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

HYUNDAI MOTOR COMPANY
2009 HYUNDAI GENESIS, PASSENGER CAR
NHTSA NO. C90501

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

September 1, 2009
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
WASHINGTON, D.C. 20590
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Prepared By: Debbie Messick
Approved By: Grant Farrand
Approval Date: 

FINAL REPORT ACCEPTANCE BY OVSC:
Accepted By: Edward E. Chan
Acceptance Date: 

[Digital signatures]
Compliance tests were conducted on the subject, 2009 Hyundai Genesis Passenger Car in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-225-01 for the determination of FMVSS 225 compliance. Test failures identified were as follows: None.
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<td>5.23 Row 2, Left Side Pitch Measurement</td>
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<td>Page</td>
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</tr>
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SECTION 1

PURPOSE OF COMPLIANCE TEST

1.0 PURPOSE OF COMPLIANCE TEST

A 2009 Hyundai Genesis 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 2009 Hyundai Genesis Passenger Car. Nomenclature applicable to the test vehicle are:

A. **Vehicle Identification Number**: KMHGC46E89U025598

B. **NHTSA No.**: C90501

C. **Manufacturer**: HYUNDAI MOTOR COMPANY

D. **Manufacture Date**: JUN/20/08

1.2 TEST DATE

The test vehicle was subjected to FMVSS No. 225 testing during the time period August 4-10, 2009.
SECTION 2

COMPLIANCE TEST RESULTS

2.0 TEST RESULTS

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

Based on the test performed, the 2009 Hyundai Genesis Passenger Car appears to meet the requirements of FMVSS 225 testing.
3.0 TEST DATA

The following data sheets document the results of testing on the 2009 Hyundai Genesis Passenger Car.
DATA SHEET 1  
SUMMARY OF RESULTS

VEH. MOD YR/MAKE/MODEL/BODY: 2009 HYUNDAI GENESIS PASSENGER CAR  
VEH. NHTSA NO: C90501;   VIN: KMHGC46E89U025598  
VEH. BUILD DATE:  JUN/20/08;  TEST DATE:  AUGUST 4-10, 2009  
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

<table>
<thead>
<tr>
<th></th>
<th>PASS</th>
<th>FAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSP a</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DSP b</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DSP c</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

C. LOCATION OF TETHER ANCHORAGES

<table>
<thead>
<tr>
<th></th>
<th>PASS</th>
<th>FAIL</th>
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</thead>
<tbody>
<tr>
<td>DSP a</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DSP b</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DSP c</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

D. LOWER ANCHORAGE DIMENSIONS

<table>
<thead>
<tr>
<th></th>
<th>PASS</th>
<th>FAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSP a</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DSP b</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>DSP c</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### E. CONSPICUITY AND MARKING OF LOWER ANCHORAGES

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>DSP a</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DSP b</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>DSP c</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

### F. STRENGTH OF TETHER ANCHORAGES

<table>
<thead>
<tr>
<th>DSP</th>
<th>PASS</th>
<th>FAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSP a</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DSP b</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DSP c</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### G. STRENGTH OF LOWER ANCHORAGES (Forward Force)

<table>
<thead>
<tr>
<th>DSP</th>
<th>PASS</th>
<th>FAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSP a</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>DSP b</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>DSP c</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

### H. STRENGTH OF LOWER ANCHORAGE (Lateral Force)

<table>
<thead>
<tr>
<th>DSP</th>
<th>PASS</th>
<th>FAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSP a</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>DSP b</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>DSP c</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### I. OWNER’S MANUAL

<table>
<thead>
<tr>
<th>PASS</th>
<th>FAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**REMARKS:**

**NOTE:**

RECORDED BY: G. Farrand
DATE: 08/10/09
APPROVED BY: D. Messick
DATA SHEET 2
REQUIREMENTS FOR CHILD RESTRAINT ANCHORAGE SYSTEMS
AND TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2009 HYUNDAI GENESIS PASSENGER CAR
VEH. NHTSA NO: C90501; VIN: KMHGC46E89U025598
VEH. BUILD DATE: JUN/20/08; TEST DATE: AUGUST 4, 2009
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBERVERS: 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:  

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>PASS</td>
<td>FAIL</td>
<td></td>
</tr>
</tbody>
</table>

(NOTE: a built-in child restraint can only be counted toward either the required number of CRAS or tether anchorages, not both): [ ]

Number of provided tether anchorages (can be additional CRAS) indicate if a built-in child restraint is counted as tether anchorage:  

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>PASS</td>
<td>FAIL</td>
<td></td>
</tr>
</tbody>
</table>

Is the number of provided tether anchorages greater than or equal to the number of required tether anchorages?  

