.17. 'Fully latched position' is the coupling condition of the latch that retains the door in a completely closed position.
- 2.18. 'Hinge' is a device used to position the door relative to the body structure and control the path of the door swing for passenger ingress and egress.
- 2.19. 'Hinge pin' is that portion of the hinge normally interconnecting the body and door members and establishing the swing axis.
- 2.20. 'Latch' is a device employed to maintain the door in a closed position relative to the vehicle body with provisions for deliberate release (or operation).
- 2.21. 'Primary door latch' is a latch equipped with both a fully latched position and a secondary latched position and is designated as a 'primary door latch' by the manufacturer. The manufacturer may not thereafter change such designation. Each manufacturer shall, upon request, provide information regarding which latches are 'primary door latches' for a particular vehicle or make/model.
- 2.22. 'Primary door latch system' consists, at a minimum, of a primary door latch and a striker.
- 2.23. 'Secondary latched position' refers to the coupling condition of the latch that retains the door in a partially closed position.
- 2.24. 'Side front door' is a door that, in a side view, has 50 per cent or more of its opening area forward of the rearmost point on the driver's seat back, when the seat back is adjusted to its most vertical and rearward position, providing direct access for passengers to enter or depart the vehicle.
- 2.25. 'Side rear door' is a door that, in a side view, has 50 per cent or more of its opening area to the rear of the rearmost point on the driver's seat back, when the driver's seat is adjusted to its most vertical and rearward position, providing direct access for passengers to enter or depart the vehicle.
- 2.26. 'Striker' is a device with which the latch engages to maintain the door in the fully latched or secondary latched position.
- 2.27. 'Trunk lid' is a movable body panel that provides access from outside the vehicle to a space wholly partitioned from the occupant compartment by a permanently attached partition or fixed or fold-down seat back.
3. APPLICATION FOR APPROVAL
- 3.1. The application for approval of a vehicle type with regard to door latches and door retention components shall be submitted by the vehicle manufacturer or by his duly accredited representative.
- 3.2. It shall be accompanied by the undermentioned documents in triplicate and the following particulars:

- 3.2.1. drawings of the doors and of their latches and door retention components on an appropriate scale and in sufficient detail;
- 3.2.2. a technical description of the latches and door retention components.
- 3.3. The application shall also be accompanied by:
 - 3.3.1. a batch of five sets of retention components per door. When, however, the same sets are used for several doors, it will be sufficient to submit one batch of sets. Sets of door retention components which are distinguishable only because they are designed to be fitted on the left or on the right are not regarded as different;
 - 3.3.2. a batch of five complete latches, including actuating mechanism, per door. When, however, the same complete latches are used for several doors, it will be sufficient to submit one batch of latches. Latches which are distinguishable only because they are designed to be fitted on the left or on the right are not regarded as different.
- 3.4. A vehicle, representative of the vehicle type to be approved, shall be submitted to the technical service responsible for conducting approval tests.
- 4. APPROVAL
 - 4.1. If the vehicle type submitted for approval pursuant to this Regulation meets the requirements of paragraphs 5, 6 and 7 below, approval of that vehicle type shall be granted.
 - 4.2. An approval number shall be assigned to each type approved. Its first two digits (03) 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 to the same vehicle type either if the doors are not equipped with latches or door retention components of the same type, or if the latches and door retention components are not fitted in the same manner as on the vehicle submitted for approval; on the other hand, it may assign the same number to another vehicle type whose doors are equipped with the same latches and door retention components fitted in the same manner as on the vehicle submitted for approval.
 - 4.3. Notice of approval or of extension or refusal of approval of a vehicle type pursuant to this Regulation shall be communicated to the Parties to the Agreement applying this Regulation, by means of a form conforming to the model in Annex 1 to this Regulation.
 - 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 international 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⁽¹⁾;
 - 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 described in paragraph 4.4.1.

⁽¹⁾ 1 for Germany, 2 for France, 3 for Italy, 4 for the Netherlands, 5 for Sweden, 6 for Belgium, 7 for Hungary, 8 for the Czech Republic, 9 for Spain, 10 for Serbia, 11 for the United Kingdom, 12 for Austria, 13 for Luxembourg, 14 for Switzerland, 15 (vacant), 16 for Norway, 17 for Finland, 18 for Denmark, 19 for Romania, 20 for Poland, 21 for Portugal, 22 for the Russian Federation, 23 for Greece, 24 for Ireland, 25 for Croatia, 26 for Slovenia, 27 for Slovakia, 28 for Belarus, 29 for Estonia, 30 (vacant), 31 for Bosnia and Herzegovina, 32 for Latvia, 33 (vacant), 34 for Bulgaria, 35 (vacant), 36 for Lithuania, 37 for Turkey, 38 (vacant), 39 for Azerbaijan, 40 for the former Yugoslav Republic of Macedonia, 41 (vacant), 42 for the European Community (Approvals are granted by its Member States using their respective ECE symbol), 43 for Japan, 44 (vacant), 45 for Australia, 46 for Ukraine, 47 for South Africa, 48 for New Zealand, 49 for Cyprus, 50 for Malta, 51 for the Republic of Korea, 52 for Malaysia, 53 for Thailand, 54 and 55 (vacant) and 56 for Montenegro. Subsequent numbers shall be assigned to other countries in the chronological order in which they ratify or accede to the Agreement Concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these Prescriptions, 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 be indelible.
- 4.7. The approval mark shall be placed close to or on the vehicle data plate.
- 4.8. Annex 2 to this Regulation gives examples of arrangements of the approval marks.
5. GENERAL REQUIREMENTS
- 5.1. The requirements apply to all side and back doors and door components except for those on folding doors, roll-up doors, detachable doors, and doors that are designated to provide emergency egress.
- 5.2. Door latches
- 5.2.1. Each hinged door system shall be equipped with at least one primary door latch system.
- 5.2.2. Each sliding door system shall be equipped with either:
- (a) a primary door latch system; or
 - (b) a door latch system with a fully latched position and a door closure warning system.
6. PERFORMANCE REQUIREMENTS
- 6.1. Hinged doors
- 6.1.1. Load test one
- 6.1.1.1. Each primary door latch system and auxiliary door latch system, when in the fully latched position, shall not separate when a load of 11 000 N is applied in the direction perpendicular to the face of the latch such that the latch and the striker anchorage are not compressed against each other, when tested in accordance with paragraph 7.1.1.1.
- 6.1.1.2. When in the secondary latched position, the primary latch system shall not separate when a load of 4 500 N is applied in the same direction as in paragraph 6.1.1.1, when tested in accordance with paragraph 7.1.1.1.
- 6.1.2. Load test two
- 6.1.2.1. Each primary door latch system and auxiliary door latch system, when in the fully latched position, shall not separate when a load of 9 000 N is applied in the fork-bolt opening direction and parallel to the face of the latch, when tested in accordance with paragraph 7.1.1.1.
- 6.1.2.2. When in the secondary latched position, the primary latch system shall not separate when a load of 4 500 N is applied in the same direction, as in paragraph 6.1.2.1, when tested in accordance with paragraph 7.1.1.1.
- 6.1.3. Load test three (applicable to doors that open in a vertical direction)
- 6.1.3.1. Each primary door latch system shall not disengage from the fully latched position when a vertical load of 9 000 N is applied in the direction of the axis of the hinge pin.

6.1.4. Inertial load.

Each primary door latch system and auxiliary door latch system shall meet the dynamic requirements of either paragraphs 6.1.4.1 and 6.1.4.2 or the calculation of inertial load resistance requirements of paragraph 6.1.4.3.

6.1.4.1. Each primary door latch system and auxiliary door latch system on each hinged door shall not disengage from the fully latched position when an inertial load of 30 g is applied to the door latch system, including the latch and its activation device, in the directions parallel to the vehicle's longitudinal and transverse axes with the locking device disengaged and when demonstrated in accordance with paragraph 7.1.1.2.

6.1.4.2. Each primary door latch system and auxiliary door latch system on each hinged back door shall also not disengage from the fully latched position when an inertial load of 30 g is applied to the door latch system, including the latch and its activation device, in the direction parallel to the vehicle's vertical axis, with the locking device disengaged and when demonstrated in accordance with paragraph 7.1.1.2.

6.1.4.3. Each component or subassembly can be calculated for its minimum inertial load resistance in a particular direction. The combined resistance to the unlatching operation must assure that the door latch system, when properly assembled in the vehicle door, will remain latched when subjected to an inertial load of 30 g in the vehicle directions specified in paragraphs 6.1.4.1 and 6.1.4.2, as applicable, in accordance with paragraph 7.1.1.2.

6.1.5. Door hinges

6.1.5.1. Each door hinge system shall:

- (a) support the door;
- (b) not separate when a longitudinal load of 11 000 N is applied;
- (c) not separate when a transverse load of 9 000 N is applied; and
- (d) on doors which open in a vertical direction, not separate when a vertical load of 9 000 N is applied.

6.1.5.2. All tests required by paragraph 6.1.5.1 are conducted in accordance with paragraph 7.1.2.

6.1.5.3. If a single hinge within the hinge system is tested instead of the entire hinge system, the hinge must bear a load proportional to the total number of hinges in the hinge system.

6.1.5.4. On side doors with rear mounted hinges that can be operated independently of other doors,

- (a) the interior door handle shall be inoperative when the speed of the vehicle is greater than or equal to 4 km/h; and
- (b) a door closure warning system shall be provided for those doors.

6.2. Sliding side doors

6.2.1. Load test one

6.2.1.1. At least one door latch system, when in the fully latched position, shall not separate when a load of 11 000 N is applied in the direction perpendicular to the face of the latch, when tested in accordance with paragraph 7.2.1.1.

- 6.2.1.2. In the case of a primary door latch system, when in the secondary latched position, the door latch system shall not separate when a load of 4 500 N is applied in the same direction as in paragraph 6.2.1.1, when tested in accordance with paragraph 7.2.1.1.
- 6.2.2. Load test two
- 6.2.2.1. At least one door latch system, when in the fully latched position, shall not separate when a load of 9 000 N is applied in the direction of the fork-bolt opening and parallel to the face of the latch when tested in accordance with paragraph 7.2.1.1.
- 6.2.2.2. In the case of a primary door latch system, when in the secondary latched position, the primary latch system shall not separate when a load of 4 500 N is applied in the same direction as paragraph 6.2.2.1, when tested in accordance with paragraph 7.2.1.1.
- 6.2.3. Inertial load
- Each door latch system meeting the requirements of paragraphs 6.2.1 and 6.2.2 shall meet the dynamic requirements of either paragraph 6.2.3.1 or the calculation of inertial requirements of paragraph 6.2.3.2.
- 6.2.3.1. The door latch system shall not disengage from the fully latched position when an inertial load of 30 g is applied to the door latch system, including the latch and its activation device, in the directions parallel to the vehicle's longitudinal and transversal axes with the locking device disengaged and when tested in accordance with paragraph 7.2.1.2.
- 6.2.3.2. The minimum inertial load resistance can be calculated for each component or subassembly. Their combined resistance to the unlatching operation must assure that the door latch system, when properly assembled in the vehicle door, will remain latched when subjected to an inertial load of 30 g in the vehicle directions specified in paragraph 6.2.1 or 6.2.2, as applicable, in accordance with paragraph 7.2.1.2.
- 6.2.4. Door system
- 6.2.4.1. The track and slide combination or other supporting means for each sliding door, while in the closed fully latched position, shall not separate from the door frame when a total force of 18 000 N along the vehicle transverse axis is applied to the door in accordance with paragraph 7.2.2.
- 6.2.4.2. The sliding door, when tested in accordance with paragraph 7.2.2, fails this requirement if any one of the following occurs:
- 6.2.4.2.1. a separation which permits a sphere with a diameter of 100 mm to pass unobstructed from the interior of the vehicle to the exterior of the vehicle, while the required force is maintained;
- 6.2.4.2.2. either force application device reaches a total displacement of 300 mm.
- 6.3. Door locks
- 6.3.1. Each door shall be equipped with at least one locking device which, when engaged, shall prevent operation of the exterior door handle or other exterior latch release control and which has an operating means and a lock release/engagement device located within the interior of the vehicle.
- 6.3.2. Rear side doors
- Each rear side door shall be equipped with at least one locking device which, when engaged, prevents operation of the interior door handle or other interior latch release control and requires separate actions to unlock the door and operate the interior door handle or other interior latch release control.

6.3.2.1. The locking device may be a:

(a) child safety lock system; or

(b) lock release/engagement device located within the interior of the vehicle and readily accessible to the driver of the vehicle or an occupant seated adjacent to the door.

6.3.2.2. Either system described in paragraph 6.3.2.1(a) and (b) shall be permitted as an additional locking feature.

6.3.3. Back doors

Each back door equipped with an interior door handle or other interior latch release control, shall be equipped with at least one locking device located within the interior of the vehicle which, when engaged, prevents operation of the interior door handle or other interior latch release control and requires separate actions to unlock the door and operate the interior door handle or other interior latch release control.

7. TEST PROCEDURES

7.1. Hinged doors

7.1.1. Door latches

7.1.1.1. Load tests one, two, and three, force application

Compliance with paragraphs 6.1.1, 6.1.2 and 6.1.3 is demonstrated in accordance with Annex 3.

7.1.1.2. Inertial force application

Compliance with paragraph 6.1.4 is demonstrated in accordance with Annex 4.

7.1.2. Door hinges

Compliance with paragraph 6.1.5 is demonstrated in accordance with Annex 5.

7.2. Sliding side doors

7.2.1. Door latches

7.2.1.1. Load tests one and two, force application

Compliance with paragraphs 6.2.1 and 6.2.2 is demonstrated in accordance with Annex 3.

7.2.1.2. Inertial force application

Compliance with paragraph 6.2.3 is demonstrated in accordance with Annex 4.

7.2.2. Door system

Compliance with paragraph 6.2.4 is demonstrated in accordance with Annex 6.

8. MODIFICATION AND EXTENSION OF APPROVAL OF THE VEHICLE TYPE

8.1. Every modification of the vehicle type shall be notified to the administrative department which approved the vehicle type. The department may then either:

8.1.1. consider that the modifications made are unlikely to have appreciable adverse effects and that in any case the vehicle still complies with the requirements; or

8.1.2. require a further test report from the technical service responsible for conducting the tests.

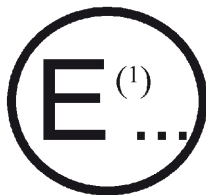
- 8.1.3. The competent authority issuing the extension of approval shall assign a series number to each communication form drawn up for such an extension.
- 8.2. Confirmation or refusal of approval, specifying the alterations, shall be communicated by the procedure specified in paragraph 4.3 above to the Parties to the Agreement which apply this Regulation.
9. CONFORMITY OF PRODUCTION
- 9.1. Every vehicle bearing an approval mark as prescribed under this Regulation shall conform to the vehicle type approved as regards features capable of modifying the characteristics of door latches and door retention components or the manner in which they are fitted.
- 9.2. In order to verify conformity as prescribed in paragraph 9.1 above, a sufficient number of random checks shall be made on serially-manufactured vehicles bearing the approval mark required by this Regulation.
- 9.3. As a general rule the checks as aforesaid shall be confined to the taking of measurements. However, if necessary, the latches and door retention components shall be subjected to tests referred to in paragraphs 5.2 and 5.3 above, selected by the technical service responsible for conducting approval tests.
10. PENALTIES FOR NON-CONFORMITY OF PRODUCTION
- 10.1. The approval granted in respect of a vehicle type pursuant to this Regulation may be withdrawn if the requirements laid down in paragraph 9.1 above are not complied with, or if the said latches and door retention components fail to pass the tests provided for in paragraph 9.2 above.
- 10.2. 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 applying 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'.
11. PRODUCTION DEFINITELY DISCONTINUED
- If the holder of the approval completely ceases to manufacture a type of vehicle under this Regulation, he shall so inform the authority which 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'.
12. NAMES AND ADDRESSES OF TECHNICAL SERVICES RESPONSIBLE FOR CONDUCTING APPROVAL TESTS AND OF ADMINISTRATIVE DEPARTMENTS
- The Parties to the Agreement applying 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.
13. TRANSITIONAL PROVISIONS
- 13.1. As from the official date of entry into force of the 03 series of amendments, no Contracting Party applying this Regulation shall refuse to grant approval under this Regulation as amended by the 03 series of amendments.
- 13.2. Until 12 August 2012, Contracting Parties applying this Regulation shall continue to grant approvals to those types of vehicles which comply with the requirements of this Regulation as amended by the preceding series of amendments.

- 13.3. As from 12 August 2012, Contracting Parties applying this Regulation shall grant approvals only if the vehicle type to be approved meets the requirements of this Regulation as amended by the 03 series of amendments.
- 13.4. No Contracting Party applying this Regulation shall refuse national or regional type-approval of a vehicle type approved to the 03 series of amendments to this Regulation.
- 13.5. Until 12 August 2012, no Contracting Party applying this Regulation shall refuse national or regional type-approval of a vehicle type-approved to the preceding series of amendments to this Regulation.
- 13.6. As from 12 August 2012, Contracting Parties applying this Regulation may refuse first national or regional registration (first entry into service) of a vehicle which does not meet the requirements of the 03 series of amendments to this Regulation.
- 13.7. As from 12 August 2012, approvals to this Regulation shall cease to be valid, except in the case of vehicle types which comply with the requirements of this Regulation as amended by the 03 series of amendments.
-

ANNEX 1

COMMUNICATION

(Maximum format: A4 (210 × 297 mm))



Name of administration:

.....

.....

.....

Communication concerning ⁽²⁾:

- the approval
- the refusal of approval
- the extension of approval
- the approval withdrawn
- the production definitely discontinued

of a vehicle type with regard to the door latches and door retention components pursuant to Regulation No 11

Approval No

1. Trade name or mark of the motor vehicle
2. Vehicle type
3. Manufacturer's name and address
4. Name and address of manufacturer's representative (if applicable).
5. Vehicle submitted for approval on
6. Technical service responsible for conducting approval tests
7. Date of test report:
8. Number of test report
9. Remarks:

the type of vehicle with the number of doors

(sedan 2 doors, 4 doors — station wagon 4 doors)
10. Position of approval mark:
11. Reason(s) of extension (if applicable):
12. Approval granted/refused/extended/withdrawn ⁽²⁾
13. Place
14. Date
15. Signature
16. The list of documents deposited at the administration service which has granted approval is annexed to this communication and available upon request.

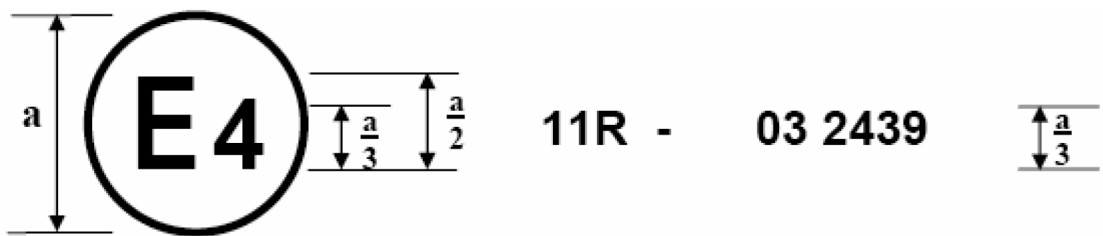
⁽¹⁾ Distinguishing number of the country which has granted/extended/refused/withdrawn approval.⁽²⁾ Strike out what does not apply.

ANNEX 2

ARRANGEMENTS OF APPROVAL MARKS

MODEL A

(See paragraph 4.4 of this Regulation)

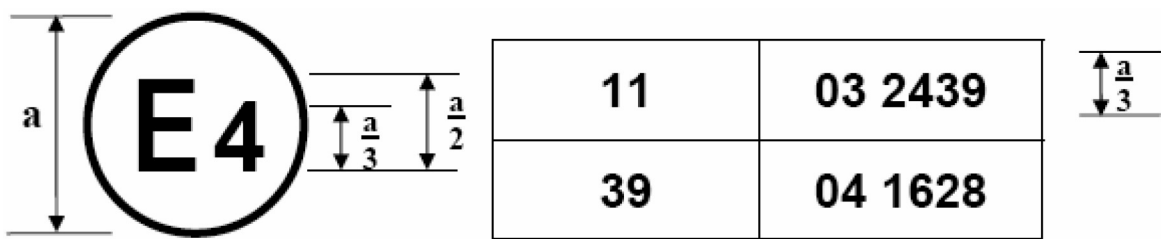


a = 8 mm min.

The above approval mark affixed to a vehicle shows that the vehicle type concerned has, with regard to door latches and door retention components, been approved in the Netherlands (E 4) pursuant to Regulation No 11, under approval number 032439. The first two digits of the approval number indicate that the approval was granted in accordance with the requirements of Regulation No 11 as amended by the 03 series of amendments.

MODEL B

(See paragraph 4.5 of this Regulation)



a = 8 mm min.

The above approval mark affixed to a vehicle shows that the vehicle type concerned has been approved in the Netherlands (E 4) pursuant to Regulation No 11 as amended by the 03 series of amendments and Regulation No 39, as amended by the 04 series of amendments ⁽¹⁾.

⁽¹⁾ The second number is given merely as an example.

ANNEX 3

LATCH TEST FOR LOAD TESTS ONE, TWO, AND THREE, FORCE APPLICATION**1. PURPOSE**

These tests are intended to establish minimum performance requirements and test procedures for evaluating and testing vehicle door latch systems for their ability to resist force loads in directions perpendicular to the latch face and parallel to the latch face in the fork-bolt opening direction. For doors which open in a vertical direction, the tests are intended to also establish minimum performance requirements and a test procedure for evaluating the primary latch system in a direction orthogonal to the first two directions. Primary door latch systems must demonstrate the ability to resist applicable force loads in both the fully and secondary latched positions; auxiliary door latch systems, and other door latch systems with only a fully-latched position, must demonstrate the ability to resist force loads in directions perpendicular to the latch face and parallel to the latch face in the fork-bolt opening direction at the levels specified for the fully latched position.

2. TEST OPERATION**2.1. Load test one****2.1.1. Equipment: tensile testing fixture (see Figure 3-1).****2.1.2. Procedures****2.1.2.1. Fully latched position**

2.1.2.1.1. Attach the test fixture to the mounting provisions of the latch and striker. Align in the direction of engagement parallel to the linkage of the fixture. Mount the test fixture with the latch and striker in the fully latched position in the test machine.

2.1.2.1.2. Locate weights to apply a 900 N load tending to separate the latch and striker in the direction of the door opening.

2.1.2.1.3. Apply the test load, in the direction specified in paragraph 6.1.1 of this Regulation and Figure 3-4, at a rate not to exceed 5 mm/min. until the required load has been achieved. Record the maximum load achieved.

2.1.2.2. Secondary latched position

2.1.2.2.1. Attach the test fixture to the mounting provisions of the latch and striker. Align in the direction of engagement parallel to the linkage of the test fixture. Mount the test fixture with the latch and striker in the secondary latched position in the test machine.

2.1.2.2.2. Locate weights to apply a 900 N load tending to separate the latch and striker in the direction of the door opening.

2.1.2.2.3. Apply the test load, in the direction specified in paragraph 6.1.1 of this Regulation and Figure 3-4, at a rate not to exceed 5 mm/min. until the required load has been achieved. Record the maximum load achieved.

2.1.2.2.4. The test plate on which the door latch is mounted will have a striker cut-out configuration similar to the environment in which the door latch will be mounted on normal vehicle doors.

2.2. Load test two**2.2.1. Equipment: Tensile testing fixture (see Figure 3-2).****2.2.2. Procedures****2.2.2.1. Fully latched position**

2.2.2.1.1. Attach the test fixture to the mounting provisions of the latch and striker. Mount the test fixture with the latch and striker in the fully latched position in the test machine.

2.2.2.1.2. Apply the test load, in the direction specified in paragraph 6.1.2 of this Regulation and Figure 3-4, at a rate not to exceed 5 mm/min. until the required load has been achieved. Record the maximum load achieved.

2.2.2.2. Secondary latched position

2.2.2.2.1. Attach the test fixture to the mounting provision of the latch and striker. Mount the test fixture with the latch and striker in the secondary latched position in the test machine.

2.2.2.2.2. Apply the test load, in the direction specified in paragraph 6.1.2 of this Regulation and Figure 3-4, at a rate not to exceed 5 mm/min. until the required load has been achieved. Record the maximum load achieved.

2.3. Load test three (for doors that open in a vertical direction)

2.3.1. Equipment: Tensile testing fixture (see Figure 3-3).

2.3.2. Procedure

2.3.2.1. Attach the test fixture to the mounting provisions of the latch and striker. Mount the test fixture with the latch and striker in the fully latched position in the test machine.

2.3.2.2. Apply the test load, in the direction specified in paragraph 6.1.3 of this Regulation and Figure 3-4, at a rate not to exceed 5 mm/min. until the required load has been achieved. Record the maximum load achieved.

Figure 3-1

Door latch — Tensile testing fixture for load test one

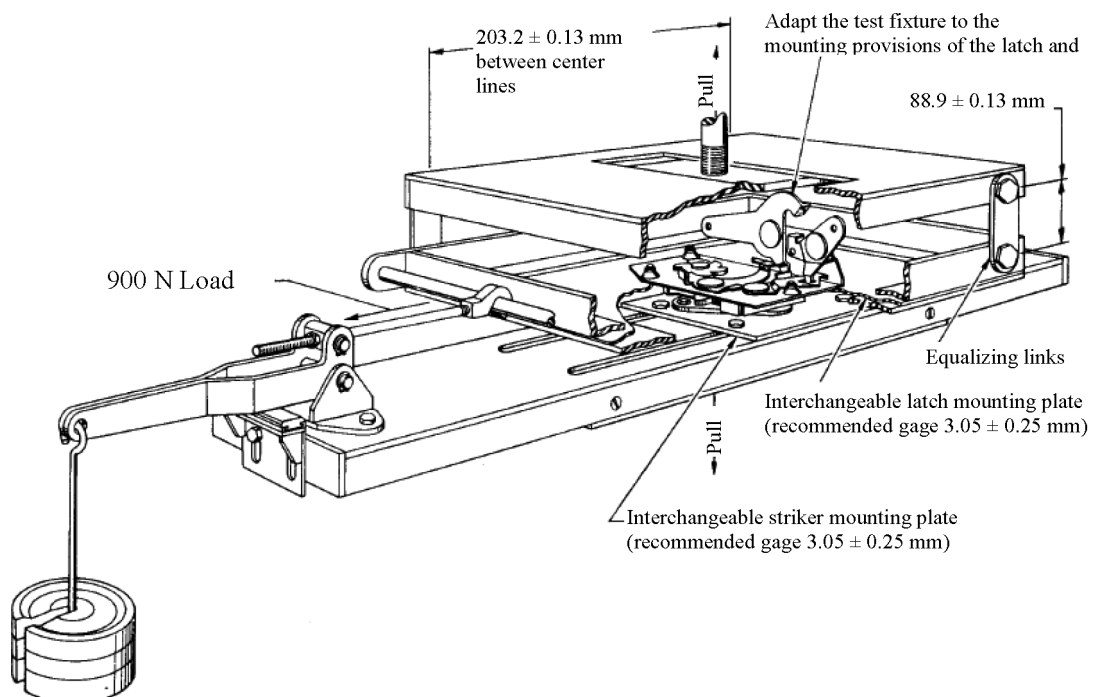


Figure 3-2

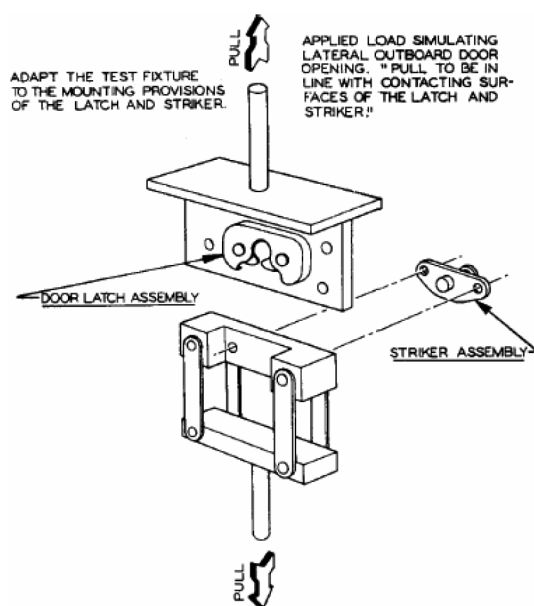
Door latch — Tensile testing fixture for load test two

