REPORT NUMBER 225-GTL-06-006

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

GENERAL MOTORS OF CANADA, LTD.
2005 BUICK LACROSSE, PASSENGER CAR
NHTSA NO. C50104

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

OCTOBER 27, 2006

FINAL REPORT

PREPARED FOR

U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
SAFETY ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
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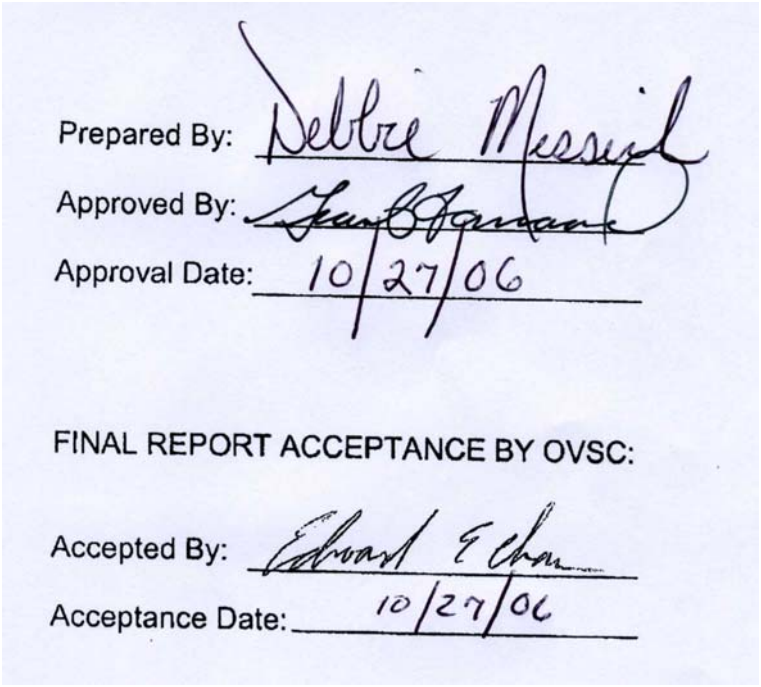

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16. Abstract Compliance tests were conducted on the subject, 2005 Buick Lacrosse Passenger Car in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-225-01 for the determination of FMVSS 225 compliance. Test failures identified were as follows: NONE		
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SECTION 1

PURPOSE OF COMPLIANCE TEST

1.0 PURPOSE OF COMPLIANCE TEST

A 2005 Buick Lacrosse Passenger Car 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 2005 Buick Lacrosse Passenger Car. Nomenclature applicable to the test vehicle are:

A. Vehicle Identification Number: 2G4WC532451200267

B. NHTSA No.: C50104

C. Manufacturer: GENERAL MOTORS OF CANADA LTD.

D. Manufacture Date: 10/04

1.2 TEST DATE

The test vehicle was subjected to FMVSS No. 225 testing during the time period July 20 through September 27, 2006.

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 2005 Buick Lacrosse Passenger Car appeared 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 2005 Buick Lacrosse Passenger Car.

DATA SHEET 1
SUMMARY OF RESULTS

VEH. MOD YR/MAKE/MODEL/BODY: 2005 BUICK LACROSSE PASSENGER CAR
VEH. NHTSA NO: C50104; VIN: 2G4WC532451200267
VEH. BUILD DATE: 10/04 ; TEST DATE: JULY 20 – SEPTEMBER 27, 2006
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	FAIL
X	

REMARKS: DSP a = Left Rear Outboard, DSP b = Center, DSP c = Right Rear Outboard

RECORDED BY: G. Farrand DATE: 09/27/06

APPROVED BY: D. Messick

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

VEH. MOD YR/MAKE/MODEL/BODY: 2005 BUICK LACROSSE PASSENGER CAR
VEH. NHTSA NO: C50104; VIN: 2G4WC532451200267
VEH. BUILD DATE: 10/04 ; TEST DATE: JULY 20, 2006
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: 3

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 a s 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))

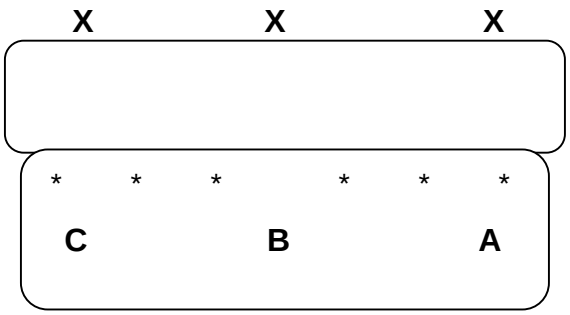
If the vehicle has 3 or more rear dsps and a non-outboard dsp, is a tether anchorage or CRAS provided at a non-outboard dsp? YES

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.



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

RECORDED BY: G. FARRAND DATE: 07/20/06

APPROVED BY: D. MESSICK

DATA SHEET 3
LOCATION OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2005 BUICK LACROSSE PASSENGER CAR
VEH. NHTSA NO: C50104; VIN: 2G4WC532451200267
VEH. BUILD DATE: 10/04 ; TEST DATE: JULY 20, 2006
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

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

Detailed description of the location of the tether anchorage:
Located on rear shelf behind 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? YES
If NO, skip to next question
If YES, is it outside of the tether strap wraparound area? YES
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: ROW 2 LEFT SIDE (DSP A)

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: 07/20/06

APPROVED BY: D. MESSICK

DATA SHEET 3A
LOCATION OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2005 BUICK LACROSSE PASSENGER CAR
VEH. NHTSA NO: C50104; VIN: 2G4WC532451200267
VEH. BUILD DATE: 10/04 ; TEST DATE: JULY 20, 2006
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

DESIGNATED SEATING POSITION: ROW 2 CENTER POSITION (DSP B)

Detailed description of the location of the tether anchorage:
Located on shelf behind 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? YES
If NO, skip to next question
If YES, is it outside of the tether strap wraparound area? YES
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 3A CONTINUED

DESIGNATED SEATING POSITION: ROW 2 CENTER POSITION (DSP B)

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: 07/20/06

APPROVED BY: D. MESSICK

DATA SHEET 3B
LOCATION OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2005 BUICK LACROSSE PASSENGER CAR
VEH. NHTSA NO: C50104; VIN: 2G4WC532451200267
VEH. BUILD DATE: 10/04 ; TEST DATE: JULY 20, 2006
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

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

Detailed description of the location of the tether anchorage:
Located on shelf behind 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? YES
If NO, skip to next question
If YES, is it outside of the tether strap wraparound area? YES
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 3B CONTINUED

DESIGNATED SEATING POSITION: ROW 2 RIGHT SIDE DSP C)

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: 07/20/06

APPROVED BY: D. MESSICK

DATA SHEET 4
LOWER ANCHORAGE DIMENSIONS

VEH. MOD YR/MAKE/MODEL/BODY: 2005 BUICK LACROSSE PASSENGER CAR
VEH. NHTSA NO: C50104; VIN: 2G4WC532451200267
VEH. BUILD DATE: 10/04 ; TEST DATE: JULY 20, 2006
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

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

Outboard Lower Anchorage bar diameter: 6.05 mm
6mm ± 0.1 mm = PASS Other size = FAIL (S9.1.1(a))

Inboard Lower Anchorage bar diameter: 5.99 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): 35 mm
Length ≥25mm = PASS Length <25mm = FAIL(S9.1.1(c) (i))

Length of the straight portion of the bar (inboard lower anchorage): 35 mm
Length ≥25mm = PASS Length <25mm = FAIL(S9.1.1(c) (i))

Length between the anchor bar supports (outboard lower anchorage): 48 mm
Length ≤60mm = PASS Length >60mm = FAIL(S9.1.1(c) (ii))

Length between the anchor bar supports (inboard lower anchorage): 42 mm
Length ≤60mm = PASS Length >60mm = FAIL(S9.1.1(c) (ii))

CRF Pitch angle: 17.9º
Angle = 15º±10º = PASS Angle≠15º±10º = FAIL (S9.2.1)

CRF Roll angle: 0.0
Angle = 0º±5º = PASS Angle≠0º±5º = FAIL (S9.2.1)

CRF Yaw angle: 0.0
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: 56 mm
Distance ≤70mm = PASS Distance > 70mm = FAIL

Distance between point Z on the CRF and the front surface of inboard anchor bar: 48 mm
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: 178 mm
Distance ≥ 120mm = PASS Distance < 120mm = FAIL

Distance between SgRP and the front surface of inboard anchor bar: 170 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: 07/20/06

APPROVED BY: D. MESSICK

DATA SHEET 4A
LOWER ANCHORAGE DIMENSIONS

VEH. MOD YR/MAKE/MODEL/BODY: 2005 BUICK LACROSSE PASSENGER CAR
VEH. NHTSA NO: C50104; VIN: 2G4WC532451200267
VEH. BUILD DATE: 10/04 ; TEST DATE: JULY 20, 2006
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

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

Outboard Lower Anchorage bar diameter: 6.02 mm
6mm ± 0.1 mm = PASS Other size = FAIL (S9.1.1(a))

Inboard Lower Anchorage bar diameter: 6.02 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): 35 mm
Length ≥25mm = PASS Length <25mm = FAIL(S9.1.1(c) (i))

Length of the straight portion of the bar (inboard lower anchorage): 35 mm
Length ≥25mm = PASS Length <25mm = FAIL(S9.1.1(c) (i))

Length between the anchor bar supports (outboard lower anchorage): 48 mm
Length ≤60mm = PASS Length >60mm = FAIL(S9.1.1(c) (ii))

Length between the anchor bar supports (inboard lower anchorage): 48 mm
Length ≤60mm = PASS Length >60mm = FAIL(S9.1.1(c) (ii))

CRF Pitch angle: 17.8º
Angle = 15º±10º = PASS Angle≠15º±10º = FAIL (S9.2.1)

CRF Roll angle: 0.0
Angle = 0º±5º = PASS Angle≠0º±5º = FAIL (S9.2.1)

CRF Yaw angle: 0.0
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: 60 mm
Distance ≤70mm = PASS Distance > 70mm = FAIL

Distance between point Z on the CRF and the front surface of inboard anchor bar: 58 mm
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: 170 mm
Distance ≥ 120mm = PASS Distance < 120mm = FAIL

Distance between SgRP and the front surface of inboard anchor bar: 170 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: 07/20/06

APPROVED BY: D. MESSICK

DATA SHEET 4B
LOWER ANCHORAGE DIMENSIONS

VEH. MOD YR/MAKE/MODEL/BODY: 2005 BUICK LACROSSE PASSENGER CAR
VEH. NHTSA NO: C50104; VIN: 2G4WC532451200267
VEH. BUILD DATE: 10/04 ; TEST DATE: JULY 20, 2006
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

DESIGNATED SEATING POSITION: ROW 2 CENTER (DSP B)

Outboard Lower Anchorage bar diameter: 5.99 mm
6mm ± 0.1 mm = PASS Other size = FAIL (S9.1.1(a))

Inboard Lower Anchorage bar diameter: 6.02 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): 30 mm
Length ≥25mm = PASS Length <25mm = FAIL(S9.1.1(c) (i))

Length of the straight portion of the bar (inboard lower anchorage): 30 mm
Length ≥25mm = PASS Length <25mm = FAIL(S9.1.1(c) (i))

Length between the anchor bar supports (outboard lower anchorage): 42 mm
Length ≤60mm = PASS Length >60mm = FAIL(S9.1.1(c) (ii))

Length between the anchor bar supports (inboard lower anchorage): 42 mm
Length ≤60mm = PASS Length >60mm = FAIL(S9.1.1(c) (ii))

CRF Pitch angle: 22.9º
Angle = 15º±10º = PASS Angle≠15º±10º = FAIL (S9.2.1)

CRF Roll angle: 0.0
Angle = 0º±5º = PASS Angle≠0º±5º = FAIL (S9.2.1)

CRF Yaw angle: 0.0
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: 68 mm
Distance ≤70mm = PASS Distance > 70mm = FAIL

Distance between point Z on the CRF and the front surface of inboard anchor bar: 68 mm
Distance ≤70mm = PASS Distance > 70mm = FAIL

