REPORT NUMBER 225-GTL-07-003

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

HYUNDAI MOTOR COMPANY
2007 HYUNDAI ELANTRA, PASSENGER CAR
NHTSA NO. C70502

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

APRIL 18, 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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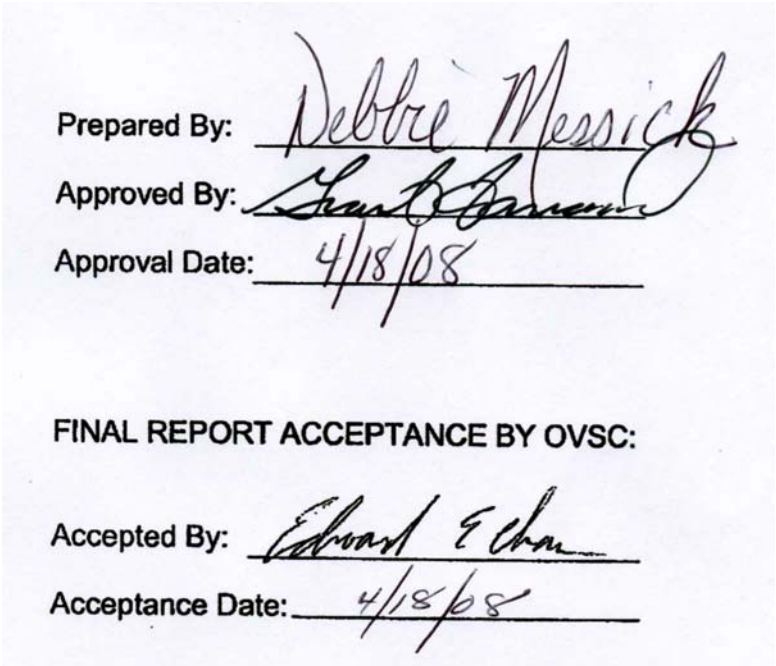

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12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Admin. Enforcement Office of Vehicle Safety Compliance (NVS-220) 1200 New Jersey Ave., S.E., Washington, DC 20590		13. Type of Report and Period Covered Final Test Report November 6-7, 2007 April 3, 2008 14. Sponsoring Agency Code NVS-221
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16. Abstract Compliance tests were conducted on the subject, 2007 Hyundai Elantra 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: Owners Manual does not contain explanation of lower child restraint anchor symbol. S225 Requirement Paragraph S9.5.2.		
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SECTION 1

PURPOSE OF COMPLIANCE TEST

1.0 PURPOSE OF COMPLIANCE TEST

A 2007 Hyundai Elantra 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 2007 Hyundai Elantra Passenger Car. Nomenclature applicable to the test vehicle are:

A. Vehicle Identification Number: KMHDU46D97U035111

B. NHTSA No.: C70502

C. Manufacturer: HYUNDAI MOTOR COMPANY

D. Manufacture Date: SEP/13/06

1.2 TEST DATE

The test vehicle was subjected to FMVSS No. 225 testing on November 6-7, 2007.

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 2007 HYUNDAI ELANTRA PASSENGER CAR appeared to meet the requirements of FMVSS 225, except Paragraph S9.5.2. Owners Manual does not contain explanation of lower child restraint anchor symbol.

SECTION 3

COMPLIANCE TEST DATA

3.0 TEST DATA

The following data sheets document the results of testing on the 2007 Hyundai Elantra Passenger Car.

DATA SHEET 1
SUMMARY OF RESULTS

VEH. MOD YR/MAKE/MODEL/BODY: 2007 HYUNDAI ELANTRA PASSENGER CAR
VEH. NHTSA NO: C70502; VIN: KMHDU46D97U035111
VEH. BUILD DATE: SEP/13/06 ; TEST DATE: NOVEMBER 6-7, 2007
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	N/A	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: 11/09/07

APPROVED BY: D. Messick

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

VEH. MOD YR/MAKE/MODEL/BODY: 2007 HYUNDAI ELANTRA PASSENGER CAR
VEH. NHTSA NO: C70502; VIN: KMHDU46D97U035111
VEH. BUILD DATE: SEP/13/06 ; TEST DATE: NOVEMBER 6, 2007
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))

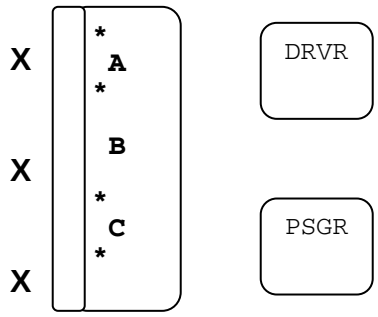
If the vehicle has 3 or more rear dsps and a non-outboard dsp, is a tether anchorage or CRAS provided at a non-outboard dsp? YES

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: 11/06/07

APPROVED BY: D. Messick

DATA SHEET 3
LOCATION OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2007 HYUNDAI ELANTRA PASSENGER CAR
VEH. NHTSA NO: C70502; VIN: KMHDU46D97U035111
VEH. BUILD DATE: SEP/13/06 ; TEST DATE: NOVEMBER 6, 2007
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 hat 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: 11/06/07

APPROVED BY: D. Messick

DATA SHEET 3A
LOCATION OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2007 HYUNDAI ELANTRA PASSENGER CAR
VEH. NHTSA NO: C70502; VIN: KMHDU46D97U035111
VEH. BUILD DATE: SEP/13/06 ; TEST DATE: NOVEMBER 6, 2007
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 hat 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: 11/06/07

APPROVED BY: D. Messick

DATA SHEET 3B
LOCATION OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2007 HYUNDAI ELANTRA PASSENGER CAR
VEH. NHTSA NO: C70502; VIN: KMHDU46D97U035111
VEH. BUILD DATE: SEP/13/06 ; TEST DATE: NOVEMBER 6, 2007
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 hat 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: 11/06/07

APPROVED BY: D. Messick

DATA SHEET 4
LOWER ANCHORAGE DIMENSIONS

VEH. MOD YR/MAKE/MODEL/BODY: 2007 HYUNDAI ELANTRA PASSENGER CAR
VEH. NHTSA NO: C70502; VIN: KMHDU46D97U035111
VEH. BUILD DATE: SEP/13/06 ; TEST DATE: NOVEMBER 6, 2007
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

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

Outboard Lower Anchorage bar diameter: 6.01 mm
6mm ± 0.1 mm = PASS Other size = FAIL (S9.1.1(a))

Inboard Lower Anchorage bar diameter: 6.00 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): 27 mm
Length ≥25mm = PASS Length <25mm = FAIL(S9.1.1(c) (i))

Length of the straight portion of the bar (inboard lower anchorage): 27 mm
Length ≥25mm = PASS Length <25mm = FAIL(S9.1.1(c) (i))

Length between the anchor bar supports (outboard lower anchorage): 34 mm
Length ≤60mm = PASS Length >60mm = FAIL(S9.1.1(c) (ii))

Length between the anchor bar supports (inboard lower anchorage): 35 mm
Length ≤60mm = PASS Length >60mm = FAIL(S9.1.1(c) (ii))

CRF Pitch angle: 10.7
Angle = 15º±10º = PASS Angle≠15º±10º = FAIL (S9.2.1)

CRF Roll angle: 0.3
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: 35
Distance ≤70mm = PASS Distance > 70mm = FAIL

Distance between point Z on the CRF and the front surface of inboard anchor bar: 35
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: 170 mm
Distance ≥ 120mm = PASS Distance < 120mm = FAIL

Distance between SgRP and the front surface of inboard anchor bar: 160 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: 11/06/07

APPROVED BY: D. Messick

DATA SHEET 4A
LOWER ANCHORAGE DIMENSIONS

VEH. MOD YR/MAKE/MODEL/BODY: 2007 HYUNDAI ELANTRA PASSENGER CAR
VEH. NHTSA NO: C70502; VIN: KMHDU46D97U035111
VEH. BUILD DATE: SEP/13/06 ; TEST DATE: NOVEMBER 6, 2007
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: 6.04 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): 26 mm
Length ≥25mm = PASS Length <25mm = FAIL(S9.1.1(c) (i))

Length of the straight portion of the bar (inboard lower anchorage): 26 mm
Length ≥25mm = PASS Length <25mm = FAIL(S9.1.1(c) (i))

Length between the anchor bar supports (outboard lower anchorage): 34 mm
Length ≤60mm = PASS Length >60mm = FAIL(S9.1.1(c) (ii))

Length between the anchor bar supports (inboard lower anchorage): 34 mm
Length ≤60mm = PASS Length >60mm = FAIL(S9.1.1(c) (ii))

CRF Pitch angle: 10.8
Angle = 15º±10º = PASS Angle≠15º±10º = FAIL (S9.2.1)

CRF Roll angle: 0.9
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: 32
Distance ≤70mm = PASS Distance > 70mm = FAIL

Distance between point Z on the CRF and the front surface of inboard anchor bar: 32
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: 160 mm
Distance ≥ 120mm = PASS Distance < 120mm = FAIL

Distance between SgRP and the front surface of inboard anchor bar: 163 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: 11/06/07

APPROVED BY: D. Messick

DATA SHEET 5
CONSPICUITY AND MARKING OF LOWER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2007 HYUNDAI ELANTRA PASSENGER CAR
VEH. NHTSA NO: C70502; VIN: KMHDU46D97U035111
VEH. BUILD DATE: SEP/13/06 ; TEST DATE: NOVEMBER 7, 2007
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

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

MARKING (Circles)

Diameter of the circle: 16.0 mm
Diameter ≥13mm = PASS Diameter <13mm = FAIL (S9.5(a)(1))

Does the circle have words, symbols or pictograms? PICTOGRAPH
NO skip to next question
YES, are the meaning of the words, symbols or pictograms explained in the owner's manual? NO
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: 80 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: 5
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: 11/07/07

APPROVED BY: D. Messick

DATA SHEET 6
STRENGTH OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2007 HYUNDAI ELANTRA PASSENGER CAR
VEH. NHTSA NO: C70502; VIN: KMHDU46D97U035111
VEH. BUILD DATE: SEP/13/06 ; TEST DATE: APRIL 3, 2008
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE
TEST NO: 5985

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

SFAD: 2

Seat Back Angle: 25º FIXED

Location of seat back angle measurement: 2D Template

Head Restraint Position: UP

D-ring Position: N/A

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

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

Tether strap tension: 67 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): 14,968 N

Tested simultaneously with another DSP? NO

COMMENTS:

RECORDED BY: G. FARRAND DATE: 04/03/08

APPROVED BY: D. MESSICK

DATA SHEET 7
STRENGTH OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2007 HYUNDAI ELANTRA PASSENGER CAR
VEH. NHTSA NO: C70502; VIN: KMHDU46D97U035111
VEH. BUILD DATE: SEP/13/06 ; TEST DATE: APRIL 3, 2008
TEST LABORATORY:GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE
TEST NO: 5987

DESIGNATED SEATING POSITION: ROW 2 CENTER (DSP B)

SFAD: 1

Seat Back Angle: 24º FIXED

Location of seat back angle measurement: 2D Template

Head Restraint Position: UP

D-ring Position: N/A

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

Lap belt tension: 60 N (SFAD 1 only)

Tether strap tension: 67 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): 14,968 N

Tested simultaneously with another DSP? NO

COMMENTS:

RECORDED BY: G. FARRAND DATE: 04/03/08

APPROVED BY: D. MESSICK

DATA SHEET 8
STRENGTH OF LOWER ANCHORAGES (Forward Force)

