



Lower Anchors and Tethers for Children (LATCH) Evaluation

1 Introduction

Note: Nothing in this standard supercedes applicable laws and regulations.

Note: In the event of conflict between the English and domestic language, the English language shall take precedence.

1.1 Purpose. Measure the ease of installation of the child restraint seat to the Lower Anchors and Tethers for Children (LATCH) in accordance with the assessment made by the Insurance Institute for Highway Safety (IIHS).

1.2 Applicability. All vehicles equipped with LATCH, and each seating position with designated lower anchors or top tether anchors. Each designated seating position equipped with LATCH and each top tether anchor shall be assessed. If a lower anchor shares with another adjacent designated seating position, measure only the lower anchor once.

2 References

Note: Only the latest approved standards are applicable unless otherwise specified.

2.1 External Standards/Specifications.

None

2.2 GM Standards/Specifications.

None

2.3 Additional References.

- IIHS Vehicle LATCH Hardware Evaluation Protocol Version III (June 2016)
- IIHS Vehicle LATCH Hardware Evaluation Rating Guidelines Version III (June 2016)

3 Resources

3.1 Facilities.

3.1.1 Calibration. The test facilities and equipment shall be in good working order and shall have a valid calibration label.

3.1.2 Alternatives. Alternative test facilities and equipment may also be used. However, all measuring variables as specified in this standard shall be determined correctly with respect to their physical definition.

3.2 Equipment.

3.2.1 Attachment Force Tool.

3.2.1.1 Guide Rod. The guide rod shall have square cross section of 6.35 mm, length 600 mm, and colors indicated at the dimensions shown in Figure 1.

3.2.1.2 Force Tool Slider. Force tool slider shall be able to slide over the guide rod and have dimensions as shown in Figure 2.

Note: A bit adapter quick connect male end is recommended to attach to the force tool slider to ease the attachment and application of the force gauge.

3.2.1.3 Force Gauge. Force gauge shall be capable of 200 N.

Note: A bit adapter quick connect female end is recommended to attach to the force gauge for ease in attaching and applying force to the force tool slider.

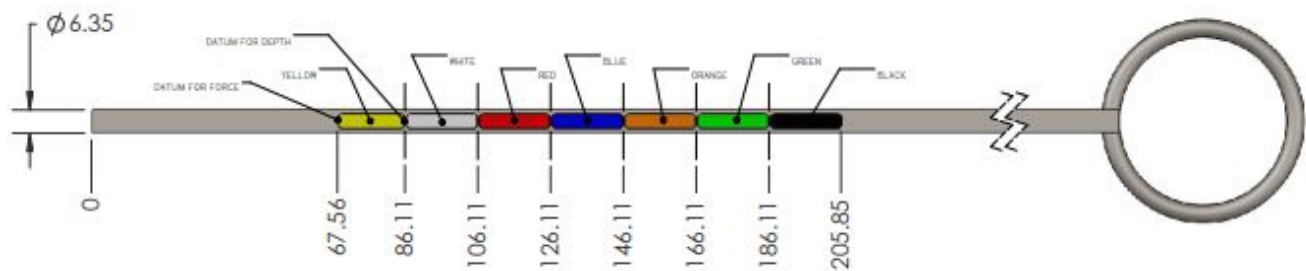
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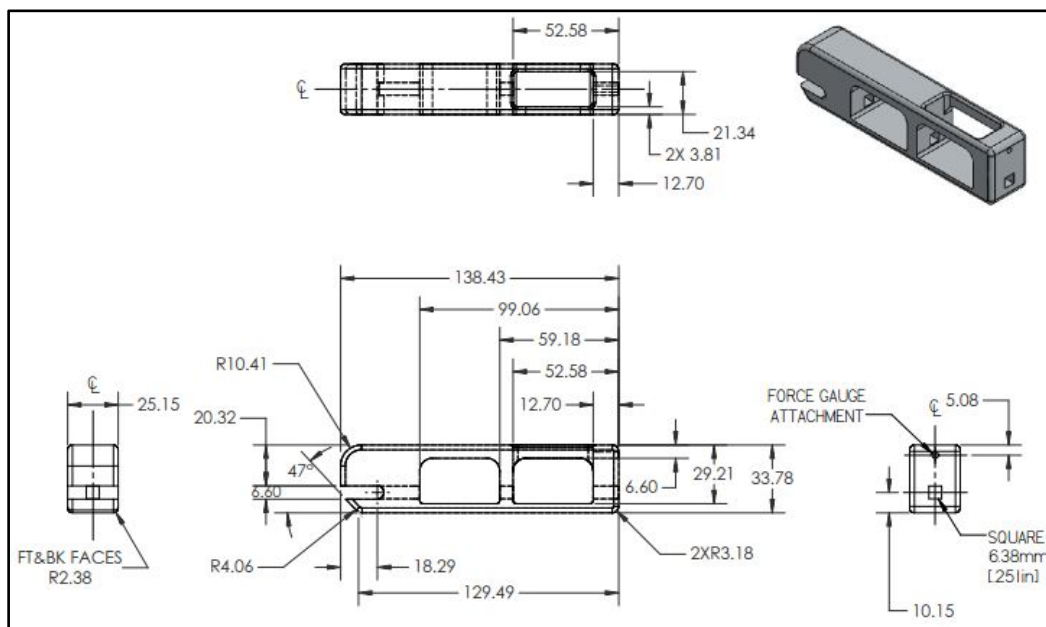
3.2.1.4 Angle Gauge. Angle gauge shall be capable of fixing to the guide rod, by magnet or otherwise near the end furthest from the latch attachment.



