REPORT NUMBER 225-GTL-08-002

SAFETY COMPLIANCE TESTING FOR FMVSS NO. 225 CHILD RESTRAINT ANCHORAGE SYSTEMS LOWER AND TETHER ANCHORAGES

NISSAN MOTOR CO., LTD.
2009 NISSAN MURANO, MPV
NHTSA NO. C95200

GENERAL TESTING LABORATORIES, INC.
1623 LEEDSTOWN ROAD
COLONIAL BEACH, VIRGINIA 22443

SEPTEMBER 2, 2008

FINAL REPORT

PREPARED FOR

U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
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FINAL REPORT ACCEPTANCE BY OVSC.

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SECTION 1

PURPOSE OF COMPLIANCE TEST

1.0 PURPOSE OF COMPLIANCE TEST

A 2009 Nissan Murano MPV was subjected to Federal Motor Vehicle Safety Standard (FMVSS) No. 225 testing to determine if the vehicle was in compliance with the requirements of the standard. The purpose of this standard is to establish requirements for child restraint anchorage systems to ensure their proper location and strength for the effective securing of child restraints, to reduce the likelihood of the anchorage systems' failure and to increase the likelihood that child restraints are properly secured and thus more fully achieve their potential effectiveness in motor vehicles.

1.1 The test vehicle was a 2009 Nissan Murano. Nomenclature applicable to the test vehicle are:

A. Vehicle Identification Number: JN8AZ18UX9W001369

B. NHTSA No.: C95200

C. Manufacturer: NISSAN MOTOR CO., LTD.

D. Manufacture Date: 11/07

1.2 TEST DATE

The test vehicle was subjected to FMVSS No. 225 testing during the time period August 15-19, 2008.

SECTION 2

COMPLIANCE TEST RESULTS

2.0 TEST RESULTS

All tests were conducted in accordance with NHTSA, Office of Vehicle Safety Compliance (OVSC) Laboratory Procedures, TP-225-01 dated 11 April 2005.

Based on the test performed, the 2009 NISSAN MURANO MPV appears to meet the requirements of FMVSS 225 testing.

SECTION 3

COMPLIANCE TEST DATA

3.0 TEST DATA

The following data sheets document the results of testing on the 2009 Nissan Murano MPV.

DATA SHEET 1
SUMMARY OF RESULTS

VEH. MOD YR/MAKE/MODEL/BODY: 2009 NISSAN MURANO MPV
VEH. NHTSA NO: C95200; VIN: JN8AZ18UX9W001369
VEH. BUILD DATE: 11/07; TEST DATE: AUGUST 15, 2008
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

A. VISUAL INSPECTION OF TEST VEHICLE

Upon receipt for completeness, function, and discrepancies or damage which might influence the testing.

RESULTS: OK FOR TEST

B. REQUIREMENTS FOR CHILD RESTRAINT SYSTEMS AND TETHER ANCHORAGES

	PASS	FAIL
DSP a	X	
DSP b	X	
DSP c	X	

C. LOCATION OF TETHER ANCHORAGES

	PASS	FAIL
DSP a	X	
DSP b	X	
DSP c	X	

D. LOWER ANCHORAGE DIMENSIONS

	PASS	FAIL
DSP a	X	
DSP b	N/A	N/A
DSP c	X	

DATA SHEET 1 CONTINUED
SUMMARY OF RESULTS

E. CONSPICUITY AND MARKING OF LOWER ANCHORAGES

	PASS	FAIL
DSP a	X	
DSP b	N/A	N/A
DSP c	X	

F. STRENGTH OF TETHER ANCHORAGES

	PASS	FAIL
DSP a	X	
DSP b	X	
DSP c	N/A	N/A

G. STRENGTH OF LOWER ANCHORAGES (Forward Force)

	PASS	FAIL
DSP a	N/A	N/A
DSP b	N/A	N/A
DSP c	X	

H. STRENGTH OF LOWER ANCHORAGE (Lateral Force)

	PASS	FAIL
DSP a	N/A	N/A
DSP b	N/A	N/A
DSP c	N/A	N/A

I. OWNER'S MANUAL PASS: X FAIL:

REMARKS:

NOTE:

RECORDED BY: G. Farrand DATE: 08/19/08
APPROVED BY: D. Messick

DATA SHEET 2
REQUIREMENTS FOR CHILD RESTRAINT ANCHORAGE SYSTEMS
AND TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2009 NISSAN MURANO MPV
VEH. NHTSA NO: C95200; VIN: JN8AZ18UX9W001369
VEH. BUILD DATE: 11/07; TEST DATE: AUGUST 15, 2008
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

Number of rows of seats: 2
Number of rear, forward-facing designated seating positions: 3
Number of required CRAS (lower anchorages only, for convertibles/school buses): 2
Number of required tether anchorages (can be additional CRAS): 3
Is the vehicle a convertible? NO
Is the vehicle a school bus? NO

Does the vehicle have a CRAS (lower anchorage only, for convertibles/school buses) installed at a front passenger seating position? NO

If NO, skip to next question.
If YES, does the vehicle have rear designated seating positions? _____
If NO, does the vehicle have an air bag on-off switch or a special exemption for no passenger air bag?
If NO = FAIL If YES = PASS
If Yes, does the vehicle meet the requirements of S4.5.4.1 (b) of S208 and have and air bag on-off switch or a special exemption for no passenger air bag?____
Record the distance between the front and rear seat back:_____
If Distance <720 mm and vehicle has an air bag on-off switch or special exemption = PASS
If Distance ≥ 720 mm or no air bag on-off switch or no special exemption = FAIL

Does the vehicle have rear designated seating position(s) where the lower bars of a CRAS are prevented from being located because of transmission and/or suspension component interference?
NO
If NO, skip to next question.
If YES, does the vehicle have a tether anchorage at a front passenger seating position?
YES = PASS NO = FAIL (S5(e))

Number of provided CRAS (lower anchorage only, for convertibles/school buses), indicate if a built-in child restraint is counted as a CRAS: 2

Is the number of provided CRAS (lower anchorages only, for convertible/school buses) greater than or equal to the number of required CRAS (lower anchorages only, for convertibles/school buses)?
YES
YES = PASS NO = FAIL (S4.4(a) or (b) or (c))

DATA SHEET 2 CONTINUED

If the vehicle has 3 or more rows of seats is a CRAS (lower anchorage only for convertibles/school buses) provided in the second row: N/A
YES = PASS NO = FAIL (S4.4(a)(1))

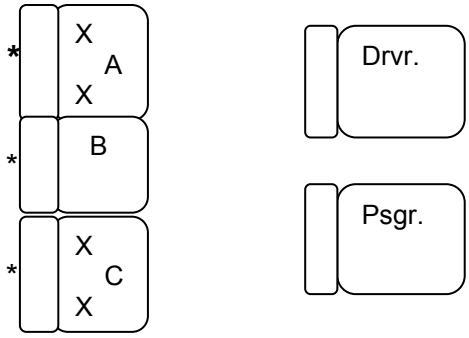
Number of provided tether anchorages (can be additional CRAS) indicate if a built-in child restraint is counted as tether anchorage (NOTE: a built-in child restraint can only be counted toward either the required number of CRAS or tether anchorages, not both): 3

Is the number of provided tether anchorages greater than or equal to the number of required tether anchorages? YES
YES = PASS NO = FAIL (S4.4 (a) or (b) or (c))

If the vehicle has 3 or more rear dsps and a non-outboard dsp, is a tether anchorage or CRAS provided at a non-outboard dsp? YES
YES = PASS NO = FAIL (S4.4 (a)(2))

Are all tether and lower anchorages available for use at all times when the seat is configured for passenger use? YES
YES = PASS NO = FAIL (S4.6 (b))

Provide a diagram showing the location of lower anchorages and/or tether anchorages.



***** = Top Tether
X = Lower Anchors

RECORDED BY: G. Farrand DATE: 08/15/08

APPROVED BY: D. Messick

DATA SHEET 3
LOCATION OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2009 NISSAN MURANO MPV
VEH. NHTSA NO: C95200; VIN: JN8AZ18UX9W001369
VEH. BUILD DATE: 11/07; TEST DATE: AUGUST 15, 2008
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

DESIGNATED SEATING POSITION: TYPICAL OF ROW 2 SEAT – LEFT, CENTER AND RIGHT SIDE POSITIONS

Detailed description of the location of the tether anchorage:
ON REAR FACE OF SEAT BACK

Based on visual inspection, is the tether anchorage within the shaded zone? YES
If YES = PASS, skip to next section
If NO, After constructing the shaded zone, is the tether anchorage within the shaded zone? _____
If YES = PASS, skip to next section
If NO, Is it possible to locate a tether anchorage within the shaded zone without removing a seating component?
If YES = FAIL (S6.2.1)
If NO, Is a tether routing device provided?
If YES = PASS
IF NO = FAIL (S6.2.1.2)

Is the tether anchorage recessed? NO
If NO, skip to next question
If YES, is it outside of the tether strap wraparound area? _____
YES = PASS NO = FAIL (S6.2.1)

Does the tether anchorage permit attachment of a tether hook? YES
YES = PASS NO = FAIL (S6.1(a))

Is the tether anchorage accessible without the need for any tools other than a screwdriver or coin?
YES
YES = PASS NO = FAIL (S6.1(b))

After the tether anchorage is accessed, is it ready for use without the need for tools? YES
YES = PASS NO = FAIL (S6.1(c))

Is the tether anchorage sealed to prevent the entry of exhaust fumes into the passenger compartment? YES
YES = PASS NO = FAIL (S6.1(d))

If the DSP has a tether routing device, is it flexible or rigid? N/A

DATA SHEET 3 CONTINUED

DESIGNATED SEATING POSITION: TYPICAL OF ROW 2 SEAT – LEFT, CENTER AND RIGHT SIDE POSITIONS

If the DSP has a flexible tether routing device, after installing SFAD2 record the tether strap tension:
N/A (Must be 60 N ± 5 N)

If the DSP has a flexible tether routing device, record the horizontal distance between the torso reference plane and the routing device: N/A
Greater than or equal to 65mm = PASS Less than 65mm = FAIL

If the DSP has a rigid tether routing device, record the horizontal distance between the torso reference plane and the routing device: N/A
Greater than or equal to 100mm = PASS Less than 100mm = FAIL

COMMENTS:

RECORDED BY: G. Farrand DATE: 08/15/07

APPROVED BY: D. Messick

DATA SHEET 4
LOWER ANCHORAGE DIMENSIONS

VEH. MOD YR/MAKE/MODEL/BODY: 2009 NISSAN MURANO MPV
VEH. NHTSA NO: C95200; VIN: JN8AZ18UX9W001369
VEH. BUILD DATE: 11/07; TEST DATE: AUGUST 15, 2008
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

DESIGNATED SEATING POSITION: ROW 2 LEFT SIDE (DSP A)

Outboard Lower Anchorage bar diameter: 5.98 mm
6mm ± 0.1 mm = PASS Other size = FAIL (S9.1.1(a))

Inboard Lower Anchorage bar diameter: 5.98 mm
6mm ± 0.1mm = PASS Other size = FAIL (S9.1.1(a))

Are the bars straight, horizontal and transverse? YES
YES = PASS NO = FAIL

Length of the straight portion of the bar (outboard lower anchorage): 28 mm
Length ≥25mm = PASS Length <25mm = FAIL(S9.1.1(c) (i))

Length of the straight portion of the bar (inboard lower anchorage): 28 mm
Length ≥25mm = PASS Length <25mm = FAIL(S9.1.1(c) (i))

Length between the anchor bar supports (outboard lower anchorage): 37 mm
Length ≤60mm = PASS Length >60mm = FAIL(S9.1.1(c) (ii))

Length between the anchor bar supports (inboard lower anchorage): 37 mm
Length ≤60mm = PASS Length >60mm = FAIL(S9.1.1(c) (ii))

CRF Pitch angle: 17.0
Angle = 15º±10º = PASS Angle≠15º±10º = FAIL (S9.2.1)

CRF Roll angle: 0
Angle = 0º±5º = PASS Angle≠0º±5º = FAIL (S9.2.1)

CRF Yaw angle: 0
Angle = 0º±10º = PASS Angle≠0º±10º = FAIL (S9.2.1)

Distance between point Z on the CRF and the front surface of outboard anchor bar: 65
Distance ≤70mm = PASS Distance > 70mm = FAIL

Distance between point Z on the CRF and the front surface of inboard anchor bar: 65
Distance ≤70mm = PASS Distance > 70mm = FAIL

DATA SHEET 4 CONTINUED

DESIGNATED SEATING POSITION: ROW 2 LEFT SIDE (DSP A)

Distance between SgRP and the front surface of outboard anchor bar: 165 mm
Distance ≥ 120mm = PASS Distance < 120mm = FAIL

Distance between SgRP and the front surface of inboard anchor bar: 165 mm
Distance ≥ 120mm = PASS Distance < 120mm = FAIL

Based on visual observation, would a 100 N load cause the anchor bar to deform more than 5 mm?
NO

If NO = PASS
If YES = FAIL (S9.1.1(g)), Provide further description of the attachment of the anchor bar:

COMMENTS:

RECORDED BY: G. Farrand DATE: 08/15/08

APPROVED BY: D. Messick

DATA SHEET 4A
LOWER ANCHORAGE DIMENSIONS

VEH. MOD YR/MAKE/MODEL/BODY: 2009 NISSAN MURANO MPV
VEH. NHTSA NO: C95200; VIN: JN8AZ18UX9W001369
VEH. BUILD DATE: 11/07; TEST DATE: AUGUST 15, 2008
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

DESIGNATED SEATING POSITION: ROW 2 RIGHT SIDE (DSP C)

Outboard Lower Anchorage bar diameter: 5.98 mm
6mm ± 0.1 mm = PASS Other size = FAIL (S9.1.1(a))

Inboard Lower Anchorage bar diameter: 5.98 mm
6mm ± 0.1mm = PASS Other size = FAIL (S9.1.1(a))

