

Proposal for an 07 series of amendments to Regulation No. 16 (Safety-belts)

The modifications to the existing text of the Regulation are marked in bold for new or strikethrough for deleted characters.

I. Proposal

Insert a new paragraph 1.5., to read:

"1.5. Vehicles of categories M₁ and N₁ with regard to passenger airbag de-activation devices."

Paragraphs 1.5. (former) to 1.7., renumber as paragraphs 1.6. to 1.8.

Paragraph 2.9., amend to read:

"2.9. "Passenger frontal protection airbag (or ~~P~~passenger airbag)" means an airbag assembly intended to protect **one (or more) vehicle passenger(s)** occupant(s) in seats other than the driver's in the event of a frontal collision."

Insert new paragraphs 2.48. to 2.51., to read:

"2.48. "Clearly visible" means within the normal range of vision throughout the normal range of adult occupant driving/riding positions.

2.49. "De-activation device (for an airbag)" means an element or an assembly of elements used to de-activate an airbag.

2.50. "Tell-tale" means an optical signal that, when alight, indicates the actuation of a device, a correct or defective functioning or condition, or a failure to function.

2.51. "Vehicle master control switch" means the device by which the vehicle's on-board electronics system is brought from being switched off, as is the case when the vehicle is parked without the driver present, to the normal operating mode."

Paragraph 5.2.2., amend to read:

"5.2.2. An approval number shall be assigned to each type approved. Its first two digits (at present ~~06~~07 corresponding to the ~~06~~07 series of amendments) 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 shall not assign the same number to another vehicle type as defined in paragraph 2.16. above."

Paragraph 8.1.1., amend to read:

"8.1.1. With the exception of seating intended solely for use when the vehicle is stationary, the seats of vehicles of categories M₁, M₂ (of Class III or B⁹), M₃

⁹ As defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3.), document ECE/TRANS/WP.29/78/Rev.3, para. 2 - www.unece.org/trans/main/wp29/wp29wgs/wp29gen/wp29resolutions.html

(of Class III or B⁹) and N shall be equipped with safety-belts or restraint systems which satisfy the requirements of this Regulation.

Contracting Parties applying this Regulation may demand the installation of safety belts on M₂ and M₃ vehicles belonging to Class II.

When fitted, the safety belts and/or restraint systems in Class I, II or A vehicles belonging to category M₂ or M₃ have to be in compliance with the requirements of this Regulation.

~~Contracting Parties may, under national law, allow the installation of safety belts or restraint systems other than those covered by this Regulation provided that they are intended for disabled people.~~

Restraint systems complying with the provisions of Annex 8 of the 02 series of amendments to Regulation No. 107 are exempted from the provisions of this Regulation.

Class I, or A vehicles belonging to category M₂ or M₃ may be fitted with safety belts and/or restraint systems conforming to the requirements of this Regulation."

Insert a new paragraph 8.1.3., to read:

"8.1.3. In the case of seats, not solely intended for use when the vehicle is stationary, but which are capable of being turned to or placed in more than one orientation; the requirements of paragraph 8.1.1. to 8.1.2. above shall only apply to those orientations designated for normal use when the vehicle is travelling on a public road."

Paragraph 8.1.3. (former) to 8.1.10., renumber as paragraphs 8.1.4. to 8.1.11.

Paragraph 8.1.11. (former), delete.

Paragraph 8.1.11. (new), amend to read:

"8.1.11. Detailed information, making reference to the warning, shall be contained in the owner's manual of the vehicle; as a minimum, the following text in all official languages of the ~~country or countries~~ **Contracting Party or Parties** ~~where the vehicle could reasonably be expected to be registered~~ (e.g. within the territory of the European Union, in Japan, in the Russian Federation or in New Zealand, etc.) **for which the manufacturer may seek mutual recognition of approval**, shall at least include:

"NEVER use a rearward facing child restraint on a seat protected by an ACTIVE AIRBAG in front of it, DEATH or SERIOUS INJURY to the CHILD can occur"

The text shall be accompanied by an illustration of the warning label as found in the vehicle. The information shall be ~~easily found~~ **easy to find** in the owner's manual (e.g. **by a** specific reference to the information printed on the first page, identifying page tab or separate booklet, etc.).

The requirements of this paragraph do not apply to vehicles of which all passenger seating positions are equipped with a device which automatically deactivates the frontal protection airbag assembly when any rearward facing child restraint is installed."

Insert new paragraphs 8.1.12. to 8.1.15., to read:

8.1.12. A separate ‘passenger airbag off’ tell-tale, satisfying the requirements of Regulation No. 121, shall be provided for each passenger frontal protection airbag for which a de-activation device (manual or automatic) is fitted. The tell-tale shall:

- (a) Have the identifying words ‘Passenger AIRBAG OFF’ within 25 millimetres of (above or below) the tell-tale;¹⁰
- (b) Be clearly visible and recognisable (when illuminated) during day and night to occupants of all front row outboard seating positions;
- (c) Not be adjustable to any level of illumination not satisfying (b) above;
- (d) Be located within the passenger compartment of the vehicle, forward of and above the H-point of both front row outboard seats in their forward-most adjustment positions; and
- (e) Not be located on or adjacent to any surface that can be used for temporary or permanent storage of objects or can be adjusted in a way that could obscure the tell-tale from either the driver’s or a front row outboard passenger’s view.

8.1.13. Whenever the ‘vehicle master control switch’ is in the ON position, each ‘passenger airbag off’ tell-tale provided pursuant to paragraph 8.1.12. above shall (allowing for the completion of necessary vehicle diagnostic/system checks):

- (a) Not illuminate at any time when the passenger frontal protection airbag to which it applies is active (ON); and
- (b) Illuminate and (except where otherwise required by paragraph 8.5. of this Regulation) remain continuously illuminated whenever the passenger frontal protection airbag to which it applies is de-activated (OFF).

8.1.14. Where one or more passenger frontal protection airbags is fitted with a manually operable de-activation device:

8.1.14.1. Each such hardware-based device (e.g. a manual switch) shall:

- (a) Be located on the passenger side of the vehicle and be durably labelled (as appropriate) with the identifying words ‘Passenger AIRBAG OFF/ON’ or ‘Passenger AIRBAG ON/OFF’.
- (b) Include a passenger airbag on position/adjustment durably marked with the word ‘ON’ together with the ‘passenger airbag on’ pictogram¹¹ below:

¹⁰ The identifying words ‘Passenger AIRBAG OFF/ON’ or ‘Passenger AIRBAG ON/OFF’ (as appropriate) shall instead be used where the ‘passenger airbag off’ tell-tale is grouped with an additional ‘passenger airbag on’ tell-tale also provided by the manufacturer.

¹¹ The pictogram may be monochrome and/or mirrored in the vehicle.



- (c) Include a passenger airbag off position/adjustment durably marked with the word 'OFF' together with the 'passenger airbag off' pictogram¹¹ below:



8.1.14.2. Each such software-based device (e.g. an electronic menu option/sub-option) shall:

- (a) Display/present the words 'Passenger AIRBAG ON' together with (i.e. at the same time as) the 'passenger airbag on' pictogram¹¹ shown in paragraph 8.1.14.1. (b) above.
- (b) Display/present the words 'Passenger AIRBAG OFF' together with (i.e. at the same time as) the 'passenger airbag off' pictogram¹¹ shown in paragraph 8.1.14.1. (c) above.

8.1.14.3. The owner's manual of the vehicle shall at least include, in all official languages of the Contracting Party or Parties (e.g. within the territory of the European Union, in Japan, in the Russian Federation or in New Zealand, etc.) for which the manufacturer may seek mutual recognition of approval:

- (a) Complete instructions on the operation of each manual airbag de-activation device.
- (b) A statement explaining the principal reason for providing a passenger airbag switch (or de-activation device) is to enable the safe use (with the airbag switched off) of a rearward facing child restraint on a seat with a passenger airbag in front of it.

The information shall be easy to find in the owner's manual (e.g. by a specific reference to the information printed on the first page, identifying page tab or separate booklet, etc.).

8.1.15. Where any passenger frontal protection airbag, for the front row outboard passenger seat of a category M₁ vehicle, is fitted with a manually operable de-activation device:

8.1.15.1. The vehicle shall comply with the Hybrid III fifth percentile adult female performance requirements of UN R[137] in its original form, when the passenger frontal protection airbag for the front row outboard

passenger seat is de-activated prior to a test in accordance with Annex 3 (test procedure) or Annex 7 (test procedure with trolley) of that Regulation; or

- 8.1.15.2.** The front row outboard passenger seat shall be equipped with an airbag reminder system, satisfying the requirements of paragraph 8.5. of this Regulation."

Insert a new paragraph 8.5., to read:

- "8.5. Passenger airbag reminder equipment**
- 8.5.1. Any airbag reminder system provided pursuant to paragraph 8.1.15.2. of this Regulation shall, when tested in accordance with Annex 19, operate according to the following requirements:**
- 8.5.1.1. Visual warning shall be provided by intermittent illumination (i.e. flashing) of the corresponding 'passenger airbag off' tell-tale.**
- 8.5.1.2. Audible warning shall be by a continuous or intermittent sound signal or by vocal information. Where vocal information is employed, the manufacturer shall ensure that the alert uses the official language(s) of the market into which the vehicle is first supplied. This audible warning may include more than one stage.**
- 8.5.1.3. Both visual and audible warning shall operate for a cumulative duration of at least [30] seconds within the first [60] seconds after at least one (or any combination thereof) of the following occurs:**
- 8.5.1.3.1. Distance driven is greater than the distance threshold**
The threshold (excluding any cumulative distance the vehicle is not in normal operation) shall not exceed 500 m.
- 8.5.1.3.2. Speed greater than the speed threshold**
The threshold shall not exceed 25 km/h.
- 8.5.1.3.3. The vehicle is in normal operation for longer than the duration time threshold**
The threshold (excluding any cumulative duration the vehicle is not in normal operation) shall not exceed 60 seconds.
- 8.5.2. Any passenger airbag reminder provided pursuant to paragraph 8.1.15.2. of this Regulation, may only be designed to allow de-activation where a sequence of operations not detailed in any instructions provided with the vehicle and/or the use of tools (mechanical, electrical, digital, etc.) not provided with the vehicle, is required to de-activate the airbag reminder system."**

Insert new paragraphs 15.X. to 15.Y., to read:

<transitional provisions would need to be drafted>

Annex 1A,

Insert a new paragraph 3.4., to read:

- "3.4. Passenger frontal protection airbag de-activation devices**

- 3.4.1. Number
- 3.4.2. Position and type (manual or automatic)

Insert a new paragraph 4., to read:

- "4. Official languages for which instructions and information satisfying the requirements of paragraph 8.1.11. and/or 8.1.14. (where applicable) are included in the owner's manual of the vehicle."

Paragraph 4. (former) to 6., renumber as paragraphs 5. to 7.

Insert a new Annex 19, to read:

"Annex 19

Passenger airbag reminder tests

- 1. Test vehicle setup
 - 1.1. The passenger frontal protection airbag(s) is de-activated using the applicable manual de-activation device/means.
 - 1.2. Simulate front row outboard passenger seat occupancy using (at the option of the manufacturer):
 - (a) [40] kg ± [2.5] kg total mass, centrally placed on the seat cushion; or
 - (b) A Hybrid III 5th percentile adult female dummy.
 - 1.3. The safety belts for the driver and front row outboard passenger seats shall be fastened.
 - 1.4. For any test using a Hybrid III fifth percentile adult female dummy or a human occupant, the front row outboard passenger seat shall be adjusted as follows:
 - 1.4.1. Longitudinal position of the seat

If adjustable longitudinally, the seat shall be placed so that the "H" point, determined in accordance with the procedure set out in Annex 15, is:

 - (a) In the position given by the manufacturer, which shall be forward of the middle position of travel; or
 - (b) In the absence of any particular recommendation from the manufacturer, as near as possible to a position which is midway between the forward most position of the seat and the centre position of its travel.
 - 1.4.2. Angle of the seat-back

If adjustable, the seat-back shall be adjusted so that the resulting inclination of the torso of the dummy is as close as possible to that recommended by the manufacturer for normal use.

2. **Test**
- 2.1. **A vehicle prepared in accordance with paragraph 1. is then tested under one of the conditions (at the option of the manufacturer) in paragraph 2.1.1 to 2.1.3. below, or any combination thereof.**
- 2.1.1 **Accelerate the test vehicle to a forward speed of 25 –0/+10 km/h from a halt position.**
- 2.1.2. **Drive the vehicle forward for at least 500 m from a halt position.**
- 2.1.3. **Drive the vehicle forward at a speed greater than 10 km/h for at least 60 seconds."**

II. Justification

1. UN R94 (frontal collision) and UN R[137] are performance based standards which are silent with regard to the provision of any airbag de-activation switch. Australia interprets this (as it does with its current full frontal occupant protection standard Australian Design Rule 69/00) as requiring the vehicle to meet the required crash performance regardless of the setting of any de-activation device.
2. However, as Australia has applied UN R94 it does recognise and accept that UN approvals to UN R94 are being issued by approval authorities to vehicle types with manual airbag de-activation on the basis of the vehicle type passing the required test with the airbag switched on only.
3. A similar situation could also develop for the new UN R[137], which Australia wishes to accept as an alternative to ADR 69/00. As such, Australia believes that both UN R94 and UN R[137] should be amended, to be explicit about the use of a de-activation device and set requirements around its operation if one is to be fitted.
4. The principle reason for providing a passenger airbag de-activation device is to enable the safe use of a rearward-facing child restraint on a seat with a passenger airbag in front of it. While this is generally unnecessary to provide for in Australia (as the road rules prohibit the use of child restraints in front seats) it is recognised that other Contracting Parties may allow it and so it should be accommodated within the regulation.
5. However, clear communication is essential to ensure that any airbag de-activation device will be understood, to minimise the opportunity for any misunderstandings and misuse which could result in death or serious injuries for both child and adult occupants. We note that Euro NCAP and FMVSS 208 contain detailed requirements in this respect and recommend that similar requirements be incorporated in UN R16.
6. Durable and standardised labelling as well as handbook instruction requirements have been suggested in this proposal to facilitate better understanding of manual airbag de-activation devices and to reduce opportunities for misuse. This will also assist road authorities and road user and consumer groups to provide the most simple and easy to understand information/explanations of manual airbag de-activation to vehicle users.
7. Tell-tales are essential (for both manual and automatic airbag de-activation devices) to provide confirmation that a passenger airbag is off when a rearward-facing child restraint is installed on a seat with an airbag in front as well as (in case of manual de-activation) to remind any adult passenger to switch the airbag back on.

8. In regard to manual passenger airbag de-activation, it is also important to note:
 - a. the large majority of front row outboard passengers killed and seriously injured in road crashes are adults;
 - b. it is not possible to use enforcement to ensure that any manual airbag switch is in the correct position when an adult passenger occupies the seat; and
 - c. misuse of manual passenger airbag switches has the potential (in the absence of appropriate measures) to reduce the available adult occupant protection benefits of the new UN R[137].
 9. A passenger airbag reminder is proposed for category M₁ vehicles, not otherwise meeting the performance requirements of UN R[137] with the airbag switched off. This suggestion should be viewed in the context of the current joint proposal from the EC, Japan and Korea which if adopted would require safety belt reminders for the front row outboard passenger seat and hence the necessary vehicle sensors for a system to remind an adult passenger to switch any manually de-activated passenger airbag back on.
 10. If GRSP decides to require passenger safety-belt reminders in UN R16 (as has been jointly proposed by the EC, Japan and Korea), a passenger airbag reminder system for category M₁ vehicles with manual airbag de-activation, should be of very marginal extra cost.
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