

**REPORT NUMBER: SINCAP-MGA-2015-052**

**NEW CAR ASSESSMENT PROGRAM (NCAP)  
Moving Deformable Barrier Side Impact Test**

**TOYOTA MOTOR CORPORATION  
2015 Lexus NX 200t F Sport 5-Dr SUV  
NHTSA No.: O20155102**

**MGA RESEARCH CORPORATION  
5000 Warren Road  
Burlington, WI 53105**



**Test Date: January 27, 2015**


**Final Report Date: April 6, 2015**

**FINAL REPORT**

**U.S. DEPARTMENT OF TRANSPORTATION  
National Highway Traffic Safety Administration  
Office of Crashworthiness Standards  
Mail Code: NVS-111  
1200 New Jersey Ave, SE  
Room W43-410  
Washington, DC 20590**

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Prepared by:   
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Approved by:   
Ben Fischer, Project Engineer

Approval Date: April 6, 2015

FINAL REPORT ACCEPTANCE BY OCWS:

\_\_\_\_\_  
Division Chief, New Car Assessment Program  
NHTSA, Office of Crashworthiness Standards

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

\_\_\_\_\_  
COTR, New Car Assessment Program  
NHTSA, Office of Crashworthiness Standards

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

### Technical Report Documentation Page

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<b>4. Title and Subtitle</b> Final Report of New Car Assessment Program Side Impact MDB Testing of 2015 Lexus NX 200t F Sport 5-Dr SUV, NHTSA No.: O20155102		<b>5. Report Date</b> April 6, 2015																												
		<b>6. Performing Organization Code</b> MGA																												
<b>7. Author(s)</b> Donna Janovicz, Project Manager Ben Fischer, Project Engineer		<b>8. Performing Organization Report No.</b> SINCAP-MGA-2015-052																												
<b>9. Performing Organization Name and Address</b> MGA Research Corporation 5000 Warren Road Burlington, WI 53105		<b>10. Work Unit No.</b>																												
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<b>12. Sponsoring Agency Name and Address</b> U.S. Department of Transportation National Highway Traffic Safety Administration Office of Crashworthiness Standards (NVS-111) 1200 New Jersey Ave, SE, Room W43-410 Washington, D.C. 20590		<b>13. Type of Report and Period Covered:</b> Final Test Report January 27, 2015 to April 6, 2015																												
		<b>14. Sponsoring Agency Code</b> NVS-111																												
<b>15. Supplementary Notes</b>																														
<b>16. Abstract</b> A 55/28 km/h 90° Moving Deformable Barrier NCAP Side Impact Test was conducted on the 2015 Lexus NX 200t F Sport 5-Dr SUV in accordance with the specifications of the Office of Crashworthiness Standards NCAP Side Laboratory Test Procedure for the generation of consumer information on vehicle side crash protection. The test was conducted at MGA Research Corporation in Burlington, Wisconsin on January 27, 2015.  The impact velocity of the Moving Deformable Barrier (MDB) was 61.8 km/h, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 21.1° C. The target vehicle post-test maximum crush was 197 mm at level 3. The test vehicle's performance was as follows:																														
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*Proposed IARV																														
The doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.																														
<b>17. Key Words</b> New Car Assessment Program (NCAP) Side Impact MDB ES-2re SID-IIs		<b>18. Distribution Statement</b> Copies of this report are available from: National Highway Traffic Safety Administration Technical Information Services Division, NPO-411 1200 New Jersey Ave, SE Washington, DC 20590 e-mail: <a href="mailto:tis@nhtsa.dot.gov">tis@nhtsa.dot.gov</a> FAX: 202-493-2833																												
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**SECTION 1**  
**TEST PURPOSE AND PROCEDURE**

This moving deformable barrier side impact test is part of the MY 2015 New Car Assessment Program Side Impact Test Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-09-D-00124. The purpose of this test is to generate comparative side impact performance in a 2015 Lexus NX 200t F Sport 5-Dr SUV. The side impact test was conducted in accordance with the Office of Crashworthiness Standard's Side NCAP Laboratory Test Procedure dated September 2013.

## SECTION 2 SUMMARY OF TEST RESULTS

A 2015 Lexus NX 200t F Sport 5-Dr SUV was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 61.8 km/h. The target vehicle was stationary and was positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by MGA Research Corporation in Burlington, Wisconsin on January 27, 2015. Pre-test and post-test photographs of the test vehicle, the MDB, and the dummies (ES-2re and SID-IIs) are included in this report.

Dummies were placed in the driver and left rear designated seating positions according to instructions specified in the OCWS NCAP Side Laboratory Test Procedure dated September 2013. The side impact event was documented by eleven (11) cameras. Camera locations are included in this report.

The dummies were instrumented in the following manner:

### DRIVER ATD (ES-2re)

Primary and Redundant Head CG Triaxial Accelerometers  
 Chest Upper Rib, Middle Rib, and Lower Rib Y-Axis Displacement Potentiometers  
 Abdomen Forward, Middle, and Rear Y-Axis Load Cells  
 Lower Spine (T12) Triaxial Accelerometers  
 Pubic Symphysis Y-Axis Load Cell

### PASSENGER ATD (SID-IIs)

Primary and Redundant Head CG Triaxial Accelerometers  
 Chest Upper Rib, Middle Rib, and Lower Rib Y-Axis Displacement Potentiometers  
 Abdomen Upper Rib and Lower Rib Y-Axis Displacement Potentiometers  
 Lower Spine (T12) Triaxial Accelerometers  
 Acetabulum and Iliac Wing Y-Axis Load Cells

Appendix B contains the dummy response data. Dummy configuration and performance verification data can be found in Appendix C of this report. Appendix D contains the test equipment and instrumentation calibration data.

Dummy Injury readings were recorded as follows:

### DUMMY INJURY VALUES

Measurement Description	Driver ATD (ES-2re)		
	Units	Threshold	Result
Head Injury Criteria (HIC <sub>36</sub> )	N/A	1000	192
Maximum Thorax Rib Deflection	mm	44	16
Total Abdominal Force	N	2500	657
Pubic Symphysis Force	N	6000	1566

Measurement Description	Passenger ATD (SID-IIs)		
	Units	Threshold	Result
Head Injury Criteria (HIC <sub>36</sub> )	N/A	1000	317
Resultant Lower Spine Acceleration	Gs	82	49
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	1349
Maximum Thoracic Rib Deflection	mm	38*	10
Maximum Abdomen Rib Deflection	mm	45*	22

\*Proposed IARV

Supplemental restraint information is given below:

**SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION**

Restraint Type	Struck Side Driver		Struck Side Rear Passenger	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	No		
Knee Airbag	Yes	No		
Side Curtain Airbag	Yes	Yes	Yes	Yes
Side Torso/Pelvis Airbag	Yes	Yes	No	
Seat Belt Pretensioner	Yes	Yes	No	
Seat Belt Load Limiter	Yes		No	
Other				

The test data can be found on the NHTSA website at [www.nhtsa.dot.gov](http://www.nhtsa.dot.gov)

**GENERAL COMMENTS**

None

MGA does not endorse or certify products. The manufacturer's name appears solely for identification purposes.

**SECTION 3**  
**OCCUPANT AND VEHICLE INFORMATION / DATA SHEETS**

**DATA SHEET NO. 1  
GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
Test Program: NCAP Side MDB Impact Test

NHTSA No. 020155102  
Test Date: 1/27/2015

**TEST VEHICLE INFORMATION AND OPTIONS**

NHTSA No.	O20155102	Traction Control System (TCS)	Yes
Model Year	2015	Auto-Leveling System	No
Make	Lexus	Automatic Door Locks (ADL)	Yes
Model	NX 200t	Power Window Auto-Reverse	Yes
Body Style	SUV	Other Optional Feature	N/A
VIN	JTJYARBZ4F2001971	Driver Front Airbag	Yes
Body Color	Nebula Gray Pearl	Driver Curtain Airbag	Yes
Odometer Reading (km/mi)	23 / 14	Driver Head/Torso Airbag	No
Engine Displacement (L)	2.0	Driver Torso Airbag	No
Type/No. Cylinders	4	Driver Torso/Pelvis Airbag	Yes
Engine Placement	Lateral	Driver Pelvis Airbag	No
Transmission Type	Automatic	Driver Knee Airbag	Yes
Transmission Speeds	6	Rear Pass. Curtain Airbag	Yes
Overdrive	Yes	Rear Pass. Head/Torso Airbag	No
Final Drive	Front	Rear Pass. Torso Airbag	No
Roof Rack	No	Rear Pass. Torso/Pelvis Airbag	No
Sunroof/T-Top	Yes	Rear Pass. Pelvis Airbag	No
Running Boards	No	Driver Seat Belt Pretensioner	Yes
Tilt Steering Wheel	Yes	Rear Pass. Seat Belt Pretensioner	No
Power Seats	Yes	Driver Load Limiter	Yes
Anti-Lock Brakes (ABS)	Yes	Rear Pass. Load Limiter	No
		Other Restraint Feature	N/A

Does owner's manual provide instruction to turn off automatic door locks?	Yes
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**DATA FROM CERTIFICATION LABEL**

Manufactured By	Toyota Motor Corporation	GVWR (kg)	2310
Date of Manufacture	11/14	GAWR Front (kg)	1270
Vehicle Type	MPV	GAWR Rear (kg)	1270

**VEHICLE SEATING AND WEIGHT CAPACITY DATA**

Measured Parameter	Front	Rear	Third	Total	
Designated Seating Capacity (DSC)	2	3		5	
Capacity Weight (VCW) (kg)				402	(A)
DSC x 68.04 kg				340	(B)
Rated Cargo and Luggage Weight (RCLW)				62	(A-B)

**VEHICLE SEAT TYPE**

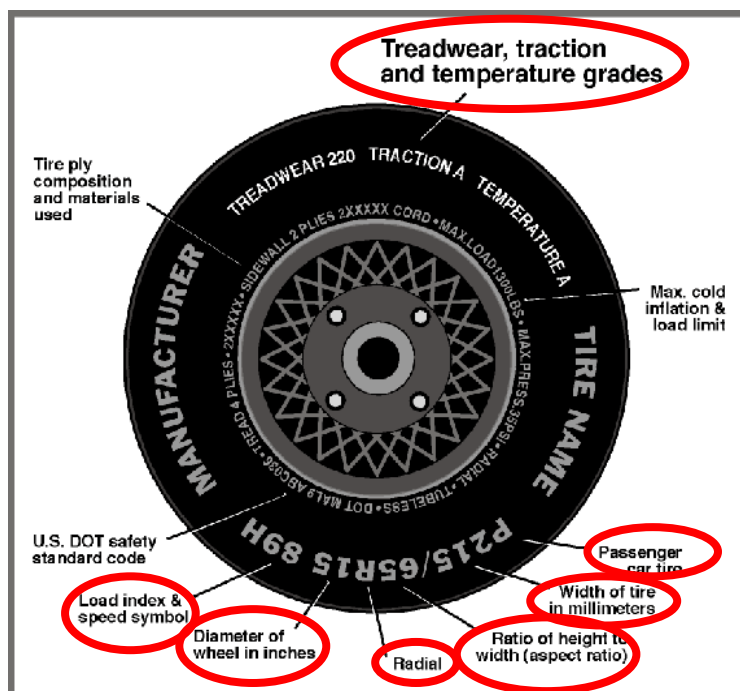
Seating Location	Type of Seat Pan				Type of Seat Back		
	Bucket	Bench	Split Bench	Contoured	Fixed	Adjustable	
						Manual	Power
Front Seat	X						X
Rear or Second Row			X			w/lever	
Third Row Seat							

**DATA SHEET NO. 1 (CONTINUED)**  
**GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
 Test Program: NCAP Side MDB Impact Test

NHTSA No. Q20155102  
 Test Date: 1/27/2015

**VEHICLE TIRE INFORMATION**



Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	350	350
Cold Pressure (kPa)	220	220
Recommended Tire Size	235/55R18	235/55R18
Tire Size on Vehicle	235/55R18	235/55R18
Tire Manufacturer	Bridgestone	Bridgestone
Tire Model	Dueler	Dueler
Treadwear	260	260
Traction	A	A
Temperature Grade	A	A
Tire Plies Sidewall	2 Polyester	2 Polyester
Tire Plies Body	2 Polyester, 2 Steel, 1 Polyamide	2 Polyester, 2 Steel, 1 Polyamide
Load Index/Speed Symbol	100T	100T
Tire Material	Rubber	Rubber
DOT Safety Code Left	H47C CMD 4314	H47C CMD 4314
DOT Safety Code Right	H47C CMD 4314	H47C CMD 4314

**DATA SHEET NO. 1 (CONTINUED)**  
**GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
 Test Program: NCAP Side MDB Impact Test

NHTSA No. Q20155102  
 Test Date: 1/27/2015

**TEST PRESSURES**

	Units	LF	RF	LR	RR
As Delivered	kPa	237	237	237	237
Tire Placard	kPa	220	220	220	220
Owner's Manual	kPa				
As Tested	kPa	220	220	220	220

**MDB TIRE SPECIFICATIONS**

	Requirement	Units	LF	RF	LR	RR
Tire Size	P205/75R15	N/A	P205/75R15	P205/75R15	P205/75R15	P205/75R15
Tire Pressure	200 ± 21	kPa	200	200	200	200

**TEST VEHICLE AXLE WEIGHTS**

	Units	As Delivered (UVW)			As Tested (ATW)			Fully Loaded		
		Front	Rear	Total	Front	Rear	Total	Front	Rear	Total
Left	kg	552.0	362.5		595.5	443.0		589.5	448.0	
Right	kg	506.0	348.5		509.0	406.0		504.5	409.0	
Ratio	%	59.8	40.2		56.5	43.5		56.1	43.9	
Totals	kg	1058.0	711.0	1769.0	1104.5	849.0	1953.5	1094.0	857.0	1951.0

**TARGET TEST WEIGHT CALCULATION**

Measured Parameter	Units	Value	
Total Delivered Weight (UVW)	kg	1769.0	(A)
Sum of Actual Weight of 2 P572 ATDs Used	kg	129.3	(B)
Rated Cargo/Luggage Weight (RCLW)	kg	62	(C)
Calculated Test Vehicle Target Weight (TVTGW)	kg	1960.3	(A+B+C)

Does the measured As Tested Vehicle Weight lie within the required weight range (i.e. Calculated Test Vehicle Target Weight – 4.5 kg to 9 kg)? **YES**

**TEST VEHICLE ATTITUDES AND CG**

	Units	Fully Loaded	As Tested	Meets Requirement***
Left Front	mm	768	765	Yes
Right Front	mm	778	776	Yes
Right Rear	mm	787	786	Yes
Left Rear	mm	770	780	Yes
Vehicle CG (Aft of Front Axle)	mm	1173	1160	
Vehicle CG (Left (+) / Right (-) from Longitudinal Centerline)	mm	50	49	

\*\*\* The "As Tested" vehicle attitude measurements must be equal to or within ± 10 mm of the "Fully Loaded" vehicle attitude measurements at each wheel well.

Test height adjustable suspension setting, if applicable:	Not Applicable
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**DATA SHEET NO. 1 (CONTINUED)**  
**GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
Test Program: NCAP Side MDB Impact Test

NHTSA No. Q20155102  
Test Date: 1/27/2015

**WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTW**

Component Description	Weight (kg)
Weight of Ballast, if any	41.3
None	0.0

**DATA SHEET NO. 2**  
**SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEM DATA**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
 Test Program: NCAP Side MDB Impact Test

NHTSA No. O20155102  
 Test Date: 1/27/2015

**SEAT POSITIONING**

The driver's seat, front center seat (if applicable), and right front passenger's seat should be set to the mid-track, lowest, mid-angle position. The struck-side rear passenger's seat, rear center seat, and non-struck side rear passenger's seats should be set to the rear-most, lowest, mid-angle position.

**SCRL ANGLE RANGE**

Seat	SCRL (°)		
	Max	Min	Mid
Driver Seat	25.0	13.8	19.4
Front Passenger Seat	24.3	12.5	18.4
Front Center Seat			
Struck Side Rear Seat	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Fixed

**SEAT HEIGHT AND ANGLE**

Seat	As Tested SCRL Angle (Mid) (°)	As Tested SCRP Height (mm)	SCRP Height Position	SCRP Height (mm)		
				Rear-most	Mid-Fore/Aft	Forward-Most
Driver Seat	19.4	0	Max	38	38	38
			Mid	19	19	19
			Min	0	0	0
Front Passenger Seat	18.4	0	Max	38	38	38
			Mid	19	19	19
			Min	0	0	0
Front Center Seat			Max			
			Mid			
			Min			
Struck Side Rear Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
			Mid	Fixed	Fixed	Fixed
			Min	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
			Mid	Fixed	Fixed	Fixed
			Min	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
			Mid	Fixed	Fixed	Fixed
			Min	Fixed	Fixed	Fixed

**DATA SHEET NO. 2 (CONTINUED)**  
**SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEM DATA**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
 Test Program: NCAP Side MDB Impact Test

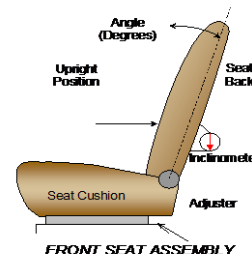
NHTSA No. Q20155102  
 Test Date: 1/27/2015

**SEAT FORE/AFT POSITIONS**

Seat	Total Fore/Aft Travel		Test Position from Forward-most Position	
	mm	Detents	mm	Detent
Driver Seat	240		120	
Front Passenger Seat	260		130	
Front Center Seat				
Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Non-Struck Side	Fixed	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Fixed	Fixed

**SEAT BACK ANGLE ADJUSTMENT**

The driver's seat back is positioned to the manufacturer's designated design angle. The front passenger's seat back is positioned in a similar manner as the driver's seat back. The struck side rear seat back is adjusted following Appendix C, "Positioning Dummies in the Test Vehicle" in the NCAP Laboratory Test Procedure dated September 2013. The rear center and non-struck side rear outboard seat backs are positioned to match the struck side rear seat back.



Seat	Total Seat Back Angle Range		Test Position from Vertical	
	Degrees	Detents	Degrees	Detent
Driver Seat w/Seated Dummy	52.3		5.0	
Front Passenger Seat	55.8		5.0	
Front Center Seat				
Struck Side Rear Seat	22.2	13 (1 <sup>st</sup> as 1)	4.0	0 <sup>th</sup> (1 <sup>st</sup> as 0)
Non-Struck Side Rear Seat	22.2	13 (1 <sup>st</sup> as 1)	4.0	0 <sup>th</sup> (1 <sup>st</sup> as 0)
Rear Center Seat	22.2	13 (1 <sup>st</sup> as 1)	4.0	0 <sup>th</sup> (1 <sup>st</sup> as 0)

Seat back angles measured on headrest post.

**DATA SHEET NO. 2 (CONTINUED)**  
**SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEM DATA**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
 Test Program: NCAP Side MDB Impact Test

NHTSA No. 020155102  
 Test Date: 1/27/2015

**SEAT BELT ANCHORAGE ADJUSTMENT**

Seat belt anchorages are adjusted in accordance with the information provided by the manufacturer on Form No. 1.

	Total # of Positions	Placed in Position #
Driver Seat	4 detents (1 <sup>st</sup> as 1)	0 <sup>th</sup> (uppermost as 0)
Rear Seat	Fixed	Not Applicable

**HEAD RESTRAINT ADJUSTMENT**

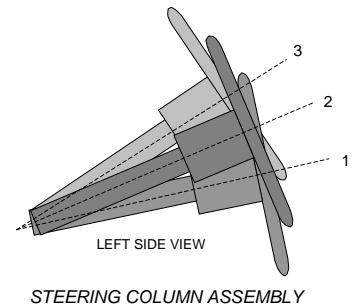
The driver's head restraint is adjusted to the highest and most full forward in-use position. The struck-side rear passenger's head restraint is adjusted to the lowest and most full forward in-use position.

	Total # of Positions	Placed in Position #
Driver Seat	Fixed	Not Applicable
Rear Seat	Fixed	Not Applicable

**STEERING COLUMN ADJUSTMENT**

Steering wheel and column adjustments are made so that the steering wheel hub is at the center of its geometric locus it describes when it moves through its full range of motion.

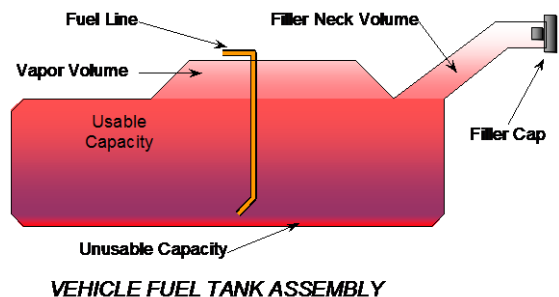
	Degrees	Fore/Aft Position (mm)
Lowermost, Position 1	66.3	238
Geometric Center, Position 2	64.8	217
Uppermost, Position 3	63.3	196
Telescoping Steering Wheel Travel		42
Test Position	64.8	217



**FUEL PUMP**

Describe the fuel pump type, details about how it operates and the location of the fuel filler pipe.

The vehicle is equipped with an electric fuel pump.  
The fuel pump is activated when the ignition is turned on.  
The fuel pipe is on the left side.



**DATA SHEET NO. 2 (CONTINUED)**  
**SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEM DATA**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
 Test Program: NCAP Side MDB Impact Test

NHTSA No. O20155102  
 Test Date: 1/27/2015

**FUEL TANK CAPACITY DATA**

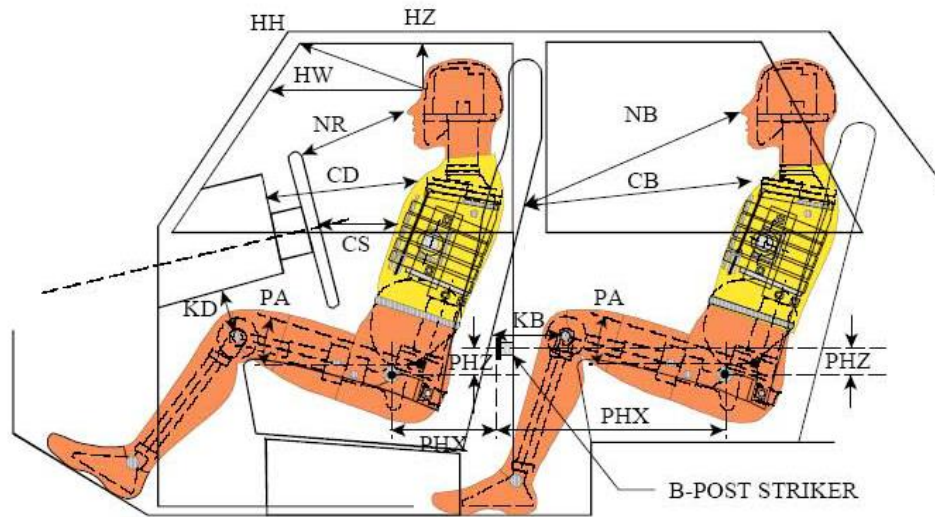
	Liters
Usable Capacity of "Standard" Tank (see Form No. 1)	60.2
Usable Capacity of "Optional" Tank (see Form No. 1)	
Usable Capacity of Standard Tank as Specified in Owner's Manual	60.0
Usable Capacity of Optional Tank as Specified in Owner's Manual	
93% of Usable Capacity	56.0
Actual Amount of Solvent Used	56.0
1/3 of Usable Capacity	20.1

Is the actual amount of solvent used in the test equal to 93%  $\pm$  1%  
 of the Usable Capacity stated in Form No. 1? **YES**

**DATA SHEET NO. 3  
DUMMY LONGITUDINAL CLEARANCE DIMENSIONS**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
 Test Program: NCAP Side MDB Impact Test

NHTSA No. O20155102  
 Test Date: 1/27/2015



**LEFT SIDE VIEW**

NOTE: 2-DOOR VEHICLE SHOWN.  
 REAR DUMMY PHX & PHZ  
 MEASUREMENTS FOR A 4-DOOR  
 VEHICLE WOULD USE THE C-POST  
 STRIKER AS A REFERENCE POINT

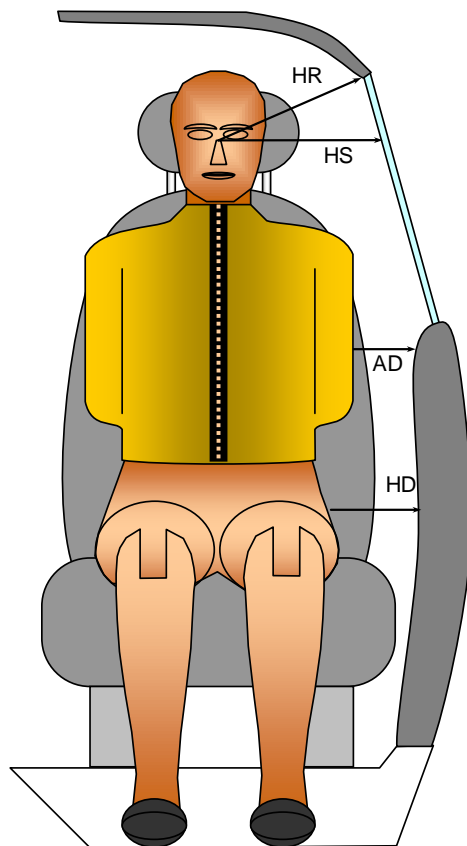
**DUMMY LONGITUDINAL CLEARANCE DIMENSION INFORMATION**

Driver Code	Pass. Code	Measurement Description	Driver		Passenger	
			Length (mm)	Angle(°)	Length (mm)	Angle(°)
HH		Head to Header	375	16.1		
HW		Head to Windshield	596			
HZ	HZ	Head to Roof Liner	30		229	
NR	NB	Nose to Rim/Seat Back	467	13.8	491	16.2
CD	CB	Chest to Dashboard/Seat Back	566	9.4	492	5.7
CS		Chest to Steering Wheel	384	6.1		
KDL	KBL	Left Knee to Dash/Seat Back	175	18.5	265	30.5
KDR	KBR	Right Knee to Dash/Seat Back	173	24.6	278	31.2
PAX	PAX	Pelvic Tilt Angle X		23.8		21.5
	PAY	Pelvic Tilt Angle Y		0.0		-1.2
PHX	PHX	Hip Point to Striker (X-Axis)	184		320	
PHZ	PHZ	Hip Point to Striker (Z-Axis)	230		309	

**DATA SHEET NO. 4  
DUMMY LATERAL CLEARANCE DIMENSIONS**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
 Test Program: NCAP Side MDB Impact Test

NHTSA No. Q20155102  
 Test Date: 1/27/2015



*FRONT VIEW OF DUMMY*

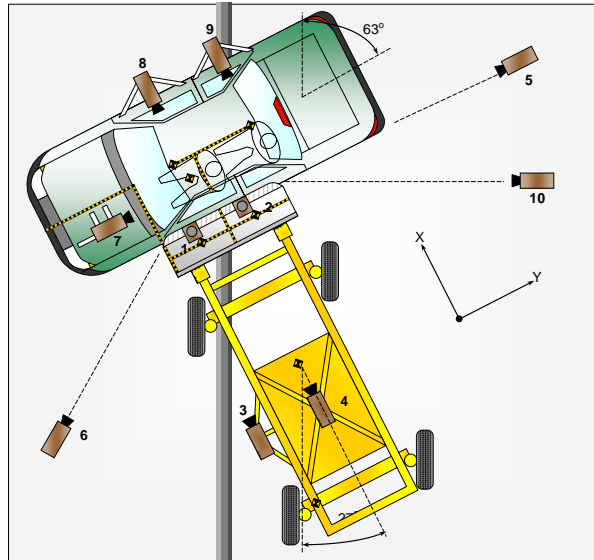
**DUMMY LATERAL CLEARANCE DIMENSION INFORMATION**

Code	Measurement Description	Units	Driver	Passenger
HR	Head to Side Header	mm	196	248
HS	Head to Side Window	mm	322	382
AD	Arm to Door	mm	115	188
HD	Hip Point to Door	mm	157	198

**DATA SHEET NO. 5  
CAMERA AND INSTRUMENTATION DATA**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
 Test Program: NCAP Side MDB Impact Test

NHTSA No. Q20155102  
 Test Date: 1/27/2015



**CAMERA LOCATIONS AND DATA**

No.	Camera View	Coordinates (mm)			Lens Length (mm)	Operating Frame Rate (fps)
		X*	Y*	Z*		
1	Overhead Overall	-120	190	-5050	14	1000
2	Overhead Close-Up	40	20	-5050	20	1000
3	Left Impact Point (MDB)				50	1000
4	Side Overall (MDB)				16	1000
5	Rear	30	5090	-1090	24	1000
6	Left Front	4210	-4390	-1070	24	1000
7	Driver Front (OB)				16	1000
8	Driver Side (OB)				8	1000
9	Passenger Side (OB)				8	1000
10	Real Time Left Rear					30
11	Real Time Inrun					30

Reference: Impact Point projected to Ground; +X = To Front of MDB, +Y = To Right of MDB, +Z = Down

\* All measurements accurate to  $\pm 6$  mm

Explain why camera(s) did not operate as intended: None

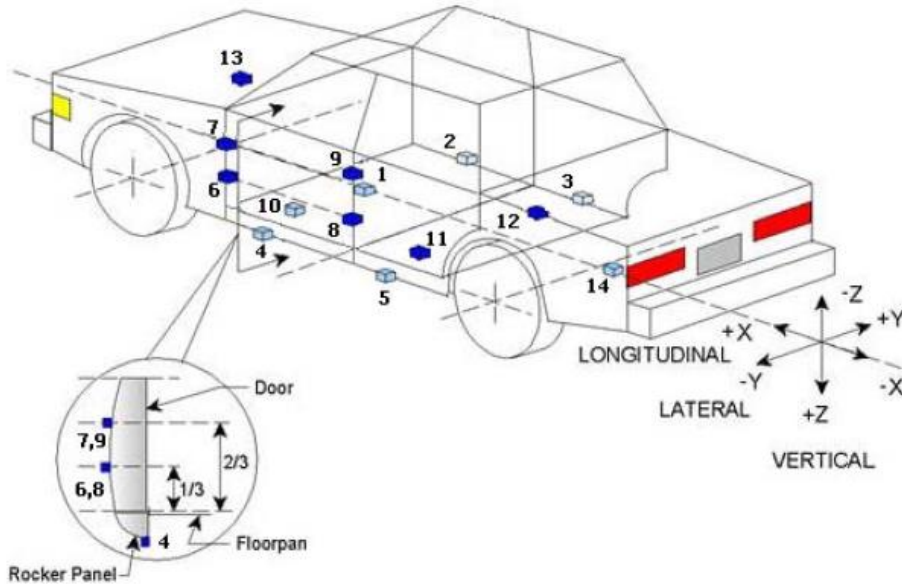
**INSTRUMENTATION**

	Number of Channels
Driver Dummy	16
Passenger Dummy	16
Vehicle Structure	23
MDB Accelerometers	5
MDB Contacts	2
Total	62

**DATA SHEET NO. 6  
TEST VEHICLE ACCELEROMETER LOCATIONS**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
 Test Program: NCAP Side MDB Impact Test

NHTSA No. O20155102  
 Test Date: 1/27/2015



**TEST VEHICLE ACCELEROMETER LOCATIONS**

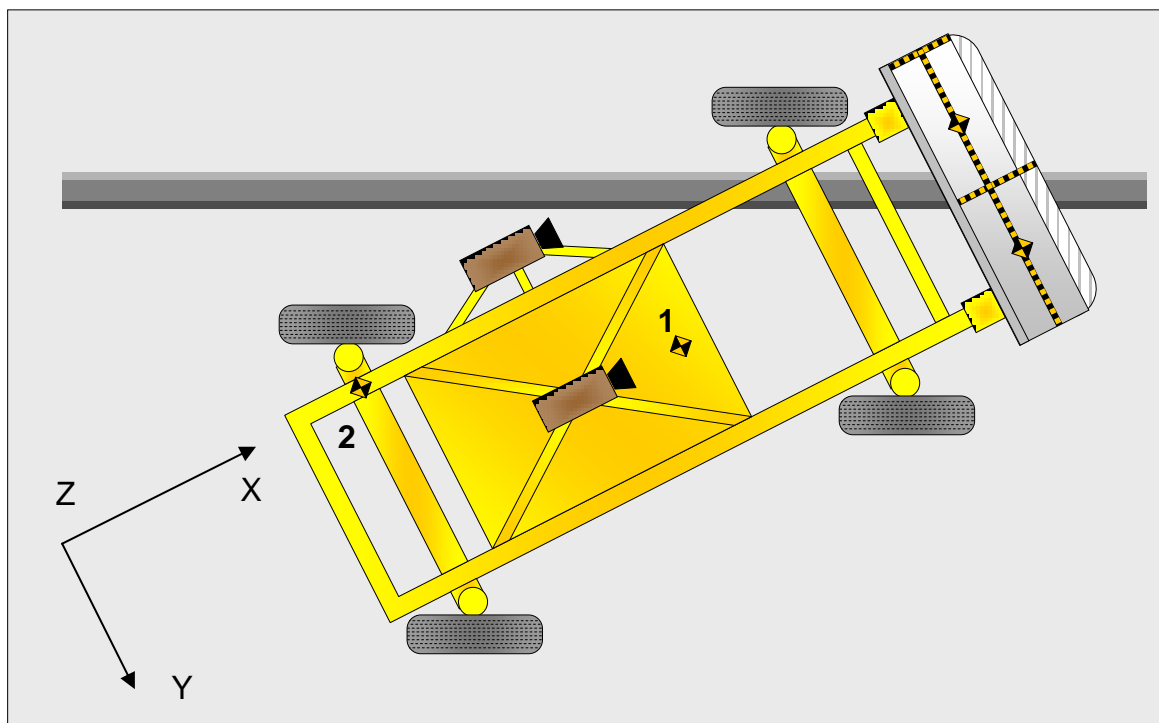
Accelerometer Location				
No.	ID	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	2354	90	-330
2	Right Sill at Front Seat	2232	743	-280
3	Right Sill at Rear Seat	1418	742	-298
4	Left Sill at Front Door	2674	-743	-272
5	Left Sill at Rear Door	1668	-742	-278
6	Left Lower A-Post	3106	-837	-604
7	Left Middle A-Post	3116	-830	-892
8	Left Lower B-Post	2078	-753	-666
9	Left Middle B-Post	2072	-754	-926
10	Front Seat Track	2194	-345	-396
11	Rear Seat Structure	1333	-325	-440
12	Rt. Rear Occ. Compartment	1760	365	-403
13	Engine Block	3795	0	-911
14	Rear Above Axle	891	70	-603

Reference: X – Rear Surface of Vehicle (+ forward)  
 Y - Vehicle Centerline (+ to right)  
 Z - Ground Plane (+ down)

**DATA SHEET NO. 7  
MDB ACCELEROMETER LOCATIONS**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
 Test Program: NCAP Side MDB Impact Test

NHTSA No. Q20155102  
 Test Date: 1/27/2015



**MDB ACCELEROMETER LOCATIONS**

Loc. No.	Accelerometer Location	Measurements (mm)		
		X	Y	Z
1	MDB CG	-1105	0	-330
2	MDB Rear	-2580	-650	-625

Reference: X - MDB Face (+ forward)  
 Y - MDB Centerline (+ to right)  
 Z - Ground Plane (+ down)

**DATA SHEET NO. 8  
POST-TEST OBSERVATIONS**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
 Test Program: NCAP Side MDB Impact Test

NHTSA No. 020155102  
 Test Date: 1/27/2015

**TEST DUMMY INFORMATION AND CONTACT POINTS**

Description	Front Seat Dummy (ES-2re)	Rear Seat Dummy (SID-IIs)
Face	Curtain Airbag	Curtain Airbag, Center Headrest
Top of Head	Curtain Airbag, Headliner	Curtain Airbag, Center Headrest
Left Side of Head	Curtain Airbag	Curtain Airbag
Back of Head	Curtain Airbag, Headrest	Curtain Airbag, Center Headrest
Left Shoulder	Curtain Airbag	Door Panel
Upper Torso	Side Airbag, Seatback	Door Panel
Lower Torso	Side Airbag, Seatback	Door Panel
Left Hip	Side Airbag	Door Panel, Seatpan
Left Knee	Door Panel	Door Panel

**POST-TEST DOOR PERFORMANCE**

Description	Struck Side		Non-Struck Side		Rear Hatch/ Other Door
	Front	Rear	Front	Rear	
Remained Closed and Operational	No	No	Yes	Yes	Yes
Total Separation from Vehicle at Hinges or Latches	No	No	No	No	No
Latch or Hinge Systems Pulled Out of Their Anchorages	No	No	No	No	No
Disengaged from Latched Position	No	No	No	No	No
Latch Separated from Striker	No	No	No	No	No
Jammed Shut	Yes	Yes	No	No	No
If Door Opened at Striker, Record Width of Opening at Striker (mm)	N/A	N/A	N/A	N/A	N/A

**POST-TEST SEAT PERFORMANCE**

Description	Struck Side		Non-Struck Side	
	Front	Rear	Front	Rear
Seat Movement Along Seat Track	No	Fixed	No	Fixed
Seat Disengagement from Floor Pan	No	Fixed	No	Fixed
Seat Back Movement from Initial Position	No	Fixed	No	Fixed
Seat Back Collapse	No	Fixed	No	Fixed

**POST-TEST STRUCTURAL OBSERVATIONS**

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	No Separation
Sill Separation	None
Windshield Damage	None
Side Window Damage	None
Other Notable Effects	None

**DATA SHEET NO. 8 (CONTINUED)  
POST-TEST OBSERVATIONS**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
 Test Program: NCAP Side MDB Impact Test

NHTSA No. Q20155102  
 Test Date: 1/27/2015

**SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION**

Restraint Type	Struck Side Driver		Struck Side Rear Passenger	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	No		
Knee Airbag	Yes	No		
Side Curtain Airbag	Yes	Yes	Yes	Yes
Side Torso/Pelvis Airbag	Yes	Yes	No	
Seat Belt Pretensioner	Yes	Yes	No	
Seat Belt Load Limiter	Yes		No	
Other				

**IMPACT POINT LOCATION DATA**

Measured Parameter	Units	Tolerance	Value
Vehicle Wheel Base	mm		2670
Vertical Impact Reference Line (Aft of Front Axle) (Intended Impact Point)	mm		395
Actual Impact Point (Aft of Front Axle)	mm		390
Horizontal Offset (+forward / -rearward)	mm	+/- 50 of intended impact point	+5
Vertical Offset (+down / -up)	mm	+/- 20 of intended impact point	+7

**DATA SHEET NO. 9  
MDB SUMMARY OF RESULTS**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
 Test Program: NCAP Side MDB Impact Test

NHTSA No. 020155102  
 Test Date: 1/27/2015

**MDB SPECIFICATIONS**

Measurement Description	Length (mm)
Overall Width of Framework Carriage	1251
Overall Length Including Honeycomb Face	4115
Wheelbase of Framework Carriage	2595
CG Location aft of Front Axle	1134

**MDB WEIGHTS**

	Units	Front Axle	Rear Axle	Total
Left	kg	390.0	300.1	
Right	kg	376.8	294.7	
Ratio	%	56.3	43.7	
Totals	kg	766.8	594.8	1361.6

**SPEED AND ANGLE AT IMPACT DATA**

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.1 to 62.7	61.8
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	62.3
MDB CL to Target Vehicle CL	degrees	88.5 to 91.5	90.1
MDB Forward Line of Motion to Target Vehicle CL	degrees	62.5 to 63.5	63.0
MDB Crabbed Angle to MDB Forward Line of Motion	degrees	26 to 28	27.1

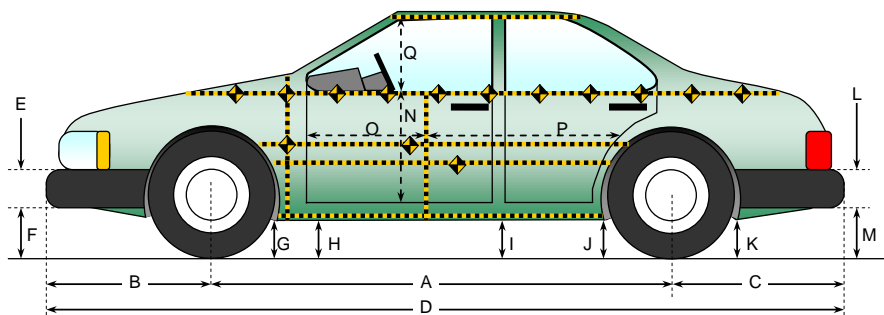
**MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE**

Row	Vertical Location		From Centerline		Maximum Crush
	Description	Height	Distance	Direction	
A	Center of Bumper	432	800	Left	225
B	Top of Bumper	533	800	Left	169
C	Mid-Level	686	800	Left	153
D	Top of Stack	813	800	Left	194

**DATA SHEET NO. 10  
TEST VEHICLE PROFILE MEASUREMENTS**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
Test Program: NCAP Side MDB Impact Test

NHTSA No. Q20155102  
Test Date: 1/27/2015



All measurements in (mm) with tolerance of  $\pm 3$  mm

**LEFT SIDE VIEW**

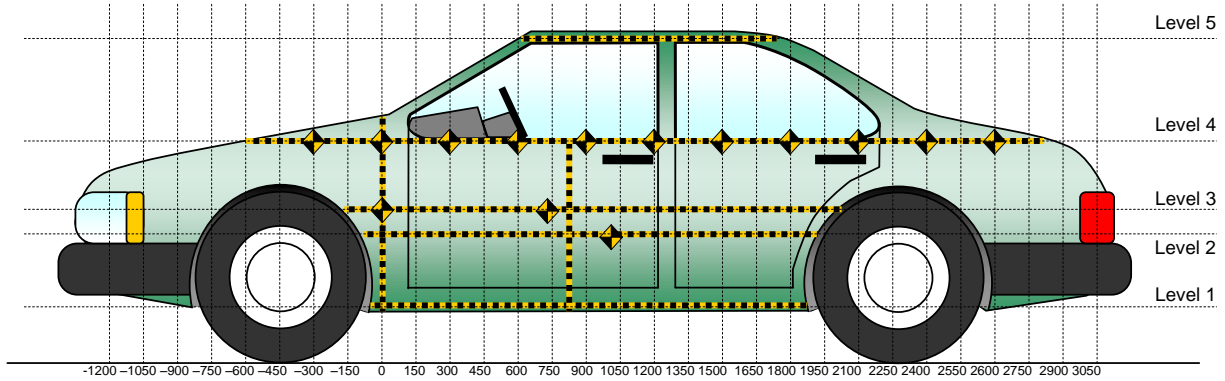
**VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION**

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2670	2670	0
B	Front Axle to FSOV	985	991	-6
C	Rear Axle to RSOV	975	971	4
D	Total Length at Centerline	4630	4632	-2
E	Front Bumper Thickness	60	60	0
F	Front Bumper Bottom to Ground	267	257	10
G	Sill Height at Front Wheel Well	255	255	0
H	Sill Height at Front Door Leading Edge	257	252	5
I	Sill Height at B Pillar	256	264	-8
J1	Sill Height at Rear Wheel Well	233	237	-4
J2	Pinch Weld Height at Rear Wheel Well	259	261	-2
K	Sill Height Aft of Rear Wheel Well	278	271	7
L	Rear Bumper Thickness	110	110	0
M	Rear Bumper Bottom to Ground	370	364	6
N	Sill Height to Window Bottom Sill	914	814	100
O	Front Door Leading Edge to Impact CL	771	758	13
P	Rear Door Trailing Edge to Impact CL	1049	1011	38
Q	Front Window Opening	390	391	-1
R	Right Side Length	3695	3695	0
S	Left Side Length	3695	3680	15
T	Vehicle Width at B Post	1814	1656	158

**DATA SHEET NO. 11  
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
 Test Program: NCAP Side MDB Impact Test

NHTSA No. Q20155102  
 Test Date: 1/27/2015



All Measurements Shown in mm

**LEFT SIDE VIEW**

**MAXIMUM EXTERIOR CRUSH MEASUREMENTS**

Level	Measurement Description	Height Above Ground (mm)	Maximum Exterior Static Crush	Distance from Impact
1	Sill Top	339	96	750
2	Mid Door	662	189	750
3	Occupant Hip Point	688	197	750
4	Window Sill	1054	75	1800
5	Window Top	1515	13	1350

Note: The measurements are taken along the vertical impact reference line.  
 Vehicle measurements forward of the vertical impact reference line are negative.

**DATA SHEET NO. 11 (CONTINUED)**  
**TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
 Test Program: NCAP Side MDB Impact Test

NHTSA No. O20155102  
 Test Date: 1/27/2015

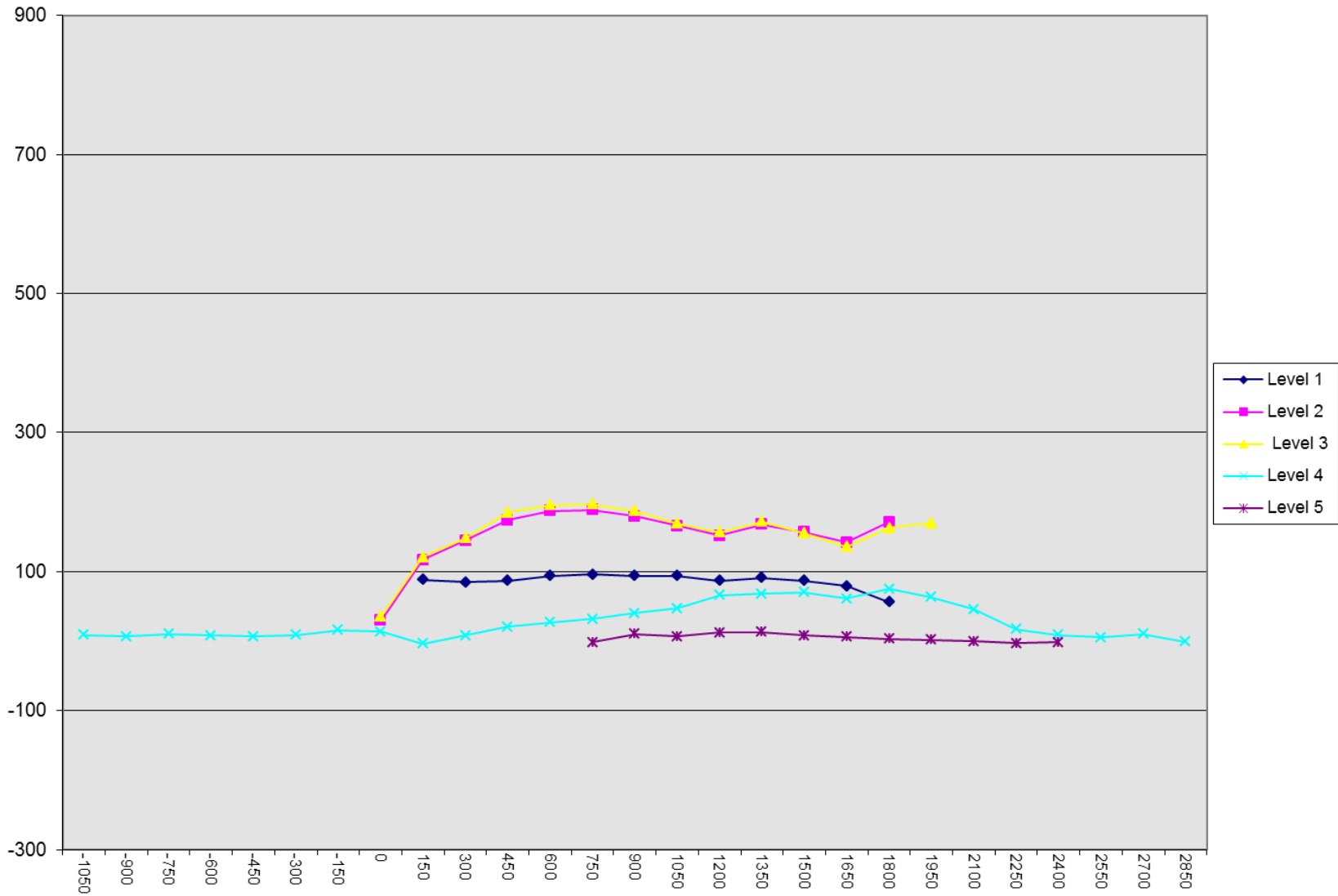
	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-1050				507					516					9	
-900				438					445					7	
-750				377					387					10	
-600				333					341					8	
-450				306					313					7	
-300				293					302					9	
-150				285					301					16	
0		180	179	280			210	214	294			30	35	14	
150	224	183	184	270		312	300	305	266		88	117	121	-4	
300	228	180	180	258		313	325	328	266		85	145	148	8	
450	228	181	180	246		315	355	365	267		87	174	185	21	
600	225	184	182	234		319	371	378	261		94	187	196	27	
750	224	188	186	224	500	320	377	383	256	498	96	189	197	32	-2
900	223	193	190	210	477	317	373	377	250	487	94	180	187	40	10
1050	221	198	196	200	470	315	364	365	247	477	94	166	169	47	7
1200	221	205	203	202	466	308	357	360	268	478	87	152	157	66	12
1350	222	213	211	208	465	313	381	383	276	478	91	168	172	68	13
1500	226	220	218	215	469	313	377	373	285	477	87	157	155	70	8
1650	233	218	218	224	473	312	360	354	285	479	79	142	136	61	6
1800	241	192	192	234	481	297	363	355	309	484	56	171	163	75	3
1950			181	244	490			351	307	492			170	63	2
2100				254	512				300	512				46	0
2250				265	534				282	531				17	-3
2400				273	555				282	553				9	-2
2550				283					288					5	
2700				295					305					10	
2850				327					326					-1	

NOTE: Pre-test measurements are taken when the vehicle is in the "As Tested" weight condition. Vehicle measurements forward of the vertical impact reference line are negative. The crush profile grid is established prior to the test based on an estimated impact point.

