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

KIA MOTORS CORPORATION
2005 KIA RIO, PASSENGER CAR
NHTSA NO. C50503

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

APRIL 17, 2006
FINAL REPORT
PREPARED FOR
U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
SAFETY ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
400 SEVENTH STREET, SW
ROOM 6111 (NVS-220)
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: Amanda Prescott
Acceptance Date: ________________
Compliance tests were conducted on the subject, 2005 Kia Rio 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.

The Kia Rio was originally tested on October 10-11, 2005 and the Test failures identified were as follows:

S9.3, Adequate fit of lower anchorages. Shall be designed such that the CRF can be placed inside the vehicle and attached to the lower anchorages of each child restraint anchorage system. The child restraint fixture(CRF) and static force application device(SFAD 2) will not hook onto lower restraint anchors due to incorrect dimensioning of the lower anchors.

The vehicle was retested on March 28-29, 2006 after vehicle was modified per Kia Technical Service Bulletin found at Appendix D and the vehicle appears to meet the requirements of FMVSS 225.

Compliance Testing
Safety Engineering
FMVSS 225

Copies of this report are available from NHTSA Technical Reference Div., Rm. PL-403 (NPO-230) 400 7th St., S.W. Washington, DC 20590 Telephone No. (202) 366-4946
## TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>SECTION</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Purpose of Compliance Test</td>
<td>1</td>
</tr>
<tr>
<td>2  Compliance Test Results</td>
<td>2</td>
</tr>
<tr>
<td>3  Compliance Test Data</td>
<td>3</td>
</tr>
<tr>
<td>4  Test Equipment List</td>
<td>32</td>
</tr>
<tr>
<td>5  Photographs</td>
<td>33</td>
</tr>
<tr>
<td>5.1 Left Side View of Vehicle</td>
<td></td>
</tr>
<tr>
<td>5.2 Right Side View of Vehicle</td>
<td></td>
</tr>
<tr>
<td>5.3 ¾ Frontal Right Side View of Vehicle</td>
<td></td>
</tr>
<tr>
<td>5.4 ¾ Rearward Left Side View of Vehicle</td>
<td></td>
</tr>
<tr>
<td>5.5 Close-up View of Vehicle Certification Label</td>
<td></td>
</tr>
<tr>
<td>5.6 Close-up View of Vehicle Tire Information Label</td>
<td></td>
</tr>
<tr>
<td>5.7 Row 2, DSP’s with Child Restraint Anchors</td>
<td></td>
</tr>
<tr>
<td>5.8 Location of Lower Anchors</td>
<td></td>
</tr>
<tr>
<td>5.9 Row 2, Left Side Lower Anchors (Test 1)</td>
<td></td>
</tr>
<tr>
<td>5.10 Row 2, Right Side Lower Anchors (Test 1)</td>
<td></td>
</tr>
<tr>
<td>5.11 View of Lower Anchor with CRF Hook (Test 1)</td>
<td></td>
</tr>
<tr>
<td>5.12 Maximum Engagement of CRF Hook on Anchor (Test 1)</td>
<td></td>
</tr>
<tr>
<td>5.13 Maximum Engagement of CRF Hook on Anchor (Test 1)</td>
<td></td>
</tr>
<tr>
<td>5.14 View of Lower Anchor/Seat Frame Relationship (Test 1)</td>
<td></td>
</tr>
<tr>
<td>5.15 View of Lower Anchor/Seat Frame Relationship (Test 1)</td>
<td></td>
</tr>
<tr>
<td>5.16 Maximum Engagement of CRF Hook On Anchor (Test 1)</td>
<td></td>
</tr>
<tr>
<td>5.17 Measurement of Lower Anchor/Seat Back Clearance (Test 1)</td>
<td></td>
</tr>
<tr>
<td>5.18 Measurement of Lower Anchor/Seat Back Clearance (Test 1)</td>
<td></td>
</tr>
<tr>
<td>5.19 Clearance Measurement Transferred to CRF Hook (Test 1)</td>
<td></td>
</tr>
<tr>
<td>5.20 Clearance Measurement Transferred to CRF Hook (Test 1)</td>
<td></td>
</tr>
<tr>
<td>5.21 Replacement 225 Anchors Installed in Vehicle (Test 2)</td>
<td></td>
</tr>
<tr>
<td>5.22 Pre-Test Row 2, Left Side Outboard Lower Anchor (Test 2)</td>
<td></td>
</tr>
<tr>
<td>5.23 Pre-Test Row 2, Left Side Inboard Lower Anchor (Test 2)</td>
<td></td>
</tr>
<tr>
<td>5.24 Pre-Test Row 2, Left Side Top Tether Anchor (Test 2)</td>
<td></td>
</tr>
<tr>
<td>5.25 Pre-Test Row 2, Center Top Tether Anchor (Test 2)</td>
<td></td>
</tr>
<tr>
<td>5.26 Pre-Test Row 2, Right Side Inboard Lower Anchor (Test 2)</td>
<td></td>
</tr>
<tr>
<td>5.27 Pre-Test Row 2, Right Side Outboard Lower Anchor (Test 2)</td>
<td></td>
</tr>
<tr>
<td>5.28 Pre-Test Row 2, Right Side Top Tether Anchor (Test 2)</td>
<td></td>
</tr>
<tr>
<td>5.29 Visibility of Row 2, Left Side Lower Anchors (Test 2)</td>
<td></td>
</tr>
<tr>
<td>5.30 Visibility of Row 2, Right Side Lower Anchors (Test 2)</td>
<td></td>
</tr>
<tr>
<td>5.31 Measurement of Lower Anchor Symbol (Test 2)</td>
<td></td>
</tr>
<tr>
<td>5.32 Row 2, Left Side with CRF (Test 2)</td>
<td></td>
</tr>
<tr>
<td>5.33 Row 2, Left Side CRF Pitch Measurement (Test 2)</td>
<td></td>
</tr>
<tr>
<td>5.34 Row 2, Left Side Outboard “Z” Measurement (Test 2)</td>
<td></td>
</tr>
<tr>
<td>5.35 Row 2, Left Side Inboard “Z” Measurement (Test 2)</td>
<td></td>
</tr>
<tr>
<td>5.36 Row 2, Left Side with 2-D Template (Test 2)</td>
<td></td>
</tr>
<tr>
<td>5.37 Row 2, Left Side Tether Anchor Location (Test 2)</td>
<td></td>
</tr>
<tr>
<td>5.38 Row 2, Left Side Outboard SRP Measurement (Test 2)</td>
<td></td>
</tr>
<tr>
<td>5.39 Row 2, Left Side Inboard SRP Measurement (Test 2)</td>
<td></td>
</tr>
<tr>
<td>5.40 Row 2, Right Side with CRF (Test 2)</td>
<td></td>
</tr>
<tr>
<td>5.41 Row 2, Right Side CRF Pitch Measurement (Test 2)</td>
<td></td>
</tr>
</tbody>
</table>
TABLE OF CONTENTS (continued)