VEH. MOD YR/MAKE/MODEL/BODY: 2007 HYUNDAI ELANTRA PASSENGER CAR
VEH. NHTSA NO: C70502; VIN: KMHDU46D97U035111
VEH. BUILD DATE: SEP/13/06 ; TEST DATE: APRIL 3, 2008
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE
TEST NO: 5986

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

Seat Back Angle: 25º FIXED

Location of seat back angle measurement: 2D Template

Head Restraint Position: N/A

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 (10,950 N ± 50 N): 10,960 N

Displacement, H1 (at 500 N): 0.0

Displacement, H2 (at maximum load): 78.2 mm

Displacement of Point X: 78.2 mm (H2-H1)
Displacement > 175 mm = FAIL (S9.4.1(a))

Tested simultaneously with another DSP? NO

Distance between adjacent DSP's: 330 mm

COMMENTS:

RECORDED BY: G. FARRAND DATE: 04/03/08

APPROVED BY: D. MESSICK

DATA SHEET 9
OWNER'S MANUAL

VEH. MOD YR/MAKE/MODEL/BODY: 2007 HYUNDAI ELANTRA PASSENGER CAR
VEH. NHTSA NO: C70502; VIN: KMHDU46D97U035111
VEH. BUILD DATE: SEP/13/06 ; TEST DATE: NOVEMBER 6, 2007
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: NO

PASS FAIL X

COMMENTS:

RECORDED BY: G. Farrand DATE: 11/06/07

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	496	03/07	03/08
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

2007 HYUNDAI ELANTRA
NHTSA NO. C70502
FMVSS NO. 225

FIGURE 5.1
¾ FRONTAL RIGHT SIDE VIEW OF VEHICLE

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FIGURE 5.2
¾ REARWARD LEFT SIDE VIEW OF VEHICLE

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FMVSS NO. 225

FIGURE 5.3
CLOSE-UP VIEW OF VEHICLE CERTIFICATION LABEL

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FMVSS NO. 225

FIGURE 5.4
CLOSE-UP VIEW OF VEHICLE TIRE INFORMATION LABEL

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FIGURE 5.5
VISIBILITY OF LOWER ANCHORS

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FIGURE 5.6
ROW 2, LEFT SIDE, OUTBOARD LOWER ANCHOR,
PRE-TEST

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FMVSS NO. 225

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

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FIGURE 5.8
ROW 2, LEFT SIDE, TOP TETHER ANCHOR, PRE-TEST

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FMVSS NO. 225

FIGURE 5.9
ROW 2, CENTER, TOP TETHER ANCHOR, PRE-TEST

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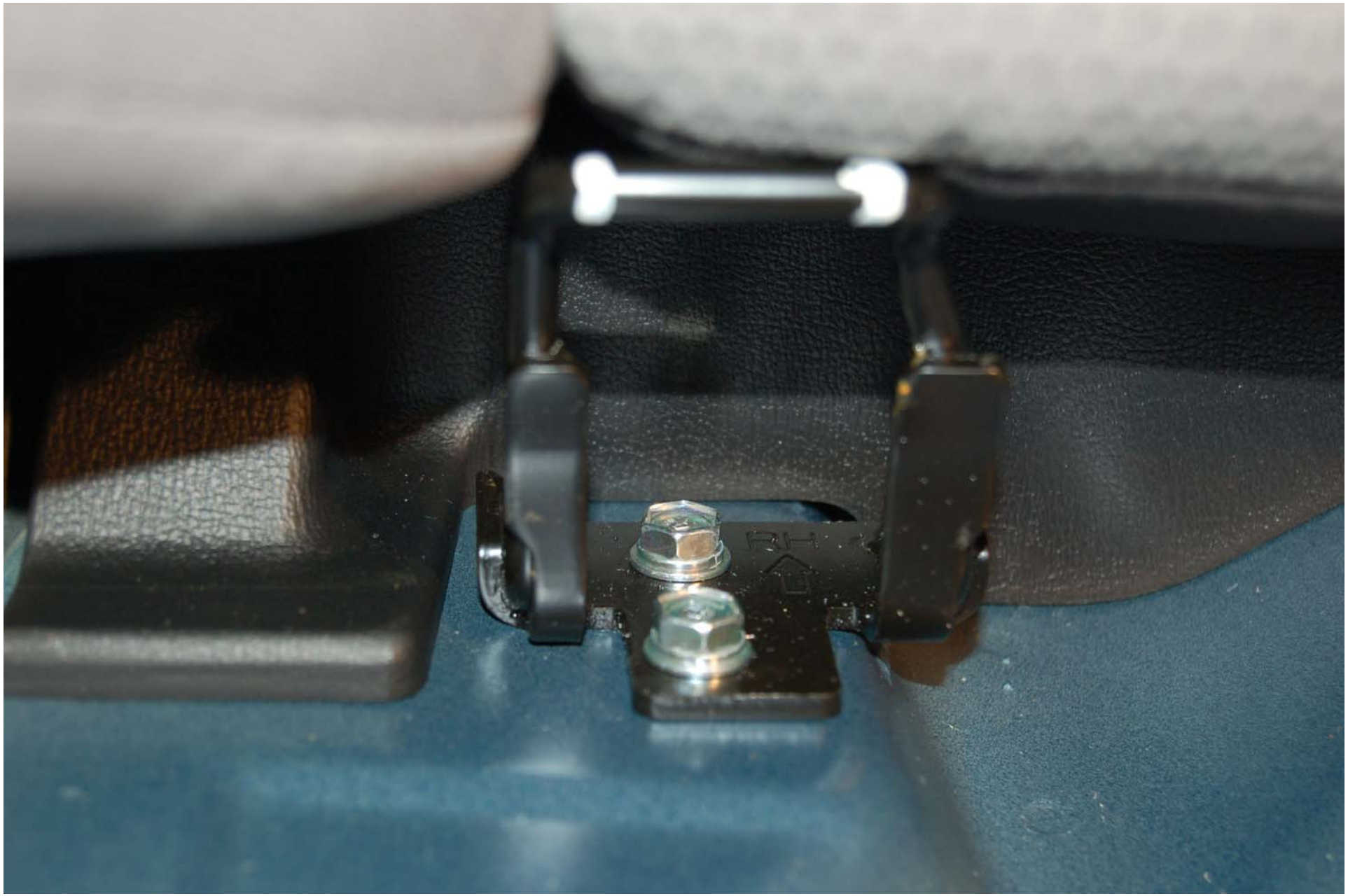
NHTSA NO. C70502
FMVSS NO. 225

FIGURE 5.10
ROW 2, RIGHT SIDE, INBOARD LOWER ANCHOR ,
PRE-TEST



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NHTSA NO. C70502
FMVSS NO. 225

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

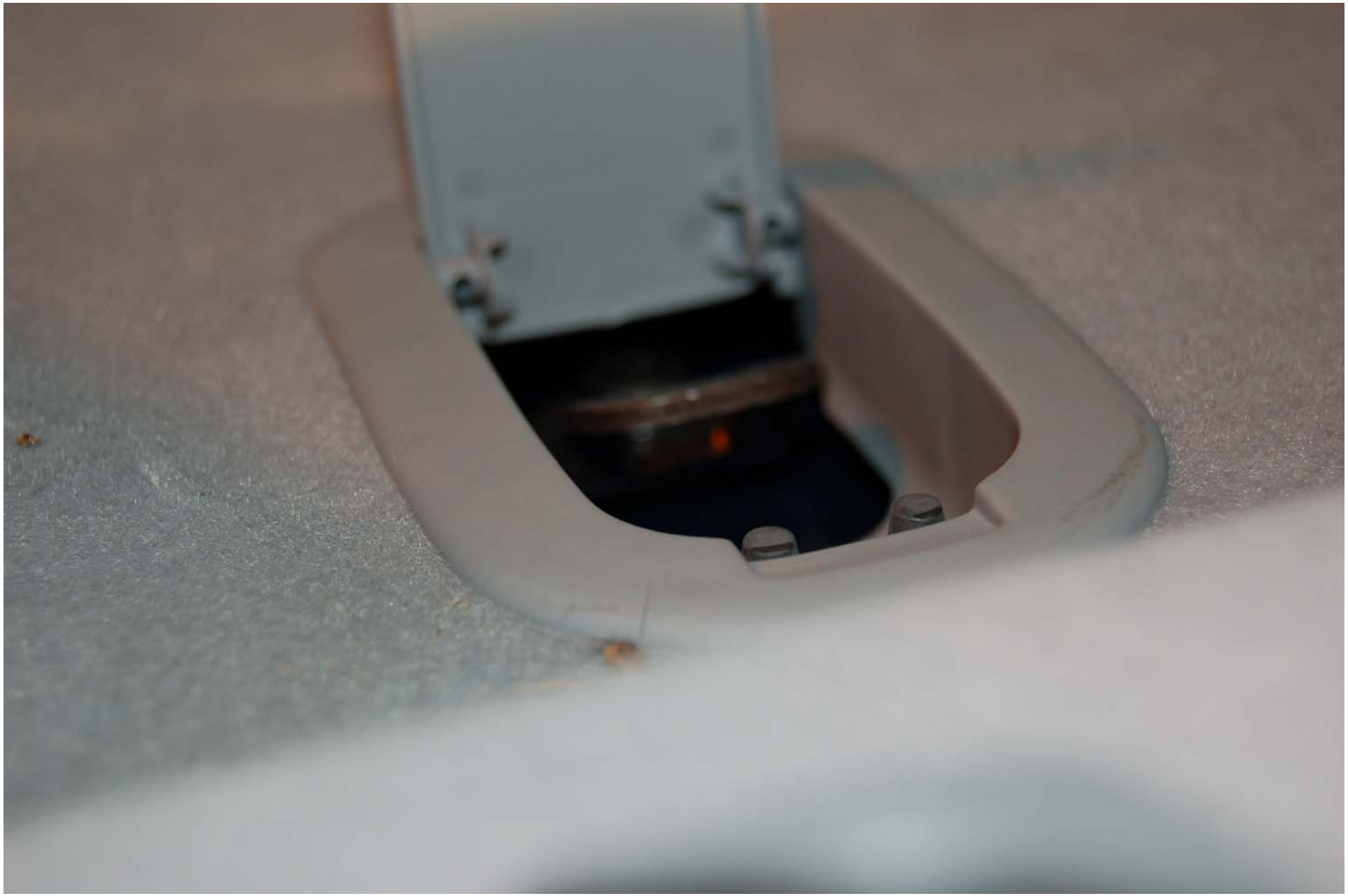

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FIGURE 5.12
ROW 2, RIGHT SIDE, TOP TETHER ANCHOR,
PRE-TEST

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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 CRF

