



**PETER HART**

## Mirror rules fails rear vision test

to the Heavy Vehicle National Law. A modification must be approved by an accredited person, namely an Approved Vehicle Examiner (AVE). However, the situation is fraught because additional mirrors can be legally fitted. What is the OEM manufacturer's 'regulatory mirror' offerings on which the definition of a modification is based?

Both the mirror rules ADR 14/02 ( $\leq 2.5\text{m}$  width) and ADR 14/03 ( $>2.5\text{m}$  width) are based upon UNECE Regulation R46, Uniform Provisions Concerning the Approval of Devices for Indirect Vision and of Motor Vehicles with Regard to the Installation of these Devices. This regulation is Eurocentric and takes little account of bonneted trucks and no account of multi-combination trucks. I don't recommend that you try to understand these rules while driving. They are super complicated. Try reading them if you are an insomniac sitting in bed! In a nutshell: Long combination trucks need a flat mirror on both left and right sides of trucks to give depth perception; and heavy trucks also need convex mirrors to provide field of view to avoid blind-spots. ADR 14/02 provides a mirror path for non-European trucks via Appendix C. The driver-side mirror must be flat. The passenger mirror can be flat or convex. If it is convex, it must have an

average radius of curvature of not less than 1200mm, which in this discussion is close to being flat. All mandated mirrors must have an area of at least 150 cm<sup>2</sup>. No reflectance level is specified. Additional mirrors can be fitted that do not meet the above requirements. Incredibly, no field-of-view visibility requirements exist. There is no 'blind spot' consideration.

The 'European truck mirror path' is via Appendices A and B in ADR 14/02, or via ADR 14/03. These paths specify extensive field-of-vision requirements that are illustrated for Class II mirrors in the accompanying diagram. UNECE R46 requires that heavy trucks have Classes II, IV, V and VI type mirrors. Vehicles that must comply with ADR 14/03 (that have an overall width exceeding 2.5m) can have a large flat mirror (of minimum area of 323 cm<sup>2</sup>) on either side instead of the 'Class II' mirror, which is the main curved type of rear-view mirror type used in Europe. So, the new rule allows a path for flat mirrors on European trucks if the large flat mirror is fitted to both sides. The field-of-view requirements for the Class II mirrors that have been substituted also do not apply.

In my opinion, an opportunity to improve the rear field of view on all new trucks with an overall width of 2.5m or less was lost. Rules ADR 14/02 should have been phased out in favour of ADR 14/03. This would have enforced improved field of view requirements on all new trucks. ADR 14/03 is optional for most trucks. I acknowledge that most in-service trucks have both a flat and curved mirror on the driver-side, but there are no field-of-view requirements, which is a failing of the mirror rules.

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**M**y May article was titled 'Is Your Bug Deflector Legal?'. It concerned the minimum visibility requirements at the front of a truck — particularly a bonneted truck. This article concerns visibility requirements to the rear, via the mirrors. A new rule, ADR 14/03 Devices for Indirect Vision, applies to new heavy vehicles with a width exceeding 2.5 metres, from 1 October 2023. Overall width is usually the distance between the right and left side mirrors when they are folded in. Vehicles with width over 2.5m will mainly be manufactured in Europe, where the overall width limit is 2.55m. American and most Australian and Japanese made heavy trucks have an overall width of 2.5m or less, so the older rule ADR 14/02 applies to these new vehicles. A mirror change outside the truck manufacturer's mirror options for that model, is a modification according

Figure 5: Field of vision of Class II mirrors.