Are the bars straight, horizontal and transverse? YES
YES = PASS NO = FAIL

Length of the straight portion of the bar (outboard lower anchorage): 28 mm
Length ≥25mm = PASS Length <25mm = FAIL(S9.1.1(c) (i))

Length of the straight portion of the bar (inboard lower anchorage): 28 mm
Length ≥25mm = PASS Length <25mm = FAIL(S9.1.1(c) (i))

Length between the anchor bar supports (outboard lower anchorage): 37 mm
Length ≤60mm = PASS Length >60mm = FAIL(S9.1.1(c) (ii))

Length between the anchor bar supports (inboard lower anchorage): 37 mm
Length ≤60mm = PASS Length >60mm = FAIL(S9.1.1(c) (ii))

CRF Pitch angle: 17.4
Angle = 15º±10º = PASS Angle≠15º±10º = FAIL (S9.2.1)

CRF Roll angle: 0
Angle = 0º±5º = PASS Angle≠0º±5º = FAIL (S9.2.1)

CRF Yaw angle: 0
Angle = 0º±10º = PASS Angle≠0º±10º = FAIL (S9.2.1)

Distance between point Z on the CRF and the front surface of outboard anchor bar: 65
Distance ≤70mm = PASS Distance > 70mm = FAIL

Distance between point Z on the CRF and the front surface of inboard anchor bar: 65
Distance ≤70mm = PASS Distance > 70mm = FAIL

DATA SHEET 4A CONTINUED

DESIGNATED SEATING POSITION: ROW 2 RIGHT SIDE (DSP C)

Distance between SgRP and the front surface of outboard anchor bar: 165 mm
Distance ≥ 120mm = PASS Distance < 120mm = FAIL

Distance between SgRP and the front surface of inboard anchor bar: 165 mm
Distance ≥ 120mm = PASS Distance < 120mm = FAIL

Based on visual observation, would a 100 N load cause the anchor bar to deform more than 5 mm?
NO

If NO = PASS
If YES = FAIL (S9.1.1(g)), Provide further description of the attachment of the anchor bar:

COMMENTS:

RECORDED BY: G. Farrand DATE: 08/15/08

APPROVED BY: D. Messick

DATA SHEET 5
CONSPICUITY AND MARKING OF LOWER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2009 NISSAN MURANO MPV
VEH. NHTSA NO: C95200; VIN: JN8AZ18UX9W001369
VEH. BUILD DATE: 11/07 ; TEST DATE: AUGUST 15, 2008
TEST LABORATORY:GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

DESIGNATED SEATING POSITION: ROW 2 LEFT AND RIGHT SIDE (DSP A & C)

MARKING (Circles)

Diameter of the circle: 15.0 mm
Diameter ≥13mm = PASS Diameter <13mm = FAIL (S9.5(a)(1))

Does the circle have words, symbols or pictograms? PICTOGRAPH
NO skip to next question
YES, are the meaning of the words, symbols or pictograms explained in the owner's manual?
YES
YES = PASS NO = FAIL (S9.5(a)(2))

Where is the circle located? Seat back or seat Cushion: Seat Back

For circles on seat backs, vertical distance from the center of the circle to the center of the anchor bar: 65 mm
Distance between 50&100mm = PASS Other Distance=FAIL (S9.5(a)(3))

For circles on seat cushions, horizontal distance from the center of the circle to the center of the bar:
N/A
Distance between 75&125mm= PASS Other Distance=FAIL (S9.5(a)(3))

Lateral distance from the center of the circle to the center of the anchor bar: 0
Distance≤25mm = PASS Distance >25mm = FAIL (S9.5(a)(3))

CONSPICUITY (No Circles)

Is the anchor bar or guide visible when viewed from a point 30º above the horizontal in a vertical longitudinal plane bisecting the anchor bar or guide? N/A
YES = PASS NO = FAIL (S9.5(b))

If there is a guide, is it permanently attached? N/A
YES = PASS NO = FAIL (S9.5(b))

DATA SHEET 5 CONTINUED

DESIGNATED SEATING POSITION: ROW 2 LEFT SIDE AND RIGHT SIDE (DSP A & C)

Is there a cap or cover over the anchor bar? N/A

If YES, Is the cap or cover marked with words, symbols or pictograms? _____

If NO = FAIL (S9.5(b))

If YES, is the meaning of the words, symbols or pictograms explained in the owner's manual?

YES = PASS NO = FAIL (S9.5(b))

If NO, there are no requirements for having a cover.

RECORDED BY: G. Farrand DATE: 08/15/08

APPROVED BY: D. Messick

DATA SHEET 6
STRENGTH OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2009 NISSAN MURANO MPV
VEH. NHTSA NO: C95200; VIN: JN8AZ18UX9W001369
VEH. BUILD DATE: 11/07 ; TEST DATE: AUGUST 18, 2008
TEST LABORATORY:GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE
TEST NO: 6049

DESIGNATED SEATING POSITION: ROW 2 LEFT SIDE (DSP A)

SFAD: 2

Seat Back Angle: 22º

Location of seat back angle measurement: 2D Template

Head Restraint Position: UP

D-ring Position: N/A

Force at Point X (lower front crossmember for SFAD2) while securing belts and tether: 65 N

Lap belt tension: N/A (SFAD 1 only)

Tether strap tension: 60 N

Angle (measured above the horizontal at 500 N): 10º

Separation of tether anchorage at 500 N: NO
NO = PASS YES = FAIL (S6.3.1)

Force application rate: 577 N/S

Time to reach maximum force (24-30 s): 26 sec.

Maximum force (14,950 N ± 50 N): 14,914 N

Tested simultaneously with another DSP? NO

COMMENTS:

RECORDED BY: G. FARRAND DATE: 08/18/08

APPROVED BY: D. MESSICK

DATA SHEET 6A
STRENGTH OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2009 NISSAN MURANO MPV
VEH. NHTSA NO: C95200; VIN: JN8AZ18UX9W001369
VEH. BUILD DATE: 11/07 ; TEST DATE: AUGUST 18, 2008
TEST LABORATORY:GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE
TEST NO: 6051

DESIGNATED SEATING POSITION: ROW 2 CENTER (DSP B)

SFAD: 1

Seat Back Angle: 22º

Location of seat back angle measurement: 2D Template

Head Restraint Position: UP

D-ring Position: N/A

Force at Point X (lower front crossmember for SFAD2) while securing belts and tether: 140 N

Lap belt tension: 65 (SFAD 1 only)

Tether strap tension: 60 N

Angle (measured above the horizontal at 500 N): 10º

Separation of tether anchorage at 500 N: NO
NO = PASS YES = FAIL (S6.3.1)

Force application rate: 577 N/S

Time to reach maximum force (24-30 s): 26 sec.

Maximum force (14,950 N ± 50 N): 14,950 N

Tested simultaneously with another DSP? NO

COMMENTS:

RECORDED BY: G. FARRAND DATE: 08/19/08

APPROVED BY: D. MESSICK

DATA SHEET 6B
STRENGTH OF LOWER ANCHORAGES (Forward Force)

VEH. MOD YR/MAKE/MODEL/BODY: 2009 NISSAN MURANO MPV
VEH. NHTSA NO: C95200; VIN: JN8AZ18UX9W001369
VEH. BUILD DATE: 11/07 ; TEST DATE: AUGUST 18, 2008
TEST LABORATORY:GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE
TEST NO: 6049

DESIGNATED SEATING POSITION: ROW 2 RIGHT SIDE (DSP C)

Seat Back Angle: 22º

Location of seat back angle measurement: 2D Template

Head Restraint Position: UP

Force at lower front crossmember for SFAD2 while tightening rearward extensions: 135 N

Angle (measured above the horizontal at 500 N): 10º

Force application rate: 423 N/S

Time to reach maximum force (24-30 s): 26 sec.

Maximum force (14,950 N ± 50 N): 10,973 N

Displacement, H1 (at 500N): 0

Displacement, H2 (at maximum load): 81.5 mm

Displacement of Point X: 81.5 mm (H2-H1)
Displacement > 175 mm = FAIL (S9.4.1(a))

Tested simultaneously with another DSP? NO

Distance between adjacent DSP's: 400 mm

COMMENTS:

RECORDED BY: G. FARRAND DATE: 08/19/08

APPROVED BY: D. MESSICK

DATA SHEET 7
OWNER'S MANUAL

VEH. MOD YR/MAKE/MODEL/BODY: 2009 NISSAN MURANO MPV
VEH. NHTSA NO: C95200; VIN: JN8AZ18UX9W001369
VEH. BUILD DATE: 11/07; TEST DATE: AUGUST 15, 2008
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

Description of which DSP's are equipped with tether anchorages and child restraint anchorage systems: YES

PASS X FAIL

Step-by-step instructions for properly attaching a child restraint system's tether strap to the tether anchorage. Diagrams are required. YES

PASS X FAIL

Description of how to properly use the tether anchorage and lower anchor bars: YES

PASS X FAIL

If the lower anchor bars are marked with a circle, an explanation of what the circle indicates as well as any words or pictograms: YES

PASS X FAIL

COMMENTS:

RECORDED BY: G. Farrand DATE: 08/15/08

APPROVED BY: D. Messick

SECTION 4
INSTRUMENTATION AND EQUIPMENT LIST

TABLE 1 - INSTRUMENTATION & EQUIPMENT LIST

EQUIPMENT	DESCRIPTION	MODEL/ SERIAL NO.	CAL. DATE	NEXT CAL. DATE
COMPUTER	AT&T	486DX266	BEFORE USE	BEFORE USE
LOAD CELL	INTERFACE	215709	01/08	01/09
LINEAR TRANSDUCER	SERVO SYSTEMS	20	BEFORE USE	BEFORE USE
SEAT BELT LOAD CELL	TRANSDUCER	135	BEFORE USE	BEFORE USE
SEAT BELT LOAD CELL	TRANSDUCER	137	BEFORE USE	BEFORE USE
LEVEL	STANLEY	42-449	BEFORE USE	BEFORE USE
FORCE GAUGE	CHATILLON	8761	BEFORE USE	BEFORE USE
CALIPER	N/A	Q9322365	BEFORE USE	BEFORE USE
CRF	MEASUREMENT FIXTURE	GTL CRF	BEFORE USE	BEFORE USE
SFAD 1	FORCE APPLICATION DEVICE	GTL SFAD 1	BEFORE USE	BEFORE USE
SFAD 2	FORCE APPLICATION DEVICE	GLT SFAD 2	BEFORE USE	BEFORE USE

SECTION 5

PHOTOGRAPHS

2009 NISSAN MURANO
NHTSA NO. C95200
FMVSS NO. 225

FIGURE 5.1
LEFT SIDE VIEW OF VEHICLE

2009 NISSAN MURANO
NHTSA NO. C95200
FMVSS NO. 225

FIGURE 5.2
RIGHT SIDE VIEW OF VEHICLE

2009 NISSAN MURANO
NHTSA NO. C95200
FMVSS NO. 225

FIGURE 5.3
¾ FRONTAL VIEW FROM LEFT SIDE OF VEHICLE

2009 NISSAN MURANO
NHTSA NO. C95200
FMVSS NO. 225

FIGURE 5.4
¾ REAR VIEW FROM RIGHT SIDE OF VEHICLE

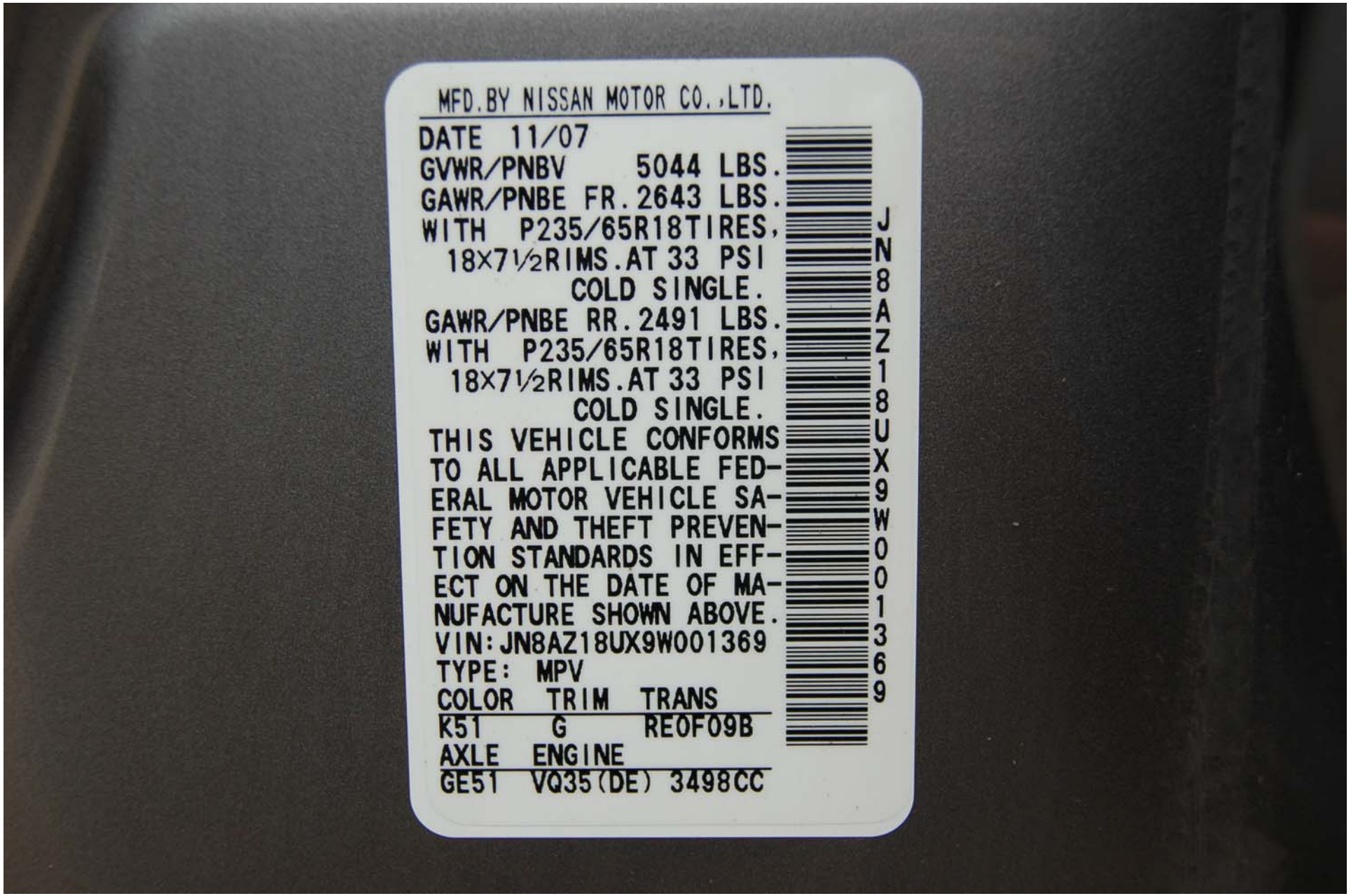


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FIGURE 5.5
VEHICLE CERTIFICATION LABEL