Figure 3-3

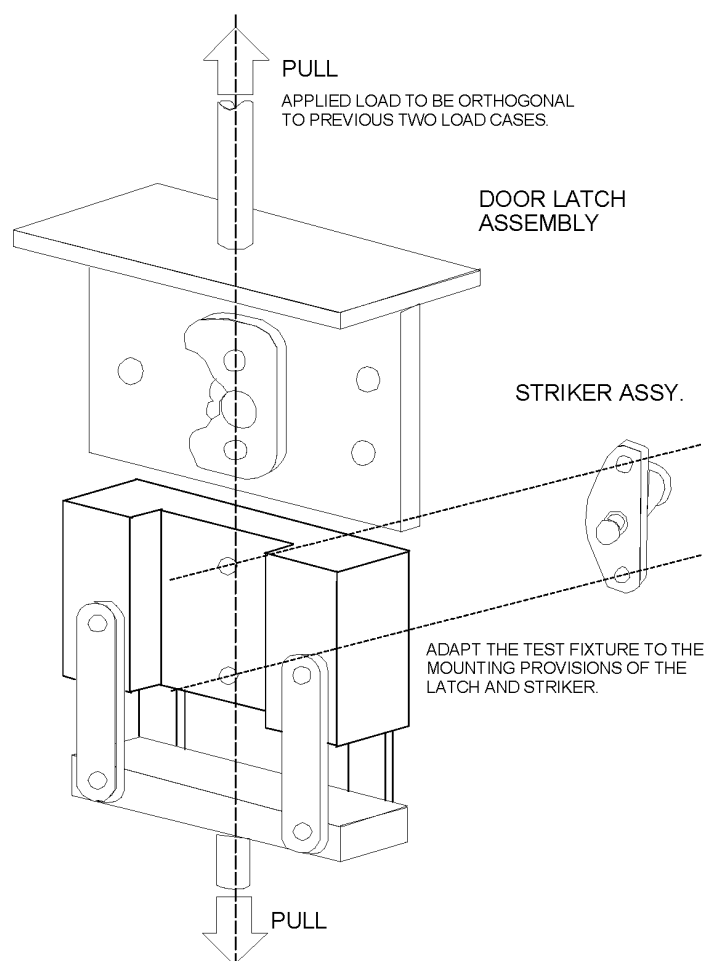
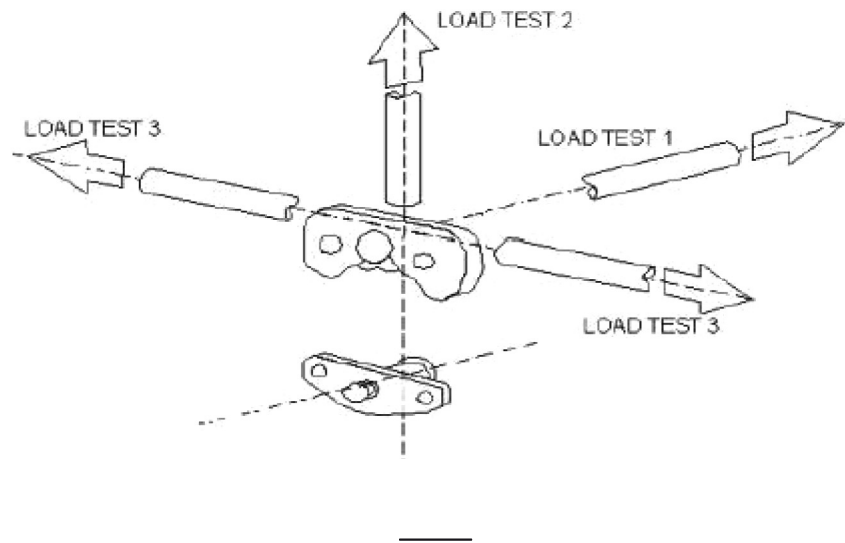
Door latch — Tensile testing fixture for load test three (for doors that open in a vertical direction)

Figure 3-4

Door static load test directions

ANNEX 4

INERTIAL TEST PROCEDURES**1. PURPOSE**

To determine the ability of the vehicle latch system to resist inertial loading by means of a mathematical analysis of the component parts in their true car relationship or by evaluation using a dynamic test.

2. TEST PROCEDURES**2.1. Option 1, Calculation.**

2.1.1. The procedure described in this Annex provides a means for analytically determining the ability of a door latch system to withstand inertial loading. Spring forces are the average of the minimum spring output in the installed position and the minimum spring output in the release position. Friction effects and work to be done are not considered in the calculations. Gravitational pull on components may also be omitted if it tends to restrict unlatching. These omissions from the calculations are permissible because they provide additional factors of safety.

2.1.2. Calculation consideration — each component or subassembly can be calculated for its minimum inertial load resistance in a particular direction. Their combined resistance to the unlatching operation must assure that the door latch system (when properly assembled in the vehicle door) will remain latched when subjected to an inertial load of 30 g in any direction. Figure 4-1 is an example of the components and combinations of components to be considered.

2.2. Option 2, Full Vehicle Dynamic Test**2.2.1. Test equipment**

2.2.1.1. An acceleration (or deceleration) device.

2.2.1.2. One of the following vehicles:

2.2.1.2.1. A full vehicle including at least door(s), door latch(es), exterior door handle(s) with mechanical latch operation, interior door opening lever(s), the locking device(s), interior trim and door seal.

2.2.1.2.2. A vehicle body in white (i.e. vehicle frame, doors and other door retention components) including at least door(s), door latch(es), exterior door handle(s) with mechanical latch operation, interior door opening lever(s), and the locking device(s).

2.2.1.3. A device or means for recording door opening.

2.2.1.4. Equipment for measuring and recording accelerations.

2.2.2. Test setup

2.2.2.1. Rigidly secure the full vehicle or vehicle body in white to a device that when accelerated together will assure that all points on the crash pulse curve are within the corridor defined in Table 4-1 and Figure 4-2.

2.2.2.2. The doors may be tethered to avoid damaging the equipment used to record door opening.

2.2.2.3. Install the equipment used to record door opening.

2.2.2.4. Close the door(s) to be tested and ensure that the door latch(es) are in the fully-latched position, that the door(s) are unlocked, and that all windows, if provided, are closed.

2.2.3. Test directions (see Figure 4-3)

2.2.3.1. Longitudinal setup 1. Orient the vehicle or body in white so that its longitudinal axis is aligned with the axis of the acceleration device, simulating a frontal impact.

- 2.2.3.2. Longitudinal setup 2. Orient the vehicle or body in white so that its longitudinal axis is aligned with the axis of the acceleration device, simulating a rear impact.
- 2.2.3.3. Transverse setup 1. Orient the vehicle or body in white so that its transverse axis is aligned with the axis of the acceleration device, simulating a driver-side impact.
- 2.2.3.4. Transverse setup 2 (only for vehicles having different door arrangements on each side). Orient the vehicle or body in white so that its transverse axis is aligned with the axis of the acceleration device, simulating a side impact in the direction opposite to that described in paragraph 2.2.3.3 of this Annex.
- 2.3. Option 3, Door Dynamic Test
 - 2.3.1. Test equipment

The door assembly(ies) including, at least, the door latch(es), exterior door handle(s) with mechanical latch operation, interior door opening lever(s), and the locking device(s)
 - 2.3.1.2. A test fixture to mount the door(s).
 - 2.3.1.3. An acceleration (or deceleration) device.
 - 2.3.1.4. A tether.
 - 2.3.1.5. A device or means for recording door opening.
 - 2.3.1.6. Equipment for measuring and recording accelerations.
 - 2.3.2. Test setup
 - 2.3.2.1. Mount the door assemblies either separately or combined to the test fixture. Each door and striker should be mounted to correspond to its orientation on the vehicle and to the direction required for inertial load tests (paragraph 2.3.3 of this Annex).
 - 2.3.2.2. Mount the test fixture to the acceleration device.
 - 2.3.2.3. Install the equipment used to record door opening.
 - 2.3.2.4. Ensure that the door latch is in the fully-latched position, that the door is tethered, unlocked, and that the window, if provided, is closed.
 - 2.3.3. Test directions (see Figure 4-3)
 - 2.3.3.1. Longitudinal setup 1. Orient the door subsystem(s) on the acceleration device in the direction of a frontal impact.
 - 2.3.3.2. Longitudinal setup 2. Orient the door subsystem(s) on the acceleration device in the direction of a rear impact.
 - 2.3.3.3. Transverse setup 1. Orient the door subsystem(s) on the acceleration device in the direction of a driver-side impact.
 - 2.3.3.4. Transverse setup 2. Orient the door subsystem(s) on the acceleration device in the direction opposite to that described in paragraph 2.3.3.3 of this Annex.
 - 2.3.3.5. Vertical setup 1 (applicable to doors that open in a vertical direction). Orient the door subsystem(s) on the acceleration device so that its vertical axis (when mounted in a vehicle) is aligned with the axis of the acceleration device, simulating a rollover impact where the force is applied in the direction from the top to the bottom of the door (when mounted in a vehicle).

- 2.3.3.6. Vertical setup 2 (applicable to doors that open in a vertical direction). Orient the door subsystem(s) on the acceleration device so that its vertical axis (when mounted in a vehicle) is aligned with the axis of the acceleration device, simulating a rollover impact where the force is applied in the direction opposite to that described in paragraph 2.3.3.5 of this Annex.
- 2.4. Test operation for Options 2 and 3
 - 2.4.1. A minimum acceleration level of 30 g shall be maintained over a period of at least 30 ms, while keeping the acceleration within the pulse corridor as defined in Table 4-1 and graphically shown in Figure 4-2.
 - 2.4.2. Accelerate the test fixture(s) in the following directions:
 - 2.4.2.1. for Option 2 tests:
 - 2.4.2.1.1. in the direction specified in paragraph 2.2.3.1 of this Annex;
 - 2.4.2.1.2. in the direction specified in paragraph 2.2.3.2 of this Annex;
 - 2.4.2.1.3. in the direction specified in paragraph 2.2.3.3 of this Annex;
 - 2.4.2.1.4. in the direction specified in paragraph 2.2.3.4 of this Annex;
 - 2.4.2.2. for Option 3 tests:
 - 2.4.2.2.1. in the direction specified in paragraph 2.3.3.1 of this Annex;
 - 2.4.2.2.2. in the direction specified in paragraph 2.3.3.2 of this Annex;
 - 2.4.2.2.3. in the direction specified in paragraph 2.3.3.3 of this Annex;
 - 2.4.2.2.4. in the direction specified in paragraph 2.3.3.4 of this Annex;
 - 2.4.2.2.5. in the direction specified in paragraph 2.3.3.5 of this Annex;
 - 2.4.2.2.6. in the direction specified in paragraph 2.3.3.6 of this Annex.
 - 2.4.3. If at any point in time the pulse exceeds 36 g and the test requirements are fulfilled, the test shall be considered valid.
 - 2.4.4. Ensure that the door did not open and close during the test.

Figure 4-1

Inertial loading — Sample calculation

Given:

Door latch system subjected to a 30 g deceleration

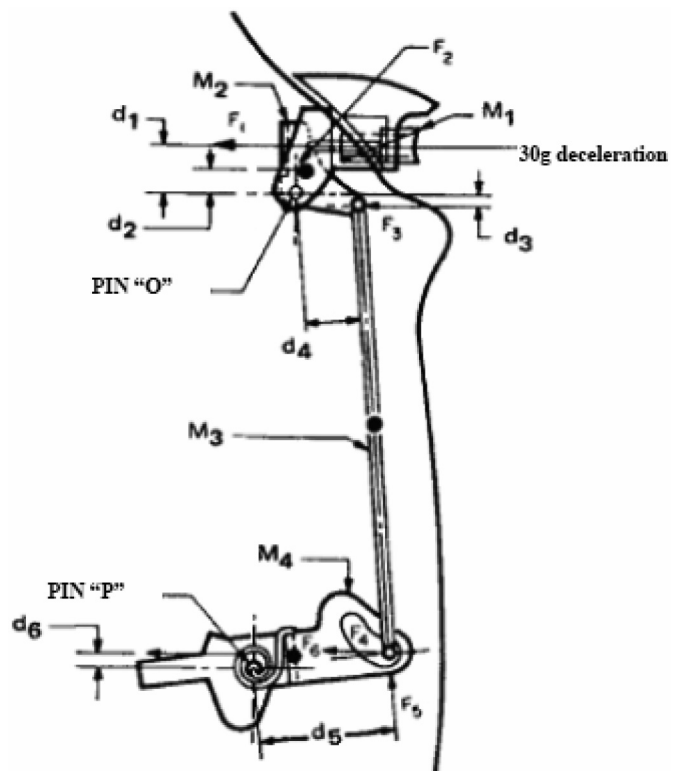
Average push-button spring output force = 0,459 kgf

Pawl spring output torque = 0,0459 kgf m

$a = 30 \text{ g (m/s}^2\text{)}$

$F = ma = m \cdot 30 \text{ g} = m \cdot 294,2$

$M_1 = 0,0163 \text{ kg}$	$d_1 = 31,50 \text{ mm}$
$M_2 = 0,0227 \text{ kg}$	$d_2 = 10,67 \text{ mm}$
$M_3 = 0,0122 \text{ kg}$	$d_3 = 4,83 \text{ mm}$
$M_4 = 0,0422 \text{ kg}$	$d_4 = 31,50 \text{ mm}$
	$d_5 = 37,59 \text{ mm}$
	$d_6 = 1,90 \text{ mm}$



● denotes the cg of component

$$F_1 = M_1 \times a - \text{Average load on knob spring} = (0,0163 \text{ kg} \times 30 \text{ g}) - 0,459 \text{ kgf} = 0,03 \text{ kgf}$$

$$F_2 = M_2 \times a = 0,0227 \text{ kg} \times 30 \text{ g} = 0,681 \text{ kgf}$$

$$F_3 = M_3/2 \times a = 0,0122 \text{ kg}/2 \times 30 \text{ g} = 0,183 \text{ kgf}$$

$$\begin{aligned} \Sigma M_o &= F_1 \times d_1 + F_2 \times d_2 - F_3 \times d_3 \\ &= 0,03 \times 31,5 + 0,681 \times 10,67 - 0,183 \times 4,83 \\ &= 7,33 \text{ kgf mm} \end{aligned}$$

$$F_5 = M_o/d_4 = 7,33/31,5 = 0,2328 \text{ kgf}$$

$$F_6 = M_4 \times a = 0,0422 \text{ kg} \times 30 \text{ g} = 1,266 \text{ kgf}$$

$$\begin{aligned} \Sigma M_o &= \text{Pawl spring output torque} - (F_5 d_5 + F_6 d_6)/1\,000 \\ &= 0,0459 - (0,2328 \times 37,59 + 1,266 \times 1,9)/1\,000 \\ &= 0,0347 \text{ kgf m} \end{aligned}$$

Table 4-1

Acceleration Pulse Corridor

Upper Bound			Lower Bound		
Point	Time (ms)	Acceleration (g)	Point	Time (ms)	Acceleration (g)
A	0	6	E	5	0
B	20	36	F	25	30
C	60	36	G	55	30
D	100	0	H	70	0

Figure 4-2

Acceleration Pulse

Acceleration Pulse Corridor

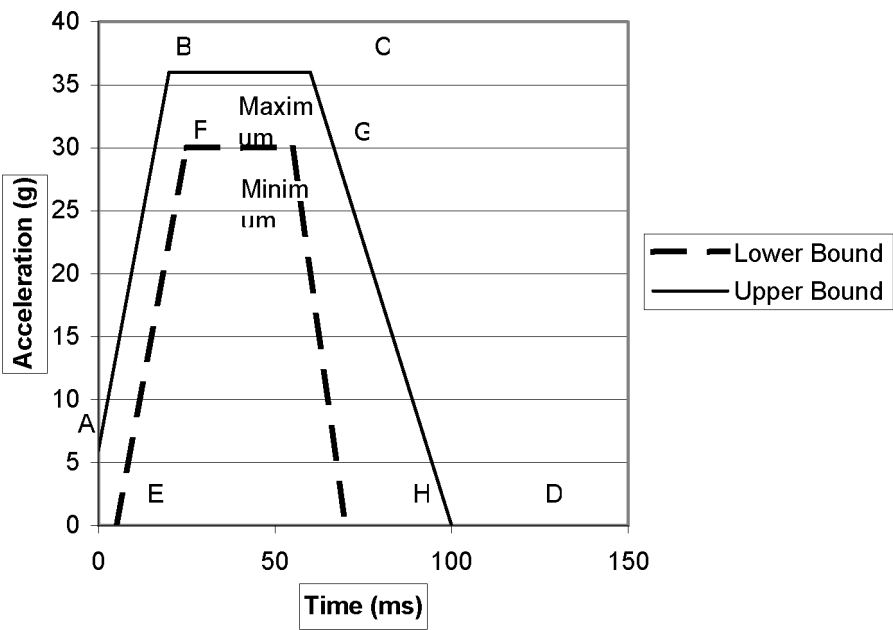
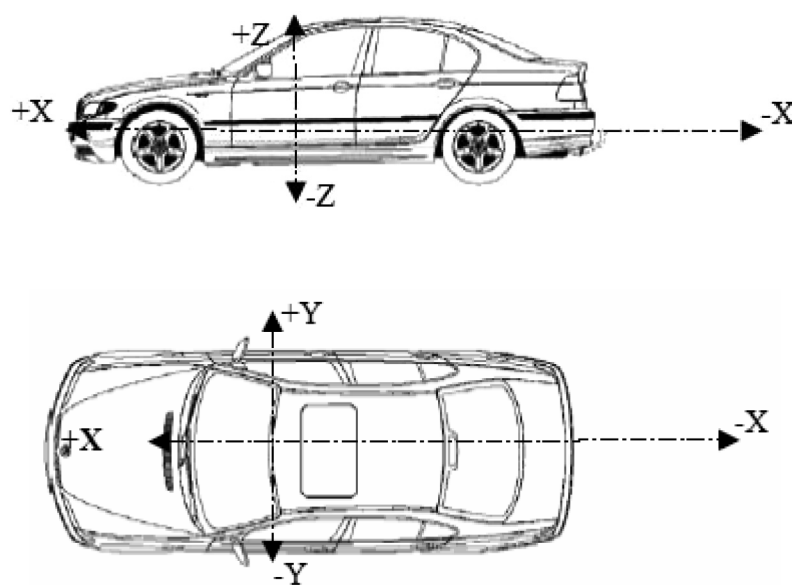


Figure 4-3

Vehicle coordinate reference system for inertial testing

X = longitudinal direction

Y = transversal direction

Z = vertical direction

ANNEX 5

HINGE TEST PROCEDURE**1. PURPOSE**

These tests are conducted to determine the ability of the vehicle hinge system to withstand test loads:

- (a) in the longitudinal and transversal directions and, in addition;
- (b) for doors that open in a vertical direction, vertical vehicle direction.

2. TEST PROCEDURE**2.1. Multiple Hinge System****2.1.1. Longitudinal load test****2.1.1.1. Equipment****2.1.1.1.1. Tensile testing fixture.**

2.1.1.1.2. A typical static test fixture is illustrated in Figure 5-1.

2.1.1.2. Procedure

2.1.1.2.1. Attach the hinge system to the mounting provision of the test fixture. Hinge attitude must simulate vehicle position (door fully closed) relative to the hinge centreline. For test purposes, the distance between the extreme ends of one hinge in the system to the extreme end of another hinge in the system is to be set at 406 ± 4 mm. The load is to be applied equidistant between the linear centre of the engaged portions of the hinge pin and through the centreline of the hinge pin in the longitudinal vehicle direction. (see Figure 5-2).

2.1.1.2.2. Apply the test load at a rate not to exceed 5 mm/min. until the required load has been achieved. Failure consists of a separation of either hinge. Record the maximum load achieved.

2.1.2. Transverse load test**2.1.2.1. Equipment****2.1.2.1.1. Tensile testing fixture.**

2.1.2.1.2. A typical static test fixture is illustrated in Figure 5-1.

2.1.2.2. Procedure

2.1.2.2.1. Attach the hinge system to the mounting provisions of the test fixture. Hinge attitude must simulate vehicle position (door fully closed) relative to the hinge centreline. For test purposes, the distance between the extreme ends of one hinge in the system to the extreme opposite end of another hinge in the system is to be set at 406 ± 4 mm. The load is to be applied equidistant between the linear centre of the engaged portions of the hinge pins and through the centreline of the hinge pin in the transverse vehicle direction. (see Figure 5-2).

2.1.2.2.2. Apply the test load at a rate not to exceed 5 mm/min. until the required load has been achieved. Failure consists of a separation of either hinge. Record the maximum load achieved.

2.1.3. Vertical load test (for doors that open in the vertical direction)**2.1.3.1. Equipment****2.1.3.1.1. Tensile testing fixture.**

- 2.1.3.1.2. A typical static test fixture is illustrated in Figure 5-1.
- 2.1.3.2. Procedure
- 2.1.3.2.1. Attach the hinge system to the mounting provisions of the test fixture. Hinge attitude must simulate vehicle position (door fully closed) relative to the hinge centreline. For test purposes, the distance between the extreme ends of one hinge in the system to the extreme opposite end of another hinge in the system is to be set at 406 ± 4 mm. The load is to be applied through the centreline of the hinge pin in a direction orthogonal to the longitudinal and transverse loads. (see Figure 5-2).
- 2.1.3.2.2. Apply the test load at a rate not to exceed 5 mm/min. until the required load has been achieved. Failure consists of a separation of either hinge. Record the maximum load achieved.
- 2.2. Single hinge evaluation. In some circumstances, it may be necessary to test the individual hinges of a hinge system. In such cases, the results for an individual hinge, when tested in accordance with the procedures below, shall be such as to indicate that system requirements in paragraph 6.1.5.1 of this Regulation are met. (For example, an individual hinge in a two-hinge system must be capable of withstanding 50 per cent of the load requirements of the total system.)
- 2.2.1. Test procedures
- 2.2.1.1. Longitudinal load. Attach the hinge system to the mounting provision of the test fixture. Hinge attitude must simulate the vehicle position (door fully closed) relative to the hinge centreline. For test purposes, the load is to be applied equidistant between the linear centre of the engaged portions of the hinge pin and through the centreline of the hinge pin in the longitudinal vehicle direction. Apply the test load at a rate not to exceed 5 mm/min. until the required load has been achieved. Failure consists of a separation of either hinge. Record the maximum load achieved.
- 2.2.1.2. Transverse load. Attach the hinge system to the mounting provision of the test fixture. Hinge attitude must simulate the vehicle position (door fully closed) relative to the hinge centreline. For test purposes, the load is to be applied equidistant between the linear centre of the engaged positions of the hinge pin and through the centreline of the hinge pin in the transverse vehicle direction. Apply the test load at a rate not to exceed 5 mm/min. until the required load is achieved. Failure consists of a separation of either hinge. Record the maximum load achieved.
- 2.2.1.3. Vertical load. Attach the hinge system to the mounting provision of the test fixture. Hinge attitude must simulate the vehicle position (door fully closed) relative to the hinge centreline. For test purposes, the load is to be applied centreline of the hinge pin in a direction orthogonal to the longitudinal and transverse loads. Apply the test load at a rate not to exceed 5 mm/min. until the required load is achieved. Failure consists of a separation of either hinge. Record the maximum load achieved.
- 2.3. For piano-type hinges, the hinge spacing requirements are not applicable and arrangement of the test fixture is altered so that the test forces are applied to the complete hinge.

Figure 5-1
Static test fixtures

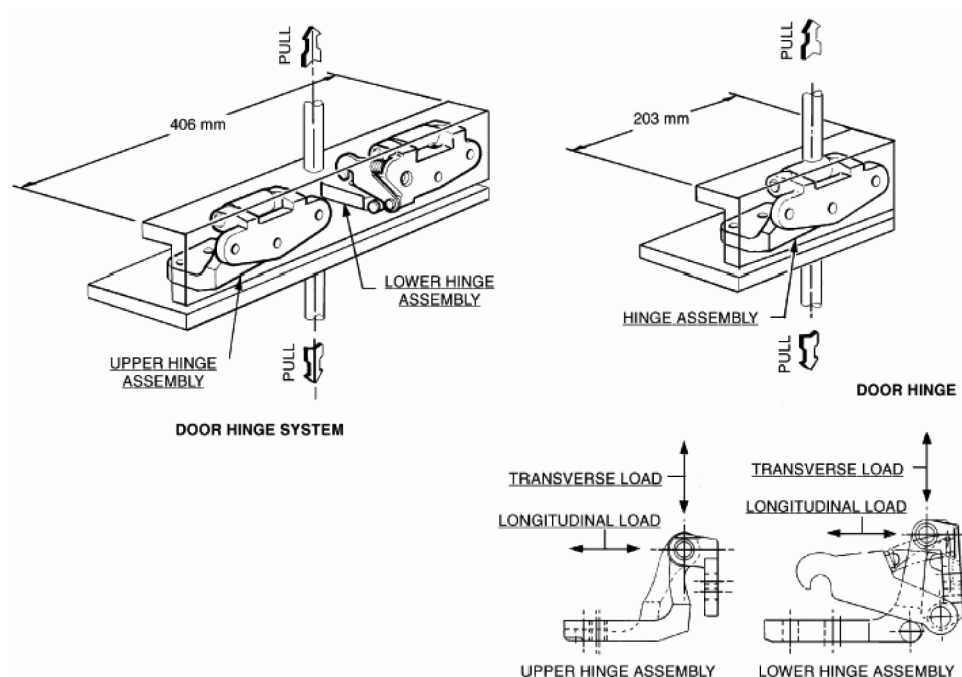
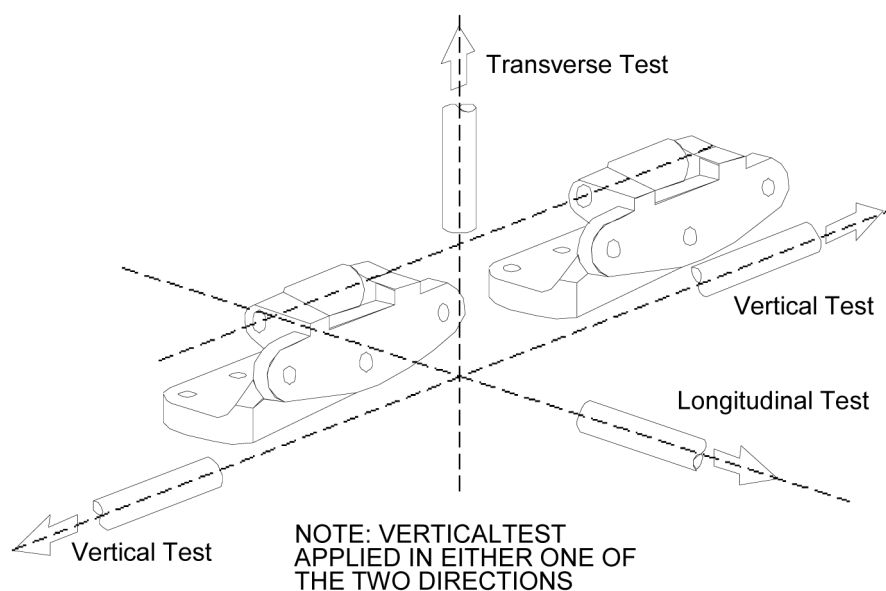


Figure 5-2
Static load test directions for doors that open in the vertical direction



ANNEX 6

SLIDING SIDE DOOR**Full door test****1. PURPOSE**

This test is intended to establish minimum performance requirements and a test procedure for evaluation and testing sliding door retention components when installed on both the door and the doorframe. This test complements the applicable tests in Annex 3 and Annex 4

2. GENERAL PROVISIONS

2.1. Tests are conducted using a full vehicle or a body in white with the sliding door and its retention components.

2.2. The test is conducted using two force application devices capable of applying the outward transverse forces specified in paragraph 6.2.4 of this Regulation. The test setup is shown in Figure 6-1. The force application system shall include the following:

2.2.1. Two force application plates.

2.2.2. Two force application devices capable of applying the outward transverse load requirements for a minimum displacement of 300 mm.

2.2.3. Two load cells of sufficient capacity to measure the applied loads.

2.2.4. Two linear displacement measurement devices required for measuring force application device displacement during the test.

2.2.5. Equipment for measuring at least 100 mm of separation between the interior of the door and the exterior edge of the doorframe, while respecting all relevant safety and health requirements.

3. TEST SETUP

3.1. Remove all interior trim and decorative components from the sliding door assembly.

3.2. Remove seats and any interior components that may interfere with the mounting and operation of the test equipment and all pillar trim and any non-structural components that overlap the door and cause improper placement of the force application plates.

3.3. Mount the force application devices and associated support structure to the floor of the test vehicle. Each force application device and associated support structure is rigidly fixed on a horizontal surface on the vehicle floor, while applying the loads.

3.4. Determine the forward and aft edge of the sliding door, or its adjoining vehicle structure, that contains a latch/striker.

3.5. Close the sliding door, ensuring that all door retention components are fully engaged.

3.6. For any tested door edge that contains one latch/striker, the following setup procedures are used:

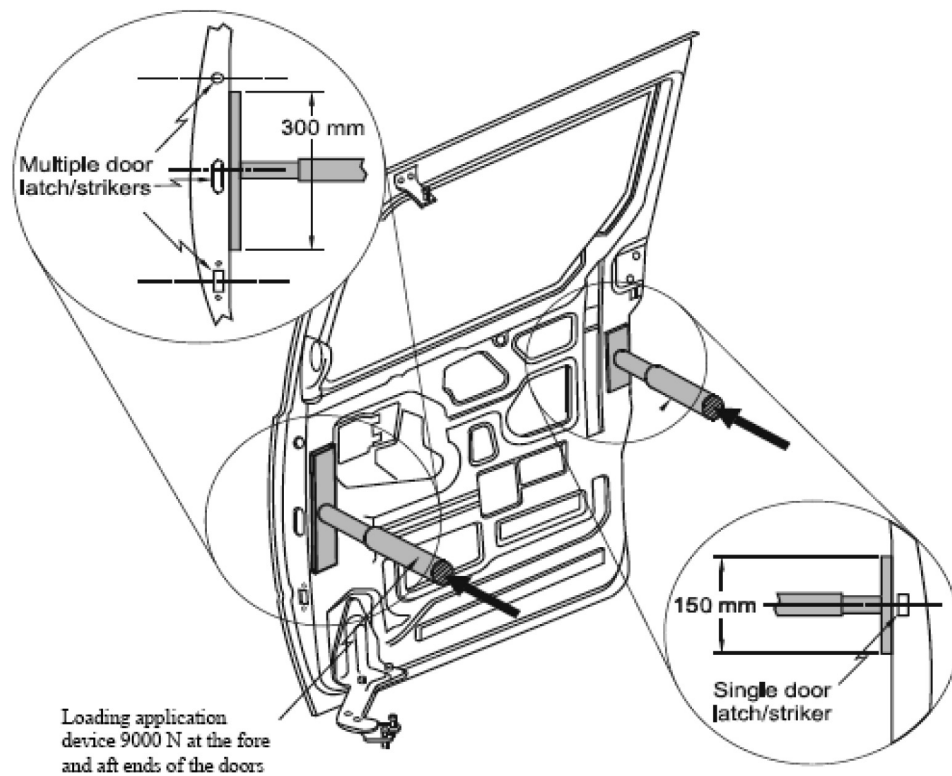
3.6.1. The force application plate is 150 mm in length, and 50 mm in width, and at least 15 mm in thickness. The plate edges are rounded to a radius of $6 \text{ mm} \pm 1 \text{ mm}$.

3.6.2. Place the force application device and force application plate against the door so that the applied force is horizontal and normal to the vehicle's longitudinal centreline, and vertically centred on the door-mounted portion of the latch/striker.