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>PASS</td>
<td>FAIL</td>
<td></td>
</tr>
</tbody>
</table>

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?  

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>PASS</td>
<td>FAIL</td>
<td></td>
</tr>
</tbody>
</table>

Are all tether and lower anchorages available for use at all times when the seat is configured for passenger use?  

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>PASS</td>
<td>FAIL</td>
<td></td>
</tr>
</tbody>
</table>

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

X = Top Tether
* = Lower Anchors

RECORDED BY: G. Farrand DATE: 08/04/09
APPROVED BY: D. Messick
DATA SHEET 3
LOCATION OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2009 HYUNDAI GENESIS PASSENGER CAR
VEH. NHTSA NO: C90501; VIN: KMHGC46E89U025598
VEH. BUILD DATE: JUN/20/08; TEST DATE: AUGUST 4, 2009
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 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, 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:  __08/04/09__________

APPROVED BY:  D. Messick  ______________
DATA SHEET 4
LOWER ANCHORAGE DIMENSIONS

VEH. MOD YR/MAKE/MODEL/BODY: 2009 HYUNDAI GENESIS PASSENGER CAR
VEH. NHTSA NO: C90501; VIN: KMHGC46E89U025598
VEH. BUILD DATE: JUN/20/08; TEST DATE: AUGUST 4, 2009
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

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

Outboard Lower Anchorage bar diameter: 6.03 mm
6mm ± 0.1 mm = PASS Other size = FAIL (S9.1.1(a))

Inboard Lower Anchorage bar diameter: 6.03 mm
6mm ± 0.1mm = PASS Other size = FAIL (S9.1.1(a))

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

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

Length of the straight portion of the bar (inboard lower anchorage): 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): 33 mm
Length ≤60mm = PASS Length >60mm = FAIL(S9.1.1(c) (ii))

CRF Pitch angle: 11.3°
Angle = 15°±10° = PASS Angle≠15°±10° = FAIL (S9.2.1)

CRF Roll angle: 0.4°
Angle = 0°±5° = PASS Angle≠0°±5° = FAIL (S9.2.1)

CRF Yaw angle: 0.0°
Angle = 0°±10° = PASS Angle≠0°±10° = 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 4 CONTINUED

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

Distance between SgRP and the front surface of outboard anchor bar: 158 mm
Distance ≥ 120mm = PASS
Distance < 120mm = FAIL

Distance between SgRP and the front surface of inboard anchor bar: 158 mm
Distance ≥ 120mm = PASS
Distance < 120mm = FAIL

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

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

COMMENTS:

RECORDED BY: G. Farrand
DATE: 08/04/09

APPROVED BY: D. Messick
DATA SHEET 4A
LOWER ANCHORAGE DIMENSIONS

VEH. MOD YR/MAKE/MODEL/BODY: 2009 HYUNDAI GENESIS PASSENGER CAR
VEH. NHTSA NO: C90501; VIN: KMHGC46E89U025598
VEH. BUILD DATE: JUN/20/08; TEST DATE: AUGUST 4, 2009
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

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

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

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

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

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

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

Length between the anchor bar supports (outboard lower anchorage): 33 mm
Length ≤60mm = PASS Length >60mm = FAIL(S9.1.1(c) (ii))

Length between the anchor bar supports (inboard lower anchorage): 33 mm
Length ≤60mm = PASS Length >60mm = FAIL(S9.1.1(c) (ii))

CRF Pitch angle: 11.5°
Angle = 15°±10° = PASS Angle≠15°±10° = FAIL (S9.2.1)

CRF Roll angle: 0.4°
Angle = 0°±5° = PASS Angle≠0°±5° = FAIL (S9.2.1)

CRF Yaw angle: 0.0°
Angle = 0°±10° = PASS Angle≠0°±10° = 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
DESIGNATED SEATING POSITION: ROW 2 RIGHT SIDE (DSP C)

Distance between SgRP and the front surface of outboard anchor bar: 158 mm
Distance $\geq$ 120mm = PASS     Distance < 120mm = FAIL

Distance between SgRP and the front surface of inboard anchor bar: 158 mm
Distance $\geq$ 120mm = PASS     Distance < 120mm = FAIL

Based on visual observation, would a 100 N load cause the anchor bar to deform more than 5 mm?

