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Quasi-static Calibration Procedure of Seatbelt Loadcells

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1 Quasi-static Calibration Procedure of Seatbelt Loadcells

From 2015 onwards, Euro NCAP uses the measured diagonal seatbelt load for the dynamic assessments in the Offset Deformable Barrier test and the Full Width Rigid Barrier test. This procedure is recommended in order to calibrate the seatbelt loadcell used in these tests, as well as for all other tests where the diagonal seatbelt load is measured.

In order to more tightly control the variability of the seatbelt loadcell response within Euro NCAP testing, the Frontal Impact Working Group has agreed to use the procedure as described in the ISO standard ISO/TS 17242:2014 Quasi-static Calibration Procedure for Belt Force Transducers.

1.1 Seatbelt loadcell

In all of the Euro NCAP tests, seatbelt force transducers of the baffle type are used.

1.2 Calibration procedure

The calibration procedure used for all Euro NCAP tests will be performed with the standardised calibration belt strap as described in the ISO/TS 17242:2014.

In case the application of a seatbelt load modifier is disputed by the manufacturer, the manufacturer may ask the test laboratory to recalibrate the loadcell using the actual vehicle belt. This data may be brought forward during the 121 meeting between Euro NCAP and the vehicle manufacturer.

1.3 Data evaluation

For all calibrations performed on transducers used in official Euro NCAP tests, a polynomial regression is to be used.