**DATA SHEET NO. 11 (CONTINUED)**  
**TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
 Test Program: NCAP Side MDB Impact Test

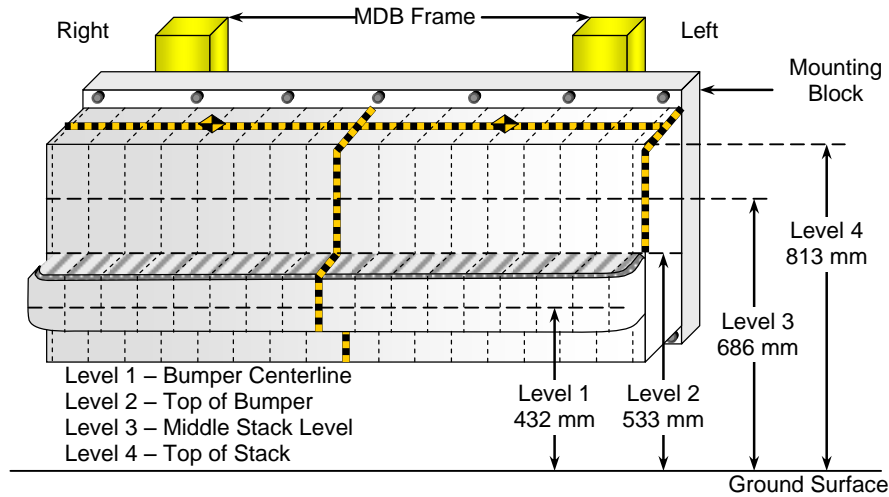
NHTSA No. O20155102  
 Test Date: 1/27/2015



**DATA SHEET NO. 12**  
**MDB EXTERIOR STATIC CRUSH MEASUREMENTS**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
 Test Program: NCAP Side MDB Impact Test

NHTSA No. Q20155102  
 Test Date: 1/27/2015



**FRONT VIEW**

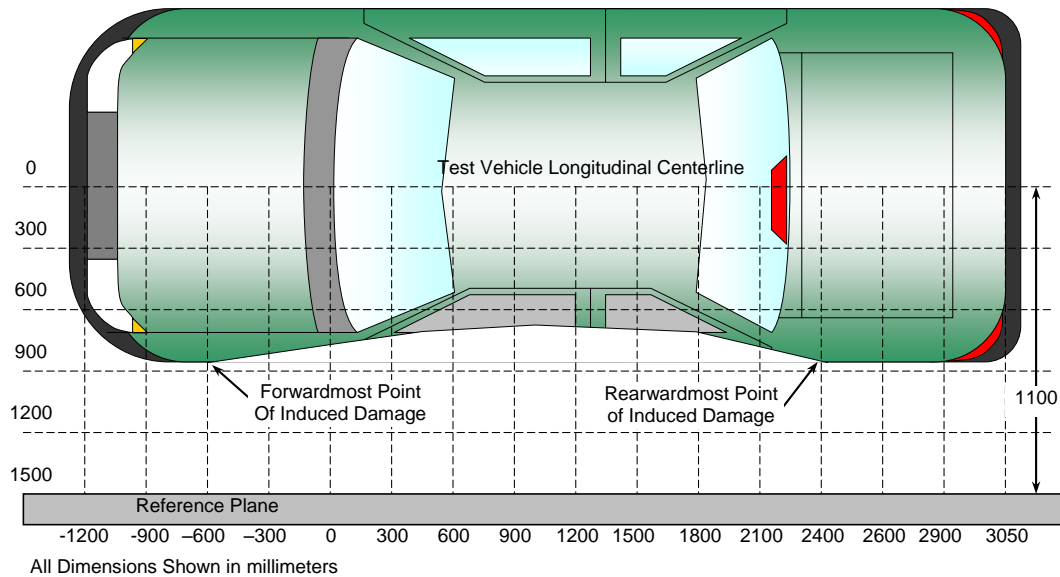
**DEFORMABLE BARRIER STATIC CRUSH**

Stack Level	Distance Right of Center (mm)								C <sub>L</sub>	Distance Left of Center (mm)							
	800	700	600	500	400	300	200	100		0	100	200	300	400	500	600	700
4	85	81	79	82	90	97	115	108	95	85	91	104	113	113	129	153	194
3	93	95	79	66	66	79	110	101	69	67	61	60	64	74	99	122	153
2	119	114	111	106	102	100	102	101	102	105	112	122	123	125	127	132	169
1	212	208	209	212	210	211	213	213	217	210	210	209	212	213	214	218	225

**DATA SHEET NO. 13  
VEHICLE AND MDB DAMAGE PROFILE DISTANCES**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
 Test Program: NCAP Side MDB Impact Test

NHTSA No. Q20155102  
 Test Date: 1/27/2015



**TOP VIEW**

**VEHICLE DAMAGE PROFILE DISTANCES**

DPD	Distance from Impact Point (mm)	Level	Pre-Test (mm)	Post-Test (mm)	Max. Static Crush (mm)
1	1875	3	187	306	119
2	1510	3	218	372	154
3	1145	3	199	358	159
4	780	3	188	380	192
5	415	3	180	361	181
6	50	3	181	219	38

**MDB DAMAGE PROFILE DISTANCES**

DPD	Distance from Center of MDB	Level	Post-Test (mm)
1	800 mm right of center	1	212
2	480 mm right of center	1	211
3	160 mm right of center	1	213
4	160 mm left of center	1	210
5	480 mm left of center	1	213
6	800 mm left of center	1	225

**DATA SHEET NO. 14**  
**FMVSS NO. 301 STATIC ROLLOVER RESULTS**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
 Test Program: NCAP Side MDB Impact Test

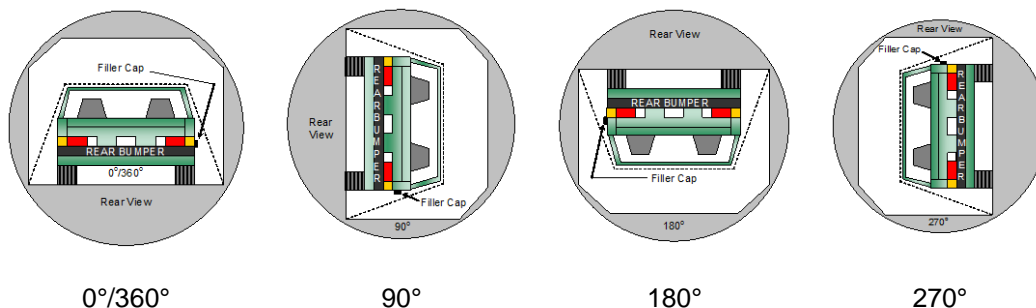
NHTSA No. O20155102  
 Test Date: 1/27/2015

Test Time: 1:55 pm

Temperature: 21.1° C

- A. From impact until vehicle motion ceases: 0 oz.  
 (Maximum Allowable = 1 ounce)  
 B. For the 5 minute period after motion ceases: None  
 (Maximum allowable = 5 ounces)  
 C. For the following 25 minutes: None  
 (Maximum allowable = 1 oz./minute)  
 D. Spillage Details: None

**FMVSS 301 STATIC ROLLOVER DATA**



**ROLLOVER SOLVENT COLLECTION TIME TABLE IN SECONDS**

Test Phase	Rotation Time	Hold Time	Total Time
0° to 90°	112	300	412
90° to 180°	111	300	411
180° to 270°	110	300	410
270° to 360°	111	300	411

**FMVSS 301 ROLLOVER SPILLAGE TABLE (units in ounces)**

Test Phase	First 5 Minutes	Sixth Minute	Seventh Minute	Eight Minute
0° to 90°	0	0	0	0
90° to 180°	0	0	0	0
180° to 270°	0	0	0	0
270° to 360°	0	0	0	0

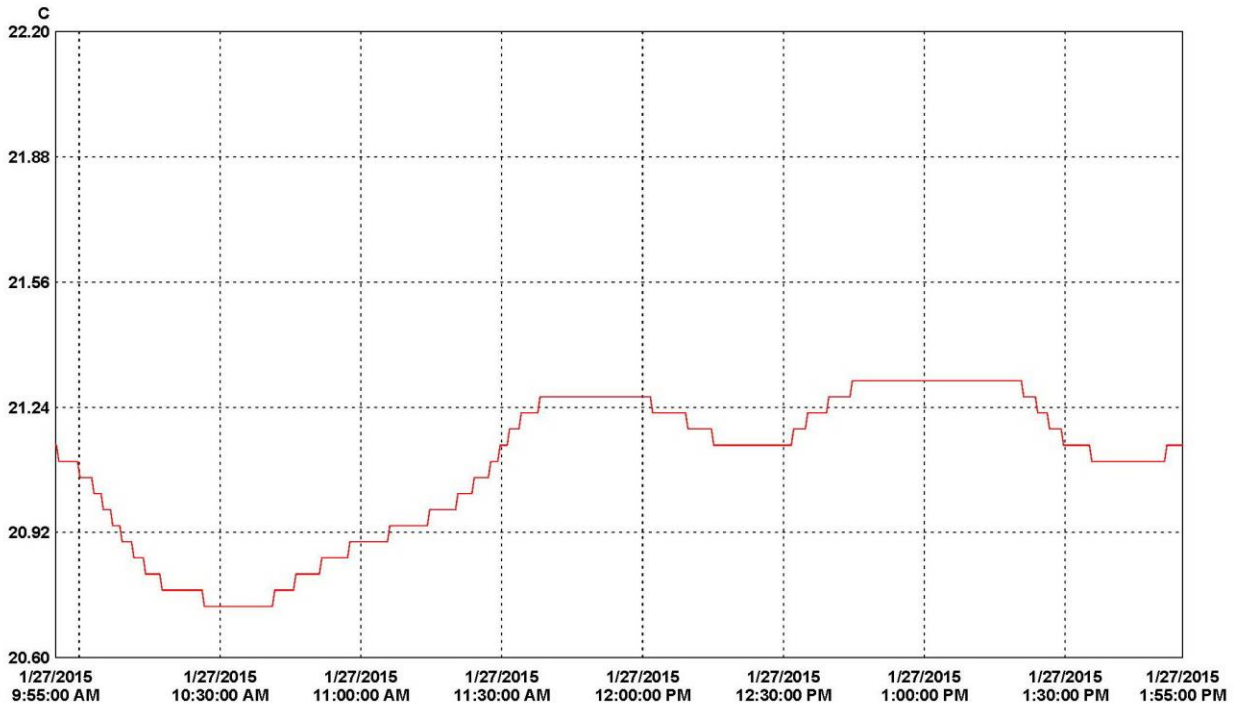
**ROLLOVER SOLVENT SPILLAGE LOCATION TABLE**

Test Phase	Spillage Location
0° to 90°	
90° to 180°	
180° to 270°	
270° to 360°	

**DATA SHEET NO. 15**  
**DUMMY/VEHICLE TEMPERATURE STABILIZATION DATA**

Test Vehicle: 2015 Lexus NX 200t F Sport 5-Dr SUV  
 Test Program: NCAP Side MDB Impact Test

NHTSA No. Q20155102  
 Test Date: 1/27/2015



LN	Serial #	Description	CH	Value	Maximum	Average	Minimum	Units	CH description	Logger file
1	14182020	Crash1	1	21.31	21.09	20.73	C	Temperature	14182020_Crash1.spl	

LN	Logger file	ID #	Security	Created by	Creation time
1	C:\Program Files (x86)\Veriteq Instruments\vLog 4.4\2015 NCAP\14182020_Crash1.spl				

**APPENDIX A  
PHOTOGRAPHS**

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As Delivered Right Front Three-Quarter View of Test Vehicle



As Delivered Left Rear Three-Quarter View of Test Vehicle



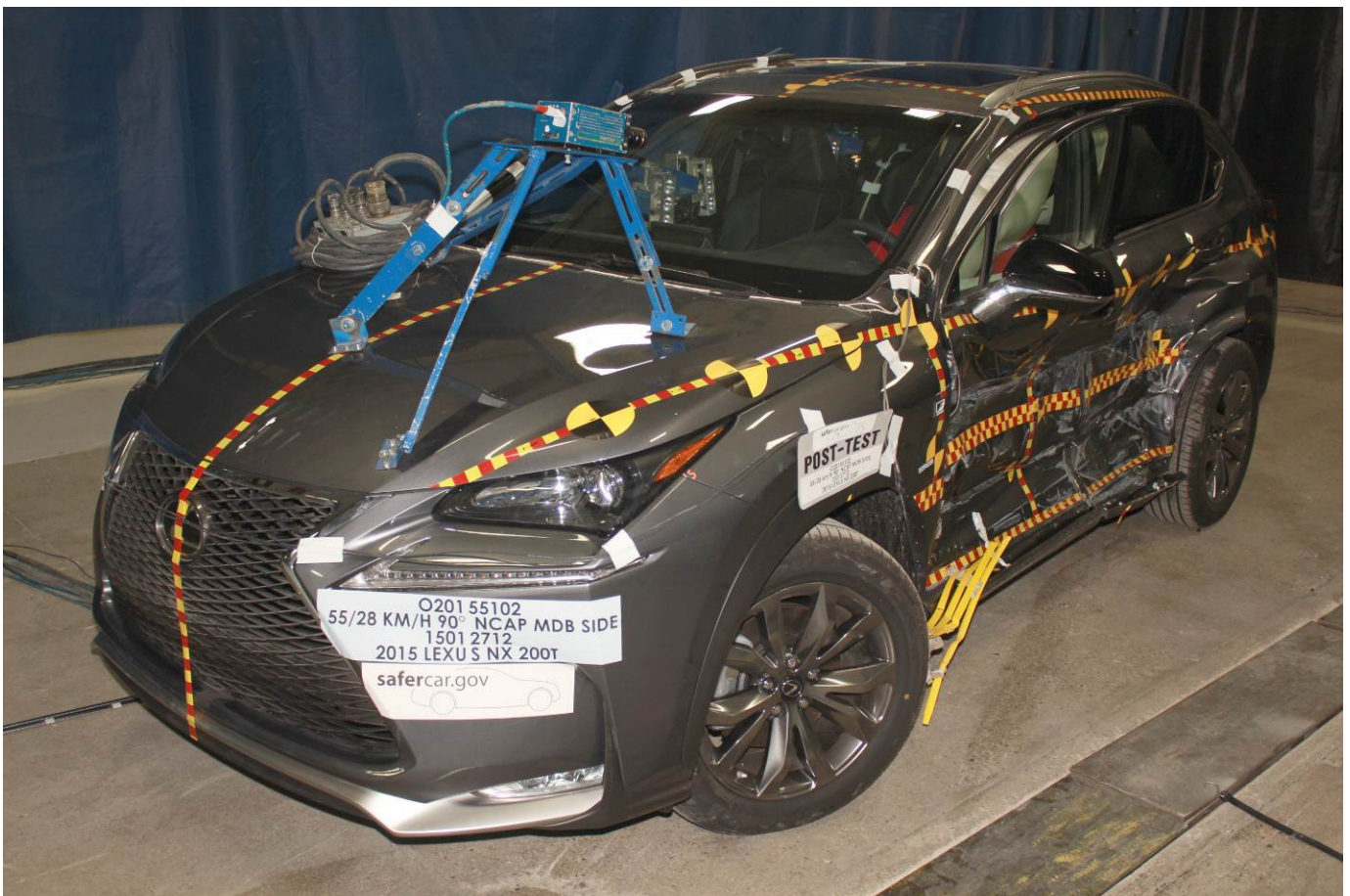
Pre-Test Frontal View of Test Vehicle



Post-Test Frontal 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 Left Side View of Test Vehicle



Post-Test Left Side View of Test Vehicle



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



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



Pre-Test Rear View of Test Vehicle



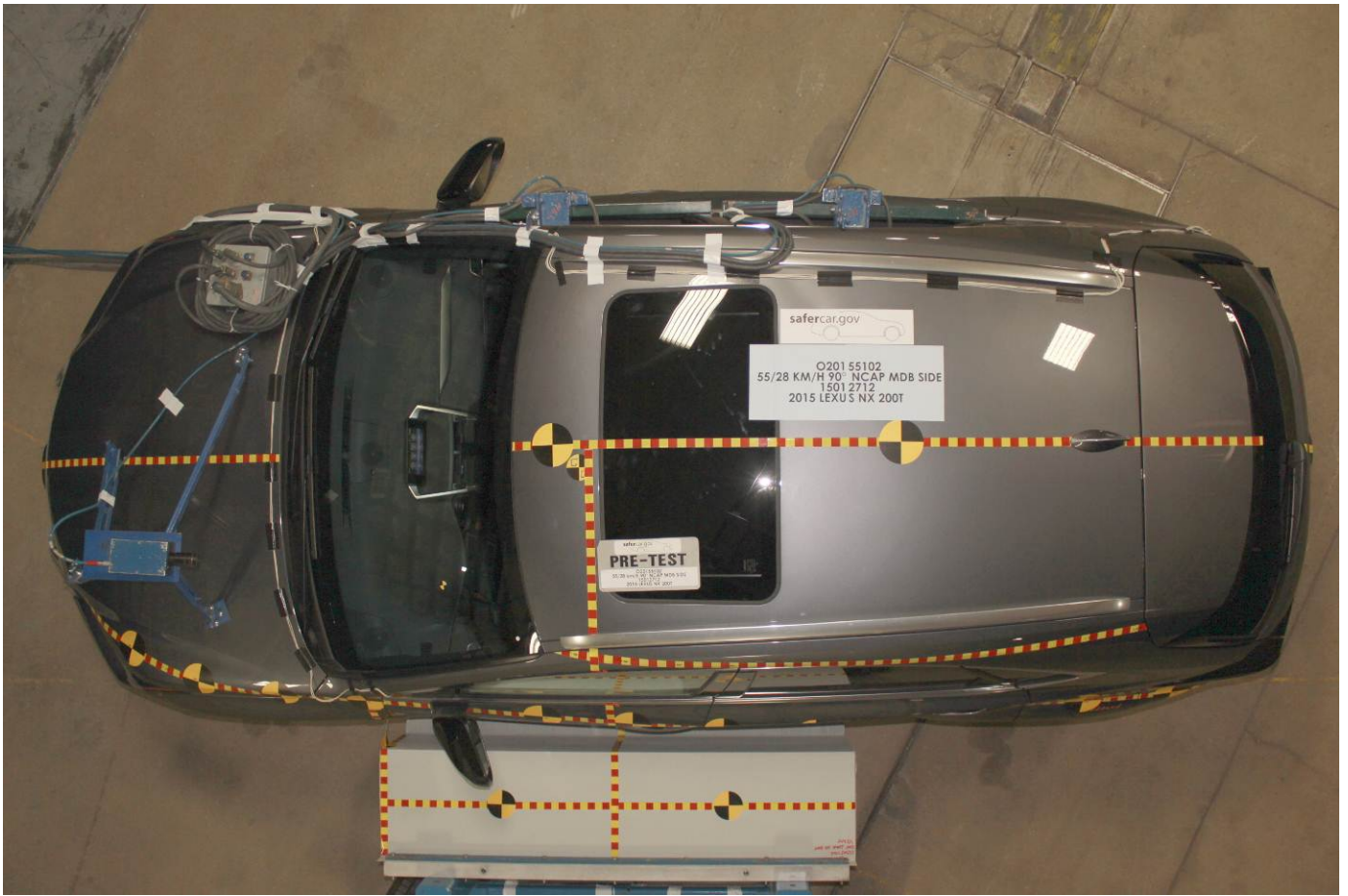
Post-Test Rear View of Test Vehicle



Pre-Test Right Side View of Test Vehicle



Post-Test Right Side View of Test Vehicle



Pre-Test Overhead View of Test Area



Post-Test Overhead View of Test Area



Pre-Test Left Side View of MDB Positioned Against Side of Test Vehicle



Pre-Test Right Side View of MDB Positioned Against Side of Test Vehicle



Pre-Test Close-Up View of Impact Point Target



Post-Test Close-Up View of Impact Point Target



Pre-Test Left Front Door Latch Close-Up



Post-Test Left Front Door Latch Close-Up



Pre-Test Left Rear Door Latch Close-Up



Post-Test Left Rear Door Latch Close-Up



Pre-Test Front Close-Up View of Driver Dummy



Post-Test Front Close-Up View of Driver Dummy



Pre-Test Left Side View of Driver Dummy Showing Belt and Chalking



Pre-Test Left Side View of Driver Dummy Shoulder and Door Top View



Post-Test Left Side View of Driver Dummy Shoulder and Door Top View



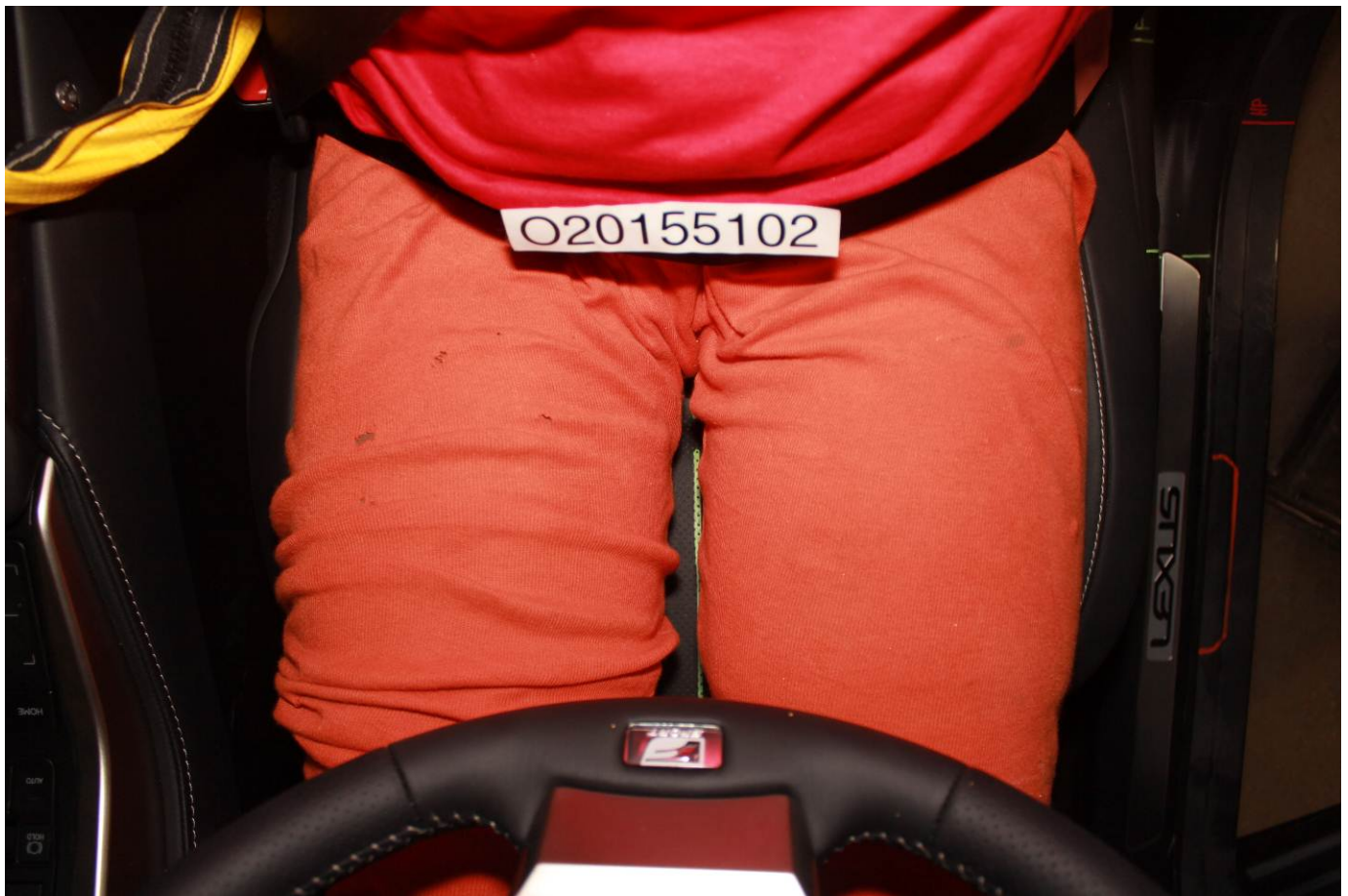
Pre-Test Frontal View of Driver Seat Back Prior to Dummy Positioning



Pre-Test Frontal View of Driver Dummy Head and Shoulders in Relation to Head Restraint



Pre-Test Frontal View of Driver Seat Pan Prior to Dummy Positioning



Pre-Test Overhead View of Driver Dummy Thighs on Seat Pan



Pre-Test Placement of Driver Dummy's Feet



Pre-Test View of Belt Anchorage for Driver Dummy



Pre-Test Left Side View of Steering Wheel



Pre-Test View of Disengaged Parking Brake



Pre-Test View of Parking Brake



Pre-Test Close-Up Left Side View of Driver Seat Track



Pre-Test Close-Up Left Side View of Driver Seat Back



Pre-Test Close-Up View of Driver Seat Back or Head Restraint



Pre-Test Driver Dummy and Door Clearance View



Post-Test Driver Dummy and Door Clearance View



Pre-Test Right Side View of Driver Dummy and Front Seat of Occupant Compartment



Post-Test Right Side View of Driver Dummy and Front Seat of Occupant Compartment



Pre-Test Driver Inner Door Panel View



Post-Test Driver Inner Door Panel View



Post-Test Driver Dummy Close-up Head Contact with Vehicle Interior View



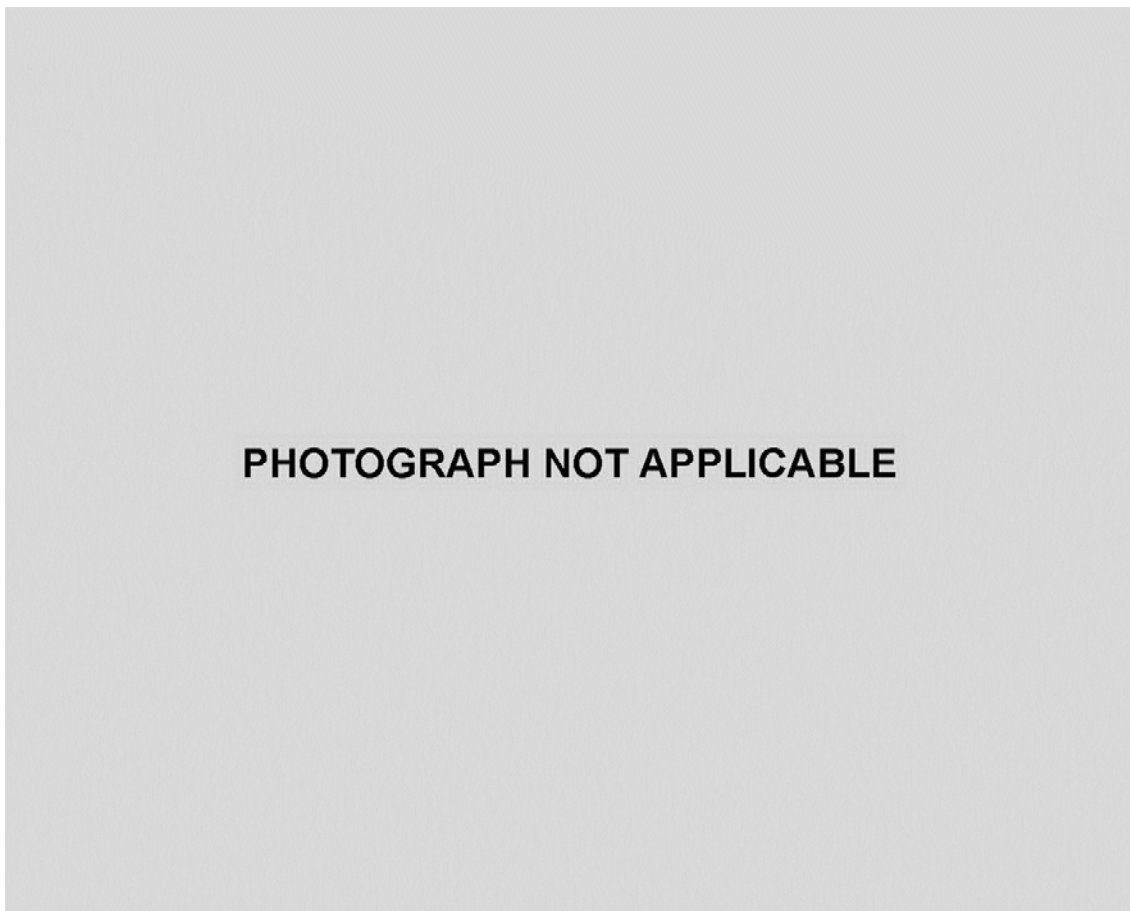
Post-Test Driver Dummy Close-up Head Contact with Side Airbag View



Post-Test Driver Dummy Close-up Torso Contact with Vehicle Interior View



Post-Test Driver Dummy Close-up Torso Contact with Side Airbag View



Post-Test Driver Dummy Close-up Pelvis Contact with Vehicle Interior View



Post-Test Driver Dummy Close-up Pelvis Contact with Side Airbag View



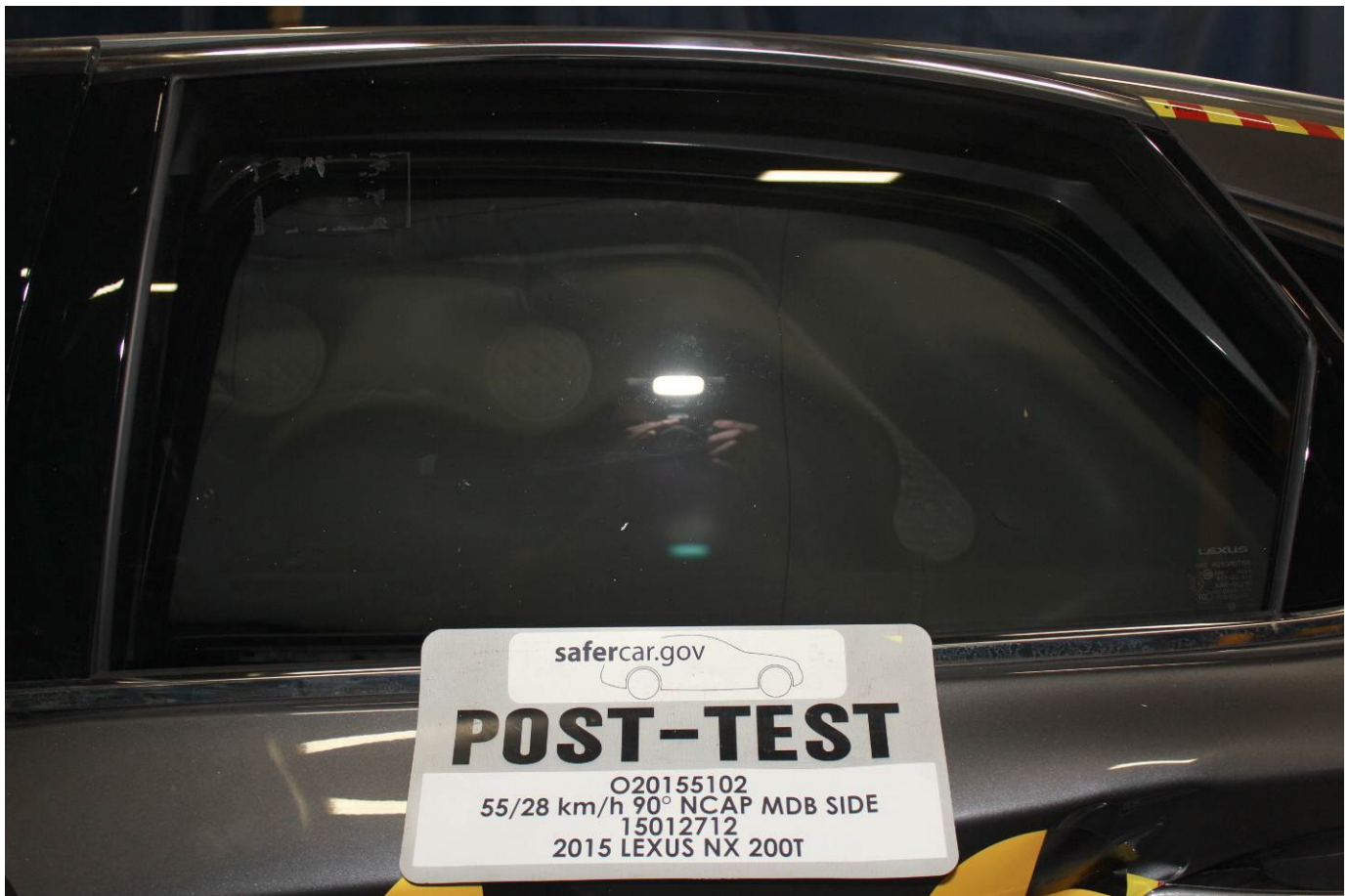
Post-Test Driver Dummy Close-up Knee Contact View



Pre-Test Left Side View of Rear Passenger Dummy Showing Belt and Chalking



Pre-Test Left Side View of Rear Passenger Dummy Shoulder and Door Top View



Post-Test Left Side View of Rear Passenger Dummy Shoulder and Door Top View



Pre-Test Frontal View of Rear Passenger Seat Back Prior to Dummy Positioning



Pre-Test Frontal View of Rear Passenger Dummy Head and Shoulders in Relation to Head Restraint



Pre-Test Overhead View of Rear Passenger Seat Pan Prior to Dummy Positioning



Pre-Test Overhead View of Rear Passenger Dummy Thighs on Seat Pan



Pre-Test View of Rear Passenger Dummy's Neck Showing Position of Adjustable Neck Bracket



Pre-Test View of Rear Passenger Dummy's Head Showing Dummy's Head is Level



Pre-Test Placement of Rear Passenger Dummy's Feet



Pre-Test View of Belt Anchorage for Rear Passenger Dummy



Pre-Test Close-Up Left Side View of Rear Passenger Seat Track



Pre-Test Close-Up Left Side View of Rear Passenger Seat Back



Pre-Test Close-Up View of Rear Passenger Seat Back or Head Restraint



Pre-Test Rear Passenger Dummy and Door Clearance View



Post-Test Rear Passenger Dummy and Door Clearance View



Pre-Test Right Side View of Rear Passenger Dummy and Rear Seat Occupant Compartment



Post-Test Right Side View of Rear Passenger Dummy and Rear Seat Occupant Compartment