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FIGURE 5.6
VEHICLE TIRE INFORMATION LABEL

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FIGURE 5.7
ROW 2, LEFT SIDE, OUTBOARD LOWER ANCHOR,
PRE-TEST

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FIGURE 5.8
ROW 2, LEFT SIDE, INBOARD LOWER ANCHOR,
PRE-TEST

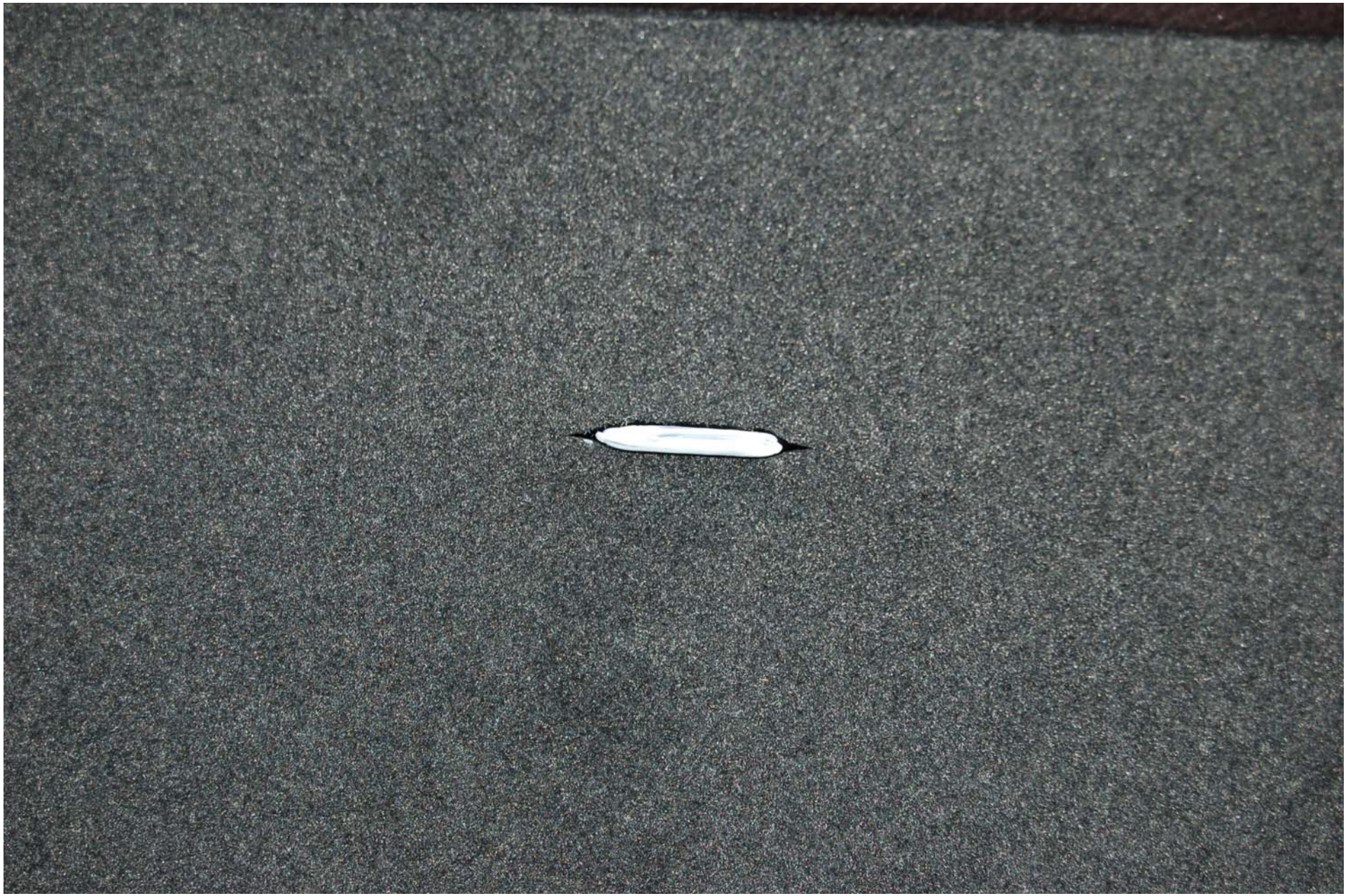

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FIGURE 5.9
ROW 2, LEFT SIDE, TOP TETHER ANCHOR, PRE-TEST

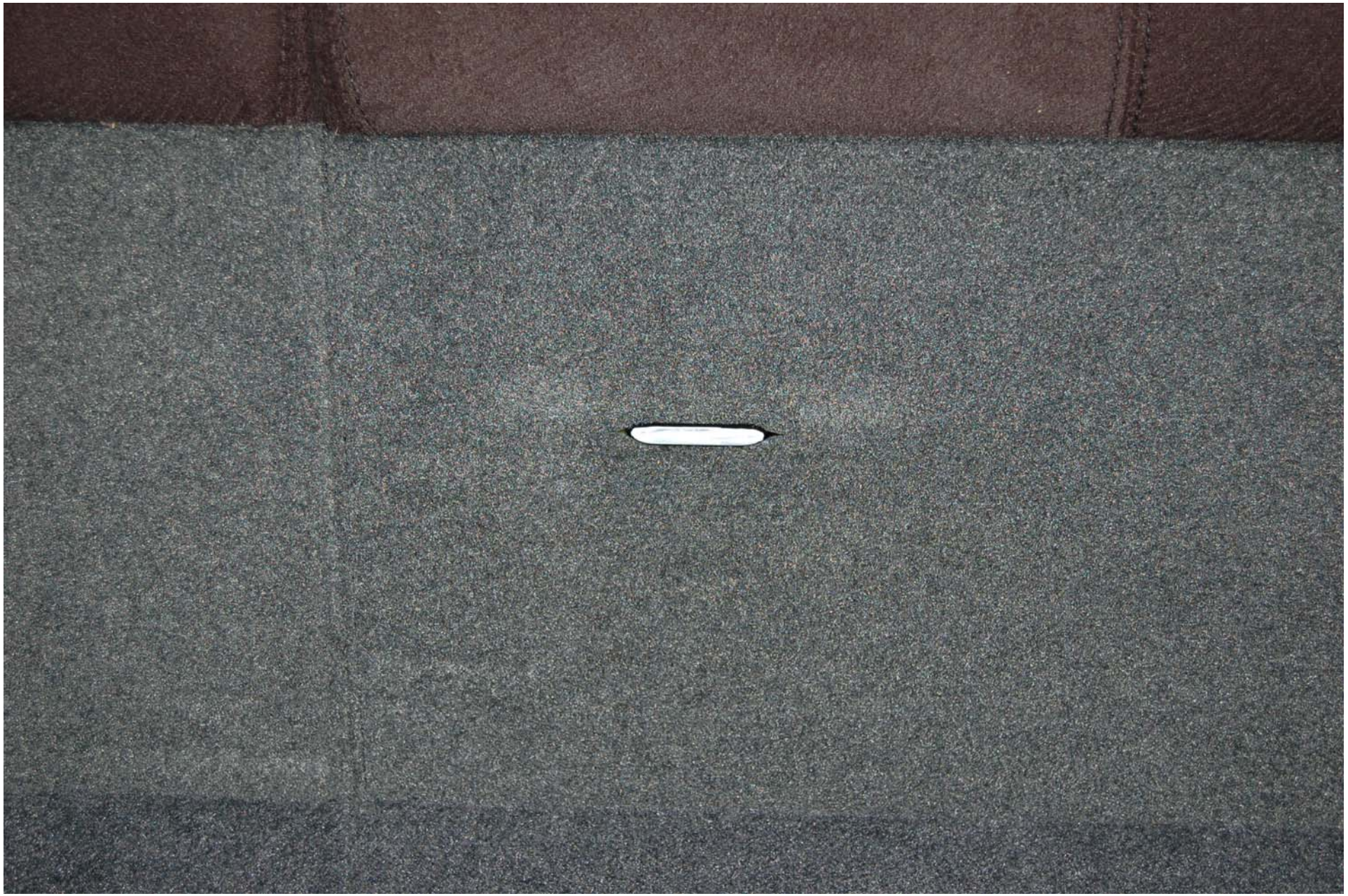

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FIGURE 5.10
ROW 2, CENTER, TOP TETHER ANCHOR, PRE-TEST

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FIGURE 5.11
ROW 2, RIGHT SIDE, INBOARD LOWER ANCHOR
PRE-TEST

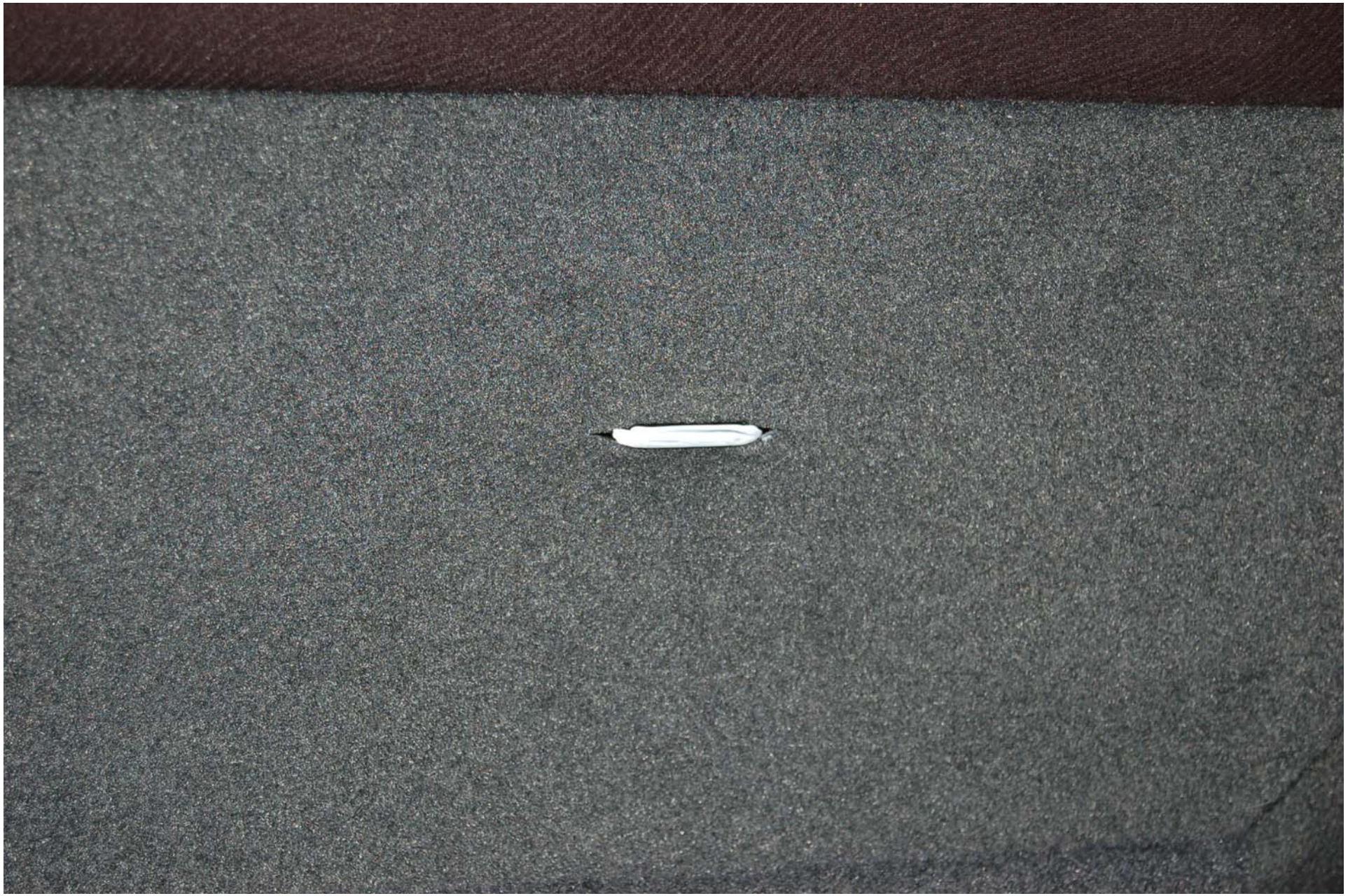

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FIGURE 5.12
ROW 2, LEFT SIDE, OUTBOARD LOWER ANCHOR,
PRE-TEST

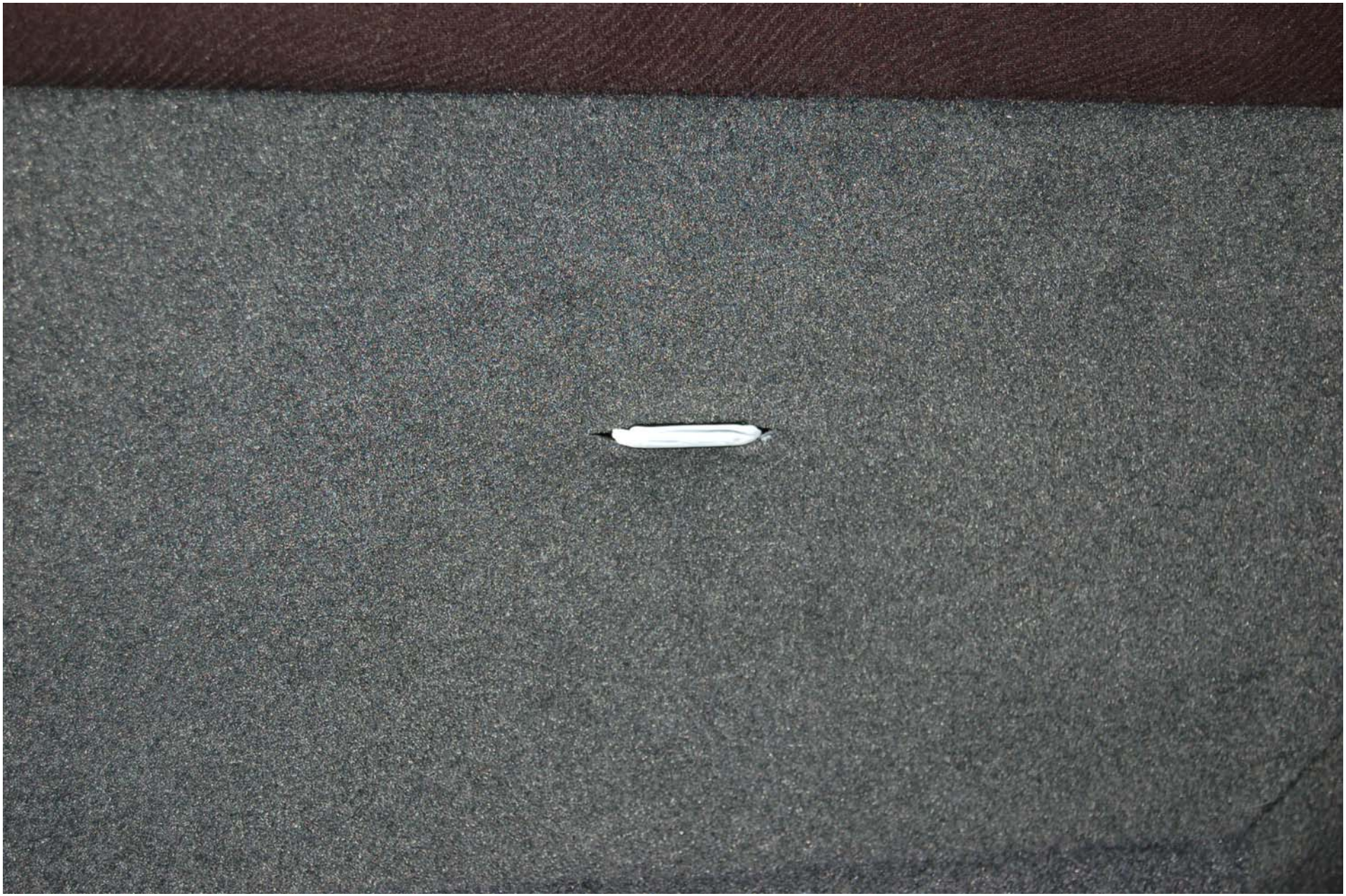

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FIGURE 5.13
ROW 2, RIGHT SIDE, TOP TETHER ANCHOR, PRE-TEST

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FIGURE 5.14
OVERALL VIEW OF ROW 2 SEATING POSITIONS

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FIGURE 5.15
ROW 2, LEFT SIDE WITH CRF

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FIGURE 5.16
ROW 2, LEFT SIDE WITH 2-D TEMPLATE

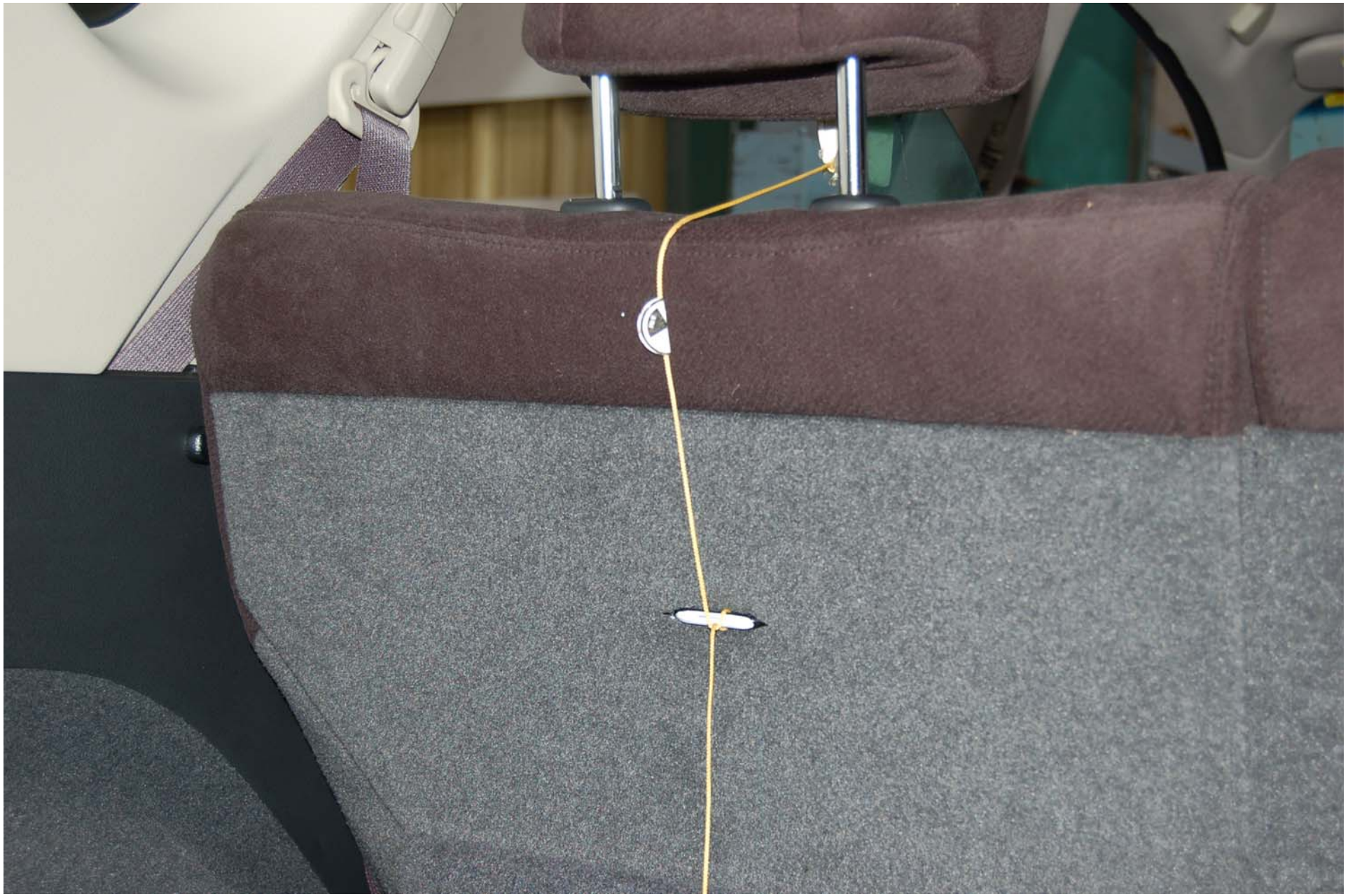

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FIGURE 5.17
ROW 2, LEFT SIDE, TOP TETHER ROUTING

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FIGURE 5.18
ROW 2, RIGHT SIDE WITH CRF

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FIGURE 5.19
ROW 2, RIGHT SIDE WITH 2-D TEMPLATE

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FIGURE 5.20
ROW 2, RIGHT SIDE, WITH TOP TETHER ROUTING

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FIGURE 5.21
ROW 2, CENTER WITH 2-D TEMPLATE

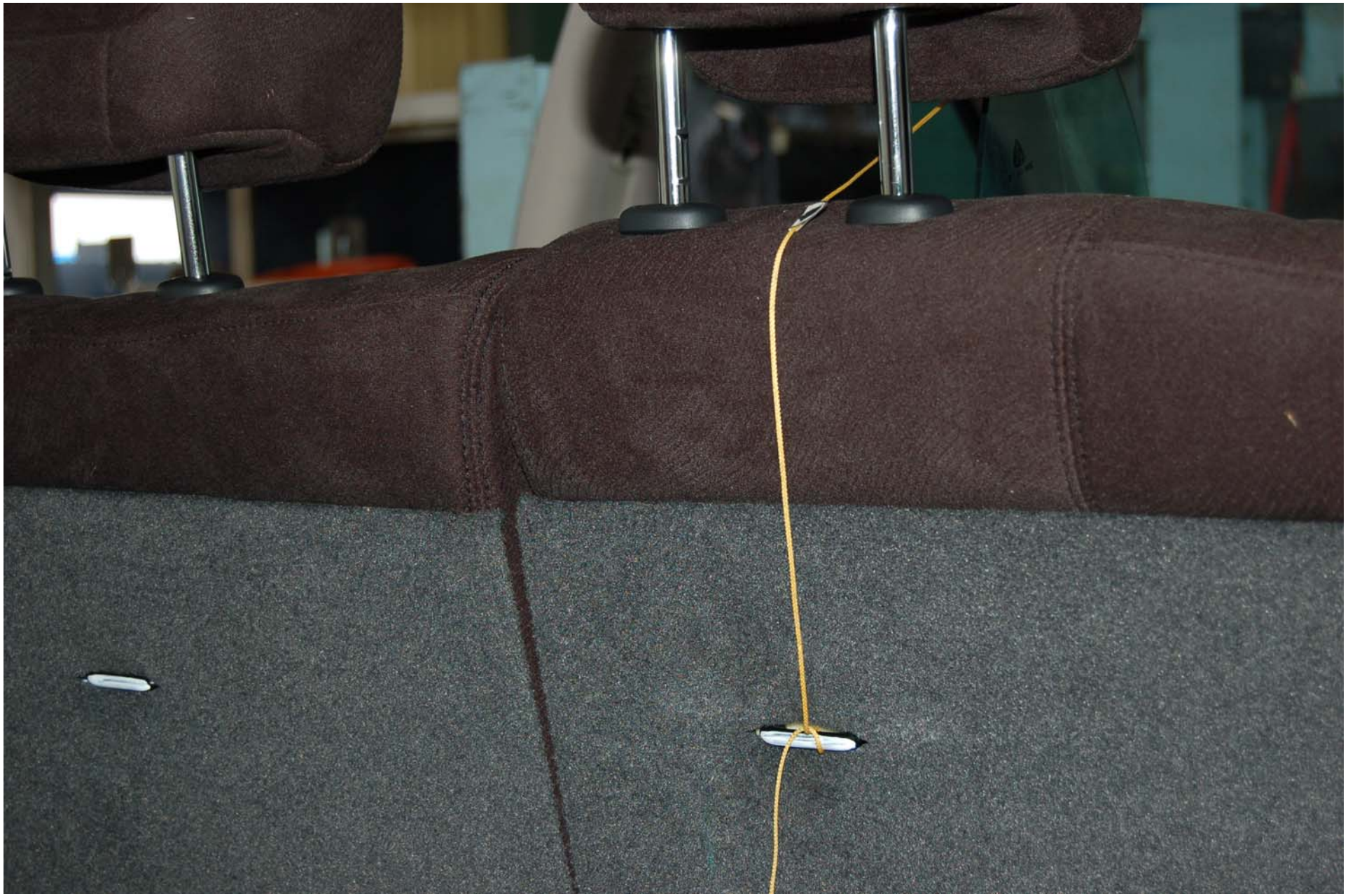

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FIGURE 5.22
ROW 2, CENTER TOP TETHER ROUTING