5.42 Row 2, Right Side Inboard “Z” Measurement (Test 2)
5.43 Row 2, Right Side Outboard “Z” Measurement (Test 2)
5.44 Row 2, Right Side with 2-D Template (Test 2)
5.45 Row 2, Right Side Tether Anchor Location (Test 2)
5.46 Row 2, Right Side Inboard SRP Measurement (Test 2)
5.47 Row 2, Right Side Outboard SRP Measurement (Test 2)
5.48 ¾ Left Side View of Vehicle on Test Rig (Test 2)
5.49 ¾ Right Side View of Vehicle in Test Rig (Test 2)
5.50 Pre-Test Set-up, Row 2, Right Side (Test 2)
5.51 Pre-Test Set-up, Row 2, Right Side (Test 2)
5.52 Pre-Test Set-up, Row 2, Right Side (Test 2)
5.53 Post Test, Row 2, Right Side (Test 2)
5.54 Post Test, Row 2, Right Side (Test 2)
5.55 Post Test, Row 2, Right Side (Test 2)
5.56 Pre-Test, Row 2, Left Side (Test 2)
5.57 Pre-Test, Row 2, Left Side (Test 2)
5.58 Post Test, Row 2, Left Side (Test 2)
5.59 Post Test, Row 2, Left Side (Test 2)
5.60 Pre-Test, Row 2, Center (Test 2)
5.61 Pre-Test, Row 2, Center (Test 2)
5.62 Post Test, Row 2, Center (Test 2)
5.63 Post Test, Row 2, Center (Test 2)

Appendix A – Owner’s Manual Child Restraint Information
Appendix B – Manufacturer’s Data
Appendix C – Plots
Appendix D - Kia Technical Service Bulletin
Appendix E - Laboratory Notice of Test Failure
SECTION 1

PURPOSE OF COMPLIANCE TEST

1.0 PURPOSE OF COMPLIANCE TEST

A 2005 Kia Rio Passenger Car was subjected to Federal Motor Vehicle Safety Standard (FMVSS) No. 225 testing to determine if the vehicle was in compliance with the requirements of the standard. The purpose of this standard is to establish requirements for child restraint anchorage systems to ensure their proper location and strength for the effective securing of child restraints, to reduce the likelihood of the anchorage systems’ failure and to increase the likelihood that child restraints are properly secured and thus more fully achieve their potential effectiveness in motor vehicles.

1.1 The test vehicle was a 2005 Kia Rio Passenger Car. Nomenclature applicable to the test vehicle are:

A. Vehicle Identification Number: KNADC125X56370008
B. NHTSA No.: C50503
C. Manufacturer: KIA MOTORS CORPORATION
D. Manufacture Date: 11/04

1.2 TEST DATE

The test vehicle was subjected to FMVSS No. 225 testing during the time period March 28-29, 2006.
SECTION 2

COMPLIANCE TEST RESULTS

2.0 TEST RESULTS

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

The 2005 KIA RIO was originally tested on October 10-11, 2005 and based on the tests performed it did not appear to meet the requirements of FMVSS 225. See Data Sheets in Section 3.

The vehicle was retested on March 28-29, 2006 after the vehicle was modified per the KIA RIO Technical Service Bulletin found at Appendix D, and now appears to meet the requirements of FMVSS 225 testing.
3.0 TEST DATA

The following data sheets document the results of testing on the 2005 Kia Rio Passenger Car.
DATA SHEET 1 (TEST #1)
SUMMARY OF RESULTS

VEH. MOD YR/MAKE/MODEL/BODY: 2005 KIA RIO PASSENGER CAR
VEH. NHTSA NO: C50503; VIN: KNADC125X56370008
VEH. BUILD DATE: 11/04; TEST DATE: OCTOBER 10-11, 2005
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>DSP a</th>
<th>DSP b</th>
<th>DSP c</th>
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<tbody>
<tr>
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C. LOCATION OF TETHER ANCHORAGES

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<tr>
<th>DSP a</th>
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<th>DSP c</th>
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<tbody>
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D. LOWER ANCHORAGE DIMENSIONS

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E. CONSPICUITY AND MARKING OF LOWER ANCHORAGES

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<tr>
<td>DSP b</td>
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<td>N/A</td>
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<tr>
<td>DSP c</td>
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F. STRENGTH OF TETHER ANCHORAGES **

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<tr>
<td>DSP b</td>
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<tr>
<td>DSP c</td>
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G. STRENGTH OF LOWER ANCHORAGES (Forward Force) **

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<th>FAIL</th>
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<tbody>
<tr>
<td>DSP a</td>
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<td></td>
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<tr>
<td>DSP b</td>
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<tr>
<td>DSP c</td>
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H. STRENGTH OF LOWER ANCHORAGE (Lateral Force) **

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<thead>
<tr>
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<tr>
<td>DSP a</td>
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<tr>
<td>DSP b</td>
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<td></td>
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<tr>
<td>DSP c</td>
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I. OWNER’S MANUAL

<table>
<thead>
<tr>
<th></th>
<th>PASS</th>
<th>FAIL</th>
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REMARKS: DSP a = Left Rear Outboard, DSP b = Center, DSP c = Right Rear Outboard
** No Static Tests were performed due to the lower anchor dimensions not meeting the requirements of FMVSS 225 S9.3 for fit of the CRF.