DATA SHEET 4B CONTINUED

DESIGNATED SEATING POSITION: ROW 2 CENTER (DSP B)

Distance between SgRP and the front surface of outboard anchor bar: 164 mm
Distance ≥ 120mm = PASS Distance < 120mm = FAIL

Distance between SgRP and the front surface of inboard anchor bar: 162 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: 07/20/06

APPROVED BY: D. MESSICK

DATA SHEET 5
CONSPICUITY AND MARKING OF LOWER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2005 BUICK LACROSSE PASSENGER CAR
VEH. NHTSA NO: C50104; VIN: 2G4WC532451200267
VEH. BUILD DATE: 10/04 ; TEST DATE: JULY 20, 2006
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

DESIGNATED SEATING POSITION: ROW 2 LEFT SIDE (DSP A), ROW 2 RIGHT SIDE (DSP C), AND ROW 2 CENTER (DSP B)

MARKING (Circles)

Diameter of the circle: 14 mm
Diameter ≥13mm = PASS Diameter <13mm = FAIL (S9.5(a)(1))

Does the circle have words, symbols or pictograms? YES Symbol
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: 55 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 (DSP A), ROW 2 RIGHT SIDE (DSP C), AND ROW 2 CENTER (DSP B)

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: 07/20/06

APPROVED BY: D. MESSICK

DATA SHEET 6
STRENGTH OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2005 BUICK LACROSSE PASSENGER CAR
VEH. NHTSA NO: C50104; VIN: 2G4WC532451200267
VEH. BUILD DATE: 10/04 ; TEST DATE: SEPTEMBER 27, 2006
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE
TEST NO: 5647

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

SFAD: 2

Seat Back Angle: 26º FIXED

Location of seat back angle measurement: 2D Template

Head Restraint Position: FIXED

D-ring Position: N/A

Force at Point X (lower front crossmember for SFAD2) while securing belts and tether: 135 N

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

Tether strap tension: 55 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: 575 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: Displacement at maximum load 88 mm.

RECORDED BY: G. FARRAND DATE: 09/27/06

APPROVED BY: D. MESSICK

DATA SHEET 6A
STRENGTH OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2005 BUICK LACROSSE PASSENGER CAR
VEH. NHTSA NO: C50104; VIN: 2G4WC532451200267
VEH. BUILD DATE: 10/04 ; TEST DATE: SEPTEMBER 27, 2006
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE
TEST NO: 5648

DESIGNATED SEATING POSITION: ROW 2 CENTER (DSP B)

SFAD: 1

Seat Back Angle: 26º FIXED

Location of seat back angle measurement: 2D Template

Head Restraint Position: N/A

D-ring Position: N/A

Force at Point X (lower front crossmember for SFAD2) while securing belts and tether: 135 N

Lap belt tension: 55 N (SFAD 1 only)

Tether strap tension: 55 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: 575 N/S

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

Maximum force (14,950 N ± 50 N): 14,936 N

Tested simultaneously with another DSP? NO

COMMENTS: Displacement at maximum load 133.6 mm.

RECORDED BY: G. FARRAND DATE: 09/27/06

APPROVED BY: D. MESSICK

DATA SHEET 7
STRENGTH OF LOWER ANCHORAGES (Forward Force)

VEH. MOD YR/MAKE/MODEL/BODY: 2005 BUICK LACROSSE PASSENGER CAR
VEH. NHTSA NO: C50104; VIN: 2G4WC532451200267
VEH. BUILD DATE: 10/04 ; TEST DATE: SEPTEMBER 27, 2006
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE
TEST NO: 5649

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

Seat Back Angle: 26º FIXED

Location of seat back angle measurement: 2D Template

Head Restraint Position: FIXED

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: 421 N/S

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

Maximum force (10,950 N ± 50 N): 10,969 N

Displacement, H1 (at 500 N): 0.0

Displacement, H2 (at maximum load): 71.4 mm

Displacement of Point X: 71.4 mm (H2-H1)
Displacement > 175 mm = FAIL (S9.4.1(a))

Tested simultaneously with another DSP? NO

Distance between adjacent DSP's: 380 mm

COMMENTS:

RECORDED BY: G. FARRAND DATE: 09/27/06

APPROVED BY: D. MESSICK

DATA SHEET 8
OWNER'S MANUAL

VEH. MOD YR/MAKE/MODEL/BODY: 2005 BUICK LACROSSE PASSENGER CAR
VEH. NHTSA NO: C50104; VIN: 2G4WC532451200267
VEH. BUILD DATE: 10/04 ; TEST DATE: SEPTEMBER 27, 2006
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: 09/27/06

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	09/06	09/07
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	02/06	02/07
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	GTL SFAD 2	BEFORE USE	BEFORE USE

SECTION 5
PHOTOGRAPHS

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.1
LEFT SIDE VIEW OF VEHICLE

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.2
RIGHT SIDE VIEW OF VEHICLE

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

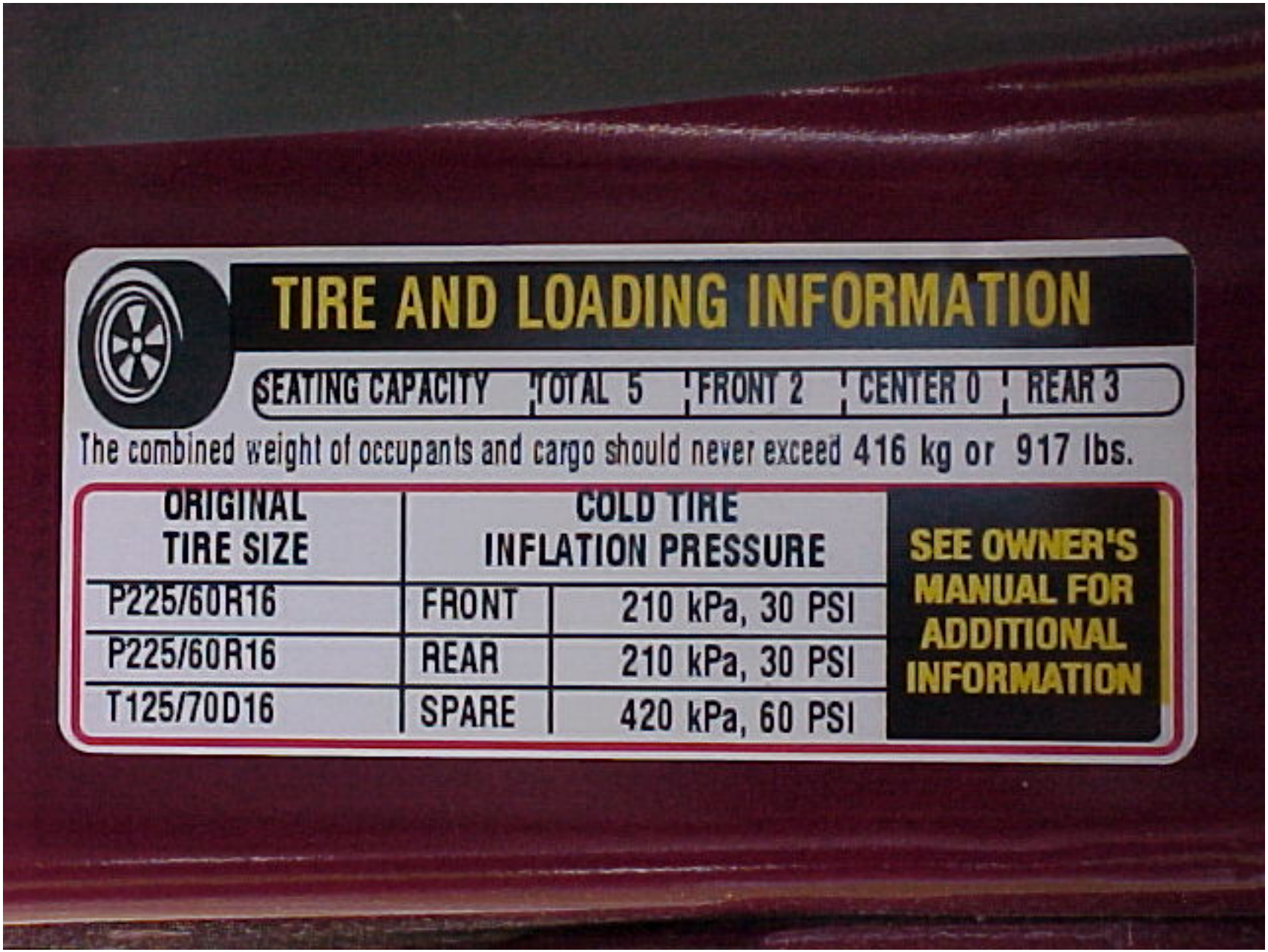
FIGURE 5.3
¾ FRONTAL VIEW OF LEFT SIDE OF VEHICLE

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.4
¾ REAR VIEW FROM RIGHT SIDE OF VEHICLE

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.5
VEHICLE CERTIFICATION LABEL

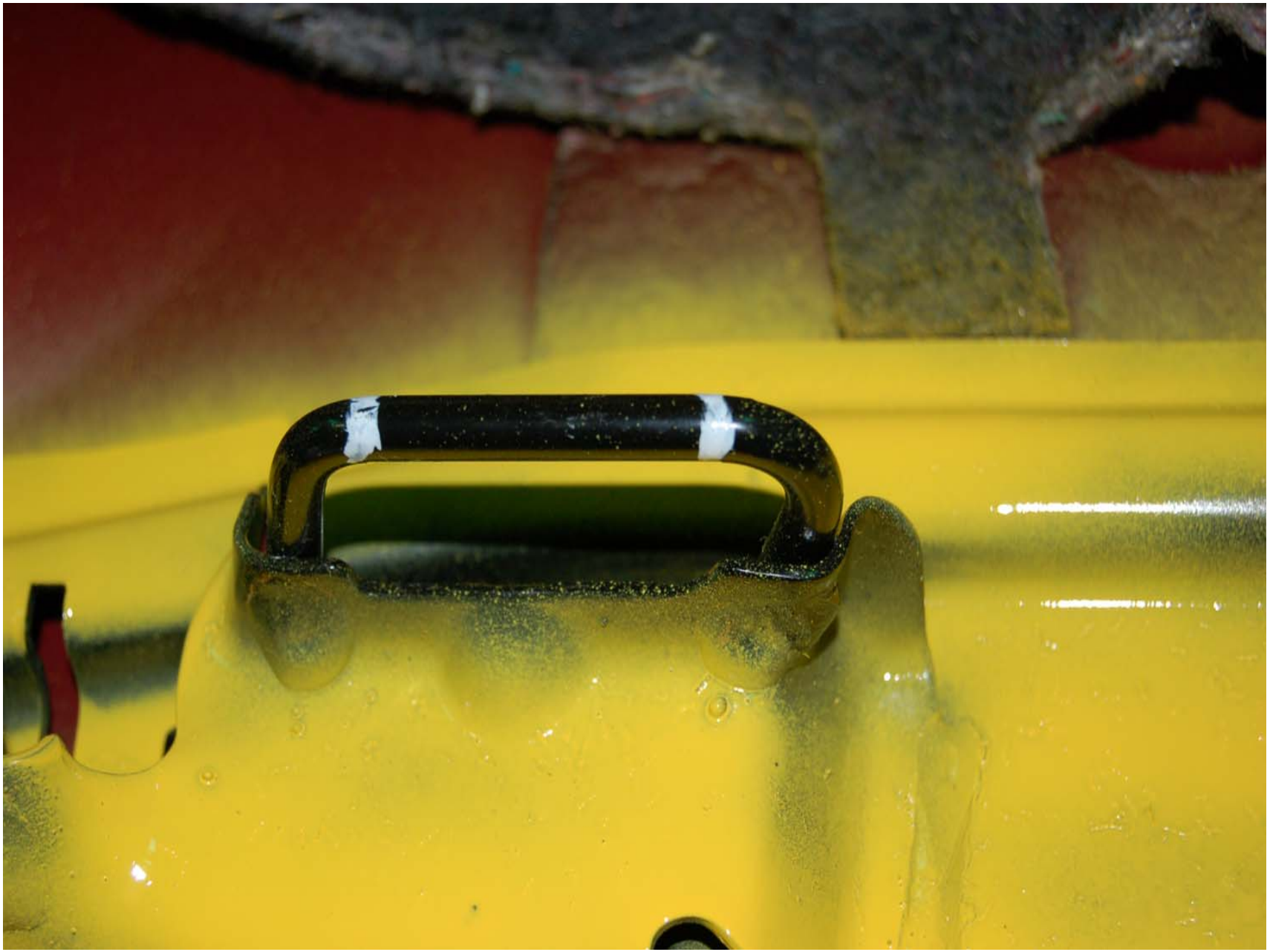


2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.6
VEHICLE TIRE INFORMATION LABEL