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FIGURE 5.23
ROW 2, RIGHT SIDE INBOARD CRF MEASUREMENT

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FIGURE 5.24
ROW 2 RIGHT SIDE OUTBOARD CRF MEASUREMENT

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FIGURE 5.25
ROW 2, LEFT SIDE INBOARD CRF MEASUREMENT

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FIGURE 5.26
ROW 2, LEFT SIDE OUTBOARD CRF MEASUREMENT

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FIGURE 5.27
SYMBOL MEASUREMENT

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FIGURE 5.28
ROW 2, LEFT SIDE CRF PITCH MEASUREMENT

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FIGURE 5.29
ROW 2, RIGHT SIDE INBOARD CRF PITCH MEASUREMENT

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FIGURE 5.30
¾ LEFT FRONT VIEW OF VEHICLE IN TEST RIG

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FIGURE 5.31
¾ RIGHT FRONT VIEW OF VEHICLE IN TEST RIG

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FIGURE 5.32
PRE-TEST ROW 2, LEFT SIDE WITH SFAD 2

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FIGURE 5.33
PRE-TEST ROW 2, LEFT SIDE WITH SFAD 2

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FIGURE 5.34
POST TEST ROW 2, LEFT SIDE WITH SFAD 2

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FIGURE 5.35
POST TEST ROW 2, LEFT SIDE WITH SFAD 2

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FIGURE 5.36
PRE-TEST ROW 2, RIGHT SIDE WITH SFAD 2

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FIGURE 5.37
POST TEST ROW 2, RIGHT SIDE WITH SFAD 2

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FIGURE 5.38
PRE-TEST ROW 2, CENTER WITH SFAD 1

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FIGURE 5.39
PRE-TEST ROW 2, CENTER WITH SFAD 1

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FIGURE 5.40
POST TEST ROW 2, CENTER WITH SFAD1

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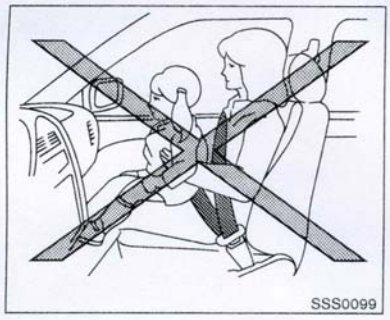
FIGURE 5.41
POST TEST ROW 2, CENTER WITH SFAD 1

