

REPORT NUMBER: 208-MGA-2011-005

**VEHICLE SAFETY COMPLIANCE TESTING
FOR
FMVSS 208, OCCUPANT CRASH PROTECTION
FMVSS 212, WINDSHIELD MOUNTING
FMVSS 219, WINDSHIELD INTRUSION (PARTIAL)
FMVSS 305, ELECTROLYTE SPILLAGE & ELECTRICAL SHOCK PROTECTION**

**NISSAN MOTOR CO., LTD
2011 NISSAN LEAF ELECTRIC PASSENGER CAR
NHTSA NO.: CB5200**

**PREPARED BY:
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BURLINGTON, WI 53105**



TEST DATES: AUGUST 25, 2011 – SEPTEMBER 22, 2011

FINAL REPORT DATE: AUGUST 6, 2012

FINAL REPORT

**PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
1200 NEW JERSEY AVENUE, S.E., NVS-220
WASHINGTON, D.C. 20590**

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TABLE OF CONTENTS

<u>Section</u>	<u>Page No</u>
1 Purpose of Compliance Tests	1
2 Tests Performed	2
3 Injury Result Summary for FMVSS 208 Tests	4
4 Discussion of Tests (if applicable)	5
5 Test Data Sheets	6
 <u>Data Sheet</u>	
1 COTR Vehicle Work Order	7
2 Report of Vehicle Condition	12
3 Certification Label and Tire Placard Information	14
4 Rear Seating Position Seat Belts	15
5 Air Bag Labels	16
6 FMVSS 208 Readiness Indicator	23
7 Passenger Air Bag Manual Cut-Off Device	24
8 Lap Belt Lockability	27
9 FMVSS 208 Seat Belt Warning System Check	39
10 Belt Contact Force	40
11 Latch Plate Access	46
12 Seat Belt Retraction	49
13 Seat Belt Guides and Hardware	52
16 Air Bag Suppression Telltale	55
17 Suppression Test Using 12-Month CRABI Dummy	56
18 Suppression Test Using Newborn Infant Dummy	66
19H Suppression Test Using 3-YO Child and Booster Seats	67
20H Suppression Test Using 3-YO Child and Fwd Facing Restraints	69
21H Suppression Test Using an Unbelted 3-YO Child	73
22H Suppression Test Using 6-YO Child and Booster Seats	74
23H Suppression Test Using an Unbelted 6-YO Child	76
32 Vehicle Weight, Fuel Tank, and Attitude Data	77
33 Vehicle Accelerometer Locations and Measurements	81
34 Photographic Targets	84
35 Camera Locations	91
36 Dummy Positioning	93
37 Dummy Measurements	109
38 Crash Test	112
39 Offset Deformable Barrier Test Using Belted 5 th Percentile Female Dummies	114

<u>Data Sheet</u>		<u>Page No</u>
40	Accident Investigation Measurements	124
41	Windshield Mounting (FMVSS 212)	126
42	Windshield Zone Intrusion (FMVSS 219)	128
1-5	Electrolyte Spillage and Electrical Shock Protection (FMVSS 305)	130

Appendix

A	Crash Test Data	A-1
B	Crash Test Photographs	B-1
C	Suppression Photographs	D-1
D	Instrumentation Calibration	D-1
E	Notice of Test Failure (If Applicable)	E-1

SECTION 1
PURPOSE OF COMPLIANCE TESTS

This Federal Motor Vehicle Safety Standard 208 compliance test is part of a program conducted for the National Highway Traffic Safety Administration (NHTSA) by MGA Research Corporation (MGA) under Contract No.: DTNH22-08-D-00086. The purpose of this test was to determine whether the subject vehicle, a 2011 Nissan Leaf Electric, NHTSA No.: CB5200, meets certain performance requirements of FMVSS 208, "Occupant Crash Protection"; FMVSS 212, "Windshield Mounting"; FMVSS 219, "Windshield Zone Intrusion"; and FMVSS 305, "Electric Powered Vehicles: Electrolyte Spillage and Electrical Shock Protection". The compliance test was conducted in accordance with OVSC Laboratory Test Procedure No. TP208-14 dated April 16, 2008 and TP305-01 dated September 11, 2008.

SECTION 2

TESTS PERFORMED

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 208 Compliance

NHTSA No.: CB5200
 Test Dates: 8/25/11 - 9/22/11

The following checked items indicate the tests that were performed:

X	1.	Rear seating position seat belts
X	2.	Air bag labels (S4.5.1)
X	3.	Readiness indicator (S4.5.2)
X	4.	Passenger air bag manual cut-off device (S4.5.4)
X	5.	Lap belt lockability (S7.1.1.5)
X	6.	Seat belt warning system (S7.3)
X	7.	Seat belt contact force (S7.4.3)
X	8.	Seat belt latch plate access (S7.4.4)
X	9.	Seat belt retraction (S7.4.5)
X	10.	Seat belt guides and hardware (S7.4.6)
X	11.	Air bag suppression telltale (S19.2.2)
X	12.	Suppression tests with 12-month-old CRABI dummy (Part 572, Subpart R)
X	13.	Suppression tests with Newborn infant (Part 572, Subpart K)
X	14.	Suppression tests with a representative 3-year-old child
X	15.	Suppression tests with a representative 6-year-old child
X	16.	Test of Reactivation of the passenger air bag system with a representative unbelted 5 th percentile female.
	17.	Low risk deployment test with 12-month-old dummy (Part 572, Subpart R)
	18.	Low risk deployment test with 3-year-old dummy (Part 572, Subpart P)
	19.	Low risk deployment test with 6-year-old dummy (Part 572, Subpart N)
	20.	Low risk deployment test with 5 th female dummy (Part 572, Subpart O)
X	21.	Impact Tests
		Frontal Oblique
		Belted 50 th male dummy driver and passenger (0 to 48 kmph) (S5.1.1(a))
		Unbelted 50 th male dummy driver and passenger (0 to 48 kmph) (S5.1.2(a)(1))
		Unbelted 50 th male dummy driver and passenger (32 to 40 kmph) (S5.1.2(a)(1) or S5.1.2(b))
		Frontal 0°
		Belted 50 th male dummy driver (0 to 48 kmph) (S5.1.1.(b)(1) or S5.1.1(a))
		Belted 50 th male dummy passenger (0 to 48 kmph) (S5.1.1.(b)(1) or S5.1.1(a))
		Belted 5 th female dummy driver (0 to 48 kmph) (S16.1(a))
		Belted 5 th female dummy passenger (0 to 48 kmph) (S16.1(a))
		Belted 50 th male dummy driver and passenger (0 to 56 kmph) (S5.1.1.(b)(2))
		Unbelted 50 th male dummy driver and passenger (0 to 48 kmph) (S5.1.2(a)(1))
		Unbelted 50 th male dummy driver (32 to 40 kmph) (S5.1.2.(a)(2) or S5.1.2(b))
		Unbelted 50 th male dummy passenger (32 to 40 kmph) (S5.1.2.(a)(2) or S5.1.2(b))
		Unbelted 5 th female dummy driver (32 to 40 kmph) (S16.1(b))
		Unbelted 5 th female dummy passenger (32 to 40 kmph) (S16.1(b))
X		40% Offset 0° Belted 5 th female dummy driver and passenger (0 to 40 kmph) (S18.1)
	22.	FMVSS 204 Indicant Test
X	23.	FMVSS 212 Test
X	24.	FMVSS 219 Indicant Test
X	25.	FMVSS 305 Frontal Test
X	26.	FMVSS 305 Frontal Indicant Test

For the crash tests, the vehicle was instrumented with 8 accelerometers. The data from the vehicle and dummies were sampled at 10,000 samples per second and processed as specified in SAE J211/1 MAR95 and FMVSS 208, S4.13.

The dynamic tests were recorded using high-speed digital video.

The vehicle appears to meet all of the performance requirements to which it was tested.

SECTION 3

INJURY RESULT SUMMARY FOR FMVSS 208 TESTS

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 208 Compliance

NHTSA No.: CB5200
 Test Date: 9/22/11

40 kmph Frontal Crash

Impact Angle:	0°		
Belted Dummies:	X	Yes	No

Speed Range:	X	0 to 40 kmph	32 to 40 kmph
		0 to 48 kmph	0 to 56 kmph

Test Speed (kmph):	39.8	Test Weight (kg):	1668.3
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Driver Dummy:	X	5 th female	50 th male
Passenger Dummy:	X	5 th female	50 th male

5th Percentile Female Frontal Crash Test

Vehicles certified to S16.1 (a) (1), S16.1 (a) (2), S16.1 (b), or S18.1

Injury Criteria	Max. Allowable Injury Assessment Values	Driver	Passenger
HIC15	700	131	104
N _{te}	1.0	0.4	0.3
N _{tf}	1.0	0.2	0.2
N _{ce}	1.0	0.0	0.0
N _{cf}	1.0	0.2	0.2
Neck Tension	2620 N	836	519
Neck Compression	2520 N	165	165
Chest g	60 g	24	23
Chest Displacement	52 mm	10	9
Left Femur	6805 N	969	616
Right Femur	6805 N	107	221

SECTION 4
DISCUSSION OF TESTS

Test Vehicle: 2011 Nissan Leaf Electric
Test Program: FMVSS 208 Compliance

NHTSA No.: CB5200
Test Dates: 8/25/11 - 9/22/11

A blanket and visor were not used in the suppression testing because they did not affect the sensing system used on the vehicle.

The 2011 Nissan Leaf (CB5200) was tested to FMVSS 305 in conjunction with the FMVSS 208 frontal impact. The test was performed in accordance with the specifications of the Office of Vehicle Safety Compliance (OVSC) Test Procedures TP-305-00 to determine compliance to the requirements of Federal Motor Vehicle Safety Standards (FMVSS) 305, "Electric Powered Vehicles: Electrolyte Spillage and Electrical Shock Protection". This program is sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-06-C-00030.

Based on the test results, the 2011 Nissan Leaf Electric appears to meet the requirements of FMVSS 305 testing.

An assessment of FMVSS 212 and FMVSS 219 were done for informational use only.

SECTION 5
TEST DATA SHEETS

Test Vehicle: 2011 Nissan Leaf Electric
Test Program: FMVSS 208 Compliance

NHTSA No.: CB5200
Test Dates: 8/25/11 - 9/22/11

DATA SHEET 1
COTR VEHICLE WORK ORDER

Test Vehicle: 2011 Nissan Leaf Electric
Test Program: FMVSS 208 Compliance

NHTSA No.: CB5200
Test Dates: 8/25/11 - 9/22/11

COTR Signature: Brian Smith

Test to be performed for this vehicle are checked below:

☒	1.	Rear Seating Position Seat Belts
☒	2.	Air Bag Labels (S4.5.1)
☒	3.	Readiness Indicator (S4.5.2)
☒	4.	Passenger Air Bag Manual Cut-off Device (S4.5.4)
☒	5.	Lap Belt Lockability (S7.1.1.5)
☒	6.	Seat Belt Warning System (S7.3)
☒	7.	Seat Belt Contact Force (S7.4.3)
☒	8.	Seat Belt Latch Plate Access (S7.4.4)
☒	9.	Seat Belt Retraction (S7.4.5)
☒	10.	Seat Belt Guides and Hardware (S7.4.6)
☒	11.	Air bag suppression telltale (S19.2.2)
☒	12.	Suppression tests with 12-month-old CRABI dummy (Part 572, Subpart R) using the following indicated child restraints (mid-height seat position):
Section B – Rear Facing (unbelted and belted rear facing, unbelted forward facing)		
☐		Century Smart Fit 4543 ☐ Full Rearward ☐ Mid Position ☐ Full Forward
☒		Cosco Arriva 22-013 ☒ Full Rearward ☒ Mid Position ☒ Full Forward
☐		Evenflo Discovery Adjust Right 212 ☐ Full Rearward ☐ Mid Position ☐ Full Forward
☐		Graco Infant 8457 ☐ Full Rearward ☐ Mid Position ☐ Full Forward
☒		Graco Snugride ☒ Full Rearward ☒ Mid Position ☒ Full Forward
☒		Peg Perego Viaggio ☒ Full Rearward ☒ Mid Position ☒ Full Forward
Section C – Convertible (unbelted and belted rear facing, unbelted and belted forward facing)		
☒		Britax Roundabout E9L02 ☒ Full Rearward ☒ Mid Position ☒ Full Forward
☒		Cosco High Back Booster 22-209 ☒ Full Rearward ☒ Mid Position ☒ Full Forward
☐		Cosco Summit Deluxe 22-262 ☐ Full Rearward ☐ Mid Position ☐ Full Forward
☐		Cosco Touriva 02519 ☐ Full Rearward ☐ Mid Position ☐ Full Forward
☒		Evenflo Generations 352 ☒ Full Rearward ☒ Mid Position ☒ Full Forward
☐		Evenflo Medallion 254 ☐ Full Rearward ☐ Mid Position ☐ Full Forward
☐		Evenflo Tribute V 379 ☐ Full Rearward ☐ Mid Position ☐ Full Forward
☒		Graco ComfortSport ☒ Full Rearward ☒ Mid Position ☒ Full Forward
☐		Graco Platinum Cargo ☐ Full Rearward ☐ Mid Position ☐ Full Forward
☐		Graco Safeseat Step 2 ☐ Full Rearward ☐ Mid Position ☐ Full Forward
☒	13.	Suppression tests with newborn infant (Part 572, Subpart K) using the following indicated child restraints (mid-height seat position):
Section A – Car Bed (Belted)		
☒		Angel Guard Angel Ride ☒ Full Rearward ☒ Mid Position ☒ Full Forward

☐	14.	Suppression tests with 3-year-old dummy (Part 572, Subpart P) using the following indicated child restraints where a child restraint is required (mid-height seat position):			
		Section C – Convertible (Belted forward-facing)			
☐		Britax Roundabout E9L02	☐ Full Rearward	☐ Mid Position	☐ Full Forward
☐		Cosco High Back Booster 22-209	☐ Full Rearward	☐ Mid Position	☐ Full Forward
☐		Cosco Summit Deluxe 22-262	☐ Full Rearward	☐ Mid Position	☐ Full Forward
☐		Cosco Touriva 02519	☐ Full Rearward	☐ Mid Position	☐ Full Forward
☐		Evenflo Generations 352	☐ Full Rearward	☐ Mid Position	☐ Full Forward
☐		Evenflo Medallion 254	☐ Full Rearward	☐ Mid Position	☐ Full Forward
☐		Evenflo Tribute V 379	☐ Full Rearward	☐ Mid Position	☐ Full Forward
☐		Graco ComfortSport	☐ Full Rearward	☐ Mid Position	☐ Full Forward
☐		Graco Platinum Cargo	☐ Full Rearward	☐ Mid Position	☐ Full Forward
☐		Graco Safeseat Step 2	☐ Full Rearward	☐ Mid Position	☐ Full Forward
		Section D – Toddler/Belt Positioning Booster (Belted)			
☐		Britax Roadster 9004	☐ Full Rearward	☐ Mid Position	☐ Full Forward
☐		Cosco High Back Booster 22-209	☐ Full Rearward	☐ Mid Position	☐ Full Forward
☐		Cosco Summit Deluxe 22-262	☐ Full Rearward	☐ Mid Position	☐ Full Forward
☐		Evenflo Right Fit 245	☐ Full Rearward	☐ Mid Position	☐ Full Forward
☐		Evenflo Generations 352	☐ Full Rearward	☐ Mid Position	☐ Full Forward
☐		Graco Platinum Cargo	☐ Full Rearward	☐ Mid Position	☐ Full Forward
☒	15.	Suppression tests with representative 3-year-old child using the following indicated child restraints where a child restraint is required (mid-height position). (Appendix H, Data Sheet 19H and 20H)			
		Section C – Convertible (Belted forward-facing)			
☒		Britax Roundabout E9L02	☒ Full Rearward	☒ Mid Position	☒ Full Forward
☒		Cosco High Back Booster 22-209	☒ Full Rearward	☒ Mid Position	☒ Full Forward
☒		Cosco Summit Deluxe 22-262	☒ Full Rearward	☒ Mid Position	☒ Full Forward
☐		Cosco Touriva 02519	☐ Full Rearward	☐ Mid Position	☐ Full Forward
☒		Evenflo Generations 352	☒ Full Rearward	☒ Mid Position	☒ Full Forward
☐		Evenflo Medallion 254	☐ Full Rearward	☐ Mid Position	☐ Full Forward
☐		Evenflo Tribute V 379	☐ Full Rearward	☐ Mid Position	☐ Full Forward
☒		Graco ComfortSport	☒ Full Rearward	☒ Mid Position	☒ Full Forward
☒		Graco Platinum Cargo	☒ Full Rearward	☒ Mid Position	☒ Full Forward
☐		Graco Safeseat Step 2	☐ Full Rearward	☐ Mid Position	☐ Full Forward
		Section D – Toddler/Belt Positioning Booster (Belted)			
☐		Britax Roadster 9004	☐ Full Rearward	☐ Mid Position	☐ Full Forward
☒		Cosco High Back Booster 22-209	☒ Full Rearward	☒ Mid Position	☒ Full Forward
☒		Cosco Summit Deluxe 22-262	☒ Full Rearward	☒ Mid Position	☒ Full Forward
☒		Evenflo Generations 352	☒ Full Rearward	☒ Mid Position	☒ Full Forward
☐		Evenflo Right Fit 245	☐ Full Rearward	☐ Mid Position	☐ Full Forward
☒		Graco Platinum Cargo	☒ Full Rearward	☒ Mid Position	☒ Full Forward

☐	16.	Suppression tests with 3-year-old dummy (Part 572, Subpart P) in the following positions (mid-height seat position):			
		Sitting on seat with back against seat back (S22.2.2.1)			
		☐ Full Rearward	☐ Mid Position	☐ Full Forward	
		Sitting on seat with back against reclined seat back (S22.2.2.2)			
		☐ Full Rearward	☐ Mid Position	☐ Full Forward	
		Sitting on seat with back not against seat back (S22.2.2.3)			
		☐ Full Rearward	☐ Mid Position	☐ Full Forward	
		Sitting on seat edge, spine vertical, hands by the child's side (S22.2.2.4)			
		☐ Full Rearward	☐ Mid Position	☐ Full Forward	
		Standing on seat, facing forward (S22.2.2.5)			
		☐ Full Rearward	☐ Mid Position	☐ Full Forward	
		Kneeling on seat facing forward (S22.2.2.6)			
		☐ Full Rearward	☐ Mid Position	☐ Full Forward	
		Kneeling on seat facing rearward (S22.2.2.7)			
		☐ Full Rearward	☐ Mid Position	☐ Full Forward	
		Lying on seat (S22.2.2.8)			
		☐ Full Rearward	☐ Mid Position	☐ Full Forward	
☒	17.	Suppression tests with representative 3-year-old child in the following positions (mid-height seat position):			
	☒	Sitting on seat with back against seat back (S22.2.2.1)			
		☒ Full Rearward	☒ Mid Position	☒ Full Forward	
	☒	Sitting on seat with back against reclined seat back (S22.2.2.2)			
		☒ Full Rearward	☒ Mid Position	☒ Full Forward	
	☒	Sitting on seat with back not against seat back (S22.2.2.3)			
		☒ Full Rearward	☒ Mid Position	☒ Full Forward	
	☒	Sitting on seat edge, spine vertical, hands by the child's side (S22.2.2.4)			
		☒ Full Rearward	☒ Mid Position	☒ Full Forward	
	☒	Standing on seat, facing forward (S22.2.2.5)			
		☒ Full Rearward	☒ Mid Position	☒ Full Forward	
	☒	Kneeling on seat facing forward (S22.2.2.6)			
		☒ Full Rearward	☒ Mid Position	☒ Full Forward	
	☒	Kneeling on seat facing rearward (S22.2.2.7)			
		☒ Full Rearward	☒ Mid Position	☒ Full Forward	
		Lying on seat (S22.2.2.8)			
		☐ Full Rearward	☐ Mid Position	☐ Full Forward	
☐	18.	Suppression tests with 6-year-old dummy (Part 572, Subpart N) using the following indicated child restraints where a child restraint is required (mid-height seat position):			
		Section D			
		☐ Britax Roadster 9004	☐ Full Rearward	☐ Mid Position	☐ Full Forward
		☐ Cosco High Back Booster 22-209	☐ Full Rearward	☐ Mid Position	☐ Full Forward
		☐ Cosco Summit Deluxe 22-262	☐ Full Rearward	☐ Mid Position	☐ Full Forward
		☐ Evenflo Generations 352	☐ Full Rearward	☐ Mid Position	☐ Full Forward
		☐ Evenflo Right Fit 245	☐ Full Rearward	☐ Mid Position	☐ Full Forward
		☐ Graco Platinum Cargo	☐ Full Rearward	☐ Mid Position	☐ Full Forward

X	19.	Suppression tests with representative 6-year-old child using the following indicated child restraints where a child restraint is required (mid-height seat position):						
		Section D						
		Britax Roadster 9004		Full Rearward		Mid Position		Full Forward
		Cosco High Back Booster 22-209		Full Rearward		Mid Position		Full Forward
X		Cosco Summit Deluxe 22-262	X	Full Rearward	X	Mid Position	X	Full Forward
		Evenflo Generations 352		Full Rearward		Mid Position		Full Forward
		Evenflo Right Fit 245		Full Rearward		Mid Position		Full Forward
X		Graco Platinum Cargo	X	Full Rearward	X	Mid Position	X	Full Forward
	20.	Suppression tests with 6-year-old dummy (Part 572, Subpart N) in the following positions (mid-height seat position):						
		Sitting on seat with back against seat back (S22.2.2.1)						
				Full Rearward		Mid Position		Full Forward
		Sitting on seat with back against reclined seat back (S22.2.2.2)						
				Full Rearward		Mid Position		Full Forward
		Sitting on seat edge, spine vertical, hands by the child's side (S22.2.2.4)						
				Full Rearward		Mid Position		Full Forward
		Sitting back in the seat and leaning on the right front passenger door (S24.2.3)						
				Full Rearward		Mid Position		Full Forward
X	21.	Suppression tests with representative 6-year-old child in the following positions (mid-height seat position):						
X		Sitting on seat with back against seat back (S22.2.2.1)						
		X		Full Rearward	X	Mid Position	X	Full Forward
X		Sitting on seat with back against reclined seat back (S22.2.2.2)						
		X		Full Rearward	X	Mid Position	X	Full Forward
X		Sitting on seat edge, spine vertical, hands by the child's side (S22.2.2.4)						
		X		Full Rearward	X	Mid Position	X	Full Forward
X		Sitting back in the seat and leaning on the right front passenger door (S24.2.3)						
		X		Full Rearward	X	Mid Position	X	Full Forward
	22.	Test of Reactivation of the Passenger Air Bag System with an Unbelted 5 th percentile female dummy (S20.3, 22.3, S24.3) (mid-height seat position). Perform this test after the following suppression tests: <u>After each restraint.</u>						
X	23.	Test of Reactivation of the Passenger Air Bag System with a representative 5 th percentile female (S20.3, 22.3, S24.3) (mid-height seat position). Perform this test after the following suppression tests: <u>After each restraint.</u>						
	24.	Low risk deployment test with 12-month-old dummy (Part 572, Subpart R) using the following indicated child restraints (full forward, mid-height seat position)(S20.4):						
		Section B						
		Century Smart Fit 4543						
		Cosco Arriva 22-013						
		Evenflo Discovery Adjust Right 212						
		Graco Infant 8457						
		Graco Snugride 8645						
		Peg Perego Viaggio						
		Section C						
		Britax Roundabout E9L02						
		Cosco Touriva 02519						
		Evenflo Medallion 254						
		Evenflo Tribute V 379						
		Graco ComfortSport						

☐	25.	Low risk deployment test with 3-year-old dummy (Part 572, Subpart P) in the following positions:
☐		Position 1 (rearmost, lowest seat position)
☐		Position 2 (mid-height seat position)
☐	26.	Low risk deployment test with 6-year-old dummy (Part 572, Subpart N) in the following positions:
☐		Position 1 (rearmost, lowest seat position)
☐		Position 2 (mid-height seat position)
☐	27.	Low risk deployment test with 5 th female dummy (Part 572, Subpart O) in the following positions:
☐		Position 1 (mid-height seat position)
☐		Position 2 (mid-height seat position)
☐	28.	Impact Tests
☐		Frontal Oblique Impact Angle: Test Speed:
☐		☐ Belted 50 th male dummy driver and passenger (0 to 48 kmph) (S5.1.1(a))
☐		☐ Unbelted 50 th male dummy driver and passenger (0 to 48 kmph) (S5.1.2(a)(1))
☐		☐ Unbelted 50 th male dummy driver and passenger (32 to 40 kmph) (S5.1.2(a)(2) or S5.1.2(b))
☐		Frontal 0° - Test Speed:
☐		☐ Belted 50 th male dummy driver (0 to 48 kmph) (S5.1.1.(b)(1) or S5.1.1(a))
☐		☐ Belted 50 th male dummy passenger (0 to 48 kmph) (S5.1.1.(b)(1) or S5.1.1(a))
☐		☐ Belted 5 th female dummy driver (0 to 48 kmph) (S16.1(a)(1))
☐		☐ Belted 5 th female dummy passenger (0 to 48 kmph) (S16.1(a)(1))
☐		☐ Belted 5 th female dummy driver and passenger (0 to 56 kmph) (S16.1(a)(2))
☐		☐ Belted 50 th male dummy driver and passenger (0 to 56 kmph) (S5.1.1.(b)(2))
☐		☐ Unbelted 50 th male dummy driver and passenger (0 to 48 kmph) (S5.1.2(a) (1))
☐		☐ Unbelted 50 th male dummy driver (32 to 40 kmph) (S5.1.2.(a)(2) or S5.1.2(b))
☐		☐ Unbelted 50 th male dummy passenger (32 to 40 kmph) (S5.1.2.(a)(2) or S5.1.2(b))
☐		☐ Unbelted 5 th female dummy driver (32 to 40 kmph) (S16.1(b))
☐		☐ Unbelted 5 th female dummy passenger (32 to 40 kmph) (S16.1(b))
☒		40% Offset 0° Belted 5 th female dummy driver and passenger (0 to 40 kmph) (S18.1)
		Test Speed: 39.8 kmph
☐	29.	FMVSS 204 Indicant Test
☒	30.	FMVSS 212 Test
☒	31.	FMVSS 219 Indicant Test
☒	33.	FMVSS 305 Frontal Indicant Test

DATA SHEET 2
REPORT OF VEHICLE CONDITION

Test Vehicle: 2011 Nissan Leaf Electric
Test Program: FMVSS 208 Compliance

NHTSA No.: CB5200
Test Dates: 8/25/11-9/22/11

CONTRACT NO.: DTNH22-08-D-00086

Date: 9/29/11

FROM (Lab and rep name): MGA Research Corporation

TO: NHTSA, OVSC, NVS-220

PURPOSE: (X) Initial Receipt () Received via Transfer (X) Present vehicle condition

MODEL YEAR/MAKE/MODEL/BODY STYLE: 2011 Nissan Leaf Electric 4 Door Sedan

MANUFACTURE DATE: 4/11

NHTSA NO. CB5200 GVWR: 1960 kg (4322 lbs)

BODY COLOR: Super Black GAWR (Fr): 999 kg (2203 lbs)

VIN: JN1AZ0CPXBT002457 GAWR (Rr): 966 kg (2129 lbs)

ODOMETER READINGS: ARRIVAL (miles): 109 DATE: 8/24/11

COMPLETION (miles): 110 DATE: 9/22/11

PURCHASE PRICE: (\$) 35,440

DEALER'S NAME: Puente Hills Nissan, 17320 E Gale Avenue
City of Industry, CA 91748

- A. All options listed on window sticker are present on the test vehicle:
X Yes No
- B. Tires and wheel rims are new and the same as listed: X Yes No
- C. There are no dents or other interior or exterior flaws: X Yes No
- D. The vehicle has been properly prepared and is in running condition:
X Yes No
- E. Keyless remote is available and working: X Yes No
- F. The glove box contains an owner's manual, warranty document, consumer information, and extra set of keys: X Yes No
- G. Proper fuel filler cap is supplied on the test vehicle: X Yes No
- H. Using permanent marker, identify vehicle with NHTSA number and FMVSS test type(s) on roof line above driver door or for school buses, place a placard with NHTSA number inside the windshield and to the exterior front and rear side of bus:
X Yes No
- I. Place vehicle in storage area: X Yes No
- J. Inspect the vehicle's interior and exterior, including all windows, seats, doors, etc. to confirm that each system is complete and functional per the manufacturer's specifications. Any damage, misadjustment, or other unusual condition that could influence the test program or test results shall be recorded. Report any abnormal condition to the NHTSA COTR before beginning any test:
X Vehicle OK Conditions reported below in comment section

Identify the letter above to which any of the following comments apply.

Comments: _____

REPORT OF VEHICLE CONDITION AT THE COMPLETION OF TESTING

LIST OF FMVSS TESTS PERFORMED BY THIS LAB: FMVSS 208, 212, 219, 305

VEHICLE: 2011 Nissan Leaf Electric

NHTSA NO.: CB5200

REMARKS:

Equipment that is no longer on the test vehicle as noted on previous page:

Right Hand Rear Tail Light, Cargo Lid, Rear Floor Mats, Trunk Carpet

Explanation for equipment removal:

Components removed for instrumentation installation and to meet target weight.

Test Vehicle Condition:

25 mph frontal impact damage- front suspension & structure damaged, hood & front quarter panels damaged, radiator damaged, air bags & pretensioners deployed

RECORDED BY: Jeff Lewandowski

DATE: 9/29/2011

APPROVED BY: David Winkelbauer

DATE: 9/29/2011

#####

RELEASE OF TEST VEHICLE

The vehicle described above is released from MGA to be delivered to:

Date:

Time:

Odometer:

Lab Rep's Signature:

Title:

Carrier/Customer Rep:

Date:

DATA SHEET 3

CERTIFICATION LABEL AND TIRE PLACARD INFORMATION

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 208 Compliance
 Test Technician: Tim Novak

NHTSA No.: CB5200
 Test Date: 9/22/11

Certification Label (Part 567)	
Manufacturer:	NISSAN MOTOR CO., LTD
Date of Manufacture:	4/11
VIN:	JN1AZ0CPXBT002457
Vehicle Certified As (Pass. Car/MPV/Truck/Bus):	Passenger Car
Front Axle GVWR:	1960 kg (4322 lbs)
Rear Axle GVWR:	999 kg (2203 lbs)
Total GVWR:	966 kg (2129 lbs)

Tire Placard for Motor Vehicles with GVWR of 10,000 lb or Less and Passenger Cars (571.110)	
Vehicle Capacity Weight:	390 kg (860 lbs)
Designated Seating Capacity Front:	2
Designated Seating Capacity Rear:	3
Total Designated Seating Capacity:	5
Recommended Cold Tire Inflation Pressure Front:	250 kpa (36 psi)
Recommended Cold Tire Inflation Pressure Rear:	250 kpa (36 psi)
Recommended Tire Size:	P205/55R16
Tire Size on Vehicle:	P205/55R16

Signature: 

Date: 9/22/11

DATA SHEET 4
REAR SEATING POSITION SEAT BELTS

Test Vehicle: 2011 Nissan Leaf Electric
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

NHTSA No.: CB5200
Test Date: 8/25/11

	Yes	No
Do all rear seating positions have Type 2 seat belts?	X	

If NO, describe the seat belt installed, the seat location, and any other information about the seat that would explain why a Type 2 seat belt was not installed.

REMARKS:

Signature: Wayne Dahlke

Date: 8/25/11

DATA SHEET 5
AIR BAG LABELS (S4.5.1)

Test Vehicle: 2011 Nissan Leaf Electric
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

NHTSA No.: CB5200
Test Date: 8/25/11

- ☒ 1. Air Bag Maintenance Label and Owner's Manual Instructions: (S4.5.1(a))
- ☒ 1.1 Does the manufacturer recommend periodic maintenance or replacement of the air bag?
- ☐ Yes (Go to 1.2)
- ☒ No (Go to 2)
- ☐ 1.2 Does the vehicle have a label specifying air bag maintenance or replacement?
- ☐ Yes – Pass
- ☐ No – Fail
- ☐ 1.3 Does the label contain one of the following?
- ☐ Yes – Pass
- ☐ No – Fail
- Check applicable schedule:
- ☐ Schedule on label specifies month and year (Record date_____)
- ☐ Schedule on label specifies vehicle mileage (Record mileage_____)
- ☐ Schedule on label specifies interval measured from date on certification label (Record interval_____)
- ☐ 1.4 Is the label permanently affixed within the passenger compartment such that it cannot be removed without destroying or defacing the label or vehicle part? (3/19/01 legal interpretation to Todd Mitchell)
- ☐ Yes – Pass
- ☐ No – Fail
- ☐ 1.5 Is the label lettered in English?
- ☐ Yes – Pass
- ☐ No – Fail
- ☐ 1.6 Is the label in block capitals and numerals?
- ☐ Yes – Pass
- ☐ No – Fail
- ☐ 1.7 Are the letters and numerals at least 3/32 inches high?
- ☐ Yes – Pass
- ☐ No – Fail
- ☐ 1.8 Does the owner's manual set forth the recommended schedule for maintenance or replacement?
- ☒ 2. Does the owner's manual: (S4.5.1(f))
- ☒ 2.1 Include a description of the vehicle's air bag system in an easily understandable format?
- ☒ Yes – Pass
- ☐ No – Fail
- ☒ 2.2 Include a statement that the vehicle is equipped with an air bag and a lap/shoulder belt at the front outboard seating position?
- ☒ Yes – Pass
- ☐ No – Fail
- ☒ 2.3 Include a statement that the air bag is a supplemental restraint at the front outboard seating position?
- ☒ Yes – Pass
- ☐ No – Fail

- ☒ 2.4 Emphasize that all occupants, including the driver, should always wear their seat belts whether or not an air bag is also provided at their seating positions to minimize the risk of severe injury or death in the event of a crash?
☒ Yes – Pass
☐ No – Fail
- ☒ 2.5 Provide any necessary precautions regarding the proper positioning of occupants, including children, at seating positions equipped with air bags to ensure maximum safety protection for those occupants?
☒ Yes – Pass
☐ No – Fail
- ☒ 2.6 Explain that no objects should be placed over or near the air bag on the steering wheel or on the instrument panel, because any such objects could cause harm if the vehicle is in a crash severe enough to cause the air bag to inflate?
☒ Yes – Pass
☐ No – Fail
- ☒ 2.7 Is the vehicle certified to meet the requirements of S14.5, S15, S17, S19, S21, S23, and S25? (Obtain answer to this question from the COTR) (S4.5.1(f)(2))
☒ Yes – (Go to 2.7.1)
☐ No – (Go to 3.)
- ☒ 2.7.1 Explain the proper functioning of the advanced air bag system? (S4.5.1(f)(2))
☒ Yes – Pass
☐ No – Fail
- ☒ 2.7.2 Provide a summary of the actions that may affect the proper functioning of the system? (S4.5.1(f)(2))
☒ Yes – Pass
☐ No – Fail
- ☒ 2.7.3 Present and explain the main components of the advanced passenger air bag system? (S4.5.1(f)(2)(i))
☒ Yes – Pass
☐ No – Fail
- ☒ 2.7.4 Explain how the components function together as part of the advanced passenger air bag system? (S4.5.1(f)(2)(ii))
☒ Yes – Pass
☐ No – Fail
- ☒ 2.7.5 Contain the basic requirements for proper operation, including an explanation of the actions that may affect the proper functioning of the system? (S4.5.1(f)(2)(iii))
☒ Yes – Pass
☐ No – Fail
- ☒ 2.7.6 Is the vehicle certified to the requirements of S19.2, S21.2, or 23.2 (automatic suppression)?
☒ Yes, continue with 2.7.6
☐ No, go to 2.7.7
- ☒ 2.7.6.1 Contain a complete description of the passenger air bag suppression system installed in the vehicle, including a discussion of any suppression zone? (S4.5.1(f)(2)(iv))
☒ Yes – Pass
☐ No – Fail
- ☒ 2.7.6.2 Discuss the telltale light, specifying its location in the vehicle and explaining when the light is illuminated?
☒ Yes – Pass
☐ No – Fail
- ☒ 2.7.7 Explain the interaction of the advanced passenger air bag system with other vehicle components, such as seat belts, seats or other components? (S4.5.1(f)(2)(v))
☒ Yes – Pass
☐ No – Fail

- ☒ 2.7.8 Summarize the expected outcomes when child restraint systems, children and small teenagers or adults are both properly and improperly positioned in the passenger seat, including cautionary advice against improper placement of child restraint systems? (S4.5.1(f)(2)(vi))
- ☒ Yes – Pass
☐ No – Fail
- ☒ 2.7.9 Provide information on how to contact the vehicle manufacturer concerning modifications for persons with disabilities that may affect the advanced air bag system? (S4.5.1(f)(2)(vii))
- ☒ Yes – Pass
☐ No – Fail
- ☒ 3. Sun Visor Air Bag Warning Label (S4.5.1(b)): Vehicles certified to meet the requirements of S19, S21 and S23. (S4.5.1(b)(3))
- ☒ 3.1 Is the label permanently affixed (including permanent marking on the visor material or molding into the visor material) to either side of the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing the label or the sun visor? (S4.5.1(b)(3)) (3/19/01 legal interpretation to Todd Mitchell)
- ☒ Driver Side, Yes – Pass
☐ Driver Side, No – Fail
☒ Passenger Side, Yes – Pass
☐ Passenger Side, No – Fail
- ☒ 3.2 Does the label conform in content to the label shown in Figure 11 at each front outboard seating position? (S4.5.1(b)(2)) **(Vehicles without back seats or the back seat is too small to accommodate a rear-facing child restraint may omit the statement: "Never put a rear-facing child seat in the front." (S4.5.1(b)(3)(v)))**



Figure 11. Sun Visor Label Visible when Visor is in Down Position.



Figure 6b. Sun Visor Label Visible When Visor is in Down Position.

- ☒ Driver Side, Yes – Pass
☐ Driver Side, No – Fail
☒ Passenger Side, Yes – Pass
☐ Passenger Side, No – Fail

- ☒ 3.3 Is the label heading area yellow with the word "WARNING" and the alert symbol in black? (S4.5.1(b)(3)(i))
- ☒ Driver Side, Yes – Pass
☐ Driver Side, No – Fail
☒ Passenger Side, Yes – Pass
☐ Passenger Side, No – Fail
- ☒ 3.4 Is the message area white with black text? (S4.5.1(b)(3)(ii))
- ☒ Driver Side, Yes – Pass
☐ Driver Side, No – Fail
☒ Passenger Side, Yes – Pass
☐ Passenger Side, No – Fail
- ☒ 3.5 Is the message area at least 30 cm²? (S4.5.1(b)(3)(ii))
- The message area consists of the total label area minus the yellow heading area and the pictogram. The pictogram is enclosed on the left side and bottom by the edge of the label. The top edge of the pictogram area is defined by a horizontal line midway between the uppermost edge of the pictogram and the lowermost edge of the text. The right side of the pictogram is defined by a vertical line midway between the rightmost edge of the pictogram and the left most edge of the text, including any bullets. (See 5/6/03 interpretation to Gerald Plante on behalf of Subaru)**
- Driver Side: Length 69 mm, Width 62 mm
Passenger Side: Length 69 mm, Width 62 mm
Driver actual message area 47.8 cm²
Passenger actual message area 47.8 cm²
- ☒ Driver Side, Yes – Pass
☐ Driver Side, No – Fail
☒ Passenger Side, Yes – Pass
☐ Passenger Side, No – Fail
- ☒ 3.6 Is the pictogram black on a white background? (S4.5.1(b)(3)(iii))
- ☒ Driver Side, Yes – Pass
☐ Driver Side, No – Fail
☒ Passenger Side, Yes – Pass
☐ Passenger Side, No – Fail
- ☒ 3.7 Is the pictogram at least 30 mm in length? (S4.5.1(b)(3)(iii))
- Driver side: Length: 32 mm
Passenger side: Length: 32 mm
- ☒ Driver Side, Yes – Pass
☐ Driver Side, No – Fail
☒ Passenger Side, Yes – Pass
☐ Passenger Side, No – Fail
- ☒ 3.8 Is the same side of the sun visor that contains the air bag warning label free of other information with the exception of the air bag maintenance label and/or the rollover-warning label? (S4.5.1(b)(5)(i))
- ☒ Driver Side, Yes – Pass
☐ Driver Side, No – Fail
☒ Passenger Side, Yes – Pass
☐ Passenger Side, No – Fail
- ☒ 3.9 Is the sun visor free of other information about air bags or the need to wear seat belts with the exception of the air bag alert label and/or the rollover-warning label? (S4.5.1(b)(5)(ii))
- ☒ Driver Side, Yes – Pass
☐ Driver Side, No – Fail
☒ Passenger Side, Yes – Pass
☐ Passenger Side, No – Fail

- ☒ 3.10 Does the driver side visor contain a rollover-warning label on the same side of the visor as the air bag warning label?
 ___ Yes (go to 3.10.1)
☒ No (go to 4., skipping 3.10.1 through 3.10.3)
- ☐ 3.10.1 Are both the rollover-warning label and the air bag warning label surrounded by a continuous solid-lined border?
 ___ Yes (go to 3.10.2 and skip 3.10.3)
 ___ No (go to 3.10.3 and skip 3.10.2)
- ☐ 3.10.2 Is the shortest distance from the border of the rollover label to the border of the air bag warning label at least 1 cm? (575.105 (d)(1)(iv)(B))
 _____ actual distance
 ___ Yes-Pass ___ **No-FAIL**
- ☐ 3.10.3 Is the shortest distance from any of the lettering or graphics on the rollover-warning label to any of the lettering or graphics of the air bag warning label at least 3 cm? (575.105 (d)(1)(iv)(A))
 _____ actual distance
 ___ Yes-Pass ___ **No-FAIL**
- ☒ 4. Air Bag Alert Label (S4.5.1(c) (A "Rollover Warning Label" or "Rollover Alert Label" may be on the same side of the driver's sun visor as the "Air Bag Alert Label." 575.105(d))
- ☒ 4.1 Is the Sun Visor Warning Label visible when the sun visor is in the stowed position?
☒ **If yes for driver and passenger, go to 5.**
☒ Driver Side, Yes
☐ Driver Side, No
☒ Passenger Side, Yes
☐ Passenger Side, No
- ☐ 4.2 Is the air bag alert label permanently affixed (including permanent marking on the visor material or molding into the visor material) to the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing the label or the sun visor? (S4.5.1(c)) (3/19/01 legal interpretation to Todd Mitchell)
☐ Driver Side, Yes – Pass
☐ Driver Side, No – Fail
☐ Passenger Side, Yes – Pass
☐ Passenger Side, No – Fail
- ☐ 4.3 Is the air bag alert label visible when the visor is in the stowed position? (S4.5.1(c))
☐ Driver Side, Yes – Pass
☐ Driver Side, No – Fail
☐ Passenger Side, Yes – Pass
☐ Passenger Side, No – Fail

4.4 Does the label conform in content to the label shown in Figure 6C? (S4.5.1(c))

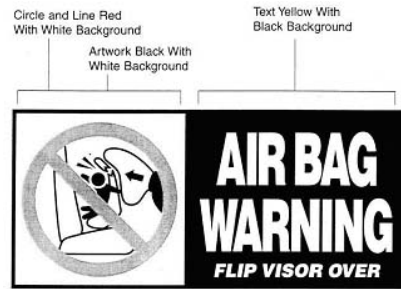


Figure 6c. Sun Visor Label Visible When Visor is in Up Position.

- ☐ Driver Side, Yes – Pass
- ☐ Driver Side, No – Fail
- ☐ Passenger Side, Yes – Pass
- ☐ Passenger Side, No – Fail

4.5 Is the message area black with yellow text? (S4.5.1(c)(1))

- ☐ Driver Side, Yes – Pass
- ☐ Driver Side, No – Fail
- ☐ Passenger Side, Yes – Pass
- ☐ Passenger Side, No – Fail

4.6 Is the message area at least 20 cm²? (S4.5.1(c)(1)) **The message area consists of the black part of the label.**

Driver Side: Length __mm, Width __mm

Passenger Side: Length __mm, Width __mm

Driver actual message area __cm²

Passenger actual message area __cm²

- ☐ Driver Side, Yes – Pass
- ☐ Driver Side, No – Fail
- ☐ Passenger Side, Yes – Pass
- ☐ Passenger Side, No – Fail

4.7 Is the pictogram black with a red circle and slash on a white background? (S4.5.1(c)(2))

- ☐ Driver Side, Yes – Pass
- ☐ Driver Side, No – Fail
- ☐ Passenger Side, Yes – Pass
- ☐ Passenger Side, No – Fail

4.8 Is the pictogram at least 20 mm in diameter? (S4.5.1(c)(2))

Driver Side: Diameter __mm

Passenger Side: Diameter __mm

- ☐ Driver Side, Yes – Pass
- ☐ Driver Side, No – Fail
- ☐ Passenger Side, Yes – Pass
- ☐ Passenger Side, No – Fail

5. Label on the Dashboard: Vehicles certified to meet the requirements of S19, S21 and S23?

5.1 Does the vehicle have a label on the dash or steering wheel hub? (S4.5.1(e)(3))

- ☒ Yes – Pass
- ☐ No – Fail

5.2 Is the label clearly visible from all front seating positions? (S4.5.1(e)(3))

- ☒ Yes – Pass
- ☐ No – Fail

- ☒ 5.3 Does the label conform in content to the label shown in Figure 12? (S4.5.1(e)(3)) **Vehicles without back seats may omit the statement: "The back seat is the safest place for children." Vehicles without back seats or too small to accommodate a rear-facing child restraint consistent with S4.5.4.1 as determined in DATA SHEET 7 may omit the statement "Never put a rear-facing child seat in the front." (S4.5.1(e)(3)(iii))**

☒ Yes – Pass
☐ No - Fail

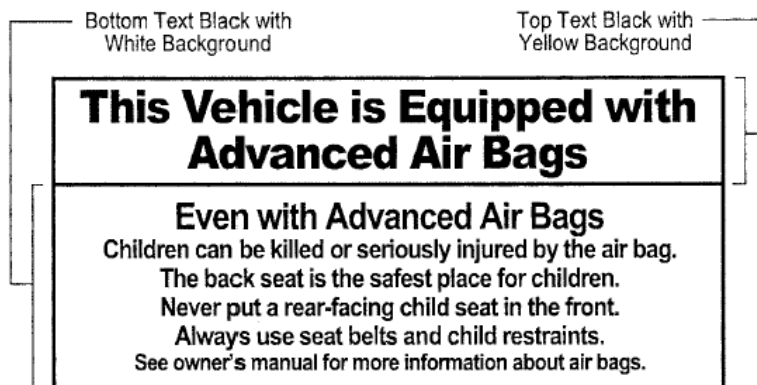


Figure 12. Removable Label on Dash.

- ☒ 5.4 Is the heading area yellow with black text? (S4.5.1(e)(3)(i))
☒ Yes – Pass
☐ No - Fail
- ☒ 5.5 Is the message white with black text? (S4.5.1(e)(3)(ii))
☒ Yes – Pass
☐ No - Fail
- ☒ 5.6 Is the message area at least 30 cm²? (S4.5.1(e)(3)(ii)) **The message area consists of the total label area minus the yellow heading area. (See 5/6/03 interpretation to Gerald Plante on behalf of Subaru)**
Length 110 mm, Width 34 mm
Actual message area 37.4 cm²
☒ Yes – Pass
☐ No - Fail

I certify that I have read and performed each instruction.

Signature: Wayne Zahle

Date: 8/25/11

DATA SHEET 6
FMVSS 208 READINESS INDICATOR (S4.5.2)

Test Vehicle: 2011 Nissan Leaf Electric
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

NHTSA No.: CB5200
Test Date: 8/25/11

An occupant restraint system that deploys in the event of a crash shall have a monitoring system with a readiness indicator. A totally mechanical system is exempt from this requirement. (11/8/94 legal interpretation to Lawrence F. Hennegerger on behalf of Breed)

- ☒ 1. Is the system totally mechanical? **(If Yes, this Data Sheet is complete).**
☐ Yes
☒ No
- ☒ 2. Describe the location of the readiness indicator: *Upper left area of instrument cluster*
- ☒ 3. Is the readiness indicator clearly visible to the driver?
☒ Yes – Pass
☐ No - Fail
- ☒ 4. Is a list of the elements in the occupant restraint system, being monitored by the readiness indicator, provided on a label or in the owner's manual?
☒ Yes – Pass
☐ No - Fail
- ☒ 5. Does the vehicle have an on-off switch for the passenger air bag?
☐ If Yes (go to 6)
☒ If No (this form is complete)
- ☐ 6. Is the air bag readiness indicator off when the passenger air bag switch is in the off position?
☐ Yes – Pass
☐ No - Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Dahlke

Date: 8/25/11

DATA SHEET 7

PASSENGER AIR BAG MANUAL CUT-OFF DEVICE (S4.5.4)

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 208 Compliance
 Test Technician: Wayne Dahlke

NHTSA No.: CB5200
 Test Date: 8/25/11

- ☒ 1. Is the vehicle equipped with an on-off switch that deactivates the air bag installed at the right front outboard seating position?
☐ Yes, go to 2
☒ No, this sheet is complete
- ☐ 2. Does the vehicle have any forward-facing rear designated seating positions? (S4.5.4.1(a))
☐ Yes, go to 3
☐ No, go to 4
- ☐ 3. Verification there is room for a child restraint in the rear seat behind the driver's seat. (S4.5.4.1(b))
- ☐ 3.1 Using all the controls that affect the fore-aft movement of the seat, move the seat to the rearmost position. Mark this position.
☐ N/A – the seat does not have fore-aft adjustment
- ☐ 3.2 Using all the controls that affect the fore-aft movement of the seat, move the seat to the foremost position. Mark this position.
☐ N/A – the seat does not have fore-aft adjustment
- ☐ 3.3 Move the seat to the middle of the foremost and rearmost positions. (S8.1.2)
☐ N/A – the seat does not have a fore-aft adjustment
- ☐ 3.4 If the driver's seat height is adjustable, use all the controls that affect height to put it in the lowest position while maintaining the middle fore-aft position. (S8.1.2)
☐ N/A – No seat height adjustment
- ☐ 3.5 Position the driver's seat adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
☐ N/A – No lumbar adjustment
- ☐ 3.6 The driver's seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1(b) and S8.1.3)
☐ N/A – No seat back angle adjustment
☐ Manufacturer's design driver's seat back angle _____
☐ Tested driver's seat back angle _____
- ☐ 3.7 Is the driver seat a bucket seat?
☐ Yes, go to 3.7.1 and skip 3.7.2.
☐ No, go to 3.7.2 and skip 3.7.1.
- ☐ 3.7.1 Bucket seats:
- ☐ 3.7.1.1 Locate and mark a vertical Plane B through the longitudinal centerline of the driver's seat cushion. The longitudinal centerline of a bucket seat cushion is determined at SgRP. (S16.3.1.10) (S4.5.4.1(b)(1))
- ☐ 3.7.1.2 Locate the longitudinal horizontal line in plane B that is tangent to the highest point of the rear seat cushion behind the driver's seat. Measure along this line from the front of the seat back of the rear seat to the rear of the seat back of the driver's seat.
 _____ mm distance ___less than 720 mm – Pass ___more than 720 mm – **FAIL**
 Go to 4
- ☐ 3.7.2 Bench seats (including split bench seats):
- ☐ 3.7.2.1 Locate and mark a vertical Plane B through the center of the steering wheel parallel to the vehicle longitudinal centerline. (S4.5.4.1(b)(2))

- ☐ 3.7.2.2 Locate the longitudinal horizontal line in plane B that is tangent to the highest point of the rear seat cushion. Measure along this line from the front of the seat back of the rear seat to the rear of the seat back of the front seat.
 ____ mm distance ____ less than 720 mm – Pass ____ more than 720 mm - **FAIL**
 Go to 4
- ☐ 4. Does the device turn the air bag on and off using the vehicle's ignition key? (S4.5.4.2)
☐ Yes – Pass
☐ No – Fail
- ☐ 5. Is the on-off device separate from the ignition switch? (S4.5.4.2)
☐ Yes – Pass
☐ No – Fail
- ☐ 6. Is there a telltale light that comes on when the passenger air bag is turned off? (S4.5.4.2)
☐ Yes – Pass
☐ No – Fail
- ☐ 7. Telltale light (S4.5.4.3)
- ☐ 7.1 Is the light yellow? (S4.5.4.3(a))
☐ Yes – Pass
☐ No – Fail
- ☐ 7.2 Are the words "PASSENGER AIR BAG OFF" or "PASS AIR BAG OFF" (S4.5.4.3(b))
☐ 7.2.1 on the telltale?
☐ Yes – Pass, go to 7.3
☐ No – go to 7.2.2
- ☐ 7.2.2 within 25 mm of the telltale?
☐ Measurement from the edge of the telltale light (mm):
☐ Yes – Pass
☐ No – Fail
- ☐ 7.3 Does the telltale remain illuminated while the air bag is turned off? (S4.5.4.3c)) (Leave the air bag off for 5 minutes.)
☐ Yes – Pass
☐ No – Fail
- ☐ 7.4 Is the telltale illuminated while the air bag is turned on? (S4.5.4.3(d))
☐ Yes – Fail
☐ No – Pass
- ☐ 7.5 Is the telltale combined with the air bag readiness indicator? (S4.5.4.3(e))
☐ Yes – Fail
☐ No – Pass
- ☐ 8. Owner's Manual
- ☐ 8.1 Does the owner's manual contain complete instructions on the operation of the on-off switch? (S4.5.4.4(a))
☐ Yes – Pass
☐ No – Fail

☐ 8.2 Does the owner's manual contain a statement that the on-off switch should only be used when a member of one of the following risk groups is occupying the right front passenger seating position? (S4.5.4.4(b))

Infants:	there is no back seat the rear seat is too small to accommodate a child restraint there is a medical condition that must be monitored constantly
Children aged 1 to 12:	there is no back seat space is not always available in the rear seat there is a medical condition that must be monitored constantly
Medical condition:	medical risk causes special risk for passenger greater risk for harm than with the air bag on

☐ Yes – Pass

☐ No – Fail

☐ 8.3 Does the owner's manual contain a warning about the safety consequences of using the on-off switch at other times?

☐ Yes – Pass

☐ No – Fail

REMARKS:

Signature: Wayne Zahle

Date: 8/25/11

I certify that I have read and performed each instruction.

DATA SHEET 8

LAP BELT LOCKABILITY

**Passenger cars, trucks, buses, and multipurpose passenger
Vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)**

Test Vehicle: 2011 Nissan Leaf Electric
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

NHTSA No.: CB5200
Test Date: 8/25/11

Complete one of these forms for **each** designated seating position that can be adjusted to forward-facing or that is a forward-facing seat, other than the driver's seat (S7.1.1.5 (a), **and** that has seat belt retractors that are not solely automatic locking retractors. (S7.1.1.5(c))

DESIGNATED SEATING POSITION:	Front Passenger
------------------------------	------------------------

- | | | |
|-------------------------------------|-----|---|
| ☐ | | N/A – No retractor is at this position |
| ☐ | | N/A – The retractor is an automatic locking retractor ONLY |
| ☒ | 1. | Record test fore-aft seat position: REAR
(S7.1.1.5(c)(1)) (Any position is acceptable) |
| ☒ | 2. | Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5(a)) |
| | | ☒ Yes – Pass |
| | | ☐ No – Fail |
| ☒ | 3. | Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing. (S7.1.1.5(a)) |
| | | ☒ Yes – Pass |
| | | ☐ No – Fail |
| ☒ | 4. | Place any adjustable seat belt anchorage in the lowest adjustment position. |
| | | ☐ N/A The anchorage is not adjustable. |
| ☒ | 5. | Buckle the seat belt. (S7.1.1.5(c)(1)) |
| ☒ | 6. | Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2)) |
| ☒ | 7. | Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2)) |
| ☒ | 8. | Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing? |
| | | ☒ Yes (go to 8.1) |
| | | ☐ No (go to 9) |
| ☒ | 8.1 | Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system? (S7.1.1.5(b)) |
| | | ☒ Yes – Pass |
| | | ☐ No – Fail |
| ☒ | 9. | Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2) & S7.1.1.5(c)(1)) |

- ☒ 10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
Measured distance between A and B (inches): 72 3/4
- ☒ 11. Readjust the belt system so that the webbing between points A and B is at 1/2 the maximum length of the webbing. (S7.1.1.5(c)(3))
- ☒ 12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))
Measured force application angle: 10° (spec. 5 - 15 degrees)
- ☒ 13. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))
Measured distance between A and B: 43 inches
- ☒ 14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))
Record onset rate: 15 lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))
Measured distance between A and B: 43 inches (S7.1.1.5(c)(6))
- ☒ 15. Let the seat belt webbing retract to its minimum length with the seat belt still buckled.
- ☒ 16. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))
Measured force application angle: 10° (spec. 5 - 15 degrees)
- ☒ 17. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))
Measured distance between A and B: 27 inches
- ☒ 18. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))
Record onset rate: 15 lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))
Measured distance between A and B: 27 1/4 inches (S7.1.1.5(c)(6))
- ☒ 19. Subtract the measurement in 13 from the measurement in 14 and the measurement in 17 from the measurement in 18. Is the difference 2 inches or less for both? (S7.1.1.5(c)(7))
14 – 13 = 43 - 43 = 0 inch;
18 – 17 = 27 1/4 - 27 = 1/4 inch
- ☒ Yes – Pass
☐ No – Fail

- ☒ 20. Subtract the measurement in 14 from the measurement in 10 and the measurement in 18 from the measurement in 10. Is the difference 3 inches or more for both?
(S7.1.1.5(c)(8))
- ☒ 10-14 = $72\frac{3}{4} - 43 = 29\frac{3}{4}$ inches;
☒ 10-18 = $72\frac{3}{4} - 27\frac{1}{4} = 45\frac{1}{2}$ inches
- ☒ Yes – Pass
☐ No – Fail

REMARKS:

Signature: Wayne Zuhl

Date: 8/25/11

I certify that I have read and performed each instruction.

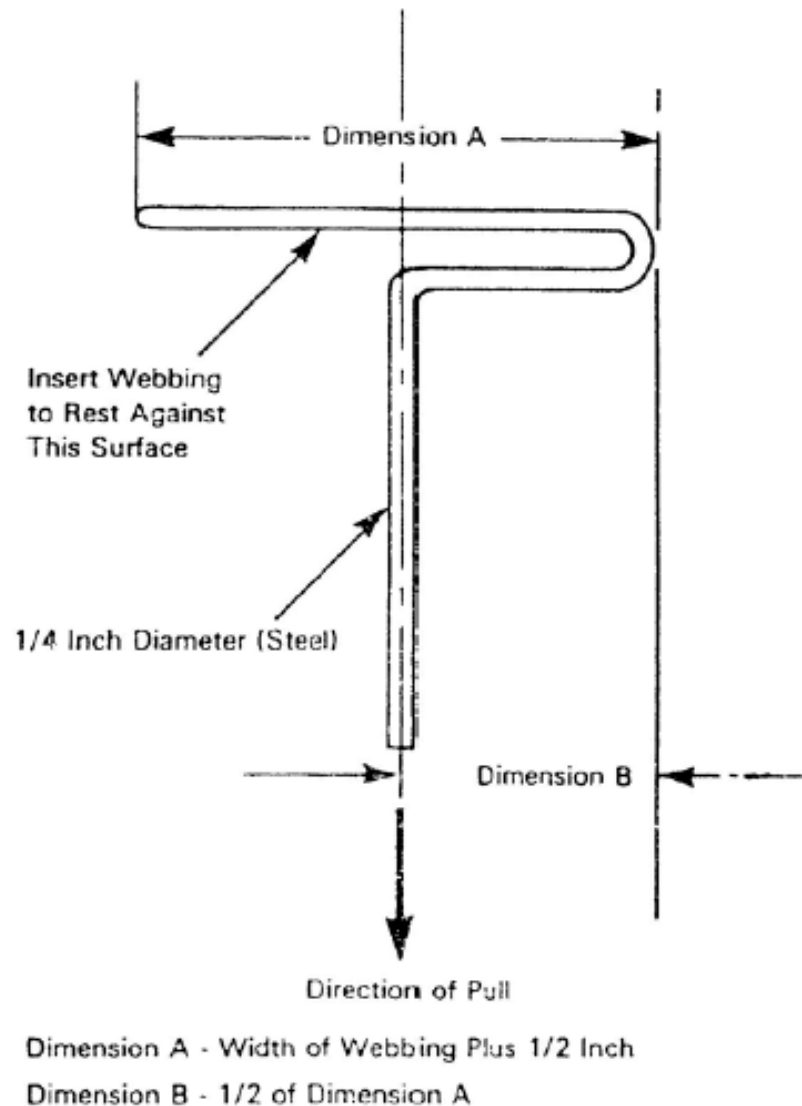


Figure 5. - Webbing Tension Pull Device

DATA SHEET 8

LAP BELT LOCKABILITY

**Passenger cars, trucks, buses, and multipurpose passenger
Vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)**

Test Vehicle: 2011 Nissan Leaf Electric
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

NHTSA No.: CB5200
Test Date: 8/25/11

Complete one of these forms for **each** designated seating position that can be adjusted to forward-facing or that is a forward-facing seat, other than the driver's seat (S7.1.1.5 (a), **and** that has seat belt retractors that are not solely automatic locking retractors. (S7.1.1.5(c))

DESIGNATED SEATING POSITION:	Left Rear Passenger
------------------------------	---------------------

- | | | |
|-------------------------------------|-----|---|
| ☐ | | N/A – No retractor is at this position |
| ☐ | | N/A – The retractor is an automatic locking retractor ONLY |
| ☒ | 1. | Record test fore-aft seat position: FIXED
(S7.1.1.5(c)(1)) (Any position is acceptable) |
| ☒ | 2. | Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle.
(S7.1.1.5(a)) |
| | | ☒ Yes – Pass |
| | | ☐ No – Fail |
| ☒ | 3. | Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing. (S7.1.1.5(a)) |
| | | ☒ Yes – Pass |
| | | ☐ No – Fail |
| ☒ | 4. | Place any adjustable seat belt anchorage in the lowest adjustment position. |
| | | ☒ N/A The anchorage is not adjustable. |
| ☒ | 5. | Buckle the seat belt. (S7.1.1.5(c)(1)) |
| ☒ | 6. | Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2)) |
| ☒ | 7. | Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2)) |
| ☒ | 8. | Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing? |
| | | ☒ Yes (go to 8.1) |
| | | ☐ No (go to 9) |
| ☒ | 8.1 | Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system? (S7.1.1.5(b)) |
| | | ☒ Yes – Pass |
| | | ☐ No – Fail |
| ☒ | 9. | Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2) & S7.1.1.5(c)(1)) |

- ☒ 10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
- ☒ Measured distance between A and B (inches): 59
- ☒ 11. Readjust the belt system so that the webbing between points A and B is at $\frac{1}{2}$ the maximum length of the webbing. (S7.1.1.5(c)(3))
- ☒ 12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))
- ☒ Measured force application angle: 10° (spec. 5 - 15 degrees)
- ☒ 13. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))
- ☒ Measured distance between A and B: 43 $\frac{3}{4}$ inches
- ☒ 14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))
- Record onset rate: 15 lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))
- Measured distance between A and B: 44 inches (S7.1.1.5(c)(6))
- ☒ 15. Let the seat belt webbing retract to its minimum length with the seat belt still buckled.
- ☒ 16. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))
- Measured force application angle: 10° (spec. 5 - 15 degrees)
- ☒ 17. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))
- Measured distance between A and B: 14 inches
- ☒ 18. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))
- Record onset rate: 15 lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))
- Measured distance between A and B: 14 $\frac{3}{4}$ inches (S7.1.1.5(c)(6))
- ☒ 19. Subtract the measurement in 13 from the measurement in 14 and the measurement in 17 from the measurement in 18. Is the difference 2 inches or less for both? (S7.1.1.5(c)(7))
- ☒ $14 - 13 = 44 - 43 \frac{3}{4} = \frac{1}{4}$ inch;
- ☒ $18 - 17 = 14 \frac{3}{4} - 14 = \frac{3}{4}$ inch
- ☒ Yes – Pass
- ☐ No – Fail

- ☒ 20. Subtract the measurement in 14 from the measurement in 10 and the measurement in 18 from the measurement in 10. Is the difference 3 inches or more for both?
(S7.1.1.5(c)(8))
- ☒ 10-14 = $59 - 44 = 15$ inches;
☒ 10-18 = $59 - 44 \frac{3}{4} = 14 \frac{1}{4}$ inches
- ☒ Yes – Pass
☐ No – Fail

REMARKS:

Signature: Wayne Zuhl

Date: 8/25/11

I certify that I have read and performed each instruction.

DATA SHEET 8

LAP BELT LOCKABILITY

**Passenger cars, trucks, buses, and multipurpose passenger
Vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)**

Test Vehicle: 2011 Nissan Leaf Electric
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

NHTSA No.: CB5200
Test Date: 8/25/11

Complete one of these forms for **each** designated seating position that can be adjusted to forward-facing or that is a forward-facing seat, other than the driver's seat (S7.1.1.5 (a), **and** that has seat belt retractors that are not solely automatic locking retractors. (S7.1.1.5(c))

DESIGNATED SEATING POSITION:	Center Rear Passenger
------------------------------	-----------------------

- | | | |
|-------------------------------------|-----|---|
| ☐ | | N/A – No retractor is at this position |
| ☐ | | N/A – The retractor is an automatic locking retractor ONLY |
| ☒ | 1. | Record test fore-aft seat position: FIXED
(S7.1.1.5(c)(1)) (Any position is acceptable) |
| ☒ | 2. | Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle.
(S7.1.1.5(a)) |
| | | ☒ Yes – Pass |
| | | ☐ No – Fail |
| ☒ | 3. | Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing. (S7.1.1.5(a)) |
| | | ☒ Yes – Pass |
| | | ☐ No – Fail |
| ☒ | 4. | Place any adjustable seat belt anchorage in the lowest adjustment position. |
| | | ☒ N/A The anchorage is not adjustable. |
| ☒ | 5. | Buckle the seat belt. (S7.1.1.5(c)(1)) |
| ☒ | 6. | Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2)) |
| ☒ | 7. | Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2)) |
| ☒ | 8. | Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing? |
| | | ☒ Yes (go to 8.1) |
| | | ☐ No (go to 9) |
| ☒ | 8.1 | Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system? (S7.1.1.5(b)) |
| | | ☒ Yes – Pass |
| | | ☐ No – Fail |
| ☒ | 9. | Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2) & S7.1.1.5(c)(1)) |

- ☒ 10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
Measured distance between A and B (inches): 65 1/2
- ☒ 11. Readjust the belt system so that the webbing between points A and B is at 1/2 the maximum length of the webbing. (S7.1.1.5(c)(3))
- ☒ 12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))
Measured force application angle: 10° (spec. 5 - 15 degrees)
- ☒ 13. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))
Measured distance between A and B: 46 1/4 inches
- ☒ 14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))
Record onset rate: 15 lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))
Measured distance between A and B: 47 inches (S7.1.1.5(c)(6))
- ☒ 15. Let the seat belt webbing retract to its minimum length with the seat belt still buckled.
- ☒ 16. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))
Measured force application angle: 10° (spec. 5 - 15 degrees)
- ☒ 17. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))
Measured distance between A and B: 22 1/2 inches
- ☒ 18. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))
Record onset rate: 15 lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))
Measured distance between A and B: 23 1/2 inches (S7.1.1.5(c)(6))
- ☒ 19. Subtract the measurement in 13 from the measurement in 14 and the measurement in 17 from the measurement in 18. Is the difference 2 inches or less for both? (S7.1.1.5(c)(7))
14 - 13 = 47 - 46 1/4 = 3/4 inch;
18 - 17 = 23 1/2 - 22 1/2 = 1 inch
- ☒ Yes - Pass
☐ No - Fail

- ☒ 20. Subtract the measurement in 14 from the measurement in 10 and the measurement in 18 from the measurement in 10. Is the difference 3 inches or more for both?
(S7.1.1.5(c)(8))
- ☒ 10-14 = $65 \frac{1}{2} - 47 = 18 \frac{1}{2}$ inches;
☒ 10-18 = $65 \frac{1}{2} - 23 \frac{1}{2} = 42$ inches
- ☒ Yes – Pass
☐ No – Fail

REMARKS:

Signature: Wayne Zuhl

Date: 8/25/11

I certify that I have read and performed each instruction.

DATA SHEET 8

LAP BELT LOCKABILITY

**Passenger cars, trucks, buses, and multipurpose passenger
Vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)**

Test Vehicle: 2011 Nissan Leaf Electric
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

NHTSA No.: CB5200
Test Date: 8/25/11

Complete one of these forms for **each** designated seating position that can be adjusted to forward-facing or that is a forward-facing seat, other than the driver's seat (S7.1.1.5 (a), **and** that has seat belt retractors that are not solely automatic locking retractors. (S7.1.1.5(c))

DESIGNATED SEATING POSITION:	Right Rear Passenger
------------------------------	-----------------------------

- | | | |
|-------------------------------------|-----|---|
| ☐ | | N/A – No retractor is at this position |
| ☐ | | N/A – The retractor is an automatic locking retractor ONLY |
| ☒ | 1. | Record test fore-aft seat position: FIXED
(S7.1.1.5(c)(1)) (Any position is acceptable) |
| ☒ | 2. | Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5(a)) |
| | | ☒ Yes – Pass |
| | | ☐ No – Fail |
| ☒ | 3. | Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing. (S7.1.1.5(a)) |
| | | ☒ Yes – Pass |
| | | ☐ No – Fail |
| ☒ | 4. | Place any adjustable seat belt anchorage in the lowest adjustment position. |
| | | ☒ N/A The anchorage is not adjustable. |
| ☒ | 5. | Buckle the seat belt. (S7.1.1.5(c)(1)) |
| ☒ | 6. | Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2)) |
| ☒ | 7. | Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2)) |
| ☒ | 8. | Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing? |
| | | ☒ Yes (go to 8.1) |
| | | ☐ No (go to 9) |
| ☒ | 8.1 | Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system? (S7.1.1.5(b)) |
| | | ☒ Yes – Pass |
| | | ☐ No – Fail |
| ☒ | 9. | Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2) & S7.1.1.5(c)(1)) |

- ☒ 10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
- ☒ Measured distance between A and B (inches): 58 ¾
- ☒ 11. Readjust the belt system so that the webbing between points A and B is at ½ the maximum length of the webbing. (S7.1.1.5(c)(3))
- ☒ 12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))
- ☒ Measured force application angle: 10° (spec. 5 - 15 degrees)
- ☒ 13. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))
- ☒ Measured distance between A and B: 42 ½ inches
- ☒ 14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))
- Record onset rate: 15 lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))
- Measured distance between A and B: 43 inches (S7.1.1.5(c)(6))
- ☒ 15. Let the seat belt webbing retract to its minimum length with the seat belt still buckled.
- ☒ 16. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))
- Measured force application angle: 10° (spec. 5 - 15 degrees)
- ☒ 17. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))
- Measured distance between A and B: 14 ½ inches
- ☒ 18. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))
- Record onset rate: 15 lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))
- Measured distance between A and B: 15 ¼ inches (S7.1.1.5(c)(6))
- ☒ 19. Subtract the measurement in 13 from the measurement in 14 and the measurement in 17 from the measurement in 18. Is the difference 2 inches or less for both? (S7.1.1.5(c)(7))
- ☒ $14 - 13 = 43 - 42 \frac{1}{2} = \frac{1}{2}$ inch;
- ☒ $18 - 17 = 15 \frac{1}{4} - 14 \frac{1}{2} = \frac{3}{4}$ inch
- ☒ Yes – Pass
- ☐ No – Fail

- ☒ 20. Subtract the measurement in 14 from the measurement in 10 and the measurement in 18 from the measurement in 10. Is the difference 3 inches or more for both?
(S7.1.1.5(c)(8))
- ☒ 10-14 = $58 \frac{3}{4} - 43 = 15 \frac{3}{4}$ inches;
☒ 10-18 = $58 \frac{3}{4} - 15 \frac{1}{4} = 43 \frac{1}{2}$ inches
- ☒ Yes – Pass
☐ No – Fail

REMARKS:

Signature: Wayne Zuhl

Date: 8/25/11

I certify that I have read and performed each instruction.

DATA SHEET 9

FMVSS 208 SEAT BELT WARNING SYSTEM CHECK (S7.3)

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 208 Compliance
 Test Technician: Wayne Dahlke

NHTSA No.: CB5200
 Test Date: 8/25/11

- ☒ 1. The occupant is in the driver's seat.
- ☒ 2. The seat belt is in the stowed position.
- ☒ 3. The key is in the "on" or "start" position.
- ☒ 4. The time duration of the audible signal beginning with key "on" or "start" is 5 seconds.
- ☒ 5. The occupant is in the driver's seat.
- ☒ 6. The seat belt is in the stowed position.
- ☒ 7. The key is in the "on" or "start" position.
- ☒ 8. The time duration of the warning light beginning with key "on" or "start" is Stays On seconds.
- ☒ 9. The occupant is in the driver's seat.
- ☒ 10. The seat belt is in the latched position and with at least 4 inches of belt webbing extended.
- ☒ 11. The key is in the "on" or "start" position.
- ☒ 12. The time duration of the warning light beginning with key "on" or "start" is 0 seconds.
- ☒ 13. Complete the following table with the data from 4, 8, and 12 to determine which option is used.

		Warning light	Warning light specification	Audible signal	Audible signal specification*
S7.3 (a)(1)	Belt stowed & key on or start	Item 8: <u>Stays On</u>	60 seconds minimum	Item 4: <u>5</u>	4 to 8 seconds
S7.3 (a)(2)	Belt latched & key on or start	Item 12: <u>0</u>	4 to 8 seconds		
	Belt stowed & key on or start	Item 8: <u>Stays On</u>	4 to 8 seconds	Item 4: <u>5</u>	4 to 8 seconds

* 49 USCS @ 30124 does NOT allow an audible signal to operate for more than 8 seconds.

A voluntary audible signal after the 4 to 8 second required signal may be provided. It must be differentiated from the required signal (5/25/2001 legal interpretation to Longacre and Associates).

- ☒ 14. The seat belt warning system meets the requirements of (manufacturers may comply with either section).
 - ☒ S7.3 (a)(1)
 - ☐ S7.3 (a)(2)
 - ☐ FAIL – Does NOT meet the requirements of either option.
- ☒ 15. Note wording of visual warning: (S7.3(a)(1) and S7.3(a)(2))
 - ☐ Fasten Seat Belts
 - ☐ Fasten Belts
 - ☒ Symbol 101 - 
 - ☐ FAIL – Does not use any of the above wording or symbol.

REMARKS:

I certify that I have read and performed each instruction.

Signature: Wayne Dahlke

Date: 8/25/11

DATA SHEET 10
BELT CONTACT FORCE (S7.4.3)

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 208 Compliance
 Test Technician: Wayne Dahlke

NHTSA No.: CB5200
 Test Date: 8/25/11

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Left Rear Passenger
------------------------------	---------------------

- | | | |
|---|-----|---|
| <div style="background-color: yellow; border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> | 1. | Does the vehicle incorporate a webbing tension-relieving device? |
| | | <div style="display: flex; align-items: center;"><div style="background-color: yellow; border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center; margin-right: 5px;"></div>Yes (this form is complete)</div> |
| | | <div style="display: flex; align-items: center;"><div style="background-color: yellow; border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center; margin-right: 5px;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div>No (continue with this check sheet)</div> |
| <div style="background-color: yellow; border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> | 2. | Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3) |
| | | <div style="display: flex; align-items: center;"><div style="background-color: yellow; border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center; margin-right: 5px;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div>N/A – No lumbar adjustment</div> |
| <div style="background-color: yellow; border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> | 3. | Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2) |
| | | <div style="display: flex; align-items: center;"><div style="background-color: yellow; border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center; margin-right: 5px;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div>N/A – No additional support adjustment</div> |
| <div style="background-color: yellow; border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> | 4. | Is the fore-aft position of the seat adjustable? |
| | | <div style="display: flex; align-items: center;"><div style="background-color: yellow; border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center; margin-right: 5px;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div>No – go to 5</div> |
| | | <div style="display: flex; align-items: center;"><div style="background-color: yellow; border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center; margin-right: 5px;"></div>Yes – go to 4.1</div> |
| <div style="background-color: yellow; border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center;"></div> | 4.1 | Use all the seat controls that have any affect on the fore-aft movement of the seat to move the seat cushion to the rearmost position. Mark this position. (8/31/95 legal interpretation to Hogan and Hartson) |
| <div style="background-color: yellow; border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center;"></div> | 4.2 | Use all the seat controls that have any affects on the fore-aft movement of the seat to move the seat cushion to the foremost position. Mark this position. (8/31/95 legal interpretation to Hogan and Hartson) |
| <div style="background-color: yellow; border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center;"></div> | 4.3 | Mark each fore-aft position so that there is a visual indication when the seat is at a particular position. For manual seats, mark each detent. For power seats, mark only the rearmost, middle and foremost positions. Label three of the positions with the following: F for foremost, M for mid-position (if there is no mid-position, label the closest adjustment position to the rear of the mid-point), and R for rearmost. Determine the mid fore-aft seat position based on the foremost and rearmost positions determined in items 4.1 and 4.2. (8/31/95 legal interpretation to Hogan and Hartson) |
| <div style="background-color: yellow; border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center;"></div> | 4.4 | Move the seat to the mid position. |
| <div style="background-color: yellow; border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center;"></div> | 4.5 | While maintaining the mid position, move the seat to its lowest position. For seats with adjustable seat cushions, use the manufacturer's recommended seat cushion angle for determining the lowest height position. |
| <div style="background-color: yellow; border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> | 5. | Is the seat back angle adjustable? |
| | | <div style="display: flex; align-items: center;"><div style="background-color: yellow; border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center; margin-right: 5px;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div>No- go to 6</div> |
| | | <div style="display: flex; align-items: center;"><div style="background-color: yellow; border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center; margin-right: 5px;"></div>Yes- go to 5.1</div> |
| <div style="background-color: yellow; border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center;"></div> | 5.1 | Set and mark seat back angle, if adjustable, at the manufacturer's nominal design riding position for a 50 th percentile adult male in the manner specified by the manufacturer. |
| | | <div style="display: flex; align-items: center;"><div style="background-color: yellow; border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center; margin-right: 5px;"></div>N/A – No seat back angle adjustment</div> |
| | | <div style="display: flex; align-items: center;"><div style="background-color: yellow; border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center; margin-right: 5px;"></div>Manufacturer's design seat back angle: _____</div> |
| | | <div style="display: flex; align-items: center;"><div style="background-color: yellow; border: 1px solid black; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center; margin-right: 5px;"></div>Tested seat back angle: _____</div> |

- ☒ 6. Is the seat a bucket seat?
☐ Yes, go to 6.1 and skip 6.2
☒ No, go to 6.2 and skip 6.1
- ☐ 6.1 Bucket seats:
 Locate and mark the longitudinal centerline of the seat cushion. The intersection of the vertical longitudinal plane that passes through the SgRP and the seat cushion upper surface determines the longitudinal centerline of a bucket seat cushion. (S10.4.1.2 and S16.3.1.10)
- ☒ 6.2 Bench seats (complete ONLY the one that is applicable to the seat being tested):
- ☐ 6.2.1 Driver Seat
 Locate and **mark** the longitudinal line on the seat cushion that marks the intersection of the vertical longitudinal plane through the centerline of the steering wheel and the seat cushion upper surface. (S10.4.1.1)
- ☐ 6.2.2 Front Outboard Passenger Seat
 Locate and **mark** the longitudinal centerline of the passenger seat cushion. The longitudinal centerline is the same distance from the longitudinal centerline of the vehicle as the center of the steering wheel. (S10.4.1.1)
☐ Record the distance from the longitudinal centerline of the vehicle to the center of the steering wheel. _____
☐ Record the distance from the longitudinal centerline of the vehicle to the longitudinal centerline of the seat cushion. _____
- ☒ 6.2.3 Rear designated seating positions
 Locate and **mark** the longitudinal centerline of the seat cushion. The intersection of the vertical longitudinal plane that passes through the SgRP and the seat cushion upper surface determines the longitudinal centerline.
- ☒ 7. Position the test dummies according to dummy position placement instructions in Appendix F. **Complete the Appendix F check sheets, but include them in the test report ONLY if there is a test failure.**
- ☒ 8. Fasten the seat belt latch.
- ☒ 9. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.
- ☒ 10. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.
- ☒ Contact Force (lb): **0.4**
☒ 0.0 to 0.7 pounds – Pass
☐ Greater than 0.7 pounds – FAIL

REMARKS:

Signature: Wayne Zahl

Date: 8/25/11

I certify that I have read and performed each instruction.

DATA SHEET 10
BELT CONTACT FORCE (S7.4.3)

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 208 Compliance
 Test Technician: Wayne Dahlke

NHTSA No.: CB5200
 Test Date: 8/25/11

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Center Rear Passenger
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- ☒ 1. Does the vehicle incorporate a webbing tension-relieving device?
☐ Yes (this form is complete)
☒ No (continue with this check sheet)
- ☒ 2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
☒ N/A – No lumbar adjustment
- ☒ 3. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
☒ N/A – No additional support adjustment
- ☒ 4. Is the fore-aft position of the seat adjustable?
☒ No – go to 5
☐ Yes – go to 4.1
- ☐ 4.1 Use all the seat controls that have any affect on the fore-aft movement of the seat to move the seat cushion to the rearmost position. **Mark** this position. (8/31/95 legal interpretation to Hogan and Hartson)
- ☐ 4.2 Use all the seat controls that have any affects on the fore-aft movement of the seat to move the seat cushion to the foremost position. **Mark** this position. (8/31/95 legal interpretation to Hogan and Hartson)
- ☐ 4.3 **Mark** each fore-aft position so that there is a visual indication when the seat is at a particular position. For manual seats, **mark** each detent. For power seats, mark only the rearmost, middle and foremost positions. Label three of the positions with the following: F for foremost, M for mid-position (if there is no mid-position, label the closest adjustment position to the rear of the mid-point), and R for rearmost. Determine the mid fore-aft seat position based on the foremost and rearmost positions determined in items 4.1 and 4.2. (8/31/95 legal interpretation to Hogan and Hartson)
- ☐ 4.4 Move the seat to the mid position.
- ☐ 4.5 While maintaining the mid position, move the seat to its lowest position. For seats with adjustable seat cushions, use the manufacturer's recommended seat cushion angle for determining the lowest height position.
- ☒ 5. Is the seat back angle adjustable?
☒ No- go to 6
☐ Yes- go to 5.1
- ☐ 5.1 Set and mark seat back angle, if adjustable, at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer.
☐ N/A – No seat back angle adjustment
☐ Manufacturer's design seat back angle: _____
☐ Tested seat back angle: _____

- ☒ 6. Is the seat a bucket seat?
☐ Yes, go to 6.1 and skip 6.2
☒ No, go to 6.2 and skip 6.1
- ☐ 6.1 Bucket seats:
 Locate and mark the longitudinal centerline of the seat cushion. The intersection of the vertical longitudinal plane that passes through the SgRP and the seat cushion upper surface determines the longitudinal centerline of a bucket seat cushion. (S10.4.1.2 and S16.3.1.10)
- ☒ 6.2 Bench seats (complete ONLY the one that is applicable to the seat being tested):
- ☐ 6.2.1 Driver Seat
 Locate and **mark** the longitudinal line on the seat cushion that marks the intersection of the vertical longitudinal plane through the centerline of the steering wheel and the seat cushion upper surface. (S10.4.1.1)
- ☐ 6.2.2 Front Outboard Passenger Seat
 Locate and **mark** the longitudinal centerline of the passenger seat cushion. The longitudinal centerline is the same distance from the longitudinal centerline of the vehicle as the center of the steering wheel. (S10.4.1.1)
☐ Record the distance from the longitudinal centerline of the vehicle to the center of the steering wheel. _____
☐ Record the distance from the longitudinal centerline of the vehicle to the longitudinal centerline of the seat cushion. _____
- ☒ 6.2.3 Rear designated seating positions
 Locate and **mark** the longitudinal centerline of the seat cushion. The intersection of the vertical longitudinal plane that passes through the SgRP and the seat cushion upper surface determines the longitudinal centerline.
- ☒ 7. Position the test dummies according to dummy position placement instructions in Appendix F. **Complete the Appendix F check sheets, but include them in the test report ONLY if there is a test failure.**
- ☒ 8. Fasten the seat belt latch.
- ☒ 9. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.
- ☒ 10. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.
- ☒ Contact Force (lb): **0.5**
☒ 0.0 to 0.7 pounds – Pass
☐ Greater than 0.7 pounds - FAIL

REMARKS:

Signature: Wayne Zuhl

Date: 8/25/11

I certify that I have read and performed each instruction.

DATA SHEET 10
BELT CONTACT FORCE (S7.4.3)

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 208 Compliance
 Test Technician: Wayne Dahlke

NHTSA No.: CB5200
 Test Date: 8/25/11

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Right Rear Passenger
------------------------------	----------------------

- | | | |
|---|-----|---|
| <div style="background-color: yellow; border: 1px solid black; width: 30px; height: 20px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> | 1. | Does the vehicle incorporate a webbing tension-relieving device?
<div style="margin-top: 5px;"><div style="background-color: yellow; border: 1px solid black; width: 20px; height: 15px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> Yes (this form is complete)
 <div style="margin-top: 5px;"><div style="background-color: yellow; border: 1px solid black; width: 20px; height: 15px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> No (continue with this check sheet)</div></div> |
| <div style="background-color: yellow; border: 1px solid black; width: 30px; height: 20px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> | 2. | Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
<div style="margin-top: 5px;"><div style="background-color: yellow; border: 1px solid black; width: 20px; height: 15px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> N/A – No lumbar adjustment</div> |
| <div style="background-color: yellow; border: 1px solid black; width: 30px; height: 20px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> | 3. | Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
<div style="margin-top: 5px;"><div style="background-color: yellow; border: 1px solid black; width: 20px; height: 15px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> N/A – No additional support adjustment</div> |
| <div style="background-color: yellow; border: 1px solid black; width: 30px; height: 20px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> | 4. | Is the fore-aft position of the seat adjustable?
<div style="margin-top: 5px;"><div style="background-color: yellow; border: 1px solid black; width: 20px; height: 15px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> No – go to 5
 <div style="margin-top: 5px;"><div style="background-color: yellow; border: 1px solid black; width: 20px; height: 15px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> Yes – go to 4.1</div></div> |
| <div style="background-color: yellow; border: 1px solid black; width: 30px; height: 20px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> | 4.1 | Use all the seat controls that have any affect on the fore-aft movement of the seat to move the seat cushion to the rearmost position. Mark this position. (8/31/95 legal interpretation to Hogan and Hartson) |
| <div style="background-color: yellow; border: 1px solid black; width: 30px; height: 20px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> | 4.2 | Use all the seat controls that have any affects on the fore-aft movement of the seat to move the seat cushion to the foremost position. Mark this position. (8/31/95 legal interpretation to Hogan and Hartson) |
| <div style="background-color: yellow; border: 1px solid black; width: 30px; height: 20px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> | 4.3 | Mark each fore-aft position so that there is a visual indication when the seat is at a particular position. For manual seats, mark each detent. For power seats, mark only the rearmost, middle and foremost positions. Label three of the positions with the following: F for foremost, M for mid-position (if there is no mid-position, label the closest adjustment position to the rear of the mid-point), and R for rearmost. Determine the mid fore-aft seat position based on the foremost and rearmost positions determined in items 4.1 and 4.2. (8/31/95 legal interpretation to Hogan and Hartson) |
| <div style="background-color: yellow; border: 1px solid black; width: 30px; height: 20px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> | 4.4 | Move the seat to the mid position. |
| <div style="background-color: yellow; border: 1px solid black; width: 30px; height: 20px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> | 4.5 | While maintaining the mid position, move the seat to its lowest position. For seats with adjustable seat cushions, use the manufacturer's recommended seat cushion angle for determining the lowest height position. |
| <div style="background-color: yellow; border: 1px solid black; width: 30px; height: 20px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> | 5. | Is the seat back angle adjustable?
<div style="margin-top: 5px;"><div style="background-color: yellow; border: 1px solid black; width: 20px; height: 15px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> No- go to 6
 <div style="margin-top: 5px;"><div style="background-color: yellow; border: 1px solid black; width: 20px; height: 15px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> Yes- go to 5.1</div></div> |
| <div style="background-color: yellow; border: 1px solid black; width: 30px; height: 20px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> | 5.1 | Set and mark seat back angle, if adjustable, at the manufacturer's nominal design riding position for a 50 th percentile adult male in the manner specified by the manufacturer.
<div style="margin-top: 5px;"><div style="background-color: yellow; border: 1px solid black; width: 20px; height: 15px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> N/A – No seat back angle adjustment
 <div style="margin-top: 5px;"><div style="background-color: yellow; border: 1px solid black; width: 20px; height: 15px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> Manufacturer's design seat back angle: _____
 <div style="margin-top: 5px;"><div style="background-color: yellow; border: 1px solid black; width: 20px; height: 15px; display: flex; align-items: center; justify-content: center;"><div style="background-color: black; color: white; font-weight: bold; margin: 0 5px;">X</div></div> Tested seat back angle: _____</div></div></div> |

- ☒ 6. Is the seat a bucket seat?
- ☐ Yes, go to 6.1 and skip 6.2
- ☒ No, go to 6.2 and skip 6.1
- ☐ 6.1 Bucket seats:
Locate and mark the longitudinal centerline of the seat cushion. The intersection of the vertical longitudinal plane that passes through the SgRP and the seat cushion upper surface determines the longitudinal centerline of a bucket seat cushion. (S10.4.1.2 and S16.3.1.10)
- ☒ 6.2 Bench seats (complete ONLY the one that is applicable to the seat being tested):
- ☐ 6.2.1 Driver Seat
Locate and **mark** the longitudinal line on the seat cushion that marks the intersection of the vertical longitudinal plane through the centerline of the steering wheel and the seat cushion upper surface. (S10.4.1.1)
- ☐ 6.2.2 Front Outboard Passenger Seat
Locate and **mark** the longitudinal centerline of the passenger seat cushion. The longitudinal centerline is the same distance from the longitudinal centerline of the vehicle as the center of the steering wheel. (S10.4.1.1)
- ☐ Record the distance from the longitudinal centerline of the vehicle to the center of the steering wheel. _____
- ☐ Record the distance from the longitudinal centerline of the vehicle to the longitudinal centerline of the seat cushion. _____
- ☒ 6.2.3 Rear designated seating positions
Locate and **mark** the longitudinal centerline of the seat cushion. The intersection of the vertical longitudinal plane that passes through the SgRP and the seat cushion upper surface determines the longitudinal centerline.
- ☒ 7. Position the test dummies according to dummy position placement instructions in Appendix F. **Complete the Appendix F check sheets, but include them in the test report ONLY if there is a test failure.**
- ☒ 8. Fasten the seat belt latch.
- ☒ 9. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.
- ☒ 10. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.
- ☒ Contact Force (lb): **0.5**
- ☒ 0.0 to 0.7 pounds – Pass
- ☐ Greater than 0.7 pounds - FAIL

REMARKS:

Signature: Wayne Zuhl

Date: 8/25/11

I certify that I have read and performed each instruction.

DATA SHEET 11
LATCH PLATE ACCESS (S7.4.4)

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 208 Compliance
 Test Technician: Wayne Dahlke

NHTSA No.: CB5200
 Test Date: 8/25/11

Test all front outboard seat belts **other than those in** walk-in van-type vehicles and those at front outboard designated seating positions in **passenger cars**. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Not Applicable For Any Position - Passenger Car
------------------------------	---

- ☐ 1. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
 - ☐ N/A – No lumbar adjustment
- ☐ 2. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
 - ☐ N/A – No additional support adjustment
- ☐ 3. Is the fore-aft position of the seat adjustable?
 - ☐ No – go to 4
 - ☐ Yes – go to 3.1
- ☐ 3.1 Use all the seat controls that have any affect on the fore-aft movement of the seat to move the seat cushion to the rearmost position. **Mark** this position. (8/31/95 legal interpretation to Hogan and Hartson)
- ☐ 3.2 While maintaining the forward most position, move the seat to its lowest position. For seats with adjustable seat cushions, use the manufacturer's recommended seat cushion angle for determining the lowest height position.
- ☐ 4. Is the seat back angle adjustable?
 - ☐ No- go to 5
 - ☐ Yes- go to 4.1
- ☐ 4.1 Set and mark seat back angle, if adjustable, at the manufacturer's nominal design riding position for a **50th percentile adult male** in the manner specified by the manufacturer.
 - ☐ N/A – No seat back angle adjustment
 - ☐ Manufacturer's design seat back angle: _____
 - ☐ Tested seat back angle: _____
- ☐ 5. Is the seat a bucket seat?
 - ☐ Yes, go to 5.1 and skip 5.2
 - ☐ No, go to 5.2 and skip 5.1
- ☐ 5.1 Bucket seats:

Locate and **mark** the longitudinal centerline of the seat cushion. The intersection of the vertical longitudinal plane that passes through the SgRP and the seat cushion upper surface determines the longitudinal centerline of a bucket seat cushion. (S10.4.1.2 and S16.3.1.10)
- ☐ 5.2 Bench seats (complete ONLY the one that is applicable to the seat being tested):
 - ☐ 5.2.1 Driver Seat

Locate and **mark** the longitudinal line on the seat cushion that marks the intersection of the vertical longitudinal plane through the centerline of the steering wheel and the seat cushion upper surface. (S10.4.1.1)

☐ 5.2.2 Front Outboard Passenger Seat

Locate and **mark** the longitudinal centerline of the passenger seat cushion.
The longitudinal centerline is the same distance from the longitudinal centerline of the vehicle as the center of the steering wheel. (S10.4.1.1)

☐ Record the distance from the longitudinal centerline of the vehicle to the center of the steering wheel. _____

☐ Record the distance from the longitudinal centerline of the vehicle to the longitudinal centerline of the seat cushion. _____

☐ 6. Position the test dummy using the procedures in Appendix F. (Some modifications to the positioning procedure may need to be made because the seat is in the forward most position. Note on the Appendix F positioning check sheet any deviations necessary to position the Part 572, Subpart E dummy). **Complete the Appendix F check sheets, but include them in the test report ONLY if there is a test failure.**

☐ 7. Position the adjustable seat belt anchorage in the manufacturer's nominal design position for a 50th percentile adult male occupant.

☐ 8. Attach the inboard reach string to the base of the head following the instructions on Figure 3.

☐ 9. Attach the outboard reach string to the torso sheath following the instructions on Figure 3.

☐ 10. Place the latch plate in the stowed position.

☐ 11. Extend the inboard reach string in front of the dummy and then backward and outboard to the latch plate to generate arcs of the reach envelope of the test dummy's arms. Is the latch plate within the reach envelope?

☐ Yes – Pass

☐ No

☐ 12. Extend the outboard reach string in front of the dummy and then backward and outboard to the latch plate to generate arcs of the reach envelope of the test dummy's arms. Is the latch plate within the reach envelope?

☐ Yes – Pass

☐ No

☐ 13. Is the latch plate within the inboard (item 11) or outboard (item 12) reach envelope?

☐ Yes – Pass

☐ No – Fail

☐ 14. Using the clearance test block, specified in Figure 4, is there sufficient clearance between the vehicle seat and the side of vehicle interior to allow the test block to move unhindered to the latch plate or buckle?

☐ Yes – Pass

☐ No – Fail

REMARKS:

Signature: Wayne Zahll

Date: 8/25/11

I certify that I have read and performed each instruction.

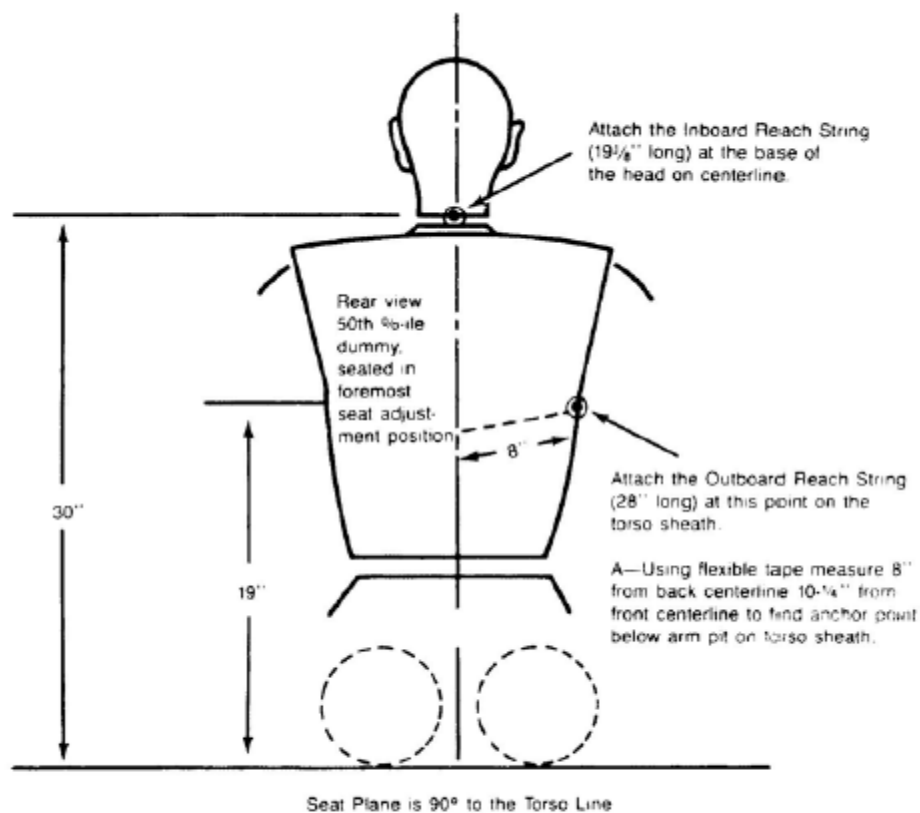


Figure 3. Location of Anchoring Points for Latchplate Reach Limiting Chains or Strings to Test for Latchplate Accessibility Using Subpart E Test Device

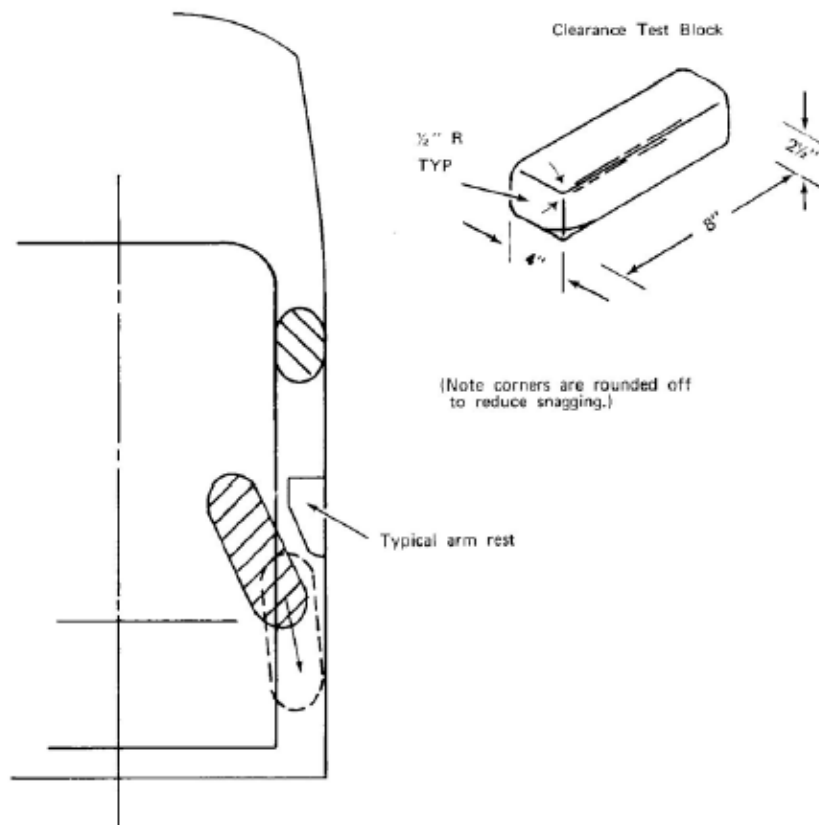


Figure 4—USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND/ARM ACCESS

DATA SHEET 12

SEAT BELT RETRACTION (S7.4.5)

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 208 Compliance
 Test Technician: Wayne Dahlke

NHTSA No.: CB5200
 Test Date: 8/25/11

Test all front outboard seat belts, except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION:	Not Applicable For Any Position – Passenger Car
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- ☒ 1. Is the vehicle a passenger car or walk-in van-type vehicle?
 ☒ Yes, this form is complete
 ☐ No
- ☐ 2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
 ☐ N/A – No lumbar adjustment
- ☐ 3. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
 ☐ N/A – No additional support adjustment
- ☐ 4. Is the fore-aft position of the seat adjustable?
 ☐ No – go to 5
 ☐ Yes – go to 4.1
- ☐ 4.1 Use all the seat controls that have any affect on the fore-aft movement of the seat to move the seat cushion to the rearmost position. **Mark** this position. (8/31/95 legal interpretation to Hogan and Hartson)
- ☐ 4.2 Use all the seat controls that have any affects on the fore-aft movement of the seat to move the seat cushion to the foremost position. **Mark** this position. (8/31/95 legal interpretation to Hogan and Hartson)
- ☐ 4.3 **Mark** each fore-aft position so that there is a visual indication when the seat is at a particular position. For manual seats, **mark** each detent. For power seats, mark only the rearmost, middle and foremost positions. Label three of the positions with the following: F for foremost, M for mid-position (if there is no mid-position, label the closest adjustment position to the rear of the mid-point), and R for rearmost. Determine the mid fore-aft seat position based on the foremost and rearmost positions determined in items 4.1 and 4.2. (8/31/95 legal interpretation to Hogan and Hartson)
- ☐ 4.4 Move the seat to the mid position.
- ☐ 4.5 While maintaining the mid position, move the seat to its lowest position. For seats with adjustable seat cushions, use the manufacturer's recommended seat cushion angle for determining the lowest height position.
- ☐ 5. Is the seat back angle adjustable?
 ☐ No- go to 6
 ☐ Yes- go to 5.1
- ☐ 5.1 Set and mark seat back angle, if adjustable, at the manufacturer's nominal design riding position for a **50th percentile adult male** in the manner specified by the manufacturer.
 ☐ N/A – No seat back angle adjustment
 ☐ Manufacturer's design seat back angle: _____
 ☐ Tested seat back angle: _____
- ☐ 6. Is the seat a bucket seat?
 ☐ Yes, go to 6.1 and skip 6.2
 ☐ No, go to 6.2 and skip 6.1

- ☐ 6.1 Bucket Seats:
Locate and **mark** the longitudinal centerline of the seat cushion. The intersection of the vertical longitudinal plane that passes through the SgRP and the seat cushion upper surface determines the longitudinal centerline of a bucket seat cushion. (S10.4.1.2 and S16.3.1.10)
- ☐ 6.2 Bench seats (complete ONLY the one that is applicable to the seat being tested):
- ☐ 6.2. Driver Seat
- ☐ 1 Locate and **mark** the longitudinal line on the seat cushion that marks the intersection of the vertical longitudinal plane through the centerline of the steering wheel and the seat cushion upper surface. (S10.4.1.1)
- ☐ 6.2. Front Outboard Passenger Seat
- ☐ 2 Locate and **mark** the longitudinal centerline of the passenger seat cushion. The longitudinal centerline is the same distance from the longitudinal centerline of the vehicle as the center of the steering wheel. (S10.4.1.1)
- ☐ Record the distance from the longitudinal centerline of the vehicle to the center of the steering wheel. _____
- ☐ Record the distance from the longitudinal centerline of the vehicle to the longitudinal centerline of the seat cushion. _____
- ☐ 7. Position the Part 572 Subpart E test dummy according to dummy position placement instructions in Appendix F. **Complete the Appendix F check sheets, but include them in the test report ONLY if there is a test failure.**
- ☐ 8. Fasten the seat belt around the dummy.
- ☐ 9. Remove all slack from the lap belt portion. (S10.9)
- ☐ N/A, the seat does not have a fore-aft adjustment
- ☐ 10. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times. (S10.9)
- ☐ 11. Apply a 2 to 4 pound tension load to the lap belt. (S10.9)
- ☐ **Pound load applied:**
- ☐ 12. Is the belt system equipped with a tension relieving device?
- ☐ Yes, continue
- ☐ No, go to 14
- ☐ 13. Introduce the maximum amount of slack into the upper torso belt that is recommended by the vehicle manufacturer in the vehicle owner's manual. (S10.9).
- ☐ 14. Check the statement that applies to this test vehicle:
- ☐ 14.1 The torso and lap belt webbing of the seat belt system automatically retracts to a stowed position when the adjacent vehicle door is in an open position and the seat belt latch plate is released.
- ☐ Yes – Pass go to 16
- ☐ No – go to 14.2
- ☐ 14.2 The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latch plate is released.
- ☐ Yes – Pass go to 15
- ☐ No – go to 14.3
- ☐ 14.3 Neither 14.1 nor 14.2 apply.
- ☐ Fail
- ☐ 15. With the webbing and hardware in the stowed position are the webbing and hardware prevented from being pinched when the door is closed?
- ☐ Yes – Pass
- ☐ No – Fail

- ☐ 16. If this test vehicle has an open body (without doors) and has a belt system with a tension relieving device, does the belt system fully retract when the tension-relieving device is deactivated?

- ☐ N/A – Not an open body vehicle
☐ Yes – Pass
☐ No – Fail

REMARKS:

Signature: Wayne Zahle

Date: 8/25/11

I certify that I have read and performed each instruction.

DATA SHEET 13
SEAT BELT GUIDES AND HARDWARE (S7.4.6)

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 208 Compliance
 Test Technician: Wayne Dahlke

NHTSA No.: CB5200
 Test Date: 8/25/11

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION: Left Rear Passenger

- | | | | | |
|-------------------------------------|-----|--|---|--|
| ☒ | 1. | Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1(b)) | ☐ Yes, this form is complete | ☒ No, go to 2 |
| ☒ | 2. | Is the seat removable? (S7.4.6.1(b)) | ☐ Yes, this form is complete | ☒ No, go to 3 |
| ☒ | 3. | Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b)) | ☐ Yes, this form is complete | ☒ No, go to 4 |
| ☒ | 4. | Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a)) | ☒ Yes, go to 5 | ☐ No, this form is complete |
| ☒ | 5. | Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a)) | ☒ Yes – Pass | ☐ No – Fail |
| | | Identify the part(s) on top of or above the seat. | ☒ Seat belt latch plate | ☒ Buckle |
| ☒ | 6. | Are the remaining two seat belt parts accessible under normal conditions? | ☒ Yes – Pass | ☐ No – Fail |
| ☒ | 7. | The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2) | ☒ Yes – Pass | ☐ No – Fail |
| ☒ | 8. | The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2) | ☒ Yes – Pass | ☐ No – Fail |
| ☒ | 9. | The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2) | ☒ Yes – Pass | ☐ No – Fail |
| ☒ | 10. | Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2) | ☐ Yes – Pass | ☐ No – Fail |
| | | | ☒ N/A – Rear seat | |

REMARKS:

Signature: Wayne Dahlke

Date: 8/25/11

I certify that I have read and performed each instruction.

DATA SHEET 13

SEAT BELT GUIDES AND HARDWARE (S7.4.6)

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 208 Compliance
 Test Technician: Wayne Dahlke

NHTSA No.: CB5200
 Test Date: 8/25/11

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION: Center Rear Passenger

- | | | | | |
|-------------------------------------|-----|--|---|--|
| ☒ | 1. | Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1(b)) | ☐ Yes, this form is complete | ☒ No, go to 2 |
| ☒ | 2. | Is the seat removable? (S7.4.6.1(b)) | ☐ Yes, this form is complete | ☒ No, go to 3 |
| ☒ | 3. | Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b)) | ☐ Yes, this form is complete | ☒ No, go to 4 |
| ☒ | 4. | Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a)) | ☒ Yes, go to 5 | ☐ No, this form is complete |
| ☒ | 5. | Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a)) | ☒ Yes – Pass | ☐ No – Fail |
| | | Identify the part(s) on top or above the seat. | ☒ Seat belt latch plate | ☒ Buckle |
| ☒ | 6. | Are the remaining two seat belt parts accessible under normal conditions? | ☒ Yes – Pass | ☐ No – Fail |
| ☒ | 7. | The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2) | ☒ Yes – Pass | ☐ No – Fail |
| ☒ | 8. | The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2) | ☒ Yes – Pass | ☐ No – Fail |
| ☒ | 9. | The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2) | ☒ Yes – Pass | ☐ No – Fail |
| ☒ | 10. | Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2) | ☐ Yes – Pass | ☐ No – Fail |
| | | | ☒ N/A – Rear seat | |

REMARKS:

Signature: Wayne Dahlke

Date: 8/25/11

I certify that I have read and performed each instruction.

DATA SHEET 13

SEAT BELT GUIDES AND HARDWARE (S7.4.6)

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 208 Compliance
 Test Technician: Wayne Dahlke

NHTSA No.: CB5200
 Test Date: 8/25/11

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

DESIGNATED SEATING POSITION: Right Rear Passenger

- | | | | | |
|-------------------------------------|-----|--|---|--|
| ☒ | 1. | Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1(b)) | ☐ Yes, this form is complete | ☒ No, go to 2 |
| ☒ | 2. | Is the seat removable? (S7.4.6.1(b)) | ☐ Yes, this form is complete | ☒ No, go to 3 |
| ☒ | 3. | Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b)) | ☐ Yes, this form is complete | ☒ No, go to 4 |
| ☒ | 4. | Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a)) | ☒ Yes, go to 5 | ☐ No, this form is complete |
| ☒ | 5. | Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a)) | ☒ Yes – Pass | ☐ No – Fail |
| | | Identify the part(s) on top or above the seat. | ☒ Seat belt latch plate | ☒ Buckle |
| ☒ | 6. | Are the remaining two seat belt parts accessible under normal conditions? | ☒ Yes – Pass | ☐ No – Fail |
| ☒ | 7. | The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2) | ☒ Yes – Pass | ☐ No – Fail |
| ☒ | 8. | The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2) | ☒ Yes – Pass | ☐ No – Fail |
| ☒ | 9. | The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2) | ☒ Yes – Pass | ☐ No – Fail |
| ☒ | 10. | Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2) | ☐ Yes – Pass | ☐ No – Fail |
| | | | ☒ N/A – Rear seat | |

REMARKS:

Signature: Wayne Dahlke

Date: 8/25/11

I certify that I have read and performed each instruction.

DATA SHEET 16

AIR BAG SUPPRESSION TELLTALE (S19.2.2)

Test Vehicle: 2011 Nissan Leaf Electric
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

NHTSA No.: CB5200
Test Date: 8/26/11

- ☒ 1. Is the vehicle certified to any suppression performance standards of FMVSS 208?
☒ Yes - go to 2
☐ No - this form is complete
- ☒ 2. Does telltale emit yellow light when the air bag is suppressed? (S19.2.2 (a))
☒ Yes - Pass **NO - FAIL**
- ☒ 3. Are the words "PASSENGER AIR BAG OFF" or "PASS AIR BAG OFF" (S19.2.2 (b))
☒ 3.1 on the telltale? (S19.2.2 (b))
☒ Yes - Pass, go to 4
☐ No - go to 3.2
- ☐ 3.2 Within 25 mm of the telltale? (S19.2.2 (b)) ☐ mm from the edge of the telltale light
☐ Yes - Pass **NO - FAIL**
- ☒ 4. Is the telltale separate from the air bag readiness indicator? (S19.2.2(c))
☒ Yes - Pass **NO - FAIL**
- ☒ 5. Is the telltale within the interior of the vehicle? (S19.2.2 (d))
☒ Yes - Pass **NO - FAIL**
- ☒ 6. Is the telltale forward of and above the design H-point of both the driver's and the front outboard passenger's seat when the seats are in their forwardmost seating positions? (S19.2.2 (d))
☒ Yes - Pass **NO - FAIL**
- ☒ 7. Is the telltale away from surfaces that can be used for temporary or permanent storage of objects that could obscure the telltale from either the driver's or front outboard passenger's view? (S19.2.2 (d))
☒ Yes - Pass **NO - FAIL**
- ☒ 8. Is the telltale located so that it is not obscured from the driver or front outboard passenger by a rear-facing child restraint in Appendix A installed in the front outboard passenger seat? (S19.2.2 (d))
☒ Yes - Pass **NO - FAIL**
- ☒ 9. Is the telltale visible or recognizable during the night? (S19.2.2 (e))
☒ Yes - Pass **NO - FAIL**
- ☒ 10. Is the telltale visible or recognizable during the day? (S19.2.2 (e))
☒ Yes - Pass **NO - FAIL**
- ☒ 11. If there is a visibility adjustment, do all the adjustment levels make the telltale visible and recognizable? (S19.2.2 (g))
☒ N/A-No visibility adjustment
☐ Yes - Pass **NO - FAIL**
- ☒ 12. Does the telltale remain illuminated while the air bag is suppressed? (S19.2.2 (h)) (Leave the air bag suppressed for 5 minutes.)
☒ Yes - Pass **NO - FAIL**
- ☒ 13. Is the telltale off while the air bag is activated? (S19.2.2 (h)) (Leave the air bag activated for 5 minutes.)
☒ Yes - Pass **NO - FAIL**

Signature: Wayne Dahlke

Date: 8/26/11

I certify that I have read and performed each instruction.

DATA SHEET 17 SUMMARY

Suppression Test Using 12-Month-Old CRABI Dummy (Part 572, Subpart R) Section B Rear Facing CRS

NHTSA NO.:	CB5200	TEST DATE:	8/25/11
LABORATORY:	MGA	TECHNICIAN(S):	WD
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	062

CHILD RESTRAINT NAME:	Cosco
CHILD RESTRAINT MODEL:	Arriva 22-049 (same as model 22-013)
DATE OF MANUFACTURE:	8-20-2008

Base: ☒ On ☐ Off ☐ N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 7th notch, 1st as zero; Equals 11.1° on HRP
 Tested seat back angle: 7th notch, 1st as zero; Equals 11.1° on HRP
 Manufacturer's specified anchorage position: 0 of 4; Upper-most defined as 0
 Tested anchorage position: 0 of 4; Upper-most defined as 0

A blanket and visor were not used in the suppression testing because they did not affect the weight sensing system used on the vehicle.

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Rear Facing	Forward	N/A	Won't Fit
	Middle	131	Suppressed
	Rearward	129	Suppressed
Unbelted Rear Facing	Forward	N/A	Won't Fit
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Unbelted Forward Facing	Forward 8*	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

* The CRS would not fit in this forward seat slide position. If there is a number in the seat slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 21 = Full Rearward; 21 total Seat Slide detents)

DATA SHEET 17 SUMMARY

Suppression Test Using 12-Month-Old CRABI Dummy (Part 572, Subpart R) Section B Rear Facing CRS

NHTSA NO.:	CB5200	TEST DATE:	8/25/11
LABORATORY:	MGA	TECHNICIAN(S):	WD
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	062

CHILD RESTRAINT NAME:	Cosco
CHILD RESTRAINT MODEL:	Arriva 22-049 (same as model 22-013)
DATE OF MANUFACTURE:	8-20-2008

Base: __On X Off __N/A-Constraint does not have a removable base

Manufacturer's design seat back angle: 7th notch, 1st as zero; Equals 11.1° on HRP
Tested seat back angle: 7th notch, 1st as zero; Equals 11.1° on HRP
Manufacturer's specified anchorage position: 0 of 4; Upper-most defined as 0
Tested anchorage position: 0 of 4; Upper-most defined as 0

A blanket and visor were not used in the suppression testing because they did not affect the weight sensing system used on the vehicle.

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Rear Facing	Forward	N/A	Won't Fit
	Middle	130	Suppressed
	Rearward	128	Suppressed
Unbelted Rear Facing	Forward	N/A	Won't Fit
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Unbelted Forward Facing	Forward 8*	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

*The CRS would not fit in this forward seat slide position. If there is a number in the seat slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 21 = Full Rearward; 21 total Seat Slide detents)

Successful unbelted representative 5th percentile female reactivation was performed with the seat in the rearward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 17 SUMMARY

Suppression Test Using 12-Month-Old CRABI Dummy (Part 572, Subpart R) Section B Rear Facing CRS

NHTSA NO.:	CB5200	TEST DATE:	8/25/11
LABORATORY:	MGA	TECHNICIAN(S):	WD
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	062

CHILD RESTRAINT NAME:	Graco
CHILD RESTRAINT MODEL:	Snugride
DATE OF MANUFACTURE:	5-24-2007

Base: ☒ On ☐ Off ☐ N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 7th notch, 1st as zero; Equals 11.1° on HRP
Tested seat back angle: 7th notch, 1st as zero; Equals 11.1° on HRP
Manufacturer's specified anchorage position: 0 of 4; Upper-most defined as 0
Tested anchorage position: 0 of 4; Upper-most defined as 0

A blanket and visor were not used in the suppression testing because they did not affect the weight sensing system used on the vehicle.

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Rear Facing	Forward 5*	132	Suppressed
	Middle	131	Suppressed
	Rearward	131	Suppressed
Unbelted Rear Facing	Forward 6*	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Unbelted Forward Facing	Forward 8*	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

* The CRS would not fit in this forward seat slide position. If there is a number in the seat slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 21 = Full Rearward; 21 total Seat Slide detents)

DATA SHEET 17 SUMMARY

Suppression Test Using 12-Month-Old CRABI Dummy (Part 572, Subpart R) Section B Rear Facing CRS

NHTSA NO.:	CB5200	TEST DATE:	8/25/11
LABORATORY:	MGA	TECHNICIAN(S):	WD
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	062

CHILD RESTRAINT NAME:	Graco
CHILD RESTRAINT MODEL:	Snugride
DATE OF MANUFACTURE:	5-24-2007

Base: __ On X Off __ N/A-Constraint does not have a removable base

Manufacturer's design seat back angle: 7th notch, 1st as zero; Equals 11.1° on HRP
Tested seat back angle: 7th notch, 1st as zero; Equals 11.1° on HRP
Manufacturer's specified anchorage position: 0 of 4; Upper-most defined as 0
Tested anchorage position: 0 of 4; Upper-most defined as 0

A blanket and visor were not used in the suppression testing because they did not affect the weight sensing system used on the vehicle.

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Rear Facing	Forward	N/A	Won't Fit
	Middle	132	Suppressed
	Rearward	129	Suppressed
Unbelted Rear Facing	Forward	N/A	Won't Fit
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Unbelted Forward Facing	Forward 6*	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

* The CRS would not fit in this forward seat slide position. If there is a number in the seat slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 21 = Full Rearward; 21 total Seat Slide detents)

Successful unbelted representative 5th percentile female reactivation was performed with the seat in the forward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 17 SUMMARY

Suppression Test Using 12-Month-Old CRABI Dummy (Part 572, Subpart R) Section B Rear Facing CRS

NHTSA NO.:	CB5200	TEST DATE:	8/25/11
LABORATORY:	MGA	TECHNICIAN(S):	WD
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	062

CHILD RESTRAINT NAME:	Peg Perego
CHILD RESTRAINT MODEL:	Viaggio
DATE OF MANUFACTURE:	8-27-2007

Base: ☒ On ☐ Off ☐ N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 7th notch, 1st as zero; Equals 11.1° on HRP
 Tested seat back angle: 7th notch, 1st as zero; Equals 11.1° on HRP
 Manufacturer's specified anchorage position: 0 of 4; Upper-most defined as 0
 Tested anchorage position: 0 of 4; Upper-most defined as 0

A blanket and visor were not used in the suppression testing because they did not affect the weight sensing system used on the vehicle.

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Rear Facing	Forward 3*	132	Suppressed
	Middle	129	Suppressed
	Rearward	138	Suppressed
Unbelted Rear Facing	Forward 5*	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Unbelted Forward Facing	Forward 8*	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

* The CRS would not fit in this forward seat slide position. If there is a number in the seat slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 21 = Full Rearward; 21 total Seat Slide detents)

DATA SHEET 17 SUMMARY

Suppression Test Using 12-Month-Old CRABI Dummy (Part 572, Subpart R) Section B Rear Facing CRS

NHTSA NO.:	CB5200	TEST DATE:	8/25/11
LABORATORY:	MGA	TECHNICIAN(S):	WD
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	062

CHILD RESTRAINT NAME:	Peg Perego
CHILD RESTRAINT MODEL:	Viaggio
DATE OF MANUFACTURE:	8-27-2007

Base: __On __X__Off __N/A-Constraint does not have a removable base

Manufacturer's design seat back angle: 7th notch, 1st as zero; Equals 11.1° on HRP
Tested seat back angle: 7th notch, 1st as zero; Equals 11.1° on HRP
Manufacturer's specified anchorage position: 0 of 4; Upper-most defined as 0
Tested anchorage position: 0 of 4; Upper-most defined as 0

A blanket and visor were not used in the suppression testing because they did not affect the weight sensing system used on the vehicle.

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Rear Facing	Forward 6*	132	Suppressed
	Middle	132	Suppressed
	Rearward	129	Suppressed
Unbelted Rear Facing	Forward 6*	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Unbelted Forward Facing	Forward 7*	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

* The CRS would not fit in this forward seat slide position. If there is a number in the seat slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 21 = Full Rearward; 21 total Seat Slide detents)

Successful unbelted representative 5th percentile female reactivation was performed with the seat in the rearward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 17 SUMMARY

Suppression Test Using 12-Month-Old CRABI Dummy (Part 572, Subpart R) Section C Forward Facing Convertible CRS

NHTSA NO.:	CB5200	TEST DATE:	8/25/11
LABORATORY:	MGA	TECHNICIAN(S):	WD
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	062

CHILD RESTRAINT NAME:	Britax
CHILD RESTRAINT MODEL:	Roundabout E9L02
DATE OF MANUFACTURE:	7-2-2008

Base: __On __Off X N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 7th notch, 1st as zero; Equals 11.1° on HRP
 Tested seat back angle: 7th notch, 1st as zero; Equals 11.1° on HRP
 Manufacturer's specified anchorage position: 0 of 4; Upper-most defined as 0
 Tested anchorage position: 0 of 4; Upper-most defined as 0

A blanket was not used in the suppression testing because it did not affect the weight sensing system used on the vehicle.

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Forward Facing	Forward	132	Suppressed
	Middle	130	Suppressed
	Rearward	131	Suppressed
Unbelted Forward Facing	Forward 3*	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Belted Rear Facing	Forward 4*	129	Suppressed
	Middle	131	Suppressed
	Rearward	131	Suppressed
Unbelted Rear Facing	Forward 8*	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

* The CRS would not fit in this forward seat slide position. If there is a number in the seat slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 21 = Full Rearward; 21 total Seat Slide detents)

Successful unbelted representative 5th percentile female reactivation was performed with the seat in the forward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 17 SUMMARY

Suppression Test Using 12-Month-Old CRABI Dummy (Part 572, Subpart R) Section C Forward Facing Convertible CRS

NHTSA NO.:	CB5200	TEST DATE:	8/26/11
LABORATORY:	MGA	TECHNICIAN(S):	WD
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	062

CHILD RESTRAINT NAME:	Cosco
CHILD RESTRAINT MODEL:	High Back Booster 22-209
DATE OF MANUFACTURE:	10-7-2008

Base: __On __Off X N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 7th notch, 1st as zero; Equals 11.1° on HRP
Tested seat back angle: 7th notch, 1st as zero; Equals 11.1° on HRP
Manufacturer's specified anchorage position: 0 of 4; Upper-most defined as 0
Tested anchorage position: 0 of 4; Upper-most defined as 0

A blanket was not used in the suppression testing because it did not affect the weight sensing system used on the vehicle.

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Forward Facing	Forward	129	Suppressed
	Middle	132	Suppressed
	Rearward	130	Suppressed
Unbelted Forward Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Unbelted Rear Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

Successful unbelted representative 5th percentile female reactivation was performed with the seat in the rearward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

The Cosco High Back Booster 22-209 does not have a rear facing belt path.

DATA SHEET 17 SUMMARY

Suppression Test Using 12-Month-Old CRABI Dummy (Part 572, Subpart R) Section C Forward Facing Convertible CRS

NHTSA NO.:	CB5200	TEST DATE:	8/26/11
LABORATORY:	MGA	TECHNICIAN(S):	WD
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	062

CHILD RESTRAINT NAME:	Evenflo
CHILD RESTRAINT MODEL:	Generations 352
DATE OF MANUFACTURE:	10-5-2006

Base: __On __Off X N/A-Constraint does not have a removable base

Manufacturer's design seat back angle: 7th notch, 1st as zero; Equals 11.1° on HRP
Tested seat back angle: 7th notch, 1st as zero; Equals 11.1° on HRP
Manufacturer's specified anchorage position: 0 of 4; Upper-most defined as 0
Tested anchorage position: 0 of 4; Upper-most defined as 0

A blanket was not used in the suppression testing because it did not affect the weight sensing system used on the vehicle.

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Forward Facing	Forward	132	Suppressed
	Middle	129	Suppressed
	Rearward	130	Suppressed
Unbelted Forward Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Unbelted Rear Facing	Forward 3*	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

* The CRS would not fit in this forward seat slide position. If there is a number in the seat slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 21 = Full Rearward; 21 total Seat Slide detents)

Successful unbelted representative 5th percentile female reactivation was performed with the seat in the forward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

The Evenflo Generations 352 does not have a rear facing belt path.

DATA SHEET 17 SUMMARY

Suppression Test Using 12-Month-Old CRABI Dummy (Part 572, Subpart R) Section C Forward Facing Convertible CRS

NHTSA NO.:	CB5200	TEST DATE:	8/26/11
LABORATORY:	MGA	TECHNICIAN(S):	WD
DUMMY TYPE:	12 Month Old	DUMMY SERIAL NO.:	062

CHILD RESTRAINT NAME:	Graco
CHILD RESTRAINT MODEL:	ComfortSport
DATE OF MANUFACTURE:	6-15-2009

Base: __On __Off X N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 7th notch, 1st as zero; Equals 11.1° on HRP
 Tested seat back angle: 7th notch, 1st as zero; Equals 11.1° on HRP
 Manufacturer's specified anchorage position: 0 of 4; Upper-most defined as 0
 Tested anchorage position: 0 of 4; Upper-most defined as 0

A blanket was not used in the suppression testing because it did not affect the weight sensing system used on the vehicle.

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Forward Facing	Forward	131	Suppressed
	Middle	131	Suppressed
	Rearward	129	Suppressed
Unbelted Forward Facing	Forward	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed
Belted Rear Facing	Forward 2*	132	Suppressed
	Middle	132	Suppressed
	Rearward	128	Suppressed
Unbelted Rear Facing	Forward 4*	N/A	Suppressed
	Middle	N/A	Suppressed
	Rearward	N/A	Suppressed

* The CRS would not fit in this forward seat slide position. If there is a number in the seat slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 21 = Full Rearward; 21 total Seat Slide detents)

Successful unbelted representative 5th percentile female reactivation was performed with the seat in the middle position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 18 SUMMARY

Suppression Test Using Newborn Infant Dummy (Part 572, Subpart K) Section A Car Bed

NHTSA NO.:	CB5200	TEST DATE:	8/25/11
LABORATORY:	MGA	TECHNICIAN(S):	WD
DUMMY TYPE:	Newborn Infant	DUMMY SERIAL NO.:	003

CAR BED NAME:	Angel Guard
CAR BED MODEL:	Angel Ride
DATE OF MANUFACTURE:	4-15-2008

Base: ☐ On ☐ Off ☒ N/A-Restraint does not have a removable base
(A car bed with a removable base shall be treated as two separate models, i.e. this form and test procedure will be completed with the base on and then repeated on a new form with the base off.

Manufacturer's design seat back angle: 7th notch, 1st as zero; Equals 11.1° on HRP
Tested seat back angle: 7th notch, 1st as zero; Equals 11.1° on HRP
Manufacturer's specified anchorage position: 0 of 4; Upper-most defined as 0
Tested anchorage position: 0 of 4; Upper-most defined as 0

A blanket and visor were not used in the suppression testing because they did not affect the weight sensing system used on the vehicle.

Test Summary

Seat Belt	Seat Slide	Result
Belted	Forward	Suppressed
	Middle	Suppressed
	Rearward	Suppressed

Successful unbelted representative 5th percentile female reactivation was performed with the seat in the forward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 19H SUMMARY

Suppression Test Using 3 Year Old Human Subject and Booster Seats (Part 572, Subpart P)
Section D Forward Facing Belt Positioning Booster

NHTSA NO.:	CB5200	TEST DATE:	8/26/11
LABORATORY:	MGA	TECHNICIAN(S):	WD
SUBJECT TYPE:	3 Year Old	CHILD IDENTIFICATION CODE:	069

Child Identification Code 069; 17.2 kg, 99.0 cm

BOOSTER SEAT NAME:	Cosco
BOOSTER SEAT MODEL:	Summit Deluxe High Back Booster 22-262
DATE OF MANUFACTURE:	8-9-2007

Manufacturer's design seat back angle:	<u>7th notch, 1st as zero; Equals 11.1° on HRP</u>
Tested seat back angle:	<u>7th notch, 1st as zero; Equals 11.1° on HRP</u>
Manufacturer's specified anchorage position:	<u>0 of 4; Upper-most defined as 0</u>
Tested anchorage position:	<u>0 of 4; Upper-most defined as 0</u>

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Forward Facing Without Harness	Forward 4*	15	Suppressed
	Middle	19	Suppressed
	Rearward	9	Suppressed
Belted Forward Facing Cinched With Harness	Forward 4*	129	Suppressed
	Middle	130	Suppressed
	Rearward	122	Suppressed

* The CRS would not fit in this forward seat slide position. If there is a number in the seat slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 21 = Full Rearward; 21 total Seat Slide detents)

Successful unbelted representative 5th percentile female reactivation was performed with the seat in the middle position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 19H SUMMARY

Suppression Test Using 3 Year Old Human Subject and Booster Seats (Part 572, Subpart P)
Section D Forward Facing Belt Positioning Booster

NHTSA NO.:	CB5200	TEST DATE:	8/26/11
LABORATORY:	MGA	TECHNICIAN(S):	WD
SUBJECT TYPE:	3 Year Old	CHILD IDENTIFICATION CODE:	069

Child Identification Code 069; 17.2 kg, 99.0 cm

BOOSTER SEAT NAME:	Graco
BOOSTER SEAT MODEL:	Platinum Cargo
DATE OF MANUFACTURE:	6-24-2008

Manufacturer's design seat back angle:	<u>7th notch, 1st as zero; Equals 11.1° on HRP</u>
Tested seat back angle:	<u>7th notch, 1st as zero; Equals 11.1° on HRP</u>
Manufacturer's specified anchorage position:	<u>0 of 4; Upper-most defined as 0</u>
Tested anchorage position:	<u>0 of 4; Upper-most defined as 0</u>

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Forward Facing Without Harness	Forward	10	Suppressed
	Middle	18	Suppressed
	Rearward	11	Suppressed
Belted Forward Facing Cinched With Harness	Forward	130	Suppressed
	Middle	128	Suppressed
	Rearward	129	Suppressed

Successful unbelted representative 5th percentile female reactivation was performed with the seat in the forward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 20H SUMMARY

Suppression Test Using 3 Year Old Human Subject and Convertible Restraints
(Part 572, Subpart P)
Section C Forward Facing Convertible CRS

NHTSA NO.:	CB5200	TEST DATE:	8/26/11
LABORATORY:	MGA	TECHNICIAN(S):	WD
SUBJECT TYPE:	3 Year Old	CHILD IDENTIFICATION CODE:	069

Child Identification Code 069; 17.2 kg, 99.0 cm

CHILD RESTRAINT NAME:	Britax
CHILD RESTRAINT MODEL:	Roundabout E9L02
DATE OF MANUFACTURE:	7-2-2008

Manufacturer's design seat back angle:	<u>7th notch, 1st as zero; Equals 11.1° on HRP</u>
Tested seat back angle:	<u>7th notch, 1st as zero; Equals 11.1° on HRP</u>
Manufacturer's specified anchorage position:	<u>0 of 4; Upper-most defined as 0</u>
Tested anchorage position:	<u>0 of 4; Upper-most defined as 0</u>

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	132	Suppressed
	Middle	130	Suppressed
	Rearward	130	Suppressed

Successful unbelted representative 5th percentile female reactivation was performed with the seat in the forward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 20H SUMMARY

Suppression Test Using 3 Year Old Human Subject and Convertible Restraints
(Part 572, Subpart P)
Section C Forward Facing Convertible CRS

NHTSA NO.:	CB5200	TEST DATE:	8/26/11
LABORATORY:	MGA	TECHNICIAN(S):	WD
SUBJECT TYPE:	3 Year Old	CHILD IDENTIFICATION CODE:	069

Child Identification Code 069; 17.2 kg, 99.0 cm

CHILD RESTRAINT NAME:	Cosco
CHILD RESTRAINT MODEL:	High Back Booster 22-209
DATE OF MANUFACTURE:	10-7-2008

Manufacturer's design seat back angle:	<u>7th notch, 1st as zero; Equals 11.1° on HRP</u>
Tested seat back angle:	<u>7th notch, 1st as zero; Equals 11.1° on HRP</u>
Manufacturer's specified anchorage position:	<u>0 of 4; Upper-most defined as 0</u>
Tested anchorage position:	<u>0 of 4; Upper-most defined as 0</u>

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Forward Facing Without Harness	Forward	15	Suppressed
	Middle	9	Suppressed
	Rearward	11	Suppressed
Belted Forward Facing Cinched With Harness	Forward	129	Suppressed
	Middle	131	Suppressed
	Rearward	127	Suppressed

Successful unbelted representative 5th percentile female reactivation was performed with the seat in the middle position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 20H SUMMARY

Suppression Test Using 3 Year Old Human Subject and Convertible Restraints
(Part 572, Subpart P)
Section C Forward Facing Convertible CRS

NHTSA NO.:	CB5200	TEST DATE:	8/26/11
LABORATORY:	MGA	TECHNICIAN(S):	WD
SUBJECT TYPE:	3 Year Old	CHILD IDENTIFICATION CODE:	069

Child Identification Code 069; 17.2 kg, 99.0 cm

CHILD RESTRAINT NAME:	Evenflo
CHILD RESTRAINT MODEL:	Generations 352
DATE OF MANUFACTURE:	10-5-2006

Manufacturer's design seat back angle:	<u>7th notch, 1st as zero; Equals 11.1° on HRP</u>
Tested seat back angle:	<u>7th notch, 1st as zero; Equals 11.1° on HRP</u>
Manufacturer's specified anchorage position:	<u>0 of 4; Upper-most defined as 0</u>
Tested anchorage position:	<u>0 of 4; Upper-most defined as 0</u>

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted Forward Facing Without Harness	Forward	12	Suppressed
	Middle	15	Suppressed
	Rearward	19	Suppressed
Belted Forward Facing Cinched With Harness	Forward	129	Suppressed
	Middle	130	Suppressed
	Rearward	127	Suppressed

Successful unbelted representative 5th percentile female reactivation was performed with the seat in the forward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 20H SUMMARY

Suppression Test Using 3 Year Old Human Subject and Convertible Restraints
(Part 572, Subpart P)
Section C Forward Facing Convertible CRS

NHTSA NO.:	CB5200	TEST DATE:	8/26/11
LABORATORY:	MGA	TECHNICIAN(S):	WD
SUBJECT TYPE:	3 Year Old	CHILD IDENTIFICATION CODE:	069

Child Identification Code 069; 17.2 kg, 99.0 cm

CHILD RESTRAINT NAME:	Graco
CHILD RESTRAINT MODEL:	ComfortSport
DATE OF MANUFACTURE:	6-15-2009

Manufacturer's design seat back angle:	<u>7th notch, 1st as zero; Equals 11.1° on HRP</u>
Tested seat back angle:	<u>7th notch, 1st as zero; Equals 11.1° on HRP</u>
Manufacturer's specified anchorage position:	<u>0 of 4; Upper-most defined as 0</u>
Tested anchorage position:	<u>0 of 4; Upper-most defined as 0</u>

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	132	Suppressed
	Middle	129	Suppressed
	Rearward	130	Suppressed

Successful unbelted representative 5th percentile female reactivation was performed with the seat in the rearward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 21H SUMMARY

Suppression Test Using an Unbelted 3 Year Old Human Subject
(Part 572, Subpart P)
No CRS

NHTSA NO.:	CB5200	TEST DATE:	8/26/11
LABORATORY:	MGA	TECHNICIAN(S):	WD
SUBJECT TYPE:	3 Year Old	CHILD IDENTIFICATION CODE:	069

Child Identification Code 069; 17.2 kg, 99.0 cm

Test Summary

Position	Seat Slide	Seat Back Angle **	Result
Position 1 Sitting on seat with back against seat back	Forward 6*	11.1° on HRP	Suppressed
	Middle	11.1° on HRP	Suppressed
	Rearward	11.1° on HRP	Suppressed
Position 2 Sitting on seat with back against reclined seat back	Forward 6*	35.6° on HRP	Suppressed
	Middle	35.6° on HRP	Suppressed
	Rearward	35.6° on HRP	Suppressed
Position 3 Sitting on seat with back not against seat back	Forward	11.1° on HRP	Suppressed
	Middle	11.1° on HRP	Suppressed
	Rearward	11.1° on HRP	Suppressed
Position 4 Sitting on seat edge, spine vertical, hands at subject's sides	Forward	11.1° on HRP	Suppressed
	Middle	11.1° on HRP	Suppressed
	Rearward	11.1° on HRP	Suppressed
Position 5 Standing on seat, facing forward	Forward	11.1° on HRP	Suppressed
	Middle	11.1° on HRP	Suppressed
	Rearward	11.1° on HRP	Suppressed
Position 6 Kneeling on seat, facing forward	Forward	11.1° on HRP	Suppressed
	Middle	11.1° on HRP	Suppressed
	Rearward	11.1° on HRP	Suppressed
Position 7 Kneeling on seat, facing rearward	Forward	11.1° on HRP	Suppressed
	Middle	11.1° on HRP	Suppressed
	Rearward	11.1° on HRP	Suppressed
Position 8 Lying on seat. (Three designated seating positions only)	Forward	N/A	N/A
	Middle	N/A	N/A
	Rearward	N/A	N/A

* The subject would not fit in this forward seat slide position. If there is a number in the seat slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 21 = Full Rearward; 21 total Seat Slide detents)

** The manufacturer's design seat back angle was 7th notch, 1st as zero; which equaled 11.1° on the head rest post (HRP). When the vehicle passenger seat was reclined 24.5° the seat back angle on the head rest post was 35.6°.

