REPORT NUMBER 225-GTL-08-007

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

FUJI HEAVY INDUSTRIES LTD.
2008 SUBARU IMPREZA, PASSENGER CAR
NHTSA NO. C85502

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

November 14, 2008

FINAL REPORT

PREPARED FOR

U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
1200 NEW JERSEY AVE., SE
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SECTION 1

PURPOSE OF COMPLIANCE TEST

1.0 PURPOSE OF COMPLIANCE TEST

A 2008 Subaru Impreza 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 2008 Subaru Impreza Passenger Car. Nomenclature applicable to the test vehicle are:

A. Vehicle Identification Number: JF1GH61608H813547

B. NHTSA No.: C85502

C. Manufacturer: FUJI HEAVY INDUSTRIES LTD.

D. Manufacture Date: 10/07

1.2 TEST DATE

The test vehicle was subjected to FMVSS No. 225 testing during the time period October 7-24, 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 2008 Subaru Impreza Passenger Car 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 2008 Subaru Impreza Passenger Car.

DATA SHEET 1
SUMMARY OF RESULTS

VEH. MOD YR/MAKE/MODEL/BODY: 2008 SUBARU IMPREZA PASSENGER CAR
VEH. NHTSA NO: C85502; VIN: JF1GH61608H813547
VEH. BUILD DATE: 10/07; TEST DATE: OCTOBER 7-24, 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: 10/24/08
APPROVED BY: D. Messick

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

VEH. MOD YR/MAKE/MODEL/BODY: 2008 SUBARU IMPREZA PASSENGER CAR
VEH. NHTSA NO: C85502; VIN: JF1GH61608H813547
VEH. BUILD DATE: 10/07; TEST DATE: OCTOBER 7, 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))

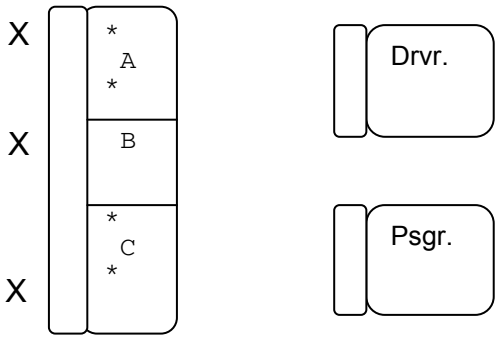
If the vehicle has 3 or more rear dsps and a non-outboard dsp, is a tether anchorage or CRAS provided at a non-outboard dsp? YES

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.



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

RECORDED BY: G. Farrand DATE: 10/07/08

APPROVED BY: D. Messick

DATA SHEET 3
LOCATION OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2008 SUBARU IMPREZA PASSENGER CAR
VEH. NHTSA NO: C85502; VIN: JF1GH61608H813547
VEH. BUILD DATE: 10/07; TEST DATE: OCTOBER 7, 2008
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

DESIGNATED SEATING POSITION: ROW 2 LEFT, RIGHT AND CENTER POSITIONS

Detailed description of the location of the tether anchorage:
LOCATED ON FLOOR BEHIND SEAT BACK JUST INSIDE OF REAR HATCH OPENING.

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, RIGHT AND CENTER 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: 10/07/08

APPROVED BY: D. Messick

DATA SHEET 4
LOWER ANCHORAGE DIMENSIONS

VEH. MOD YR/MAKE/MODEL/BODY: 2008 SUBARU IMPREZA PASSENGER CAR
VEH. NHTSA NO: C85502; VIN: JF1GH61608H813547
VEH. BUILD DATE: 10/07 ; TEST DATE: OCTOBER 7, 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: 6.04 mm
6mm ± 0.1 mm = PASS Other size = FAIL (S9.1.1(a))

Inboard Lower Anchorage bar diameter: 6.05 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): 39 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): 39 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: 11.3°
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: 47 mm
Distance ≤70mm = PASS Distance > 70mm = FAIL

Distance between point Z on the CRF and the front surface of inboard anchor bar: 47 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: 172 mm
Distance ≥ 120mm = PASS Distance < 120mm = FAIL

Distance between SgRP and the front surface of inboard anchor bar: 172 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: 10/07/08

APPROVED BY: D. Messick

DATA SHEET 4A
LOWER ANCHORAGE DIMENSIONS

VEH. MOD YR/MAKE/MODEL/BODY: 2008 SUBARU IMPREZA PASSENGER CAR
VEH. NHTSA NO: C85502; VIN: JF1GH61608H813547
VEH. BUILD DATE: 10/07; TEST DATE: OCTOBER 7, 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: 6.04 mm
6mm ± 0.1 mm = PASS Other size = FAIL (S9.1.1(a))

Inboard Lower Anchorage bar diameter: 6.01 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): 39 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): 39 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: 11.2°
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: 45 mm
Distance ≤70mm = PASS Distance > 70mm = FAIL

Distance between point Z on the CRF and the front surface of inboard anchor bar: 45 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: 172 mm
Distance ≥ 120mm = PASS Distance < 120mm = FAIL

Distance between SgRP and the front surface of inboard anchor bar: 172 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: 10/07/08

APPROVED BY: D. Messick

DATA SHEET 5
CONSPICUITY AND MARKING OF LOWER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2008 SUBARU IMPREZA PASSENGER CAR
VEH. NHTSA NO: C85502; VIN: JF1GH61608H813547
VEH. BUILD DATE: 10/07 ; TEST DATE: OCTOBER 7, 2008
TEST LABORATORY:GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

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

MARKING (Circles)

Diameter of the circle: 20.0 mm
Diameter ≥13mm = PASS Diameter <13mm = FAIL (S9.5(a)(1))

Does the circle have words, symbols or pictograms? PICTOGRAM
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: 70 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 mm
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: 10/07/08

APPROVED BY: D. Messick

DATA SHEET 6
STRENGTH OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2008 SUBARU IMPREZA PASSENGER CAR
VEH. NHTSA NO: C85502; VIN: JF1GH61608H813547
VEH. BUILD DATE: 10/07 ; TEST DATE: OCTOBER 24, 2008
TEST LABORATORY:GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE
TEST NO: 6097

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

SFAD: 2

Seat Back Angle: 28º (FIXED)

Location of seat back angle measurement: 2D Template

Head Restraint Position: REMOVED

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: 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: 575 N/S

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

Maximum force (14,950 N ± 50 N): 15,000 N

Tested simultaneously with another DSP? NO

COMMENTS:

RECORDED BY: G. FARRAND DATE: 10/24/08

APPROVED BY: D. MESSICK

DATA SHEET 6A
STRENGTH OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2008 SUBARU IMPREZA PASSENGER CAR
VEH. NHTSA NO: C85502; VIN: JF1GH61608H813547
VEH. BUILD DATE: 10/07 ; TEST DATE: OCTOBER 24, 2008
TEST LABORATORY:GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE
TEST NO: 6099

DESIGNATED SEATING POSITION: ROW 2 CENTER (DSP B)

SFAD: 1

Seat Back Angle: 28º (FIXED)

Location of seat back angle measurement: 2D Template

Head Restraint Position: REMOVED

D-ring Position: N/A

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

Lap belt tension: 60 N (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: 575 N/S

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

Maximum force (14,950 N ± 50 N): 14,905 N

Tested simultaneously with another DSP? NO

COMMENTS:

RECORDED BY: G. FARRAND DATE: 10/24/08

APPROVED BY: D. MESSICK

DATA SHEET 7
STRENGTH OF LOWER ANCHORAGES (Forward Force)

VEH. MOD YR/MAKE/MODEL/BODY: 2008 SUBARU IMPREZA PASSENGER CAR
VEH. NHTSA NO: C85502; VIN: JF1GH61608H813547
VEH. BUILD DATE: 10/07 ; TEST DATE: OCTOBER 24, 2008
TEST LABORATORY:GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE
TEST NO: 6098

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

Seat Back Angle: 28º

Location of seat back angle measurement: 2D Template

Head Restraint Position: REMOVED

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): 10,986 N

Displacement, H1 (at 500N): 0

Displacement, H2 (at maximum load): 23.0 mm

Displacement of Point X: 23.0 mm (H2-H1)
Displacement > 175 mm = FAIL (S9.4.1(a))

Tested simultaneously with another DSP? NO

Distance between adjacent DSP's: 305 mm

COMMENTS:

RECORDED BY: G. FARRAND DATE: 10/24/08

APPROVED BY: D. MESSICK

DATA SHEET 8
OWNER'S MANUAL

VEH. MOD YR/MAKE/MODEL/BODY: 2008 SUBARU IMPREZA PASSENGER CAR
VEH. NHTSA NO: C85502; VIN: JF1GH61608H813547
VEH. BUILD DATE: 10/07; TEST DATE: OCTOBER 8, 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: 10/08/08

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

2008 SUBARU IMPREZA
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FIGURE 5.1
LEFT SIDE VIEW OF VEHICLE

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FIGURE 5.2
RIGHT SIDE VIEW OF VEHICLE

