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EUROPEAN NEW CAR  
ASSESSMENT PROGRAMME

# Technical Bulletin

## **Manufacturer Data for Testing and Assessment**

**Draft Version 1.1**

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TB 018**

|                   |                                              |
|-------------------|----------------------------------------------|
| Title             | Manufacturer data for testing and assessment |
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## **1 Introduction**

In order to expedite the vehicle assessment, certain information is required in order to correctly prepare and rate the vehicle. In addition to the passenger compartment adjustments specified in each of the full scale test protocols, the following information will be required from the manufacturer. A copy of vehicle handbook should be provided to the test laboratory prior to preparation.

Some of the questions are asked routinely during one-to-one meetings. It is hoped that, if satisfactory information can be provided before the inspection, a meeting may not be needed or may at least be shorter and more efficient than would otherwise be required. Some sections may not be applicable to a vehicle. In this case you should indicate the reasons why you have not completed that part (e.g. no dual stage airbag).

The information should be provided in electronic form, by e-mail, to the Programme Manager and test laboratory.

## **2 Application of Euro NCAP Star Rating**

### **2.1 Details of Model Range**

The vehicle manufacturer shall provide details of all variants in the model range being tested by Euro NCAP.

- Powertrain - E.g. 1.0l petrol, 1.4l petrol, V8 petrol, diesel, hybrid
- Transmission - E.g. Manual, automatic, 2WD, 4WD
- Body - 5 door, 3 door, convertible-cabriolet
- Trim levels
- Safety equipment on each variant/trim level

### **2.2 Other Variants**

The star rating of the tested variant can be considered to apply to other variants meeting certain criteria regarding mass, number of side doors etc. For other variants, additional evidence may be needed from the manufacturer to demonstrate that the rating applies. In some cases, additional official tests are needed (e.g. electric/hybrid variants where a conventionally-engined vehicle was assessed, two side doors where a vehicle with five side doors was assessed).

Full details of the additional evidence which must be provided is given in the ‘Application of Star Ratings’ protocol v1.5.

### **3 Adult Occupant Protection**

#### **3.1 Vehicle preparation**

- Fuel Tank Capacity
  - Unladen Kerb Weight
  - Tyre Pressures
  - Details of the vehicle's normal ride attitude, e.g. wheel arch height
  - Is it necessary for the engine to be running for test?
  - Driver airbag removal instructions
  - Pre-crash system disabling instructions (where applicable)
  - Electric vehicle, battery cut-off details
- 
- 5th percentile female seat track position
  - 50th percentile male seat track position
  - 50th percentile male seat back or torso angle
  - 95th percentile male seat track position
  - Are the rear seats adjustable?
  - 50th percentile male seat belt anchorage position
  - 5th percentile female seat belt anchorage position

#### **3.2 ODB Frontal impact**

##### *Front structure asymmetry*

Please supply data regarding Euro NCAP equivalent tests on the opposite hand of drive to the one tested. A comparison should be presented between the vehicle tested by Euro NCAP and an opposite hand of drive vehicle and should include:

- Comparison of post impact photos
- Dummy measurements
- B-pillar pulses
- Static deformation measurements

##### *Driver and Passenger Head Airbag – Dual Stage (if applicable)*

- Please explain the timing and charge used in the two stages, and also indicate at what time the second stage burn off occurs in lower severity impacts.

##### *Dual Seatbelt Pretensioners (if applicable)*

- Please indicate the firing order and times of dual pretensioners in all seating positions applicable.

##### *Knee modifiers (if applicable)*

- Kneemapping data.

#### **3.3 Full-Width Rigid Barrier Test**

- Predicted test results for the front seat passenger 5th female.

### 3.4 Side and pole tests

- R-point location
- Far-side test results

### 3.5 Whiplash

#### *Head restraint system (type)*

If the vehicle has an active head restraint system, details on how the system is to be triggered along with relevant deployment timings shall be provided. Convincing justification for the deployment times in the Euro NCAP pulses shall be provided, such as response times from similar tests such as the RCAR bumper test and AZT test.

#### *Passenger seat - Worst case geometry*

The passenger seat may have different positions to those of the driver seat, for example due to lack of height adjustment. Therefore, the HRMD measurements could differ between seats. In order for any credit to be given for the passenger seat, further information is required regarding the specification of the passenger seats.

Please provide three measurements from each of three separate passenger seats.

#### *Rear seat - Eligibility*

Confirmation that the vehicle is equipped with centre rear head restraints as standard is required and that they are in accordance with UN-ECE17-08.

#### *Test preparation - Front seats*

- Seat mounting point coordinates
- Seat rail angle
- Heel point Z-coordinate
- 2D / 3D drawing of seat rails + mounting points
- Type of headrest (passive, active, reactive)
- Time to fire for seatbelt / headrest (if applicable)
- Activation signal characteristic (active HR only)
- Seatbelt anchorage coordinates (if not generic)
- 2D / 3D drawings of seatbelt anchorages (if not generic)
- Electric seat connector pin layout (if applicable)

#### *Test preparation - Rear seats*

- Co-ordinates for Rear H-Point and information if outboard seating positions are symmetrical
- Design torso angle

#### *AEB City*

- Predicted results of the AEB city tests should be provided.

## **4 Child Occupant Protection**

### **4.1 Preconditions**

- Please provide the ECE Regulation 44 approval certificates for the child restraints.
- If the vehicle has universal ISOFIX approval, please provide the ECE Regulation 14 certificate (including the test report showing anchorage pull tests) and the ECE Regulation 16 certificate.
- If the CRS-Vehicle interface is semi-universal/vehicle specific, please provide certificates demonstrating appropriate approval and evidence that the vehicle is on the approved list of the CRS manufacturer.
- If the vehicle has i-Size approval, please provide the relevant ECE R129 approval certificates and test report.
- Manufacturer nominated CRS must either be evaluated by the ETC test programme or show similar performance in an alternative programme/tests.

### **4.2 Passenger airbag disabling**

- Please inform Euro NCAP if an airbag cut-off switch is NOT available on ANY model variants within the EU?

### **4.3 ISOFIX Size Assessment**

- Please supply information regarding the ability of the vehicle to accommodate the largest size of ISOFIX restraint. Photos of the R3 sized gabarit installed in the vehicle and details of the position of the front seat are required. The photos should show the space (if any exists) between the rear of the front seat back and the front of the R3 sized gabarit.

The requirements for the front seat position are as follows:

- Seat positioned midway between fully forwards and fully rearwards.
- Seat back angle may be adjusted to a max torso angle of 15°.

## **5 Pedestrian Protection**

### **5.1 Manufacturer grid data**

- Manufacturer grid marking coordinates relative to an identifiable location on the vehicle.
- Predicted colour or HIC data clearly identifying defaulted points and blue points.
- Justification for all blue points.
- In case there are two blue zones next to each other, details of which point(s) form a blue zone.
- Manufacturer grid marking coordinates relative to an identifiable location on the vehicle.
- Number of Manufacturer funded verification headform tests max (10).
- Number of Manufacturer funded blue point tests max (8).
- Details of asymmetrical legform and upper legform locations before testing begins.
- Manufacturer funded upper legform and legform tests.

### **5.2 Active pedestrian protection system data**

- General system description shall be provided which details the type of sensor system (pressure/acceleration etc) and give details of any airbags, actuators and hinge mechanisms.
- Active operating range for the system (km/h).
- Human body certification results according to TB024.
- Human body model simulations for head impact time (HIT) of relevant pedestrian statures (6YO, 5th female, 50th male, 95th male).
- System total response time (TRT) compared to HIT.
- Confirmation of hardest to detect impactor (HTD).
- Data from all necessary physical tests, the number of which will be dependent upon the sensing system. This shall also include details of the test to be witnessed by Euro NCAP.
- HIC data for an undeployed system at the lower operating limit.
- Bonnet deflection analysis.

### **5.3 AEB-VRU**

- Predicted results for AEB-VRU Pedestrian tests.



## 6 Safety Assist

### 6.1 Speed Assist Systems

- Information on the SLIF system shall be provided.

### 6.2 AEB Inter-Urban

- Predicted results of the AEB inter-urban tests should be provided.

### 6.3 LSS

- The ESC type approval certificate shall be provided.

### 6.4 SBR

- Details of the vehicle to be assessed:

|                |  |
|----------------|--|
| Make           |  |
| Model          |  |
| VIN (if known) |  |

- Which seats are protected by the SBR system? Tick as appropriate

|                 |  |
|-----------------|--|
| Driver          |  |
| Passenger       |  |
| 2nd row         |  |
| 3rd row or more |  |

- System description:

|                     | Driver |    | Passenger |    | 2nd row |    | 3 <sup>rd</sup> row / others |    |
|---------------------|--------|----|-----------|----|---------|----|------------------------------|----|
|                     | yes    | no | yes       | no | yes     | no | yes                          | no |
| Multiple stages?    |        |    |           |    |         |    |                              |    |
| Initial signal      |        |    |           |    |         |    |                              |    |
| Intermediate signal |        |    |           |    |         |    |                              |    |
| Final signal        |        |    |           |    |         |    |                              |    |

- Description of the system trigger for driver:

|                     | Applicable | Ignition ON | Speed (km/h) | Distance (m) | Time (s) |
|---------------------|------------|-------------|--------------|--------------|----------|
| Initial signal      |            |             |              |              |          |
| Intermediate signal |            |             |              |              |          |
| Final signal        |            |             |              |              |          |

- Description of the system trigger for passenger (if different)

|                     | Applicable | Ignition ON | Speed (km/h) | Distance (m) | Time (s) |
|---------------------|------------|-------------|--------------|--------------|----------|
| Initial signal      |            |             |              |              |          |
| Intermediate signal |            |             |              |              |          |
| Final signal        |            |             |              |              |          |

- Description of the system trigger for 2ns row (if different):

|                     | Applicable | Ignition ON | Speed (km/h) | Distance (m) | Time (s) |
|---------------------|------------|-------------|--------------|--------------|----------|
| Initial signal      |            |             |              |              |          |
| Intermediate signal |            |             |              |              |          |
| Final signal        |            |             |              |              |          |

- Description of the signal(s) for driver:

| Audible:            | Applicable | Frequency | Total duration (s) | Gap(s) in signal? |
|---------------------|------------|-----------|--------------------|-------------------|
| Initial signal      |            |           |                    |                   |
| Intermediate signal |            |           |                    |                   |
| Final signal        |            |           |                    |                   |

| Visual:             | Applicable | Frequency | Total duration (s) | Gap(s) in signal? |
|---------------------|------------|-----------|--------------------|-------------------|
| Initial signal      |            |           |                    |                   |
| Intermediate signal |            |           |                    |                   |
| Final signal        |            |           |                    |                   |

- Does the system have a progressive audible signal? For example, a change in volume/frequency:

If yes, give details of the various amplitude/frequencies.

- Does the system time out?

  


Yes, times out after: (seconds)

- Description of the signal(s) for passenger, if different

| Audible:            | Applicable | Frequency | Total duration (s) | Gap(s) in signal? |
|---------------------|------------|-----------|--------------------|-------------------|
| Initial signal      |            |           |                    |                   |
| Intermediate signal |            |           |                    |                   |
| Final signal        |            |           |                    |                   |

| Visual:             | Applicable | Frequency | Total duration (s) | Gap(s) in signal? |
|---------------------|------------|-----------|--------------------|-------------------|
| Initial signal      |            |           |                    |                   |
| Intermediate signal |            |           |                    |                   |
| Final signal        |            |           |                    |                   |

- Does the system have a progressive audible signal? For example, a change in volume/frequency.

If yes give details of the various amplitude/frequencies

- Does the system time out? 

|  |
|--|
|  |
|  |

 (seconds)  
Yes, times out after:
- Can the system be deactivated? If so how, short/long term.  
No, the system cannot be deactivated 

|  |
|--|
|  |
|  |

  
Yes, the system can be deactivated
- How is the system deactivated?  
Short term:  
Long term:
- How is the passenger seat(s) occupancy detection triggered?  
Provide details:
- How is the rear seat reminder triggered?  
Provide details: