

**REPORT NUMBER: 213-CAL-18-043**

**SAFETY COMPLIANCE TESTING FOR FMVSS 213  
CHILD RESTRAINT SYSTEMS**

**Graco  
Extend2Fit 3in1, Model 1965350-JJ**

**PREPARED BY:  
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**Report Date: June 2018**

**FINAL REPORT**

**PREPARED FOR:  
U. S. DEPARTMENT OF TRANSPORTATION  
National Highway Traffic Safety Administration  
Enforcement  
Office of Vehicle Safety Compliance  
Mail Code: NVS-220, W43-481  
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Prepared by:  Date: **June 20, 2018**  
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Approved by:  Date: **June 20, 2018**  
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FINAL REPORT ACCEPTANCE BY OVSC:

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Acceptance Date: \_\_\_\_\_

213-CAL-18-043

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**SECTION 1**  
**PURPOSE AND TEST PROCEDURE**

**PURPOSE**

The tests performed are part of the safety compliance program for the National Highway Traffic Safety Administration (NHTSA) by Calspan Corporation under Contract No. DTNH22-17-R-0037. The purpose of the testing is to determine whether production child restraint systems meet the minimum inspection and dynamic test requirements of TP-213-10, "Child Restraint Systems".

**TEST PROCEDURE**

The Calspan Corporation Test Procedure for FMVSS 213, submitted and approved by the Office of Vehicle Safety Compliance, National Highway Traffic Safety Administration contains the specific procedures used to conduct this test. This procedure shall not be interpreted to be in conflict with any portion of FMVSS 213 and amendments in effect as noted in the applicable contract.

## SECTION 2 INTRODUCTION AND SUMMARY

This report presents all of the FMVSS 213 compliance inspection and test data obtained on the Graco, Extend2Fit 3in1, Model 1965350-JJ child restraint system. The restraint was dynamically tested in the following configurations:

- H3 6YO, Forward Facing, other configuration, Lap belt, top tether, Upright 6
- 12 month old CRABI, Rearward Facing, other configuration, Lap belt, tether free, Recline 2
- 12 month old CRABI, Forward Facing, other configuration, Lap belt, top tether, Upright 5
- H3 10YO, Forward Facing, other configuration, Lap/Shoulder belt, tether free, Booster, Upright 6
- 12 month old CRABI, Forward Facing, other configuration, lower anchor, top tether, Upright 5
- H3 3YO, Forward Facing, other configuration, lower anchor, top tether, upright 5

Inversion testing was performed in both the forward Y-axis rotation and in the lateral X-axis rotation for the following configurations:

- 12 month old, CRABI, Rearward facing, other configuration, lap belt, tether free and Recline
- 3 year old H3, forward facing, other configuration, lap belt, tether free and Upright

The inspection and testing of the Graco, Extend2Fit 3in1, Model 1965350-JJ child restraint met the requirement(s) of FMVSS No. 213 when tested in accordance with TP-213-10 in the configurations and conditions documented in this report.

No test failures were identified

Restraint system inspection, dynamic sled testing and inversion testing were performed by Calspan Corporation, Buffalo NY. Compliance test data sheets for all tests are found in the Data Sheets and Test Data Sections of this report.

**SECTION 3  
DATA SHEET 1  
CHILD RESTRAINT SYSTEM IDENTIFICATION**

Report No. 213-CAL-18-043

Manufacturer:	Graco
Place of Manufacture per S5.5.2(d):	China
Model No.	Extend2Fit 3in1, Model 1965350JJ
Group No.	043

1	Item Code	043-1965350-01-6H3FN2TU
	Date of Manufacture	11/27/2017
	Sled Test No.	FM06-18-120B
2	Item Code	043-1965350-02-12CRN2FR
	Date of Manufacture	11/27/2017
	Sled Test No.	FM06-18-121B
3	Item Code	043-1965350-03-12CFN2TU
	Date of Manufacture	11/27/2017
	Sled Test No.	FM06-18-122B
4	Item Code	043-1965350-04-10H3FN3FB
	Date of Manufacture	11/27/2017
	Sled Test No.	FM06-18-123A
5	Item Code	043-1965350-05-12CFNLTU
	Date of Manufacture	11/27/2017
	Sled Test No.	FM06-18-123B
6	Item Code	043-1965350-06-3H3FNLTU
	Date of Manufacture	11/27/2017
	Sled Test No.	FM06-18-124B

**SECTION 4**  
**DYNAMIC TEST RESULTS DATA SUMMARY**

<b>Child Restraint System – Graco / Extend2Fit 3in1 / 1965350JJ</b>										
<b>Item Code</b>	<b>Sled Test No.</b>	<b>Dummy Selection and Test Mode (see legend below)</b>	<b>Lower Anchors Used Y/N</b>	<b>Tether Used Y/N</b>	<b>HIC (1000 max)</b>	<b>Chest g clip (60 g max)</b>	<b>Head Excursion (720 mm max, 813 mm max w/o tether)</b>	<b>Knee Excursion (915 mm max)</b>	<b>Seat Back Angle (70 deg max)</b>	<b>Pass/Fail</b>
043-1965350-01-6H3FN2TU	06-18-120B	6H3 FFN	N	Y	351	38	582	738	N/A	Pass
043-1965350-02-12CRN2FR	06-18-121B	12C RFR	N	N	467	44	N/A	N/A	54	Pass
043-1965350-03-12CFN2TU	06-18-122B	12C FFU	N	Y	213	42	485	527	N/A	Pass
043-1965350-04-10H3FN3FB	06-18-123A	10H3 FFU	N	N	N/A	40	467	742	N/A	Pass
043-1965350-05-12CFNLTU	06-18-123B	12C FFN	Y	Y	219	44	492	528	N/A	Pass
043-1965350-06-3H3FNLTU	06-18-124B	3H3 FFU	Y	Y	222	40	524	648	N/A	Pass

**Test Mode:**

RF - Rear Facing  
 FF - Forward Facing  
 U - Upright mode  
 R - Reclined mode  
 B – Booster  
 N – No Back Booster

**ATD:**

NIN – Newborn Infant  
 12C -12 MO, CRABI  
 3H3 – 3 YO, Hybrid III  
 6H2 – 6YO Hybrid 2  
 6H3 – 6YO Hybrid III  
 6W3 – 6 YO, Weighted Hybrid III  
 10H3 – 10YO Hybrid III



**SECTION 5  
DATA SHEET 2  
LABELING  
(FMVSS 213, S5.3, S5.5)**

Report No.:	213-CAL-18-043	Model No.:	Extend2Fit 3in1, 1965350
Test Date:	18 June 2018		

Requirement	Pass / Fail
The labels on the subject child restraint system were inspected and compared to the requirements of FMVSS No. 213 S5.3.1(b) and S5.5, as applicable	Pass

The following failures were identified:  
No failures

Remarks:  
Some labels are on fabric  
Photographs of the labels are included in section 9.

Recorded by:   
Adam Hardbattle, SLED Engineer

Date: June 18, 2018

**DATA SHEET 3**  
**PRINTED INSTRUCTIONS FOR PROPER USE**  
**(FMVSS 213, S5.6)**

Report No.:	213-CAL-18-043	Model No:	Extend2Fit 3in1, 1965350
Test Date:	18 June 2018		

Requirement	Pass / Fail
The printed instructions accompanying the subject child restraint system were inspected and compared to the requirements of FMVSS No. 213 S5.6, as applicable	Pass

The following failures were identified:  
 No failures

Remarks:

Recorded by: \_\_\_\_\_



Adam Hardbattle, SLED  
 Engineer

Date: June 18, 2018

**DATA SHEET 4  
REGISTRATION FORM  
(FMVSS 213, S5.8)**

Report No.:	213-CAL-18-043	Model No.:	Extend2Fit 3in1, 1965350
Test Date:	18 June 2018		

Requirement	Pass / Fail
The printed registration form accompanying the subject child restraint system and the electronic registration form were inspected and compared to the requirements of FMVSS No. 213 S5.6, as applicable	Pass

The following failures were identified:  
No failures

Remarks:  
Photographs of the registration are included in section 9.

Recorded by:  Date: June 18, 2018  
Adam Hardbattle, SLED  
Engineer

**DATA SHEET 5  
MAXIMUM CHILD WEIGHT FOR LOWER ANCHOR USE  
(FMVSS 213, S5.5.2(I)(3))**

Report No.:	213-CAL-18-043	Model No:	Extend2Fit 3in1, 1965350
Test Date:	18 June 2018		

For child restraints manufactured on or after February 27, 2015:


Installation Mode	A Max Child weight is Required for this installation mode (Y or N)	Installation Diagram Shown (Y or N)	Max Child Weight Indicated on Installation Diagram (lb)
Rear Facing	Y	Y	45
Forward Facing	Y	Y	45

CRS Weight (lb)	Child Weight (CW) Calculation (lb)	Rounded CW Limit permitted under S5.5.2(I)(3)(A)	Rounded CW	
			Calculated CW	Rounded CW
19.5 lbs.	Rear Facing 60-CRS Weight = 40.5 lbs.	45 lbs.	15 < CW ≤ 20	20
	Forward Facing 65-CRS Weight = 45.5 lbs.	50 lbs.	20 < CW ≤ 25	25
			25 < CW ≤ 30	30
			30 < CW ≤ 35	35
			35 < CW ≤ 40	40
			40 < CW ≤ 45	45
			45 < CW ≤ 50	50
			50 < CW ≤ 55	55
			55 < CW ≤ 60	60

Section	Requirement	Pass / Fail
S5.5.2(I)(3)(A)	A maximum child weight is required on an installation diagram when the CRS+child weight is greater than 65 lb for CRS that are used with the internal harness and installed with lower anchors. The maximum weight on the label conforms to the limits established in S5.5.2(I)(3)(A)	N/A
S5.5.2(I)(3)(B)	For CRS that can be used both forward and rear-facing either: (1) separate diagrams are provided and labeled; or (2) only one diagram is applicable, provided, and labeled; or (3) two diagrams are applicable and the diagram shown contains the lesser of the permitted weights	Pass

The following failures were identified:  
No failures

Remarks:  
None

Recorded by:   
\_\_\_\_\_  
Adam Hardbatt, SLED  
Engineer

Date: June 18, 2018

**DATA SHEET 6**  
**ATTACHMENT TO ANCHORAGE SYSTEM**  
**(FMVSS 213, S5.9)**

Report No.:	213-CAL-18-043	Model No:	Extend2Fit 3in1, 1965350
Test Date:	18 June 2018		

Section	Requirement	Pass / Fail
S5.9(a)	This add-on child restraint system (excluding car beds, harnesses and belt-positioning seats) has a permanently attached anchorage system having components that enable the restraint to be securely fastened to the lower anchorages.	Pass
	The anchorage system has components which can only be removed with a tool, such as a screwdriver.	Pass
	Note: If this is a rear facing child restraint system with a detachable base, then only the base is required to have the components.	N/A
S5.9(b)	This child restraint system has components for attaching the system to a tether anchorage, and those components include a tether hook that conforms to the configuration and geometry specified in Figure 22 of TP-213-10.	Pass
S5.9(c)	This child restraint system has adjustable components for attaching the system to a tether anchorage or to lower anchors to allow the restraint to be tightened to the vehicle.	Pass
S5.9(d)	If the anchorage system on this child restraint has components other than hooks, that enables the restraint to be securely fastened to the lower anchors, it provides either an indication when each attachment to the lower anchorage becomes fully latched or attached, or provides a visual indication that all attachments to the lower anchorages are fully latched or attached.	Pass
	Visual indications are visible under normal daylight lighting conditions.	N/A

The following failures were identified:  
No failures

Remarks:  
None

Recorded by:   
\_\_\_\_\_  
Adam Hardbatt, SLED  
Engineer

Date: June 18, 2018

**DATA SHEET 7  
INSTALLATION  
(FMVSS 213, S5.3)**

Report No.:	213-CAL-18-043	Model No:	Extend2Fit 3in1, 1965350
Test Date:	18 June 2018		

Section	Requirement	Pass / Fail					
S5.3.1	Add-on child restraints meet either (a) or (b) as appropriate	Pass					
S5.3.1(a)	Except for components designed to attach a child restraint anchorage system, this add-on child restraint does not have any means designed for attaching the system to a vehicle seat cushion or vehicle seta back and any component (except belts) that is designed to be inserted between the vehicle seat cushion and vehicle seat back	Pass					
S5.3.1(b)	Harness manufactured for use on school bus seats must meet S5.3.1(a) unless labeled appropriately. Refer to the labeling data sheet for the specific requirements.	N/A					
S5.3.2	The child restraint system is capable of being installed as required by Table S5.3.2 of FMVSS No. 213. Shaded section indicate installation means required by standard.	Pass					
		<i>Lap Belt</i>	<i>Lap belt &amp; Tether (if needed)</i>	<i>Lower Anchors</i>	<i>Lap &amp; Shoulder belt</i>	<i>Seat back Mount</i>	
	<i>Harnesses per S5.3.1(b)(1)-(3) &amp; Figure 12</i>						N/A
	<i>Other Harnesses</i>						N/A
	<i>Car Beds</i>						N/A
	<i>Rear-Facing Restraints</i>	X		X			Pass
	<i>Belt-Positioning Seats</i>				X		Pass
	<i>All other child restraints</i>	X	X	X	X		Pass
S5.3.3	If a car bed, this child restraint system is designed to be installed laterally.	N/A					



The following failures were identified:  
No failures

Remarks:  
None

Recorded by:   
\_\_\_\_\_  
Adam Hardbattle, SLED  
Engineer

Date: June 18, 2018

**DATA SHEET 8**  
**MINIMUM HEAD SUPPORT SURFACE**  
**(FMVSS 213, S5.2.1)**

Report No.:	213-CAL-18-043	Model No:	Extend2Fit 3in1, 1965350
Test Date:	18 June 2018		

Section	Requirement	
S5.2.1.2	The child restraint system is exempt from S5.2.1.1 if it is a forward facing restraint and the target points on either side of the dummy's head (using the largest test dummy specified in S7, excluding the 6-year old) is below the top of the test seat	
S5.2.1.1(a)	<b>Maximum Recommended Child Weight</b>	<b>Minimum Seat Back Height Required</b>
	≤ 18 kg (39.7 lb)	50 cm (19.7 in.)
	> 18 kg (39,7 lb)	56 cm (22 in.)
S5.2.1.1(b)	<b>Side Wing Depth</b>	<b>Minimum Back Support Width</b>
	< 102 mm (4.0 in)	<b>203 mm (8 in.)</b>
	≥ 102 mm (4.0 in)	<b>156 mm (6 in.)</b>

The child restraint system is exempt from S5.2.1.1 **NO**

### Back Support Height

Manufacturers Recommended Maximum Child Weight kg (lb)	Measured Height mm (in)	Pass / Fail
45kg (100lb)	700mm (27.4in)	Pass

### Back Support Width

Measured Side Wing Depth mm (in)	Measured Width mm (in)	Pass / Fail
64mm (2.5in)	228mm (9in)	Pass

The following failures were identified:  
No failures

Remarks:  
Height measured with head rest fully up

Recorded by:   
\_\_\_\_\_  
Adam Hardbattle, SLED  
Engineer

Date: June 18, 2018

**DATA SHEET 9  
TORSO IMPACT PROTECTION  
(FMVSS 213, S5.2.2)**

Report No.:	213-CAL-18-043	Model No:	Extend2Fit 3in1, 1965350
Test Date:	18 June 2018		

Section	Surface Requirement	Contour Requirement	Other Requirement
S5.2.2.1(a)	Back Support Surface	Flat or concave	Continuous surface area of $\geq 85$ in <sup>2</sup>
S5.2.2.1(b)	Side Support Surface	Flat or concave	Continuous surface area of $\geq 24$ in <sup>2</sup> for restraints having a recommended child weight of $\geq 20$ lb
		Flat or concave	Continuous surface area of $\geq 48$ in <sup>2</sup> for restraints having a recommended child weight of $< 20$ lb
S5.2.2.1(c)	Horizontal Cross Sections of Surfaces Restraining Torso Forward Movement	Flat or concave	
	Vertical Longitudinal Cross Sections of Surfaces Restraining Torso Forward Movement	Flat or concave	Radius of Curvature $\geq 2$ in
S5.2.2.2	Fixed or Moveable Surface Forward of Dummy		Must be used to restrain dummy and allow compliance with injury & excursion data

**Support Surface Results**

Surface	Contour	Measured Area	Pass / Fail
Back Support	Flat	$\geq 85$ in <sup>2</sup>	Pass
Side Support	Flat	$\geq 24$ in <sup>2</sup>	Pass

**Surfaces Restraining Torso Forward Movement Results**

	Contour	Measured Area	Pass / Fail
Horizontal Cross Section	N/A	N/A	N/A
Vertical Cross Section	N/A	N/A	N/A

**Fixed or Movable Surfaces Forward of Dummy Results**

Yes/No	Pass / Fail
No	Pass

The following failures were identified:  
No failures

Remarks:  
None

Recorded by: \_\_\_\_\_



Adam Hardbatt, SLED  
Engineer

Date: \_\_\_\_\_

June 18, 2018

**DATA SHEET 10  
PROTRUSION LIMITATION  
(FMVSS 213, S5.2.4)**


Report No.:	213-CAL-18-043	Model No:	Extend2Fit 3in1, 1965350
Test Date:	18 June 2018		

S5.2.4 Any portion of a rigid structural component within or underlying a contactable surface is subject to the protrusion limitations described below.

Test	Compliance Requirement	Test Result	Pass/Fail
Height	$\leq 9.53$ mm (3/8 in.)	$\leq 9.53$ mm ( $\leq 3/8$ in)	Pass
Edge Radius	$\geq 6.35$ mm (1/4 in.)	$\geq 6.35$ mm ( $\geq 1/4$ in)	Pass

The following failures were identified:  
No failures

Remarks:  
None

Recorded by:   
Adam Hardbattle, SLED  
Engineer

Date: June 18, 2018

**DATA SHEET 11**  
**DYNAMIC IMPACT TEST CONDITIONS – TEST 1**  
**(FMVSS 213, S6.1)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-120B
Test Date:	18 June 2018	Item Code	043-1965350-01-6H3FN2TU

**Laboratory Ambient Conditions During Testing:**

Temperature Degrees C (F)	21.9C (71.4F)
Relative Humidity %	61.1%

**Pulse:**

Test Configuration (I or II):	I
Velocity (km/h (mph)):	47.0 km/h (29.2 mph)

**Dummy:**

Dummy Description:	H3 6 Year Old (Part 572R)
Dummy Serial Number:	158

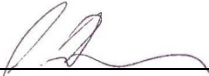
**Restraint Installation:**

Installed Direction:	Forward Facing
Base Usage:	Other Configuration
Attachment Method:	Lap belt
Tether Usage:	Top Tether
Seat Back Position:	Upright 6
Internal Shoulder Harness Position:	10
Buckle Position:	Front

**Remarks:**

Pre and Post Test Photos are presented in Section 9.

Recorded by: \_\_\_\_\_

  
Adam Hardbattle, SLED  
Engineer

Date: \_\_\_\_\_ June 18, 2018 \_\_\_\_\_

**DYNAMIC IMPACT SLED PULSE – TEST 1  
(FMVSS 213, S6.1)**

Report No.:	213-CAL-18-043
Test Date:	18 June 2018

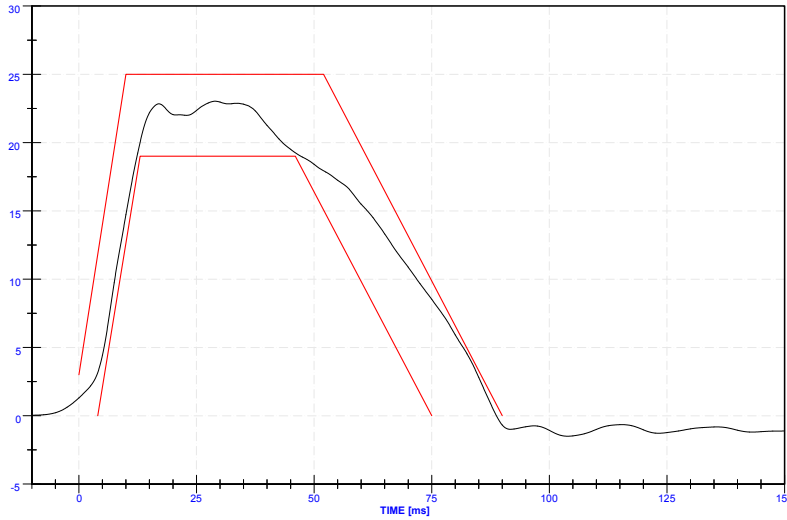
Sled Test No.	FM06-18-120B
Item Code	043-1965350-01-6H3FN2TU



NHTSA FM06-18-120

Test Date: June 18, 2018

SLED Pulse Corridor



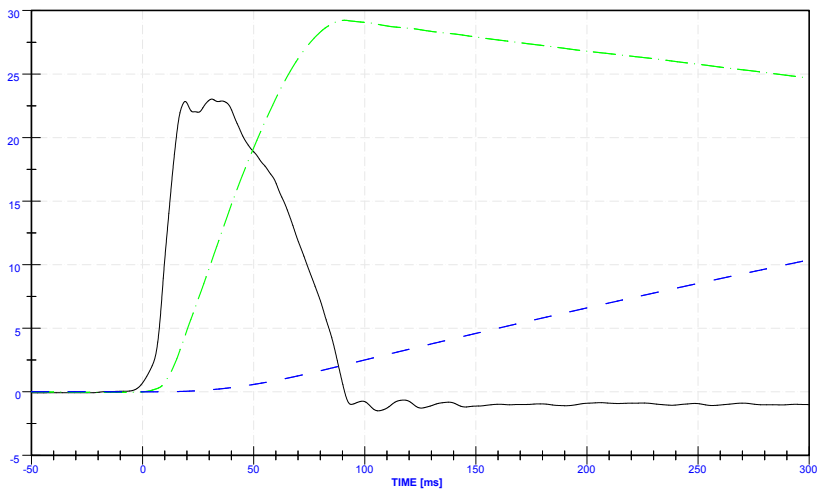
	Maximum	Time (ms)	Filter Class	Legend
SLED Acceleration (G's)	23.03	31.2	CFC 60	S0SLED0000R00ACXD



NHTSA FM06-18-120

Test Date: June 18, 2018

SLED Pulse



	Maximum	Time (ms)	Filter Class	Legend
SLED Acceleration (G's)	23.03	106.1	CFC 60	S0SLED000000ACXD
SLED Velocity (mph)	29.22	-18.8	CFC 180	S0SLED000000VAXC
SLED Displacement (ft)	10.37	0.6	CFC 180	S0SLED000000DVXC



**DATA SHEET 12**  
**BELT RESTRAINT – TEST 1**  
**(FMVSS 213, S5.4.3)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-120B
Test Date:	18 June 2018	Item Code	043-1965350-01-6H3FN2TU

Section	Requirement	Pass / Fail
S5.4.3.1	<b>Snug Fit of Belts.</b> Belts that are part of the restraint and designed to restrain the child are adjustable to snugly fit any child of height and weight identified by the manufacturer in accordance with the manufacturers installation instructions.	Pass

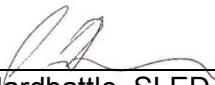
Section	Requirement	Yes / No	Pass / Fail
S5.4.3.2	<b>Direct Restraint.</b> Belts impose no loads on the child resulting from mass of the system or the test seat		Pass
	The restraint has one or more belts that contact the dummy for restraint	Yes	If all are "Yes" Restraint fails S5.4.3.2
	The restraint has a rigid structure behind the dummy	Yes	
	The restraint could move relative to the belt	No	

Section	Requirement	Pass / Fail
S5.4.3.3	<b>Seating Systems.</b> Except for harness and infant restraints for children up to 10kg (22lb), each restraint designed for a child in a seated position and having belts shall provide.	Yes
S5.4.3.3(a)	Upper torso restraint (either belts or a shield)	Yes
S5.4.3.3(b)	Lower torso restraint (either belts or a shield)	Yes
S5.4.3.3(c)	Crotch restraint (either a belt attached to the lap belt or a shield)	Yes

Section	Requirement	Pass / Fail
S5.4.3.4	<b>Harnesses.</b> Each harness shall:	N/A
S5.4.3.3(a)	Provide upper torso restraint)	N/A
S5.4.3.3(b)	Provide lower torso restraint (lap & crotch)	N/A
S5.4.3.3(c)	Prevent Standing	N/A

**Remarks**

Recorded by:

  
 Adam Hardbattle, SLED Engineer

Date:

June 18, 2018

**DATA SHEET 13**  
**BUCKLE RELEASE – TEST 1**  
**(FMVSS 213, S5.4.3.5, S6.2)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-120B
Test Date:	18 June 2018	Item Code	043-1965350-01-6H3FN2TU

Section	Requirement	Measurement	Pass / Fail
S5.4.3.5(a)	<b>Pre-Impact Release Force</b> Releases under 40-60 N	49 N	Pass
S5.4.3.5(a)	<b>Post-Impact Release Force*</b> Releases $\leq$ 71 N	54 N	Pass
S5.4.3.5(a)	<b>Minimum Surface Area of Buckle</b> $\geq$ 3.9 cm <sup>2</sup> (0.6 in <sup>2</sup> )	4 cm <sup>2</sup>	Pass
S5.4.3.5(a)	<b>Buckle Integrity</b> Shall not release during testing	No Release	Pass

\*Not applicable unless determined using the largest test dummy specified in S7 for use in testing the seat.

**Remarks**

Recorded by:  Date: June 18, 2018  
Adam Hardbattle, SLED  
Engineer

**DATA SHEET 14**  
**SYSTEM INTEGRITY – TEST 1**  
**(FMVSS 213, S5.1.1)**


Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-120B
Test Date:	18 June 2018	Item Code	043-1965350-01-6H3FN2TU

S5.1.1 When dynamically tested, the child restraint shall:

Section	Requirement	Pass / Fail
S5.1.1(a)	<b>Structural Integrity</b> – Exhibit no complete separation of any load bearing structural element	Pass
	Exhibit no partial separation with exposing surfaces with a radius of less than 9.53 mm (3/8 in.)	Pass
	Exhibit no partial separation with exposing surfaces with protrusions greater than 6.35 mm (1/4 in.)	Pass
S5.1.1(b)(1)	<b>Adjustment Position</b> – Remain in the same adjustment position during the test that it was immediately before the test	Pass
S5.1.1(b)(2)(ii)	<b>Exposed Openings</b> – Have no exposed opening larger than 6.35 mm (1/4 in.) before the test becomes smaller during the testing as a result of the movement of the seating service relative to the restraint system as a whole.	Pass
S5.1.1(c)	<b>Seating Surface Angle</b> – Forward facing restraints do not allow the angle between the system's back support surface and seating surface to be less than 45 degrees at the completion of the test	Pass

**Remarks**

Recorded by: \_\_\_\_\_

  
 Adam Hardbattle, SLED  
 Engineer

Date: \_\_\_\_\_

June 18, 2018

**DATA SHEET 15  
INJURY CRITERIA – TEST 1  
(FMVSS 213, S5.1.2)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-120B
Test Date:	18 June 2018	Item Code	043-1965350-01-6H3FN2TU

Section	Requirement
S5.1.2.1(a)	<b>Head Injury Criterion</b> The maximum calculated head injury criterion for a 36 millisecond time interval (HIC36) shall not exceed 1,000. HIC is not calculated when using the 6-year-old weighted and 10-year-old test dummies.
S5.1.2.1(b)	<b>Chest Injury Criterion</b> The chest acceleration shall not exceed 60g for intervals whose cumulative duration is more than 3 milliseconds

**Head Injury Criterion Results**

Calculated HIC36	Pass / Fail
351	Pass

**Chest Injury Criterion Results**

Max Acceleration lasting 3ms (g)	Pass / Fail
38	Pass

**Remarks**

Recorded by:   
 Adam Hardbattle, SLED  
 Engineer

Date: June 18, 2018

**INJURY CRITERIA – HEAD ACCELERATION PLOTS – TEST 1  
(FMVSS 213, S5.1.2)**

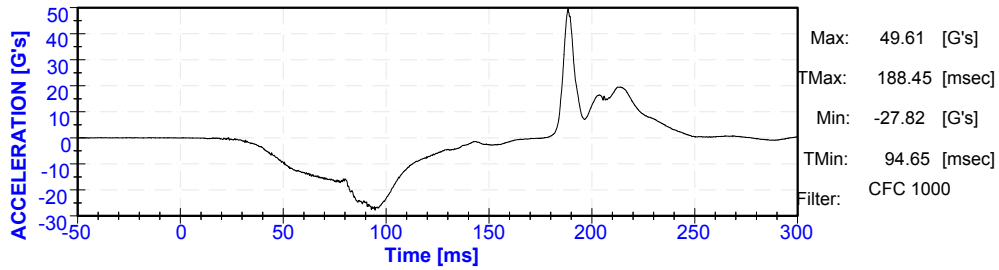
Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-120B
Test Date:	18 June 2018	Item Code	043-1965350-01-6H3FN2TU
HIC 36ms	351	Resultant	52 g's



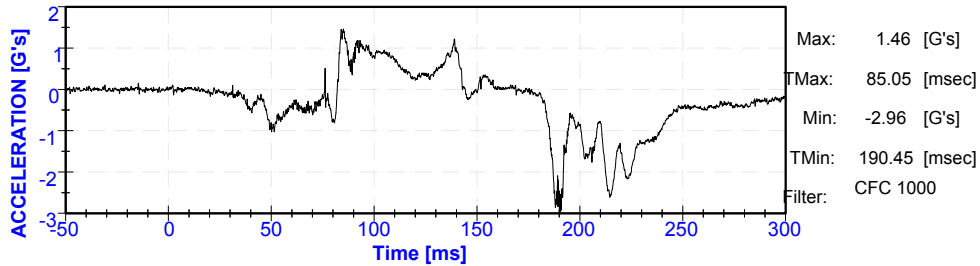
NHTSA FM06-18-120

Test Date: June 18,

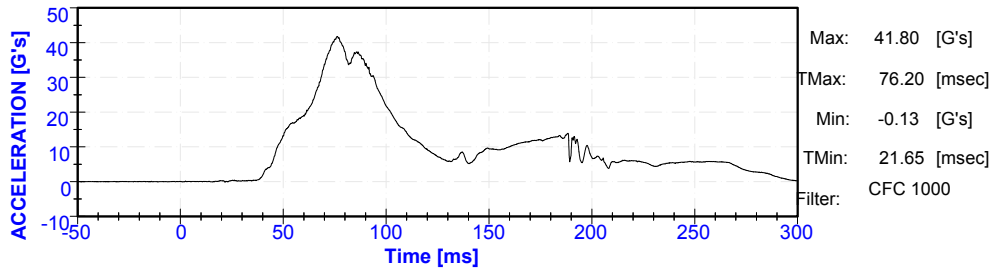
**B Bench ATD Head X Acceleration**



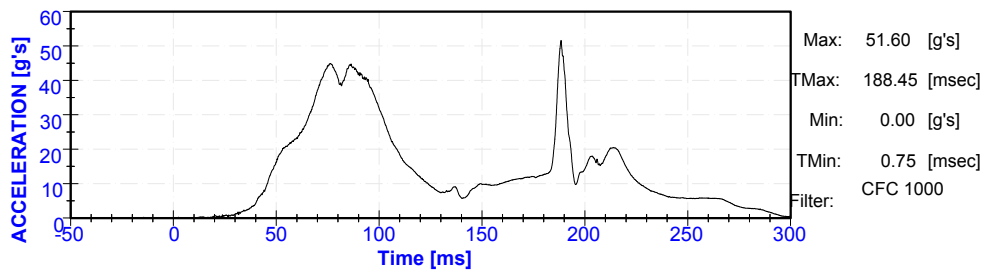
**B Bench ATD Head Y Acceleration**



**B Bench ATD Head Z Acceleration**



**B Bench ATD Head Resultant Acceleration**



**INJURY CRITERIA – CHEST ACCELERATION PLOTS – TEST 1  
(FMVSS 213, S5.1.2)**

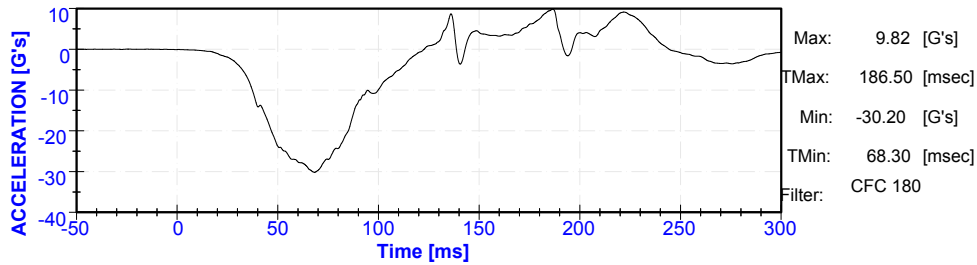
Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-120B
Test Date:	18 June 2018	Item Code	043-1965350-01-6H3FN2TU
3ms Clip	38 g's	Resultant	38 g's



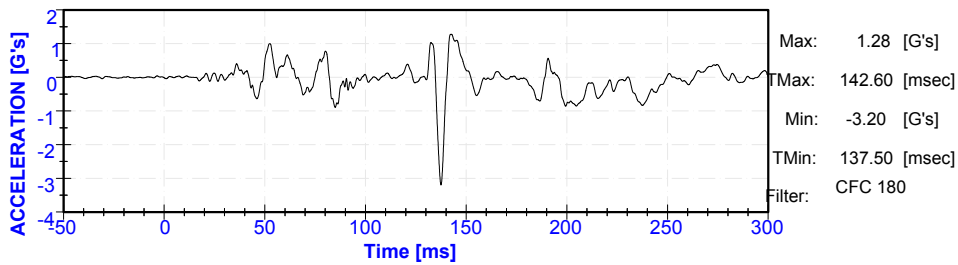
NHTSA FM06-18-120

Test Date: June 18,

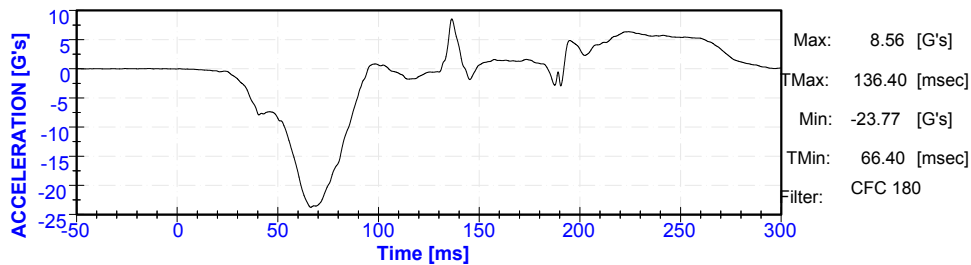
**B Bench ATD Chest X Acceleration**



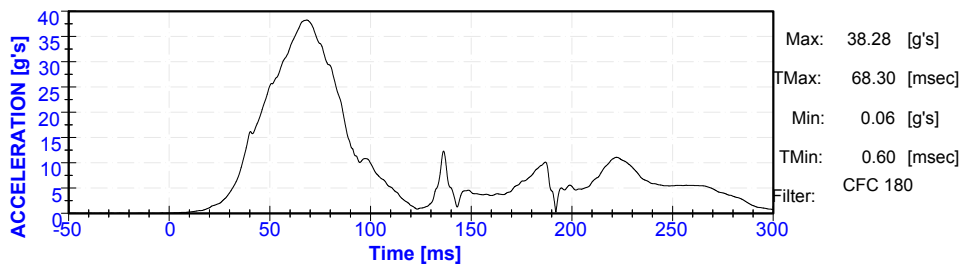
**B Bench ATD Chest Y Acceleration**



**B Bench ATD Chest Z Acceleration**



**B Bench ATD Chest Resultant Acceleration**



**DATA SHEET 16**  
**OCCUPANT EXCURSION – TEST 1**  
**(FMVSS 213, S5.1.3, S5.1.4, S5.2.1.1(c))**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-120B
Test Date:	18 June 2018	Item Code	043-1965350-01-6H3FN2TU

**FORWARD-FACING RESTRAINTS**

Section	Requirement	Measurement	Pass / Fail
S5.1.3.1	<b>Torso Retention</b> – CRS shall retain the torso within system		Pass
S5.1.3.1(a)(1)	<b>Head Excursion</b> - ≤ 720 mm (28.4 in.) with tether ≤ 813 mm (32 in.) No tether	582	Pass
S5.1.3.1(a)(2)	<b>Knee Excursion</b> - ≤ 91.5 cm (36 in.)	738	Pass
S5.2.1.1(c)	<b>Head-Torso Angle</b> - Rearward change ≤ 45 degrees	<45	Pass


**REAR-FACING RESTRAINTS**

Section	Requirement	Measurement	Pass / Fail
S5.1.3.2	<b>Torso Retention</b> – CRS shall retain the torso within system		N/A
S5.1.3.2	<b>Head Target Excursion</b> – Not beyond restraint's top and forward edge		N/A
S5.1.4	<b>Back Support Angle</b> - Angle between the back support surface and vertical ≤ 70 degrees	N/A	N/A
S5.2.1.1(c)	<b>Head-Torso Angle</b> - Rearward change ≤ 45 degrees	N/A	N/A

**Remarks**

Excursion camera locations (forward of Z point) are 32", Camera speed = 2000fps and focal length of lenses = 12.5mm

Recorded by: \_\_\_\_\_

  
 Adam Hardbatt, SLED  
 Engineer

Date: \_\_\_\_\_ June 18, 2018

**DATA SHEET 17**  
**OCCUPANT EXCURSION – TEST 1**  
**(FMVSS 213, S5.1.3.3)**

CAR BED RESTRAINTS

Section	Requirement	Measurement	Pass / Fail
Head – Torso Retention (FMVSS 213, S5.1.3.3)	Retain within confines of system	N/A	N/A

**Remarks**

Recorded by: \_\_\_\_\_



Adam Hardbattle, SLED  
Engineer

Date: \_\_\_\_\_

June 18, 2018



**DATA SHEET 18**  
**DYNAMIC IMPACT TEST CONDITIONS – TEST 2**  
**(FMVSS 213, S6.1)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-121B
Test Date:	18 June 2018	Item Code	043-1965350-02-12CRN2FR

**Laboratory Ambient Conditions During Testing:**

Temperature Degrees C (F)	21.6C (70.9F)
Relative Humidity %	58.0%

**Pulse:**

Test Configuration (I or II):	I
Velocity (km/h (mph)):	47.4 km/h (29.5 mph)

**Dummy:**

Dummy Description:	CRABI 12 Month Old (Part 572R)
Dummy Serial Number:	085

**Restraint Installation:**

Installed Direction:	Rearward Facing
Base Usage:	Other Configuration
Attachment Method:	Lap Belt
Tether Usage:	No, Tether Free
Seat Back Position:	Recline 2
Internal Shoulder Harness Position:	5, Counted up from bottom
Buckle Position:	Rear

**Remarks:**

Pre and Post Test Photos are presented in Section 9.

Recorded by:   
 Adam Hardbatt, SLED  
 Engineer

Date: June 18, 2018

**DYNAMIC IMPACT SLED PULSE – TEST 2  
(FMVSS 213, S6.1)**

Report No.:	213-CAL-18-043
Test Date:	18 June 2018

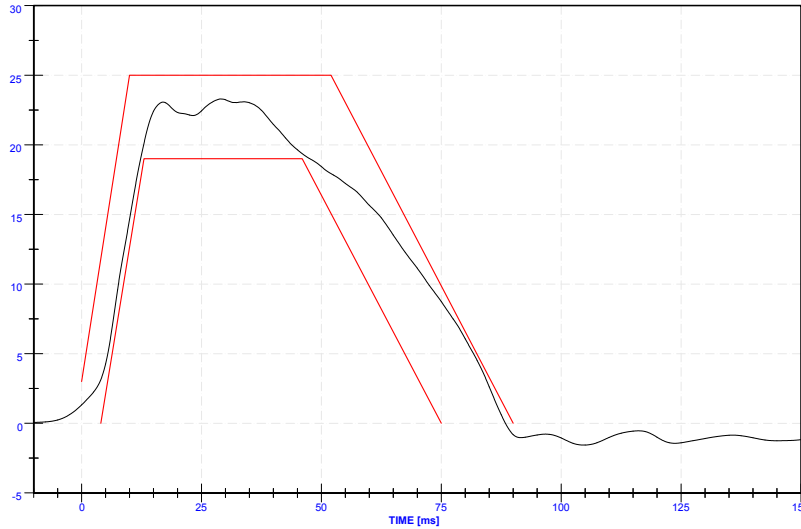
Sled Test No.	FM06-18-121B
Item Code	043-1965350-02-12CRN2FR



NHTSA FM06-18-121

Test Date: June 18, 2018

SLED Pulse Corridor



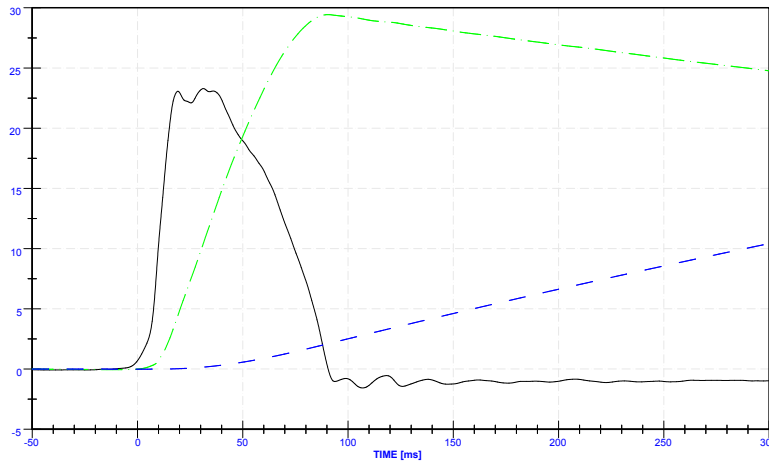
	Maximum	Time (ms)	Filter Class	Legend
SLED Acceleration (G's)	23.29	31.2	CFC 60	S0SLED0000R00ACXD



NHTSA FM06-18-121

Test Date: June 18, 2018

SLED Pulse



	Maximum	Time (ms)	Filter Class	Legend
SLED Acceleration (G's)	23.29	106.9	CFC 60	S0SLED000000ACXD
SLED Velocity (mph)	29.43	-11.6	CFC 180	S0SLED000000VAXC
SLED Displacement (ft)	10.42	0.4	CFC 180	S0SLED000000DVXC

**DATA SHEET 19**  
**BELT RESTRAINT – TEST 2**  
**(FMVSS 213, S5.4.3)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-121B
Test Date:	18 June 2018	Item Code	043-1965350-02-12CRN2FR

Section	Requirement	Pass / Fail
S5.4.3.1	<b>Snug Fit of Belts.</b> Belts that are part of the restraint and designed to restrain the child are adjustable to snugly fit any child of height and weight identified by the manufacturer in accordance with the manufacturers installation instructions.	Pass

Section	Requirement	Yes / No	Pass / Fail
S5.4.3.2	<b>Direct Restraint.</b> Belts impose no loads on the child resulting from mass of the system or the test seat		Pass
	The restraint has one or more belts that contact the dummy for restraint	Yes	If all are "Yes" Restraint fails S5.4.3.2
	The restraint has a rigid structure behind the dummy	Yes	
	The restraint could move relative to the belt	No	

Section	Requirement	Pass / Fail
S5.4.3.3	<b>Seating Systems.</b> Except for harness and infant restraints for children up to 10kg (22lb), each restraint designed for a child in a seated position and having belts shall provide.	Pass
S5.4.3.3(a)	Upper torso restraint (either belts or a shield)	Pass
S5.4.3.3(b)	Lower torso restraint (either belts or a shield)	Pass
S5.4.3.3(c)	Crotch restraint (either a belt attached to the lap belt or a shield)	Pass

Section	Requirement	Pass / Fail
S5.4.3.4	<b>Harnesses.</b> Each harness shall:	N/A
S5.4.3.3(a)	Provide upper torso restraint)	N/A
S5.4.3.3(b)	Provide lower torso restraint (lap & crotch)	N/A
S5.4.3.3(c)	Prevent Standing	N/A

**Remarks**

Recorded by:   
Adam Hardbattle, SLED Engineer

Date: June 18, 2018

**DATA SHEET 20**  
**BUCKLE RELEASE – TEST 2**  
**(FMVSS 213, S5.4.3.5, S6.2)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-121B
Test Date:	18 June 2018	Item Code	043-1965350-02-12CRN2FR


Section	Requirement	Measurement	Pass / Fail
S5.4.3.5(a)	<b>Pre-Impact Release Force</b> Releases under 40-60 N	47 N	Pass
S5.4.3.5(a)	<b>Post-Impact Release Force*</b> Releases $\leq$ 71 N	56 N	Pass
S5.4.3.5(a)	<b>Minimum Surface Area of Buckle</b> $\geq$ 3.9 cm <sup>2</sup> (0.6 in <sup>2</sup> )	4 cm <sup>2</sup>	Pass
S5.4.3.5(a)	<b>Buckle Integrity</b> Shall not release during testing	No Release	Pass

\*Not applicable unless determined using the largest test dummy specified in S7 for use in testing the seat.

**Remarks**

None

Recorded by:

  
 Adam Hardbattle, SLED  
 Engineer

Date:

June 18, 2018

**DATA SHEET 21**  
**SYSTEM INTEGRITY – TEST 2**  
**(FMVSS 213, S5.1.1)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-121B
Test Date:	18 June 2018	Item Code	043-1965350-02-12CRN2FR

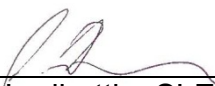
S5.1.1 When dynamically tested, the child restraint shall:

Section	Requirement	Pass / Fail
S5.1.1(a)	<b>Structural Integrity</b> – Exhibit no complete separation of any load bearing structural element	Pass
	Exhibit no partial separation with exposing surfaces with a radius of less than 9.53 mm (3/8 in.)	Pass
	Exhibit no partial separation with exposing surfaces with protrusions greater than 6.35 mm (1/4 in.)	Pass
S5.1.1(b)(1)	<b>Adjustment Position</b> – Remain in the same adjustment position during the test that it was immediately before the test	Pass
S5.1.1(b)(2)(ii)	<b>Exposed Openings</b> – Have no exposed opening larger than 6.35 mm (1/4 in.) before the test becomes smaller during the testing as a result of the movement of the seating service relative to the restraint system as a whole.	Pass
S5.1.1(c)	<b>Seating Surface Angle</b> – Forward facing restraints do not allow the angle between the system's back support surface and seating surface and seating surface to be less than 45 degrees at the completion of the test	N/A

**Remarks**

None

Recorded by: \_\_\_\_\_

  
Adam Hardbatt, SLED  
Engineer

Date: June 18, 2018

**DATA SHEET 22**  
**INJURY CRITERIA – TEST 2**  
**(FMVSS 213, S5.1.2)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-121B
Test Date:	18 June 2018	Item Code	043-1965350-02-12CRN2FR

Section	Requirement
S5.1.2.1(a)	<b>Head Injury Criterion</b> The maximum calculated head injury criterion for a 36 millisecond time interval (HIC36) shall not exceed 1,000. HIC is not calculated when using the 6-year-old weighted and 10-year-old test dummies.
S5.1.2.1(b)	<b>Chest Injury Criterion</b> The chest acceleration shall not exceed 60g for intervals whose cumulative duration is more than 3 milliseconds

**Head Injury Criterion Results**

Calculated HIC36	Pass / Fail
467	Pass


**Chest Injury Criterion Results**

Max Acceleration lasting 3ms (g)	Pass / Fail
44	Pass

**Remarks**

None

Recorded by: \_\_\_\_\_

  
 Adam Hardbattle, SLED  
 Engineer

Date: June 18, 2018

**INJURY CRITERIA – HEAD ACCELERATION PLOTS – TEST 2  
(FMVSS 213, S5.1.2)**

Report No.:	213-CAL-18-043
Test Date:	18 June 2018
HIC 36ms	467

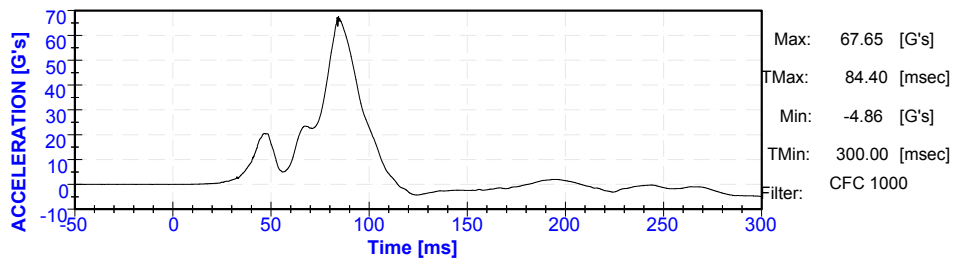
Sled Test No.	FM06-18-121B
Item Code	043-1965350-02-12CRN2FR
Resultant	70 g's



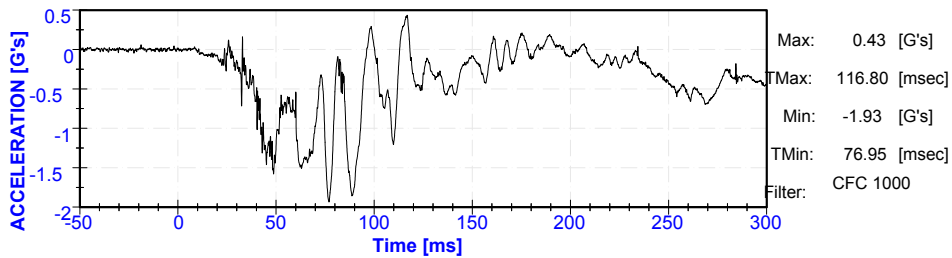
NHTSA FM06-18-121

Test Date: June 18,

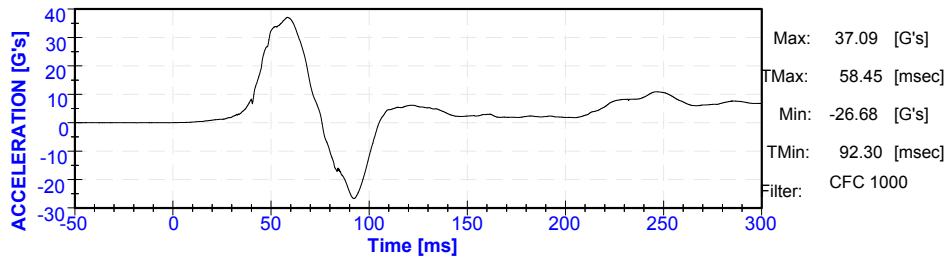
**B Bench ATD Head X Acceleration**



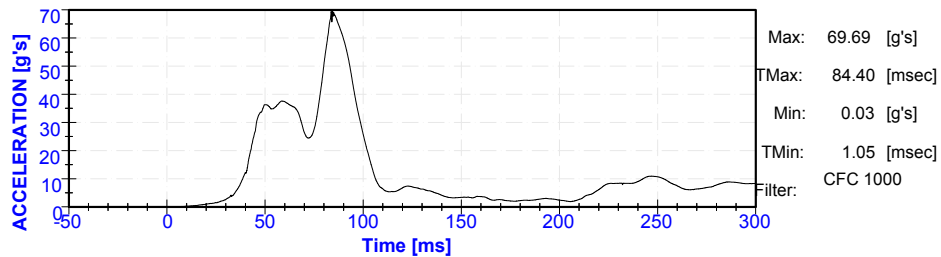
**B Bench ATD Head Y Acceleration**



**B Bench ATD Head Z Acceleration**



**B Bench ATD Head Resultant Acceleration**



INJURY CRITERIA – CHEST ACCELERATION PLOTS – TEST 2  
(FMVSS 213, S5.1.2)

Report No.:	213-CAL-18-043
Test Date:	18 June 2018
3ms Clip	44 g's

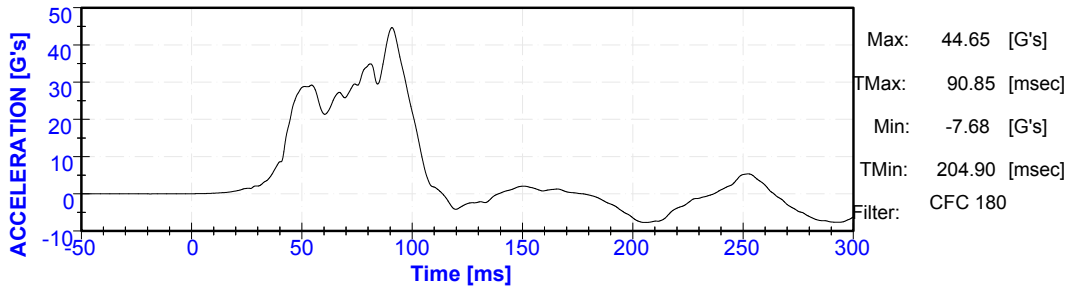
Sled Test No.	FM06-18-121B
Item Code	043-1965350-02-12CRN2FR
Resultant	46 g's



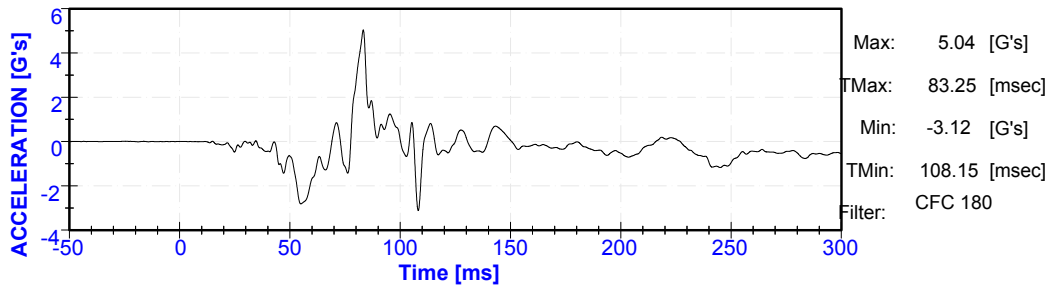
NHTSA FM06-18-121

Test Date: June 18,

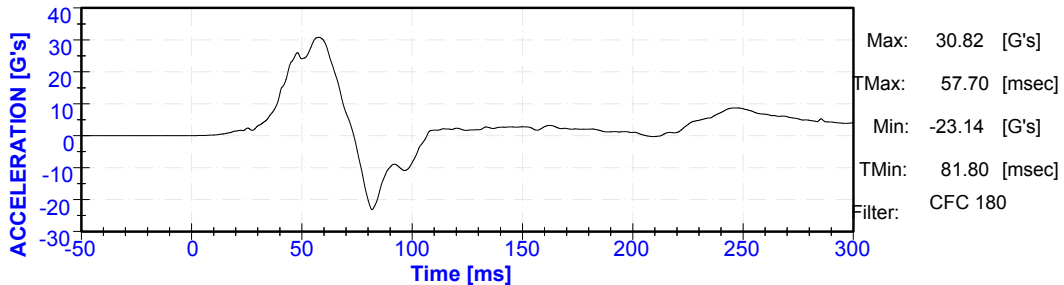
B Bench ATD Chest X Acceleration



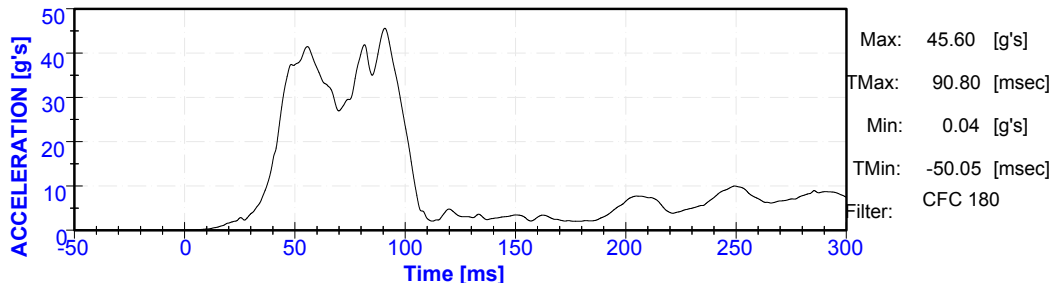
B Bench ATD Chest Y Acceleration



B Bench ATD Chest Z Acceleration



B Bench ATD Chest Resultant Acceleration





**DATA SHEET 23**  
**OCCUPANT EXCURSION – TEST 2**  
**(FMVSS 213, S5.1.3, S5.1.4, S5.2.1.1(c))**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-121B
Test Date:	18 June 2018	Item Code	043-1965350-02-12CRN2FR

**FORWARD-FACING RESTRAINTS**

Section	Requirement	Measurement	Pass / Fail
S5.1.3.1	<b>Torso Retention</b> – CRS shall retain the torso within system		N/A
S5.1.3.1(a)(1)	<b>Head Excursion</b> - ≤ 720 mm (28.4 in.) with tether ≤ 813 mm (32 in.) No tether	N/A	N/A
S5.1.3.1(a)(2)	<b>Knee Excursion</b> - < 91.5 cm (36 in.)	N/A	N/A
S5.2.1.1(c)	<b>Head-Torso Angle</b> - Rearward change ≤ 45 degrees	N/A	N/A


**REAR-FACING RESTRAINTS**

Section	Requirement	Measurement	Pass / Fail
S5.1.3.2	<b>Torso Retention</b> – CRS shall retain the torso within system		Pass
S5.1.3.2	<b>Head Target Excursion</b> – Not beyond restraint's top and forward edge		Pass
S5.1.4	<b>Back Support Angle</b> - Angle between the back support surface and vertical ≤ 70 degrees	54	Pass
S5.2.1.1(c)	<b>Head-Torso Angle</b> - Rearward change ≤ 45 degrees	≤ 45°	Pass

**Remarks**

Excursion camera locations (forward of Z point) are 28.4", Camera speed = 2000fps and focal length of lenses = 12.5mm

Recorded by: \_\_\_\_\_

  
 Adam Hardbatt, SLED  
 Engineer

Date: \_\_\_\_\_ June 18, 2018

**DATA SHEET 24**  
**OCCUPANT EXCURSION – TEST 2**  
**(FMVSS 213, S5.1.3.3)**

CAR BED RESTRAINTS

Section	Requirement	Measurement	Pass / Fail
Head – Torso Retention (FMVSS 213, S5.1.3.3)	Retain within confines of system	N/A	N/A

**Remarks**

Recorded by:   
Adam Hardbattle, SLED  
Engineer

Date: June 18, 2018

**DATA SHEET 25**  
**DYNAMIC IMPACT TEST CONDITIONS – TEST 3**  
**(FMVSS 213, S6.1)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-122B
Test Date:	18 June 2018	Item Code	043-1965350-03-12CFN2TU

**Laboratory Ambient Conditions During Testing:**

Temperature Degrees C (F)	21.6C (70.9F)
Relative Humidity %	57.8%

**Pulse:**

Test Configuration (I or II):	I
Velocity (km/h (mph)):	47.2 km/h (29.3 mph)

**Dummy:**

Dummy Description:	CRABI 12 Month Old (Part 572R)
Dummy Serial Number:	085


**Restraint Installation:**

Installed Direction:	Forward Facing
Base Usage:	Other Configuration
Attachment Method:	Lap Belt
Tether Usage:	Top Tether
Seat Back Position:	Upright - 5
Internal Shoulder Harness Position:	6, Counted from bottom up
Buckle Position:	Rear

**Remarks:**

Pre and Post Test Photos are presented in Section 9.

Recorded by: \_\_\_\_\_

  
 Adam Hardbattle, SLED  
 Engineer

Date: June 18, 2018

**DYNAMIC IMPACT SLED PULSE – TEST 3  
(FMVSS 213, S6.1)**

Report No.:	213-CAL-18-043
Test Date:	18 June 2018

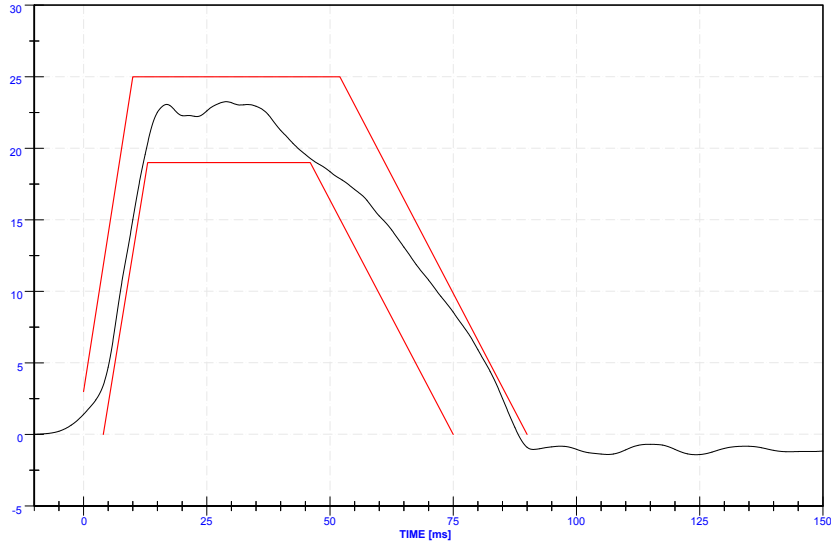
Sled Test No.	FM06-18-122B
Item Code	043-1965350-03-12CFN2TU



NHTSA FM06-18-122

Test Date: June 18, 2018

SLED Pulse Corridor



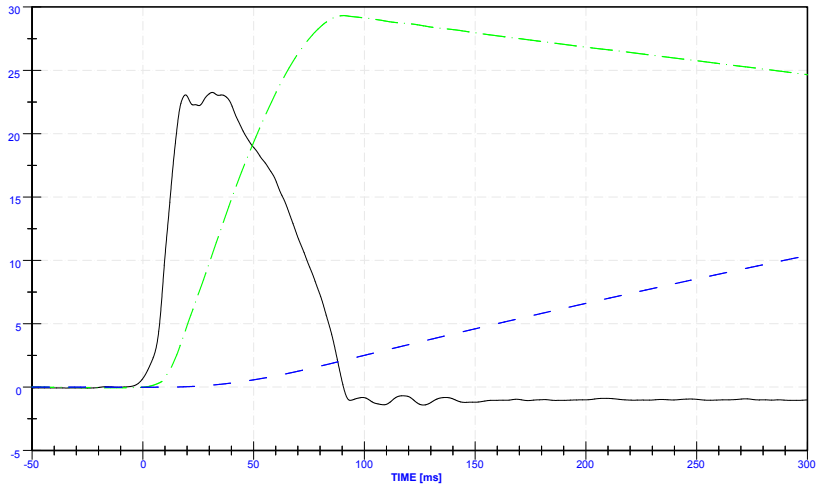
	Maximum	Time (ms)	Filter Class	Legend
SLED Acceleration (G's)	23.25	31.3	CFC 60	S0SLED0000R00ACXD



NHTSA FM06-18-122

Test Date: June 18, 2018

SLED Pulse



	Maximum	Time (ms)	Filter Class	Legend
SLED Acceleration (G's)	23.25	126.6	CFC 60	S0SLED000000ACXD
SLED Velocity (mph)	29.32	-18.8	CFC 180	S0SLED000000VAXC
SLED Displacement (ft)	10.39	0.5	CFC 180	S0SLED000000DVXC



**DATA SHEET 27**  
**BUCKLE RELEASE – TEST 3**  
**(FMVSS 213, S5.4.3.5, S6.2)**


Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-122B
Test Date:	18 June 2018	Item Code	043-1965350-03-12CFN2TU

Section	Requirement	Measurement	Pass / Fail
S5.4.3.5(a)	<b>Pre-Impact Release Force</b> Releases under 40-60 N	51 N	Pass
S5.4.3.5(a)	<b>Post-Impact Release Force*</b> Releases $\leq$ 71 N	56 N	Pass
S5.4.3.5(a)	<b>Minimum Surface Area of Buckle</b> $\geq$ 3.9 cm <sup>2</sup> (0.6 in <sup>2</sup> )	4 cm <sup>2</sup>	Pass
S5.4.3.5(a)	<b>Buckle Integrity</b> Shall not release during testing	No Release	Pass

\*Not applicable unless determined using the largest test dummy specified in S7 for use in testing the seat.

**Remarks**

Recorded by: \_\_\_\_\_

  
 Adam Hardbattle, SLED  
 Engineer

Date: June 18, 2018

**DATA SHEET 28**  
**SYSTEM INTEGRITY – TEST 3**  
**(FMVSS 213, S5.1.1)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-122B
Test Date:	18 June 2018	Item Code	043-1965350-03-12CFN2TU

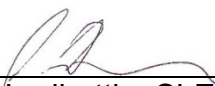
S5.1.1 When dynamically tested, the child restraint shall:

Section	Requirement	Pass / Fail
S5.1.1(a)	<b>Structural Integrity</b> – Exhibit no complete separation of any load bearing structural element	Pass
	Exhibit no partial separation with exposing surfaces with a radius of less than 9.53 mm (3/8 in.)	Pass
	Exhibit no partial separation with exposing surfaces with protrusions greater than 6.35 mm (1/4 in.)	Pass
S5.1.1(b)(1)	<b>Adjustment Position</b> – Remain in the same adjustment position during the test that it was immediately before the test	Pass
S5.1.1(b)(2)(ii)	<b>Exposed Openings</b> – Have no exposed opening larger than 6.35 mm (1/4 in.) before the test becomes smaller during the testing as a result of the movement of the seating service relative to the restraint system as a whole.	Pass
S5.1.1(c)	<b>Seating Surface Angle</b> – Forward facing restraints do not allow the angle between the system's back support surface and seating surface and seating surface to be less than 45 degrees at the completion of the test	Pass

**Remarks**

None

Recorded by: \_\_\_\_\_

  
 Adam Hardbatt, SLED  
 Engineer

Date: \_\_\_\_\_

June 18, 2018

**DATA SHEET 29**  
**INJURY CRITERIA – TEST 3**  
**(FMVSS 213, S5.1.2)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-122B
Test Date:	18 June 2018	Item Code	043-1965350-03-12CFN2TU

Section	Requirement
S5.1.2.1(a)	<b>Head Injury Criterion</b> The maximum calculated head injury criterion for a 36 millisecond time interval (HIC36) shall not exceed 1,000. HIC is not calculated when using the 6-year-old weighted and 10-year-old test dummies.
S5.1.2.1(b)	<b>Chest Injury Criterion</b> The chest acceleration shall not exceed 60g for intervals whose cumulative duration is more than 3 milliseconds

**Head Injury Criterion Results**


Calculated HIC36	Pass / Fail
213	Pass

**Chest Injury Criterion Results**

Max Acceleration lasting 3ms (g)	Pass / Fail
42	Pass

**Remarks**

Recorded by: \_\_\_\_\_

  
 Adam Hardbattle, SLED  
 Engineer

Date: June 18, 2018



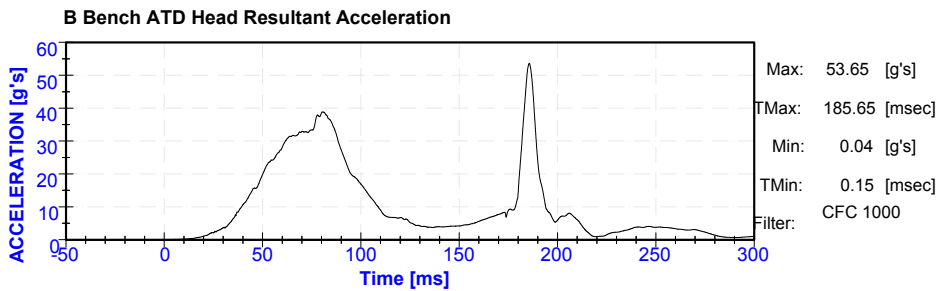
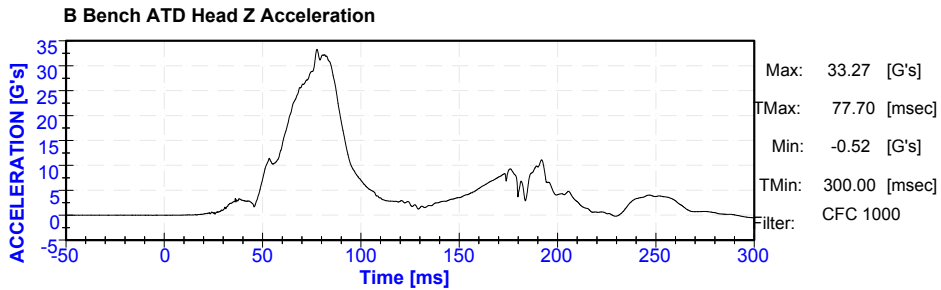
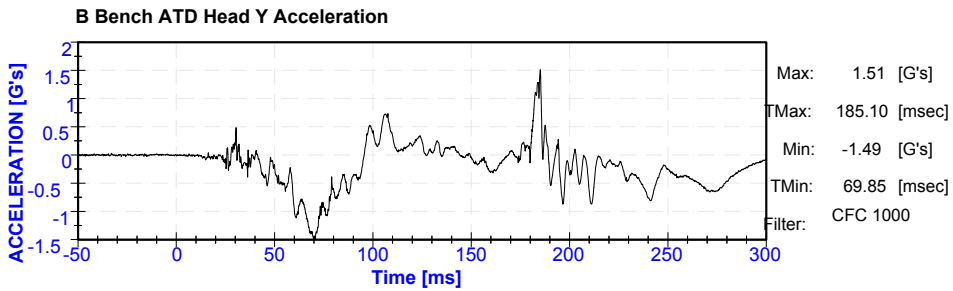
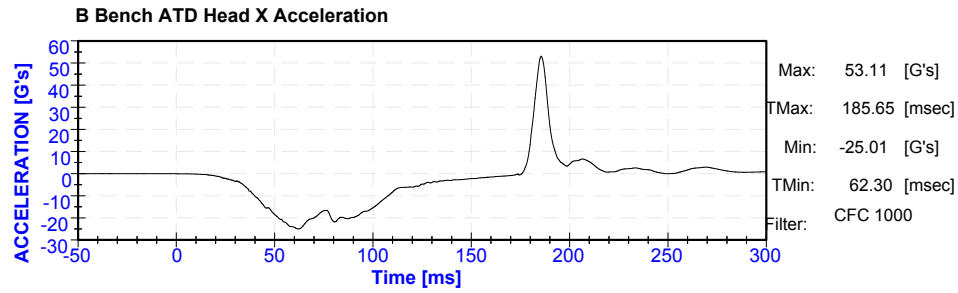
**INJURY CRITERIA – HEAD ACCELERATION PLOTS – TEST 3  
(FMVSS 213, S5.1.2)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-122B
Test Date:	18 June 2018	Item Code	043-1965350-03-12CFN2TU
HIC 36ms	213	Resultant	54 g's



NHTSA FM06-18-122

Test Date: June 18,



**INJURY CRITERIA – CHEST ACCELERATION PLOTS – TEST 3  
(FMVSS 213, S5.1.2)**

Report No.:	213-CAL-18-043
Test Date:	18 June 2018
3ms Clip	42 g's

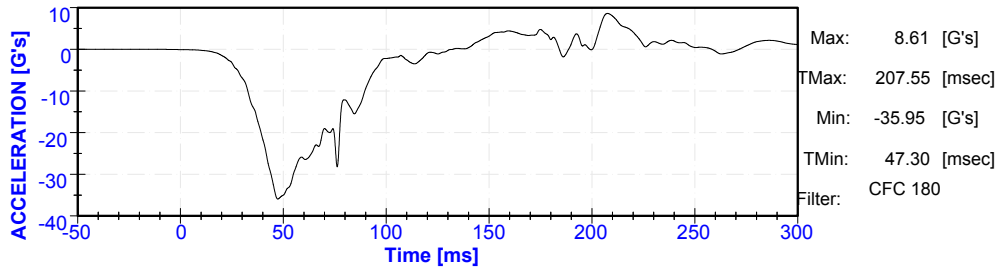
Sled Test No.	FM06-18-122B
Item Code	043-1965350-03-12CFN2TU
Resultant	43 g's



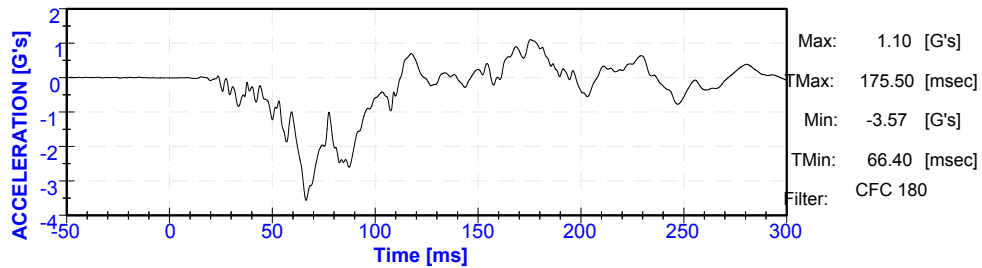
NHTSA FM06-18-122

Test Date: June 18,

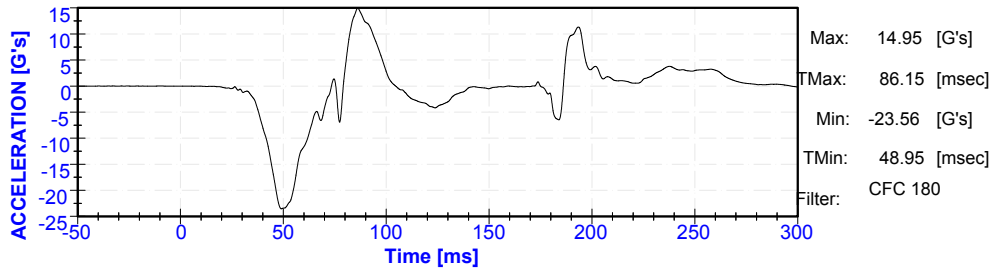
**B Bench ATD Chest X Acceleration**



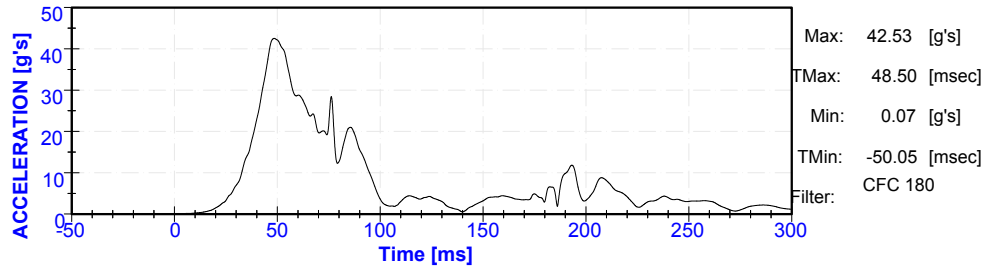
**B Bench ATD Chest Y Acceleration**



**B Bench ATD Chest Z Acceleration**



**B Bench ATD Chest Resultant Acceleration**



**DATA SHEET 30**  
**OCCUPANT EXCURSION – TEST 3**  
**(FMVSS 213, S5.1.3, S5.1.4, S5.2.1.1(c))**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-122B
Test Date:	18 June 2018	Item Code	043-1965350-03-12CFN2TU

**FORWARD-FACING RESTRAINTS**

Section	Requirement	Measurement	Pass / Fail
S5.1.3.1	<b>Torso Retention</b> – CRS shall retain the torso within system		Pass
S5.1.3.1(a)(1)	<b>Head Excursion</b> - ≤ 720 mm (28.4 in.) with tether ≤ 813 mm (32 in.) No tether	485	Pass
S5.1.3.1(a)(2)	<b>Knee Excursion</b> - ≤ 91.5 cm (36 in.)	527	Pass
S5.2.1.1(c)	<b>Head-Torso Angle</b> - Rearward change ≤ 45 degrees	≤ 45°	Pass


**REAR-FACING RESTRAINTS**

Section	Requirement	Measurement	Pass / Fail
S5.1.3.2	<b>Torso Retention</b> – CRS shall retain the torso within system		N/A
S5.1.3.2	<b>Head Target Excursion</b> – Not beyond restraint's top and forward edge		N/A
S5.1.4	<b>Back Support Angle</b> - Angle between the back support surface and vertical ≤ 70 degrees	N/A	N/A
S5.2.1.1(c)	<b>Head-Torso Angle</b> - Rearward change ≤ 45 degrees	N/A	N/A

**Remarks**

Excursion camera locations (forward of Z point) are 28.4", Camera speed = 2000fps and focal length of lenses = 12.5mm

Recorded by: \_\_\_\_\_

  
 Adam Hardbattle, SLED  
 Engineer

Date: \_\_\_\_\_ June 18, 2018

**DATA SHEET 31**  
**OCCUPANT EXCURSION – TEST 3**  
**(FMVSS 213, S5.1.3.3)**

CAR BED RESTRAINTS

Section	Requirement	Measurement	Pass / Fail
Head – Torso Retention (FMVSS 213, S5.1.3.3)	Retain within confines of system	N/A	N/A

**Remarks**

Recorded by: \_\_\_\_\_



Adam Hardbattle, SLED  
Engineer

Date: \_\_\_\_\_

June 18, 2018

**DATA SHEET 32**  
**DYNAMIC IMPACT TEST CONDITIONS – TEST 4**  
**(FMVSS 213, S6.1)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-123A
Test Date:	18 June 2018	Item Code	043-1965350-04-10H3FN3FB

**Laboratory Ambient Conditions During Testing:**

Temperature Degrees C (F)	21.8C (71.2F)
Relative Humidity %	59.3%

**Pulse:**

Test Configuration (I or II):	I
Velocity (km/h (mph)):	47.2 km/h (29.3 mph)

**Dummy:**

Dummy Description:	H3 10 Year Old (Part 572R)
Dummy Serial Number:	D023

**Restraint Installation:**


Installed Direction:	Forward Facing
Base Usage:	Other Configuration
Attachment Method:	Lap and Shoulder Belt
Tether Usage:	No, Tether Free
Seat Back Position:	Upright - 6
Internal Shoulder Harness Position:	Headrest 10, Counted up from bottom
Buckle Position:	N/A

**Remarks:**

Booster Mode

Pre and Post Test Photos are presented in Section 9.

Recorded by: \_\_\_\_\_

  
Adam Hardbattle, SLED  
Engineer

Date: June 18, 2018

**DYNAMIC IMPACT SLED PULSE – TEST 4  
(FMVSS 213, S6.1)**

Report No.:	213-CAL-18-043
Test Date:	18 June 2018

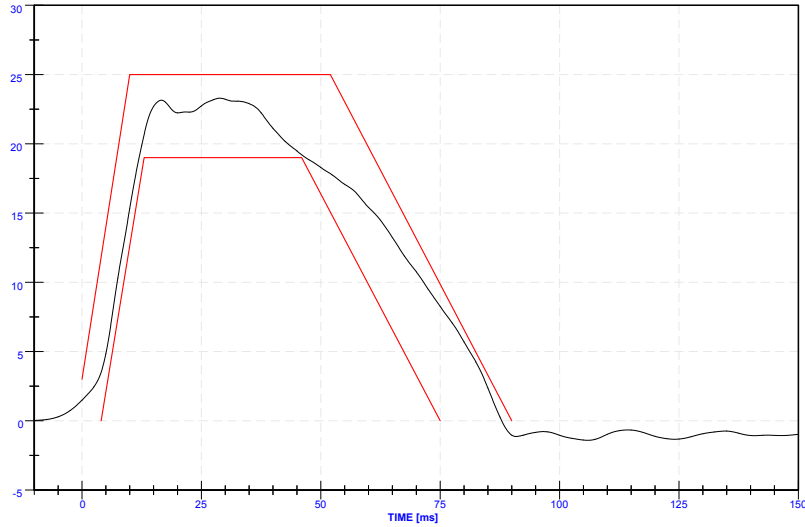
Sled Test No.	FM06-18-123A
Item Code	043-1965350-04-10H3FN3FB



NHTSA FM06-18-123

Test Date: June 18, 2018

SLED Pulse Corridor



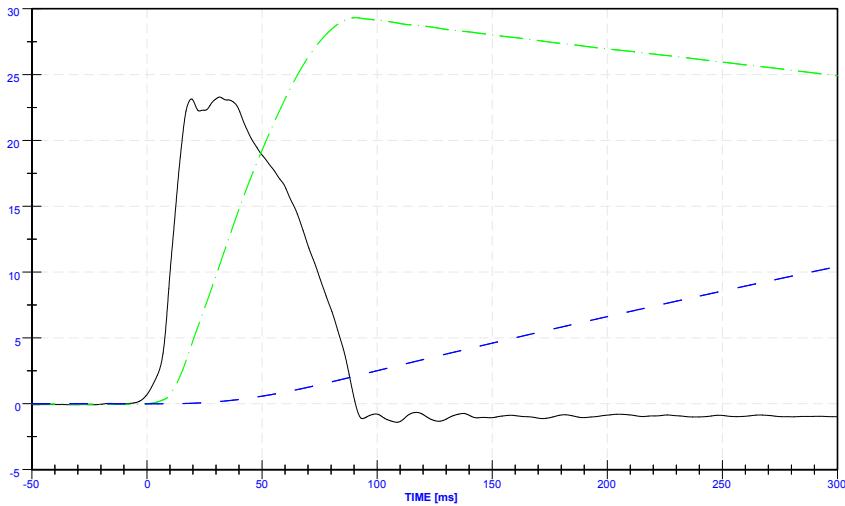
	Maximum	Time (ms)	Filter Class	Legend
SLED Acceleration (G's)	23.29	31.5	CFC 60	S0SLED0000R00ACXD



NHTSA FM06-18-123

Test Date: June 18, 2018

SLED Pulse



	Maximum	Time (ms)	Filter Class	Legend
SLED Acceleration (G's)	23.29	108.7	CFC 60	S0SLED000000ACXD
SLED Velocity (mph)	29.32	-18.5	CFC 180	S0SLED000000VAXC
SLED Displacement (ft)	10.42	0.5	CFC 180	S0SLED000000DVXC

**DATA SHEET 33  
BELT RESTRAINT – TEST 4  
(FMVSS 213, S5.4.3)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-123A
Test Date:	18 June 2018	Item Code	043-1965350-04-10H3FN3FB

Section	Requirement	Pass / Fail
S5.4.3.1	<b>Snug Fit of Belts.</b> Belts that are part of the restraint and designed to restrain the child are adjustable to snugly fit any child of height and weight identified by the manufacturer in accordance with the manufacturers installation instructions.	N/A

Section	Requirement	Yes / No	Pass / Fail
S5.4.3.2	<b>Direct Restraint.</b> Belts impose no loads on the child resulting from mass of the system or the test seat		Pass
	The restraint has one or more belts that contact the dummy for restraint	No	If all are "Yes" Restraint fails S5.4.3.2
	The restraint has a rigid structure behind the dummy	Yes	
	The restraint could move relative to the belt	No	

Section	Requirement	Pass / Fail
S5.4.3.3	<b>Seating Systems.</b> Except for harness and infant restraints for children up to 10kg (22lb), each restraint designed for a child in a seated position and having belts shall provide.	N/A
S5.4.3.3(a)	Upper torso restraint (either belts or a shield)	N/A
S5.4.3.3(b)	Lower torso restraint (either belts or a shield)	N/A
S5.4.3.3(c)	Crotch restraint (either a belt attached to the lap belt or a shield)	N/A

Section	Requirement	Pass / Fail
S5.4.3.4	<b>Harnesses.</b> Each harness shall:	N/A
S5.4.3.3(a)	Provide upper torso restraint)	N/A
S5.4.3.3(b)	Provide lower torso restraint (lap & crotch)	N/A
S5.4.3.3(c)	Prevent Standing	N/A

**Remarks**

Booster Mode

Recorded by:

  
Adam Hardbattle, SLED Engineer

Date:

June 18, 2018

**DATA SHEET 34**  
**BUCKLE RELEASE – TEST 4**  
**(FMVSS 213, S5.4.3.5, S6.2)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-123A
Test Date:	18 June 2018	Item Code	043-1965350-04-10H3FN3FB


Section	Requirement	Measurement	Pass / Fail
S5.4.3.5(a)	<b>Pre-Impact Release Force</b> Releases under 40-60 N	N/A	N/A
S5.4.3.5(a)	<b>Post-Impact Release Force*</b> Releases $\leq$ 71 N	N/A	N/A
S5.4.3.5(a)	<b>Minimum Surface Area of Buckle</b> $\geq$ 3.9 cm <sup>2</sup> (0.6 in <sup>2</sup> )	N/A	N/A
S5.4.3.5(a)	<b>Buckle Integrity</b> Shall not release during testing	N/A	N/A

\*Not applicable unless determined using the largest test dummy specified in S7 for use in testing the seat.

**Remarks**

Booster Mode

Recorded by: \_\_\_\_\_

  
 Adam Hardbattle, SLED  
 Engineer

Date: June 18, 2018



**DATA SHEET 35**  
**SYSTEM INTEGRITY – TEST 4**  
**(FMVSS 213, S5.1.1)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-123A
Test Date:	18 June 2018	Item Code	043-1965350-04-10H3FN3FB

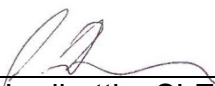
S5.1.1 When dynamically tested, the child restraint shall:

Section	Requirement	Pass / Fail
S5.1.1(a)	<b>Structural Integrity</b> – Exhibit no complete separation of any load bearing structural element	Pass
	Exhibit no partial separation with exposing surfaces with a radius of less than 9.53 mm (3/8 in.)	Pass
	Exhibit no partial separation with exposing surfaces with protrusions greater than 6.35 mm (1/4 in.)	Pass
S5.1.1(b)(1)	<b>Adjustment Position</b> – Remain in the same adjustment position during the test that it was immediately before the test	Pass
S5.1.1(b)(2)(ii)	<b>Exposed Openings</b> – Have no exposed opening larger than 6.35 mm (1/4 in.) before the test becomes smaller during the testing as a result of the movement of the seating service relative to the restraint system as a whole.	Pass
S5.1.1(c)	<b>Seating Surface Angle</b> – Forward facing restraints do not allow the angle between the system's back support surface and seating surface and seating surface to be less than 45 degrees at the completion of the test	Pass

**Remarks**

None

Recorded by: \_\_\_\_\_

  
 Adam Hardbatt, SLED  
 Engineer

Date: June 18, 2018

**DATA SHEET 36  
INJURY CRITERIA – TEST 4  
(FMVSS 213, S5.1.2)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-123A
Test Date:	18 June 2018	Item Code	043-1965350-04-10H3FN3FB

Section	Requirement
S5.1.2.1(a)	<b>Head Injury Criterion</b> The maximum calculated head injury criterion for a 36 millisecond time interval (HIC36) shall not exceed 1,000. HIC is not calculated when using the 6-year-old weighted and 10-year-old test dummies.
S5.1.2.1(b)	<b>Chest Injury Criterion</b> The chest acceleration shall not exceed 60g for intervals whose cumulative duration is more than 3 milliseconds

**Head Injury Criterion Results**

Calculated HIC36	Pass / Fail
N/A	N/A

**Chest Injury Criterion Results**

Max Acceleration lasting 3ms (g)	Pass / Fail
40	Pass

**Remarks**

H3 10yo ATD: No head injury criteria requirement

Recorded by:   
 Adam Hardbattle, SLED  
 Engineer

Date: June 18, 2018

**INJURY CRITERIA – CHEST ACCELERATION PLOTS – TEST 4  
(FMVSS 213, S5.1.2)**

Report No.:	213-CAL-18-043
Test Date:	18 June 2018
3ms Clip	40 g's

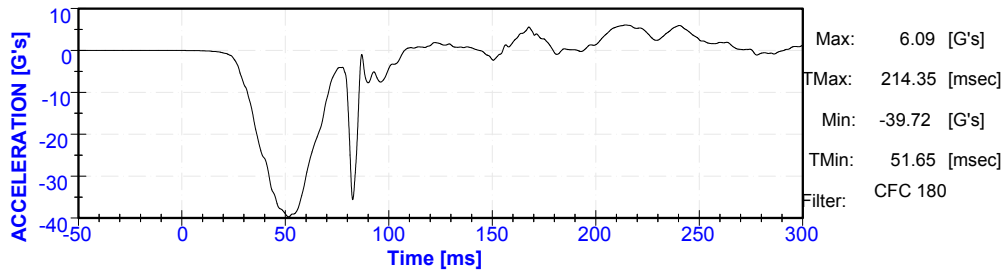
Sled Test No.	FM06-18-123A
Item Code	043-1965350-04-10H3FN3FB
Resultant	40 g's



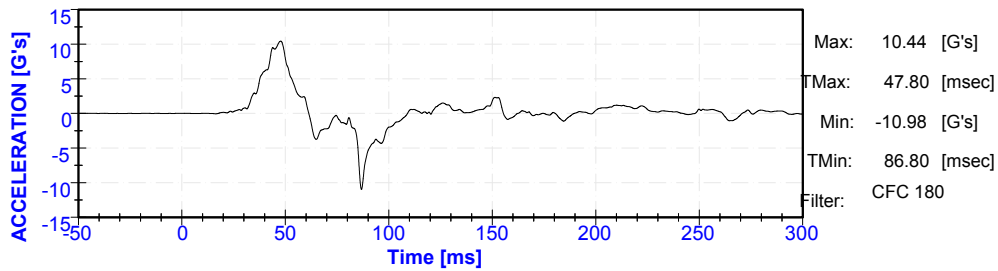
NHTSA FM06-18-123

Test Date: June 18,

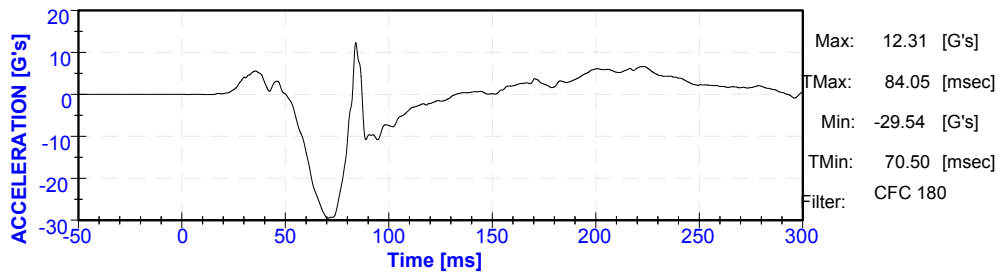
**A Bench ATD Chest X Acceleration**



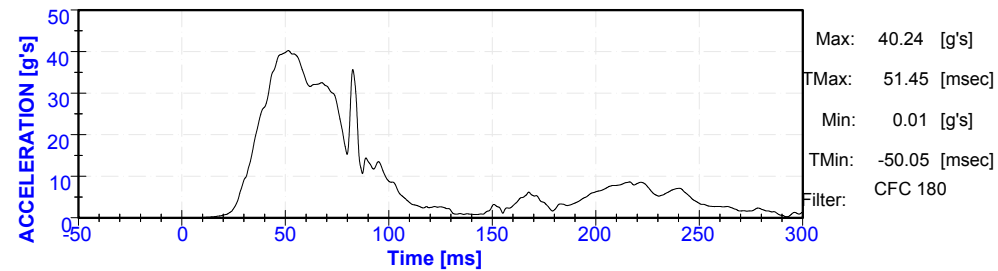
**A Bench ATD Chest Y Acceleration**



**A Bench ATD Chest Z Acceleration**



**A Bench ATD Chest Resultant Acceleration**



**DATA SHEET 37**  
**OCCUPANT EXCURSION – TEST 4**  
**(FMVSS 213, S5.1.3, S5.1.4, S5.2.1.1(c))**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-123A
Test Date:	18 June 2018	Item Code	043-1965350-04-10H3FN3FB

**FORWARD-FACING RESTRAINTS**

Section	Requirement	Measurement	Pass / Fail
S5.1.3.1	<b>Torso Retention</b> – CRS shall retain the torso within system		Pass
S5.1.3.1(a)(1)	<b>Head Excursion</b> - ≤ 720 mm (28.4 in.) with tether ≤ 813 mm (32 in.) No tether	467	Pass
S5.1.3.1(a)(2)	<b>Knee Excursion</b> - ≤ 91.5 cm (36 in.)	742	Pass
S5.2.1.1(c)	<b>Head-Torso Angle</b> - Rearward change ≤ 45 degrees	≤ 45°	Pass


**REAR-FACING RESTRAINTS**

Section	Requirement	Measurement	Pass / Fail
S5.1.3.2	<b>Torso Retention</b> – CRS shall retain the torso within system		N/A
S5.1.3.2	<b>Head Target Excursion</b> – Not beyond restraint's top and forward edge		N/A
S5.1.4	<b>Back Support Angle</b> - Angle between the back support surface and vertical ≤ 70 degrees	N/A	N/A
S5.2.1.1(c)	<b>Head-Torso Angle</b> - Rearward change ≤ 45 degrees	N/A	N/A

**Remarks**

Excursion camera locations (forward of Z point) are 28.4", Camera speed = 2000fps and focal length of lenses = 12.5mm

Recorded by: \_\_\_\_\_

  
 Adam Hardbattle, SLED  
 Engineer

Date: \_\_\_\_\_ June 18, 2018

**DATA SHEET 38**  
**OCCUPANT EXCURSION – TEST 4**  
**(FMVSS 213, S5.1.3.3)**

CAR BED RESTRAINTS

Section	Requirement	Measurement	Pass / Fail
Head – Torso Retention (FMVSS 213, S5.1.3.3)	Retain within confines of system	N/A	N/A

**Remarks**

Recorded by: \_\_\_\_\_



Adam Hardbattle, SLED  
Engineer

Date: \_\_\_\_\_

June 18, 2018

**DATA SHEET 39**  
**DYNAMIC IMPACT TEST CONDITIONS – TEST 5**  
**(FMVSS 213, S6.1)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-123B
Test Date:	18 June 2018	Item Code	043-1965350-05-12CFNLTU

**Laboratory Ambient Conditions During Testing:**

Temperature Degrees C (F)	21.8C (71.2 F)
Relative Humidity %	59.3%

**Pulse:**

Test Configuration (I or II):	I
Velocity (km/h (mph)):	47.2 km/h (29.3 mph)

**Dummy:**

Dummy Description:	CRABI 12 Month Old (Part 572R)
Dummy Serial Number:	085

**Restraint Installation:**

Installed Direction:	Forward Facing
Base Usage:	Other Configuration
Attachment Method:	Lower Anchors
Tether Usage:	Top Tether
Seat Back Position:	Upright 5
Internal Shoulder Harness Position:	6, counted up from bottom
Buckle Position:	Rear

**Remarks:**

Pre and Post Test Photos are presented in Section 9.

Recorded by:   
Adam Hardbattle, SLED  
Engineer

Date: June 18, 2018

**DYNAMIC IMPACT SLED PULSE – TEST 5  
(FMVSS 213, S6.1)**

Report No.:	213-CAL-18-043
Test Date:	18 June 2018

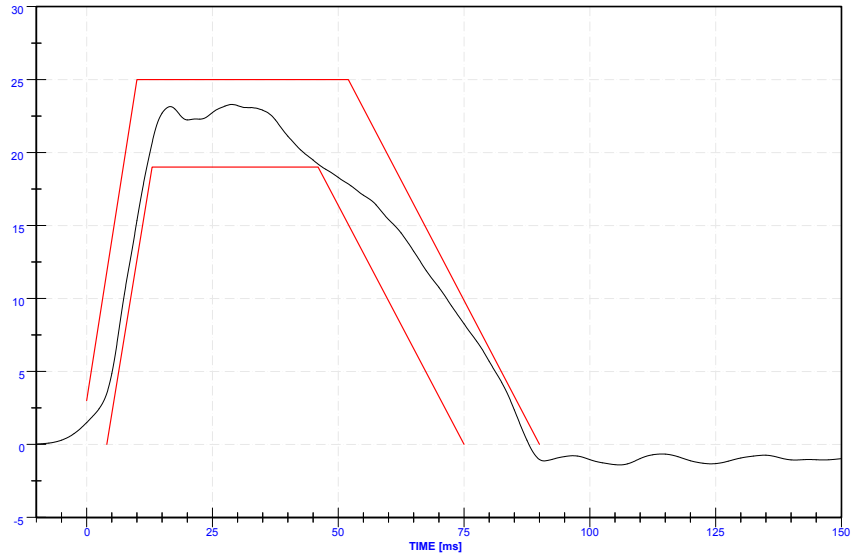
Sled Test No.	FM06-18-123B
Item Code	043-1965350-05-12CFNLTU



NHTSA FM06-18-123

Test Date: June 18, 2018

SLED Pulse Corridor



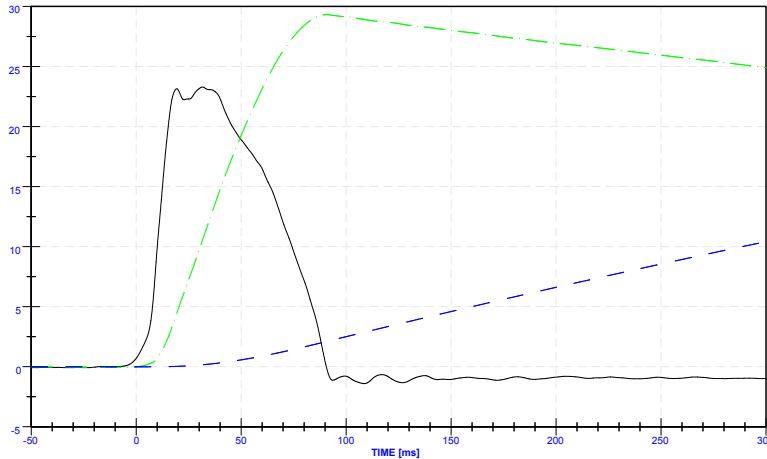
	Maximum	Time (ms)	Filter Class	Legend
SLED Acceleration (G's)	23.29	31.5	CFC 60	S0SLED00000ACXD



NHTSA FM06-18-123

Test Date: June 18, 2018

SLED Pulse



	Maximum	Time (ms)	Filter Class	Legend
SLED Acceleration (G's)	23.29	108.7	CFC 60	S0SLED000000ACXD
SLED Velocity (mph)	18.5	-18.5	CFC 180	S0SLED000000VAXC
SLED Displacement (ft)	0.5	0.5	CFC 180	S0SLED000000DVXC

**DATA SHEET 40**  
**BELT RESTRAINT – TEST 5**  
**(FMVSS 213, S5.4.3)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-123B
Test Date:	18 June 2018	Item Code	043-1965350-05-12CFNLTU

Section	Requirement	Pass / Fail
S5.4.3.1	<b>Snug Fit of Belts.</b> Belts that are part of the restraint and designed to restrain the child are adjustable to snugly fit any child of height and weight identified by the manufacturer in accordance with the manufacturer's installation instructions.	Pass

Section	Requirement	Yes / No	Pass / Fail
S5.4.3.2	<b>Direct Restraint.</b> Belts impose no loads on the child resulting from mass of the system or the test seat		Pass
	The restraint has one or more belts that contact the dummy for restraint	Yes	If all are "Yes" Restraint fails S5.4.3.2
	The restraint has a rigid structure behind the dummy	Yes	
	The restraint could move relative to the belt	No	

Section	Requirement	Pass / Fail
S5.4.3.3	<b>Seating Systems.</b> Except for harness and infant restraints for children up to 10kg (22lb), each restraint designed for a child in a seated position and having belts shall provide.	Pass
S5.4.3.3(a)	Upper torso restraint (either belts or a shield)	Pass
S5.4.3.3(b)	Lower torso restraint (either belts or a shield)	Pass
S5.4.3.3(c)	Crotch restraint (either a belt attached to the lap belt or a shield)	Pass

Section	Requirement	Pass / Fail
S5.4.3.4	<b>Harnesses.</b> Each harness shall:	N/A
S5.4.3.3(a)	Provide upper torso restraint)	N/A
S5.4.3.3(b)	Provide lower torso restraint (lap & crotch)	N/A
S5.4.3.3(c)	Prevent Standing	N/A

**Remarks**

Recorded by:   
 Adam Hardbattle, SLED Engineer

Date: June 18, 2018



**DATA SHEET 41**  
**BUCKLE RELEASE – TEST 5**  
**(FMVSS 213, S5.4.3.5, S6.2)**


Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-123B
Test Date:	18 June 2018	Item Code	043-1965350-05-12CFNLTU

Section	Requirement	Measurement	Pass / Fail
S5.4.3.5(a)	<b>Pre-Impact Release Force</b> Releases under 40-60 N	52 N	Pass
S5.4.3.5(a)	<b>Post-Impact Release Force*</b> Releases $\leq$ 71 N	54 N	Pass
S5.4.3.5(a)	<b>Minimum Surface Area of Buckle</b> $\geq$ 3.9 cm <sup>2</sup> (0.6 in <sup>2</sup> )	4 cm <sup>2</sup>	Pass
S5.4.3.5(a)	<b>Buckle Integrity</b> Shall not release during testing	No Release	Pass

\*Not applicable unless determined using the largest test dummy specified in S7 for use in testing the seat.

**Remarks**

Recorded by: \_\_\_\_\_

  
 Adam Hardbattle, SLED  
 Engineer

Date: June 18, 2018

**DATA SHEET 42**  
**SYSTEM INTEGRITY – TEST 5**  
**(FMVSS 213, S5.1.1)**

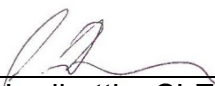
Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-123B
Test Date:	18 June 2018	Item Code	043-1965350-05-12CFNLTU

S5.1.1 When dynamically tested, the child restraint shall:

Section	Requirement	Pass / Fail
S5.1.1(a)	<b>Structural Integrity</b> – Exhibit no complete separation of any load bearing structural element	Pass
	Exhibit no partial separation with exposing surfaces with a radius of less than 9.53 mm (3/8 in.)	Pass
	Exhibit no partial separation with exposing surfaces with protrusions greater than 6.35 mm (1/4 in.)	Pass
S5.1.1(b)(1)	<b>Adjustment Position</b> – Remain in the same adjustment position during the test that it was immediately before the test	Pass
S5.1.1(b)(2)(ii)	<b>Exposed Openings</b> – Have no exposed opening larger than 6.35 mm (1/4 in.) before the test becomes smaller during the testing as a result of the movement of the seating service relative to the restraint system as a whole.	Pass
S5.1.1(c)	<b>Seating Surface Angle</b> – Forward facing restraints do not allow the angle between the system's back support surface and seating surface and seating surface to be less than 45 degrees at the completion of the test	Pass

**Remarks**

Recorded by: \_\_\_\_\_

  
 Adam Hardbatt, SLED  
 Engineer

Date: June 18, 2018

**DATA SHEET 43  
INJURY CRITERIA – TEST 5  
(FMVSS 213, S5.1.2)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-123B
Test Date:	18 June 2018	Item Code	043-1965350-05-12CFNLTU

Section	Requirement
S5.1.2.1(a)	<b>Head Injury Criterion</b> The maximum calculated head injury criterion for a 36 millisecond time interval (HIC36) shall not exceed 1,000. HIC is not calculated when using the 6-year-old weighted and 10-year-old test dummies.
S5.1.2.1(b)	<b>Chest Injury Criterion</b> The chest acceleration shall not exceed 60g for intervals whose cumulative duration is more than 3 milliseconds

**Head Injury Criterion Results**

Calculated HIC36	Pass / Fail
219	Pass


**Chest Injury Criterion Results**

Max Acceleration lasting 3ms (g)	Pass / Fail
44	Pass

**Remarks**

None

Recorded by: \_\_\_\_\_

  
Adam Hardbattle, SLED  
Engineer

Date: \_\_\_\_\_

June 18, 2018

**INJURY CRITERIA – HEAD ACCELERATION PLOTS – TEST 5  
(FMVSS 213, S5.1.2)**

Report No.:	213-CAL-18-043
Test Date:	18 June 2018
HIC 36ms	219

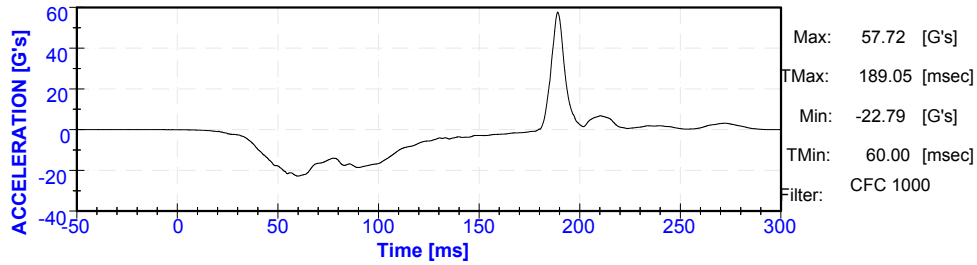
Sled Test No.	FM06-18-123B
Item Code	043-1965350-05-12CFNLTU
Resultant	58 g's



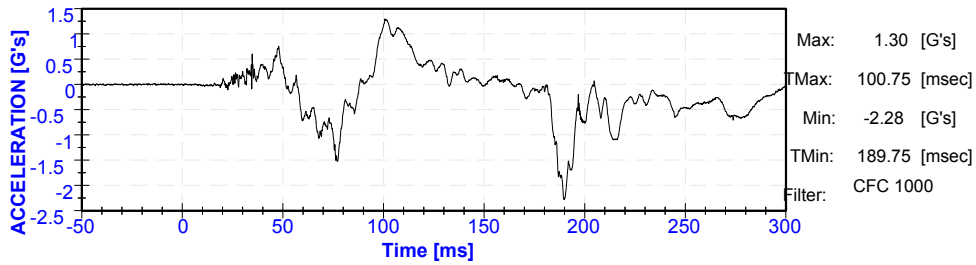
NHTSA FM06-18-123

Test Date: June 18,

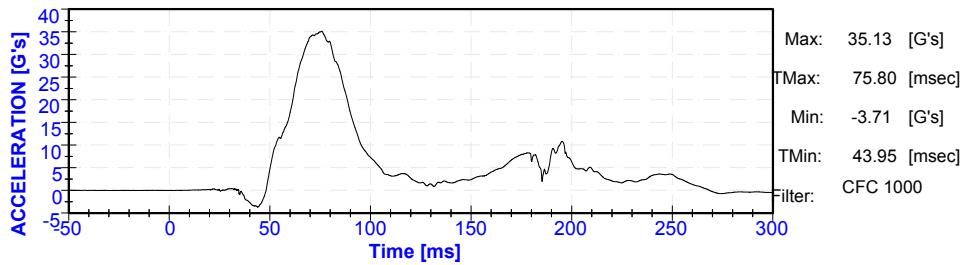
**B Bench ATD Head X Acceleration**



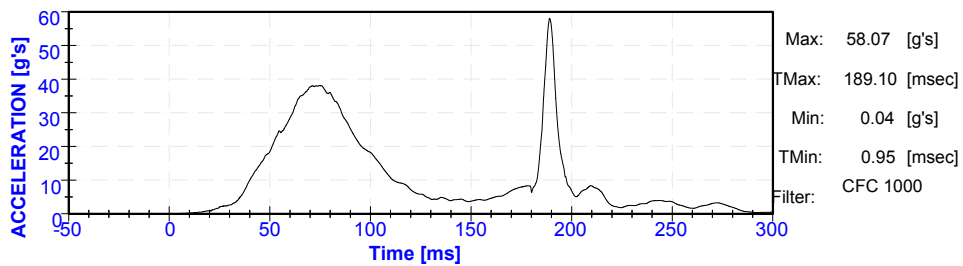
**B Bench ATD Head Y Acceleration**



**B Bench ATD Head Z Acceleration**



**B Bench ATD Head Resultant Acceleration**



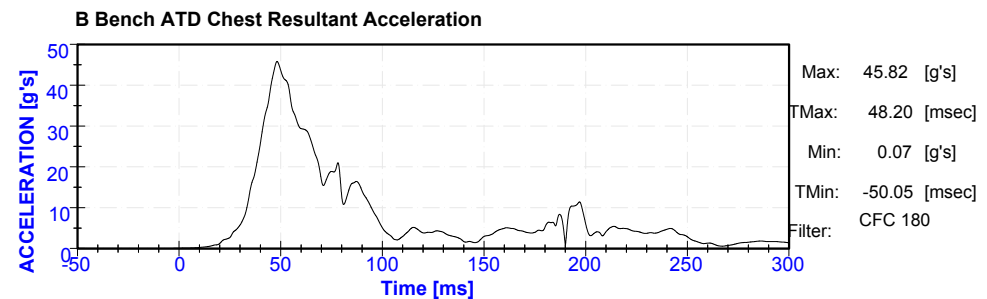
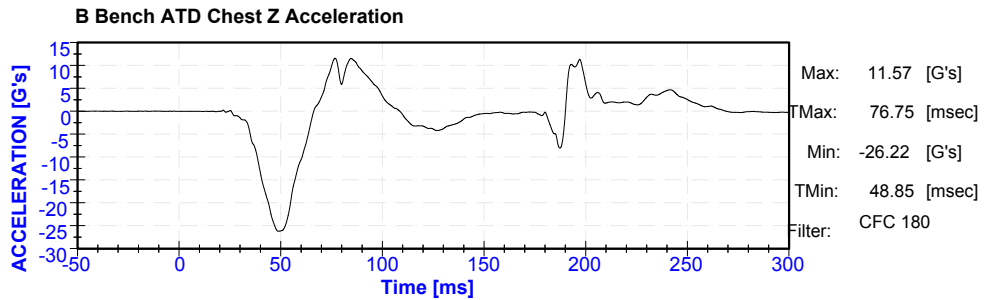
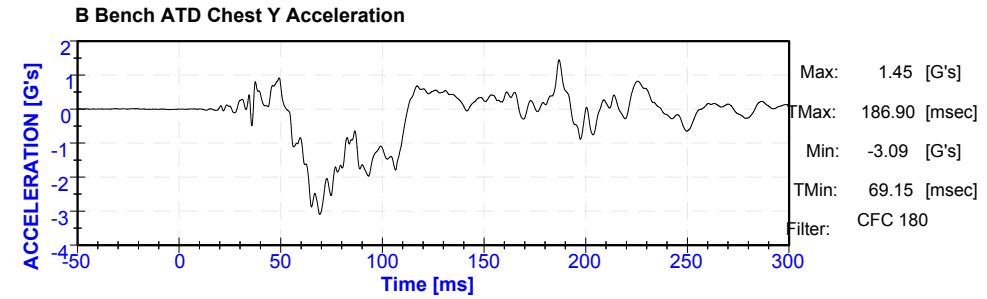
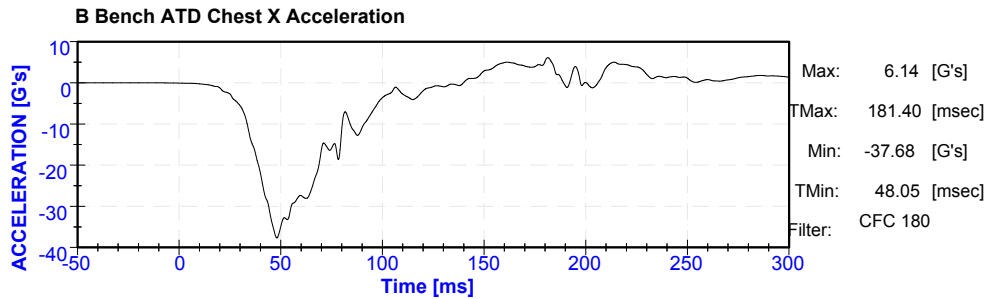
INJURY CRITERIA – CHEST ACCELERATION PLOTS – TEST 5  
(FMVSS 213, S5.1.2)

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-123B
Test Date:	18 June 2018	Item Code	043-1965350-05-12CFNLTU
3ms Clip	44 g's	Resultant	46 g's



NHTSA FM06-18-123

Test Date: June 18,



**DATA SHEET 44**  
**OCCUPANT EXCURSION – TEST 5**  
**(FMVSS 213, S5.1.3, S5.1.4, S5.2.1.1(c))**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-123B
Test Date:	18 June 2018	Item Code	043-1965350-05-12CFNLTU

**FORWARD-FACING RESTRAINTS**

Section	Requirement	Measurement	Pass / Fail
S5.1.3.1	<b>Torso Retention</b> – CRS shall retain the torso within system		Pass
S5.1.3.1(a)(1)	<b>Head Excursion</b> - ≤ 720 mm (28.4 in.) with tether ≤ 813 mm (32 in.) No tether	492	Pass
S5.1.3.1(a)(2)	<b>Knee Excursion</b> - < 91.5 cm (36 in.)	528	Pass
S5.2.1.1(c)	<b>Head-Torso Angle</b> - Rearward change ≤ 45 degrees	≤ 45°	Pass


**REAR-FACING RESTRAINTS**

Section	Requirement	Measurement	Pass / Fail
S5.1.3.2	<b>Torso Retention</b> – CRS shall retain the torso within system		N/A
S5.1.3.2	<b>Head Target Excursion</b> – Not beyond restraint's top and forward edge		N/A
S5.1.4	<b>Back Support Angle</b> - Angle between the back support surface and vertical ≤ 70 degrees	N/A	N/A
S5.2.1.1(c)	<b>Head-Torso Angle</b> - Rearward change ≤ 45 degrees	N/A	N/A

**Remarks**

Excursion camera locations (forward of Z point) are 28.4", Camera speed = 2000fps and focal length of lenses = 12.5mm

Recorded by: \_\_\_\_\_

  
 Adam Hardbatt, SLED  
 Engineer

Date: \_\_\_\_\_ June 18, 2018

**DATA SHEET 45**  
**OCCUPANT EXCURSION – TEST 5**  
**(FMVSS 213, S5.1.3.3)**

CAR BED RESTRAINTS

Section	Requirement	Measurement	Pass / Fail
Head – Torso Retention (FMVSS 213, S5.1.3.3)	Retain within confines of system	N/A	N/A

**Remarks**

Recorded by:   
Adam Hardbattle, SLED  
Engineer

Date: June 18, 2018

**DATA SHEET 46**  
**DYNAMIC IMPACT TEST CONDITIONS – TEST 6**  
**(FMVSS 213, S6.1)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-124B
Test Date:	18 June 2018	Item Code	043-1965350-06-3H3FNLTU

**Laboratory Ambient Conditions During Testing:**

Temperature Degrees C (F)	21.8C (71.2 F)
Relative Humidity %	60.1%

**Pulse:**

Test Configuration (I or II):	I
Velocity (km/h (mph)):	47.3 km/h (29.4 mph)

**Dummy:**

Dummy Description:	H3 3 Year Old (Part 572R)
Dummy Serial Number:	034

**Restraint Installation:**

Installed Direction:	Forward Facing
Base Usage:	Other Configuration
Attachment Method:	Lower Anchors
Tether Usage:	Top Tether
Seat Back Position:	Upright - 5
Internal Shoulder Harness Position:	Slot 8, Counted from bottom up
Buckle Position:	Front

**Remarks:**

Pre and Post Test Photos are presented in Section 9.

Recorded by:   
 Adam Hardbattle, SLED  
 Engineer

Date: June 19, 2018



**DYNAMIC IMPACT SLED PULSE – TEST 6  
(FMVSS 213, S6.1)**

Report No.:	213-CAL-18-043
Test Date:	18 June 2018

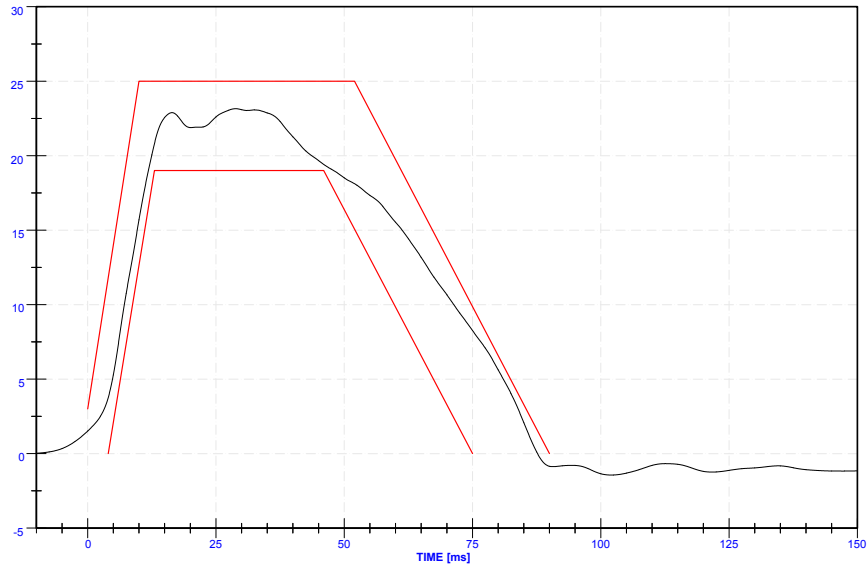
Sled Test No.	FM06-18-124B
Item Code	043-1965350-06-3H3FNLTU



NHTSA FM06-18-124

Test Date: June 18, 2018

SLED Pulse Corridor



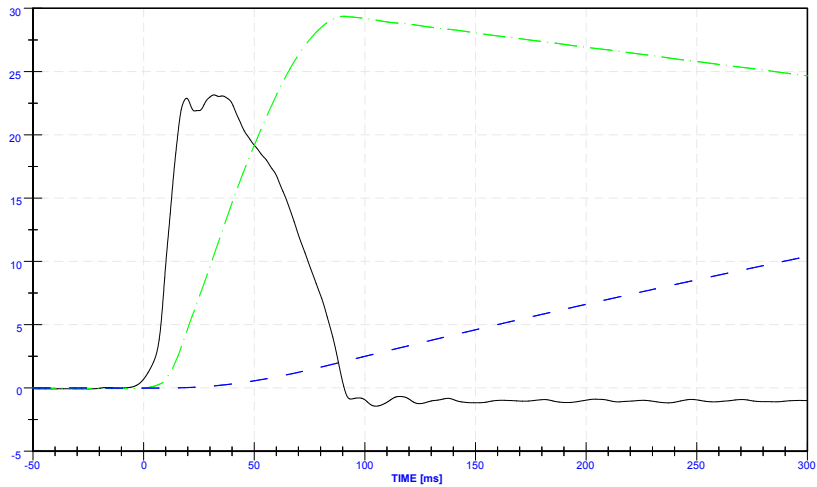
	Maximum	Time (ms)	Filter Class	Legend
SLED Acceleration (G's)	23.15	31.9	CFC 60	S0SLED0000R00ACXD



NHTSA FM06-18-124

Test Date: June 18, 2018

SLED Pulse



	Maximum	Time (ms)	Filter Class	Legend
SLED Acceleration (G's)	23.15	105.1	CFC 60	S0SLED000000ACXD
SLED Velocity (mph)	29.36	-19.1	CFC 180	S0SLED000000VAXC
SLED Displacement (ft)	10.39	0.6	CFC 180	S0SLED000000DVXC

**DATA SHEET 47**  
**BELT RESTRAINT – TEST 6**  
**(FMVSS 213, S5.4.3)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-124B
Test Date:	18 June 2018	Item Code	043-1965350-06-3H3FNLTU

Section	Requirement	Pass / Fail
S5.4.3.1	<b>Snug Fit of Belts.</b> Belts that are part of the restraint and designed to restrain the child are adjustable to snugly fit any child of height and weight identified by the manufacturer in accordance with the manufacturers installation instructions.	Pass

Section	Requirement	Yes / No	Pass / Fail
S5.4.3.2	<b>Direct Restraint.</b> Belts impose no loads on the child resulting from mass of the system or the test seat		Pass
	The restraint has one or more belts that contact the dummy for restraint	Yes	If all are "Yes" Restraint fails S5.4.3.2
	The restraint has a rigid structure behind the dummy	Yes	
	The restraint could move relative to the belt	No	

Section	Requirement	Pass / Fail
S5.4.3.3	<b>Seating Systems.</b> Except for harness and infant restraints for children up to 10kg (22lb), each restraint designed for a child in a seated position and having belts shall provide.	Pass
S5.4.3.3(a)	Upper torso restraint (either belts or a shield)	Pass
S5.4.3.3(b)	Lower torso restraint (either belts or a shield)	Pass
S5.4.3.3(c)	Crotch restraint (either a belt attached to the lap belt or a shield)	Pass

Section	Requirement	Pass / Fail
S5.4.3.4	<b>Harnesses.</b> Each harness shall:	N/A
S5.4.3.3(a)	Provide upper torso restraint)	N/A
S5.4.3.3(b)	Provide lower torso restraint (lap & crotch)	N/A
S5.4.3.3(c)	Prevent Standing	N/A

**Remarks**

Recorded by:   
Adam Hardbattle, SLED Engineer

Date: June 19, 2018

**DATA SHEET 48**  
**BUCKLE RELEASE – TEST 6**  
**(FMVSS 213, S5.4.3.5, S6.2)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-124B
Test Date:	18 June 2018	Item Code	043-1965350-06-3H3FNLTU


Section	Requirement	Measurement	Pass / Fail
S5.4.3.5(a)	<b>Pre-Impact Release Force</b> Releases under 40-60 N	47 N	Pass
S5.4.3.5(a)	<b>Post-Impact Release Force*</b> Releases $\leq$ 71 N	57 N	Pass
S5.4.3.5(a)	<b>Minimum Surface Area of Buckle</b> $\geq$ 3.9 cm <sup>2</sup> (0.6 in <sup>2</sup> )	4 cm <sup>2</sup>	Pass
S5.4.3.5(a)	<b>Buckle Integrity</b> Shall not release during testing	No Release	Pass

\*Not applicable unless determined using the largest test dummy specified in S7 for use in testing the seat.