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FMVSS NO. 225

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

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FMVSS NO. 225

FIGURE 5.16
ROW 2, LEFT SIDE TOP TETHER ROUTING

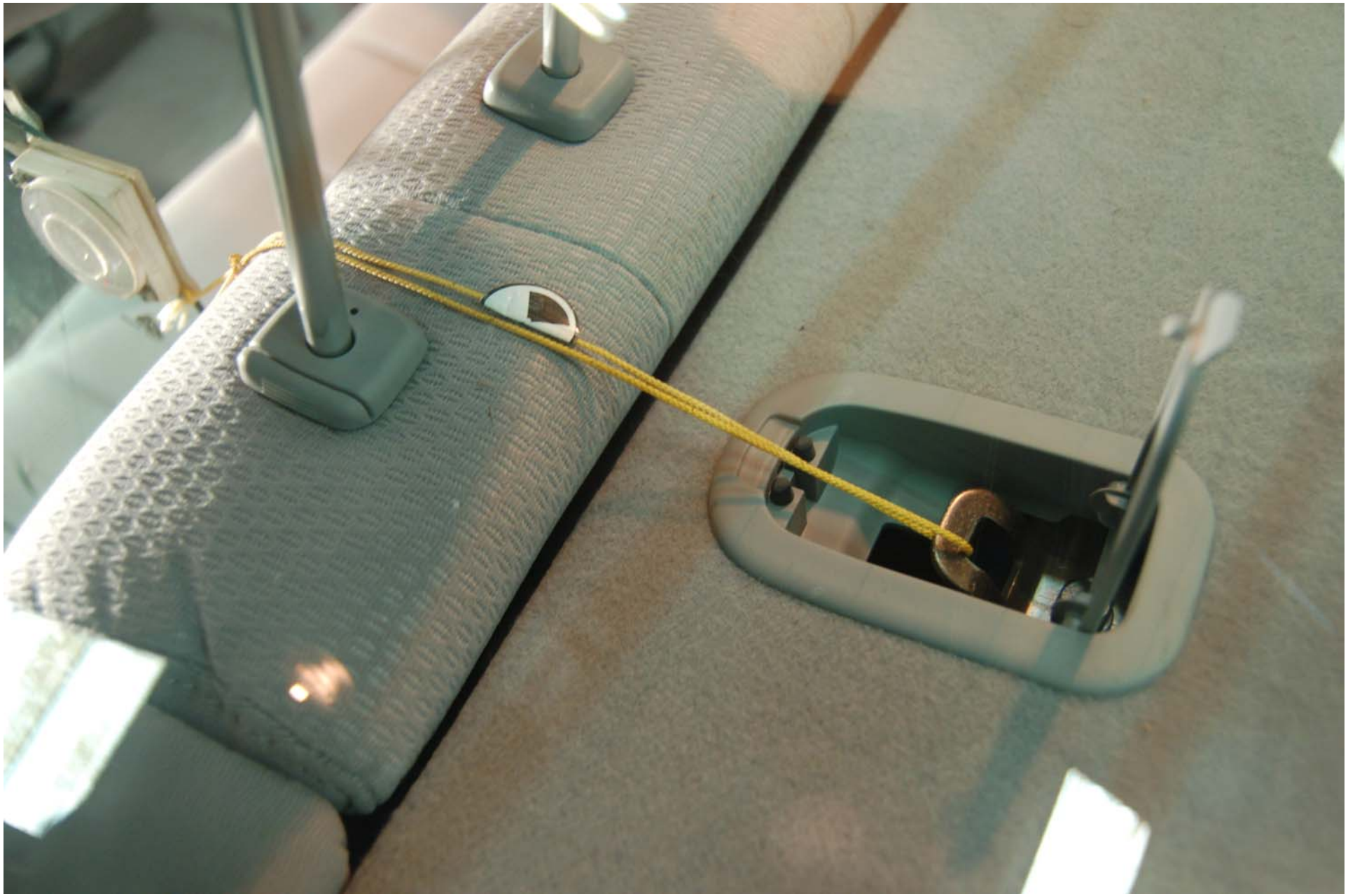

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FIGURE 5.17
ROW 2, LEFT SIDE TOP TETHER ROUTING

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FIGURE 5.18
ROW 2, RIGHT SIDE WITH CRF

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FMVSS NO. 225

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

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FIGURE 5.20
ROW 2, RIGHT SIDE TOP TETHER ROUTING

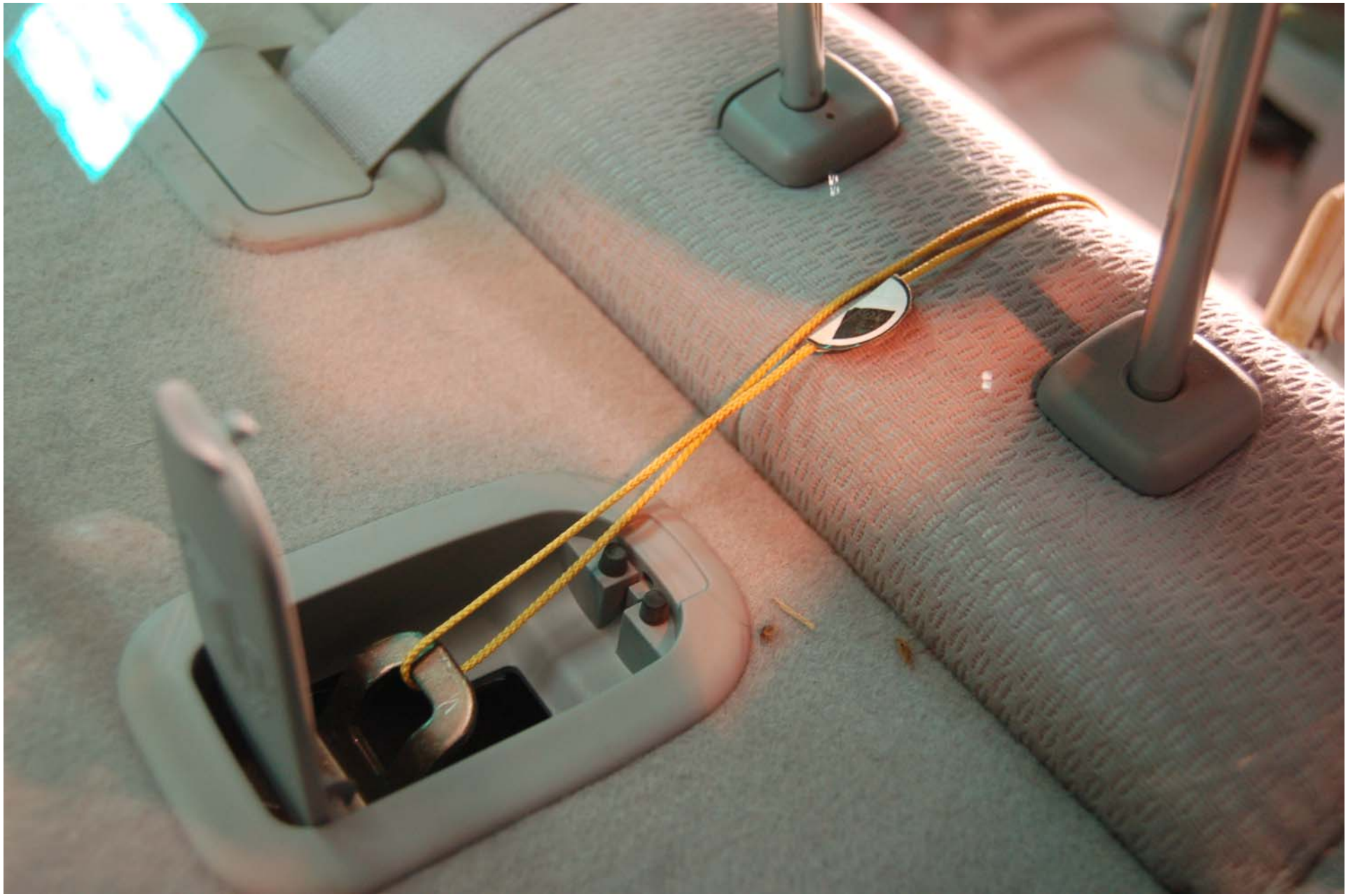

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FIGURE 5.21
ROW 2, RIGHT SIDE TOP TETHER ROUTING

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FIGURE 5.22
ROW 2, CENTER WITH 2-D TEMPLATE

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FIGURE 5.23
ROW 2, CENTER TOP TETHER ROUTING

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FIGURE 5.24
ROW 2, TOP TETHER ROUTING

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FIGURE 5.25
ROW 2, RIGHT SIDE INBOARD CRF MEASUREMENT

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FIGURE 5.26
ROW 2, RIGHT SIDE OUTBOARD CRF MEASUREMENT

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FMVSS NO. 225

FIGURE 5.27
ROW 2, LEFT SIDE, INBOARD CRF MEASUREMENT

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FMVSS NO. 225

FIGURE 5.28
ROW 2, LEFT SIDE, OUTBOARD CRF MEASUREMENT

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FIGURE 5.29
SYMBOL MEASUREMENT