Pre-Test Rear Passenger Inner Door Panel View



Post-Test Rear Passenger Inner Door Panel View



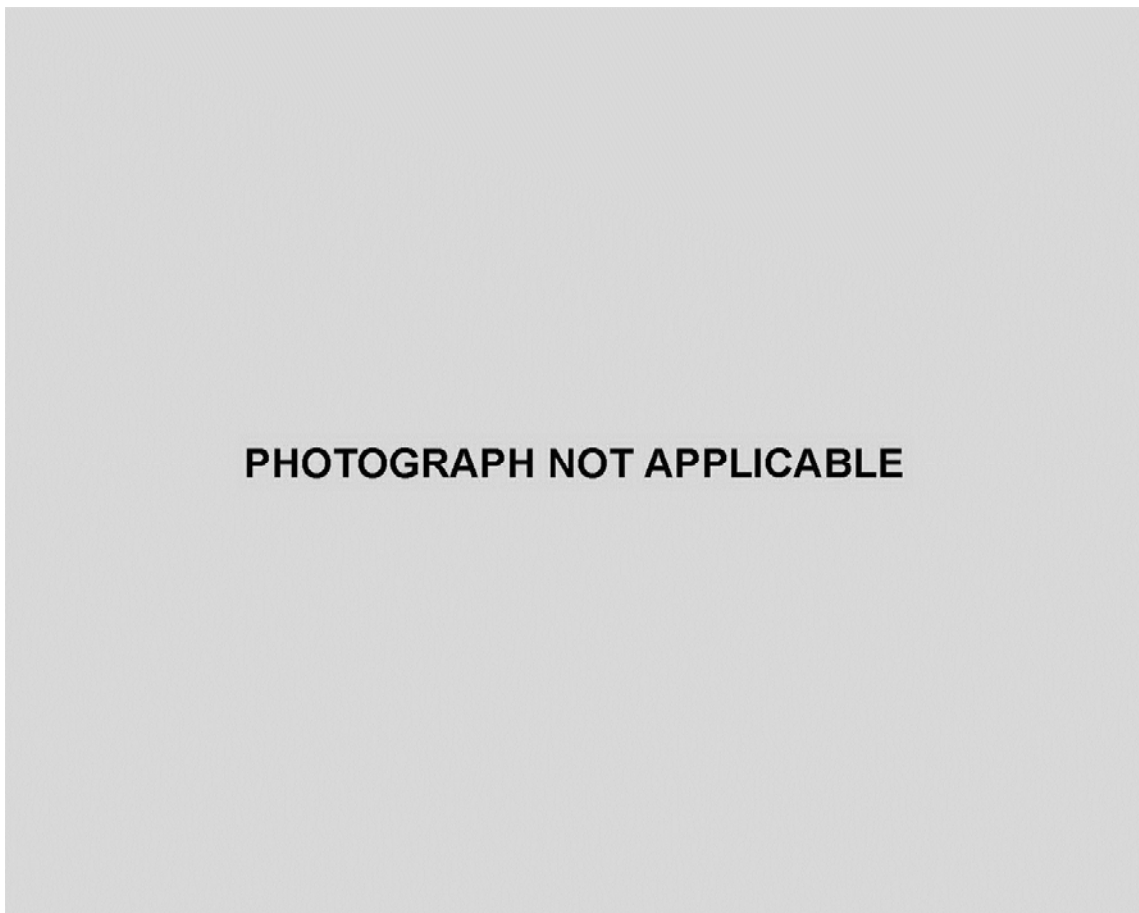
Post-Test Rear Passenger Dummy Close-up Head Contact with Vehicle Interior View



Post-Test Rear Passenger Dummy Close-up Head Contact with Side Airbag View



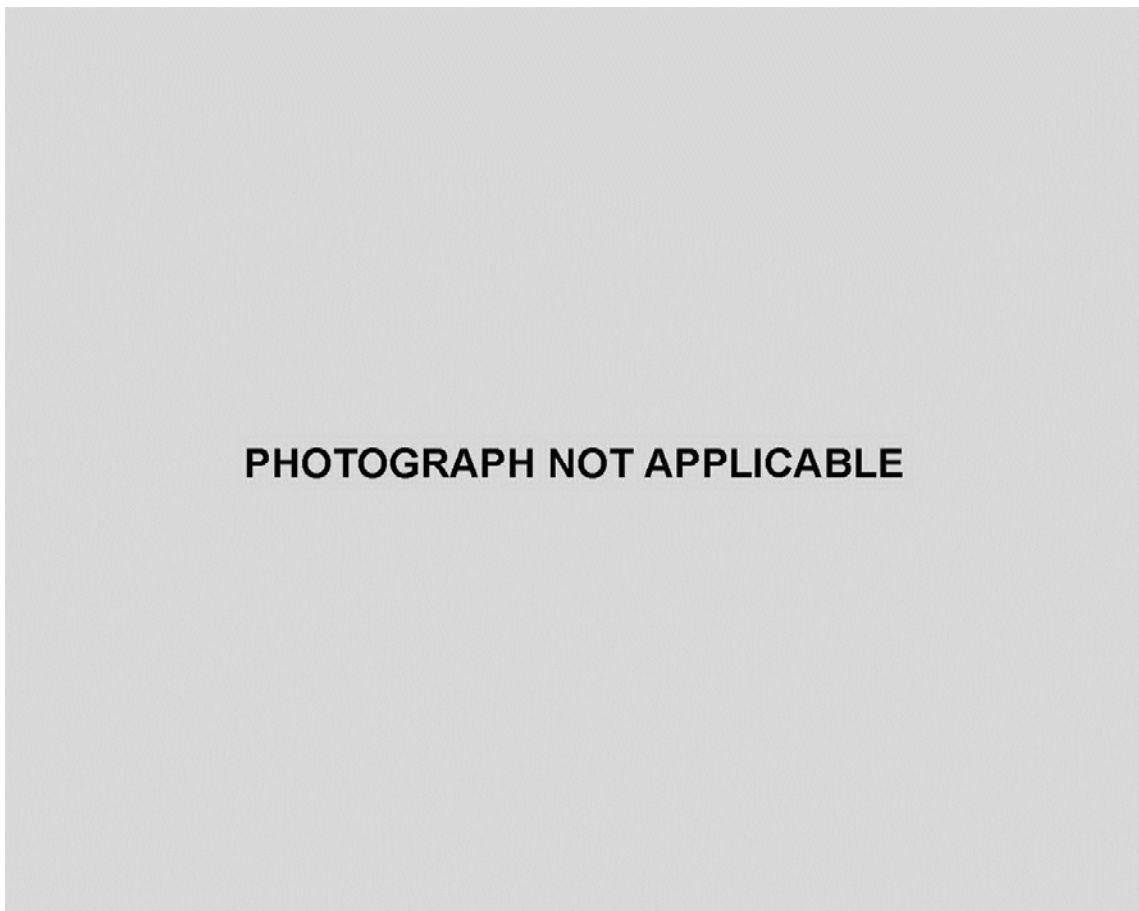
Post-Test Rear Passenger Dummy Close-up Torso Contact with Vehicle Interior View



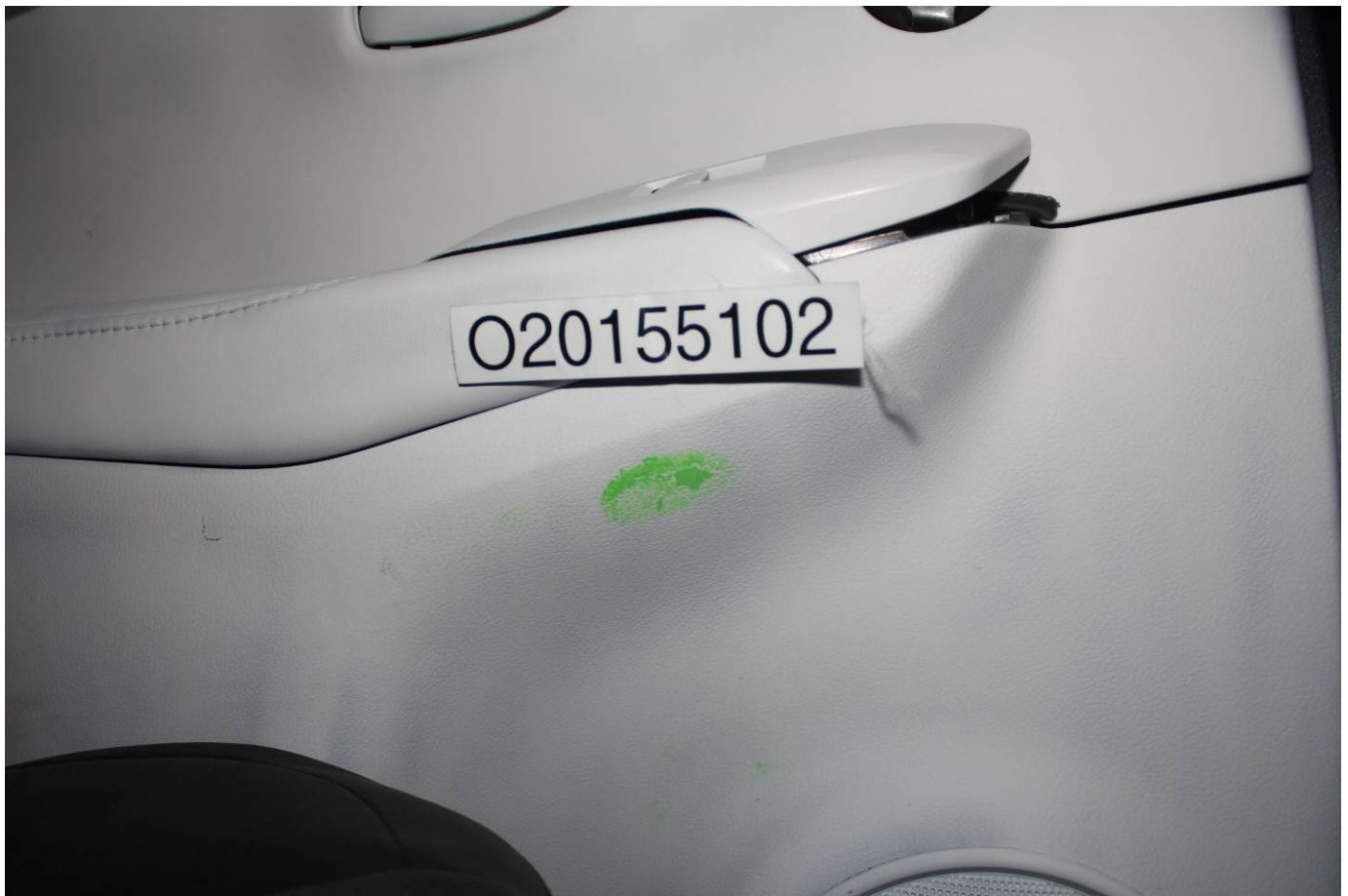
Post-Test Rear Passenger Dummy Close-up Torso Contact with Side Airbag View



Post-Test Rear Passenger Dummy Close-up Pelvis Contact with Vehicle Interior View



Post-Test Rear Passenger Dummy Close-up Pelvis Contact with Side Airbag View



Post-Test Rear Passenger Dummy Close-up Knee Contact View



Pre-Test View of Fuel Filler Cap or Fuel Filler Neck



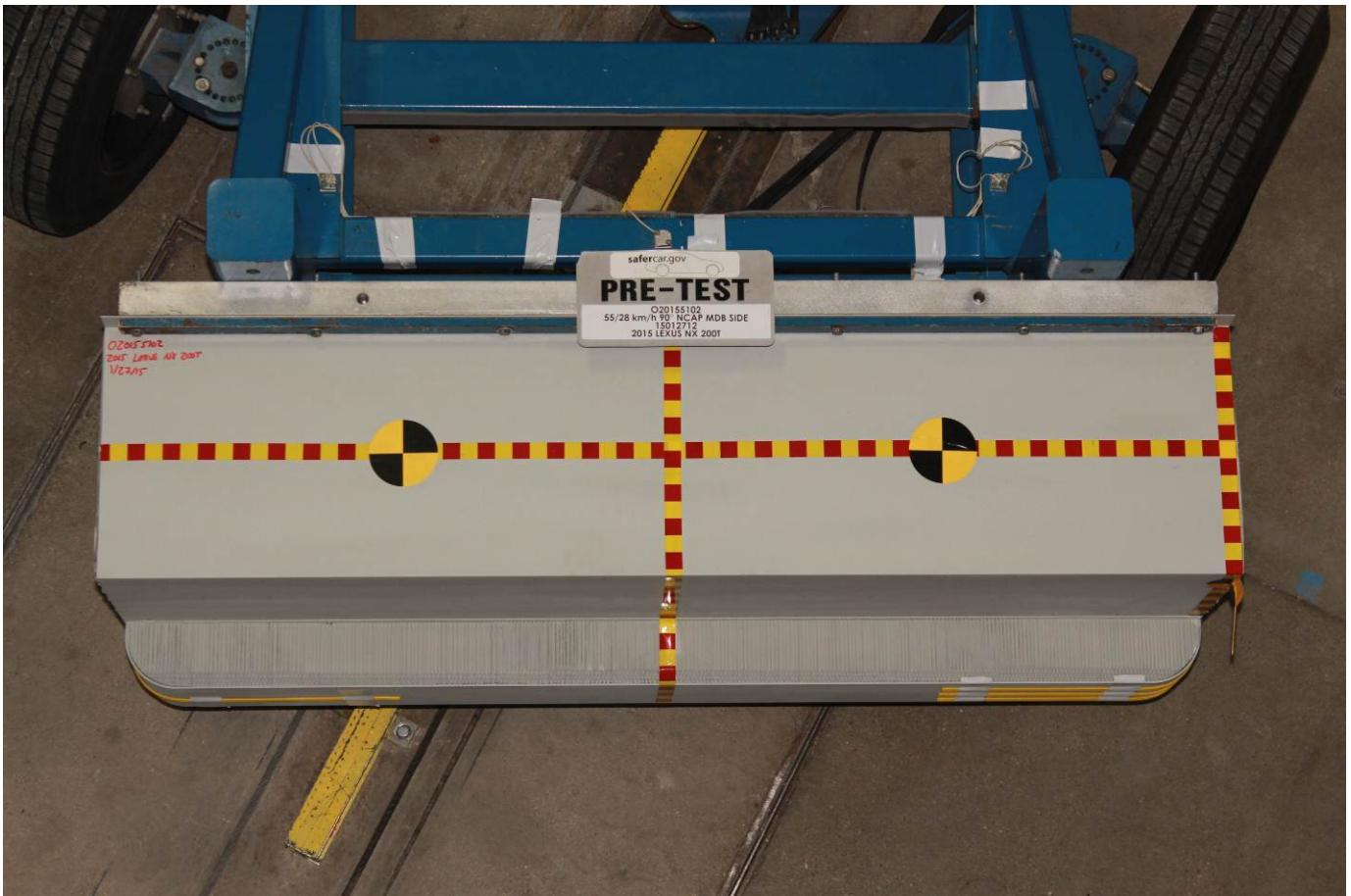
Post-Test View of Fuel Filler Cap or Fuel Filler Neck



Pre-Test Front View of MDB Impactor Face



Post-Test Front View of MDB Impactor Face



Pre-Test Top View of MDB Impactor Face



Post-Test Top View of MDB Impactor Face



Pre-Test Left Side View of MDB Impactor Face



Post-Test Left Side View of MDB Impactor Face



Pre-Test Right Side View of MDB Impactor Face



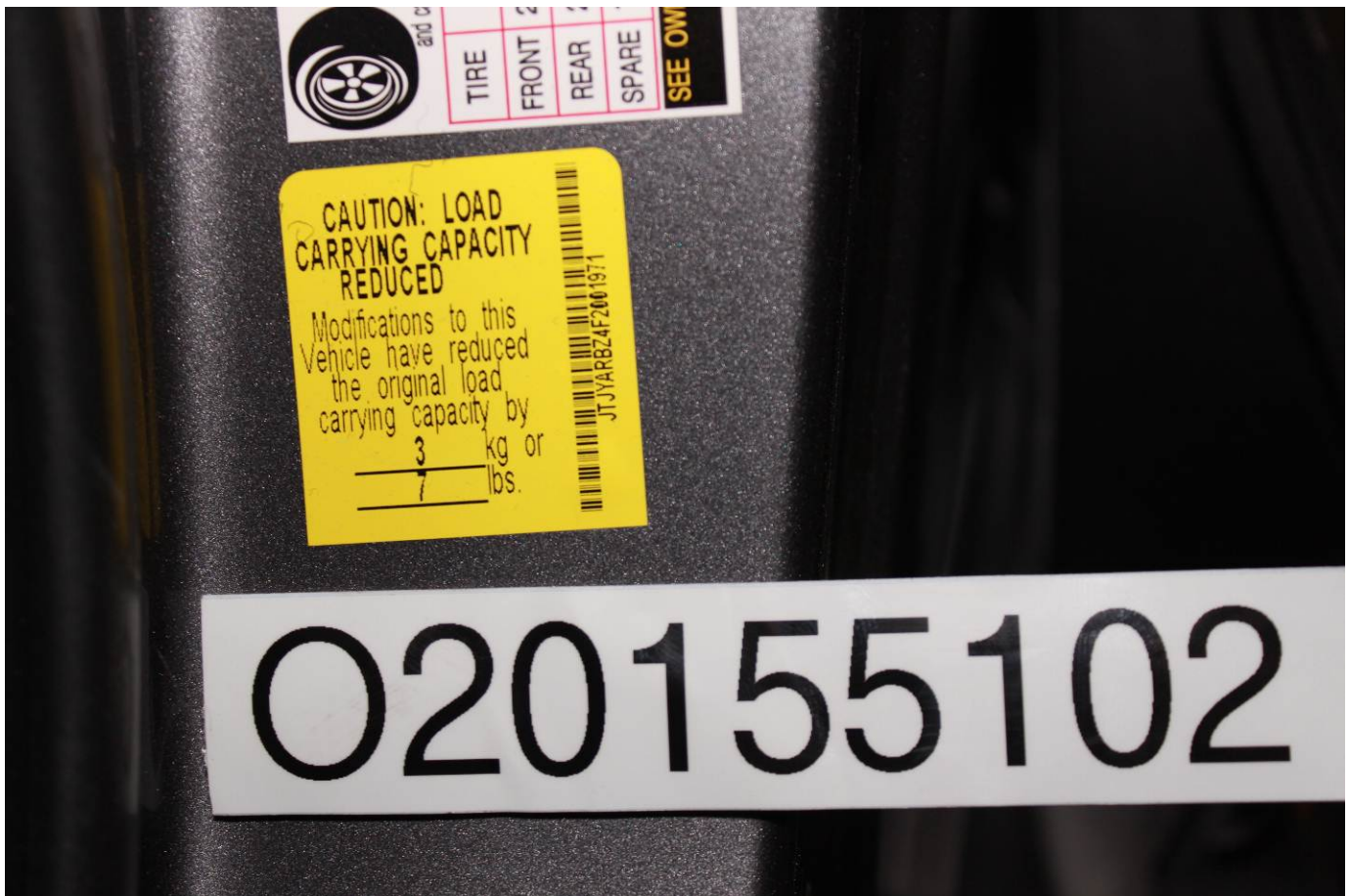
Post-Test Right Side View of MDB Impactor Face



Close-Up View of Vehicle's Certification Label



Close-Up View of Vehicle's Tire Information Placard or Label



Close-Up View of Load Carrying Capacity Reduced Label



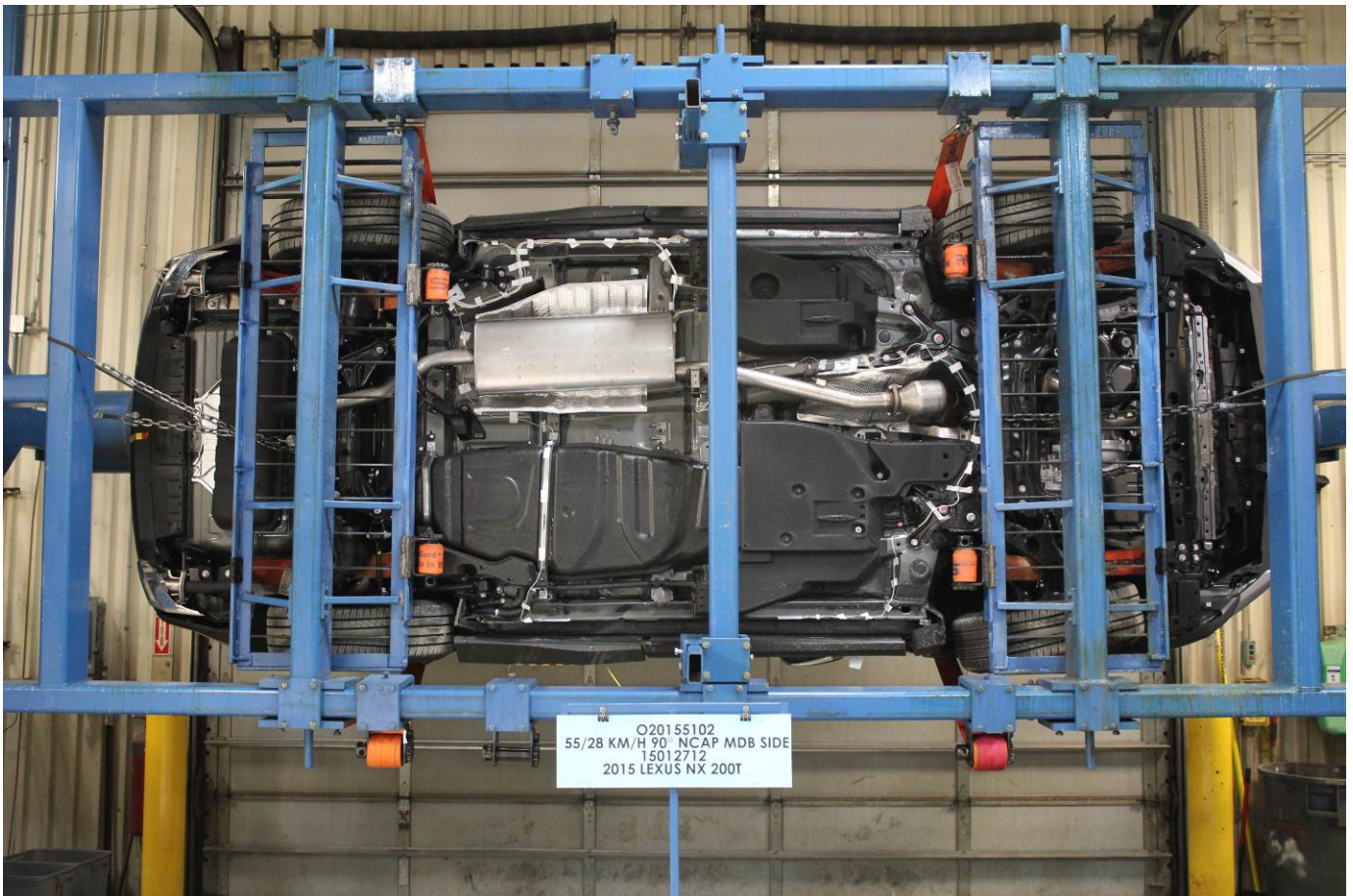
Pre-Test Ballast View



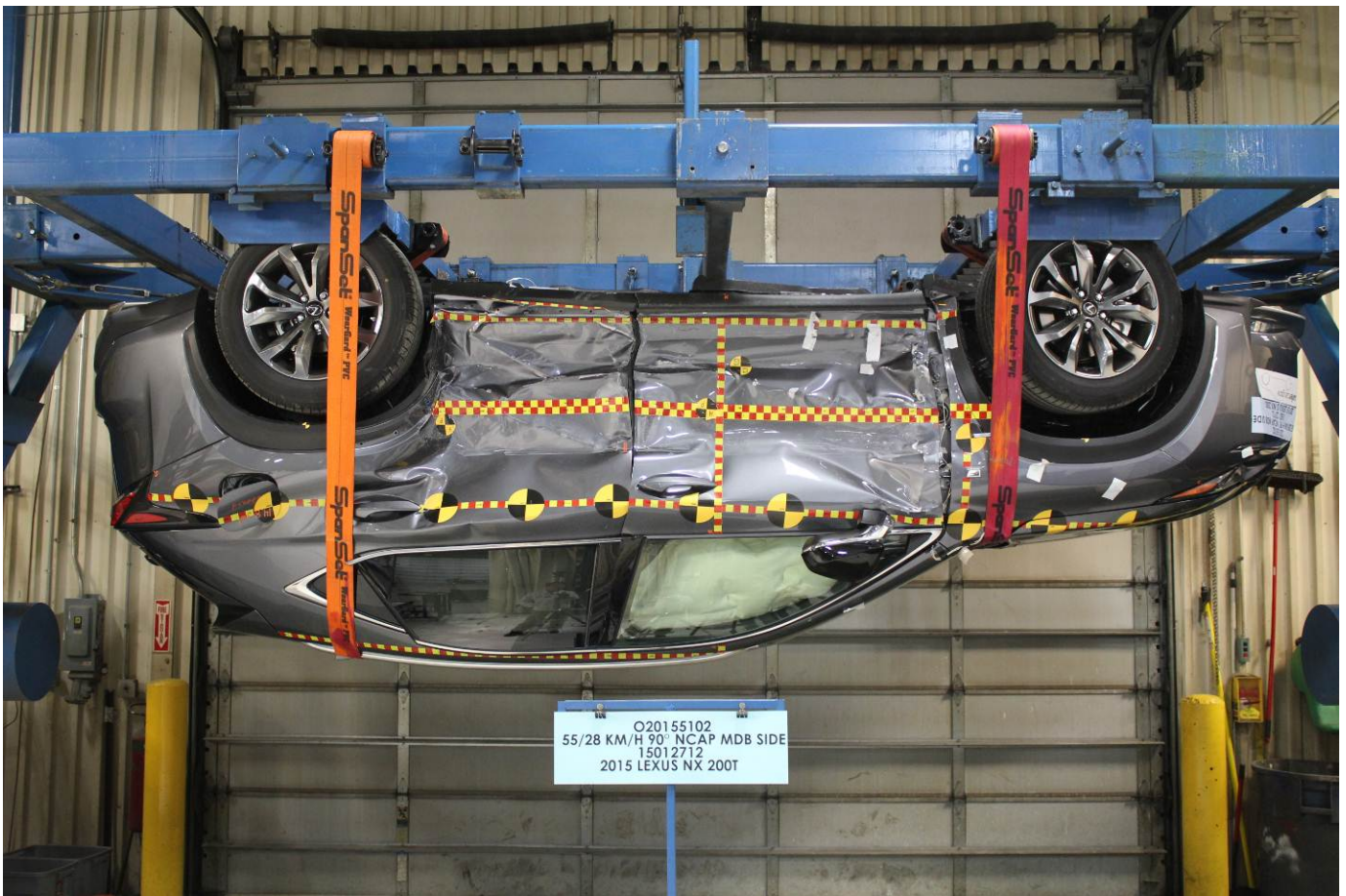
Post-Test Primary and Redundant Speed Trap Read-Out



FMVSS No. 301 Static Rollover 0 Degrees



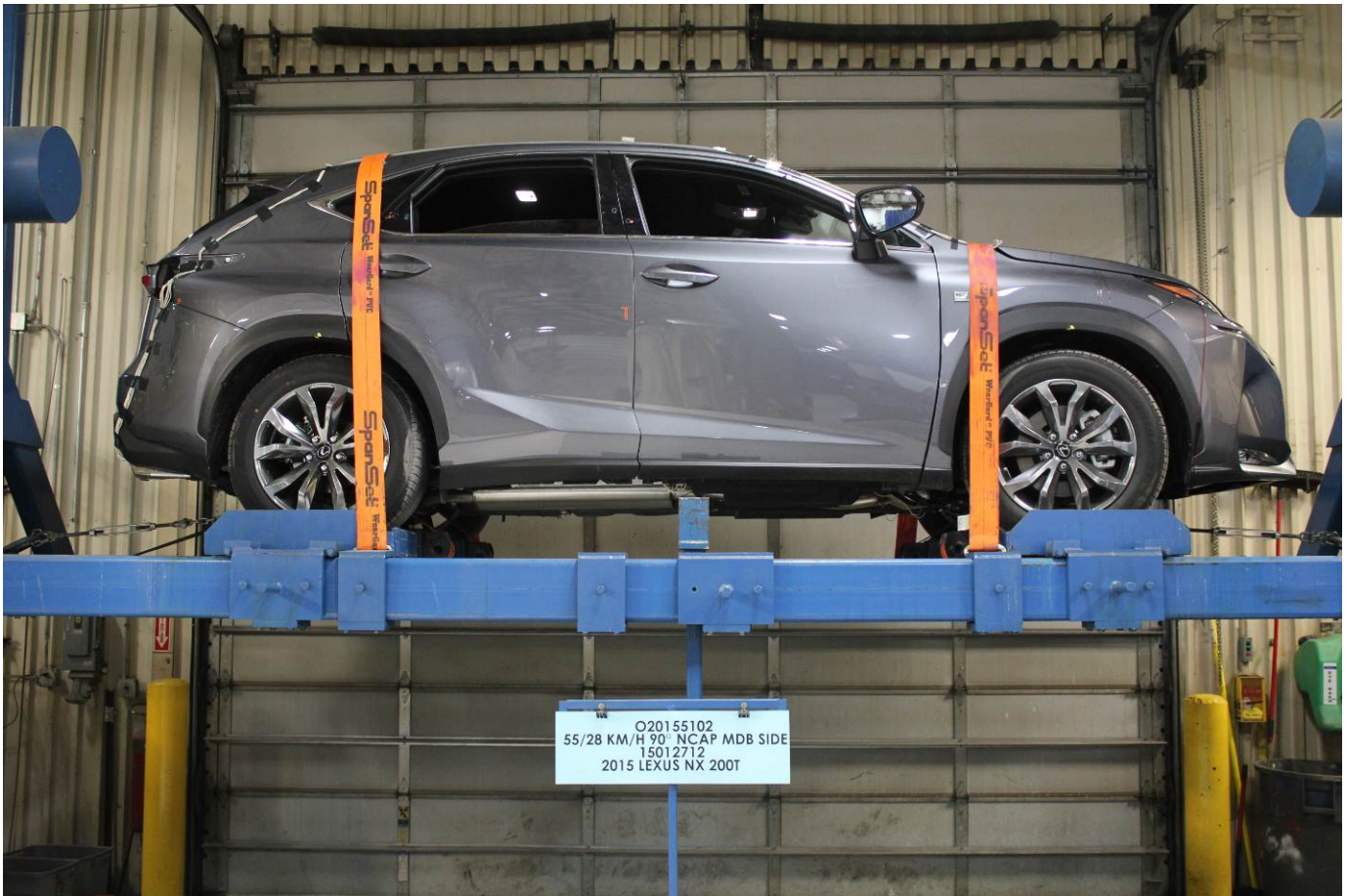
FMVSS No. 301 Static Rollover 90 Degrees



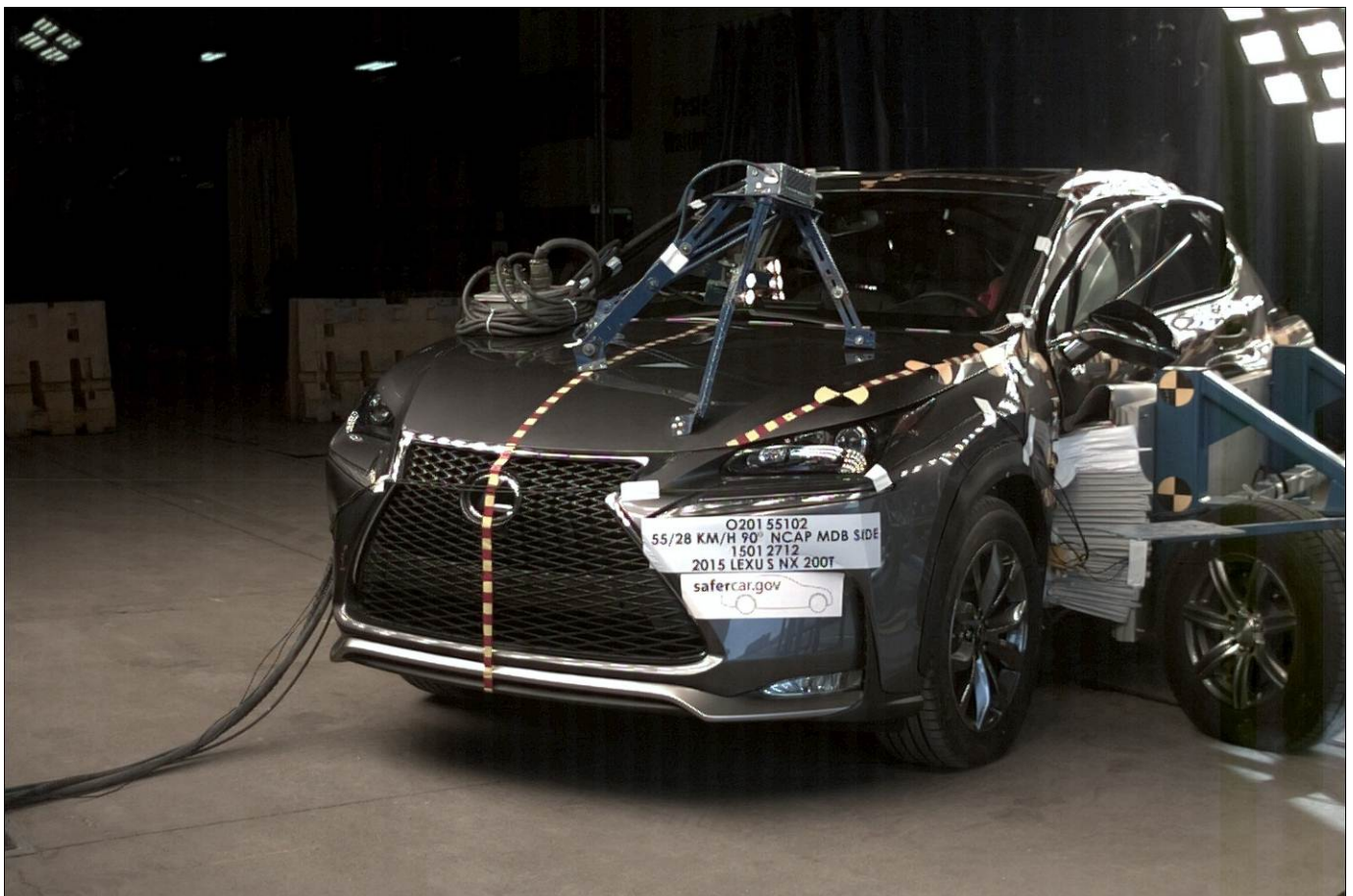
FMVSS No. 301 Static Rollover 180 Degrees



