

Australian/New Zealand Standard®

Restraint systems for motor vehicles— Performance tests

Method 5: Determination of locking angle of a tilt-lock adjustment device

METHOD

1 SCOPE This Standard sets out a method for determining the angle between an adjustment device base and the webbing connecting the anchorage device when the adjustment device is in a locked condition.

2 PRINCIPLE Tilt-lock adjustment devices operate by locking the webbing at certain relative angles to the webbing. A fully unlocked attitude is taken as a starting point, and the device is rotated until the clamping force is sufficient to prevent slippage of the webbing under an applied force. The tilt-lock actuating angle is then measured between the plane of the base of the adjustment device and the plane of the webbing connecting the anchorage device.

3 APPARATUS The following apparatus is required:

- (a) A clamp to hold the tilt-lock adjustment device, which permits the webbing to be drawn through the adjustment device with a progressively increasing force from zero to greater than 90 N, and which permits the tilt-lock adjustment device to be rotated from a 'webbing fully unlocked' condition through an angle sufficient to achieve the nominated locking condition. The axis of rotation is to lie in the plane of the webbing and be normal to the length of the webbing.
- (b) A machine capable of applying a progressively increasing force from zero to at least 90 N, to the webbing at a rate of withdrawal of 500 ± 50 mm/min.
The machine shall include a device to indicate when a force of at least 90 N is applied to the webbing.
- (c) A means of applying a reference line to the tilt-lock device in the line of pull on the webbing.
- (d) A device to measure the angle in degrees between the base of the adjustment device when a force of 90 N is indicated, and the line of the pull on the webbing.

4 TEST SPECIMENS Test specimens shall be dry, unused and not previously tested seat belt components.

5 PREPARATION OF TEST SPECIMENS With the tilt-lock adjustment device in a fully unlocked attitude, the webbing shall be drawn through the device to the limit of the webbing travel 10 times in both directions.

6 PROCEDURE The procedure shall be as follows:

- (a) Hold the tilt-lock adjustment device in the clamp and draw webbing through the device in a direction equivalent to that which makes the seat belt suit a smaller person, so that sufficient webbing is available to obtain a result.
- (b) Attach the webbing end to the machine and apply a small force sufficient to support the webbing.
- (c) Set the tilt-lock adjustment device to an attitude relative to the webbing in which the device is fully unlocked.
- (d) Draw the webbing through the tilt-lock adjustment device by means of the machine at a rate of 500 ± 50 mm/min.

At the same time gradually rotate the tilt-lock adjustment device until the tilt-lock adjustment device locks onto the webbing. Hold the angle of rotation at the locking angle, but allow the force in the webbing to increase to at least 90 N.

- (e) Stop the machine when a force of 90 N has been attained in the webbing.
- (f) Measure the dihedral angle between the plane of the base of the adjustment device and the plane of the line of pull on the webbing.

7 REPORT The report shall include the following:

- (a) Sufficient description to identify the tilt-lock adjustment device and webbing.
- (b) The angle measured in Clause 6, Step (f).
- (c) The number of this Australian/New Zealand Standard, i.e. AS/NZS 4475.5.