APPENDIX A
OWNER'S MANUAL RESTRAINT INFORMATION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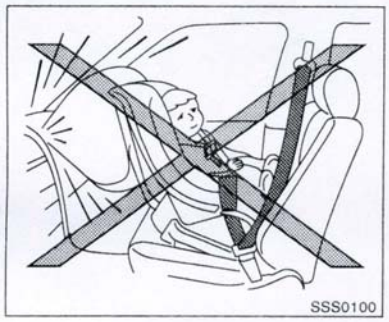
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PRECAUTIONS ON CHILD RESTRAINTS

⚠ WARNING

- **Infants and small children should always be placed in an appropriate child restraint while riding in the vehicle. Failure to use a child restraint can result in serious injury or death.**
- **Infants and small children should never be carried on your lap. It is not possible for even the strongest adult to resist the forces of a severe accident. The child could be crushed between the adult and parts of the vehicle. Also, do not put the same seat belt around both your child and yourself.**
- **Even with the NISSAN Advanced Air Bag System, never install a rear-facing child restraint in the front seat. An inflating front air bag could seriously injure or kill your child. A rear-facing child restraint must only be used in the rear seat.**
- **NISSAN recommends that the child restraint be installed in the rear seat. According to accident statistics, children are safer when properly restrained in the rear seat than in the front seat. If you must install a front facing child restraint in the front seat, see "CHILD RESTRAINT INSTALLATION USING THE SEAT BELTS" later in this section.**
- **Improper use or improper installation of a child restraint can increase the risk or severity of injury for both the child and other occupants of the vehicle and can lead to serious injury or death in an accident.**
- **Follow all of the child restraint manufacturer's instructions for installation and use. When purchasing a child restraint, be sure to select one which will fit your child and vehicle. It may not be possible to properly install some types of child restraints in your vehicle.**
- **If the child restraint is not anchored properly, the risk of a child being injured in a collision or a sudden stop greatly increases.**
- **Child restraint anchor points are designed to withstand only those loads imposed by correctly fitted child restraints. Under no circumstances are they to be used for adult seat belts or harnesses.**
- **Adjustable seatbacks should be positioned to fit the child restraint, but as upright as possible.**
- **After attaching the child restraint, test it before you place the child in it. Push it from side to side while holding the seat near the LATCH attachment or by the seat belt path. Try to tug it forward and check to see if the belt holds the restraint in place. The child restraint should not move more than 1 in (25 mm). If the restraint is not secure, tighten the belt as necessary, or put the restraint in another seat and test it again. You may need to try a different child restraint. Not all child restraints fit in all types of vehicles.**
- **When your child restraint is not in use, keep it secured with the LATCH System or a seat belt to prevent it from being thrown around in case of a sudden stop or accident.**

⚠ CAUTION

Remember that a child restraint left in a closed vehicle can become very hot. Check the seating surface and buckles before placing your child in the child restraint.

This vehicle is equipped with a universal child restraint lower anchor system, referred to as the Lower Anchors and Tethers for CHildren System or LATCH. Some child restraints include two rigid or webbing-mounted attachments that can be connected to these lower anchors. For details, see "Lower Anchors and Tethers for CHildren SYSTEM (LATCH)" later in this section.

If you do not have a LATCH compatible child restraint, the vehicle seat belts can be used. (See "CHILD RESTRAINT INSTALLATION USING THE SEAT BELTS" later in this section.) In general, child restraints are also designed to be installed with the lap portion of a lap/shoulder seat belt.

Several manufacturers offer child restraints for infants and small children of various sizes. When selecting any child restraint, keep the following points in mind:

- Choose only a restraint with a label certifying that it complies with Federal Motor Vehicle Safety Standard 213 or Canadian Motor Vehicle Safety Standard 213.
- Check the child restraint in your vehicle to be sure it is compatible with the vehicle's seat and seat belt system.
- If the child restraint is compatible with your vehicle, place your child in the child restraint and check the various adjustments to be sure the child restraint is compatible with your child. Choose a child restraint that is designed for your child's height and weight. Always follow all recommended procedures.

All U.S. states and Canadian provinces or territories require that infants and small children be restrained in an approved child restraint at all times while the vehicle is being operated.

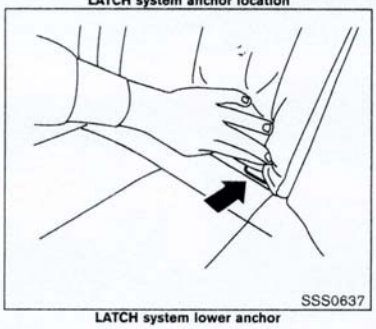
Lower Anchors and Tethers for CHildren SYSTEM (LATCH)

Your vehicle is equipped with special anchor points that are used with Lower Anchors and Tethers for CHildren System (LATCH) compatible child restraints. This system may also be referred to as the ISOFIX or ISOFIX compatible system. With this system, you do not have to use a vehicle seat belt to secure the child restraint.

The LATCH anchor points are provided to install child restraints in the rear outboard seating

positions only. Do not attempt to install a child restraint in the center position using the LATCH anchors.

LATCH system anchor location



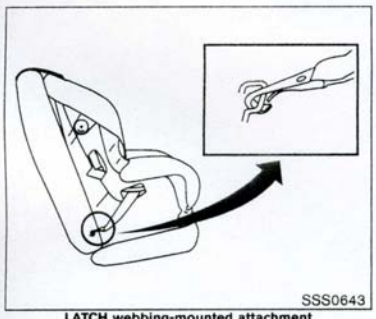
LATCH system lower anchor

LATCH lower anchor point locations

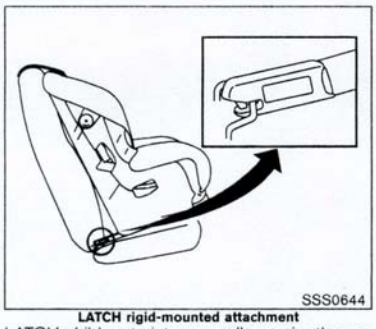
The LATCH anchors are located at the rear of the seat cushion near the seatback. A label is attached to the seatback to help you locate the LATCH anchors.

⚠ WARNING

- **Attach LATCH compatible child restraints only at the locations shown in the illustration. If a child restraint is not secured properly, your child could be seriously injured or killed in an accident.**
- **Do not secure a child restraint in the center rear seating position using the LATCH anchors. The child restraint will not be secured properly.**
- **Child restraint anchor points are designed to withstand only those loads imposed by correctly fitted child restraints. Under no circumstance are they to be used for adult seat belts or harnesses.**



LATCH webbing-mounted attachment



LATCH rigid-mounted attachment

Installing child restraint LATCH anchor attachments

LATCH compatible child restraints include two rigid or webbing-mounted attachments that can be connected to two anchors located at certain seating positions in your vehicle. With this system, you do not have to use a vehicle seat belt to secure the child restraint. Check your child restraint for a label stating that it is compatible with LATCH system. This information may also be in the instructions provided by the child restraint manufacturer.

LATCH child restraints generally require the use of a top tether strap. (See "TOP TETHER STRAP CHILD RESTRAINT" later in this section for installation instructions.)

When installing a child restraint, carefully read and follow the instructions in this manual and those supplied with the child restraint. (See "CHILD RESTRAINT INSTALLATION USING LATCH" later in this section.)

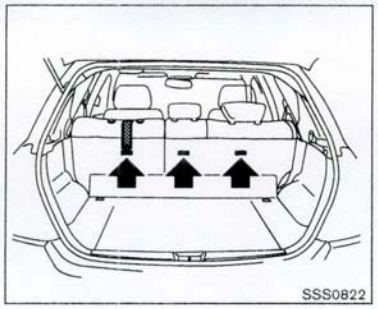
TOP TETHER STRAP CHILD RESTRAINT

If the manufacturer of your child restraint requires the use of a top tether strap, it must be secured to an anchor point.

⚠ WARNING

- **Child restraint anchor points are designed to withstand only those loads imposed by correctly fitted child restraints. Under no circumstances are they to be used for adult seat belts or harnesses.**
- **Your child could be seriously injured or killed in a collision if the child restraint top tether strap is damaged.**
  - **— If the cargo cover contacts the top tether strap when it is attached to the top tether anchor, remove the cargo cover from the vehicle or secure it on the cargo floor below its attachment location. If the cargo cover is not removed, it may damage the top tether strap during a collision.**
  - **— Do not allow cargo to contact the top tether strap when it is attached to the top tether anchor. Properly secure the cargo so it does not contact the top tether strap. Cargo that is not properly secured or that con-**

tacts the top tether strap may damage the top tether strap during a collision.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Top tether anchor point locations

Anchor points are located on the seatbacks.

Installing top tether strap

First secure the child restraint with the LATCH system (rear outboard seating positions only) or the seat belt as applicable.

1. Remove the head restraint from the seatback. Store it in a secure place.
2. Position the top tether strap over the top of the seatback.
3. Secure the tether strap to the tether anchor bracket that provides the straightest installation.
4. Tighten the tether strap according to the manufacturer's instructions to remove any slack.

If you have any questions when installing a top tether strap child restraint on the rear seat, consult your NISSAN dealer for details.

CHILD RESTRAINT INSTALLATION USING LATCH

⚠ WARNING

- **Attach LATCH compatible child restraints only at the locations shown. For the LATCH lower anchor locations, see "Lower Anchors and Tethers for CHildren SYSTEM (LATCH)" earlier in this section. If a child restraint is not secured properly, your child could be seriously injured or killed in an accident.**
- **The LATCH anchors are designed to withstand only those loads imposed by correctly fitted child restraints. Under no circumstance are they to be used for adult seat belts or harnesses.**
- **Inspect the lower anchors by inserting your fingers into the lower anchor area and feeling to make sure there are no obstructions over the LATCH anchors, such as seat belt webbing or seat cushion material. The child restraint will not be secured properly if the LATCH anchors are obstructed.**

Front-facing

Follow these steps to install a front-facing child restraint using LATCH:

1. Adjust the rear seatback to the upright position.
2. Position the child restraint on the seat. Always follow the child restraint manufacturer's instructions.


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Front facing (webbing-mounted) — step 3

3. Secure the child restraint anchor attachments to the LATCH lower anchors. Check to make sure the LATCH attachment is properly attached to the lower anchors.


SSS0646

Front facing (rigid-mounted) — step 3

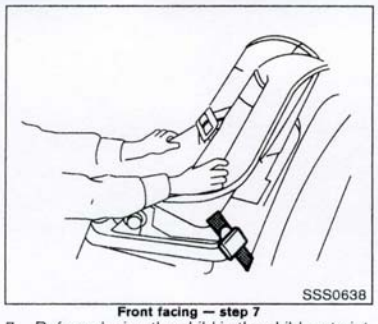
4. The back of the child restraint should be secured against the vehicle seatback. If necessary, adjust or remove the head restraint to obtain the correct child restraint fit. (See "HEAD RESTRAINTS" earlier in this section.)

   If the head restraint is removed, store it in a secure place. Be sure to install the head restraint when the child restraint is removed.

   If the seating position does not have an adjustable head restraint and it is interfering with the proper child restraint fit, try another seating position or a different child restraint.

Front facing — step 5

5. For child restraints that are equipped with webbing-mounted attachments, remove any additional slack from the anchor attachments. Press downward and rearward firmly in the center of the child restraint with your knee to compress the vehicle seat cushion and seatback while tightening the webbing of the anchor attachments.
6. If the child restraint is equipped with a top tether strap, route the top tether strap and secure the tether strap to the tether anchor point. (See "TOP TETHER STRAP CHILD RESTRAINT" earlier in this section.)



Front facing — step 7

7. Before placing the child in the child restraint, hold child restraint near the LATCH attachment and use force to push the child restraint from side to side, and tug it forward to make sure that it is securely held in place. It should not move more than 1 in (25 mm). If it does move more than 1 in (25 mm), pull again on the anchor attachments to further tighten the child restraint. If you are unable to properly secure the restraint, move the restraint to another seating position and try again, or try a different child restraint. Not all child restraints fit in all types of vehicles.
8. Check to make sure the child restraint is properly secured prior to each use. If the child restraint is loose, repeat steps 4 through 7.

Rear-facing

Follow these steps to install a rear-facing child restraint using LATCH:

1. Position the child restraint on the seat. Always follow the child restraint manufacturer's instructions.

Rear facing (webbing-mounted) — step 2

2. Secure the child restraint anchor attachments to the LATCH lower anchors. Check to make sure the LATCH attachment is properly attached to the lower anchors.

Rear facing (rigid-mounted) — step 2

Rear facing — step 3

3. For child restraints that are equipped with webbing-mounted attachments, remove any additional slack from the anchor attachments. Press downward and rearward firmly in the center of the child restraint with your hand to compress the vehicle seat cushion and seatback while tightening the webbing of the anchor attachments.

Rear facing — step 4

4. Before placing the child in the child restraint, hold the child restraint near the LATCH attachment and use force to push the child restraint from side to side, and tug it forward to make sure that it is securely held in place. It should not move more than 1 in (25 mm). If it does move more than 1 in (25 mm), pull again on the anchor attachments to further tighten the child restraint. If you are unable to properly secure the restraint, move the restraint to another seating position and try again, or try a different child restraint. Not all child restraints fit in all types of vehicles.
5. Check to make sure the child restraint is properly secured prior to each use. If the child restraint is loose, repeat steps 3 through 4.

CHILD RESTRAINT INSTALLATION USING THE SEAT BELTS

⚠ WARNING

- **Even with the NISSAN Advanced Air Bag System, never install a rear-facing child restraint in the front passenger seat. Front air bags inflate with great force. A rear-facing child restraint could be struck by the front air bag in a crash and could seriously injure or kill your child.**
- **NISSAN recommends that child restraints be installed in the rear seat.**

However, if you must install a forward facing child restraint in the front passenger seat, move the passenger seat to the rearmost position. Also, be sure the front passenger air bag status light is illuminated to indicate the passenger air bag is OFF. See "Front passenger air bag and status light" later in this section for details.

