



COMMONWEALTH OF AUSTRALIA

AUSTRALIAN DESIGN RULE 18A
FOR
LOCATION AND VISIBILITY OF INSTRUMENTS

As Endorsed by the
 Australian Transport Advisory Council

The intention of this Australian Design Rule is to specify the general area for the location of essential visual indicators to facilitate observation by the driver.

The Australian Transport Advisory Council has recommended to Commonwealth, State and Territory Governments that all motor vehicles specified below shall have instruments located so as to comply with Australian Design Rule 18A - Location and Visibility of Instruments.

| VEHICLE CATEGORY | RULE AMENDMENT | | |
|--|--------------------------|--|--|
| | MANUFACTURED ON OR AFTER | | |
| | 18A | | |
| Passenger Cars | | | |
| Forward Control Passenger Vehicles up to 8 seats | N/A | | |
| 9 seats | N/A | | |
| Other Passenger Cars | 1 Jan 1981 | | |
| Passenger Car Derivatives | 1 Jan 1981 | | |
| Multi-Purpose Passenger Cars | N/A | | |
| Omnibuses up to 3.5 tonnes GVM | | | |
| up to 12 seats | N/A | | |
| over 12 seats | N/A | | |
| up to 4.5 tonnes GVM | N/A | | |
| over 4.5 tonnes GVM | N/A | | |
| Motorcycles | N/A | | |
| Mopeds | N/A | | |
| Specially Constructed Vehicles | N/A | | |
| Other Vehicles not listed above | | | |
| up to 4.5 tonnes GVM | N/A | | |
| over 4.5 tonnes GVM | N/A | | |

N/A - Not Applicable
 GROSS VEHICLE MASS - Abbreviated to 'GVM'

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 AUSTRALIAN DESIGN RULE NO. 18A - LOCATION AND VISIBILITY OF INSTRUMENTS

18A.1 Definitions

18A.1.1 Eye Ellipses - The eye ellipses shall be the 95th percentile eye ellipses defined and positioned as in Recommended Practices SAE J941b (February 1969); SAE J941c (June 1972); SAE J941d (February 1975); SAE 941e (March 1977); SAE J941 (March 1981) - Motor Vehicles Drivers' Eye Range, or in ISO 4513 - 1978 (E) - Road Vehicles Visibility - Method of establishment of eye ellipses for drivers' eye location, suitably handed for right hand steering. *

18A.1.2 Visual Indicator - That part of an instrument or device intended to display information for the driver and includes any specified label.

18A.2 Visual Indicators

The display of information presented by the following visual indicators, if fitted, shall be subject to control under this Design Rule.

Group I

- (a) Speedometer
- (b) Turn Signal lamp indicators
- (c) High beam indicator

Group II

- (d) Tachometer
- (e) Odometer
- (f) Service brake failure indicator lamp
- (g) Stop lamp failure indicator
- (h) Oil temperature indicator
- (i) Pressure indicator
- (j) Water temperature indicator
- (k) Battery charge failure indicator
- (l) Fuel level indicator
- (m) Parking brake indicator lamp.

In cases where more than one visual indicator is provided for any one of the functions covered by (g) to (m) above, one only need be considered as a Group II visual indicator for the purpose of the Design Rule. In such a case a common indicator may be used to draw attention to the need to refer to a group of indicators located elsewhere.

* Amended February 1984

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18A.3 Location of Visual Indicators

18A.3.1 All visual indicators specified as Group I in Clause 18A.2 shall be totally located between two vertical planes inclined at 20 degrees left and 20 degrees right of the longitudinal axis of the vehicle and passing through the most forward points of the left and right 95th percentile eye ellipses respectively. Such indicators shall be totally located above a plane inclined downwards at 35 degrees from the horizontal and including a horizontal transverse line through the most forward points of each of the 95th percentile eye ellipses and below a plane tangential to the bottom of the eye ellipse which includes a line at ground level transverse to the longitudinal axis of the vehicle 11m forward of the rearmost eye ellipse point.

18A.3.2 All visual indicators specified as Group II in Clause 18A.2 shall be totally located between two vertical planes inclined at 40 degrees left and 25 degrees right of the longitudinal axis of the vehicle and passing left through the most forward points of the left and right 95th percentile eye ellipses respectively. Such indicators shall be totally located above a plane inclined downwards at 35 degrees from the horizontal and including a horizontal transverse line through the most forward points of each of the 95th percentile eye ellipses and below a plane tangential to the bottom of the eye ellipses which includes a line at ground level transverse to the longitudinal axis of the vehicle 11m forward of the rearmost eye ellipse point.

18A.4 Visibility of Visual Indicators

18A.4.1 The requirements of Clauses 18A.4.1.1 and 18A.4.1.2 shall be met when:

- (a) the steering wheel is in the straight ahead position;
- (b) the turn signal lever is in the neutral position;
- (c) in the case of column change automatic transmission vehicles the gear selector is in the 'Drive' position;
- (d) in the case of column change manual transmission vehicles, with 2 or 3 speed gear boxes, the gear selector is in 'Top' gear position;
- (e) in the case of column change manual transmission vehicles with more than 3 forward gear ratios the gear selector is in 'Top' gear position or the next lower gear position whichever is the more critical in terms of obscuration of visual indicators.

18A.4.1.1 All visual indicators other than indicating lamps shall be totally visible when viewed from each pair of eye positions in the 95th percentile eye ellipses except that:

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- (a) in the case of Group I visual indicators, the portion of the steering wheel rim including its supporting arms that is below a plane tangential to the top of the eye ellipse and the underside of the highest rim cross section cut normal to the rim, shall not constitute an obstruction; and
- (b) in the case of Group II visual indicators the steering wheel rim and its supporting arms and attachments thereto shall not constitute obstructions.

For the purposes of this Clause 'totally visible' shall mean that the sum of the views from each of the two eyes includes all the visual indicators.

- 18A.4.1.2 Any object which represents an obstruction to any single eye position within the terms of Clause 18A.4.1.1 shall have no surfaces, in the line of sight to the visual indicator, which present a metal finish with a specular gloss exceeding 40 units when measured by the 20° method of ASTM Standard D523-62T June 1962.
- 18A.4.1.3 All indicating lamp visual indicators shall either be totally visible or an area of not less than 18mm² with dimensions such that a 2mm diameter circle is totally enclosed within the area, shall be totally visible when viewed from each single eye position in the 95th percentile eye ellipse. The obstruction exemptions provided for in Clause 18A.4.1.1 shall also be applicable to this Clause.
- 18A.4.2 The vehicle speed indicating element shall be of such colour or contrast as to differentiate it from the viewed background.
- 18A.4.3 All visual indicators other than indicating lamps shall be provided with variable intensity when illuminated.