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FIGURE 5.3
¾ FRONTAL VIEW FROM LEFT SIDE OF VEHICLE

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FIGURE 5.4
¾ REAR VIEW FROM RIGHT SIDE OF VEHICLE

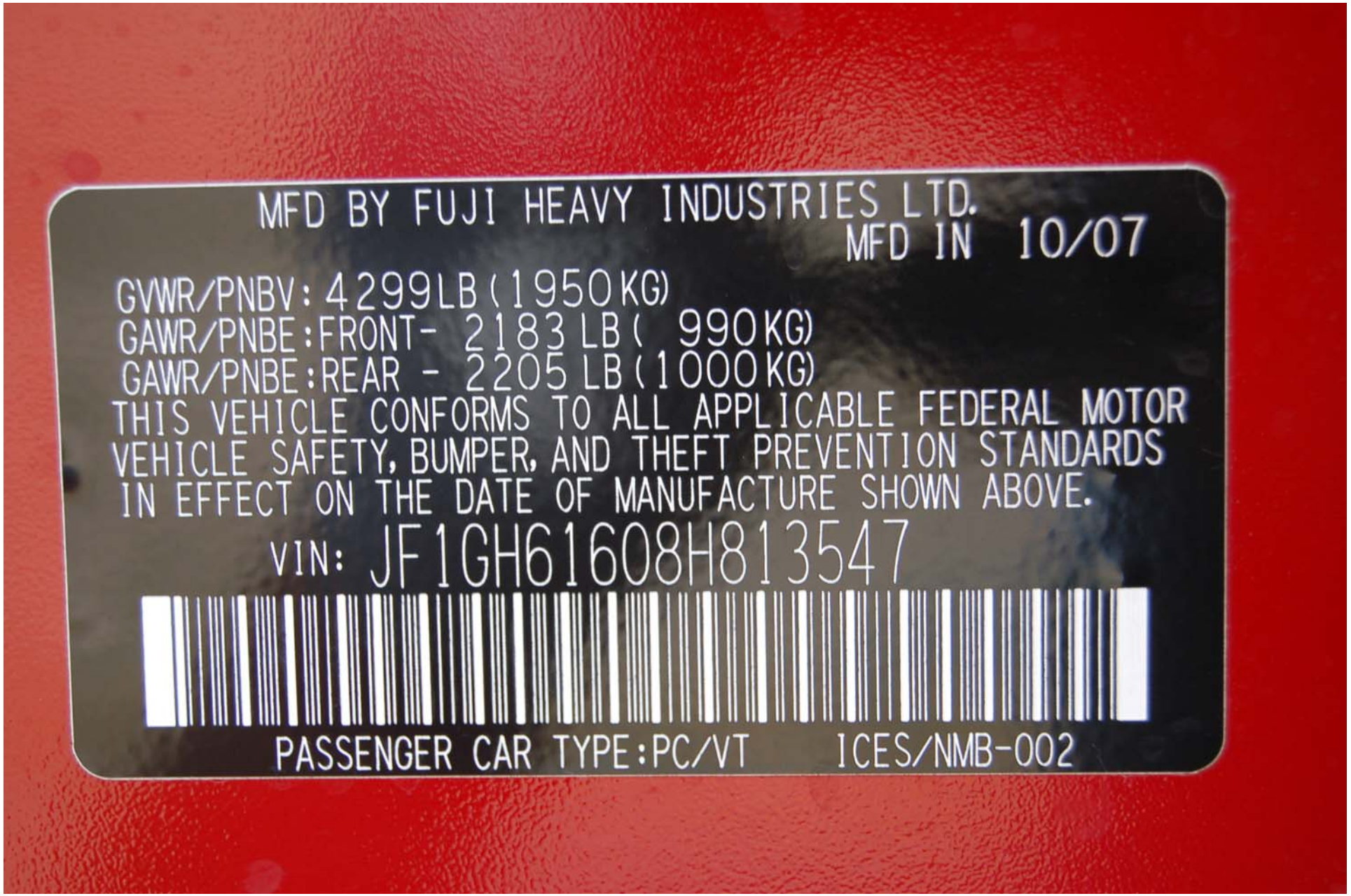

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FIGURE 5.5
CLOSE-UP VIEW OF VEHICLE CERTIFICATION LABEL

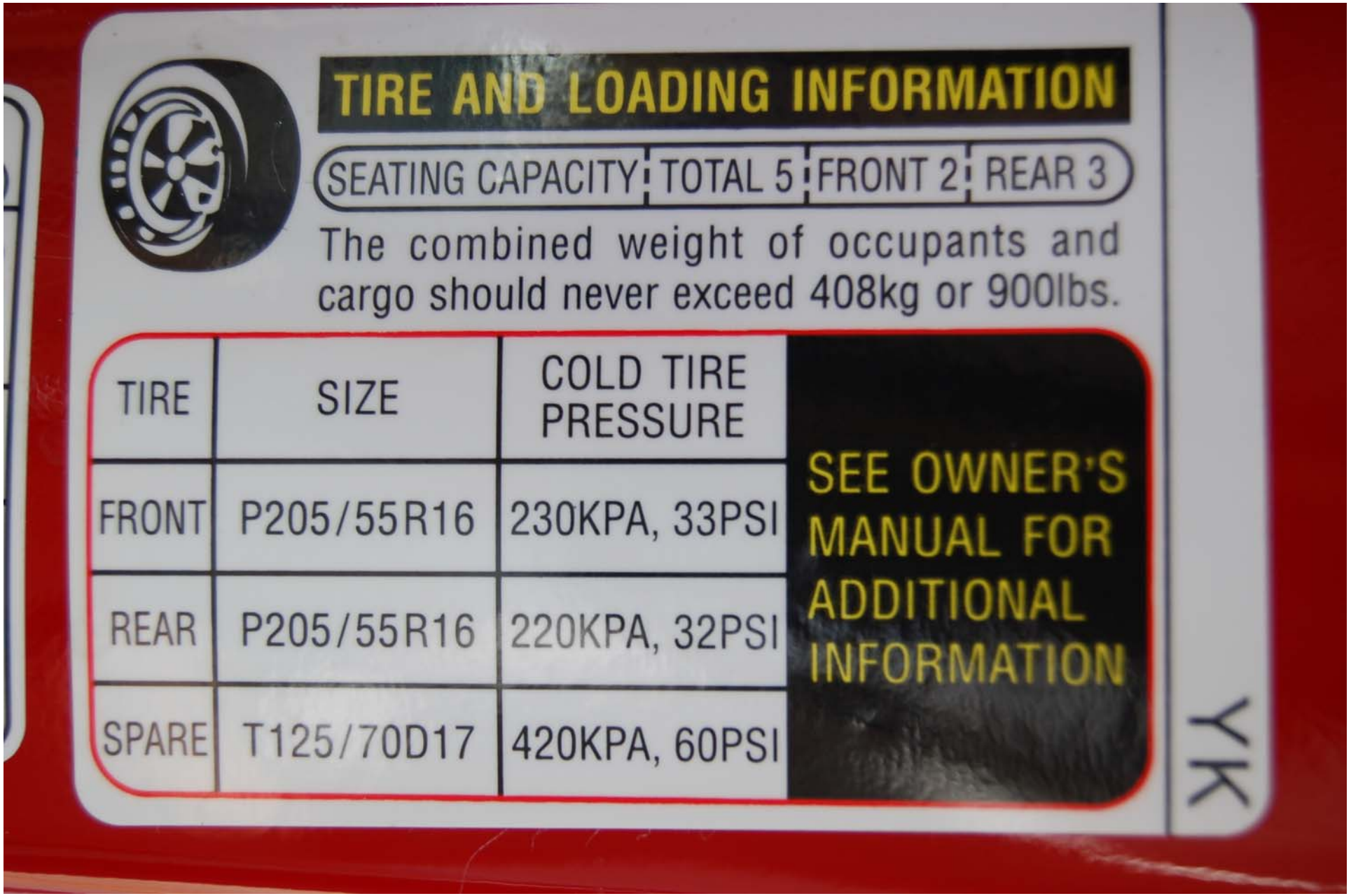

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FIGURE 5.6
CLOSE-UP VIEW OF VEHICLE TIRE INFORMATION LABEL

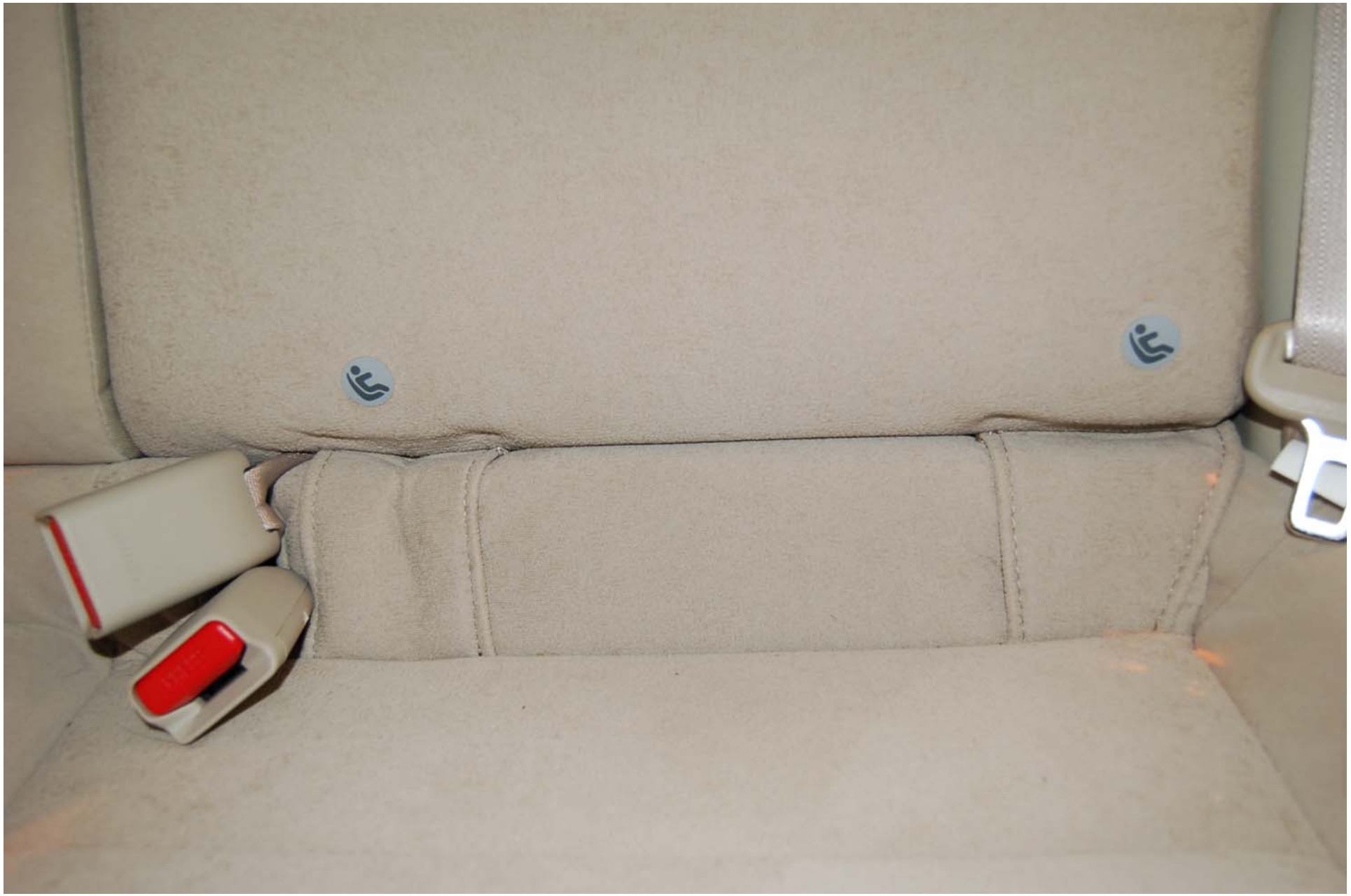

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FIGURE 5.7
ROW 2, VISIBILITY OF LOWER ANCHORS

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FIGURE 5.8
ROW 2, LOWER ANCHORS WITH COVERS OPENED

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FIGURE 5.9
ROW 2, LEFT SIDE, LOWER ANCHORS, PRE-TEST

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FIGURE 5.10
ROW 2, LOCATION OF TOP TETHER ANCHORS

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FIGURE 5.11
ROW 2, TOP TETHER ANCHORS, PRE-TEST

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FIGURE 5.12
ROW 2, RIGHT SIDE LOWER ANCHORS, PRE-TEST

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FIGURE 5.13
OVERALL VIEW OF ROW 2 SEATING POSITIONS, PRE-TEST

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FIGURE 5.14
ROW 2, LEFT SIDE WITH CRF

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FIGURE 5.15
ROW 2, LEFT SIDE WITH 2-D TEMPLATE

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FIGURE 5.16
ROW 2, LEFT SIDE TOP TETHER ROUTING

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FIGURE 5.17
ROW 2, RIGHT SIDE WITH CRF

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FIGURE 5.18
ROW 2, RIGHT SIDE WITH 2-D TEMPLATE

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FIGURE 5.19
ROW 2, RIGHT SIDE TOP TETHER ROUTING

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FIGURE 5.20
ROW 2, CENTER WITH 2-D TEMPLATE

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FIGURE 5.21
ROW 2, CENTER TOP TETHER ROUTING

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FIGURE 5.22
MEASUREMENT OF SYMBOL

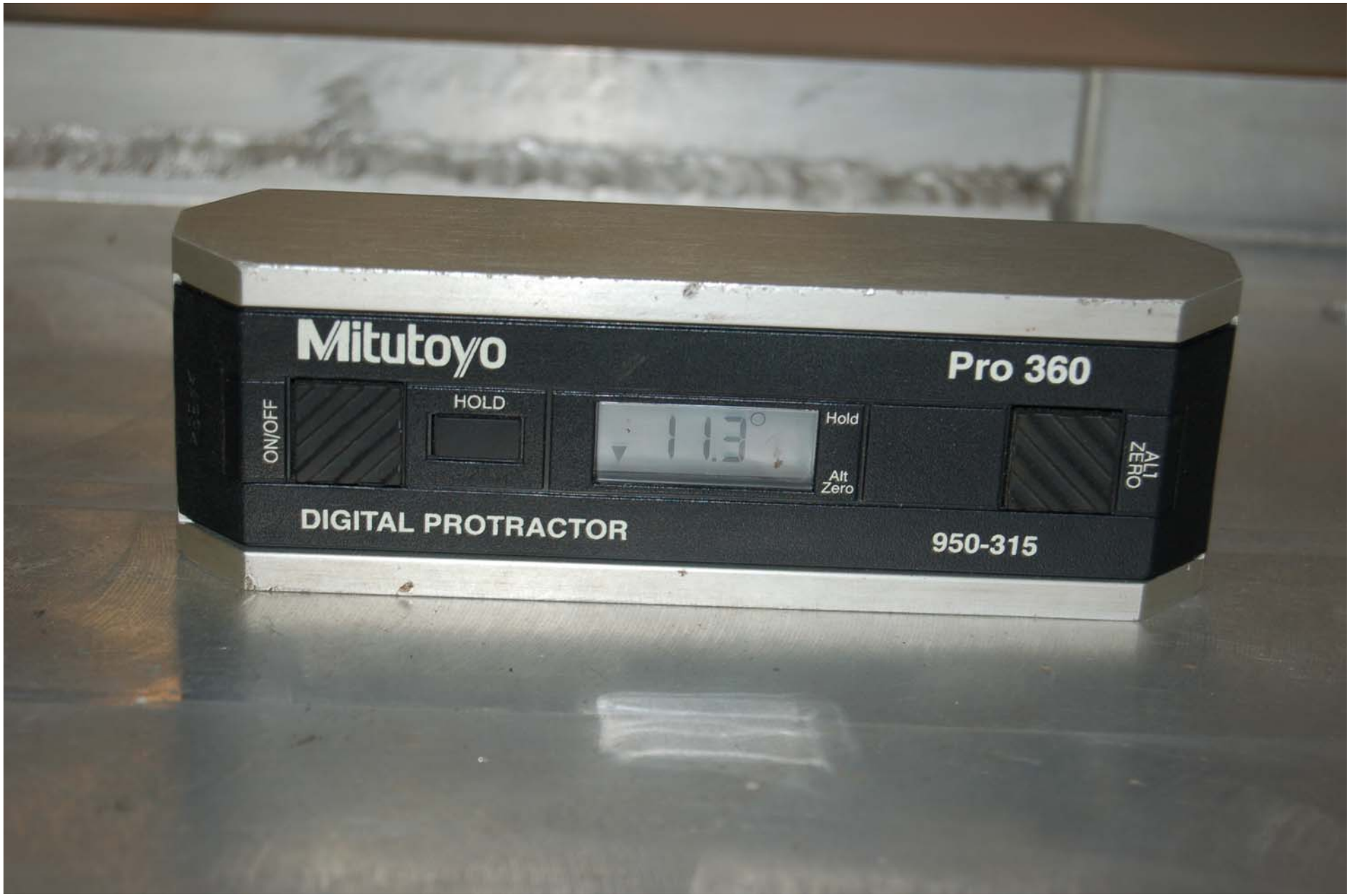

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FIGURE 5.23
ROW 2, RIGHT SIDE CRF PITCH MEASUREMENT

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FIGURE 5.24
ROW 2, RIGHT SIDE CRF PITCH MEASUREMENT

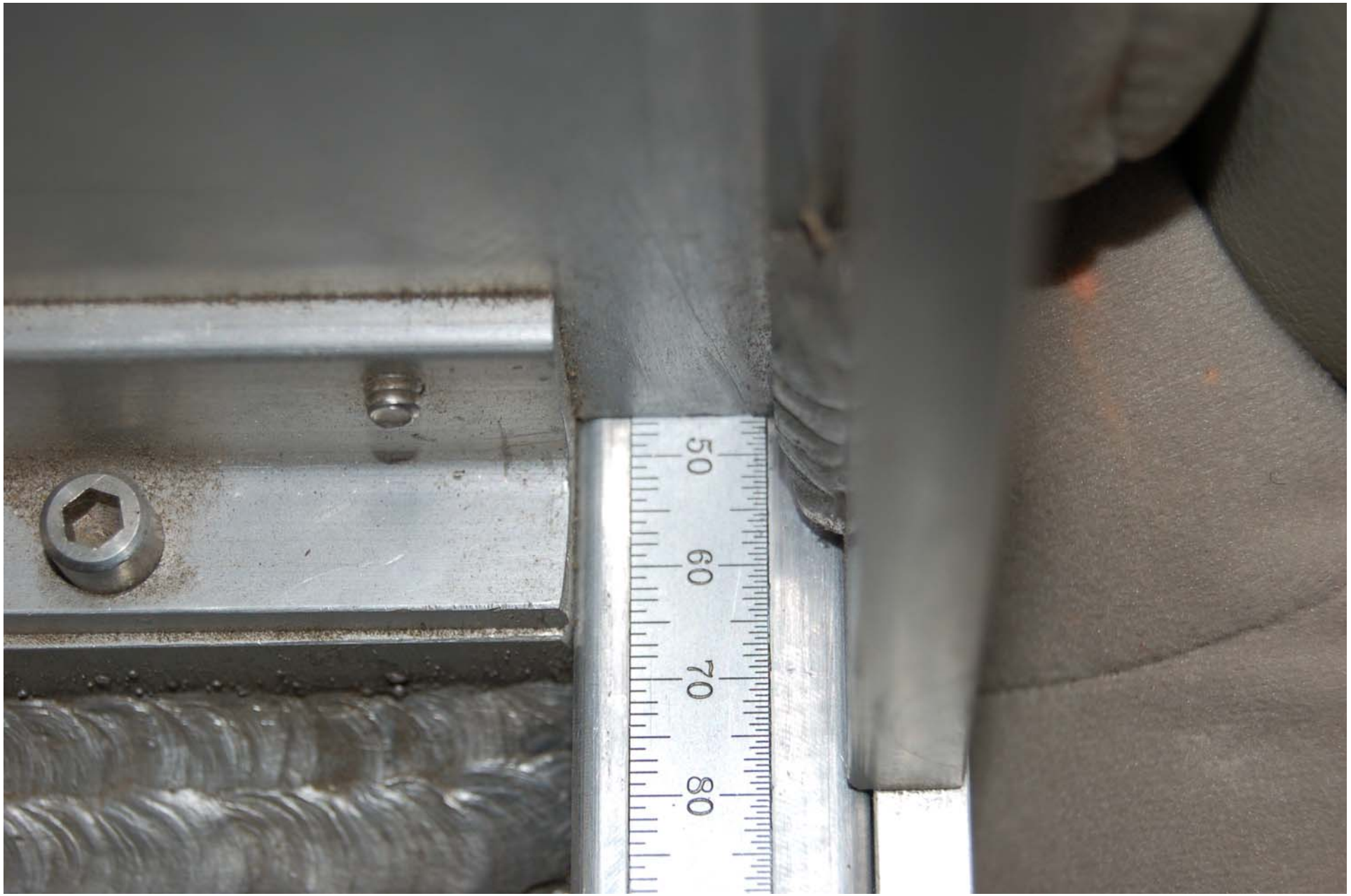

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FIGURE 5.25
ROW 2, LEFT SIDE OUTBOARD CRF MEASUREMENT

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FIGURE 5.26
ROW 2, RIGHT SIDE OUTBOARD CRF MEASUREMENT

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FIGURE 5.27
ROW 2, LEFT SIDE INBOARD CRF MEASUREMENT

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FIGURE 5.28
ROW 2, RIGHT SIDE INBOARD CRF MEASUREMENT

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FIGURE 5.29
ROW 2, LEFT SIDE OUTBOARD SRP MEASUREMENT

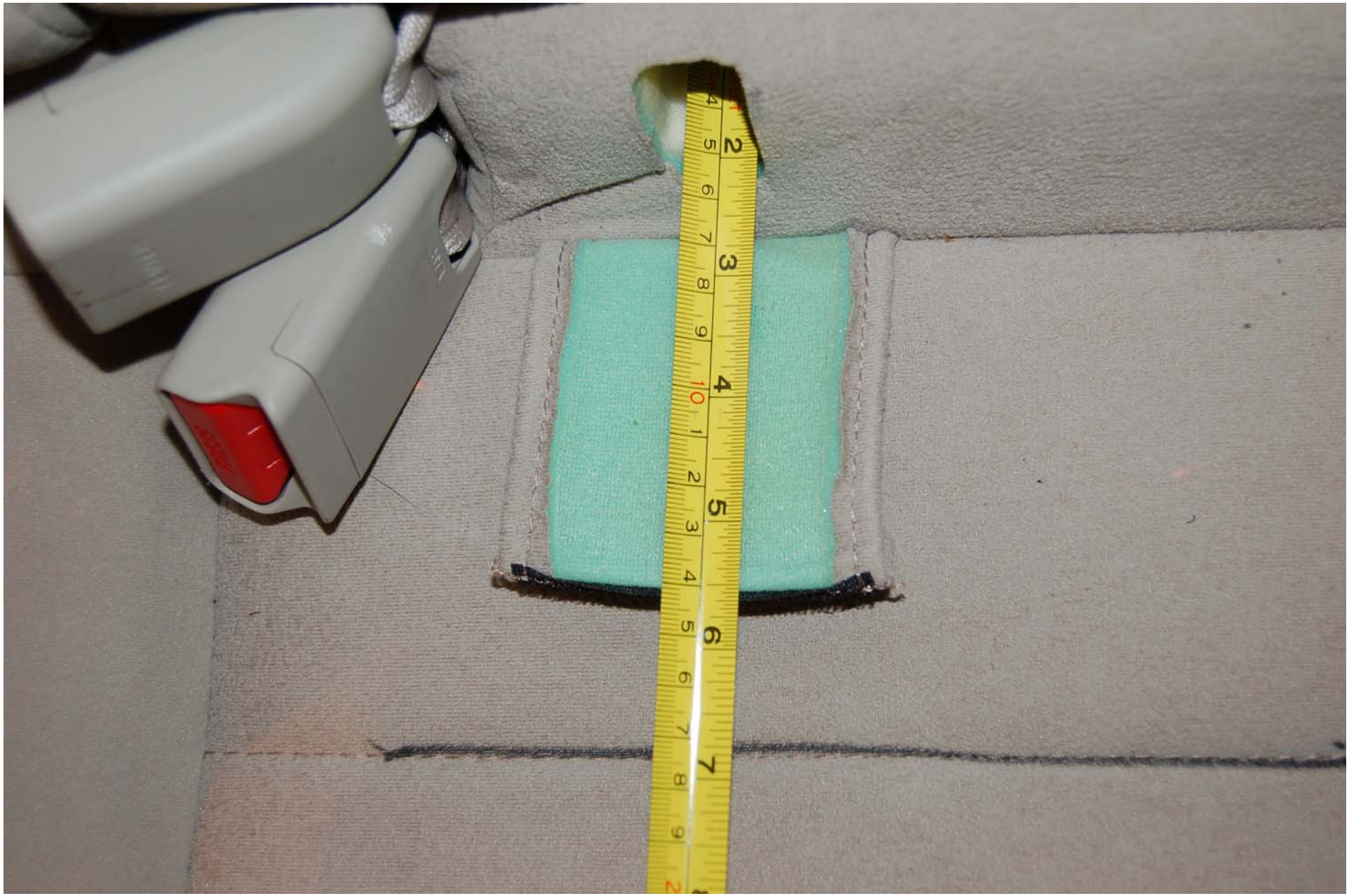

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FIGURE 5.30
ROW 2, LEFT SIDE INBOARD SRP MEASUREMENT

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FIGURE 5.31
ROW 2, RIGHT SIDE OUTBOARD SRP MEASUREMENT

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FIGURE 5.32
ROW 2, RIGHT SIDE INBOARD SRP MEASUREMENT

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FIGURE 5.33
¾ LEFT FRONT VIEW OF VEHICLE IN TEST RIG

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FIGURE 5.34
¾ RIGHT FRONT VIEW OF VEHICLE IN TEST RIG

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FIGURE 5.35
PRE-TEST ROW 2, LEFT SIDE WITH SFAD 2

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

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

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NHTSA NO. C85502
FMVSS NO. 225

FIGURE 5.38
POST TEST ROW 2, LEFT SIDE WITH SFAD 2

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FIGURE 5.39
PRE-TEST ROW 2, RIGHT SIDE WITH SFAD 2

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FIGURE 5.40
POST TEST ROW 2, RIGHT SIDE WITH SFAD 2

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FIGURE 5.41
PRE-TEST ROW 2, CENTER WITH SFAD 1

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FIGURE 5.42
PRE-TEST ROW 2, CENTER WITH SFAD 1

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FIGURE 5.43
POST TEST ROW 2, CENTER WITH SFAD 1

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FMVSS NO. 225

FIGURE 5.44
POST TEST ROW 2, CENTER WITH SFAD 1

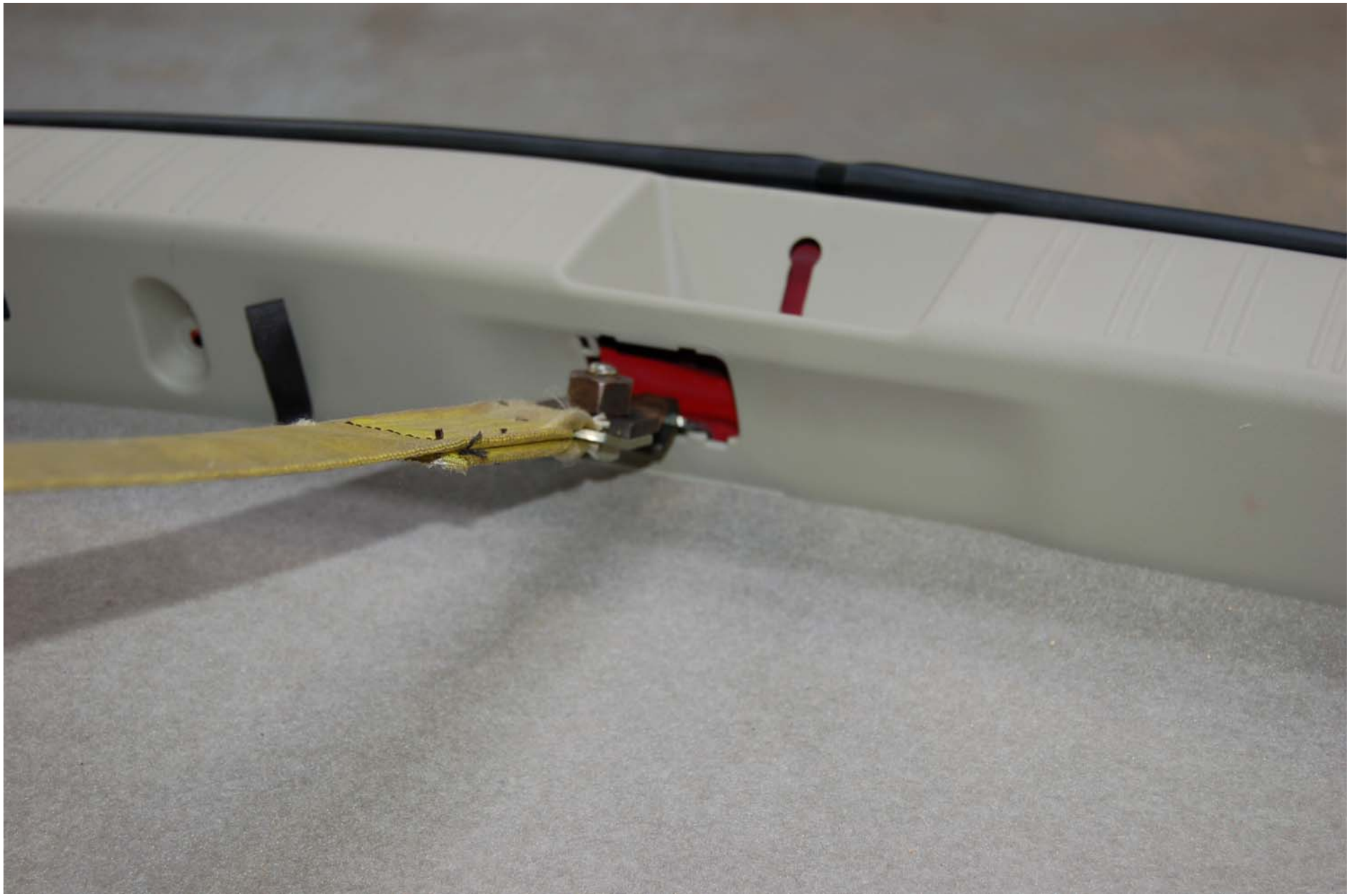

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FIGURE 5.45
POST TEST ROW 2, CENTER WITH SFAD 1

APPENDIX A
OWNER'S MANUAL RESTRAINT INFORMATION

⚠ CAUTION

The front sub sensors are located on both the right and left sides at the front of the vehicle, and the SRS airbag control module including the impact sensors is located under the center console. If you need service or repair in those areas or near the front seatbelt retractors, have the work performed by your authorized SUBARU dealer.

