# Belt Path Assessment

This assessment is only applicable for non-integral child restraints.

Each child restraint should be assessed using all Q-series dummies appropriate for the designated stature range of the child restraint

The position of the seat belt should be measured relative to Q-series grid suit. The Q‑series hip liner should be used.

Prior to taking the measurements ensure the dummy suit sits appropriately over the dummy. The IR-TRACC bolt should be aligned with the hole in the front of the grid suit. Creases in the suit should be removed.

Install the dummy and child restraint on the test bench using the method described in 7.1.3.5.2.2.

## Torso Belt Path Assessment

The distance between the reference point and the nearest edge of the diagonal section of the seat belt should be measured.

The reference points for each dummy are shown in Figure 1. This is based on a right-hand side B-pillar, reference points should be mirrored for set-ups with left-hand side B‑pillars.

The belt path should be measured in two places, at the upper point closest to the shoulder and the lowest point close to the waist.

|  |  |  |
| --- | --- | --- |
| A  B  C  D  E  F | A  B  C  D  E  F | A  B  C  D  E  F |
| Q3 | Q6 | Q10 |

Figure : Grid suit torso reference points

## Lap Belt Path Assessment

The distance between the reference point and the top edge of the lap section of the seat belt should be measured.

The reference points for each dummy are shown in Figure 1. The distance to the lap belt should be measured in three places, in the centre and the specified distance left and right of the centre.

|  |  |  |
| --- | --- | --- |
| 110mm  A  B  C  D  E  F | 120mm  A  B  C  D  E  F | 180mm  A  B  C  D  E  F |
| Q3 | Q6 | Q10 |

Figure 2: Grid suit lap reference points

# Belt Path Criteria

## Torso Belt Path

The measurements taken using the method described in 1.1 must be within the ranges shown in Table 1.

Table : Torso seat belt position criteria

|  |  |  |  |
| --- | --- | --- | --- |
| **Dummy** | **Grid**  **A** | **Grid**  **E** | **Grid**  **F** |
| **Q10** | 110< x <145 | N/A | x <190 |
| **Q6** | 105< x <130 | x <140 | N/A |
| **Q3** | To be defined when suit is available | | |

## Lap Belt Path

The measurements taken using the method described in 1.2 must be within the ranges shown in Table 2.

Table 2: Lap belt position criteria

|  |  |  |  |
| --- | --- | --- | --- |
| **Dummy** | **Buckle Side** | **Centre** | **Outboard** |
| **Q10** | 70< x <100 | 60< x <85 | 70< x <100 |
| **Q6** | 50< x <70 | 50< x <70 | 50< x <70 |
| **Q3** | To be defined when suit is available | | |