RECORDED BY: G. Farrand DATE: 10/11/05
APPROVED BY: D. Messick
DATA SHEET 2 (TEST #1)
REQUIREMENTS FOR CHILD RESTRAINT ANCHORAGE SYSTEMS
AND TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2005 KIA RIO PASSENGER CAR
VEH. NHTSA NO: C50503; VIN: KNADC125X56370008
VEH. BUILD DATE: 11/04; TEST DATE: OCTOBER 10, 2005
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 an 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 convertibles/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 (TEST #1)

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 dists and a non-outboard dist, is a tether anchorage or CRAS provided at a non-outboard dist?  
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                   X                      X
X

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X = Top Tether  
* = Lower Anchors

RECORDED BY: G. Farrand  DATE: 10/10/05

APPROVED BY: D. Messick
DATA SHEET 3 (TEST #1)
LOCATION OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2005 KIA RIO PASSENGER CAR
VEH. NHTSA NO: C50503; VIN: KNADC125X56370008
VEH. BUILD DATE: 11/04; TEST DATE: OCTOBER 10, 2005
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 shelf behind seat.

Based on visual inspection, is the tether anchorage within the shaded zone? YES
If YES = PASS, skip to next section
If NO, After constructing the shaded zone, is the tether anchorage within the shaded zone?

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

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

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

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

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

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

If the DSP has a tether routing device, is it flexible or rigid? N/A
DATA SHEET 3 CONTINUED (TEST #1)

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: 10/10/05

APPROVED BY: D. Messick
DATA SHEET 3A (TEST #1)
LOCATION OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2005 KIA RIO PASSENGER CAR
VEH. NHTSA NO: C50503; VIN: KNADC125X56370008
VEH. BUILD DATE: 11/04; TEST DATE: OCTOBER 10, 2005
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

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

Detailed description of the location of the tether anchorage:
Located on shelf behind seat.

Based on visual inspection, is the tether anchorage within the shaded zone? _____YES
If YES = PASS, skip to next section
If NO, After constructing the shaded zone, is the tether anchorage within the shaded zone?

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

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

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

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

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

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

If the DSP has a tether routing device, is it flexible or rigid? _____N/A
DATA SHEET 3A CONTINUED (TEST #1)

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: ___10/10/05_______

APPROVED BY: ___D. Messick_________
DATA SHEET 3B (TEST #1)
LOCATION OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2005 KIA RIO PASSENGER CAR
VEH. NHTSA NO: C50503; VIN: KNADC125X56370008
VEH. BUILD DATE: 11/04; TEST DATE: OCTOBER 10, 2005
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

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

Detailed description of the location of the tether anchorage:
Located on shelf behind seat.

Based on visual inspection, is the tether anchorage within the shaded zone? YES
If YES = PASS, skip to next section
If NO, After constructing the shaded zone, is the tether anchorage within the shaded zone?

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

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

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

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

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

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

If the DSP has a tether routing device, is it flexible or rigid? N/A
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:  10/10/05

APPROVED BY:  D. Messick
DATA SHEET 4 (TEST #1)
LOWER ANCHORAGE DIMENSIONS

VEH. MOD YR/MAKE/MODEL/BODY: 2005 KIA RIO PASSENGER CAR
VEH. NHTSA NO: C50503; VIN: KNADC125X56370008
VEH. BUILD DATE: 11/04; TEST DATE: OCTOBER 10, 2005
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

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

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

Inboard Lower Anchorage bar diameter: 6.05
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
Length ≥25mm = PASS Length <25mm = FAIL (S9.1.1(c) (i))

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

Length between the anchor bar supports (outboard lower anchorage): 36
Length ≤60mm = PASS Length >60mm = FAIL (S9.1.1 (c) (ii))

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

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

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

CRF Yaw angle: N/A
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: N/A
Distance ≤70mm = PASS Distance > 70mm = FAIL

Distance between point Z on the CRF and the front surface of inboard anchor bar: N/A
Distance ≤70mm = PASS Distance > 70mm = FAIL
DATA SHEET 4 CONTINUED (TEST #1)

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

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

Distance between SgRP and the front surface of inboard anchor bar: N/A
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? N/A
If NO = PASS
If YES = FAIL (S9.1.1(g)), Provide further description of the attachment of the anchor bar:

COMMENTS: Child Restraint Fixture (CRF) and Static Force Application Device (SFAD 2) will not attach to lower anchors due to interference with the frame of the seat back.

RECORDED BY: G. Farrand  DATE: 10/10/05
APPROVED BY: D. Messick
DATA SHEET 4A (TEST #1)
LOWER ANCHORAGE DIMENSIONS

VEH. MOD YR/MAKE/MODEL/BODY: 2005 KIA RIO PASSENGER CAR
VEH. NHTSA NO: C50503; VIN: KNADC125X56370008
VEH. BUILD DATE: 11/04; TEST DATE: OCTOBER 10, 2005
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

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

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

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

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

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

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

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

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

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

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

CRF Yaw angle: N/A 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: N/A Distance ≤ 70 mm = PASS Distance > 70 mm = FAIL

Distance between point Z on the CRF and the front surface of inboard anchor bar: N/A Distance ≤ 70 mm = PASS Distance > 70 mm = FAIL
DATA SHEET 4A CONTINUED (TEST #1)

DESIGNATED SEATING POSITION: __ROW 2 RIGHT SIDE (DSP C)___

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

Distance between SgRP and the front surface of inboard anchor bar: ___N/A____
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? ___N/A____

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

COMMENTS: Child Restraint Fixture (CRF) and Static Force Application Device (SFAD 2) will not attach to lower anchors due to interference with the frame of the seat back.

RECORDED BY: ___G. Farrand___________     DATE: ____10/06/05_______

APPROVED BY: ___D. Messick_________
DATA SHEET 5 (TEST #1)
CONSPICUITY AND MARKING OF LOWER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2005 KIA RIO PASSENGER CAR
VEH. NHTSA NO: C50503; VIN: KNADC125X56370008
VEH. BUILD DATE: 11/04; TEST DATE: OCTOBER 11, 2005
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

DESIGNATED SEATING POSITION: __ROW 2 LEFT SIDE (DSP A)___

MARKING (Circles)

Diameter of the circle: __15 mm___
Diameter ≥13mm = PASS  Diameter <13mm = FAIL (S9.5(a)(1))

Does the circle have words, symbols or pictograms? ___YES___
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: __52__
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 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 (TEST #1)

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

Is there a cap or cover over the anchor bar? ___ NO ___
   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. ___ NO REQUIREMENTS ___

RECORDED BY:  G. Farrand             DATE: 10/11/05

APPROVED BY:  D. Messick
DATA SHEET 5A (TEST #1)
CONSPICUITY AND MARKING OF LOWER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2005 KIA RIO PASSENGER CAR
VEH. NHTSA NO: C50503; VIN: KNADC125X56370008
VEH. BUILD DATE: 11/04; TEST DATE: OCTOBER 11, 2005
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

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

MARKING (Circles)

Diameter of the circle: 15

Diameter ≥ 13mm = PASS  Diameter < 13mm = FAIL (S9.5(a)(1))

Does the circle have words, symbols or pictograms? YES
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: 52

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 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 5A CONTINUED (TEST #1)

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

Is there a cap or cover over the anchor bar?  NO
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.  NO REQUIREMENTS

RECORDED BY:  G. Farrand          DATE:  10/11/05

APPROVED BY:  D. Messick
A. VISUAL INSPECTION OF TEST VEHICLE

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

RESULTS: CHANGED ALL 225 LOWER ANCHOR BARS PER KIA TECHNICAL SERVICE BULLETIN #057 DATED DEC. 2005. SEE ATTACHMENT D FOR BULLETIN.

