

REPORT NUMBER: 213-MGA-16-006

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

**Britax Child Safety, Inc.
Advocate ClickTight, Model E1A265N**

**PREPARED BY:
MGA Research Corporation
5000 Warren Road
Burlington, WI 53105**



Report Date: February 11, 2016

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
1200 New Jersey Avenue, SE
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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 MGA Research Corporation under Contract No. DTNH22-12-D-00274. 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 MGA Research 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 Britax Child Safety, Inc. Advocate ClickTight, Model E1A265N, child restraint system. The restraint was dynamically tested in the following configurations:

- Newborn Infant, rear facing, other configuration, lap belt, tether free, and reclined
- 12 month old, CRABI, rear facing, other configuration, lower anchor, tether free, and reclined
- 3 year old, Hybrid III, forward facing, other configuration, lap belt, tether, and upright
- 3 year old, Hybrid III, forward facing, other configuration, lower anchor, tether free, and upright
- 6 year old, Hybrid II, forward facing, other configuration, lap belt, tether free, and upright
- 6 year old weighted, Hybrid III, forward facing, other configuration, lap belt, tether free, and upright

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

- Newborn Infant, rear facing, other configuration, lap belt, tether free, and reclined
- 12 month old, CRABI, forward facing, other configuration, lap belt, tether free, and upright
- 3 year old, Hybrid III, forward facing, other configuration, lap belt, tether free, and upright

The inspection and/or testing of the Britax Child Safety, Inc., Advocate ClickTight, Model E1A265N child restraint failed to meet the following requirement(s) of FMVSS No. 213 when tested in accordance with TP-213-10 in the configurations and conditions documented in this report:

S5.8.2(a)(1) Electronic Registration Form

Each electronic registration form must meet the requirements of this S5.8.2. Each form shall contain the following statements at the top of the form:

- (i) ***FOR YOUR CHILD'S CONTINUED SAFETY*** (Displayed in bold type face, caps, and minimum 12 point type.)
- (ii) ***"Although child restraint systems undergo testing and evaluation, it is possible that a child restraint could be recalled."*** (Displayed in bold typeface, caps and lower case, and minimum 12 point type.)
- (iii) ***"In case of a recall, we can reach you only if we have your name and address, so please fill in the registration form to be on our recall list."*** (Displayed in bold typeface, caps and lower case, and minimum 12 point type.)

- (iv) *“In order to properly register your child restraint system, you will need to provide the model number, serial number and date of manufacture. This information is printed on the registration card and can also be found on a white label located on the back of the child restraint system.” (Displayed in bold typeface, caps and lower case, and minimum 12 point type.)*
- (v) *“This registration is only applicable to child restraint systems purchased in the United States.” (Displayed in bold typeface, caps and lower case, and minimum 12 point type.)*

S5.8.2(b) Electronic Registration Form

No other information shall appear on the electronic registration form, except for information identifying the manufacturer or a link to the manufacturer’s home page, a field to confirm submission, and a prompt to indicate any incomplete or invalid fields prior to submission. Accessing the web page that contains the electronic registration form shall not cause additional screens or electronic banners to appear.

Restraint system inspection, dynamic sled testing, and inversion testing were performed by MGA Research Corporation in Burlington, Wisconsin. Compliance test data sheets for all tests are found in Section 5 of this report.

SECTION 3
CHILD RESTRAINT SYSTEM IDENTIFICATION

Report No. 213-MGA-16-006

Manufacturer:	Britax Child Safety, Inc.
Place of Manufacture per S5.5.2(d):	Fort Mill, SC
Model No.	E1A265N
Group No.	2

1	Item Code	006-BE1A265N-01-12CRNLFR
	Date of Manufacture	11-2015
	Sled Test No.	H16-003F
2	Item Code	006-BE1A265N-02-NINRN2FR
	Date of Manufacture	11-2015
	Sled Test No.	H16-003R
3	Item Code	006-BE1A265N-03-6W3FN2FU
	Date of Manufacture	11-2015
	Sled Test No.	H16-027F
4	Item Code	006-BE1A265N-04-3H3FN2TU
	Date of Manufacture	11-2015
	Sled Test No.	H16-027R
5	Item Code	006-BE1A265N-05-6H2FN2FU
	Date of Manufacture	11-2015
	Sled Test No.	H16-059F
6	Item Code	006-BE1A265N-06-3H3FNLFU
	Date of Manufacture	11-2015
	Sled Test No.	H16-059R

SECTION 4
DYNAMIC TEST RESULTS DATA SUMMARY

Child Restraint System - Britax Child Safety, Inc. / Advocate ClickTight / E1A265N										
Item Code	Sled Test No.	Dummy and CRS Test Mode*	Lower Anchors Used? Y/N	Tether Used? Y/N	HIC (1000 max)	Chest g clip (60 g max)	Head Excursion (720 mm max - or 813 mm max w/o tether)	Knee Excursion (915 mm max)	Seat Back Angle (70 deg max)	Pass/Fail
006-BE1A265N-01-12CRNLFR	H16-003F	12 mo (RF) (R)	Y	N	433	47	N/A	N/A	60	Pass
006-BE1A265N-02-NINRN2FR	H16-003R	NIN (RF) (R)	N	N	N/A	N/A	N/A	N/A	56	Pass
006-BE1A265N-03-6W3FN2FU	H16-027F	6 yo weighted (FF) (U)	N	N	N/A	N/A	N/A	N/A	N/A	Pass
006-BE1A265N-04-3H3FN2TU	H16-027R	3 yo (FF) (U)	N	Y	417	54	596	698	N/A	Pass
006-BE1A265N-05-6H2FN2FU	H16-059F	6 yo (FF) (U)	N	N	314	48	801	903	N/A	Pass
006-BE1A265N-06-3H3FNLFU	H16-059R	3 yo (FF) (U)	Y	N	560	52	729	751	N/A	Pass

*Test Mode:

- RF- Rear facing
- FF- Forward facing
- SF- Side facing
- U- Upright
- R- Reclined
- B- Backed Booster
- N- No Back Booster
- F- Flat

SECTION 5
DATA

LABELING
(FMVSS 213, S5.3, S5.5)

Report No.:	213-MGA-16-006
Test Date:	12/21/2015

Model No.:	E1A265N
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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 (1)(2)(3)

Remarks:

- (1) S5.5.2(c) The word "in" is omitted in the required statement.
- (2) S5.5.2(f)(3) The phrase "whose height is" is replaced with "with a height of" in the required statement.
- (3) S5.5.2(k)(3) The word "or" is incorrectly capitalized in the required statement.

Photographs of the labels are included in Section 9.

Recorded by: *Haley Anderson*

Date: 12/21/2015

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

Report No.:	213-MGA-16-006
Test Date:	12/21/2015

Model No.:	E1A265N
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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

Remarks:

None

Recorded by: *Haley Anderson*

Date: 12/21/2015

**REGISTRATION FORM
(FMVSS 213, S5.8)**

Report No.:	213-MGA-16-006
Test Date:	12/21/2015

Model No.:	E1A265N
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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 S5.8.	Fail (1)(2)(3)

The following failures were identified:

- (1) S5.8.2(a)(1) The required statements S5.8.2(a)(1)(i-v) are omitted on the electronic registration form.
- (2) S5.8.2(b) Additional links that do not lead to the manufacturer's homepage appear on the electronic registration form.

Remarks:

- (3) S5.8.1(b)(2) The word "registration" is omitted from "manufacturer's registration website" and the phrase "Tear off and mail this part" is replaced with "Tear here" on the attached registration form.

Recorded by: Hailey Anderson

Date: 12/21/2015

**MAXIMUM CHILD WEIGHT FOR LOWER ANCHOR USE
(S213, S5.5.2(I)(3))**

Report No.:	213-MGA-16-006
Test Date:	12/21/2015

Model No.:	E1A265N
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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	30
Forward Facing	Y	Y	35

CRS Weight (lb)	Child Weight (CW) Calculation (lb)	Rounded CW Limit permitted under S5.5.2(I)(3)(i)	Calculated CW	Rounded CW
			15 < CW ≤ 20	20
29.6	Rear Facing 60-CRS Weight = 30.4	35	20 < CW ≤ 25	25
			25 < CW ≤ 30	30
	30 < CW ≤ 35	35		
	35 < CW ≤ 40	40		
	Forward Facing 65-CRS Weight = 35.4	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)(i)	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)(i)	Pass
S5.5.2(I)(3)(ii)	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

Remarks:

None

Recorded by: Haley Anderson

Date: 12/21/2015

**ATTACHMENT TO ANCHORAGE SYSTEM
(S213, S5.9)**

Report No.:	213-MGA-16-006
Test Date:	12/21/2015

Model No.:	E1A265N
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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.	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 system has components, other than hooks, that enable the restraint to be securely fastened to the lower anchorages, 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.	N/A
	Visual indications are detectable under normal daylight lighting conditions.	N/A

Remarks:

None

Recorded by: Hailey Anderson

Date: 12/21/2015

INSTALLATION
(S213-S5.3)

Report No.:	213-MGA-16-006
Test Date:	12/21/2015

Model No.:	E1A265N
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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 seat 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)	Harnesses 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	This child restraint system is capable of being installed as required by Table S5.3.2 of FMVSS No. 213. Shaded sections indicate installation means required by standard.						
		<i>Lap Belt</i>	<i>Lap Belt & Tether (if needed)</i>	<i>Lower Anchors</i>	<i>Lap & Shoulder Belt</i>	<i>Seat back Mount</i>	
	<i>Harnesses per S5.3.1(b)(1)-(3) and Fig. 12</i>						N/A
	Other Harnesses						N/A
	Car Beds						N/A
	Rear-Facing Restraints	X		X	X		Pass
	Belt Positioning Seats						N/A
	Other	X	X	X	X		Pass
S5.3.3	If a car bed, this child restraint system is designed to be installed laterally.	N/A					

Remarks:

None

Recorded by: Haley Anderson

Date: 12/21/2015

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

Report No.:	213-MGA-16-006
Test Date:	12/21/2015

Model No.:	E1A265N
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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)	Maximum Recommended Child Weight	Minimum Seat Back Height Required
	≤ 18 kg (39.7 lb)	500 mm (19.7 in)
	> 18 kg (39.7 lb)	560 mm (22.0 in)
S5.2.1.1.(b)	Side Wing Depth	Minimum Back Support Width
	< 102 mm (4.0 in)	203 mm (8.0 in)
	≥ 102 mm (4.0 in)	152 mm (6.0 in)

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

Back Support Height

Manufacturer's Recommended Maximum Child Weight kg (lb)	Measured Height mm (in)	Pass/Fail
29.4 (65)	592 (23.2)	Pass

Back Support Width

Measured Side Wing Depth mm (in)	Measured Width mm (in)	Pass/Fail
95 (3.7)	330 (13.0)	Pass

Remarks:

None

Recorded by: Haley Anderson

Date: 12/21/2015

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

Report No.:	213-MGA-16-006
Test Date:	12/21/2015

Model No.:	E1A265N
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Section	Surface Requirement	Contour Requirement	Other Requirement
S5.2.2.1(a)	Back Support Surface	flat or concave	Continuous surface area of ≥ 85 in ²
S5.2.2.1(b)	Side Support Surface	flat or concave	Continuous surface area of ≥ 24 in ² for restraints having a recommended child weight ≥ 20 lb
		flat or concave	Continuous surface area of ≥ 48 in ² for restraints having a recommended child weight < 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 convex	Radius of curvature ≥ 2 in
S5.2.2.2	Fixed or movable surface forward of dummy		Must be used to restrain dummy and allow compliance with injury & excursion criteria

Support Surface- Results

Surface	Contour	Measured Area	Pass/Fail
Back Support Surface	Flat	≥ 85 in ²	Pass
Side Support Surface	Flat	≥ 24 in ²	Pass

Surfaces Restraining Torso Forward Movement- Results

	Contour	Radius of Curvature	Pass/Fail
Horizontal Cross Section	N/A	N/A	Pass
Vertical Cross Section	N/A	N/A	Pass

Fixed or Movable Surfaces Forward of Dummy- Results

Yes/No	Pass/Fail
No	Pass

Remarks:

None

Recorded by: Haley Anderson

Date: 12/21/2015

PROTRUSION LIMITATION
(FMVSS 213, S5.2.4)

Report No.:	213-MGA-16-006
Test Date:	12/21/2015

Model No.:	E1A265N
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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	Result	Pass/Fail
Height	$\leq 3/8$ in. (9.53 mm)	$\leq 3/8$ in. (9.53 mm)	Pass
Edge Radius	$\geq 1/4$ in. (6.35 mm)	$\geq 1/4$ in. (6.35 mm)	Pass

Remarks:

None

Recorded by: *Haley Anderson*

Date: 12/21/2015

DYNAMIC IMPACT TEST CONDITIONS - TEST 1
(FMVSS 213, S6.1)

Report No.:	213-MGA-16-006
Test Date:	1/4/2016

Sled Test No.	H16-003F
Item Code	006-BE1A265N-01-12CRNLFR

Pulse:

Laboratory Ambient Conditions During Testing:

Test Configuration (I or II)	I
Nominal Velocity (km/h)	48 (+0/-3)

Temperature (°C)	21.8
Relative Humidity (%)	19

Dummy:

Dummy Description	CRABI 12 Month Old (Part 572R)
Dummy Serial Number	083

Restraint Installation:

Installed Direction	Rear-Facing
Base Usage	Other Configuration
Attachment Method	Lower Anchor
Tether Usage	No
Seat Back Position	Reclined
Shoulder Harness Position	Slot 6, Counted from the Bottom
Buckle Harness Position	Slot 1, Counted from the Seat Back Outward
Recline Position	Position 6, Counted from Most Upright Position
Positioning Pillow	Removed
Shoulder Harness Covers	Installed
Impact Absorbing Chest Pads	Installed

Remarks:

Pre-test and post-test photographs are presented in Section 9.

Recorded by: Hailey Anderson

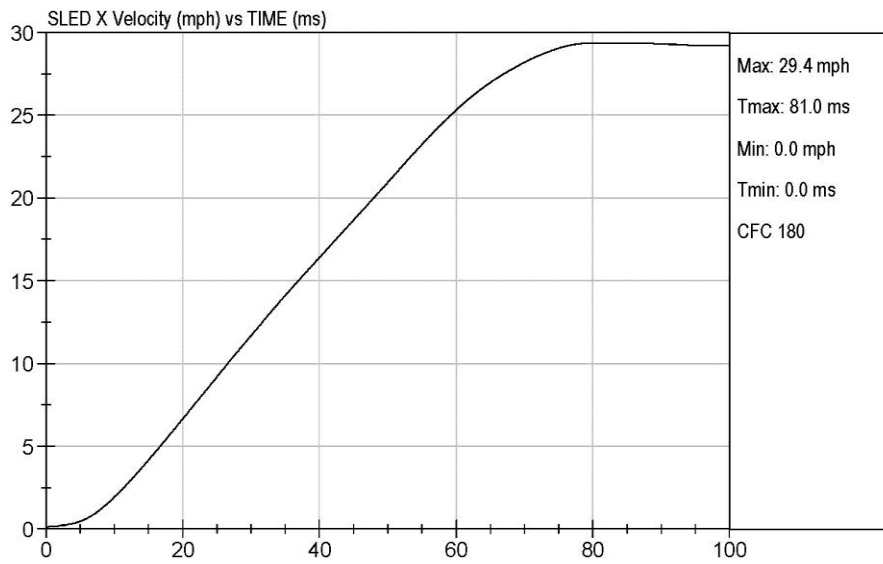
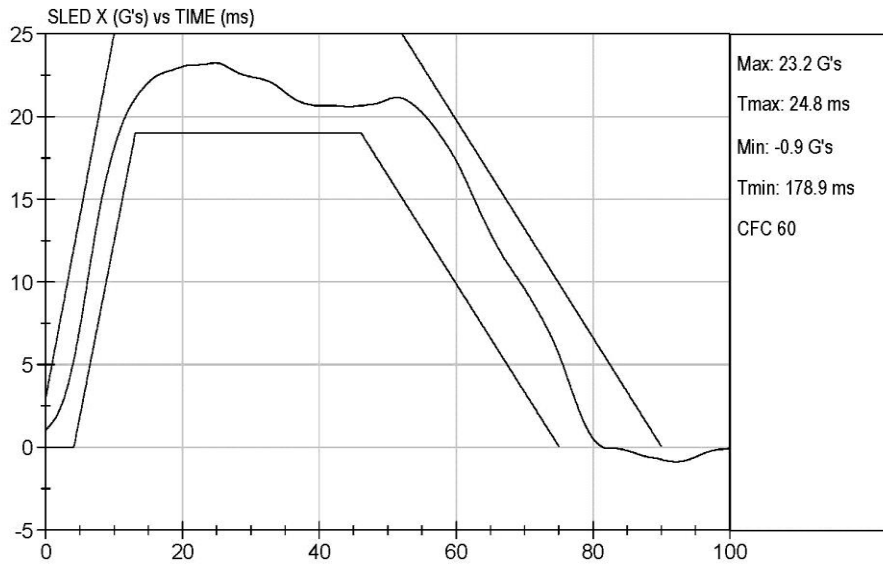
Date: 1/4/2016

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

Report No.:	213-MGA-16-006
Test Date:	1/4/2016

Sled Test No.	H16-003F
Item Code	006-BE1A265N-01-12CRNLFR

	FMVSS 213 TEST	TEST DATE: 01/04/2016
	006-BE1A265N-01-12CRNLFR	TEST #: H16003



BELT RESTRAINT - TEST 1

(FMVSS 213, S5.4.3)

Report No.:	213-MGA-16-006
Test Date:	1/4/2016

Sled Test No.	H16-003F
Item Code	006-BE1A265N-01-12CRNLFR

Section	Requirement	Pass/Fail
S5.4.3.1	Snug Fit of Belts. 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	Direct Restraint. Belts impose no loads on the child resulting from the mass of the system or the test seat.		Pass
	This restraint has one or more belts that contact the dummy for restraint.	No	If all are "yes," restraint fails S5.4.3.2.
	This 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	Seating Systems. Except for harnesses and infant restraints for children up to 10 kg (22 lb), 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	Harnesses. 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 and crotch restraint)	N/A
S5.4.3.3(c)	Prevent standing	N/A

Remarks:

None

Recorded by: Haley Anderson

Date: 1/4/2016

BUCKLE RELEASE - TEST 1
(FMVSS 213, S5.4.3.5, S6.2)

Report No.:	213-MGA-16-006
Test Date:	1/4/2016

Sled Test No.	H16-003F
Item Code	006-BE1A265N-01-12CRNLFR

Section	Requirement	Measurement	Pass/Fail
S5.4.3.5(a)	Pre-Impact Release Force — Releases under 40-62 N (9-14 lb)	L: 58 N (13.0 lb) R: 58 N (13.0 lb)	Pass (1)
S5.4.3.5(b)	Post-Impact Release Force* — Releases ≤ 71 N (16 lb)	L: 65 N (14.6 lb) R: 65 N (14.6 lb)	Pass (1)
S5.4.3.5(c)	Minimum Surface Area of Buckle - ≥ 0.6 in ² (3.9 cm ²)	0.8 in ² (5.0 cm ²)	Pass
S5.4.3.5(e)	Buckle Integrity 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:

- (1) The buckle is comprised of right and left buckle tangs that do not always release at the same force.