Note: Dimensions are in mm.

0 - 67.5	Start of yellow zone
0 - 86.11	Start of white zone
0 - 106.11	Start of red zone
0 - 126.11	Start of blue zone
0 - 146.11	Start of orange zone
0 - 166.11	Start of green zone
0 - 186.11	Start of black zone
0 - 205.85	End of zones

Figure 1: Guide Rod with Color and Dimensions for Anchor Depth



Note: Dimensions are in mm.

2x	2 times
BK	Back
CL	Centerline
FT	Front
R	Radius

Figure 2: Force Tool Slider Dimensions

3.2.2 Clearance Angle Tool.

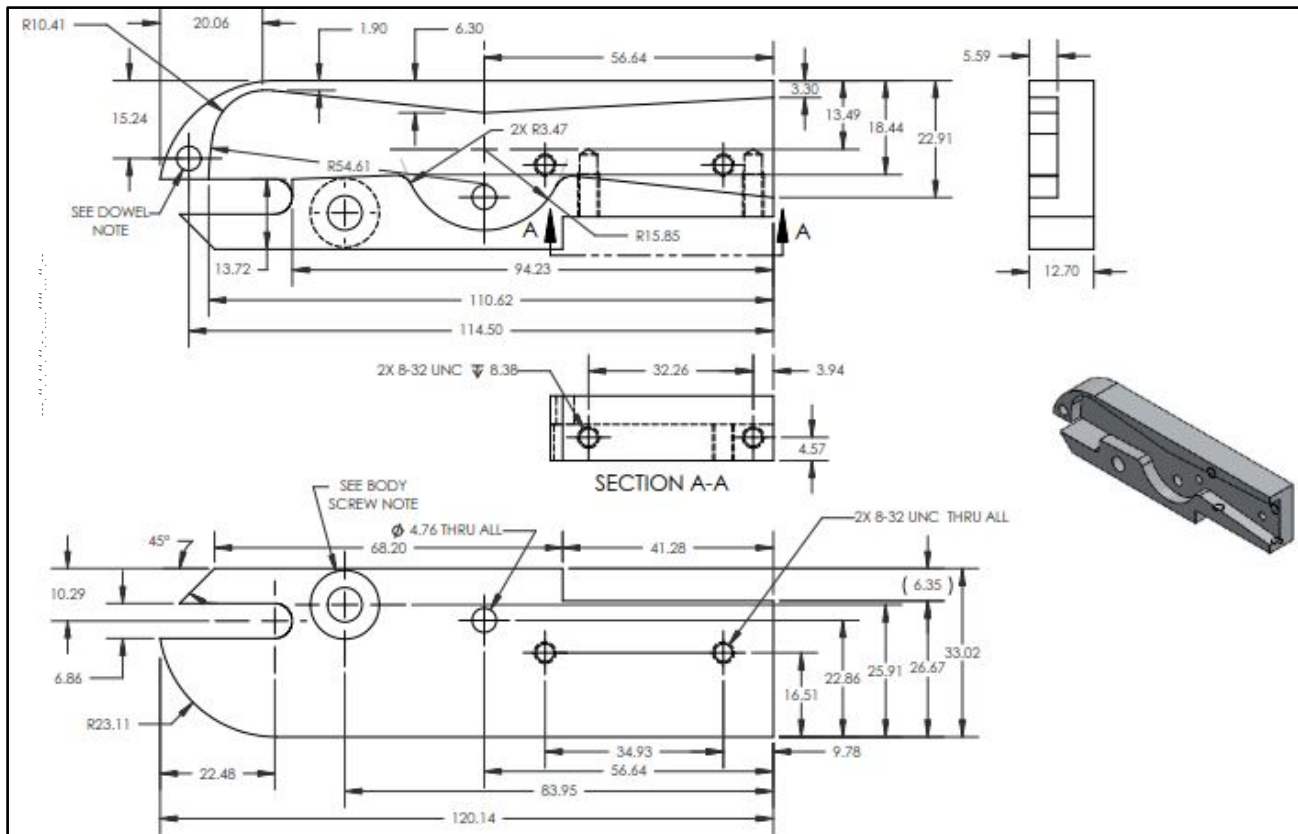
3.2.2.1 Clearance Gauge. Left and right side with dimensions as shown in Figure 3.

