

Transmitted by the expert from Australia

FRONT SEATBELT ASSEMBLIES MOUNTED ON REARWARD HINGED REAR DOORS

BACKGROUND

The Vehicle Safety Standards (VSS) branch of the Australian Department of Transport and Regional Services is responsible for the type approval of vehicles to the Australian Design Rules (ADRs).

A manufacturer approached VSS last year regarding a design where the seatbelt assembly for the front occupant was mounted on a rearward hinged rear door.

VSS's initial response to the description of the basic concept was that there did not appear to be any ADR compliance issues with such a design. However, it was noted that there may be some safety concerns with the concept and that a more effective solution might be to install a front seat with integrated lap sash seatbelts.

CURRENT SITUATION

The manufacturer concerned has recently advised that they are proceeding with the concept and has provided more details on the operation of the system:

- 1) The retractor and upper sash guide are mounted on the rear door. The outboard lap anchorage point is mounted on a rail attached to the inside of the side sill.
- 2) The rear door locks to the roof and sill.
- 3) The only door handle for the rear door is in the leading edge of the rear door and can only be accessed when the front door is open. There is no internal release for the rear door.
- 4) There is no interlock to stop the rear door being opened when the front seatbelt is still fastened.
- 5) An ECE approval will be issued later this year. The manufacturer advises that ECE authorities have approved the system in principle.
- 6) The same system will be used worldwide, including USA on this particular model.

This system is to be fitted to a passenger car. However, this same manufacturer has now advised that a similar system is to be used in a light truck/utility to be released soon. The only difference is that the outboard lap anchorage is also mounted on the rear door.

The potential safety concerns are as follows:

- Rear seat occupants cannot egress from the vehicle unless the front door is opened first and the front occupant has unbuckled their seatbelt.
- It is unknown whether the rear occupant can reach the door handle which is recessed into the leading edge of the rear door.
- There is no interlock to stop the rear door being opened when the front seatbelt is still fastened.

- In a glancing impact into a narrow object (eg pole) the rear door may be ripped off causing severe injuries to the front occupant if the seatbelt is fastened.

The current Ford F-series utility has a model which uses such a rearward-hinged rear door. However, the front seatbelt assembly is NOT mounted to the rear door but is attached to the roof rail (sash guide) and floor (retractor).

ACTION REQUESTED

Australia seeks the views of GRSP on:

1. Whether GRSP agrees that there are safety concerns with the proposed seatbelt / door configuration that would justify further investigation or regulation.
2. What amendments to the ECE Regulations would be necessary to limit approvals to seatbelt systems that are considered to be acceptable (such as that used on the Ford F-series or an integrated seat mounted system)?