NO

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

COMMENTS:

RECORDED BY: G. Farrand          DATE: 08/04/09
APPROVED BY: D. Messick
DATA SHEET 5
CONSPICUITY AND MARKING OF LOWER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2009 HYUNDAI GENESIS PASSENGER CAR
VEH. NHTSA NO: C90501; VIN: KMHGC46E89U025598
VEH. BUILD DATE: JUN/20/08; TEST DATE: AUGUST 4, 2009
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: 14.0 mm
Diameter ≥ 13 mm = PASS Diameter <13 mm = FAIL (S9.5(a)(1))

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

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

For circles on seat backs, vertical distance from the center of the circle to the center of the anchor bar: 65 mm
Distance between 50 & 100 mm = 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 & 125 mm = PASS Other Distance = FAIL (S9.5(a)(3))

Lateral distance from the center of the circle to the center of the anchor bar: 10 mm
Distance ≤ 25 mm = PASS Distance > 25 mm = FAIL (S9.5(a)(3))

CONSPICUITY (No Circles)

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

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

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

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

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

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

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

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

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

RECORDED BY: G. Farrand  DATE: 08/04/09

APPROVED BY: D. Messick
DATA SHEET 6
STRENGTH OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2009 HYUNDAI GENESIS PASSENGER CAR
VEH. NHTSA NO: C90501; VIN: KMHGC46E89U025598
VEH. BUILD DATE: JUN/20/08; TEST DATE: AUGUST 10, 2009
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE
TEST NO: 6280

DESIGNATED SEATING POSITION: ROW 2 LEFT SIDE (DSP A)
SFAD: 2
Seat Back Angle: 26º
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: 60 N
Angle (measured above the horizontal at 500 N): 10º
Separation of tether anchorage at 500 N: NO
NO = PASS YES = FAIL (S6.3.1)
Force application rate: 577 N/S
Time to reach maximum force (24-30 s): 26 sec.
Maximum force (14,950 N ± 50 N): 14,941 N
Tested simultaneously with another DSP? NO

COMMENTS:

RECORDED BY: G. FARRAND DATE: 08/10/09
APPROVED BY: D. MESSICK
DATA SHEET 6A
STRENGTH OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2009 HYUNDAI GENESIS PASSENGER CAR
VEH. NHTSA NO: C90501; VIN: KMHGC46E89U025598
VEH. BUILD DATE: JUN/20/08; TEST DATE: AUGUST 10, 2009
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE
TEST NO: 6281

DESIGNATED SEATING POSITION: ROW 2 CENTER (DSP B)

SFAD: 1

Seat Back Angle: 27º

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: 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: 577 N/S

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

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

Tested simultaneously with another DSP? NO

COMMENTS:

RECORDED BY: G. FARRAND DATE: 08/10/09
APPROVED BY: D. MESSICK
DATA SHEET 7
STRENGTH OF LOWER ANCHORAGES (Forward Force)

VEH. MOD YR/MAKE/MODEL/BODY: 2009 HYUNDAI GENESIS PASSENGER CAR
VEH. NHTSA NO: C90501; VIN: KMHGC46E89U025598
VEH. BUILD DATE: JUN/20/08; TEST DATE: AUGUST 10, 2009
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE
TEST NO: 6279

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

Seat Back Angle: ___26º___

Location of seat back angle measurement: ___2D Template___

Head Restraint Position: ___UP___

Force at lower front crossmember for SFAD2 while tightening rearward extensions: ___135 N

Angle (measured above the horizontal at 500 N): ___10º___

Force application rate: ___423 N/S___

Time to reach maximum force (24-30 s): ___26 sec.___

Maximum force (10,950 N ± 50 N): ___10,929 N___

Displacement, H1 (at 500N): ___0___

Displacement, H2 (at maximum load): ___57.4 mm___

Displacement of Point X: ___57.4 mm___ (H2-H1)

Displacement > 175 mm = FAIL (S9.4.1(a))

Tested simultaneously with another DSP? ___NO___

Distance between adjacent DSP’s: ___375 mm___

COMMENTS:

RECORDED BY: ___G. FARRAND___ DATE: ___08/10/09___

APPROVED BY: ___D. MESSICK___
Description of which DSP’s are equipped with tether anchorages and child restraint anchorage systems: ___YES___