Recorded by: Hailey Anderson

Date: 1/4/2016

SYSTEM INTEGRITY - TEST 1
(FMVSS 213, S5.1.1)

Report No.:	213-MGA-16-006
Test Date:	1/4/2016

Sled Test No.	H16-003F
Item Code	006-BE1A265N-01-12CRNLFR

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

Section	Requirement	Pass/Fail
S5.1.1(a)	Structural Integrity- Exhibit no complete separation of any load bearing structural element	Pass
	Exhibit no partial separation exposing surfaces with a radius of less than ¼ in (9.53 mm)	Pass
	Exhibit no partial separation exposing surfaces with protrusions greater than 3/8 in (6.35 mm)	Pass
S5.1.1(b)(1)	Adjustment Position- Remain in the same adjustment position during the test that it was in immediately before the test	Pass
S5.1.1(b)(2)(ii)	Exposed Openings- Have no exposed opening larger than ¼ inch (9.53 mm) before the test becomes smaller during the testing as a result of the movement of the seating service relative to the restrain system as a whole	Pass
S5.1.1(c)	Seating Surface Angle- 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.	N/A

Remarks:

None

Recorded by: Hailey Anderson

Date: 1/4/2016

**INJURY CRITERIA - TEST 1
(FMVSS 213, S5.1.2)**

Report No.:	213-MGA-16-006
Test Date:	1/4/2016

Sled Test No.	H16-003F
Item Code	006-BE1A265N-01-12CRNLFR

Section	Requirement
S5.1.2.1(a)	Head Injury Criterion- 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)	Chest Injury Criterion- 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
433	Pass

Chest Injury Criterion Results

Max acceleration lasting 3 ms (g)	Pass/Fail
47	Pass

Remarks:

None

Recorded by: Hailey Anderson

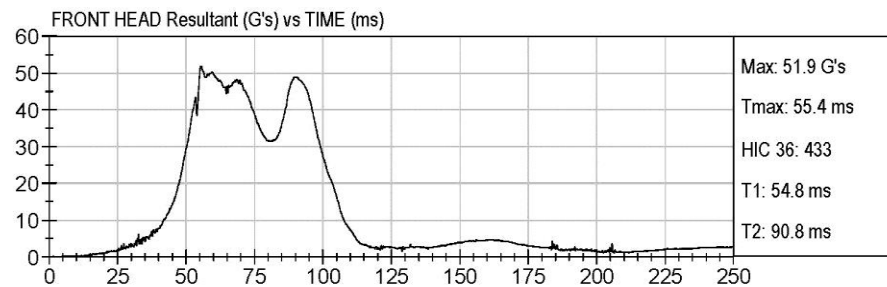
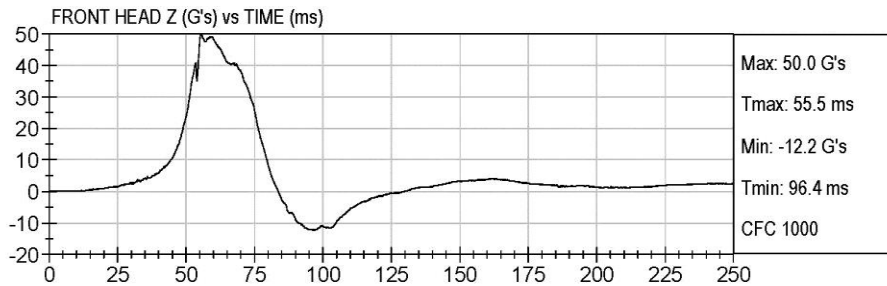
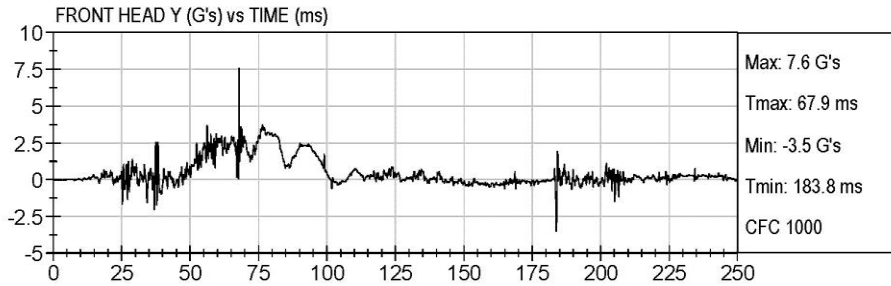
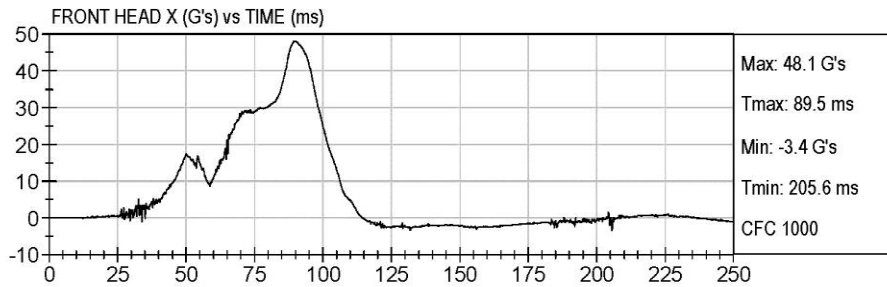
Date: 1/4/2016

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

Report No.:	213-MGA-16-006
Test Date:	1/4/2016

Sled Test No.	H16-003F
Item Code	006-BE1A265N-01-12CRNLFR

	FMVSS 213 TEST 006-BE1A265N-01-12CRNLFR	TEST DATE: 01/04/2016 TEST #: H16003
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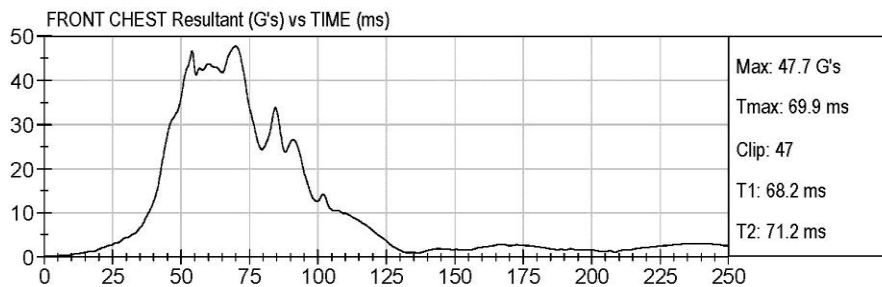
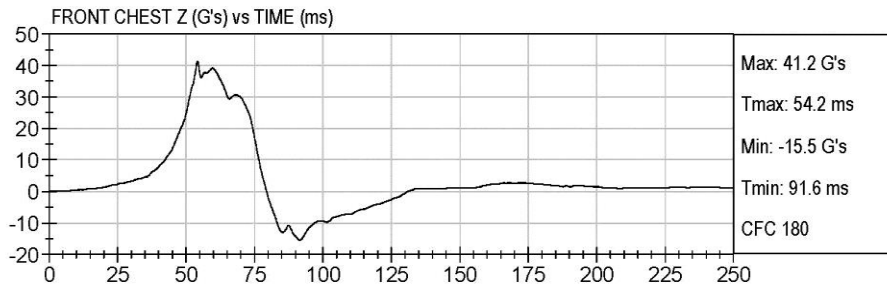
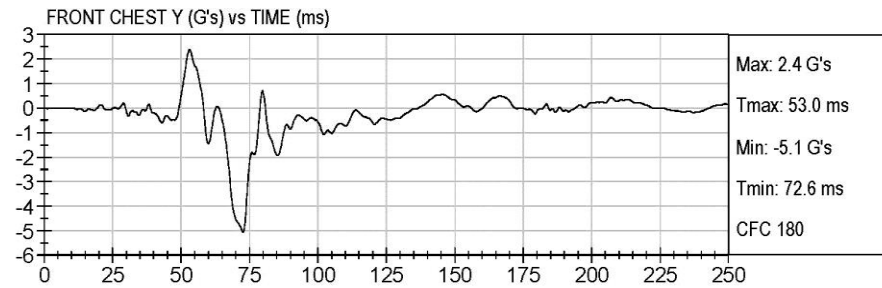
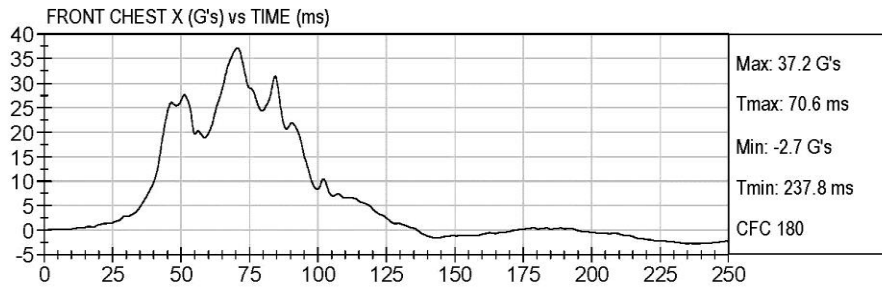


INJURY CRITERIA - CHEST ACCELERATION PLOTS - TEST 1 (FMVSS 213, S5.1.2)

Report No.:	213-MGA-16-006
Test Date:	1/4/2016

Sled Test No.	H16-003F
Item Code	006-BE1A265N-01-12CRNLFR

 FMVSS 213 TEST 006-BE1A265N-01-12CRNLFR	TEST DATE: 01/04/2016
	TEST #: H16003



OCCUPANT EXCURSION - TEST 1
(FMVSS 213, S5.1.3, S5.1.4, S5.2.1.1(c))

Report No.:	213-MGA-16-006
Test Date:	1/4/2016

Sled Test No.	H16-003F
Item Code	006-BE1A265N-01-12CRNLFR

FORWARD-FACING RESTRAINTS

Section	Requirement	Measurement	Pass/Fail
S5.1.3.1	Torso retention —CRS shall retain the torso within system		N/A
S5.1.3.1(a)(1)	Head excursion - ≤ 720 mm (28 in) with tether ≤ 813 mm (32 in) no tether	N/A	N/A
S5.1.3.1(a)(2)	Knee target excursion - ≤ 915 mm (36 in)	N/A	N/A
S5.2.1.1(c)	Head-torso angle - rearward change ≤ 45°	N/A	N/A

REAR-FACING RESTRAINTS

Section	Requirement	Measurement	Pass/Fail
S5.1.3.2	Torso retention —CRS shall retain the torso within system		Pass
S5.1.3.2	Head target excursion -Not beyond restraint's top and forward edge		Pass
S5.1.4	Back support angle - Angle between the back support surface and the vertical ≤ 70°	60°	Pass
S5.2.1.1(c)	Head-torso angle - rearward change ≤ 45°	≤ 45°	Pass

Remarks:

Excursion camera locations (distance forward of point Z) = 813 mm, camera speeds = 1,000 frames per second, and lens focal lengths = 15 mm.

Recorded by: Hailey Anderson

Date: 1/4/2016

DYNAMIC IMPACT TEST CONDITIONS - TEST 2
(FMVSS 213, S6.1)

Report No.:	213-MGA-16-006
Test Date:	1/4/2016

Sled Test No.	H16-003F
Item Code	006-BE1A265N-02-NINRN2FR

Pulse:

Laboratory Ambient Conditions During Testing:

Test Configuration (I or II)	I
Nominal Velocity (km/h)	48 (+0/-3)

Temperature (°C)	21.8
Relative Humidity (%)	19

Dummy:

Dummy Description	CAMI Newborn (Part 572K)
Dummy Serial Number	004

Restraint Installation:

Installed Direction	Rear-Facing
Base Usage	Other Configuration
Attachment Method	Lap Belt
Tether Usage	No
Seat Back Position	Reclined
Shoulder Harness Position	Slot 3, Counted from the Bottom
Buckle Harness Position	Slot 1, Counted from the Seat Back Outward
Recline Position	Position 7, Counted from Most Upright Position
Positioning Pillow	Installed
Shoulder Harness Covers	Installed
Impact Absorbing Chest Pads	Removed

Remarks:

Pre-test and post-test photographs are presented in Section 9.

Recorded by: Hailey Anderson

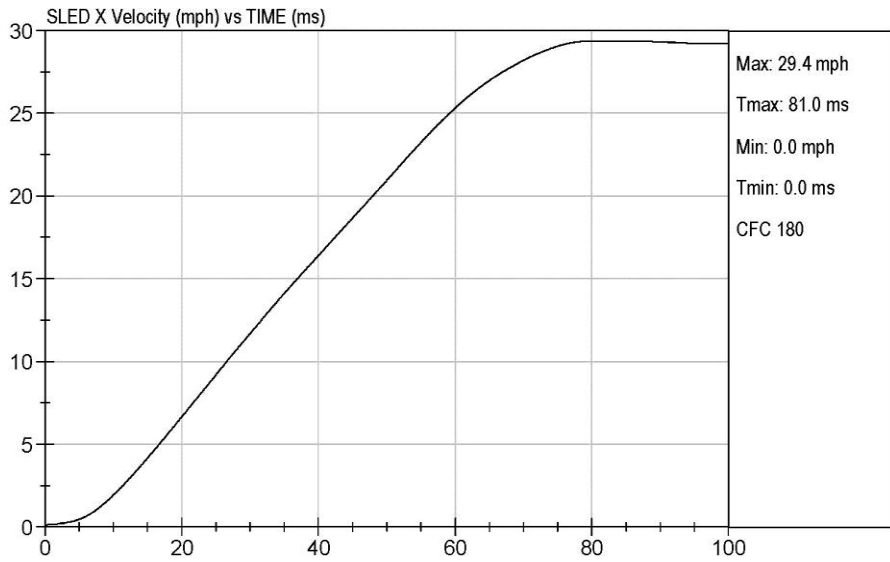
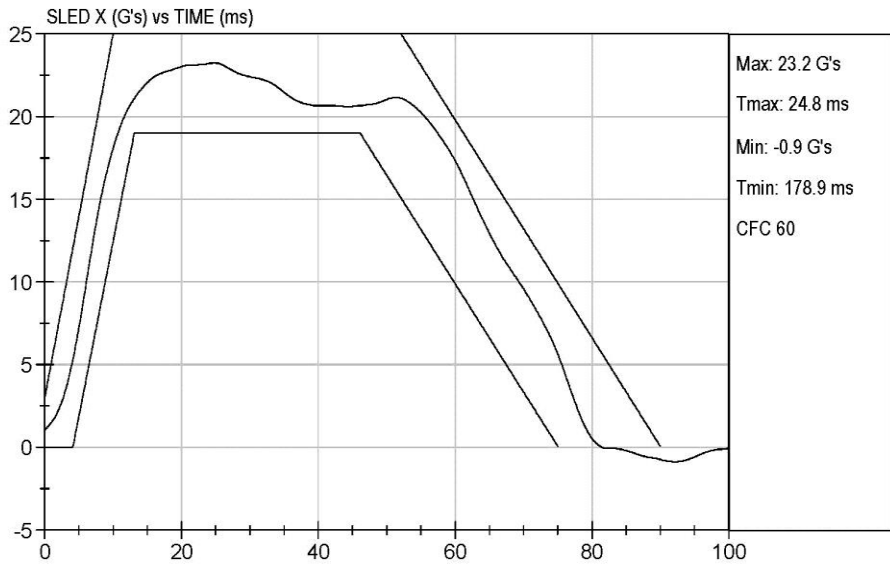
Date: 1/4/2016

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

Report No.:	213-MGA-16-006
Test Date:	1/4/2016

Sled Test No.	H16-003R
Item Code	006-BE1A265N-02-NINRN2FR

	FMVSS 213 TEST	TEST DATE: 01/04/2016
	006-BE1A265N-02-NINRN2FR	TEST #: H16003



BELT RESTRAINT - TEST 2

(FMVSS 213, S5.4.3)

Report No.:	213-MGA-16-006
Test Date:	1/4/2016

Sled Test No.	H16-003R
Item Code	006-BE1A265N-02-NINRN2FR

Section	Requirement	Pass/Fail
S5.4.3.1	Snug Fit of Belts. 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	Direct Restraint. Belts impose no loads on the child resulting from the mass of the system or the test seat.		Pass
	This restraint has one or more belts that contact the dummy for restraint.	No	If all are "yes," restraint fails S5.4.3.2.
	This 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	Seating Systems. Except for harnesses and infant restraints for children up to 10 kg (22 lb), 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	Harnesses. 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 and crotch restraint)	N/A
S5.4.3.3(c)	Prevent standing	N/A

Remarks:

None

Recorded by: Haley Anderson

Date: 1/4/2016

BUCKLE RELEASE - TEST 2
(FMVSS 213, S5.4.3.5, S6.2)

Report No.:	213-MGA-16-006
Test Date:	1/4/2016

Sled Test No.	H16-003R
Item Code	006-BE1A265N-02-NINRN2FR

Section	Requirement	Measurement	Pass/Fail
S5.4.3.5(a)	Pre-Impact Release Force — Releases under 40-62 N (9-14 lb)	L: 59 N (13.3 lb) R: 59 N (13.3 lb)	Pass (1)
S5.4.3.5(b)	Post-Impact Release Force* — Releases ≤ 71 N (16 lb)	L: 57 N (12.8 lb) R: 57 N (12.8 lb)	Pass (1)
S5.4.3.5(c)	Minimum Surface Area of Buckle - ≥ 0.6 in ² (3.9 cm ²)	0.8 in ² (5.0 cm ²)	Pass
S5.4.3.5(e)	Buckle Integrity 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:

- (1) The buckle is comprised of right and left buckle tangs that do not always release at the same force.

Recorded by: Haley Anderson

Date: 1/4/2016

SYSTEM INTEGRITY - TEST 2
(FMVSS 213, S5.1.1)

Report No.:	213-MGA-16-006
Test Date:	1/4/2016

Sled Test No.	H16-003R
Item Code	006-BE1A265N-02-NINRN2FR

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

Section	Requirement	Pass/Fail
S5.1.1(a)	Structural Integrity- Exhibit no complete separation of any load bearing structural element	Pass
	Exhibit no partial separation exposing surfaces with a radius of less than ¼ in (9.53 mm)	Pass
	Exhibit no partial separation exposing surfaces with protrusions greater than 3/8 in (6.35 mm)	Pass
S5.1.1(b)(1)	Adjustment Position- Remain in the same adjustment position during the test that it was in immediately before the test	Pass
S5.1.1(b)(2)(ii)	Exposed Openings- Have no exposed opening larger than ¼ inch (9.53 mm) before the test becomes smaller during the testing as a result of the movement of the seating service relative to the restrain system as a whole	Pass
S5.1.1(c)	Seating Surface Angle- 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.	N/A

Remarks:

None

Recorded by: Haley Anderson

Date: 1/4/2016

OCCUPANT EXCURSION - TEST 2
(FMVSS 213, S5.1.3, S5.1.4, S5.2.1.1(c))

Report No.:	213-MGA-16-006
Test Date:	1/4/2016

Sled Test No.	H16-003R
Item Code	006-BE1A265N-02-NINRN2FR

FORWARD-FACING RESTRAINTS

Section	Requirement	Measurement	Pass/Fail
S5.1.3.1	Torso retention —CRS shall retain the torso within system		N/A
S5.1.3.1(a)(1)	Head excursion - ≤ 720 mm (28 in) with tether ≤ 813 mm (32 in) no tether	N/A	N/A
S5.1.3.1(a)(2)	Knee target excursion - ≤ 915 mm (36 in)	N/A	N/A
S5.2.1.1(c)	Head-torso angle - rearward change ≤ 45°	N/A	N/A

REAR-FACING RESTRAINTS

Section	Requirement	Measurement	Pass/Fail
S5.1.3.2	Torso retention —CRS shall retain the torso within system		Pass
S5.1.3.2	Head target excursion -Not beyond restraint's top and forward edge		Pass
S5.1.4	Back support angle - Angle between the back support surface and the vertical ≤ 70°	56°	Pass
S5.2.1.1(c)	Head-torso angle - rearward change ≤ 45°	≤ 45°	Pass

Remarks:

Excursion camera locations (distance forward of point Z) = 813 mm, camera speeds = 1,000 frames per second, and lens focal lengths = 15 mm.

Recorded by: Hailey Anderson

Date: 1/4/2016

DYNAMIC IMPACT TEST CONDITIONS - TEST 3
(FMVSS 213, S6.1)

Report No.:	213-MGA-16-006
Test Date:	1/7/2016

Sled Test No.	H16-027F
Item Code	006-BE1A265N-03-6W3FN2FU

Pulse:

Laboratory Ambient Conditions During Testing:

Test Configuration (I or II)	I
Nominal Velocity (km/h)	48 (+0/-3)

Temperature (°C)	20.7
Relative Humidity (%)	25

Dummy:

Dummy Description	Hybrid III 6 Year Old Weighted (Part 572S)
Dummy Serial Number	127W

Restraint Installation:

Installed Direction	Forward-Facing
Base Usage	Other Configuration
Attachment Method	Lap Belt
Tether Usage	No
Seat Back Position	Upright
Shoulder Harness Position	Slot 14, Counted from the Bottom
Buckle Harness Position	Slot 2, Counted from the Seat Back Outward
Recline Position	Position 1, Counted from Most Upright Position
Positioning Pillow	Removed
Shoulder Harness Covers	Installed
Impact Absorbing Chest Pads	Installed

Remarks:

Pre-test and post-test photographs are presented in Section 9.

Recorded by: Hailey Anderson

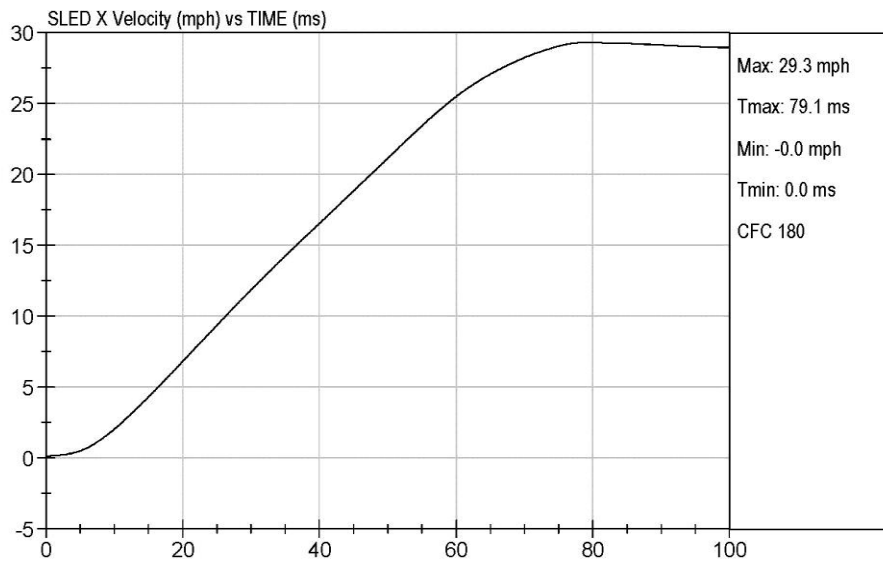
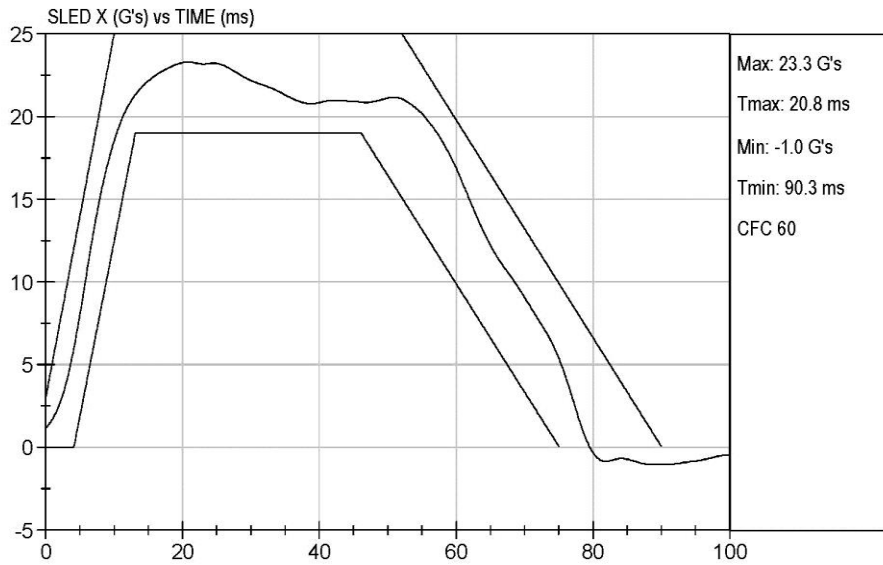
Date: 1/7/2016

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

Report No.:	213-MGA-16-006
Test Date:	1/7/2016

Sled Test No.	H16-027F
Item Code	006-BE1A265N-03-6W3FN2FU

	FMVSS 213 TEST	TEST DATE: 01/07/2016
	006-BE1A265N-03-6W3FN2FU	TEST #: H16027



BELT RESTRAINT - TEST 3

(FMVSS 213, S5.4.3)

Report No.:	213-MGA-16-006
Test Date:	1/7/2016

Sled Test No.	H16-027F
Item Code	006-BE1A265N-03-6W3FN2FU

Section	Requirement	Pass/Fail
S5.4.3.1	Snug Fit of Belts. 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	Direct Restraint. Belts impose no loads on the child resulting from the mass of the system or the test seat.		Pass
	This restraint has one or more belts that contact the dummy for restraint.	No	If all are "yes," restraint fails S5.4.3.2.
	This 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	Seating Systems. Except for harnesses and infant restraints for children up to 10 kg (22 lb), 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	Harnesses. 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 and crotch restraint)	N/A
S5.4.3.3(c)	Prevent standing	N/A

Remarks:

None

Recorded by: Haley Anderson

Date: 1/7/2016

BUCKLE RELEASE - TEST 3
(FMVSS 213, S5.4.3.5, S6.2)

Report No.:	213-MGA-16-006
Test Date:	1/7/2016

Sled Test No.	H16-027F
Item Code	006-BE1A265N-03-6W3FN2FU

Section	Requirement	Measurement	Pass/Fail
S5.4.3.5(a)	Pre-Impact Release Force — Releases under 40-62 N (9-14 lb)	L: 51 N (11.5 lb) R: 51 N (11.5 lb)	Pass (1)
S5.4.3.5(b)	Post-Impact Release Force* — Releases ≤ 71 N (16 lb)	L: 50 N (11.2 lb) R: 50 N (11.2 lb)	Pass (1)
S5.4.3.5(c)	Minimum Surface Area of Buckle - ≥ 0.6 in ² (3.9 cm ²)	0.8 in ² (5.0 cm ²)	Pass
S5.4.3.5(e)	Buckle Integrity 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:

- (1) The buckle is comprised of right and left buckle tangs that do not always release at the same force.