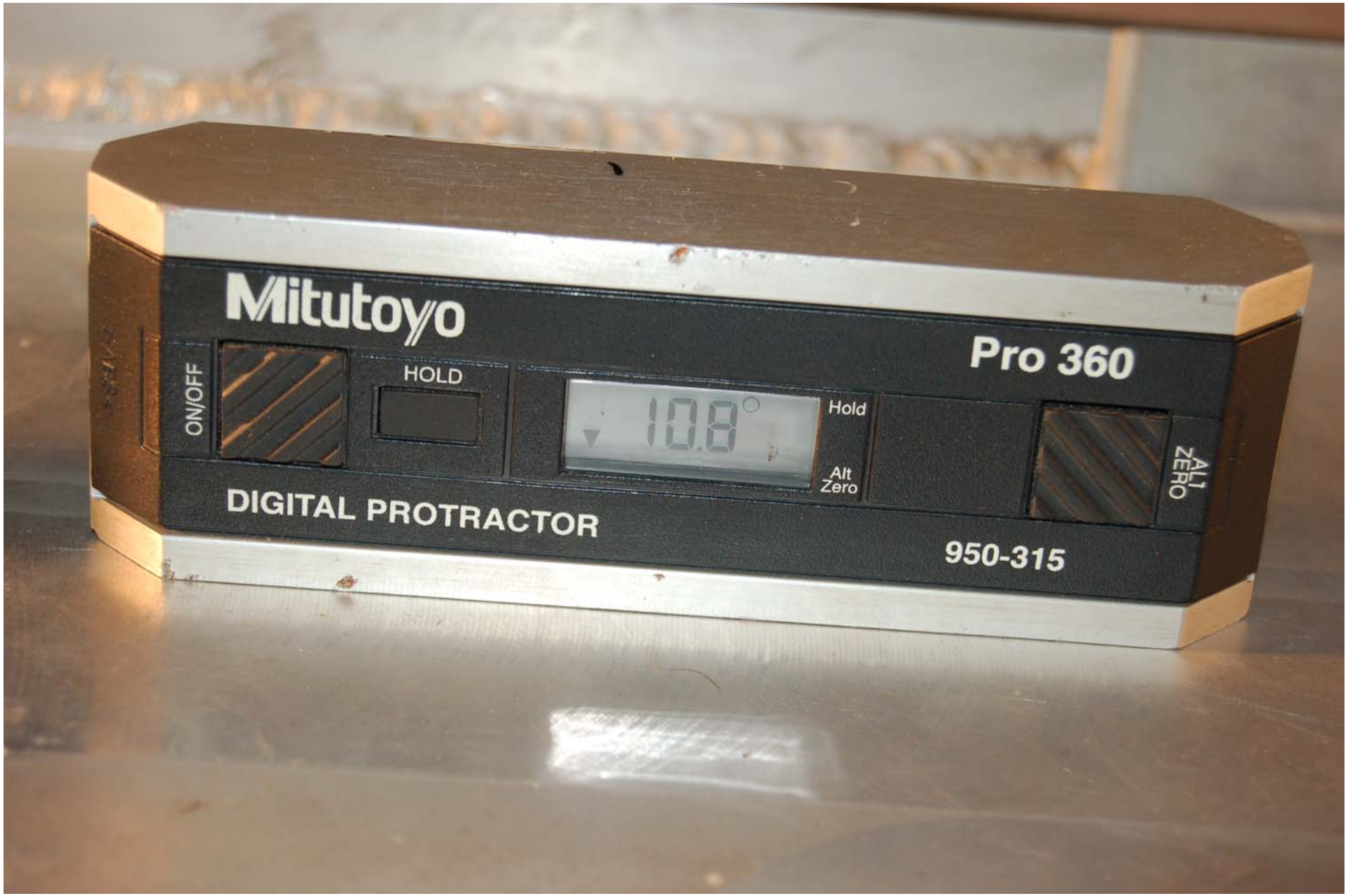

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FIGURE 5.30
ROW 2, LEFT SIDE CRF PITCH MEASUREMENT

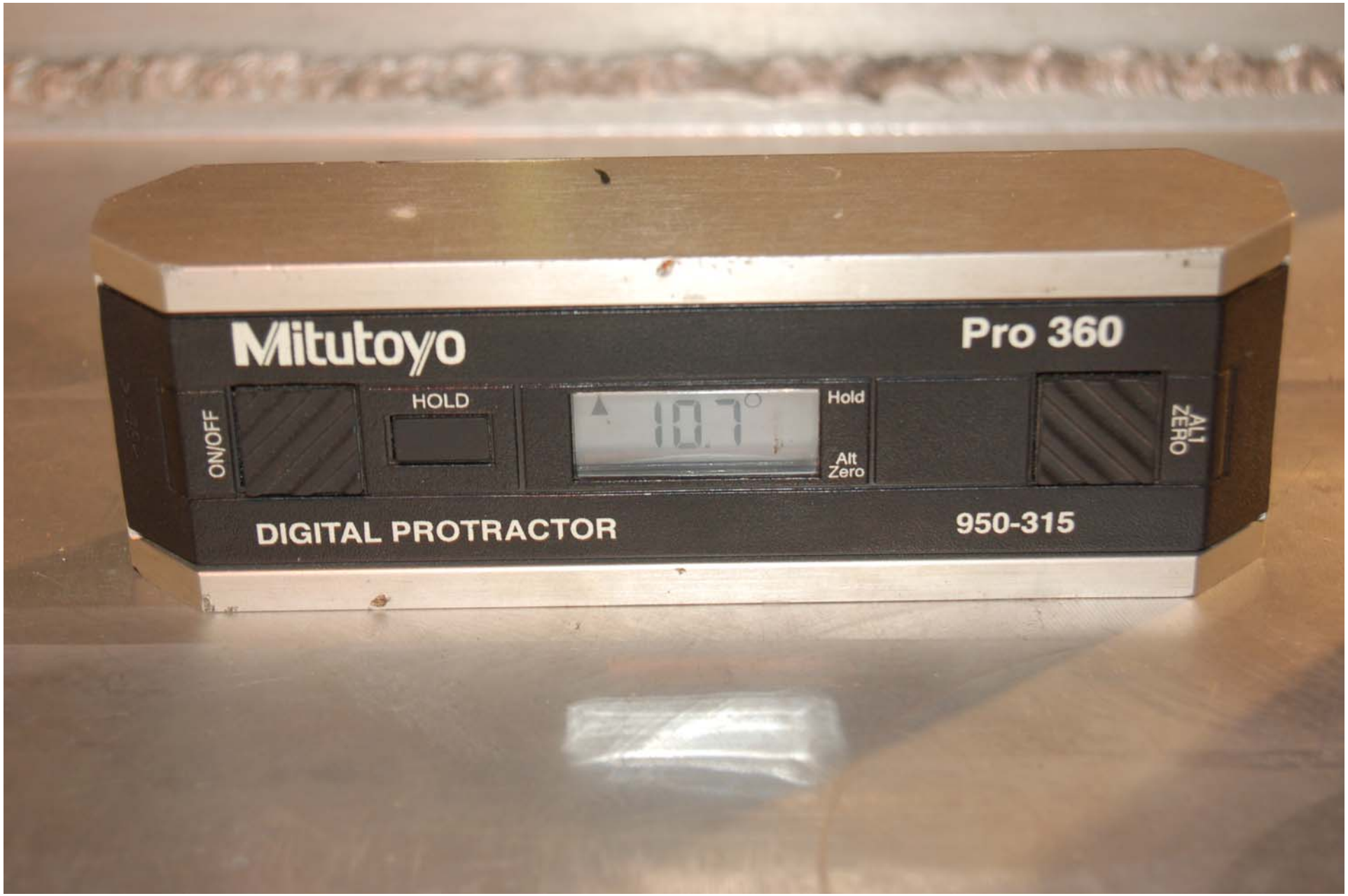

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FIGURE 5.31
ROW 2, RIGHT SIDE CRF PITCH MEASUREMENT

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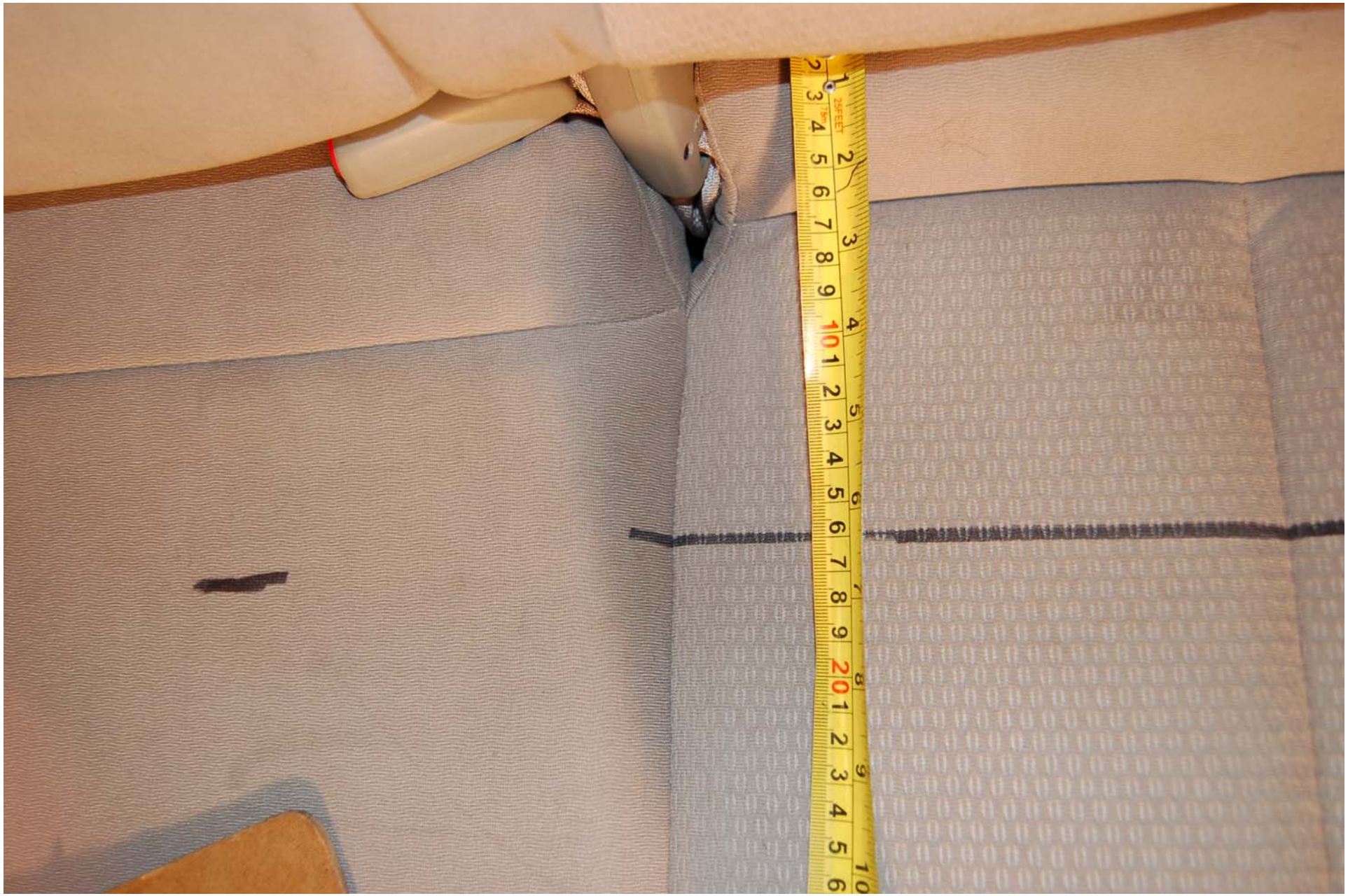
FMVSS NO. 225

FIGURE 5.32
ROW 2, LEFT SIDE OUTBOARD SRP MEASUREMENT



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NHTSA NO. C70502
FMVSS NO. 225