B. REQUIREMENTS FOR CHILD RESTRAINT SYSTEMS AND TETHER ANCHORAGES

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<thead>
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<td>DSP c</td>
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C. LOCATION OF TETHER ANCHORAGES

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D. LOWER ANCHORAGE DIMENSIONS

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**DATA SHEET 1 CONTINUED (TEST #2)
SUMMARY OF RESULTS**

**E. CONSPICUITY AND MARKING OF LOWER ANCHORAGES**

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**F. STRENGTH OF TETHER ANCHORAGES**

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

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<tbody>
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**H. STRENGTH OF LOWER ANCHORAGE (Lateral Force)**

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<table>
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<tbody>
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**I. OWNER’S MANUAL**

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

RECORDED BY: G. Farrand DATE: 03/29/06
APPROVED BY: D. Messick
DATA SHEET 4 (TEST #2)
LOWER ANCHORAGE DIMENSIONS

VEH. MOD YR/MAKE/MODEL/BODY: 2005 KIA RIO PASSENGER CAR
VEH. NHTSA NO: C50503; VIN: KNADC125X56370008
VEH. BUILD DATE: 11/04; TEST DATE: MARCH 28, 2006
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

DESIGNATED SEATING POSITION: __ROW 2 LEFT SIDE (DSP A)___

Outboard Lower Anchorage bar diameter: 6.07
6mm ± 0.1 mm = PASS Other size = FAIL (S9.1.1(a))

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

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

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

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

CRF Pitch angle: 10.4
Angle = 15°±10° = PASS Angle ≠15°±10° = FAIL (S9.2.1)

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

CRF Yaw angle: 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: 27
Distance ≤70mm = PASS Distance > 70mm = FAIL

Distance between point Z on the CRF and the front surface of inboard anchor bar: 22
Distance ≤70mm = PASS Distance > 70mm = FAIL
DATA SHEET 4 CONTINUED (TEST #2)

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

Distance between SgRP and the front surface of outboard anchor bar: 150
Distance ≥ 120mm = PASS    Distance < 120mm = FAIL

Distance between SgRP and the front surface of inboard anchor bar: 150
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: Test conducted with new lower anchors, as installed per Kia Technical Bulletin (See Appendix D).

RECORDED BY: G. Farrand          DATE: 03/28/06

APPROVED BY: D. Messick
DATA SHEET 4A (TEST #2)
LOWER ANCHORAGE DIMENSIONS

VEH. MOD YR/MAKE/MODEL/BODY: 2005 KIA RIO PASSENGER CAR
VEH. NHTSA NO: C50503; VIN: KNADC125X56370008
VEH. BUILD DATE: 11/04; TEST DATE: MARCH 28, 2006
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE

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

Outboard Lower Anchorage bar diameter: 6.0
6mm ± 0.1 mm = PASS Other size = FAIL (S9.1.1(a))

Inboard Lower Anchorage bar diameter: 6.0
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
Length ≥25mm = PASS Length <25mm = FAIL(S9.1.1(c) (i))

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

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

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

CRF Pitch angle: 10.5
Angle = 15º±10º = PASS Angle≠15º±10º = FAIL (S9.2.1)

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

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

Distance between point Z on the CRF and the front surface of outboard anchor bar: 23
Distance ≤70mm = PASS Distance > 70mm = FAIL

Distance between point Z on the CRF and the front surface of inboard anchor bar: 21
Distance ≤70mm = PASS Distance > 70mm = FAIL
DATA SHEET 4A CONTINUED (TEST #2)

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

Distance between SgRP and the front surface of outboard anchor bar: 140
Distance ≥ 120mm = PASS  Distance < 120mm = FAIL

Distance between SgRP and the front surface of inboard anchor bar: 140
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: Test conducted with new lower anchors as installed per Kia Technical Bulletin (See Appendix D).

RECORDED BY: G. Farrand  DATE: 03/28/06
APPROVED BY: D. Messick
DATA SHEET 6 (TEST #2)
STRENGTH OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2005 KIA RIO PASSENGER CAR
VEH. NHTSA NO: C50503; VIN: KNADC125X56370008
VEH. BUILD DATE: 11/04; TEST DATE: MARCH 29, 2006
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE
TEST NO: 5485

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

Seat Back Angle: 23º
Location of seat back angle measurement: 2D Template

Head Restraint Position: FIXED
D-ring Position: N/A

Force at Point X (lower front crossmember for SFAD2) while securing belts and tether: 135 N
Lap belt tension: N/A (SFAD 1 only)
Tether strap tension: 60 N

Angle (measured above the horizontal at 500 N): 10.2º
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
Maximum force (14,950 N ± 50 N): 14,932 N
Tested simultaneously with another DSP? NO

COMMENTS:

RECORDED BY: G. Farrand DATE: 03/29/06
APPROVED BY: D. Messick
DATA SHEET 6A (TEST #2)
STRENGTH OF TETHER ANCHORAGES

VEH. MOD YR/MAKE/MODEL/BODY: 2005 KIA RIO PASSENGER CAR
VEH. NHTSA NO: C50503; VIN: KNADC125X56370008
VEH. BUILD DATE: 11/04 ; TEST DATE: MARCH 29, 2006
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE
TEST NO: 5487

DESIGNATED SEATING POSITION: ___ ROW 2 CENTER ___ (DSP “B”)

