



CIRCULAR NO. 5B-3-1

INTERPRETATIONS

Attached are interpretations issued by the Board in respect of Australian Design Rule No. 5B - Seat Belt Anchorages (July 1985). They should be read in conjunction with Circular No. 0-11-1. This Circular supersedes pages 7 to 9 of Circular No.47 in the first series of Board Circulars. Interpretation 8 has been added.

Interpretation No.1 (Retractors as sash guides)

Question:

Does the webbing on the spindle of a retractor reel qualify as a sash guide? If so, how much webbing should be wound on the spindle when the angle of the webbing is measured?

Answer:

The webbing is a sash guide and as its distance to anchor point is variable and dependent on the amount of belt extended, the dimensional requirements for the 'sash location point' must be met for all conditions of belt extension in normal use. These may be either:

1. All conditions between zero extension and full extension, or
2. At the extensions necessary for the belt assembly to be 'correctly fitted' for the occupants specified in clause 4.3.1(ii) of ADR 4B.

Interpretation No.2 (Clauses 5B.7.2, 5B.7.3)

Question:

What form of evidence does the Board require to support a request for approval of a seat for a lesser number of seating positions due to obstructions or design peculiarities? (Other than as covered in Interpretation No.5).

Answer:

The effective cushion width (D) may be determined in the following manner:

- (1) Install the three dimensional manikin according to SAE J826 - Manikins for Use in Determining Vehicle Seating Accommodation, in a position as close as possible to a side panel. For this purpose, the leg and foot assemblies may be removed.
- (2) Measure the transverse distance (T) from the H point sight button to the panel (or the wheel arch, if in that line). Match the appropriate point on the panel or wheel arch.
- (3) Remove the manikin and measure the total transverse distance (W) through the H point from the point marked on the panel or wheel arch to the equivalent point on the other side of the vehicle.

(4) Calculate D by the following formula:

$$D = W - 2T + 13 \text{ (where D, W and T are expressed in mm).}$$

Note: Manufacturers must include details of these measurements in evidence of compliance if certification is requested for ADR 5B based on this interpretation.

Interpretation No.3 (Clauses 5B.3.7(ii), 5B.3.8(i))

Question:

Under what load condition is the original length of strap determined to establish compliance with clauses 5B.3.7(ii) and 5B.3.8(i)?

Answer:

The length may be determined by assuming the strap adopts a straight line between each sash guide in the system. Alternatively, a load of not more than 5N may be applied as specified in clause 5B.6.1.

Interpretation No.4 (Clauses 5B.3.2, - 5B.4.2, - 5B.6.1)

Question:

Clause 5B.3.2 specifies that a Sash Guide be provided for seating positions with a lap/sash seat belt, and Clause 5B.4.2 specifies the position of the Sash Location Point under test conditions specified in Clause 5B.6.1.

Is it acceptable to provide a seat belt system so designed that under the test conditions of Clause 5B.6.1 the torso strap passes from the Upper Torso Reference Point through area 'A' to a Sash Guide which is outside area 'A'?

Answer:

No. A Sash Guide is required which provides a Sash Location Point in area 'A'. The Board will require evidence that under the test conditions there is a device which causes a definite change in direction of the torso strap at a point in area 'A'.

Interpretation No.5 (Clause 5B.7.3)

Question:

In the case where Effective Cushion Width, as determined by clause 5B.7.3 is 1230 mm or more, and where the seat cushion and seat, back are designed and contoured to provide a clearly identifiable seating position which supports and locates the occupant in place, under what conditions will the Board approve less than 3 seating positions?

Answer:

Where the Board is satisfied that a seat with an effective cushion width, as determined by Clause 5B.7, of 1230 mm or more has its seat cushion and seat back so contoured as to provide one or two clearly identifiable seating positions, the seat will be approved as providing for two seating positions only if the following conditions are met:

- (1) The seat consists of two separate seats with an intervening gap, which may be filled with an insert.

- (2) Where there are two contoured seating positions the lateral distance between their centre lines is less than 820 mm.
- (3) Where there is one contoured seating position the lateral distance from its centre line to the far end of the adjacent seat cushion or to the sidewall if this is less than 100 mm from the end of the cushion, is less than 1025 mm.

Interpretation No.6 (Clause 5B.2.8)

Question:

Does Clause 5B.2.8 apply to the case where a load bearing sash guide is mounted on a pillar and a lap anchorage is situated below the junction of the pillar and the body side sill?

Answer:

No. Clause 5B.2.8 applies only where both anchorages are located on the pillar itself.

Interpretation No.7 (Clause 5B.3.8)

Question:

Clause 5B.3.8 specifies deflection requirements for load bearing sash guides which are not a component of a seat belt assembly. What deflection requirements apply to a load bearing sash guide which is part of a seat belt assembly?

Answer:

Where a load bearing sash guide is part of a seat belt assembly the requirements of ADR 4B (and ADR 4C) mean that deflection under load is measured as part of total deflection during the static strength test. In this regard the provisions of Australian Standard E35 Clause 11.2 and Appendix E, Clauses E3(ii) (a) and E3 (vi) are relevant.

Interpretation No.8 (Clause 5B.2.10)

Question:

Where a vehicle has an adjustable upper torso anchorage, in which position must the anchorage be adjusted when conducting tests to demonstrate compliance with the strength requirements of Clause 5B.2.10?

Answer:

Clause 5B.2.10 requires that where upper torso anchorages are adjustable, the anchorages shall be capable of meeting the relevant strength requirements in any position of adjustment.

It is the responsibility of the manufacturer to ensure that this requirement is met in all positions.

For the purpose of demonstrating compliance the Board will accept a single test conducted in the position which is the worst case for the strength of the anchorage concerned provided the manufacturer can demonstrate that the test position is the worst case position, or the manufacturer can demonstrate that the strength is the same for all positions.