FIGURE 5.33
ROW 2, LEFT SIDE INBOARD SRP MEASUREMENT

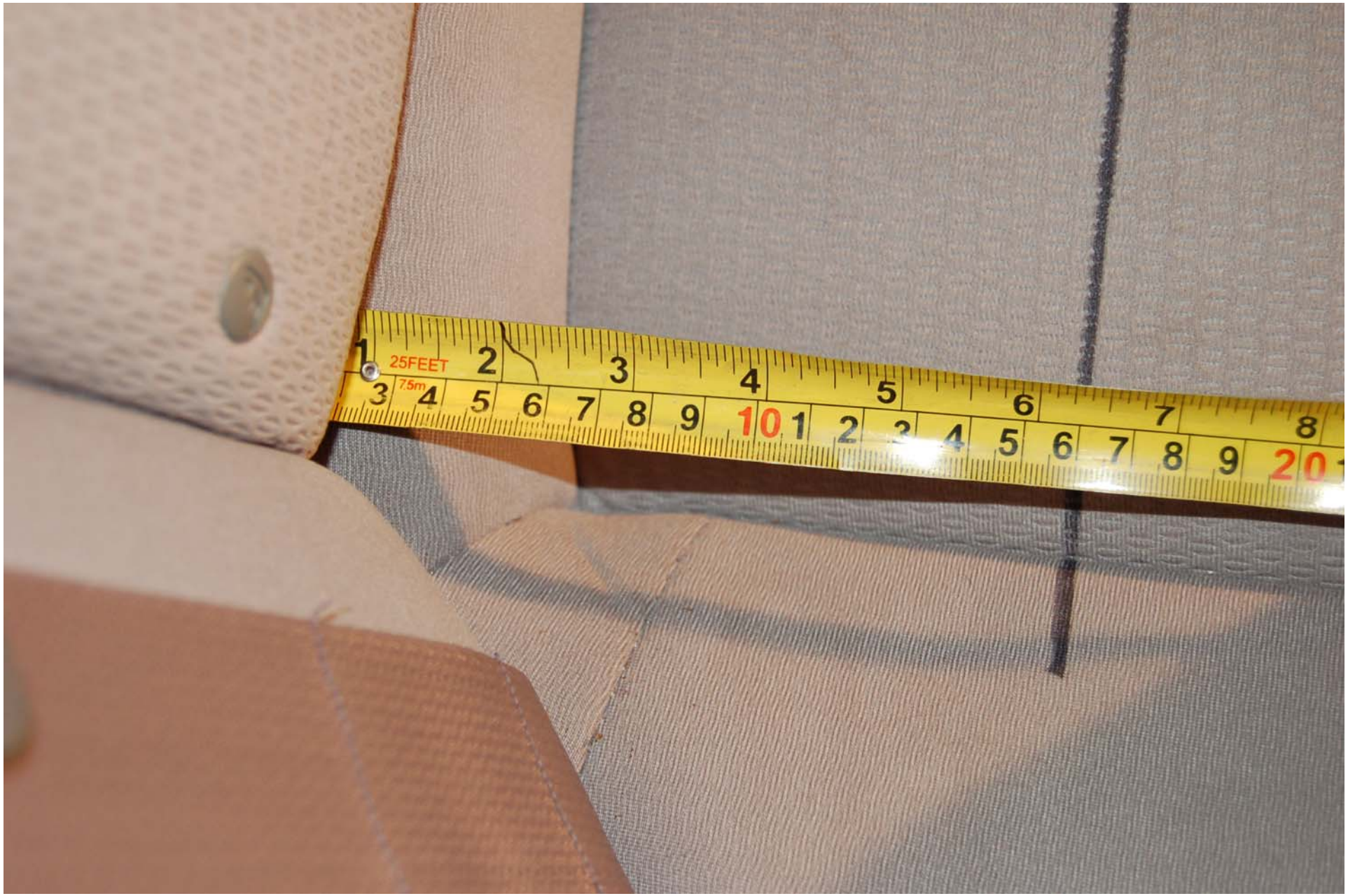

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FIGURE 5.34
ROW 2, RIGHT SIDE INBOARD SRP MEASUREMENT

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FMVSS NO. 225

FIGURE 5.35
ROW 2, RIGHT SIDE INBOARD SRP MEASUREMENT

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FIGURE 5.36
¾ LEFT FRONT VIEW OF VEHICLE IN TEST RIG

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FMVSS NO. 225

FIGURE 5.37
¾ RIGHT FRONT VIEW OF VEHICLE IN TEST RIG

2007 HYUNDAI ELANTRA
NHTSA NO. C70502
FMVSS NO. 225

FIGURE 5.38
¾ RIGHT REAR VIEW OF VEHICLE IN TEST RIG

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NHTSA NO. C70502
FMVSS NO. 225

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

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NHTSA NO. C70502
FMVSS NO. 225

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

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FIGURE 5.41
PRE- TEST ROW 2, RIGHT SIDE WITH SFAD 2

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FMVSS NO. 225

FIGURE 5.42
POST TEST ROW 2, RIGHT SIDE WITH SFAD 2

2007 HYUNDAI ELANTRA
NHTSA NO. C70502
FMVSS NO. 225

FIGURE 5.43
POST TEST ROW 2, RIGHT SIDE WITH SFAD 2

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NHTSA NO. C70502
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FIGURE 5.44
PRE-TEST ROW 2, CENTER POSITION WITH SFAD 1

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NHTSA NO. C70502
FMVSS NO. 225

FIGURE 5.45
POST TEST ROW 2, CENTER POSITION WITH SFAD 1

APPENDIX A
OWNER'S MANUAL RESTRAINT INFORMATION

Periodic inspection

It is recommended that all seat belts be inspected periodically for wear or damage of any kind. Parts of the system that are damaged should be replaced as soon as possible.

Keep belts clean and dry

Seat belts should be kept clean and dry. If belts become dirty, they can be cleaned by using a mild soap solution and warm water. Bleach, dye, strong detergents or abrasives should not be used because they may damage and weaken the fabric.

When to replace seat belts

Entire in-use seat belt assembly or assemblies should be replaced if the vehicle has been involved in an accident. This should be done even if no damage is visible. Additional questions concerning seat belt operation should be directed to an authorized Hyundai dealer.

CHILD RESTRAINT SYSTEM

Children riding in the car should sit in the rear seat and must always be properly restrained to minimize the risk of injury in an accident, sudden stop or sudden maneuver. According to accident statistics, children are safer when properly restrained in the rear seats than in the front seat. Larger children not in a child restraint should use one of the seat belts provided.

You should be aware of the specific requirements in your state. Child and/or infant safety seats must be properly placed and installed in the rear seat. You must use a commercially available child restraint system that meets the requirements of the Federal Motor Vehicle Safety Standards (FMVSS).

Children could be injured or killed in a crash if their restraints are not properly secured. For small children and babies, a child seat or infant seat must be used. Before buying a particular child restraint system, make sure it fits your car seat and seat belts, and fits your child. Follow all the instructions provided by the manufacturer when installing the child restraint system.

⚠ WARNING

- **A child restraint system must be placed in the rear seat. Never install a child or infant seat on the front passenger's seat. Should an accident occur and cause the passenger side air bag to deploy, it could severely injure or kill an infant or child seated in an infant or child seat. Thus only use a child restraint in the rear seat of your vehicle.**
- **A seat belt or child restraint system can become very hot if it is left in a closed vehicle on a sunny day, even if the outside temperature does not feel hot. Be sure to check the seat cover and buckles before placing a child there.**
- **When the child restraint system is not in use, store it in the trunk or fasten it with a seat belt so that it will not be thrown forward in the case of a sudden stop or an accident.**
- **Children may be seriously injured or killed by an inflating air bag. All children, even those too large for child restraints, must ride in the rear seat.**

⚠ WARNING

To reduce the chance or serious or fatal injuries:

- **Children of all ages are safer when restrained in the rear seat. A child riding in the front passenger seat can be forcefully struck by an inflating air bag resulting in serious or fatal injuries.**
- **Always follow the instructions for installation and use of the child restraint maker.**
- **Always make sure the child seat is secured properly in the car and your child is securely restrained in the child seat.**
- **Never hold a child in your arms or lap when riding in a vehicle. The violent forces created during a crash will tear the child from your arms and throw the child against the car's interior.**
- **Never put a seat belt over yourself and a child. During a crash, the belt could press deep into the child causing serious internal injuries.**

(Continued)

(Continued)

- **Never leave children unattended in a vehicle – not even for a short time. The car can heat up very quickly, resulting in serious injuries to children inside. Even very young children may inadvertently cause the vehicle to move, entangle themselves in the windows, or lock themselves or others inside the vehicle.**
- **Never allow two children, or any two persons, to use the same seat belt.**
- **Children often squirm and reposition themselves improperly. Never let a child ride with the shoulder belt under their arm or behind their back. Always properly position and secure children in rear seat.**
- **Never allow a child to stand-up or kneel on the seat or floorboard of a moving vehicle. During a collision or sudden stop, the child can be violently thrown against the vehicles interior, resulting in serious injury.**

(Continued)

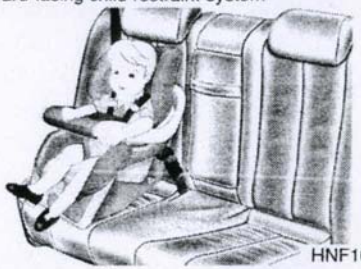
(Continued)

- **Never use an infant carrier or a child safety seat that "hooks" over a seatback, it may not provide adequate security in an accident.**
- **Seat belts can become very hot, especially when the car is parked in direct sunlight. Always check seat belt buckles before fastening them over a child.**
- **Always store or secure a child seat, even when it is not in use. During a collision or sudden stop, the child seat could be thrown inside the vehicle.**

Rearward-facing child restraint system

CRS

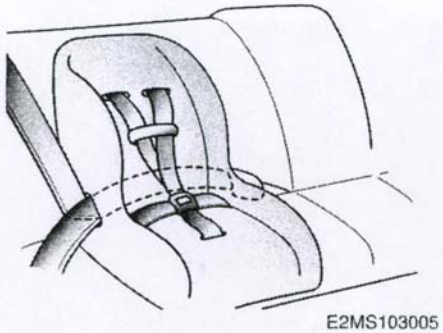
Forward-facing child restraint system



HNF1008

Using a child restraint system

For small children and babies, the use of a child seat or infant seat is required. This child seat or infant seat should be of appropriate size for the child and should be installed in accordance with the manufacturer's instructions. It is further required that the seat be placed in the vehicle's rear seat. Your vehicle is provided with child restraint hook holders for installing the child seat or infant seat.



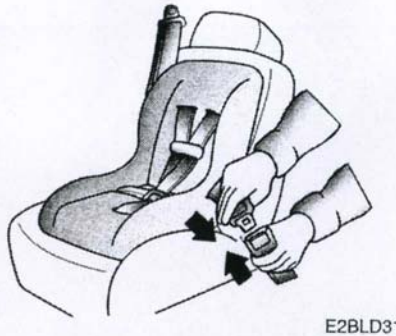
E2MS103005

Placing a passenger seat belt into the auto lock mode

The use of the auto lock mode will ensure that the normal movement of the child in the vehicle does not cause the seat belt to be pulled out and loosen the firmness of its hold on the child restraint system. To secure a child restraint system, use the following procedure.

To install a child restraint system on the outboard or center rear seats, do the following:

1. Place the child restraint system in the seat and route the lap/shoulder belt around or through the restraint, following the restraint manufacturer's instructions. Be sure the seat belt webbing is not twisted.



E2BLD310

2. Fasten the lap/shoulder belt latch into the buckle. Listen for the distinct "click" sound.

Position the release button so that it is easy to access in case of an emergency.

⚠ WARNING

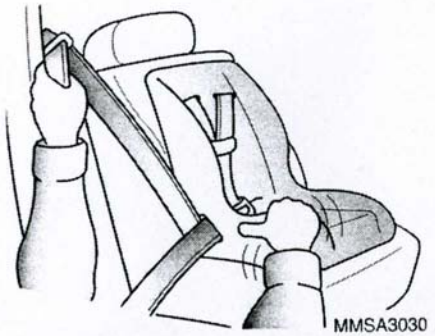
A child can be seriously injured or killed in a collision if the child restraint is not properly anchored to the car and the child is not properly restrained in the child restraint. Always follow the child seat manufacturer's instructions for installation and use.

MMSA3028

3. Pull the shoulder portion of the seat belt all the way out. When the shoulder portion of the seat belt is fully extended, it will shift the retractor to the "Auto Lock" (child restraint) mode.

MMSA3029

4. Slowly allow the shoulder portion of the seat belt to retract and listen for an audible "clicking" or "ratcheting" sound. This indicates that the retractor is in the "Auto Lock" mode. If no distinct sound is heard, repeat steps 3 and 4.



MMSA3030

5. Remove as much slack from the belt as possible by pushing down on the child restraint system while feeding the shoulder belt back into the retractor.
6. Push and pull on the child restraint system to confirm that the seat belt is holding it firmly in place. If it is not, release the seat belt and repeat steps 2 through 6.
7. Double check that the retractor is in the "Auto Lock" mode by attempting to pull more of the seat belt out of the retractor. If you cannot, the retractor is in the "Auto Lock" mode.

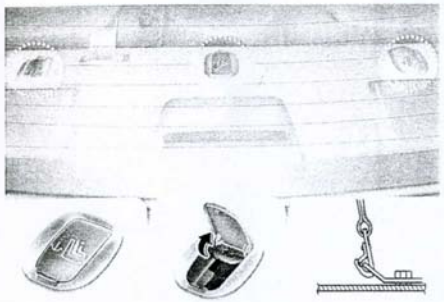
To remove the child restraint, press the release button on the buckle and then pull the lap/shoulder belt out of the restraint and allow the seat belt to retract fully.