FMVSS No. 301 Static Rollover 270 Degrees



FMVSS No. 301 Static Rollover 360 Degrees



Impact Event



DESCRIPTION **2015 / 9830A NX 200t F SPORT**  
 COLOR **NEBULA GRAY PEARL**  
 VIN **JTJYARBZ4F2001971**  
 PORT/PLANT **Long Beach, CA**

Dealer Name / Address:  
**LEXUS SAN DIEGO**  
 4970 KEARNY MESA ROAD  
 SAN DIEGO CA 92111

Ship to (Dealer, unless otherwise indicated)

**STANDARD EQUIPMENT & INSTALLED OPTIONS**

**STANDARD FEATURES**

- 2.0 Liter Turbo 16-Valve DOHC, Dual VVT-i
- 235 HP, 253 lb-ft Torque
- 6-Speed Automatic Transmission
- Location-Specific Tire Pressure Monitoring System
- 8 Airbags- Driver: Front, Knee & Side (3); Front Passenger: Cushion, & Side (3), Side Curtain (2)
- Anti-Lock Braking System (ABS) with Electronic Brakeforce Distribution (EBD) & Brake Assist
- Vehicle Theft-Deterrent System
- Lexus Enform Safety Connect: Automatic Collision Notification, Stolen Vehicle Location, Emergency Assist Button (SOS), and Enhanced Roadside Assistance (1-year trial subscription included)
- Backup Camera
- 8-speaker Lexus Display Audio System, HD Radio w/iTunes Tagging and Real-Time Traffic & Weather, USB iPod/iPad/iPhone, SiriusXM Satellite Radio (3-month All Access trial subscription included)
- Auto Dual Zone Climate Control Sys w/Rear Vents

- Driver Seat: 10-Way Power (including 2-Way Lumbar); Passenger: 8-Way Power; Manual Tilt-and-Telescopic Steering Column
  - SmartAccess Entry System with Push Button Start/Stop
  - 4.2" Full Color Multi-Information Display w/Driving Information, Audio & Outside Temp Display
  - Electrochromic (Auto-Dimming) Inside Rear View Mirror
  - Carpeted Floor Mats
- F SPORT Features:**
- Sport-Tuned Suspension, F SPORT NuLuxe Seats, Metallic Sport Trim, Perforated Leather Trimmings
  - F SPORT Steering Wheel w/ Paddle Shifters
  - Cornering Front Fog & Driving Lamps, Premium LED Daytime Running Lights, F SPORT Door Scuff Plate, Active Sound Control, 18" SPORT Wheels with All-Season Tires (225/60R18)

**MANUFACTURER'S SUGGESTED RETAIL PRICE**

**\$ 36,580.00**

- \*\* Qi-Compatible Wireless Charger 220.00
- \*\* Lexus Homelink Garage Door Opener 125.00
- \*\* 18" F SPORT Wheels w/Summer Tires (235/55R18) 75.00
- \*\* Navigation Package Includes: Remote Touch Interface, Lexus Enform Remote, Lexus Enform Destination (includes 1-year trial subscription), App Suite (complimentary), 10-Speaker Lexus Premium Sound System 2,140.00
- \*\* Electrochromic (Auto-Dimming) Outer Mirrors with Blind Spot Monitor (BSM), Rear Cross Traffic Alert, Reverse Tilt, Heated, Memory 660.00
- \*\* Intuitive Parking Assist 500.00
- \*\* Power Back Door 400.00
- \*\* Premium F SPORT Package Heated Front Seats, Power Tilt & Slide Moonroof, Memory: Power Tilt/Telescopic Steering Column, Power 10-Way Driver Seat including Lumbar Support 2,045.00
- \*\* Preferred Package Includes: Cargo Net, Cargo Mat, Key Glove, Wheel Locks, & Rear Bumper Protector 389.00

**EPA DOT Fuel Economy and Environment** Gasoline Vehicle

**Fuel Economy**  
**25** MPG  
 Small SUVs range from 16 to 31 MPG. The best vehicle rates 11E MPG.  
 22 28  
 combined city/hwy city highway  
 4.0 gallons per 100 miles

**You spend \$ 500 more in fuel costs over 5 years compared to the average new vehicle.**

**Annual fuel COST \$2,300**

**Fuel Economy & Greenhouse Gas Rating** (passenger only) Smog Rating (passenger only)  
 6 5  
 Best Best

This vehicle emits 367 grams CO2 per mile. The best emits 0 grams per mile (passenger only). Producing and distributing fuel also create emissions. Learn more at [fuelconomy.gov](http://fuelconomy.gov)

Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 24 MPG and costs \$11,000 to fuel over 5 years. Fuel efficiency and cost based on 15,000 miles per year at \$3.00 per gallon. MPGs is miles per gallon, gallon equivalent. Vehicle emissions are an indirect cause of climate change and smog.

**fuelconomy.gov**  
 Calculate personalized estimates and compare vehicles

Smartphone QR code

**GOVERNMENT 5-STAR SAFETY RATINGS**

This vehicle has not been rated by the government for overall vehicle score, frontal crash, side crash or rollover risk.

Star ratings range from 1 to 5 stars (★★★★★) with 5 being the highest. Source: National Highway Traffic Safety Administration (NHTSA) [www.safercar.gov](http://www.safercar.gov) or 1-888-327-4236

APPLICABLE FEDERAL TAXES NOT INCLUDED

Manufacturer's suggested retail price includes manufacturer's recommended pre-delivery service. License and title fees, taxes, local and applicable federal taxes, and dealer installed options and accessories are not included in the manufacturer's suggested retail price.

**LEXUS NEW VEHICLE LIMITED WARRANTY**  
 Limited warranty coverage highlights include:  
 • 4YR / 50,000 mile basic coverage  
 • 8YR / 100,000 mile powertrain coverage  
 • 8YR / Unlimited mile corrosion perforation warranty

See your Warranty and Services Guide for details.

**LEXUS IS PLEASED TO OFFER THE FOLLOWING OWNER SUPPORT PACKAGE WITH EACH NEW LEXUS**  
 • 24 hour, 24x7 day/night roadside assistance plan  
 • Complimentary test and drive scheduled maintenance services  
 • Locking the emergency breakdown hot lines from home

An extended service contract may be available for this vehicle. Ask dealer for details.

SUB-TOTAL \$ 43,134.00  
 DELIVERY, PROCESSING AND HANDLING FEE 925.00  
 TOTAL \$ 44,059.00

344E09 262 3C03 B3829

**Monroney Label**

**3-3. Adjusting the seats 149**

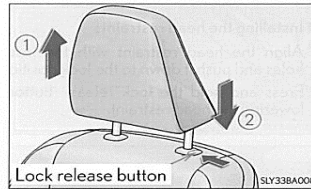
**Head restraints**

Head restraints are provided for all seats.

**Front seats**

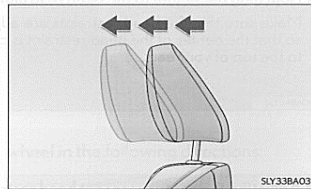
► Vertical adjustment

- Up  
Pull the head restraints up.
- Down  
Push the head restraint down while pressing the lock release button.



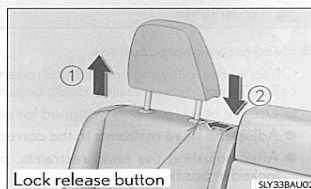
► Angle adjustment (if equipped)

The position of the head restraint can be adjusted forward in 4 stages. If the head restraint is pulled forward from the foremost position, it will return to the rearmost position.



**Rear seats**

- Up  
Pull the head restraints up.
- Down  
Push the head restraint down while pressing the lock release button.

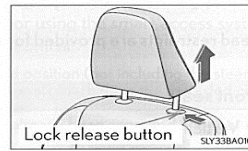


3 Operation of each component

■ **Removing the head restraints**

Pull the head restraint up while pressing the lock release button.

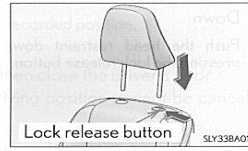
If the head restraint touches the ceiling, making the removal difficult, change the seat height or angle. (→P. 137, 138)



■ **Installing the head restraints**

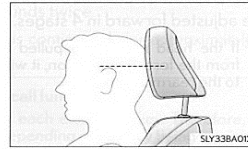
Align the head restraint with the installation holes and push it down to the lock position.

Press and hold the lock release button when lowering the head restraint.



■ **Adjusting the height of the head restraints (front seats)**

Make sure that the head restraints are adjusted so that the center of the head restraint is closest to the top of your ears.



■ **Adjusting the center rear seat head restraint**

Always raise the head restraint one level from the stowed position when using.

**⚠ WARNING**

■ **Head restraint precautions**

Observe the following precautions regarding the head restraints. Failure to do so may result in death or serious injury.

- Use the head restraints designed for each respective seat.
- Adjust the head restraints to the correct position at all times.
- After adjusting the head restraints, push down on them and make sure they are locked in position.
- Do not drive with the head restraints removed.

Left Rear Passenger Head Restraint Use and Adjustment Information from Vehicle Owner's Manual

**APPENDIX B**  
**DUMMY RESPONSE DATA PLOTS**

**TABLE OF DATA PLOTS**  
**Driver Dummy Instrumentation Plots**

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Figure No. 2.	Driver Head Acceleration (Y) Primary vs. Time	B-1
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Figure No. 19.	Passenger Lower Spine T12 Acceleration (Y) vs. Time	B-6
Figure No. 20.	Passenger Lower Spine T12 Acceleration (Z) vs. Time	B-6
Figure No. 21.	Passenger Lower Spine T12 Resultant Acceleration vs. Time	B-6
Figure No. 22.	Passenger Iliac Force on Impact Side (Y) vs. Time	B-7
Figure No. 23.	Passenger Acetabulum Force on Impact Side (Y) vs. Time	B-7
Figure No. 24.	Passenger Total Pelvic Force on Impact Side (Y) vs. Time	B-7

The following additional data for this test can be obtained from the Research and Development section of the NHTSA website. The website can be found at [www.NHTSA.dot.gov](http://www.NHTSA.dot.gov)

**Additional Driver & Passenger Dummy Instrumentation Data**

Driver Lower Spine T12 Acceleration (X)

Driver Lower Spine T12 Acceleration (Y)

Driver Lower Spine T12 Acceleration (Z)

Passenger Upper Thorax Rib Deflection (Y)

Passenger Middle Thorax Rib Deflection (Y)

Passenger Lower Thorax Rib Deflection (Y)

Passenger Upper Abdomen Rib Deflection (Y)

Passenger Lower Abdomen Rib Deflection (Y)

Driver Head Acceleration Redundant (X)

Driver Head Acceleration Redundant (Y)

Driver Head Acceleration Redundant (Z)

Passenger Head Acceleration Redundant (X)

Passenger Head Acceleration Redundant (Y)

Passenger Head Acceleration Redundant (Z)

### **Vehicle Instrumentation Data**

Vehicle Center of Gravity Acceleration (X)  
Vehicle Center of Gravity Acceleration (Y)  
Vehicle Center of Gravity Acceleration (Z)  
Right Side Sill at Front Seat Acceleration (X)  
Right Side Sill at Front Seat Acceleration (Y)  
Right Side Sill at Front Seat Acceleration (Z)  
Right Side Sill at Rear Seat Acceleration (X)  
Right Side Sill at Rear Seat Acceleration (Y)  
Right Side Sill at Rear Seat Acceleration (Z)  
Left Side Sill at Front Seat Acceleration (Y)  
Left Side Sill at Rear Seat Acceleration (Y)  
Lower A-Post Acceleration (Y)  
Middle A-Post Acceleration (Y)  
Lower B-Post Acceleration (Y)  
Middle B-Post Acceleration (Y)  
Front Seat Track Acceleration (Y)  
Rear Seat Track Acceleration (Y)  
Right Rear Occupant Compartment Acceleration (Y)  
Engine Block (X)  
Engine Block (Y)  
Rear Floorpan Above Axle Acceleration (X)  
Rear Floorpan Above Axle Acceleration (Y)  
Rear Floorpan Above Axle Acceleration (Z)

### **MDB Instrumentation Data**

MDB Center of Gravity Acceleration (X)

MDB Center of Gravity Acceleration (Y)

MDB Center of Gravity Acceleration (Z)

MDB Rear Acceleration (X)

MDB Rear Acceleration (Y)

Left MDB Contact Switch

Right MDB Contact Switch

**APPENDIX C**  
**DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA**

**APPENDIX D**  
**TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION DATA**

**Table 1 – Dummy Instrumentation (ES-2re)**

		ES-2re S/N 032			
		Serial Number	Manufacturer	Calibration Date	
Head CG Accelerometers		X	P79575	Endevco	08/11/14
		Y	P79577	Endevco	08/11/14
		Z	P79578	Endevco	08/11/14
		Xr	P79799	Endevco	08/11/14
		Yr	P79802	Endevco	08/11/14
		Zr	P79803	Endevco	08/11/14
Thorax Rib Displacement Potentiometers	Upper	Y	G176	Honeywell	08/11/14
	Middle	Y	G169	Honeywell	08/11/14
	Lower	Y	G164	Honeywell	08/11/14
Abdomen Load Cells	Forward	Y	ABG1513	Denton	12/15/14
	Middle	Y	ABG1531	Denton	12/15/14
	Rear	Y	ABG1536	Denton	12/15/14
Lower Spine Accelerometers (T12)		X	P79597	Endevco	01/07/15
		Y	P79598	Endevco	01/07/15
		Z	P79600	Endevco	01/07/15
Public Symphysis Load Cell		Y	PG462	Denton	12/15/14

**Table 2 – Dummy Instrumentation (SID-IIs)**

				SID-IIs S/N 296			
				Serial Number	Manufacturer	Calibration Date	
Head CG Accelerometers				X	P84436	Endevco	08/11/14
				Y	P84439	Endevco	08/11/14
				Z	P84440	Endevco	08/11/14
				Xr	P84450	Endevco	08/11/14
				Yr	P84456	Endevco	08/11/14
				Zr	P84457	Endevco	08/11/14
Displacement Potentiometers	Thoracic Rib	Upper	Y	G012	Servo	08/12/14	
		Middle	Y	G1163	FTSS	08/12/14	
		Lower	Y	G1158	FTSS	08/12/14	
	Abdominal Rib	Upper	Y	G1146	FTSS	08/12/14	
		Lower	Y	G1126	FTSS	08/12/14	
Lower Spine Accelerometers (T12)				X	P84437	Endevco	08/11/14
				Y	P84442	Endevco	08/11/14
				Z	P84443	Endevco	08/11/14
Acetabulum Load Cell				Y	ACG268	Denton	01/06/15
Iliac Wing Load Cell				Y	IWG282	Denton	01/06/15
Pelvis Plug (struck side)					79536	FTSS	11/05/14
Pelvis Plug (non-struck side)					70595	FTSS	12/12/13

**Table 3 – Vehicle Instrumentation**

			Serial Number	Manufacturer	Calibration Date
1	Vehicle Center of Gravity	X	P77593	Endevco	08/21/14
	Vehicle Center of Gravity	Y	P77592	Endevco	08/21/14
	Vehicle Center of Gravity	Z	P77594	Endevco	08/20/14
2	Right Sill at Front Seat	X	J14-J15	Entran	11/17/14
	Right Sill at Front Seat	Y	J14-J12	Entran	11/17/14
	Right Sill at Front Seat	Z	J23-J05	Entran	11/17/14
3	Right Sill at Rear Seat	X	P66780	Endevco	10/02/14
	Right Sill at Rear Seat	Y	P66778	Endevco	10/02/14
	Right Sill at Rear Seat	Z	P66779	Endevco	10/02/14
4	Left Sill at Front Door	Y	P73755	Endevco	09/23/14
5	Left Sill at Rear Door	Y	P66821	Endevco	12/09/14
6	Left A-Post Lower	Y	P73983	Endevco	08/25/14
7	Left A-Post Middle	Y	P63546	Endevco	12/09/14
8	Left B-Post Lower	Y	P72856	Endevco	10/02/14
9	Left B-Post Middle	Y	P73981	Endevco	09/23/14
10	Front Seat Track	Y	P68889	Endevco	09/08/14
11	Rear Seat Track or Structure	Y	P75551	Endevco	08/21/14
12	Right Rear Occ. Compartment	Y	P77630	Endevco	08/25/14
13	Engine Block	X	P82294	Endevco	10/31/14
	Engine Block	Y	P82295	Endevco	10/31/14
14	Rear Floorpan Above Axle	X	P79669	Endevco	12/02/14
	Rear Floorpan Above Axle	Y	P38350	Endevco	10/31/14
	Rear Floorpan Above Axle	Z	P72774	Endevco	11/17/14

**Table 4 – MDB Instrumentation**

		Serial Number	Manufacturer	Calibration Date
MDB Center of Gravity	X	P85036	Endevco	01/16/15
MDB Center of Gravity	Y	P85037	Endevco	01/16/15
MDB Center of Gravity	Z	P85038	Endevco	01/16/15
Left Frame at Rear Axle Centerline	X	P67517	Endevco	01/16/15
Left Frame at Rear Axle Centerline	Y	P67518	Endevco	01/16/15