Recorded by: Hailey Anderson

Date: 1/7/2016

SYSTEM INTEGRITY - TEST 3
(FMVSS 213, S5.1.1)

Report No.:	213-MGA-16-006
Test Date:	1/7/2016

Sled Test No.	H16-027F
Item Code	006-BE1A265N-03-6W3FN2FU

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

Section	Requirement	Pass/Fail
S5.1.1(a)	Structural Integrity- Exhibit no complete separation of any load bearing structural element	Pass
	Exhibit no partial separation exposing surfaces with a radius of less than ¼ in (9.53 mm)	Pass
	Exhibit no partial separation exposing surfaces with protrusions greater than 3/8 in (6.35 mm)	Pass
S5.1.1(b)(1)	Adjustment Position- Remain in the same adjustment position during the test that it was in immediately before the test	Pass
S5.1.1(b)(2)(ii)	Exposed Openings- Have no exposed opening larger than ¼ inch (9.53 mm) before the test becomes smaller during the testing as a result of the movement of the seating service relative to the restrain system as a whole	Pass
S5.1.1(c)	Seating Surface Angle- 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:

None

Recorded by: Haley Anderson

Date: 1/7/2016

OCCUPANT EXCURSION - TEST 3
(FMVSS 213, S5.1.3, S5.1.4, S5.2.1.1(c))

Report No.:	213-MGA-16-006
Test Date:	1/7/2016

Sled Test No.	H16-027F
Item Code	006-BE1A265N-03-6W3FN2FU

FORWARD-FACING RESTRAINTS

Section	Requirement	Measurement	Pass/Fail
S5.1.3.1	Torso retention —CRS shall retain the torso within system		Pass
S5.1.3.1(a)(1)	Head excursion - ≤ 720 mm (28 in) with tether ≤ 813 mm (32 in) no tether	N/A	N/A
S5.1.3.1(a)(2)	Knee target excursion - ≤ 915 mm (36 in)	N/A	N/A
S5.2.1.1(c)	Head-torso angle - rearward change ≤ 45°	≤ 45°	Pass

REAR-FACING RESTRAINTS

Section	Requirement	Measurement	Pass/Fail
S5.1.3.2	Torso retention —CRS shall retain the torso within system		N/A
S5.1.3.2	Head target excursion -Not beyond restraint's top and forward edge		N/A
S5.1.4	Back support angle - Angle between the back support surface and the vertical ≤ 70°	N/A	N/A
S5.2.1.1(c)	Head-torso angle - rearward change ≤ 45°	N/A	N/A

Remarks:

Excursion camera locations (distance forward of point Z) = 813 mm, camera speeds = 1,000 frames per second, and lens focal lengths = 15 mm.

Recorded by: Hailey Anderson

Date: 1/7/2016

DYNAMIC IMPACT TEST CONDITIONS - TEST 4
(FMVSS 213, S6.1)

Report No.:	213-MGA-16-006
Test Date:	1/7/2016

Sled Test No.	H16-027R
Item Code	006-BE1A265N-04-3H3FN2TU

Pulse:

Laboratory Ambient Conditions During Testing:

Test Configuration (I or II)	I
Nominal Velocity (km/h)	48 (+0/-3)

Temperature (°C)	20.7
Relative Humidity (%)	25

Dummy:

Dummy Description	Hybrid III 3 Year Old (Part 572P)
Dummy Serial Number	031

Restraint Installation:

Installed Direction	Forward-Facing
Base Usage	Other Configuration
Attachment Method	Lap Belt
Tether Usage	Yes
Seat Back Position	Upright
Shoulder Harness Position	Slot 10, Counted from the Bottom
Buckle Harness Position	Slot 2, Counted from the Seat Back Outward
Recline Position	Position 1, Counted from Most Upright Position
Positioning Pillow	Removed
Shoulder Harness Covers	Installed
Impact Absorbing Chest Pads	Installed

Remarks:

Pre-test and post-test photographs are presented in Section 9.

Recorded by: Hailey Anderson

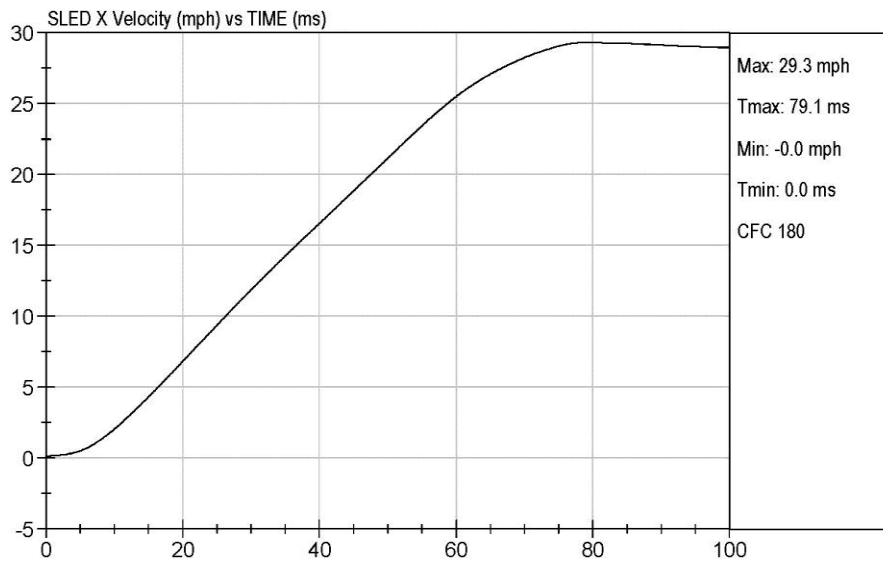
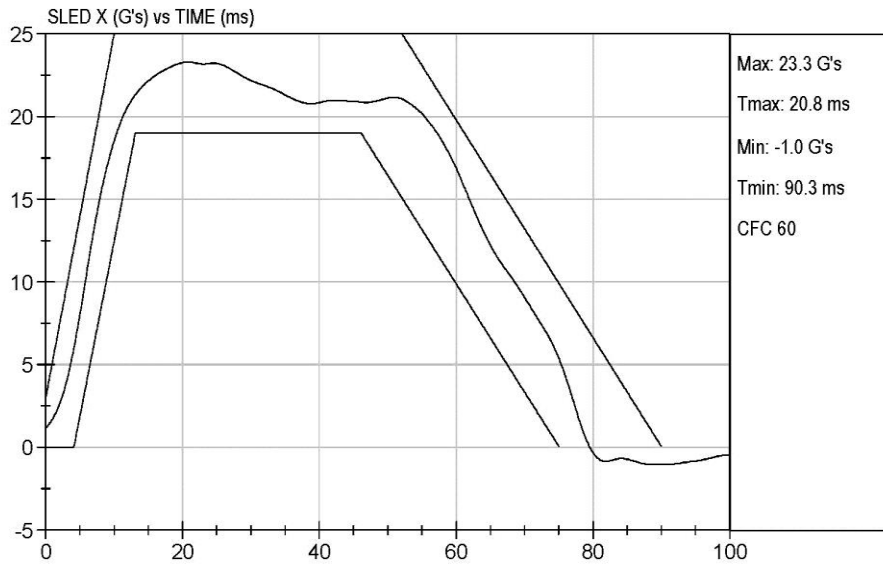
Date: 1/7/2016

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

Report No.:	213-MGA-16-006
Test Date:	1/7/2016

Sled Test No.	H16-027R
Item Code	006-BE1A265N-04-3H3FN2TU

	FMVSS 213 TEST	TEST DATE: 01/07/2016
	006-BE1A265N-04-3H3FN2TU	TEST #: H16027



BELT RESTRAINT - TEST 4

(FMVSS 213, S5.4.3)

Report No.:	213-MGA-16-006
Test Date:	1/7/2016

Sled Test No.	H16-027R
Item Code	006-BE1A265N-04-3H3FN2TU

Section	Requirement	Pass/Fail
S5.4.3.1	Snug Fit of Belts. 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	Direct Restraint. Belts impose no loads on the child resulting from the mass of the system or the test seat.		Pass
	This restraint has one or more belts that contact the dummy for restraint.	No	If all are "yes," restraint fails S5.4.3.2.
	This 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	Seating Systems. Except for harnesses and infant restraints for children up to 10 kg (22 lb), 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	Harnesses. 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 and crotch restraint)	N/A
S5.4.3.3(c)	Prevent standing	N/A

Remarks:

None

Recorded by: Haley Anderson

Date: 1/7/2016

BUCKLE RELEASE - TEST 4
(FMVSS 213, S5.4.3.5, S6.2)

Report No.:	213-MGA-16-006
Test Date:	1/7/2016

Sled Test No.	H16-027R
Item Code	006-BE1A265N-04-3H3FN2TU

Section	Requirement	Measurement	Pass/Fail
S5.4.3.5(a)	Pre-Impact Release Force — Releases under 40-62 N (9-14 lb)	L: 50 N (11.2 lb) R: 50 N (11.2 lb)	Pass (1)
S5.4.3.5(b)	Post-Impact Release Force* — Releases ≤ 71 N (16 lb)	L: 60 N (13.5 lb) R: 60 N (13.5 lb)	Pass (1)
S5.4.3.5(c)	Minimum Surface Area of Buckle - ≥ 0.6 in ² (3.9 cm ²)	0.8 in ² (5.0 cm ²)	Pass
S5.4.3.5(e)	Buckle Integrity 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:

- (1) The buckle is comprised of right and left buckle tangs that do not always release at the same force.

Recorded by: Haley Anderson

Date: 1/7/2016

SYSTEM INTEGRITY - TEST 4
(FMVSS 213, S5.1.1)

Report No.:	213-MGA-16-006
Test Date:	1/7/2016

Sled Test No.	H16-027R
Item Code	006-BE1A265N-04-3H3FN2TU

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

Section	Requirement	Pass/Fail
S5.1.1(a)	Structural Integrity- Exhibit no complete separation of any load bearing structural element	Pass
	Exhibit no partial separation exposing surfaces with a radius of less than ¼ in (9.53 mm)	Pass
	Exhibit no partial separation exposing surfaces with protrusions greater than 3/8 in (6.35 mm)	Pass
S5.1.1(b)(1)	Adjustment Position- Remain in the same adjustment position during the test that it was in immediately before the test	Pass
S5.1.1(b)(2)(ii)	Exposed Openings- Have no exposed opening larger than ¼ inch (9.53 mm) before the test becomes smaller during the testing as a result of the movement of the seating service relative to the restrain system as a whole	Pass
S5.1.1(c)	Seating Surface Angle- 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:

None

Recorded by: Haley Anderson

Date: 1/7/2016

INJURY CRITERIA - TEST 4
(FMVSS 213, S5.1.2)

Report No.:	213-MGA-16-006
Test Date:	1/7/2016

Sled Test No.	H16-027R
Item Code	006-BE1A265N-04-3H3FN2TU

Section	Requirement
S5.1.2.1(a)	Head Injury Criterion- 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)	Chest Injury Criterion- 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
417	Pass

Chest Injury Criterion Results

Max acceleration lasting 3 ms (g)	Pass/Fail
54	Pass

Remarks:

None


Recorded by: Hailey Anderson

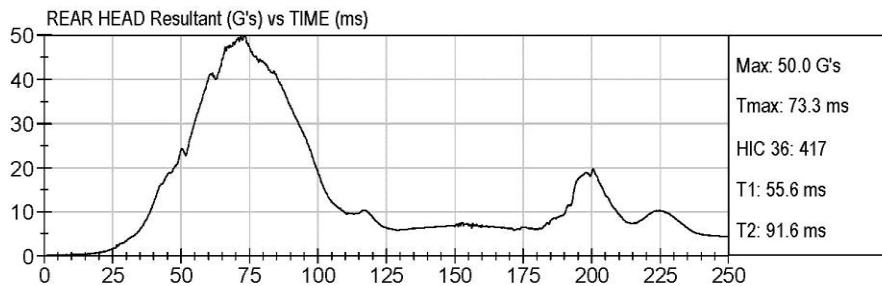
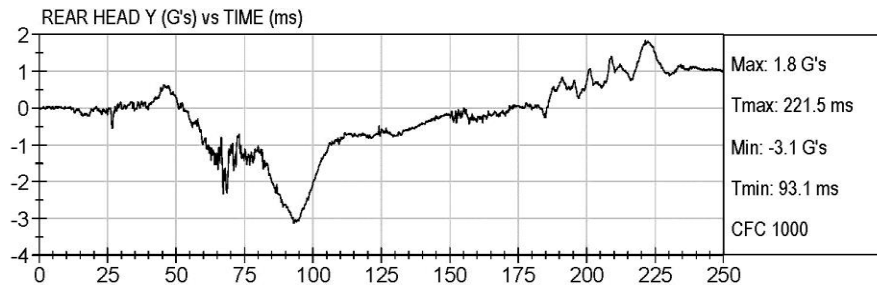
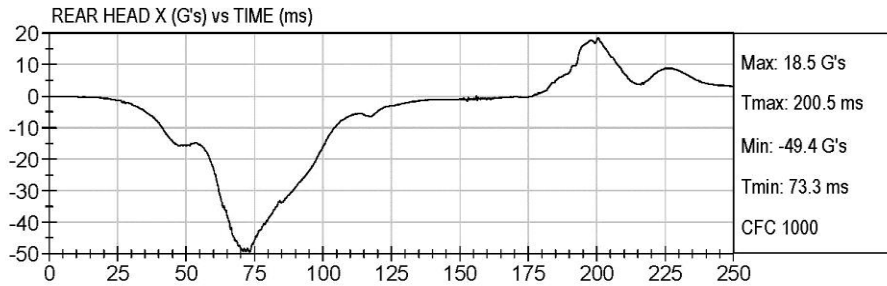
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INJURY CRITERIA - HEAD ACCELERATION PLOTS - TEST 4 (FMVSS 213, S5.1.2)

Report No.:	213-MGA-16-006
Test Date:	1/7/2016

Sled Test No.	H16-027R
Item Code	006-BE1A265N-04-3H3FN2TU

	FMVSS 213 TEST 006-BE1A265N-04-3H3FN2TU	TEST DATE: 01/07/2016 TEST #: H16027
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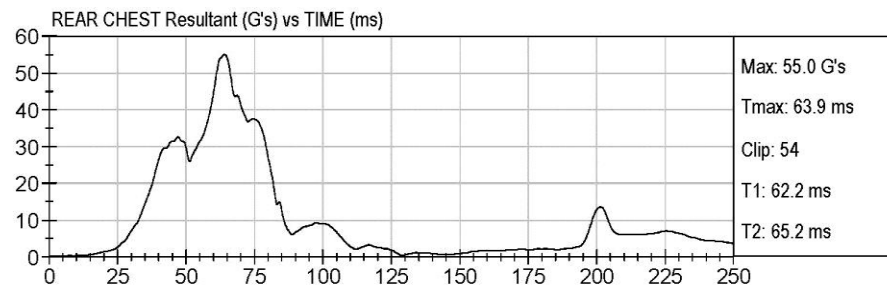
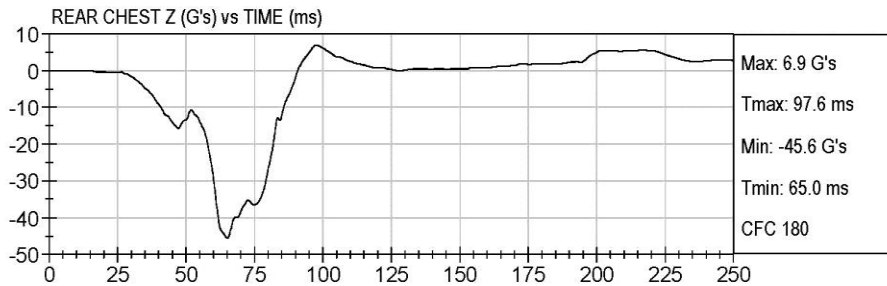
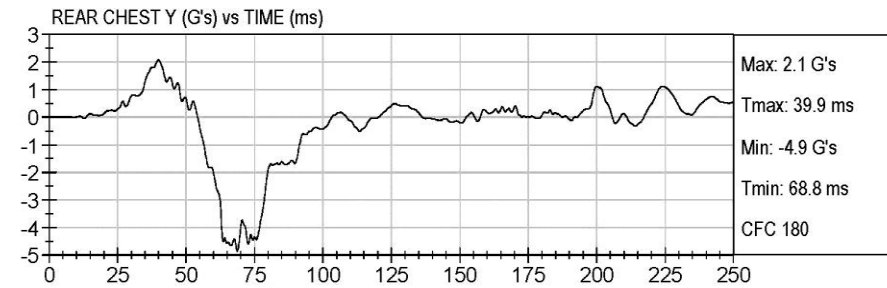
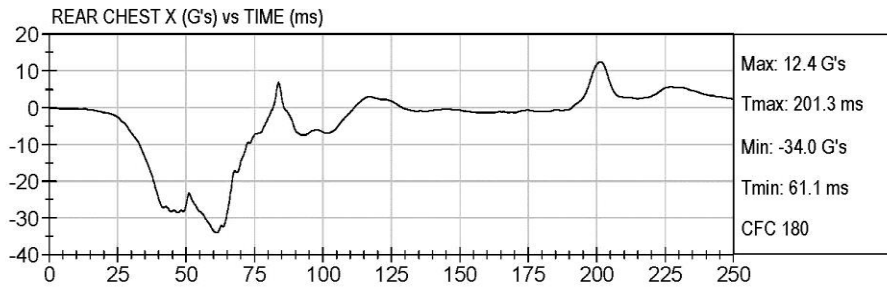


INJURY CRITERIA - CHEST ACCELERATION PLOTS - TEST 4 (FMVSS 213, S5.1.2)

Report No.:	213-MGA-16-006
Test Date:	1/7/2016

Sled Test No.	H16-027R
Item Code	006-BE1A265N-04-3H3FN2TU

 FMVSS 213 TEST 006-BE1A265N-04-3H3FN2TU	TEST DATE: 01/07/2016
	TEST #: H16027



OCCUPANT EXCURSION - TEST 4
(FMVSS 213, S5.1.3, S5.1.4, S5.2.1.1(c))

Report No.:	213-MGA-16-006
Test Date:	1/7/2016

Sled Test No.	H16-027R
Item Code	006-BE1A265N-04-3H3FN2TU

FORWARD-FACING RESTRAINTS

Section	Requirement	Measurement	Pass/Fail
S5.1.3.1	Torso retention —CRS shall retain the torso within system		Pass
S5.1.3.1(a)(1)	Head excursion - ≤ 720 mm (28 in) with tether ≤ 813 mm (32 in) no tether	596 mm (23.5 in)	Pass
S5.1.3.1(a)(2)	Knee target excursion - ≤ 915 mm (36 in)	698 mm (27.5 in)	Pass
S5.2.1.1(c)	Head-torso angle - rearward change ≤ 45°	≤ 45°	Pass

REAR-FACING RESTRAINTS

Section	Requirement	Measurement	Pass/Fail
S5.1.3.2	Torso retention —CRS shall retain the torso within system		N/A
S5.1.3.2	Head target excursion -Not beyond restraint's top and forward edge		N/A
S5.1.4	Back support angle - Angle between the back support surface and the vertical ≤ 70°	N/A	N/A
S5.2.1.1(c)	Head-torso angle - rearward change ≤ 45°	N/A	N/A

Remarks:

Excursion camera locations (distance forward of point Z) = 813 mm, camera speeds = 1,000 frames per second, and lens focal lengths = 15 mm.

Recorded by: Hailey Anderson

Date: 1/7/2016

DYNAMIC IMPACT TEST CONDITIONS - TEST 5
(FMVSS 213, S6.1)

Report No.:	213-MGA-16-006
Test Date:	1/22/2016

Sled Test No.	H16-059F
Item Code	006-BE1A265N-05-6H2FN2FU

Pulse:

Laboratory Ambient Conditions During Testing:

Test Configuration (I or II)	I
Nominal Velocity (km/h)	48 (+0/-3)

Temperature (°C)	20.6
Relative Humidity (%)	16

Dummy:

Dummy Description	Hybrid II 6 Year Old (Part 572I)
Dummy Serial Number	219

Restraint Installation:

Installed Direction	Forward-Facing
Base Usage	Other Configuration
Attachment Method	Lap Belt
Tether Usage	No
Seat Back Position	Upright
Shoulder Harness Position	Slot 14, Counted from the Bottom
Buckle Harness Position	Slot 2, Counted from the Seat Back Outward
Recline Position	Position 1, Counted from Most Upright Position
Positioning Pillow	Removed
Shoulder Harness Covers	Installed
Impact Absorbing Chest Pads	Installed

Remarks:

Pre-test and post-test photographs are presented in Section 9.