NOTE

If the front part of the vehicle is damaged in an accident to the extent that the seatbelt pretensioner does not operate, contact your SUBARU dealer as soon as possible.

■ Precautions against vehicle modification

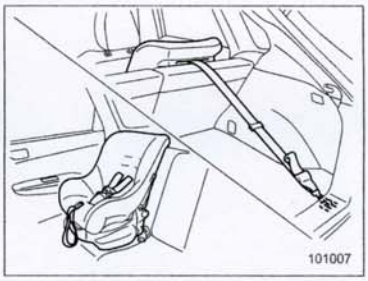
Always consult your SUBARU dealer if you want to install any accessory parts to your vehicle.

⚠ CAUTION

Do not perform any of the following modifications. Such modifications can interfere with proper operation of the seatbelt pretensioners.

- **Attachment of any equipment (bush bar, winches, snow plow, skid plate, etc.) other than genuine SUBARU accessory parts to the front end.**
- **Modification of the suspension system or front end structure.**
- **Installation of a tire of different size and construction from the tires specified on the vehicle placard attached to the driver's door pillar or specified for individual vehicle models in this Owner's Manual.**

Child restraint systems



Infants and small children should always be placed in an infant or child restraint system in the rear seat while riding in the vehicle. You should use an infant or child restraint system that meets Federal Motor Vehicle Safety Standards or Canada Motor Vehicle Safety Standards, is compatible with your vehicle and is appropriate for the child's age and size. All child restraint systems are designed to be secured in vehicle seats by lap belts or the lap belt portion of a lap/shoulder belt (except those covered in "Installation of child restraint systems by use of lower and tether anchorages (LATCH)").

Children could be endangered in an accident if their child restraints are not properly secured in the vehicle. When installing the child restraint system, carefully follow the manufacturer's instructions.

According to accident statistics, children are safer when properly restrained in the rear seating positions than in the front seating positions.

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

⚠ WARNING

Never let a passenger hold a child on his or her lap or in his or her arms while the vehicle is moving. The passenger cannot protect the child from injury in a collision, because the child will be caught between the passenger and objects inside the vehicle.

Additionally, holding a child in your lap or arms in the front seat exposes that child to another serious danger. Since the SRS airbag deploys with considerable speed and force, the child could be injured or even killed.

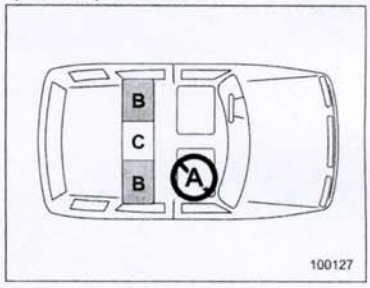
⚠ WARNING

Children should be properly restrained at all times. Never allow a child to stand up, or to kneel on any seat. Unrestrained children will be thrown forward during sudden stop or in an accident and can be injured seriously.

Additionally, children standing up or kneeling on or in front of the front seat are exposed another serious danger. Since the SRS airbag deploys with considerable speed and force, the child could be injured or even killed.

■ Where to place a child restraint system

The following are SUBARU's recommendations on where to place a child restraint system in your vehicle.



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A: Front passenger's seat

You should not install a child restraint system (including a booster seat) due to the hazard to children posed by the passenger's airbag.

B: Rear seat, window-side seating positions

Recommended positions for all types of child restraint systems.

In these positions, Automatic/Emergency Locking Retractor (A/ELR) seatbelts and lower anchorages (bars) are provided for installing a child restraint system.

Some types of child restraints might not be able to be secured firmly due to projection of the seat cushion.

In this seating position, you should use only a child restraint system that has a bottom base that fits snugly against the contours of the seat cushion and can be securely retained using the seatbelt.

C: Rear seat, center seating position

Installing a child restraint system is not recommended, although the A/ELR seatbelt and an upper anchorage (tether anchorage) are provided in this position.

Some types of child restraints might not be able to be secured firmly due to projection of the seat cushion.

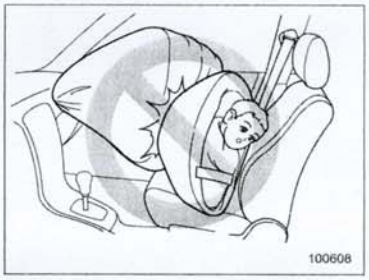
In this seating position, you should use only a child restraint system that has a bottom base that fits snugly against the contours of the seat cushion and can be securely retained using the seatbelt.

If it is unavoidable to install a child restraint system in the rear seat's center seating position, lower the center head restraint to the lowest position and install the child restraint system by correctly passing the rear center seatbelt through the belt guide.

⚠ WARNING

Put children aged 12 and under in the rear seat properly restrained at all times. The SRS airbag deploys with considerable speed and force and can injure or even kill children, especially if they are 12 years of age and under and are not restrained or improperly restrained. Because children are lighter and weaker than adults, their risk of being injured from deployment is greater.

For that reason, be sure to secure ALL types of child restraint devices (including forward facing child seats) in the REAR seats at all times. You should choose a restraint device which is appropriate for the child's age, height and weight. According to accident statistics, children are safer when properly restrained in the rear seating positions than in the front seating positions.



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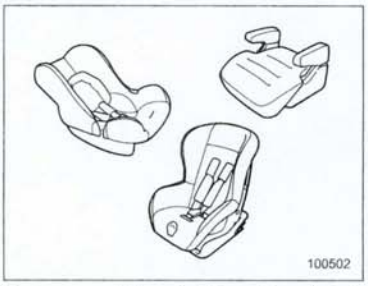
⚠ WARNING

SINCE YOUR VEHICLE IS EQUIPPED WITH A PASSENGER'S SRS AIRBAG, NEVER INSTALL A REARWARD FACING CHILD SAFETY SEAT IN THE FRONT PASSENGER'S SEAT. DOING SO RISKS SERIOUS INJURY OR DEATH TO THE CHILD BY PLACING THE CHILD'S HEAD TOO CLOSE TO THE SRS AIRBAG.

■ Choosing a child restraint system



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Choose a child restraint system that is appropriate for the child's age and size (weight and height) in order to provide the child with proper protection. The child restraint system should meet all applicable requirements of Federal Motor Vehicle Safety Standards for the United States or of Canada Motor Vehicle Safety Standards for Canada. It can be identified by looking for the label on the child restraint system or the manufacturer's statement of compliance in the document attached to the system.

Also it is important for you to make sure that the child restraint system is compatible with the vehicle in which it will be used.

■ Installing child restraint systems with A/ELR seatbelt

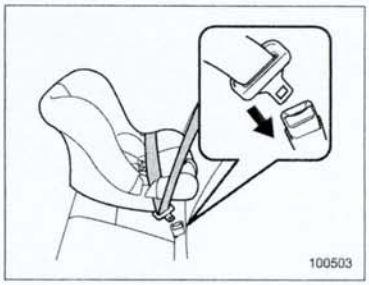
⚠ WARNING

- **Child restraint systems and seatbelts can become hot in a vehicle that has been closed up in sunny weather; they could burn a small child. Check the child restraint system before you place a child in it.**
- **Do not leave an unsecured child restraint system in your vehicle. Unsecured child restraint systems can be thrown around inside of the vehicle in a sudden stop, turn or accident; they can strike and injure vehicle occupants as well as result in serious injuries or death to the child.**

⚠ CAUTION

When you install a child restraint system, follow the manufacturer's instructions supplied with it. After installing the child restraint system, check to ensure that it is held securely in position. If it is not held tight and secure, the danger of your child suffering personal injury in the event of an accident may be increased.

▼ **Installing a rearward facing child restraint**



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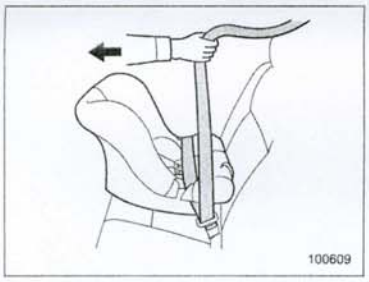
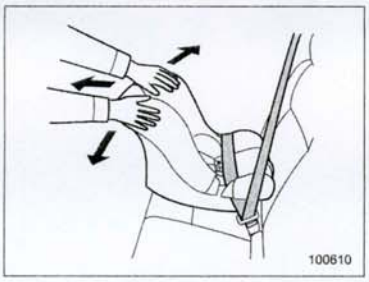
1. Place the child restraint system in the rear seating position.
2. Run the lap and shoulder belt through or around the child restraint system following the instructions provided by its manufacturer.
3. Insert the tongue plate into the buckle until you hear a click.

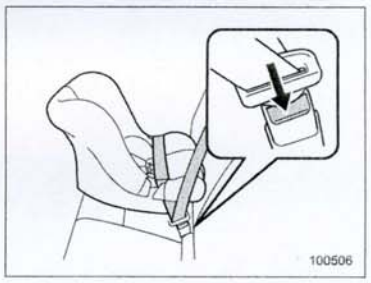
– CONTINUED –



4. Take up the slack in the lap belt.
5. Pull out the seatbelt fully from the retractor to change the retractor over from the Emergency Locking Retractor (ELR) to the Automatic Locking Retractor (ALR) function. Then, allow the belt to rewind into the retractor. As the belt is rewinding, clicks will be heard which indicate the retractor functions as ALR.



6. Push and pull the child restraint system forward and from side to side to check if it is firmly secured. Sometimes a child restraint can be more firmly secured by pushing it down into the seat cushion and then tightening the seatbelt.
7. Pull at the shoulder portion of the belt to confirm that it cannot be pulled out (ALR properly functioning).



8. To remove the child restraint system, press the release button on the seatbelt buckle and allow the belt to retract completely. The belt will return to the ELR mode.

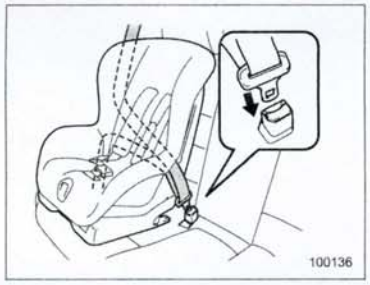
⚠ WARNING

NEVER INSTALL A REARWARD FACING CHILD SEAT IN THE FRONT PASSENGER'S SEAT. DOING SO RISKS SERIOUS INJURY OR DEATH TO THE CHILD BY PLACING THE CHILD'S HEAD TOO CLOSE TO THE SRS AIRBAG.

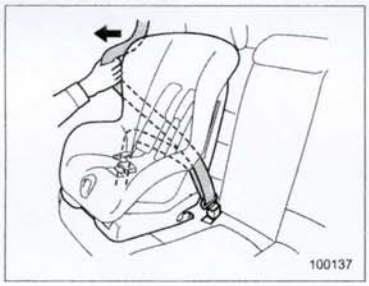
NOTE

When the child restraint system is no longer in use, remove it and restore the ELR function of the retractor. That function is restored by allowing the seatbelt to retract fully.

▼ Installing forward facing child restraint



1. Place the child restraint system in the rear seating position.
2. Run the lap and shoulder belt through or around the child restraint system following the instructions provided by its manufacturer.
3. Insert the tongue plate into the buckle until you hear a click.



4. Take up the slack in the lap belt.
5. Pull out the seatbelt fully from the retractor to change the retractor over from the Emergency Locking Retractor (ELR) to the Automatic Locking Retractor (ALR) function. Then, allow the belt to rewind into the retractor. As the belt is rewinding, clicks will be heard which indicate the retractor functions as ALR.