⚠ WARNING - Auto lock mode

The lap/shoulder belt automatically returns to the "emergency lock mode" whenever the belt is allowed to retract fully. Therefore, the preceding seven steps must be followed each time a child restraint is installed.

If the retractor is not in the Automatic Locking mode, the child restraint can move when your vehicle turns or stops suddenly. A child can be seriously injured or killed if the child restraint is not properly anchored to the car, including setting the retractor to the Automatic Locking mode.

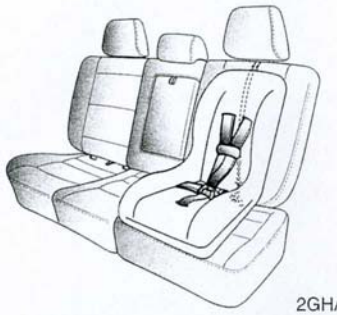
When the seat belt is allowed to retract to its fully stowed position, the retractor will automatically switch from the "Auto Lock" mode to the emergency lock mode for normal adult usage.



1JBA3052

Securing a child restraint seat with "Tether Anchor" system

Child restraint hook holders are located on the shelf behind the rear seats.



2GHA3300

1. Route the child restraint seat strap over the seatback.
   For vehicles with adjustable headrest, route the tether strap under the headrest and between the headrest posts, otherwise route the tether strap over the top of the seatback.
2. Connect the tether strap hook to the appropriate child restraint hook holder and tighten to secure the seat.

⚠ WARNING

When using the vehicle's "Tether Anchor" system to install a child restraint system in the rear seat, all unused vehicle rear seat belt metal latch plates or tabs must be latched securely in their seat belt buckles and the seat belt webbing must be retracted behind the child restraint to prevent the child from reaching and taking hold of unretracted seat belts. Unlatched metal latch plates or tabs may allow the child to reach the unretracted seat belts which may result in strangulation and a serious injury or death to the child in the child restraint.

⚠ WARNING - Tether strap

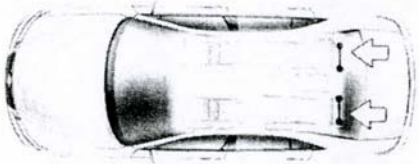
- **A child can be seriously injured or killed in a collision if the child restraint is not properly anchored. Always follow the child seat manufacturer's instructions for installation and use.**
- **Never mount more than one child restraint to a single tether or to a single lower anchorage point. The increased load caused by multiple seats may cause the tethers or anchorage points to break, causing serious injury or death.**

⚠ WARNING - Child restraint check

Check that the child restraint system is secure by pushing and pulling it in different directions. Incorrectly fitted child restraints may swing, twist, tip or separate causing death or serious injury.

⚠ WARNING - Child restraint anchorage

- **Child restraint anchorages are designed to withstand only those loads imposed by correctly fitted child restraints. Under no circumstances are they to be used for adult seat belts or harnesses or for attaching other items or equipment to the vehicle.**
- **The tether strap may not work properly if attached somewhere other than the correct tether anchor.**



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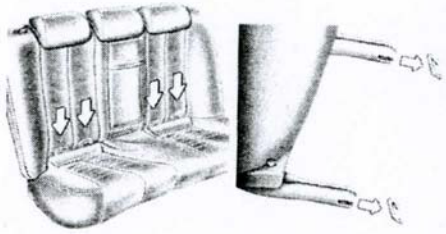
Child seat lower anchors

Some child seat manufacturers make child restraint seats that are labeled as International Standards Organization Fixed (ISOFIX) or ISOFIX-compatible child restraint seats. These seats include two rigid or webbing mounted attachments that connect to two ISOFIX anchors at specific seating positions in your vehicle. This type of child restraint seat eliminates the need to use seat belts to attach the child seat in the rear seats.



B230D03NF

ISOFIX anchors have been provided in your vehicle. The ISOFIX anchors are located in the left and right outboard rear seating positions. Their locations are shown in the illustration. There is no ISOFIX anchor provided for the center rear seating position.

The ISOFIX anchors are located between the seatback and the seat cushion of the rear seat left and right outboard seating positions.

Follow the child seat manufacturer's instructions to properly install child restraint seats with ISOFIX or ISOFIX-compatible attachments.

Once you have installed the ISOFIX child restraint, assure that the seat is properly attached to the ISOFIX and tether anchors. Also, test the child restraint seat before you place the child in it. Tilt the seat from side to side. Also try to tug the seat forward. Check to see if the anchors hold the seat in place.

⚠ WARNING

When using the vehicle's "ISOFIX" system to install a child restraint system in the rear seat, all unused vehicle rear seat belt metal latch plates or tabs must be latched securely in their seat belt buckles and the seat belt webbing must be retracted behind the child restraint to prevent the child from reaching and taking hold of unretracted seat belts. Unlatched metal latch plates or tabs may allow the child to reach the unretracted seat belts which may result in strangulation and a serious injury or death to the child in the child restraint.

APPENDIX B

MANUFACTURER'S DATA

FORM 225
Last Updated 12/12/2005

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

Model Year: 07MY ; Make: HYUNDAI ; Model: HD ; Body Style: _____
Seat Style: Front row: Bucket ; Second row: Split folding ; Third row: N/A

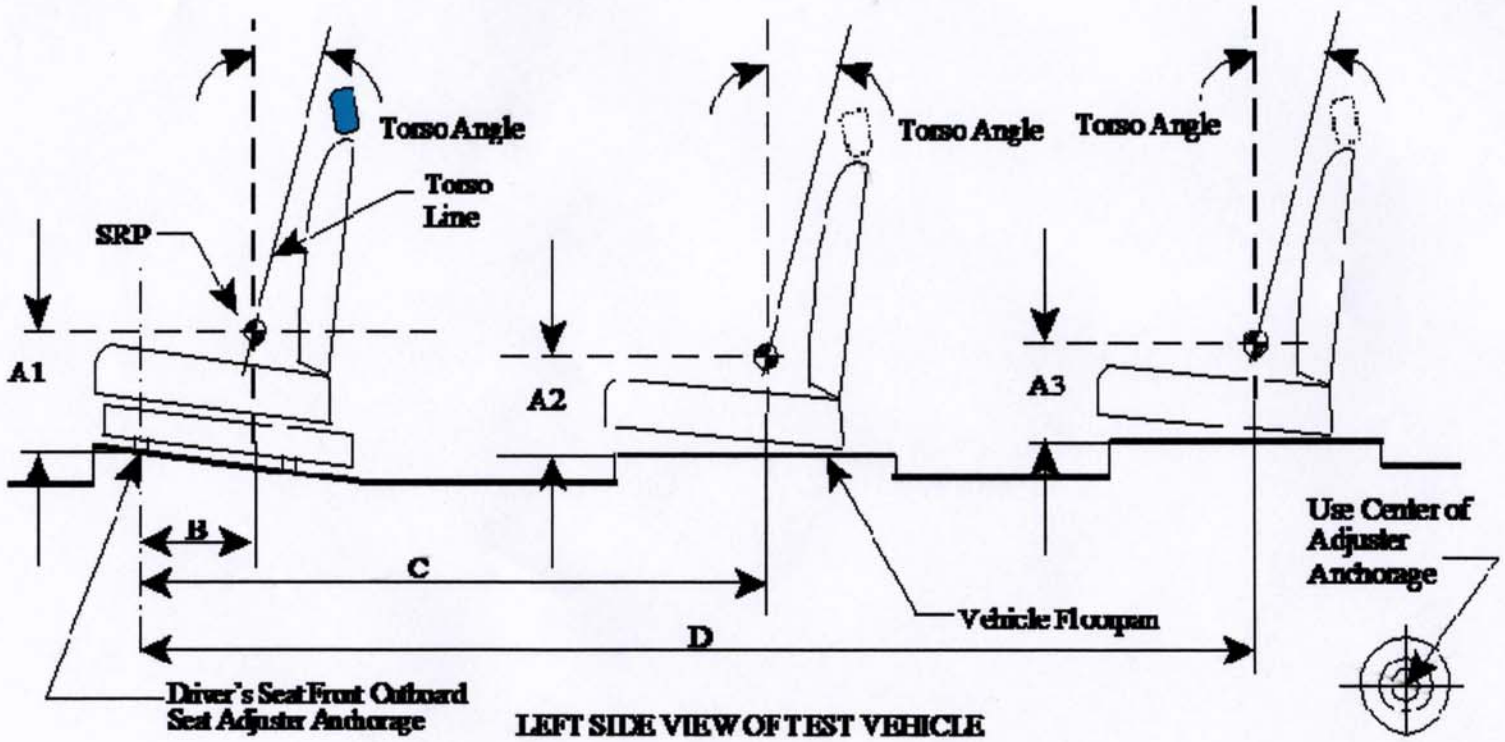


Table 1. Seating Positions[1] and Torso Angles

		Left (Driver Side)	Center (if any)	Right
A1		(Driver) 213	N/A	(Front Passenger) 213
A2		117	129	117
A3		N/A	N/A	N/A
B		332	N/A	332
C		1135	1120	1135
D		N/A	N/A	N/A
Torso Angle (degree)	Front Row	23°	N/A	23°
	Second Row	27°	24°	27°
	Third Row	N/A	N/A	N/A

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

SEATING REFERENCE POINT
FOR FMVSS 225
(All dimensions in mm)

Model Year: ____07MY ___; Make: ___HYUNDAI ____; Model: _____HD_____; Body Style: _____
Seat Style: Front row: __Bucket _____; Second row: ____Split folding ___; Third row: ____N/A