Recorded by: Hailey Anderson

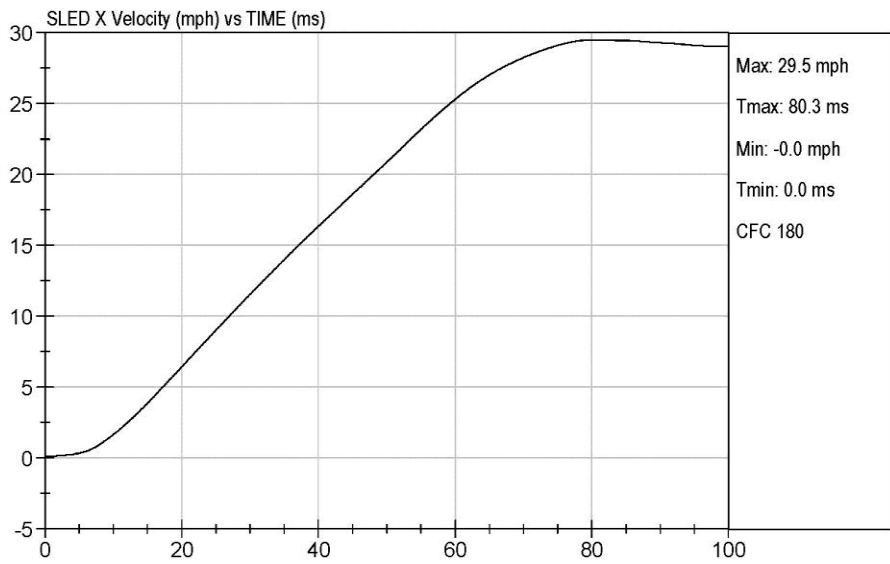
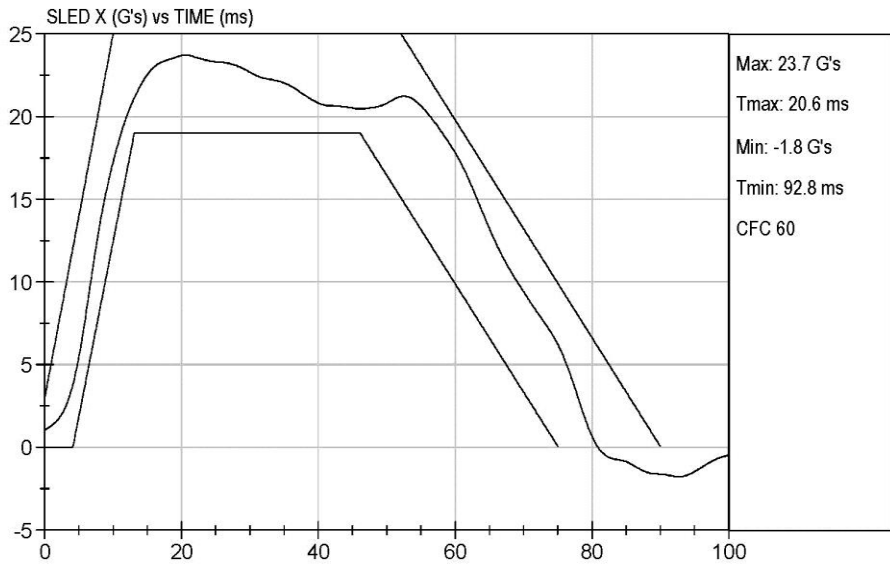
Date: 1/22/2016

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

Report No.:	213-MGA-16-006
Test Date:	1/22/2016

Sled Test No.	H16-059F
Item Code	006-BE1A265N-05-6H2FN2FU

	FMVSS 213 TEST	TEST DATE: 01/22/2016
	006-BE1A265N-05-6H2FN2FU	TEST #: H16059



BELT RESTRAINT - TEST 5
(FMVSS 213, S5.4.3)

Report No.:	213-MGA-16-006
Test Date:	1/22/2016

Sled Test No.	H16-059F
Item Code	006-BE1A265N-05-6H2FN2FU

Section	Requirement	Pass/Fail
S5.4.3.1	Snug Fit of Belts. 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	Direct Restraint. Belts impose no loads on the child resulting from the mass of the system or the test seat.		Pass
	This restraint has one or more belts that contact the dummy for restraint.	No	If all are "yes," restraint fails S5.4.3.2.
	This 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	Seating Systems. Except for harnesses and infant restraints for children up to 10 kg (22 lb), 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	Harnesses. 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 and crotch restraint)	N/A
S5.4.3.3(c)	Prevent standing	N/A

Remarks:

None

Recorded by: Hailey Anderson

Date: 1/22/2016

BUCKLE RELEASE - TEST 5
(FMVSS 213, S5.4.3.5, S6.2)

Report No.:	213-MGA-16-006
Test Date:	1/22/2016

Sled Test No.	H16-059F
Item Code	006-BE1A265N-05-6H2FN2FU

Section	Requirement	Measurement	Pass/Fail
S5.4.3.5(a)	Pre-Impact Release Force — Releases under 40-62 N (9-14 lb)	L: 58 N (13.0 lb) R: 58 N (13.0 lb)	Pass (1)
S5.4.3.5(b)	Post-Impact Release Force* — Releases ≤ 71 N (16 lb)	L: 60 N (13.5 lb) R: 60 N (13.5 lb)	Pass (1)
S5.4.3.5(c)	Minimum Surface Area of Buckle - ≥ 0.6 in ² (3.9 cm ²)	0.8 in ² (5.0 cm ²)	Pass
S5.4.3.5(e)	Buckle Integrity 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:

- (1) The buckle is comprised of right and left buckle tangs that do not always release at the same force.

Recorded by: Hailey Anderson

Date: 1/22/2016

SYSTEM INTEGRITY - TEST 5
(FMVSS 213, S5.1.1)

Report No.:	213-MGA-16-006
Test Date:	1/22/2016

Sled Test No.	H16-059F
Item Code	006-BE1A265N-05-6H2FN2FU

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

Section	Requirement	Pass/Fail
S5.1.1(a)	Structural Integrity- Exhibit no complete separation of any load bearing structural element	Pass
	Exhibit no partial separation exposing surfaces with a radius of less than ¼ in (9.53 mm)	Pass
	Exhibit no partial separation exposing surfaces with protrusions greater than 3/8 in (6.35 mm)	Pass
S5.1.1(b)(1)	Adjustment Position- Remain in the same adjustment position during the test that it was in immediately before the test	Pass
S5.1.1(b)(2)(ii)	Exposed Openings- Have no exposed opening larger than ¼ inch (9.53 mm) before the test becomes smaller during the testing as a result of the movement of the seating service relative to the restrain system as a whole	Pass
S5.1.1(c)	Seating Surface Angle- 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:

None

Recorded by: Haley Anderson

Date: 1/22/2016

**INJURY CRITERIA - TEST 5
(FMVSS 213, S5.1.2)**

Report No.:	213-MGA-16-006
Test Date:	1/22/2016

Sled Test No.	H16-059F
Item Code	006-BE1A265N-05-6H2FN2FU

Section	Requirement
S5.1.2.1(a)	Head Injury Criterion- 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)	Chest Injury Criterion- 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
314	Pass

Chest Injury Criterion Results

Max acceleration lasting 3 ms (g)	Pass/Fail
48	Pass

Remarks:

None

Recorded by: Hailey Anderson

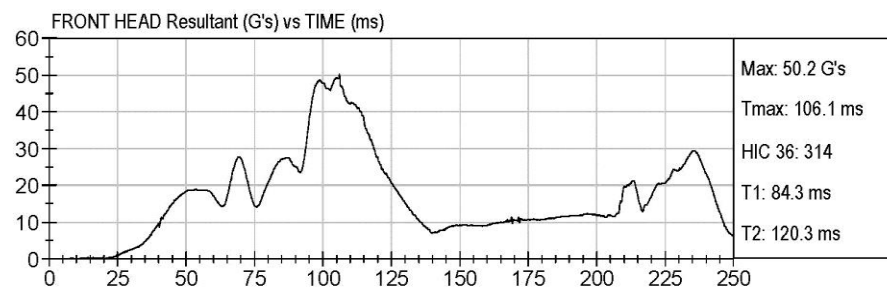
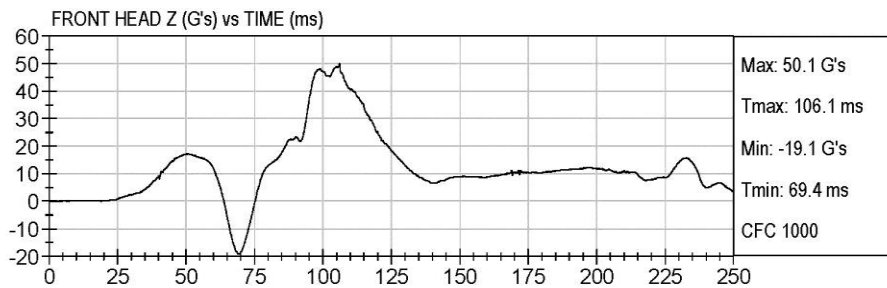
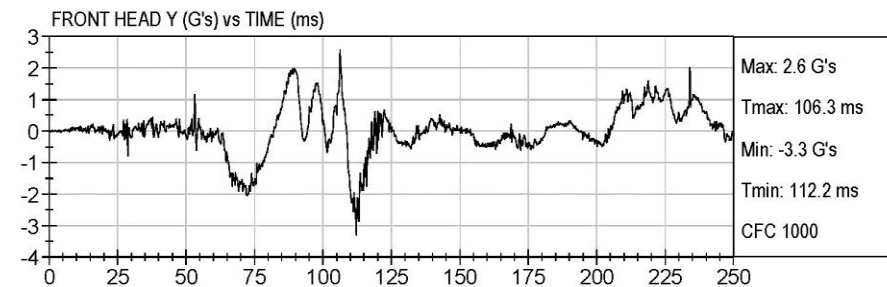
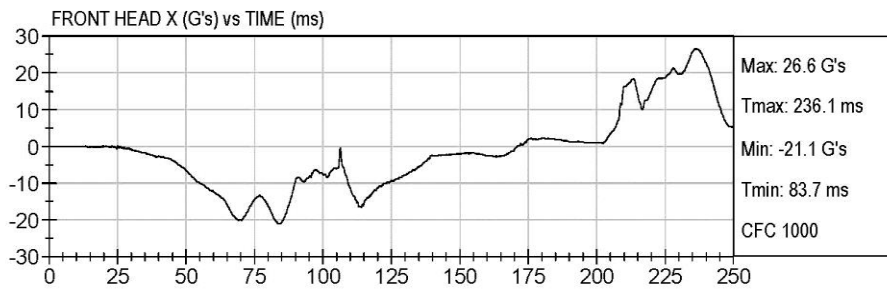
Date: 1/22/2016

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

Report No.:	213-MGA-16-006
Test Date:	1/22/2016

Sled Test No.	H16-059F
Item Code	006-BE1A265N-05-6H2FN2FU

	FMVSS 213 TEST 006-BE1A265N-05-6H2FN2FU	TEST DATE: 01/22/2016 TEST #: H16059
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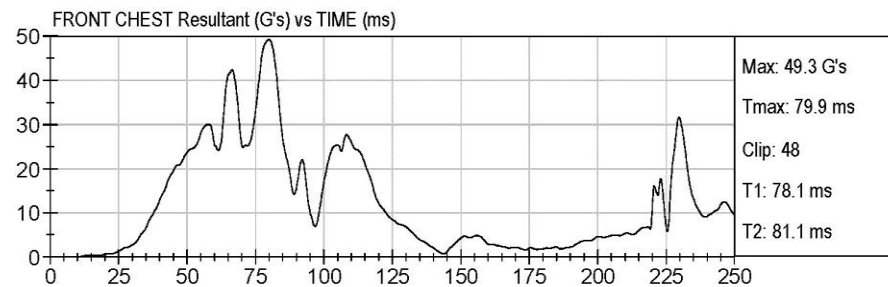
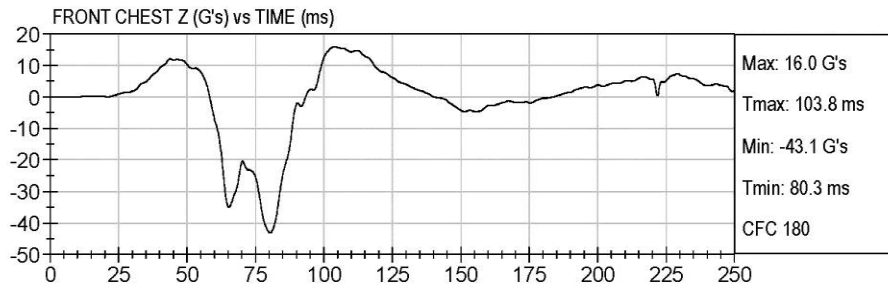
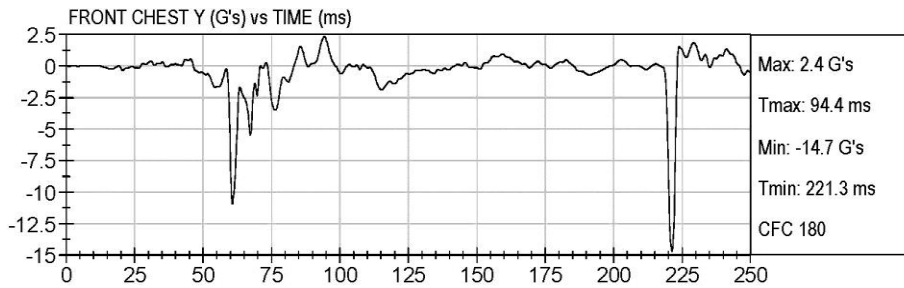
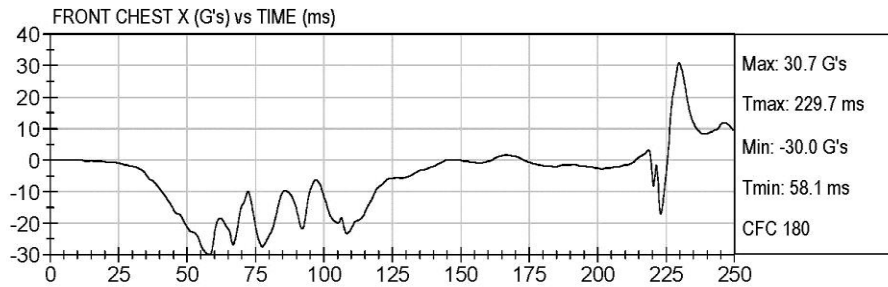


INJURY CRITERIA - CHEST ACCELERATION PLOTS - TEST 5 (FMVSS 213, S5.1.2)

Report No.:	213-MGA-16-006
Test Date:	1/22/2016

Sled Test No.	H16-059F
Item Code	006-BE1A265N-05-6H2FN2FU

	FMVSS 213 TEST 006-BE1A265N-05-6H2FN2FU	TEST DATE: 01/22/2016 TEST #: H16059
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OCCUPANT EXCURSION - TEST 5
(FMVSS 213, S5.1.3, S5.1.4, S5.2.1.1(c))

Report No.:	213-MGA-16-006
Test Date:	1/22/2016

Sled Test No.	H16-059F
Item Code	006-BE1A265N-05-6H2FN2FU

FORWARD-FACING RESTRAINTS

Section	Requirement	Measurement	Pass/Fail
S5.1.3.1	Torso retention —CRS shall retain the torso within system		Pass
S5.1.3.1(a)(1)	Head excursion - ≤ 720 mm (28 in) with tether ≤ 813 mm (32 in) no tether	801 mm (31.5 in)	Pass
S5.1.3.1(a)(2)	Knee target excursion - ≤ 915 mm (36 in)	903 mm (35.6 in)	Pass
S5.2.1.1(c)	Head-torso angle - rearward change ≤ 45°	≤ 45°	Pass

REAR-FACING RESTRAINTS

Section	Requirement	Measurement	Pass/Fail
S5.1.3.2	Torso retention —CRS shall retain the torso within system		N/A
S5.1.3.2	Head target excursion -Not beyond restraint's top and forward edge		N/A
S5.1.4	Back support angle - Angle between the back support surface and the vertical ≤ 70°	N/A	N/A
S5.2.1.1(c)	Head-torso angle - rearward change ≤ 45°	N/A	N/A

Remarks:

Excursion camera locations (distance forward of point Z) = 813 mm, camera speeds = 1,000 frames per second, and lens focal lengths = 15 mm.

Recorded by: Hailey Anderson

Date: 1/22/2016

DYNAMIC IMPACT TEST CONDITIONS - TEST 6
(FMVSS 213, S6.1)

Report No.:	213-MGA-16-006
Test Date:	1/22/2016

Sled Test No.	H16-059R
Item Code	006-BE1A265N-06-3H3FNLFU

Pulse:

Laboratory Ambient Conditions During Testing:

Test Configuration (I or II)	I
Nominal Velocity (km/h)	48 (+0/-3)

Temperature (°C)	20.6
Relative Humidity (%)	16

Dummy:

Dummy Description	Hybrid III 3 Year Old (Part 572P)
Dummy Serial Number	031

Restraint Installation:

Installed Direction	Forward-Facing
Base Usage	Other Configuration
Attachment Method	Lower Anchor
Tether Usage	No
Seat Back Position	Upright
Shoulder Harness Position	Slot 10, Counted from the Bottom
Buckle Harness Position	Slot 2, Counted from the Seat Back Outward
Recline Position	Position 1, Counted from Most Upright Position
Positioning Pillow	Removed
Shoulder Harness Covers	Installed
Impact Absorbing Chest Pads	Installed

Remarks:

Pre-test and post-test photographs are presented in Section 9.

Recorded by: Hailey Anderson

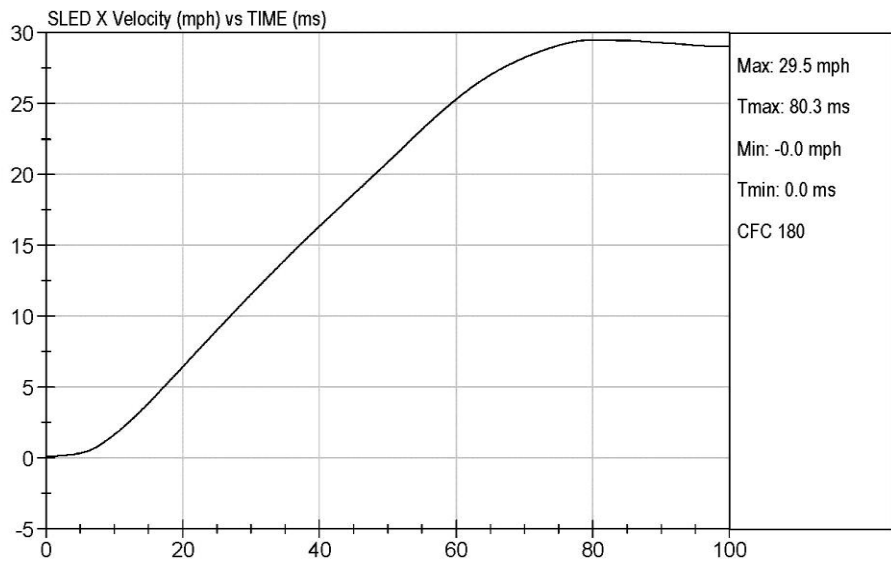
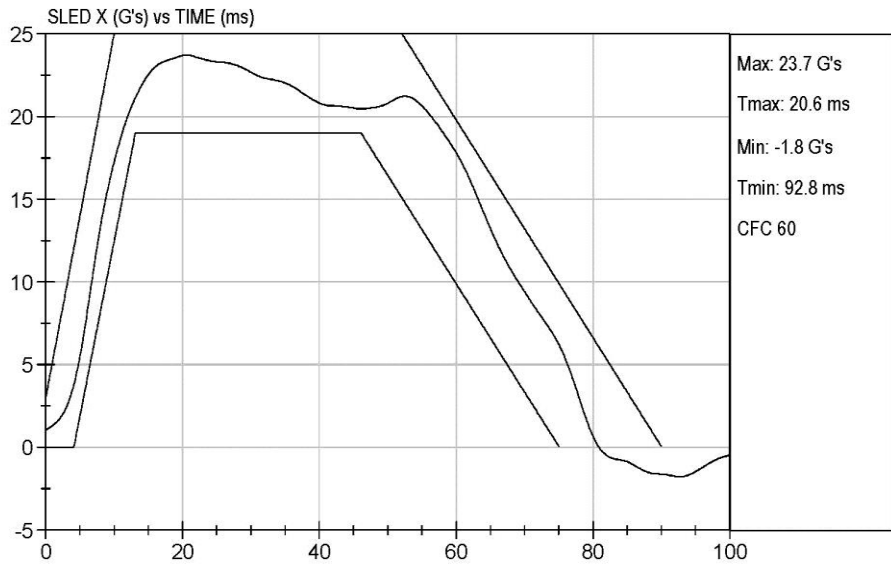
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DYNAMIC IMPACT SLED PULSE - TEST 6
(FMVSS 213, S6.1)

Report No.:	213-MGA-16-006
Test Date:	1/22/2016

Sled Test No.	H16-059R
Item Code	006-BE1A265N-06-3H3FNLFU

	FMVSS 213 TEST	TEST DATE: 01/22/2016
	006-BE1A265N-06-3H3FNLFU	TEST #: H16059



BELT RESTRAINT - TEST 6
(FMVSS 213, S5.4.3)

Report No.:	213-MGA-16-006
Test Date:	1/22/2016

Sled Test No.	H16-059R
Item Code	006-BE1A265N-06-3H3FNLFU

Section	Requirement	Pass/Fail
S5.4.3.1	Snug Fit of Belts. 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	Direct Restraint. Belts impose no loads on the child resulting from the mass of the system or the test seat.		Pass
	This restraint has one or more belts that contact the dummy for restraint.	No	If all are "yes," restraint fails S5.4.3.2.
	This 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	Seating Systems. Except for harnesses and infant restraints for children up to 10 kg (22 lb), 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	Harnesses. 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 and crotch restraint)	N/A
S5.4.3.3(c)	Prevent standing	N/A

Remarks:

None

Recorded by: Haley Anderson

Date: 1/22/2016

BUCKLE RELEASE - TEST 6
(FMVSS 213, S5.4.3.5, S6.2)

Report No.:	213-MGA-16-006
Test Date:	1/22/2016

Sled Test No.	H16-059R
Item Code	006-BE1A265N-06-3H3FNLFU

Section	Requirement	Measurement	Pass/Fail
S5.4.3.5(a)	Pre-Impact Release Force — Releases under 40-62 N (9-14 lb)	L: 60 N (13.5 lb) R: 60 N (13.5 lb)	Pass (1)
S5.4.3.5(b)	Post-Impact Release Force* — Releases ≤ 71 N (16 lb)	L: 57 N (12.8 lb) R: 57 N (12.8 lb)	Pass (1)
S5.4.3.5(c)	Minimum Surface Area of Buckle - ≥ 0.6 in ² (3.9 cm ²)	0.8 in ² (5.0 cm ²)	Pass
S5.4.3.5(e)	Buckle Integrity 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:

- (1) The buckle is comprised of right and left buckle tangs that do not always release at the same force.