6. Before having a child sit in the child restraint system, move it back and forth and right and left to check if it is firmly secured. Sometimes a child restraint can be more firmly secured by pushing it down into the seat cushion and then tightening the seatbelt.
7. Pull at the shoulder portion of the belt to confirm that it cannot be pulled out (ALR properly functioning).

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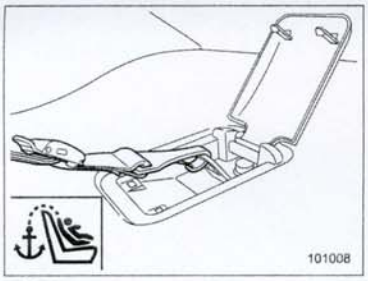
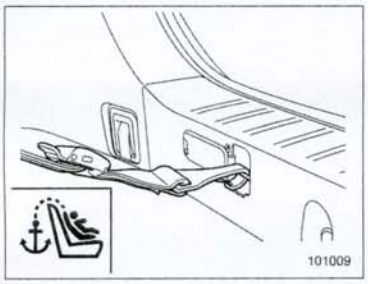
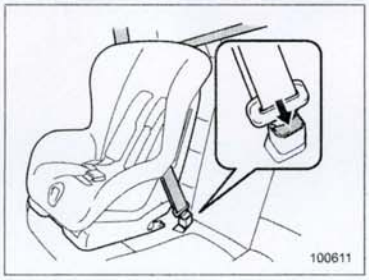


4-door



5-door

8. If the child restraint system requires a top tether, latch the hook onto the top tether anchorage and tighten the top tether. Refer to "Top tether anchorages" in this section for additional instructions.



9. To remove the child restraint system, press the release button on the seatbelt buckle and allow the belt to retract completely. The belt will return to the ELR mode.

NOTE

When the child restraint system is no longer in use, remove it and restore the ELR function of the retractor. That function is restored by allowing the seatbelt to retract fully.

■ Installing a booster seat

⚠ WARNING

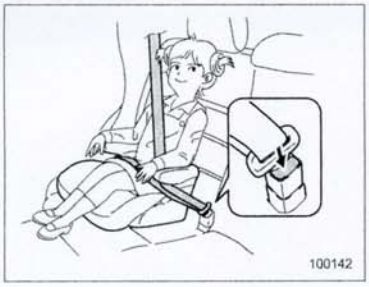
- **Child restraint systems and seatbelts can become hot in a vehicle that has been closed up in sunny weather; they could burn a small child. Check the child restraint system before you place a child in it.**
- **Do not leave an unsecured child restraint system in your vehicle. Unsecured child restraint systems can be thrown around inside of the vehicle in a sudden stop, turn or accident; they can strike and injure vehicle occupants as well as result in serious injuries or death to the child.**

⚠ CAUTION

When you install a child restraint system, follow the manufacturer's instructions supplied with it. After installing the child restraint system, check to ensure that it is held securely in position. If it is not held tight and secure, the danger of your child suffering personal injury in the event of an accident may be increased.

1. Place the booster seat in the rear seating position and sit the child on it. The child should sit well back on the booster seat.
2. Run the lap and shoulder belt through or around the booster seat and the child following the instructions provided by its manufacturer.
3. Insert the tongue plate into the buckle until you hear a click. Take care not to twist the seatbelt.

Make sure the shoulder belt is positioned across the center of child's shoulder and that the lap belt is positioned as low as possible on the child's hips.



4. To remove the booster seat, press the release button on the seatbelt buckle and allow the belt to retract.

⚠ WARNING

- **Never use a belt that is twisted or reversed. In an accident, this can increase the risk or severity of injury to the child.**
- **Never place the shoulder belt under the child's arm or behind the child's back. If an accident occurs, this can increase the risk or severity of injury to the child.**
- **The seatbelt should fit snugly in order to provide full restraint. Loose fitting belts are not as effective in preventing or reducing injury.**
- **Place the lap belt as low as possible on the child's hips. A high-positioned lap belt will increase the risk of sliding under the lap belt and of the lap belt sliding up over the abdomen, and both can result in serious internal injury or death.**
- **Make sure the shoulder belt is positioned across the center of child's shoulder. Placing the shoulder belt over the neck may result in neck injury during sudden braking or in a collision.**

■ Installation of child restraint systems by use of lower and tether anchorages (LATCH)

⚠ WARNING

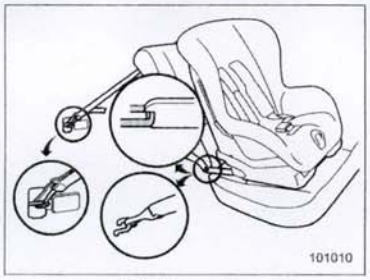
- **Child restraint systems and seatbelts can become hot in a vehicle that has been closed up in sunny weather; they could burn a small child. Check the child restraint system before you place a child in it.**
- **Do not leave an unsecured child**

– CONTINUED –

restraint system in your vehicle. Unsecured child restraint systems can be thrown around inside of the vehicle in a sudden stop, turn or accident; they can strike and injure vehicle occupants as well as result in serious injuries or death to the child.

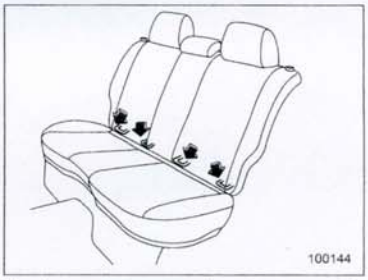
⚠ CAUTION

When you install a child restraint system, follow the manufacturer's instructions supplied with it. After installing the child restraint system, check to ensure that it is held securely in position. If it is not held tight and secure, the danger of your child suffering personal injury in the event of an accident may be increased.

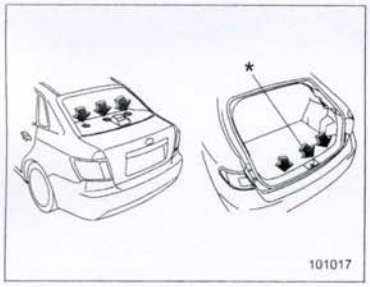


Some types of child restraint systems can be installed on the rear seat of your vehicle without use of the seatbelts. Such child restraint systems are secured to the designated anchorages provided on the vehicle body. The lower and tether anchorages are sometimes referred to as the LATCH system (**L**ower **A**nchors and **T**ethers for **CH**ildren).

Your vehicle is equipped with four lower anchorages (bars) and three upper anchorages (tether anchorages) for accommodating such child restraint systems.

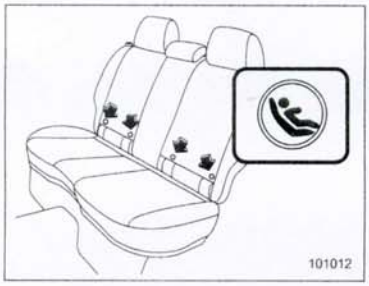


The lower anchorages (bars) are used for installing a child restraint system only on the rear seat window-side seating positions. For each window-side seating position, two lower anchorages are provided. Each lower anchorage is located where the seat cushion meets the seatback.

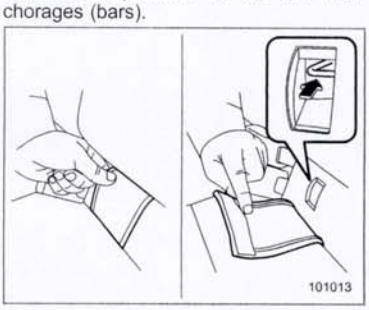


*: For the Latin American models, a tether anchorage is not provided in this center location.

The tether anchorages (upper anchorages) are provided at the locations shown in the above illustration.

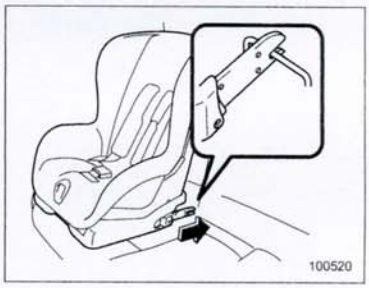


You will find marks "⊛" at the bottom of the rear seat seatbacks. These marks indicate the positions of the lower anchorages (bars).



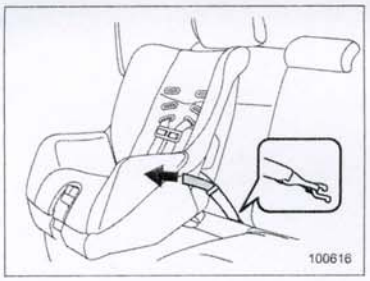
Each lower anchorage is located where the seat cushion meets the seatback.

1. Use the "⊛" marks to locate the two lower anchorages (bars) for the position where you want to install the child restraint system.



2. While following the instructions supplied by the child restraint system manufacturer, connect the lower hooks onto the lower anchorages located at "⊛" marks on the bottom of the rear seatback. When the hooks are connected, make sure the adjacent seatbelts are not caught.

– CONTINUED –



3. [If your child restraint system is of a flexible attachment type (which uses tether belts to connect the child restraint system properly to the lower anchorages)] While pushing the child restraint into the seat cushion, pull both left and right lower tether belts up to secure the child restraint system firmly by taking up the slack in the belt.
4. Connect the top tether hook to the tether anchorage and firmly tighten the tether.

For information on how to set the top tether, refer to "Top tether anchorages" in this section.

5. Before seating a child in the child restraint system, try to move seat back and forth and right and left to verify that it is held securely in position.
6. To remove the child restraint system, follow the reverse procedures of installation.

If you have any question concerning this type of child restraint system, ask your SUBARU dealer.

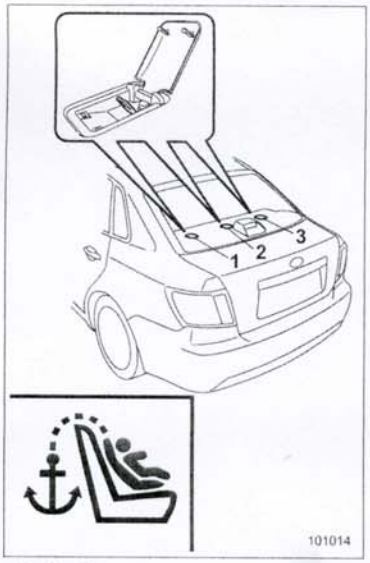
■ Top tether anchorages

Your vehicle is equipped with two or three top tether anchorages so that a child restraint system having a top tether can be installed in the rear seat. When installing a child restraint system using top tether, proceed as follows, while observing the instructions by the child restraint system manufacturer.

Since a top tether can provide additional stability by offering another connection between a child restraint system and the vehicle, we recommend that you use a top tether whenever one is required or available.

▼ Anchorage location

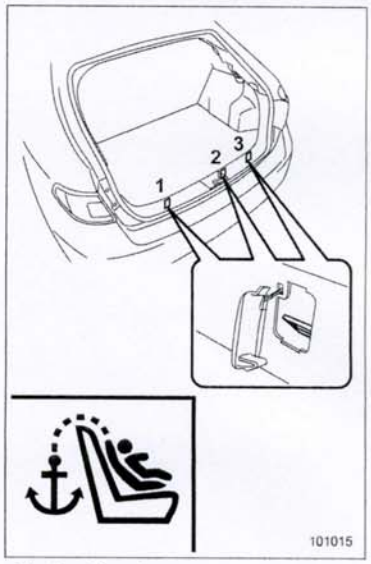
▽ 4-door



1) For left seat
2) For center seat
3) For right seat

Three upper anchorages are installed on the rear shelf behind the rear seat.

▽ 5-door



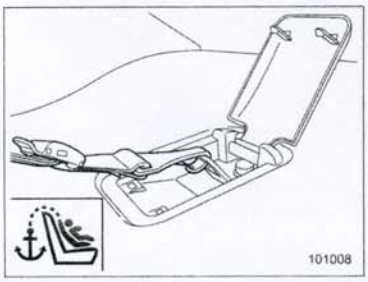
1) For left seat
2) For center seat (For the Latin American models, a tether anchorage is not provided in this center location.)
3) For right seat

– CONTINUED –

There are two or three anchorages for each seating position on the rear wall of the cargo area.

▼ **To hook the top tether**

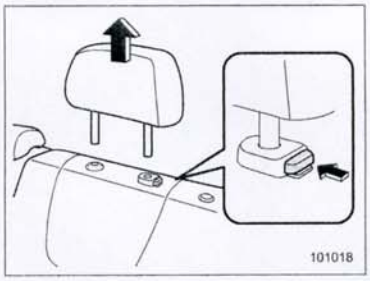
▽ **4-door**



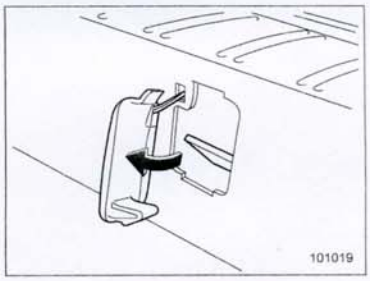
1. Attach the child restraint top tether hook to the appropriate upper anchorage.
2. Tighten the top tether securely.