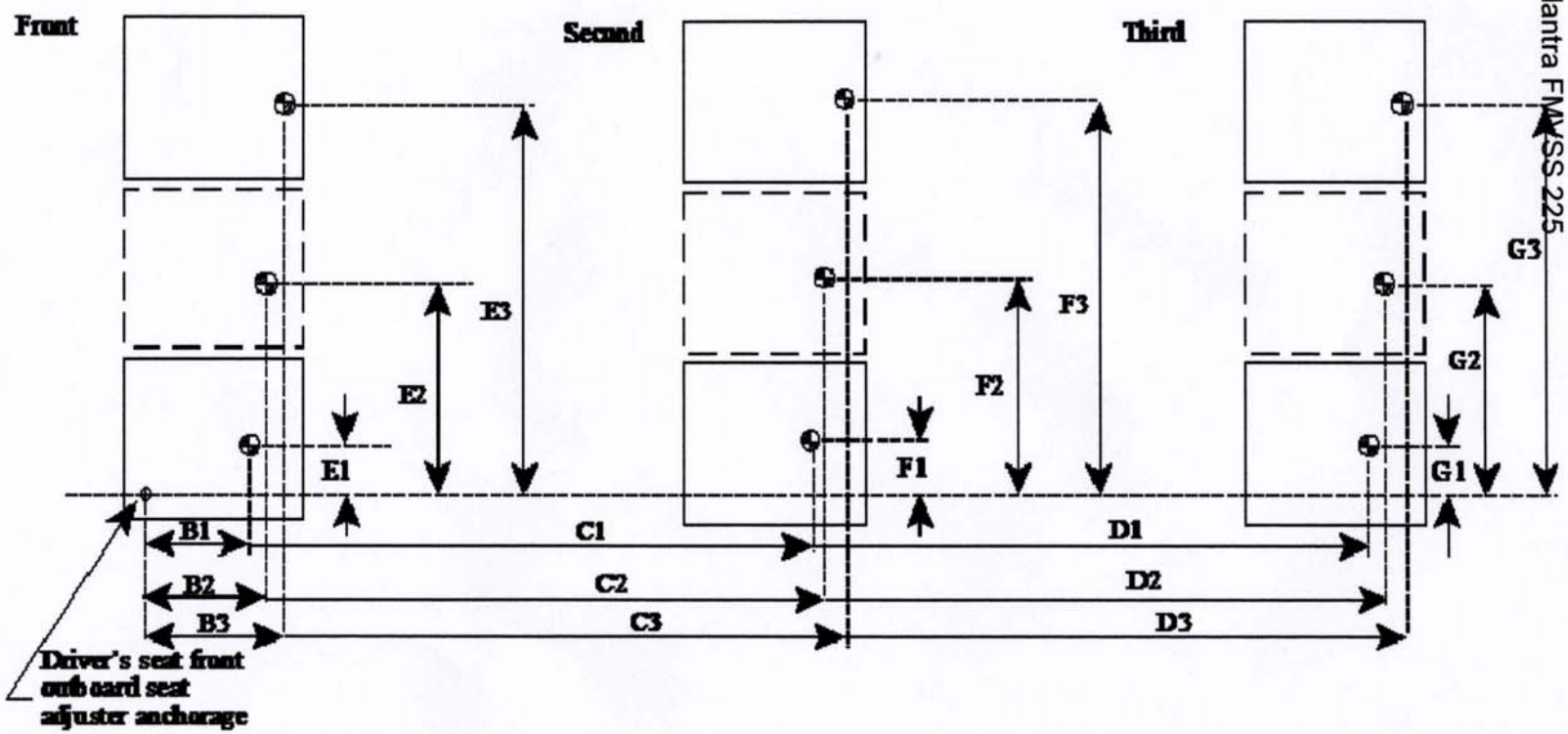


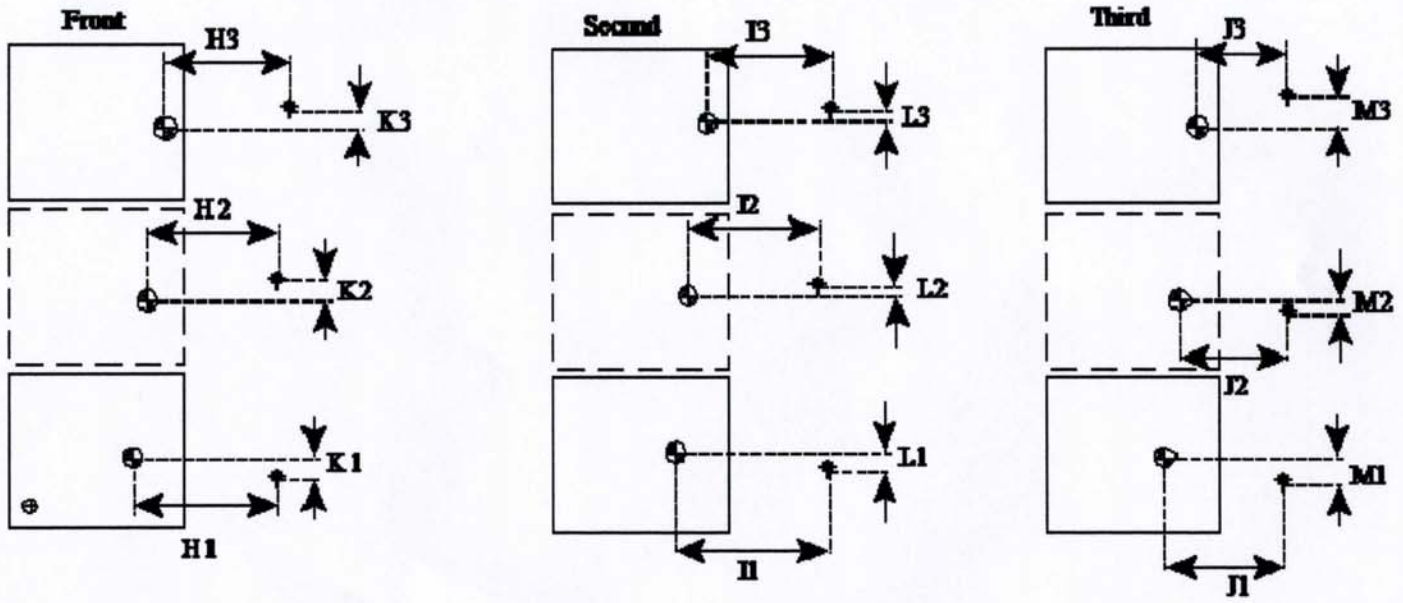
Table 2. Seating Reference Point and Tether Anchorage Locations

Seating Reference Point (SRP)		Distance from Driver's front outboard seat adjuster anchorage[1]
Front Row	B1	332
	E1	244
	B2	N/A
	E2	N/A
	B3	332
	E3	944
Second Row	C1	1135
	F1	254
	C2	1120
	F2	594
	C3	1135
	F3	934
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: 07MY ; Make: HYUNDAI ; Model: HD ; Body Style: _____
Seat Style: Front row: Bucket ; Second row: Split folding ; Third row: N/A



⊕: SRP
↟: Tether anchorage

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

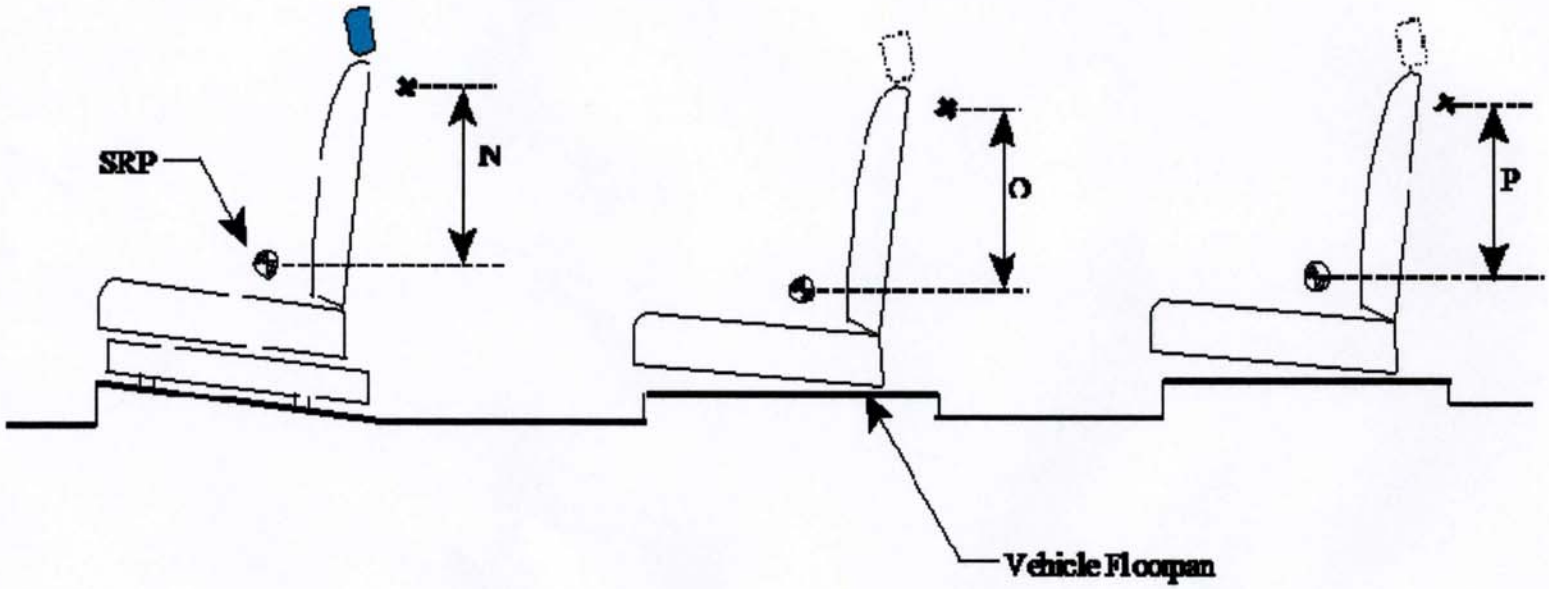
Table 3. Seating Reference Point and Tether Anchorage Locations

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	567.1
	L1	20
	I2	567.1
	L2	0
	I3	567.1
	L3	20
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: ___07MY___; Make: ___HYUNDAI___; Model: ___HD___; Body Style: _____
Seat Style: Front row: ___Bucket___; Second row: ___Split folding___; 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)	525
	O2 (Center)	535
	O3 (Right)	525
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 used.

For each vehicle, provide the following information:

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

   ☞ 5

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

   ☞ LOWER ANCHORAGE : 2 (RR SIDE)
   TETHER ANCHORAGE: 3 (RR SIDE,CTR)

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

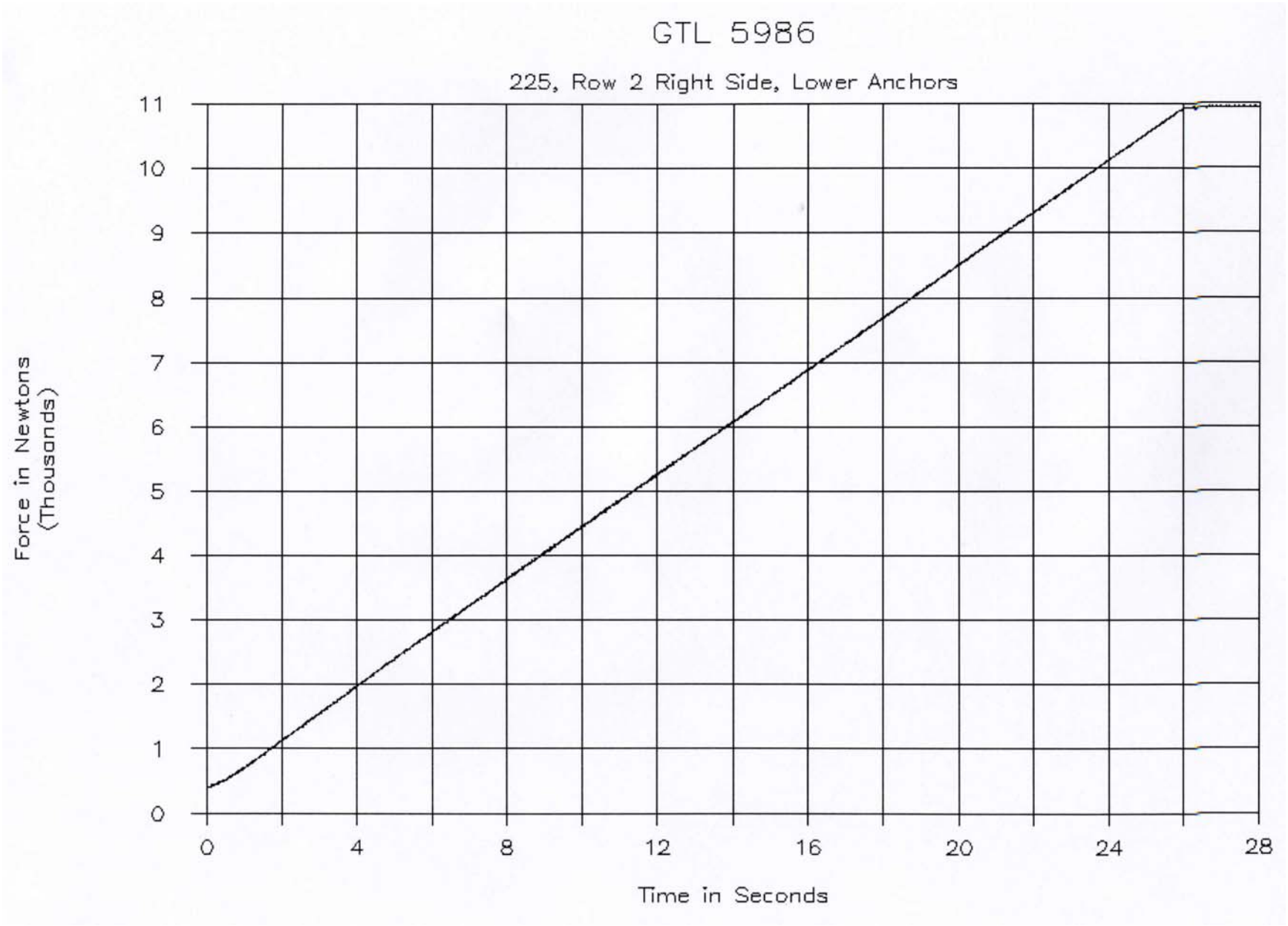
   ☞ 3 (RR SIDE,CTR)

4. **Lower Anchorage Marking and Conspicuity:** Whether the anchorages are certified to S9.5(a) or S9.5(b) of FMVSS 225.