- 3.6.3. The force application plate is positioned such that the long edge of the plate is as close to, and parallel to, the interior edge of the door as possible, but not such that the forward edge of the plate is more than 12,5 mm from the interior edge.
- 3.7. For any tested door edge that contains more than one latch/striker, the following setup procedures are used:
- 3.7.1. The force application plate is 300 mm in length, and 50 mm in width, and at least 15 mm in thickness. The plate edges are rounded to a radius of $6 \text{ mm} \pm 1 \text{ mm}$.
- 3.7.2. Place the force application device and force application plate against the door so that the applied force is horizontal and normal to the vehicle's longitudinal centreline, and vertically centred on a point mid-way between the outermost edges of the latch/striker assemblies.
- 3.7.3. The force application plate is positioned such that the long edge of the plate is as close to, and parallel to, the interior edge of the door as possible, but not such that the forward edge of the plate is more than 12,5 mm from the interior edge.
- 3.8. For any tested door edge that does not contain at least one latch/striker, the following setup procedures are used:
- 3.8.1. The force application plate is 300 mm in length, 50 mm in width, and at least 15 mm in thickness.
- 3.8.2. Place the force application device and force application plate against the door so that the applied force is horizontal and normal to the vehicle's longitudinal centreline, and vertically centred on a point mid-way along the length of the door edge ensuring that the loading device avoids contact with the window glazing.
- 3.8.3. The force application plate is positioned as close to the edge of the door as possible. It is not necessary for the force application plate to be vertical.
- 3.9. The door is unlocked. No extra fixtures or components may be welded or affixed to the sliding side door or any of its components.
- 3.10. Attach any equipment used for measuring door separation that will be used to determine separation levels during the test procedure.
- 3.11. Place the load application structure so that the force application plates are in contact with the interior of the sliding door.
4. TEST PROCEDURE
- 4.1. Move each force application device at a rate up to 2 000 N per minute, as specified by the manufacturer, until a force of 9 000 N is achieved on each force application device or until either force application device reaches a total displacement of 300 mm.
- 4.2. If one of the force application devices reaches the target force of 9 000 N prior to the other, maintain the 9 000 N force with that force application device until the second force application device reaches the 9 000 N force.
- 4.3. Once both force application devices have achieved 9 000 N each, stop forward movement of the force application devices and hold under the resulting load for a minimum of 10 seconds.
- 4.4. Maintain the force application device position of paragraph 4.3, and within 60 seconds, measure the separation between the exterior edge of the doorframe and the interior of the door along the perimeter of the door.

Figure 6-1

Sliding side door full vehicle test procedure (note: sliding door is shown separated from the vehicle)



Only the original UN/ECE texts have legal effect under international public law. The status and date of entry into force of this Regulation should be checked in the latest version of the UN/ECE status document TRANS/WP.29/343, available at:
<http://www.unece.org/trans/main/wp29/wp29wgs/wp29gen/wp29fdocstts.html>

**Regulation No 18 of the Economic Commission for Europe of the United Nations (UN/ECE)
Uniform provisions concerning the approval of motor vehicles with regard to their protection
against unauthorized use**

Incorporating all valid text up to:

Supplement 2 to the 03 series of amendments Date of entry into force: 15 October 2008

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REGULATION

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4. Approval
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8. Conformity of production procedures
9. Penalties for non-conformity of production
10. Production definitely discontinued
11. Devices provided additionally
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ANNEXES

- Annex 1 — Communication concerning the approval or extension or refusal or withdrawal of approval or production definitely discontinued of a vehicle type with regard to its protection against unauthorized use pursuant to Regulation No 18
- Annex 2 — Examples of arrangements of approval marks
- Annex 3 — Wear-producing test procedure for protective devices acting on the steering

1. SCOPE
 - 1.1. This Regulation applies to motor vehicles having at least three wheels with the exception of those of category M₁ and N₁ ⁽¹⁾, with regard to their protection against unauthorized use.
 - 1.2. Vehicles approved in accordance with the provisions of Part I of Regulation No 116 are deemed to comply with this Regulation.
2. DEFINITIONS

For the purpose of this Regulation,

 - 2.1. 'Approval of a vehicle' means the approval of a vehicle type with regard to its protection against unauthorized use;
 - 2.2. 'Vehicle type' means a category of motor vehicles of categories M₂, M₃, N₂ and N₃ which do not differ in such essential respects as:

⁽¹⁾ As defined in Annex 7 of the Consolidated Resolution of the Construction of Vehicles (R.E.3) (TRANS/WP.29/78/Rev.1/Amend.2).

- 2.2.1. the manufacturer's indications of the vehicle type;
- 2.2.2. the arrangement and design of the vehicle component or components on which the protective device acts;
- 2.2.3. the type of protective device;
- 2.3. 'Protective device' means a system designed to prevent unauthorized normal activation of the engine or other source of main engine power of the vehicle in combination with at least one system which:
 - (a) locks the steering; or
 - (b) locks the transmission; or
 - (c) locks the gearshift control; or
 - (d) locks brakes.

In the case of a system which locks brakes, deactivation of the device shall not automatically release the brakes contrary to the driver's intention.

- 2.4. 'Steering' means the steering control, the steering column and its accessory cladding, the steering shaft, the steering gearbox and all other components which directly affect the effectiveness of the protective device;
- 2.5. 'Combination' means one of the specifically planned and constructed variations of a locking system which, when properly activated, permits operation of the locking system;
- 2.6. 'Key' means any device designed and constructed to provide a method of operating a locking system which is designed and constructed to be operated only by that device.

3. APPLICATION FOR APPROVAL

- 3.1. The application for approval of a vehicle type with regard to a protective device to prevent its unauthorized use shall be submitted by the manufacturer or by his duly accredited representative.
- 3.2. It shall be accompanied by the under-mentioned documents in triplicate and by the following particulars:
 - 3.2.1. a detailed description of the vehicle type with regard to the arrangement and design of the control or of the unit on which the protective device acts;
 - 3.2.2. drawings, on an appropriate scale and in sufficient detail, of the protective device and of its mountings on the vehicle;
 - 3.2.3. a technical description of the device.
- 3.3. There shall be submitted to the technical service responsible for conducting the approval tests:
 - 3.3.1. a vehicle, representative of the vehicle type to be approved, if requested by the technical service; and also
 - 3.3.2. at the request of the technical service, such components of the vehicle as the service deems essential for the checks prescribed in paragraphs 5 and 6 of this Regulation.

4. APPROVAL

- 4.1. If the vehicle type submitted for approval pursuant to the Regulation meets the requirements of paragraphs 5 and 6 below, approval of that vehicle type shall be granted.
- 4.2. An approval number shall be assigned to each type approved. The first two digits (at present 03, corresponding to the 03 series of amendments which entered into force on 23 June 2005) 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 either to the same vehicle type equipped with another type of protective device or whose protection device is mounted differently, or to another vehicle type.

- 4.3. Notice of approval or of refusal of approval of a vehicle type pursuant to this Regulation shall be communicated to the Contracting 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 drawings of the protective device and its mounting supplied by the applicant for approval, 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 international 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⁽¹⁾;
- 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 described in paragraph 4.4.1.
- 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 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 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 arrangements of the approval mark.
5. GENERAL SPECIFICATIONS
- 5.1. The protective device shall be so designed that it is necessary to put it out of action in order to enable:
- 5.1.1. the engine to be started by means of the normal control; and
- 5.1.2. the vehicle to be steered, driven or moved forward under its own power.
- 5.1.3. the requirement of paragraph 5.1 can be achieved at the same time as or before the actions described in paragraphs 5.1.1 and 5.1.2.
- 5.2. The requirements of paragraph 5.1 shall be met by the single application of one key.
- 5.3. Except in the case provided for in paragraph 6.1.5 a system operated with a key inserted in a lock shall not permit removal of the key before the protective device referred to in paragraph 5.1. has come into action or has been set to act.

⁽¹⁾ 1 for Germany, 2 for France, 3 for Italy, 4 for the Netherlands, 5 for Sweden, 6 for Belgium, 7 for Hungary, 8 for the Czech Republic, 9 for Spain, 10 for Serbia and Montenegro, 11 for the United Kingdom, 12 for Austria, 13 for Luxembourg, 14 for Switzerland, 15 (vacant), 16 for Norway, 17 for Finland, 18 for Denmark, 19 for Romania, 20 for Poland, 21 for Portugal, 22 for the Russian Federation, 23 for Greece, 24 for Ireland, 25 for Croatia, 26 for Slovenia, 27 for Slovakia, 28 for Belarus, 29 for Estonia, 30 (vacant), 31 for Bosnia and Herzegovina, 32 for Latvia, 33 (vacant), 34 for Bulgaria, 35 (vacant), 36 for Lithuania, 37 for Turkey, 38 (vacant), 39 for Azerbaijan, 40 for The former Yugoslav Republic of Macedonia, 41 (vacant), 42 for the European Community (Approvals are granted by its Member States using their respective ECE symbol), 43 for Japan, 44 (vacant), 45 for Australia, 46 for Ukraine, 47 for South Africa, 48 for New Zealand, 49 for Cyprus, 50 for Malta and 51 for the Republic of Korea. Subsequent numbers shall be assigned to other countries in the chronological order in which they ratify or accede to the Agreement Concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these Prescriptions, and the numbers thus assigned shall be communicated by the Secretary-General of the United Nations to the Contracting Parties to the Agreement.

- 5.4. The protective device referred to in paragraph 5.1 above, and the vehicle components on which it operates, shall be so designed, that it cannot rapidly and without attracting attention, be opened, rendered ineffective, or destroyed by, for example, the use of low-cost, easily-concealed tools, equipment or fabrications readily available to the public at large.
- 5.5. The protective device shall be mounted on the vehicle as an item of original equipment (i.e. equipment installed by the vehicle manufacturer prior to first retail sale). It shall be fitted in such a way that even after removal of its housing it cannot, when in the blocked condition, be dismantled otherwise than with special tools. If it would be possible to render the protective device ineffective by the removal of screws, the screws shall, unless they are non-removable screws, be covered by parts of the blocked protective device.
- 5.6. The key locking system shall provide at least 1 000 different key combinations or a number equal to the total number of vehicles manufactured annually if less than 1 000. In vehicles of one type the frequency of occurrence of each combination shall be roughly one per 1 000.
- 5.7. The key and lock shall not be visibly coded.
- 5.8. The lock shall be so designed, constructed and fitted that turning of the lock cylinder, when in the locked position, with a torque of less than 2,45 Nm is not possible with anything other than the mating key, and
- 5.8.1. for lock cylinders with pin tumblers no more than two identical tumblers operating in the same direction shall be positioned adjacent to each other, and in a lock there shall not be more than 60 per cent identical tumblers,
- 5.8.2. for lock cylinders with disc tumblers no more than two identical tumblers operating in the same direction shall be positioned adjacent to each other, and in a lock there shall not be more than 50 per cent identical tumblers.
- 5.9. Protective devices shall be such as to exclude any risk, while the vehicle is in motion, of accidental blockage likely to compromise safety in particular.
- 5.9.1. It shall not be possible to activate devices to prevent unauthorized use without first setting the engine controls to a stop condition and then performing an action which is not an uninterrupted continuation of stopping the engine, or without first setting the engine controls to a stop condition when the vehicle is stationary with the parking brake applied, or the speed of the vehicle does not exceed 4 km/h.
- 5.9.2. In the case of devices acting on the steering, transmission, gear shift control or brakes, if the action of key withdrawal activates the device, it shall either necessitate a minimum movement of 2 mm before activation of the device or incorporate an override facility to prevent accidental removal or partial withdrawal of the key.
- 5.9.3. Paragraphs 5.8, 5.8.1 or 5.8.2, and 5.9.2 are only applicable to devices which include mechanical keys.
- 5.10. Power assistance may be used only to activate the locking and/or unlocking action of the protective device. The device shall be kept in its operating position by mechanical means only.
- 5.11. It shall not be possible to activate the motive power of the vehicle by normal means until the protective device has been deactivated.
- 5.12. Devices to prevent unauthorized use by preventing release of brakes of the vehicle shall only be permitted when the working parts of the brakes are held in a locked position by a purely mechanical device. In this case the prescriptions of paragraph 5.11 do not apply.
- 5.13. If the protective system is equipped with a driver warning feature it shall be activated, unless the protective device has been activated and any key removed by the operator, when the operator opens the driver's side door.

6. PARTICULAR SPECIFICATIONS

In addition to the general specifications prescribed in paragraph 5, the protective device shall comply with the particular conditions prescribed below:

6.1. Protective devices acting on the steering

6.1.1. A protective device acting on the steering shall block the steering.

6.1.2. When the protective device is set to act, it shall not be possible to prevent the device from functioning.

6.1.3. The protective device must continue to meet paragraphs 5.9, 6.1.1, 6.1.2 and 6.1.4, after it has undergone 2 500 locking cycles in each direction of the wear producing test specified in Annex 3.

6.1.4. The protective device shall, in its activated position, be strong enough to withstand, without damage to the steering mechanism likely to compromise safety, the application of a torque of 200 Nm about the axis of the steering shaft in both directions under static conditions.

6.1.5. If the protective device is such that the key can be removed in a position other than the position in which the steering is locked, it shall be so designed that the manoeuvre required to reach that position and remove the key cannot be effected inadvertently.

6.2. Devices to prevent unauthorized use by acting on the transmission or brakes

6.2.1. A protective device acting on the transmission shall prevent the rotation of the vehicles driving wheels.

6.2.2. A device to prevent unauthorized use by acting on brakes shall brake at least one wheel on each side of at least one axle.

6.2.3. When the protective device is set to act, it shall not be possible to prevent the device from functioning.

6.2.4. It shall not be possible for the transmission or brakes to be blocked inadvertently when the key is in the lock of the device to prevent unauthorized use, even if the device preventing starting of the engine has come into action or been set to act. This does not apply wherever the requirements of paragraph 6.2 of this Regulation are met by devices used for another purpose in addition and the lock under the conditions above is necessary for this additional function (e.g. electrical parking brake).

6.2.5. The protective device shall be so designed and constructed that it remains fully effective even after some degree of wear as a result of 2 500 locking cycles in each direction. In the case of protective device acting on brakes, each mechanical or electrical sub-part of the device is concerned.

6.2.6. If the protective device is such that the key can be removed in a position other than the position in which the transmission or the brakes are locked, it shall be so designed that the manoeuvre required to reach that position and remove the key cannot be effected inadvertently.

6.2.7. In the case when a protective device acting on the transmission is used, it shall be strong enough to withstand, without damage likely to compromise safety, the application in both directions and in static conditions of a torque 50 per cent greater than the maximum torque that can normally be applied to the transmission. In determining the level of this testing torque account shall be taken, not of the maximum engine torque, but of the maximum torque that can be transmitted by the clutch or by the automatic transmission.

6.2.8. In the case of a vehicle equipped with a protective device acting on brakes, the device must be capable of holding the laden vehicle stationary on an 18 per cent up or down-gradient.

6.2.9. In the case of a vehicle equipped with a protective device acting on brakes, the requirements of this Regulation shall not be construed as a departure from the requirements of Regulations 13 or 13-H even in the case of a failure.

6.3. Protective devices acting on the gearshift control

6.3.1. A protective device acting on the gearshift control shall be capable of preventing any change of gear.

- 6.3.2. In the case of manual gearboxes it must be possible to lock the gearshift lever in reverse only; in addition locking in neutral shall be permitted.
- 6.3.3. In the case of automatic gearboxes provided with a 'parking' position it must be possible to lock the mechanism in the parking position only; in addition locking in neutral and/or reverse shall be permitted.
- 6.3.4. In the case of automatic gearboxes not provided with a 'parking' position, it must be possible to lock the mechanism in the following positions only: neutral and/or reverse.
- 6.3.5. The protective device shall be so designed and constructed that it remains fully effective even after some degree of wear as a result of 2 500 locking cycles in each direction.

7. MODIFICATION OF THE VEHICLE TYPE AND EXTENSION OF APPROVAL

- 7.1. Every modification of the vehicle type shall be notified to the administrative department which approved the vehicle type.

The department may then either:

- 7.1.1. Consider that the modifications made are unlikely to have an appreciable adverse effect and that in any case the protective devices still comply with the requirements, or
 - 7.1.2. Require a further report from the technical service responsible for conducting the tests.
- 7.2. Confirmation or refusal of approval, specifying the alteration, shall be communicated by the procedure specified in paragraph 4.3 above to the Contracting Parties to the Agreement applying this Regulation.
 - 7.3. The competent authority issuing the extension of approval shall assign a serial number to each communication form drawn up for such an extension.

8. CONFORMITY OF PRODUCTION PROCEDURES

The conformity of production procedures shall comply with those set out in the Agreement, Appendix 2 (E/ECE/324-E/ECE/TRANS/505/Rev.2), with the following requirements:

- 8.1. Vehicles approved under this Regulation with regard to their protection against unauthorized use shall be so manufactured as to conform to the type approved by meeting the requirements set forth in paragraphs 5 and 6 above.

9. PENALTIES FOR NON-CONFORMITY OF PRODUCTION

- 9.1. The approval granted in respect of a vehicle type pursuant to this Regulation may be withdrawn if the requirements laid down in paragraph 8 above are not complied with.
- 9.2. If a Contracting Party to the Agreement applying this Regulation withdraws an approval it has previously granted, it shall forthwith so notify the other Contracting Parties applying this Regulation, by means of a form conforming to the model in Annex 1 to this Regulation.

10. PRODUCTION DEFINITELY DISCONTINUED

If the holder of the approval completely ceases to manufacture a vehicle type approved in accordance with this Regulation, he shall so inform the authority which granted the approval. Upon receiving the relevant communication, that authority shall inform thereof the other Contracting Parties to the Agreement applying this Regulation by means of a form conforming to the model in Annex 1 to this Regulation.

11. DEVICES PROVIDED ADDITIONALLY

11.1. Approval under this Regulation may be granted with respect to a protective device additionally equipped with an acoustic or visual warning device, or with respect to the optional fitting of supplementary devices to prevent the unauthorized use of the vehicle, provided that the supplementary devices require a separate means of activation; the Contracting Parties to the Agreement which apply this Regulation shall not be deemed to be precluded by the provisions of Article 3 of the Agreement to which the Regulation is annexed from prohibiting such additional devices on vehicles registered by them.

11.2. If the protective device is additionally equipped with an external acoustic and/or visual warning device, the signals emitted by the warning device shall be brief and shall end automatically after not more than 30 seconds; they shall recommence only if the device is actuated again. In addition,

11.2.1. if the signal is acoustic, it may be emitted by the audible warning device normally fitted to the vehicle;

11.2.2. if the signal is visual, either:

11.2.2.1. it shall be produced solely by flashing of the vehicle's passing lights, or;

11.2.2.2. it shall comply with paragraphs 11.2.2.2.1 and 11.2.2.2.2 below

11.2.2.2.1. Duration of the optical signal

The optical signal shall have duration between 25 seconds and 5 minutes after the alarm has been activated. The unsetting of the alarm system shall immediately stop the signal.

11.2.2.2.2. Type of optical signal

Flashing of all direction indicators and/or passenger compartment light of the vehicle, including all lamps in the same electrical circuit.

Trigger frequency 2 ± 1 Hz

In relation to the audible signal, also asynchronous signals are allowed.

On time = off time ± 10 per cent.

12. TRANSITIONAL PROVISIONS

No Contracting Party applying this Regulation shall refuse a type of vehicle of categories other than M₁ and N₁ approved to the 01 and 02 series of amendments to this Regulation.

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

The Contracting Parties to the Agreement applying 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 extension or refusal or withdrawal of approval, issued in other countries are to be sent.

ANNEX I

COMMUNICATION

(Maximum format: A4 (210 × 297 mm))



issued by: Name of administration:

.....
.....
.....

concerning ⁽²⁾: APPROVAL GRANTED
APPROVAL EXTENDED
APPROVAL REFUSED
APPROVAL WITHDRAWN
PRODUCTION DEFINITELY DISCONTINUED

of a type of vehicle with regard to its protection against unauthorized use pursuant to Regulation No 18.

Approval No: Extension No:

1. Trade name or mark of the motor vehicle:
2. Vehicle type:
3. Manufacturer's name and address:
4. If applicable, name and address of manufacturer's representative:
5. Brief description of the protective device, of its mounting, and of the vehicle component or function on which it acts (apart from starting of the engine), i.e. steering/gear-shift control/transmission ⁽²⁾:
6. The vehicle is additionally equipped with an acoustic/visual ⁽²⁾ warning device of the following type:
7. Vehicle submitted for approval on:
8. Technical service responsible for conducting approval tests:
9. Date of report issued by that service:
10. Number of report issued by that service:
11. Approval has been granted/extended/refused/withdrawn ⁽²⁾
12. Reason (s) for extension of approval:
13. Position of the approval mark on the vehicle:

14. Place:
15. Date:
16. Signature:
17. A list of files bearing the approval number shown above deposited with the Administrative Service which has granted type approval, and which can be obtained upon request is attached to this communication.
- _____

⁽¹⁾ Distinguishing number of the country which has granted/extended/refused/withdrawn approval (see approval provisions in the Regulation).

⁽²⁾ Strike out what does not apply.

ANNEX 2

EXAMPLES OF ARRANGEMENTS OF APPROVAL MARKS

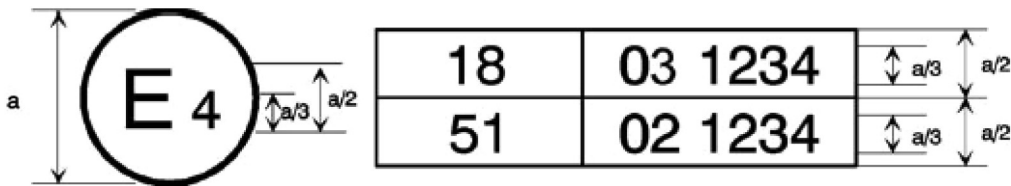
MODEL A



a = 8 mm min

The above approval mark affixed to a vehicle shows that the type concerned has been approved in the Netherlands (E 4), pursuant to Regulation No 18 under approval No 031234. The first two digits (03) of the approval number indicate that the approval was granted in accordance with the requirements of Regulation No 18 including the 03 series of amendments.

MODEL B



a = 8 mm min

The above approval mark affixed to a vehicle shows that the type concerned has been approved in the Netherlands (E 4) pursuant to Regulations No 18 and No 51 ⁽¹⁾. The first two digits of the approval numbers indicate that, on the date on which these approvals were granted, Regulation No 18 included the 03 series of amendments and Regulation No 51 included the 02 series of amendments.

⁽¹⁾ The second number is given merely as an example.

ANNEX 3

WEAR-PRODUCING TEST PROCEDURE FOR PROTECTIVE DEVICES ACTING ON THE STEERING**1. TEST EQUIPMENT**

The test equipment shall consist of:

- 1.1. A fixture suitable for mounting the sample steering complete with the protective device attached, as defined in paragraph 2.3 of this Regulation;
- 1.2. A means for activating and deactivating the protective device which shall include the use of the key;
- 1.3. A means for rotating the steering shaft relative to the protective device.

2. TEST METHOD

- 2.1. A sample of the steering complete with the protective device is attached to the fixture referred to in paragraph 1.1 above.
- 2.2. One cycle of the test procedure shall consist of the following operations:
 - 2.2.1. Start position. The protective device shall be deactivated and the steering shaft shall be rotated to a position which prevents engagement of the protective device, unless it is of the type which permits locking in any position of the steering.
 - 2.2.2. Set to act. The protective device shall be moved from the deactivated to the activated position, using the key.
 - 2.2.3. ⁽¹⁾ Activated. The steering shaft shall be rotated such that the torque on it, at the instant of engagement of the protective device, shall be $5\ 85\ \text{Nm} \pm 0\ 25\ \text{Nm}$.
 - 2.2.4. Deactivated. The protective device shall be deactivated by the normal means, the torque being reduced to zero to facilitate disengagement.
 - 2.2.5. ⁽¹⁾ Return. The steering shaft shall be rotated to a position which prevents engagement of the protective device.
 - 2.2.6. Opposite rotation. Repeat procedures described in paragraphs 2.2.2, 2.2.3, 2.2.4 and 2.2.5, but in the opposite direction of rotation of the steering shaft.
 - 2.2.7. The time interval between two successive engagements of the device shall be at least 10 seconds.
- 2.3. The wear-producing cycle shall be repeated for the number of times specified in paragraph 6.1.3 of this Regulation.

⁽¹⁾ If the protective device permits locking in any position of the steering, the procedures described in paragraphs 2.2.3 and 2.2.5 shall be omitted.

Only the original UN/ECE texts have legal effect under international public law. The status and date of entry into force of this Regulation should be checked in the latest version of the UN/ECE status document TRANS/WP.29/343, available at:
<http://www.unece.org/trans/main/wp29/wp29wgs/wp29gen/wp29fdocstts.html>

Regulation No 39 of the Economic Commission for Europe of the United Nations (UN/ECE) — Uniform provisions concerning the approval of vehicles with regard to the speedometer equipment including its installation

Revision 1

Incorporating all valid text up to:

Supplement 5 to the original version of the Regulation — Date of entry into force: 7 December 2002

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8. Penalties for non-conformity of production
9. Names and addresses of technical services responsible for conducting approval tests and of administrative departments

ANNEXES

- Annex 1 — Communication concerning the approval or extension or refusal or withdrawal of approval or production definitely discontinued of a vehicle type with regard to the speedometer equipment including its installation pursuant to Regulation No 39
- Annex 2 — Arrangements of approval marks
- Annex 3 — Test of speedometer accuracy for conformity of production

1. SCOPE

This Regulation applies to the approval of vehicles of categories L, M and N ⁽¹⁾.

2. DEFINITIONS

For the purposes of this Regulation:

- 2.1. 'Approval of a vehicle' means the approval of a vehicle type with regard to the speedometer equipment including its installation.
- 2.2. 'Type of vehicle in respect of its speedometer' means vehicles which do not among themselves display any essential differences, where those differences can apply, in particular, to the following:
 - 2.2.1. the size designation of the tyres chosen from the range of tyres normally fitted;
 - 2.2.2. the overall transmission ratio, including any reduction drives, to the speedometer;

⁽¹⁾ As defined in Annex 7 of the Consolidated Resolution on the Construction of Vehicles (R.E.3) (document TRANS/WP.29/78/Rev.1/Amend.2).

- 2.2.3. the type of speedometer as characterised by:
 - 2.2.3.1. the tolerances of the speedometer's measuring mechanism;
 - 2.2.3.2. the technical constant of the speedometer;
 - 2.2.3.3. the range of speeds displayed.
- 2.3. 'Tyres normally fitted' means the type or types of tyre provided by the manufacturer on the vehicle type in question; snow tyres shall not be regarded as tyres normally fitted.
- 2.4. 'Normal running pressure' means the cold inflation pressure specified by the vehicle manufacturer increased by 0,2 bar.
- 2.5. 'Speedometer' means that part of the speedometer equipment which indicates to the driver the speed of his vehicle at any given moment ⁽¹⁾.
- 2.5.1. 'Tolerances of the speedometer's measuring mechanism' shall mean the accuracy of the speedometer instrument itself, expressed as the upper and the lower speed indication limits for a range of speed inputs.
- 2.5.2. 'Technical constant of the speedometer' shall mean the relationship between the input revolutions or pulses per minute and a specified displayed speed.
- 2.6. 'Unladen vehicle' means the vehicle in running order, complete with fuel, coolant, lubricant, tools and a spare wheel (if provided as standard equipment by the vehicle manufacturer), carrying a driver weighing 75 kg, but no driver's mate, optional accessories or load.
- 3. APPLICATION FOR APPROVAL
 - 3.1. The application for approval of a vehicle type with regard to the speedometer equipment including its installation shall be submitted by the vehicle manufacturer or by his duly accredited representative.
 - 3.2. It shall be accompanied by the following documents in triplicate and by the following particulars:
 - 3.2.1. a description of the vehicle type with regard to the items mentioned in paragraphs 2.2, 2.3, 2.4 and 2.5 above; the vehicle type shall be specified.
 - 3.3. An unladen vehicle representative of the vehicle type to be approved shall be submitted to the technical service conducting approval tests.
 - 3.4. The competent authority shall verify the existence of satisfactory arrangements for ensuring effective control of the conformity of production before type approval is granted.
- 4. APPROVAL
 - 4.1. If the vehicle type submitted for approval pursuant to this Regulation meets the requirements of the Regulation in respect of the speedometer equipment including its installation, approval of that vehicle type shall be granted.

⁽¹⁾ This does not include the speed-indicating part of a tachograph if this complies with type approval specifications which do not permit an absolute difference between true and indicated speed which is higher than the values resulting from the requirements in paragraph 5.3 below.

- 4.2. An approval number shall be assigned to each type approved. The first two digits shall be the highest number of the series of amendments incorporated in the Regulation at the time of issue of the approval. The same Contracting Party may not assign the same number to another vehicle type subject to the provisions of paragraph 6 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 in a format not larger than A4 (210 × 297 mm) or folded to that format, and on an appropriate scale.
- 4.4. To every vehicle conforming to a vehicle type approved under this Regulation there shall be affixed in a conspicuous and easily accessible position, specified on the approval form, an international 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 ⁽¹⁾;
- 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 described in paragraph 4.4.1.
- 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 additional numbers and 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 arrangements of approval marks.
5. SPECIFICATIONS
- 5.1. The display of the speedometer must be located within the direct field of view of the driver and must be clearly legible both day and night. The range of speeds displayed must be sufficiently wide to include the maximum speed of this type of vehicle as stated by the manufacturer.
- 5.1.1. In the case of speedometers intended for vehicles of categories M, N, and L₃, L₄ and L₅, the graduation shall be 1, 2, 5 or 10 km/h. The numerical values of the speed shall be indicated on the display as follows: when the highest value on the display does not exceed 200 km/h, speed values shall be indicated at intervals not exceeding 20 km/h. When the maximum value on the display exceeds 200 km/h, then the speed values shall be indicated at intervals not exceeding 30 km/h. The indicated numerical speed value intervals need not be uniform.

⁽¹⁾ 1 for Germany, 2 for France, 3 for Italy, 4 for the Netherlands, 5 for Sweden, 6 for Belgium, 7 for Hungary, 8 for the Czech Republic, 9 for Spain, 10 for Yugoslavia, 11 for the United Kingdom, 12 for Austria, 13 for Luxembourg, 14 for Switzerland, 15 (vacant), 16 for Norway, 17 for Finland, 18 for Denmark, 19 for Romania, 20 for Poland, 21 for Portugal, 22 for the Russian Federation, 23 for Greece, 24 for Ireland, 25 for Croatia, 26 for Slovenia, 27 for Slovakia, 28 for Belarus, 29 for Estonia, 30 (vacant), 31 for Bosnia and Herzegovina, 32 for Latvia, 33 (vacant), 34 for Bulgaria, 35 (vacant), 36 for Lithuania, 37 for Turkey, 38 (vacant), 39 for Azerbaijan, 40 for the former Yugoslav Republic of Macedonia, 41 (vacant), 42 for the European Community (Approvals are granted by its Member States using their respective ECE symbol), 43 for Japan, 44 (vacant), 45 for Australia, 46 for Ukraine, 47 for South Africa and 48 for New Zealand. Subsequent numbers shall be assigned to other countries in the chronological order in which they ratify or accede to the Agreement Concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these Prescriptions, and the numbers thus assigned shall be communicated by the Secretary-General of the United Nations to the Contracting Parties to the Agreement.

- 5.1.2. In the case of vehicles manufactured for sale in any country where imperial units are used, the speedometer shall also be marked in miles per hour (mph); the graduations shall be of 1, 2, 5 or 10 mph. The values of the speed shall be indicated on the dial at intervals not exceeding 20 mph and commencing at 10 or 20 mph. The indicated speed value intervals need not be uniform.
- 5.1.3. In the case of speedometers intended for vehicles of categories L₁ (mopeds) and L₂, the display readings must not exceed 80 km/h. The graduation shall be 1, 2, 5 or 10 km/h and the marked numerical values of the speed indicated shall not exceed 10 km/h. The indicated numerical speed value intervals need not be uniform.
- 5.1.4. In the case of vehicles of categories M, N, and L₃, L₄ and L₅ manufactured for sale in any country where imperial units are used, the speedometer shall also be marked in mph (miles per hour); the graduation shall be of 1, 2, 5 or 10 mph. The numerical values of the speed shall be indicated on the display at intervals not exceeding 20 mph and commencing at 10 or 20 mph. The indicated numerical speed value intervals need not be uniform.
- 5.2. The accuracy of the speedometer equipment shall be tested in accordance with the following procedure:
- 5.2.1. the tyres shall be one of the types normally fitted to the vehicle as defined in paragraph 2.3 of this Regulation. A test shall be carried out for each type of speedometer intended to be fitted by the manufacturer;
- 5.2.2. the test shall be carried out with the vehicle at its unladen weight. An additional weight can be carried for purposes of measurement. The weight of the vehicle and its distribution between the axles shall be indicated in the approval communication (see Annex 1, paragraph 6);
- 5.2.3. the reference temperature at the speedometer shall be 23 ± 5 °C;
- 5.2.4. during each test the pressure of the tyres shall be the normal running pressure as defined in paragraph 2.4;
- 5.2.5. the vehicle is tested at the following speeds:

Maximum design speed ($V_{\max}$) of the vehicle specified by the vehicle manufacturer (km/h)	Test speed (V_1) (km/h)
$V_{\max} \leq 45$	80 % of $V_{\max}$
$45 < V_{\max} \leq 100$	40 km/h and 80 % $V_{\max}$ (if the resulting speed is ≥ 55 km/h)
$100 < V_{\max} \leq 150$	40 km/h, 80 km/h and 80 % $V_{\max}$ (if the resulting speed is ≥ 100 km/h)
$150 < V_{\max}$	40 km/h, 80 km/h and 120 km/h

- 5.2.6. the test instrumentation used for measuring the true vehicle speed shall be accurate to $\pm 0,5$ per cent;
- 5.2.6.1. the surface of a test track when used shall be flat and dry, and provide sufficient adhesion;
- 5.2.6.2. if a roller dynamometer is used for the test, the diameter of the roller should be at least 0,4 m.

- 5.3. The speed indicated shall not be less than the true speed of the vehicle. At the test speeds specified in paragraph 5.2.5 above, there shall be the following relationship between the speed displayed (V_1) and the true speed (V_2).

$$0 \leq (V_1 - V_2) \leq 0,1 V_2 + 4 \text{ km/h}$$

6. MODIFICATIONS OF THE VEHICLE TYPE

- 6.1. Every modification of the vehicle type shall be communicated to the administrative department which approved the vehicle type. The department may then either:

6.1.1. consider that the modifications made are unlikely to have an appreciable adverse effect and that in any case the vehicle still meets the requirements; or

6.1.2. require a further test report from the technical service responsible for conducting the tests.

6.2. Notice of confirmation or refusal of approval, accompanied by particulars of the modifications, shall be communicated by the procedure specified in paragraph 4.3 above to the Parties to the Agreement applying this Regulation.

7. CONFORMITY OF PRODUCTION

7.1. The conformity of production procedures shall comply with those set out in the Agreement, Appendix 2 (E/ECE/324-E/ECE/TRANS/505/Rev.2), with the following requirements:

7.2. Every vehicle approved under this Regulation shall be so manufactured as to conform to the type approved by meeting the requirements of the relevant part(s) of this Regulation.

7.3. For each type of vehicle sufficient checks are carried out regarding the speedometer equipment and its installation; in particular, for each type of vehicle at least the test prescribed in Annex 3 to this Regulation shall be carried out.

7.4. The authority, which has granted type approval, may at any time verify the conformity control methods applied in each production facility. The normal frequency of these verifications shall be once every two years.

7.5. Where unsatisfactory results are found during verifications and checks pursuant to paragraph 7.4 above, the competent authority shall ensure that all necessary steps are taken to restore conformity of production as rapidly as possible.

8. PENALTIES FOR NON-CONFORMITY OF PRODUCTION

8.1. The approval granted for a vehicle type pursuant to this Regulation may be withdrawn if the requirement laid down in paragraph 7.1 above is not met or if the vehicles have failed to pass the checks prescribed in paragraph 7 above.

8.2. 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 applying this Regulation, by means of a communication form conforming to the model in Annex 1 to this Regulation.

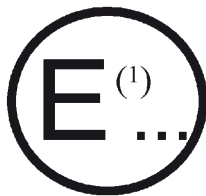
9. NAMES AND ADDRESSES OF TECHNICAL SERVICES RESPONSIBLE FOR CONDUCTING APPROVAL TESTS AND OF ADMINISTRATIVE DEPARTMENTS

The Parties to the Agreement applying this Regulation shall communicate to the secretariat of the United Nations 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 extension or refusal or withdrawal of approval, issued in other countries, are to be sent.

ANNEX 1

COMMUNICATION

(Maximum format: A4 (210 × 297 mm))



issued by:

Name of administration:

.....

.....

.....

concerning ⁽²⁾: APPROVAL GRANTED
 APPROVAL EXTENDED
 APPROVAL REFUSED
 APPROVAL WITHDRAWN
 PRODUCTION DEFINITELY DISCONTINUED

of a vehicle type with regard to the speedometer equipment including its installation pursuant to Regulation No 39.

Approval No Extension No

1. Trade name or mark of the vehicle:
2. Vehicle type:
3. Manufacturer's name and address:
4. If applicable, name and address of the manufacturer's representative:
5. Description of the speedometer equipment:
- 5.1. Details of tyres normally fitted:
- 5.2. Details of tyres fitted during the test:
- 5.3. Ratio of speedometer equipment:
6. Mass of vehicle as tested and its distribution between the axles:
7. Variants:
8. Vehicle submitted for approval on:
9. Technical service responsible for conducting approval tests:
10. Date of report issued by that service:
11. Number of report issued by that service:
12. Approval granted/refused/extended/withdrawn ⁽²⁾

13. Position of approval mark on the vehicle:
14. Place:
15. Date:
16. Signature:
- _____

⁽¹⁾ Distinguishing number of the country which has granted/extended/refused/withdrawn approval (see approval provisions in the Regulation).

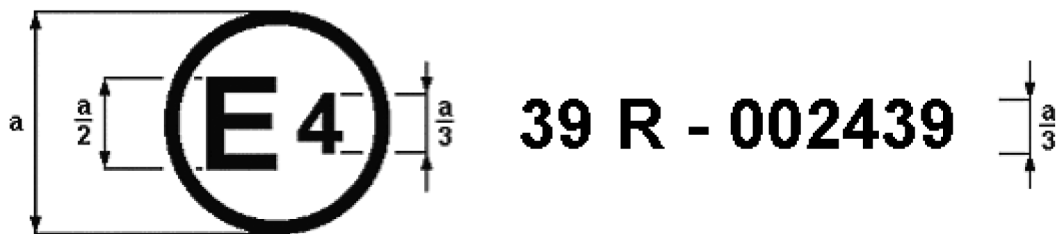
⁽²⁾ Strike out what does not apply.

ANNEX 2

ARRANGEMENTS OF APPROVAL MARKS

MODEL A

(see paragraph 4.4 of this Regulation)

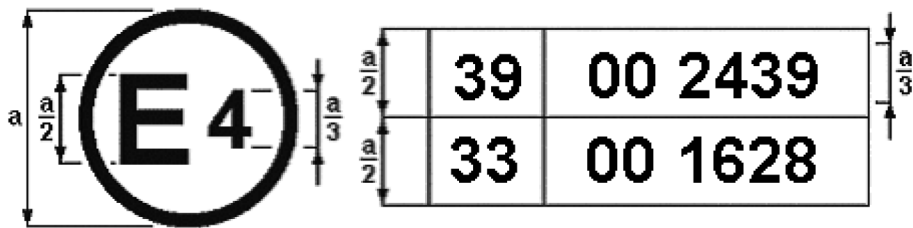


a = 8 mm min

The above approval mark affixed to a vehicle shows that the vehicle type concerned has been approved in the Netherlands (E 4), pursuant to Regulation No 39. The approval number indicates that the approval was granted in accordance with the requirements of Regulation No 39 in its original form.

MODEL B

(see paragraph 4.5 of this Regulation)



a = 8 mm min

The above approval mark affixed to a vehicle shows that the vehicle type concerned has been approved in the Netherlands (E 4) pursuant to Regulations No 39 and No 33 ⁽¹⁾. The approval numbers indicate that, at the dates when the respective approvals were granted, Regulations No 39 and No 33 were still in their original form.

⁽¹⁾ The second number is given merely as an example.

ANNEX 3

TEST OF SPEEDOMETER ACCURACY FOR CONFORMITY OF PRODUCTION**1. TEST CONDITIONS**

The test conditions shall be as set out in paragraphs 5.2.1 to 5.2.6 of this Regulation.

2. REQUIREMENTS

The production shall be deemed to conform to this Regulation if the following relationship between the speed indicated on the display of the speedometer (V_1) and the actual speed (V_2) is observed:

in the case of vehicles of categories M and N:

$$0 \leq (V_1 - V_2) \leq 0,1 V_2 + 6 \text{ km/h};$$

in the case of vehicles of categories L₃, L₄ and L₅:

$$0 \leq (V_1 - V_2) \leq 0,1 V_2 + 8 \text{ km/h};$$

in the case of vehicles of categories L₁ and L₂:

$$0 \leq (V_1 - V_2) \leq 0,1 V_2 + 4 \text{ km/h}.$$

Only the original UN/ECE texts have legal effect under international public law. The status and date of entry into force of this Regulation should be checked in the latest version of the UN/ECE status document TRANS/WP.29/343, available at:
<http://www.unece.org/trans/main/wp29/wp29wgs/wp29gen/wp29fdocstts.html>

Regulation No 73 of the Economic Commission for Europe of the United Nations (UN/ECE) — Uniform provisions concerning the approval of goods vehicles, trailers and semi-trailers with regard to their lateral protection

Incorporating all valid text up to:

Supplement 1 to the original version of the Regulation — Date of entry into force: 10 November 2007

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REGULATION

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ANNEXES

- Annex 1 — Communication concerning the approval or refusal or extension or withdrawal of approval or production definitely discontinued of a vehicle type with regard to its lateral protection pursuant to Regulation No 73
- Annex 2 — Examples of approval marks

1. SCOPE

This Regulation applies to complete vehicles of categories N₂, N₃, O₃ and O₄ ⁽¹⁾ with regard to the lateral protection. It does not apply to:

- (a) tractors for semi-trailers;
- (b) vehicles designed and constructed for special purposes where it is not possible, for practical reasons, to fit such lateral protection.

2. PURPOSE

Vehicles covered by this Regulation shall be so constructed and/or equipped as to offer effective protection to unprotected road users against the risk of falling under the sides of the vehicle and being caught under the wheels ⁽²⁾.

⁽¹⁾ As defined in Annex 7 to the Consolidated Resolution on the Construction of Vehicles (R.E.3), (document TRANS/WP.29/78/Rev.1/Amend.2 as last amended by Amend.4).

⁽²⁾ This Regulation does not prevent any country from having additional requirements for the vehicle parts forward of the front wheels and rearward of the rear wheels.

3. DEFINITIONS

3.1. For the purposes of this Regulation:

- 3.1.1. 'Approval of a vehicle' means the approval of a complete vehicle type with regard to its lateral protection;
- 3.1.2. 'Vehicle type' means a category of vehicles which do not differ with respect to the essential points such as the width of the rear axle, the overall width, the dimensions, the shape and the materials of the whole side of the vehicle (including the cab if fitted), and the characteristics of the suspension in so far as they have a bearing on the requirements specified in paragraph 7 of this Regulation;
- 3.1.3. 'Maximum mass' means the mass stated by the vehicle manufacturer to be technically permissible (this mass may be higher than the 'permissible maximum mass' laid down by the national administration);
- 3.1.4. 'Unladen mass' means the weight of the vehicle in running order, unoccupied and unladen, but complete with fuel, coolant, lubricant, tools and spare wheel, if supplied by the vehicle manufacturer as standard equipment;
- 3.1.5. 'Unprotected road users' means pedestrians, cyclists or motor cyclists using the road in such a way that they are liable to fall under the sides of the vehicle and be caught under the wheels.

4. APPLICATION FOR APPROVAL

- 4.1. The application for approval of a vehicle type with regard to its lateral protection shall be submitted by the vehicle manufacturer or by his duly accredited representative.
- 4.2. It shall be accompanied by the undermentioned documents in triplicate and by the following particulars:
 - 4.2.1. a detailed description of the vehicle type with respect to its structure, dimensions, lines and constituent materials in so far as required for the purpose of this Regulation;
 - 4.2.2. drawings of the vehicle showing the vehicle type in side and rear elevation and design details of the lateral parts of the structure;
 - 4.2.3. a detailed description of the specific device for lateral protection: its dimensions, lines, constituent materials and position on the vehicle.
- 4.3. A vehicle representative of the type to be approved shall be submitted to the technical service responsible for controlling the technical specifications.
 - 4.3.1. A vehicle not comprising all the components proper to the type may be accepted for approval provided that it can be shown that the absence of the components omitted has no detrimental effect on the results of the approval so far as the requirements of this Regulation are concerned.
 - 4.3.2. It shall be the responsibility of the applicant for approval to show that acceptance of the variants referred to in paragraph 4.3.1 above is compatible with compliance with the requirements of this Regulation.
 - 4.3.3. The competent authority shall verify the existence of satisfactory arrangements for ensuring effective control of production before type approval is granted.

5. APPROVAL

- 5.1. If the vehicle submitted for approval pursuant to this Regulation meets the requirements of paragraphs 6 and 7 below, approval of that vehicle type shall be granted.
- 5.2. An approval number shall be assigned to each type approved. Its first two digits (at present 00 for the Regulation in its original form) 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 to another vehicle type.