PASS ___ X ___ FAIL ______

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

PASS ___ X ___ FAIL ______

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

PASS ___ X ___ FAIL ______

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

PASS ___ X ___ FAIL ______

COMMENTS:

RECORDED BY: ___ G. Farrand _______ DATE: ___08/10/09_________

APPROVED BY: ___ D. Messick __________
## TABLE 1 - INSTRUMENTATION & EQUIPMENT LIST

<table>
<thead>
<tr>
<th>EQUIPMENT</th>
<th>DESCRIPTION</th>
<th>MODEL/ SERIAL NO.</th>
<th>CAL. DATE</th>
<th>NEXT CAL. DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPUTER</td>
<td>AT&amp;T</td>
<td>486DX266</td>
<td>BEFORE USE</td>
<td>BEFORE USE</td>
</tr>
<tr>
<td>LOAD CELL INTERFACE</td>
<td>INTERFACE</td>
<td>215636</td>
<td>05/09</td>
<td>05/10</td>
</tr>
<tr>
<td>LINEAR TRANSDUCER</td>
<td>SERVO SYSTEMS</td>
<td>69</td>
<td>BEFORE USE</td>
<td>BEFORE USE</td>
</tr>
<tr>
<td>SEAT BELT LOAD CELL</td>
<td>TRANSDUCER</td>
<td>135</td>
<td>BEFORE USE</td>
<td>BEFORE USE</td>
</tr>
<tr>
<td>SEAT BELT LOAD CELL</td>
<td>TRANSDUCER</td>
<td>137</td>
<td>BEFORE USE</td>
<td>BEFORE USE</td>
</tr>
<tr>
<td>LEVEL</td>
<td>STANLEY</td>
<td>42-449</td>
<td>BEFORE USE</td>
<td>BEFORE USE</td>
</tr>
<tr>
<td>FORCE GAUGE</td>
<td>CHATILLON</td>
<td>8761</td>
<td>BEFORE USE</td>
<td>BEFORE USE</td>
</tr>
<tr>
<td>CALIPER</td>
<td>N/A</td>
<td>Q9322365</td>
<td>BEFORE USE</td>
<td>BEFORE USE</td>
</tr>
<tr>
<td>CRF</td>
<td>MEASUREMENT FIXTURE</td>
<td>GTL CRF</td>
<td>BEFORE USE</td>
<td>BEFORE USE</td>
</tr>
<tr>
<td>SFAD 1</td>
<td>FORCE APPLICATION DEVICE</td>
<td>GTL SFAD 1</td>
<td>BEFORE USE</td>
<td>BEFORE USE</td>
</tr>
<tr>
<td>SFAD 2</td>
<td>FORCE APPLICATION DEVICE</td>
<td>GLT SFAD 2</td>
<td>BEFORE USE</td>
<td>BEFORE USE</td>
</tr>
</tbody>
</table>
SECTION 5
PHOTOGRAPHS
2009 HYUNDAI GENESIS
NHTSA NO. C90501
FMVSS NO. 225

FIGURE 5.3
¾ FRONTAL VIEW FROM LEFT SIDE OF VEHICLE
2009 HYUNDAI GENESIS
NHTSA NO. C90501
FMVSS NO. 225

FIGURE 5.4
¾ REAR VIEW FROM RIGHT SIDE OF VEHICLE
The combined weight of occupants and cargo should never exceed 390kg or 860lbs.
Le poids total des occupants et des marchandises ne doit jamais dépasser 390kg ou 860lbs.

<table>
<thead>
<tr>
<th>TIRE/PNEU</th>
<th>SIZE / DIMENSIONS</th>
<th>COLD TIRE PRESSURE / PRESSION DES PNEUS À FROID</th>
<th>SEE OWNER’S MANUAL FOR ADDITIONAL INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRONT/AVANT</td>
<td>P225/55R17</td>
<td>230kPa, 33psi</td>
<td>Voir le manuel de l’usager pour plus de renseignements</td>
</tr>
<tr>
<td>REAR/ARRIERE</td>
<td>P225/55R17</td>
<td>230kPa, 33psi</td>
<td></td>
</tr>
<tr>
<td>SPARE/DE RÉCHANGE</td>
<td>T135/90D17</td>
<td>420kPa, 60psi</td>
<td></td>
</tr>
</tbody>
</table>

FIGURE 5.6
CLOSE-UP VIEW OF VEHICLE TIRE INFORMATION LABEL
FIGURE 5.8
MEASUREMENT OF LOWER ANCHOR SYMBOL
FIGURE 5.9
VISIBILITY OF LOWER ANCHOR BARS
FIGURE 5.10
LOCATION OF TOP TETHER ANCHORS
FIGURE 5.11
ROW 2, LEFT SIDE, TOP TETHER ANCHOR PRE-TEST
FIGURE 5.12
ROW 2, CENTER, TOP TETHER ANCHOR, PRE-TEST
FIGURE 5.13
ROW 2, RIGHT SIDE, TOP TETHER ANCHOR, PRE-TEST
2009 HYUNDAI GENESIS
NHTSA NO. C90501
FMVSS NO. 225

FIGURE 5.16
ROW 2, LEFT SIDE, OUTBOARD LOWER ANCHOR, PRE-TEST
Figure 5.19
Row 2, Right Side Pitch Measurement
FIGURE 5.20
ROW 2, RIGHT SIDE, OUTBOARD Z MEASUREMENT
2009 HYUNDAI GENESIS
NHTSA NO. C90501
FMVSS NO. 225

FIGURE 5.21
ROW 2, RIGHT SIDE, INBOARD Z MEASUREMENT
2009 HYUNDAI GENESIS
NHTSA NO. C90501
FMVSS NO. 225

FIGURE 5.23
ROW 2, LEFT SIDE PITCH MEASUREMENT
FIGURE 5.25
ROW 2, LEFT SIDE, INBOARD Z MEASUREMENT
2009 HYUNDAI GENESIS
NHTSA NO. C90501
FMVSS NO. 225

FIGURE 5.26
ROW 2, RIGHT SIDE WITH 2-D TEMPLATE
FIGURE 5.28
ROW 2, CENTER WITH 2-D TEMPLATE
FIGURE 5.30
ROW 2, RIGHT SIDE, TOP TETHER ROUTING
FIGURE 5.32
ROW 2, LEFT SIDE, OUTBOARD SRP MEASUREMENT
FIGURE 5.33
ROW 2, LEFT SIDE, INBOARD SRP MEASUREMENT
FIGURE 5.34
ROW 2, RIGHT SIDE OUTBOARD SRP MEASUREMENT
2009 HYUNDAI GENESIS
NHTSA NO. C90501
FMVSS NO. 225

FIGURE 5.36
¾ LEFT FRONT VIEW OF VEHICLE IN TEST FIXTURE
2009 HYUNDAI GENESIS
NHTSA NO. C90501
FMVSS NO. 225

FIGURE 5.37
⅓ RIGHT FRONT VIEW OF VEHICLE IN TEST FIXTURE
FIGURE 5.38
PRE-TEST ROW 2, LEFT SIDE WITH SFAD 2
FIGURE 5.39
POST TEST ROW 2, LEFT SIDE WITH SFAD 2
FIGURE 5.40
PRE-TEST ROW 2, RIGHT SIDE WITH SFAD 2
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).

Child restraint systems are designed to be secured in vehicle seats by lap belts or the lap belt portion of a lap/shoulder belt, or by a LATCH system (if equipped). 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 luggage area 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 of 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 child restraint system manufacturer’s instructions for installation and use of the child restraint.
- 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)
Safety features of your vehicle

(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 the rear seat.
- Never allow a child to stand-up or kneel on the seat or floor of a moving vehicle. During a collision or sudden stop, the child can be violently thrown against the vehicle’s interior, resulting in serious injury.

(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.

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.
For safety reasons, we recommend that the child restraint system be used in the rear seats.

**WARNING**

Never place a rear-facing child restraint in the front passenger seat, because of the danger that an inflating passenger-side air bag could impact the rear-facing child restraint and kill the child.

Since all passenger seat belts move freely under normal conditions and only lock under extreme or emergency conditions (emergency lock mode), you must manually change these seat belts to the auto lock mode to secure a child restraint.

---

**WARNING - Child seat installation**

- 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. Before installing the child restraint system, read the instructions supplied by the child restraint system manufacturer.
- If the seat belt does not operate as described in this section, have the system checked immediately by your authorized HYUNDAI dealer.
- Failure to observe this manual's instructions regarding child restraint systems and the instructions provided with the child restraint system could increase the chance and/or severity of injury in an accident.