SFAD: ___ 1 ___

Seat Back Angle: ___ 23º ___

Location of seat back angle measurement: ___ 2D Template ___

Head Restraint Position: ___ Fixed ___

D-ring Position: ___ N/A ___

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

Lap belt tension: ___ 60 N ___ (SFAD 1 only)

Tether strap tension: ___ 60 N ___

Angle (measured above the horizontal at 500 N): ___ 10.2º ___

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 ___

Maximum force (14,950 N ± 50 N): ___ 14,923 N ___

Tested simultaneously with another DSP? ___ NO ___

COMMENTS:

RECORDED BY: ___ G. Farrand ___ DATE: ___ 03/29/06 ___

APPROVED BY: ___ D. Messick ___
DATA SHEET 7 (TEST #2)
STRENGTH OF LOWER ANCHORAGES (Forward Force)

VEH. MOD YR/MAKE/MODEL/BODY: 2005 KIA RIO PASSENGER CAR
VEH. NHTSA NO: C50503; VIN: KNADC125X56370008
VEH. BUILD DATE: 11/04; TEST DATE: MARCH 29, 2006
TEST LABORATORY: GENERAL TESTING LABORATORIES
OBSERVERS: GRANT FARRAND, JIMMY LATANE
TEST NO: 5486

DESIGNATED SEATING POSITION: ROW 2 LEFT SIDE (DSP “C”)

Seat Back Angle: 23º

Location of seat back angle measurement: 2D Template

Head Restraint Position: Fixed

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

Angle (measured above the horizontal at 500 N): 10.2º

Force application rate: 423 N/S

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

Maximum force (10,950 N ± 50 N): 10,947 N (2460 lbs.)

Displacement, H1 (at 500 N): 0.0

Displacement, H2 (at maximum load): 63.4 mm

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

Tested simultaneously with another DSP? NO

Distance between adjacent DSP’s: 320 mm

COMMENTS:

RECORDED BY: G. Farrand DATE: 03/29/06
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:  03/28/06

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>
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</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</td>
<td>INTERFACE</td>
<td>496</td>
<td>12/05</td>
<td>12/06</td>
</tr>
<tr>
<td>LINEAR TRANSDUCER</td>
<td>SERVO SYSTEMS</td>
<td>20</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>02/05</td>
<td>02/06</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
FIGURE 5.4
¾ REARWARD LEFT SIDE VIEW OF VEHICLE
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.5
CLOSE-UP VIEW OF VEHICLE CERTIFICATION LABEL
### Recommended Tire Size and Inflation Pressure (Cold)

<table>
<thead>
<tr>
<th>Load Range/Charge Nominale</th>
<th>Tire Size (Load Range C&amp;D Not Permissible)</th>
<th>Pressure</th>
<th>Dimensions des pneus et pressions de gonflage recommandées (à froid)</th>
</tr>
</thead>
<tbody>
<tr>
<td>STD</td>
<td>P175/65R14 82T 81T</td>
<td>30 psi 210 kPa</td>
<td>30 psi 210 kPa</td>
</tr>
<tr>
<td>T</td>
<td>T105/70D14 Temporary Spare</td>
<td>60 psi 415 kPa</td>
<td>60 psi 415 kPa</td>
</tr>
<tr>
<td></td>
<td>T105/70R14 Temporary Spare</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Total Load = Occupants Plus Luggage

<table>
<thead>
<tr>
<th>Model/Modèle</th>
<th>Maximum Load/Charge Maximale</th>
<th>Occupants/Occupants</th>
<th>Distribution/Répartition</th>
<th>Luggage/Bagages</th>
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<tbody>
<tr>
<td>ALL TOUS</td>
<td>827 lb/375 kg</td>
<td>5</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

See Owner's Manual for Additional Information

Voir Manuel de conducteur pour des informations supplémentaires

2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.6
CLOSE-UP VIEW OF TIRE INFORMATION LABEL
FIGURE 5.8
LOCATION OF LOWER ANCHORS
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.9 (TEST 1)
ROW 2, LEFT SIDE LOWER ANCHORS
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.10 (TEST 1)
ROW 2, RIGHT SIDE LOWER ANCHORS
FIGURE 5.11 (TEST 1)
VIEW OF LOWER ANCHOR WITH CRF HOOK
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.12 (TEST 1)
MAXIMUM ENGAGEMENT OF CRF HOOK ON ANCHOR
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.13 (TEST 1)
MAXIMUM ENGAGEMENT OF CRF HOOK ON ANCHOR
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.14 (TEST 1)
VIEW OF LOWER ANCHOR/SEAT FRAME
RELATIONSHIP
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.16 (TEST 1)
MAXIMUM ENGAGEMENT OF CRF HOOK ON ANCHOR
FIGURE 5.17 (TEST 1)
MEASUREMENT OF LOWER ANCHOR/SEAT BACK CLEARANCE
FIGURE 5.18 (TEST 1)
MEASUREMENT OF LOWER ANCHOR/SEAT BACK CLEARANCE
FIGURE 5.19 (TEST 1)
CLEARANCE MEASUREMENT TRANSFERRED
TO CRF HOOK
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.20 (TEST 1)
CLEARANCE MEASUREMENT TRANSFERRED
TO CRF HOOK
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.21 (TEST 2)
REPLACEMENT 225 ANCHORS INSTALLED IN VEHICLE
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.22 (TEST 2)
PRE-TEST, ROW 2, LEFT SIDE OUTBOARD
LOWER ANCHOR
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.23 (TEST 2)
PRE-TEST, ROW 2, LEFT SIDE INBOARD
LOWER ANCHOR
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.25 (TEST 2)
PRE-TEST, ROW 2, CENTER TOP TETHER ANCHOR
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.26 (TEST 2)
PRE-TEST, ROW 2, RIGHT SIDE INBOARD LOWER ANCHOR
FIGURE 5.27 (TEST 2)
PRE-TEST, ROW 2, RIGHT SIDE OUTBOARD
LOWER ANCHOR
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.28 (TEST 2)
PRE-TEST, ROW 2, RIGHT SIDE TOP TETHER ANCHOR
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.29 (TEST 2)
VISIBILITY OF ROW 2, LEFT SIDE LOWER ANCHORS
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.30 (TEST 2)
VISIBILITY OF ROW 2, RIGHT SIDE LOWER ANCHORS
FIGURE 5.31 (TEST 2)
MEASUREMENT OF LOWER ANCHOR SYMBOL
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.33 (TEST 2)
ROW 2, LEFT SIDE CRF PITCH MEASUREMENT
FIGURE 5.34 (TEST 2)
ROW 2, LEFT SIDE OUTBOARD "Z" MEASUREMENT
FIGURE 5.35 (TEST 2)
ROW 2, LEFT SIDE INBOARD "Z" MEASUREMENT