Recorded by: Hailey Anderson

Date: 1/22/2016

**SYSTEM INTEGRITY - TEST 6
(FMVSS 213, S5.1.1)**

Report No.:	213-MGA-16-006
Test Date:	1/22/2016

Sled Test No.	H16-059R
Item Code	006-BE1A265N-06-3H3FNLFU

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

Section	Requirement	Pass/Fail
S5.1.1(a)	Structural Integrity- Exhibit no complete separation of any load bearing structural element	Pass
	Exhibit no partial separation exposing surfaces with a radius of less than ¼ in (9.53 mm)	Pass
	Exhibit no partial separation exposing surfaces with protrusions greater than 3/8 in (6.35 mm)	Pass
S5.1.1(b)(1)	Adjustment Position- Remain in the same adjustment position during the test that it was in immediately before the test	Pass
S5.1.1(b)(2)(ii)	Exposed Openings- Have no exposed opening larger than ¼ inch (9.53 mm) before the test becomes smaller during the testing as a result of the movement of the seating service relative to the restrain system as a whole	Pass
S5.1.1(c)	Seating Surface Angle- 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:

None

Recorded by: Haley Anderson

Date: 1/22/2016

**INJURY CRITERIA - TEST 6
(FMVSS 213, S5.1.2)**

Report No.:	213-MGA-16-006
Test Date:	1/22/2016

Sled Test No.	H16-059R
Item Code	006-BE1A265N-06-3H3FNLFU

Section	Requirement
S5.1.2.1(a)	Head Injury Criterion- 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)	Chest Injury Criterion- 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
560	Pass

Chest Injury Criterion Results

Max acceleration lasting 3 ms (g)	Pass/Fail
52	Pass

Remarks:

None

Recorded by: Hailey Anderson

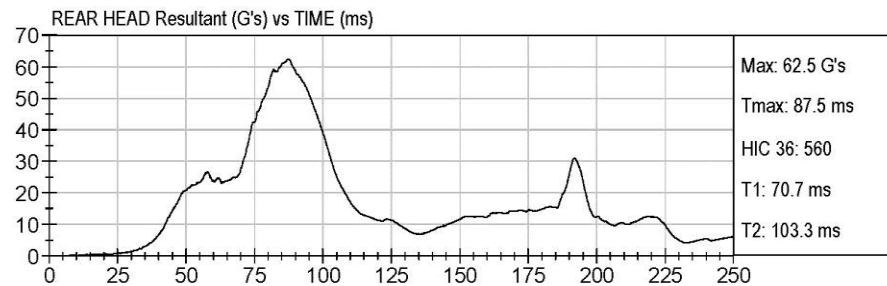
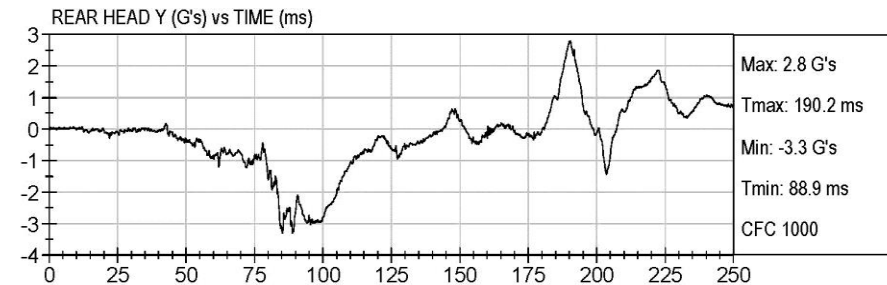
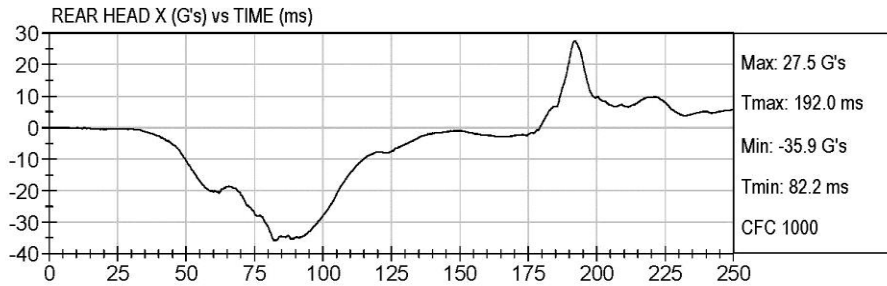
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INJURY CRITERIA - HEAD ACCELERATION PLOTS - TEST 6 (FMVSS 213, S5.1.2)

Report No.:	213-MGA-16-006
Test Date:	1/22/2016

Sled Test No.	H16-059R
Item Code	006-BE1A265N-06-3H3FNLFU

	FMVSS 213 TEST 006-BE1A265N-06-3H3FNLFU	TEST DATE: 01/22/2016 TEST #: H16059
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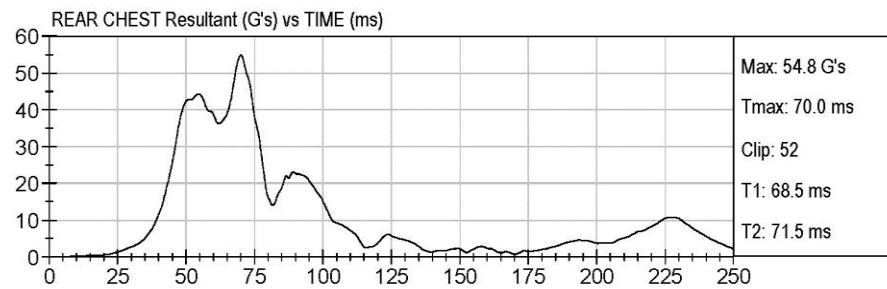
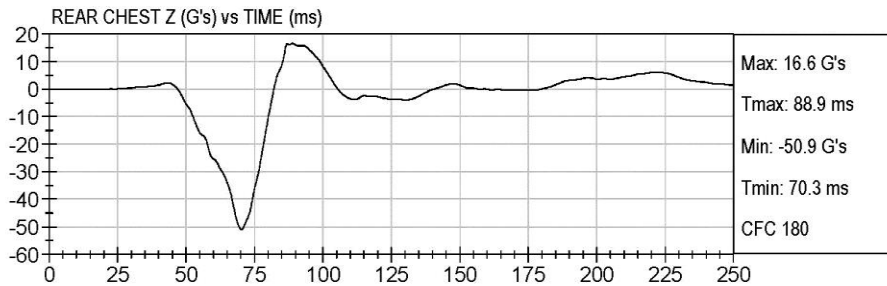
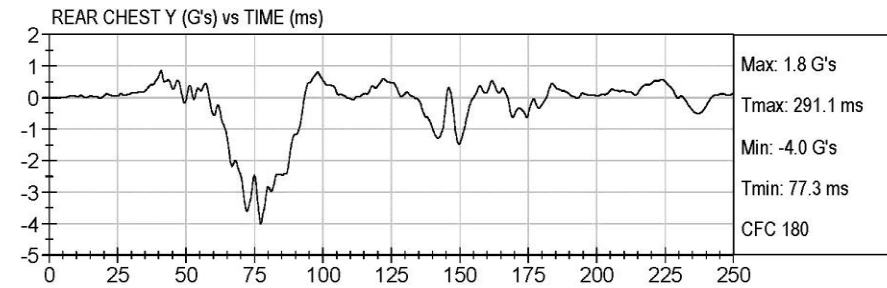
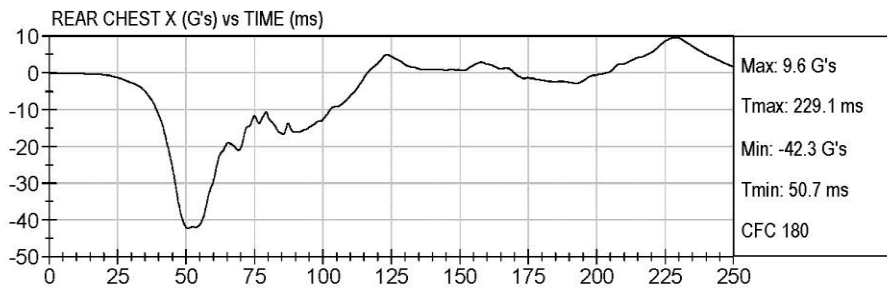


**INJURY CRITERIA - CHEST ACCELERATION PLOTS - TEST 6
(FMVSS 213, S5.1.2)**

Report No.:	213-MGA-16-006
Test Date:	1/22/2016

Sled Test No.	H16-059R
Item Code	006-BE1A265N-06-3H3FNLFU

	FMVSS 213 TEST	TEST DATE: 01/22/2016
	006-BE1A265N-06-3H3FNLFU	TEST #: H16059



OCCUPANT EXCURSION - TEST 6
(FMVSS 213, S5.1.3, S5.1.4, S5.2.1.1(c))

Report No.:	213-MGA-16-006
Test Date:	1/22/2016

Sled Test No.	H16-059R
Item Code	006-BE1A265N-06-3H3FNLFU

FORWARD-FACING RESTRAINTS

Section	Requirement	Measurement	Pass/Fail
S5.1.3.1	Torso retention —CRS shall retain the torso within system		Pass
S5.1.3.1(a)(1)	Head excursion - ≤ 720 mm (28 in) with tether ≤ 813 mm (32 in) no tether	729 mm (28.7 in)	Pass
S5.1.3.1(a)(2)	Knee target excursion - ≤ 915 mm (36 in)	751 mm (29.6 in)	Pass
S5.2.1.1(c)	Head-torso angle - rearward change ≤ 45°	≤ 45°	Pass

REAR-FACING RESTRAINTS

Section	Requirement	Measurement	Pass/Fail
S5.1.3.2	Torso retention —CRS shall retain the torso within system		N/A
S5.1.3.2	Head target excursion -Not beyond restraint's top and forward edge		N/A
S5.1.4	Back support angle - Angle between the back support surface and the vertical ≤ 70°	N/A	N/A
S5.2.1.1(c)	Head-torso angle - rearward change ≤ 45°	N/A	N/A

Remarks:

Excursion camera locations (distance forward of point Z) = 813 mm, camera speeds = 1,000 frames per second, and lens focal lengths = 15 mm

Recorded by: Hailey Anderson

Date: 1/22/2016

AIRCRAFT PASSENGER SEAT INVERSION - TEST A
(FMVSS 213, S8.2, S8.2.5, S8.2.6)

Report No.:	213-MGA-16-006	Test No.	A
Test Date:	1/7/2016	Item Code	006-BE1A265N-Inv01-NINRN2FR

Dummy:

Dummy Description	CAMI Newborn (Part 572K)
Dummy Serial Number	004

Restraint Installation:

Installed Direction	Rear-Facing
Base Usage	Other Configuration
Attachment Method	Lap Belt
Tether Usage	No
Seat Back Position	Reclined
Shoulder Harness Position	Slot 3, Counted from the Bottom
Buckle Harness Position	Slot 1, Counted from the Seat Back Outward

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 retained 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 retained within the aircraft seat	Pass

Remarks:

None

Recorded by: Hailey Anderson

Date: 1/7/2016

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

Report No.:	213-MGA-16-006	Test No.	B
Test Date:	1/7/2016	Item Code	006-BE1A265N-Inv02-12CFN2FU

Dummy:

Dummy Description	CRABI 12 Month Old (Part 572R)
Dummy Serial Number	083

Restraint Installation:

Installed Direction	Forward-Facing
Base Usage	Other Configuration
Attachment Method	Lap Belt
Tether Usage	No
Seat Back Position	Upright
Shoulder Harness Position	Slot 7, Counted from the Bottom
Buckle Harness Position	Slot 2, Counted from the Seat Back Outward

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 retained 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 retained within the aircraft seat	Pass

Remarks:

None

Recorded by: Hailey Anderson

Date: 1/7/2016

AIRCRAFT PASSENGER SEAT INVERSION - TEST C
(FMVSS 213, S8.2, S8.2.5, S8.2.6)

Report No.:	213-MGA-16-006	Test No.	C
Test Date:	1/7/2016	Item Code	006-BE1A265N-Inv03-3H3FN2FU

Dummy:

Dummy Description	Hybrid III 3 Year Old (Part 572P)
Dummy Serial Number	031

Restraint Installation:

Installed Direction	Forward-Facing
Base Usage	Other Configuration
Attachment Method	Lap Belt
Tether Usage	No
Seat Back Position	Upright
Shoulder Harness Position	Slot 10, Counted from the Bottom
Buckle Harness Position	Slot 2, Counted from the Seat Back Outward

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 retained 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 retained within the aircraft seat	Pass

Remarks:

None

Recorded by: Hailey Anderson

Date: 1/7/2016

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, CAMI
	12C – 12 MO, CRABI
	3H3 – 3 YO, Hybrid III
	6H2 – 6YO Hybrid II
	6H3 – 6YO, Hybrid III
	6W3 – 6 YO, Weighted Hybrid III
	TH3 – 10 YO, Hybrid III
Installed Direction	R – Rear Facing
	F – Forward Facing
	S – Faces Sideways (Carbeds)
Base Usage	B – Optional Base Used with Infant CRS
	N – All Other Configurations
Attachment Method	L – LATCH
	2 – Lap Belt
	3 – Lap and Shoulder Belt
	M – Seat Back Mount
Tether Usage	T – Tether
	F – Tether Free
Seat Back Position	U – Upright
	R – Reclined
	B – Booster with Back
	N – Booster without Back
	F – Flat

SECTION 8
INSTRUMENTATION CALIBRATION

CERTIFICATION INSTRUMENTATION

Sled Accelerometers	S/N	Manufacturer	Model Number	Calibration Date	Due Date
Primary	1365905	Honeywell	JTF/060-F482-05	8/10/15	2/10/16
Redundant	1498668	Honeywell	JTF/060-F482-05	8/11/15	2/11/16

Temperature/Humidity Logger	S/N	Manufacturer	Model Number	Calibration Date	Due Date
Accuracy 0.5°F, 2% RH	14312013	Veriteq	SP-2000-20R	11/6/15	5/6/16

Force Gauge	S/N	Manufacturer	Model Number	Calibration Date	Due Date
100 lb, Accuracy \pm 0.1 lb	212889	Wagner FDIX	FDIX 100	4/4/15	4/4/16

Scale	S/N	Manufacturer	Model Number	Calibration Date	Due Date
100 lb, Accuracy \pm 0.1 lb	138979	Rice Lake	IQ Plus 355	12/2/15	6/2/16

Inclinometer	S/N	Manufacturer	Model Number	Calibration Date	Due Date
Accuracy \pm 0.1°	458	Mitutoyo	Pro 360	7/31/15	1/31/16

Caliper	S/N	Manufacturer	Model Number	Calibration Date	Due Date
6 in, Accuracy \pm .001in	07416506	Mitutoyo	CD-6"CSX	7/17/15	1/17/16

Tape Measurers	S/N	Manufacturer	Model Number	Calibration Date	Due Date
3.5 m/12 ft	716	Stanley	33-215	11/11/15	5/11/16
3.5 m/12 ft	717	Stanley	33-215	11/11/15	5/11/16

TEST DUMMY INSTRUMENTATION

SERIAL NUMBER 083

Sensor		S/N	Manufacturer	Model Number	Calibration Date	Due Date
Head Accelerometers	X	P79674	Endevco	7264C-2KTZ-2-360M17	11/4/15	5/4/16
	Y	P79677	Endevco	7264C-2KTZ-2-360M17	11/4/15	5/4/16
	Z	P83056	Endevco	7264C-2KTZ-2-360M17	11/4/15	5/4/16
Chest Accelerometers	X	P80115	Endevco	7264C-2KTZ-2-360M17	11/4/15	5/4/16
	Y	P82134	Endevco	7264C-2KTZ-2-360M17	11/4/15	5/4/16
	Z	P82293	Endevco	7264C-2KTZ-2-360M17	11/4/15	5/4/16

SERIAL NUMBER 031

Sensor		S/N	Manufacturer	Model Number	Calibration Date	Due Date
Head Accelerometers	X	P88702	Endevco	7264C-2KTZ-2-360M17	10/12/15	4/12/16
	Y	P88703	Endevco	7264C-2KTZ-2-360M17	10/8/15	4/8/16
	Z	P88704	Endevco	7264C-2KTZ-2-360M17	10/12/15	4/12/16
Chest Accelerometers	X	P88698	Endevco	7264C-2KTZ-2-360M17	10/12/15	4/12/16
	Y	P88700	Endevco	7264C-2KTZ-2-360M17	10/12/15	4/12/16
	Z	P88701	Endevco	7264C-2KTZ-2-360M17	10/12/15	4/12/16

SERIAL NUMBER 219

Sensor		S/N	Manufacturer	Model Number	Calibration Date	Due Date
Head Accelerometers	X	P79011	Endevco	7264C-2KTZ-2-360M17	1/15/16	7/15/16
	Y	P82095	Endevco	7264C-2KTZ-2-360M17	11/19/15	5/19/16
	Z	P83166	Endevco	7264C-2KTZ-2-360M17	11/19/15	5/19/16
Chest Accelerometers	X	P79603	Endevco	7264C-2KTZ-2-360M17	1/15/16	7/15/16
	Y	P79737	Endevco	7264C-2KTZ-2-360M17	1/15/16	7/15/16
	Z	P79824	Endevco	7264C-2KTZ-2-360M17	1/15/16	7/15/16

SECTION 9
PHOTOGRAPHS

SLED BUCK - STANDARD BENCH SEAT AND CONFIGURATION

Report No.: 213-MGA-16-006

Item Code: 006-BE1A265N-01-12CRNLFR

Item Code: 006-BE1A265N-02-NINRN2FR

Item Code: 006-BE1A265N-03-6W3FN2FU

Item Code: 006-BE1A265N-04-3H3FN2TU

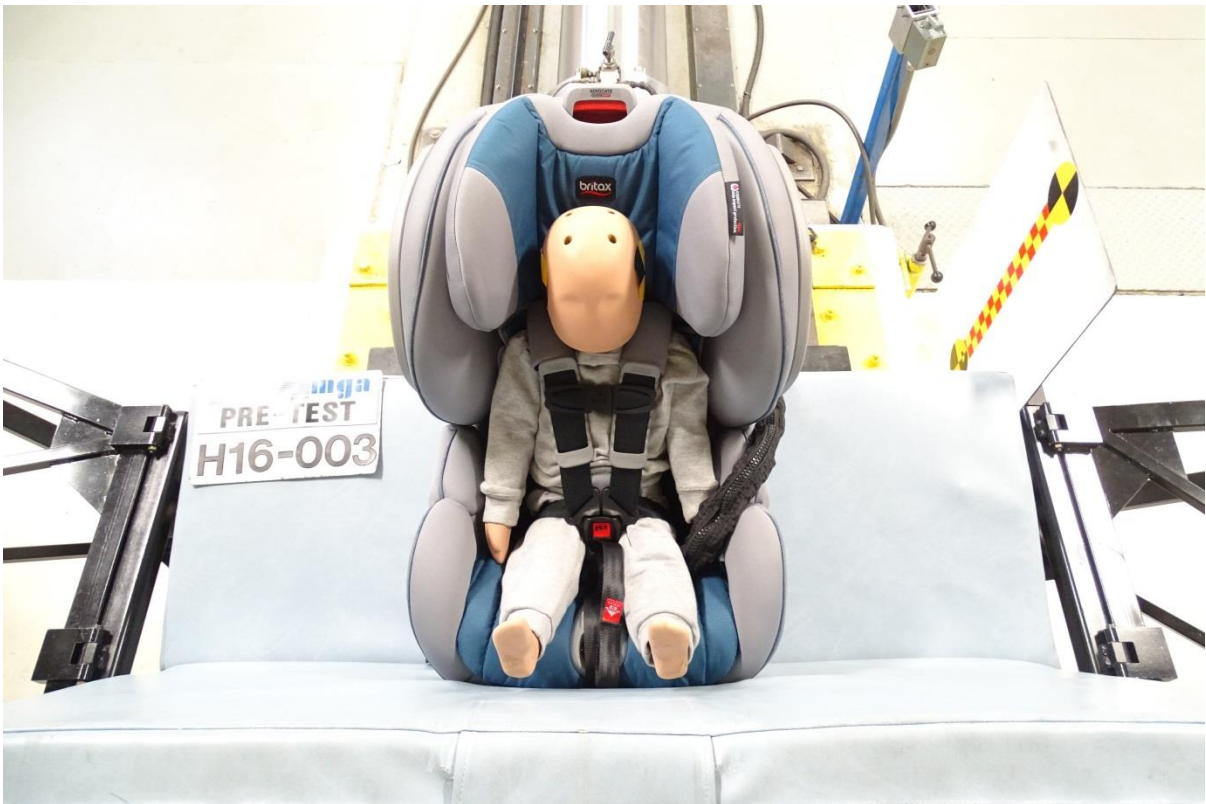
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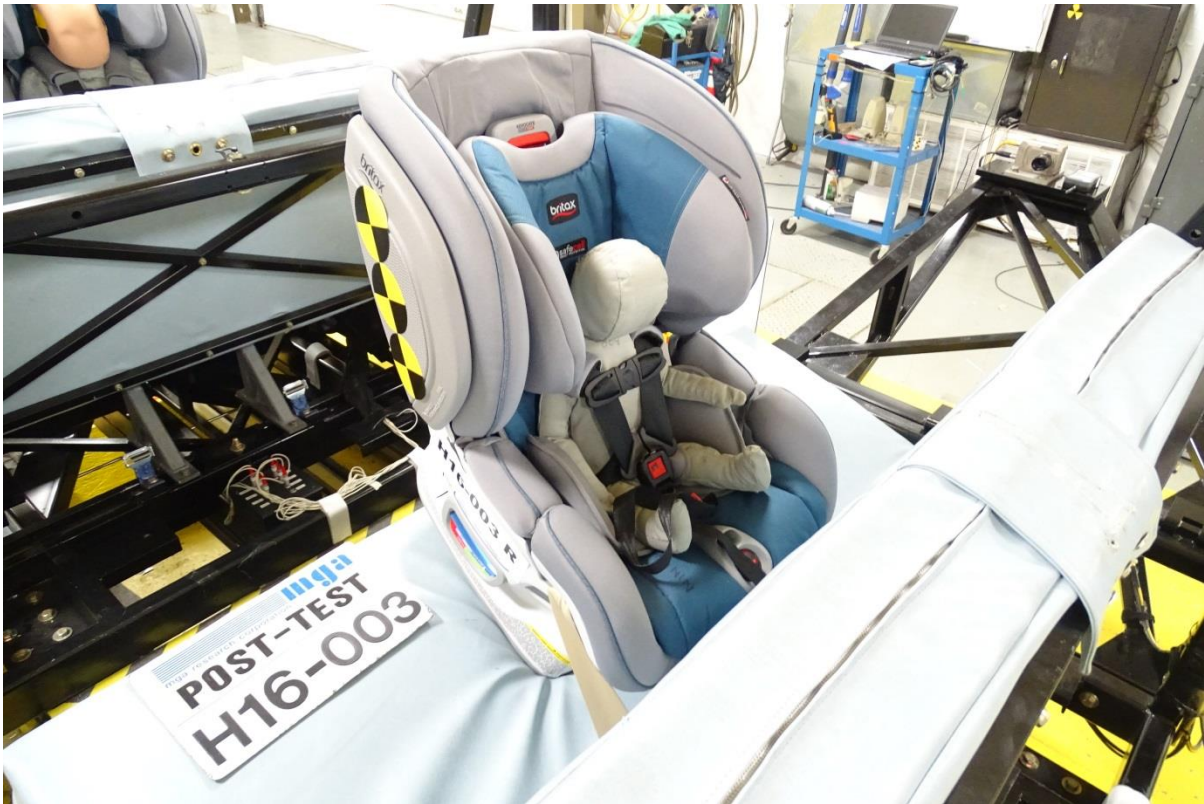


