- **The three-point seat belt in your vehicle is equipped with an Automatic Locking Retractor (ALR) mode which must be used when installing a child restraint.**
- **Failure to use the ALR mode will result in the child restraint not being properly secured. The restraint could tip over or otherwise be unsecured and cause injury to the child in a sudden stop or collision.**
- **When using the rear center seat belt to install a child restraint, make sure the connector tongue and the seat belt tongue are secured. Do not use the seat belt with only the seat belt tongue attached. This could result in serious personal injury in case of an accident or sudden stop.**
- **A child restraint with a top tether strap should not be used in the front passenger seat.**

The instructions in this section apply to child restraint installation using the vehicle seat belts in the rear seat or the front passenger seat.

Front facing (front passenger seat) — step 1

Front-facing

Follow these steps to install a front-facing child restraint using the vehicle seat belt in the rear seat or in the front passenger seat:

1. Adjust the rear seatback to the upright position.

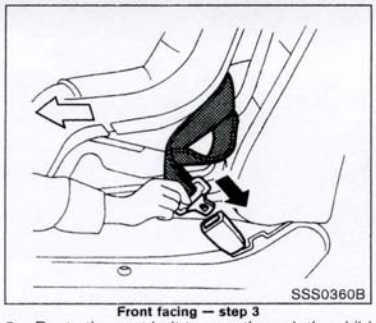
   If you must install a child restraint in the front seat, it should be placed in a front-facing direction only. Move the seat to the rearmost position. Child restraints for infants must be used in the rear-facing direction and therefore must not be used in the front seat.

2. Position the child restraint on the seat. Always follow the child restraint manufacturer's instructions.

   The back of the child restraint should be secured against the seatback. If necessary, adjust or remove the head restraint (front passenger seat only) to obtain the correct child restraint fit. (See "HEAD RESTRAINTS" earlier in this section.)

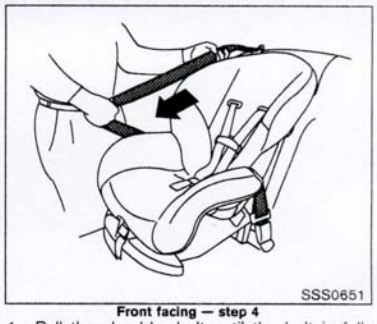
   If the head restraint is removed, store it in a secure place. Be sure to install the head restraint when the child restraint is removed.

   If the seating position does not have an adjustable head restraint and it is interfering with the proper child restraint fit, try another seating position or a different child restraint.



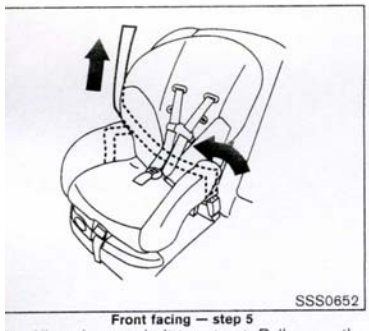
Front facing — step 3

3. Route the seat belt tongue through the child restraint and insert it into the buckle until you hear and feel the latch engage. Be sure to follow the child restraint manufacturer's instructions for belt routing.



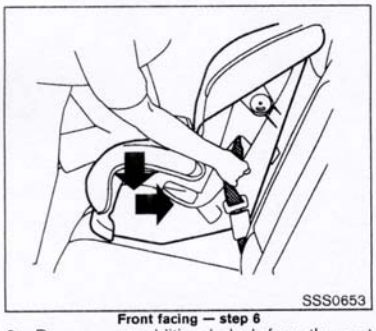
Front facing — step 4

4. Pull the shoulder belt until the belt is fully extended. At this time, the seat belt retractor is in the Automatic Locking Retractor (ALR) mode (child restraint mode). It reverts to Emergency Locking Retractor (ELR) mode when the seat belt is fully retracted.



Front facing — step 5

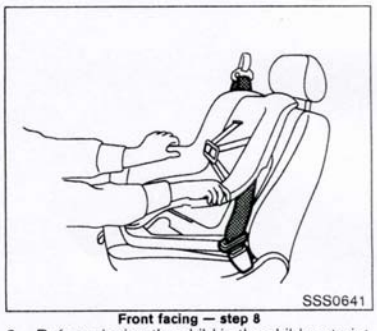
5. Allow the seat belt to retract. Pull up on the shoulder belt to remove any slack in the belt.



Front facing — step 6

6. Remove any additional slack from the seat belt; press downward and rearward firmly in the center of the child restraint with your knee to compress the vehicle seat cushion and seatback while pulling up on the seat belt.

7. If the child restraint is equipped with a top tether strap, route the top tether strap and secure the tether strap to the tether anchor point (rear seat installation only). (See "TOP TETHER STRAP CHILD RESTRAINT" earlier in this section.) Do not install child restraints that require the use of a top tether strap to seating positions that do not have a top tether anchor.



Front facing — step 8

8. Before placing the child in the child restraint, hold the child restraint near the seat belt path and use force to push the child restraint from side to side, and tug it forward to make sure that it is securely held in place. It should not move more than 1 in (25 mm). If it does move more than 1 in (25 mm), pull again on the shoulder belt to further tighten the child restraint. If you are unable to properly secure the restraint, move the restraint to another seating position and try again, or try a different child restraint. Not all child restraints fit in all types of vehicles.

9. Check that the retractor is in the ALR mode by trying to pull more seat belt out of the retractor. If you cannot pull any more belt webbing out of the retractor, the retractor is in the ALR mode.
10. Check to make sure the child restraint is properly secured prior to each use. If the seat belt is not locked, repeat steps 3 through 9.

SSS0823

Front facing — step 11

11. If the child restraint is installed in the front passenger seat, turn the ignition switch to the ON position. The front passenger air bag status light should illuminate. If this light is not illuminated, see "Front passenger air bag and status light" later in this section. **Move the child restraint to another seating position**. Have the system checked by a NISSAN dealer.

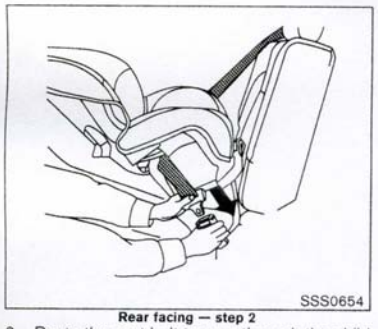
After the child restraint is removed and the seat belt is fully retracted, the ALR mode (child restraint mode) is canceled.


SSS0100

Rear-facing

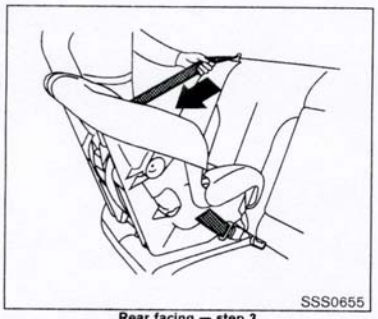
Follow these steps to install a rear-facing child restraint using the vehicle seat belt in the rear seat:

1. **Child restraints for infants must be used in the rear-facing direction and therefore must not be used in the front seat.** Position the child restraint on the seat. Always follow the restraint manufacturer's instructions.


SSS0654

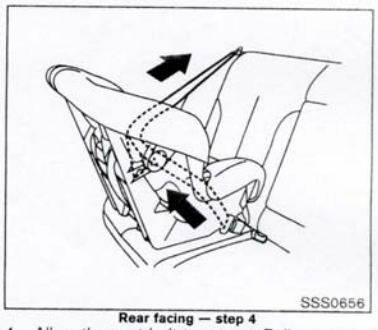
Rear facing — step 2

2. Route the seat belt tongue through the child restraint and insert it into the buckle until you hear and feel the latch engage. Be sure to follow the child restraint manufacturer's instructions for belt routing.


SSS0655

Rear facing — step 3

3. Pull the shoulder belt until the belt is fully extended. At this time, the seat belt retractor is in the Automatic Locking Retractor (ALR) mode (child restraint mode). It reverts to Emergency Locking Retractor (ELR) mode when the seat belt is fully retracted.

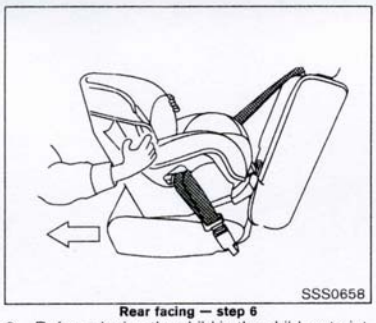

SSS0656

Rear facing — step 4

4. Allow the seat belt to retract. Pull up on the shoulder belt to remove any slack in the belt.

Rear facing — step 5

5. Remove any additional slack from the child restraint; press downward and rearward firmly in the center of the child restraint with your hand to compress the vehicle seat cushion and seatback while pulling up on the seat belt.

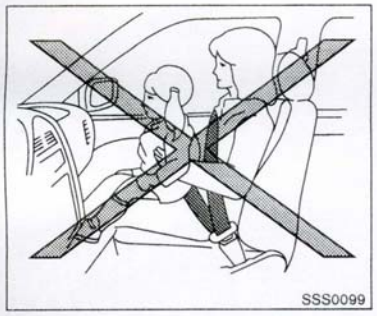


Rear facing — step 6

6. Before placing the child in the child restraint, hold the child restraint near the seat belt path and use force to push the child restraint from side to side, and tug it forward to make sure that it is securely held in place. It should not move more than 1 in (25 mm). If it does move more than 1 in (25 mm), pull again on the shoulder belt to further tighten the child restraint. If you are unable to properly secure the restraint, move the restraint to another rear seating position and try again, or try a different child restraint. Not all child restraints fit in all types of vehicles.
7. Check that the retractor is in the ALR mode by trying to pull more seat belt out of the retractor. If you cannot pull any more seat belt webbing out of the retractor, the retractor is in the ALR mode.
8. Check to make sure that the child restraint is properly secured prior to each use. If the belt is not locked, repeat steps 3 through 7.

After the child restraint is removed and the seat belt fully retracted, the ALR mode (child restraint mode) is canceled.

BOOSTER SEATS



PRECAUTIONS ON BOOSTER SEATS

⚠ WARNING

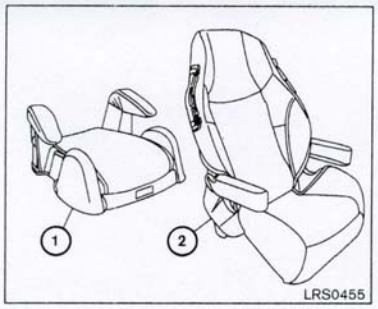
- **Infants and small children should always be placed in an appropriate child restraint while riding in the vehicle. Failure to use a child restraint or booster seat can result in serious injury or death.**
- **Infants and small children should never be carried on your lap. It is not possible for even the strongest adult to resist the forces of a severe accident. The child could be crushed between the adult and parts of the vehicle. Also, do not put the same seat belt around both your child and yourself.**
- **NISSAN recommends that the booster seat be installed in the rear seat. According to accident statistics, children are safer when properly restrained in the rear seat than in the front seat. If you must install a booster seat in the front seat, see "BOOSTER SEAT INSTALLATION" later in this section.**
- **A booster seat must only be installed in a seating position that has a lap/shoulder belt. Failure to use a three-point type seat belt with a booster seat can result in a serious injury in sudden stop or collision.**
- **Improper use or improper installation of a booster seat can increase the risk or severity of injury for both the child and other occupants of the vehicle and can lead to serious injury or death in an accident.**
- **Do not use towels, books, pillows or other items in place of a booster seat. Items such as these may move during normal driving or a collision and result in serious injury or death. Booster seats are designed to be used with a lap/shoulder belt. Booster seats are designed to properly route the lap and shoulder portions of the seat belt over the strongest portions of a child's body to provide the maximum protection during a collision.**
- **Follow all of the booster seat manufacturer's instructions for installation and use. When purchasing a booster seat, be sure to select one which will fit your child and vehicle. It may not be possible to properly install some types of booster seats in your vehicle.**
- **If the booster seat and seat belt is not used properly, the risk of a child being injured in a collision or a sudden stop greatly increases.**
- **Adjustable seatbacks should be positioned to fit the booster seat, but as upright as possible.**
- **After placing the child in the booster seat and fastening the seat belt, make sure the shoulder portion of**

the belt is away from the child's face and neck and the lap portion of the belt does not cross the abdomen.

- **Do not put the shoulder belt behind the child or under the child's arm. If you must install a booster seat in the front seat, see "BOOSTER SEAT INSTALLATION" later in this section.**
- **When your booster seat is not in use, keep it secured with a seat belt to prevent it from being thrown around in case of a sudden stop or accident.**

⚠ CAUTION

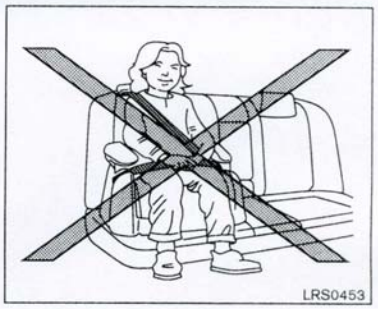
Remember that a booster seat left in a closed vehicle can become very hot. Check the seating surface and buckles before placing your child in the booster seat.



LRS0455

Booster seats of various sizes are offered by several manufacturers. When selecting any booster seat, keep the following points in mind:

- Choose only a booster seat with a label certifying that it complies with Federal Motor Vehicle Safety Standard 213 or Canadian Motor Vehicle Safety Standard 213.
- Check the booster seat in your vehicle to be sure it is compatible with the vehicle's seat and seat belt system.


LRS0453

- Make sure the child's head will be properly supported by the booster seat or vehicle seat. The seatback must be at or above the center of the child's ears. For example, if a low back booster seat (1) is chosen, the vehicle seatback must be at or above the center of the child's ears. If the seatback is lower than the center of the child's ears, a high back booster seat (2) should be used.


LRS0464

- If the booster seat is compatible with your vehicle, place your child in the booster seat and check the various adjustments to be sure the booster seat is compatible with your child. Always follow all recommended procedures.

All U.S. states and Canadian provinces or territories require that infants and small children be restrained in an approved child restraint at all times while the vehicle is being operated.