---

**Placement of 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.
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.

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.

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.
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.

Securing a child restraint seat with "Tether Anchor" system

Child restraint hook holders are located on the package tray.
Safety features of your vehicle

1. Route the child restraint seat strap over the seatback.
   For vehicles with adjustable headrests, 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 child restraint 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.

---

Securing a child restraint seat with child seat lower anchor system

Some child seat manufacturers make child restraint seats that are labeled as LATCH or LATCH-compatible child restraint seats. LATCH stands for "Lower Anchors and Tethers for Children". These seats include two rigid or webbing mounted attachments that connect to two LATCH 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.

Child restraint symbols are located on the left and right rear seat backs to indicate the position of the lower anchors for child restraints.
WARNING
When using the vehicle's "LATCH" system to install a child restraint system in the rear seat, all unused vehicle 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.

LATCH anchors have been provided in your vehicle. The LATCH anchors are located in the left and right outboard rear seating positions. Their locations are shown in the illustration. There is no LATCH anchor provided for the center rear seating position.
The LATCH 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 LATCH or LATCH-compatible attachments.
Once you have installed the LATCH child restraint, assure that the seat is properly attached to the LATCH 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.

CAUTION
Do not allow the rear seat belt webbing to get scratched or pinched by the child-seat latch and LATCH anchor during the installation.

WARNING
If the child restraint is not anchored properly, the risk of a child being seriously injured or killed in a collision greatly increases.

WARNING - LATCH lower anchors
LATCH lower anchors are only to be used with the left and right rear outboard seating positions. Never attempt to attach a LATCH equipped seat in the center seating position. You may damage the anchors or the anchors may fail and break in a collision.
APPENDIX B
MANUFACTURER’S DATA
SEAT REFERENCE POINT (SRP) AND TORSO ANGLE DATA
FMVSS No. 225
(All dimensions in mm¹)

SEAT STYLE: FRONT ROW: Bucket / SECOND ROW: 60/40 split bench / THIRD ROW: N/A.

LEFT SIDE VIEW OF TEST VEHICLE
Table 1. Seating Positions\(^1\) and Torso Angles

<table>
<thead>
<tr>
<th>Torso Angle (degree)</th>
<th>Front Row</th>
<th>Center (if any)</th>
<th>Right</th>
</tr>
</thead>
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<tr>
<td>A1</td>
<td>210.7</td>
<td>N/A</td>
<td>210.7</td>
</tr>
<tr>
<td>A2</td>
<td>162.6</td>
<td>149</td>
<td>162.6</td>
</tr>
<tr>
<td>A3</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>B</td>
<td>339.2</td>
<td>N/A</td>
<td>339.2</td>
</tr>
<tr>
<td>C</td>
<td>1339.2</td>
<td>1188</td>
<td>1339.2</td>
</tr>
<tr>
<td>D</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Torso Angle (degree) | Front Row | Center (if any) | Right |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Front Row</td>
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<td>N/A</td>
<td>25</td>
</tr>
<tr>
<td>Second Row</td>
<td>26</td>
<td>27</td>
<td>26</td>
</tr>
<tr>
<td>Third Row</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Note: All dimensions are in mm. If not, provide the unit used.
Table 2. Seating Reference Point and Tether Anchorage Locations

<table>
<thead>
<tr>
<th>Seating Reference Point (SRP)</th>
<th>Distance from Driver's front outboard seat adjuster anchorage¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front Row</td>
<td></td>
</tr>
<tr>
<td>B1</td>
<td>339.2</td>
</tr>
<tr>
<td>E1</td>
<td>244</td>
</tr>
<tr>
<td>B2</td>
<td>N/A</td>
</tr>
<tr>
<td>E2</td>
<td>N/A</td>
</tr>
<tr>
<td>B3</td>
<td>339.2</td>
</tr>
<tr>
<td>E3</td>
<td>1014</td>
</tr>
<tr>
<td>Second Row</td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>1339.2</td>
</tr>
<tr>
<td>F1</td>
<td>269</td>
</tr>
<tr>
<td>C2</td>
<td>1188</td>
</tr>
<tr>
<td>F2</td>
<td>629</td>
</tr>
<tr>
<td>C3</td>
<td>1339.2</td>
</tr>
<tr>
<td>F3</td>
<td>989</td>
</tr>
<tr>
<td>Third Row</td>
<td></td>
</tr>
<tr>
<td>D1</td>
<td>N/A</td>
</tr>
<tr>
<td>G1</td>
<td>N/A</td>
</tr>
<tr>
<td>D2</td>
<td>N/A</td>
</tr>
<tr>
<td>G2</td>
<td>N/A</td>
</tr>
<tr>
<td>D3</td>
<td>N/A</td>
</tr>
<tr>
<td>G3</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Note: Use the center of anchorage.
TETHER ANCHORAGE LOCATIONS
FMVSS No. 225
(All dimensions in mm)