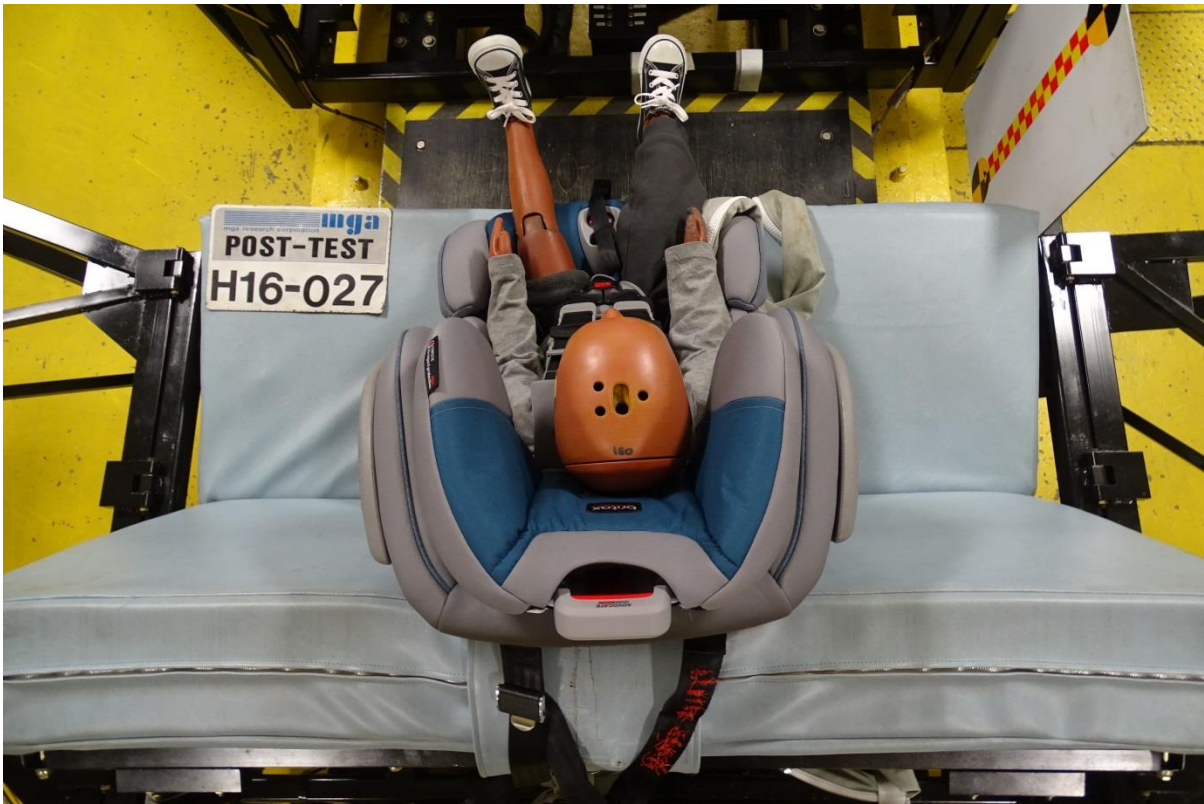


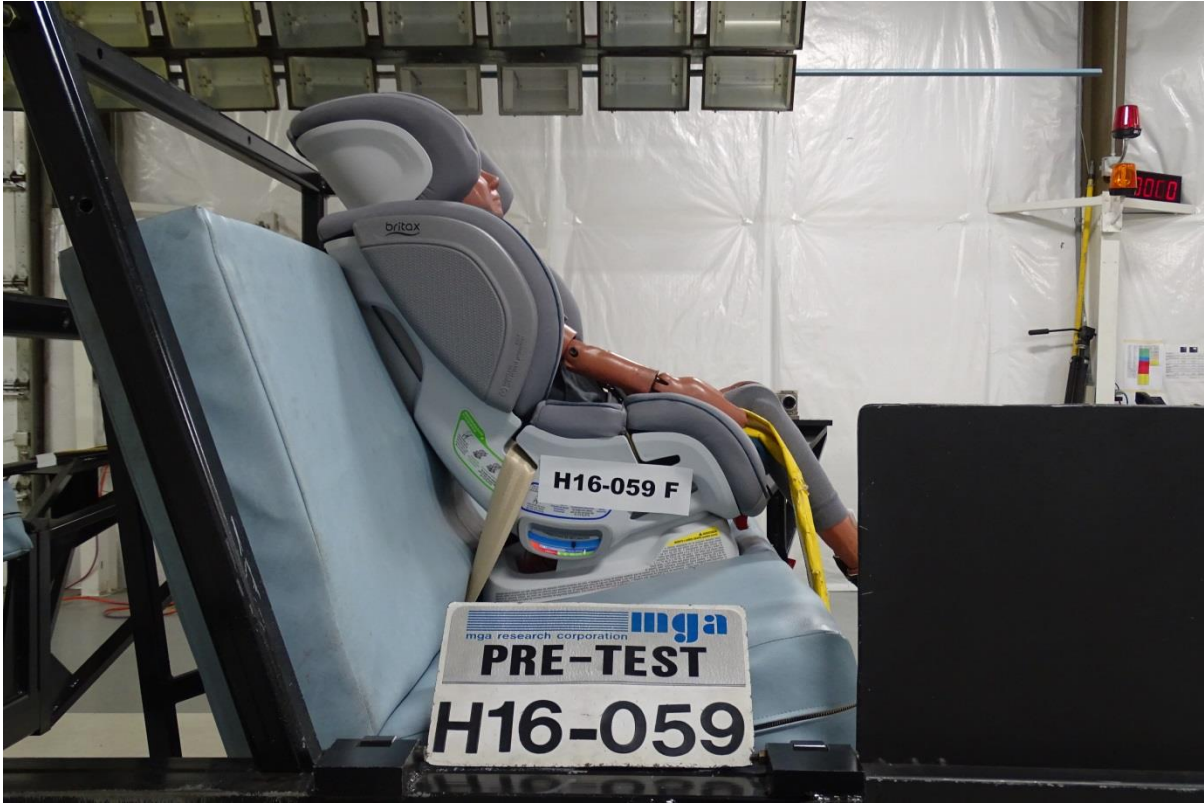


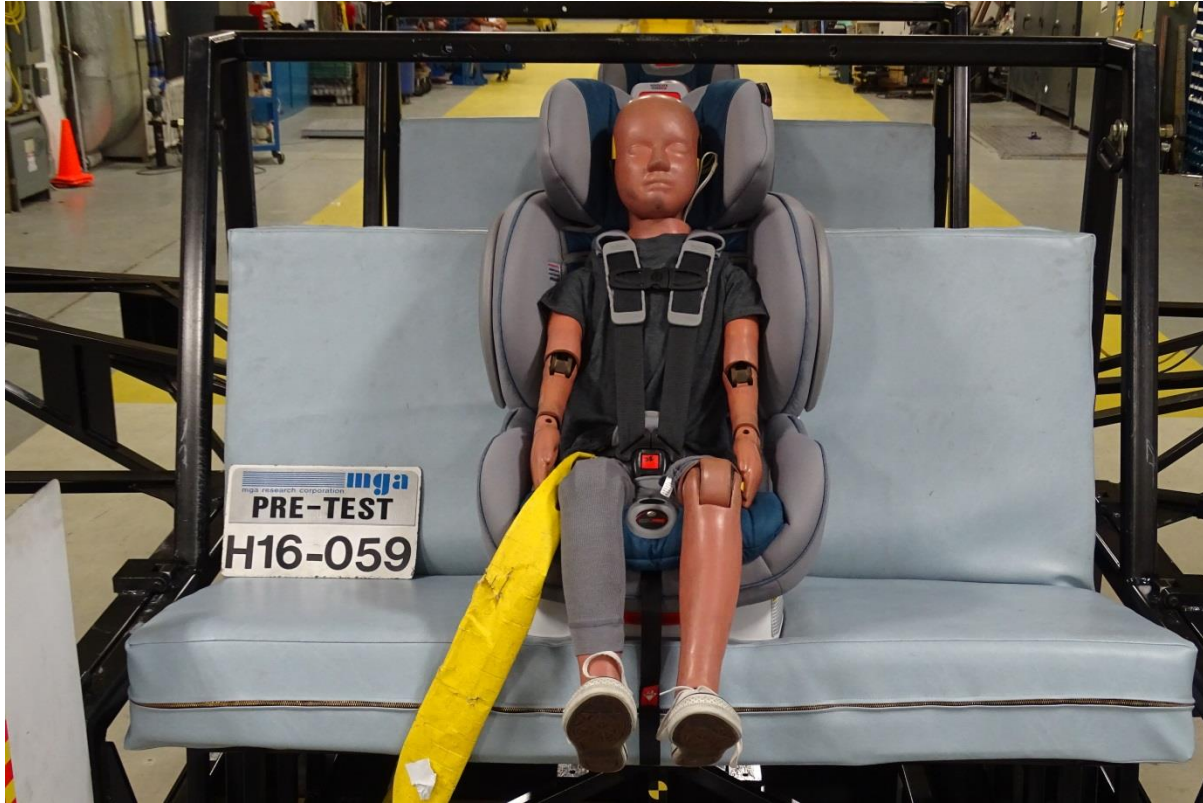














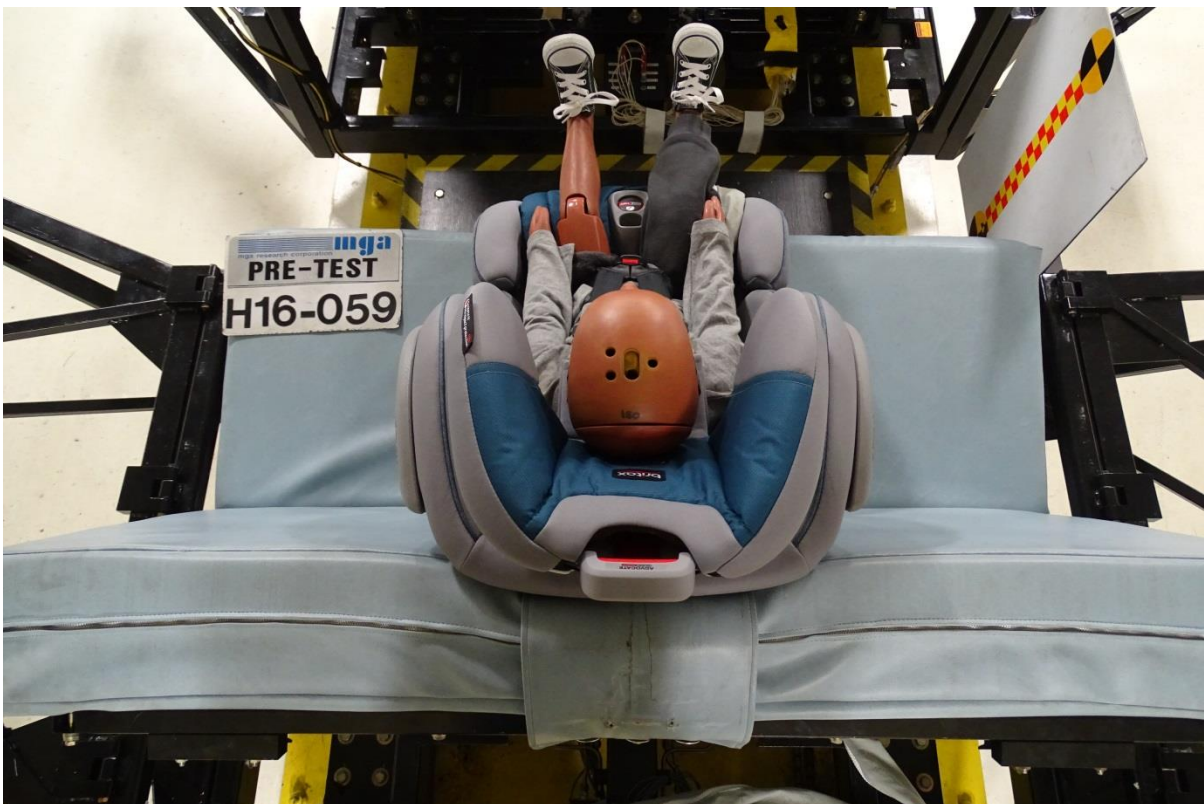






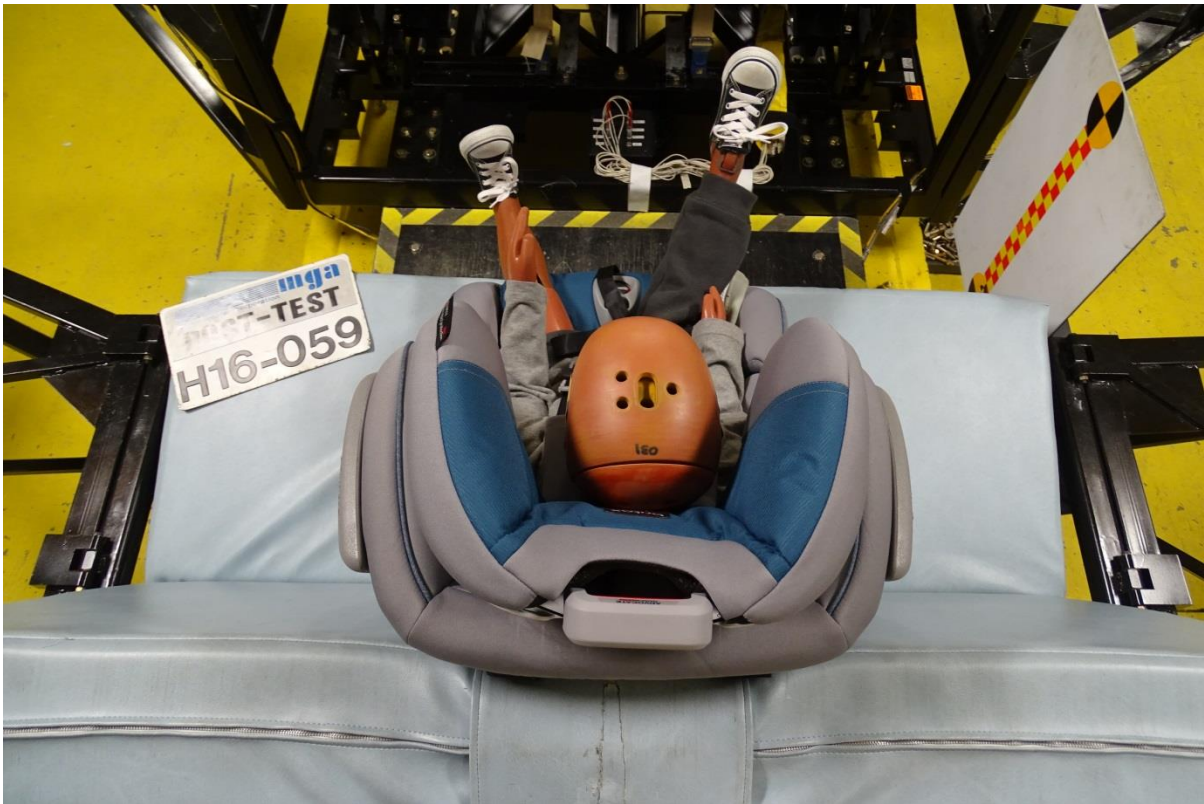
































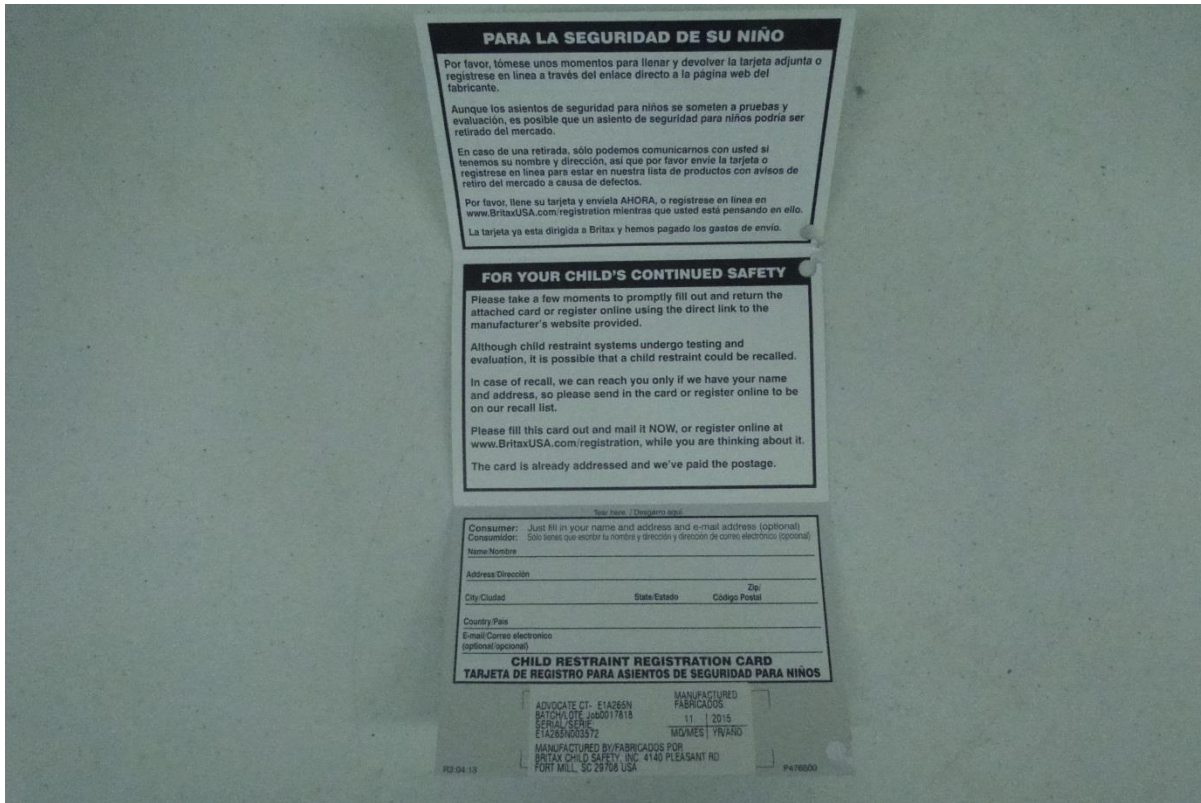
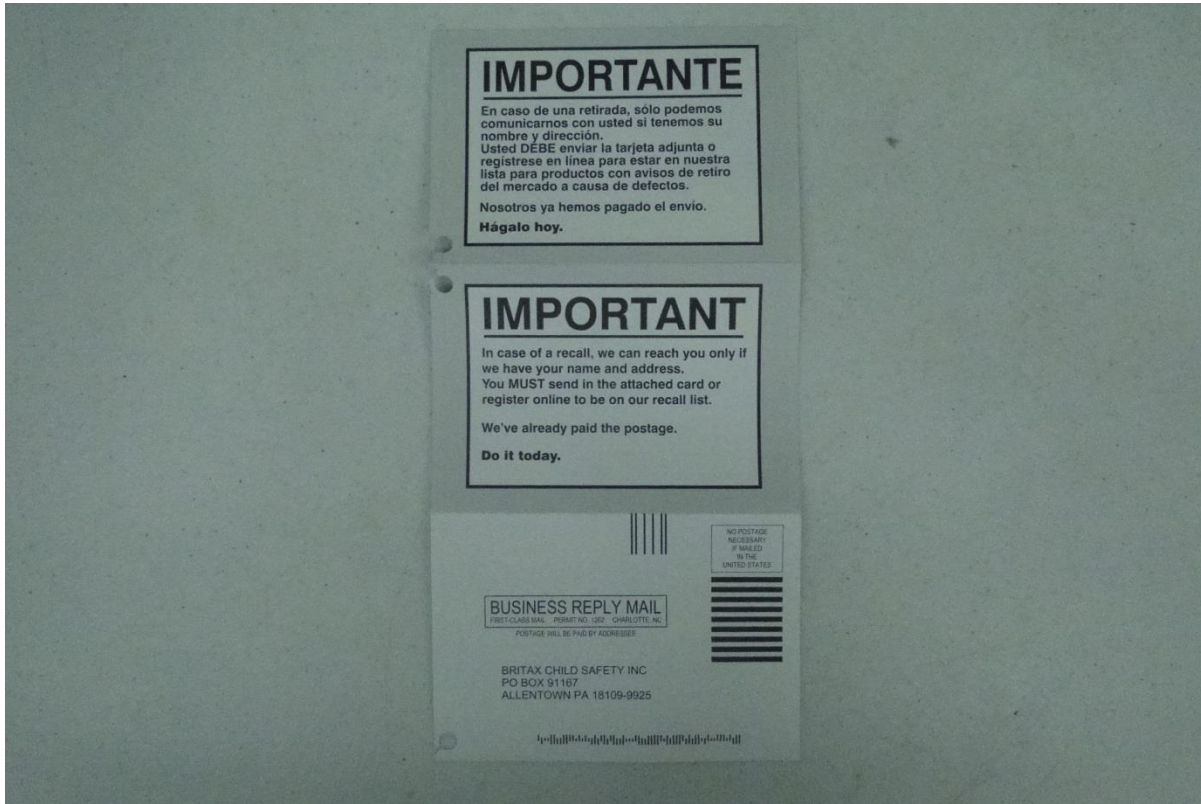