2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.37 (TEST 2)
ROW 2, LEFT SIDE TETHER ANCHOR LOCATION
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.38 (TEST 2)
ROW 2, LEFT SIDE OUTBOARD SRP MEASUREMENT
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.39 (TEST 2)
ROW 2, LEFT SIDE INBOARD SRP MEASUREMENT
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.40 (TEST 2)
ROW 2, RIGHT SIDE WITH CRF
FIGURE 5.41 (TEST 2)
ROW 2, RIGHT SIDE CRF PITCH MEASUREMENT
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.42 (TEST 2)
ROW 2, RIGHT SIDE INBOARD “Z” MEASUREMENT
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.43 (TEST 2)
ROW 2, RIGHT SIDE OUTBOARD “Z” MEASUREMENT
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.45 (TEST 2)
ROW 2, RIGHT SIDE TETHER ANCHOR LOCATION
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.46 (TEST 2)
ROW 2, RIGHT SIDE INBOARD SRP MEASUREMENT
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.49 (TEST 2)
¾ RIGHT SIDE VIEW OF VEHICLE IN TEST RIG
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.50 (TEST 2)
PRE-TEST SET-UP, ROW 2, RIGHT SIDE
2005 KIA RIO  
NHTSA NO. C50503  
FMVSS NO. 225  

FIGURE 5.51 (TEST 2)  
PRE-TEST SET-UP, ROW 2, RIGHT SIDE
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.53 (TEST 2)
POST TEST, ROW 2, RIGHT SIDE
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.54 (TEST 2)
POST TEST, ROW 2, RIGHT SIDE
FIGURE 5.56 (TEST 2)
PRE-TEST, ROW 2, LEFT SIDE
FIGURE 5.57 (TEST 2)
PRE-TEST, ROW 2, LEFT SIDE
2005 KIA RIO  
NHTSA NO. C50503  
FMVSS NO. 225  

FIGURE 5.61 (TEST 2)  
PRE-TEST, ROW 2, CENTER
2005 KIA RIO
NHTSA NO. C50503
FMVSS NO. 225

FIGURE 5.63 (TEST 2)
POST TEST, ROW 2, CENTER
**WARNING - Children on Lap**

Never hold a child on your lap or in your arms in a moving vehicle. Even a very strong person cannot hold onto a child in the event of even a minor collision.

Many companies manufacture child-restraint systems (often called child seats) for infants and small children. An acceptable child-restraint system must always satisfy U.S. Federal Motor Vehicle Safety Standards. Make sure that any child-restraint system you use in your vehicle is labeled as complying with those safety standards. The child restraint system should be chosen to fit both the size of the child and the size of the vehicle seat. Be sure to follow any instructions provided by the child restraint system manufacturer when installing the child-restraint system.

**WARNING - Infants and Young Children**

- Infants and young children are at much greater risk of serious injury or death in an accident or sudden stop if they are unrestrained or restrained improperly. Follow all instructions in this section of your Kia manual and the instructions that came on and with an improved child safety restraint system. The child restraint must be correctly installed in the vehicle, and the child must be correctly installed in the child restraint.
- All children under 12 are safest in the back seat. The center rear position is best.
- Never install a rear-facing infant seat in the front passenger position. The baby will be injured or killed by the airbag if it deploys in an accident.

(Continued)

**Knowing Your Vehicle**

(Continued)

- Never allow a child to stand or kneel on the seat of a moving vehicle. Insist the child sit down in an approved restraint system.
- Never allow a safety belt to be placed around both a child and an adult or around two children. In an accident they will not be properly restrained and may receive worse injuries from being thrown forward or crushed against one another.
- Never allow a child to be held on a lap or in anyone’s arms while the vehicle is moving. Even a very strong person cannot hold onto a child in even a minor collision.
- A child too large for a child restraint but too small for the vehicle safety belts should use an approved belt-positioning booster seat. This is safer than allowing a child to ride with a shoulder belt that touches their face or neck.

**WARNING - Hot Metal Parts**

Since a safety belt or child restraint system can become very hot in a closed vehicle during warm sunny weather, be sure to check the seat cover and buckles before placing a child anywhere near them.

**Restraint of Large Children**

As children grow, they may need to use new child restraints, including larger child seats or booster seats, which are appropriate for their increased size.

A child who has outgrown available child restraint systems should use the belts provided in the vehicle. When seated, the child should be restrained by the lap/shoulder belt.

If the shoulder belt slightly touches the child’s neck or face, try placing the child closer to the center of the vehicle. If the shoulder belt still touches their face or neck, they may need to be returned to a child restraint system. In addition, after-market devices are available from independent manufacturers which help pull the shoulder belt lower and away from the child’s face or neck.
Placement of a Child Restraint System
We recommend that, whenever possible, you put the child restraint in the center position of the rear seat and secure it to the vehicle with the lap belt. If the center rear seat is not available, or you are using more than one child restraint system in the vehicle at the same time.

The rear outboard safety belts have been designed to allow a child restraint to be used in these positions. Since those safety belts normally lock only under extreme or emergency conditions (emergency lock mode) you must manually adjust those belts to the auto lock mode.

⚠️ WARNING
When a child restraint is not in use, make sure that it is secured by a safety belt. In a sudden stop or accident, a loose child restraint could be thrown forward and injure someone.

Installing a Child Restraint System in the Front Passenger Seat and Rear Outboard Seats
For safety reasons, we recommend that the child restraint system be used in the center rear seat. If the center rear seat is unavailable, a rear-facing child restraint may be installed in the rear outboard seats. 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 three of these safety belts move freely under normal conditions and only lock under extreme or emergency conditions (emergency lock mode), you must manually change these safety belts to the auto lock mode to secure a child restraint.

* NOTICE
The driver's safety belt incorporates the emergency lock mode only.

Knowing Your Vehicle

⚠️ WARNING - Restraint Instructions
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.

⚠️ WARNING - Child Restraint Placement
Never use a rear-facing child restraint in the front passenger seat. In a collision the air bag inflates with great force. A child in a rear-facing restraint in the front passenger seat can be severely or fatally injured by the power of the air bag.