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

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



2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

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

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

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

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

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

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

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

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

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

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

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

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.14
OVERALL VIEW OF ROW 2, SEATING POSITIONS,
PRE-TEST

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.15
ROW 2, LEFT SIDE WITH CRF

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

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

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.17
ROW 2, LEFT SIDE TOP TETHER ROUTING

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.18
ROW 2, RIGHT SIDE WITH CRF

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

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

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.20
ROW 2, RIGHT SIDE TOP TETHER ROUTING

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.21
ROW 2, CENTER WITH CRF

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.22
ROW 2, CENTER WITH 2-D TEMPLATE

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.23
ROW 2, CENTER TOP TETHER ROUTING

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

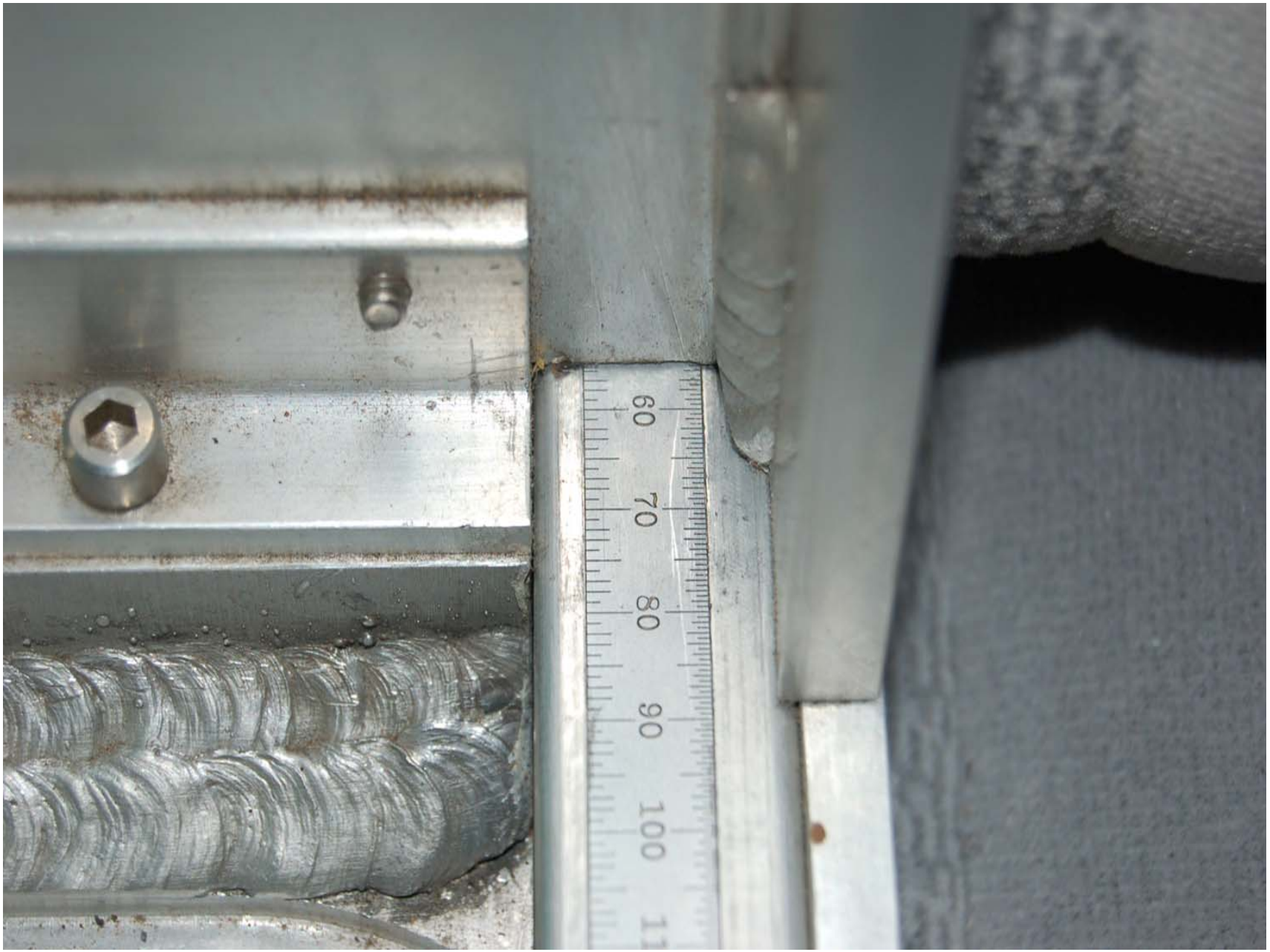
FIGURE 5.24
ROW 2, RIGHT SIDE INBOARD CRF MEASUREMENT

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.25
ROW 2, RIGHT SIDE OUTBOARD CRF MEASUREMENT

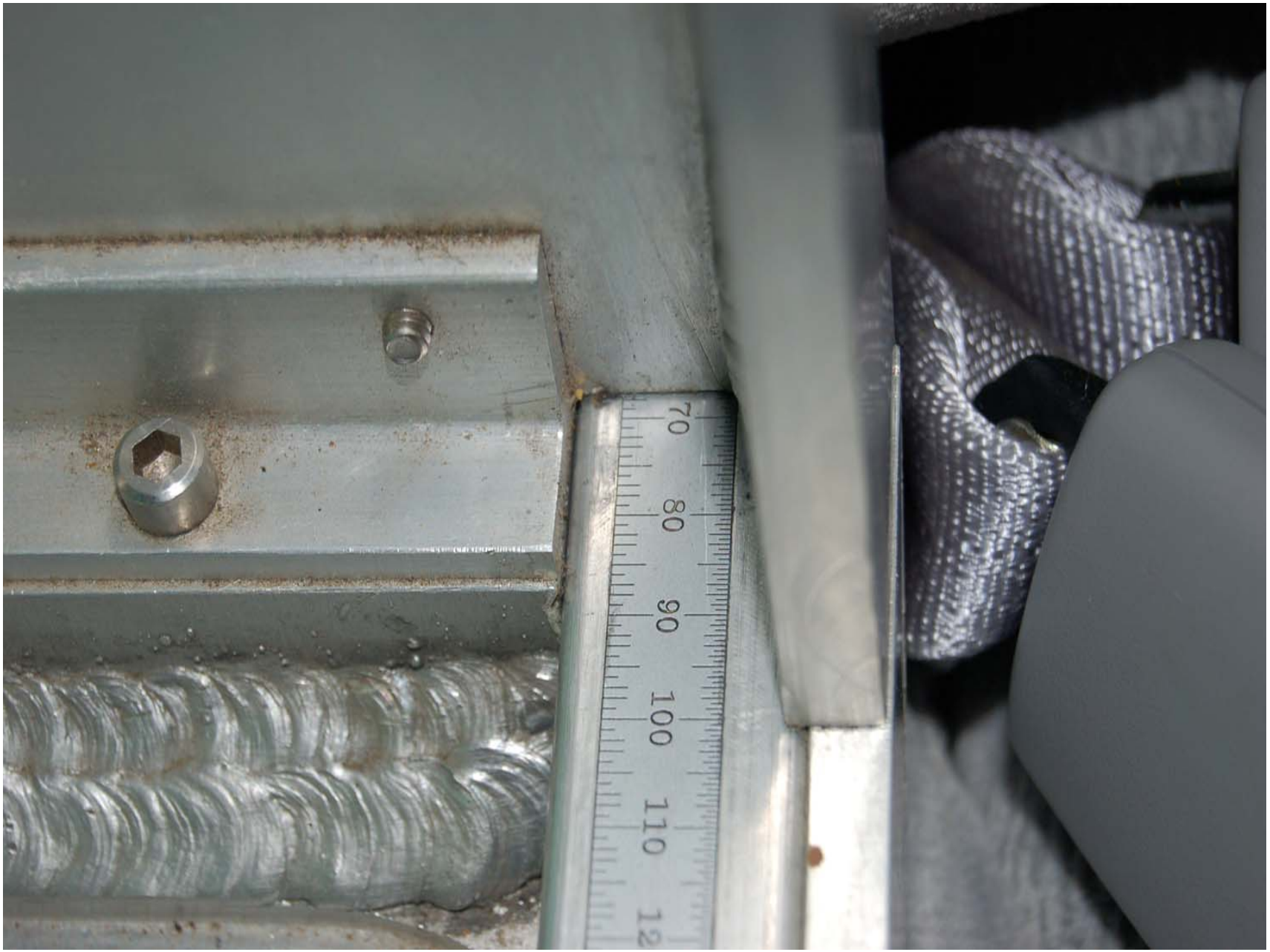
2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.26
ROW 2, LEFT SIDE INBOARD CRF MEASUREMENT



2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.27
ROW 2, LEFT SIDE OUTBOARD CRF MEASUREMENT

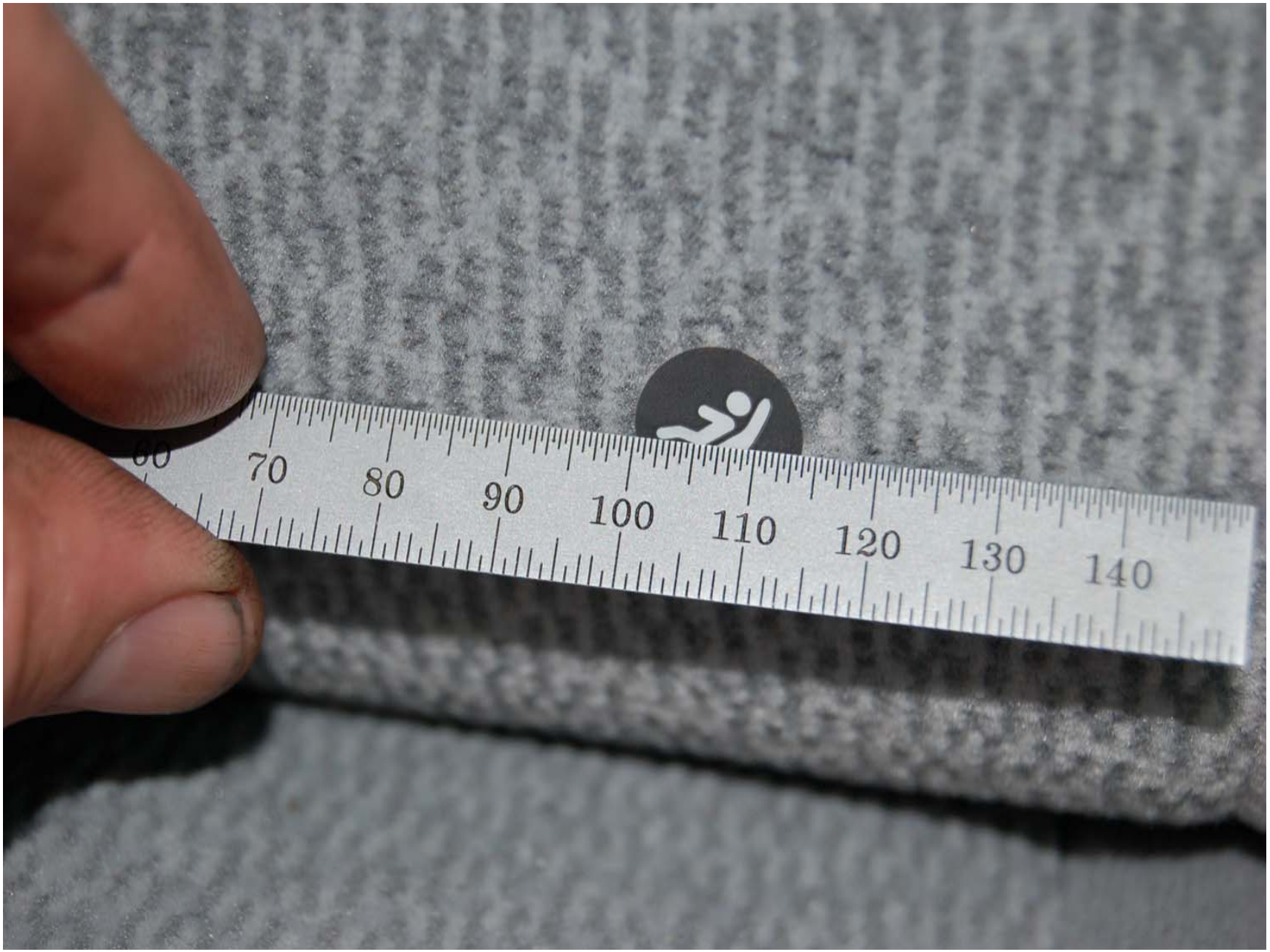


2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.28
ROW 2, CENTER LEFT SIDE CRF MEASUREMENT

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.29
ROW 2, RIGHT SIDE CRF MEASUREMENT



2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.30
SYMBOL MEASUREMENT

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

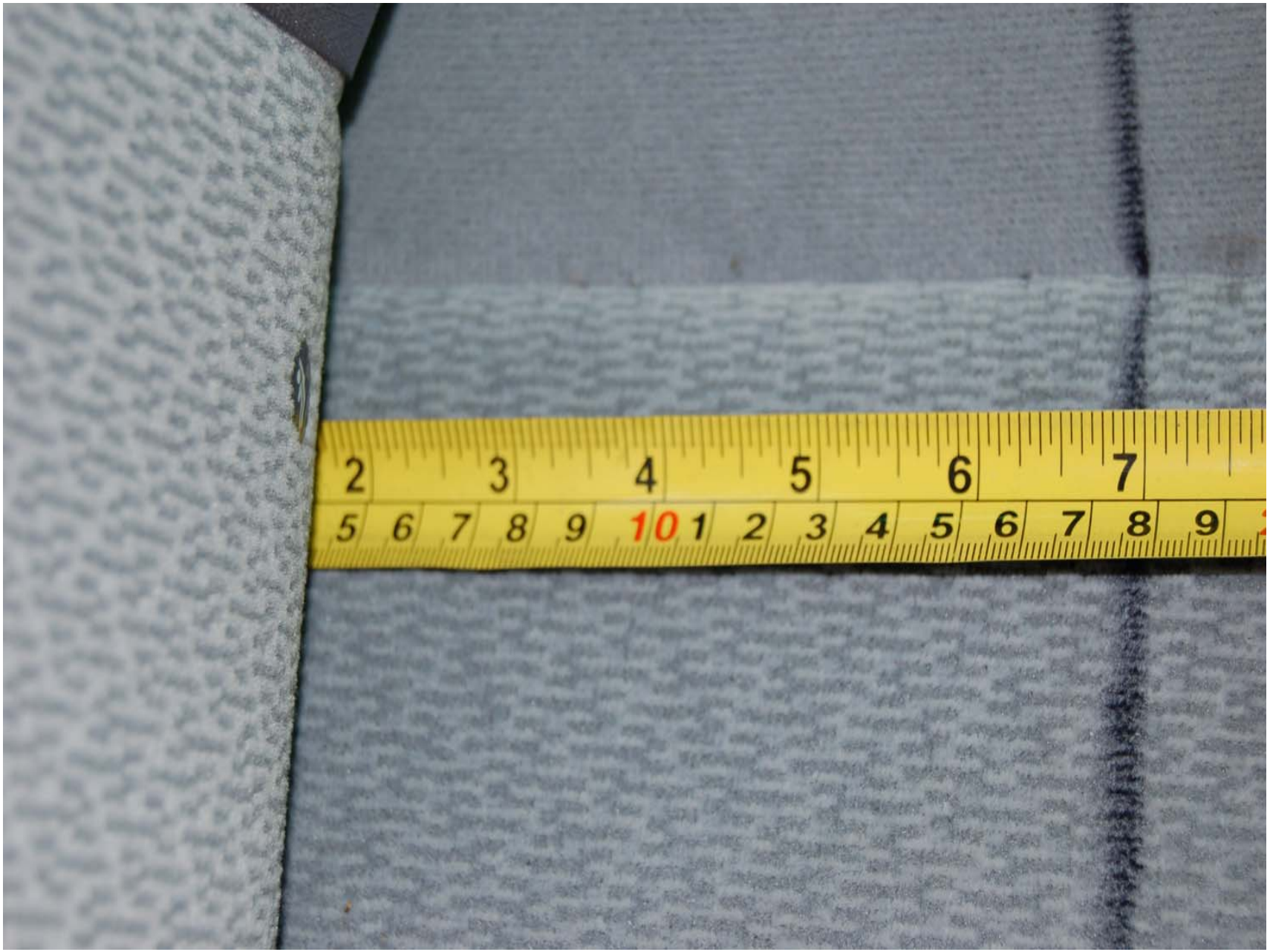
FIGURE 5.31
ROW 2, LEFT SIDE CRF PITCH MEASUREMENT

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.32
ROW 2, RIGHT SIDE CRF PITCH MEASUREMENT

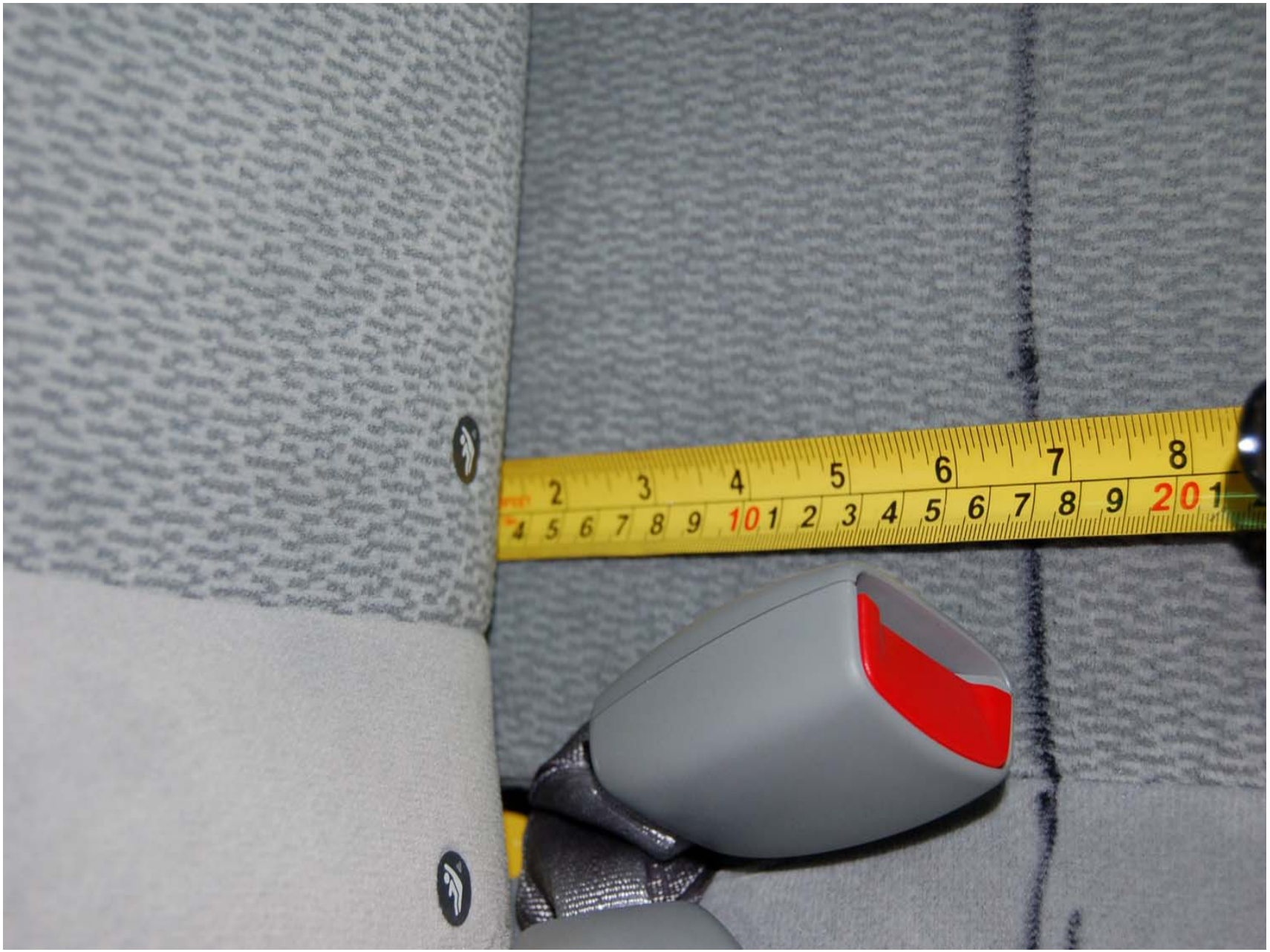
2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.33
ROW 2, CENTER CRF PITCH MEASUREMENT



2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.34
ROW 2, LEFT SIDE OUTBOARD SRP MEASUREMENT



2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.35
ROW 2, LEFT SIDE INBOARD SRP MEASUREMENT

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.36
ROW 2, RIGHT SIDE OUTBOARD SRP MEASUREMENT

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.37
ROW 2, RIGHT SIDE INBOARD SRP MEASUREMENT

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.38
ROW 2, CENTER LEFT SRP MEASUREMENT

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.39
ROW 2, CENTER RIGHT SRP MEASUREMENT

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.40
¾ LEFT REAR VIEW OF VEHICLE IN TEST RIG

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.41
¾ RIGHT FRONT VIEW OF VEHICLE IN TEST RIG

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.42
PRE-TEST ROW 2, LEFT SIDE WITH SFAD 2

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.43
PRE-TEST ROW 2, LEFT SIDE WITH SFAD 2

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.44
POST TEST ROW 2, LEFT SIDE WITH SFAD 2

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.45
POST TEST ROW 2, LEFT SIDE WITH SFAD 2

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.46
PRE-TEST ROW 2, RIGHT SIDE WITH SFAD 2

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.47
POST TEST ROW 2, RIGHT SIDE WITH SFAD 2

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.48
PRE-TEST ROW 2, CENTER POSITION WITH
SFAD 1