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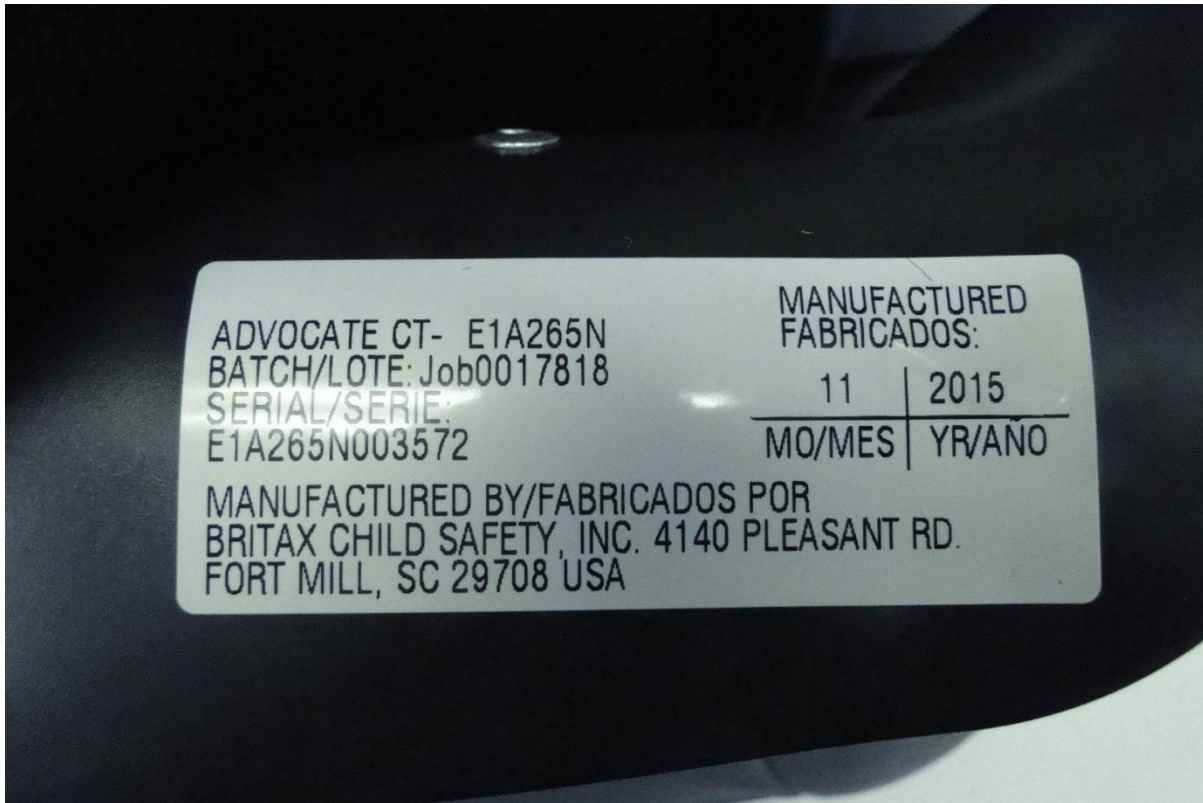
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 Item Code: 006-BE1A265N-02-NINRN2FR
 Item Code: 006-BE1A265N-03-6W3FN2FU

Item Code: 006-BE1A265N-04-3H3FN2TU
 Item Code: 006-BE1A265N-05-6H2FN2FU
 Item Code: 006-BE1A265N-06-3H3FNLFU



LABELS

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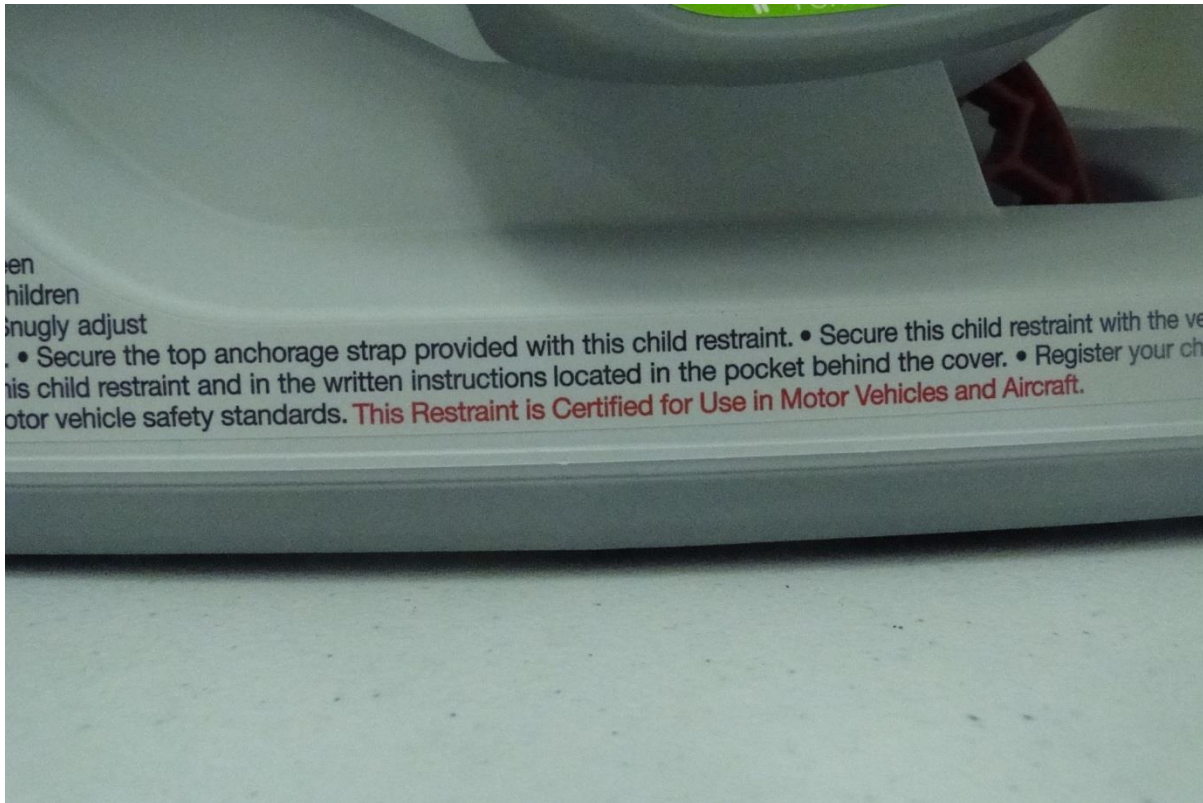
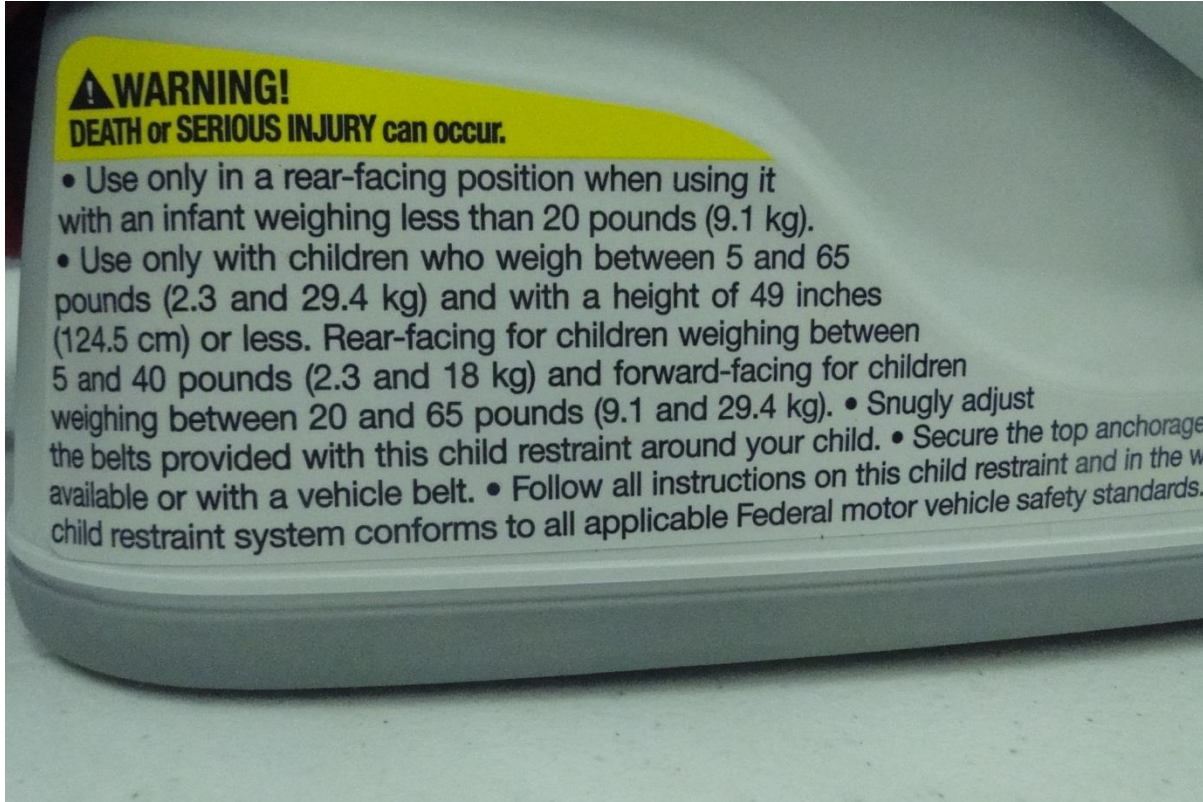
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LABELS

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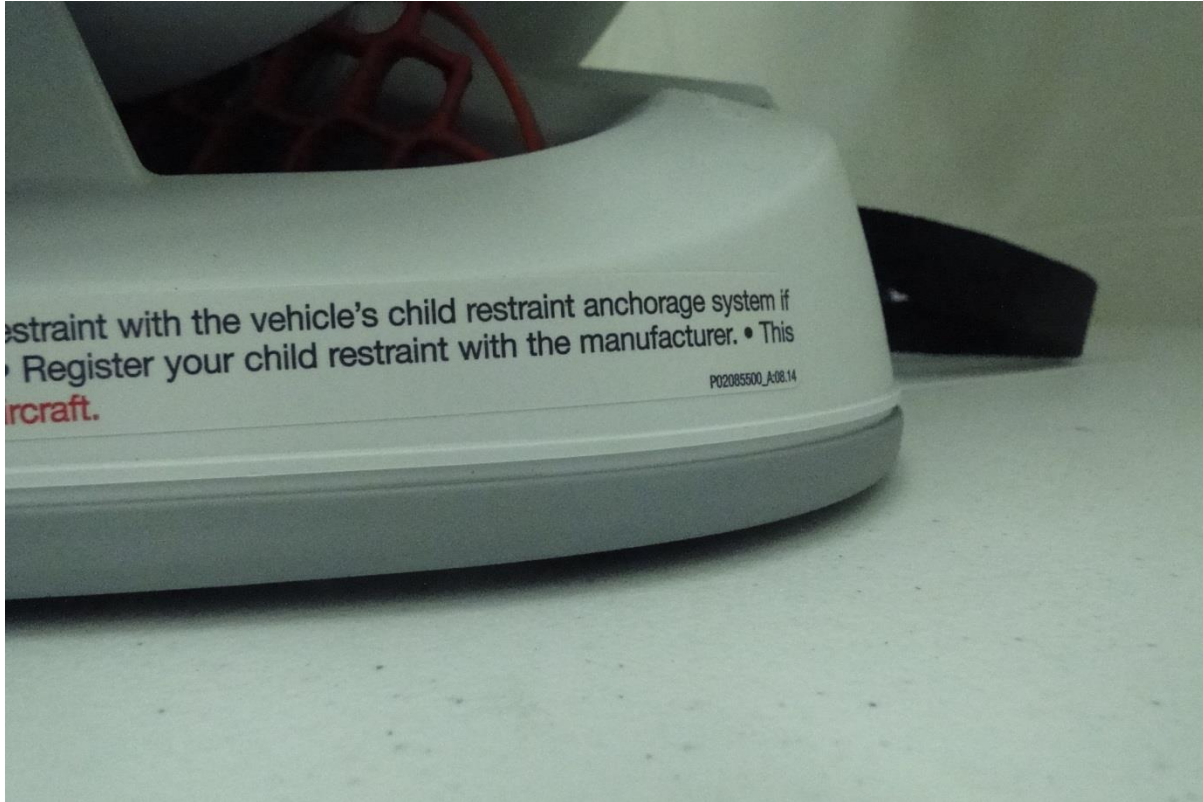
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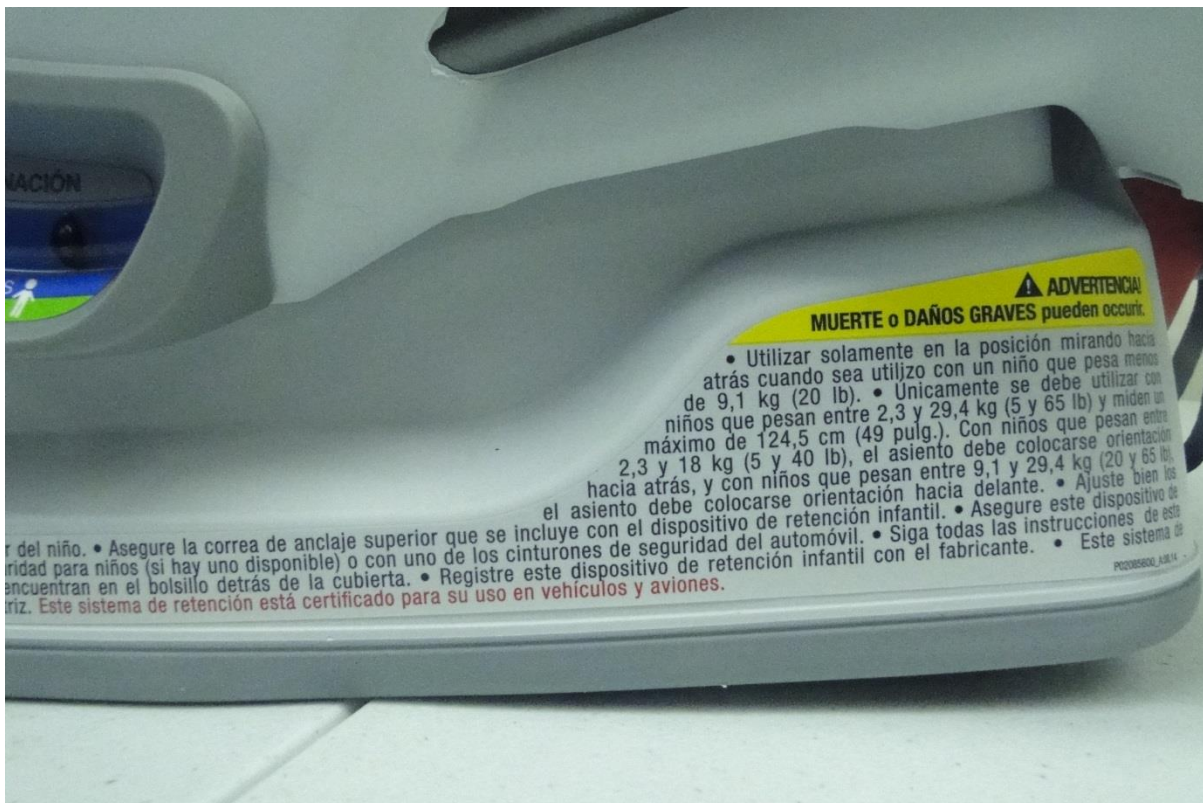
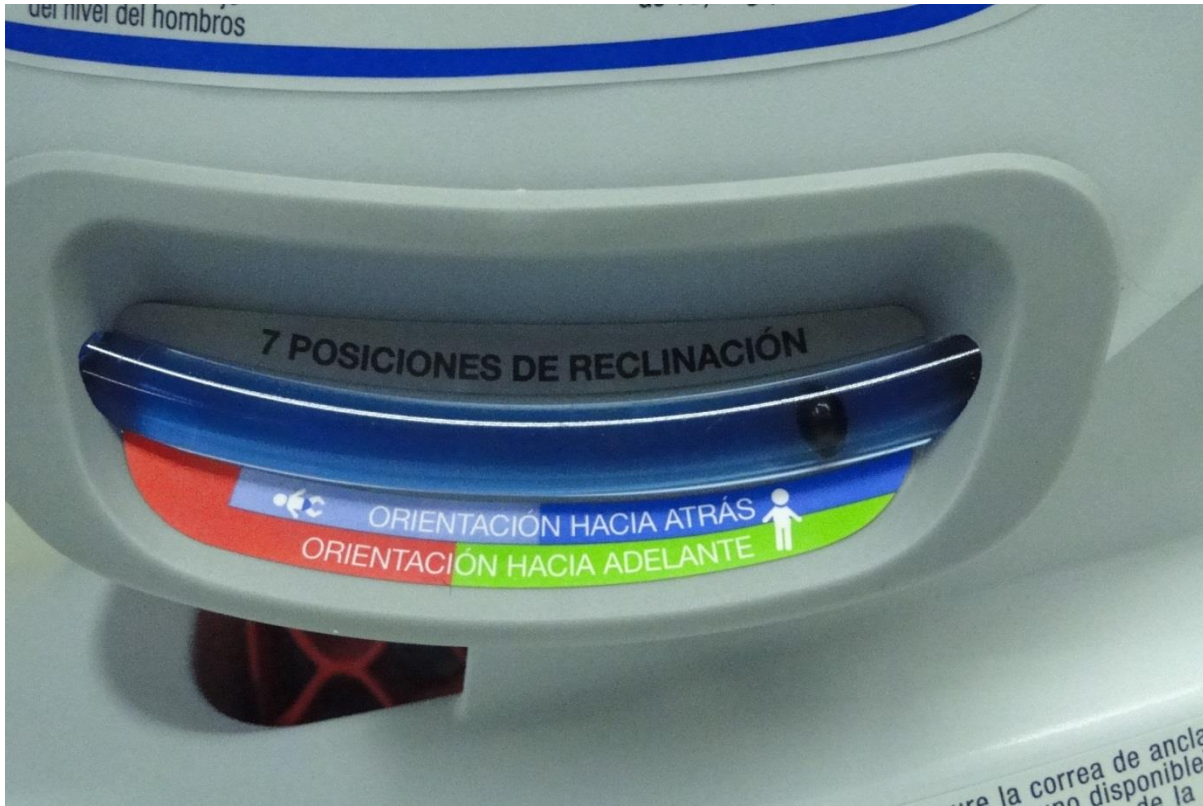
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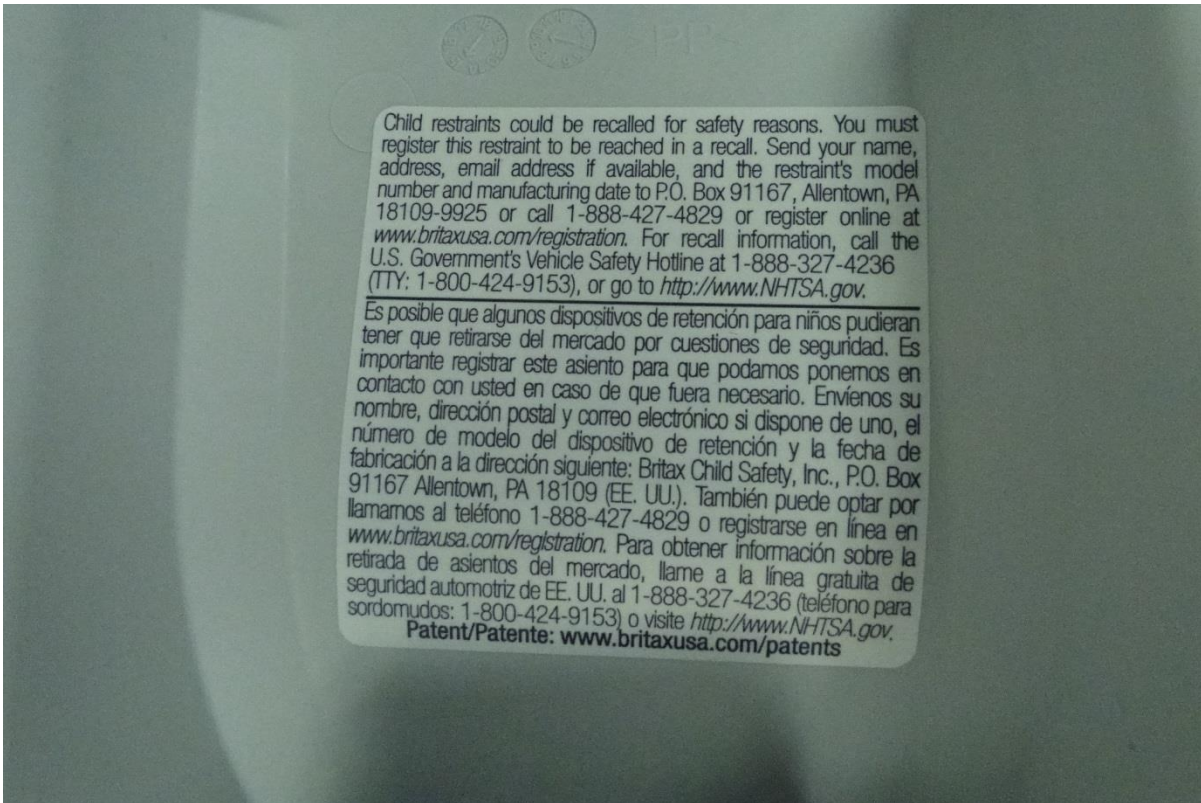
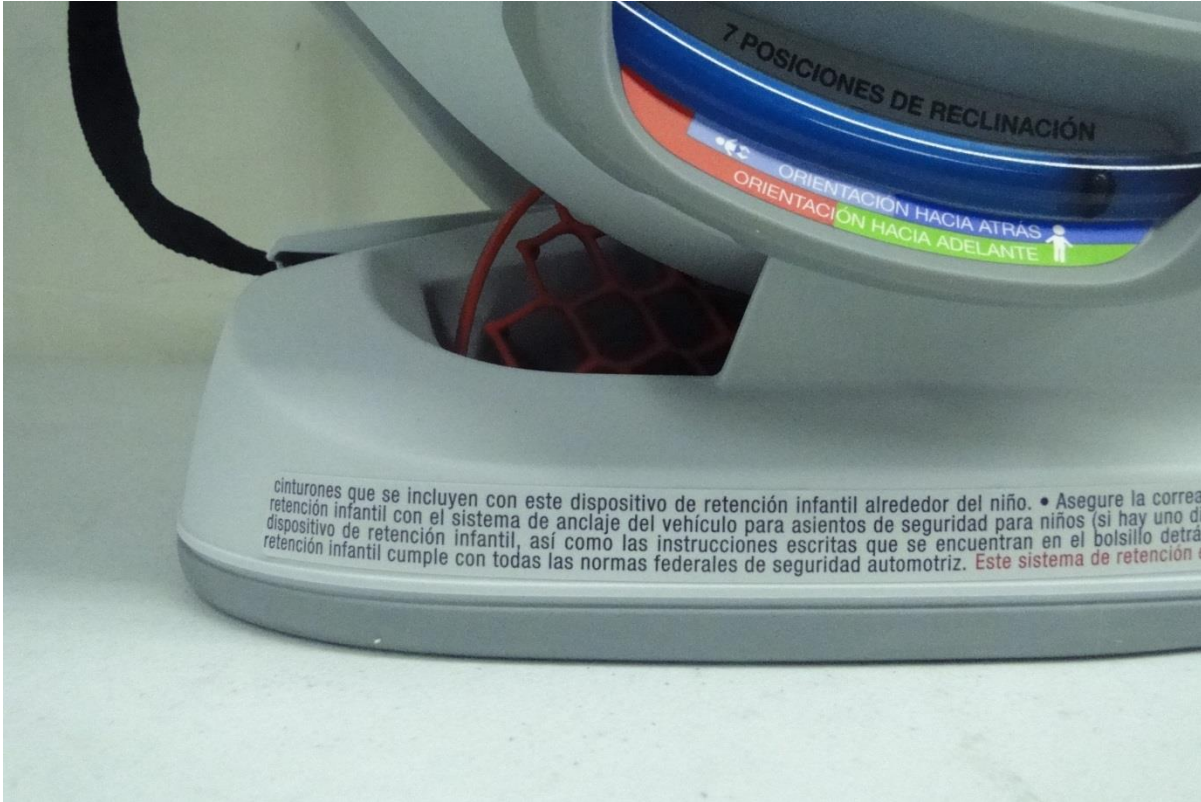
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LABELS