Please contact your SUBARU dealer if you have any question regarding the installation of a child restraint system.

▽ **5-door**



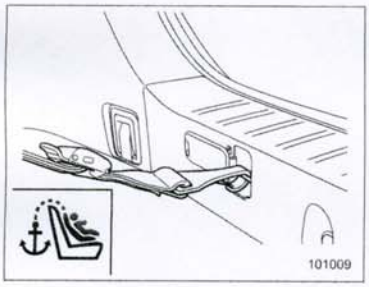
1. Remove the headrest at the window-side seating position where the child restraint system has been installed with the lower anchorages or seatbelt; lift up the headrest while pressing the release button. Store the headrest in the cargo area. Avoid placing the headrest in the passenger compartment to prevent it from being thrown around in the passenger compartment in a sudden stop or a sharp turn.



2. For both window-side seating positions, remove the cover for the appropriate upper anchorage.

NOTE

For Latin America model, there is a top tether cover on the floor cover.



3. Attach the child restraint top tether hook to the appropriate upper anchorage.
4. Tighten the top tether securely.

Please contact your SUBARU dealer if you have any question regarding the installation of a child restraint system.

⚠ CAUTION

Always remove the headrest when mounting a child restraint system with a top tether. Otherwise, the top tether cannot be fastened tightly.

*SRS airbag (Supplemental Restraint System airbag)

*SRS: This stands for supplemental restraint system. This name is used because the airbag system supplements the vehicle's seatbelts.

Your vehicle is equipped with a crash sensing and diagnostic module, which will record the use of the seatbelt by the front passenger when any of the SRS frontal, side and curtain airbags deploys.

■ Vehicle with SRS airbags and lap/shoulder restraints for driver, front passenger, and window-side rear passengers

Your vehicle is equipped with a supplemental restraint system in addition to a lap/shoulder belt at each front seating position and each rear window-side seating positions. The supplemental restraint system (SRS) consists of six airbags.

The configurations are as follows:

- Driver's and front passenger's **frontal** airbags
- Driver's and front passenger's **side** airbags
- **Curtain** airbags (for driver, front passenger, and window-side rear passengers)

These SRS airbags are designed only as a supplement to the primary protection provided by the seatbelt.

The system also controls front seatbelt pretensioners. For operation instructions and precautions concerning the seatbelt pretensioner, refer to the "Front seatbelt pretensioners" section in this chapter.

⚠ WARNING

- **To obtain maximum protection in the event of an accident, the driver and all passengers in the vehicle should always wear seatbelts when the vehicle is moving. The SRS airbag is designed only as a supplement to the primary protection provided by the seatbelt. It does not do away with the need to fasten seatbelts. In combination with the seatbelts, it offers the best combined protection in case of a serious accident.**

  Not wearing a seatbelt increases the chance of severe injury or death in a crash even when the vehicle has the SRS airbag.

  For instructions and precautions concerning the seatbelt system,

– CONTINUED –

refer to the "Seatbelts" section in this chapter.

- Do not sit or lean unnecessarily close to the SRS airbag. Because the SRS airbag deploys with considerable speed – faster than the blink of an eye – and force to protect in high speed collisions, the force of an airbag can injure an occupant whose body is too close to SRS airbag.

  It is also important to wear your seatbelt to help avoid injuries that can result when the SRS airbag contacts an occupant not in proper position such as one thrown forward during pre-accident braking.

  Even when properly positioned, there remains a possibility that an occupant may suffer minor injury such as abrasions and bruises to the face or arms because of the SRS airbag deployment force.
- The SRS airbags deploy with considerable speed and force. Occupants who are out of proper position when the SRS airbag deploys could suffer very serious injuries. Because the SRS airbag needs enough space for deployment, the driver should always sit upright and well back in the seat as far from the steering wheel as practical while still maintaining full vehicle control and the front passenger should move the seat as far back as possible and sit upright and well back in the seat.
- Do not place any objects over or near the SRS airbag cover or between you and the SRS airbag. If the SRS airbag deploys, those objects could interfere with its proper operation and could be propelled inside the vehicle and cause injury.

100082

⚠ WARNING

- Put children aged 12 and under in the rear seat properly restrained at all times. The SRS airbag deploys with considerable speed and force and can injure or even kill children, especially if they are 12 years of age and under and are not restrained or improperly restrained. Because children are lighter and weaker than adults, their risk of being injured from deployment is greater.

  For that reason, we strongly recommend that ALL children (including those in child seats and those that have outgrown child restraint devices) sit in the REAR seat properly restrained at all times in a child restraint device or in a seatbelt, whichever is appropriate for the child's age, height and weight.

  Secure ALL types of child restraint devices (including forward facing child seats) in the REAR seats at all times.

  According to accident statistics, children are safer when properly restrained in the rear seating positions than in the front seating positions.

  For instructions and precautions concerning the child restraint system, refer to the "Child restraint systems" section in this chapter.
- NEVER INSTALL A REARWARD FACING CHILD SEAT IN THE FRONT SEAT. DOING SO RISKS SERIOUS INJURY OR DEATH TO THE CHILD BY PLACING THE CHILD'S HEAD TOO CLOSE TO THE SRS AIRBAG.
- Never allow a child to stand up, or to kneel on the front passenger's seat, or never hold a child on your lap or in your arms. The SRS airbag deploys with considerable force and can injure or even kill the child.

⚠ CAUTION

- When the SRS airbag deploys, some smoke will be released. This smoke could cause breathing problems for people with a history of asthma or other breathing trouble. If you or your passengers have breathing problems after SRS airbag deploys, get fresh air promptly.
- A deploying SRS airbag releases hot gas. Occupants could get burned if they come into direct contact with the hot gas.

NOTE

When you sell your vehicle, we urge you to explain to the buyer that it is equipped with SRS airbags by alerting him or her to the applicable section in this Owner's Manual.

– CONTINUED –

APPENDIX B

MANUFACTURER'S DATA

FORM – 225
Rev. 03/20/07

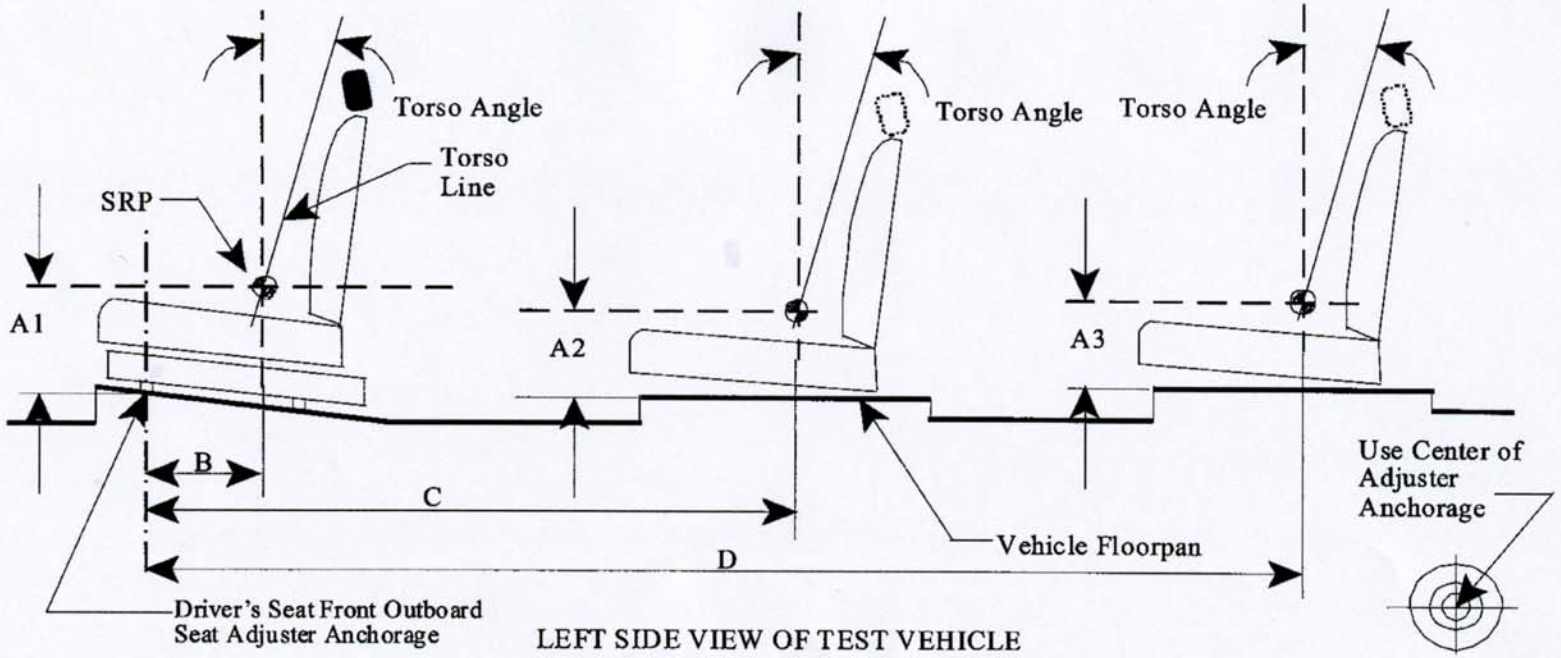
SEAT REFERENCE POINT (SRP) AND TORSO ANGLE DATA

FMVSS No. 225

(All dimensions in mm[1])

MODEL YEAR: 2008 / MAKE: SUBARU / MODEL: IMPREZA / BODY STYLE: Sedan, Wagon

SEAT STYLE: FRONT ROW: Individual / SECOND ROW: Contoured / 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		218.1	-	198.1
A2		255.0	265.0	255.0
A3		-	-	-
B		370.8	-	382.1
C		1142.5	1107.5	1142.5
D		-	-	-
Torso Angle (degree)	Front Row	25°	-	25°
	Second Row	26°	24°	26°
	Third Row	-	-	-

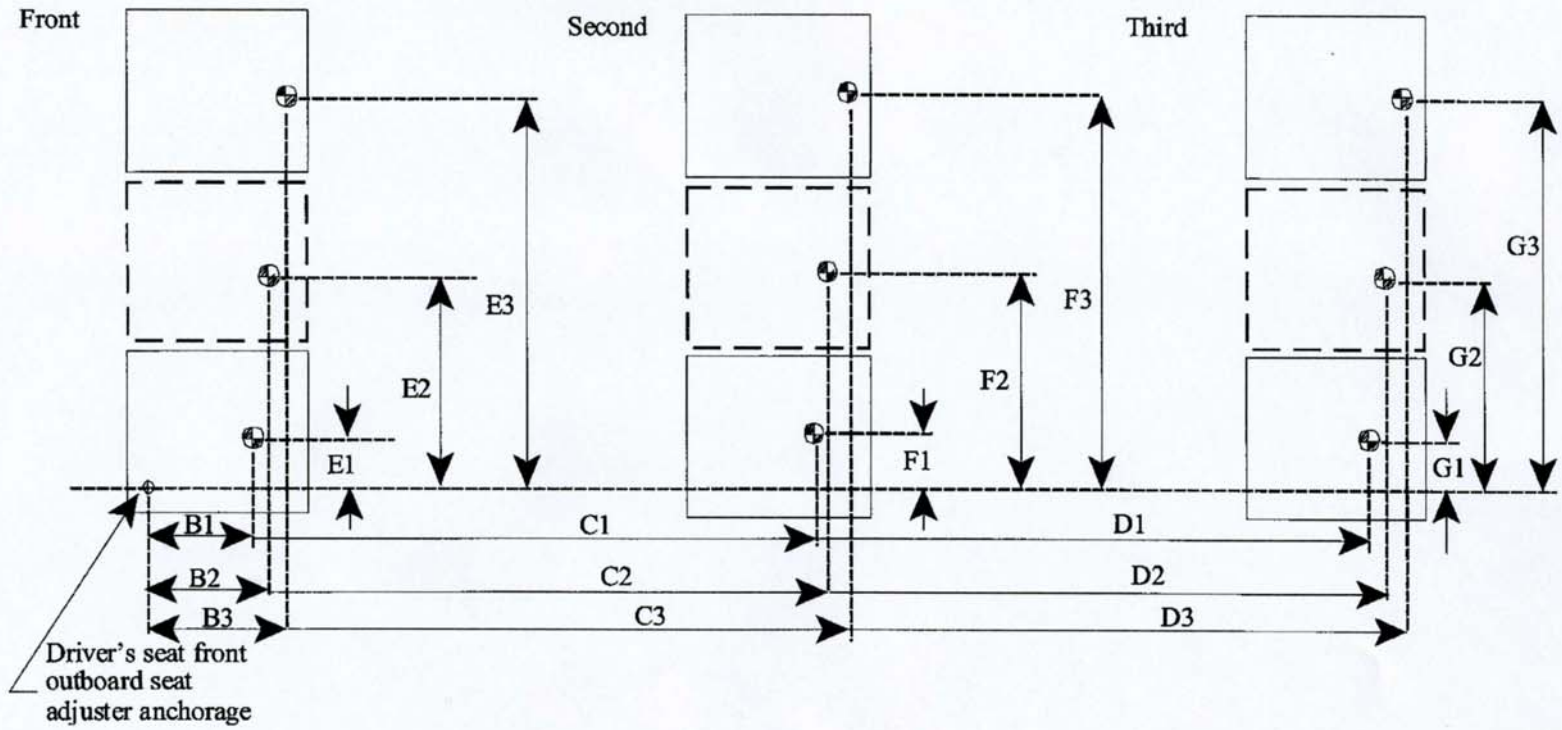
Note: All dimensions are in mm. If not, provide the unit used.