**Remarks**

None

Recorded by:

  
 Adam Hardbattle, SLED  
 Engineer

Date:

June 19, 2018

**DATA SHEET 49**  
**SYSTEM INTEGRITY – TEST 6**  
**(FMVSS 213, S5.1.1)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-124B
Test Date:	18 June 2018	Item Code	043-1965350-06-3H3FNLTU

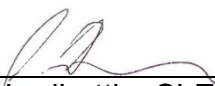
S5.1.1 When dynamically tested, the child restraint shall:

Section	Requirement	Pass / Fail
S5.1.1(a)	<b>Structural Integrity</b> – Exhibit no complete separation of any load bearing structural element	Pass
	Exhibit no partial separation with exposing surfaces with a radius of less than 9.53 mm (3/8 in.)	Pass
	Exhibit no partial separation with exposing surfaces with protrusions greater than 6.35 mm (1/4 in.)	Pass
S5.1.1(b)(1)	<b>Adjustment Position</b> – Remain in the same adjustment position during the test that it was immediately before the test	Pass
S5.1.1(b)(2)(ii)	<b>Exposed Openings</b> – Have no exposed opening larger than 6.35 mm (1/4 in.) before the test becomes smaller during the testing as a result of the movement of the seating service relative to the restraint system as a whole.	Pass
S5.1.1(c)	<b>Seating Surface Angle</b> – Forward facing restraints do not allow the angle between the system's back support surface and seating surface and seating surface to be less than 45 degrees at the completion of the test	Pass

**Remarks**

None

Recorded by: \_\_\_\_\_

  
Adam Hardbatt, SLED  
Engineer

Date: June 19, 2018

**DATA SHEET 50  
INJURY CRITERIA – TEST 6  
(FMVSS 213, S5.1.2)**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-124B
Test Date:	18 June 2018	Item Code	043-1965350-06-3H3FNLTU

Section	Requirement
S5.1.2.1(a)	<b>Head Injury Criterion</b> The maximum calculated head injury criterion for a 36 millisecond time interval (HIC36) shall not exceed 1,000. HIC is not calculated when using the 6-year-old weighted and 10-year-old test dummies.
S5.1.2.1(b)	<b>Chest Injury Criterion</b> The chest acceleration shall not exceed 60g for intervals whose cumulative duration is more than 3 milliseconds

**Head Injury Criterion Results**

Calculated HIC36	Pass / Fail
222	Pass

**Chest Injury Criterion Results**

Max Acceleration lasting 3ms (g)	Pass / Fail
40	Pass

**Remarks**

Recorded by:   
 Adam Hardbattle, SLED  
 Engineer

Date: June 19, 2018

**INJURY CRITERIA – HEAD ACCELERATION PLOTS – TEST 6  
(FMVSS 213, S5.1.2)**

Report No.:	213-CAL-18-043
Test Date:	18 June 2018
HIC 36ms	222

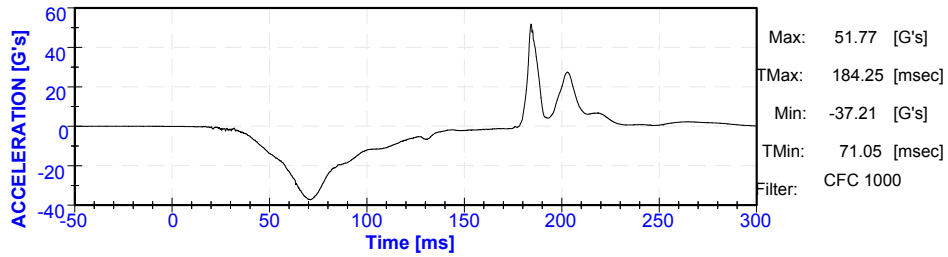
Sled Test No.	FM06-18-124B
Item Code	043-1965350-06-3H3FNLTU
Resultant	52 g's



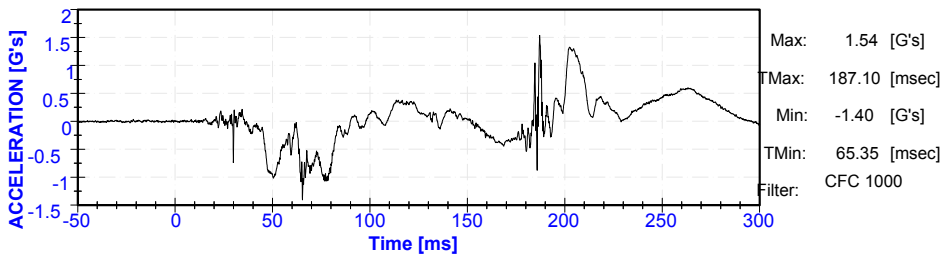
NHTSA FM06-18-124

Test Date: ☐☐ June 18, 2018

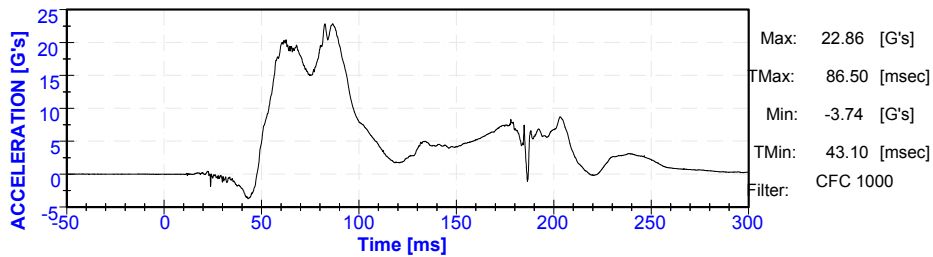
**B Bench ATD Head X Acceleration**



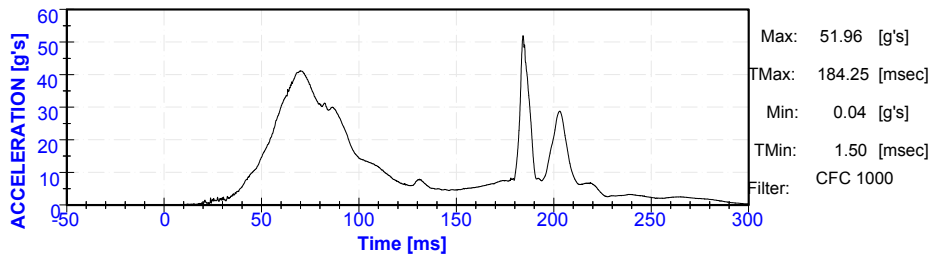
**B Bench ATD Head Y Acceleration**



**B Bench ATD Head Z Acceleration**



**B Bench ATD Head Resultant Acceleration**



**INJURY CRITERIA – CHEST ACCELERATION PLOTS – TEST 6  
(FMVSS 213, S5.1.2)**

Report No.:	213-CAL-18-043
Test Date:	18 June 2018
3ms Clip	40 g's

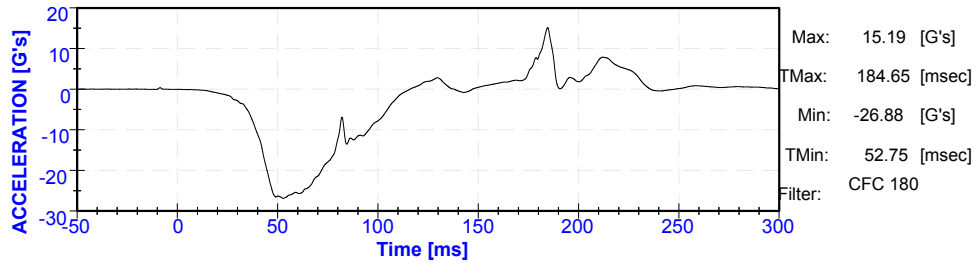
Sled Test No.	FM06-18-124B
Item Code	043-1965350-06-3H3FNLTU
Resultant	40 g's



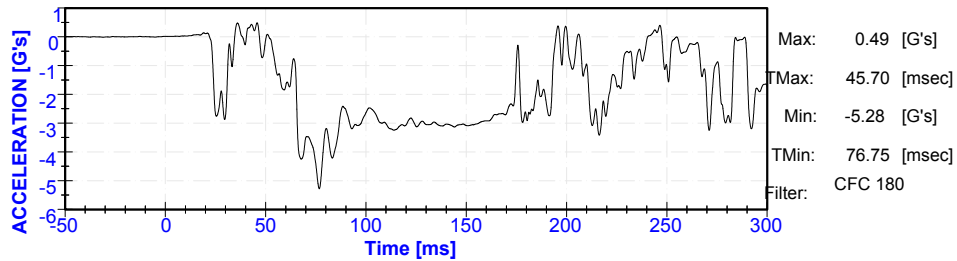
NHTSA FM06-18-124

Test Date:  June 18,;

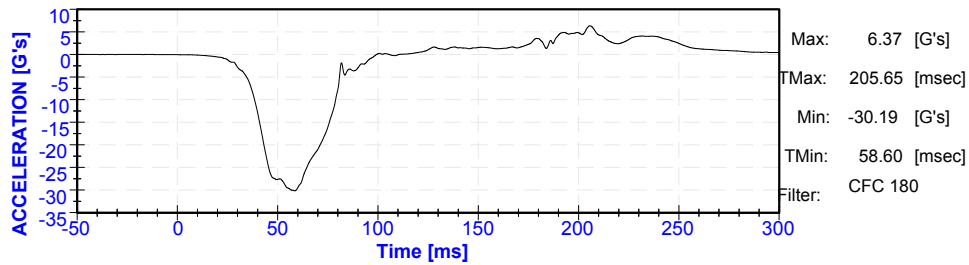
**B Bench ATD Chest X Acceleration**



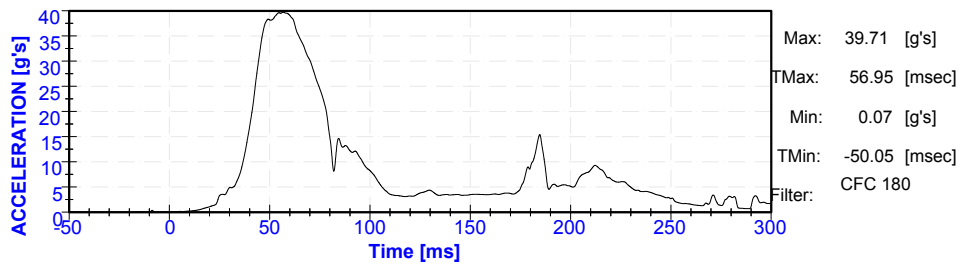
**B Bench ATD Chest Y Acceleration**



**B Bench ATD Chest Z Acceleration**



**B Bench ATD Chest Resultant Acceleration**



**DATA SHEET 51**  
**OCCUPANT EXCURSION – TEST 6**  
**(FMVSS 213, S5.1.3, S5.1.4, S5.2.1.1(c))**

Report No.:	213-CAL-18-043	Sled Test No.	FM06-18-124B
Test Date:	18 June 2018	Item Code	043-1965350-06-3H3FNLTU

**FORWARD-FACING RESTRAINTS**

Section	Requirement	Measurement	Pass / Fail
S5.1.3.1	<b>Torso Retention</b> – CRS shall retain the torso within system		Pass
S5.1.3.1(a)(1)	<b>Head Excursion</b> - ≤ 720 mm (28.4 in.) with tether ≤ 813 mm (32 in.) No tether	524	Pass
S5.1.3.1(a)(2)	<b>Knee Excursion</b> - < 91.5 cm (36 in.)	648	Pass
S5.2.1.1(c)	<b>Head-Torso Angle</b> - Rearward change ≤ 45 degrees	≤ 45°	Pass


**REAR-FACING RESTRAINTS**

Section	Requirement	Measurement	Pass / Fail
S5.1.3.2	<b>Torso Retention</b> – CRS shall retain the torso within system		N/A
S5.1.3.2	<b>Head Target Excursion</b> – Not beyond restraint's top and forward edge		N/A
S5.1.4	<b>Back Support Angle</b> - Angle between the back support surface and vertical ≤ 70 degrees	N/A	N/A
S5.2.1.1(c)	<b>Head-Torso Angle</b> - Rearward change ≤ 45 degrees	N/A	N/A

**Remarks**

Excursion camera locations (forward of Z point) are 28.4", Camera speed = 2000fps and focal length of lenses = 12.5mm

Recorded by: \_\_\_\_\_

  
 Adam Hardbatt, SLED  
 Engineer

Date: \_\_\_\_\_ June 19, 2018



**DATA SHEET 52**  
**OCCUPANT EXCURSION – TEST 6**  
**(FMVSS 213, S5.1.3.3)**

CAR BED RESTRAINTS

Section	Requirement	Measurement	Pass / Fail
Head – Torso Retention (FMVSS 213, S5.1.3.3)	Retain within confines of system	N/A	N/A

**Remarks**

Recorded by:   
Adam Hardbatt, SLED  
Engineer

Date: June 19, 2018

**DATA SHEET 53**  
**AIRCRAFT PASSENGER SEAT INVERSION – TEST A**  
**(FMVSS 213, S8.2, S8.2.5, S8.2.6)**

Report No.:	213-CAL-18-043	Test No.	FM06-18-118
Test Date:	18 June 2018	Item Code	043-1965350-Inv01-12CRN2FR

Laboratory Ambient Conditions During Testing:

Temperature Degrees C (F)	21.8 C (71.2F)
Relative Humidity %	58.9%

Dummy:

Dummy Description:	CRABI 12 Month Old (Part 572R)
Dummy Serial Number:	085

Restraint Installation:

Installed Direction:	Rearward Facing
Base Usage:	N/A
Attachment Method	Lap belt
Tether Usage	No
Seat Back Position:	Recline #2
Internal Harness Shoulder Strap Position:	Slot 5, Counted from bottom up
Internal Harness Crotch Strap Position:	Rear

Rotation About Y-Axis (Forward):


Section	Requirement	Pass/Fail
S8.2.5	The test dummy shall be retained within the CRS	Pass
S8.2.5	The CRS shall be restrained within the aircraft seat	Pass

Rotation About X-Axis (Lateral):

Section	Requirement	Pass/Fail
S8.2.6	The test dummy shall be retained within the CRS	Pass
S8.2.6	The CRS shall be restrained within the aircraft seat	Pass

**Remarks:**

None

Recorded by:   
\_\_\_\_\_  
Adam Hardbatt, SLED  
Engineer

Date: June 19, 2018

**DATA SHEET 54**  
**AIRCRAFT PASSENGER SEAT INVERSION - TEST B**  
**(FMVSS 213, S8.2, S8.2.5, S8.2.6)**

Report No.:	213-CAL-18-043	Test No.	FM06-18-119
Test Date:	18 June 2018	Item Code	043-1965350-Inv02-3H3FN2FU

Laboratory Ambient Conditions During Testing:

Temperature Degrees C (F)	21.9 C (71.4F)
Relative Humidity %	60.1%

Dummy:

Dummy Description:	H3 3 Year Old (Part 572R)
Dummy Serial Number:	034

Restraint Installation:

Installed Direction:	Forward Facing
Base Usage:	N/A
Attachment Method	Lap belt
Tether Usage	No
Seat Back Position:	Upright #5
Internal Harness Shoulder Strap Position:	Slot 8, Counted from bottom up
Internal Harness Crotch Strap Position:	Front

Rotation About Y-Axis (Forward):


Section	Requirement	Pass/Fail
S8.2.5	The test dummy shall be retained within the CRS	Pass
S8.2.5	The CRS shall be restrained within the aircraft seat	Pass

Rotation About X-Axis (Lateral):

Section	Requirement	Pass/Fail
S8.2.6	The test dummy shall be retained within the CRS	Pass
S8.2.6	The CRS shall be restrained within the aircraft seat	Pass

**Remarks:**

None

Recorded by:   
\_\_\_\_\_

Adam Hardbattle, SLED  
Engineer

Date: June 19, 2018

**SECTION 6**

**INTERPRETATION AND/OR DEVIATIONS FROM FMVSS 213**

There were no deviations from FMVSS 213

**SECTION 7**  
**TEST CONFIGURATION CODES**

The following table explains the code used to describe the test configurations in this report. For example, the test configuration code 12CFNLFU indicates that the child restraint sled test was conducted using a 12-month old CRABI dummy, installed in the forward facing direction with no optional base, the latch system, no tether, and in the upright position.

Dummy Description	NIN – Newborn Infant
	3H3 – 3 YO, Hybrid III
	12C -12 MO, CRABI
	6H2 – 6YO Hybrid II
	6H3 – 6YO, Hybrid III
	6W3 – 6 YO, Weighted Hybrid III
	10H3 – 10YO, Hybrid III
Installed Direction	R – Rear Facing
	F – Forward Facing
	S- Faces Sideways (applies to carbeds)
Base Usage	B – Optional base used with CRS
	N – All other configurations
Attachment Method	L – Lower anchors
	2 – Lap belt
	3 – Lap & shoulder belt
	M – Seat back mount
Tether Usage	T – Tether
	F – Tether Free
Seat Back Position	U – Upright
	R – Reclined
	N – Not Applicable

**SECTION 8  
INSTRUMENTATION CALIBRATION**

**Sled and Facility Calibrations**

<i>Instrument</i>	<i>Serial Number</i>	<i>Certification Test</i>	<i>Calibration Date</i>	<i>Due Date</i>
KT Minidau Unit #1	ESL 400186	All	5/02/2018	5/01/2019
Temp and Humidity Recorder Onset HOBO	ESL 400632	All	11/14/2017	11/13/2018
Digital Angle Gauge Digi-Pas	ESL 400482	All	9/12/2017	9/11/2018
Bosch/Kent Moore Belt Tension Gauge +/- 1 lb.	ESL 400415	All	1/10/2018	7/9/2018
Bosch/Kent Moore Belt Tension Gauge +/- 1 lb..	ESL 400943	All	1/10/2018	7/9/2018
Imada Force Gauge Model DPSH-440R	ESL 400931	All	3/06/2018	3/05/2019
Imada Force Gauge Model DS2-110	ESL 400368	All	7/25/2017	7/24/2018
Imada Force Gauge Model ZTS-550	ESL 400474	All	8/18/2017	8/17/2018
Proto Torque Wrench	ESL 400460	All	7/11/2017	7/10/2018
Sled Primary x Accelerometer Endevco	AC-10302	All	1/22/2018	7/21/2018
Sled Secondary X Endevco 7264	AC-P69795	All	1/22/2018	7/21/2018
Sled Secondary Y Endevco 7264	AC-P69794	All	1/22/2018	7/21/2018
Sled Secondary Z Endevco 7264	AC-P71301	All	1/22/2018	7/21/2018



**ATD Calibrations**

<i>Instrument</i>	<i>Serial Number</i>	<i>Certification Test</i>	<i>Calibration Date</i>	<i>Due Date</i>
NewBorn	032	ATD	NA	NA

<i>Instrument</i>	<i>Serial Number</i>	<i>Certification Test</i>	<i>Calibration Date</i>	<i>Due Date</i>
12 Month CRABI	085	ATD	5/28/2018	7/13/2018
<i>Instrument</i>	<i>Serial Number</i>	<i>Certification Test</i>	<i>Calibration Date</i>	<i>Due Date</i>
Head X Accelerometer Endevco 7264	AC-P83422	ATD	4/19/2018	10/18/2018
Head Y Accelerometer Endevco 7264	AC-P84349	ATD	4/19/2018	10/18/2018
Head Z Accelerometer Endevco 7264	AC-P82321	ATD	4/19/2018	10/18/2018
Chest X Accelerometer Endevco 7264	AC-P74971	ATD	4/19/2018	10/18/2018
Chest Y Accelerometer Endevco 7264	AC-P74780	ATD	4/19/2018	10/18/2018
Chest Z Accelerometer Endevco 7264	AC-P52158	ATD	4/19/2018	10/18/2018

<i>Instrument</i>	<i>Serial Number</i>	<i>Certification Test</i>	<i>Calibration Date</i>	<i>Due Date</i>
3 year old Hybrid 3	034	ATD	5/23/2018	7/13/2018
<i>Instrument</i>	<i>Serial Number</i>	<i>Certification Test</i>	<i>Calibration Date</i>	<i>Due Date</i>
Head X Accelerometer Endevco 7264	AC-P51732	ATD	2/12/2018	8/11/2018
Head Y Accelerometer Endevco 7264	AC-P77601	ATD	2/12/2018	8/11/2018
Head Z Accelerometer Endevco 7264	AC-P64084	ATD	2/12/2018	8/11/2018
Chest X Accelerometer Endevco 7264	AC-P51874	ATD	2/12/2018	8/11/2018
Chest Y Accelerometer Endevco 7264	AC-P74969	ATD	2/12/2018	8/11/2018
Chest Z Accelerometer Endevco 7264	AC-P58862	ATD	2/12/2018	8/11/2018

<i>Instrument</i>	<i>Serial Number</i>	<i>Certification Test</i>	<i>Calibration Date</i>	<i>Due Date</i>
6 year old Hybrid 2	220	ATD	1/22/2018	7/10/2018
<i>Instrument</i>	<i>Serial Number</i>	<i>Certification Test</i>	<i>Calibration Date</i>	<i>Due Date</i>
Head X Accelerometer Endevco 7264	AC-P50073	ATD	01/30/2018	7/31/2018
Head Y Accelerometer Endevco 7264	AC-P82751	ATD	01/30/2018	7/31/2018
Head Z Accelerometer Endevco 7264	AC-P72377	ATD	01/30/2018	7/31/2018
Chest X Accelerometer Endevco 7264	AC-P80250	ATD	01/30/2018	7/31/2018
Chest Y Accelerometer Endevco 7264	AC-P52098	ATD	01/30/2018	7/31/2018
Chest Z Accelerometer Endevco 7264	AC-P80269	ATD	01/30/2018	7/31/2018

<i>Instrument</i>	<i>Serial Number</i>	<i>Certification Test</i>	<i>Calibration Date</i>	<i>Due Date</i>
6 year old Hybrid 3	158	ATD	1/11/2018	7/13/2018
<i>Instrument</i>	<i>Serial Number</i>	<i>Certification Test</i>	<i>Calibration Date</i>	<i>Due Date</i>
Head X Accelerometer Endevco 7264	AC-P52128	ATD	2/23/2018	8/22/2018
Head Y Accelerometer Endevco 7264	AC-P83340	ATD	2/23/2018	8/22/2018
Head Z Accelerometer Endevco 7264	AC-P51684	ATD	2/23/2018	8/22/2018
Chest X Accelerometer Endevco 7264	AC-P51878	ATD	2/23/2018	8/22/2018
Chest Y Accelerometer Endevco 7264	AC-P63954	ATD	2/23/2018	8/22/2018
Chest Z Accelerometer Endevco 7264	AC-P74950	ATD	2/23/2018	8/22/2018

<i>Instrument</i>	<i>Serial Number</i>	<i>Certification Test</i>	<i>Calibration Date</i>	<i>Due Date</i>
6 year old Weighted Hybrid 3	163	ATD	1/22/2018	6/30/2018

<i>Instrument</i>	<i>Serial Number</i>	<i>Certification Test</i>	<i>Calibration Date</i>	<i>Due Date</i>
10 year old Hybrid 3	D023	ATD	1/22/2018	7/13/2018
<i>Instrument</i>	<i>Serial Number</i>	<i>Certification Test</i>	<i>Calibration Date</i>	<i>Due Date</i>
Chest X Accelerometer Endevco 7264	AC-P52004	ATD	4/5/2018	10/4/2018
Chest Y Accelerometer Endevco 7264	AC-P68051	ATD	4/5/2018	10/4/2018
Chest Z Accelerometer Endevco 7264	AC-P82749	ATD	4/5/2018	10/4/2018

**Bench Foam Calibrations**

<b>Test #</b>	<b>Calibration</b>	<b>Bottom 2"</b>	<b>Bottom 4"</b>	<b>Back 2"</b>	<b>Back 4"</b>
FM06-18-120B	<b>Pre</b>	C153-2x20 53.3 lbs	T40-4x20 24.2 lbs	H86-2x24 53.4 lbs	S21-4x24 24.5 lbs
	<b>Post</b>	C153-2x20 51.7 lbs	T40-4x20 23.6 lbs	H86-2x24 52.5 lbs	S21-4x24 25.7 lbs
FM06-18-121B	<b>Pre</b>	C141-2x20 51.8 lbs	T43-4x20 23.9 lbs	H70-2x24 52.3 lbs	S25-4x24 24.9 lbs
	<b>Post</b>	C141-2x20 51.5 lbs	T43-4x20 24.0 lbs	H70-2x24 52.2 lbs	S25-4x24 25.6 lbs
FM06-18-122B	<b>Pre</b>	C176-2x20 54.6 lbs	T42-4x20 24.5 lbs	H89-2x24 54.1 lbs	S28-4x24 24.9 lbs
	<b>Post</b>	C176-2x20 53.6 lbs	T42-4x20 23.7 lbs	H89-2x24 52.0 lbs	S28-4x24 24.2 lbs
FM06-18-123A	<b>Pre</b>	C139-2x20 52.1 lbs	T41-4x20 24.1 lbs	H80-2x24 48.3 lbs	S23-4x24 24.6 lbs
	<b>Post</b>	C139-2x20 50.5 lbs	T41-4x20 24.1 lbs	H80-2x24 47.4 lbs	S23-4x24 24.5 lbs
FM06-18-123B	<b>Pre</b>	C144-2x20 51.8 lbs	T53-4x20 25.0 lbs	H71-2x24 49.8 lbs	S24-4x24 23.9 lbs
	<b>Post</b>	C144-2x20 51.8 lbs	T53-4x20 25.1 lbs	H71-2x24 50.3 lbs	S24-4x24 23.6 lbs
FM06-18-124B	<b>Pre</b>	C172-2x20 51.6 lbs	T58-4x20 24.9 lbs	H88-2x24 51.6 lbs	S27-4x24 24.8 lbs
	<b>Post</b>	C172-2x20 51.7 lbs	T58-4x20 24.4 lbs	H88-2x24 50.3 lbs	S27-4x24 24.1 lbs