SEAT STYLE: FRONT ROW: Bucket / SECOND ROW: 60/40 split bench / THIRD ROW: N/A.

Note: The location shall be measured at the center of anchorage.
Table 3. Seating Reference Point and Tether Anchorage Locations

<table>
<thead>
<tr>
<th>Seating Reference Point (SRP)</th>
<th>Distance from SRP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Front Row</strong></td>
<td></td>
</tr>
<tr>
<td>H1</td>
<td></td>
</tr>
<tr>
<td>K1</td>
<td></td>
</tr>
<tr>
<td>H2</td>
<td></td>
</tr>
<tr>
<td>K2</td>
<td></td>
</tr>
<tr>
<td>H3</td>
<td></td>
</tr>
<tr>
<td>K3</td>
<td></td>
</tr>
<tr>
<td><strong>Second Row</strong></td>
<td></td>
</tr>
<tr>
<td>I1</td>
<td>561.6mm</td>
</tr>
<tr>
<td>L1</td>
<td>0</td>
</tr>
<tr>
<td>I2</td>
<td>621.6mm</td>
</tr>
<tr>
<td>L2</td>
<td>0</td>
</tr>
<tr>
<td>I3</td>
<td>561.6mm</td>
</tr>
<tr>
<td>L3</td>
<td>0</td>
</tr>
<tr>
<td><strong>Third Row</strong></td>
<td></td>
</tr>
<tr>
<td>J1</td>
<td></td>
</tr>
<tr>
<td>M1</td>
<td></td>
</tr>
<tr>
<td>J2</td>
<td></td>
</tr>
<tr>
<td>M2</td>
<td></td>
</tr>
<tr>
<td>J3</td>
<td></td>
</tr>
<tr>
<td>M3</td>
<td></td>
</tr>
</tbody>
</table>

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 = 10.8 degrees.

Measurement Instructions:
Adjust the seat back to make the head rest stay angle 10.8 degrees.

Seat back angle for passenger’s seat = 10.8 degrees.

Measurement Instructions:
Adjust the seat back to make the head rest stay angle 10.8 degrees.

Seat back angle for 2nd row seat = degrees.

Measurement Instructions:
N/A

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)


SEAT STYLE: FRONT ROW: Bucket / SECOND ROW: 60/40 split bench / THIRD ROW: N/A.

Vehicle Floorpan

LEFT SIDE VIEW OF TEST VEHICLE
Table 4. Vertical Dimension For The Tether Anchorage

<table>
<thead>
<tr>
<th>Seating Row</th>
<th>Vertical Distance from Seating Reference Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front Row</td>
<td>N1 (Driver) N/A</td>
</tr>
<tr>
<td></td>
<td>N2 (Center)</td>
</tr>
<tr>
<td></td>
<td>N3 (Right)</td>
</tr>
<tr>
<td>Second Row</td>
<td>O1 (Left) 492mm</td>
</tr>
<tr>
<td></td>
<td>O2 (Center) 422mm</td>
</tr>
<tr>
<td></td>
<td>O3 (Right) 492mm</td>
</tr>
<tr>
<td>Third Row</td>
<td>P1 (Left)</td>
</tr>
<tr>
<td></td>
<td>P2 (Center)</td>
</tr>
<tr>
<td></td>
<td>P3 (Right)</td>
</tr>
</tbody>
</table>

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). **Three**

3. How many designated seating positions are equipped with tether anchorages? Specify which positions(s). **O1 (Left), O2 (Center), O3 (Right)**

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

FORM – 225
APPENDIX C
PLOTS
GTL 6279, NHTSA C90501.

225, Child Restraint, Lower Anchor.

Time in Seconds

Force in Newtons (Thousands)
GTL 6279, NHTSA C90501.
225, Child Restraint, Lower Anchor.

Displacement in Millimeters

Force in Newtons (Thousands)