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LABELS

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LABELS

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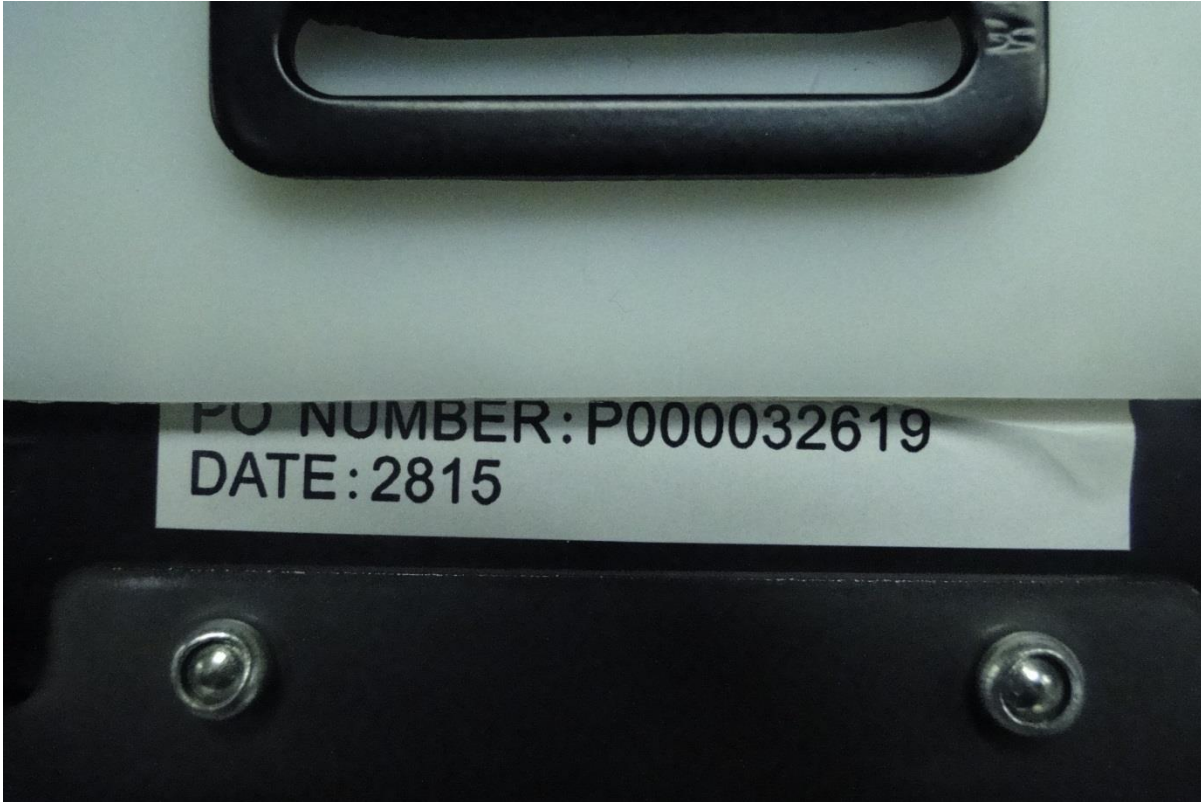
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LABELS

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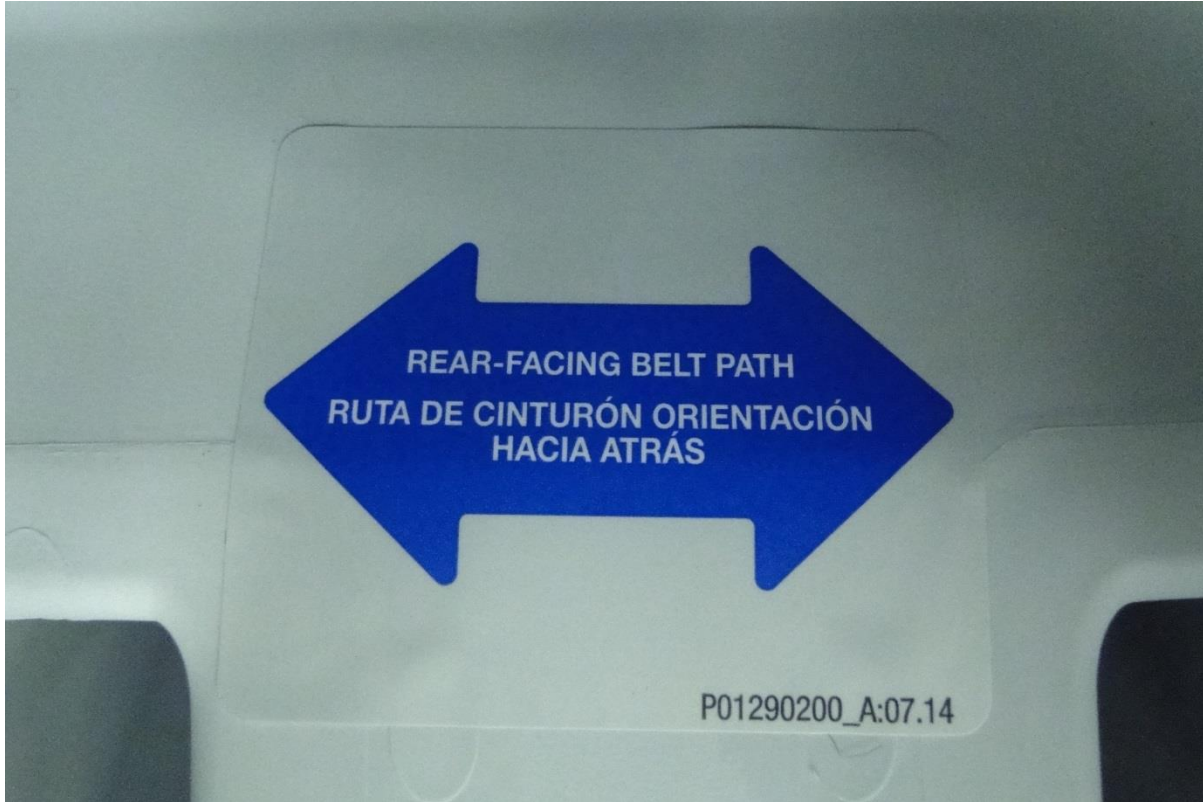
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LABELS

Item Code: 006-BE1A265N-01-12CRNLFR
Item Code: 006-BE1A265N-02-NINRN2FR
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Item Code: 006-BE1A265N-04-3H3FN2TU
Item Code: 006-BE1A265N-05-6H2FN2FU
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LABELS

Item Code: 006-BE1A265N-01-12CRNLFR
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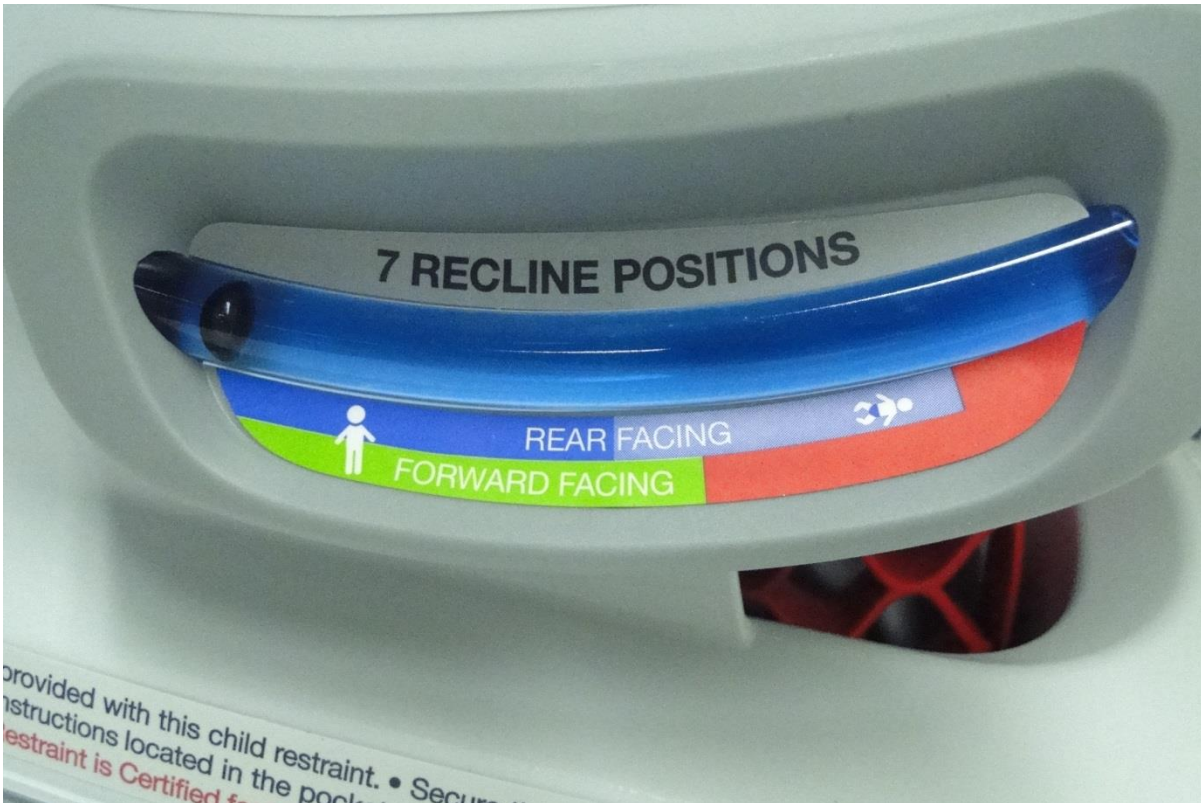
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LABELS

Item Code: 006-BE1A265N-01-12CRNLFR
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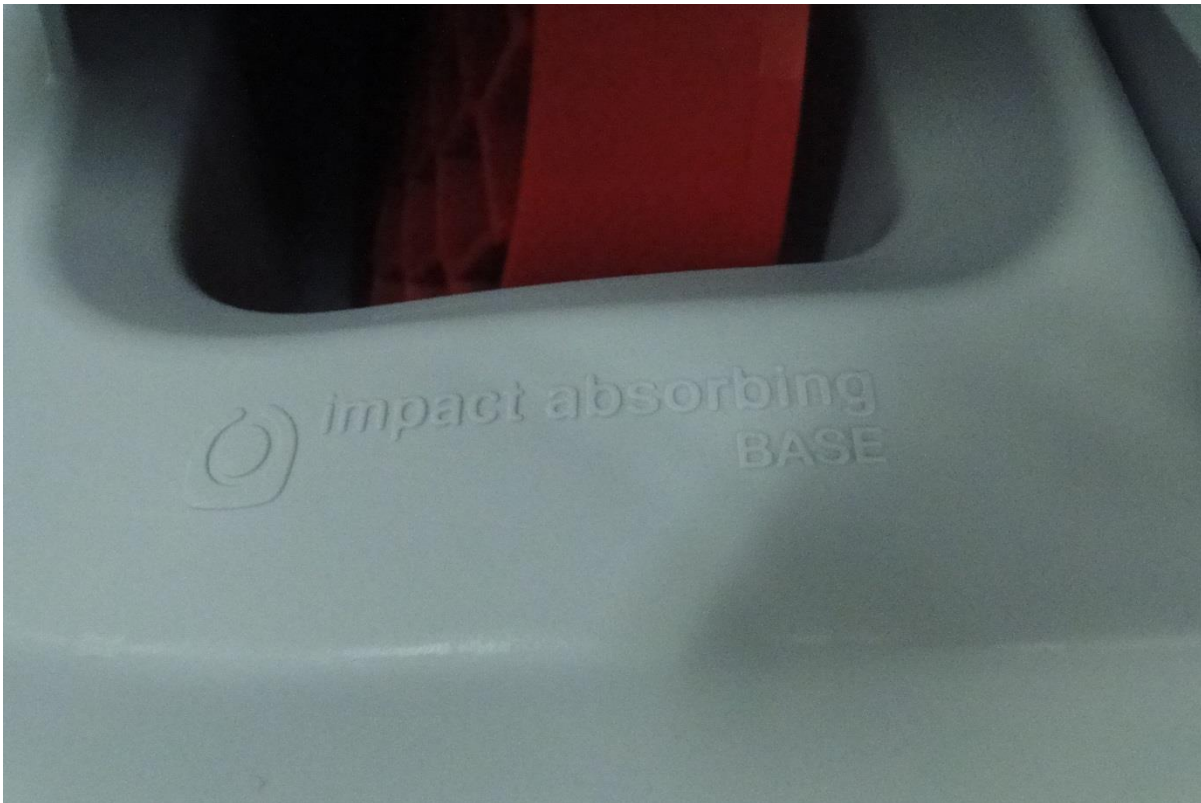
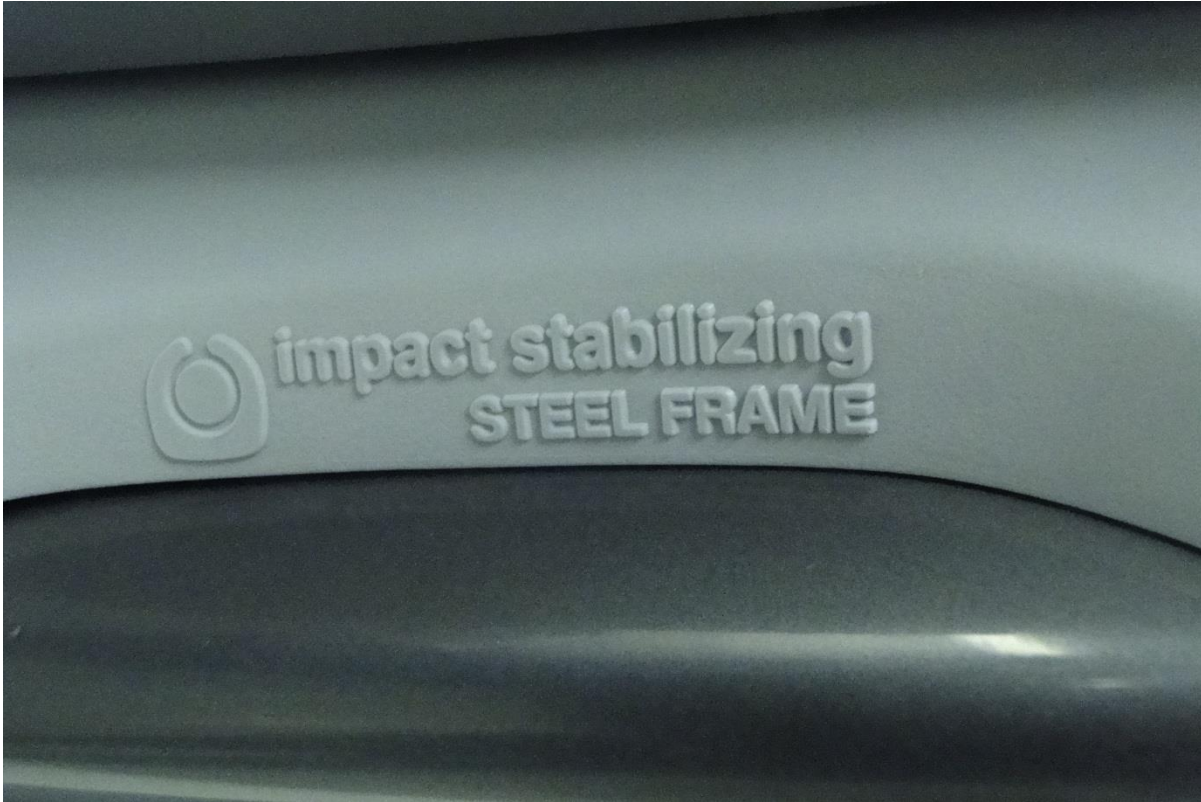
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LABELS

Item Code: 006-BE1A265N-01-12CRNLFR
Item Code: 006-BE1A265N-02-NINRN2FR
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LABELS

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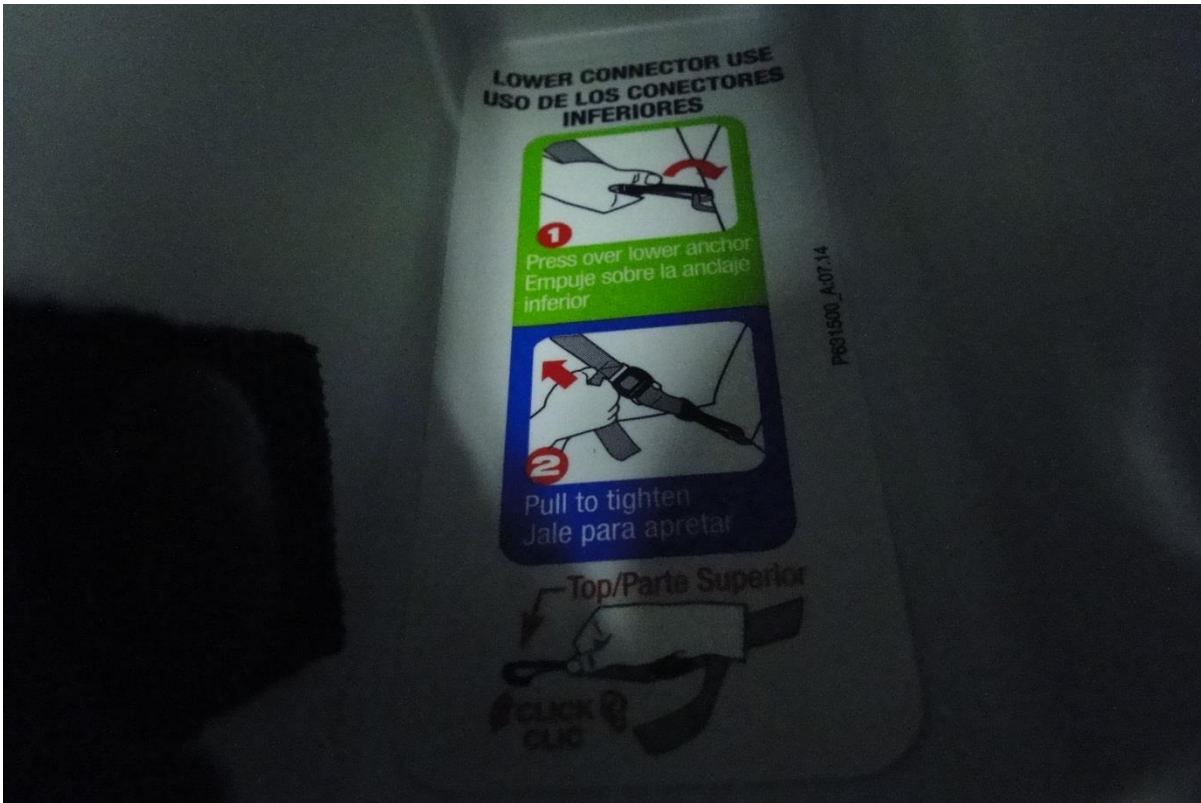
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