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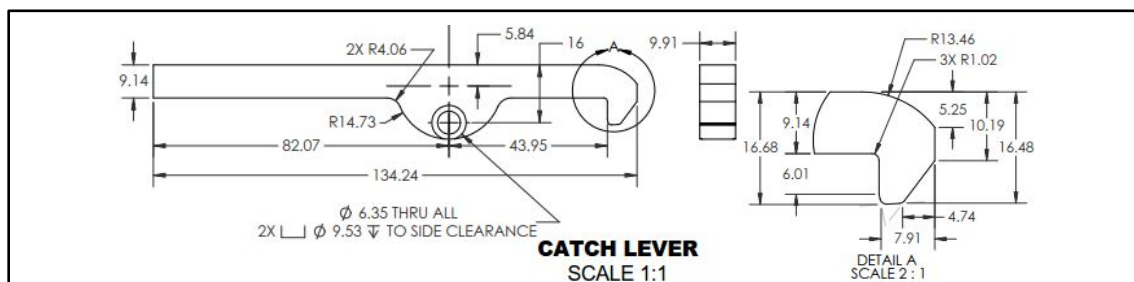
3.2.2.2 Catch Lever. The catch lever is installed between the left and right side clearance gauge. Dimensions are as shown in Figure 4.

3.2.2.3 Arm. The clearance gauge subassembly shall be attached to the arm as shown in Figure 5.



Note: Dimensions are in mm.

Figure 3: Clearance Gauge Dimensions



Note: Dimensions are in mm.

Figure 4: Catch Lever Dimensions

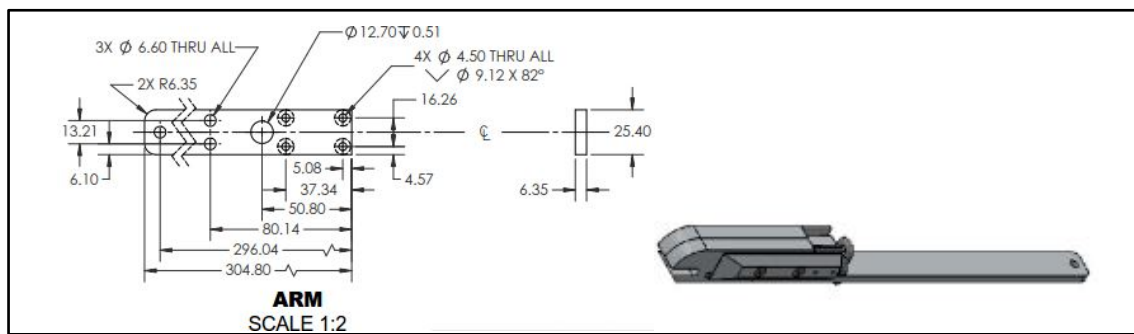
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Note: Dimensions are in mm.

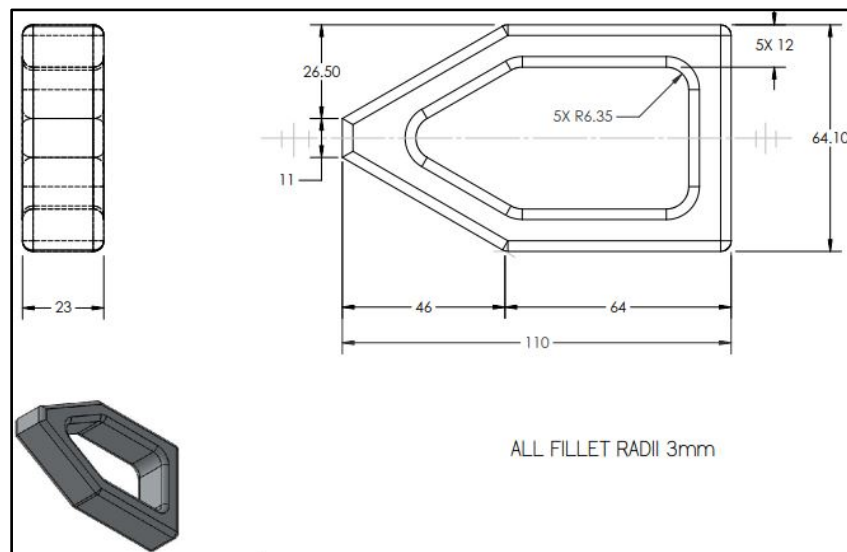
Figure 5: Arm Dimensions and Assembly

3.2.3 LATCH clearance angle gauge.

3.2.4 Tether routing tool (Figure 6).

3.2.5 Probe thermometer.

3.2.6 Measuring tape.



Note: Dimensions are in mm.

Figure 6: Tether Routing Tool and Dimensions

3.3 Test Vehicle/Test Piece. Each trim type and seat variant shall be assessed. If the LATCH or top tether anchor is attached to the vehicle, the assessment shall be done in the vehicle.

3.4 Test Time.

Calendar time: 0.5 days

Test time: 1 h

Coordination time: 4 h

3.5 Test Required Information.

The head part number of the seat and its level shall be provided with the seat. Obtain the seating arrangement drawing or from the DRE, the design position of the seat (seat back angle, cushion frame angle, H-point location, track position, and height adjust position).

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