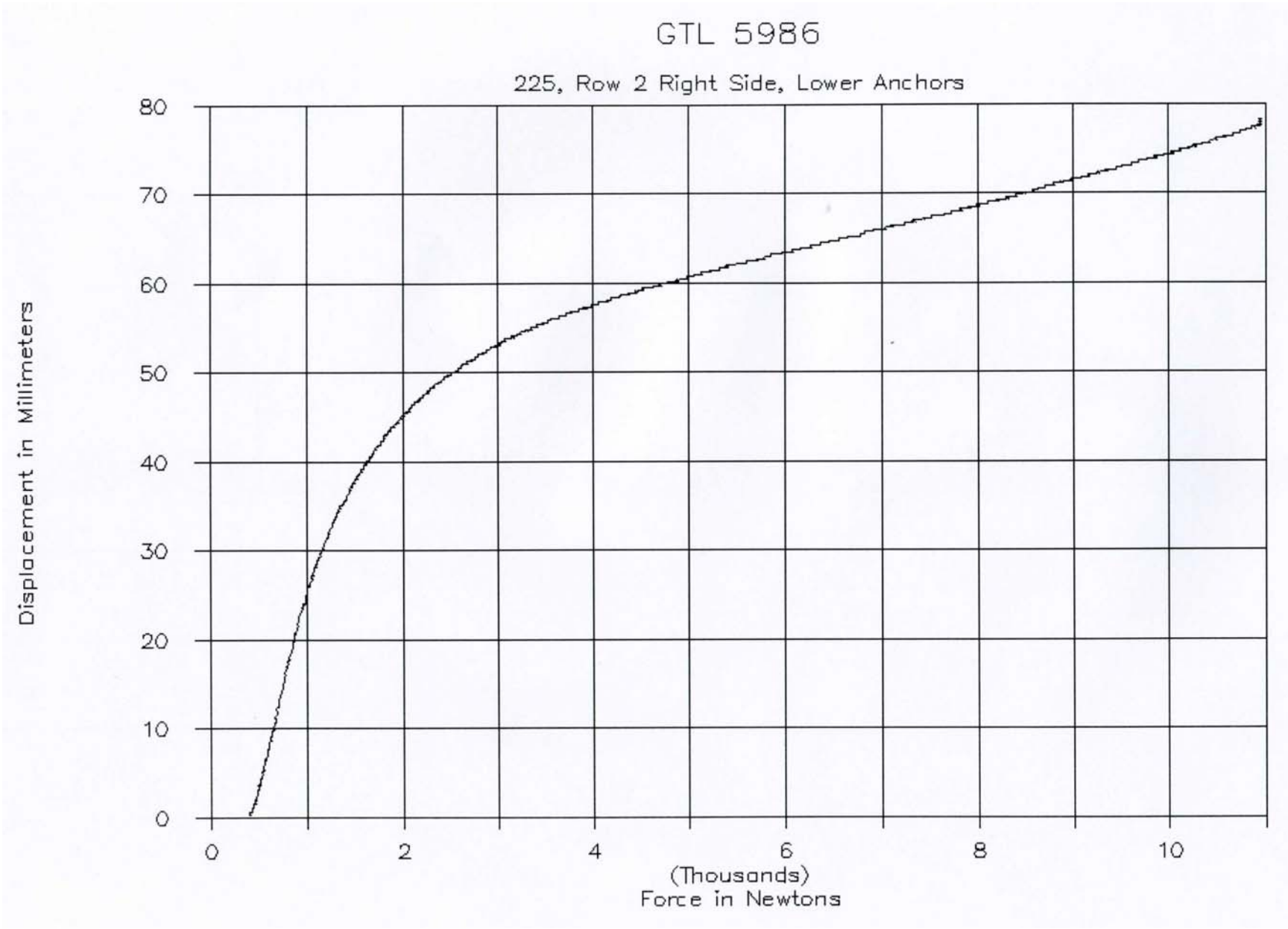
   ☞ S9.5(a)

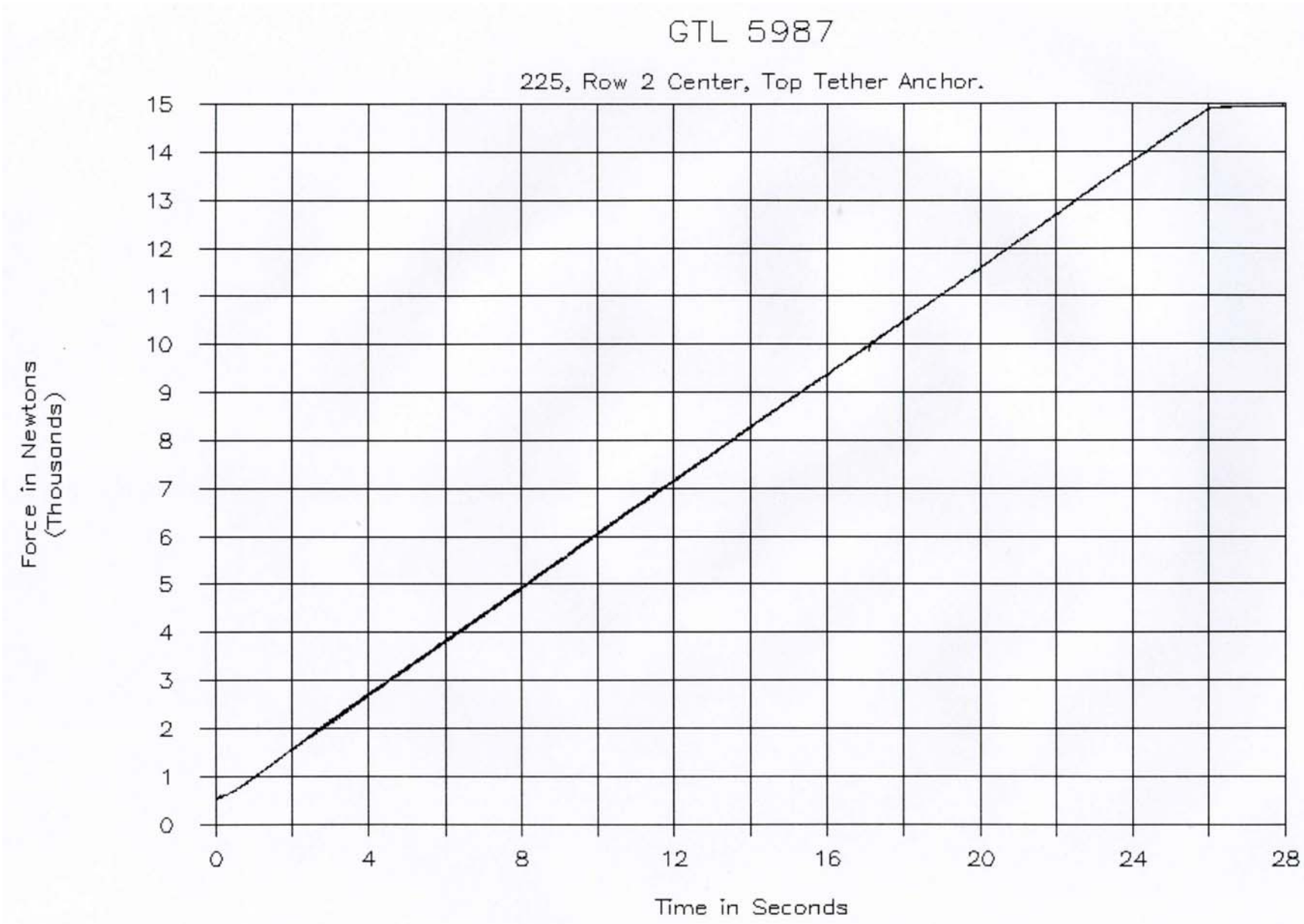
APPENDIX C
PLOTS


GTL 5985
225, Row 2 Left Side, Top Tether Anchor
Force in Newtons
(Thousands)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
0
4
8
12
16
20
24
28
Time in Seconds


GTL 5986
225, Row 2 Right Side, 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
Time in Seconds


GTL 5986
225, Row 2 Right Side, Lower Anchors
Displacement in Millimeters
80
70
60
50
40
30
20
10
0
0
4
8
12
16
20
24
28
Time in Seconds


GTL 5986
225, Row 2 Right Side, Lower Anchors
Displacement in Millimeters
80
70
60
50
40
30
20
10
0
0
2
4
6
8
10
(Thousands)
Force in Newtons


GTL 5987
225, Row 2 Center, Top Tether Anchor.
Force in Newtons
(Thousands)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
0
4
8
12
16
20
24
28
Time in Seconds

APPENDIX D
LABORATORY NOTICE OF TEST FAILURE

LABORATORY NOTICE OF TEST FAILURE TO OVSC

FMVSS NO.: 225 TEST DATE: 11/09/07

LABORATORY: General Testing Laboratories, Inc.

CONTRACT NO.: DTNH22-06-C-00032 ; DELV. ORDER NO.:

LABORATORY PROJECT ENGINEER'S NAME: Grant Farrand

TEST VEHICLE MAKE/MODEL/BODY STYLE: 2007 HYUNDAI ELANTRA

VEHICLE NHTSA NO.: C70502 : VIN: KMHDU46D97U035111

VEHICLE MODEL YEAR: 2007 : BUILD DATE: SEP/13/06

TEST FAILURE DESCRIPTION: Owners Manual does not contain explanation of lower child restraint anchor symbol.

S225 REQUIREMENT, PARAGRAPH S9.5(2) :Their meaning is explained to the consumer in writing, such as in the vehicle's owners manual. S9.5(4)(b) … is permanently marked with words, symbols or pictograms whose meaning is explained to the consumer in writing form as part of the owners manual.

NOTIFICATION TO NHTSA (COTR): Ed Chan

DATE: 11/09/07 BY: Grant Farrand

REMARKS: