

**Proposal for 10. series of amendments of UN Regulation No. 107
(M2 and M3 vehicles)**

BMFE Informal Working Group (IWG) is in charge to evaluate and develop the opportunity for regulatory amendment(s) aimed at increasing the safety of M2 and M3 vehicles in case of fire by improving their general construction with regard to evacuation time.

In this work and according to UN Regulation n°107, amendment to improve glass breaking devices efficiency has been studied.

The modifications to the current text of UN Regulation n°107 are marked in bold for new characters.

Glass breaking device efficiency

I Proposal

Annex 3, paragraph 7.6.8.2., amend to read :

7.6.8.2. Every emergency window shall either:

7.6.8.2.1. Be capable of being easily and instantaneously operated from inside and from outside the vehicle by means of a device recognised as satisfactory. This provision includes the possibility of using e.g. panes of laminated glass or plastic material, or

7.6.8.2.2. be made of ~~readily breakable safety~~ **[toughened]** glass **pane(s)**. This latter provision precludes the possibility of using panes of laminated glass or of plastic material. **An easy-to-operate device shall ensure that each window glass pane can be broken and removed within [20] sec by a single person from inside the passenger compartment. The technical service shall verify by testing the operation of the device and by measuring the time from device is ready-to-operate until a free opening of the emergency window corresponding to the required dimensions specified in paragraph 7.6.3.1.3 is achieved.**

The device shall meet the following requirements.

Annex 3, paragraph 7.6.8.2.2, insert new paragraphs 7.6.8.2.2.1 to 7.6.8.2.2.5 to read :

7.6.8.2.2.1 The device shall be fixed adjacent to or on the emergency window and positioned in the upper third of the height of the window surface. The device for breaking the glass of the emergency exit at the rear of the vehicle shall be positioned centrally or, alternatively, shall be positioned adjacent to each end of the window.

In case the implementation of the device is not technically compatible with the positional requirements above, the device ~~can~~ shall be located adjacent to or affixed on each emergency window. However, at the time of the Type Approval, the manufacturer shall demonstrate to the satisfaction of the Technical Service the following points :

- Analysis conducted to determine the location of the device;
- Definition of the measures put in place to prevent unintended use.

These evidences shall be verified by the Technical Service during the approval process.

7.6.8.2.2.2 The device shall be clearly visible for any passenger in its direct vicinity. It shall be marked in red and supplemented by a safety sign. ~~If the device can be obstructed (e.g. by a closed curtain), a supplementary safety sign that indicates the location of the nearest device shall be installed where it is visible to the intended passenger at all times.~~

7.6.8.2.2.3 The device shall be readily available at all times and be operable in the event of a failure of the vehicle's power supply. Its operational status shall be easily verifiable. The device shall be designed to prevent misuse. At least one of the following mitigating measures at the manufacturer's choice shall be available. The device shall

(a) be permanently fixed adjacent to or on each emergency window; or

(b) engage a warning signal being audible or visible at the driver's seating position, when the device is temporarily removed from its designated location.

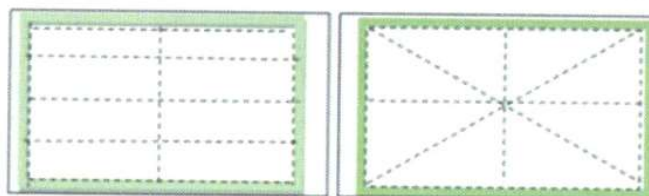
- 7.6.8.2.2.4 The device shall be equipped with a protective cover or designed to prevent unintended operation and requiring ~~an~~ **one** additional action to unlock by any person operating the device. If a protective cover is used, the device shall remain visible by passengers.
- 7.6.8.2.2.5. The ~~inner~~ **surfaces** of each emergency window may be fitted with a plastic film to enable the person to remove the window pane or panes ~~with his hands~~. ~~{The plastic film shall be cut at the outer edge of the emergency window and following the a patterns e.g. shown in picture XX below}. In case of fitting a plastic film to the emergency exit, it shall be compatible with the device and shall not reduce its efficiency. In addition, the characteristics of the approved glazing shall remain unchanged. The device for breaking the glass for the emergency windows at the rear of the vehicle shall be positioned either centrally above or below the emergency window or, alternatively, a device shall be positioned adjacent to each end of the window.~~

Annex 3, paragraph 7.6.9.5., amend to read :

- 7.6.9.5. Escape hatches shall be capable of being easily opened or removed from the inside and from the outside. However, this requirement shall not be construed as precluding the possibility of locking the escape hatch for the purpose of securing the vehicle when unattended, provided that the escape hatch can always be opened or removed from the inside by the use of the normal opening or removal mechanism. In the case of a ~~readily-breakable~~ hatch ~~made of or with {toughened} glass pane(s)~~, an **easy-to-operate** device shall ensure that the **each** glass pane(s) can be broken and removed within [20] sec by a single person from inside the passenger compartment. **The technical service shall verify by testing the operation of the device and by measuring the time from device is ready-to-operate until a free opening of the escape hatch corresponding to the required dimensions specified in paragraph 7.6.3.1.5 is achieved.**

The device shall meet the following requirements.

- 7.6.9.5.1 The device shall be clearly visible for any passenger in its direct vicinity. It shall be marked in red and supplemented by a safety sign. ~~{If the device can be obstructed (e.g. by a closed curtain), a supplementary safety sign that indicates the location of the nearest device shall be installed where it is visible to the intended passenger at all times.}~~
- 7.6.9.5.2 The device shall be readily available at all times and be operable in the event of a failure of the vehicle's power supply. **Its operational status shall be easily verifiable.** The device shall be designed to prevent misuse. At least one of the following mitigating measures at the manufacturer's choice shall be available. The device shall
- (a) be permanently fixed adjacent to or on each escape hatch; or
 - (b) engage a warning signal being audible or visible at the driver's seating position, when the device is temporarily removed from its designated location.
- 7.6.9.5.3 The device shall be equipped with a protective cover or designed to prevent unintended operation and requiring ~~an~~ **one** additional action to unlock by any person operating the device. If a protective cover is used, the device shall remain visible by passengers.
- 7.6.9.5.4. The ~~inner~~ **surfaces** of each escape hatch may be fitted with a plastic film to enable the person to remove the window pane or panes ~~with his hands~~. The plastic film shall be cut at the outer edge of the escape hatch and following the **a** patterns **e.g.** shown in picture XX below. In case of fitting a plastic film to the escape hatch, it shall be compatible with the device and shall not reduce its efficiency. In addition, the characteristics of the approved glazing shall remain unchanged.



Picture 