2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

FIGURE 5.49
PRE-TEST ROW 2, CENTER POSITION WITH
SFAD 1

2005 BUICK LACROSSE
NHTSA NO. C50104

FIGURE 5.50
POST TEST ROW 2, CENTER POSITION WITH FMVSS NO. 225

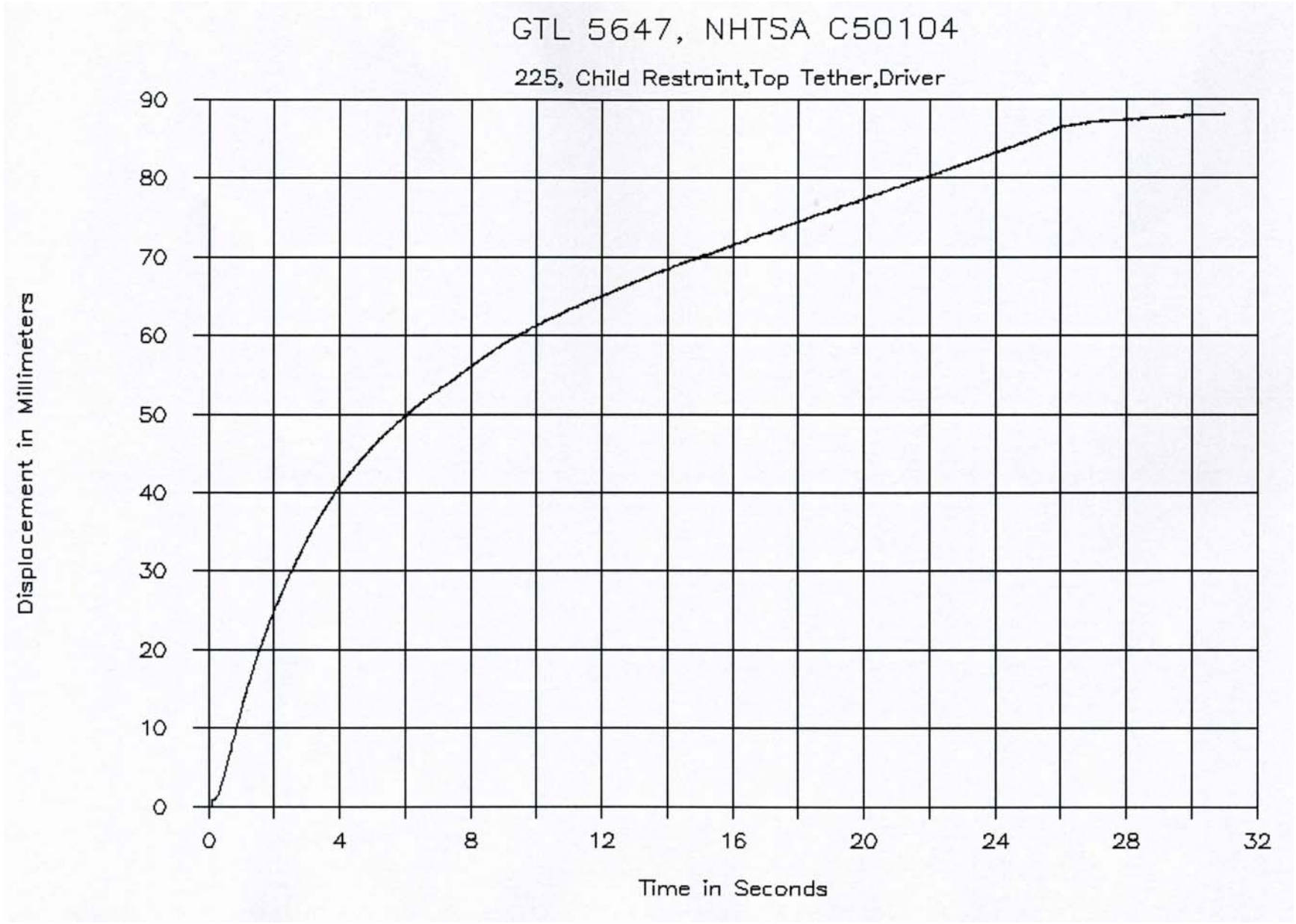
SFAD 1

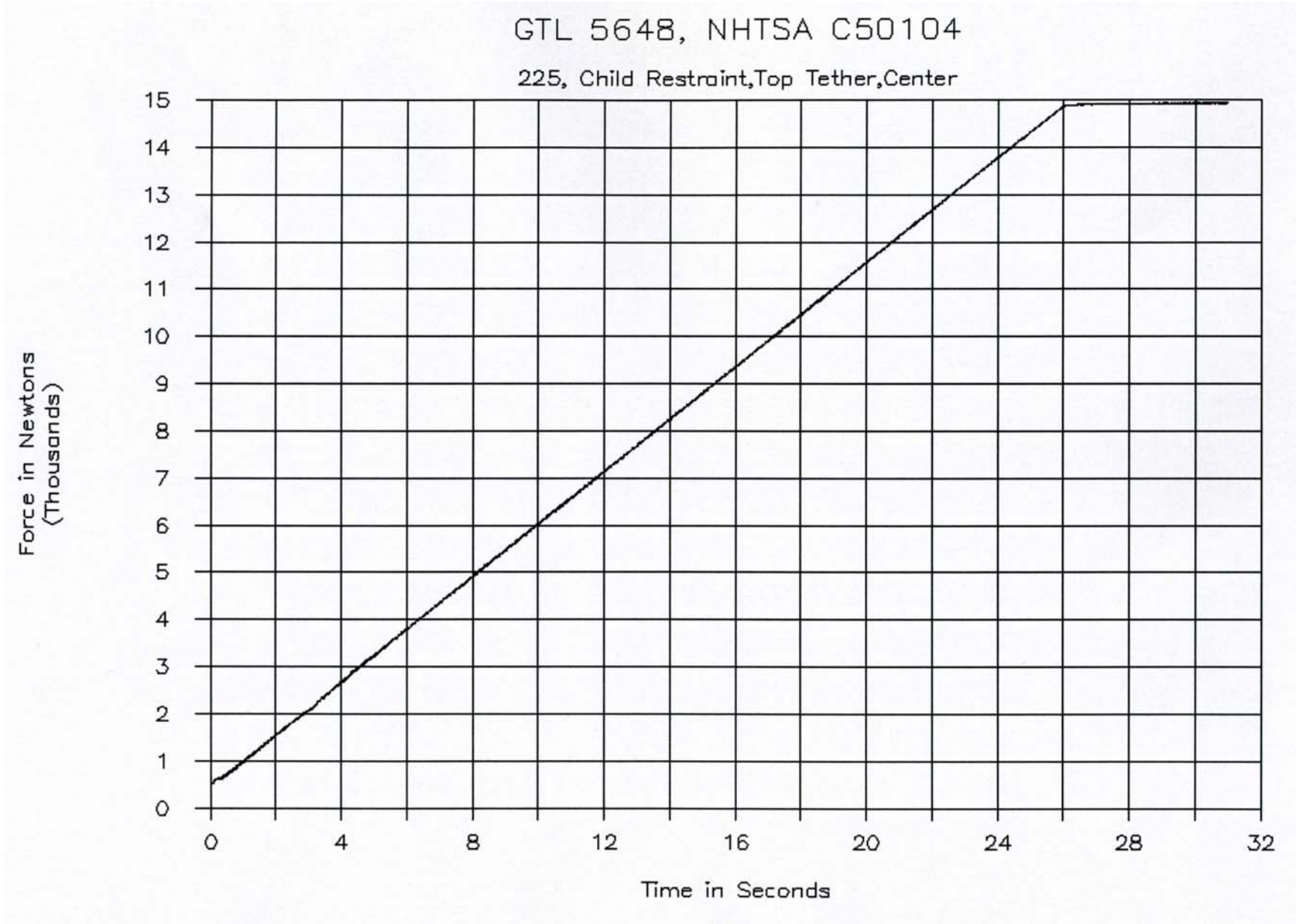
2005 BUICK LACROSSE
NHTSA NO. C50104
FMVSS NO. 225

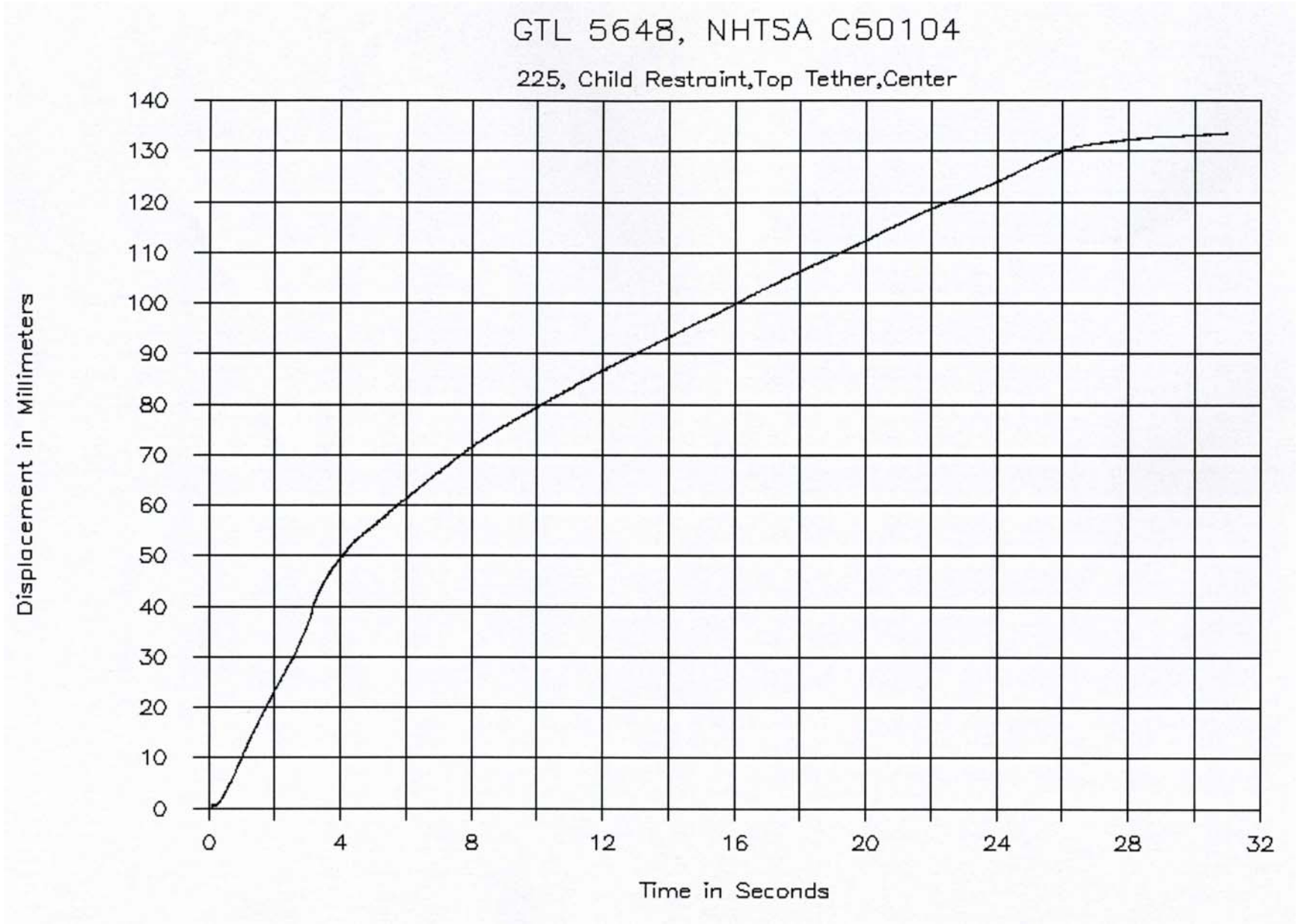
FIGURE 5.51
POST TEST ROW 2, CENTER POSITION WITH SFAD 1

SECTION 6
PLOTS


GTL 5647, NHTSA C50104
225, Child Restraint,Top Tether,Driver
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
32
Time in Seconds


GTL 5647, NHTSA C50104
225, Child Restraint,Top Tether,Driver
Displacement in Millimeters
90
80
70
60
50
40
30
20
10
0
0
4
8
12
16
20
24
28
32
Time in Seconds


GTL 5648, NHTSA C50104
225, Child Restraint,Top Tether,Center
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
32
Time in Seconds


GTL 5648, NHTSA C50104
225, Child Restraint,Top Tether,Center
Displacement in Millimeters
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
0
4
8
12
16
20
24
28
32
Time in Seconds


GTL 5649, NHTSA C50104
225, Child Restraint,Lower Anchors
Force in Newtons
(Thousands)
11
10
9
8
7
6
5
4
3
2
1
0
0
4
8
12
16
20
24
28
32
Time in Seconds

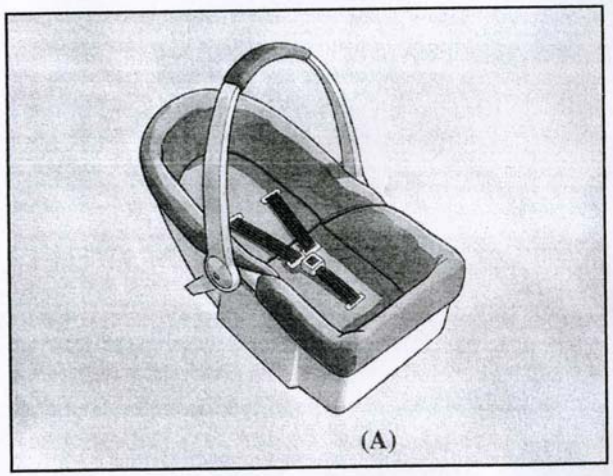

GTL 5649, NHTSA C50104
225, Child Restraint,Lower Anchors
Displacement in Millimeters
80
70
60
50
40
30
20
10
0
0
4
8
12
16
20
24
28
32
Time in Seconds

APPENDIX A
OWNER'S MANUAL CHILD RESTRAINT INFORMATION

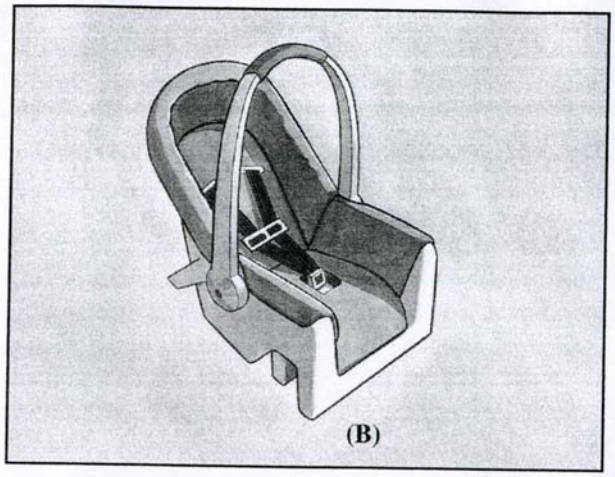
Child Restraint Systems

⚠ CAUTION:

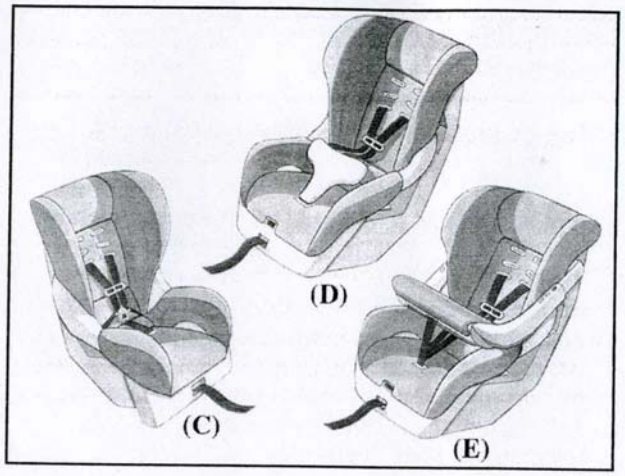
The body structure of a young child is quite unlike that of an adult or older child, for whom the safety belts are designed. A young child's hip bones are still so small that the vehicle's regular safety belt may not remain low on the hip bones, as it should. Instead, it may settle up around the child's abdomen. In a crash, the belt would apply force on a body area that is unprotected by any bony structure. This alone could cause serious or fatal injuries. Young children always should be secured in appropriate child restraints.



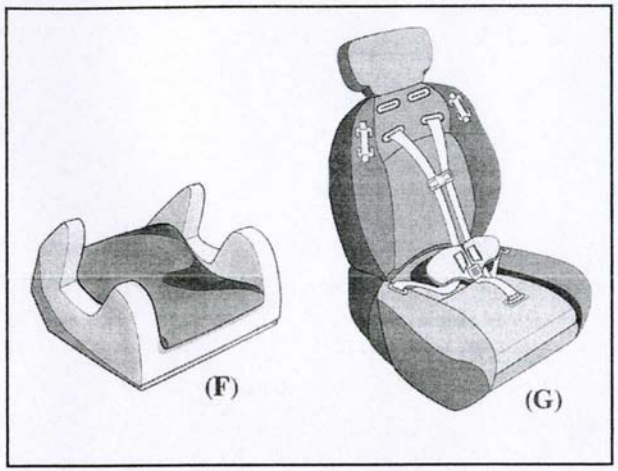
An infant car bed (A), a special bed made for use in a motor vehicle, is an infant restraint system designed to restrain or position a child on a continuous flat surface. Make sure that the infant's head rests toward the center of the vehicle.



A rear-facing infant seat (B) provides restraint with the seating surface against the back of the infant. The harness system holds the infant in place and, in a crash, acts to keep the infant positioned in the restraint.



A forward-facing child seat (C-E) provides restraint for the child's body with the harness and also sometimes with surfaces such as T-shaped or shelf-like shields.



A booster seat (F-G) is a child restraint designed to improve the fit of the vehicle's safety belt system. Some booster seats have a shoulder belt positioner, and some high-back booster seats have a five-point harness. A booster seat can also help a child to see out the window.

Q: How do child restraints work?

A: A child restraint system is any device designed for use in a motor vehicle to restrain, seat, or position children. A built-in child restraint system is a permanent part of the motor vehicle. An add-on child restraint system is a portable one, which is purchased by the vehicle's owner.

For many years, add-on child restraints have used the adult belt system in the vehicle. To help reduce the chance of injury, the child also has to be secured within the restraint. The vehicle's belt system secures the add-on child restraint in the vehicle, and the add-on child restraint's harness system holds the child in place within the restraint.

One system, the three-point harness, has straps that come down over each of the infant's shoulders and buckle together at the crotch. The five-point harness system has two shoulder straps, two hip straps and a crotch strap. A shield may take the place of hip straps. A T-shaped shield has shoulder straps that are attached to a flat pad which rests low against the child's body. A shelf- or armrest-type shield has straps that are attached to a wide, shelf-like shield that swings up or to the side.

When choosing a child restraint, be sure the child restraint is designed to be used in a vehicle. If it is, it will have a label saying that it meets federal motor vehicle safety standards.

Then follow the instructions for the restraint. You may find these instructions on the restraint itself or in a booklet, or both. These restraints use the belt system or the LATCH system in your vehicle, but the child also has to be secured within the restraint to help reduce the chance of personal injury. When securing an add-on child restraint, refer to the instructions that come with the restraint which may be on the restraint itself or in a booklet, or both, and to this manual. The child restraint instructions are important, so if they are not available, obtain a replacement copy from the manufacturer.

Where to Put the Restraint

Accident statistics show that children are safer if they are restrained in the rear rather than the front seat. We, therefore, recommend that child restraints be secured in a rear seat, including an infant riding in a rear-facing infant seat, a child riding in a forward-facing child seat and an older child riding in a booster seat. *Never* put a rear-facing child restraint in the front passenger seat.

Here is why:

⚠ CAUTION:

A child in a rear-facing child restraint can be seriously injured or killed if the right front passenger's airbag inflates. This is because the back of the rear-facing child restraint would be very close to the inflating airbag.

Even though the passenger sensing system is designed to turn off the passenger's frontal airbag if the system detects a rear-facing child restraint, no system is fail-safe, and no one can guarantee that an airbag will not deploy under some unusual circumstance, even though it is turned off. General Motors recommends that rear-facing child restraints be secured in the rear seat, even if the airbag is off.

If you need to secure a forward-facing child restraint in the right front seat, always move the front passenger seat as far back as it will go. It is better to secure the child restraint in a rear seat.

⚠ CAUTION:

A child in a child restraint in the center front seat can be badly injured or killed by the right front passenger's airbag if it inflates. Never secure a child restraint in the center front seat. It is always better to secure a child restraint in the rear seat.

If you need to secure a forward-facing child restraint in the right front passenger seat, always move the front passenger seat as far back as it will go. It is better to secure the child restraint in a rear seat.

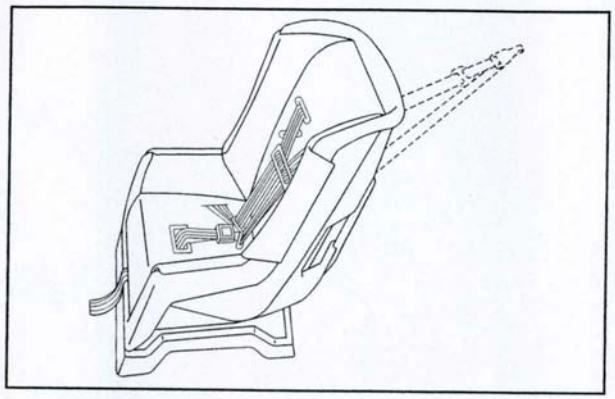
Wherever you install it, be sure to secure the child restraint properly.

Keep in mind that an unsecured child restraint can move around in a collision or sudden stop and injure people in the vehicle. Be sure to properly secure any child restraint in your vehicle — even when no child is in it.

Top Strap

Some child restraints have a top strap, or "top tether." It can help restrain the child restraint during a collision. For it to work, a top strap must be properly anchored to the vehicle. Some top strap-equipped child restraints are designed for use with or without the top strap being anchored. Others require the top strap always to be anchored. Be sure to read and follow the instructions for your child restraint. If yours requires that the top strap be anchored, do not use the restraint unless it is anchored properly.

If the child restraint does not have a top strap, one can be obtained, in kit form, for many child restraints. Ask the child restraint manufacturer whether or not a kit is available.



In Canada, the law requires that forward-facing child restraints have a top strap, and that the strap be anchored. In the United States, some child restraints also have a top strap. If your child restraint has a top strap, it should be anchored.

Anchor the top strap to an anchor point specified in *Top Strap Anchor Location on page 1-43.* Be sure to use an anchor point located on the same side of the vehicle as the seating position where the child restraint will be placed.

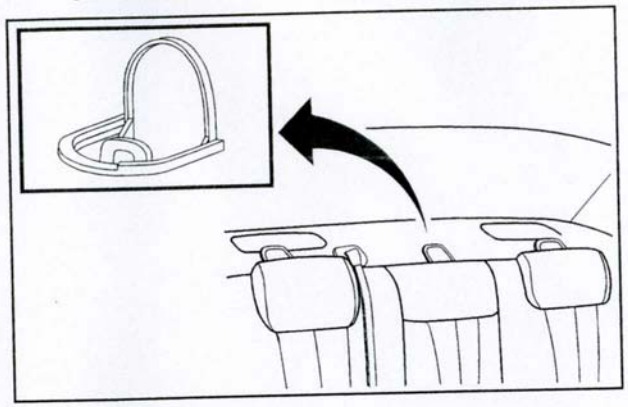
⚠ CAUTION:

Each top tether bracket is designed to anchor only one child restraint. Attaching more than one child restraint to a single bracket could cause the anchor to come loose or even break during a crash. A child or others could be injured if this happens. To help prevent injury to people and damage to your vehicle, attach only one child restraint per bracket.

Once you have the top strap anchored, you will be ready to secure the child restraint itself. Tighten the top strap when and as the child restraint manufacturer's instructions say.

Top Strap Anchor Location

The vehicle has top strap anchors installed for the rear seating positions.



They are located under trim covers on the rear seatback filler panel.

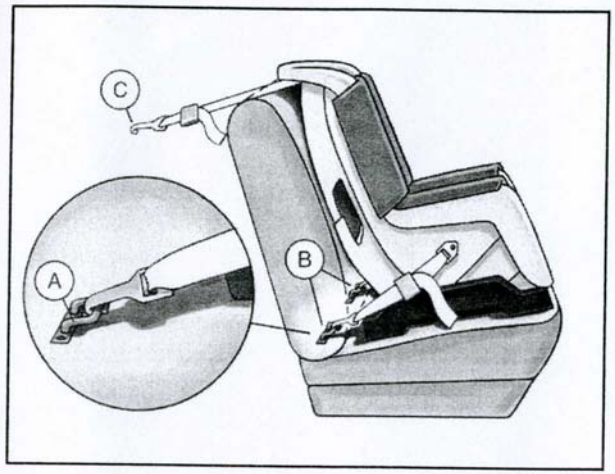
Do not secure a child restraint with a top strap in the right front passenger's position if a national or local law requires that the top strap be anchored, or if the instructions that come with the child restraint say that the top strap must be anchored. There is no place to anchor the top strap in this position.