## Section 9 PHOTOGRAPHS

### Sled Photos

#### Sled Buck – Standard Bench Seat and Configuration

213-CAL-18-043

043-1965350-01-6H3FN2TU

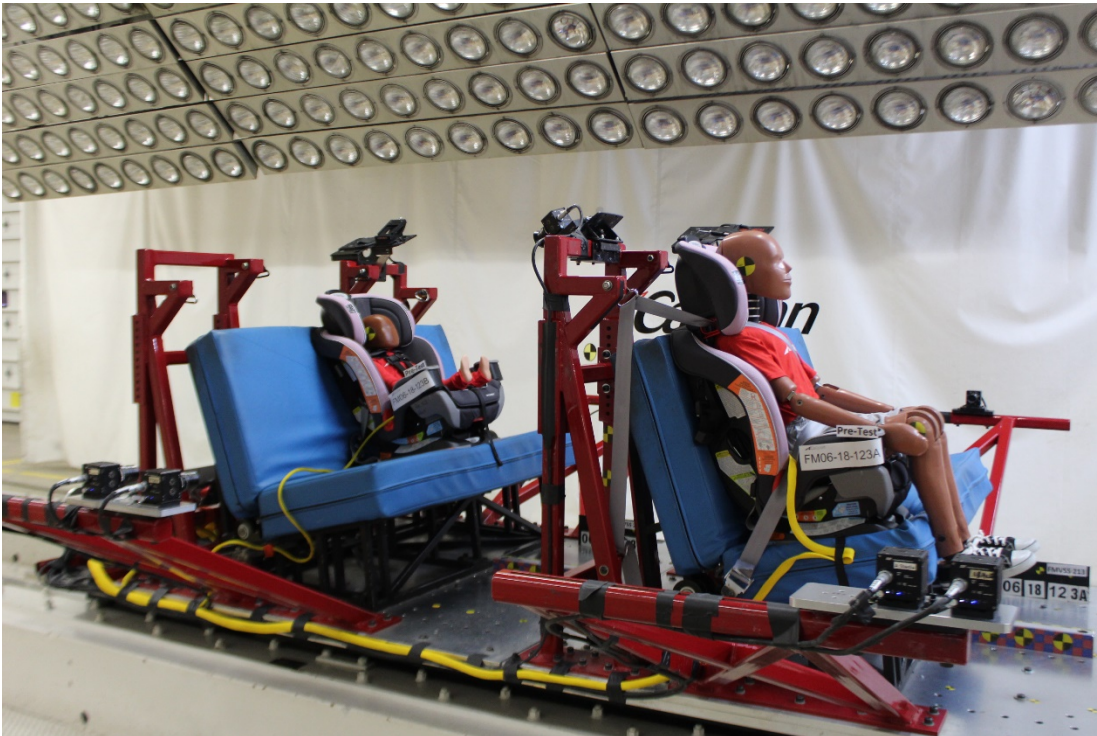
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043-1965350-03-12CFN2TU

043-1965350-04-10H3FN3FB

043-1965350-05-12CFNLTU

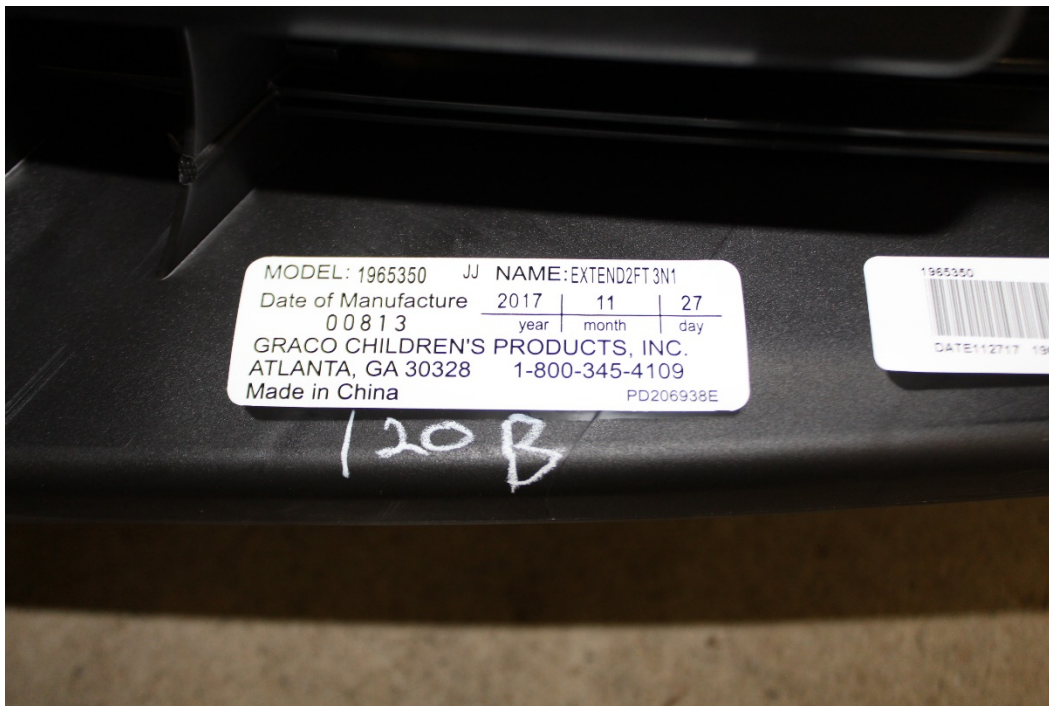
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**Dynamic Test Photos**

043-1965350-01-6H3FN2TU  
Pre Test

213-CAL-18-043  
FM06-18-120B





043-1965350-01-6H3FN2TU  
Pre Test

213-CAL-18-043  
FM06-18-120B



043-1965350-01-6H3FN2TU  
Pre Test

213-CAL-18-043  
FM06-18-120B





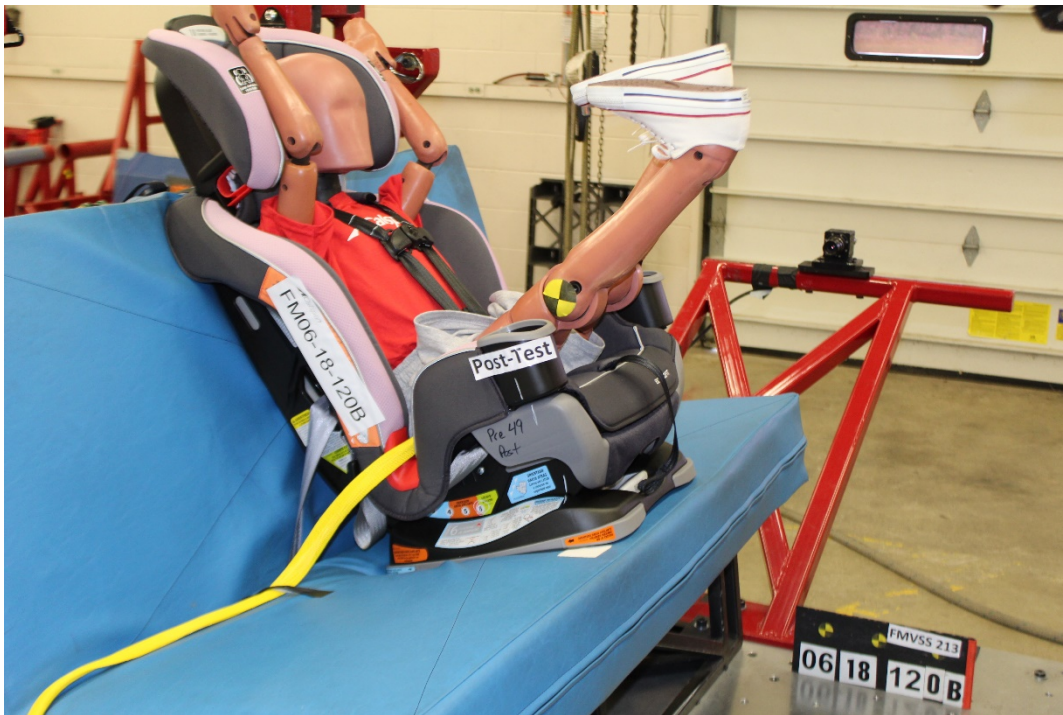
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Pre Test

213-CAL-18-043  
FM06-18-120B



043-1965350-01-6H3FN2TU  
Post Test

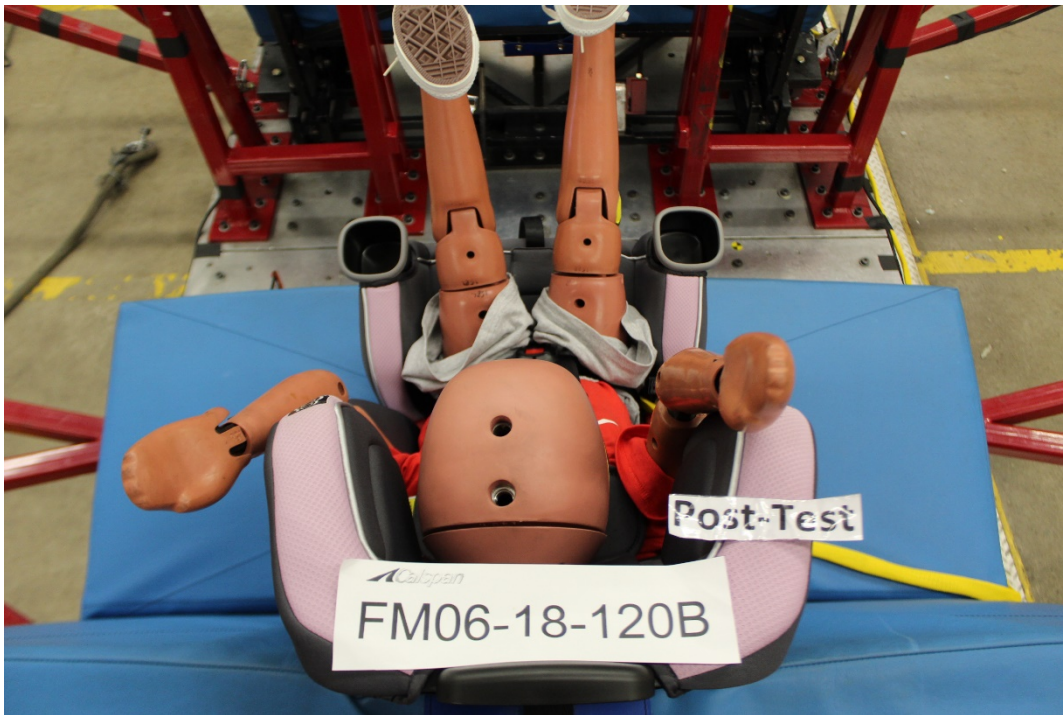
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FM06-18-120B





043-1965350-01-6H3FN2TU  
Post Test

213-CAL-18-043  
FM06-18-120B



043-1965350-01-6H3FN2TU  
Post Test

213-CAL-18-043  
FM06-18-120B





Dynamic Test Photos

043-1965350-02-12CRN2FR  
Pre Test

213-CAL-18-043  
FM06-18-121B



043-1965350-02-12CRN2FR  
Pre Test

213-CAL-18-043  
FM06-18-121B





043-1965350-02-12CRN2FR  
Pre Test

213-CAL-18-043  
FM06-18-121B



043-1965350-02-12CRN2FR  
Pre Test

213-CAL-18-043  
FM06-18-121B





043-1965350-02-12CRN2FR  
Post Test

213-CAL-18-043  
FM06-18-121B



043-1965350-02-12CRN2FR  
Post Test

213-CAL-18-043  
FM06-18-121B





043-1965350-02-12CRN2FR  
Post Test

213-CAL-18-043  
FM06-18-121B



**Dynamic Test Photos**

043-1965350-03-12CFN2TU  
Pre Test

213-CAL-18-043  
FM06-18-122B





043-1965350-03-12CFN2TU  
Pre Test

213-CAL-18-043  
FM06-18-122B



043-1965350-03-12CFN2TU  
Pre Test

213-CAL-18-043  
FM06-18-122B





043-1965350-03-12CFN2TU  
Pre Test

213-CAL-18-043  
FM06-18-122B



043-1965350-03-12CFN2TU  
Post Test

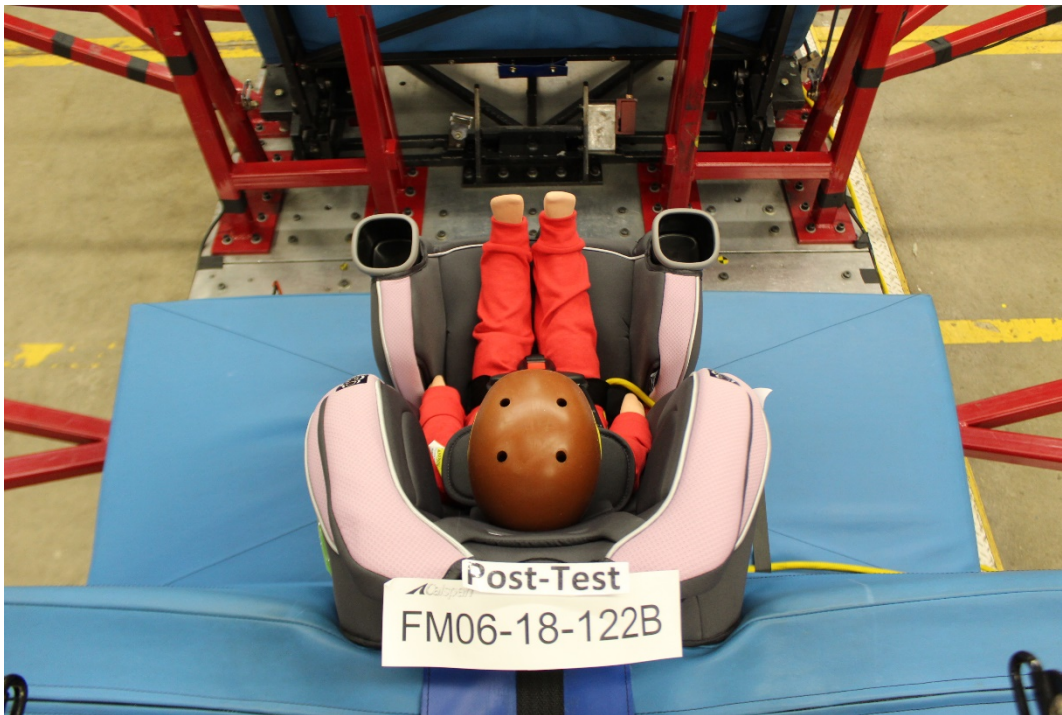
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FM06-18-122B





043-1965350-03-12CFN2TU  
Post Test

213-CAL-18-043  
FM06-18-122B



043-1965350-03-12CFN2TU  
Post Test

213-CAL-18-043  
FM06-18-122B





**Dynamic Test Photos**

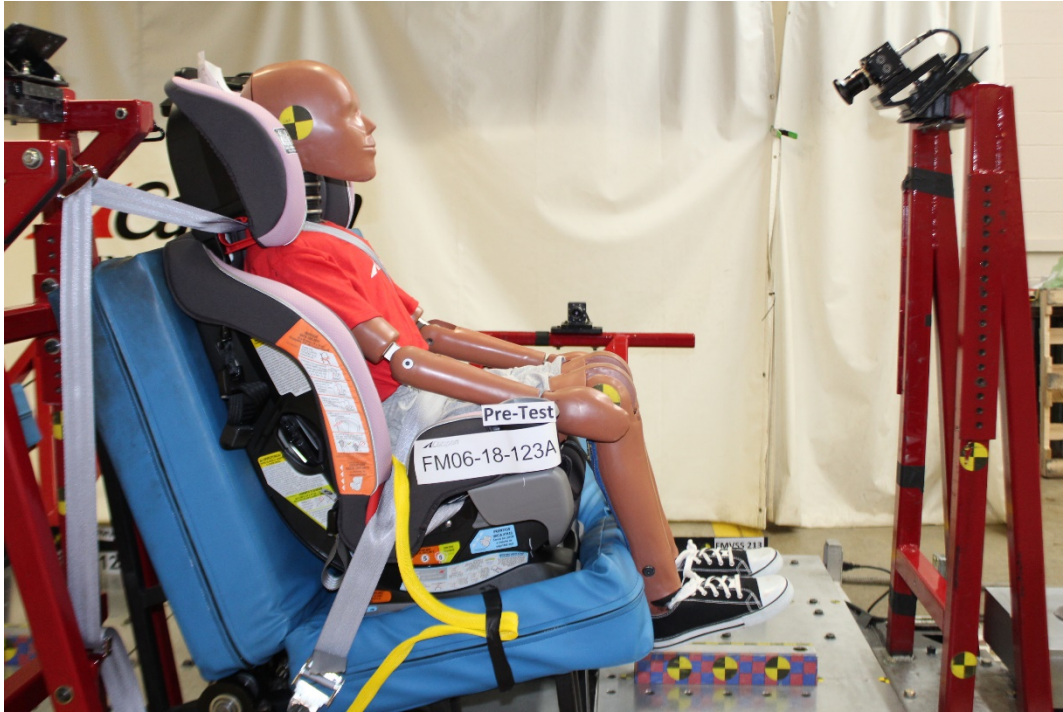
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FM06-18-123A



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Pre Test

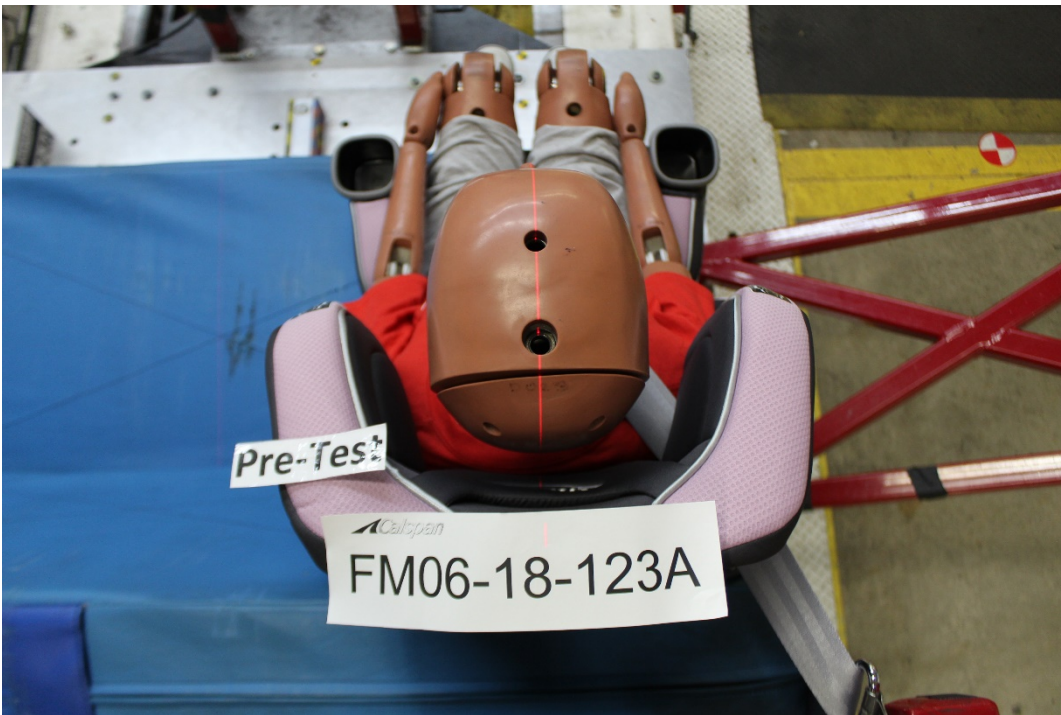
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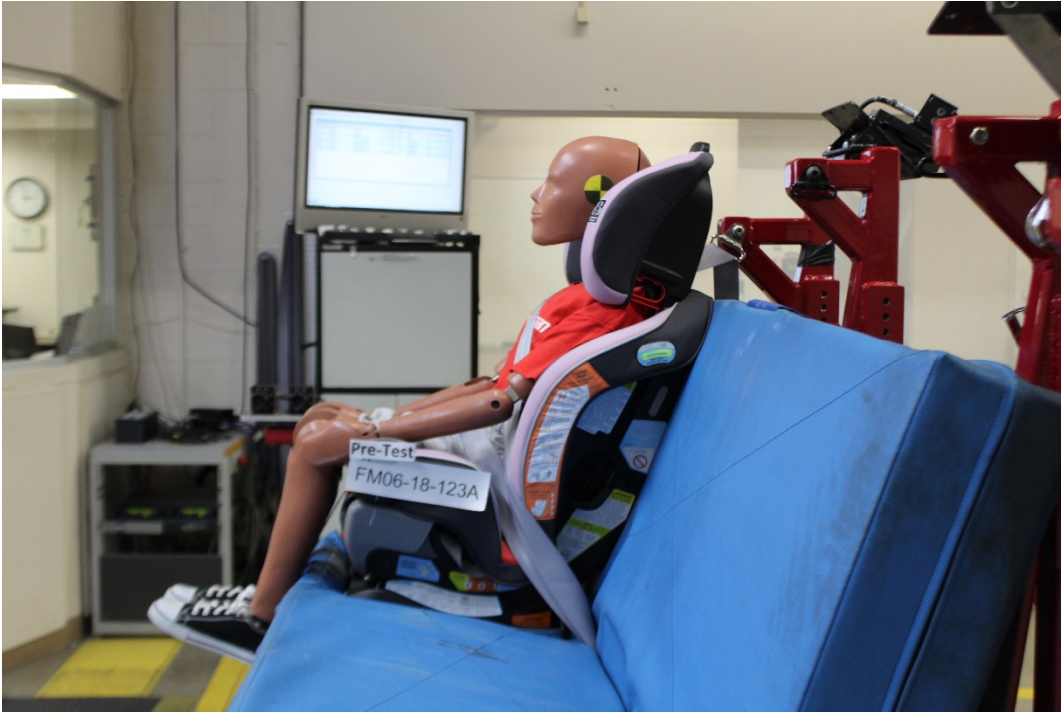
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213-CAL-18-043  
FM06-18-123A



043-1965350-04-10H3FN3FB  
Pre Test

213-CAL-18-043  
FM06-18-123A





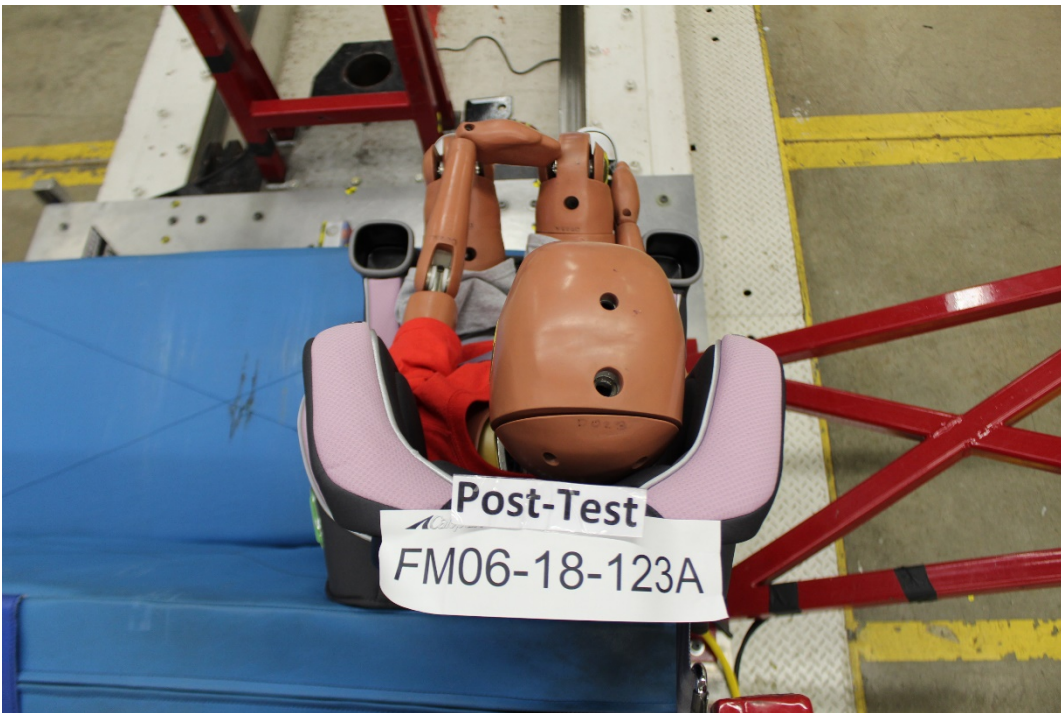
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213-CAL-18-043  
FM06-18-123A



