

Rear Field of View – Interior Rear-View Mirror.

Some thoughts on interior rear-view mirror installation for Triple-M cars.

Interior rear-view mirrors are not listed in the MG 'period' accessories listing for P and N Types, but other models may have been fitted with short-stemmed scuttle-mounted items. The low installation height of these mirrors give a **limited rearward field of view**.

Car design technology has progressed much since the 1930's and in seeking a solution to optimise the installation of an interior rear-view mirror, it is suggested that modern-day design legislation provide a pointer towards a more effective answer.

USA and European 'Field of Vision' legislation has been developed to guide car designers.

Rear-view mirror location, size and shape is defined in RREG 79/795 and E/ECE/324/Rev.1/Add.45/Rev.5–E/ECE/TRANS/505/Rev.1/Add.45/Rev.5, which relate back to the driver's eyes position – called 'eye ellipse' SAEJ941 and 'eye points'/'ocular points' in accordance with RREG 77/649. (RREG's are Directives of the Council of the European Union and E/ECE's that for the United Nations).

The ECE regulation diagram (below) clearly defines the field of vision for **Interior** rear-view mirrors:

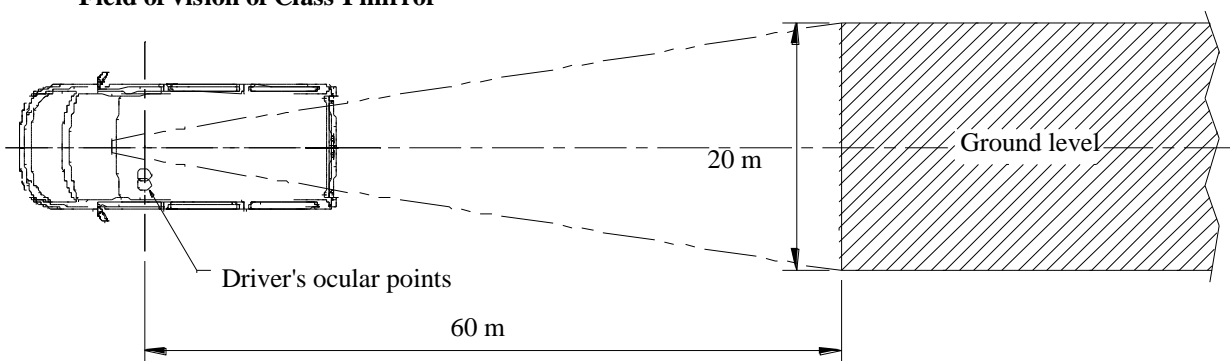
Uniform provisions concerning the approval of devices for indirect vision and of motor vehicles with regard to the installation of these devices.

15.2.4. Fields of vision

15.2.4.1. **Interior** rear-view mirror (Class I)

The field of vision shall be such that the driver can see at least a 20 m wide, flat, horizontal portion of the road centred on the vertical longitudinal median plane of the vehicle and extending from 60 m behind the driver's ocular points (Figure 4) to the horizon.

Figure 4
Field of vision of Class I mirror



Rear Field of View – Interior Rear-View Mirror.

Application of the above to an MG P Type.



Vision requirements in current vehicle design are established by USA and European regulations which provide a sensible guide to 'optimise'/make the best of rebuilds, this case the size and location of the rear 'window' in the hood.

The location of the driver's eyes are established from the eye ellipse from SAE J941 and the "eye points" from Reg 77/649. I have approximated an ellipse position above.

The rear view mirror '*field of view*' is formed by the vision lines off the mirror – *low-positioned after market mirror*.

The photo above shows an estimated position for the 'eye ellipse'/'ocular point' with sight-lines from a typical low-positioned after-market interior mirror.



And the 2nd photo shows a typical 'period' size and location for the hood rear screen/window.

A typical low-mounted mirror between the scuttle humps is shown below.



Typical low-mounted aftermarket interior rear view mirror

Rear Field of View – Interior Rear-View Mirror.

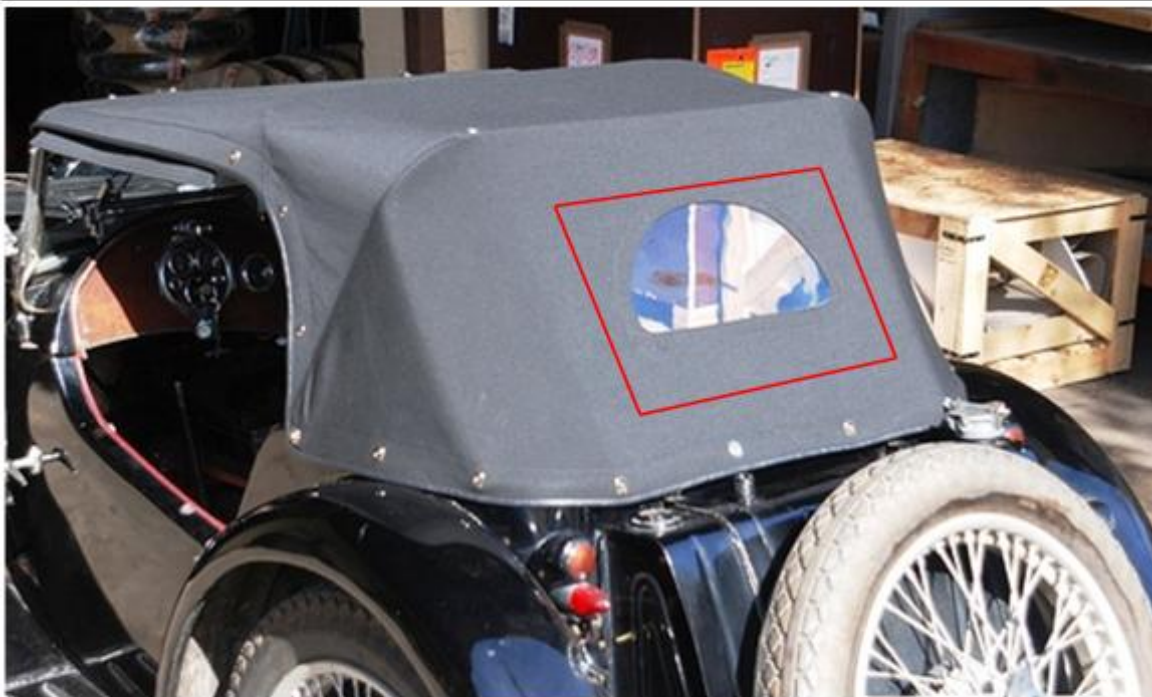
Thus, in relation to all short-stemmed scuttle-mounted offerings, two improvements are suggested:

1. Raise the height of the interior rear-view mirror.
2. Change the shape and size of the hood rear screen/window – by lowering the bottom edge and widening the sides.



Improve the Interior Rear-View Mirror **Field of View** by:

1. Raising the height of the mirror (This mirror neither 'original fit' nor 'period' accessory).
2. Lowering and widening the rear screen in the hood – sight lines referenced from the 'eye ellipse' – SAE J941.



Interior Mirror – improve field of view (hood):

1. Lower the bottom edge of the hood screen/window.
2. Widen the sides of the screen.

These suggestions are offered for comment and improvement.