

AUSTRALIAN MOTOR VEHICLE CERTIFICATION BOARD

Comprising Commonwealth, State and Territory Authorities

CIRCULAR NO. 10B-3-1
INTERPRETATIONS

Attached are interpretations issued by the Board in respect of Australian Design Rule No 10B - Steering Columns (February 1984).

They should be read in conjunction with Circular No. 0-11-1.

AUSTRALIAN MOTOR VEHICLE CERTIFICATION BOARD

Interpretations

Australian Design Rule 10B - Steering Columns

as endorsed by the Australian Transport Advisory Council (February 1984).

Interpretation No 1 (Clause 10B.2.1)

Question: Is it permissible to carry out tests in accordance with Society of Automotive Engineers Recommended Practice J944a - Laboratory Test Procedure when demonstrating compliance with the Design Rule?

Answer: Yes, provided that the impact velocity of the body block is measured to an accuracy of ± 0.11 m/s.

Interpretation No 2 (Clauses 10B.2.1 and 10B.2.2)

Question: In the case of a vehicle within an adjustable (tilting and/or telescopic) steering column, in what position of adjustment should it be for the test prescribed in the Rule?

Answer: In both the body block test prescribed in Clause 10B.2.1 and the barrier collision test prescribed in Clause 10B.2.2 the steering column should be adjusted to the midway position in respect of each mode of adjustment available except that where the adjustment mechanism is capable of absorbing energy in a frontal impact, the position of adjustment of the steering column for the barrier impact test should be that which would absorb the least amount of energy.

Interpretation No 3 (ECE R12)

Question: Is it acceptable to use ECE correction factors for the untested vehicles heavier than tested vehicles of the same model?

Answer: Yes.

Correction Factor:

The vehicle mass correction factor in Section 4 of the ECE Regulation may be used as follows

Notation:

V = Recorded speed in km/h;

m_0 = Mass of prototype;

m_1 = Mass of prototype including test apparatus;

D_0 = Variation in the distance measured after the impact (steering column penetration);

D_1 = Variation in the distance used to determine the results of the test (steering column penetration);

K_1 = the greater of $\frac{(48.3)^2}{(V)}$ and 0.83;

K_2 = the greater of $\frac{m_0}{m_1}$ and 0.8.

The corrected variation D_1 shall be calculated by the following formula:

$$D_1 = D_0 \cdot K_1 \cdot K_2$$

A front impact test against a barrier is not needed in the case of a vehicle which is identical to the prototype in such essential respects as structure, dimensions, shape and constituent materials of that part of the vehicle forward of the steering column but whose weight m_1 is greater than, m_0 , if m_1 is not more than $1.25m_0$ and if the corrected variation D_2 , obtained from the variation D_1 by the formula $D_2 = \frac{m_1}{m_0} \cdot D_1$ is such as to show that the new vehicle still meets the ADR requirements.