043-1965350-04-10H3FN3FB  
Post Test

213-CAL-18-043  
FM06-18-123A





043-1965350-04-10H3FN3FB  
Post Test

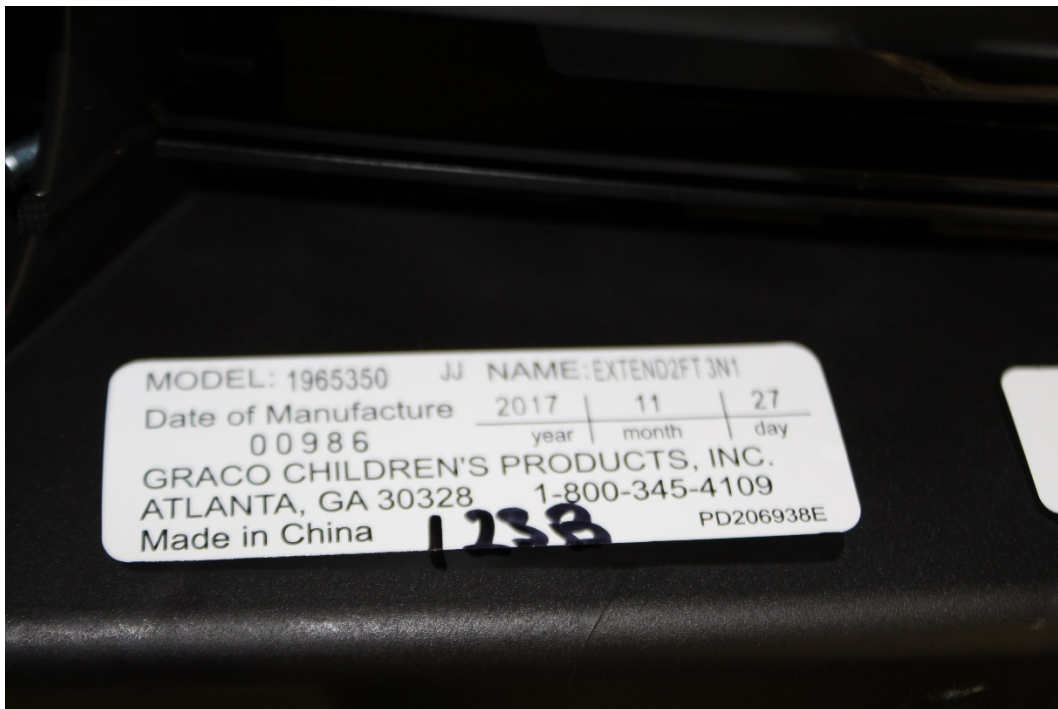
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FM06-18-123A



**Dynamic Test Photos**

043-1965350-05-12CFNLTU  
Pre Test

213-CAL-18-043  
FM06-18-123B





043-1965350-05-12CFNLTU  
Pre Test

213-CAL-18-043  
FM06-18-123B



043-1965350-05-12CFNLTU  
Pre Test

213-CAL-18-043  
FM06-18-123B





043-1965350-05-12CFNLTU  
Pre Test

213-CAL-18-043  
FM06-18-123B



043-1965350-05-12CFNLTU  
Post Test

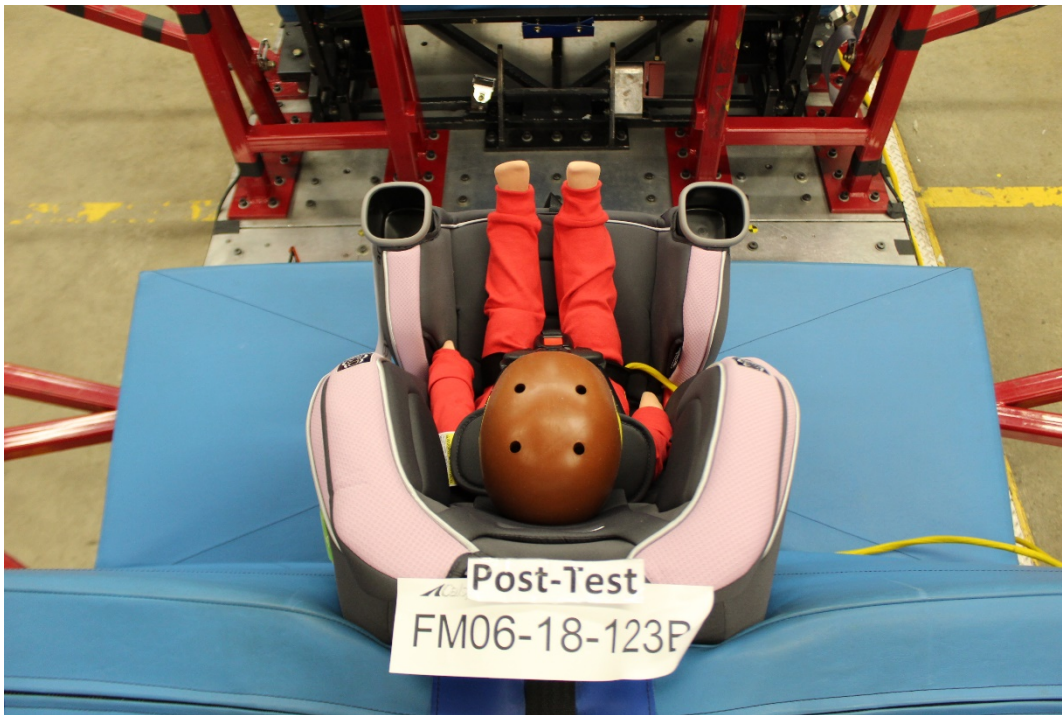
213-CAL-18-043  
FM06-18-123B





043-1965350-05-12CFNLTU  
Post Test

213-CAL-18-043  
FM06-18-123B



043-1965350-05-12CFNLTU  
Post Test

213-CAL-18-043  
FM06-18-123B

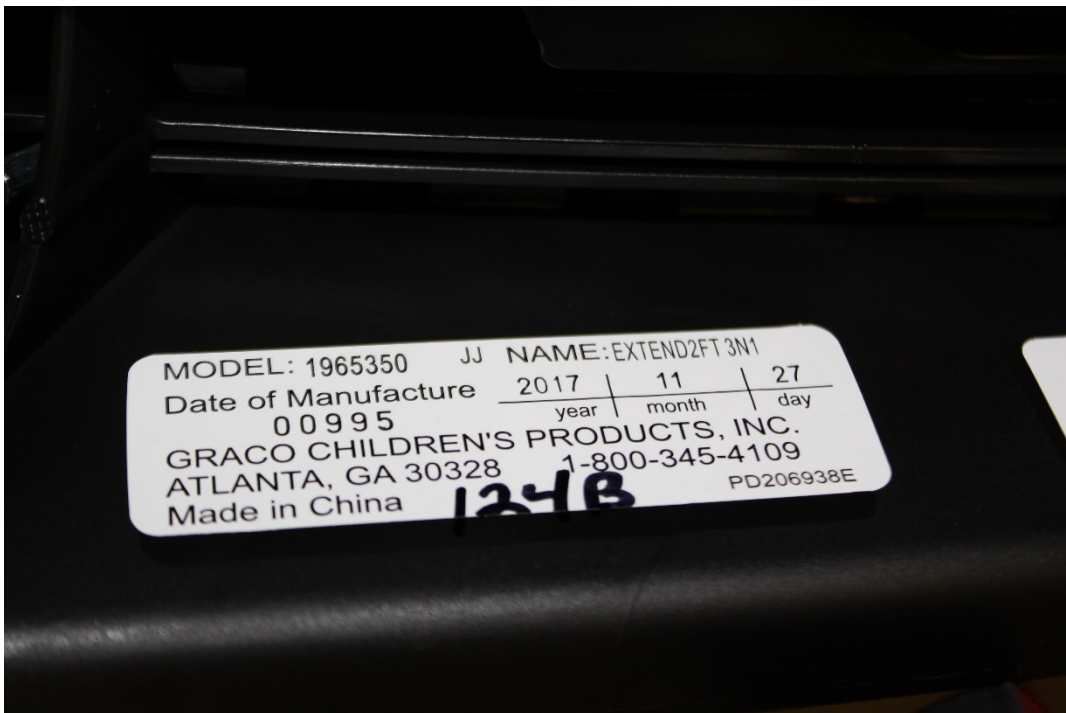




**Dynamic Test Photos**

043-1965350-06-3H3FNLTU  
Pre Test

213-CAL-18-043  
FM06-18-124B



043-1965350-06-3H3FNLTU  
Pre Test

213-CAL-18-043  
FM06-18-124B





043-1965350-06-3H3FNLTU  
Pre Test

213-CAL-18-043  
FM06-18-124B



043-1965350-06-3H3FNLTU  
Pre Test

213-CAL-18-043  
FM06-18-124B





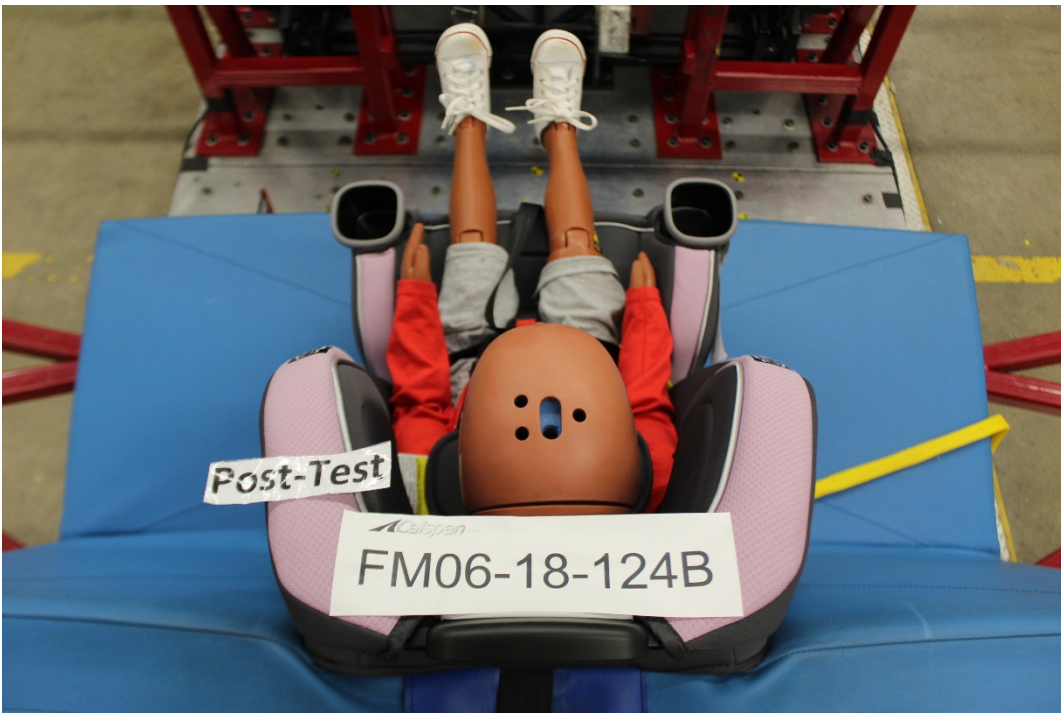
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Post Test

213-CAL-18-043  
FM06-18-124B



043-1965350-06-3H3FNLTU  
Post Test

213-CAL-18-043  
FM06-18-124B





043-1965350-06-3H3FNLTU  
Post Test

213-CAL-18-043  
FM06-18-124B



**Inversion Test Photos**

043-1965350-Inv01-12CRN2FR  
Pre Test Y-Axis

213-CAL-18-043  
FM06-18-118





043-1965350-Inv01-12CRN2FR  
Post Test Y-Axis

213-CAL-18-043  
FM06-18-118



043-1965350-Inv01-12CRN2FR  
Pre Test X-Axis

213-CAL-18-043  
FM06-18-118





043-1965350-Inv01-12CRN2FR  
Post Test X-Axis

213-CAL-18-043  
FM06-18-118





**Inversion Test Photos**

043-1965350-Inv02-3H3FN2FU  
Pre Test Y-Axis

213-CAL-18-043  
FM06-18-119



043-1965350-Inv02-3H3FN2FU  
Post Test Y-Axis

213-CAL-18-043  
FM06-18-119





043-1965350-Inv02-3H3FN2FU  
Pre Test X-Axis

213-CAL-18-043  
FM06-18-119



043-1965350-Inv02-3H3FN2FU  
Post Test X-Axis

213-CAL-18-043  
FM06-18-119





Inspection Photos

**Registration**  
213-CAL-18-043

043-1965350-01-6H3FN2TU	043-1965350-02-12CRN2FR
043-1965350-03-12CFN2TU	043-1965350-04-10H3FN3FB
043-1965350-05-12CFNLTU	043-1965350-06-3H3FNLTU

IMPORTANTE: En caso de una retirada del mercado, solo podremos contactarle si tenemos su nombre y dirección. Usted DEBE enviarnos por correo la tarjeta adjunta o inscribirse en línea para añadirse a la lista para retiradas.

**FOR YOUR CHILD'S CONTINUED SAFETY**  
Please take a few moments to promptly fill out and return the attached card or register online.

Although child restraint systems undergo testing and evaluation, it is possible that a child restraint could be recalled.

In case of recall, we can reach you only if we have your name and address, so please send in the card or register online to be on our recall list.

**Please fill this card out and mail it NOW, or register online at <http://www.gracobaby.com/carseatregistration> while you are thinking about it.**

The card is already addressed and we've paid the postage.

## IMPORTANT

In case of a recall, we can reach you only if we have your name and address. You **MUST** send in the attached card or register online to be on our recall list.

We've already paid the postage.

**Do it today.**

*Tear off and mail this part*

Consumer: Just fill in your name and address. Please print.

Your first name

Your last name

Your street address

City

State  Zip Code

**CHILD RESTRAINT REGISTRATION CARD**

MODEL: 1965350 JJ NAME: EXTEND2FT 3N1

Date of Manufacture 2017 11 27  
year month day

GRACO CHILDREN'S PRODUCTS, INC.  
 ATLANTA, GA 30328 1-800-345-4109  
 Made in China PD209930E

**BUSINESS REPLY MAIL**  
FIRST-CLASS MAIL PERMIT NO. 66 ELVERSON PA

POSTAGE WILL BE PAID BY ADDRESSEE

GRACO  
 CHILDREN'S PRODUCTS, INC.  
 P.O. BOX 169  
 ELVERSON, PA 19520-9901

The screenshot shows the Graco website's 'CAR SEAT REGISTRATION' page. The page includes a header with the Graco logo and navigation links. The main content area features a 'FOR YOUR CHILD'S CONTINUED SAFETY' notice and a registration form. The form is divided into two columns: 'CUSTOMER INFORMATION' and 'PRODUCT INFORMATION'. The 'CUSTOMER INFORMATION' section includes fields for First Name, Last Name, Address (Line 1 and Line 2), City, State (a dropdown menu), Zip Code, Email, and Phone. The 'PRODUCT INFORMATION' section includes a field for Model Number and a field for Manufacture Date (mm/dd/yyyy). There are 'Clear' and 'Submit' buttons at the bottom of the form. The browser's address bar shows the URL: https://www.gracobaby.com/ProductRegistration/CarSeatsView?catalogId=65051&langId=-1&storeId=65051. The taskbar at the bottom shows the system time as 1:07 PM on 1/22/2018.



Labels	
213-CAL-18-043	
043-1965350-01-6H3FN2TU	043-1965350-02-12CRN2FR
043-1965350-03-12CFN2TU	043-1965350-04-10H3FN3FB
043-1965350-05-12CFNLTU	043-1965350-06-3H3FNLTU

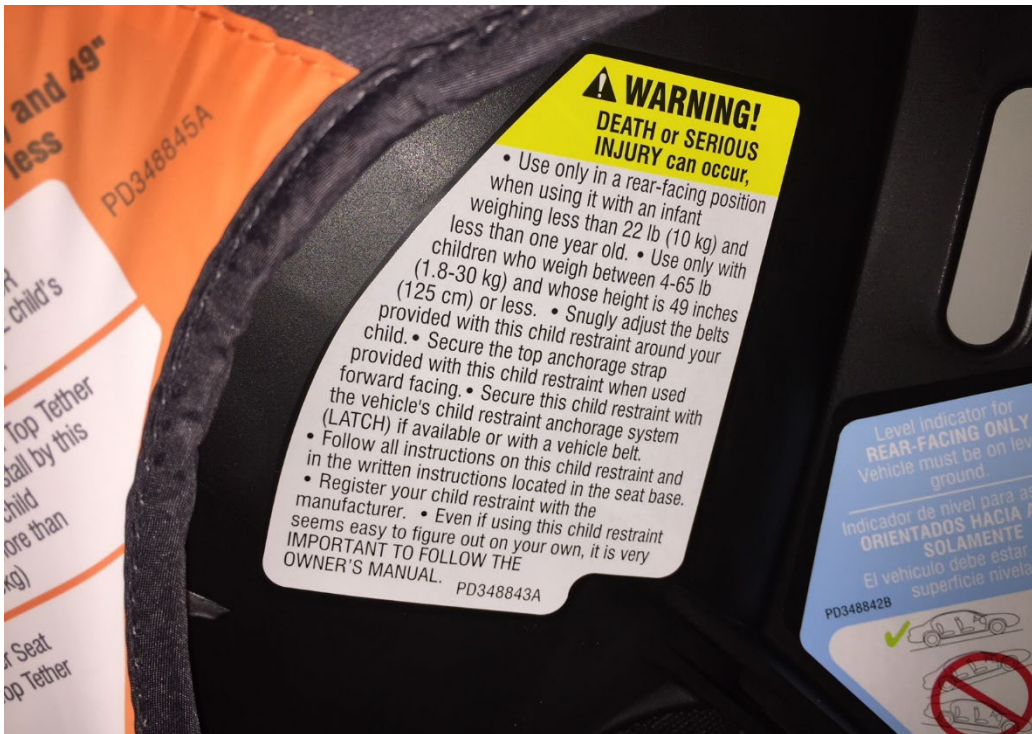
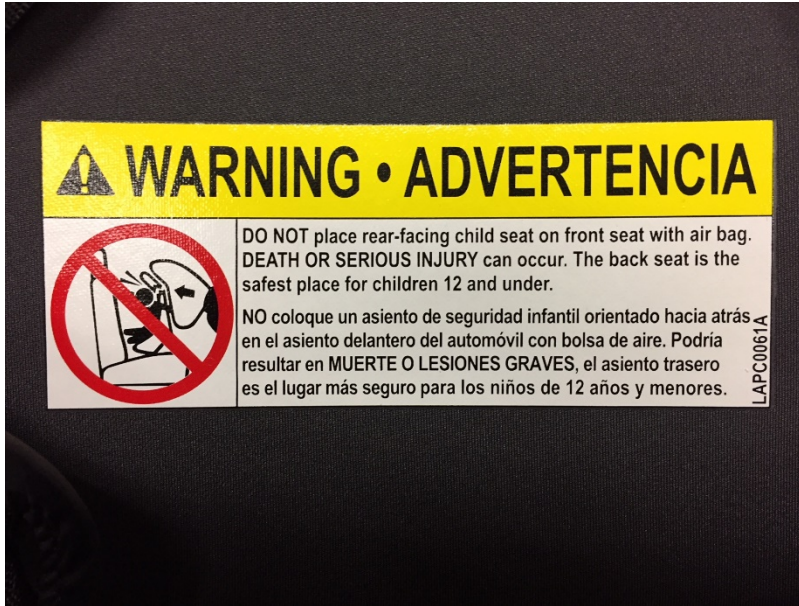


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213-CAL-18-043

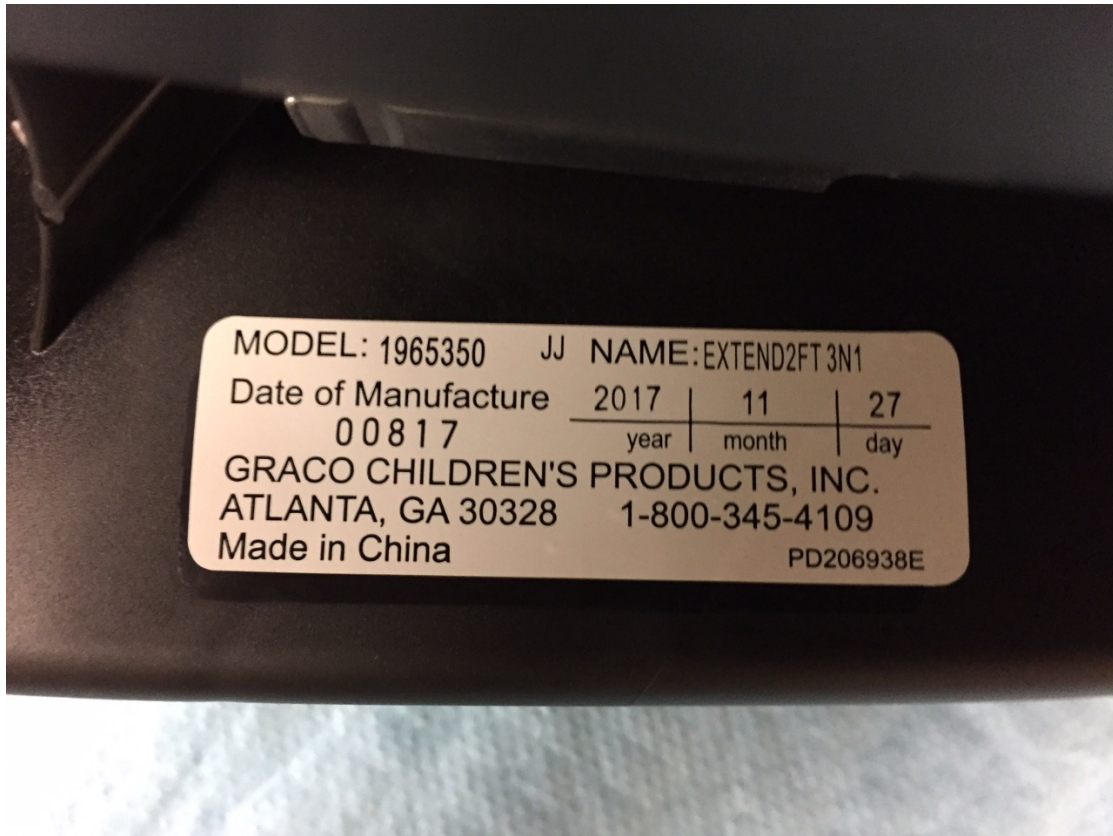
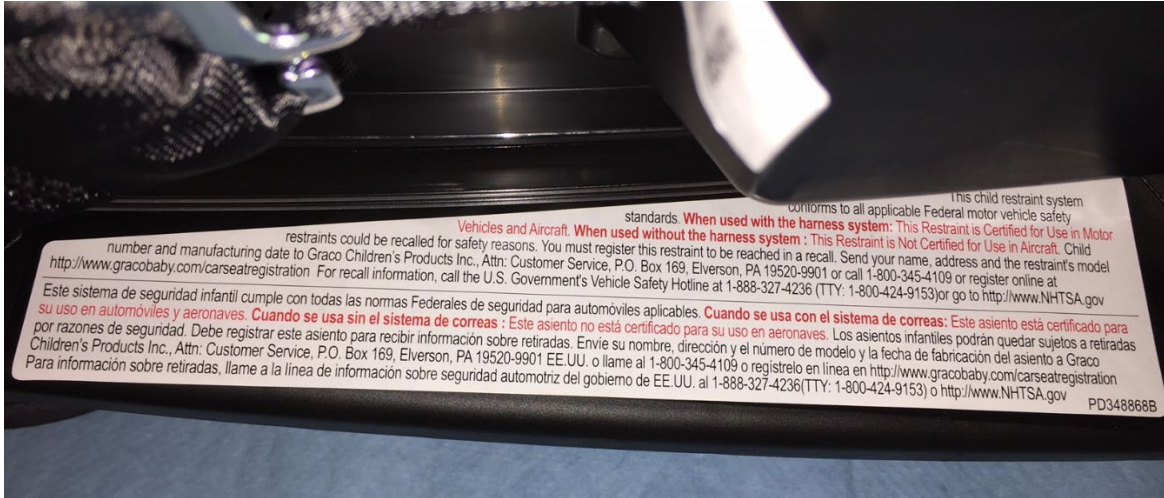
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