Placing a Passenger Safety Belt into the “Auto Lock” Mode (If equipped)
The use of the auto lock mode will ensure that the normal movement of the child in the vehicle does not cause the safety belt to be pulled out and loosen the firmness of its hold on the child restraint system. To secure a child restraint system in the front passenger seat or rear outboard seats, use the following procedure.
Installing a Child Restraint System in the Front Seat and Rear Outboard Seats

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

Knowing Your Vehicle

4. Slowly allow the shoulder portion of the safety 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 safety belt is holding it firmly in place. If it is not, release the safety 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 safety 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 safety 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 safety belt is not placed in the "auto lock" mode, severe injury or death could occur to the child and/or other occupants in the vehicle in a collision, since the child restraint will not be effectively held in place.

* NOTICE

When the safety 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.

Knowing Your Vehicle

Installing a Child Restraint System in the Rear Center Seat (if equipped)

To install a child restraint system in the rear center seat, do the following:

1. Place the child restraint in the desired position. Route the lap belt through the child restraint according to the seat manufacturer's instructions.
2. Insert the tongue plate into the buckle until an audible "click" is heard, indicating the belt is locked in the buckle.
3. Adjust the lap safety belt for a snug hold on the child restraint by pulling on the loose end of the belt.

Child Seat Anchorage Position

For small children and babies, the use of a child seat or infant seat is strongly recommended. 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 recommended that the seat be placed in the vehicle's rear seat since this can make an important contribution to safety. Your vehicle is provided with three child restraint hook holders on the package tray behind the rear seat for installing the child seat or infant seat.

⚠️ WARNING - Child Restraint Placement

Never use a child restraint in the front passenger seat. A child in a child restraint installed in the front passenger seat can be severely or fatally injured by an air bag which could impact the child restraint with great force when the air bag inflates.
Tether Anchor Installation

Your vehicle is equipped with an anchor for securing the tether strap of a child restraint system (child seat). The child restraint anchor fittings are installed on the shelf behind the rear seat or in the trunk on the inboard side of the rear bumper in the 5-door hatchback.

⚠️ WARNING
If the tether strap is clipped incorrectly, the child restraint seat may not be restrained properly in the event of a collision.

Installing a child restraint seat:
1. Position the child restraint seat on the rear passenger seat cushion.
2. Route the child restraint seat tether strap over the back of the seat.
   For vehicles with adjustable head restraints, route the tether strap under the head restraint and between the head restraint posts; otherwise route the tether strap over the top of the seatback.
3. Locate the correct anchor on the package tray behind the rear seat for the selected seating position.
4. Open the tether anchor cover.
5. Clip the tether strap hook to the tether strap hook holder.
6. Tighten the tether strap to secure the seat.

Knowing Your Vehicle

⚠️ WARNING - Child Restraint
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 come away causing death or 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.

Child Seat Lower Anchors

The lower anchors are located between rear seat cushion and seatback.

⚠️ WARNING
If the child restraint is not anchored properly, the risk of a child being seriously injured or killed in a collision greatly increases. Always follow the installation and use instructions provided by the manufacturer of the child restraint.
AIR BAG - SUPPLEMENTAL RESTRAINT SYSTEM

What Your Air Bag System Does
Your vehicle is equipped with a dual Supplemental Restraint System (SRS), which includes an airbag for the driver and another airbag for the front seat passenger. The airbag for the driver is in the steering wheel and is designed to help restrain the forward movement of the driver’s head and chest in certain frontal collisions. The passenger airbag is designed to help restrain the forward movement of the passengers head and chest in certain frontal collisions.

What Your Air Bag System Does Not Do
The air bag system is designed to supplement or add to the protection offered by the safety belt system. IT IS NOT A SUBSTITUTE FOR THE SAFETY BELT.

WARNING
Do not install a child restraint seat at the rear center seating position using the vehicle’s ISOFIX anchors. The ISOFIX anchors are only provided for the left and right outboard rear seating positions.

There is a symbol located on the lower portion of each side of the rear seatbacks. These symbols indicate the position of the lower anchors for child restraints so equipped.

To attach the child seat to the lower anchor, insert the child seat latch into the lower anchor hold. Listen for the audible “Click” sound.
SEAT REFERENCE POINT (SRP) AND TORSO ANGLE DATA
FOR FMVSS 225
(All dimensions in mm)

Model Year: 2005; Make: Kia; Model: Rio; Body Style: 4-dr Sedan
Seat Style: Front row: 2 Seats (Bucket); Second row: 3 Seats (Bench); Third row: None

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>Second Row</th>
<th>Third Row</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Left (Driver Side)</td>
<td>Center (if any)</td>
<td>Right</td>
</tr>
<tr>
<td>A1</td>
<td>182.0</td>
<td>N/A</td>
<td>182.0</td>
</tr>
<tr>
<td>A2</td>
<td>125.0</td>
<td>155.0</td>
<td>125.0</td>
</tr>
<tr>
<td>A3</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>B</td>
<td>359.0</td>
<td>N/A</td>
<td>359.0</td>
</tr>
<tr>
<td>C</td>
<td>1067.0</td>
<td>1067.0</td>
<td>1067.0</td>
</tr>
<tr>
<td>D</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Note: 1. All dimensions are in mm. If not, provide the unit used.
NOMINAL DESIGN RIDING POSITION – For adjustable driver, passenger, 2nd row and 3rd row seat backs, describe how to position...
SEATING REFERENCE POINT
FOR FMVSS 225
(All dimensions in mm)
(Note: The Child Restraint Anchorage Location determines the 225 SRP locations)

Model Year: 2005; Make: Kia; Model: Rio; Body Style: 4-dr Sedan
Seat Style: Front row: 2 Seats (Bucket); Second row: 3 Seats (Bench); Third row: None

Driver’s seat front outboard seat adjuster anchorage
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 anchorage&lt;sup&gt;1&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Front Row</strong></td>
<td></td>
</tr>
<tr>
<td>B1</td>
<td>359.0</td>
</tr>
<tr>
<td>E1</td>
<td>228.0</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>359.0</td>
</tr>
<tr>
<td>E3</td>
<td>878.0</td>
</tr>
<tr>
<td><strong>Second Row</strong></td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>708.0</td>
</tr>
<tr>
<td>F1</td>
<td>243.0</td>
</tr>
<tr>
<td>C2</td>
<td>708.0</td>
</tr>
<tr>
<td>(reference to driver’s seat)</td>
<td></td>
</tr>
<tr>
<td>F2</td>
<td>553.0</td>
</tr>
<tr>
<td>C3</td>
<td>708.0</td>
</tr>
<tr>
<td>F3</td>
<td>863.0</td>
</tr>
<tr>
<td><strong>Third Row</strong></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: 1. Use the center of anchorage.
TETHER ANCHORAGE LOCATIONS
FOR FMVSS 225
(All dimensions in mm)