SEATING REFERENCE POINT

FMVSS No. 225
(All dimensions in mm)

MODEL YEAR: 2008 / MAKE: SUBARU / MODEL: IMPREZA / BODY STYLE: Sedan, Wagon

SEAT STYLE: FRONT ROW: Individual / SECOND ROW: Contoured / THIRD ROW: N/A



FORM – 225

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	370.8
	E1	219
	B2	-
	E2	-
	B3	382.1
	E3	929
Second Row	C1	1142.5
	F1	209.0
	C2	1107.5
	F2	574.0
	C3	1142.5
	F3	939.0
Third Row	D1	-
	G1	-
	D2	-
	G2	-
	D3	-
	G3	-

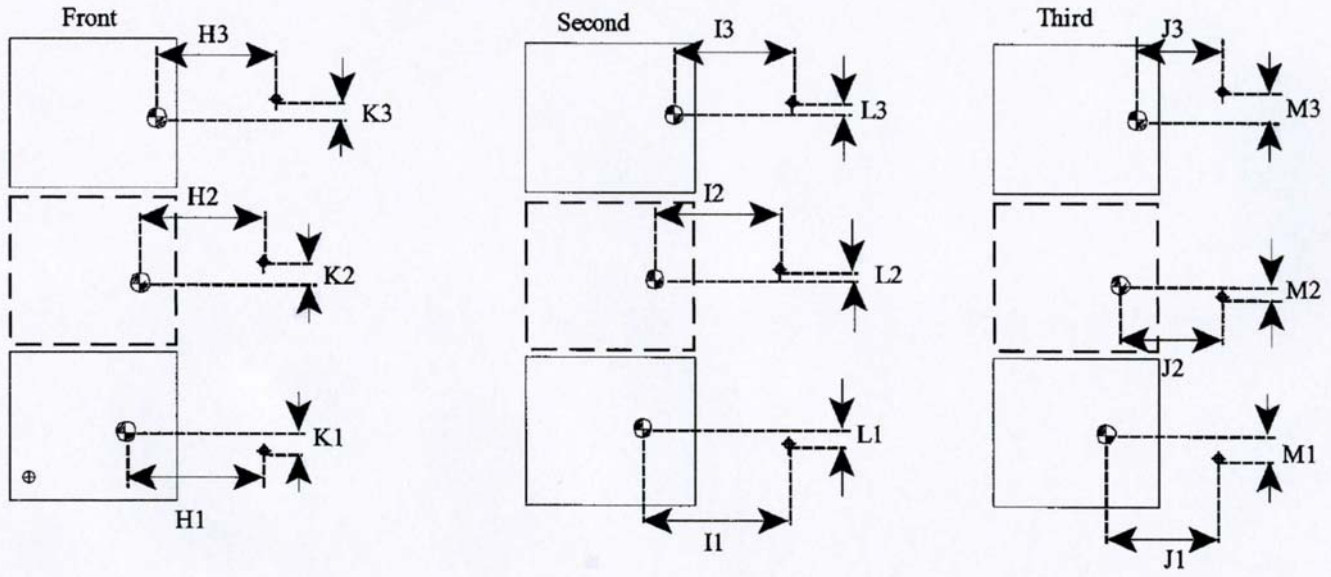
Note: Use the center of anchorage.

TETHER ANCHORAGE LOCATIONS

FMVSS No. 225
(All dimensions in mm)

MODEL YEAR: 2008 / MAKE: SUBARU / MODEL: IMPREZA / BODY STYLE: Sedan, Wagon

SEAT STYLE: FRONT ROW: Individual / SECOND ROW: Contoured / THIRD ROW: N/A



: SRP

: Tether anchorage

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

FORM – 225

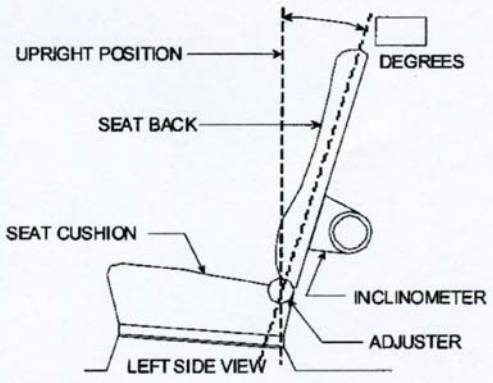
Table 3. Seating Reference Point and Tether Anchorage Locations

Seating Reference Point (SRP)	Distance from SRP	
Front Row	H1	-
	K1	-
	H2	-
	K2	-
	H3	-
	K3	-
Second Row	I1	708.1 (Sedan), 1059.4 (Wagon)
	L1	+26.5 (Sedan), +27.3 (Wagon)
	I2	743.1 (Sedan), 1117.1 (Wagon)
	L2	0 (Sedan), +35 (Wagon)
	I3	708.1 (Sedan), 1059.4 (Wagon)
	L3	-26.5 (Sedan), -27.3 (Wagon)
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 = 25 degrees.

Measurement Instructions:

Count the most upright detent position as "1".
The design seatback angle is the 7th detent position.

Seat back angle for passenger's seat = 25 degrees.

Measurement Instructions:

Same as driver's seat.

Seat back angle for 2nd row seat = 26 degrees (Outer seat), 24 degrees (Center seat).

Measurement Instructions:

There is no adjustable function.

Seat back angle for 3rd row seat = _N.A._ degrees.

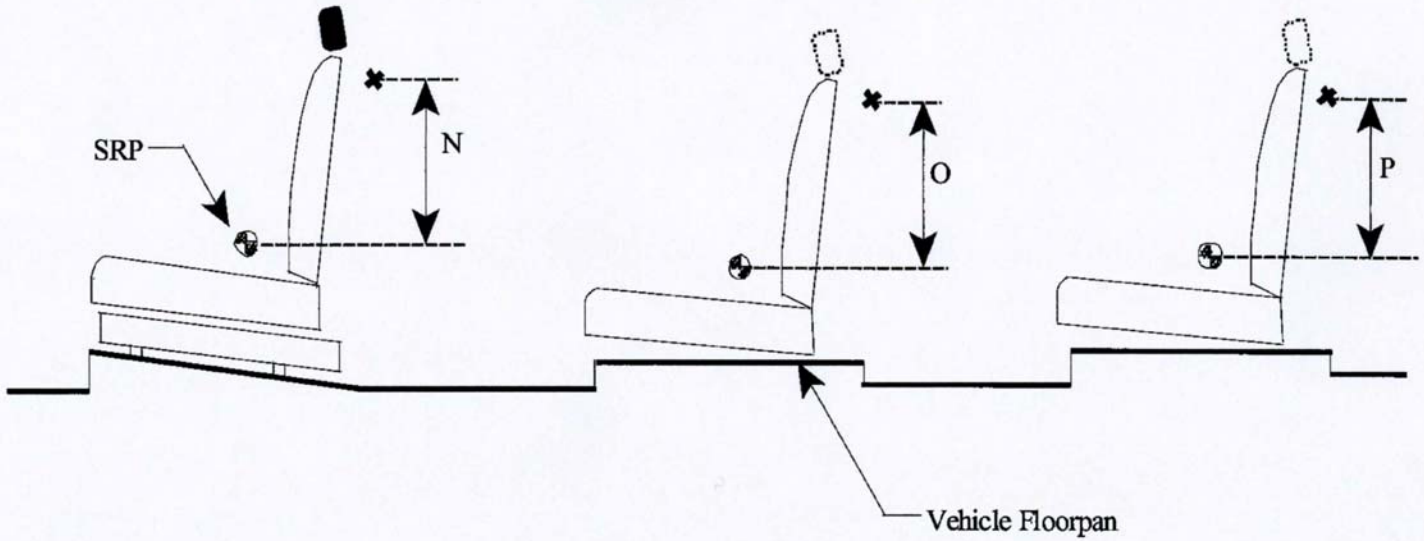
Measurement Instructions:
N.A.

TETHER ANCHORAGE LOCATIONS - VERTICAL

FMVSS No. 225
(All dimensions in mm)

MODEL YEAR: 2008 / MAKE: SUBARU / MODEL: IMPREZA / BODY STYLE: Sedan, Wagon

SEAT STYLE: FRONT ROW: Individual / SECOND ROW: Contoured / THIRD ROW: N.A.



LEFT SIDE VIEW OF TEST VEHICLE

FORM – 225

Table 4. Vertical Dimension For The Tether Anchorage

Seating Row	Vertical Distance from Seating Reference Point	
Front Row	N1 (Driver)	N/A
	N2 (Center)	-
	N3 (Right)	-
Second Row	O1 (Left)	526.7 (Sedan), 111.4 (Wagon)
	O2 (Center)	516.7 (Sedan), 82.4 (Wagon)
	O3 (Right)	526.7 (Sedan), 111.4 (Wagon)
Third Row	P1 (Left)	-
	P2 (Center)	-
	P3 (Right)	-

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

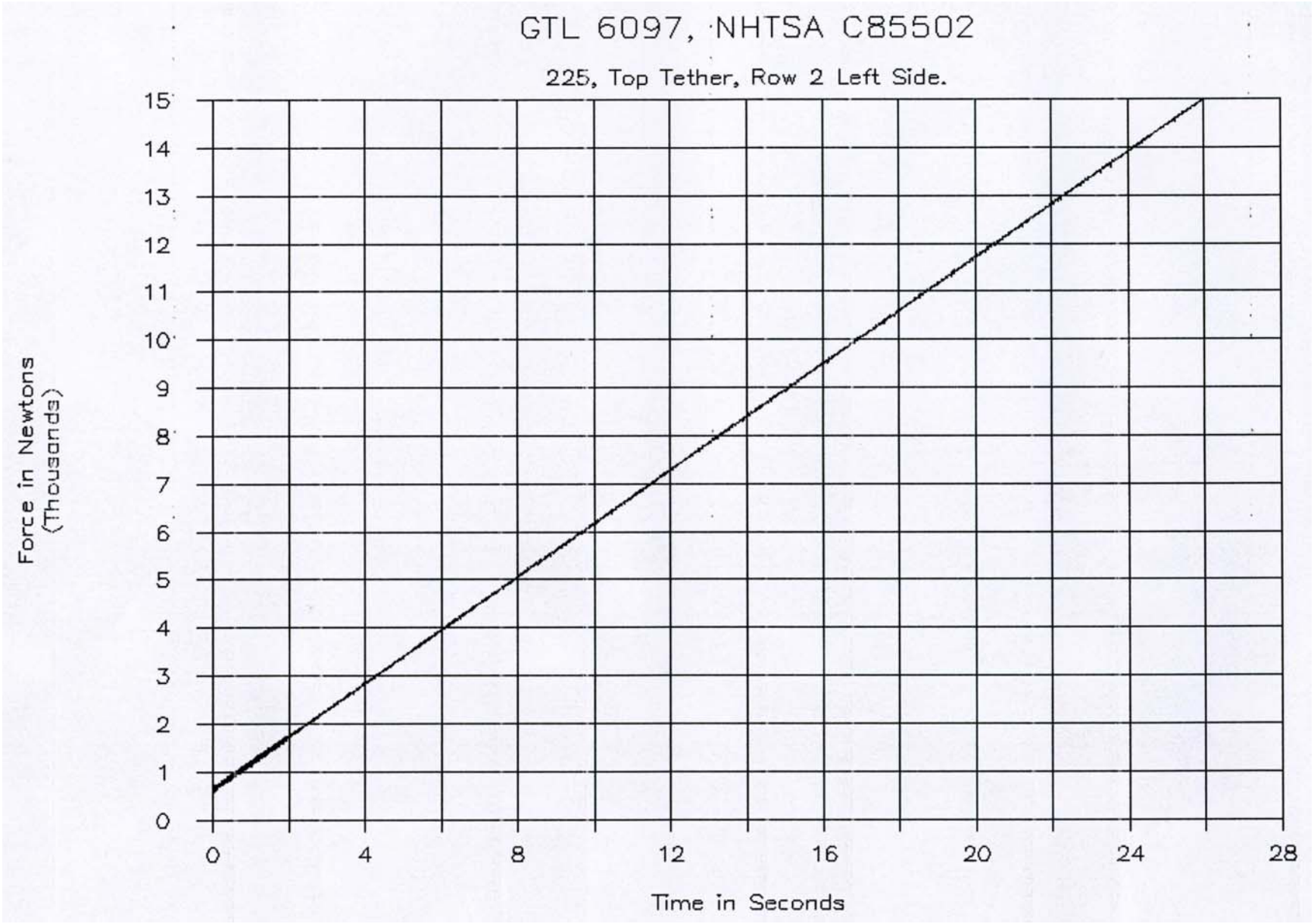
For each vehicle, provide the following information:

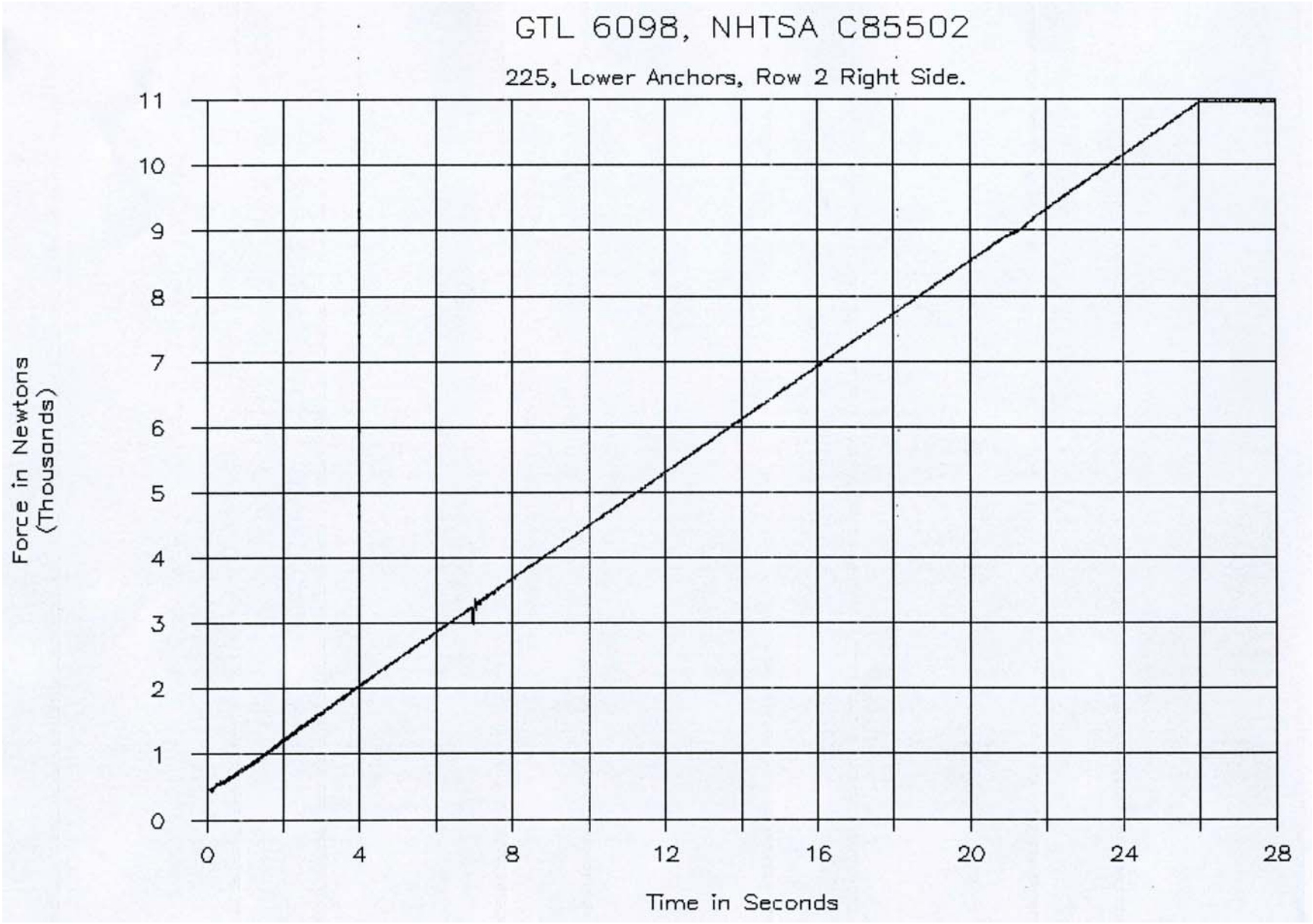
1. How many designated seating positions exist in the vehicle? Five.

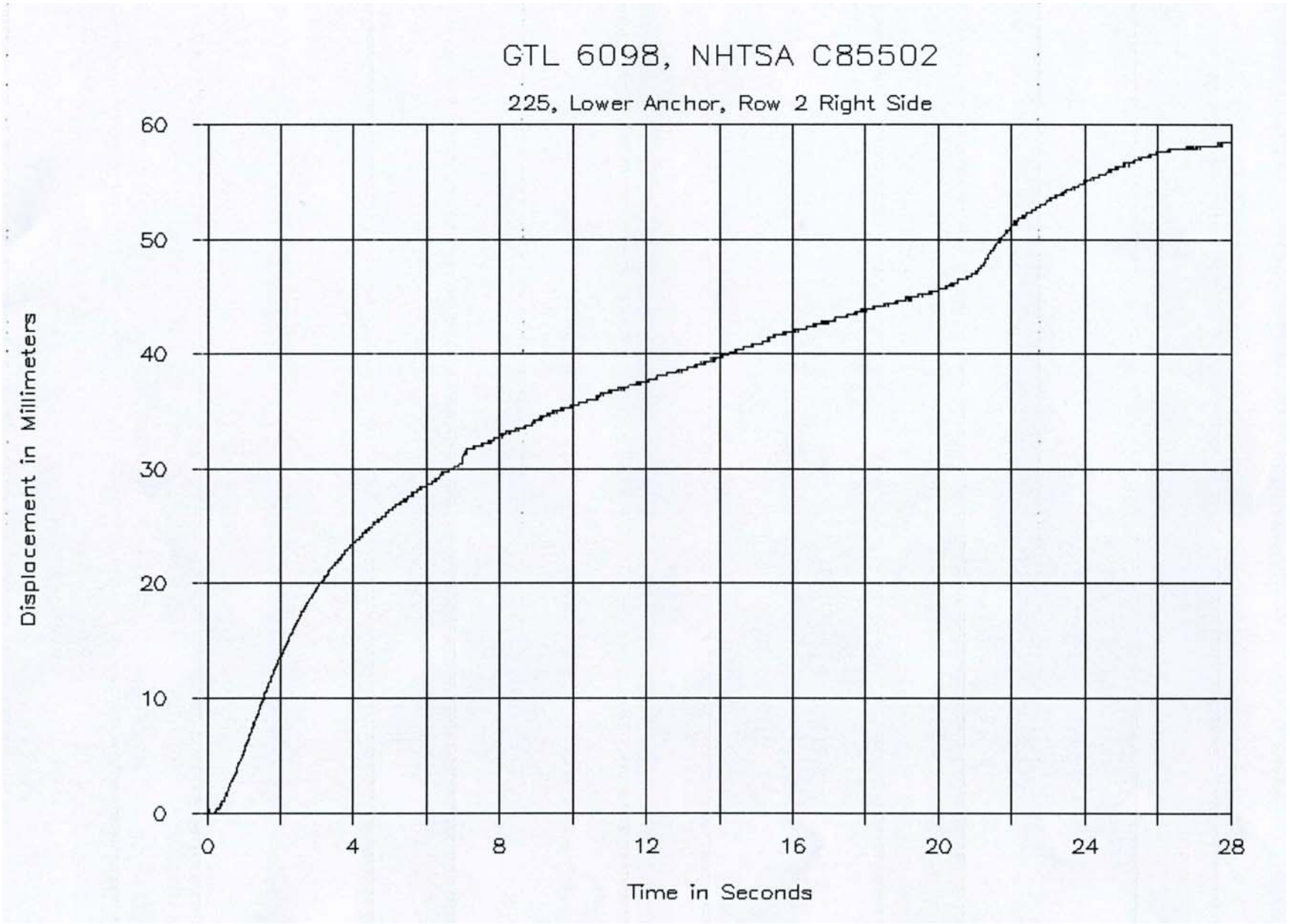
2. How many designated seating positions are equipped with lower anchorages and tether anchorages? Specify which position(s). Two. O1 and O3.

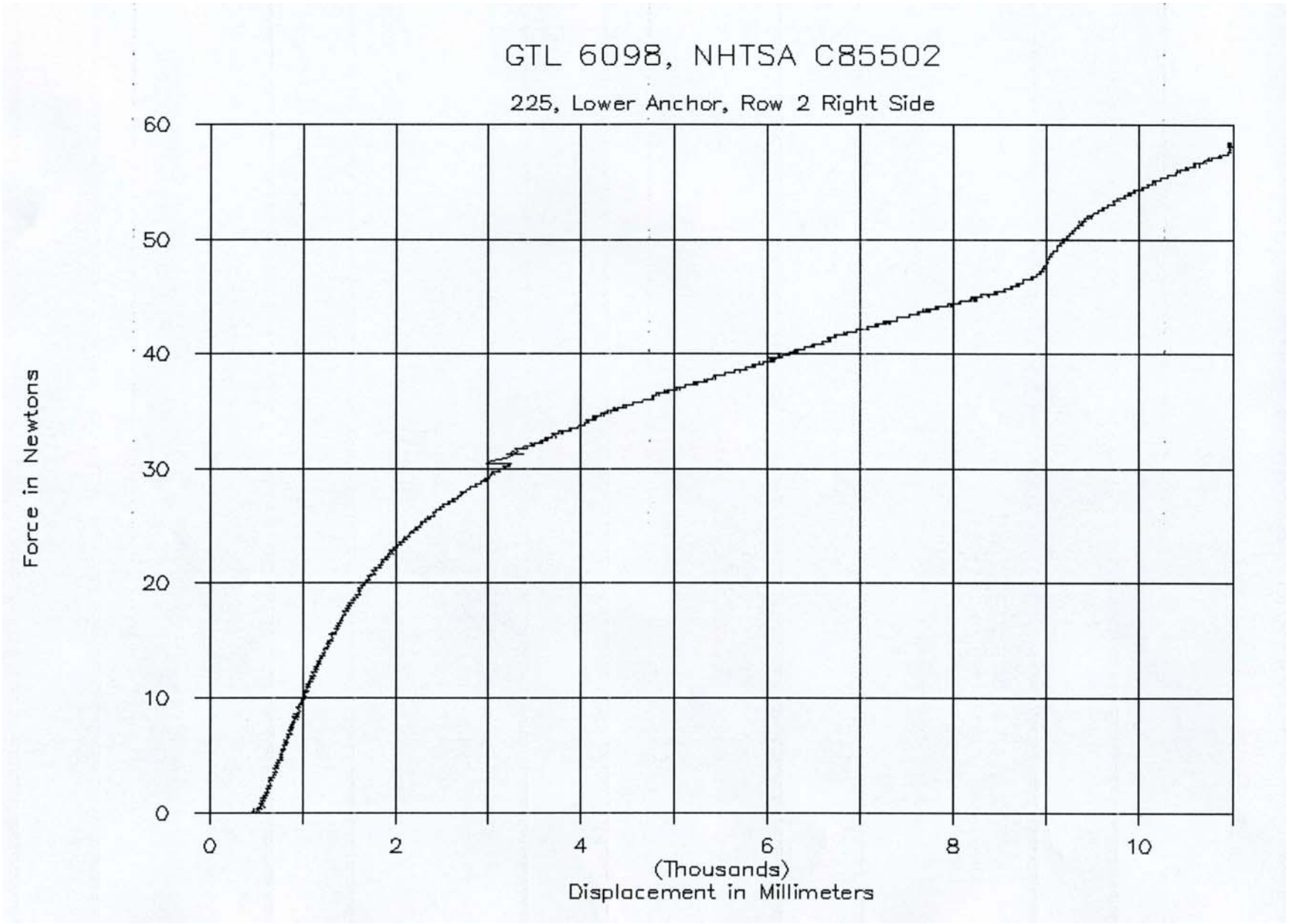
3. How many designated seating positions are equipped with tether anchorages? Specify which positions(s). Three. O1, O2 and O3.
4. Lower Anchorages Marking and Conspicuity: Whether the anchorages are certified to S9.5(a) or S9.5(b) of FMVSS No. 225. It is certified to S9.5(a).

APPENDIX C
PLOTS


GTL 6097, NHTSA C85502
225, Top Tether, Row 2 Left Side.
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


GTL 6098, NHTSA C85502
225, Lower Anchors, Row 2 Right Side.
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 6098, NHTSA C85502
225, Lower Anchor, Row 2 Right Side
Displacement in Millimeters
60
50
40
30
20
10
0
0
4
8
12
16
20
24
28
Time in Seconds


GTL 6098, NHTSA C85502
225, Lower Anchor, Row 2 Right Side
Force in Newtons
60
50
40
30
20
10
0
0
2
4
6
8
10
(Thousands)
Displacement in Millimeters


GTL 6099, NHTSA C85502
225, Top Tether, Row 2 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