The instructions in this section apply to booster seat installation in the rear seats or the front passenger seat.

BOOSTER SEAT INSTALLATION

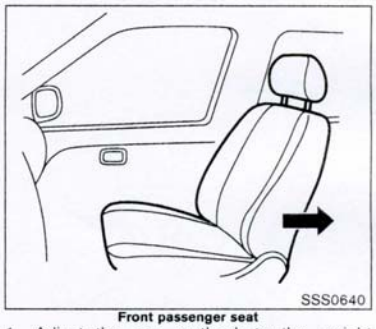
⚠ WARNING

NISSAN recommends that booster seats be installed in the rear seat. However, if you must install a booster seat in the front passenger seat, move the passenger's seat to the rearmost position.

⚠ CAUTION

Do not use the lap/shoulder belt Automatic Locking Retractor (ALR) mode when using a booster seat with the seat belts.

Follow these steps to install a booster seat in the rear seat or in the front passenger seat:


SSS0640

Front passenger seat

1. Adjust the rear seatback to the upright position.

   If you must install a booster seat in the front seat, move the seat to the rearmost position.

2. Position the booster seat on the seat. Only place it in a front facing direction. Always follow the booster seat manufacturer's instructions.

Rear center position

3. The booster seat should be positioned on the vehicle seat so that it is stable. If necessary, adjust or remove the head restraint to obtain the correct booster seat fit. (See "HEAD RESTRAINTS" earlier in this section.) If the head restraint is removed, store it in a secure place. Be sure to install the head restraint when the booster seat is removed. If the seating position does not have an adjustable head restraint and it is interfering with the proper booster seat fit, try another seating position or a different booster seat.

Rear outboard position

4. Position the lap portion of the seat belt low and snug on the child's hips. Be sure to follow the booster seat manufacturer's instructions for adjusting the belt routing.
5. Pull the shoulder belt portion of the seat belt toward the retractor to take up extra slack. Be sure the shoulder belt is positioned across the top, middle portion of the child's shoulder. Be sure to follow the booster seat manufacturer's instructions for adjusting the belt routing.

Front passenger seat

6. Follow the warnings, cautions and instructions for properly fastening a seat belt shown in the "THREE-POINT TYPE SEAT BELT" earlier in this section.

7. If the booster seat is installed in the front passenger seat, turn the ignition switch to the ON position. The front passenger air bag status light may or may not be illuminated depending on the size of the child and the type of booster seat used. (See "Front passenger air bag and status light" later in this section.)

SUPPLEMENTAL RESTRAINT SYSTEM

PRECAUTIONS ON SUPPLEMENTAL RESTRAINT SYSTEM

This Supplemental Restraint System (SRS) section contains important information concerning the following systems:

- Driver and passenger supplemental front-impact air bag (NISSAN Advanced Air Bag System)
- Front seat-mounted side-impact supplemental air bag
- Roof-mounted curtain side-impact and rollover supplemental air bag
- Seat belt pretensioner

Supplemental front-impact air bag system: The NISSAN Advanced Air Bag System can help cushion the impact force to the head and chest of the driver and front passenger in certain frontal collisions.

Front seat-mounted side-impact supplemental air bag system: This system can help cushion the impact force to the chest area of the driver and front passenger in certain side impact collisions. The side air bags are designed to inflate on the side where the vehicle is impacted.

Roof-mounted curtain side-impact and rollover supplemental air bag system: This system can help cushion the impact force to the head of occupants in front and rear outboard seating positions in certain side impact or rollover collisions. In a side impact, the curtain and rollover air bags are designed to inflate on the side where the vehicle is impacted. In a rollover both curtain and rollover air bags are designed to inflate and remain inflated for a short period of time.

These supplemental restraint systems are designed to **supplement** the crash protection provided by the driver and passenger seat belts and are **not a substitute** for them. Seat belts should always be correctly worn and the occupant seated a suitable distance away from the steering wheel, instrument panel and door finishers. (See "SEAT BELTS" earlier in this section for instructions and precautions on seat belt usage.)

The supplemental air bags operate only when the ignition switch is in the ON position.

After turning the ignition switch to the ON position, the supplemental air bag warning light illuminates. The supplemental air bag warning light will turn off after about 7 seconds if the systems are operational.

APPENDIX B

MANUFACTURER'S DATA

FORM – 225
Rev. 03/20/07

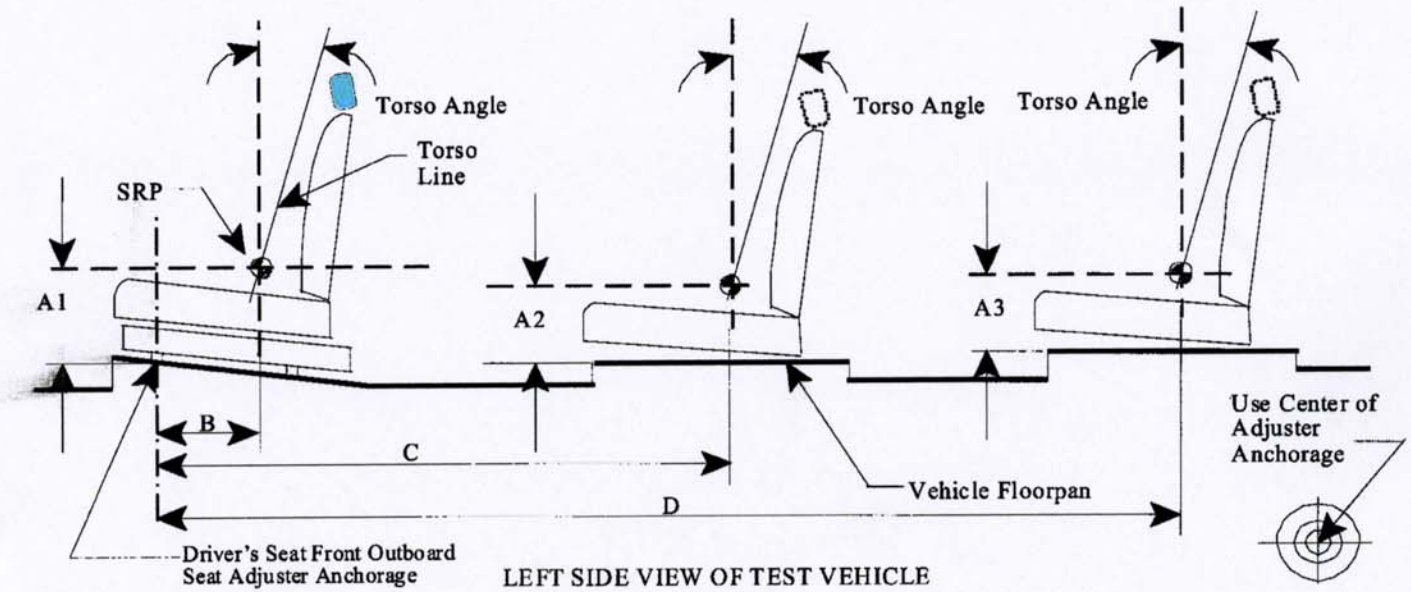
SEAT REFERENCE POINT (SRP) AND TORSO ANGLE DATA

FMVSS No. 225

(All dimensions in mm[1])

MODEL YEAR: 2009 / MAKE: Nissan / MODEL: Murano / BODY STYLE: Crossover

SEAT STYLE: FRONT ROW: Bucket / SECOND ROW: 60/40 Folding Back / THIRD ROW: N/A



LEFT SIDE VIEW OF TEST VEHICLE

W-1411-Y
Attachment II
Page 1 of 10

Table 1. Seating Positions[1] and Torso Angles

		Left (Driver Side)	Center (if any)	Right
A1		299		299
A2		242	267	242
A3				
B		366		366
C		1212	1172	1212
D				
Torso Angle (degree)	Front Row	21°		21°
	Second Row	25°	22°	25°
	Third Row			

Note: All dimensions are in mm. If not, provide the unit used.

SEATING REFERENCE POINT

FMVSS No. 225
(All dimensions in mm)

MODEL YEAR: 2009 / MAKE: Nissan / MODEL: Murano / BODY STYLE: Crossover

SEAT STYLE: FRONT ROW: Bucket / SECOND ROW: 60/40 Folding Back / THIRD ROW: N/A

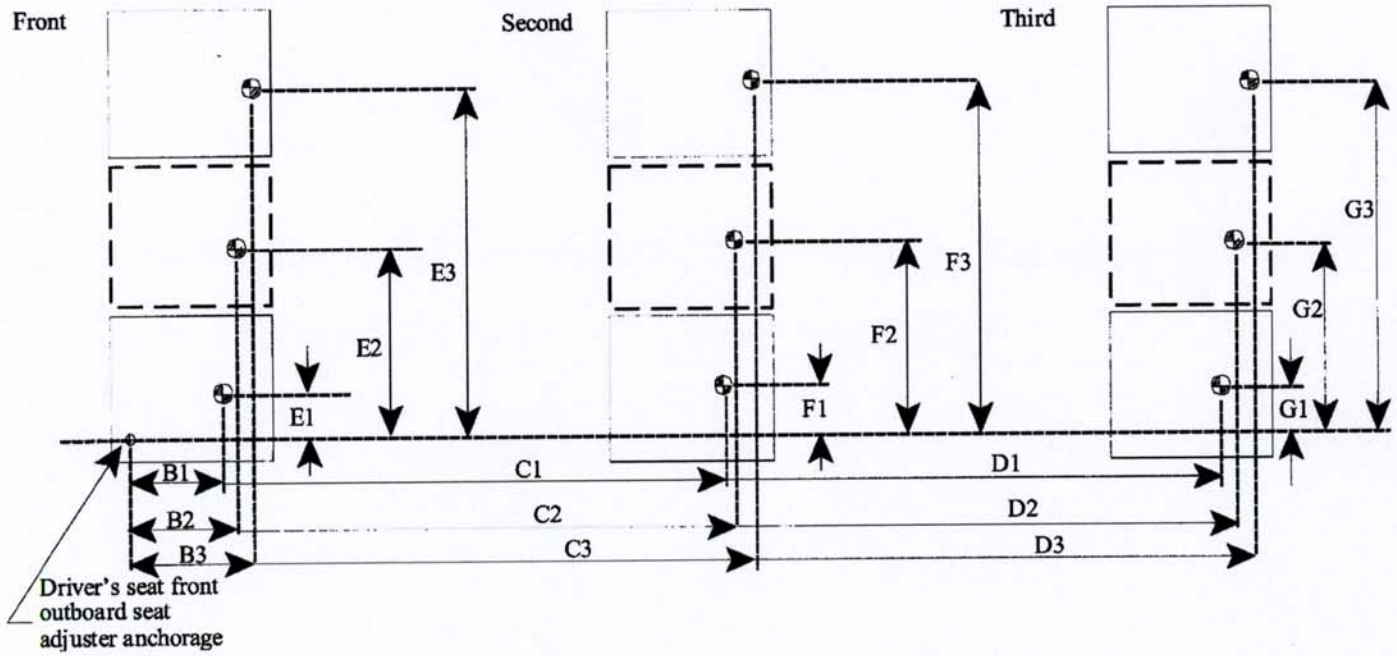


Table 2. Seating Reference Point and Tether Anchorage Locations

Seating Reference Point (SRP)		Distance from Driver's front outboard seat adjuster anchorage[1]
Front Row	B1	366
	E1	220
	B2	
	E2	
	B3	366
	E3	1000
Second Row	C1	1212
	F1	240
	C2	1172
	F2	610
	C3	1212
	F3	980
Third Row	D1	
	G1	
	D2	
	G2	
	D3	
	G3	

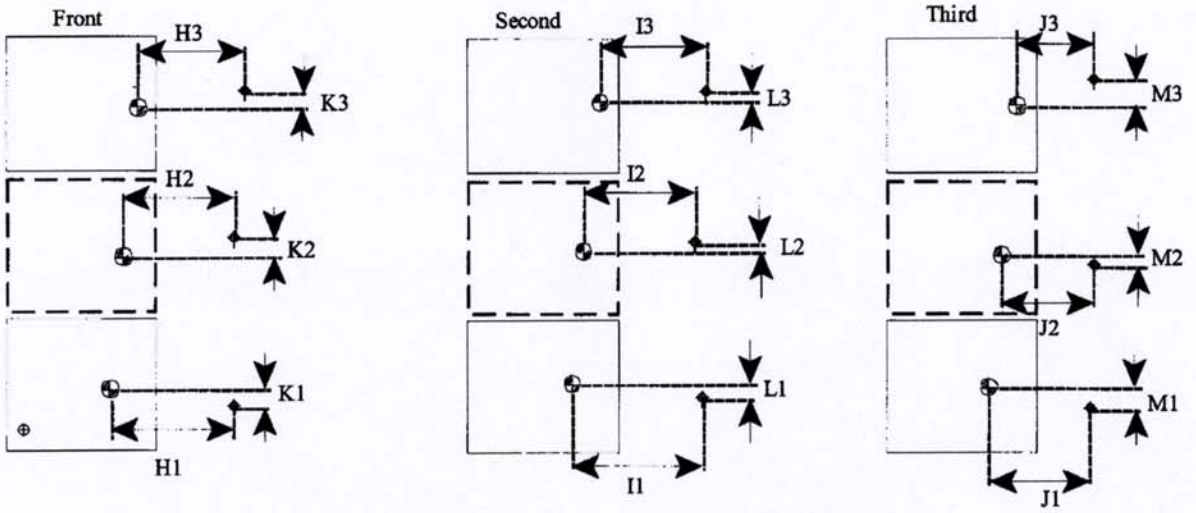
Note: Use the center of anchorage.

TETHER ANCHORAGE LOCATIONS

FMVSS No. 225
(All dimensions in mm)

MODEL YEAR: 2009 / MAKE: Nissan / MODEL: Murano / BODY STYLE: Crossover

SEAT STYLE: FRONT ROW: Bucket / SECOND ROW: 60/40 Folding Back / THIRD ROW: N/A



⊕: SRP
⊕: Tether anchorage

Note: The location shall be measured at the center of anchorage.