If your child restraint is equipped with the LATCH system, *Lower Anchorages and Top Tethers for Children (LATCH System) on page 1-43.*

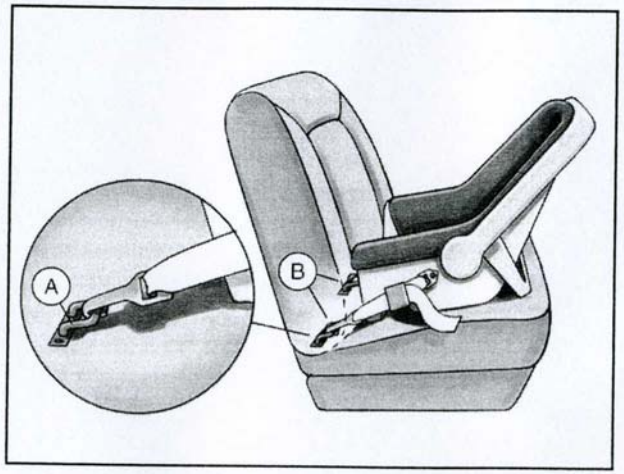
Lower Anchorages and Top Tethers for Children (LATCH System)

The vehicle has the LATCH system. You will find anchors in all three rear seating positions.

This system, designed to make installation of child restraints easier, does not use the vehicle's safety belts. Instead it uses vehicles anchors and child restraint attachments to secure the restraints. Some restraints also use another vehicle anchor to secure a top tether strap.



A. Lower Anchorage
B. Lower Anchorage
C. Top Tether



A. Lower Anchorage
B. Lower Anchorage

In order to use the LATCH system in your vehicle, you need a child restraint designed for that system.

To assist you in locating the lower anchors for this child restraint system, each seating position with the LATCH system has a label on the seatback at each lower anchor position.

The labels are located near the base of all three rear seating positions.

⚠ CAUTION:

If a LATCH-type child restraint is not attached to its anchorage points, the restraint will not be able to protect the child correctly. In a crash, the child could be seriously injured or killed. Make sure that a LATCH-type child restraint is properly installed using the anchorage points, or use the vehicle's safety belts to secure the restraint, following the instructions that came with that restraint, and also the instructions in this manual.

Securing a Child Restraint Designed for the LATCH System

1. Find the LATCH anchorages for the seating position you want to use, where the bottom of the seatback meets the back of the seat cushion. See *Lower Anchorages and Top Tethers for Children (LATCH System) on page 1-43*.
2. Put the child restraint on the seat.
3. Attach and tighten the LATCH attachments on the child restraint to the LATCH anchorages in the vehicle. The child restraint instructions will show you how.
4. If the child restraint is forward-facing, attach and tighten the top tether to the top tether anchorage. The child restraint instructions will show you how. Also see *Top Strap on page 1-41*.
5. Push and pull the child restraint in different directions to be sure it is secure.

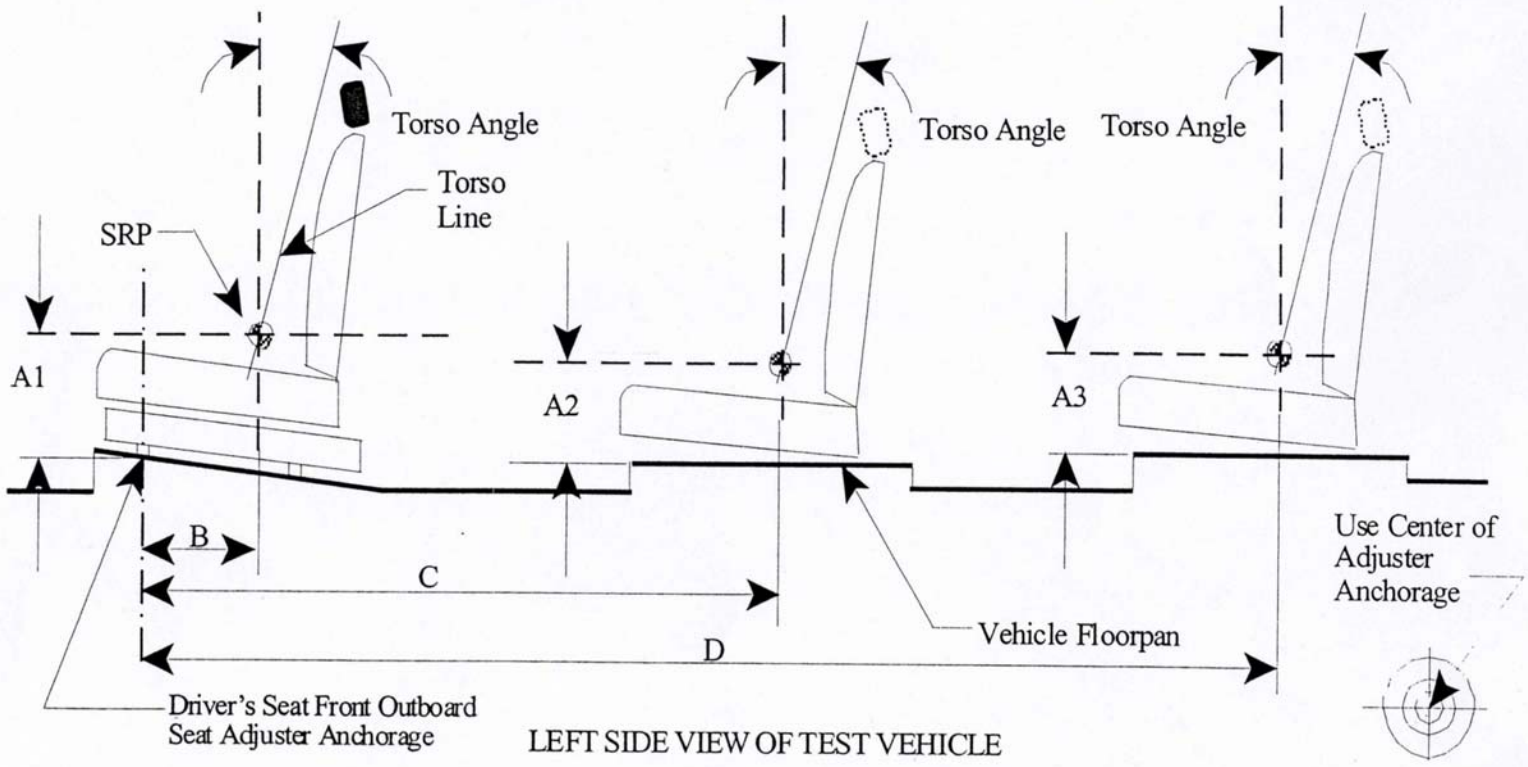
To remove the child restraint, simply unhook the top tether from the top tether anchorage and then disconnect the LATCH attachments from the LATCH anchorages.

APPENDIX B
MANUFACTURER'S DATA

Ric'd 5/16/05

SEAT REFERENCE POINT (SRP) AND TORSO ANGLE DATA
FOR FMVSS 225
(All dimensions in mm[1])

Model Year: 2005 ; Make: Buick ; Model: LaCrosse ; Body Style: GMT 365
Seat Style: Front row: n/a ; Second row: 60/40 Bench ; Third row: n/a



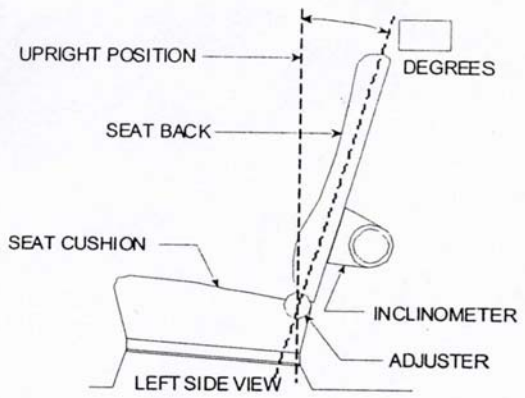
LEFT SIDE VIEW OF TEST VEHICLE

Table 1. Seating Positions[1] and Torso Angles

		Left (Driver Side)	Center (if any)	Right
A1		n/a	n/a	n/a
A2		202.5mm	202.5mm	202.5mm
A3		n/a	n/a	n/a
B		n/a	n/a	n/a
C		1206.5mm	1198.5 mm	1206.5 mm
D		n/a	n/a	n/a
Torso Angle (degree)	Front Row	n/a	n/a	n/a
	Second Row	26°	26°	26°
	Third Row	n/a	n/a	n/a

Note: 1. All dimensions are in mm. If not, provide the unit used.

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 description of the location of the 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 = n/a degrees
Measurement Instructions:

n/a

Seat back angle for passenger's seat = n/a degrees
Measurement Instructions:

n/a

Seat back angle for 2nd row seat = _____ degrees
Measurement Instructions:
n/a Seat does not adjust

Seat back angle for 3rd row seat = n/a degrees
Measurement Instructions:

n/a

SEATING REFERENCE POINT
FOR FMVSS 225
(All dimensions in mm)
(Note: The Child Restraint Anchorage Location determines the 225 SRP locations)

Model Year: 2005 ; Make: Buick ; Model: LaCrosse ; Body Style: 4 door
Seat Style: Front row: n/a ; Second row: Bench ; Third row: n/a