- 5.3. Notice of approval or refusal or extension 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.
- 5.4. 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 international approval mark consisting of:
- 5.4.1. a circle surrounding the letter 'E' followed by the distinguishing number of the country which has granted approval⁽¹⁾;
- 5.4.2. 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 5.4.1.
- 5.5. 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 5.4.1 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 5.4.1.
- 5.6. The approval mark shall be clearly legible and be indelible.
- 5.7. The approval mark shall be placed close to or on the vehicle data plate affixed by the manufacturer.
- 5.8. Annex 2 to this Regulation gives examples of arrangements of approval marks.
6. REQUIREMENTS
- 6.1. GENERAL
- 6.1.1. Vehicles in categories N₂, N₃, O₃ and O₄ must be constructed and equipped in such a way as to offer, throughout their length effective protection to unprotected road users against the risk of falling under the sides of the vehicle and being caught under the wheels. This requirement will be considered satisfied either:
- 6.1.1.1. if the vehicle is equipped with a special lateral protective device (sideguards) in accordance with the requirements of paragraph 7; or
- 6.1.1.2. if the vehicle is so designed and/or equipped at the side that, by virtue of their shape and characteristics, its component parts can be incorporated and/or regarded as replacing the lateral protective device. Components whose combined function satisfies the requirements set out in paragraph 7 below are considered to form a lateral protective device.

⁽¹⁾ 1 for Germany, 2 for France, 3 for Italy, 4 for the Netherlands, 5 for Sweden, 6 for Belgium, 7 for Hungary, 8 for the Czech Republic, 9 for Spain, 10 for Serbia, 11 for the United Kingdom, 12 for Austria, 13 for Luxembourg, 14 for Switzerland, 15 (vacant), 16 for Norway, 17 for Finland, 18 for Denmark, 19 for Romania, 20 for Poland, 21 for Portugal, 22 for the Russian Federation, 23 for Greece, 24 for Ireland, 25 for Croatia, 26 for Slovenia, 27 for Slovakia, 28 for Belarus, 29 for Estonia, 30 (vacant), 31 for Bosnia and Herzegovina, 32 for Latvia, 33 (vacant), 34 for Bulgaria, 35 (vacant), 36 for Lithuania, 37 for Turkey, 38 (vacant), 39 for Azerbaijan, 40 for the former Yugoslav Republic of Macedonia, 41 (vacant), 42 for the European Community (Approvals are granted by its Member States using their respective ECE symbol), 43 for Japan, 44 (vacant), 45 for Australia, 46 for Ukraine, 47 for South Africa, 48 for New Zealand, 49 for Cyprus, 50 for Malta, 51 for the Republic of Korea, 52 for Malaysia, 53 for Thailand, 54 and 55 (vacant) and 56 for Montenegro. Subsequent numbers shall be assigned to other countries in the chronological order in which they ratify or accede to the Agreement Concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these Prescriptions, and the numbers thus assigned shall be communicated by the Secretary-General of the United Nations to the Contracting Parties to the Agreement.

6.2. POSITIONING OF THE VEHICLE DURING CHECKS

When checked for compliance with the technical specifications set out in paragraph 7 below, the position of the vehicle shall be as follows:

the vehicle shall be positioned on a horizontal and flat surface;

the steered wheels shall be in a straight-ahead position;

the vehicle shall be unladen;

semi-trailers shall be positioned on their supports in an essentially horizontal manner.

7. TECHNICAL SPECIFICATIONS FOR LATERAL PROTECTIVE DEVICES

7.1. The lateral protective device shall not increase the overall width of the vehicle and the main part of its outer surface shall not be more than 120 mm inboard from the outermost plane (maximum width) of the vehicle. Its forward end may be turned inwards on some vehicles in accordance with paragraphs 7.4.3 and 7.4.4. Its rearward end shall not be more than 30 mm inboard from the outermost edge of the rear tyres (excluding any bulging of the tyres close to the ground) over at least the rearmost 250 mm.

7.2. The outer surface of the device shall be smooth, and so far as possible continuous from front to rear; adjacent parts may however overlap provided that the overlapping edge faces rearwards or downwards, or a gap of not more than 25 mm measured longitudinally may be left, provided that the rearward part does not protrude outboard of the forward part; domed heads of bolts or rivets may protrude beyond the surface to a distance not exceeding 10 mm and other parts may protrude to the same extent provided that they are smooth and similarly rounded; all external edges and corners shall be rounded with a radius not less than 2,5 mm.

7.3. The device may consist of a continuous flat surface, or of one or more horizontal rails, or a combination of surface and rails; when rails are used they shall be not more than 300 mm apart and not less than:

50 mm high in the case of N₂ and O₃;

100 mm high and essentially flat in the case of N₃ and O₄;

combinations of surfaces and rails shall form a practically continuous sideguard subject, however, to the provisions of paragraph 7.2.

7.4. The forward edge of the sideguard shall be constructed as follows:

7.4.1. Its position shall be:

7.4.1.1. on a motor vehicle: not more than 300 mm to the rear of the vertical plane perpendicular to the longitudinal plane of the vehicle and tangential to the outer surface of the tyre on the wheel immediately forward of the guard;

7.4.1.2. on a drawbar trailer: not more than 500 mm to the rear of the plane defined in paragraph 7.4.1.1;

7.4.1.3. on a semi-trailer: not more than 250 mm to the rear of the transverse median plane of the support legs, if support legs are fitted, but in any case the distance from the front edge to the transverse plane passing through the centre of the kingpin in its rearmost position may not exceed 2,7 m.

- 7.4.2. Where the forward edge lies in an otherwise open space, the edge shall consist of a continuous vertical member extending the whole height of the guard; the outer and forward faces of this member shall measure at least 50 mm rearwards and be turned 100 mm inwards in the case of N₂ and O₃ and at least 100 mm rearwards and be turned 100 mm inwards in the case of N₃ and O₄.
- 7.4.3. On a motor vehicle where the 300 mm dimension referred to in paragraph 7.4.1.1 falls within the cab, the guard shall be so constructed that the gap between its forward edge and the cab panels does not exceed 100 mm and, if necessary, shall be turned in through an angle not exceeding 45°. In this case, the provisions of paragraph 7.4.2 are not applicable.
- 7.4.4. On a motor vehicle where the 300 mm dimension referred to in paragraph 7.4.1.1 falls behind the cab and the sideguard is extended forward to within 100 mm of the cab, as an option to the manufacturer, then the provisions of paragraph 7.4.3 must be met.
- 7.5. The rearward edge of the sideguard shall not be more than 300 mm forward of the vertical plane perpendicular to the longitudinal plane of the vehicle and tangential to the outer surface of the tyre on the wheel immediately to the rear; a continuous vertical member is not required on the rear edge.
- 7.6. The lower edge of the sideguard shall at no point be more than 550 mm above the ground.
- 7.7. The upper edge of the guard shall not be more than 350 mm below that part of the structure of the vehicle, cut or contacted by a vertical plane tangential to the outer surface of the tyres, excluding any bulging close to the ground, except in the following cases:
- 7.7.1. where the plane in paragraph 7.7 does not cut the structure of the vehicle, then the upper edge shall be level with the surface of the load-carrying platform, or 950 mm from the ground, whichever is the less;
- 7.7.2. where the plane in paragraph 7.7 cuts the structure of the vehicle at a level more than 1,3 m above the ground, then the upper edge of the sideguard shall not be less than 950 mm above the ground;
- 7.7.3. on a vehicle specially designed and constructed, and not merely adapted, for the carriage of a container or demountable body, the upper edge of the guard may be determined in accordance with paragraphs 7.7.1 and 7.7.2 above, the container or body being considered as part of the vehicle.
- 7.8. Sideguards shall be essentially rigid, securely mounted (they shall not be liable to loosening due to vibration in normal use of the vehicle) and, except as regards the parts listed in paragraph 7.9, made of metal or any other suitable material. The sideguard shall be considered suitable if it is capable of withstanding a horizontal static force of 1 kN applied perpendicularly to any part of its external surface by the centre of a ram the face of which is circular and flat, with a diameter of 220 mm ± 10 mm, and if the deflection of the guard under load is then not more than:

30 mm over the rearmost 250 mm of the guard; and

150 mm over the remainder of the guard.

Compliance with this requirement can be verified by calculation.

- 7.9. Components permanently fixed to the vehicle, e.g. spare wheels, batterybox, air tanks, fuel tanks, lamps, reflectors and tool boxes may be incorporated in the sideguard, provided that they meet the dimensional requirements of this Regulation. The requirements of paragraph 7.2 shall generally apply as regards gaps between protective devices and permanently fixed components.
- 7.10. The guard may not be used for the attachment of brake, air or hydraulic pipes.
8. DEROGATIONS
- 8.1. By derogation from the above provisions, vehicles of the following types need comply only as indicated in each case:
- 8.1.1. an extendible trailer shall comply with all the requirements of paragraph 7 when closed to its minimum length; when the trailer is extended, however, the sideguards shall comply with paragraphs 7.6, 7.7, and 7.8, and with either 7.4 or 7.5, but not necessarily both; extension of the trailer shall not produce gaps in the length of the sideguards;
- 8.1.2. a tank-vehicle, that is a vehicle designed solely for the carriage of a fluid substance in a closed tank permanently fitted to the vehicle and provided with hose or pipe connections for loading or unloading, shall be fitted with sideguards which comply so far as is practicable with all the requirements of paragraph 7; strict compliance may be waived only where operational requirements make this necessary;
- 8.1.3. on a vehicle fitted with extendible legs to provide additional stability during loading, unloading or other operations for which the vehicle is designed, the sideguard may be arranged with additional gaps where these are necessary to permit extension of the legs.
- 8.1.4. on a vehicle equipped with anchorage points for ro-ro transport, gaps shall be permitted within the sideguard to accept the passage and tension of fixing ropes.
- 8.2. If the sides of the vehicle are so designed and/or equipped that by their shape and characteristics the component parts together meet the requirements of paragraph 7, they may be regarded as replacing the sideguards.
9. MODIFICATIONS OF VEHICLE TYPE AND EXTENSION OF APPROVAL
- 9.1. Every modification of the vehicle type shall be notified to the administrative department which approved the vehicle type. The department may then either:
- 9.1.1. consider that the modifications made are unlikely to have an appreciable adverse effect and that in any case the vehicle still complies with the requirements; or
- 9.1.2. require a further test report from the technical service responsible for conducting the tests.
- 9.2. Confirmation or refusal of approval, specifying the modification shall be communicated by the procedure specified in paragraph 5.3 above to the Parties to the Agreement which apply this Regulation.
- 9.3. The competent authority issuing the extension of approval shall assign a series number to each communication form drawn up for such an extension.

10. CONFORMITY OF PRODUCTION

The conformity of production procedures shall comply with those set out in the Agreement, Appendix 2 (E/ECE/324-E/ECE/TRANS/505/Rev.2), with the following requirements:

- 10.1. Every vehicle approved under this Regulation shall be so manufactured as to conform to the type approved by meeting the requirements set out in paragraph 6 above.
- 10.2. The authority that has granted type approval may at any time verify the conformity control methods applied in each production facility. The normal frequency of these verifications shall be one every two years.

11. PENALTIES FOR NON-CONFORMITY OF PRODUCTION

- 11.1. The approval granted in respect of a vehicle type pursuant to this Regulation may be withdrawn if the requirements laid down in paragraphs 6 and 7 above are not complied with.
- 11.2. 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 applying 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'.

12. PRODUCTION DEFINITELY DISCONTINUED

If the holder of the approval completely ceases to manufacture a type of vehicle approved in accordance with this Regulation, he shall so inform the authority which 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'.

13. 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 extension or refusal or withdrawal of approval, issued in other countries, are to be sent.

ANNEX I

COMMUNICATION

(Maximum format: A4 (210 × 297 mm))



issued by:

Name of administration:

.....
.....
.....

concerning ⁽²⁾: APPROVAL
REFUSAL OF APPROVAL
EXTENSION OF APPROVAL
WITHDRAWAL OF APPROVAL
PRODUCTION DEFINITELY DISCONTINUED

of a vehicle type with regard to its lateral protection pursuant to Regulation No 73

Approval No Extension No

1. Trade name or mark of the vehicle:
2. Vehicle type:
3. Manufacturer's name and address:
4. If applicable, name and address of manufacturer's representative:
5. Brief description of the vehicle type as regards its structure, dimensions, lines and constituent materials:
.....
6. Brief description of the protective devices as regards their lines, dimensions and constituent materials:
.....
7. Maximum mass:
8. Value of deflection recorded (see paragraph 7.8): (measured or calculated)
9. Vehicle submitted for approval on:
10. Technical service responsible for conducting approval tests:
11. Date of report issued by that service:
12. Number of report issued by that service:
13. Approval granted/refused/extended/withdrawn ⁽²⁾:
14. Position of approval mark on the vehicle:

15. Place:

16. Date:

17. Signature:

18. The following documents, bearing the approval number shown above, are available upon request:
(to be completed)

⁽¹⁾ Name of administration.

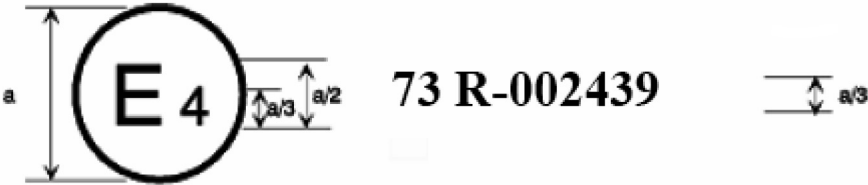
⁽²⁾ Strike out what does not apply.

ANNEX 2

EXAMPLES OF APPROVAL MARKS

MODEL A

(see paragraph 5.4 of this Regulation)

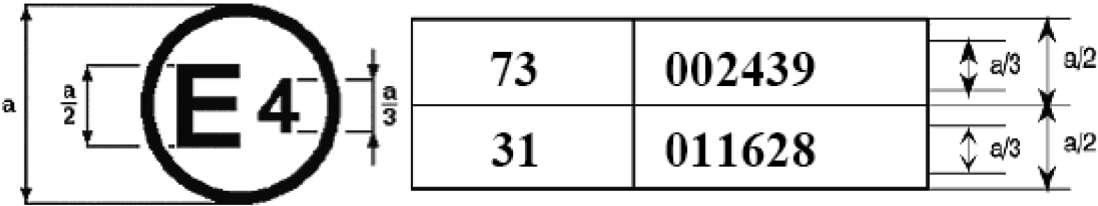


a = 8 mm min

The above approval mark affixed to a vehicle shows that the vehicle type concerned has, with regard to its lateral protection, been approved in the Netherlands (E 4) pursuant to Regulation No 73 under approval number 002439. The first two digits of the approval number indicate that the approval was granted in accordance with the requirements of Regulation No 73 in its original form.

MODEL B

(see paragraph 5.5 of this Regulation)



The above approval mark affixed to a vehicle shows that the vehicle type concerned has been approved in the Netherlands (E 4) pursuant to Regulation Nos 73 and 31 ⁽¹⁾. The first two digits of the approval numbers indicate that, at the dates when the respective approvals were granted, Regulation No 73 had not been modified, and Regulation No 31 already included the 01 series of amendments.

⁽¹⁾ This latter number is given as an example only.

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