Successful unbelted representative 5th percentile female reactivation was performed with the seat in the rearward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 22H SUMMARY

Suppression Test Using 6 Year Old Human Subject and Booster Seats
(Part 572, Subpart N)
Section D Forward Facing Toddler

NHTSA NO.:	CB5200	TEST DATE:	8/26/11
LABORATORY:	MGA	TECHNICIAN(S):	WD
SUBJECT TYPE:	6 Year Old	CHILD IDENTIFICATION CODE:	056

(Child Identification Code 056; 25.6 kg, 123.8 cm)

CHILD RESTRAINT NAME:	Cosco
CHILD RESTRAINT MODEL:	Summit Deluxe High Back Booster 22-260
DATE OF MANUFACTURE:	8-9-2007

Manufacturer's design seat back angle:	<u>7th notch, 1st as zero; Equals 11.1° on HRP</u>
Tested seat back angle:	<u>7th notch, 1st as zero; Equals 11.1° on HRP</u>
Manufacturer's specified anchorage position:	<u>0 of 4; Upper-most defined as 0</u>
Tested anchorage position:	<u>0 of 4; Upper-most defined as 0</u>

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward 3*	15	Suppressed
	Middle	12	Suppressed
	Rearward	14	Suppressed

* The CRS would not fit in this forward seat slide position. If there is a number in the seat slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 21 = Full Rearward; 21 total Seat Slide detents)

Successful unbelted representative 5th percentile female reactivation was performed with the seat in the forward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 22H SUMMARY

Suppression Test Using 6 Year Old Human Subject and Booster Seats
(Part 572, Subpart N)
Section D Forward Facing Toddler

NHTSA NO.:	CB5200	TEST DATE:	8/26/11
LABORATORY:	MGA	TECHNICIAN(S):	WD
SUBJECT TYPE:	6 Year Old	CHILD IDENTIFICATION CODE:	056

(Child Identification Code 056; 25.6 kg, 123.8 cm)

CHILD RESTRAINT NAME:	Graco
CHILD RESTRAINT MODEL:	Platinum Cargo
DATE OF MANUFACTURE:	6-24-2008

Manufacturer's design seat back angle:	<u>7th notch, 1st as zero; Equals 11.1° on HRP</u>
Tested seat back angle:	<u>7th notch, 1st as zero; Equals 11.1° on HRP</u>
Manufacturer's specified anchorage position:	<u>0 of 4; Upper-most defined as 0</u>
Tested anchorage position:	<u>0 of 4; Upper-most defined as 0</u>

Test Summary

Seat Belt	Seat Slide	Cinch Load (N)	Result
Belted	Forward	18	Suppressed
	Middle	15	Suppressed
	Rearward	10	Suppressed

Successful unbelted representative 5th percentile female reactivation was performed with the seat in the forward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 23H SUMMARY

Suppression Test Using an Unbelted 6 Year Old Human Subject
(Part 572, Subpart N)
No CRS

NHTSA NO.:	CB5200	TEST DATE:	8/26/11
LABORATORY:	MGA	TECHNICIAN(S):	WD
SUBJECT TYPE:	6 Year Old	CHILD IDENTIFICATION CODE:	056

(Child Identification Code 056; 25.6 kg, 123.8 cm)

Test Summary

Position	Seat Slide	Seat Back Angle **	Result
Position 1 Sitting on seat with back against seat back	Forward	11.1° on HRP	Suppressed
	Middle	11.1° on HRP	Suppressed
	Rearward	11.1° on HRP	Suppressed
Position 2 Sitting on seat with back against reclined seat back	Forward	35.6° on HRP	Suppressed
	Middle	35.6° on HRP	Suppressed
	Rearward	35.6° on HRP	Suppressed
Position 3 Sitting on seat edge, spine vertical, hands at subject's sides	Forward	11.1° on HRP	Suppressed
	Middle	11.1° on HRP	Suppressed
	Rearward	11.1° on HRP	Suppressed
Position 4 Sitting on seat with back against seat back then leaning on the door	Forward	11.1° on HRP	Suppressed
	Middle	11.1° on HRP	Suppressed
	Rearward	11.1° on HRP	Suppressed

** The manufacturer's design seat back angle was 7th notch, 1st as zero; Equals 11.1° on HRP. When the vehicle passenger seat was reclined 24.5° the seat back angle on the head rest post was 35.6°.

Successful unbelted representative 5th percentile female reactivation was performed with the seat in the rearward position. (Human Identification Code 036; 49.4 kg 149.9 cm)

DATA SHEET 32

VEHICLE WEIGHT, FUEL TANK, AND ATTITUDE DATA

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 208 Compliance
 Test Technician: Tim Novak

NHTSA No.: CB5200
 Test Date: 9/22/11

IMPACT ANGLE:	0°			
BELTED DUMMIES (YES/NO):	Yes			
TEST SPEED:		32 to 40 kmph	X	0 to 48 kmph
DRIVER DUMMY:	X		5 th female	50 th male
PASSENGER DUMMY:	X		5 th female	50 th male

- | | | |
|----|-----|--|
| X | 1. | Fill the transmission with transmission fluid to the satisfactory range. |
| NA | 2. | Drain fuel from vehicle. Not Applicable |
| NA | 3. | Run the engine until fuel remaining in the fuel delivery system is used and the engine stops. Not Applicable |
| NA | 4. | Record the useable fuel tank capacity supplied by the COTR. Not Applicable |
| NA | | Useable Fuel Tank Capacity supplied by COTR: 0 liters (0 gallons) Not Applicable |
| NA | 5. | Record the fuel tank capacity supplied in the owner's manual. Not Applicable |
| NA | | Useable Fuel Tank Capacity in owner's manual: 0 liters (0 gallons) Not Applicable |
| NA | 6. | Using purple dyed Stoddard solvent having the physical and chemical properties of Type 1 solvent or cleaning fluid, Table 1, ASTM Standard D484-71, "Standard Specifications for Hydrocarbon Dry-cleaning Solvents," or gasoline, fill the fuel tank. Not Applicable |
| NA | | Amount Added: 0 liters (0 gallons) Not Applicable |
| X | 7. | Fill the coolant system to capacity. |
| X | 8. | Fill the engine with motor oil to the Max. mark on the dip stick. |
| X | 9. | Fill the brake reservoir with brake fluid to its normal level. |
| X | 10. | Fill the windshield washer reservoir to capacity. |
| X | 11. | Inflate the tires to the tire pressure on the tire placard. If no tire placard is available, inflate the tires to the recommended pressure in the owner's manual. |

Tire placard pressure:	RF:	36 psi	LF:	36 psi	RR:	36 psi	LR:	36 psi
Owner's manual pressure:	RF:	36 psi	LF:	36 psi	RR:	36 psi	LR:	36 psi
Actual inflated pressure:	RF:	36 psi	LF:	36 psi	RR:	36 psi	LR:	36 psi

- | | | |
|---|-----|--|
| X | 12. | Record the vehicle weight at each wheel to determine the unloaded vehicle weight (UVW), i.e. "as delivered" weight). |
|---|-----|--|

Right Front (kg):	430.5	Right Rear (kg):	328.9
Left Front (kg):	426.8	Left Rear (kg):	341.1
Total Front (kg):	857.3	Total Rear (kg):	670.0
% Total Weight:	56.1	% Total Weight:	43.9
UVW = TOTAL FRONT PLUS TOTAL REAR (KG):		1527.3	

- | | | |
|---|------|--|
| X | 13. | UVW Test Vehicle Attitude: (All dimensions in millimeters) |
| X | 13.1 | Mark a point on the vehicle above the center of each wheel. |
| X | 13.2 | Place the vehicle on a level surface. |
| X | 13.3 | Measure perpendicular to the level surface to the 4 points marked on the body and record the measurements. |

RF:	704	LF:	705	RR:	710	LR:	710
-----	-----	-----	-----	-----	-----	-----	-----

- ☒ 14. Calculate the Rated Cargo and Luggage Weight (RCLW): 50 kg
- ☒ 14.1 Does the vehicle have the vehicle capacity weight (VCW) on the certification label or tire placard?
- ☒ ☒ Yes, go to 14.3
- ☐ ☐ No, go to 14.2
- ☐ 14.2 VCW = Gross Vehicle Weight - UVW

$$VCW = \underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

- ☒ 14.3 VCW = 390 kg (860 lbs)
- ☒ 14.4 Does the certification or tire placard contain the Designated Seating Capacity (DSC)?
- ☒ Yes, go to 14.6
- ☐ No, go to 14.5 and skip 14.6
- ☐ 14.5 DSC = Total number of seat belt assemblies =
- ☒ 14.6 DSC = 5
- ☒ 14.7 RCLW = VCW - (68 kg x DSC) = 390 kg - (68 kg x 5) = 50 kg
- ☒ 14.8 Is the vehicle certified as a truck, MPV or bus (see the certification label on the door jamb)?
- ☐ Yes, if the calculated RCLW is greater than 136 kg, use 136 kg as the RCLW. (S8.1.1)
- ☒ No, use the RCLW calculated in 14.7

- ☒ 15. Fully Loaded Weight (100% fuel fill): 1675.1 kg
- ☒ 15.1 Place the appropriate test dummy in both front outboard seating positions.

Driver: X 5th female 50th male

Passenger: X 5th female 50th male

- ☒ 15.2 Load the vehicle with the RCLW from 14.7 or 14.8 whichever is applicable.
- ☒ 15.3 Place the RCLW in the cargo area. Center the load over the longitudinal centerline of the vehicle. (S8.1.1 (d))
- ☒ 15.4 Record the vehicle weight at each wheel to determine the Fully Loaded Weight.

Right Front (kg):	457.7	Right Rear (kg):	376.9
Left Front (kg):	454.5	Left Rear (kg):	386.0
Total Front (kg):	912.2	Total Rear (kg):	762.9
% Total Weight:	54.5	% Total Weight:	45.5
% GVW	51.0	% GVW	49.3
(% GVW = Axle GVW divided by Vehicle GVW)			
Fully Loaded Weight = Total Front Plus Total Rear (kg):			1675.1

- ☒ 16. Fully Loaded Test Vehicle Attitude: (All dimensions in millimeters)
- ☒ 16.1 Place the vehicle on a level surface.
- ☒ 16.2 Measure perpendicular to the level surface to the 4 points marked on the body (see 13.1 above) and record the measurements.

RF:	694	LF:	696	RR:	691	LR:	694
-----	-----	-----	-----	-----	-----	-----	-----

- ☐ 17. Drain the fuel system. Not Applicable

- ☒ 30. Summary of test attitude
☒ 30.1 AS DELIVERED:

RF: 704 LF: 705 RR: 710 LR: 710

AS TESTED:

RF: 694 LF: 696 RR: 698 LR: 698

FULLY LOADED:

RF: 694 LF: 696 RR: 691 LR: 694

- ☒ 30.2 Is the "as tested" test attitude equal to or between the "fully loaded" and "as delivered" attitude?

☒ Yes

☐ No, explain why not.

REMARKS:

Signature: *Jim Norack*

Date: 9/22/11

I certify that I have read and performed each instruction.

DATA SHEET 33

VEHICLE ACCELEROMETER LOCATION AND MEASUREMENT

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 208 Compliance
 Test Technician: Tim Novak

NHTSA No.: CB5200
 Test Date: 9/22/11

IMPACT ANGLE:	0°				
BELTED DUMMIES (YES/NO):	Yes				
TEST SPEED:		32 to 40 kmph	X	0 to 48 kmph	0 to 56 kmph
DRIVER DUMMY:	X		5 th female		50 th male
PASSENGER DUMMY:	X		5 th female		50 th male

- ☒ 1. Find the location where the vertical plane parallel to the longitudinal centerline of the vehicle and through the center of the left front outboard seating position intersects the left rear seat cross member. Install an accelerometer at this intersection on the rear seat cross member to record x-direction accelerations. Record the location on the following chart.
- ☒ 2. Find the location where the vertical plane parallel to the longitudinal centerline of the vehicle and through the center of the right front outboard seating position intersects the right rear seat cross member. Install an accelerometer at this intersection on the rear seat cross member to record x-direction accelerations. Record the location on the following chart.
- ☒ 3. Find the location where a vertical plane through the longitudinal centerline of the vehicle and a vertical transverse plane through the center of the two wheels on opposite sides of the engine intersect at the top of the engine. Install an accelerometer at this intersection to record x-direction accelerations. Record the location on the following chart.
- ☒ 4. Find the location where a vertical plane through the longitudinal centerline of the vehicle and a vertical transverse plane through the center of the two wheels on opposite sides of the engine intersect the bottom of the engine. Install an accelerometer at this intersection to record x-direction accelerations. Record the location on the following chart.
- ☒ 5. Install an accelerometer on the right front brake caliper to record x-direction accelerations. Record the location on the following chart.
- ☒ 6. Find the location where a vertical plane through the longitudinal centerline of the vehicle intersects the top of the instrument panel. Install an accelerometer at this intersection to record x-direction accelerations. Record the location on the following chart.
- ☒ 7. Install an accelerometer on the left front brake caliper to record x-direction accelerations. Record the location on the following chart.
- ☒ 8. Find the location where a vertical plane through the longitudinal centerline of the vehicle intersects the floor of the trunk. Install an accelerometer on the trunk floor at this intersection to record z-direction accelerations. Record the location on the following chart.

REMARKS:

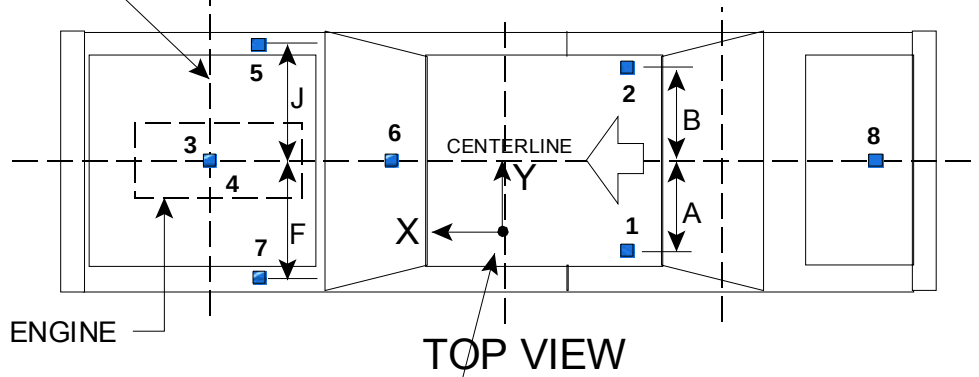
I certify that I have read and performed each instruction.

Signature: Tim Novak

Date: 9/22/11

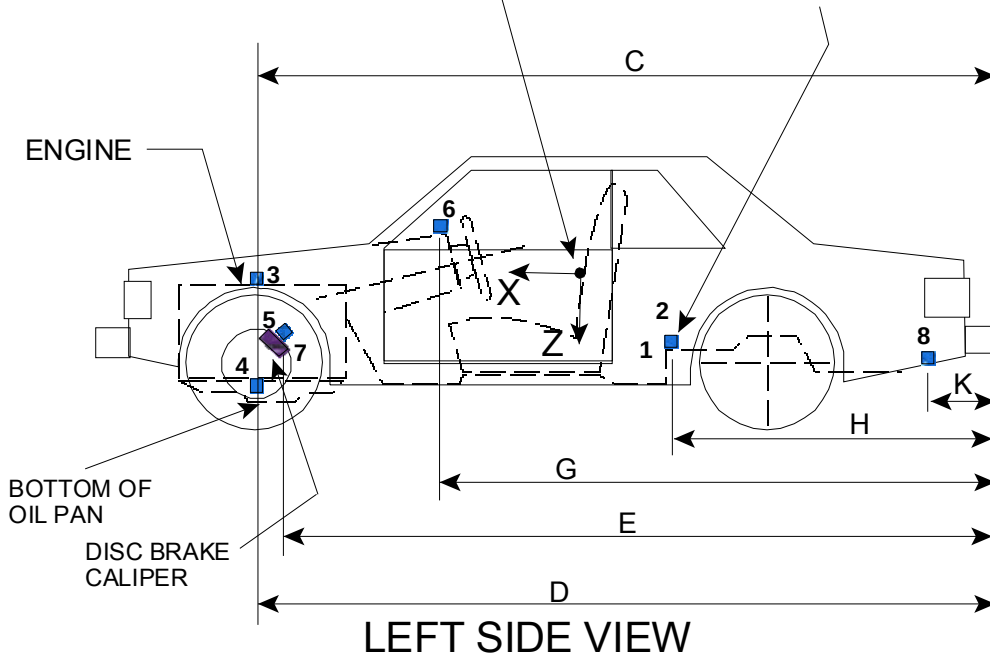
VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

CENTERLINE OF
FRONT WHEELS



ACCELEROMETER
COORDINATE SYSTEM
(POSITIVE DIRECTION SHOWN)

REAR SEAT CUSHION
ASSY. FRONT ATTACHMENT
BRACKET SUPPORT



Dimensions Corresponding To The Letters "A" Through "K" (Excluding "I") Are Recorded In The Table On The Following Page.

Accelerometers Corresponding To The Numbers 1 Through 8 Are Specified On The Preceding Page.

VEHICLE ACCELEROMETER LOCATION AND MEASUREMENTS

<u>DIMENSION</u>	<u>LENGTH (mm)</u>	
<u>PRETEST VALUES</u>		
<u>A</u> (LH Rear Seat Xmbr)	310	
<u>B</u> (RH Rear Seat Xmbr)	340	
<u>C</u> (Engine Top)	3627	
<u>D</u> (Engine Bottom)	3625	
<u>E</u> (Caliper)	Right Side: 3558	Left Side: 3558
<u>F</u> (Left Caliper)	687	
<u>G</u> (IP)	3146	
<u>H</u> (Seat)	1654	
<u>J</u> (Right Caliper)	687	
<u>K</u> (Trunk)	313	
<u>POST TEST VALUES</u>		
<u>A</u> (LH Rear Seat Xmbr)	310	
<u>B</u> (RH Rear Seat Xmbr)	340	
<u>C</u> (Engine Top)	3605	
<u>D</u> (Engine Bottom)	3593	
<u>E</u> (Caliper)	Right Side: 3556	Left Side: 3555
<u>F</u> (Left Caliper)	687	
<u>G</u> (IP)	3140	
<u>H</u> (Seat)	1646	
<u>J</u> (Right Caliper)	687	
<u>K</u> (Trunk)	311	

DATA SHEET 34 **PHOTOGRAPHIC TARGETS**

Test Vehicle: 2011 Nissan Leaf Electric
Test Program: FMVSS 208 Compliance
Test Technician: Tim Novak

NHTSA No.: CB5200
Test Date: 9/22/11

IMPACT ANGLE:	0°			
BELTED DUMMIES (YES/NO):	Yes			
TEST SPEED:		32 to 40 kmph	X	0 to 48 kmph
DRIVER DUMMY:	X		5 th female	50 th male
PASSENGER DUMMY:	X		5 th female	50 th male

- | | | |
|-------------------------------------|------|--|
| ☒ | 1. | FMVSS 208 vehicle targeting requirements (See Figures 28A and 28B) |
| ☒ | 1.1 | Targets A1 and A2 are on flat rectangular panels. |
| ☒ | 1.2 | Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted at the front on the outboard sides of A1 and A2. The center of each circular target is 100 mm from the one next to it. |
| ☒ | | Distance between targets (mm): <u>100 mm</u> |
| ☒ | 1.3 | Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted at the back on the outboard sides of on A1 and A2. The center of each circular target is 100 mm from the one next to it. |
| ☒ | | Distance between targets (mm): <u>100 mm</u> |
| ☒ | 1.4 | The distance between the first circular target at the front of A1 and A2 and the last circular target at the back of A1 and A2 is at least 915 mm. |
| ☒ | | Distance between the first and last circular targets (mm): <u>915 mm</u> |
| ☒ | 1.5 | Firmly fix target A1 on the vehicle roof in the vertical longitudinal plane that is coincident with the midsagittal plane of the driver dummy. |
| ☒ | 1.6 | Firmly fix target A2 on the vehicle roof in the vertical longitudinal plane that is coincident with the midsagittal plane of the passenger dummy. |
| ☒ | 1.7 | Two circular targets (C1 and C2) at least 90 mm in diameter and with black and yellow quadrants are mounted on the outside of the driver door. The centers of each circular target are at least 610 mm apart. |
| ☒ | | Distance between targets (mm): <u>610 mm</u> |
| ☒ | 1.8 | Two circular targets (C1 and C2) at least 90 mm in diameter and with black and yellow quadrants are mounted on the outside of the passenger door. The centers of each circular target are at least 610 mm apart. |
| ☒ | | Distance between targets (mm): <u>610 mm</u> |
| ☒ | 1.9 | Place tape with squares having alternating colors on the top portion of the steering wheel. |
| ☒ | 1.10 | Chalk the bottom portion of the steering wheel. |
| ☒ | 1.11 | Is this an offset test? |
| ☒ | | Yes, continue with this section |
| ☐ | | No, go to 2. |
| ☒ | 1.12 | Measure the width of the vehicle. |
| ☒ | | Vehicle width (mm): <u>1773 mm</u> |
| ☒ | 1.13 | Find the centerline of the vehicle. (½ of the vehicle width) |
| ☒ | 1.14 | Find the line parallel to the centerline of the vehicle and 0.1 x vehicle width from the centerline of the vehicle. |

☒	1.15	Apply 25 mm wide tape with alternating black and yellow squares parallel to and on each side of the line found in 1.14. The edge of each tape shall be 50 mm from the line found in 1.14. The tape shall extend from the bottom of the bumper to the front edge of the windshield. (Figure 28D)
☒	2.	Barrier Targeting
☒	2.1	Fix two stationary targets D1 and D2 to the barrier as shown in the Figure 28A. One target is in the vertical longitudinal plane that is coincident with the midsagittal plane of the driver dummy. The other is in the vertical longitudinal plane that is coincident with the midsagittal plane of the passenger dummy.
☒	2.2	Targets D1 and D2 are on a rectangular panel.
☒	2.3	Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted on the sides of the rectangular panel away from the longitudinal centerline of the vehicle. The center of each circular target is 100 mm from the one next to it.
☒		Distance between circular targets on D1 (mm): <u>100 mm</u>
☒		Distance between circular targets on D2 (mm): <u>100 mm</u>
☒	3.	FMVSS 208 Dummy Targeting Requirements
☒	3.1	Place a circular target with black and yellow quadrants on both sides of the driver dummy head as close as possible to the center of gravity of the head in the x and z direction (relative to the measuring directions of the accelerometers).
☒	3.2	Place a circular target with black and yellow quadrants on both sides of the passenger dummy head as close as possible to the center of gravity of the head in the x and z direction (relative to the measuring directions of the accelerometers).
☒	3.3	Place a circular target with black and yellow quadrants on the outboard shoulder of the driver dummy. Place the target as high up on the arm as possible at the intersection of the arm and shoulder. The sleeve of the shirt on the dummy may be cut to make the target visible, but do not remove any material.
☒	3.4	Place a circular target with black and yellow quadrants on the outboard shoulder of the passenger dummy. Place the target as high up on the arm as possible at the intersection of the arm and shoulder. The sleeve of the shirt on the dummy may be cut to make the target visible, but do not remove any material.
☒	4.	FMVSS 204 Targeting Requirements
☒	4.1	Is an FMVSS 204 indicant test ordered on the "COTR Vehicle Work Order?"
☐		Yes, continue with this form.
☒		No, this form is complete.
☐	4.2	Resection panel (Figure 28C)
☐	4.2.1	The panel deviates no more than 6 mm from perfect flatness when suspended vertically
☐	4.2.2	The 8 targets on the panel are circular targets at least 90 mm in diameter and with black and yellow quadrants.
☐	4.2.3	The center of each of the 4 outer targets are placed within 1 mm of the corners of a square measuring 914 mm on each side.
☐	4.2.4	Locate another square with 228 mm sides and with the center of this square coincident with the center of the 914 mm square.
☐	4.2.5	The center of the 4 inner targets are placed at the midpoints of each of the 228 mm sides.
☐	4.3	Place a circular target at least 90 mm in diameter and with black and yellow quadrants on a material (cardboard, metal, etc.) that can be taped to the top of the steering column.



- 4.4 Tape the target from 4.3 to the top of the steering column in a manner that does not interfere with the movement of the steering column in a crash.

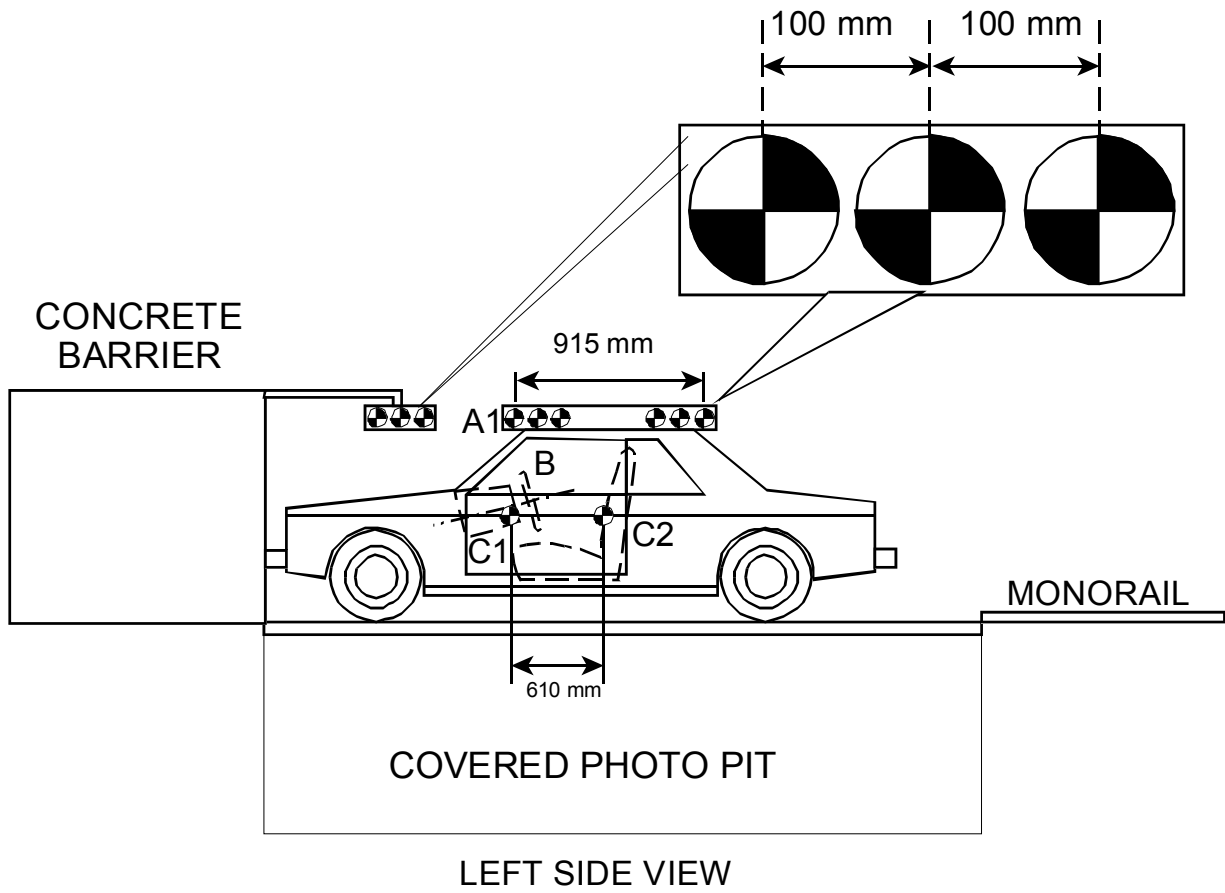
REMARKS:

Signature: *Jim Norak*

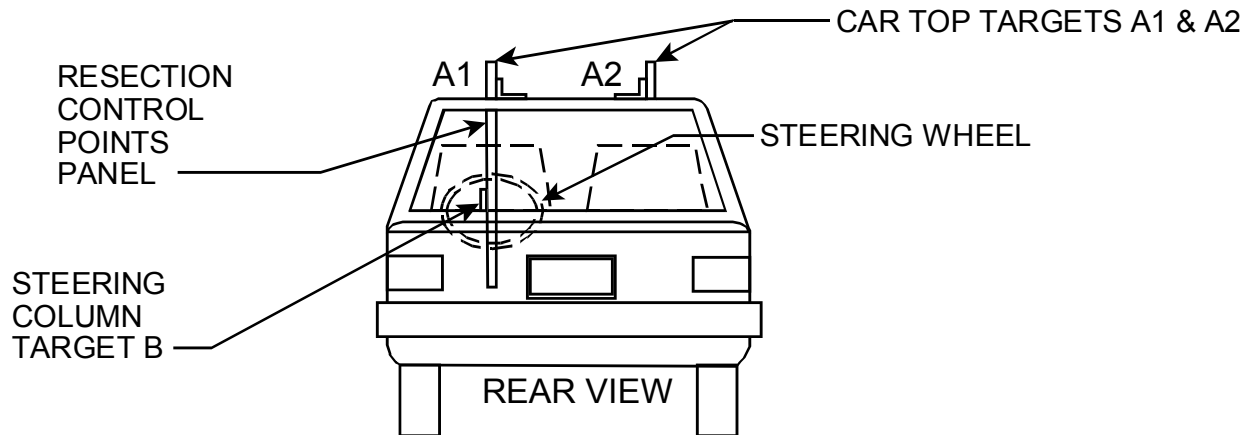
Date: 9/22/11

I certify that I have read and performed each instruction.

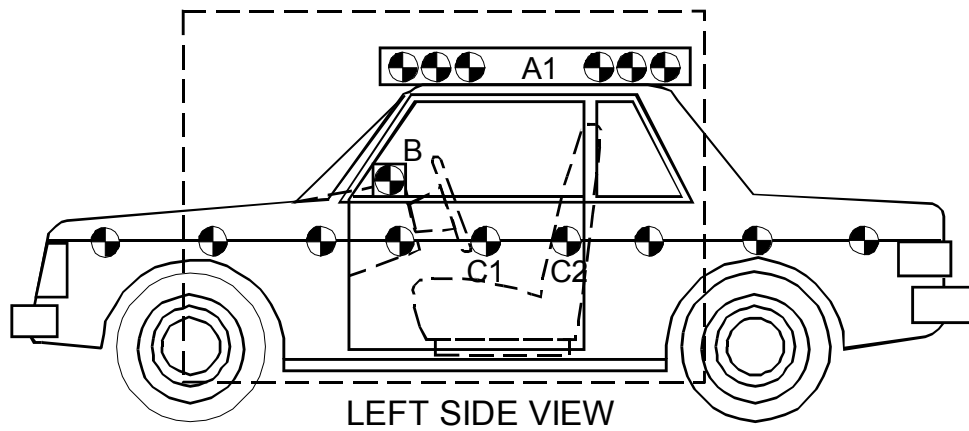
REFERENCE PHOTO TARGETS



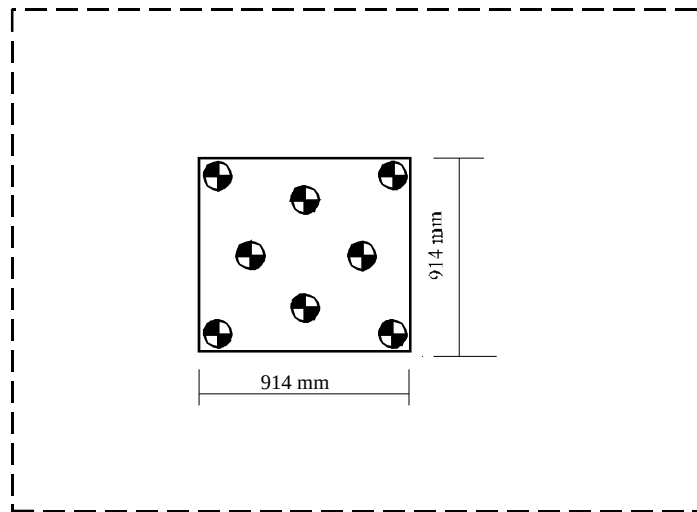
RESECTION PANEL TARGETING ALIGNMENT



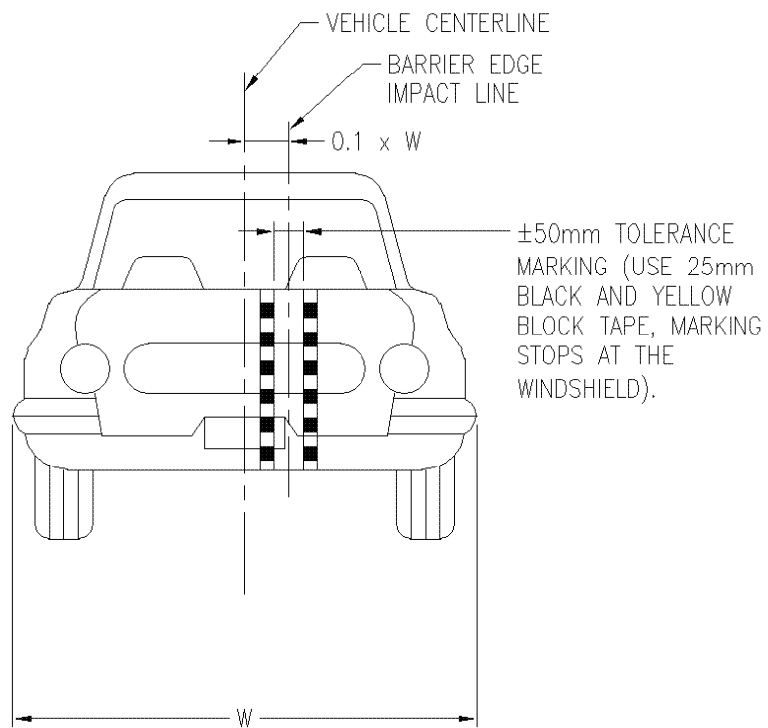
TEST RUN STEERING COLUMN CAMERA VIEW OF TYPICAL TIME ZERO VEHICLE POSITION



PRE-RUN STEERING COLUMN HIGH SPEED CAMERA VIEW



LEFT SIDE VIEW



OFFSET DEFORMABLE BARRIER ADDITIONAL VEHICLE TARGETING

DATA SHEET 35
CAMERA LOCATIONS

Test Vehicle: 2011 Nissan Leaf Electric
Test Program: FMVSS 208 Compliance

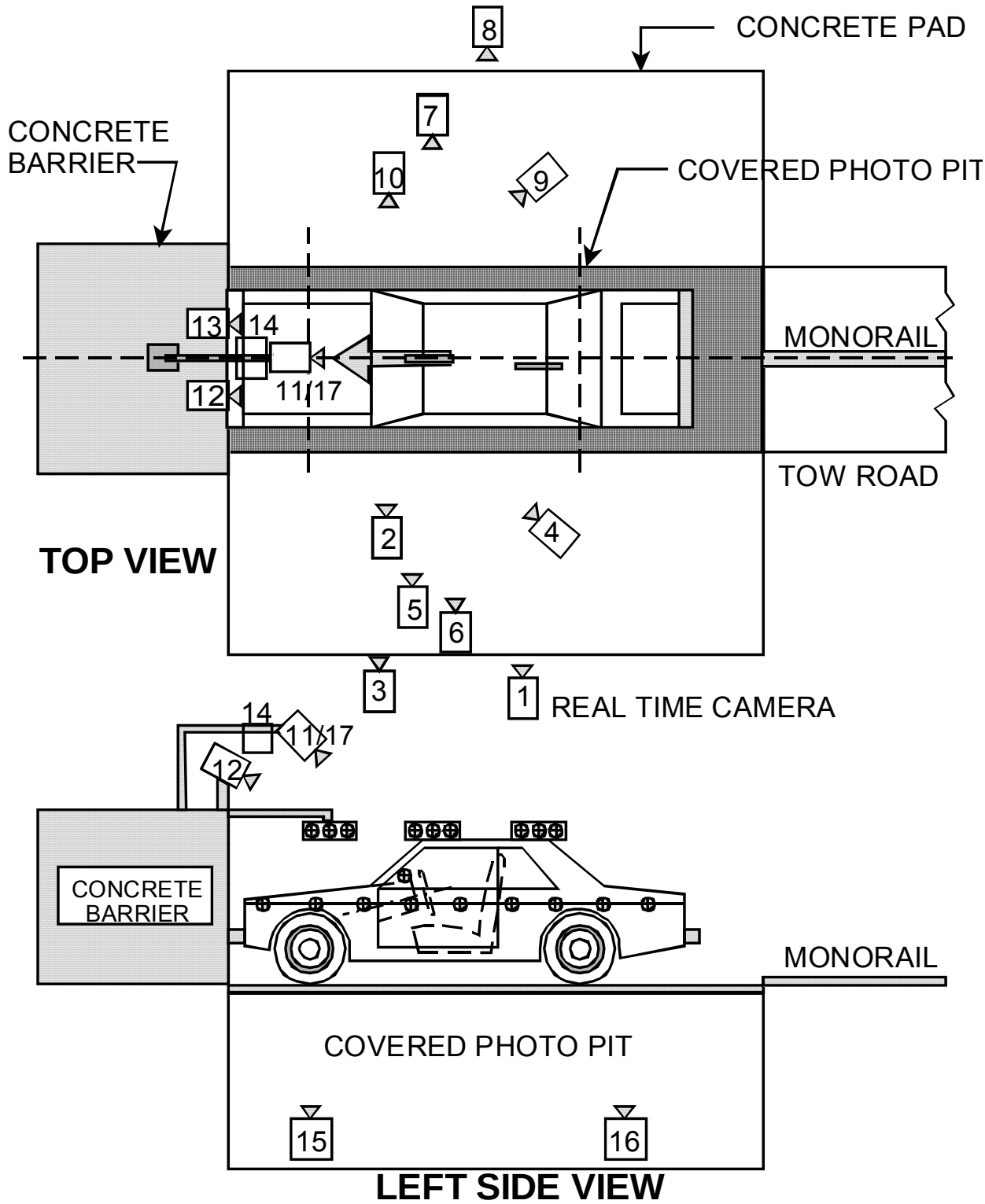
NHTSA No.: CB5200
Test Date: 9/22/11
Time: 10:58 am

CAMERA NO.	VIEW	CAMERA POSITIONS (mm) *			LENS (mm)	SPEED (fps)
		X	Y	Z		
1	Real Time Left Side View				13	24
2	Left Side View (Barrier face to front seat backs)	900	-5700	1060	24	1000
3	Left Side View (Driver)	1180	-6690	1810	35	1000
4	Left Side View (B-post aimed toward center of steering wheel)	4670	-4890	1970	50	1000
5	Left Side View (Steering Column)	480	-6040	1240	24	1000
6	Left Side View (Steering Column)	430	-6020	850	24	1000
7	Right Side View (Overall)	1920	6520	1050	20	1000
8	Right Side View (Passenger)	810	6230	1070	24	1000
9	Right Side View (Angle)	4760	4920	1950	50	1000
10	Right Side View (Front door)	1120	6890	1820	35	1000
11	Front View Windshield	-2050	0	2860	24	1000
12	Front View Driver	-1720	-430	2170	12.5	1000
13	Front View Passenger	-1720	430	2170	12.5	1000
14	Overhead Barrier Impact View	1470	0	5050	14	1000
15	Pit Camera Engine View	590	0	-3130	24	1000
16	Pit Camera Fuel Tank View	2490	0	-3140	24	1000
17	Overhead Barrier Impact View Close Up	60	120	4870	50	1000

***COORDINATES:**

- +X - forward of impact plane
- +Y - right of monorail centerline
- +Z - above ground level

CAMERA POSITIONS FOR FMVSS 208



DATA SHEET 36 - APPENDIX G
DUMMY POSITIONING PROCEDURES
FOR 5th PERCENTILE FEMALE DRIVER TEST DUMMY
CONFORMING TO SUBPART O OF PART 572

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 208 Compliance
 Test Technician: Tim Bratz

NHTSA No.: CB5200
 Test Date: 9/22/11

IMPACT ANGLE:	0°			
BELTED DUMMIES (YES/NO):	Yes			
TEST SPEED:		32 to 40 kmph	X	0 to 48 kmph
DRIVER DUMMY:	X		5 th female	50 th male
PASSENGER DUMMY:	X		5 th female	50 th male

Seating Procedure 5th Percentile Female Driver Dummy (Part 572, Subpart O) (S16.2-S16.3)

1. Seat Position

X 1.1 Position the seat's adjustable lumbar supports so that the lumbar supports are in the lowest, retracted or deflated adjustment positions. (S16.2.10.1, S20.1.9.1, S20.4.1, S22.1.7.1)

X N/A – No lumbar adjustment

X 1.2 Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2, S20.1.9.2, S20.4.1, S22.1.7.1, S22.4.2.1, S22.4.3.1, S24.4.2.1, S26.2.3, S26.3.1)

X N/A – No additional support adjustment

X 1.3 Position an adjustable leg support system in its rearmost position. (8/27/04 interpretation to Toyota)

X N/A – No adjustable leg support system

X 1.4 **Mark** a point (seat cushion reference point) on the side of the seat cushion that is between 150 mm and 250 mm from the front edge of the seat cushion. (S16.3.1.12)

X 1.5 Draw a line (seat cushion reference line) through the seat cushion reference point. (S16.3.1.13)

X 1.6 Use only the controls that primarily move the seat in the fore-aft direction to move the seat cushion reference point to the rearmost position. (S16.2.10.3.1, S22.1.7.3)

X 1.7 If the seat cushion adjusts fore-aft, independent of the seat back, use only the controls that primarily move the seat cushion in the fore-aft direction to move the seat cushion reference point to the rearmost position. (S16.2.10.3.1, S20.1.9.3)

X N/A – No independent fore-aft seat cushion adjustment

X 1.8 Use any part of any control, other than the parts just used for fore-aft positioning, to determine the range of angles of the seat cushion reference line and to set the seat cushion reference line at the mid-angle. (S16.2.10.3.1)

Maximum angle: 5.0° Nose Up

Minimum angle: 0.0° Nose Down

Mid-angle: 2.5° Nose Up

- ☒ 1.9 If the seat and/or seat cushion height is adjustable, use any part of any control other than the parts which primarily move the seat or seat cushion fore-aft, to put the seat cushion reference point in its lowest position with the seat cushion reference line angle at the mid-angle found in 1.8. (S16.2.10.3.1)
☒ N/A – No seat height adjustment
- ☒ 1.10 Use only the controls that primarily move the seat in the fore-aft direction to verify the seat is in the rearmost position.
- ☒ 1.11 Use only the controls that primarily move the seat in the fore-aft direction to **mark** the fore-aft seat positions. **Mark** each position so that there is a visual indication when the seat is at a particular position. For manual seats, move the seat forward one detent at a time and **mark** each detent. For power seats, **mark** only the rearmost, middle, and foremost positions. Label three of the positions with the following: F for foremost, M for mid-position (if there is no mid-position, label the closest adjustment position to the rear of the mid-point), and R for rearmost.
- ☒ 1.12 Use only the controls that primarily move the seat in the fore-aft direction to place the seat in the rearmost position.
- ☒ 1.13 Use any part of any control, other than the parts which primarily move the seat or seat cushion fore-aft, to find and visually **mark** the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.8. (S20.1.9.4, S22.1.2, S22.1.7.4, S22.3.1, S22.4.3.1, S24.1.2, S24.3.1, S24.4.3.1, S26.2.3, S26.3.1)
☒ N/A – No seat height adjustment. Go to 1.18
- ☐ 1.14 Use only the controls that primarily move the seat and/or seat cushion in the fore-aft direction to place the seat in the mid-fore-aft position.
- ☐ 1.15 Use any part of any control, other than the parts which primarily move the seat or seat cushion fore-aft, to find and visually **mark** the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.8. (S20.1.9.4, S22.1.2, S22.1.7.4, S22.3.1, S24.1.2, S24.3.1)
- ☐ 1.16 Use only the control that change the seat in the fore-aft direction to place the seat in the foremost position. (S16.2.10.3.2)
- ☐ 1.17 Use any part of any control, other than the parts which primarily move the seat or seat cushion fore-aft, to find and visually **mark** the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.8. (S16.2.10.3.3, S20.1.9.4, S22.1.2, S22.1.7.4, S22.3.1, S24.1.2, S24.3.1)
- ☒ 1.18. Is the seat a bucket seat?
☒ Yes, go to 1.19 and skip 1.20
☐ No, go to 1.20 and skip 1.19
- ☒ 1.19 Bucket seats:
Locate and **mark** for future reference the longitudinal centerline of the seat cushion. The intersection of the vertical longitudinal plane that passes through the SgRP and the seat cushion upper surface determines the longitudinal centerline of a bucket seat cushion. (S16.3.1.10 & S20.1.10)

- ☐ 1.20 Bench seats (complete ONLY the one that is applicable to the seat being marked):
Locate and **mark** for future reference the longitudinal line on the seat cushion that marks the intersection of the vertical longitudinal plane through the centerline of the steering wheel and the seat cushion upper surface.

2. Head Restraint Position

- ☐ N/A Vehicle contains automatic head restraints.
☐ N/A, there is no head restraint adjustment Go to 3
- ☒ 2.1 Adjust the head restraint to its lowest position. (S16.2.10.2, S20.1.9.6, S20.4.1, S22.1.7.6, S22.4.2.1, S22.4.3.1, S24.4.3.1, S26.2.3, S26.3.1)
- ☒ 2.2 All adjustments of the head restraint shall be used to position it full forward. For example, if it rotates, rotate it such that the head restraint extends as far forward as possible.
Mark the foremost position. (S16.2.10.2 & S16.3.4.4 & S20.1.9.6, S20.4.1, S22.4.2.1, S22.4.3.1, S24.4.3.1, S26.2.3, S26.3.1)
- ☒ 2.3 Measure the vertical distance from the top most point of the head restraint to the bottom most point. Locate and **mark** a horizontal plane through the midpoint of this distance. (S16.3.4.3)
Vertical height of head restraint: 250 mm
Mid-point height: 125 mm
- ☒ 3. Is the **steering wheel** adjustable up and down and/or in and out?
☒ Yes – go to 3.1
☐ No – Go to 4
- ☒ 3.1. Find and **mark** for future reference each up and down position. Label three of the positions with the following: H for highest, M for mid-position (if there is no mid-position, label the next lowest adjustment position), and L for lowest.
☐ N/A – steering wheel is not adjustable up and down
- ☒ 3.2. Find and **mark** for future references each in and out position. Label three of the Positions with the following: F for foremost, M for mid-position (if there is no mid-position, label the next rearmost adjustment position), and R for rearmost.
☒ N/A – steering wheel is not adjustable in and out.
- ☒ 3.3. Use the markings to position the steering controls in the mid-position or if applicable next lowest detent position. (S16.2.9)
- ☒ 4. Place the SCRP in the full rearward, mid-height position, and mid-seat cushion angle, determined in Item 1. (S16.3.2.1.1)
- ☒ 5. If the vehicle has an adjustable accelerator pedal, place it in the full forward position. (S16.3.2.2.1)
☒ N/A accelerator pedal not adjustable
- ☒ 6. Fully recline the seat back. (S16.3.2.1.2)
☐ N/A seat back not adjustable.
- ☒ 7. Place the dummy in the seat with the legs at an angle of 120 degrees to the thighs. The calves should not be touching the seat cushion. (S16.3.2.1.2)
- ☒ 8. Position the dummy in the seat such that the midsagittal plane is coincident with the longitudinal seat cushion markings as determined in Item 1.19 or 1.20. (S16.3.2.1.3 and S16.3.2.1.4)

- ☒ 9. Hold down the dummy's thighs and push rearward on the upper torso to maximize the pelvic angle. (S16.3.2.1.5)
- ☒ 10. Set the angle between the legs and the thighs to 120 degrees. (S16.3.2.1.6)
- ☒ 11. Set the transverse distance between the centers of the front of the knees at 160 to 170 mm. (6.3 to 6.7 inches) Center the knee separation with respect to the longitudinal seat cushion marking as determined in Item 1.19 or 1.20. (S16.3.2.1.6)
Record Knee Separation: 165 mm
- ☒ 12. Push rearward on the dummy's knees until the pelvis contacts the seat back, or the backs of the calves contact the seat cushion, whichever occurs first. (S16.3.2.1.6)
☐ Pelvis contacted seat back.
☒ Calves contacted seat cushion.
- ☒ 13. Gently rock the upper torso ± 5 degrees (approximately 51 mm (2 inches)) side-to-side three time. (S16.3.2.1.7)
- ☒ 14. If needed, extend the legs until the feet do not contact the floor pan. The thighs should be resting on the seat cushion. (S16.3.2.1.8)
- ☒ 15. Position the right foot until the foot is in line with a longitudinal vertical plane passing through the center of the accelerator pedal. Maintain the leg and thigh in a vertical plane. (S16.3.2.1.8)
- ☒ 16. Rotate the left leg and thigh laterally to equalize the distance between each knee and the longitudinal seat cushion marking as determined in Item 1.19 or 1.20. (S16.3.2.1.8)
- ☒ 17. Attempt to return the seat to the foremost fore-aft position, mid-height, and seat cushion mid-angle as determined in Item 1. The foot may contact and depress the accelerator and/or change the angle of the foot with respect to the leg. (S16.3.2.1.8)
☒ Foremost position achieved. Proceed to step 22.
☐ Foremost not achieved because of foot interference. Proceed to step 19.
☐ Foremost not achieved because of steering wheel contact.
- ☐ 18. If either of the dummy's legs contact the steering wheel, move the steering wheel up the minimum amount required to avoid contact. If the steering wheel is not adjustable separate the knees the minimum required to avoid contact. (S16.3.2.1.8)
☐ N/A- there was no leg contact
☐ Steering wheel repositioned
☐ Knees separated
- ☐ 19. If the left foot interferes with the clutch or brake pedals, rotate the left foot about the leg to provide clearance. If this is not sufficient, rotate the thigh outboard at the hip the minimum amount required for clearance. (S16.3.2.1.8)
☐ N/A, No foot interference with pedals.
☐ Foot adjusted to provide clearance.
☐ Foot and Thigh adjusted to provide clearance.

- ☐ 20. Continue to move the seat. Use seat controls to line up the seat markings determined during item 1 to set the foremost fore-aft position, mid-height position and the seat cushion mid-angle. If the dummy contacts the interior move the seat rearward until a maximum clearance of 5 mm (0.2 inches) is achieved or the seat is in the closest detent position that does not cause dummy contact. (S16.3.2.1.8)
- ☐ Foremost, mid-height position and the seat cushion mid-angle reached
- ☐ Dummy Contact. Clearance set at maximum of 5 mm
Measured Clearance: _____
- ☐ Dummy Contact. Seat set at nearest detent position.
Seat position _____ detent positions rearward of foremost
(foremost is position zero)
- ☐ 21. If the steering wheel was repositioned in step 18, return the steering wheel to the original position. If the steering wheel contacts the dummy before reaching the original position, position the wheel until a maximum clearance of 5 mm (.2 inches) is achieved, or the steering wheel is in the closest detent position that does not cause dummy contact. (S16.3.2.1.8)
- ☐ N/A Steering wheel was not repositioned.
- ☐ Original position achieved.
- ☐ Dummy Contact. Clearance set at maximum of 5 mm
Measured Clearance: _____
- ☐ Dummy Contact. Steering wheel set at nearest detent position.
Steering wheel position _____ detent positions upward of original position.
(Original position is position zero)
- ☒ 22. If the seat back is adjustable, rotate the seat back forward while holding the thighs in place. Continue rotating the seat back forward until the transverse instrument platform of the dummy head is level ± 0.5 degrees. If the head cannot be leveled using the seat back adjustment, or the seat back is not adjustable, use the lower neck bracket adjustment to level the head. If a level position cannot be achieved, minimize the angle. (S16.3.2.1.9)
- ☒ Head Level Achieved. (Check all that apply)
- ☒ Head leveled using the adjustable seat back
- ☐ Head leveled using the neck bracket.
Head Angle: 0.3 degrees
- ☐ Head Level NOT Achieved. (Check all that apply)
- ☐ Head adjusted using the adjustable seat back
- ☐ Head adjusted using the neck bracket.
Head Angle: _____ degrees
- ☒ 23. Verify the pelvis is not interfering with the seat bight. (S16.3.2.1.9)
- ☒ No interference
- ☐ Pelvis moved forward the minimum amount so that it is not caught in the seat bight.
- ☒ 24. Verify the dummy abdomen is properly installed. (S16.3.2.1.9)
- ☒ Abdomen still seated properly into dummy
- ☐ Abdomen was adjusted because it was not seated properly into dummy

X 25. Head Angle

X N/A, neither the pelvis nor the abdomen were adjusted.

X 25.1 Head still level (Go to 26)

 25.2 Head level adjusted

 Head Level Achieved. (Check all that apply)

 Head leveled using the adjustable seat back

 Head leveled using the neck bracket.

Head Angle: _____ degrees

 Head Level NOT Achieved. (Check all that apply)

 Head level adjusted using the adjustable seat back

 Head level adjusted using the neck bracket.

Head Angle: _____ degrees

X 26. If the dummy torso contacts the steering wheel while performing step 22, reposition the steering wheel in the following order to eliminate contact. (S16.3.2.1.9)

X N/A, No dummy torso contact with the steering wheel.

 26.1 Adjust telescoping mechanism.

 N/A No telescoping adjustment.

 Adjustment performed (fill in appropriate change)

Steering wheel moved _____ detent positions in the forward direction.

Steering wheel moved _____ mm in the forward direction.

 26.2 Adjust tilt mechanism.

 N/A No tilt adjustment.

 No adjustment performed.

 Adjustment performed. (circle one)

Steering wheel moved _____ detent positions Upward/Downward.

Steering wheel moved _____ degrees Upward/Downward

 26.3 Adjust Seat in the aft direction.

 No Adjustment performed.

 Seat moved aft _____ mm from original position.

 Seat moved aft _____ detent positions from the original position.

X 27. Measure and set the pelvic angle using the pelvic angle gage TE-2504. The pelvic angle should be 20.0 degrees $\pm$ 2.5 degrees. If the pelvic angle cannot be set to the specified range because the head will not be level or because the dummy will have need major repositioning, adjust the pelvis as closely as possible to the angle range, but keep the head level. (S16.3.2.1.11)

X Pelvic angle set to 20.0 degrees $\pm$ 2.5 degrees.

 Pelvic angle of 20.0 degrees not achieved, the angular difference was minimized.

X Record the pelvic angle: 20.7 degrees

X 28. Check the dummy for contact with the interior after completing adjustments. (S16.3.2.1.12)

X No contact.

 Dummy in contact with interior.

 Seat moved aft _____ mm from the previous position.

 Seat moved aft _____ detent positions from the previous position.

- ☒ 29. Check the dummy to see if additional interior clearance is obtained, allowing the seat to be moved forward. (S16.3.2.1.12)
☒ N/A, Seat already at foremost position.
☐ Clearance unchanged. No adjustments required.
☐ Additional clearance available
☐ Seat moved Forward mm from the previous position.
☐ Seat moved Forward detent positions from the previous position.
- ☒ 30. Driver's foot positioning, right foot. Place the foot perpendicular to the leg and determine if the heel contacts the floor pan at any leg position. If the heel contacts the floor pan proceed to step 31 otherwise, proceed to step 32. (S16.3.2.2.1)
- ☒ 31. Perform the following steps until either all steps are completed, or the foot contacts the accelerator pedal. Step 31.6 shall be completed in all cases. (S16.3.2.2.1 (a))
- ☒ 31.1 With the rear of the heel contacting the floor pan, move the foot forward until pedal contact occurs or the foot is at the full forward position.
- ☐ 31.2 If the vehicle has an adjustable accelerator pedal, move the pedals rearward until pedal contact occurs or the pedals reach the full rearward position.
- ☐ 31.3 Extend the leg, allowing the heel to lose contact with the floor until the foot contacts the pedal. Do not raise the toe of the foot higher than the top of the accelerator pedal. If the foot does not contact the pedal, proceed to the next step. If pedal contact does occur, place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward. (S16.3.2.2.3)
- ☐ 31.4 Angle the foot to achieve contact between the foot and the pedal. If the foot does not contact the pedal, return the foot to the perpendicular orientation. If pedal contact does occur, place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward. (S16.3.2.2.3)
- ☐ 31.5 Align the centerline of the foot with the vertical-longitudinal plane passing through the center of the accelerator pedal. Place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward. (S16.3.2.2.3)
- ☒ 31.6 Record foot position
☒ Pedal Contact achieved. Contact occurred at step 31.1.
☒ Heel contacts floor pan
☐ Heel set mm from floor pan.
☐ Pedal Contact not achieved. Heel set mm from the floor pan.

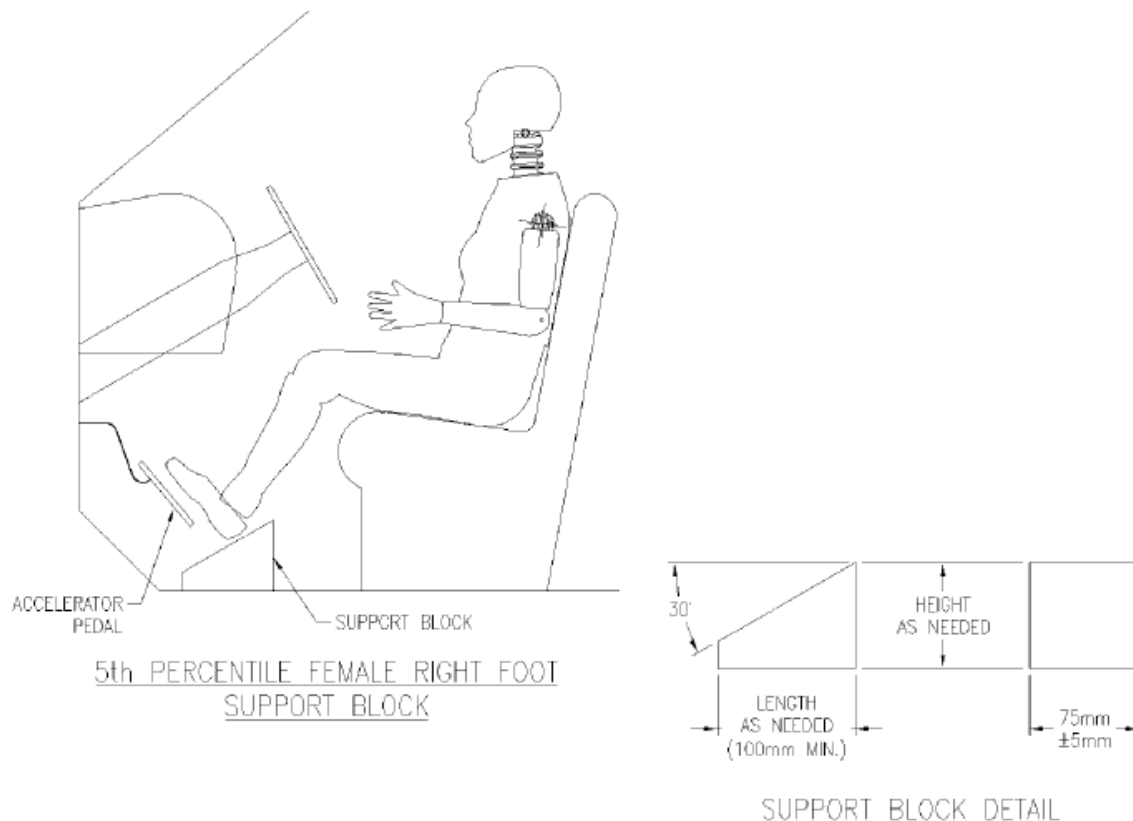


FIGURE G1

- ___32. Perform the following steps until either all steps are completed, or the foot contacts the accelerator pedal. Step 32.5 shall be completed in all cases.
- ___32.1 Extend the leg until the foot contacts the pedal. Do not raise the toe of the foot higher than the top of the accelerator pedal. If the foot does not contact the pedal, proceed to the next step. If pedal contact does occur, place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward. (S16.3.2.2.1 (b) & S16.3.2.2.3)
- ___32.2 If the vehicle has an adjustable accelerator pedal, move the pedals rearward until pedal contact occurs or the pedals reach the full rearward position. If pedal contact does occur, place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward. (S16.3.2.2.1 (b) & S16.3.2.2.3)
- ___N/A No pedal adjustment
- ___32.3 Angle the foot to achieve contact between the foot and the pedal. If the foot does not contact the pedal, return the foot to the perpendicular orientation. If pedal contact does occur, place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward. (S16.3.2.2.2 & S16.3.2.2.3)
- ___32.4 Align the centerline of the foot in the same horizontal plane as the centerline of the accelerator pedal. Place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward. (S16.3.2.2.3)
- ___32.5 Record foot position
- ___Pedal Contact achieved. Contact occurred at step _____.
 ___Heel set _____ mm from floor pan.
- ___Pedal Contact not achieved. Heel set _____ mm from the floor pan.

X 33. Driver's foot positioning, left foot.

X 33.1 Place the foot perpendicular to the leg and determine if the heel contacts the floor pan at any leg position. If the heel contacts the floor pan proceed to step 33.2, otherwise position the leg as perpendicular to the thigh as possible with the foot parallel to the floor pan. (S16.2.2.6)

X 33.2 Place the foot on the toe board with the heel resting on the floor pan as close to the intersection of the floor pan and the toe board as possible. Adjust the angle of the foot if necessary to contact the toe board. If the foot will not contact the toe board, set the foot perpendicular to the leg, and set the heel on the floor pan as far forward as possible. Avoid contact with the brake pedal, clutch pedal, wheel well projection, and footrest. To avoid this contact use the following three manipulations in the order listed, with each subsequent option incorporating the previous, until contact is avoided: rotate the foot about the lower leg (abduction/adduction), plantar flex the foot, rotate the leg outboard about the hip. Movement should be the minimum amount necessary. If it is not possible to avoid all foot contact, give priority to avoiding brake or clutch pedal contact. (S16.2.2.4 & S16.2.2.5 & S16.2.2.7)

X No contact

 Foot rotated about the leg (abduction/adduction)

 Foot rotated about the leg, and foot plantar flexed

 Foot rotated about the leg, foot plantar flexed, and the leg rotated about the hip.

X 33.3 Record foot position.

 Heel does not contact floor pan.

 Heel on floor pan and foot on toe board.

X Heel on floor pan and foot not on toe board.

X 34. Driver arm/hand positioning.

X 34.1 Place the dummy's upper arms adjacent to the torso with the arm centerlines as close to a vertical longitudinal plane as possible. (S16.3.2.3.1)

X 34.2 Place the palms of the dummy in contact with the outer part of the steering wheel rim at its horizontal centerline with the thumbs over the steering wheel rim. (S16.3.2.3.2)

X 34.3 If it is not possible to position the thumbs inside the steering wheel rim at its horizontal centerline, then position them above and as close to the horizontal centerline of the steering wheel rim as possible. (S16.3.2.3.3)

X 34.4 Lightly tape the hands to the steering wheel rim so that if the hand of the test dummy is pushed upward by a force of not less than 9 N (2 lb) and not more than 22 N (5 lb), the tape releases the hand from the steering wheel rim. S16.3.2.3.4

X 35. Adjustable head restraints

 N/A, there is no head restraint adjustment

 35.1 If the head restraint has an automatic adjustment, leave it where the system positions the restraint after the dummy is placed in the seat. (S16.3.4.1) Go to 36.

X 35.2 Adjust each head restraint vertically so that the mid-horizontal plane determined in Item 2 is aligned with the center of gravity (CG) of the dummy head. (S16.3.4.3)

☒ 35.3 If the above position is not attainable, move the vertical center of the head restraint to the closest detent below the center of the head CG. (S16.3.4.3)

☐ N/A midpoint position attained in previous step

☒ Headrest set at nearest detent below the head CG

☐ 35.4 If the head restraint has a fore and aft adjustment, place the restraint in the foremost position or until contact with the head is made, whichever occurs first. (S16.3.4.4)

☒ 36. Driver and passenger manual belt adjustment (for tests conducted with a belted dummy). (S16.3.5)

☐ N/A Dummies are unbelted for this test.

☒ 36.1 If an adjustable seat belt D-ring anchorage exists, place it in the manufacturer's design position for a 5th percentile adult female. (S16.3.5.1) **This information will be supplied by the COTR.**

Manufacturer's specified position: 0 of 4; Upper-most as zero

Actual Position: 0 of 4; Upper-most as zero

☒ 36.2 Place the Type 2 manual belt around the test dummy and fasten the latch. (S16.3.5.2)

☒ 36.3 Ensure that the dummy's head remains as level as possible. (S16.3.5.3)

☒ 36.4 Remove all slack from the lap belt. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this operation four times. Apply a 9 N (2 lbf) to 18 N (4 lbf) tension load to the lap belt. If the belt system is equipped with a tension-relieving device, introduce the maximum amount of slack into the upper torso belt that is recommended by the manufacturer. If the belt system is not equipped with a tension-relieving device, allow the excess webbing in the shoulder belt to be retracted by the retractive force of the retractor. (S16.3.5.4)

I certify that I have read and performed each instruction.

Signature: 

Date: 9/22/11

DATA SHEET 36 - APPENDIX G
DUMMY POSITIONING PROCEDURES
FOR 5th PERCENTILE FEMALE PASSENGER TEST DUMMY
CONFORMING TO SUBPART O OF PART 572

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 208 Compliance
 Test Technician: Joe Fleck

NHTSA No.: CB5200
 Test Date: 9/22/11

IMPACT ANGLE:	0°				
BELTED DUMMIES (YES/NO):	Yes				
TEST SPEED:		32 to 40 kmph	X	0 to 48 kmph	0 to 56 kmph
DRIVER DUMMY:	X		5 th female		50 th male
PASSENGER DUMMY:	X		5 th female		50 th male

(Check this item ONLY if it applies to this vehicle.)

 The passenger seat adjustments are controlled by the adjustments made to the driver's seat. Therefore, positioning of the passenger dummy is made simultaneously with the driver dummy. Adjustments made to the seat to position the driver will over ride any adjustments that would normally be made to position the passenger. (S16.2.10.3)

1. Seat Position

X 1.1 Position the seat's adjustable lumbar supports so that the lumbar supports are in the lowest, retracted or deflated adjustment positions. (S16.2.10.1, S20.1.9.1, S20.4.1, S22.1.7.1)

X N/A – No lumbar adjustment

X 1.2 Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2, S20.1.9.2, S20.4.1, S22.1.7.1, S22.4.2.1, S22.4.3.1, S24.4.2.1, S26.2.3, S26.3.1)

X N/A – No additional support adjustment

X 1.3 Position an adjustable leg support system in its rearmost position. (8/27/04 interpretation to Toyota)

X N/A – No adjustable leg support system

X 1.4 **Mark** a point (seat cushion reference point) on the side of the seat cushion that is between 150 mm and 250 mm from the front edge of the seat cushion. (S16.3.1.12)

X 1.5 Draw a line (seat cushion reference line) through the seat cushion reference point. (S16.3.1.13)

X 1.6 Use only the controls that primarily move the seat in the fore-aft direction to move the seat cushion reference point to the rearmost position. (S16.2.10.3.1, S22.1.7.3)

X 1.7 If the seat cushion adjusts fore-aft, independent of the seat back, use only the controls that primarily move the seat cushion in the fore-aft direction to move the seat cushion reference point to the rearmost position. (S16.2.10.3.1, S20.1.9.3)

X N/A – No independent fore-aft seat cushion adjustment

- ☒ 1.8 Use any part of any control, other than the parts just used for fore-aft positioning, to determine the range of angles of the seat cushion reference line and to set the seat cushion reference line at the mid-angle. (S16.2.10.3.1)
Maximum angle: Fixed
Minimum angle: Fixed
Mid-angle: Fixed
- ☒ 1.9 If the seat and/or seat cushion height is adjustable, use any part of any control other than the parts which primarily move the seat or seat cushion fore-aft, to put the seat cushion reference point in its lowest position with the seat cushion reference line angle at the mid-angle found in 1.8. (S16.2.10.3.1)
☒ N/A – No seat height adjustment
- ☒ 1.10 Use only the controls that primarily move the seat in the fore-aft direction to verify the seat is in the rearmost position.
- ☒ 1.11 Use only the controls that primarily move the seat in the fore-aft direction to **mark** the fore-aft seat positions. **Mark** each position so that there is a visual indication when the seat is at a particular position. For manual seats, move the seat forward one detent at a time and **mark** each detent. For power seats, **mark** only the rearmost, middle, and foremost positions. Label three of the positions with the following: F for foremost, M for mid-position (if there is no mid-position, label the closest adjustment position to the rear of the mid-point), and R for rearmost.
- ☒ 1.12 Use only the controls that primarily move the seat in the fore-aft direction to place the seat in the rearmost position.
- ☒ 1.13 Use any part of any control, other than the parts which primarily move the seat or seat cushion fore-aft, to find and visually **mark** the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.8. (S20.1.9.4, S22.1.2, S22.1.7.4, S22.3.1, S22.4.3.1, S24.1.2, S24.3.1, S24.4.3.1, S26.2.3, S26.3.1)
☒ N/A – No seat height adjustment. Go to 1.18
- ☐ 1.14 Use only the controls that primarily move the seat and/or seat cushion in the fore-aft direction to place the seat in the mid-fore-aft position.
- ☐ 1.15 Use any part of any control, other than the parts which primarily move the seat or seat cushion fore-aft, to find and visually **mark** the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.8. (S20.1.9.4, S22.1.2, S22.1.7.4, S22.3.1, S24.1.2, S24.3.1)
- ☐ 1.16 Use only the controls that change the seat in the fore-aft direction to place the seat in the foremost position. (S16.2.10.3.2)
- ☐ 1.17 Use any part of any control, other than the parts which primarily move the seat or seat cushion fore-aft, to find and visually **mark** the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.8. (S16.2.10.3.3, S20.1.9.4, S22.1.2, S22.1.7.4, S22.3.1, S24.1.2, S24.3.1)
- ☒ 1.18. Is the seat a bucket seat?
☒ Yes, go to 1.19 and skip 1.20
☐ No, go to 1.20 and skip 1.19

X 1.19 Bucket seats:

Locate and **mark** for future reference the longitudinal centerline of the seat cushion. The intersection of the vertical longitudinal plane that passes through the SgRP and the seat cushion upper surface determines the longitudinal centerline of a bucket seat cushion. (S16.3.1.10 & S20.1.10)

 1.20 Bench seats:

Locate and **mark** the longitudinal centerline of the passenger seat cushion. The longitudinal centerline is the same distance from the longitudinal centerline of the vehicle as the center of the steering wheel. (S20.2.1.4, S22.2.1.3, S24.2.3, S20.4.4, S22.2.2.1 (b), S22.2.2.3 (b), S22.2.2.4 (a), S22.2.2.5 (a), S22.2.2.6 (a), S22.2.2.7 (a), S24.2.3 (a))

Record the distance from the longitudinal centerline of the vehicle to the center of the steering wheel. _____

Record the distance from the longitudinal centerline of the vehicle to the longitudinal centerline of the seat cushion. (The vertical plane through this longitudinal centerline is Plane B for suppression.) _____

2. Head Restraint Position

 N/A Vehicle contains automatic head restraints.

 N/A, there is no head restraint adjustment Go to 3

X 2.1 Adjust the head restraint to its lowest position. (S16.2.10.2, S20.1.9.6, S20.4.1, S22.1.7.6, S22.4.2.1, S22.4.3.1, S24.4.3.1, S26.2.3, S26.3.1)

X 2.2 All adjustments of the head restraint shall be used to position it full forward. For example, if it rotates, rotate it such that the head restraint extends as far forward as possible. **Mark** the foremost position. (S16.2.10.2 & S16.3.4.4 & S20.1.9.6, S20.4.1, S22.4.2.1, S22.4.3.1, S24.4.3.1, S26.2.3, S26.3.1)

X 2.3 Measure the vertical distance from the top most point of the head restraint to the bottom most point. Locate and **mark** a horizontal plane through the midpoint of this distance. (S16.3.4.3)

Vertical height of head restraint: 250 mm

Mid-point height: 125 mm

X 3. Place the SCRIP in the full rearward, mid-height position, and mid-seat cushion angle. (S16.3.3.1.1)

X 4. Fully recline the seat back. (S16.3.3.1.2)

 N/A seat back not adjustable.

X 5. Place the dummy in the seat with the legs at an angle of 120 degrees to the thighs. The calves should not be touching the seat cushion. (S16.3.3.1.2)

X 6. Position the dummy in the seat such that the midsagittal plane is coincident with the longitudinal seat cushion marking that was determined in item 1.19 or 1.20. (S16.3.3.1.3 and S16.3.3.1.4)

X 7. Hold down the dummy's thighs and push rearward on the upper torso to maximize the pelvic angle. (S16.3.3.1.5)

X 8. Set the angle between the legs and the thighs to 120 degrees. (S16.3.3.1.6)

- X 9. Set the transverse distance between the centers of the front of the knees at 160 to 170 mm. (6.3 to 6.7 inches). Center the knee separation with respect to the longitudinal seat cushion marking that was determined in item 1.19 or 1.20. (S16.3.3.1.6)
Record Knee Separation: 165 mm
- X 10. Push rearward on the dummy's knees until the pelvis contacts the seat back, or the backs of the calves contact the seat cushion, whichever occurs first. (S16.3.3.1.6)
 Pelvis contacted seat back.
X Calves contacted seat cushion.
- X 11. Gently rock the upper torso ± 5 degrees (approximately 51 mm (2 inches)) side-to-side three times. (S16.3.3.1.7)
- X 12. If needed, extend the legs until the feet do not contact the floor pan. The thighs should be resting on the seat cushion. (S16.3.3.1.8)
- X 13. Use seat controls to line up the seat markings determined during the completion of item 1 to set the foremost fore-aft position, mid-height position and the seat cushion mid-angle. If the dummy contacts the interior move the seat rearward until a maximum clearance of 5 mm (0.2 inches) is achieved or the seat is in the closest detent position that does not cause dummy contact. (S16.3.3.1.8)
X Foremost, mid-height position and the seat cushion mid-angle reached
 Dummy Contact. Clearance set at maximum of 5 mm
Measured Clearance:
 Dummy Contact. Seat set at nearest detent position.
Seat position detent positions rearward of foremost
(foremost is position zero)
- X 14. If the seat back is adjustable, rotate the seat back forward while holding the thighs in place. Continue rotating the seat back forward until the transverse instrument platform of the dummy head is level ± 0.5 degrees. If head cannot be leveled using the seat back adjustment, or the seat back is not adjustable, use the lower neck bracket adjustment to level the head. If a level position cannot be achieved, adjust the head as closely as possible to the ± 0.5 degree range. (S16.3.3.1.9 and S16.3.3.1.10)
(Check All That Apply)
 Seat back not adjustable
 Seat back not independent of driver side seat back
X Head Level Achieved. (Check all that apply)
 Head leveled using the adjustable seat back
 Head leveled using the neck bracket.
Head Angle: 0.3 degrees
 Head Level NOT Achieved. (Check all that apply)
 Head adjusted using the adjustable seat back
 Head adjusted using the neck bracket.
Head Angle: degrees
- X 15. Verify the pelvis is not interfering with the seat bight. (S16.3.3.1.9)
X No interference
 Pelvis moved forward the minimum amount so that it is not caught in the seat bight.
- X 16. Verify the dummy abdomen is properly installed. (S16.3.3.1.9)
X Abdomen still seated properly into dummy
 Abdomen was adjusted because it was not seated properly into dummy

X 17. Head Angle

X N/A, neither the pelvis nor the abdomen were adjusted.

X 17.1 Head still level (Go to 18)

 17.2 Head level adjusted

 Head Level Achieved. (Check all that apply)

 Head leveled using the adjustable seat back

 Head leveled using the neck bracket.

Head Angle: degrees

 Head Level NOT Achieved. (Check all that apply)

 Head adjusted using the adjustable seat back

 Head adjusted using the neck bracket.

Head Angle: degrees

X 18. Measure and set the pelvic angle using the pelvic angle gage TE-2504. The pelvic angle should be 20.0 degrees $\pm$ 2.5 degrees. If the pelvic angle cannot be set to the specified range because the head will not be level or because the dummy will have need major repositioning, adjust the pelvis as closely as possible to the angle range, but keep the head level.

X Pelvic angle set to 20.0 degrees $\pm$ 2.5 degrees.

 Pelvic angle of 20.0 degrees not achieved, the angular difference was minimized.

X Record the pelvic angle: 20.2 degrees

X 19. Check the dummy for contact with the interior after completing adjustments.

X No contact.

 Dummy in contact with interior.

 Seat moved aft mm from the previous position.

 Seat moved aft detent positions from the previous position.

X 20. Verify the transverse instrument platform of the dummy head is level $\pm$ 0.5 degrees. Use the lower neck bracket adjustment to level the head. If a level position cannot be achieved, minimize the angle. (S16.3.3.1.9, S16.3.3.1.10, and S16.3.3.1.11)

X Head Level Achieved

Head Angle: 0.2 degrees

 Head Level NOT Achieved.

Head Angle: degrees

X 21. Check the dummy to see if additional interior clearance is obtained, allowing the seat to be moved forward. (S16.3.3.1.12)

 N/A Bench Seat

X N/A Seat already at full forward position.

 Clearance unchanged. No adjustments required.

 Additional clearance available

 Seat moved Forward mm from the previous position.

 Seat moved Forward detent positions from the previous position.

 Seat moved Forward, Full Forward position reached.

X 22. Passenger foot positioning. (Indicate final position achieved) (S16.3.3.2)

X 22.1 Place feet flat on the toe board; OR (S16.3.3.2.1)

 22.2 If the feet cannot be placed flat on the toe board, set the feet perpendicular to the lower leg, and rest the heel as far forward on the floor pan as possible; OR (S16.3.3.2.2)

☐ 22.3 If the heels do not touch the floor pan, set the legs as perpendicular to the thighs as possible and set the feet parallel to the floor pan. (S16.3.3.2.2)

☒ 23. Passenger arm/hand positioning. (S16.3.3.3)

☒ 23.1 Place the dummy's upper arms adjacent to the torso with the arm centerlines as close to a vertical longitudinal plane as possible. (S16.3.3.3.1)

☒ 23.2 Place the palms of the dummy in contact with the outer part of the thighs (S16.3.3.3.2)

☒ 23.3 Place the little fingers in contact with the seat cushion. (S16.3.3.3.3)

☒ 24. Adjustable head restraints (S16.3.4)
☐ N/A, there is no head restraint adjustment

☐ 24.1 If the head restraint has an automatic adjustment, leave it where the system positions the restraint after the dummy is placed in the seat. (S16.3.4.1) Go to 25.

☐ 24.2 Adjust each head restraint vertically so that the horizontal plane determined in Item 2 is aligned with the center of gravity (CG) of the dummy head. (S16.3.4.3)

☒ 24.3 If the above position is not attainable, move the vertical center of the head restraint to the closest detent below the center of the head CG. (S16.3.4.3)

☐ N/A midpoint position attained in previous step

☒ Headrest set at nearest detent below the head CG

☐ 24.4 If the head restraint has a fore and aft adjustment, place the restraint in the foremost position or until contact with the head is made, whichever occurs first. (S16.3.4.4)

☒ 25. Manual belt adjustment (for tests conducted with a belted dummy) S16.3.5
☒ N/A, Unbelted test

☐ 25.1 If an adjustable seat belt D-ring anchorage exists, place it in the manufacturer's design position for a 5th percentile adult female. **This information will be supplied by the COTR.** (S16.3.5.1)

Manufacturer's specified position: 0 of 4; Upper-most as zero

Actual Position: 0 of 4; Upper-most as zero

☒ 25.2 Place the Type 2 manual belt around the test dummy and fasten the latch. (S16.3.5.2)

☒ 25.3 Ensure that the dummy's head remains as level as possible. (S16.3.5.3)

☒ 25.4 Remove all slack from the lap belt. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this operation four times. Apply a 9 N (2 lbf) to 18 N (4 lbf) tension load to the lap belt. If the belt system is equipped with a tension-relieving device, introduce the maximum amount of slack into the upper torso belt that is recommended by the manufacturer. If the belt system is not equipped with a tension-relieving device, allow the excess webbing in the shoulder belt to be retracted by the retractive force of the retractor. (S16.3.5.4)

I certify that I have read and performed each instruction.

Signature: Joe Flack

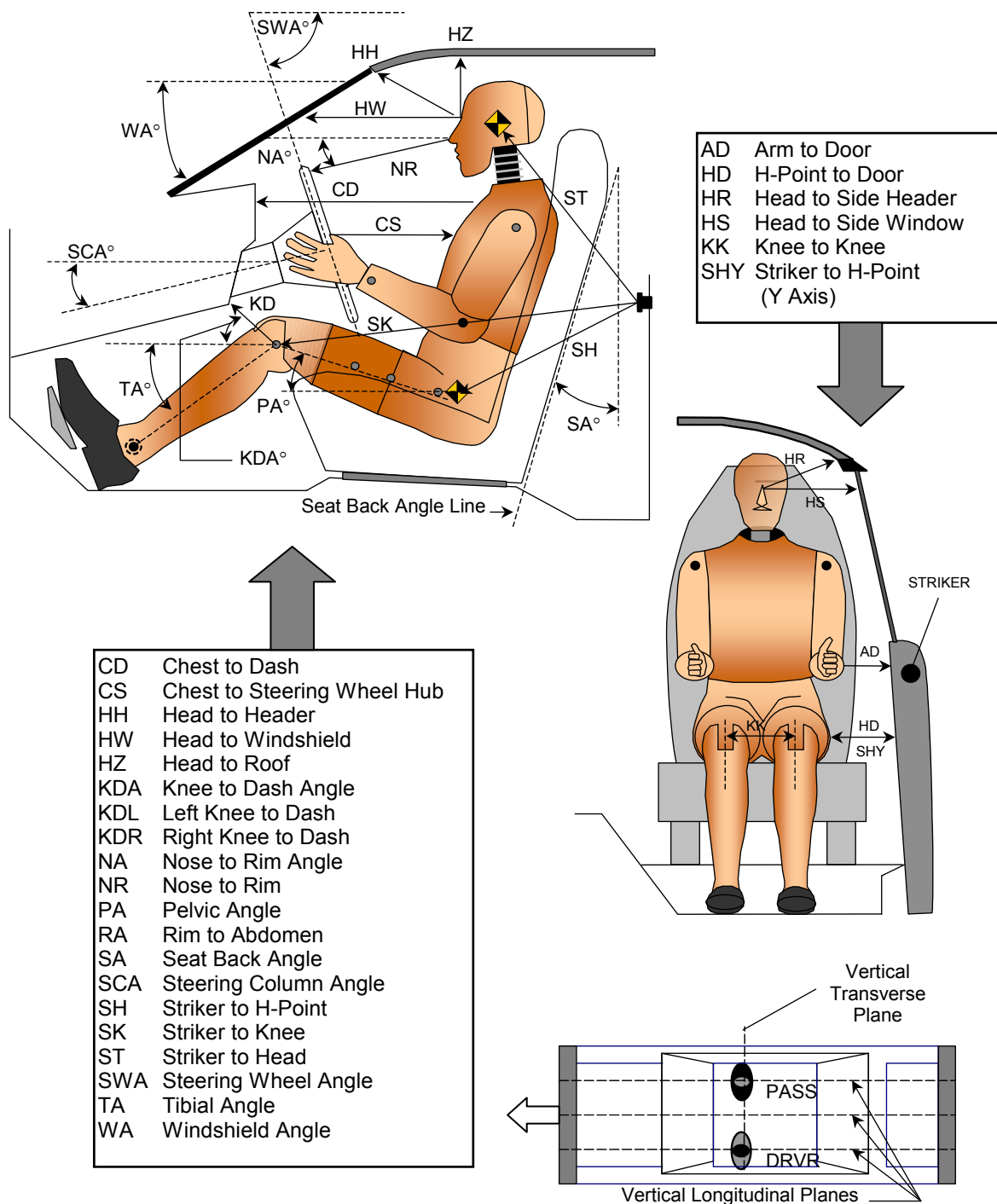
Date: 9/22/11

DATA SHEET 37 **DUMMY MEASUREMENTS**

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 208 Compliance
 Test Technician: Tim Bratz

NHTSA No.: CB5200
 Test Date: 9/22/11

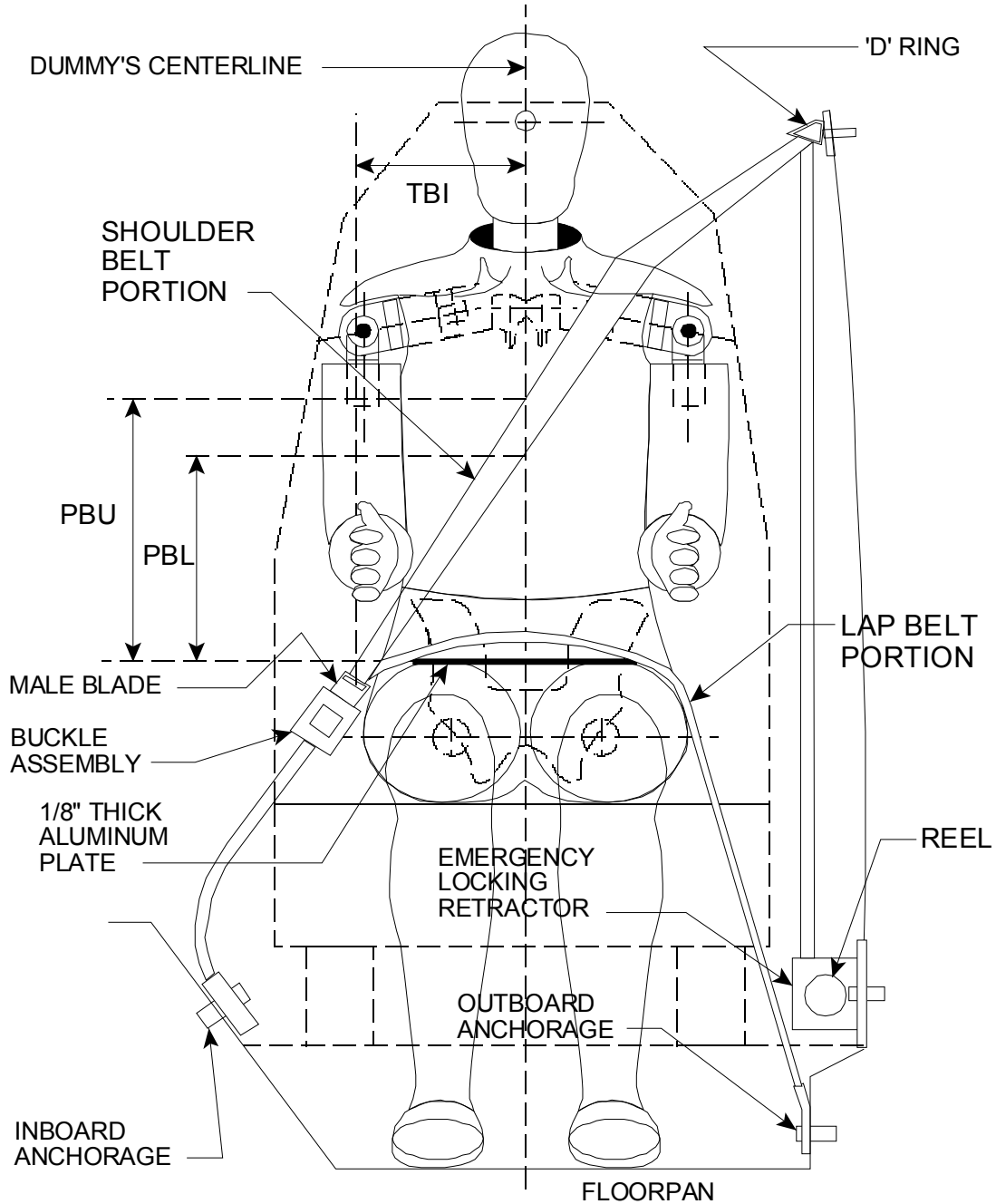
DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS



TEST DUMMY POSITION MEASUREMENTS

Code	Measurement Description	Driver SN 124		Passenger SN 166	
		Length (mm)	Angle (°)	Length (mm)	Angle (°)
WA	Windshield Angle		26.4		
SWA	Steering Wheel Angle		63.4		
SCA	Steering Column Angle		26.6		
SA	Seat Back Angle (On Headrest Post)		9.5		9.8
HZ	Head to Roof (Z)	253		248	
HH	Head to Header	348	38.9	317	41.1
HW	Head to Windshield	731	0	732	0
HR	Head to Side Header (Y)	263		263	
NR	Nose to Rim	278	9.8		
CD	Chest to Dash	436		383	
CS	Chest to Steering Hub	200	9.7		
RA	Rim to Abdomen	84	0		
KDL	Left Knee to Dash	100	3.4	73	
KDR	Right Knee to Dash	96		76	36.7
PA	Pelvic Angle		20.7		20.2
TA	Tibia Angle		47.6		56.1
KK	Knee to Knee (Y)	288		225	
SK	Striker to Knee	710	95.2	753	94.6
ST	Striker to Head	487	31.2	512	33.1
SH	Striker to H-Point	409	109.9	456	109.4
SHY	Striker to H-Point (Y)	330		290	
HS	Head to Side Window	354		362	
HD	H-Point to Door (Y)	172		178	
AD	Arm to Door (Y)	151		152	
AA	Ankle to Ankle	320		215	

SEAT BELT POSITIONING DATA



FRONT VIEW OF DUMMY

SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
PBU - Top surface of reference to belt upper edge	mm	300	315
PBL - Top surface of reference to belt lower edge	mm	220	225

DATA SHEET 38

CRASH TEST

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 208 Compliance
 Test Technician: Jordan Haynes

NHTSA No.: CB5200
 Test Date: 9/22/11

IMPACT ANGLE:	0°			
BELTED DUMMIES (YES/NO):	Yes			
TEST SPEED:		32 to 40 kmph	X	0 to 48 kmph
DRIVER DUMMY:	X		5 th female	50 th male
PASSENGER DUMMY:	X		5 th female	50 th male

- ☒ 1. Vehicle underbody painted.
- ☒ 2. The speed measuring devices are in place and functioning.
- ☒ 3. The speed measuring devices are 1.0 m from the barrier (spec. 1.5 m) and 30 cm from the barrier (spec. is 30 cm).
- ☒ 4. Convertible top is in the closed position.
☒ N/A, not a convertible.
- ☒ 5. Instrumentation and wires are placed so motion of dummies during impact is not affected.
- ☒ 6. Tires inflated to pressure on tire placard or if it does not have a tire placard because it is not a passenger car, then inflated to the tire pressure specified in the owner information.
250 kpa front left tire 250 kpa specified on tire placard or in owner information
250 kpa front right tire 250 kpa specified on tire placard or in owner information
250 kpa rear left tire 250 kpa specified on tire placard or in owner information
250 kpa rear right tire 250 kpa specified on tire placard or in owner information
- ☒ 7. Time zero contacts on barrier in place.
- ☒ 8. Pre test zero and shunt calibration adjustments performed and recorded.
- ☒ 9. Dummy temperature meets requirements of section 12.2 of the test procedure.
- ☒ 10. Vehicle hood closed and latched.
- ☒ 11. Transmission placed in neutral.
- ☒ 12. Parking brake off.
- ☒ 13. Are the heads still level?
☒ Yes, go to 14
☐ No, Adjust dummy so that head is at the angle recorded in the Appendix F or G data sheets and then continue.
- ☒ 14. Ignition in the ON position.
- ☒ 15. Doors closed and latched but not locked.
- ☒ 16. Post test zero and shunt calibration checks performed and recorded.
- ☒ 17. Actual test speed 39.8 kmph
- ☒ 18. Vehicle rebound from the barrier 142 cm
- ☒ 19. Describe whether the doors open after the test and what method is used to open the doors.
☒ Left Front Door: Door remained closed and latched; Door opened without tools.
☒ Right Front Door: Door remained closed and latched; Door opened without tools.
☒ Left Rear Door: Door remained closed and latched; Door opened without tools.
☒ Right Rear Door: Door remained closed and latched; Door opened without tools.

- ☒ 20. Describe the contact points of the dummy with the interior of the vehicle.
- ☒ Driver Dummy: Head to Air Bag, Head to Headrest, Chest to Air Bag; Knees to Knee Bolster.
- ☒ Passenger Dummy: Head to Air Bag, Head to Headrest; Chest to Air Bag; Knees to Glove Box.

REMARKS:

Signature: *Jordan Haynes* Date: 9/22/11

I certify that I have read and performed each instruction.

DATA SHEET 39

OFFSET DEFORMABLE BARRIER TEST USING BELTED 5th PERCENTILE FEMALE DUMMIES (Part 572, Subpart O) (S18)

Test Vehicle: 2011 Nissan Leaf Electric
Test Program: FMVSS 208 Compliance
Test Technician: Tim Novak

NHTSA No.: CB5200
Test Date: 9/22/11

IMPACT ANGLE:	0°				
BELTED DUMMIES (YES/NO):	Yes				
TEST SPEED:		32 to 40 kmph	X	0 to 48 kmph	0 to 56 kmph
DRIVER DUMMY:	X		5 th female		50 th male
PASSENGER DUMMY:	X		5 th female		50 th male

Barrier Serial Number: 34669

1.0 Pre-Test Activities

X	1.1	Complete the following data sheets
X	1.1.1	Vehicle Receiving and Inspection
X	1.1.2	Vehicle Weight, Fuel Tank, and Attitude
X	1.1.3	Vehicle Accelerometer Location
X	1.1.4	General Test Vehicle Data
X	1.1.5	Photographic Targets
X	1.1.6	Camera Locations
X	1.1.7	5 th Percentile Female Dummy Calibration
X	1.1.8	Appendix G 5 th Percentile Female Dummy Seating and Positioning Procedure
	1.2	Barrier Certification
X	1.2.1	Verify the offset deformable barrier materials and construction are certified to Subpart C of 49 CFR 587. (Attach vendor certification sheets to this data sheet.)

CERTIFICATE OF CONFORMITY

Serial No. 34669

Certificate No. 46861

Description	Frontal ODB painted grey
Cellbond Part No.	70EEVCFI US

Cellbond
5 Stukeley Business Centre
Blackstone Road
Huntingdon
Cambridgeshire
PE29 6EF
United Kingdom

T: +44 (0)1480 435302
F: +44 (0)1480 450181
E: sales@cellbond.com
www.cellbond.com

	Test Results	GR No.	
1	68289-8	34006	
2	68616-8	34508	

Declaration.

The above moving deformable barrier has been manufactured in accordance with the provisions of the European Parliament and Council No 96/79/EC Directive (Regulation ECE R94)

Additional Information...

Cellbond is a division of
Encocam Ltd.

Company Registration
England 1944904

Registered Office
5 Stukeley Business Centre
Blackstone Road
Huntingdon
Cambridgeshire
PE29 6EF
United Kingdom

This Certificate is valid without signature or printed date.

Printouts of the test results are available on request. Even small measures help to save resources and protect the environment. Please contact us if you would like to receive test results for a specific barrier, referencing the serial number.





**EEVC DEFORMABLE FRONTAL BARRIER
ALUMINIUM HONEYCOMB CERTIFICATION
STATIC TEST RESULTS**

**MAIN BLOCK
Core: 1.8 3/4 3003**

**Required Crush Strength
0.308 MPa to 0.342 MPa**

Test No: 68289-8

GR No : 34006

Block No: N/A

	Crush Strength (MPa)			RESULT
	6.4 to 9.7 mm	9.7 to 13.2 mm	13.2 to 16.5 mm	
Sample* 1	0.3378	0.3387	0.3332	PASS
Sample 2	0.3220	0.3372	0.3406	PASS
Sample 3	0.3184	0.3295	0.3194	PASS
Sample 4	0.3337	0.3305	0.3359	PASS
Sample 5	0.3258	0.3401	0.3135	PASS
Sample 6	0.3292	0.3257	0.3394	PASS
Sample 7	0.3320	0.3258	0.3181	PASS
Sample 8	0.3285	0.3285	0.3323	PASS

Seven out of the eight samples must fulfil the crush strength
requirement in order to pass the block certification

*Sample size and location as per R94.

RESULT: PASSED

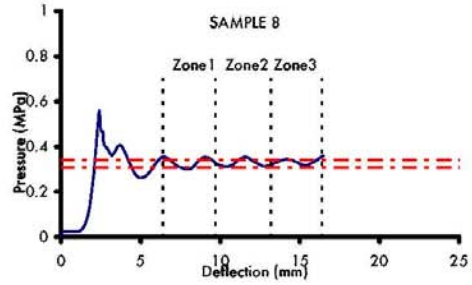
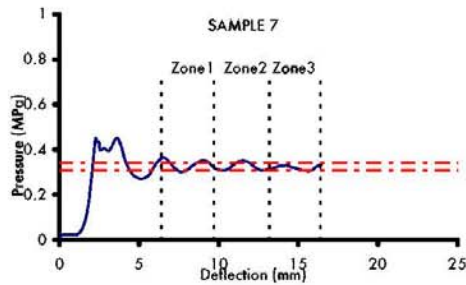
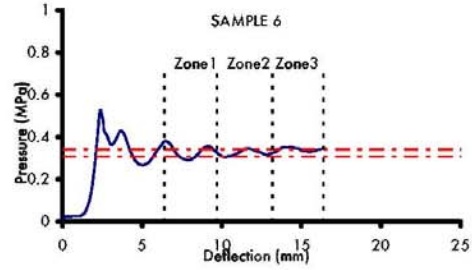
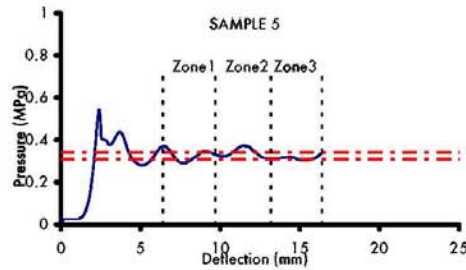
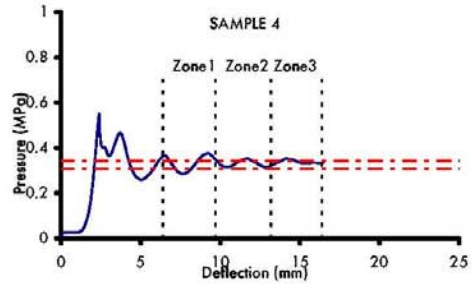
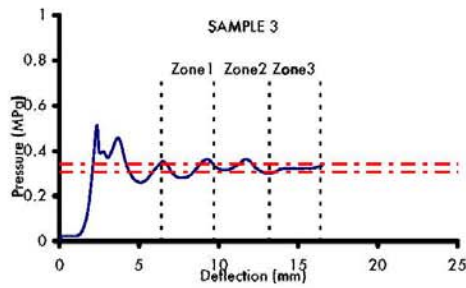
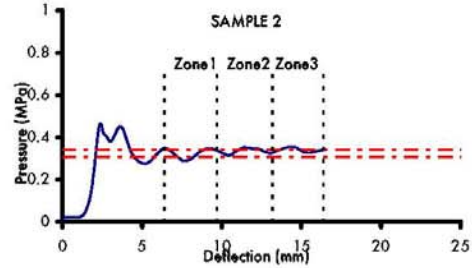
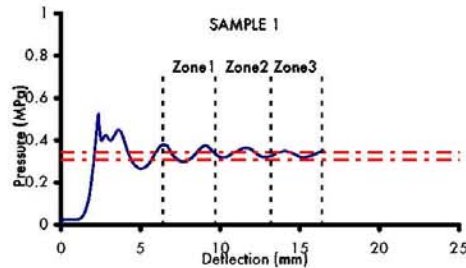
EEVC DEFORMABLE FRONTAL BARRIER MAIN BLOCK

Honeycomb Type: 1.8 3/4 3003
Higher Acceptable Crush Strength Limit: 0.342 MPa
Lower Acceptable Crush Strength Limit: 0.308 MPa

Section 1: 6.4 - 9.7mm
Section 2: 9.7 - 13.2mm
Section 3: 13.2 - 16.5mm
Speed: 6.35 mm/min
Block No: N/A

Test No: 68289-8

GR No: 34006





EEVC DEFORMABLE FRONTAL BARRIER
ALUMINIUM HONEYCOMB CERTIFICATION
STATIC TEST RESULTS

BUMPER

Core: 5.2 1/4 3003

Required Crush Strength
1.540 MPa to 1.711 MPa

Test No: 68616-8

GR No: 34508

Block No: N/A

	Crush Strength (MPa)			RESULT
	6.4 to 9.7 mm	9.7 to 13.2 mm	13.2 to 16.5 mm	
Sample* 1	1.583	1.578	1.581	PASS
Sample 2	1.613	1.629	1.626	PASS
Sample 3	1.630	1.627	1.626	PASS
Sample 4	1.585	1.596	1.593	PASS
Sample 5	1.563	1.566	1.558	PASS
Sample 6	1.588	1.584	1.606	PASS
Sample 7	1.593	1.597	1.594	PASS
Sample 8	1.619	1.617	1.614	PASS

Seven out of the eight samples must fulfil the crush strength
requirement in order to pass the block certification

*Sample size and location as per R94.

RESULT: PASSED

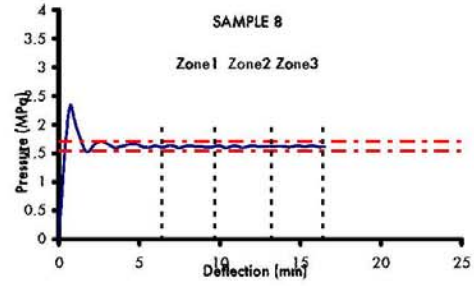
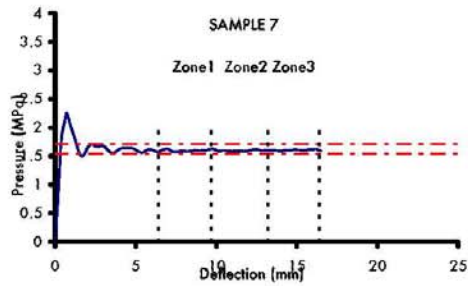
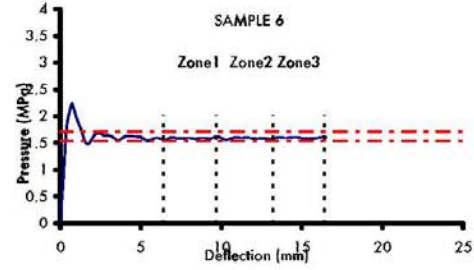
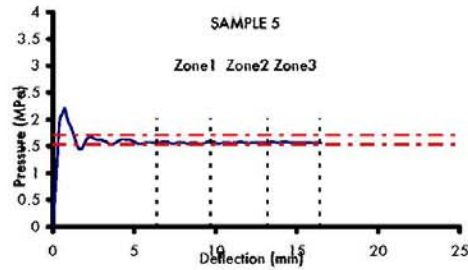
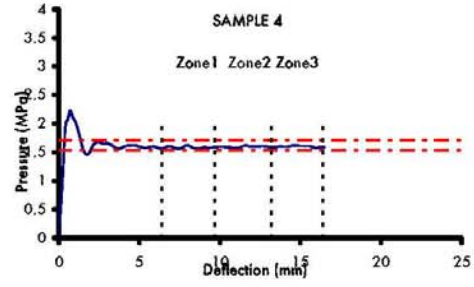
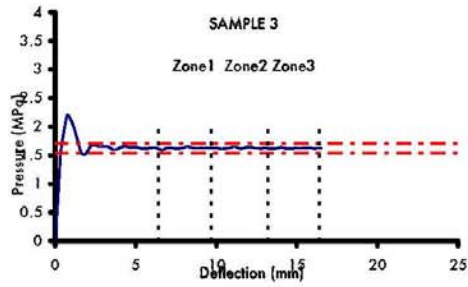
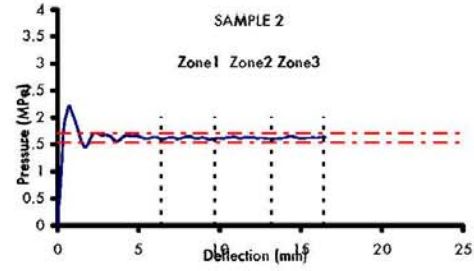
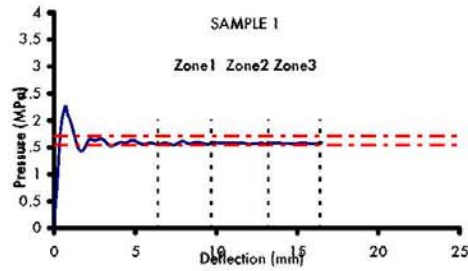
EEVC DEFORMABLE FRONTAL BARRIER BUMPER

Honeycomb Type: 5.2 1/4 3003
Higher Acceptable Crush Strength Limit: 1.711 MPa
Lower Acceptable Crush Strength Limit: 1.540 MPa

Section 1: 6.4 - 9.7mm
Section 2: 9.7 - 13.2mm
Section 3: 13.2 - 16.5mm
Speed: 6.35 mm/min
Block No: N/A

Test No: 68616-8

GR No: 34508



- ☒ 1.3 Verify barrier measurements and complete the table below. (See Figure 1)

	Specified Dimension in mm +/- 2.5 unless specified	Measured Dimension in mm
Main Body Height RH Side	650	650
Main Body Height LH Side	650	650
Floor to Lower Barrier LH	200 +/- 15	204
Floor to Lower Barrier RH	200 +/- 15	203
Main Body Width	1000	1000
Bumper Element Width	1000	1000
Bumper Element Height LH	330	330
Bumper Element Height RH	330	330
Main Body Depth LH	450	451
Main Body Depth RH	450	449
Bumper Element Depth LH	90	90
Bumper Element Depth RH	90	91
Upper Slot Location	220	221
Lower Slot Location	110	109
Upper Slot Width	4mm Max	3
Lower Slot width	4mm Max	3

- ☒ 1.3.1 All Dimensions within specified Tolerance
- ☒ Yes
- ☒ 1.4 Verify deformable barrier mounted using 10 bolts (8mm diameter minimum) and the steel strips specified.
- ☒ 1.5 Verify height of Fixed Rigid Barrier relative to vehicle being tested.
- ☒ 1.6 Photograph pre-test condition. Include photograph shown below.
- ☒ Pre-test frontal view of test vehicle
 - ☒ Pre-test left side view of test vehicle
 - ☒ Pre-test right side view of test vehicle
 - ☒ Pre-test left front three-quarter view of test vehicle
 - ☒ Pre-test right rear three-quarter view of test vehicle
 - ☒ Pre-test windshield view
 - ☒ Pre-test engine compartment view
 - ☒ Pre-test fuel filler cap view
 - ☒ Pre-test front underbody view
 - ☒ Pre-test rear underbody view
 - ☒ Pre-test driver dummy position with the door open and with the camera perpendicular to the longitudinal centerline of the vehicle and in line with the markings showing the fore-aft position of the seat.
 - ☒ Frontal Pre-test driver dummy position with the camera in the same plane as the longitudinal centerline of the dummy.
 - ☒ Pre-test passenger dummy position with the door open and with the camera perpendicular to the longitudinal centerline of the vehicle and in line with the markings showing the fore-aft position of the seat
 - ☒ Frontal Pre-test passenger dummy position view with the camera in the same plane as the longitudinal centerline of the dummy.
 - ☐ Dummy contact point(s) (vehicle and dummy)
 - ☒ Pre-test view of the knee bolsters.
 - ☐ Pre-test view of the steering column shear capsule if any part of it is visible. Do NOT disassemble any parts to take these photographs.

- ☒ Pre-test under hood view of the steering column intersecting the fire wall. Take the best photograph possible without removing any parts.
- ☒ Pre-test view of the steering column intersecting the firewall from inside the vehicle. Take the best photograph possible without removing any parts.

2.0 Test Execution

- ☒ 2.1 Impact vehicle into offset deformable barrier at a speed of 40 km/hr ± 2 km/hr
 Record Impact speed Trap 1 39.8 km/hr
 Trap 2 39.8 km/hr
 Trap Location (from barrier) 1000 and 300 mm
☒ Speed at impact 25 km/hr ± 2 km/hr ☒ Yes / ☐ No
- ☒ 2.2 Strike barrier at offset of 10% of vehicle width ± 50 mm from the vehicle centerline.
 Vehicle Width 1773 mm at front wheel well
 Required Offset 177 mm
 Actual Measured Offset 177 mm
☒ Offset within ± 50 mm ☒ Yes / ☐ No
- ☒ 2.3 Vehicle attitude at impact 0.0 degrees ± 5 degrees
 Impact angle 0.0 degrees
☒ Impact angle 0.0 ± 5 degrees ☒ Yes / ☐ No



3.0 Post Test Activities

- ☒ 3.1 Photograph post-test condition. Include photograph shown below.
- | | |
|-------------------------------------|--|
| ☒ | Post test frontal view of test vehicle |
| ☒ | Post test left side view of test vehicle |
| ☒ | Post test right side view of test vehicle |
| ☒ | Post test left front three-quarter view of test vehicle |
| ☒ | Post test right rear three-quarter view of test vehicle |
| ☒ | Post test windshield view |
| ☒ | Post test engine compartment view |
| ☐ | Post test fuel filler cap view |
| ☒ | Post test front underbody view ¹ |
| ☒ | Post test rear underbody view ¹ |
| ☒ | Post test driver dummy position with the door open and with the camera perpendicular to the longitudinal centerline of the vehicle and in line with the markings showing the fore-aft position of the seat. |
| ☒ | Frontal post test driver dummy position with the camera in the same plane as the longitudinal centerline of the dummy. |
| ☒ | Post test passenger dummy position with the door open and with the camera perpendicular to the longitudinal centerline of the vehicle and in line with the markings showing the fore-aft position of the seat. |
| ☒ | Frontal post test passenger dummy position view with the camera in the same plane as the longitudinal centerline of the dummy. |
| ☒ | Dummy contact point(s)(vehicle and dummy) |
| ☒ | Post test view of the knee bolsters. |
| ☐ | Post test view of the steering column shear capsule if any part of it is visible. Do NOT disassemble any parts to take these photographs. |
| ☒ | Post test under hood view of the steering column intersecting the fire wall. Take the best photograph possible without removing any parts. |
| ☐ | Post test view of the steering column intersecting the fire wall from inside the vehicle. Take the best photograph possible without removing any parts. |
| ☐ | Post test Stoddard solvent spillage location view, if required. |
| ☐ | Post test electrolyte spillage location view, if required. |
| ☐ | Post test top view of test vehicle while vehicle is on static rollover machine. (If applicable) |

X 3.2 Process data channels per section 11.14 and record injury values in the Table.

5th Percentile Female Frontal Crash Test
Vehicles certified to S16.1 (a), S16.1 (b), or S18.1

Injury Criteria	Max. Allowable Injury Assessment Values	Driver	Passenger
HIC15	700	131	104
N _{te}	1.0	0.4	0.3
N _{tf}	1.0	0.2	0.2
N _{ce}	1.0	0.0	0.0
N _{cf}	1.0	0.2	0.2
Neck Tension	2620 N	836	519
Neck Compression	2520 N	165	165
Chest g	60 g	24	23
Chest Displacement	52 mm	10	9
Left Femur	6805 N	969	616
Right Femur	6805 N	107	221

All injury Criteria within limits

X Pass
 Fail

X 3.3 Perform post-test calibration check.

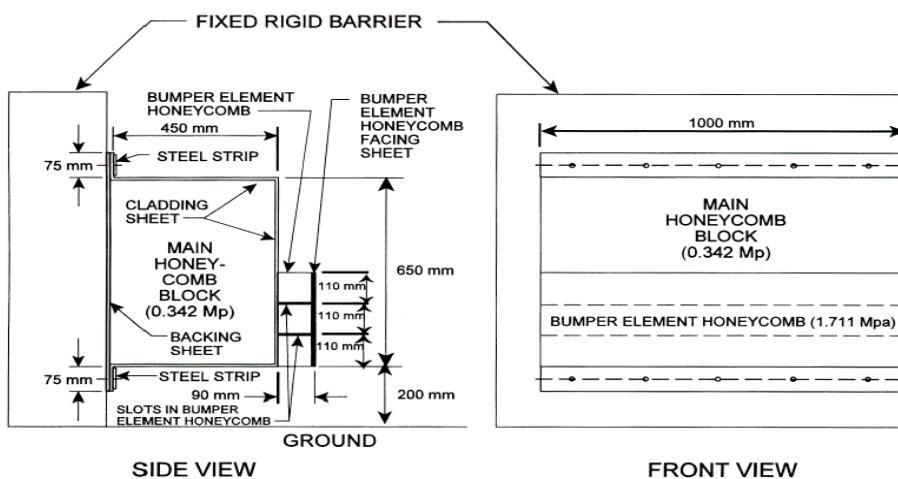


FIGURE 1
OFFSET BARRIER

REMARKS:

Signature: *Yim Norok*

Date: 9/22/11

I certify that I have read and performed each instruction.

DATA SHEET 40

ACCIDENT INVESTIGATION MEASUREMENTS

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 208 Compliance
 Test Technician: Tim Novak

NHTSA No.: CB5200
 Test Date: 9/22/11

IMPACT ANGLE:	0°			
BELTED DUMMIES (YES/NO):	Yes			
TEST SPEED:		32 to 40 kmph	X	0 to 48 kmph
DRIVER DUMMY:	X		5 th female	50 th male
PASSENGER DUMMY:	X		5 th female	50 th male

Vehicle Year/Make/Model/Body Style:	2011 Nissan Leaf Electric Passenger Car
VIN:	JN1AZ0CPXBT002457
Wheelbase:	2700 mm
Build Date:	4/11
Vehicle Size Category:	3
Test Weight:	1668.3 kg
Front Overhang:	972 mm
Overall Width:	1772 mm
Overall Length Center:	4405 mm

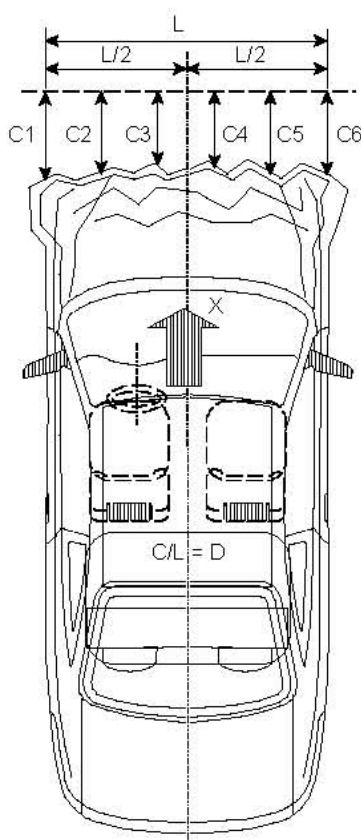
Accelerometer Data	
Location:	As per measurements on Data Sheet 33
Linearity:	>99.9%

Integration Algorithm:	Trapezoidal
Vehicle Impact Speed:	39.8 kmph
Time of Separation:	157.9 ms
Velocity Change:	39.7 kmph

CRUSH PROFILE

Collision Deformation Classification: 12FDEW6
 Midpoint of Damage: Vehicle Longitudinal Centerline
 Damage Region Length (mm): 1340
 Impact Mode: Frontal Barrier

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush zone 1 at left side	mm	4230	4070	160
C2	Crush zone 2 at left side	mm	4342	4061	281
C3	Crush zone 3 at left side	mm	4388	4054	334
C4	Crush zone 4 at right side	mm	4388	4095	293
C5	Crush zone 5 at right side	mm	4342	4104	238
C6	Crush zone 6 at right side	mm	4230	4114	116



REMARKS:

Signature: *Jim Norick*

Date: 9/22/11

I certify that I have read and performed each instruction.

DATA SHEET 41
WINDSHIELD MOUNTING (FMVSS 212)

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 208 Compliance
 Test Technician: Tim Novak

NHTSA No.: CB5200
 Test Date: 9/22/11

IMPACT ANGLE:	0°			
BELTED DUMMIES (YES/NO):	Yes			
TEST SPEED:		32 to 40 kmph	☒ 0 to 48 kmph	☐ 0 to 56 kmph
DRIVER DUMMY:	☒		5 th female	50 th male
PASSENGER DUMMY:	☒		5 th female	50 th male

1. Pre-Crash
 - ☒ 1.1 Describe from visual inspection how the windshield is mounted and describe any trim material.

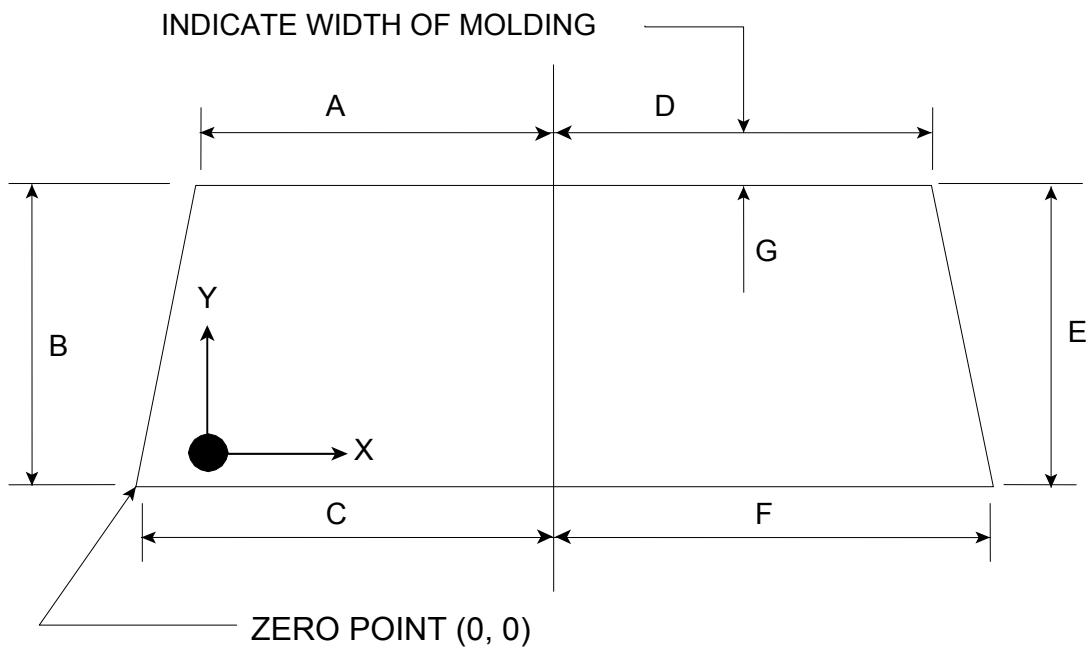
 Retained with glue
 Rubber and plastic trim
 - ☒ 1.2 Mark the longitudinal centerline of the windshield.
 - ☒ 1.3 Measure pre-crash A, B, and C for the left side and record in the chart below.
 - ☒ 1.4 Measure pre-crash C, D, and E for the right side and record in the chart below.
 - ☒ 1.5 Measure from the edge of the retainer or molding to the edge of the windshield.
 Dimension G (mm): 15 mm
2. Post Crash
 - ☒ 2.1 Can a single thickness of copier type paper (as small a piece as necessary) slide between the windshield and the vehicle body?
 - ☒ No - Pass. Skip to the table of measurements, complete it by repeating the pre-crash measurements in the post crash column, and calculate the retention percentage, which will be 100%.
 - ☐ Yes, go to 2.2
 - ☐ 2.2 Visibly mark the beginning and end of the portions of the periphery where the paper slides between the windshield and the vehicle body.
 - ☐ 2.3 Measure and record post-crash A, B, C, D, E, and F such that the measurements do not include any of the parts of the windshield where the paper slides between the windshield and the vehicle body.
 - ☐ 2.4 Calculate and record the percent retention for the right and left side of the windshield.
 - ☐ 2.5 Is total right side percent retention less than 75%?
 - ☐ Yes, Fail
 - ☐ No, Pass
 - ☐ 2.6 Is total left side percent retention less than 75%?
 - ☐ Yes, Fail
 - ☐ No, Pass

WINDSHIELD RETENTION MEASUREMENTS

	Dimension	Pre-Crash (mm)	Post-Crash (mm)	Percent Retention (Post-Test ÷ Pre-Crash)
Left Side	A	597	597	100%
	B	850	850	100%
	C	709	709	100%
	Total	2156	2156	100%
Right Side	D	597	597	100%
	E	850	850	100%
	F	709	709	100%
	Total	2156	2156	100%

Indicate area of mounting failure: NONE

FRONT VIEW OF WINDSHIELD



REMARKS:

Signature: *Jim Norick*

Date: 9/22/11

I certify that I have read and performed each instruction.

DATA SHEET 42
WINDSHIELD ZONE INTRUSION (FMVSS 219)

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 208 Compliance
 Test Technician: Tim Novak

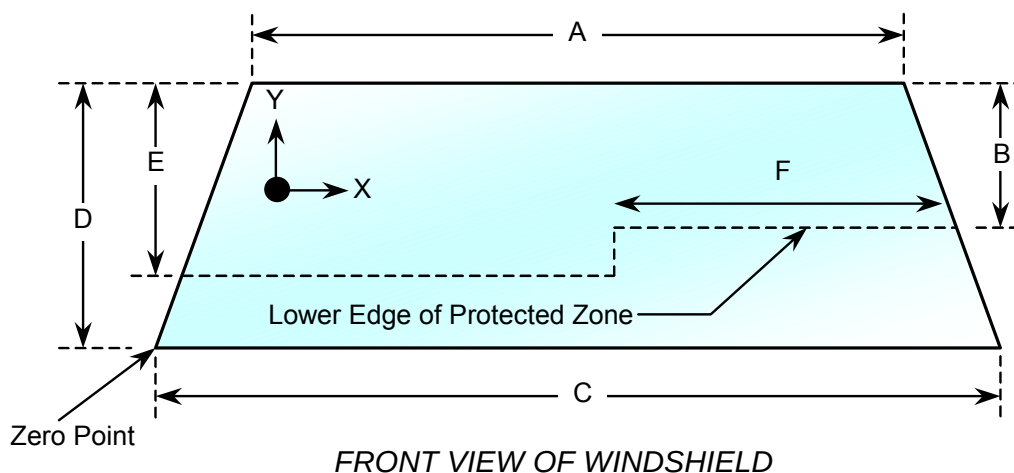
NHTSA No.: CB5200
 Test Date: 9/22/11

IMPACT ANGLE:	0°			
BELTED DUMMIES (YES/NO):	Yes			
TEST SPEED:		32 to 40 kmph	X	0 to 48 kmph
DRIVER DUMMY:	X	5 th female		50 th male
PASSENGER DUMMY:	X	5 th female		50 th male

This standard specifies limits for the displacement of vehicle components into the windshield area during a frontal barrier impact test at any speed up to and including 48 kmph.

- ☒ 1. Place a 165 mm diameter rigid sphere, with a mass of 6.8 kg on the instrument panel so that it is simultaneously touching the instrument panel and the windshield. (571.219 S6.1(a))
- ☒ 2. Roll the sphere from one side of the windshield to the other while marking on the windshield where the sphere contacts the windshield. (571.219 S6.1(b))
- ☒ 3. From the outermost contactable points on the windshield draw a horizontal line to the edges of the windshield. (571.219 S6.1(b))
- ☒ 4. Draw a line on the inner surface of the windshield that is 13 mm below the line determined in items 2 and 3.
- ☒ 5. After the crash test, record any points where a part of the exterior of the vehicle has marked, penetrated, or broken the windshield.

Provide all dimensions necessary to reproduce the protected area.



WINDSHIELD DIMENSIONS

Item	Units	Value
A	mm	1194
B	mm	542
C	mm	1418
D	mm	850
E	mm	558
F	mm	552

AREA OF PROTECTED ZONE FAILURES:

- B. Provide coordinates of the area that the protected zone was penetrated more than 0.25 inches by a vehicle component other than one which is normally in contact with the windshield.

X	Y
NONE	

- C. Provide coordinates of the area beneath the protected zone template that the inner surface of the windshield was penetrated by a vehicle component.

X	Y
NONE	

REMARKS:

I certify that I have read and performed each instruction.

Signature: 

Date: 9/22/11

FMVSS 305
ELECTRIC POWERED VEHICLES: ELECTROLYTE
SPILLAGE AND ELECTRICAL SHOCK PROTECTION

This electric vehicle, a 2011 Nissan Leaf Electric (NHTSA No. CB5200), in conjunction with the FMVSS 208, was tested to FMVSS 305.

The test was performed in accordance with the specifications of the Office of Vehicle Safety Compliance (OVSC) Test Procedures TP-305-01 to determine compliance to the requirements of Federal Motor Vehicle Safety Standards (FMVSS) 305, "Electric Powered Vehicles: Electrolyte Spillage and Electrical Shock Protection".

Based on the test results, the 2011 Nissan Leaf Electric appears to meet the requirements of FMVSS 305 testing.

If a measured voltage was zero and resulted in a division by zero "Zero Volts" was reported. This condition is considered being compliant as stated in TP-305-01 12.4 F.

This program is sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-06-C-00030.

The following data sheets document the results of the FMVSS 305 test.

DATA SHEET 1
ELECTRIC VEHICLE PROPULSION SYSTEM

Test Vehicle: 2011 Nissan Leaf Electric
Test Program: FMVSS 305 Electric Vehicles

NHTSA No.: CB5200
Test Date: 9/22/11

VEHICLE PROPULSION SYSTEM

Type of Electric Vehicle (Electric/Hybrid):	Electric
Propulsion Battery Type:	Lithium-Ion
Nominal Voltage (V):	360 V
Physical Location of Automatic Propulsion Battery Disconnect:	Inside the Battery Pack System
Auxiliary Battery Type:	Lead Acid Battery

DATA SHEET 2
PRE-TEST DATA

Test Vehicle: 2011 Nissan Leaf Electric
Test Program: FMVSS 305 Electric Vehicles

NHTSA No.: CB5200
Test Date: 9/22/11

PROPULSION BATTERY SYSTEM DATA (COTR SUPPLIED DATA)

Electrolyte Fluid Type:	Organic Electrolyte	
Electrolyte Fluid Specific Gravity:	1.192 (@20°C)	
Electrolyte Kinematic Viscosity (centistokes):	4.8 (@20°C)	
Electrolyte Fluid Color:	Clear	
Propulsion Battery Coolant Type, Color, Specific Gravity (if applicable):	Air	
Location of Battery Modules:		Inside Passenger Compartment
	X	Outside Passenger Compartment

MEASURE AND RECORD BATTERY STATE OF CHARGE

X	Maximum State of Charge recommended by manufacturer:	400 V
X	Test Voltage ($\geq 95\%$ of Maximum State of Charge):	380 V
	Test Voltage (Within Normal Operating Voltage Range):	

VEHICLE CHASSIS GROUND POINT(S) LOCATION(S)

Details of Vehicle Chassis Ground Point(s) & Location(s)	On Vehicle Exterior Located at Right Front Fender with Paint Removed
Details of Vehicle High Voltage (HV) Location(s)	Located Underneath Vehicle Between HV Battery and Electrical Drive

PROPULSION BATTERY SYSTEM

Details of Propulsion Battery Components	HV Battery Located Outside Passenger Compartment Underneath Vehicle HV Inverter Located Under Hood
--	---

DATA SHEET 3

PRE-IMPACT ELECTRIC ISOLATION MEASUREMENTS & CALCULATIONS

Test Vehicle: 2011 Nissan Leaf Electric
Test Program: FMVSS 305 Electric Vehicles

NHTSA No.: CB5200
Test Date: 9/22/11

VOLTMETER INFORMATION

Make:	Fluke
Model:	11
Serial Number:	68541895
Internal Impedance Value (M Ω):	> 10 M Ω < 100 pF
Resolution (V):	0.001
Last Calibration Date:	7/24/2011

PROPULSION BATTERY VOLTAGE

Measurement shall be made with propulsion battery connected to the vehicle propulsion system, and the vehicle in the "ready-to-drive" (Propulsion motor(s) activated) position.

If voltage measurement is not at the voltage or within the normal operating voltage range specified by the manufacturer, the battery must be charged.

Vb (V):	391.9
---------	-------

PROPULSION BATTERY TO VEHICLE CHASSIS

Vehicle chassis point(s) determined and supplied to contractor by COTR.

V1 (V):	93.6
V2 (V):	342.1

PROPULSION BATTERY TO VEHICLE CHASSIS ACROSS RESISTOR

The known resistance Ro (in ohms) should be approximately 500 times the normal operating voltage of the vehicle (in volts) per SAE J1766.

Ro (Ω):	200200 Ω
------------------	-----------------

DATA SHEET 3 (CONTINUED)

PRE-IMPACT ELECTRICAL ISOLATION MEASUREMENTS & CALCULATIONS

ELECTRICAL ISOLATION MEASUREMENT

Note: If measured voltage is zero and results in a division by zero, record "Zero Volts". This "zero voltage" condition is considered as being compliant.

V1' (V):	2.2
$R_{i1} = R_o (1 + V_2/V_1) [(V_1 - V_1')/V_1']$	
Ri1 (Ω):	38,716,786.1 (~38.7 Mega Ω)
V2' (V):	2.9
$R_{i2} = R_o (1 + V_1/V_2) [(V_2 - V_2')/V_2']$	
Ri2 (Ω):	29,823,348.6 (~29.8 Mega Ω)
Ri = The lesser of Ti1 and Ri2	
Ri Pre-Test ((Ω):	29,823,348.6
Ri/Vb (Ω/V):	76,099.4 (~76.1 KΩ/V)
Minimum Electrical Isolation Value is 500 Ω/V	

Note: Measured 7 minutes 22 seconds before impact.

	Yes, Pass	No, Fail
Is the measured Electrical Isolation Value $\geq$ 500 Ω/V?	X	

DATA SHEET 4
POST-IMPACT DATA

Test Vehicle: 2011 Nissan Leaf Electric
Test Program: FMVSS 305 Electric Vehicles

NHTSA No.: CB5200
Test Date: 9/22/11

VOLTMETER INFORMATION

Make:	Fluke
Model:	11
Serial Number:	68541895
Internal Impedance Value (MΩ):	> 10 MΩ < 100 pF
Nominal Propulsion Battery Voltage (Vb) (V):	360

PROPULSION BATTERY VOLTAGE

NOTE: Record V1, V2, V1', V2' voltage measurements immediately after the impacted vehicle comes to rest.

V1 =	1.0	V	Impact Time:	0	Minutes	47	s
V2 =	0.2	V	Impact Time:	0	Minutes	53	s
V1' =	0.0	V	Impact Time:	0	Minutes	49	s
V2' =	0.0	V	Impact Time:	0	Minutes	55	s

ELECTRICAL ISOLATION MEASUREMENT

Note: If measured voltage is zero and results in a division by zero, record "Zero Volts". This "zero voltage" condition is considered as being compliant.

$R_{i1} = R_o (1 + V_2/V_1) [(V_1 - V_1')/V_1']$							
Ri1 =	0	Ω	Impact Time:	0	Minutes	53	s
$R_{i2} = R_o (1 + V_1/V_2) [(V_2 - V_2')/V_2']$							
Ri2 =	0	Ω	Impact Time:	0	Minutes	55	s
Ri = The lesser of Ri1 and Ri2							
Ri =	0	Ω	Impact Time:	0	Minutes	55	s
Ri/Vb = electrical Isolation Value/Nominal Battery Voltage							
Minimum Electrical Value is 500 Ω/V							
Ri/Vb =	0	Ω/V	Impact Time:	0	Minutes	55	s

	Yes, Pass	No, Fail
Is the measured Electrical Isolation Value $\geq$ 500 Ω/V?	X	

DATA SHEET 4 (CONTINUED)**POST-IMPACT DATA****PROPULSION BATTERY SYSTEM COMPONENTS**

Describe Propulsion Battery Module movement within the passenger compartment [Supply photographs as appropriate]:

Not Applicable

	Yes, Fail	No, Pass
Has the Propulsion Battery Module moved within the passenger compartment?		X

Describe intrusion of an outside Propulsion Battery Component into the passenger compartment [Supply photographs as appropriate]:

None

	Yes, Fail	No, Pass
Has an outside Propulsion Battery Component intruded into the passenger compartment?		X

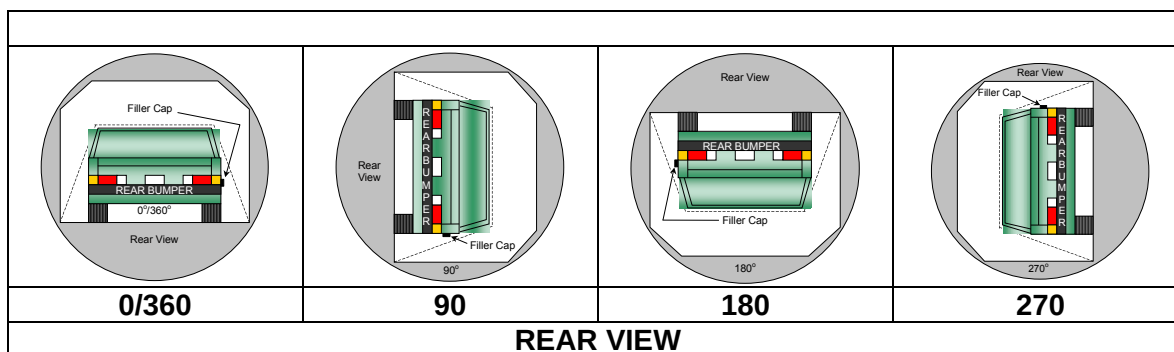
	Yes, Fail	No, Pass
Is propulsion battery electrolyte spillage visible in the passenger compartment?		X

DATA SHEET 5

STATIC ROLLOVER TEST DATA

Test Vehicle: 2011 Nissan Leaf Electric
 Test Program: FMVSS 305 Electric Vehicles

NHTSA No.: CB5200
 Test Date: 9/22/11



DETERMINATION OF PROPULSION BATTERY ELECTROLYTE COLLECTION TIME PERIOD

Rollover Stage	Rotation Time (spec. 1-3 min)				FMVSS 301 Hold Time		Total Time				Next Whole Minute Interval	
0° - 90°	1	minutes	58	seconds	5	minutes	6	minutes	58	seconds	7	minutes
90° - 180°	1	minutes	54	seconds	5	minutes	6	minutes	54	seconds	7	minutes
180° - 270°	1	minutes	50	seconds	5	minutes	6	minutes	50	seconds	7	minutes
270° - 360°	1	minutes	55	seconds	5	minutes	6	minutes	55	seconds	7	minutes

ACTUAL TEST VEHICLE PROPULSION BATTERY ELECTROLYTE SPILLAGE

Rollover Stage	Propulsion Battery Electrolyte Spillage (L)	Spillage Location
0° to 90°	0	
90° to 180°	0	
180° to 270°	0	
270° to 360°	0	

Total Spillage: 0 L

	Yes, Fail	No, Pass
Is the total spillage of propulsion battery electrolyte greater than 5.0 Liters?		X
Is propulsion battery electrolyte spillage visible in the passenger compartment?		X

DATA SHEET 5 (CONTINUED)
STATIC ROLLOVER TEST DATA

VOLTMETER INFORMATION

Make:	Fluke
Model:	11
Serial Number:	68541895
Internal Impedance Value (MΩ):	> 10 MΩ < 100 pF
Nominal Propulsion Battery Voltage (Vb) (V):	360

ELECTRICAL ISOLATION MEASUREMENT

V1 =	0.0	V	90°	Time:	2	Minutes	43	s
V1 =	0.0	V	180°	Time:	2	Minutes	29	s
V1 =	0.0	V	270°	Time:	2	Minutes	28	s
V1 =	0.0	V	360°	Time:	2	Minutes	30	s
V2 =	0.0	V	90°	Time:	2	Minutes	37	s
V2 =	0.0	V	180°	Time:	2	Minutes	24	s
V2 =	0.0	V	270°	Time:	2	Minutes	25	s
V2 =	0.0	V	360°	Time:	2	Minutes	27	s
V1' =	0.0	V	90°	Time:	2	Minutes	32	s
V1' =	0.0	V	180°	Time:	2	Minutes	18	s
V1' =	0.0	V	270°	Time:	2	Minutes	19	s
V1' =	0.0	V	360°	Time:	2	Minutes	24	s
V2' =	0.0	V	90°	Time:	2	Minutes	26	s
V2' =	0.0	V	180°	Time:	2	Minutes	15	s
V2' =	0.0	V	270°	Time:	2	Minutes	14	s
V2' =	0.0	V	360°	Time:	2	Minutes	21	s
Vb =	0.0	V	90°	Time:	2	Minutes	20	s
Vb =	0.0	V	180°	Time:	2	Minutes	10	s
Vb =	0.0	V	270°	Time:	2	Minutes	10	s
Vb =	0.0	V	360°	Time:	2	Minutes	17	s

DATA SHEET 5 (CONTINUED)
STATIC ROLLOVER TEST DATA

ELECTRICAL ISOLATION CALCULATION

Note: If measured voltage is zero and results in a division by zero, record "Zero Volts". This "zero voltage" condition is considered as being compliant.

$R_{i1} = R_o (1 + V_2/V_1) [(V_1 - V_1')/V_1']$								
R _{i1} =	Zero Volts	Ω	90°	Time:	2	Minutes	37	s
R _{i1} =	Zero Volts	Ω	180°	Time:	2	Minutes	24	s
R _{i1} =	Zero Volts	Ω	270°	Time:	2	Minutes	25	s
R _{i1} =	Zero Volts	Ω	360°	Time:	2	Minutes	27	s
$R_{i2} = R_o (1 + V_1/V_2) [(V_2 - V_2')/V_2']$								
R _{i2} =	Zero Volts	Ω	90°	Time:	2	Minutes	26	s
R _{i2} =	Zero Volts	Ω	180°	Time:	2	Minutes	15	s
R _{i2} =	Zero Volts	Ω	270°	Time:	2	Minutes	14	s
R _{i2} =	Zero Volts	Ω	360°	Time:	2	Minutes	21	s
R _i = The lesser of R _{i1} and R _{i2}								
R _i =	Zero Volts	Ω	90°	Time:	2	Minutes	37	s
R _i =	Zero Volts	Ω	180°	Time:	2	Minutes	24	s
R _i =	Zero Volts	Ω	270°	Time:	2	Minutes	25	s
R _i =	Zero Volts	Ω	360°	Time:	2	Minutes	27	s
R _i /V _b = Electrical Isolation Value/Nominal Battery Voltage Minimum Electrical Isolation Value is 500 Ω /V								
R _i /V _b =	Zero Volts	Ω/V	90°	Time:	2	Minutes	37	s
R _i /V _b =	Zero Volts	Ω/V	180°	Time:	2	Minutes	24	s
R _i /V _b =	Zero Volts	Ω/V	270°	Time:	2	Minutes	25	s
R _i /V _b =	Zero Volts	Ω/V	360°	Time:	2	Minutes	27	s

	Yes, Pass	No, Fail
Is the measured Electrical Isolation Value $\geq$ 500 Ω/V?	X	

APPENDIX A

CRASH TEST DATA

TABLE OF DATA PLOTS

		<u>Page No.</u>
Figure No. 1.	Driver Head X Acceleration vs. Time	A-1
Figure No. 2.	Driver Head Y Acceleration vs. Time	A-1
Figure No. 3.	Driver Head Z Acceleration vs. Time	A-1
Figure No. 4.	Driver Head Resultant Acceleration vs. Time	A-1
Figure No. 5.	Driver Head X Velocity vs. Time	A-2
Figure No. 6.	Driver Head Y Velocity vs. Time	A-2
Figure No. 7.	Driver Head Z Velocity vs. Time	A-2
Figure No. 8.	Driver Neck Force X vs. Time	A-3
Figure No. 9.	Driver Neck Force Y vs. Time	A-3
Figure No. 10.	Driver Neck Force Z vs. Time	A-3
Figure No. 11.	Driver Neck Force Resultant vs. Time	A-3
Figure No. 12.	Driver Neck Moment X vs. Time	A-4
Figure No. 13.	Driver Neck Moment Y vs. Time	A-4
Figure No. 14.	Driver Neck Moment Z vs. Time	A-4
Figure No. 15.	Driver Neck Moment Resultant vs. Time	A-4
Figure No. 16.	Driver Chest X Acceleration vs. Time	A-5
Figure No. 17.	Driver Chest Y Acceleration vs. Time	A-5
Figure No. 18.	Driver Chest Z Acceleration vs. Time	A-5
Figure No. 19.	Driver Chest Resultant Acceleration vs. Time	A-5
Figure No. 20.	Driver Chest X Velocity vs. Time	A-6
Figure No. 21.	Driver Chest Y Velocity vs. Time	A-6
Figure No. 22.	Driver Chest Z Velocity vs. Time	A-6
Figure No. 23.	Driver Chest Displacement vs. Time	A-6
Figure No. 24.	Driver Left Femur Force vs. Time	A-7
Figure No. 25.	Driver Right Femur Force vs. Time	A-7
Figure No. 26.	Passenger Head X Acceleration vs. Time	A-8
Figure No. 27.	Passenger Head Y Acceleration vs. Time	A-8
Figure No. 28.	Passenger Head Z Acceleration vs. Time	A-8
Figure No. 29.	Passenger Head Resultant Acceleration vs. Time	A-8
Figure No. 30.	Passenger Head X Velocity vs. Time	A-9

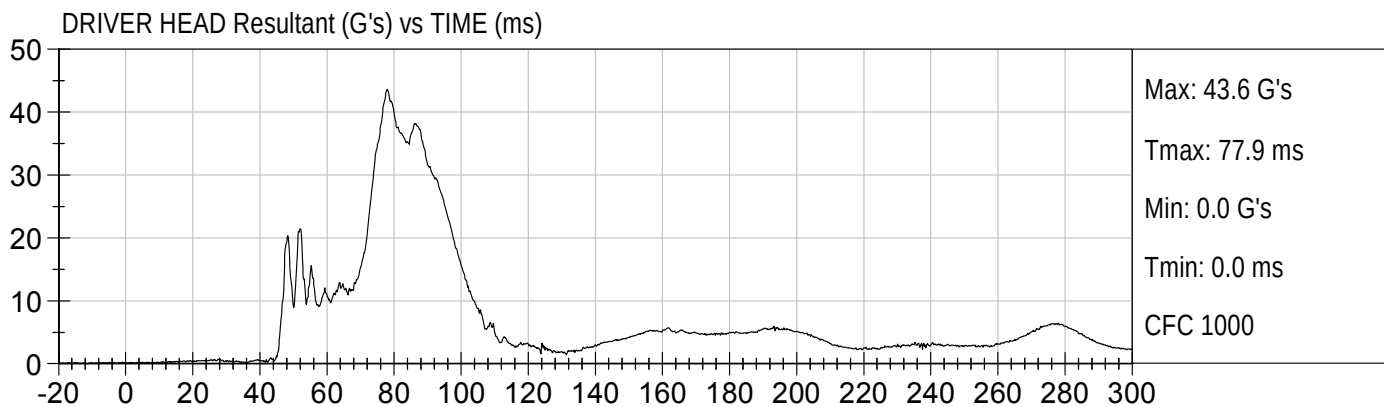
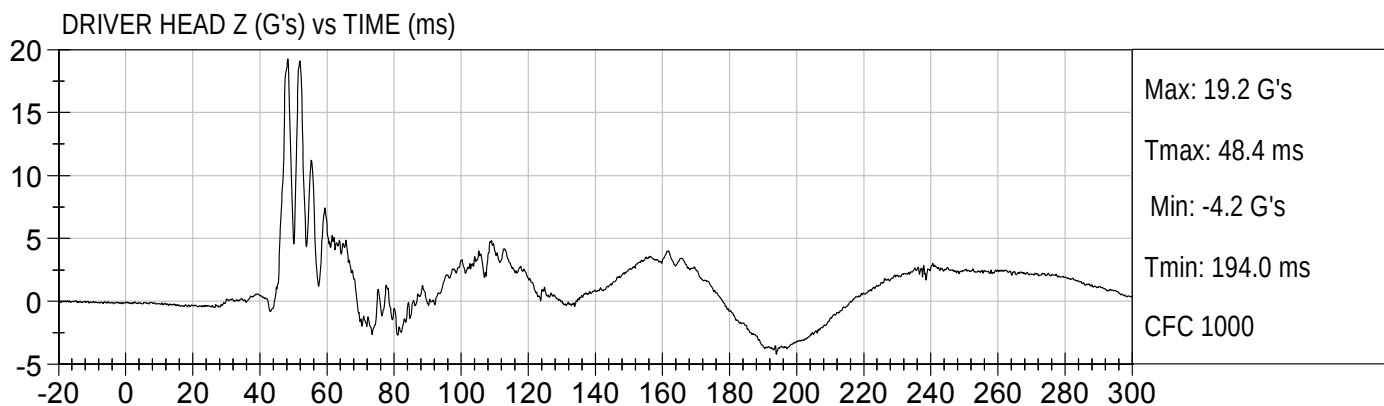
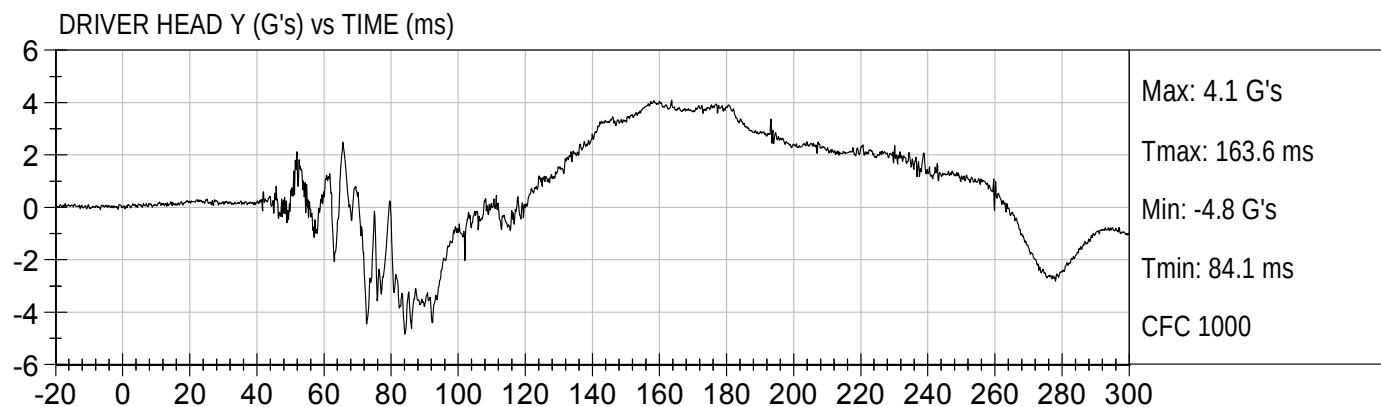
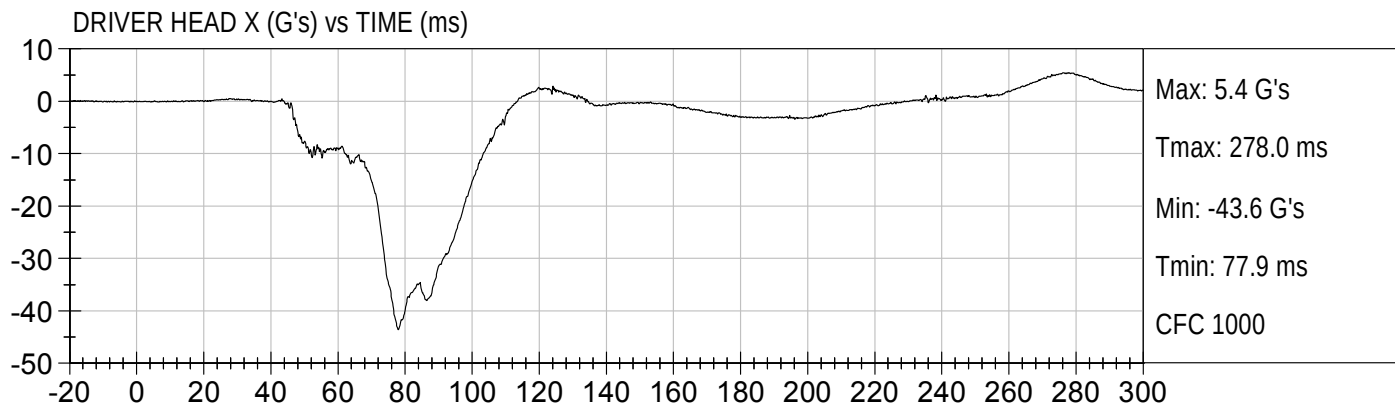
	<u>Page No.</u>
Figure No. 31. Passenger Head Y Velocity vs. Time	A-9
Figure No. 32. Passenger Head Z Velocity vs. Time	A-9
Figure No. 33. Passenger Neck Force X vs. Time	A-10
Figure No. 34. Passenger Neck Force Y vs. Time	A-10
Figure No. 35. Passenger Neck Force Z vs. Time	A-10
Figure No. 36. Passenger Neck Force Resultant vs. Time	A-10
Figure No. 37. Passenger Neck Moment X vs. Time	A-11
Figure No. 38. Passenger Neck Moment Y vs. Time	A-11
Figure No. 39. Passenger Neck Moment Z vs. Time	A-11
Figure No. 40. Passenger Neck Moment Resultant vs. Time	A-11
Figure No. 41. Passenger Chest X Acceleration vs. Time	A-12
Figure No. 42. Passenger Chest Y Acceleration vs. Time	A-12
Figure No. 43. Passenger Chest Z Acceleration vs. Time	A-12
Figure No. 44. Passenger Chest Resultant Acceleration vs. Time	A-12
Figure No. 45. Passenger Chest X Velocity vs. Time	A-13
Figure No. 46. Passenger Chest Y Velocity vs. Time	A-13
Figure No. 47. Passenger Chest Z Velocity vs. Time	A-13
Figure No. 48. Passenger Chest Displacement vs. Time	A-13
Figure No. 49. Passenger Left Femur Force vs. Time	A-14
Figure No. 50. Passenger Right Femur Force vs. Time	A-14
Figure No. 51. Driver Nij (N_{TF}) vs. Time	A-15
Figure No. 52. Driver Nij (N_{TE}) vs. Time	A-15
Figure No. 53. Driver Nij (N_{CF}) vs. Time	A-15
Figure No. 54. Driver Nij (N_{CE}) vs. Time	A-15
Figure No. 55. Passenger Nij (N_{TF}) vs. Time	A-16
Figure No. 56. Passenger Nij (N_{TE}) vs. Time	A-16
Figure No. 57. Passenger Nij (N_{CF}) vs. Time	A-16
Figure No. 58. Passenger Nij (N_{CE}) vs. Time	A-16
Figure No. 59. Driver Occipital Condyle Moment vs. Time	A-17
Figure No. 60. Passenger Occipital Condyle Moment vs. Time	A-17
Figure No. 61. Left Rear Seat Crossmember X Acceleration vs. Time	A-18
Figure No. 62. Left Rear Seat Crossmember X Velocity vs. Time	A-18
Figure No. 63. Right Rear Seat Crossmember X Acceleration vs. Time	A-18
Figure No. 64. Right Rear Seat Crossmember X Velocity vs. Time	A-18
Figure No. 65. Top of Engine X Acceleration vs. Time	A-19

		<u>Page No.</u>
Figure No. 66.	Top of Engine X Velocity vs. Time	A-19
Figure No. 67.	Bottom of Engine X Acceleration vs. Time	A-19
Figure No. 68.	Bottom of Engine X Velocity vs. Time	A-19
Figure No. 69.	Left Brake Caliper X Acceleration vs. Time	A-20
Figure No. 70.	Left Brake Caliper X Velocity vs. Time	A-20
Figure No. 71.	Right Brake Caliper X Acceleration vs. Time	A-20
Figure No. 72.	Right Brake Caliper X Velocity vs. Time	A-20
Figure No. 73.	Instrument Panel X Acceleration vs. Time	A-21
Figure No. 74.	Instrument Panel X Velocity vs. Time	A-21
Figure No. 75.	Trunk Z Acceleration vs. Time	A-21
Figure No. 76.	Trunk Z Velocity vs. Time	A-21



25 MPH LH 40% ODB BELTED
2011 NISSAN LEAF (CB5200)

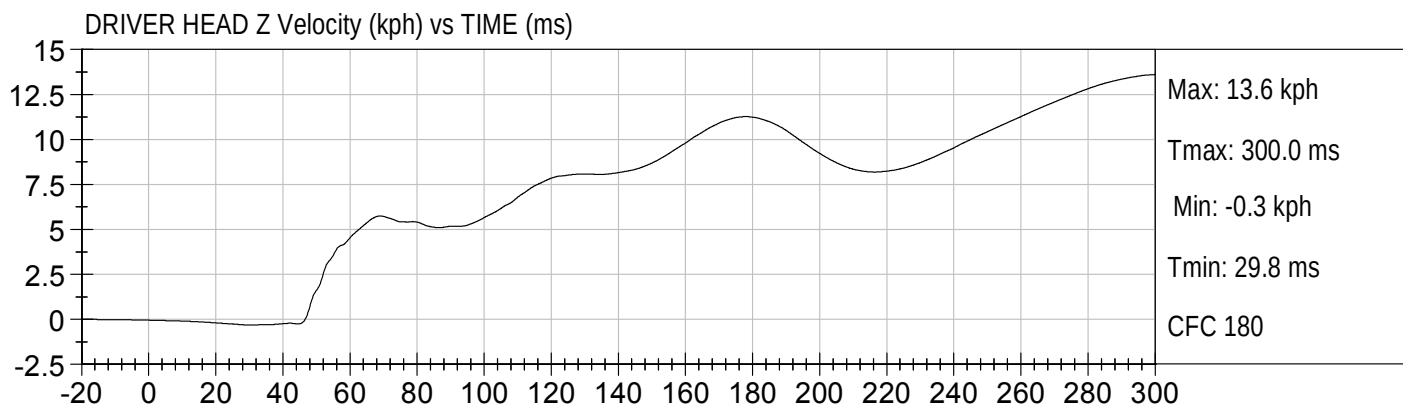
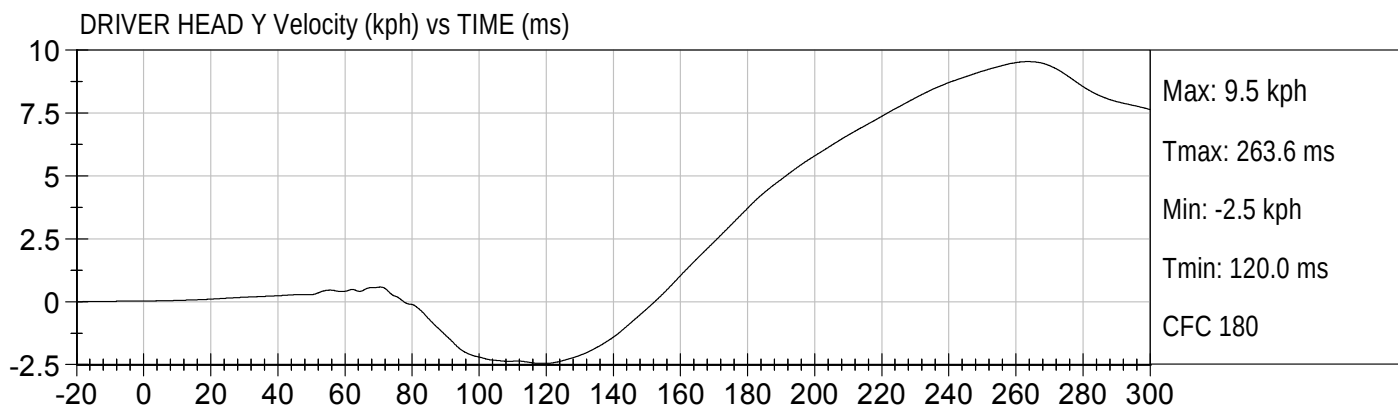
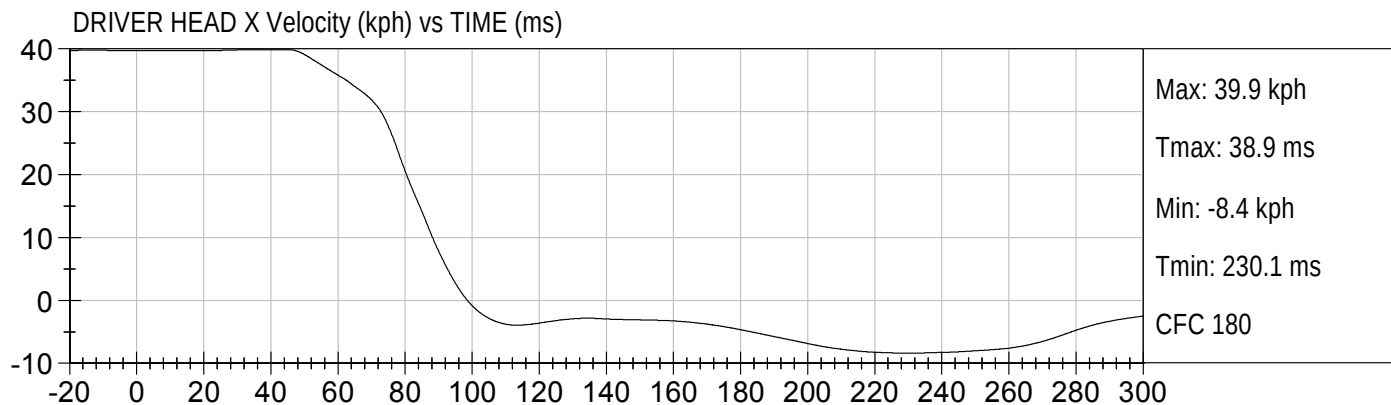
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25 MPH LH 40% ODB BELTED
2011 NISSAN LEAF (CB5200)

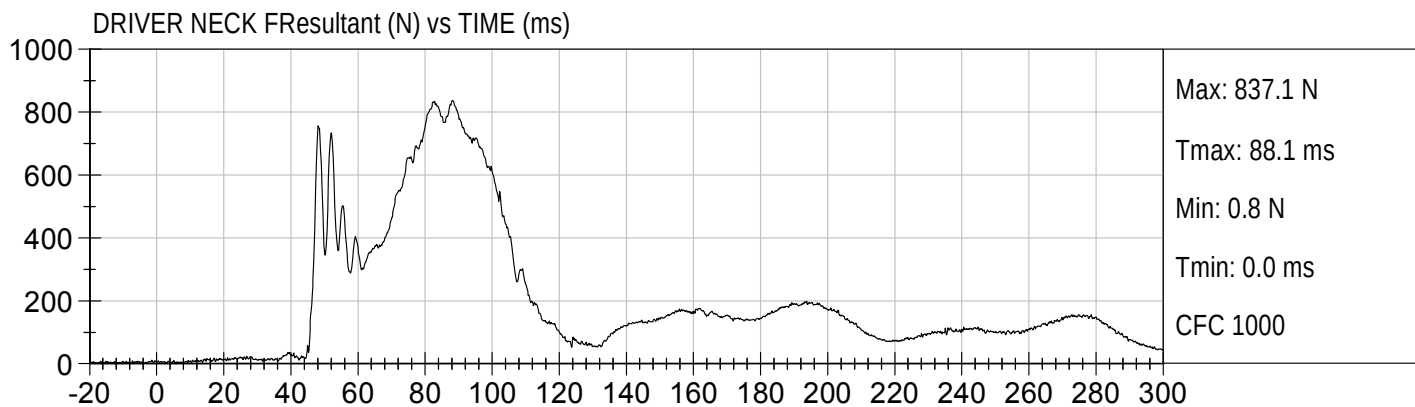
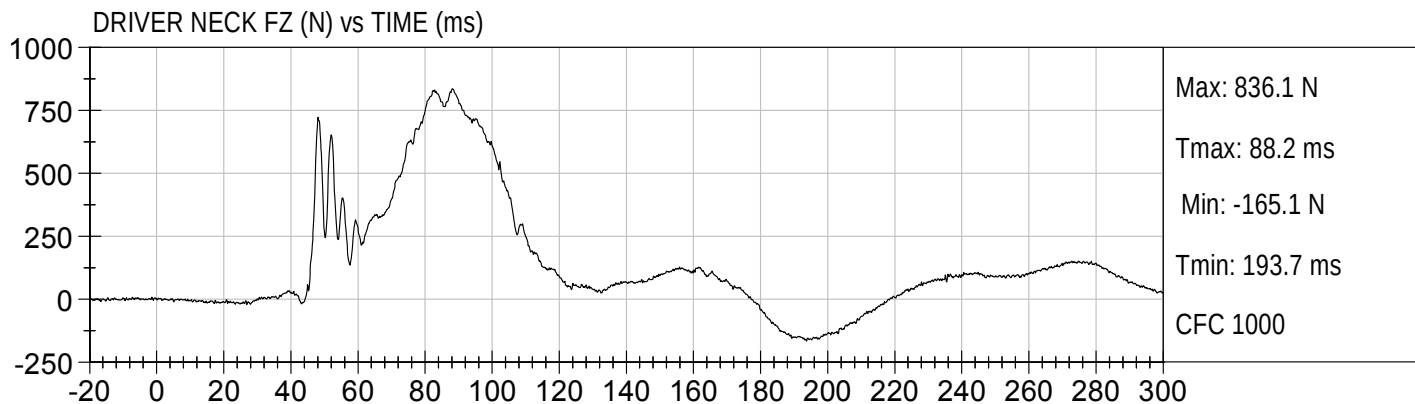
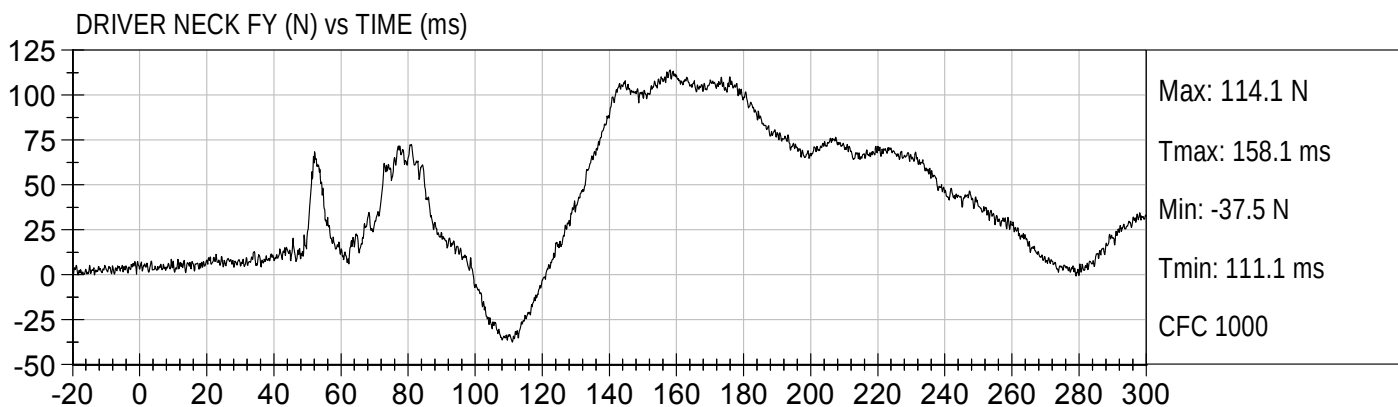
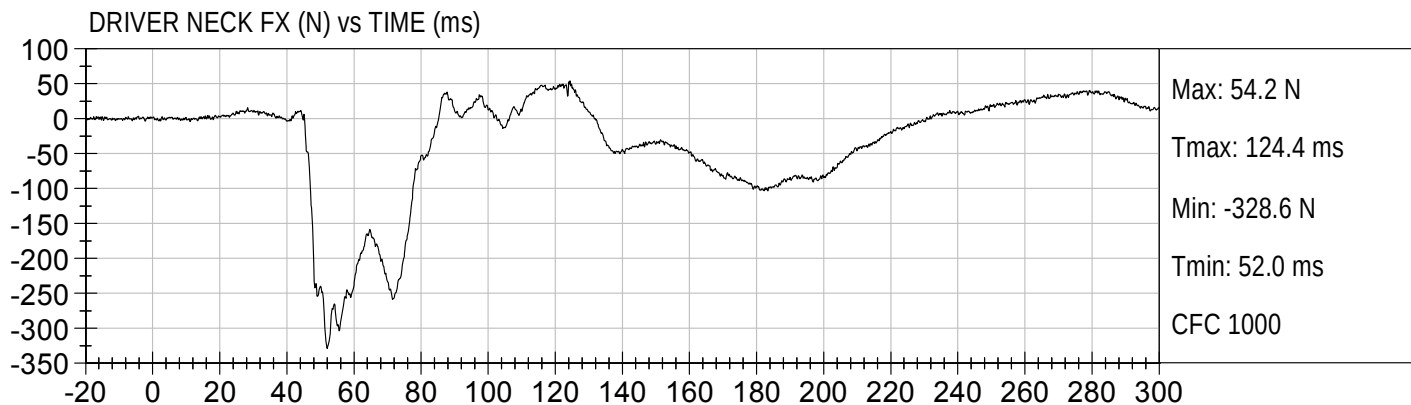
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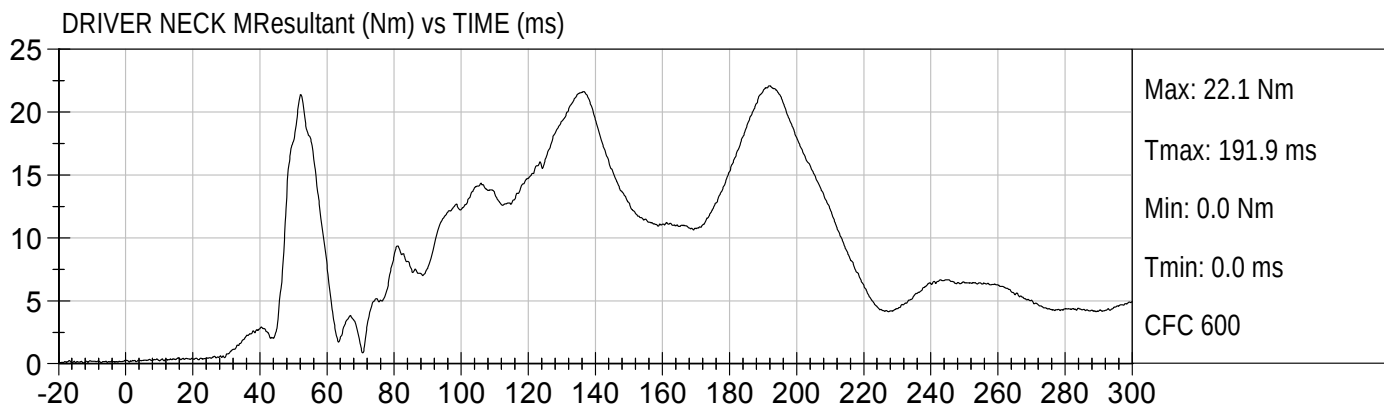
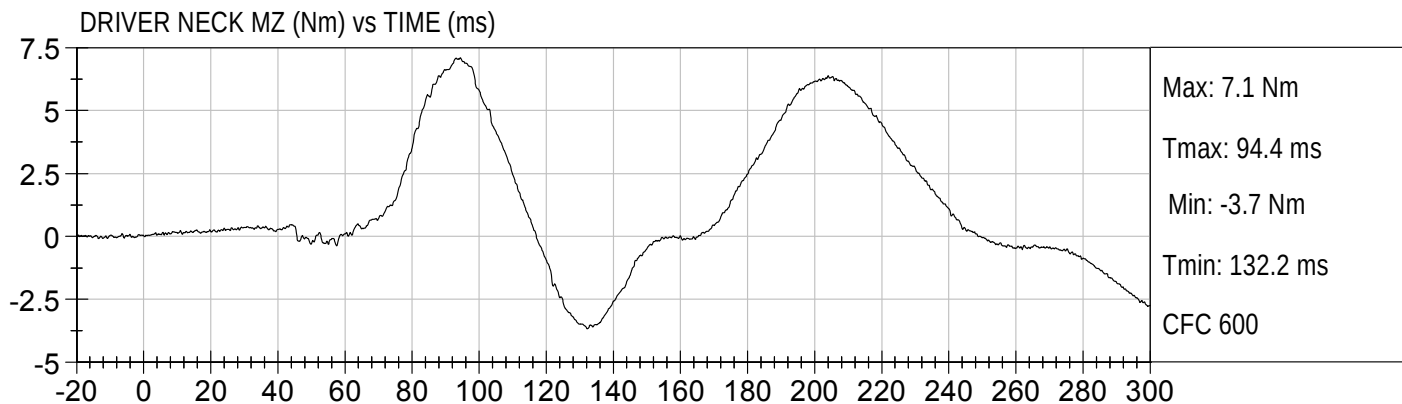
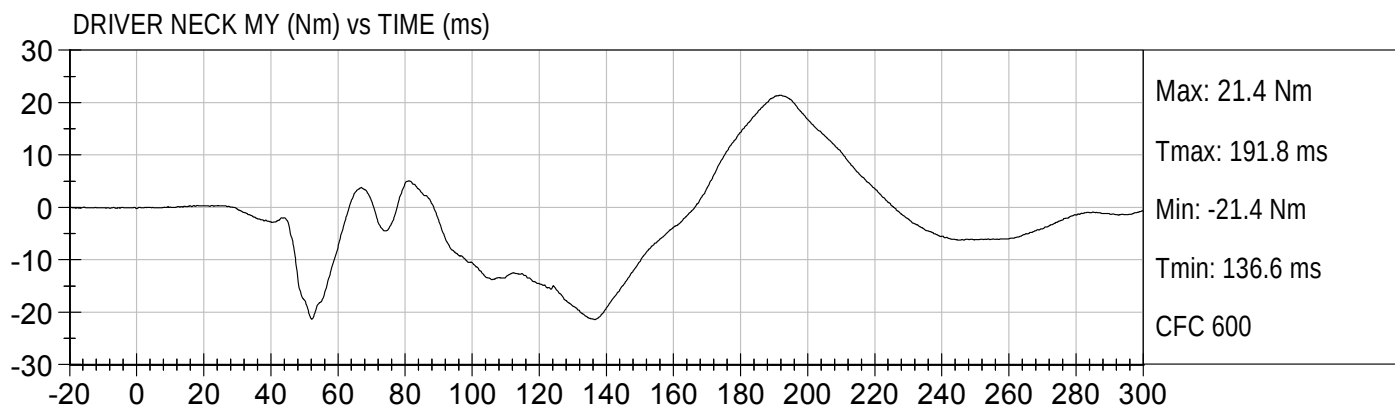
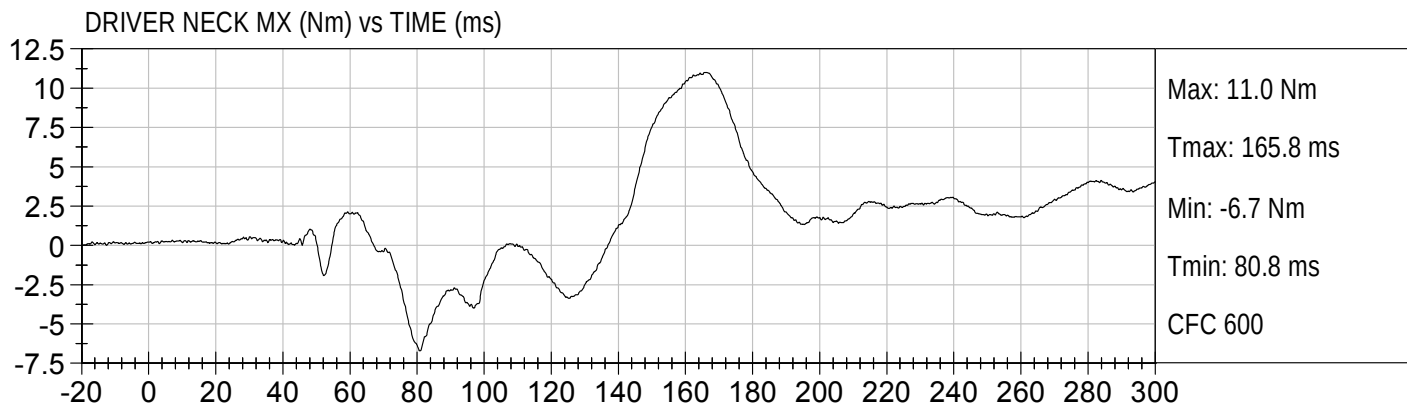
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2011 NISSAN LEAF (CB5200)

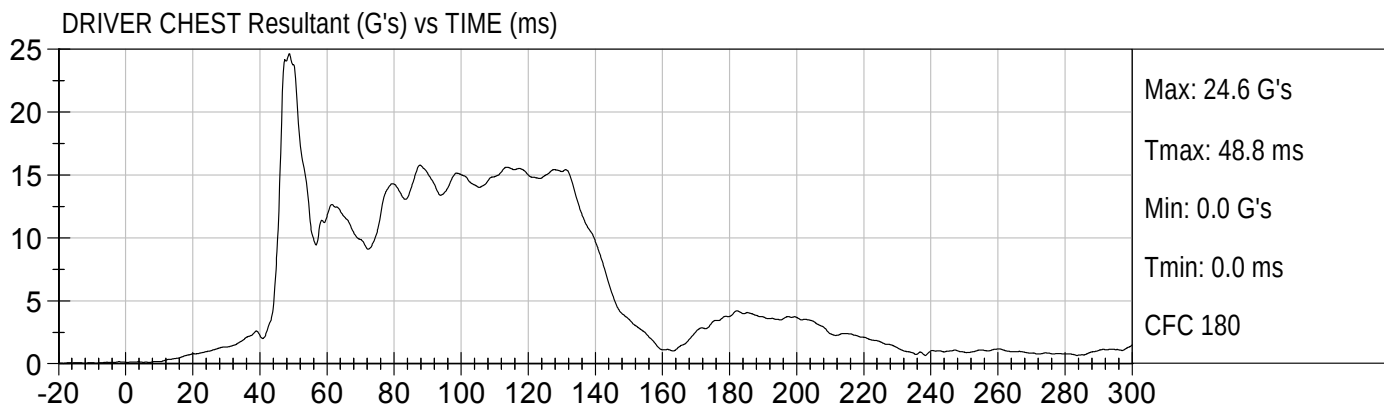
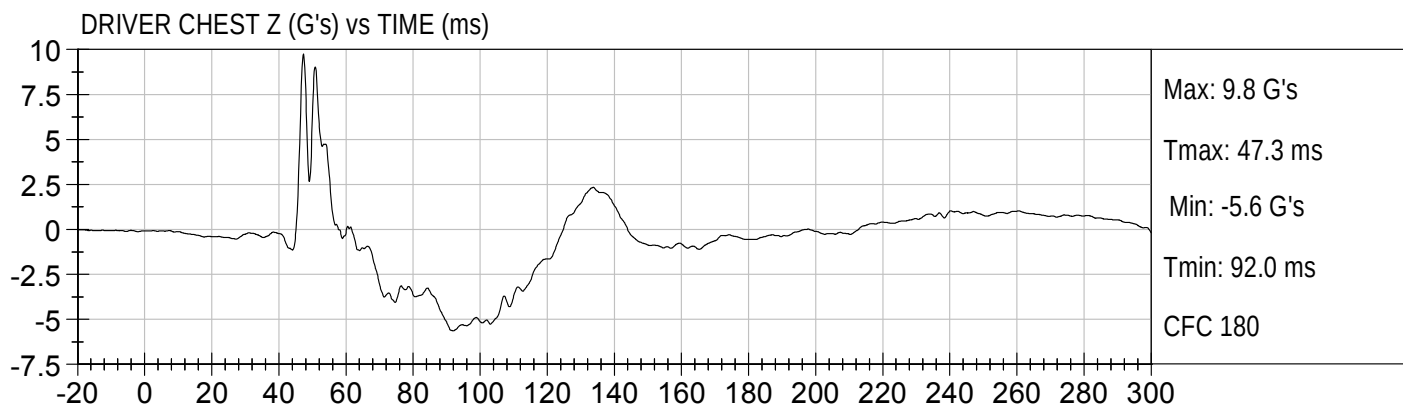
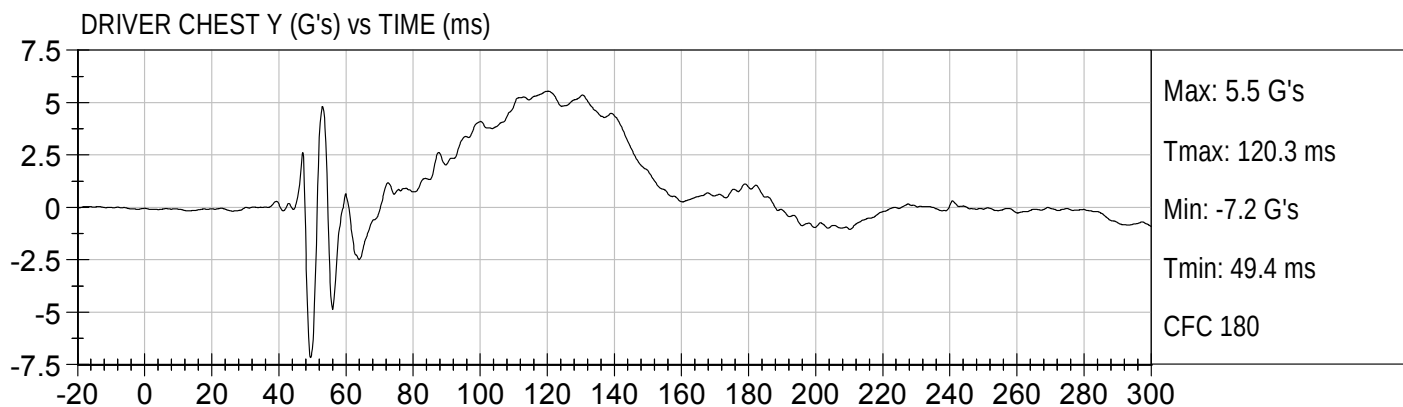
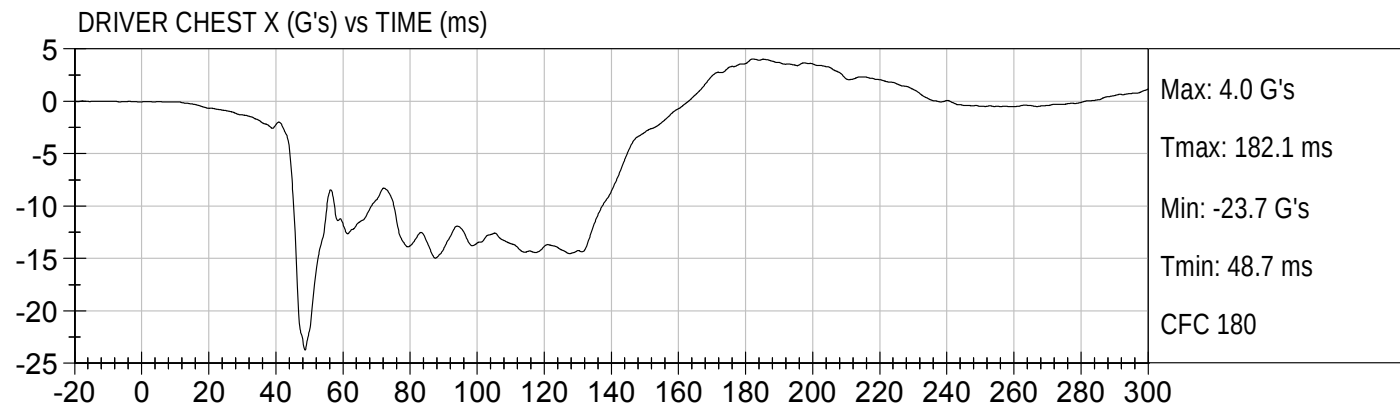
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2011 NISSAN LEAF (CB5200)

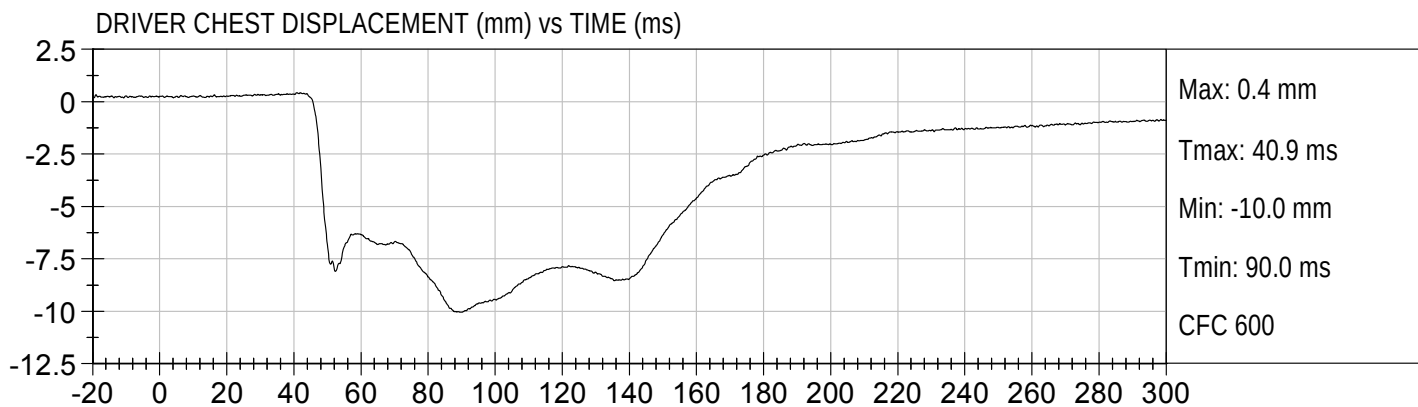
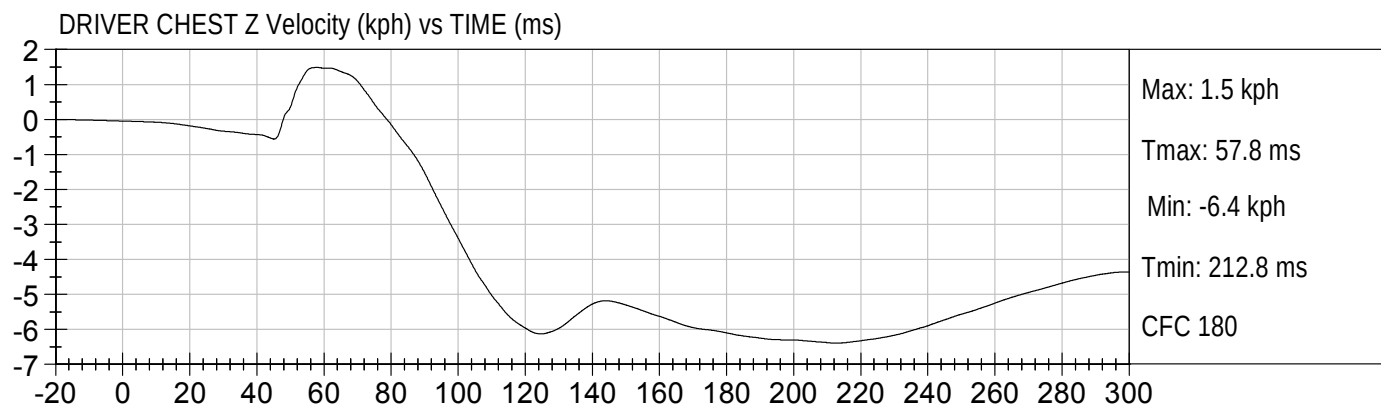
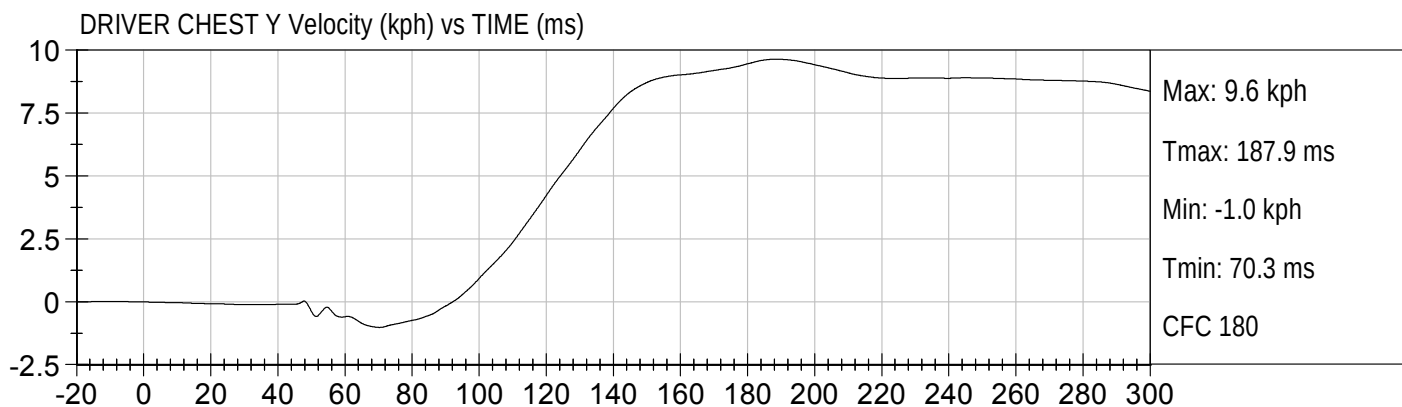
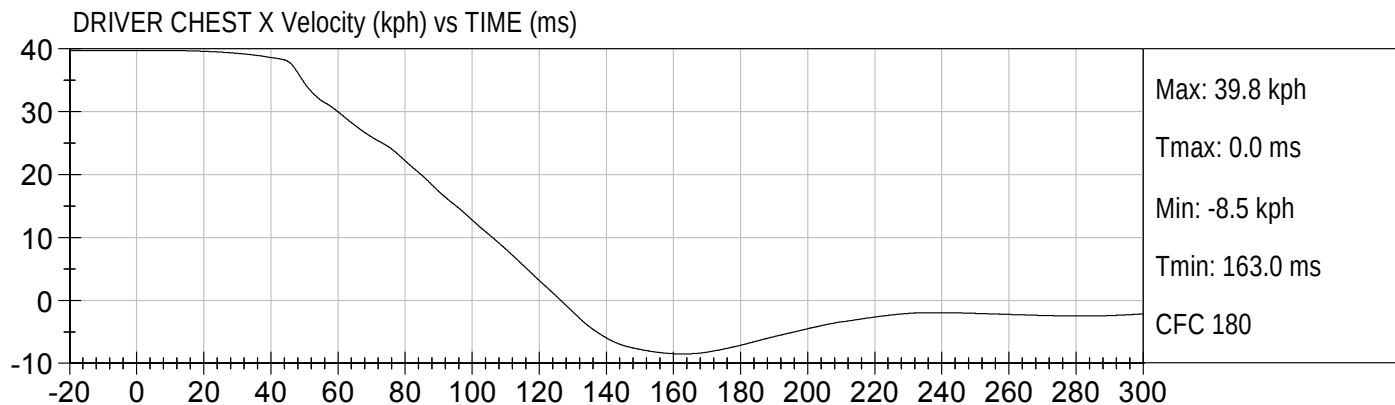
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2011 NISSAN LEAF (CB5200)

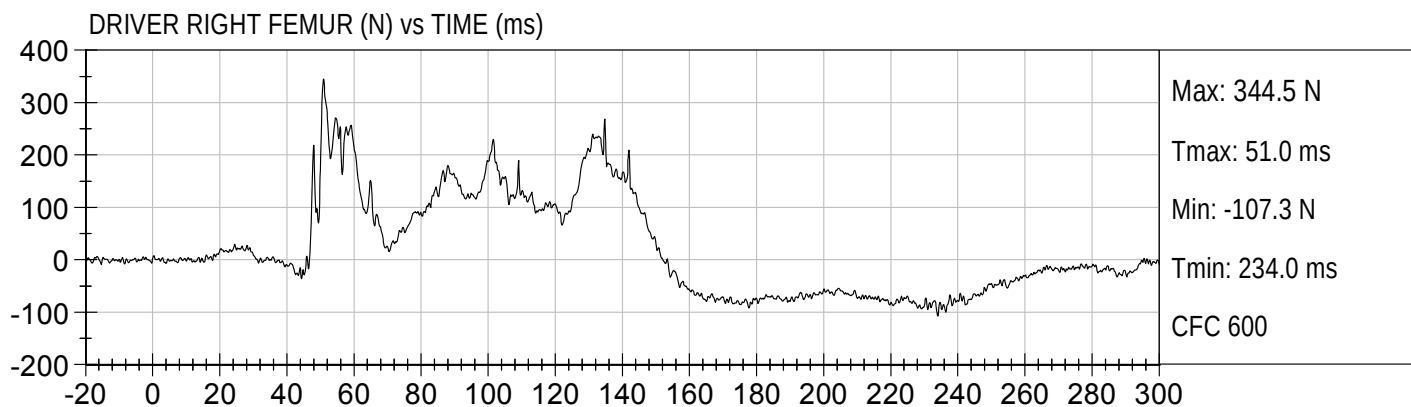
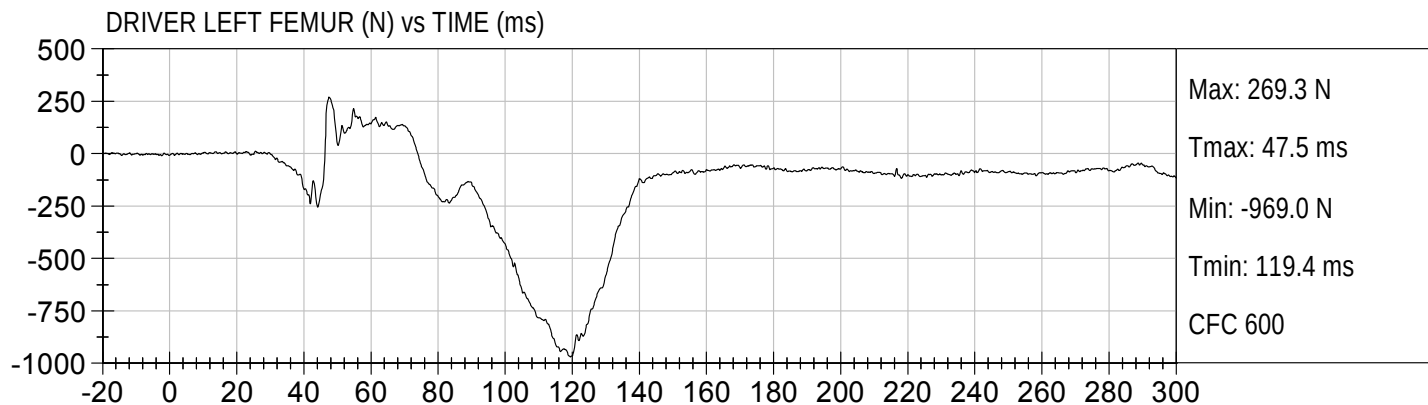
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25 MPH LH 40% ODB BELTED
2011 NISSAN LEAF (CB5200)

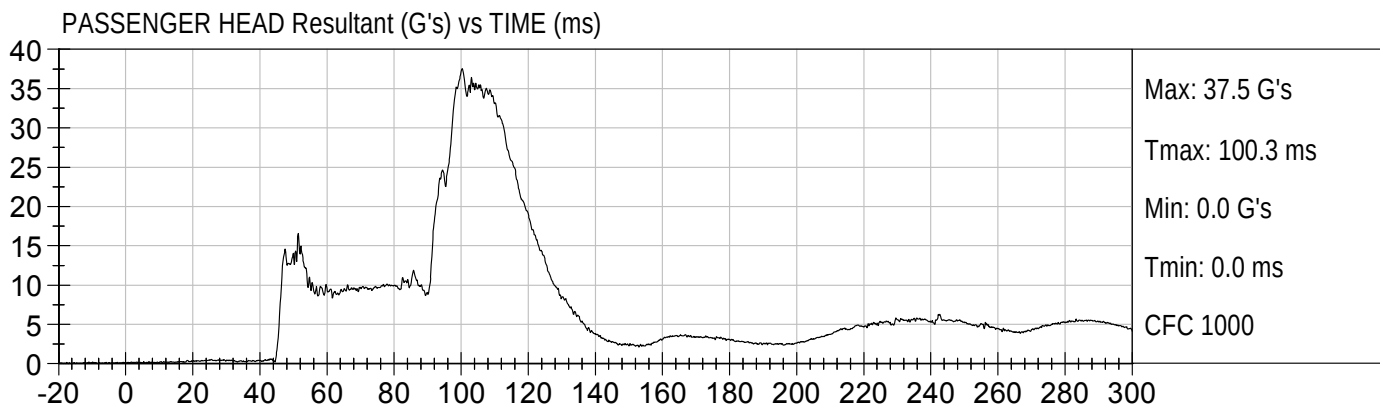
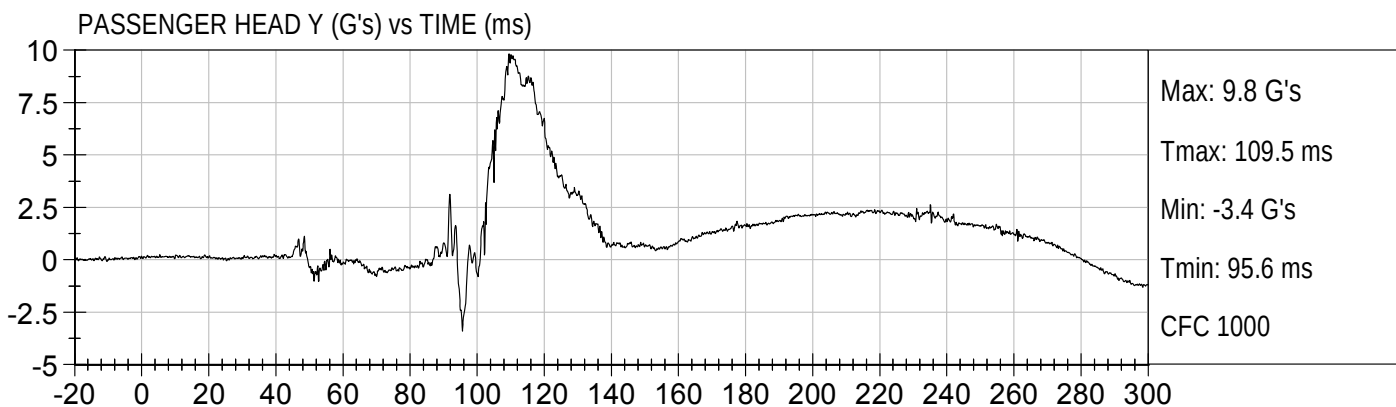
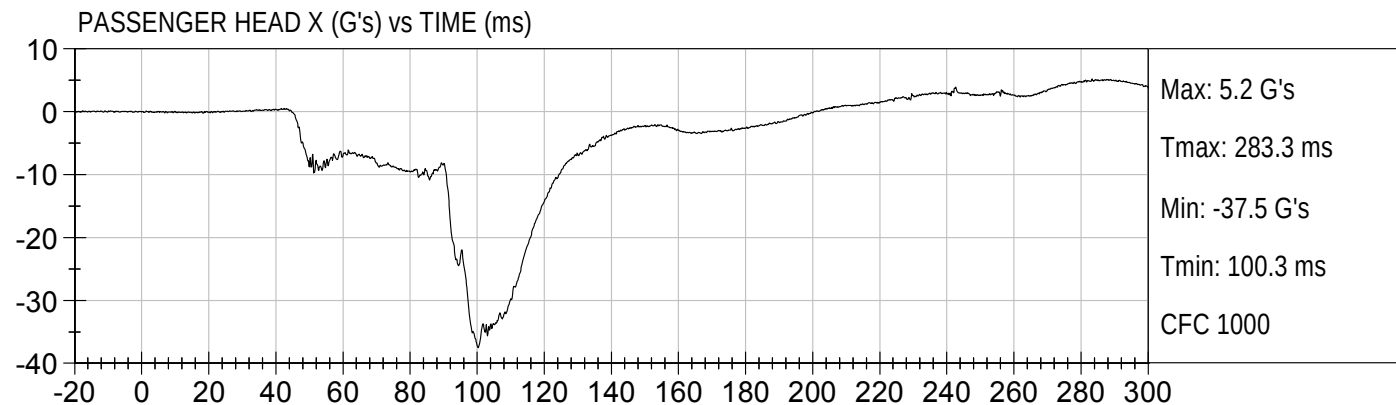
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25 MPH LH 40% ODB BELTED
2011 NISSAN LEAF (CB5200)

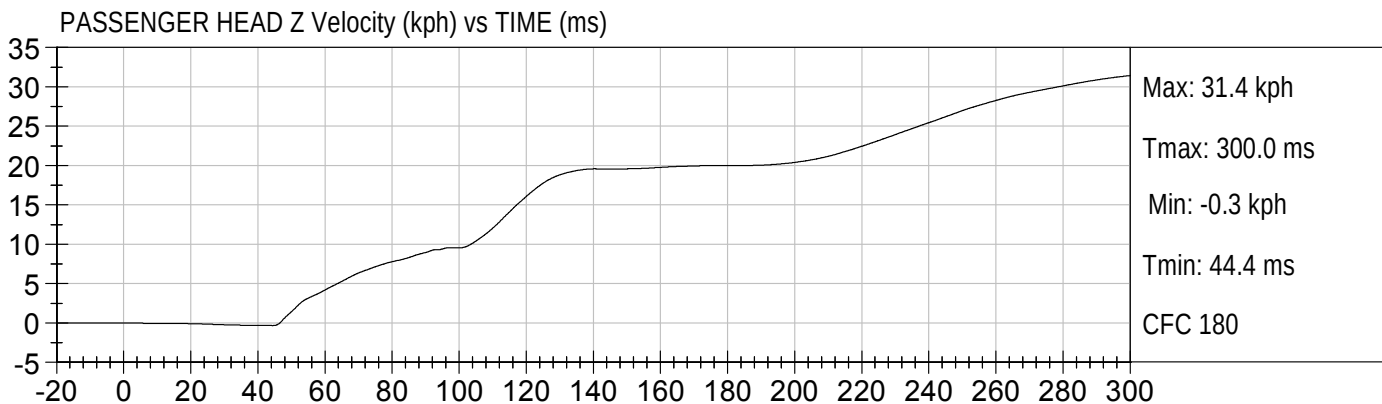
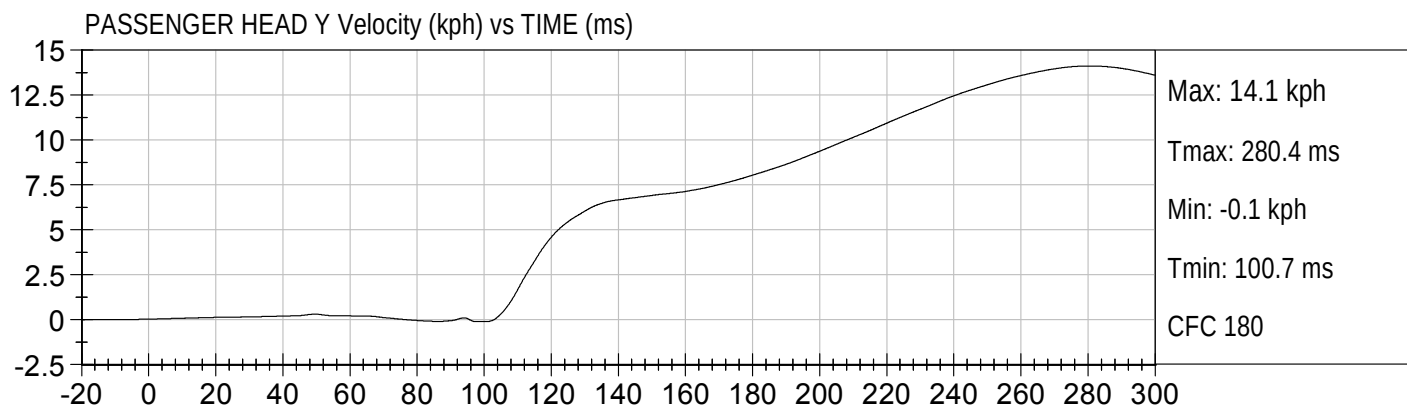
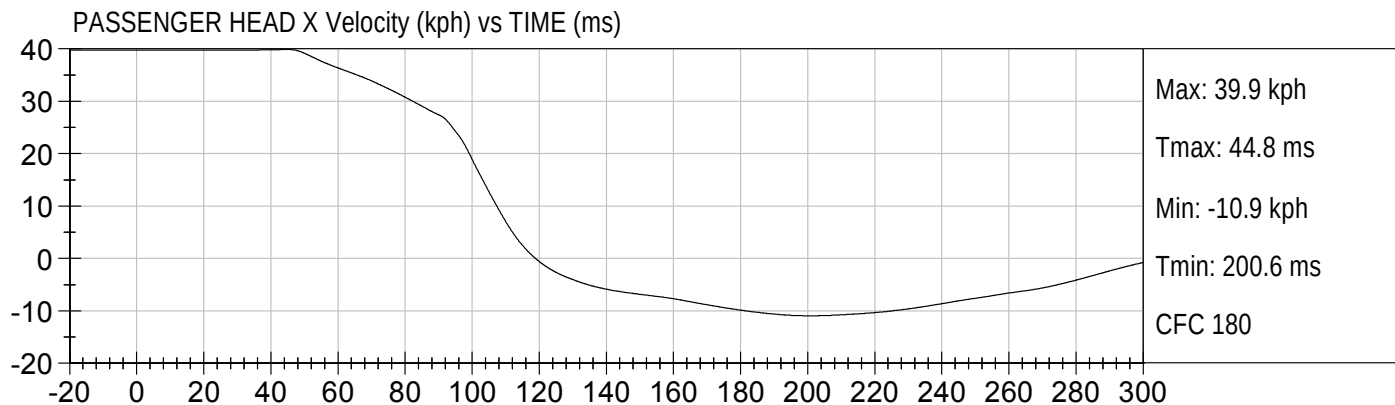
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2011 NISSAN LEAF (CB5200)

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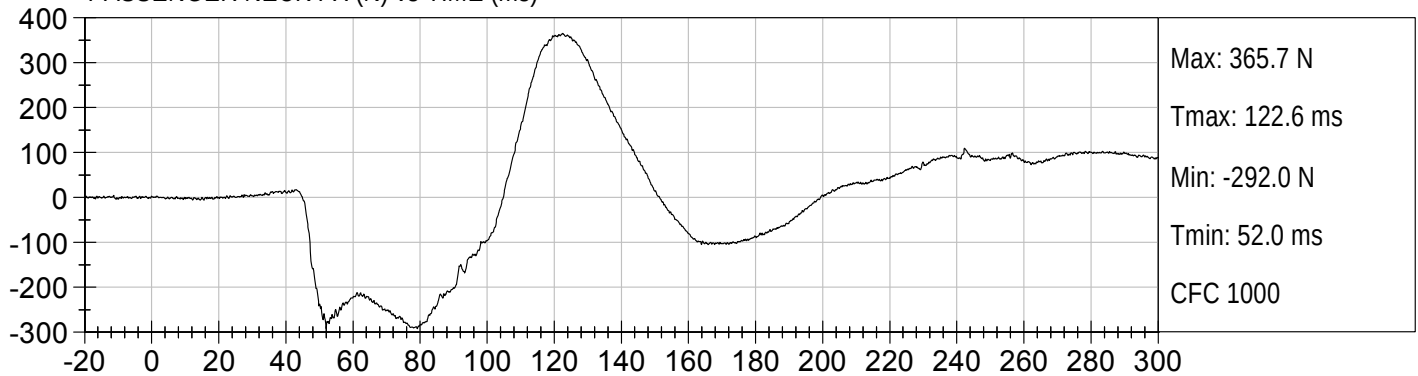




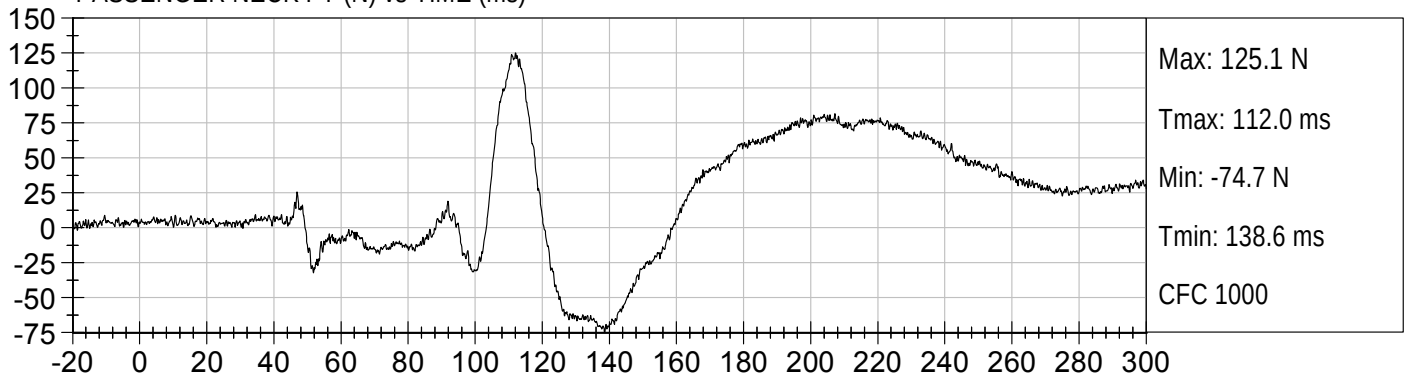
25 MPH LH 40% ODB BELTED
2011 NISSAN LEAF (CB5200)

Test Date: 09/22/2011
Speed: 24.7 mph (39.8 km/h)

PASSENGER NECK FX (N) vs TIME (ms)



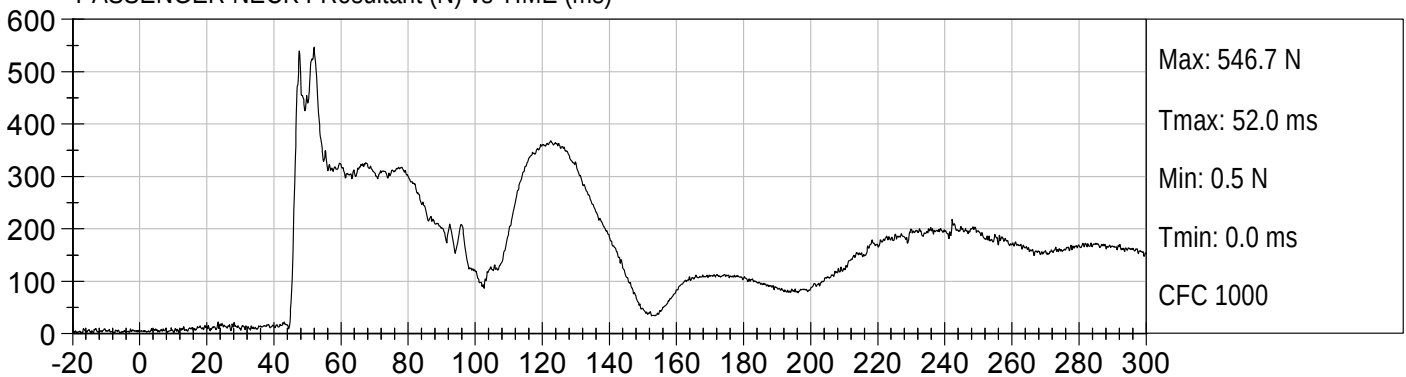
PASSENGER NECK FY (N) vs TIME (ms)



PASSENGER NECK FZ (N) vs TIME (ms)



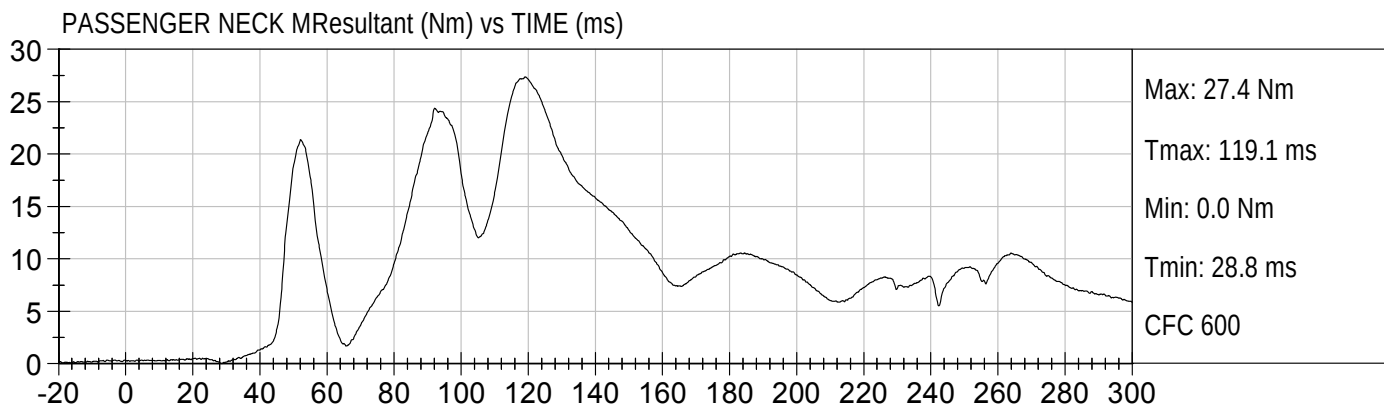
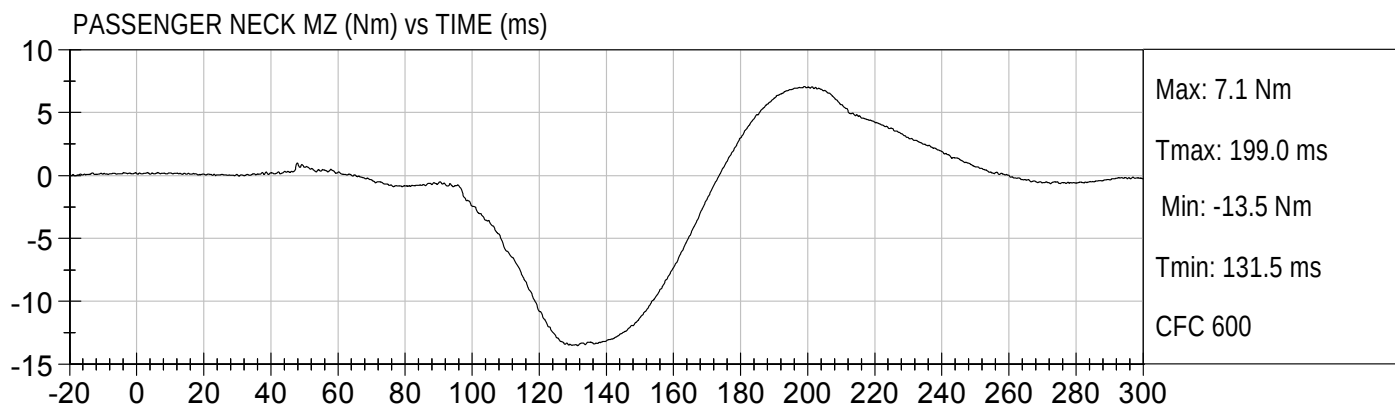
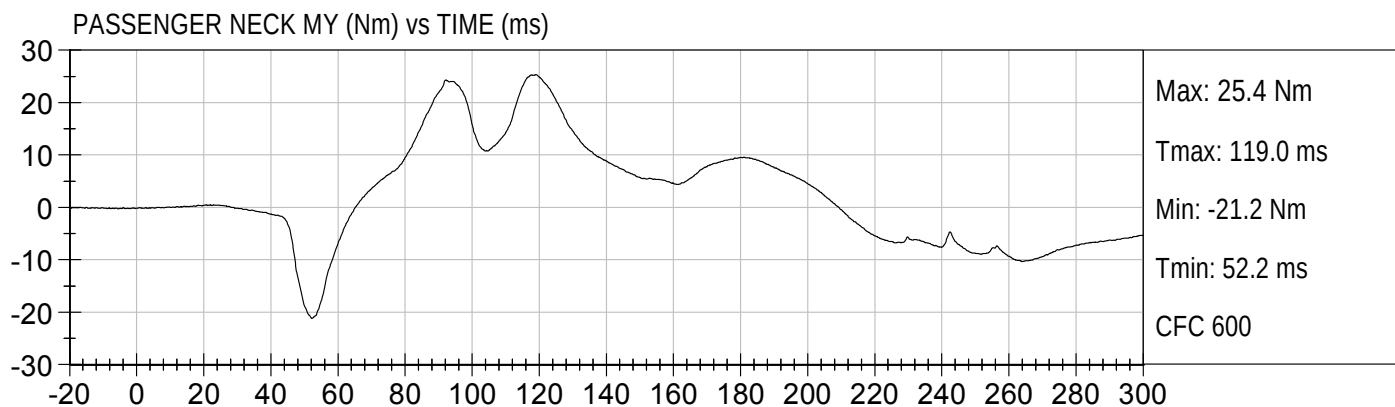
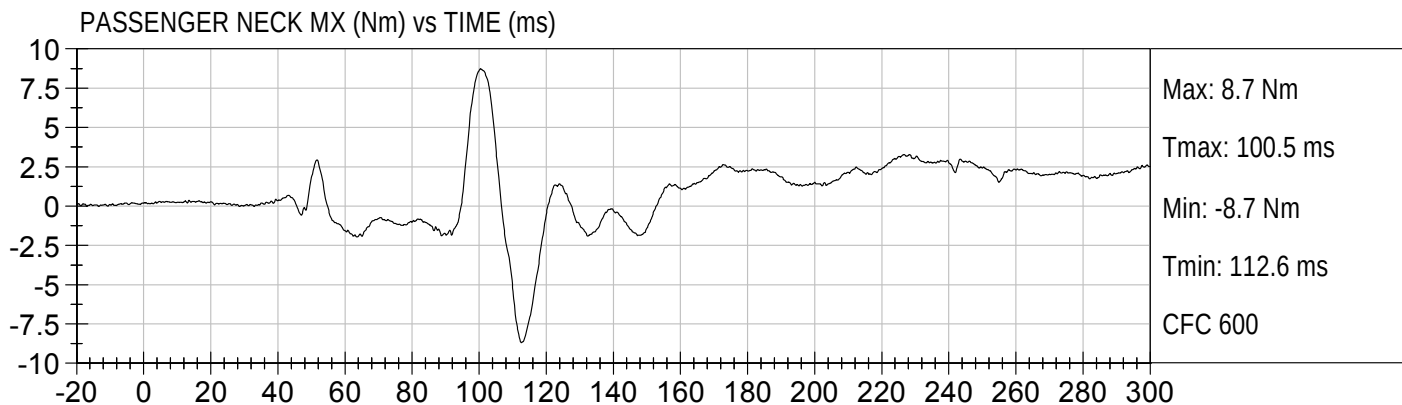
PASSENGER NECK FResultant (N) vs TIME (ms)





25 MPH LH 40% ODB BELTED
2011 NISSAN LEAF (CB5200)

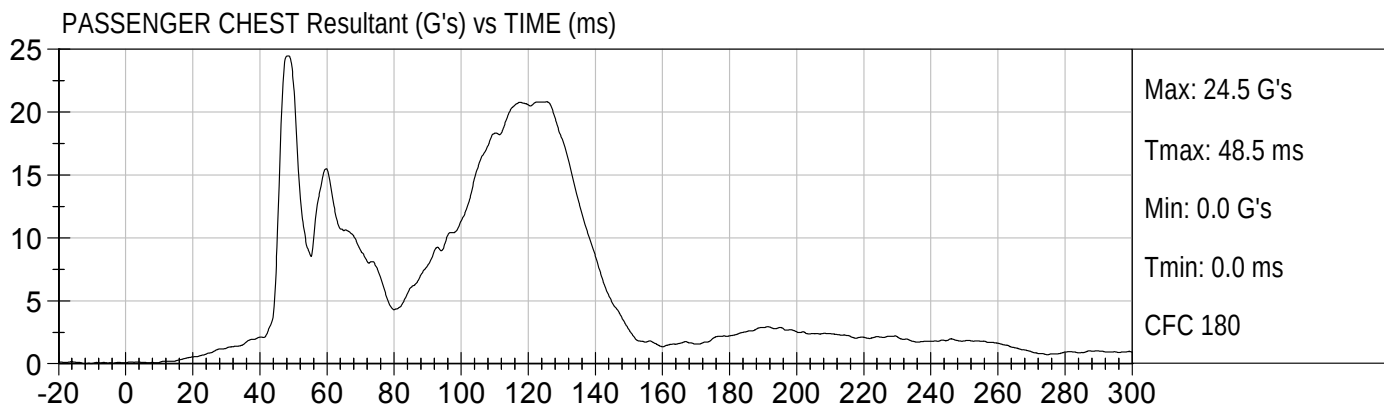
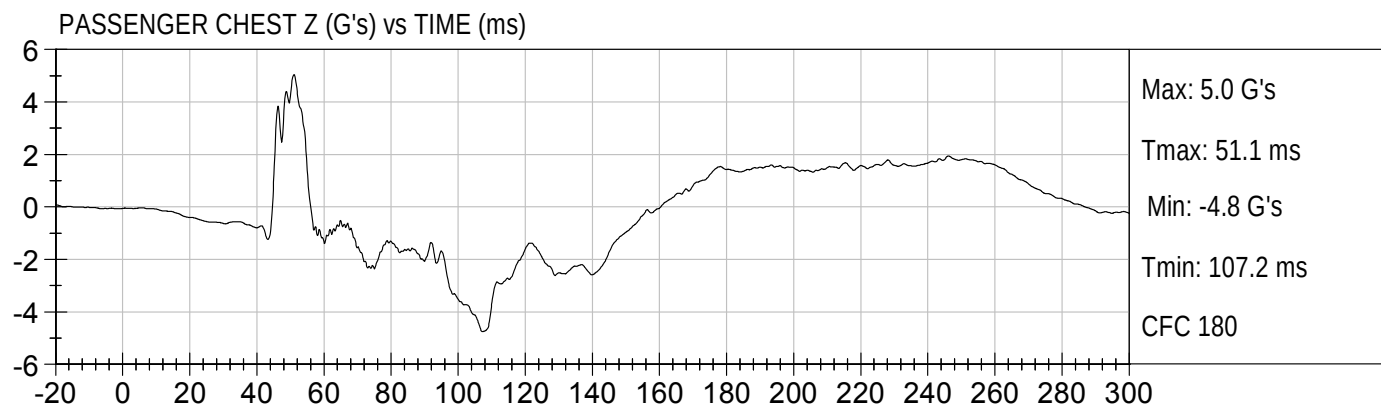
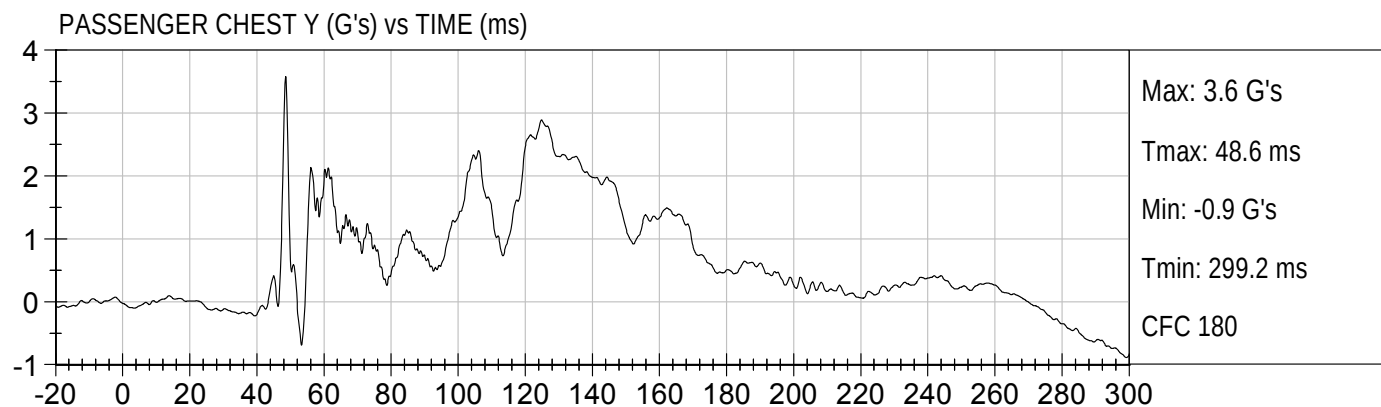
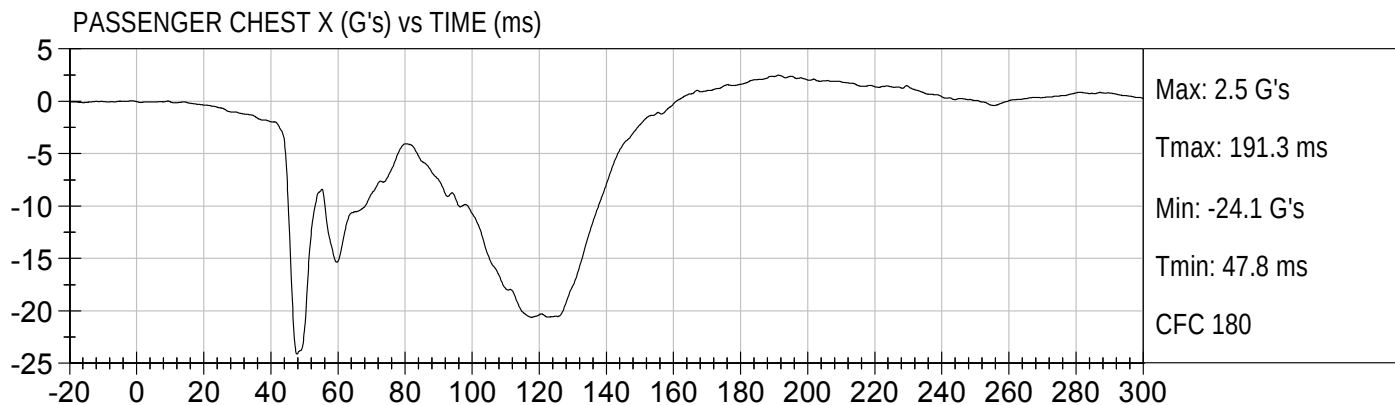
Test Date: 09/22/2011
Speed: 24.7 mph (39.8 km/h)

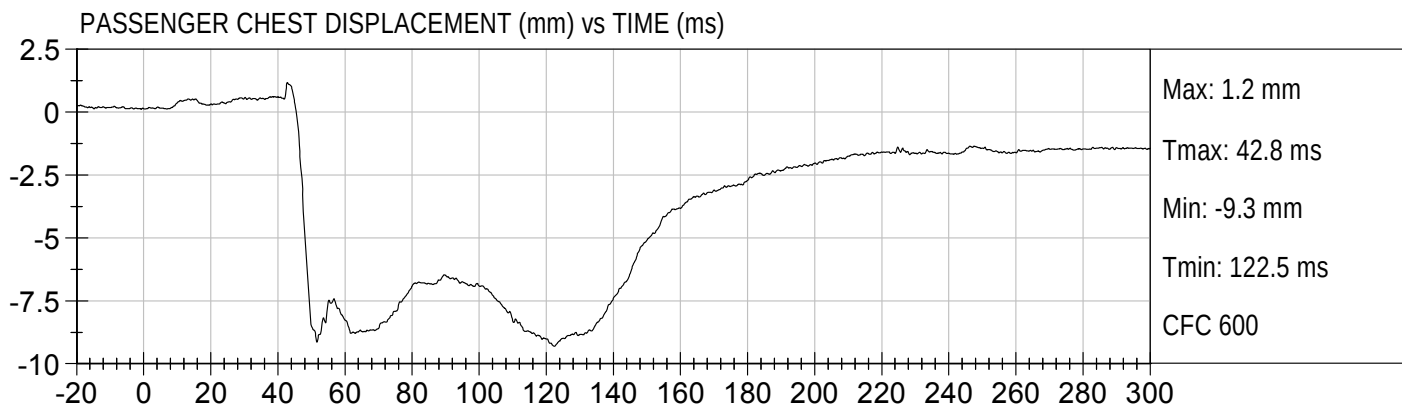
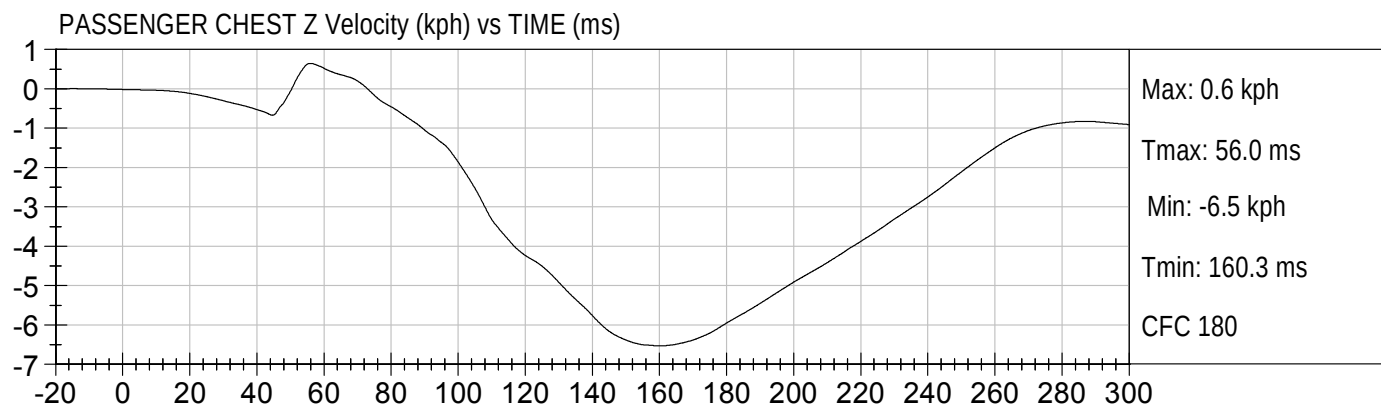
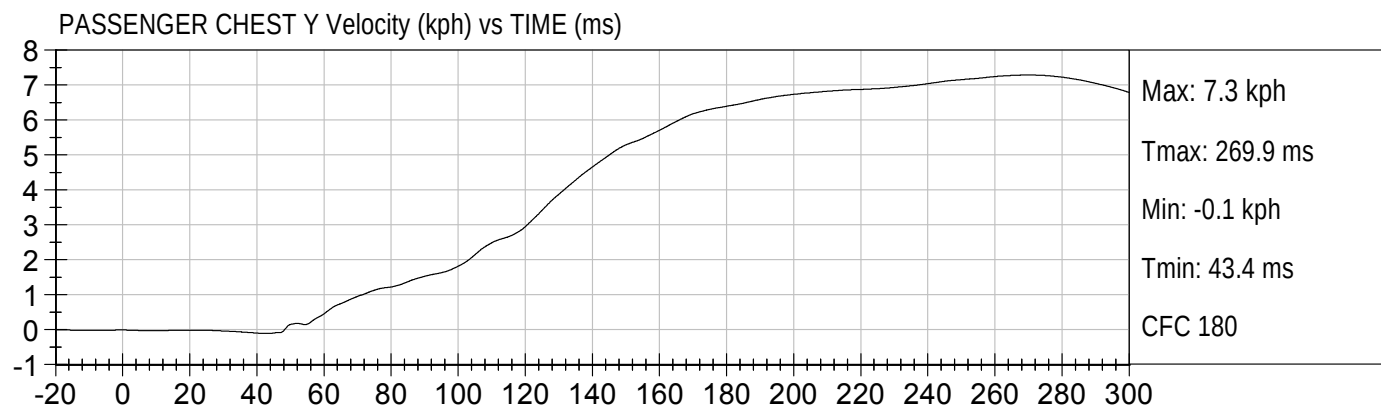
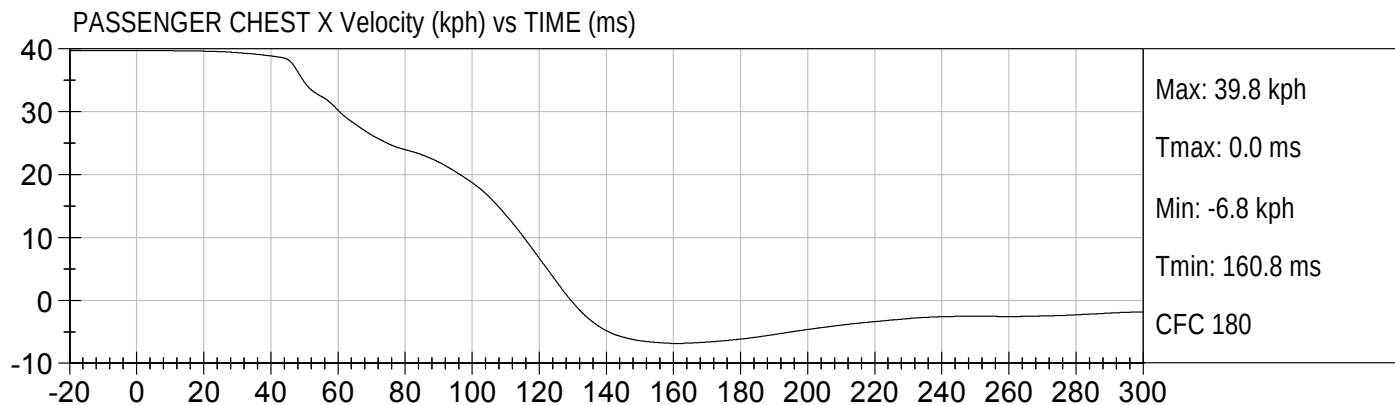




25 MPH LH 40% ODB BELTED
2011 NISSAN LEAF (CB5200)

Test Date: 09/22/2011
Speed: 24.7 mph (39.8 km/h)

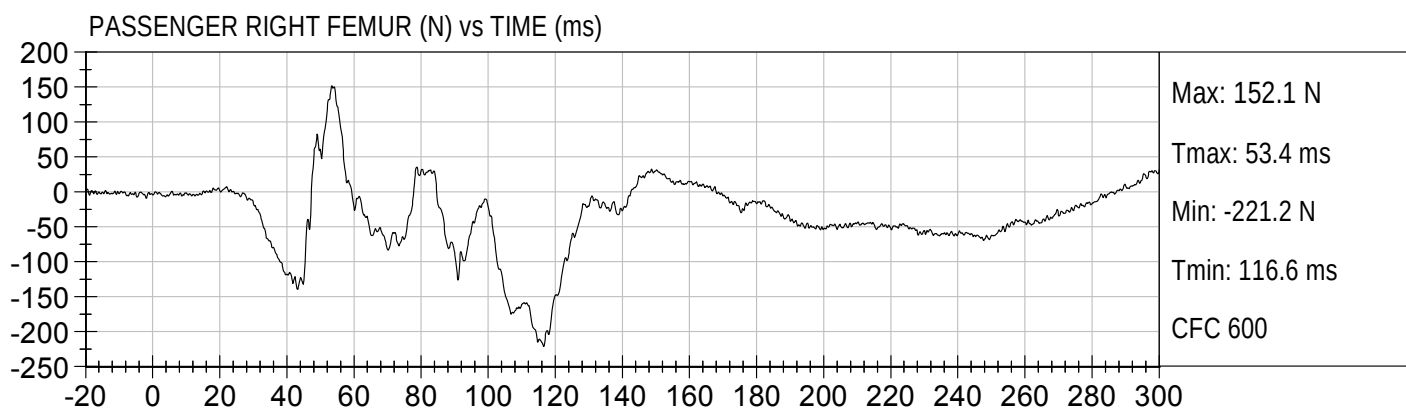
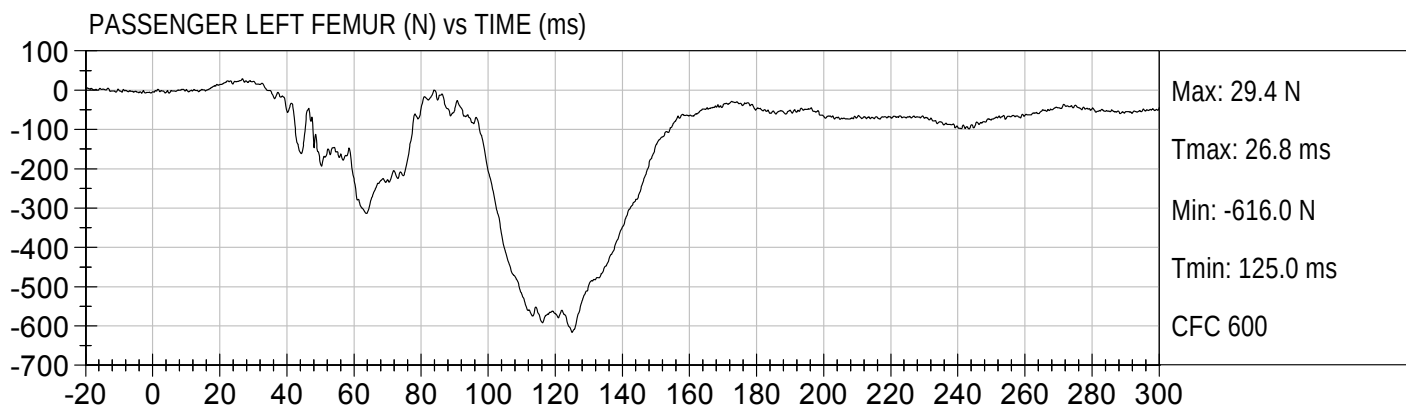






25 MPH LH 40% ODB BELTED
2011 NISSAN LEAF (CB5200)

Test Date: 09/22/2011
Speed: 24.7 mph (39.8 km/h)

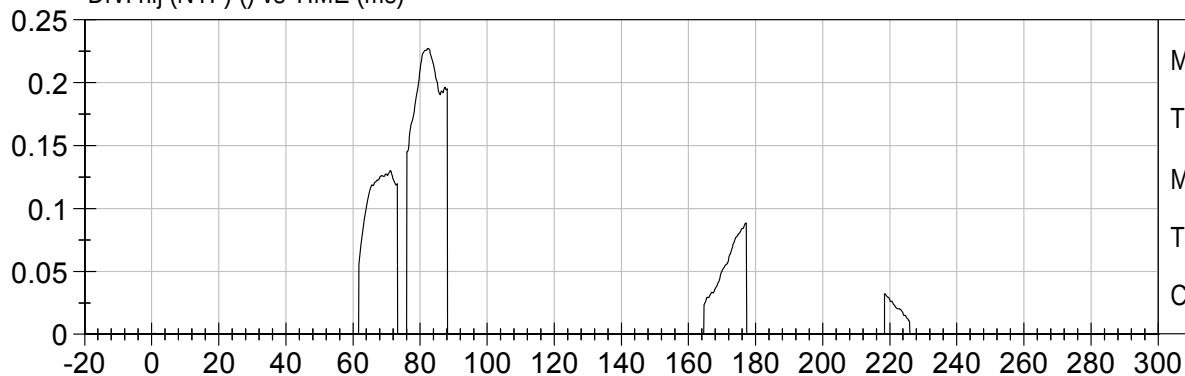




25 MPH LH 40% ODB BELTED
2011 NISSAN LEAF (CB5200)

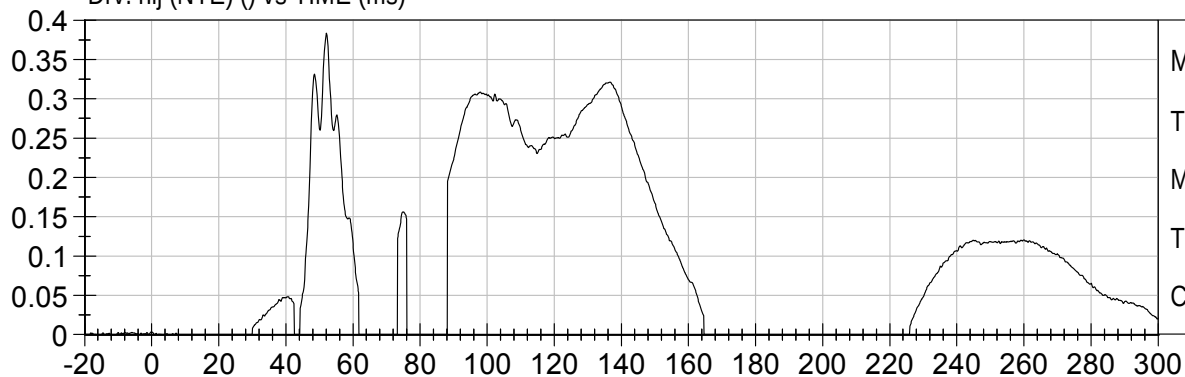
Test Date: 09/22/2011
Speed: 24.7 mph (39.8 km/h)

Drv. nij (NTF) () vs TIME (ms)



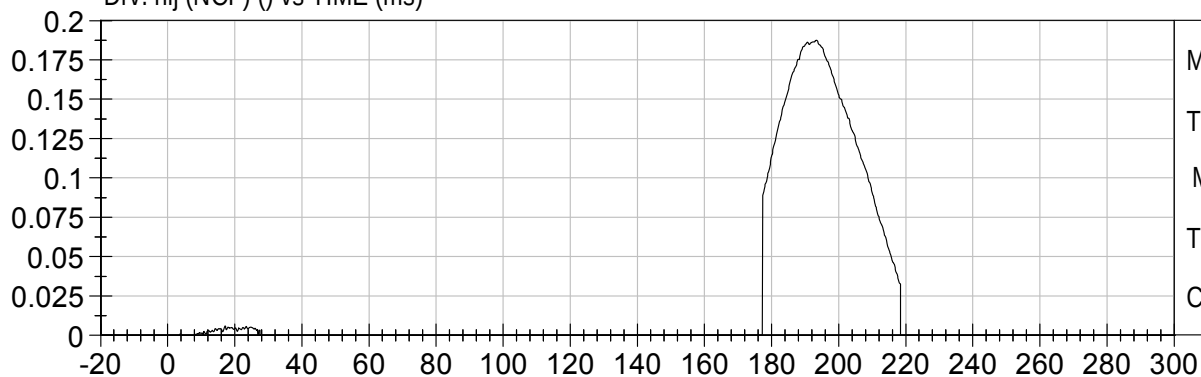
Max: 0.2
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Min: 0.0
Tmin: 0.0 ms
CFC 600

Drv. nij (NTE) () vs TIME (ms)



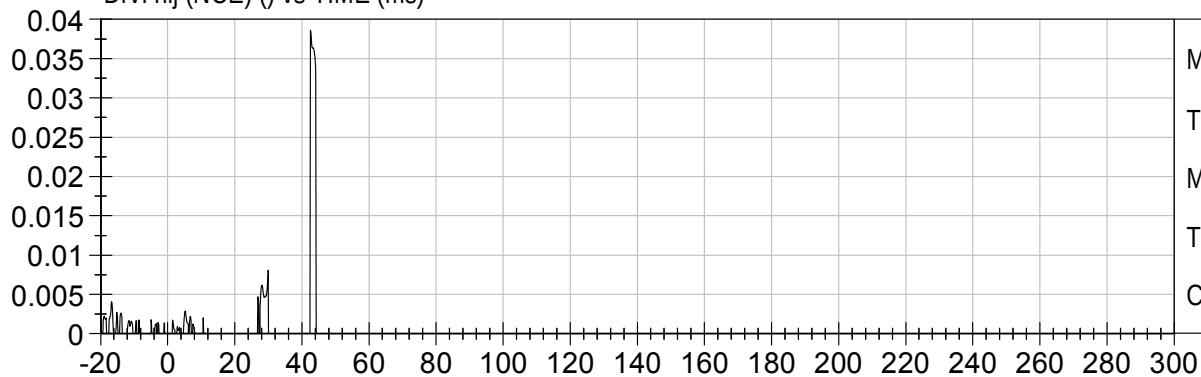
Max: 0.4
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Drv. nij (NCF) () vs TIME (ms)



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Tmax: 193.5 ms
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CFC 600

Drv. nij (NCE) () vs TIME (ms)

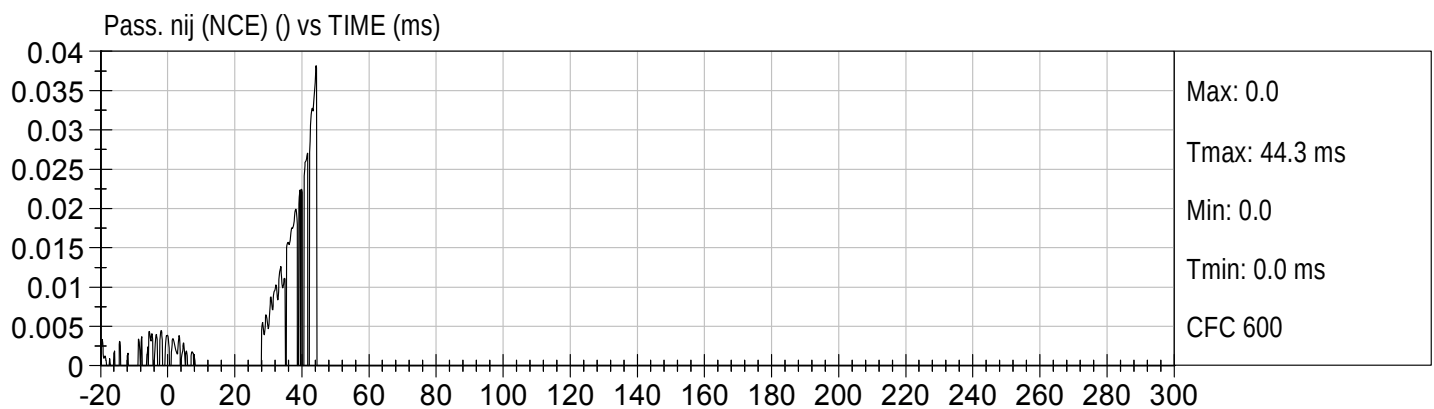
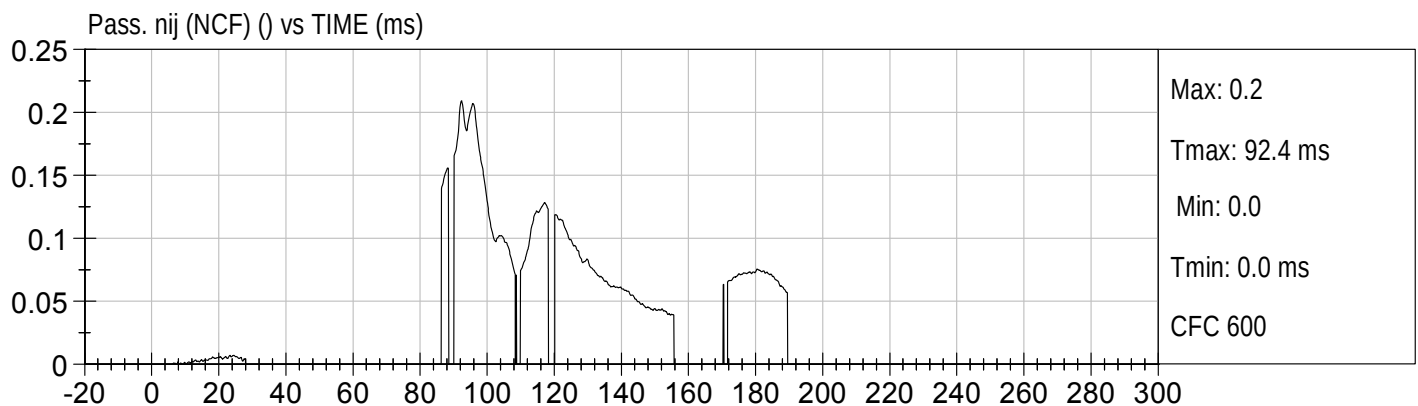
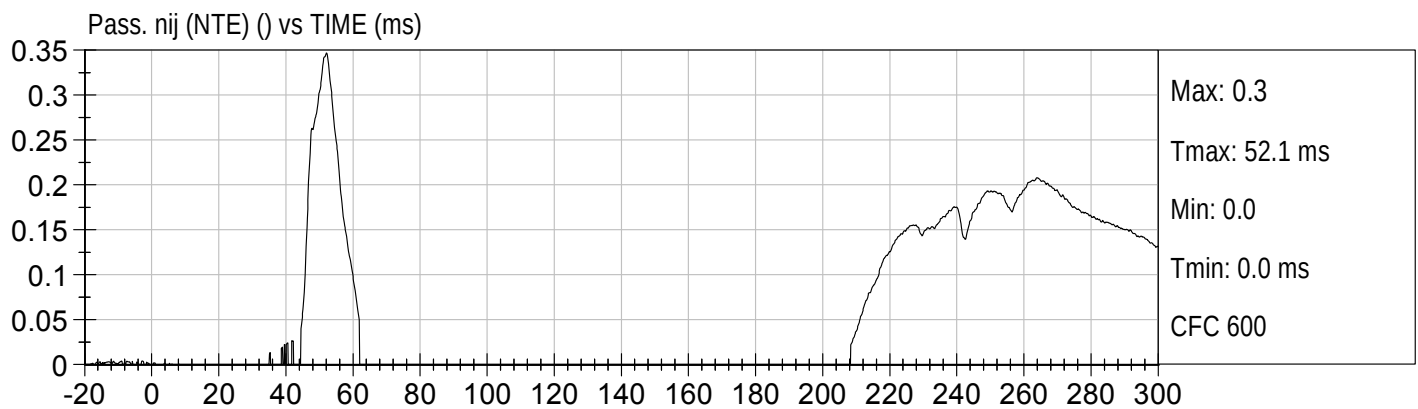
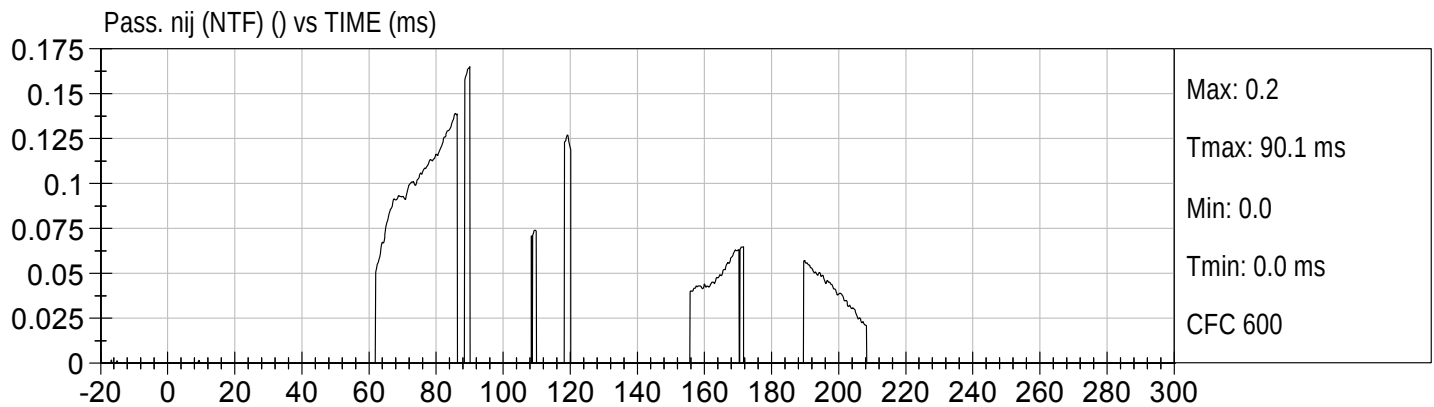


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25 MPH LH 40% ODB BELTED
2011 NISSAN LEAF (CB5200)

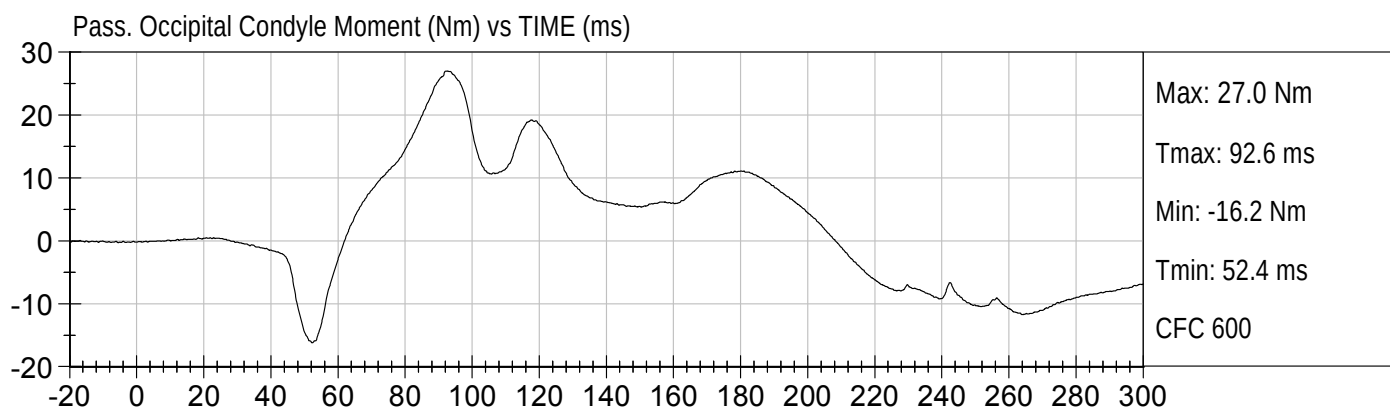
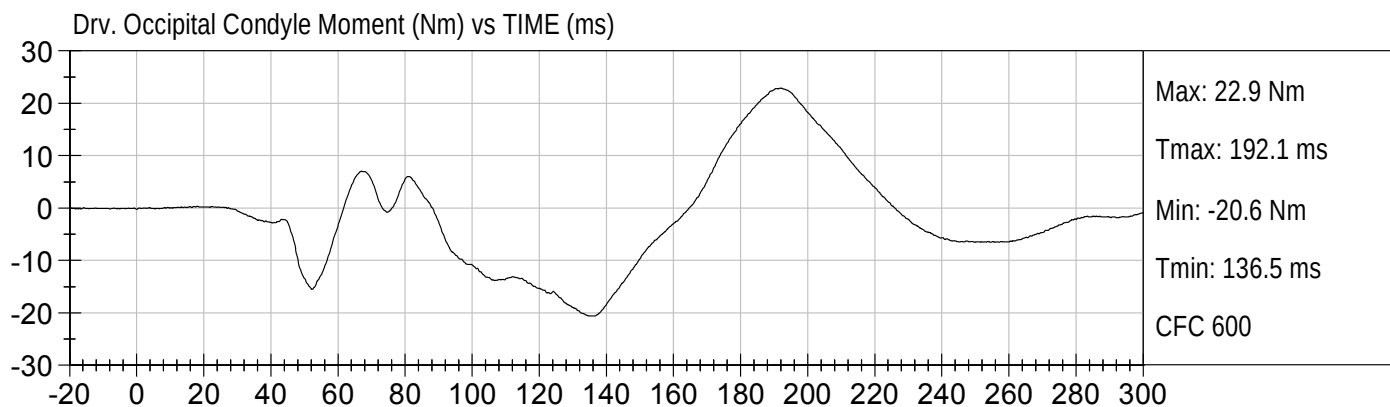
Test Date: 09/22/2011
Speed: 24.7 mph (39.8 km/h)





25 MPH LH 40% ODB BELTED
2011 NISSAN LEAF (CB5200)

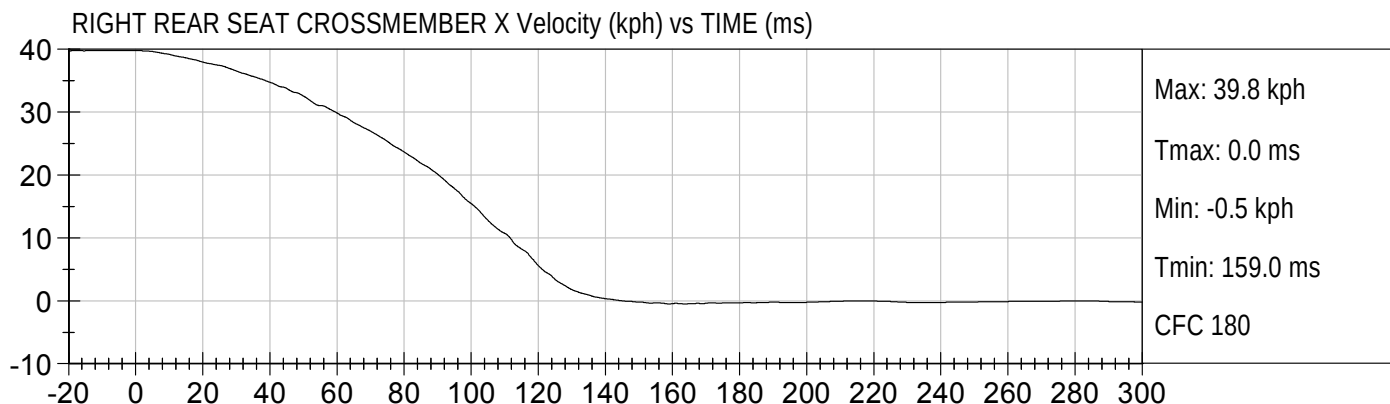
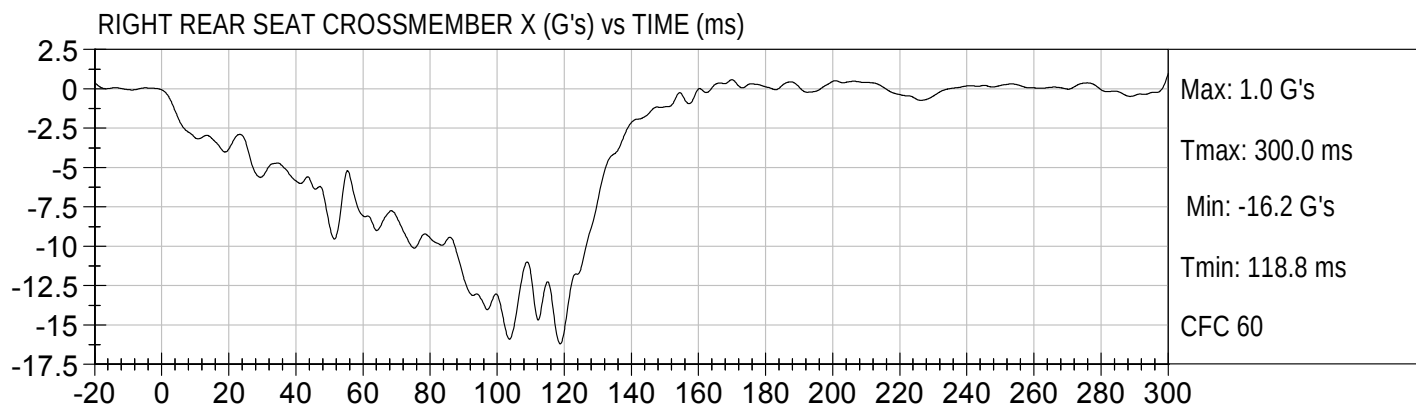
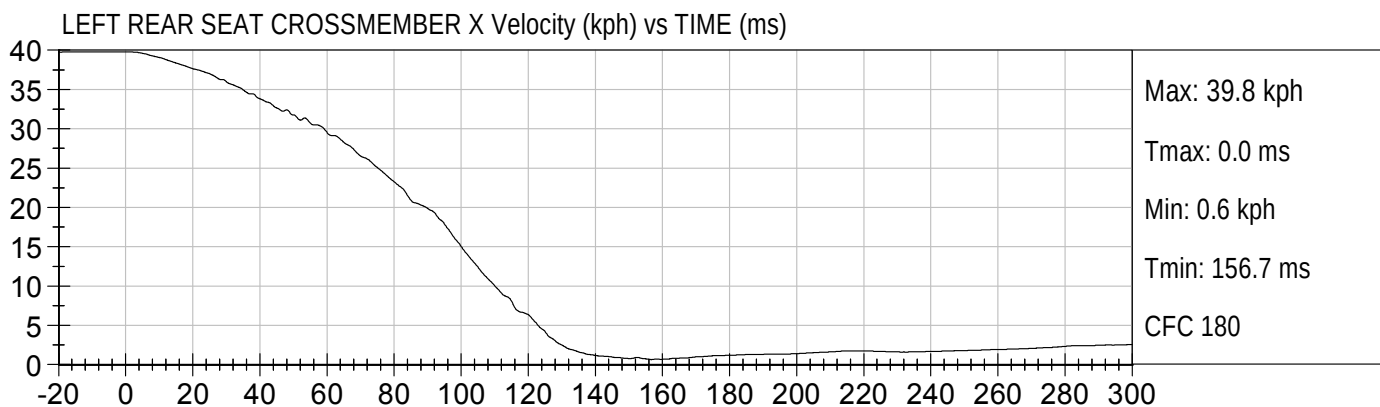
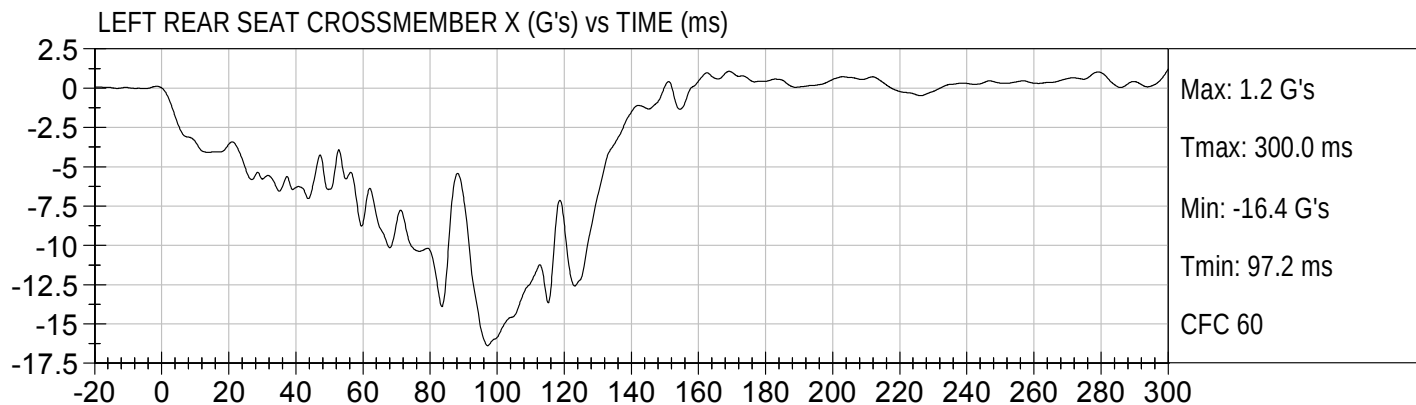
Test Date: 09/22/2011
Speed: 24.7 mph (39.8 km/h)





25 MPH LH 40% ODB BELTED
2011 NISSAN LEAF (CB5200)

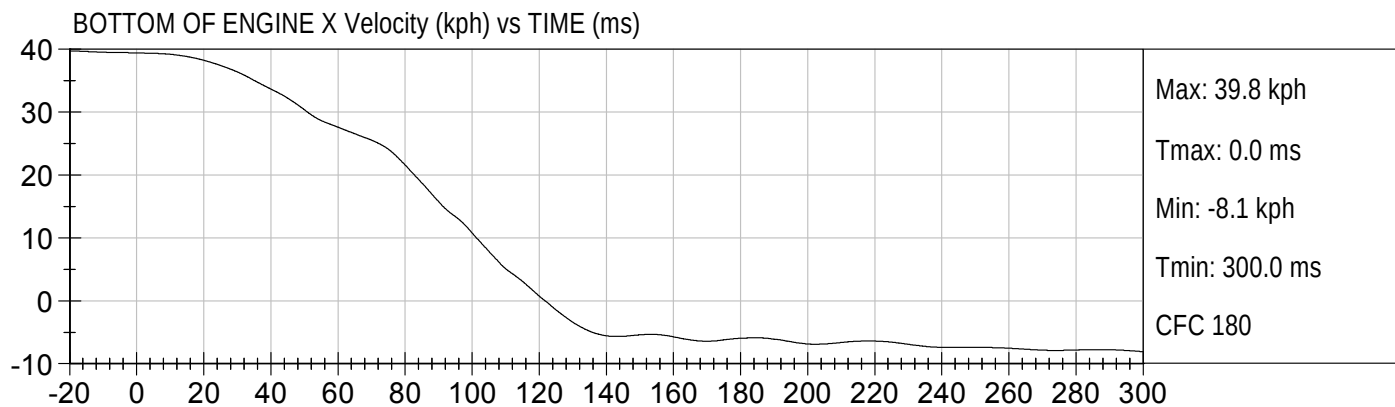
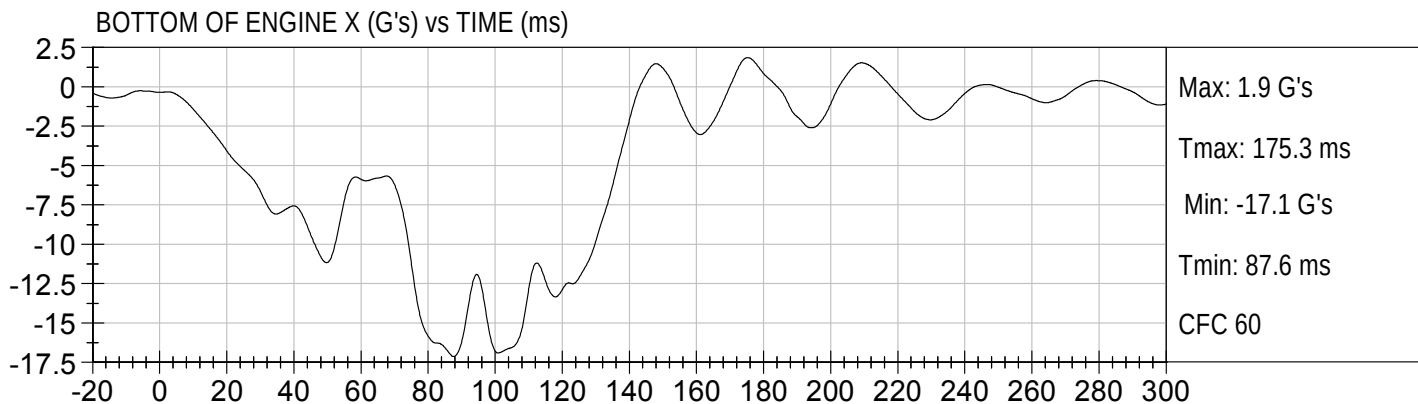
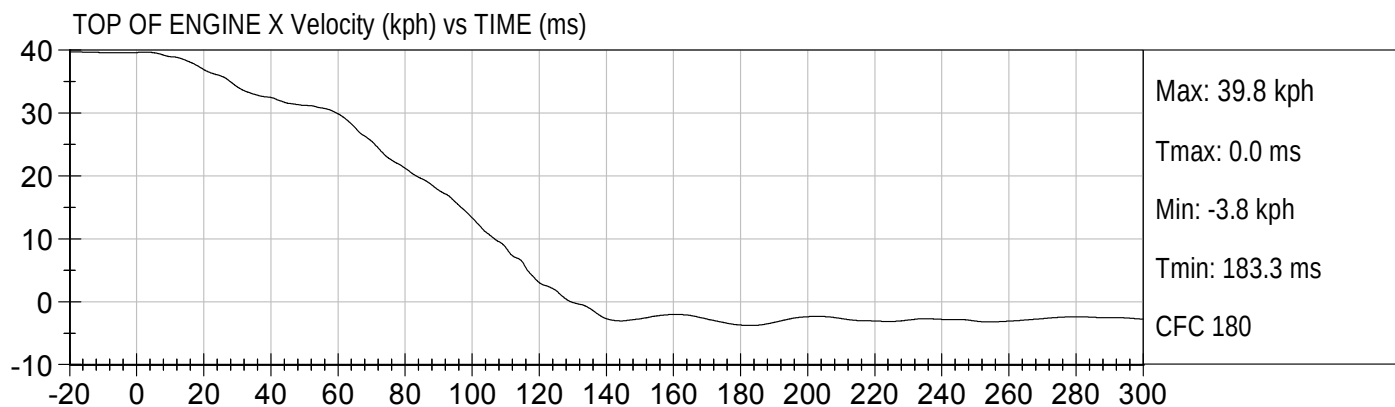
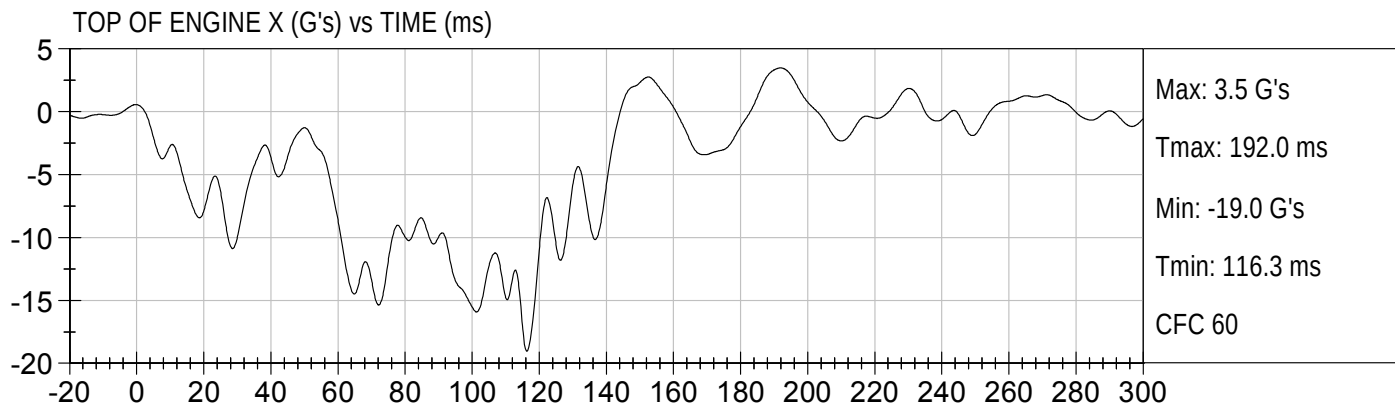
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Speed: 24.7 mph (39.8 km/h)





25 MPH LH 40% ODB BELTED
2011 NISSAN LEAF (CB5200)

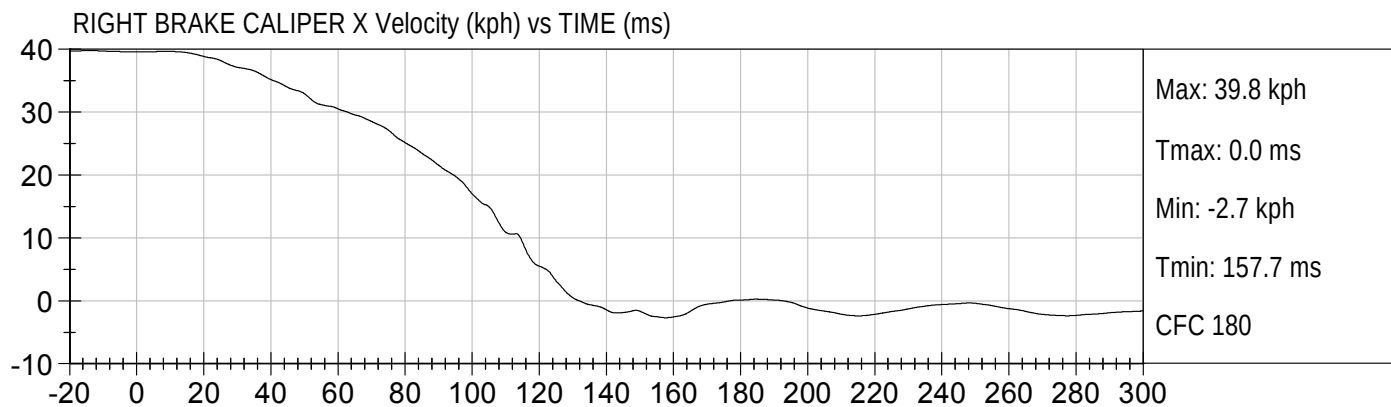
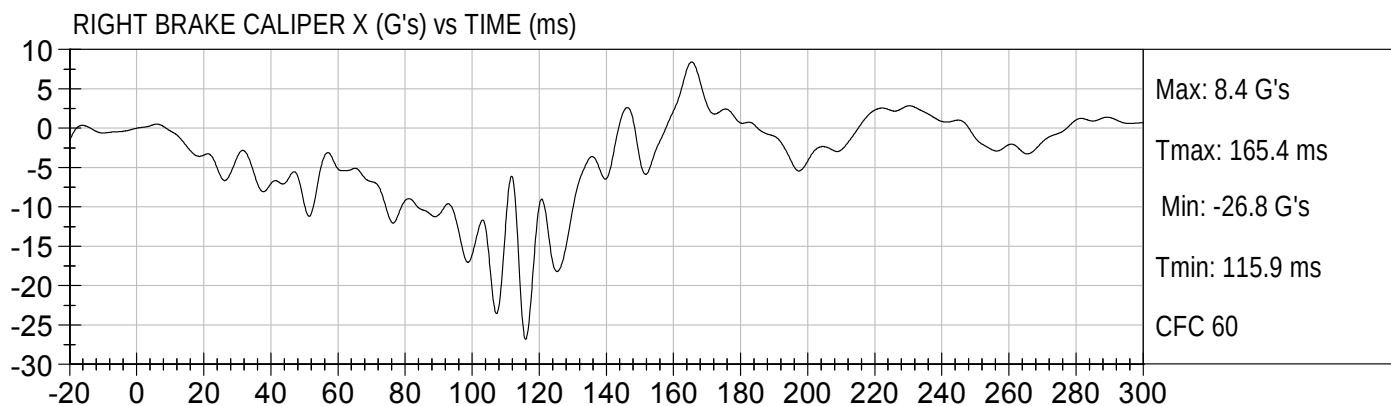
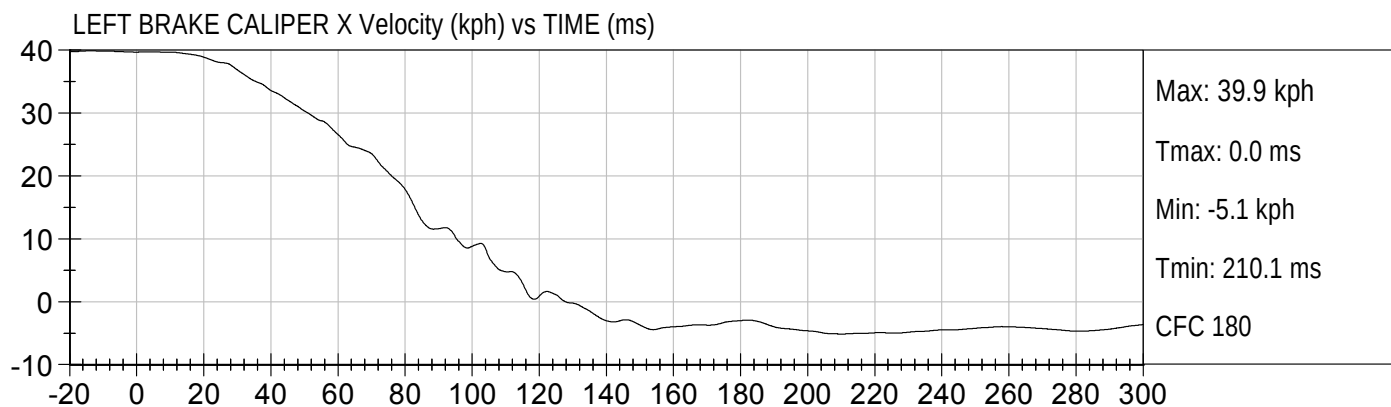
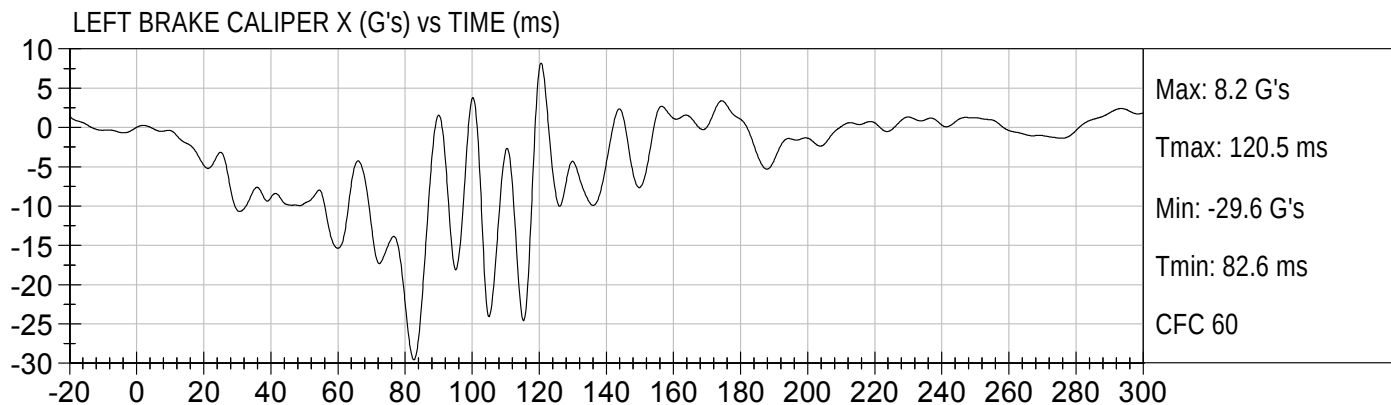
Test Date: 09/22/2011
Speed: 24.7 mph (39.8 km/h)





25 MPH LH 40% ODB BELTED
2011 NISSAN LEAF (CB5200)

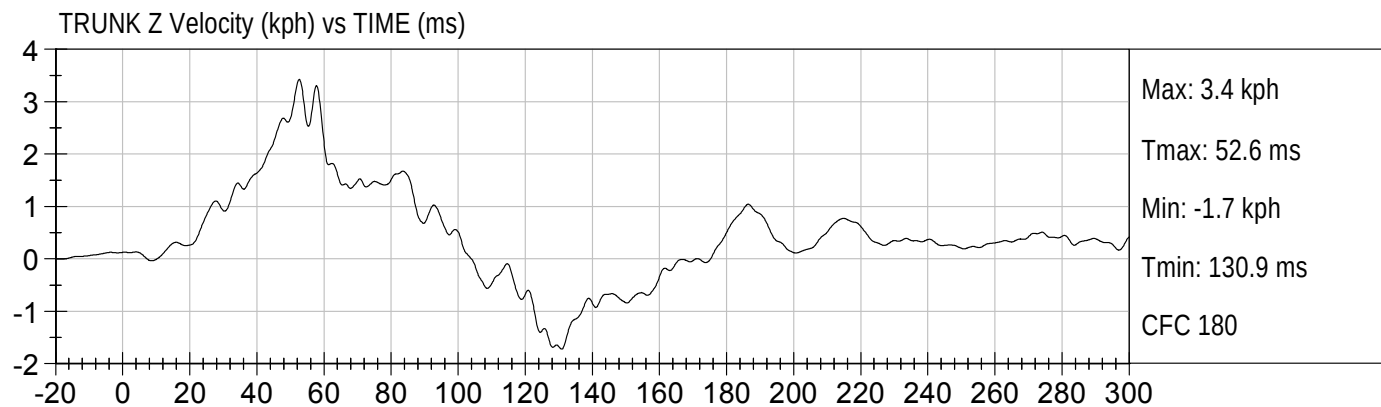
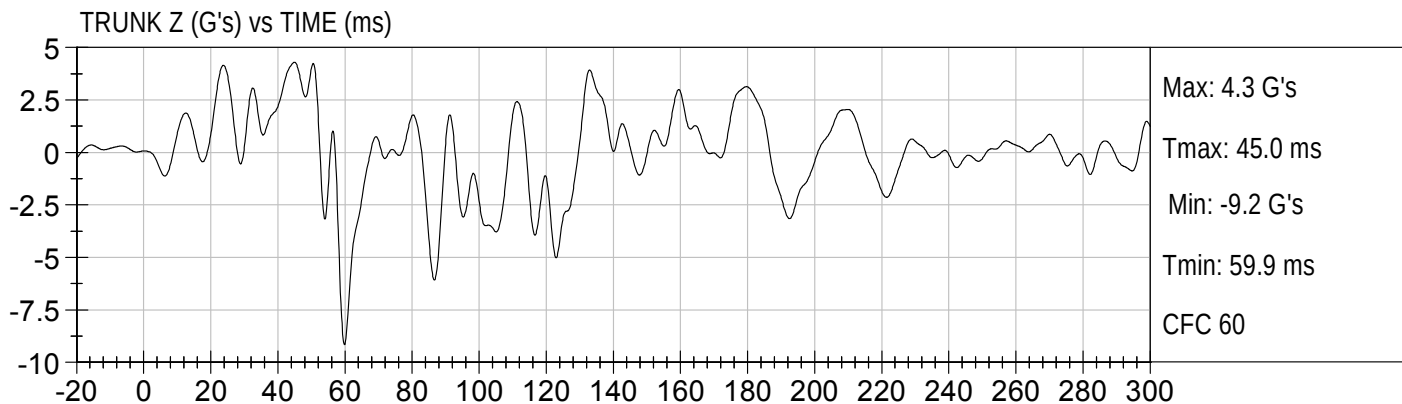
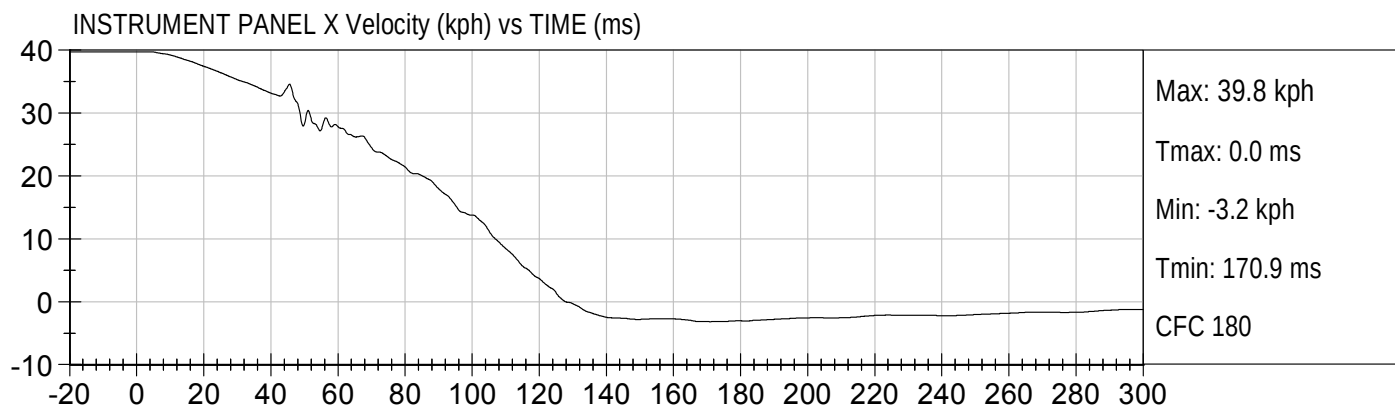
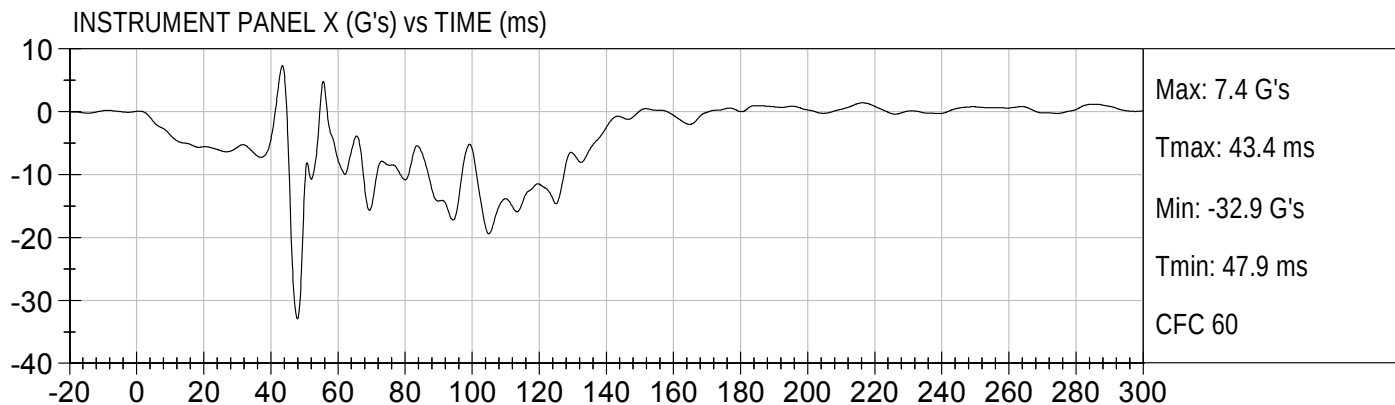
Test Date: 09/22/2011
Speed: 24.7 mph (39.8 km/h)





25 MPH LH 40% ODB BELTED
2011 NISSAN LEAF (CB5200)

Test Date: 09/22/2011
Speed: 24.7 mph (39.8 km/h)



APPENDIX B
CRASH TEST PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

	<u>Page No.</u>
Photo No. 1. Vehicle Certification Label	B-1
Photo No. 2. Tire Placard	B-2
Photo No. 3. Pre-Test Front View of Test Vehicle	B-3
Photo No. 4. Post-Test Front View of Test Vehicle	B-4
Photo No. 5. Pre-Test Left Side View of Test Vehicle	B-5
Photo No. 6. Post-Test Left Side View of Test Vehicle	B-6
Photo No. 7. Pre-Test Right Side View of Test Vehicle	B-7
Photo No. 8. Post-Test Right Side View of Test Vehicle	B-8
Photo No. 9. Pre-Test Left Front Three-Quarter View of Test Vehicle	B-9
Photo No. 10. Post-Test Left Front Three-Quarter View of Test Vehicle	B-10
Photo No. 11. Pre-Test Right Front Three-Quarter View of Test Vehicle	B-11
Photo No. 12. Post-Test Right Front Three-Quarter View of Test Vehicle	B-12
Photo No. 13. Pre-Test Right Rear Three-Quarter View of Test Vehicle	B-13
Photo No. 14. Post-Test Right Rear Three-Quarter View of Test Vehicle	B-14
Photo No. 15. Pre-Test Left Rear Three-Quarter View of Test Vehicle	B-15
Photo No. 16. Post-Test Left Rear Three-Quarter View of Test Vehicle	B-16
Photo No. 17. Pre-Test Rear View of Test Vehicle	B-17
Photo No. 18. Post-Test Rear View of Test Vehicle	B-18
Photo No. 19. Pre-Test Windshield View	B-19
Photo No. 20. Post-Test Windshield View	B-20
Photo No. 21. Pre-Test Engine Compartment View	B-21
Photo No. 22. Post-Test Engine Compartment View	B-22
Photo No. 23. Pre-Test Battery Charging Port View	B-23
Photo No. 24. Post-Test Battery Charging Port View	B-24
Photo No. 25. Pre-Test Front Underbody View	B-25
Photo No. 26. Post-Test Front Underbody View	B-26
Photo No. 27. Pre-Test Mid Underbody View	B-27
Photo No. 28. Post-Test Mid Underbody View	B-28
Photo No. 29. Pre-Test Mid Rear Underbody View	B-29
Photo No. 30. Post-Test Mid Rear Underbody View	B-30

Page No.

Photo No. 31.	Pre-Test Rear Underbody View	B-31
Photo No. 32.	Post-Test Rear Underbody View	B-32
Photo No. 33.	Pre-Test Driver Dummy Front View (head position)	B-33
Photo No. 34.	Post-Test Driver Dummy Front View (head position)	B-34
Photo No. 35.	Pre-Test Driver Dummy Position Left Side View	B-35
Photo No. 36.	Post-Test Driver Dummy Position Left Side View	B-36
Photo No. 37.	Pre-Test Driver Dummy Position Left Side View (door open)	B-37
Photo No. 38.	Post-Test Driver Dummy Position Left Side View (door open)	B-38
Photo No. 39.	Pre-Test Driver Dummy Seat Position	B-39
Photo No. 40.	Post-Test Driver Dummy Seat Position	B-40
Photo No. 41.	Pre-Test Driver Dummy Feet Position	B-41
Photo No. 42.	Post-Test Driver Dummy Feet Position	B-42
Photo No. 43.	Pre-Test Driver Side Knee Bolster View	B-43
Photo No. 44.	Post-Test Driver Side Knee Bolster View	B-44
Photo No. 45.	Post-Test Driver Dummy Airbag Contact	B-45
Photo No. 46.	Post-Test Driver Dummy Head Contact (headrest)	B-46
Photo No. 47.	Post-Test Driver Dummy Knee Contact	B-47
Photo No. 48.	Pre-Test Passenger Dummy Front View (head position)	B-48
Photo No. 49.	Post-Test Passenger Dummy Front View (head position)	B-49
Photo No. 50.	Pre-Test Passenger Dummy Position Right Side View	B-50
Photo No. 51.	Post-Test Passenger Dummy Position Right Side View	B-51
Photo No. 52.	Pre-Test Passenger Dummy Position Right Side View (door open)	B-52
Photo No. 53.	Post-Test Passenger Dummy Position Right Side View (door open)	B-53
Photo No. 54.	Pre-Test Passenger Dummy Seat Position	B-54
Photo No. 55.	Post-Test Passenger Dummy Seat Position	B-55
Photo No. 56.	Pre-Test Passenger Dummy Feet Position	B-56
Photo No. 57.	Post-Test Passenger Dummy Feet Position	B-57
Photo No. 58.	Pre-Test Passenger Side Knee Bolster View	B-58
Photo No. 59.	Post-Test Passenger Side Knee Bolster View	B-59
Photo No. 60.	Post-Test Passenger Dummy Airbag Contact	B-60
Photo No. 61.	Post-Test Passenger Dummy Head Contact (headrest)	B-61
Photo No. 62.	Post-Test Passenger Dummy Knee Contact	B-62
Photo No. 63.	Pre-Test Offset Deformable Barrier Left Side View	B-63
Photo No. 64.	Post-Test Offset Deformable Barrier Left Side View	B-64
Photo No. 65.	Pre-Test Offset Deformable Barrier Right Side View	B-65

Page No.

Photo No. 66.	Post-Test Offset Deformable Barrier Right Side View	B-66
Photo No. 67.	Pre-Test Left Front Three-Quarter View of Offset Deformable Barrier	B-67
Photo No. 68.	Post-Test Left Front Three-Quarter View of Offset Deformable Barrier	B-68
Photo No. 69.	Pre-Test Right Front Three-Quarter View of Offset Deformable Barrier	B-69
Photo No. 70.	Post-Test Right Front Three-Quarter View of Offset Deformable Barrier	B-70
Photo No. 71.	Pre-Test Offset Deformable Barrier Front View	B-71
Photo No. 72.	Post-Test Offset Deformable Barrier Front View	B-72
Photo No. 73.	Pre-Test Offset Deformable Barrier Top View	B-73
Photo No. 74.	Post-Test Offset Deformable Barrier Top View	B-74
Photo No. 75.	Rollover 90 Degrees	B-75
Photo No. 76.	Rollover 270 Degrees	B-76
Photo No. 77.	Rollover 360 Degrees	B-77
Photo No. 78.	Temperature Plot	B-78
Photo No. 79.	Manual High Voltage Service Disconnect	B-79
Photo No. 80.	Manual High Voltage Service Disconnect Close-Up View	B-80
Photo No. 81.	Manual High Voltage Service Disconnect Compartment View	B-81
Photo No. 82.	Manual High Voltage Service Disconnect Plug	B-82
Photo No. 83.	Manual High Voltage Service Disconnect Compartment View Without Plug	B-83
Photo No. 84.	First Responder Warning/Location	B-84
Photo No. 85.	First Responder Warning/Location	B-85
Photo No. 86.	Auxiliary Power Module Warning Label	B-86

MANUFACTURED BY NISSAN MOTOR CO., LTD.

DATE: 4/11 GVWR/PNBV: 4322 LBS
GAWR/PNBE FR: 2203 LBS RR: 2129 LBS

THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL
MOTOR VEHICLE SAFETY, BUMPER, AND THEFT PREVENTION
STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE
SHOWN ABOVE.

VIN: JN1AZ0CPXBT002457	PASSENGER CAR			
COLOR	TRIM	TRANS	AXLE	MOTOR
KH3	K	RE1F61A	GP79	EM61



JN1AZ0CPXBT002457



TIRE AND LOADING INFORMATION
RENSEIGNEMENTS SUR LES PNEUS ET LE CHARGEMENT

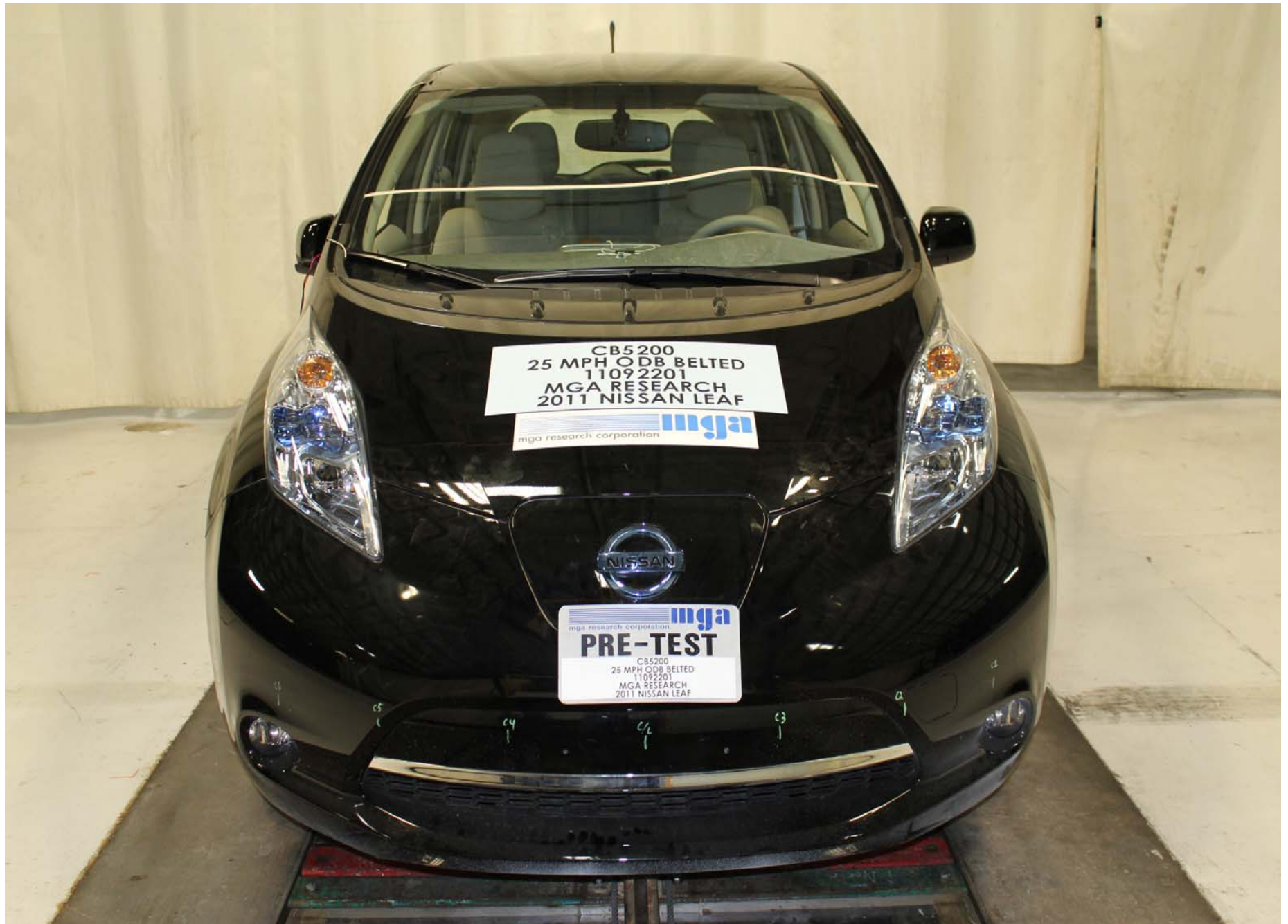
SEATING CAPACITY NOMBRE DE PLACES	TOTAL TOTAL	5	FRONT AVANT	2
			REAR ARRIÈRE	3

The combined weight of occupants and cargo should never exceed **390 kg** or **860 lbs.**
Le poids total des occupants et du chargement ne doit jamais dépasser **390 kg** ou **860 lb.**

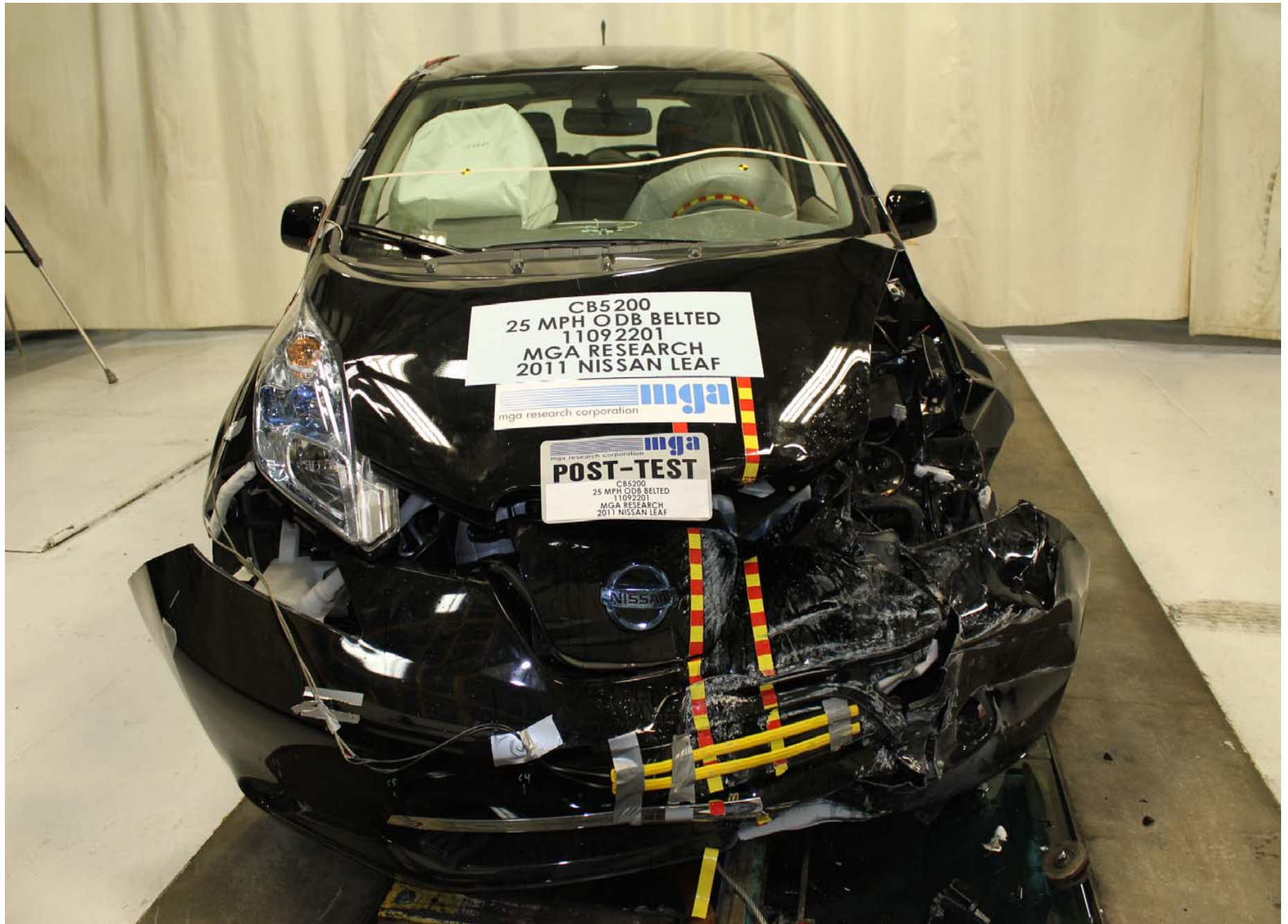
TIRE PNEU	SIZE DIMENSIONS	COLD TIRE PRESSURE PRESSION DES PNEUS À FROID
FRONT AVANT	P205/55R16 89H	250kPa , 36PSI
REAR ARRIÈRE	P205/55R16 89H	250kPa , 36PSI
SPARE DE SECOURS	None Aucun	

SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION
VOIR LE MANUEL DE L'USAGER POUR PLUS DE RENSEIGNEMENTS

VA 3NA1A



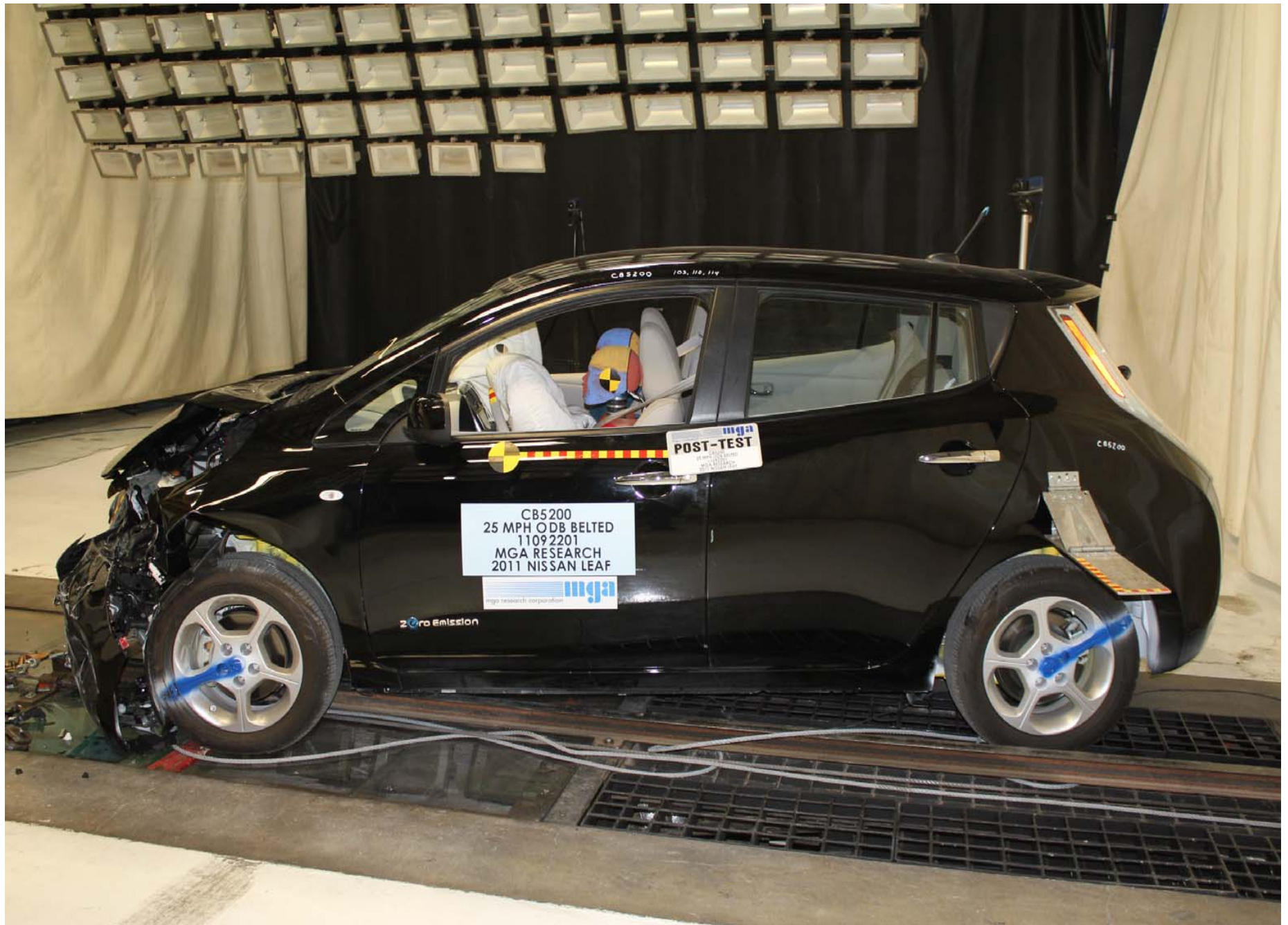
Pre-Test Front View of Test Vehicle



Post-Test Front View of Test Vehicle



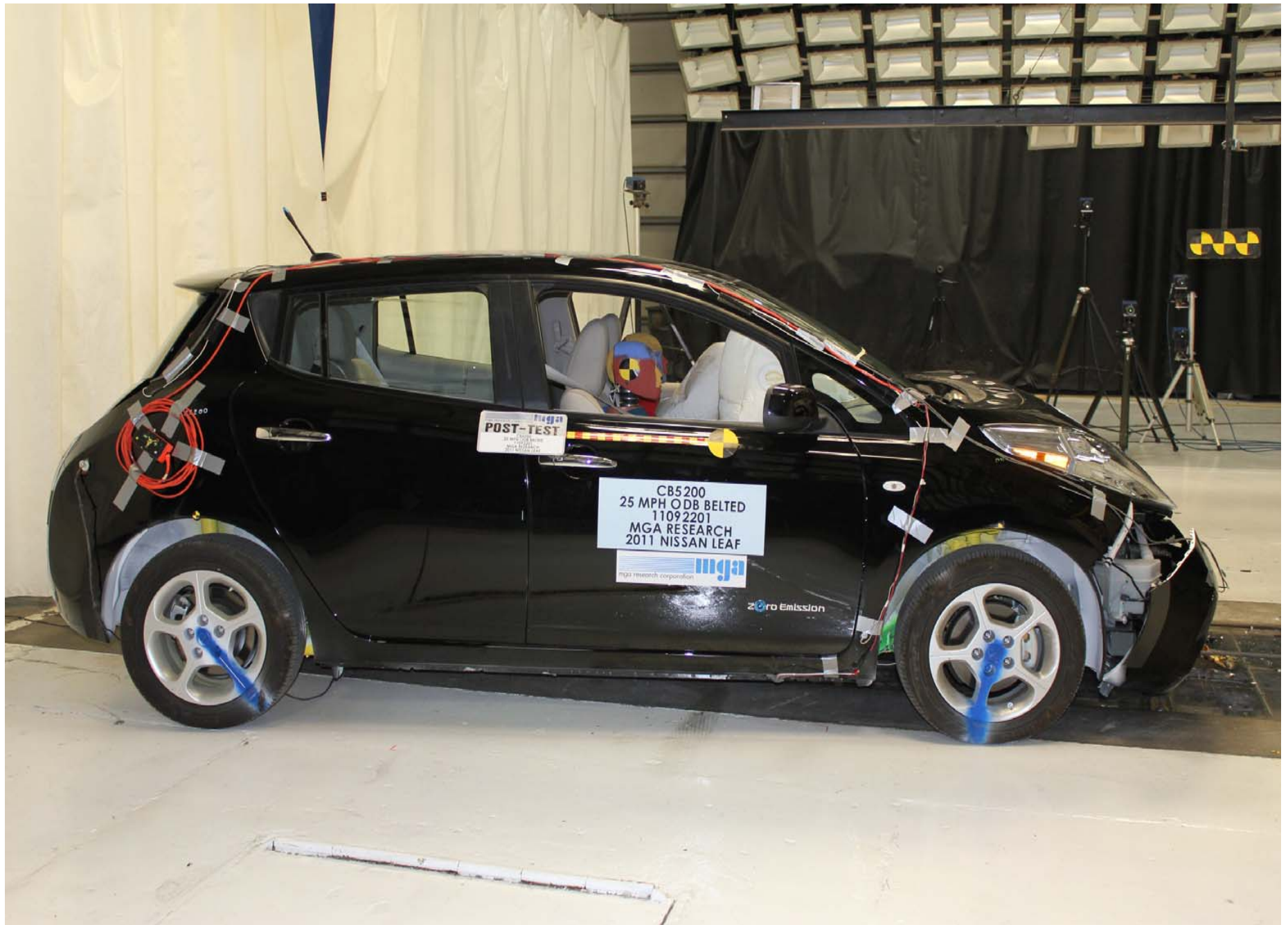
Pre-Test Left Side View of Test Vehicle



Post-Test Left Side View of Test Vehicle



Pre-Test Right Side View of Test Vehicle



Post-Test Right Side View of Test Vehicle



Pre-Test Left Front Three-Quarter View of Test Vehicle



Post-Test Left Front Three-Quarter View of Test Vehicle



Pre-Test Right Front Three-Quarter View of Test Vehicle



Post-Test Right Front Three-Quarter View of Test Vehicle

Pre-Test Right Rear Three-Quarter View of Test Vehicle



Post-Test Right Rear Three-Quarter View of Test Vehicle



Pre-Test Left Rear Three-Quarter View of Test Vehicle



Post-Test Left Rear Three-Quarter View of Test Vehicle



Pre-Test Rear View of Test Vehicle



Post-Test Rear View of Test Vehicle



B-19

Pre-Test Windshield View



Post-Test Windshield View



Pre-Test Engine Compartment View



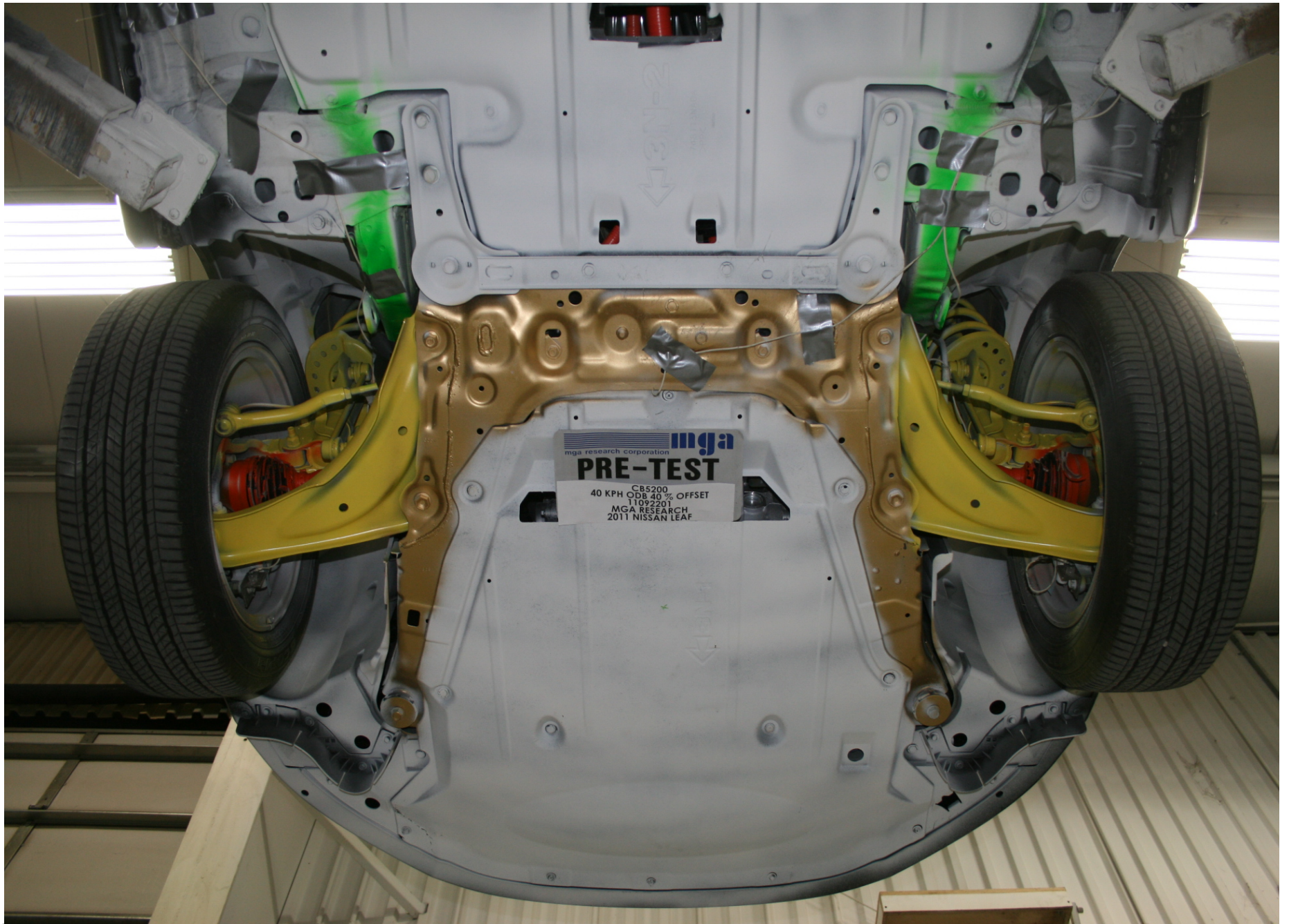
Post-Test Engine Compartment View



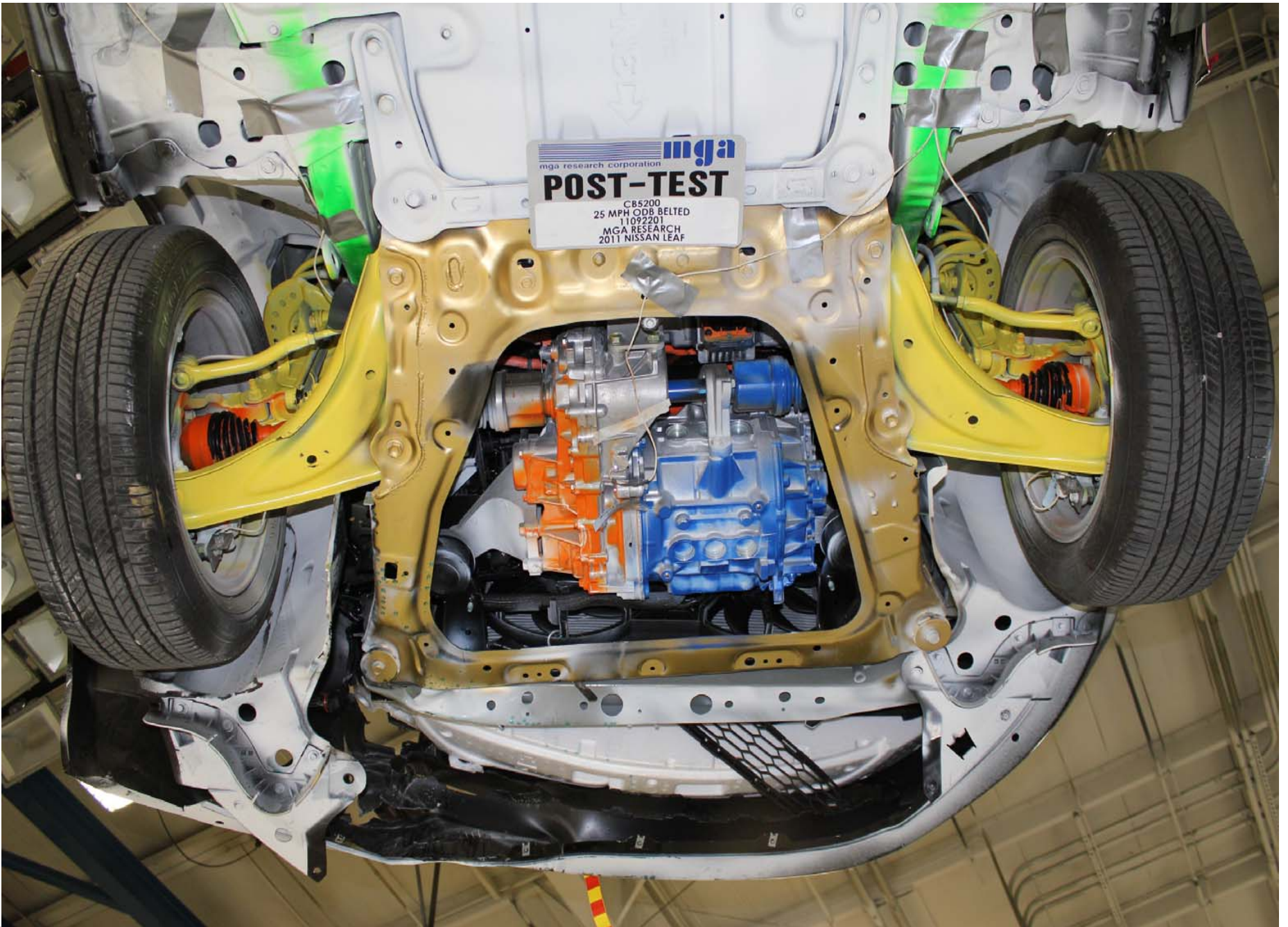
Pre-Test Battery Charging Port View



Post-Test Battery Charging Port View



Pre-Test Front Underbody View



Post-Test Front Underbody View



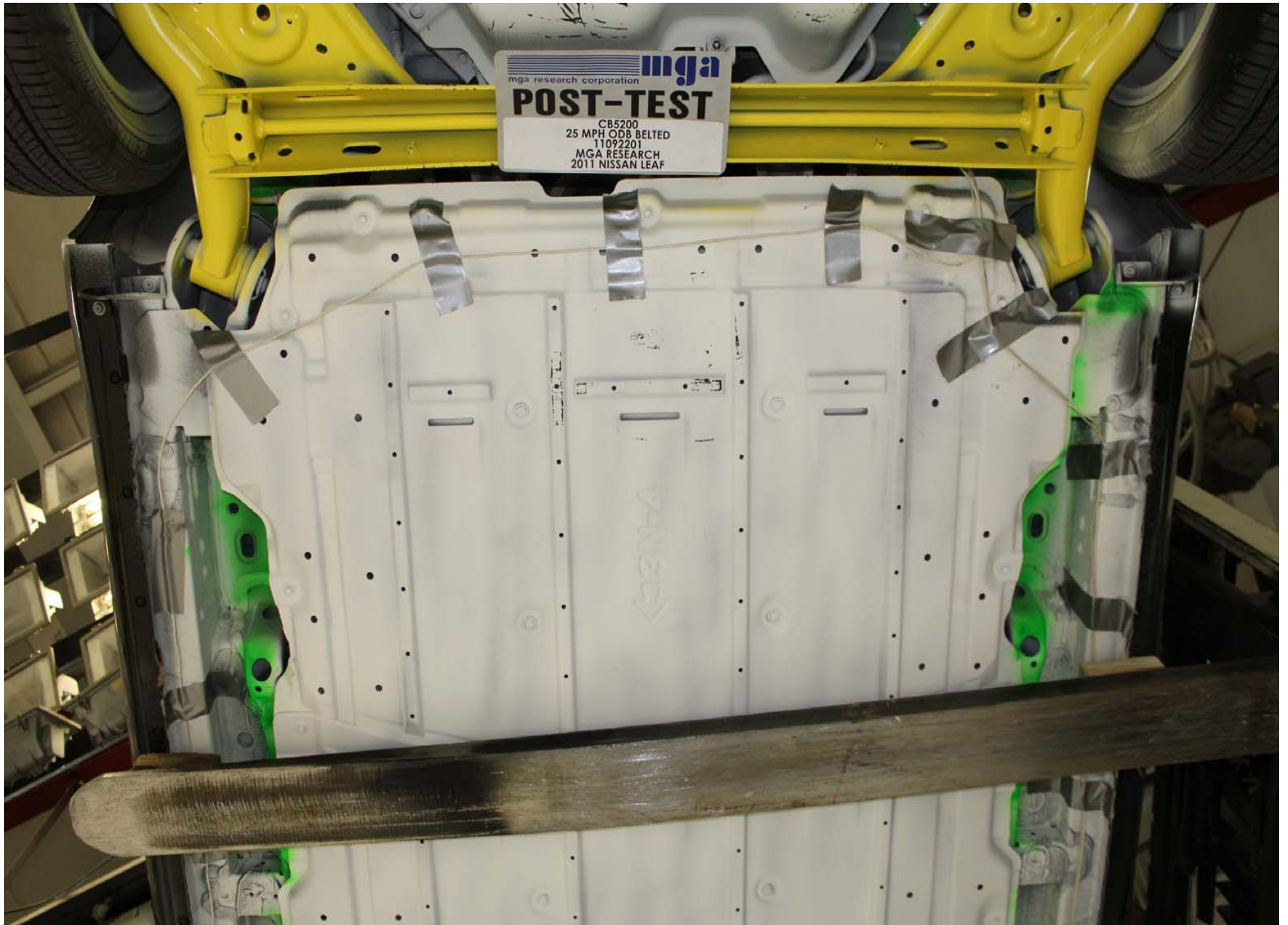
Pre-Test Mid Underbody View



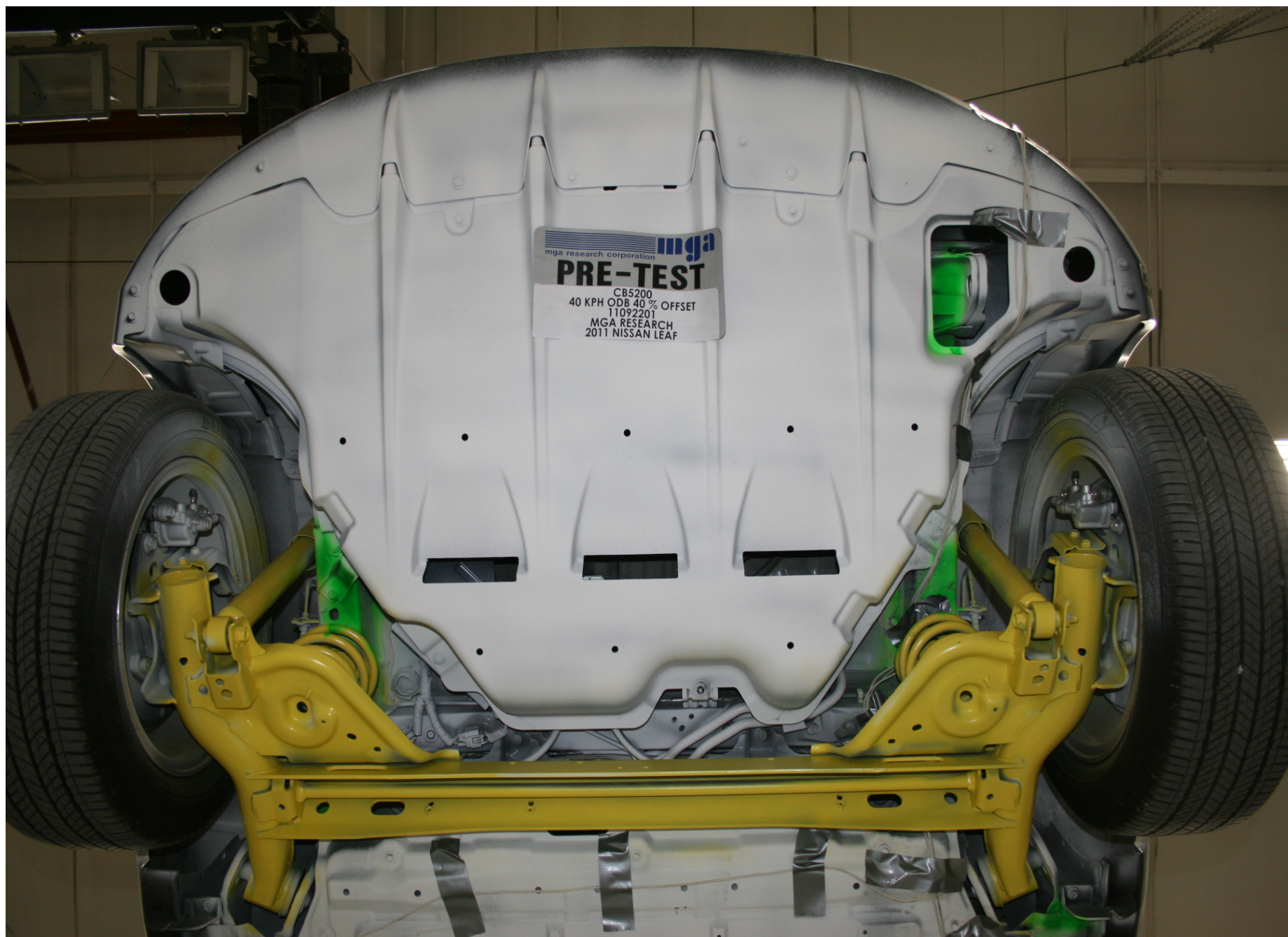
Post-Test Mid Underbody View



Pre-Test Mid Rear Underbody View



Post-Test Mid Rear Underbody View



Pre-Test Rear Underbody View



Post-Test Rear Underbody View



Pre-Test Driver Dummy Front View (head position)



Post-Test Driver Dummy Front View (head position)



Pre-Test Driver Dummy Position Left Side View



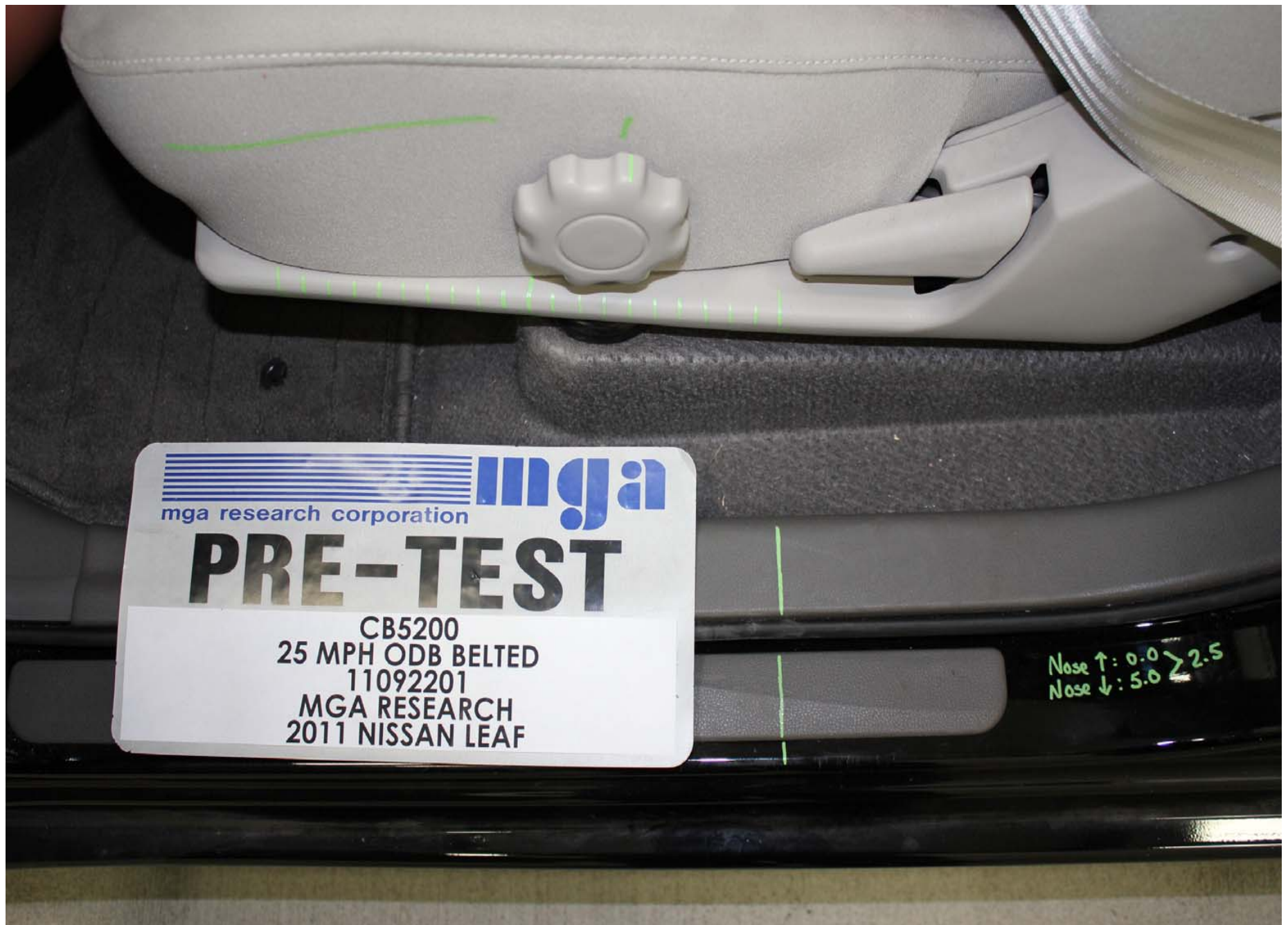
Post-Test Driver Dummy Position Left Side View



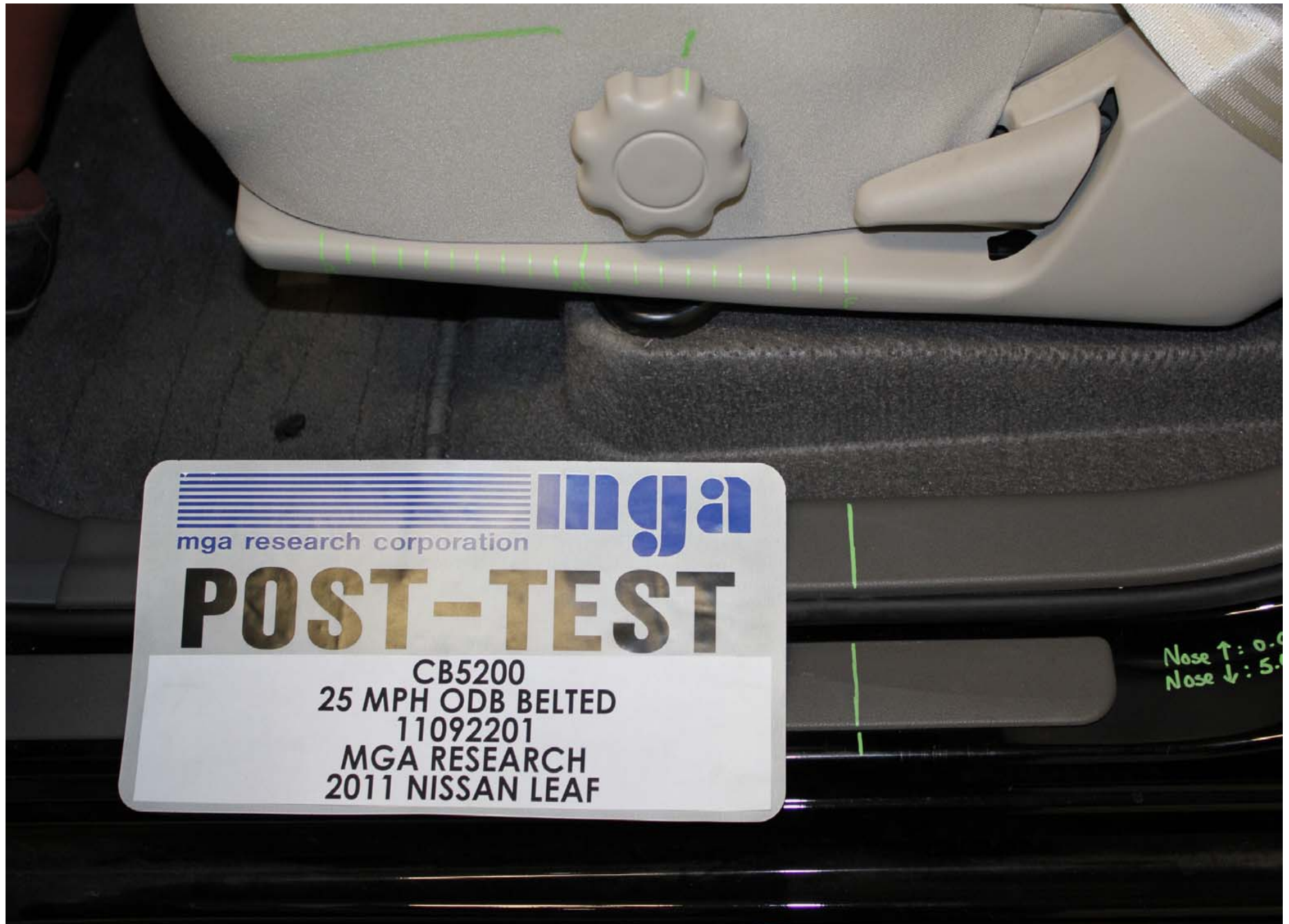
Pre-Test Driver Dummy Position Left Side View (door open)



Post-Test Driver Dummy Position Left Side View (door open)



Pre-Test Driver Dummy Seat Position



Post-Test Driver Dummy Seat Position



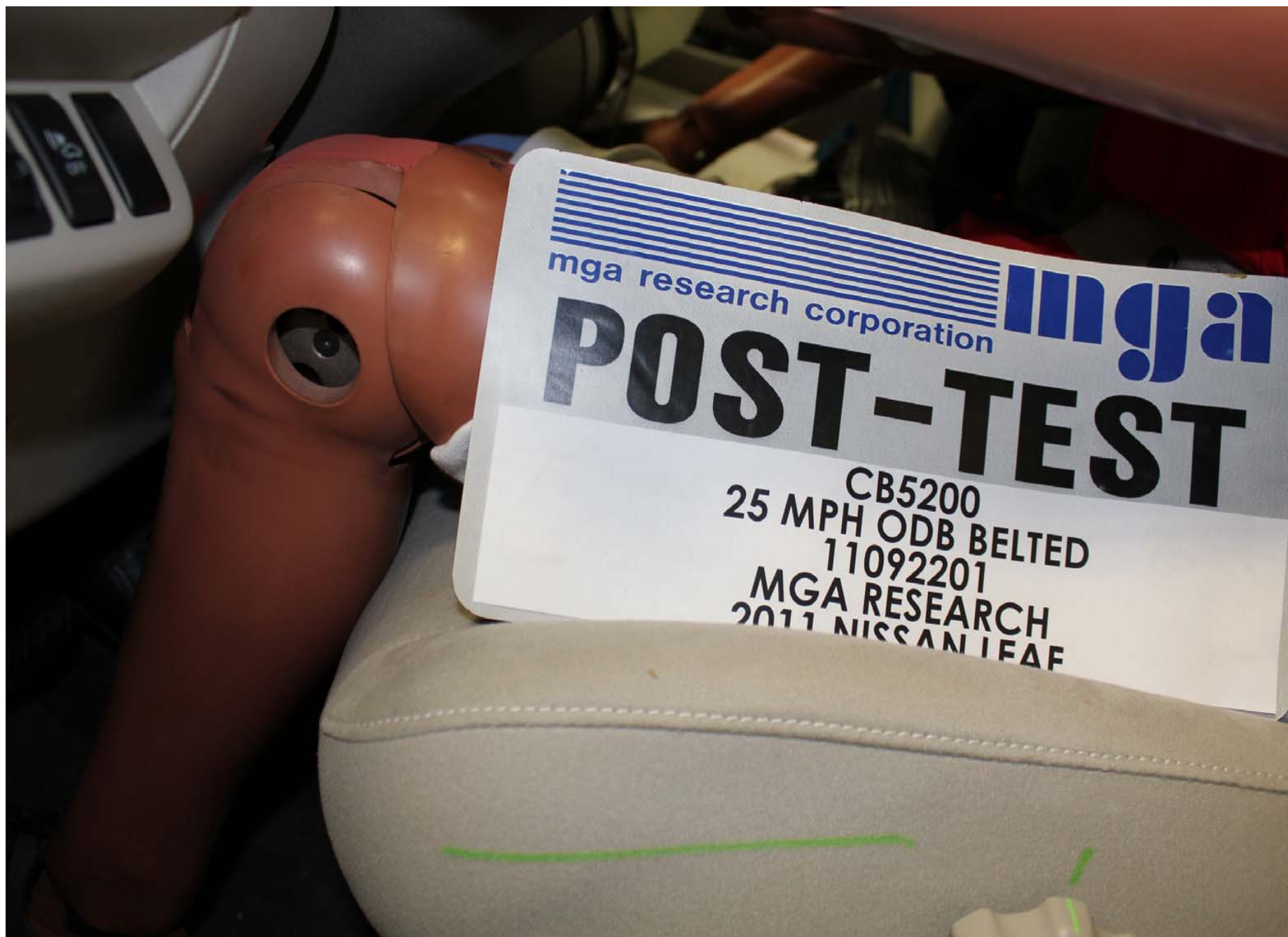
Pre-Test Driver Dummy Feet Position



Post-Test Driver Dummy Feet Position



Pre-Test Driver Side Knee Bolster View



Post-Test Driver Side Knee Bolster View



Post-Test Driver Dummy Airbag Contact



Post-Test Driver Dummy Head Contact (headrest)



Post-Test Driver Dummy Knee Contact



Pre-Test Passenger Dummy Front View (head position)



Post-Test Passenger Dummy Front View (head position)



Pre-Test Passenger Dummy Position Right Side View



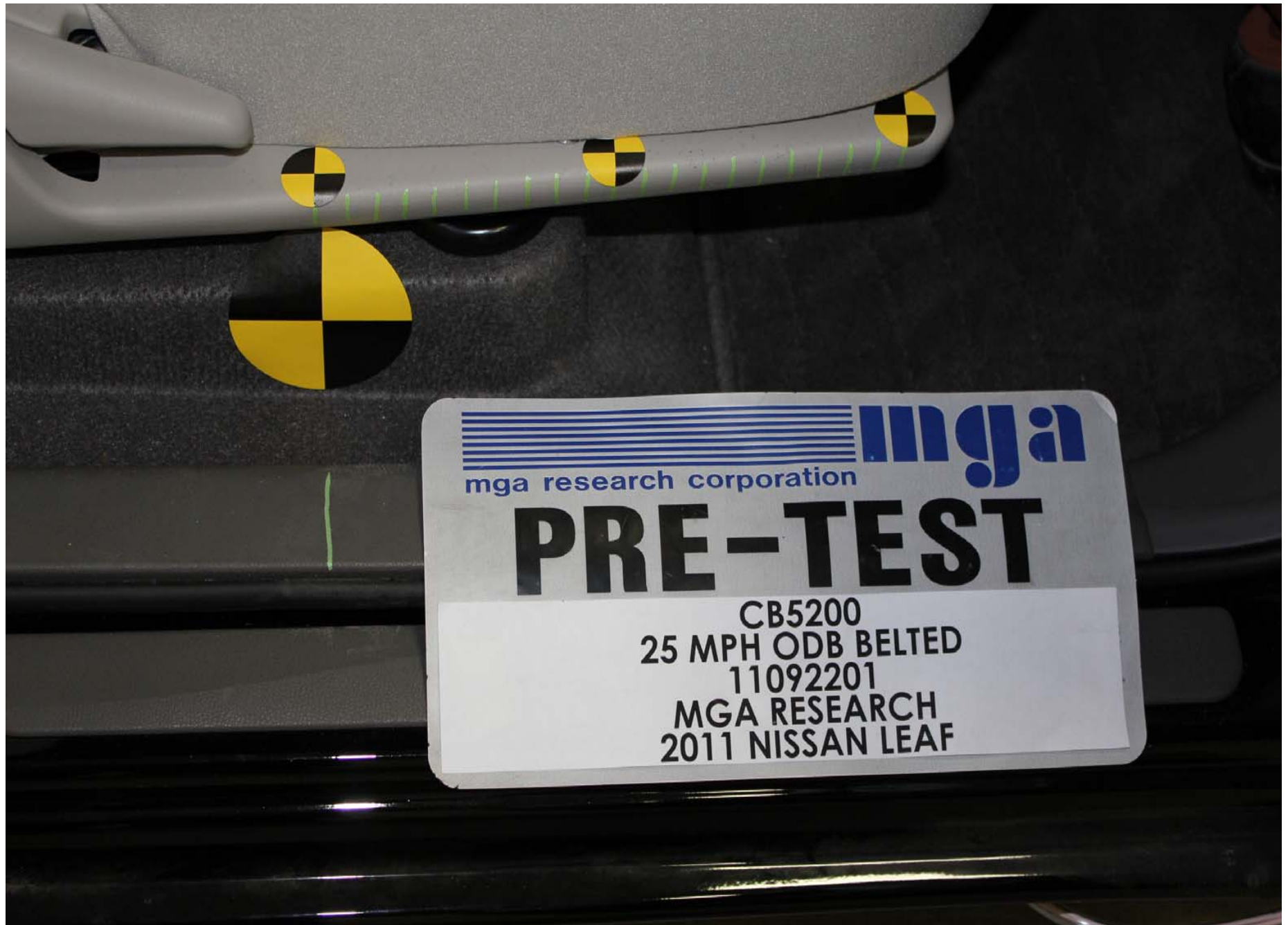
Post-Test Passenger Dummy Position Right Side View



Pre-Test Passenger Dummy Position Right Side View (door open)



Post-Test Passenger Dummy Position Right Side View (door open)



Pre-Test Passenger Dummy Seat Position



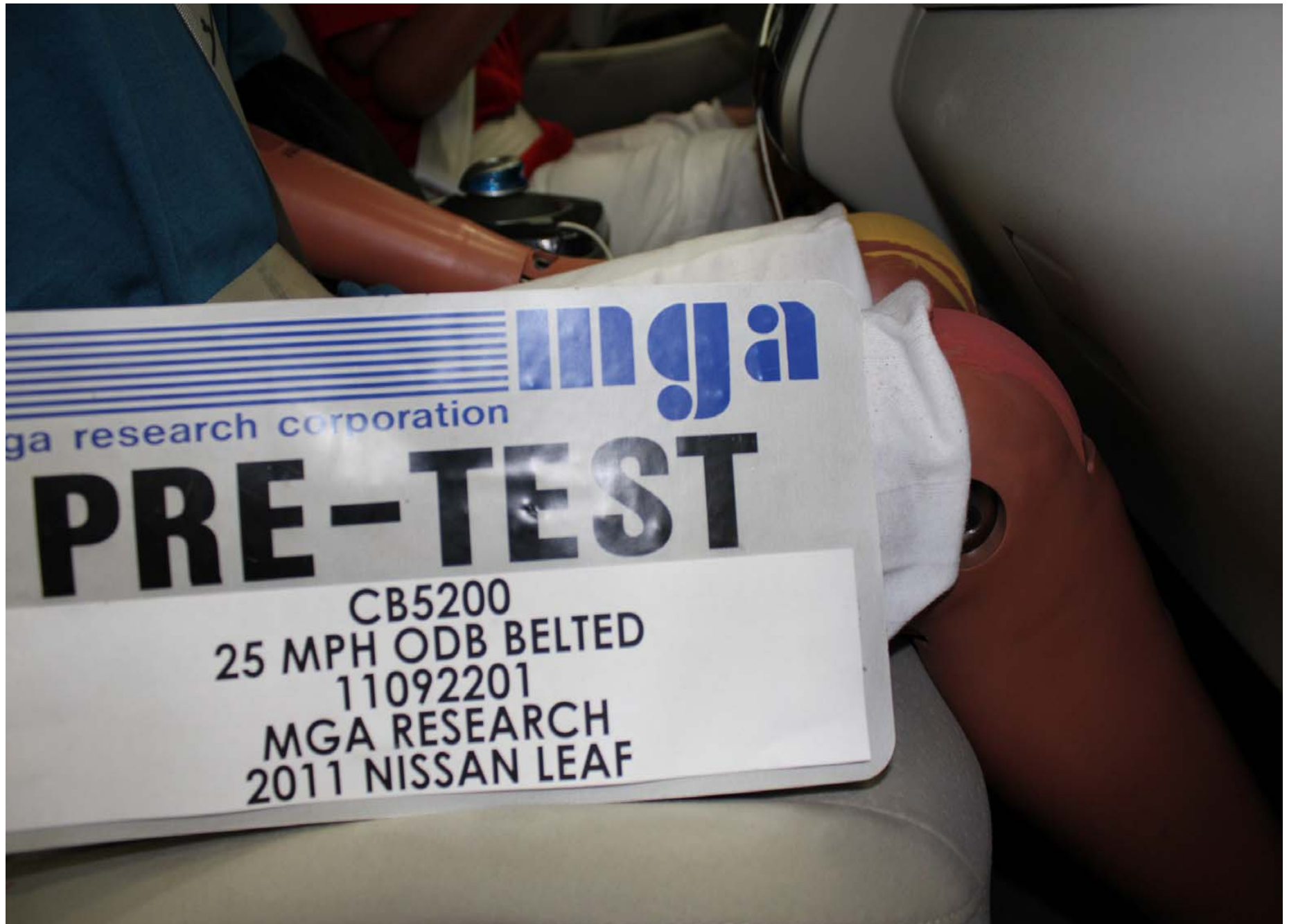
Post-Test Passenger Dummy Seat Position



Pre-Test Passenger Dummy Feet Position



Post-Test Passenger Dummy Feet Position



Pre-Test Passenger Side Knee Bolster View



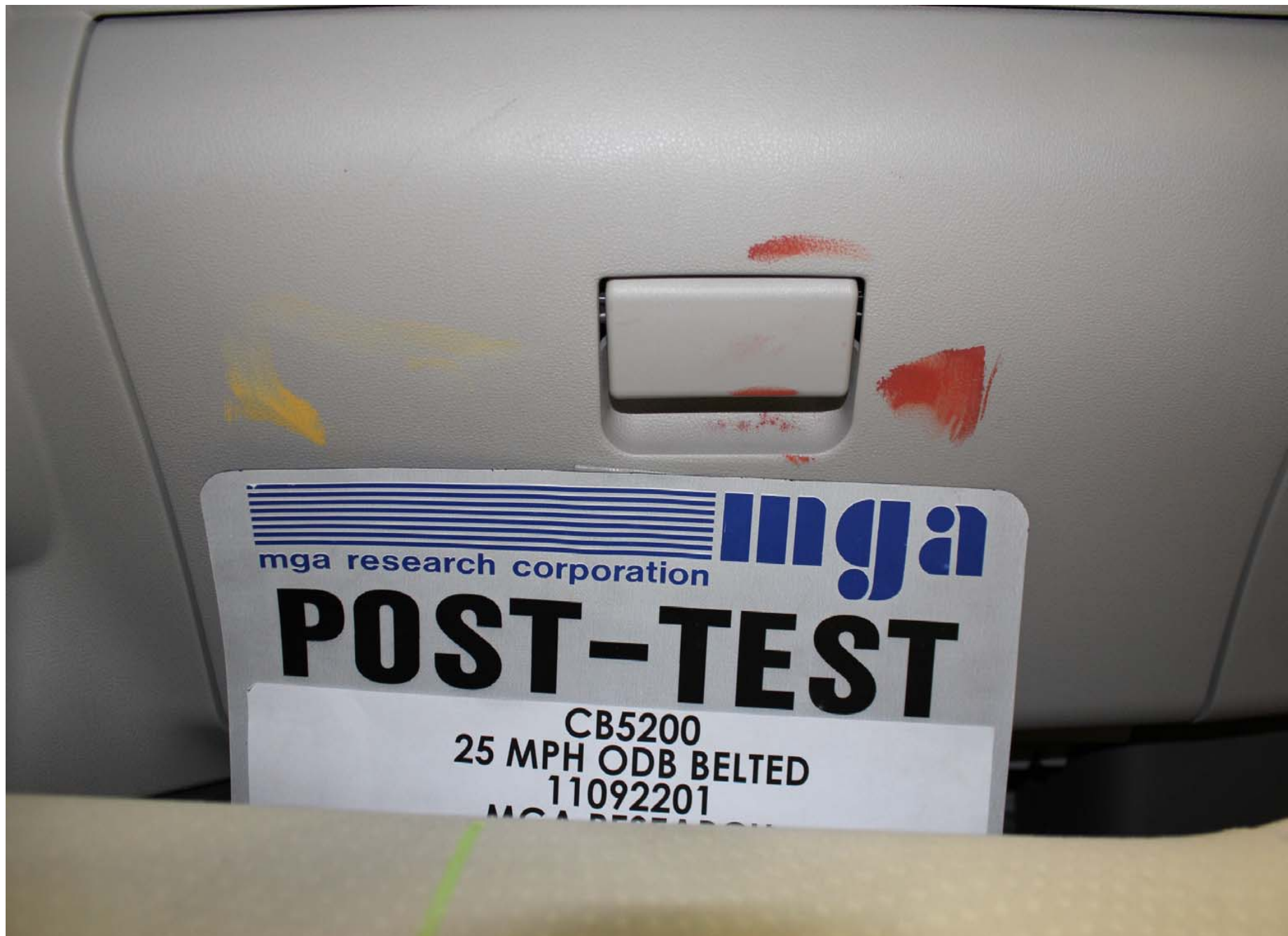
Post-Test Passenger Side Knee Bolster View



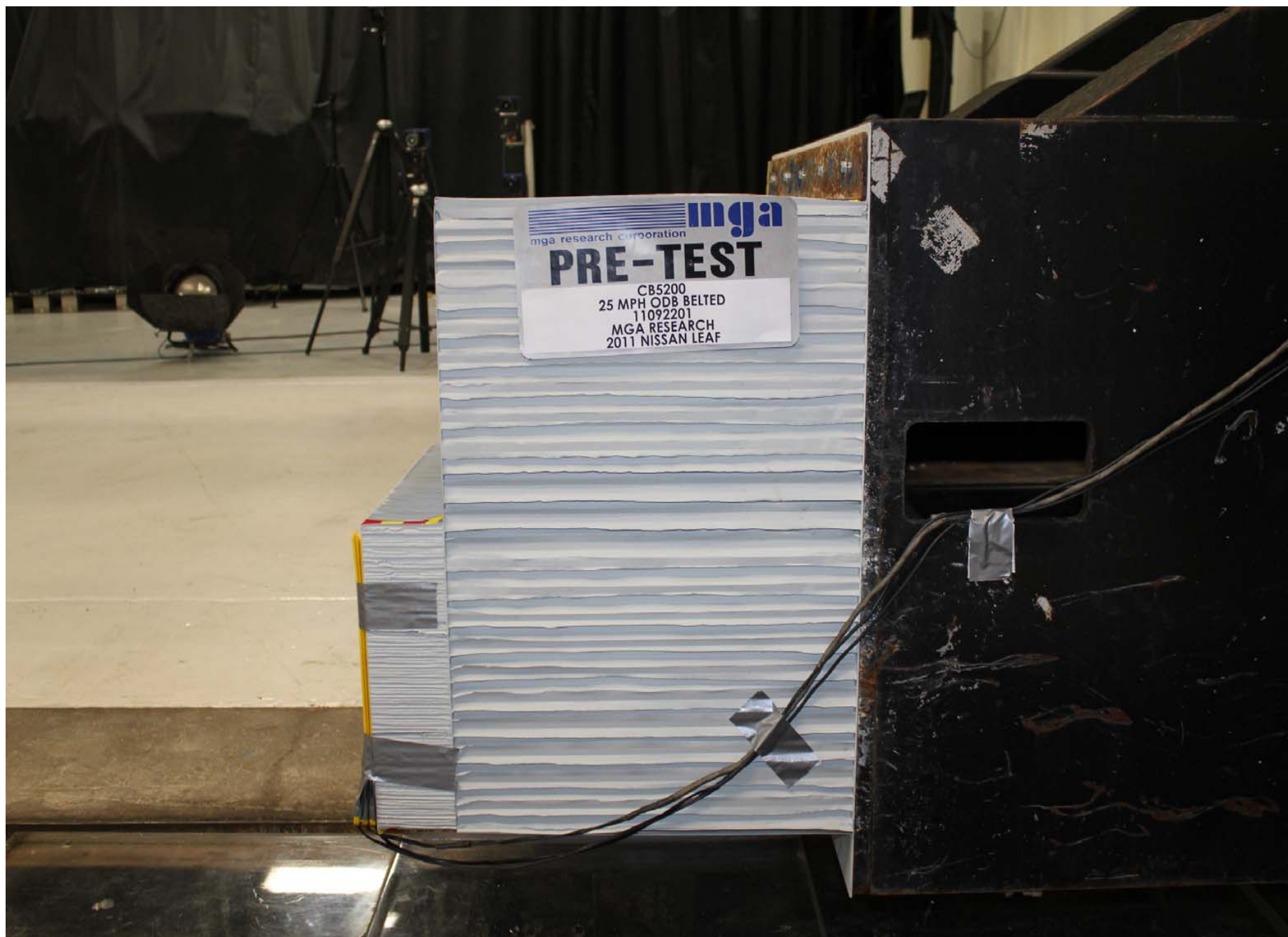
Post-Test Passenger Dummy Airbag Contact



Post-Test Passenger Dummy Head Contact (headrest)



Post-Test Passenger Dummy Knee Contact



Pre-Test Offset Deformable Barrier Left Side View



Post-Test Offset Deformable Barrier Left Side View



Pre-Test Offset Deformable Barrier Right Side View



Post-Test Offset Deformable Barrier Right Side View



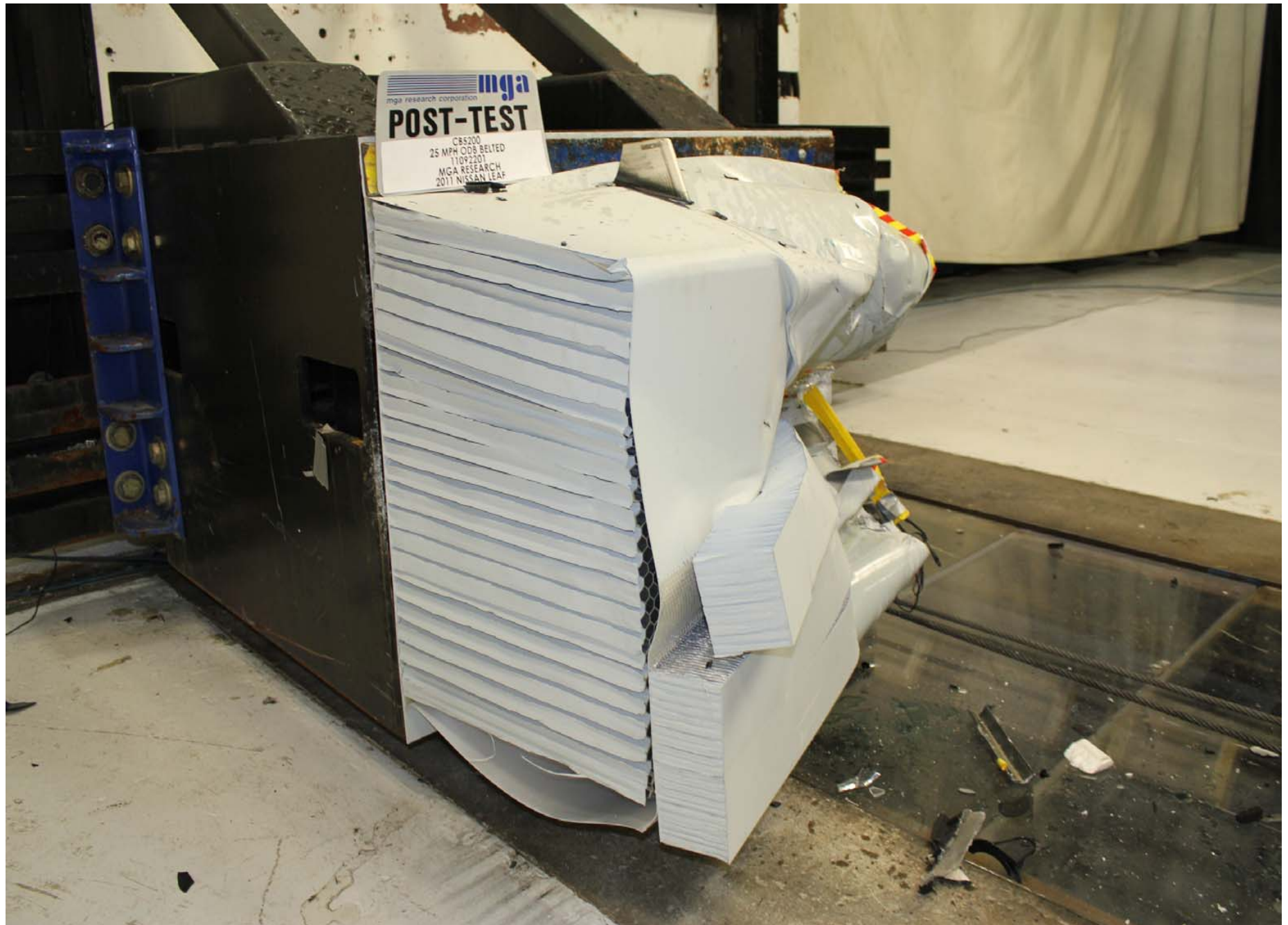
Pre-Test Left Front Three-Quarter View of Offset Deformable Barrier



Post-Test Left Front Three-Quarter View of Offset Deformable Barrier



Pre-Test Right Front Three-Quarter View of Offset Deformable Barrier



Post-Test Right Front Three-Quarter View of Offset Deformable Barrier



Pre-Test Offset Deformable Barrier Front View



Post-Test Offset Deformable Barrier Front View

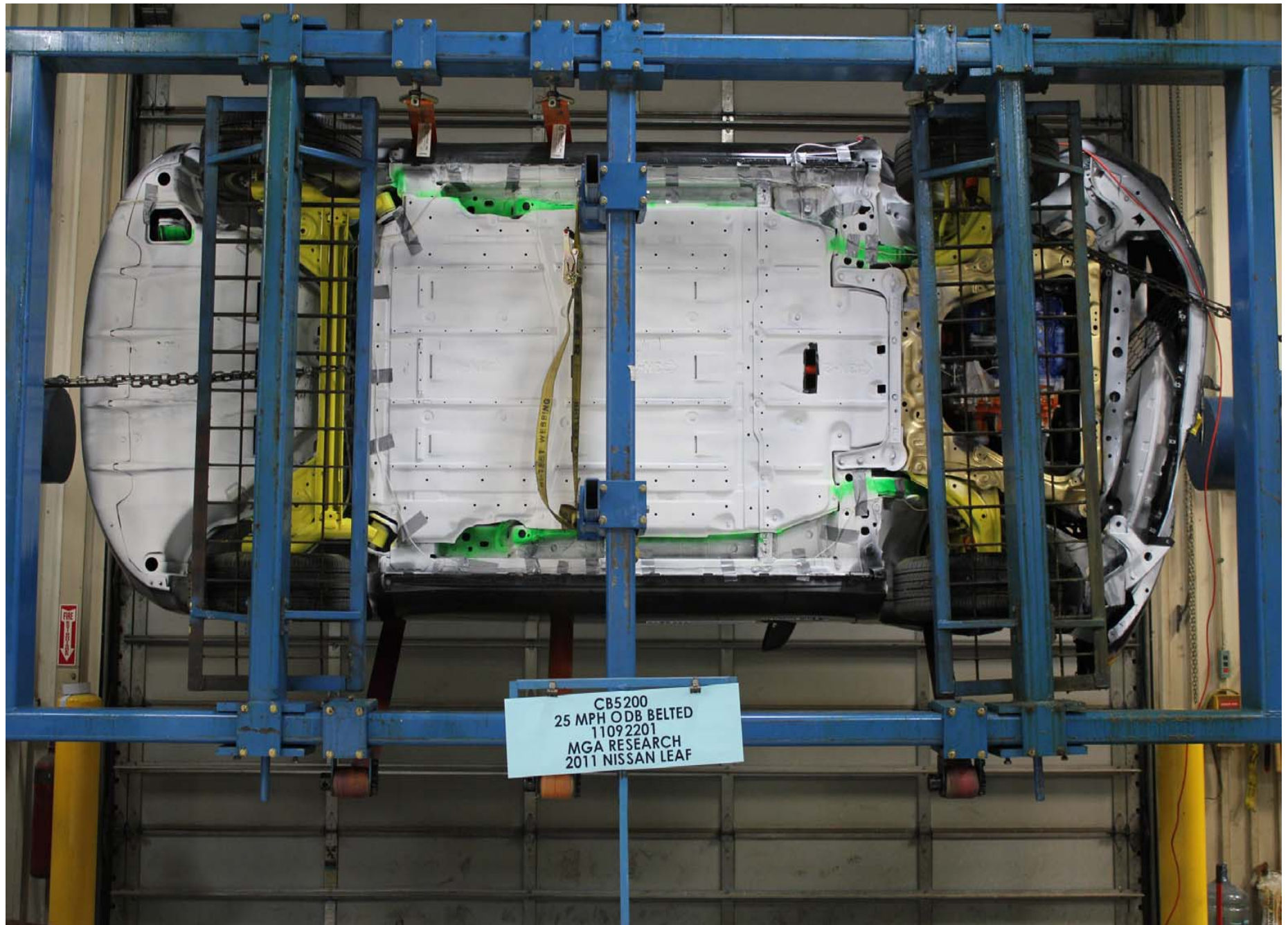


Pre-Test Offset Deformable Barrier Top View



Post-Test Offset Deformable Barrier Top View

B-75



Rollover 90 Degrees

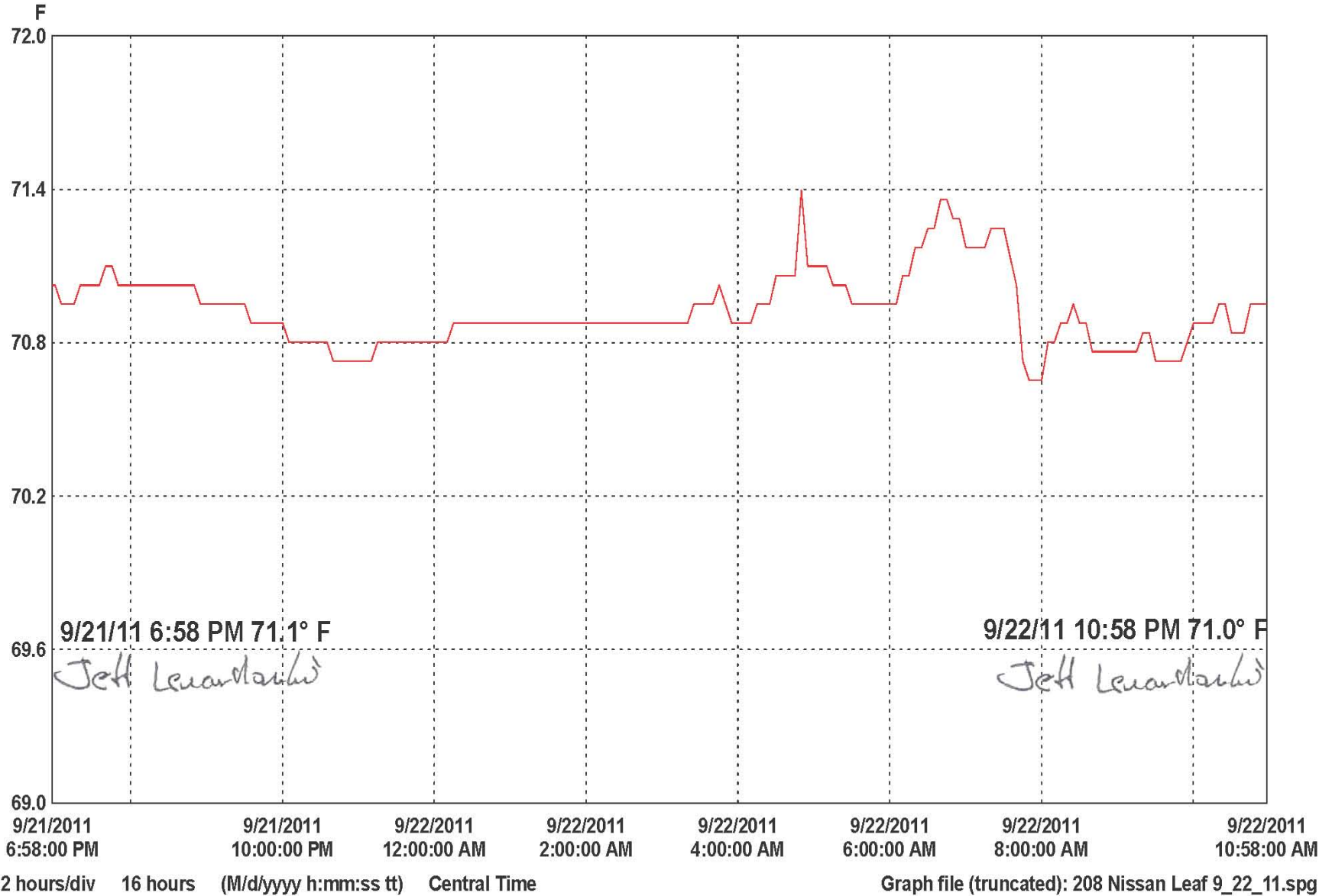


Rollover 270 Degrees



Rollover 360 Degrees

B-78



LN	Serial#	Description	CH	Value	Maximum	Average	Minimum	Units	CH description	Logger file
1	04042132	MGA logger	1		71.40	70.92	70.65	F	Temperature	04042132_MGA_logger.spl

Temperature Plot



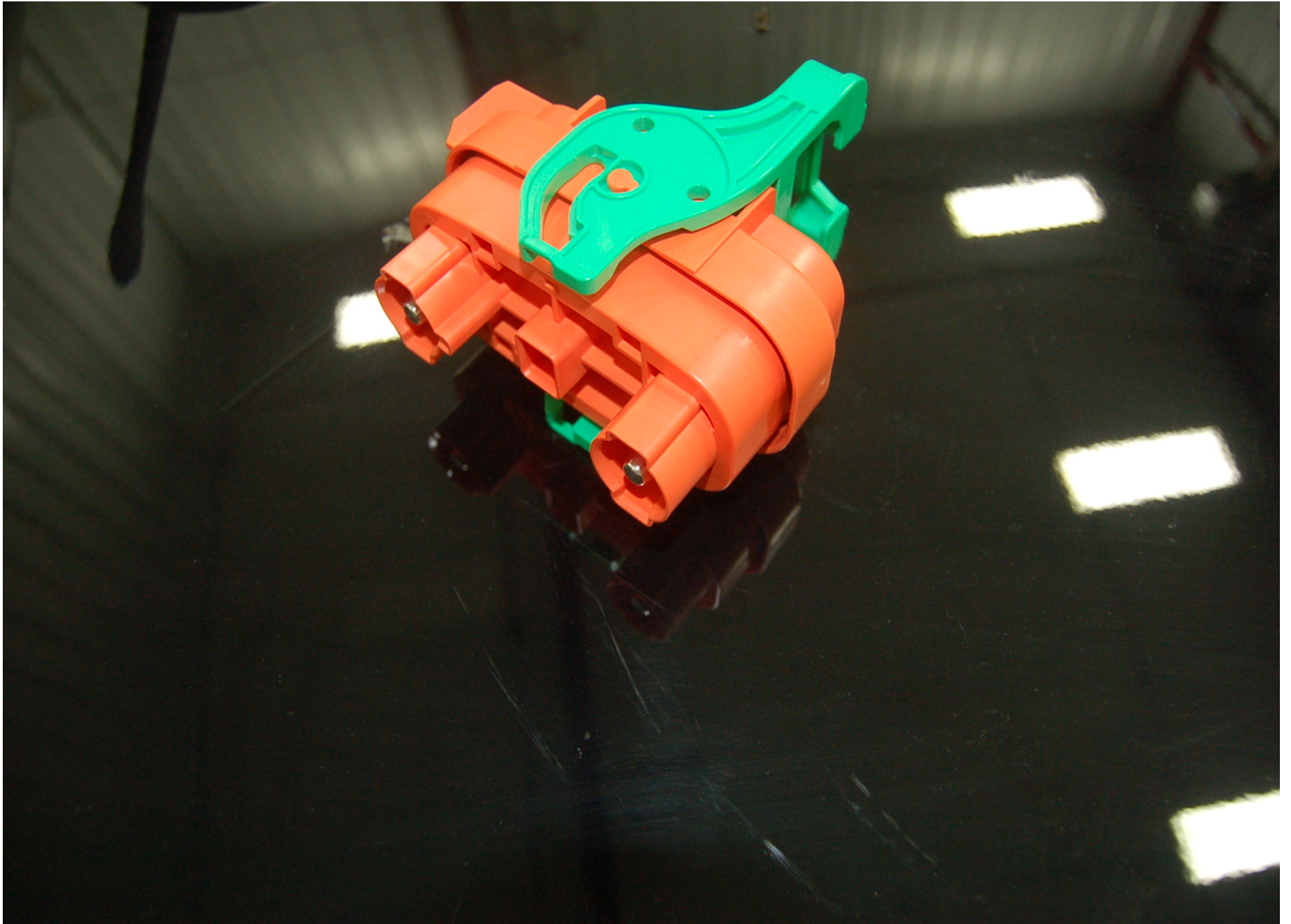
Manual High Voltage Service Disconnect



Manual High Voltage Service Disconnect Close-Up View



Manual High Voltage Service Disconnect Compartment View



Manual High Voltage Service Disconnect Plug



Manual High Voltage Service Disconnect Compartment View Without Plug



First Responder Warning/Location



WARNING /AVERTISSEMENT
ACHTUNG /ADVERTENCIA /AVISO

HIGH VOLTAGE INSIDE

- DO NOT remove these covers and/or connectors.

HOCHSPANNUNGSFÜHRENDE TEILE IM INNEREN

- Diese Abdeckungen bzw. Stecker nicht entfernen.

HAUTE TENSION À L'INTÉRIEUR

- NE PAS enlever ces couvercles et connecteurs.

Alta Voltagem no interior

- Nunca remova esta cobertura e/ou conector.

Alto voltaje en el interior

- Nunca remueva esta tapa y/o conector.

A



Auxiliary Power Module Warning Label

APPENDIX C

SUPPRESSION PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

	<u>Page #</u>
Photo No. 1. Angel Guard Angel Ride Car Bed Belted, Forward Seat Track	C-1
Photo No. 2. Angel Guard Angel Ride Car Bed Belted, Middle Seat Track	C-1
Photo No. 3. Angel Guard Angel Ride Car Bed Belted, Rearward Seat Track	C-1
Photo No. 4. Unbelted 5 th Percentile Female Reactivation, Forward Seat Track	C-1
Photo No. 5. Cosco Arriva W/Base, Belted, Rear Facing, Middle Seat Track	C-2
Photo No. 6. Cosco Arriva W/Base, Belted, Rear Facing, Rearward Seat Track	C-2
Photo No. 7. Cosco Arriva W/Base, Unbelted, Rear Facing, Middle Seat Track	C-2
Photo No. 8. Cosco Arriva W/Base, Unbelted, Rear Facing, Rearward Seat Track	C-2
Photo No. 9. Cosco Arriva W/Base, Unbelted, Forward Facing, Forward Seat Track	C-3
Photo No. 10. Cosco Arriva W/Base, Unbelted, Forward Facing, Middle Seat Track	C-3
Photo No. 11. Cosco Arriva W/Base, Unbelted, Forward Facing, Rearward Seat Track	C-3
Photo No. 12. Cosco Arriva W/Out Base, Belted, Rear Facing, Middle Seat Track	C-3
Photo No. 13. Cosco Arriva W/Out Base, Belted, Rear Facing, Rearward Seat Track	C-4
Photo No. 14. Cosco Arriva W/Out Base, Unbelted, Rear Facing, Middle Seat Track	C-4
Photo No. 15. Cosco Arriva W/Out Base, Unbelted, Rear Facing, Rearward Seat Track	C-4
Photo No. 16. Cosco Arriva W/Out Base, Unbelted, Forward Facing, Forward Seat Track	C-4
Photo No. 17. Cosco Arriva W/Out Base, Unbelted, Forward Facing, Middle Seat Track	C-5
Photo No. 18. Cosco Arriva W/Out Base, Unbelted, Forward Facing, Rearward Seat Track	C-5
Photo No. 19. Unbelted 5 th Percentile Female Reactivation, Rearward Seat Track	C-5
Photo No. 20. Graco Snugride W/Base, Belted, Rear Facing, Forward Seat Track	C-6
Photo No. 21. Graco Snugride W/Base, Belted, Rear Facing, Middle Seat Track	C-6
Photo No. 22. Graco Snugride W/Base, Belted, Rear Facing, Rearward Seat Track	C-6
Photo No. 23. Graco Snugride W/Base, Unbelted, Rear Facing, Forward Seat Track	C-6
Photo No. 24. Graco Snugride W/Base, Unbelted, Rear Facing, Middle Seat Track	C-7
Photo No. 25. Graco Snugride W/Base, Unbelted, Rear Facing, Rearward Seat Track	C-7
Photo No. 26. Graco Snugride W/Base, Unbelted, Forward Facing, Forward Seat Track	C-7
Photo No. 27. Graco Snugride W/Base, Unbelted, Forward Facing, Middle Seat Track	C-7
Photo No. 28. Graco Snugride W/Base, Unbelted, Forward Facing, Rearward Seat Track	C-8
Photo No. 29. Graco Snugride W/Out Base, Belted, Rear Facing, Middle Seat Track	C-8
Photo No. 30. Graco Snugride W/Out Base, Belted, Rear Facing, Rearward Seat Track	C-8

		<u>Page #</u>
Photo No. 31.	Graco Snugride W/Out Base, Unbelted, Rear Facing, Middle Seat Track	C-8
Photo No. 32.	Graco Snugride W/Out Base, Unbelted, Rear Facing, Rearward Seat Track	C-9
Photo No. 33.	Graco Snugride W/Out Base, Unbelted, Forward Facing, Forward Seat Track	C-9
Photo No. 34.	Graco Snugride W/Out Base, Unbelted, Forward Facing, Middle Seat Track	C-9
Photo No. 35.	Graco Snugride W/Out Base, Unbelted, Forward Facing, Rearward Seat Track	C-9
Photo No. 36.	Unbelted 5 th Percentile Female Reactivation, Forward Seat Track	C-10
Photo No. 37.	Peg Perego Viaggio W/Base, Belted, Rear Facing, Forward Seat Track	C-11
Photo No. 38.	Peg Perego Viaggio W/Base, Belted, Rear Facing, Middle Seat Track	C-11
Photo No. 39.	Peg Perego Viaggio W/Base, Belted, Rear Facing, Rearward Seat Track	C-11
Photo No. 40.	Peg Perego Viaggio W/Base, Unbelted, Rear Facing, Forward Seat Track	C-11
Photo No. 41.	Peg Perego Viaggio W/Base, Unbelted, Rear Facing, Middle Seat Track	C-12
Photo No. 42.	Peg Perego Viaggio W/Base, Unbelted, Rear Facing, Rearward Seat Track	C-12
Photo No. 43.	Peg Perego Viaggio W/Base, Unbelted, Forward Facing, Forward Seat Track	C-12
Photo No. 44.	Peg Perego Viaggio W/Base, Unbelted, Forward Facing, Middle Seat Track	C-12
Photo No. 45.	Peg Perego Viaggio W/Base, Unbelted, Forward Facing, Rearward Seat Track	C-13
Photo No. 46.	Peg Perego Viaggio W/Out Base, Belted, Rear Facing, Forward Seat Track	C-13
Photo No. 47.	Peg Perego Viaggio W/Out Base, Belted, Rear Facing, Middle Seat Track	C-13
Photo No. 48.	Peg Perego Viaggio W/Out Base, Belted, Rear Facing, Rearward Seat Track	C-13
Photo No. 49.	Peg Perego Viaggio W/Out Base, Unbelted, Rear Facing, Forward Seat Track	C-14
Photo No. 50.	Peg Perego Viaggio W/Out Base, Unbelted, Rear Facing, Middle Seat Track	C-14
Photo No. 51.	Peg Perego Viaggio W/Out Base, Unbelted, Rear Facing, Rearward Seat Track	C-14
Photo No. 52.	Peg Perego Viaggio W/Out Base, Unbelted, Forward Facing, Forward Seat Track	C-14
Photo No. 53.	Peg Perego Viaggio W/Out Base, Unbelted, Forward Facing, Middle Seat Track	C-15
Photo No. 54.	Peg Perego Viaggio W/Out Base, Unbelted, Forward Facing, Rearward Seat Track	C-15
Photo No. 55.	Unbelted 5 th Percentile Female Reactivation, Rearward Seat Track	C-15
Photo No. 56.	Britax Roundabout Forward Facing Belted, Forward Seat Track	C-16
Photo No. 57.	Britax Roundabout Forward Facing Belted, Middle Seat Track	C-16
Photo No. 58.	Britax Roundabout Forward Facing Belted, Rearward Seat Track	C-16
Photo No. 59.	Britax Roundabout Forward Facing Unbelted, Forward Seat Track	C-16
Photo No. 60.	Britax Roundabout Forward Facing Unbelted, Middle Seat Track	C-17
Photo No. 61.	Britax Roundabout Forward Facing Unbelted, Rearward Seat Track	C-17
Photo No. 62.	Britax Roundabout Rear Facing Belted, Forward Seat Track	C-17
Photo No. 63.	Britax Roundabout Rear Facing Belted, Middle Seat Track	C-17
Photo No. 64.	Britax Roundabout Rear Facing Belted, Rearward Seat Track	C-18
Photo No. 65.	Britax Roundabout Rear Facing Unbelted, Forward Seat Track	C-18

		<u>Page #</u>
Photo No. 66.	Britax Roundabout Rear Facing Unbelted, Middle Seat Track	C-18
Photo No. 67.	Britax Roundabout Rear Facing Unbelted, Rearward Seat Track	C-18
Photo No. 68.	Unbelted 5 th Percentile Female Reactivation, Forward Seat Track	C-19
Photo No. 69.	Cosco High Back Booster Forward Facing Belted, Forward Seat Track	C-20
Photo No. 70.	Cosco High Back Booster Forward Facing Belted, Middle Seat Track	C-20
Photo No. 71.	Cosco High Back Booster Forward Facing Belted, Rearward Seat Track	C-20
Photo No. 72.	Cosco High Back Booster Forward Facing Unbelted, Forward Seat Track	C-20
Photo No. 73.	Cosco High Back Booster Forward Facing Unbelted, Middle Seat Track	C-21
Photo No. 74.	Cosco High Back Booster Forward Facing Unbelted, Rearward Seat Track	C-21
Photo No. 75.	Cosco High Back Booster Rear Facing Unbelted, Forward Seat Track	C-21
Photo No. 76.	Cosco High Back Booster Rear Facing Unbelted, Middle Seat Track	C-21
Photo No. 77.	Cosco High Back Booster Rear Facing Unbelted, Rearward Seat Track	C-22
Photo No. 78.	Unbelted 5 th Percentile Female Reactivation, Rearward Seat Track	C-22
Photo No. 79.	Evenflo Generations Forward Facing Belted, Forward Seat Track	C-23
Photo No. 80.	Evenflo Generations Forward Facing Belted, Middle Seat Track	C-23
Photo No. 81.	Evenflo Generations Forward Facing Belted, Rearward Seat Track	C-23
Photo No. 82.	Evenflo Generations Forward Facing Unbelted, Forward Seat Track	C-23
Photo No. 83.	Evenflo Generations Forward Facing Unbelted, Middle Seat Track	C-24
Photo No. 84.	Evenflo Generations Forward Facing Unbelted, Rearward Seat Track	C-24
Photo No. 85.	Evenflo Generations Rear Facing Unbelted, Forward Seat Track	C-24
Photo No. 86.	Evenflo Generations Rear Facing Unbelted, Middle Seat Track	C-24
Photo No. 87.	Evenflo Generations Rear Facing Unbelted, Rearward Seat Track	C-25
Photo No. 88.	Unbelted 5 th Percentile Female Reactivation, Forward Seat Track	C-25
Photo No. 89.	Graco Comfortsport Forward Facing Belted, Forward Seat Track	C-26
Photo No. 90.	Graco Comfortsport Forward Facing Belted, Middle Seat Track	C-26
Photo No. 91.	Graco Comfortsport Forward Facing Belted, Rearward Seat Track	C-26
Photo No. 92.	Graco Comfortsport Forward Facing Unbelted, Forward Seat Track	C-26
Photo No. 93.	Graco Comfortsport Forward Facing Unbelted, Middle Seat Track	C-27
Photo No. 94.	Graco Comfortsport Forward Facing Unbelted, Rearward Seat Track	C-27
Photo No. 95.	Graco Comfortsport Rear Facing Belted, Forward Seat Track	C-27
Photo No. 96.	Graco Comfortsport Rear Facing Belted, Middle Seat Track	C-27
Photo No. 97.	Graco Comfortsport Rear Facing Belted, Rearward Seat Track	C-28
Photo No. 98.	Graco Comfortsport Rear Facing Unbelted, Forward Seat Track	C-28
Photo No. 99.	Graco Comfortsport Rear Facing Unbelted, Middle Seat Track	C-28
Photo No. 100.	Graco Comfortsport Rear Facing Unbelted, Rearward Seat Track	C-28

	<u>Page #</u>
Photo No. 101. Unbelted 5 th Percentile Female Reactivation, Middle Seat Track	C-29
Photo No. 102. 3-Year-Old Forward Facing Britax Roundabout Belted, Forward Seat Track	C-30
Photo No. 103. 3-Year-Old Forward Facing Britax Roundabout Belted, Middle Seat Track	C-30
Photo No. 104. 3-Year-Old Forward Facing Britax Roundabout Belted, Rearward Seat Track	C-30
Photo No. 105. Unbelted 5 th Percentile Female Reactivation, Forward Seat Track	C-30
Photo No. 106. 3-Year-Old Forward Facing Cosco High Back Booster Belted, Forward Seat Track	C-31
Photo No. 107. 3-Year-Old Forward Facing Cosco High Back Booster Belted, Middle Seat Track	C-31
Photo No. 108. 3-Year-Old Forward Facing Cosco High Back Booster Belted, Rearward Seat Track	C-31
Photo No. 109. 3-Year-Old Forward Facing Cosco High Back Booster Cinched With Harness, Forward Seat Track	C-31
Photo No. 110. 3-Year-Old Forward Facing Cosco High Back Booster Cinched With Harness, Middle Seat Track	C-32
Photo No. 111. 3-Year-Old Forward Facing Cosco High Back Booster Cinched With Harness, Rearward Seat Track	C-32
Photo No. 112. Unbelted 5 th Percentile Female Reactivation, Middle Seat Track	C-32
Photo No. 113. 3-Year-Old Forward Facing Evenflo Generations Belted, Forward Seat Track	C-33
Photo No. 114. 3-Year-Old Forward Facing Evenflo Generations Belted, Middle Seat Track	C-33
Photo No. 115. 3-Year-Old Forward Facing Evenflo Generations Belted, Rearward Seat Track	C-33
Photo No. 116. 3-Year-Old Forward Facing Evenflo Generations Cinched With Harness, Forward Seat Track	C-33
Photo No. 117. 3-Year-Old Forward Facing Evenflo Generations Cinched With Harness, Middle Seat Track	C-34
Photo No. 118. 3-Year-Old Forward Facing Evenflo Generations Cinched With Harness, Rearward Seat Track	C-34
Photo No. 119. Unbelted 5 th Percentile Female Reactivation, Forward Seat Track	C-34
Photo No. 120. 3-Year-Old Forward Facing Graco Comfortsport Belted, Forward Seat Track	C-35
Photo No. 121. 3-Year-Old Forward Facing Graco Comfortsport Belted, Middle Seat Track	C-35
Photo No. 122. 3-Year-Old Forward Facing Graco Comfortsport Belted, Rearward Seat Track	C-35
Photo No. 123. Unbelted 5 th Percentile Female Reactivation, Rearward Seat Track	C-35
Photo No. 124. 3-Year-Old Cosco Summit Deluxe Belted, Forward Seat Track	C-36
Photo No. 125. 3-Year-Old Cosco Summit Deluxe Belted, Middle Seat Track	C-36
Photo No. 126. 3-Year-Old Cosco Summit Deluxe Belted, Rearward Seat Track	C-36
Photo No. 127. 3-Year-Old Cosco Summit Deluxe Cinched With Harness, Forward Seat Track	C-36
Photo No. 128. 3-Year-Old Cosco Summit Deluxe Cinched With Harness, Middle Seat Track	C-37
Photo No. 129. 3-Year-Old Cosco Summit Deluxe Cinched With Harness, Rearward Seat Track	C-37
Photo No. 130. Unbelted 5 th Percentile Female Reactivation, Middle Seat Track	C-37
Photo No. 131. 3-Year-Old Graco Platinum Cargo Belted, Forward Seat Track	C-38
Photo No. 132. 3-Year-Old Graco Platinum Cargo Belted, Middle Seat Track	C-38
Photo No. 133. 3-Year-Old Graco Platinum Cargo Belted, Rearward Seat Track	C-38
Photo No. 134. 3-Year-Old Graco Platinum Cargo Cinched With Harness, Forward Seat Track	C-38
Photo No. 135. 3-Year-Old Graco Platinum Cargo Cinched With Harness, Middle Seat Track	C-39

	<u>Page #</u>
Photo No. 136. 3-Year-Old Graco Platinum Cargo Cinched With Harness, Rearward Seat Track	C-39
Photo No. 137. Unbelted 5 th Percentile Female Reactivation, Forward Seat Track	C-39
Photo No. 138. 6-Year-Old Cosco Summit Deluxe Belted, Forward Seat Track	C-40
Photo No. 139. 6-Year-Old Cosco Summit Deluxe Belted, Middle Seat Track	C-40
Photo No. 140. 6-Year-Old Cosco Summit Deluxe Belted, Rearward Seat Track	C-40
Photo No. 141. Unbelted 5 th Percentile Female Reactivation, Forward Seat Track	C-40
Photo No. 142. 6-Year-Old Graco Platinum Cargo Belted, Forward Seat Track	C-41
Photo No. 143. 6-Year-Old Graco Platinum Cargo Belted, Middle Seat Track	C-41
Photo No. 144. 6-Year-Old Graco Platinum Cargo Belted, Rearward Seat Track	C-41
Photo No. 145. Unbelted 5 th Percentile Female Reactivation, Forward Seat Track	C-41
Photo No. 146. 3-Year-Old Unbelted, Forward Seat Track, Position 1	C-42
Photo No. 147. 3-Year-Old Unbelted, Forward Seat Track, Position 2	C-42
Photo No. 148. 3-Year-Old Unbelted, Forward Seat Track, Position 3	C-42
Photo No. 149. 3-Year-Old Unbelted, Forward Seat Track, Position 4	C-42
Photo No. 150. 3-Year-Old Unbelted, Forward Seat Track, Position 5	C-43
Photo No. 151. 3-Year-Old Unbelted, Forward Seat Track, Position 6	C-43
Photo No. 152. 3-Year-Old Unbelted, Forward Seat Track, Position 7	C-43
Photo No. 153. 3-Year-Old Unbelted, Middle Seat Track, Position 1	C-43
Photo No. 154. 3-Year-Old Unbelted, Middle Seat Track, Position 2	C-44
Photo No. 155. 3-Year-Old Unbelted, Middle Seat Track, Position 3	C-44
Photo No. 156. 3-Year-Old Unbelted, Middle Seat Track, Position 4	C-44
Photo No. 157. 3-Year-Old Unbelted, Middle Seat Track, Position 5	C-44
Photo No. 158. 3-Year-Old Unbelted, Middle Seat Track, Position 6	C-45
Photo No. 159. 3-Year-Old Unbelted, Middle Seat Track, Position 7	C-45
Photo No. 160. 3-Year-Old Unbelted, Rearward Seat Track, Position 1	C-45
Photo No. 161. 3-Year-Old Unbelted, Rearward Seat Track, Position 2	C-45
Photo No. 162. 3-Year-Old Unbelted, Rearward Seat Track, Position 3	C-46
Photo No. 163. 3-Year-Old Unbelted, Rearward Seat Track, Position 4	C-46
Photo No. 164. 3-Year-Old Unbelted, Rearward Seat Track, Position 5	C-46
Photo No. 165. 3-Year-Old Unbelted, Rearward Seat Track, Position 6	C-46
Photo No. 166. 3-Year-Old Unbelted, Rearward Seat Track, Position 7	C-47
Photo No. 167. Unbelted 5 th Percentile Female Reactivation, Rearward Seat Track	C-47
Photo No. 168. 6-Year-Old Unbelted, Forward Seat Track, Position 1	C-48
Photo No. 169. 6-Year-Old Unbelted, Forward Seat Track, Position 2	C-48
Photo No. 170. 6-Year-Old Unbelted, Forward Seat Track, Position 3	C-48

	<u>Page #</u>
Photo No. 171. 6-Year-Old Unbelted, Forward Seat Track, Position 4	C-48
Photo No. 172. 6-Year-Old Unbelted, Middle Seat Track, Position 1	C-49
Photo No. 173. 6-Year-Old Unbelted, Middle Seat Track, Position 2	C-49
Photo No. 174. 6-Year-Old Unbelted, Middle Seat Track, Position 3	C-49
Photo No. 175. 6-Year-Old Unbelted, Middle Seat Track, Position 4	C-49
Photo No. 176. 6-Year-Old Unbelted, Rearward Seat Track, Position 1	C-50
Photo No. 177. 6-Year-Old Unbelted, Rearward Seat Track, Position 2	C-50
Photo No. 178. 6-Year-Old Unbelted, Rearward Seat Track, Position 3	C-50
Photo No. 179. 6-Year-Old Unbelted, Rearward Seat Track, Position 4	C-50
Photo No. 180. Unbelted 5 th Percentile Female Reactivation, Rearward Seat Track	C-51

C-1



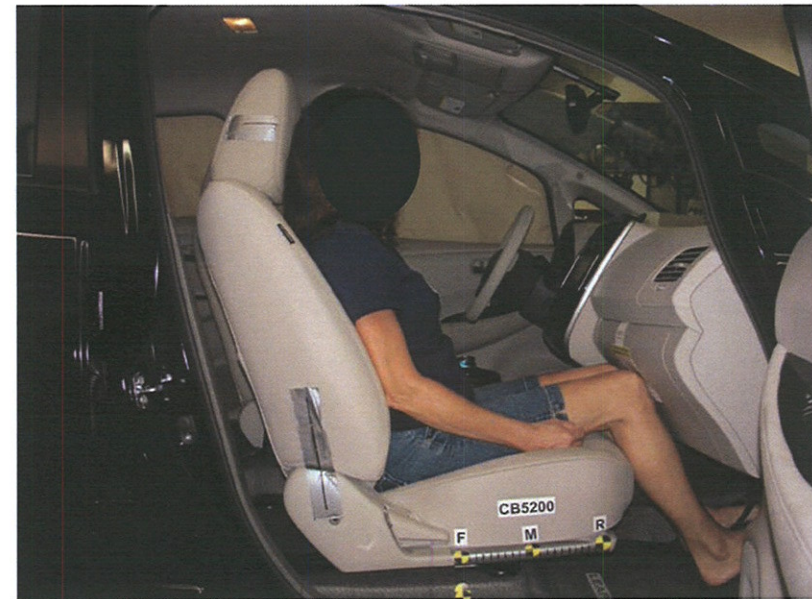
Angel Guard Angel Ride Car Bed Belted, Forward Seat Track



Angel Guard Angel Ride Car Bed Belted, Middle Seat Track



Angel Guard Angel Ride Car Bed Belted, Rearward Seat Track



Unbelted 5th Percentile Female Reactivation, Forward Seat Track

C-2



Cosco Arriva WBase, Belted, Rear Facing, Middle Seat Track



Cosco Arriva WBase, Belted, Rear Facing, Rearward Seat Track



Cosco Arriva WBase, Unbelted, Rear Facing, Middle Seat Track



Cosco Arriva WBase, Unbelted, Rear Facing, Rearward Seat Track

C-3



Cosco Arriva WBase, Unbelted, Forward Facing, Forward Seat Track



Cosco Arriva WBase, Unbelted, Forward Facing, Middle Seat Track



Cosco Arriva WBase, Unbelted, Forward Facing, Rearward Seat Track



Cosco Arriva WOut Base, Belted, Rear Facing, Middle Seat Track

C-4



Cosco Arriva WOut Base, Belted, Rear Facing, Rearward Seat Track



Cosco Arriva WOut Base, Unbelted, Rear Facing, Middle Seat Track



Cosco Arriva WOut Base, Unbelted, Rear Facing, Rearward Seat Track



Cosco Arriva WOut Base, Unbelted, Forward Facing, Forward Seat Track

C-5



Cosco Arriva WOut Base, Unbelted, Forward Facing, Middle Seat Track



Cosco Arriva WOut Base, Unbelted, Forward Facing, Rearward Seat Track



Unbelted 5th Percentile Female Reactivation, Rearward Seat Track

C-6



Graco Snug Ride WBase, Belted, Rear Facing, Forward Seat Track



Graco Snug Ride WBase, Belted, Rear Facing, Middle Seat Track



Graco Snug Ride WBase, Belted, Rear Facing, Rearward Seat Track



Graco Snug Ride WBase, Unbelted, Rear Facing, Forward Seat Track

C-7



Graco Snug Ride WBase, Unbelted, Rear Facing, Middle Seat Track



Graco Snug Ride WBase, Unbelted, Rear Facing, Rearward Seat Track



Graco Snug Ride WBase, Unbelted, Forward Facing, Forward Seat Track



Graco Snug Ride WBase, Unbelted, Forward Facing, Middle Seat Track

C-8



Graco Snug Ride WBase, Unbelted, Forward Facing, Rearward Seat Track



Graco Snug Ride WOut Base, Belted, Rear Facing, Middle Seat Track



Graco Snug Ride WOut Base, Belted, Rear Facing, Rearward Seat Track



Graco Snug Ride WOut Base, Unbelted, Rear Facing, Middle Seat Track

C-9



Graco Snug Ride WOut Base, Unbelted, Rear Facing, Rearward Seat Track



Graco Snug Ride WOut Base, Unbelted, Forward Facing, Forward Seat Track



Graco Snug Ride WOut Base, Unbelted, Forward Facing, Middle Seat Track



Graco Snug Ride WOut Base, Unbelted, Forward Facing, Rearward Seat Track



Unbelted 5th Percentile Female Reactivation, Forward Seat Track

C-11



Peg Perego Viaggio WBase, Belted, Rear Facing, Forward Seat Track



Peg Perego Viaggio WBase, Belted, Rear Facing, Middle Seat Track



Peg Perego Viaggio WBase, Belted, Rear Facing, Rearward Seat Track



Peg Perego Viaggio WBase, Unbelted, Rear Facing, Forward Seat Track

C-12



Peg Perego Viaggio WBase, Unbelted, Rear Facing, Middle Seat Track



Peg Perego Viaggio WBase, Unbelted, Rear Facing, Rearward Seat Track



Peg Perego Viaggio WBase, Unbelted, Forward Facing, Forward Seat Track



Peg Perego Viaggio WBase, Unbelted, Forward Facing, Middle Seat Track

C-13



Peg Perego Viaggio WBase, Unbelted, Forward Facing, Rearward Seat Track



Peg Perego Viaggio WOut Base, Belted, Rear Facing, Forward Seat Track



Peg Perego Viaggio WOut Base, Belted, Rear Facing, Middle Seat Track



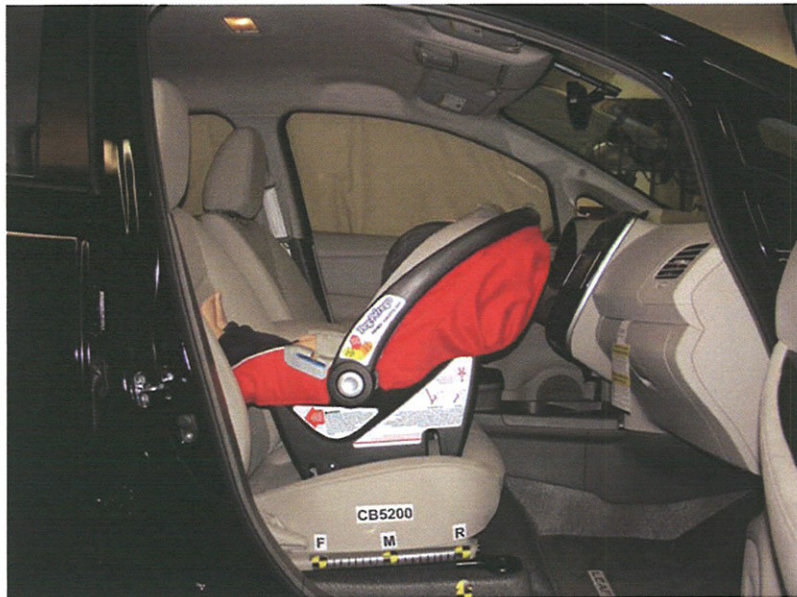
Peg Perego Viaggio WOut Base, Belted, Rear Facing, Rearward Seat Track



Peg Perego Viaggio WOut Base, Unbelted, Rear Facing, Forward Seat Track



Peg Perego Viaggio WOut Base, Unbelted, Rear Facing, Middle Seat Track



Peg Perego Viaggio WOut Base, Unbelted, Rear Facing, Rearward Seat Track



Peg Perego Viaggio WOut Base, Unbelted, Forward Facing, Forward Seat Track



Peg Perego Viaggio WOut Base, Unbelted, Forward Facing, Middle Seat Track



Peg Perego Viaggio WOut Base, Unbelted, Forward Facing, Rearward Seat Track



Unbelted 5th Percentile Female Reactivation, Rearward Seat Track

C-16



Britax Roundabout Forward Facing Belted, Forward Seat Track



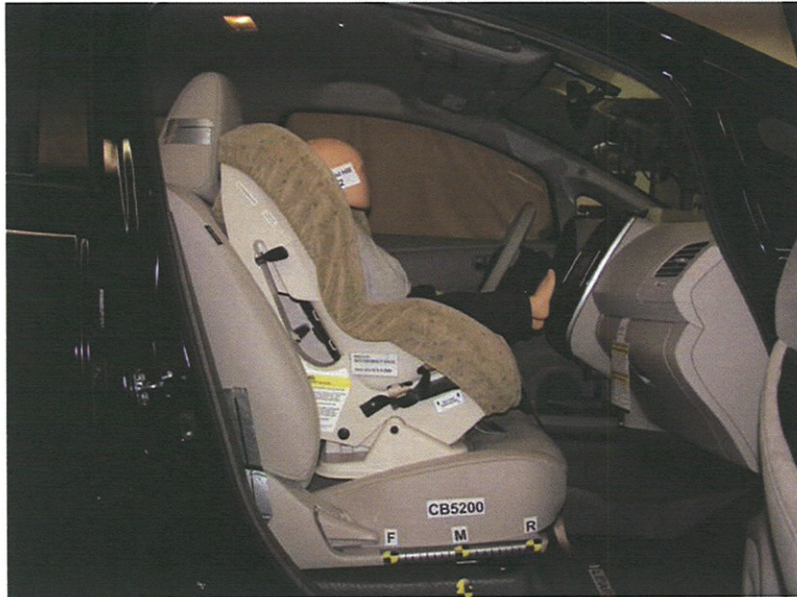
Britax Roundabout Forward Facing Belted, Middle Seat Track



Britax Roundabout Forward Facing Belted, Rearward Seat Track



Britax Roundabout Forward Facing Unbelted, Forward Seat Track



Britax Roundabout Forward Facing Unbelted, Middle Seat Track



Britax Roundabout Forward Facing Unbelted, Rearward Seat Track



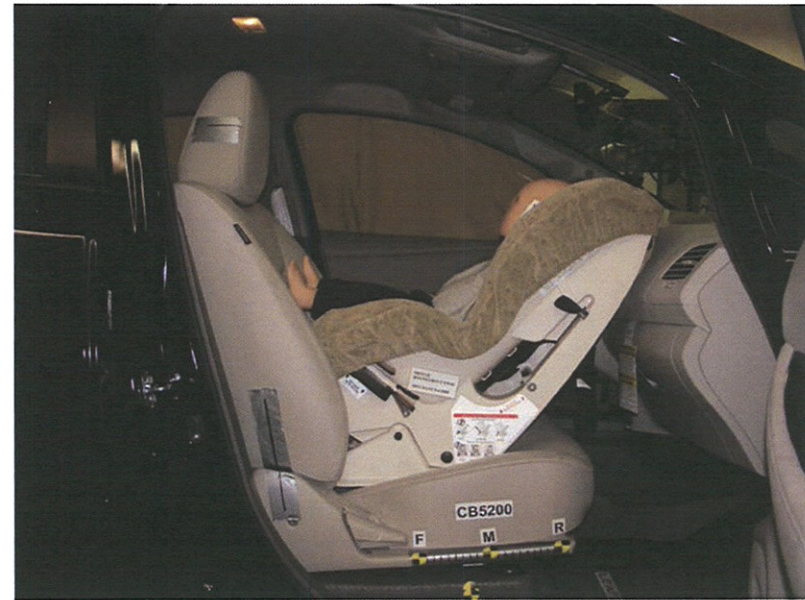
Britax Roundabout Rear Facing Belted, Forward Seat Track



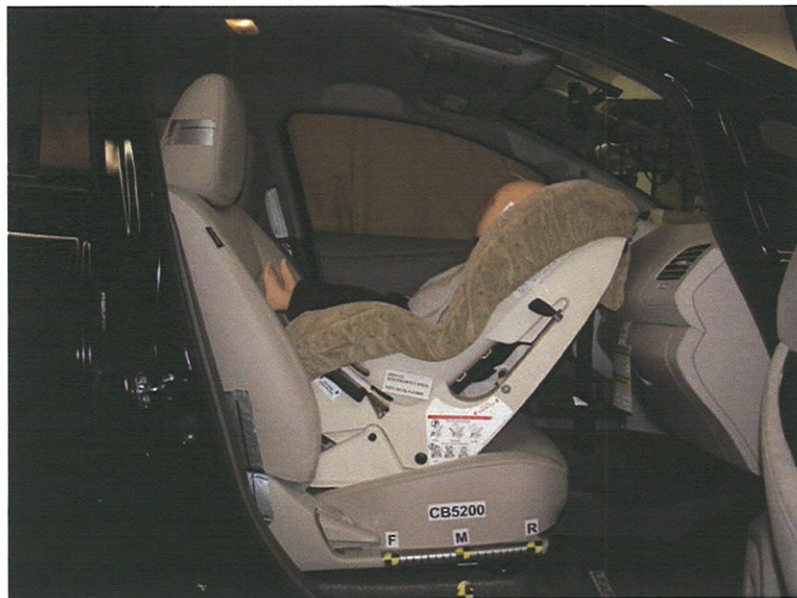
Britax Roundabout Rear Facing Belted, Middle Seat Track



Britax Roundabout Rear Facing Belted, Rearward Seat Track



Britax Roundabout Rear Facing Unbelted, Forward Seat Track



Britax Roundabout Rear Facing Unbelted, Middle Seat Track



Britax Roundabout Rear Facing Unbelted, Rearward Seat Track



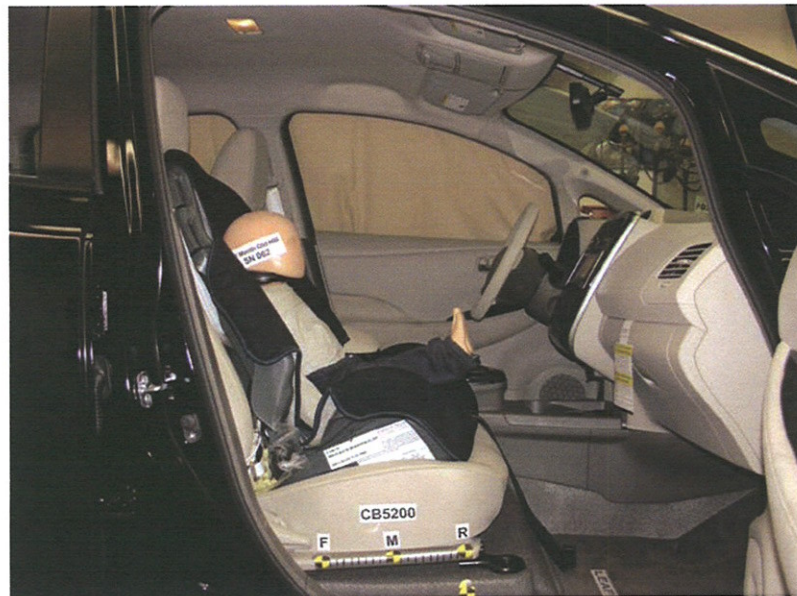
Unbelted 5th Percentile Female Reactivation, Forward Seat Track



Cosco High Back Booster Forward Facing Belted, Forward Seat Track



Cosco High Back Booster Forward Facing Belted, Middle Seat Track



Cosco High Back Booster Forward Facing Belted, Rearward Seat Track



Cosco High Back Booster Forward Facing Unbelted, Forward Seat Track



Cosco High Back Booster Forward Facing Unbelted, Middle Seat Track



Cosco High Back Booster Forward Facing Unbelted, Rearward Seat Track



Cosco High Back Booster Rear Facing Unbelted, Forward Seat Track



Cosco High Back Booster Rear Facing Unbelted, Middle Seat Track



Cosco High Back Booster Rear Facing Unbelted, Rearward Seat Track



Unbelted 5th Percentile Female Reactivation, Rearward Seat Track



Evenflo Generations Forward Facing Belted, Forward Seat Track



Evenflo Generations Forward Facing Belted, Middle Seat Track



Evenflo Generations Forward Facing Belted, Rearward Seat Track



Evenflo Generations Forward Facing Unbelted, Forward Seat Track



Evenflo Generations Forward Facing Unbelted, Middle Seat Track



Evenflo Generations Forward Facing Unbelted, Rearward Seat Track



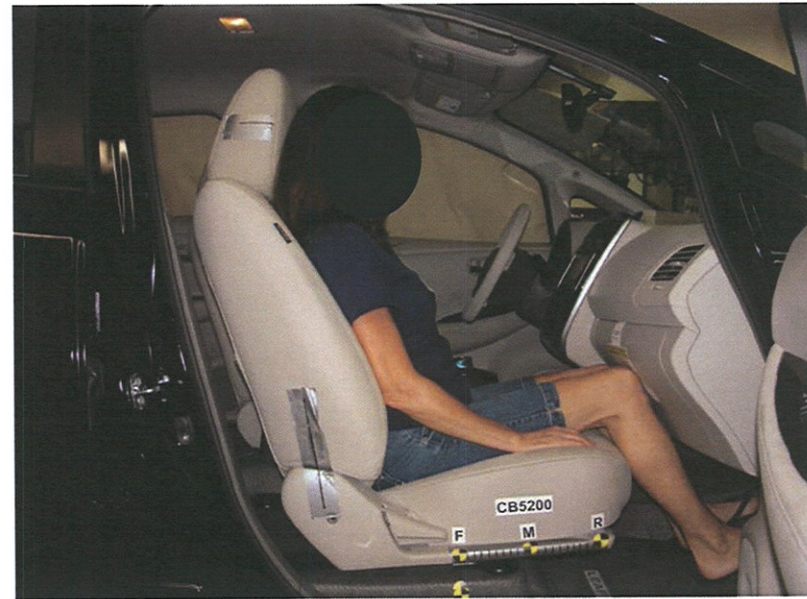
Evenflo Generations Rear Facing Unbelted, Forward Seat Track



Evenflo Generations Rear Facing Unbelted, Middle Seat Track



Evenflo Generations Rear Facing Unbelted, Rearward Seat Track



Unbelted 5th Percentile Female Reactivation, Forward Seat Track



Graco Comfortsport Forward Facing Belted, Forward Seat Track



Graco Comfortsport Forward Facing Belted, Middle Seat Track



Graco Comfortsport Forward Facing Belted, Rearward Seat Track



Graco Comfortsport Forward Facing Unbelted, Forward Seat Track



Graco Comfortsport Forward Facing Unbelted, Middle Seat Track



Graco Comfortsport Forward Facing Unbelted, Rearward Seat Track



Graco Comfortsport Rear Facing Belted, Forward Seat Track



Graco Comfortsport Rear Facing Belted, Middle Seat Track



Graco Comfortsport Rear Facing Belted, Rearward Seat Track



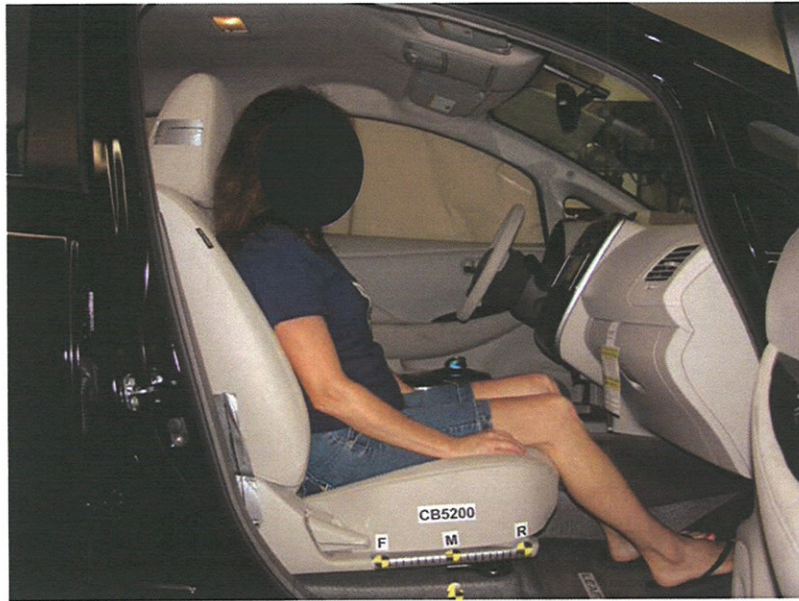
Graco Comfortsport Rear Facing Unbelted, Forward Seat Track



Graco Comfortsport Rear Facing Unbelted, Middle Seat Track

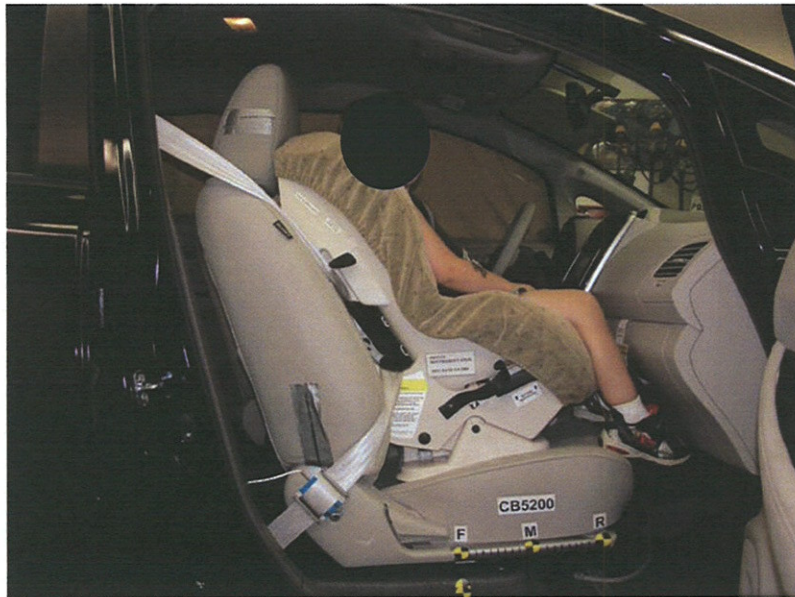


Graco Comfortsport Rear Facing Unbelted, Rearward Seat Track

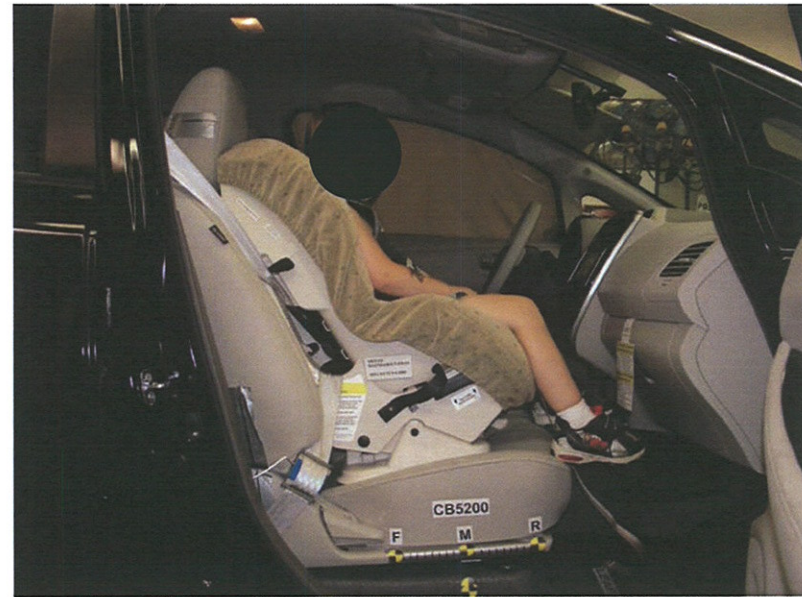


Unbelted 5th Percentile Female Reactivation, Middle Seat Track

C-30



3-Year-Old Forward Facing Britax Roundabout Belted, Forward Seat Track



3-Year-Old Forward Facing Britax Roundabout Belted, Middle Seat Track



3-Year-Old Forward Facing Britax Roundabout Belted, Rearward Seat Track



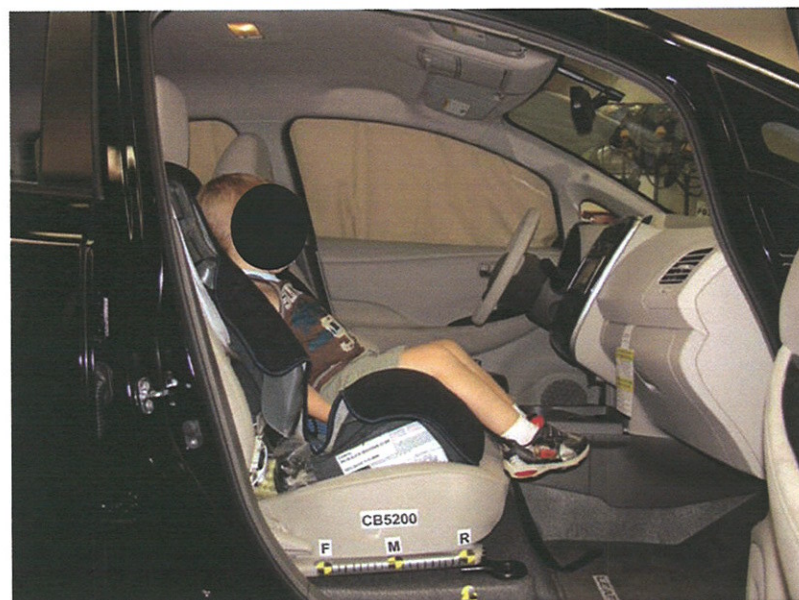
Unbelted 5th Percentile Female Reactivation, Forward Seat Track



3-Year-Old Forward Facing Cosco High Back Booster Belted, Forward Seat Track



3-Year-Old Forward Facing Cosco High Back Booster Belted, Middle Seat Track

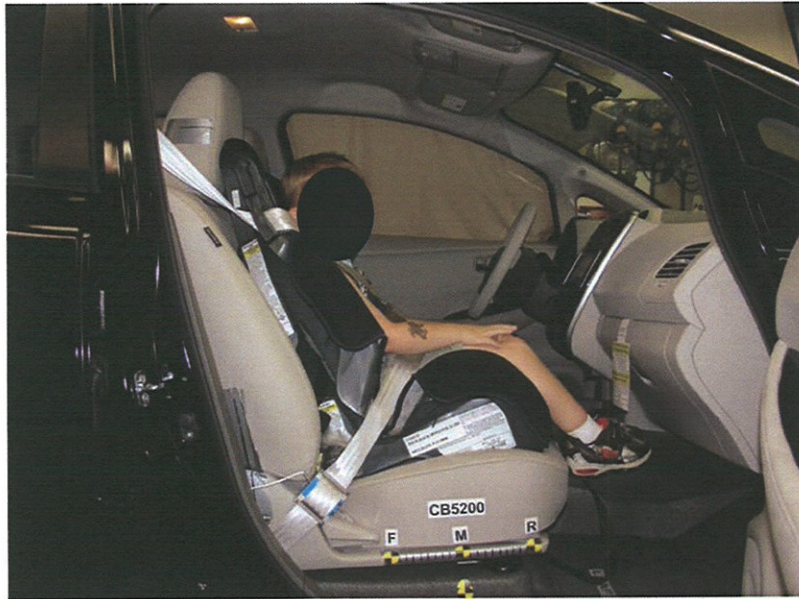


3-Year-Old Forward Facing Cosco High Back Booster Belted, Rearward Seat Track



3-Year-Old Forward Facing Cosco High Back Booster Cinched With Harness, Forward Seat Track

C-32



3-Year-Old Forward Facing Cosco High Back Booster Cinched With Harness, Middle Seat Track 3-Year-Old Forward Facing Cosco High Back Booster Cinched With Harness, Rearward Seat Track



Unbelted 5th Percentile Female Reactivation, Middle Seat Track

C-33



3-Year-Old Forward Facing Evenflo Generations Belted, Forward Seat Track



3-Year-Old Forward Facing Evenflo Generations Belted, Middle Seat Track



3-Year-Old Forward Facing Evenflo Generations Belted, Rearward Seat Track



3-Year-Old Forward Facing Evenflo Generations Cinched With Harness, Forward Seat Track



3-Year-Old Forward Facing Evenflo Generations Cinched With Harness, Middle Seat Track



3-Year-Old Forward Facing Evenflo Generations Cinched With Harness, Rearward Seat Track



Unbelted 5th Percentile Female Reactivation, Forward Seat Track

C-35



3-Year-Old Forward Facing Graco Comfort Sport Belted, Forward Seat Track



3-Year-Old Forward Facing Graco Comfort Sport Belted, Middle Seat Track



3-Year-Old Forward Facing Graco Comfort Sport Belted, Rearward Seat Track



Unbelted 5th Percentile Female Reactivation, Rearward Seat Track



3-Year-Old Cosco Summit Deluxe Belted, Forward Seat Track



3-Year-Old Cosco Summit Deluxe Belted, Middle Seat Track



3-Year-Old Cosco Summit Deluxe Belted, Rearward Seat Track



3-Year-Old Cosco Summit Deluxe Cinched With Harness, Forward Seat Track



3-Year-Old Cosco Summit Deluxe Cinched With Harness, Middle Seat Track



3-Year-Old Cosco Summit Deluxe Cinched With Harness, Rearward Seat Track



Unbelted 5th Percentile Female Reactivation, Middle Seat Track

C-38



3-Year-Old Graco Platinum Cargo Belted, Forward Seat Track



3-Year-Old Graco Platinum Cargo Belted, Middle Seat Track



3-Year-Old Graco Platinum Cargo Belted, Rearward Seat Track



3-Year-Old Graco Platinum Cargo Cinched With Harness, Forward Seat Track



3-Year-Old Graco Platinum Cargo Cinched With Harness, Middle Seat Track



3-Year-Old Graco Platinum Cargo Cinched With Harness, Rearward Seat Track



Unbelted 5th Percentile Female Reactivation, Forward Seat Track

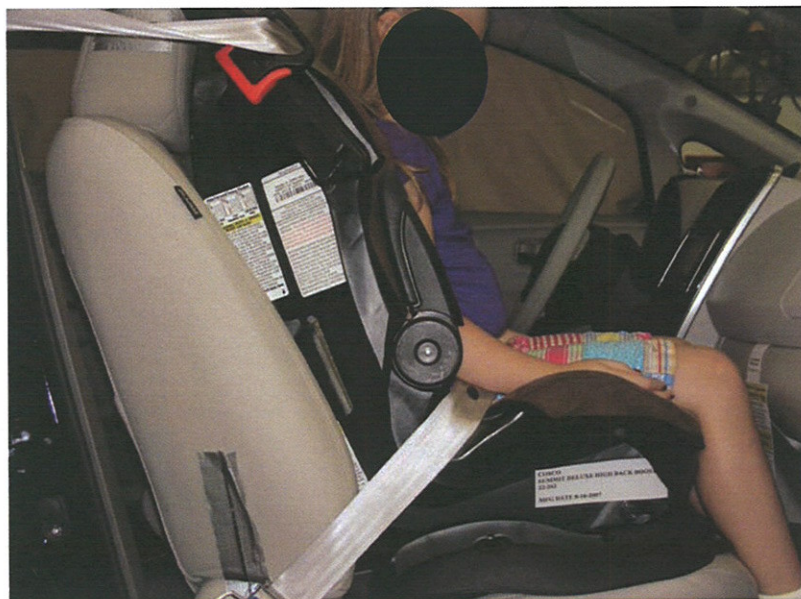
DOT/NHTSA 208 Suppression Test - 2011 Nissan Leaf (CB5200)
6 Year Old

Section D

Forward Facing Toddler

Belt Positioning Booster Seat

C-40



6-Year-Old Cosco Summit Deluxe Belted, Forward Seat Track



6-Year-Old Cosco Summit Deluxe Belted, Middle Seat Track



6-Year-Old Cosco Summit Deluxe Belted, Rearward Seat Track



Unbelted 5th Percentile Female Reactivation, Forward Seat Track



6-Year-Old Graco Platinum Cargo Belted, Forward Seat Track



6-Year-Old Graco Platinum Cargo Belted, Middle Seat Track



6-Year-Old Graco Platinum Cargo Belted, Rearward Seat Track



Unbelted 5th Percentile Female Reactivation, Forward Seat Track

DOT/NHTSA 208 Suppression Test - 2011 Nissan Leaf (CB5200)
3 Year Old No CRS

C-42



3-Year-Old Unbelted, Forward Seat Track, Position 1



3-Year-Old Unbelted, Forward Seat Track, Position 2



3-Year-Old Unbelted, Forward Seat Track, Position 3



3-Year-Old Unbelted, Forward Seat Track, Position 4

DOT/NHTSA 208 Suppression Test - 2011 Nissan Leaf (CB5200)
3 Year Old No CRS

C-43



3-Year-Old Unbelted, Forward Seat Track, Position 5



3-Year-Old Unbelted, Forward Seat Track, Position 6



3-Year-Old Unbelted, Forward Seat Track, Position 7



3-Year-Old Unbelted, Middle Seat Track, Position 1

DOT/NHTSA 208 Suppression Test - 2011 Nissan Leaf (CB5200)
3 Year Old No CRS

C-44



3-Year-Old Unbelted, Middle Seat Track, Position 2



3-Year-Old Unbelted, Middle Seat Track, Position 3



3-Year-Old Unbelted, Middle Seat Track, Position 4



3-Year-Old Unbelted, Middle Seat Track, Position 5

DOT/NHTSA 208 Suppression Test - 2011 Nissan Leaf (CB5200)
3 Year Old No CRS

C-45



3-Year-Old Unbelted, Middle Seat Track, Position 6



3-Year-Old Unbelted, Middle Seat Track, Position 7



3-Year-Old Unbelted, Rearward Seat Track, Position 1



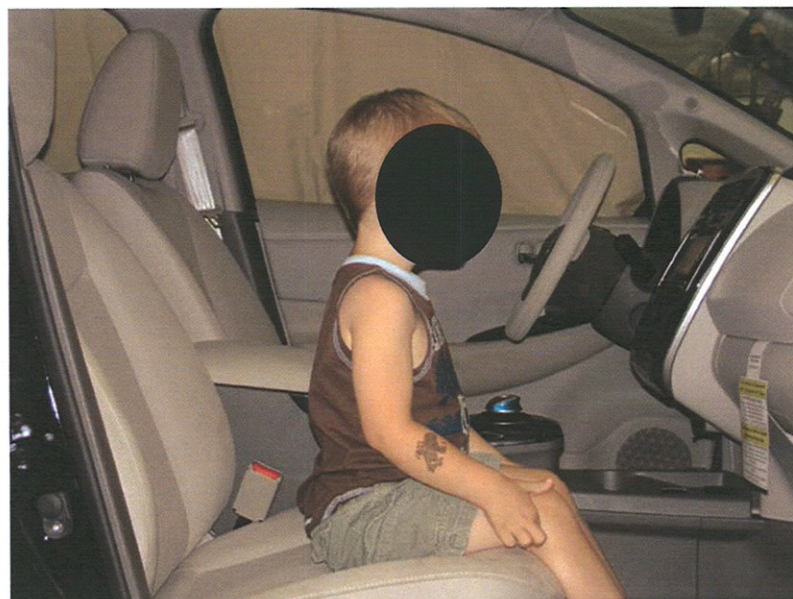
3-Year-Old Unbelted, Rearward Seat Track, Position 2

DOT/NHTSA 208 Suppression Test - 2011 Nissan Leaf (CB5200)
3 Year Old No CRS

C-46



3-Year-Old Unbelted, Rearward Seat Track, Position 3



3-Year-Old Unbelted, Rearward Seat Track, Position 4



3-Year-Old Unbelted, Rearward Seat Track, Position 5



3-Year-Old Unbelted, Rearward Seat Track, Position 6

DOT/NHTSA 208 Suppression Test - 2011 Nissan Leaf (CB5200)
3 Year Old No CRS

C-47



3-Year-Old Unbelted, Rearward Seat Track, Position 7



Unbelted 5th Percentile Female Reactivation, Rearward Seat Track

DOT/NHTSA 208 Suppression Test - 2011 Nissan Leaf (CB5200)
6 Year Old No CRS

C-48



6-Year-Old Unbelted, Forward Seat Track, Position 1



6-Year-Old Unbelted, Forward Seat Track, Position 2



6-Year-Old Unbelted, Forward Seat Track, Position 3



6-Year-Old Unbelted, Forward Seat Track, Position 4

DOT/NHTSA 208 Suppression Test - 2011 Nissan Leaf (CB5200)
6 Year Old No CRS

C-49



6-Year-Old Unbelted, Middle Seat Track, Position 1



6-Year-Old Unbelted, Middle Seat Track, Position 2



6-Year-Old Unbelted, Middle Seat Track, Position 3



6-Year-Old Unbelted, Middle Seat Track, Position 4

DOT/NHTSA 208 Suppression Test - 2011 Nissan Leaf (CB5200)
6 Year Old No CRS

C-50



6-Year-Old Unbelted, Rearward Seat Track, Position 1



6-Year-Old Unbelted, Rearward Seat Track, Position 2



6-Year-Old Unbelted, Rearward Seat Track, Position 3



6-Year-Old Unbelted, Rearward Seat Track, Position 4

DOT/NHTSA 208 Suppression Test - 2011 Nissan Leaf (CB5200)
6 Year Old No CRS



Unbelted 5th Percentile Female Reactivation, Rearward Seat Track

APPENDIX D

INSTRUMENTATION CALIBRATION

INSTRUMENTS FOR DRIVER DUMMY NO.: 124

	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	P73171	Endevco	08/31/11
Head Y	P73172	Endevco	08/31/11
Head Z	P73174	Endevco	08/31/11
Neck Load Cell	N1562	Denton	06/07/11
Chest X	P73175	Endevco	08/31/11
Chest Y	P73176	Endevco	08/31/11
Chest Z	P73177	Endevco	08/31/11
Chest Displacement	124	Servo	09/19/11
Left Femur Load Cell	F981	GSE	09/20/11
Right Femur Load Cell	F600	GSE	09/20/11

INSTRUMENTS FOR PASSENGER DUMMY NO.: 166

	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	P73690	Endevco	09/09/11
Head Y	P73691	Endevco	09/09/11
Head Z	P73719	Endevco	09/09/11
Neck Load Cell	N1175	Denton	06/07/11
Chest X	P73720	Endevco	09/09/11
Chest Y	P73721	Endevco	09/09/11
Chest Z	P73722	Endevco	09/09/11
Chest Displacement	166	Servo	09/20/11
Left Femur Load Cell	F84	Denton	09/20/11
Right Femur Load Cell	F83	Denton	09/20/11

VEHICLE INSTRUMENTS

	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Left Rear Seat Crossmember X	P59305	Endevco	04/28/11
Right Rear Seat Crossmember X	P59275	Endevco	04/28/11
Top of Engine X	P63538	Endevco	05/19/11
Bottom of Engine X	P59362	Endevco	07/07/11
Left Brake Caliper X	P59639	Endevco	05/20/11
Right Brake Caliper X	P59311	Endevco	06/15/11
Instrument Panel X	P52209	Endevco	08/22/11
Trunk Z	P49455	Endevco	07/01/11