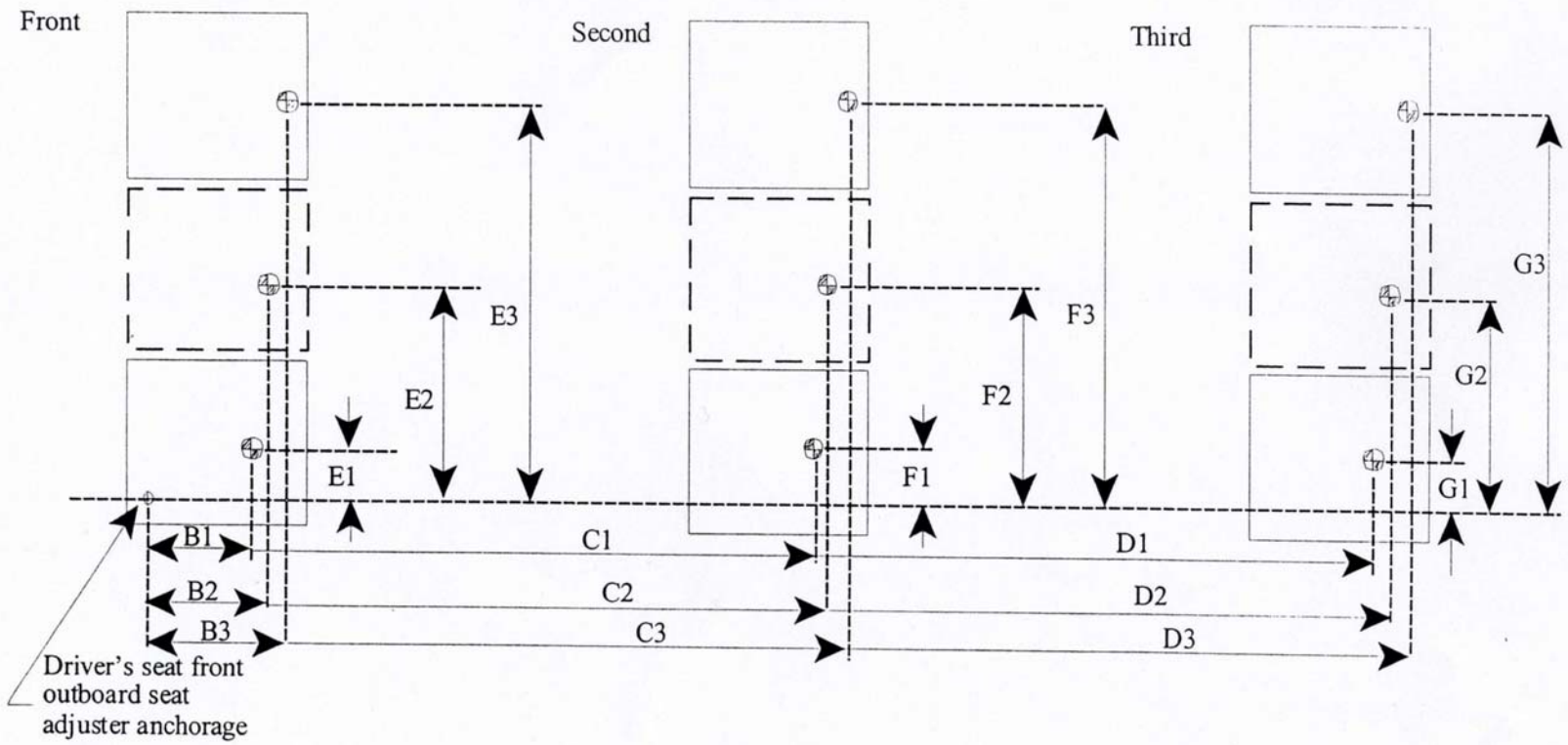


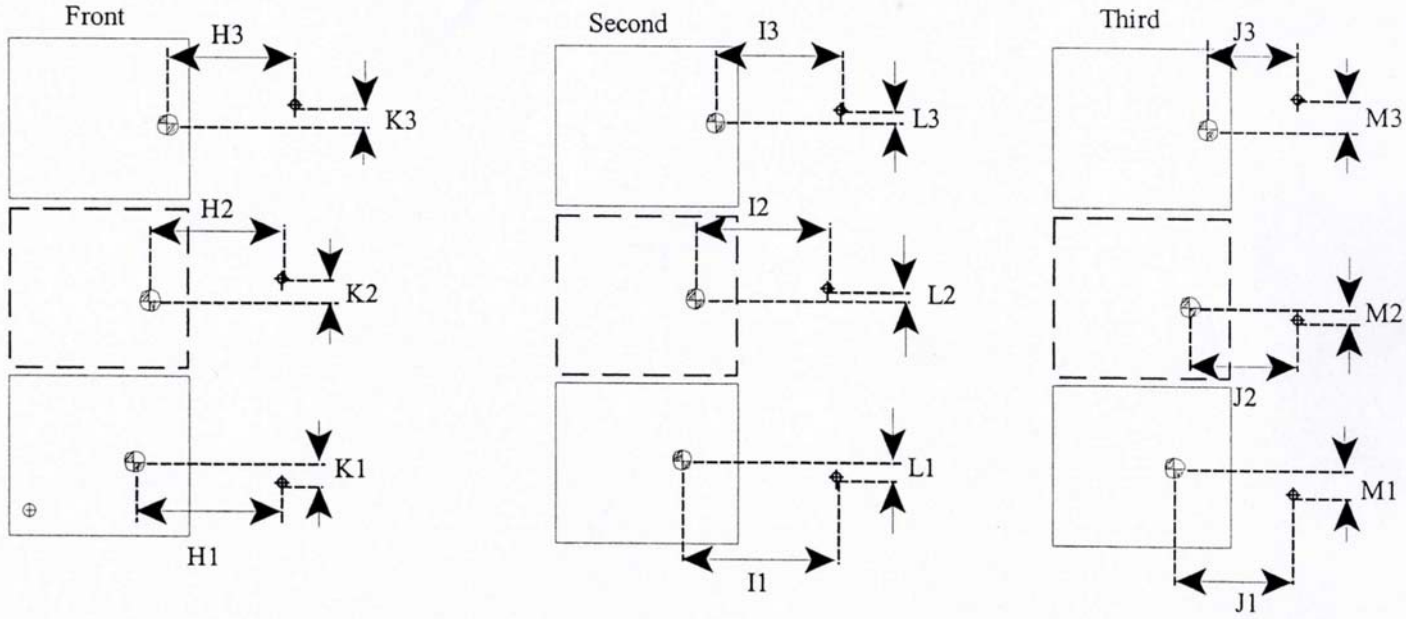
Table 2. Seating Reference Point and Tether Anchorage Locations

Seating Reference Point (SRP)		Distance from Driver's front outboard seat adjuster anchorage[1]
Front Row	B1	n/a
	E1	n/a
	B2	n/a
	E2	n/a
	B3	n/a
	E3	n/a
Second Row	C1	1206.5mm
	F1	251.0 mm
	C2	1198.5 mm
	F2	614.0 mm
	C3	1201.5 mm
	F3	978.0 mm
Third Row	D1	n/a
	G1	n/a
	D2	n/a
	G2	n/a
	D3	n/a
	G3	n/a

Note: 1. Use the center of anchorage.

TETHER ANCHORAGE LOCATIONS
FOR FMVSS 225
(All dimensions in mm)

Model Year: 2005 ; Make: Buick ; Model: LaCrosse ; Body Style: 4 door
Seat Style: Front row: n/a ; Second row: Bench ; Third row: n/a



⊕: SRP
⌖: Tether anchorage

Note: 1. The location shall be measured at the center of anchorage.

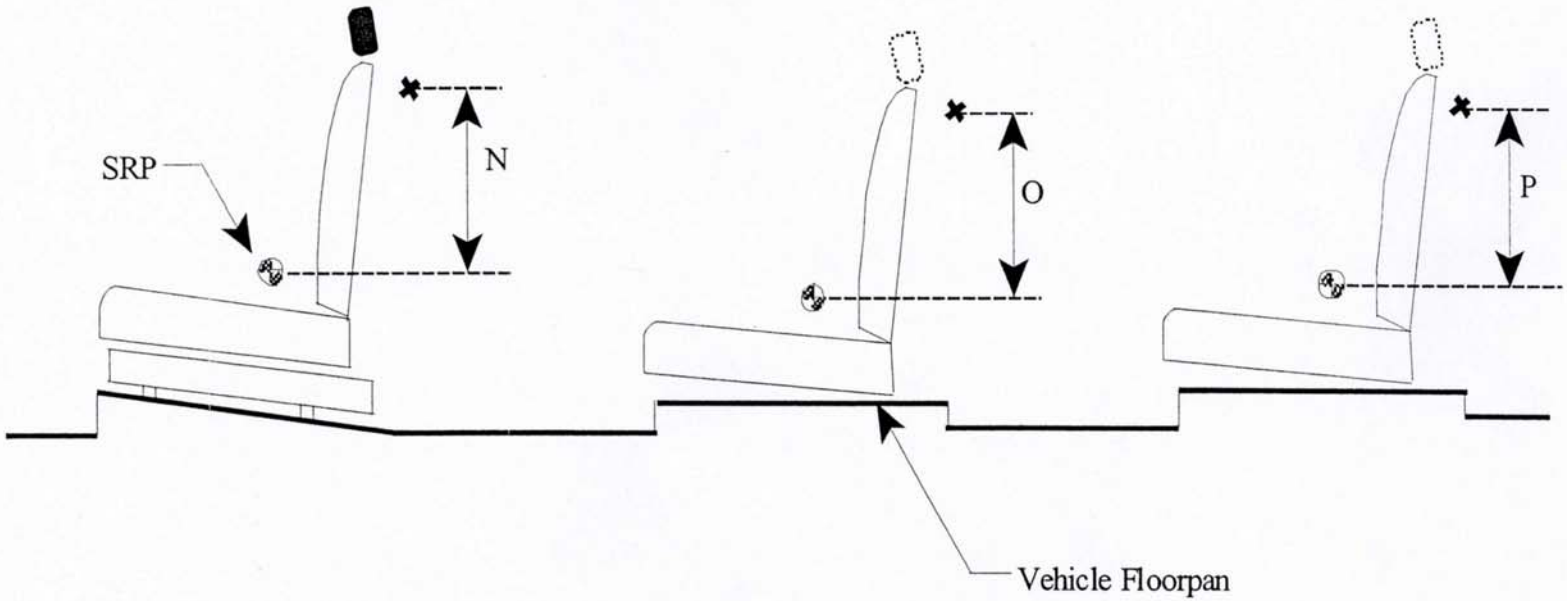
Table 3. Seating Reference Point and Tether Anchorage Locations

Seating Reference Point (SRP)	Distance from SRP	
Front Row	H1	n/a
	K1	n/a
	H2	n/a
	K2	n/a
	H3	n/a
	K3	n/a
Second Row	I1	546.4 mm
	L1	10.0 mm (inboard)
	I2	564.4 mm
	L2	0.0mm
	I3	546.4mm
	L3	10.0 mm (inboard)
Third Row	J1	n/a
	M1	n/a
	J2	n/a
	M2	n/a
	J3	n/a
	M3	n/a

Note: 1. Use the center of anchorage.

TETHER ANCHORAGE LOCATIONS - VERTICAL
FOR FMVSS 225
(All dimensions in mm)

Model Year: 2005 ; Make: Buick ; Model: LaCrosse ; Body Style: 4 door
Seat Style: Front row: n/a ; Second row: Bench ; 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)	n/a
	N2 (Center)	n/a
	N3 (Right)	n/a
Second Row	O1 (Left)	536.3 mm
	O2 (Center)	502.3 mm
	O3 (Right)	536.3 mm
Third Row	P1 (Left)	n/a
	P2 (Center)	n/a
	P3 (Right)	n/a

Note: 1. All dimensions are in mm. If not, provide the unit anchorage.

Test Procedures Used for Compliance Tests

Lower Anchorages

For each seating location in each row record applicable FMVSS Section		FMVSS 225 Section(s)			
Block 1		Lower anchorage location certification method used (Enter applicable section used in block 1 of each position by circling A or B) (A) 9.2.1 or B) 15.1.2.2			
Block 2		Lower anchorage dimension (Enter applicable section used in block 2 by circling A or B) (A) 9.1.1 or B) 15.1.2.2 (also provide roll and yaw angles) pitch___ roll ____ yaw____			
Block 3		Lower anchorage marking (Enter applicable section used in block 3 by circling A or B) (A) 9.5 or B) 15.4			
Block 4		Strength requirement (Enter applicable section used in block 4 by circling A or B) (A) Section 9 or B) Section 15			
Front	Driver	n/a			
	Center (if any)	n/a	n/a	n/a	n/a
	Right (if any)	n/a	n/a	n/a	n/a
Second	Left	Block 1 (A) B	Block 2 (A) B Pitch 16•, Roll 0°, Yaw 0.°	Block 3 (A) B	Block 4 (A) B
	Center	Block 1 (A) B	Block 2 (A) B Pitch 20.°, Roll 1°, Yaw 0°	Block 3 (A) B	Block 4 (A) B
	Right (if any)	Block 1 (A) B	Block 2 (A) B Pitch 18°, Roll 0°, Yaw 0.°	Block 3 (A) B	Block 4 (A) B
Third	Left	n/a	n/a	n/a	n/a
	Center	n/a	n/a	n/a	n/a
	Right	n/a	n/a	n/a	n/a
Fourth	Left	n/a	n/a	n/a	n/a
	Center	n/a	n/a	n/a	n/a
	Right	n/a	n/a	n/a	n/a

Test Procedures Used for Compliance Tests

Tether Anchorages

For each seating location in each row record applicable FMVSS Section		FMVSS Section(s) - Req.		
Block 1		Tether anchorage location certification method used (Enter applicable section used in block 1 by circling A, B, C, D, E or F) (A) 6.2.1 B) 6.2.1.1 C) 6.2.1.2 D) 6.2.2 E) 6.2.2.1 F) 6.2.2.2		
Block 2		Number or tether anchorages based upon the applicable section (Enter applicable section used in block 2 by circling A or B) (A) 4.4 B) 4.5		
Block 3		Tether anchorage strength requirement (Enter applicable section used in block 3 by circling A, B, or C) (A) 6.3.1 B) 6.3.2 C) 6.3.4		
Front	Driver	n/a		
	Center (if any)	n/a	n/a	n/a
	Right (if any)	n/a	n/a	n/a
Second	Left	Block 1 (A) B C D E F	Block 2 (A) B	Block 3 (A) B C
	Center	Block 1 (A) B C D E F	Block 2 (A) B	Block 3 (A) B C
	Right	Block 1 (A) B C D E F	Block 2 (A) B	Block 3 (A) B C
Third	Left	n/a	n/a	n/a
	Center	n/a	n/a	n/a
	Right	n/a	n/a	n/a
Fourth	Left	n/a	n/a	n/a
	Center	n/a	n/a	n/a
	Right	n/a	n/a	n/a