FORM – 225

W-1411-Y
Attachment II
Page 5 of 10

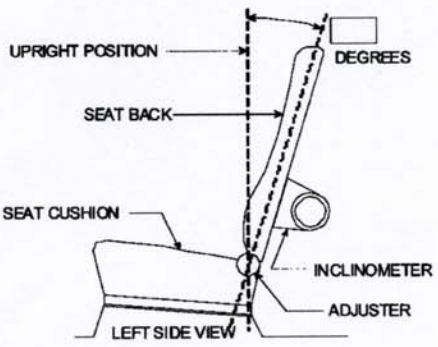
Table 3. Seating Reference Point and Tether Anchorage Locations

Seating Reference Point (SRP)	Distance from SRP	
Front Row	H1	
	K1	
	H2	
	K2	
	H3	
	K3	
Second Row	I1	372
	L1	0
	I2	412
	L2	0
	I3	372
	L3	0
Third Row	J1	
	M1	
	J2	
	M2	
	J3	
	M3	

Note: Use the center of anchorage.

NOMINAL DESIGN RIDING POSITION

For adjustable driver, passenger, 2nd row and 3rd row seat backs, describe how to position the inclinometer to measure the seat back angle. Include a description of the location of the seat back adjustment latch detent if applicable. Indicate if applicable, how the detents are numbered (Is the first detent "0"or "1"?). Indicate if the seat back angle is measured with the dummy in the seat.



Seat back angle for driver's seat = 21 degrees.

Measurement Instructions:

- Manual Seat: 5 notches from 1st locking position (1st lock = 0 degrees).
- Power Seat: Headrest Stay Angle = 1.7 degrees.

Seat back angle for passenger's seat = 21 degrees.

Measurement Instructions:

- Manual Seat: 5 notches from 1st locking position (1st lock = 0 degrees).
- Power Seat: Headrest Stay Angle = 0 degrees.

Seat back angle for 2nd row seat = 25 degrees.

Measurement Instructions:

5 notches from 1st locking position (1st lock = 0 degrees).

Seat back angle for 3rd row seat = _____ degrees.

Measurement Instructions:

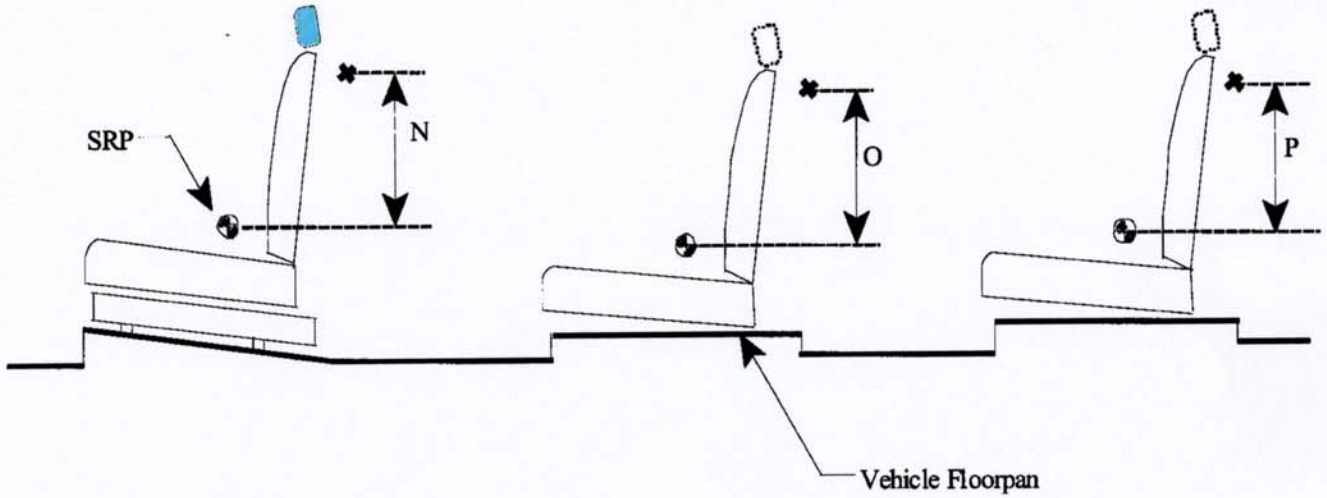
N/A.

TETHER ANCHORAGE LOCATIONS - VERTICAL

FMVSS No. 225
(All dimensions in mm)

MODEL YEAR: 2009 / MAKE: Nissan / MODEL: Murano / BODY STYLE: Crossover

SEAT STYLE: FRONT ROW: Bucket / SECOND ROW: 60/40 Folding Back / THIRD ROW: N/A



LEFT SIDE VIEW OF TEST VEHICLE

Table 4. Vertical Dimension For The Tether Anchorage

Seating Row	Vertical Distance from Seating Reference Point	
Front Row	N1 (Driver)	
	N2 (Center)	
	N3 (Right)	
Second Row	O1 (Left)	272
	O2 (Center)	247
	O3 (Right)	272
Third Row	P1 (Left)	
	P2 (Center)	
	P3 (Right)	

Note: All dimensions are in mm. If not, provide the unit anchorage.

For each vehicle, provide the following information:

1. How many designated seating positions exist in the vehicle?

   5.

2. How many designated seating positions are equipped with lower anchorages and tether anchorages? Specify which position(s).

   2 (rear outboard).

3. How many designated seating positions are equipped with tether anchorages? Specify which positions(s).

   3 (rear outboard and rear center).

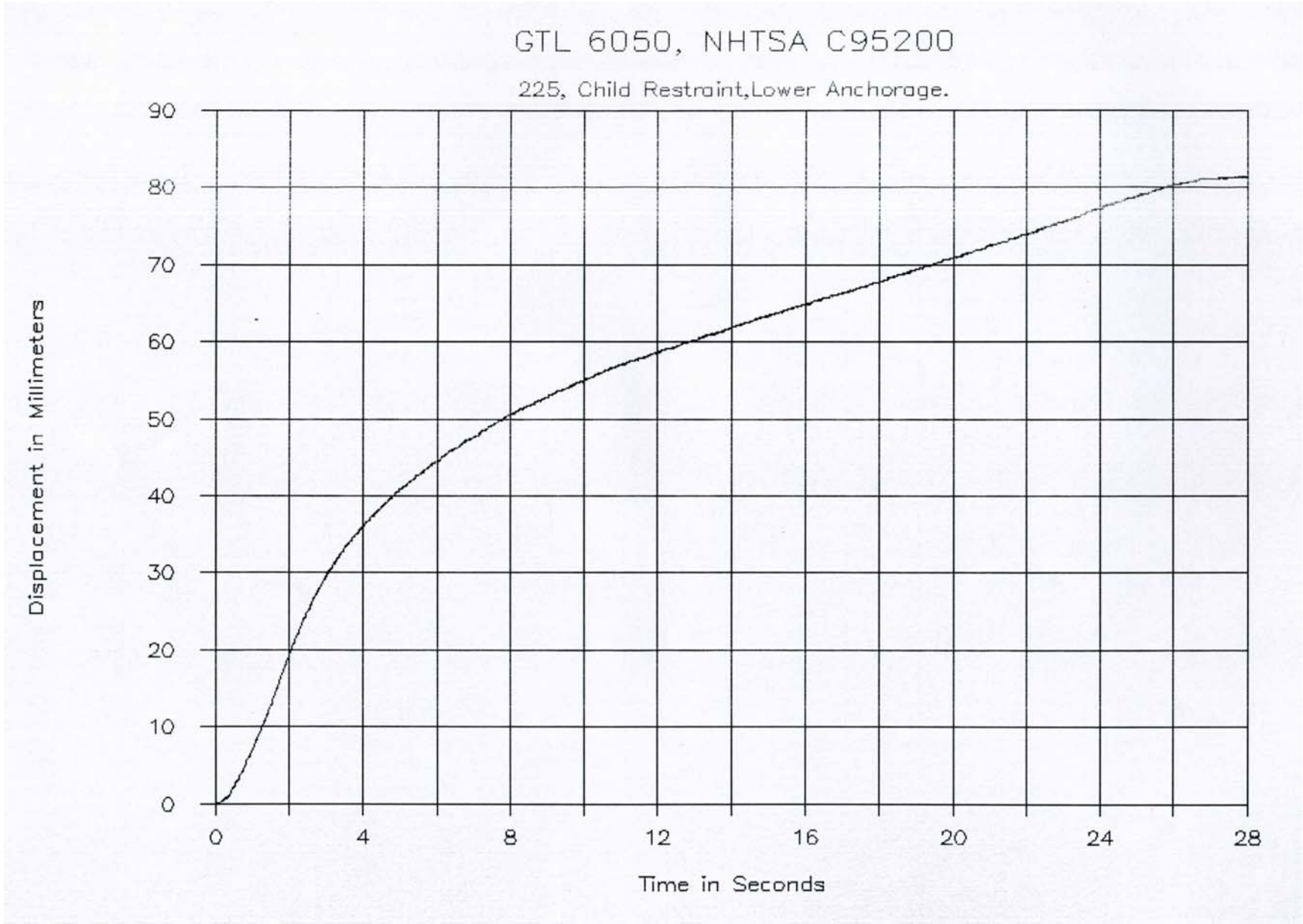
4. Lower Anchorages Marking and Conspicuity: Whether the anchorages are certified to S9.5(a) or S9.5(b) of FMVSS No. 225.

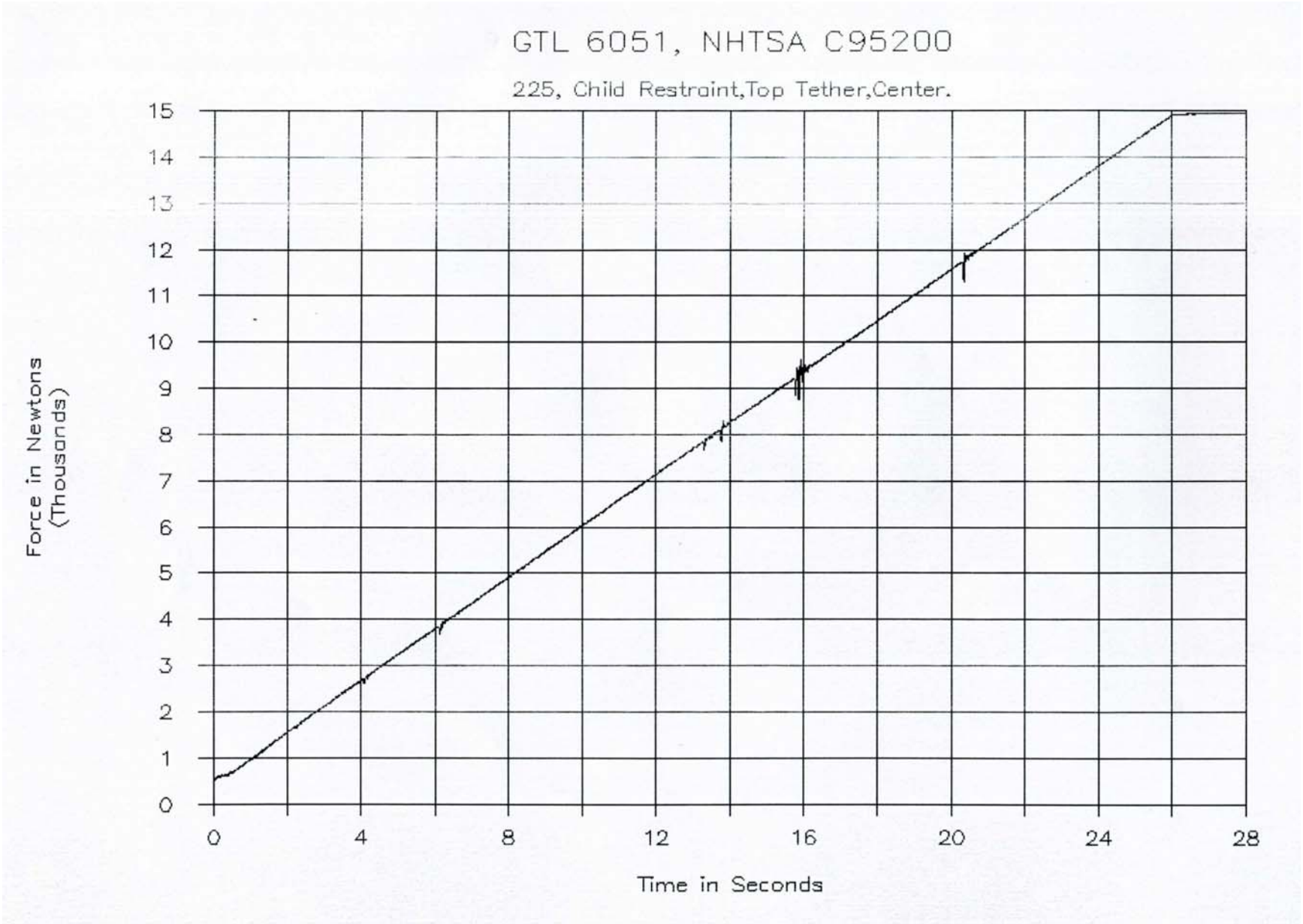
   S9.5(a).

APPENDIX C
PLOTS


GTL 6049
225, Top Tether, Row 2 Left Side.
Force in Newtons
(Thousands)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
0
4
8
12
16
20
24
28
Time in Seconds


GTL 6050, NHTSA C95200
225, Child Restraint,Lower Anchorage.
Force in Newtons
(Thousands)
11
10
9
8
7
6
5
4
3
2
1
0
0
4
8
12
16
20
24
28
Time in Seconds


GTL 6050, NHTSA C95200
225, Child Restraint,Lower Anchorage.
Displacement in Millimeters
90
80
70
60
50
40
30
20
10
0
0
4
8
12
16
20
24
28
Time in Seconds


GTL 6051, NHTSA C95200
225, Child Restraint,Top Tether,Center.
Force in Newtons
(Thousands)
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
0
4
8
12
16
20
24
28
Time in Seconds