Model Year: 2005; Make: Kia; Model: Rio; Body Style: 4-dr Sedan
Seat Style: Front row: 2 Seats (Bucket); Second row: 3 Seats (Bench); Third row: None

Φ: SRP
♀: Tether anchorage

Note: 1. 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>Front Row</td>
<td></td>
</tr>
<tr>
<td>H1</td>
<td>N/A</td>
</tr>
<tr>
<td>K1</td>
<td>N/A</td>
</tr>
<tr>
<td>H2</td>
<td>N/A</td>
</tr>
<tr>
<td>K2</td>
<td>N/A</td>
</tr>
<tr>
<td>H3</td>
<td>N/A</td>
</tr>
<tr>
<td>K3</td>
<td>N/A</td>
</tr>
<tr>
<td>Second Row</td>
<td></td>
</tr>
<tr>
<td>I1</td>
<td>524.5</td>
</tr>
<tr>
<td>L1</td>
<td>0</td>
</tr>
<tr>
<td>I2</td>
<td>524.5</td>
</tr>
<tr>
<td>L2</td>
<td>0</td>
</tr>
<tr>
<td>I3</td>
<td>524.5</td>
</tr>
<tr>
<td>L3</td>
<td>0</td>
</tr>
<tr>
<td>Third Row</td>
<td></td>
</tr>
<tr>
<td>J1</td>
<td>N/A</td>
</tr>
<tr>
<td>M1</td>
<td>N/A</td>
</tr>
<tr>
<td>J2</td>
<td>N/A</td>
</tr>
<tr>
<td>M2</td>
<td>N/A</td>
</tr>
<tr>
<td>J3</td>
<td>N/A</td>
</tr>
<tr>
<td>M3</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Note: 1. Use the center of anchorage.
TETHER ANCHORAGE LOCATIONS - VERTICAL
FOR FMVSS 225
(All dimensions in mm)

Model Year: 2005; Make: Kia; Model: Rio; Body Style: 4-dr Sedan
Seat Style: Front row: 2 Seats (Bucket); Second row: 3 Seats (Bench); Third row: None

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>N/A</td>
</tr>
<tr>
<td>N1 (Driver)</td>
<td>N/A</td>
</tr>
<tr>
<td>N2 (Center)</td>
<td>N/A</td>
</tr>
<tr>
<td>N3 (Right)</td>
<td>N/A</td>
</tr>
<tr>
<td>Second Row</td>
<td></td>
</tr>
<tr>
<td>O1 (Left)</td>
<td>501</td>
</tr>
<tr>
<td>O2 (Center)</td>
<td>458</td>
</tr>
<tr>
<td>O3 (Right)</td>
<td>501</td>
</tr>
<tr>
<td>Third Row</td>
<td></td>
</tr>
<tr>
<td>P1 (Left)</td>
<td>N/A</td>
</tr>
<tr>
<td>P2 (Center)</td>
<td>N/A</td>
</tr>
<tr>
<td>P3 (Right)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Note: 1. All dimensions are in mm. If not, provide the unit anchorage.
# Test Procedures Used for Compliance Tests

## Lower Anchorages

<table>
<thead>
<tr>
<th>Block 1</th>
<th>FMVSS 225 Section(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower anchorage location certification method used (Enter applicable section used in block 1 of each position by circling A or B)</td>
<td>A) 9.2.1 or B) 15.1.2.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Block 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower anchorage dimension (Enter applicable section used in block 2 by circling A or B)</td>
<td>A) 9.1.1 or B) 15.1.2.2 (also provide roll and yaw angles)</td>
</tr>
<tr>
<td>pitch:</td>
<td>roll:</td>
</tr>
<tr>
<td>yaw:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Block 3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower anchorage marking (Enter applicable section used in block 3 by circling A or B)</td>
<td>A) 9.5 or B) 15.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Block 4</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Strength requirement (Enter applicable section used in block 4 by circling A or B)</td>
<td>A) Section 9 or B) Section 15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Driver</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front</td>
<td></td>
</tr>
<tr>
<td>Center (if any)</td>
<td>Block 1 Block 2 Block 3 Block 4</td>
</tr>
<tr>
<td>Right (if any)</td>
<td>Block 1 Block 2 Block 3 Block 4</td>
</tr>
<tr>
<td>Left</td>
<td>Block 1 Block 2 Block 3 Block 4</td>
</tr>
<tr>
<td>Center</td>
<td>Block 1 Block 2 Block 3 Block 4</td>
</tr>
<tr>
<td>Right (if any)</td>
<td>Block 1 Block 2 Block 3 Block 4</td>
</tr>
<tr>
<td>Left</td>
<td>Block 1 Block 2 Block 3 Block 4</td>
</tr>
<tr>
<td>Center</td>
<td>Block 1 Block 2 Block 3 Block 4</td>
</tr>
<tr>
<td>Right</td>
<td>Block 1 Block 2 Block 3 Block 4</td>
</tr>
<tr>
<td>Left</td>
<td>Block 1 Block 2 Block 3 Block 4</td>
</tr>
<tr>
<td>Center</td>
<td>Block 1 Block 2 Block 3 Block 4</td>
</tr>
<tr>
<td>Right</td>
<td>Block 1 Block 2 Block 3 Block 4</td>
</tr>
</tbody>
</table>
### Tether Anchorages

For each seating location in each row record applicable FMVSS Section:

<table>
<thead>
<tr>
<th>Block 1</th>
<th>Tether anchorage location certification method used (Enter applicable section used in block 1 by circling A, B, C, D, E or F)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A) 6.2.1  B) 6.2.1.1  C) 6.2.1.2  D) 6.2.2  E) 6.2.2.1  F) 6.2.2.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Block 2</th>
<th>Number or tether anchorages based upon the applicable section (Enter applicable section used in block 2 by circling A or B)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A) 4.4  B) 4.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Block 3</th>
<th>Tether anchorage strength requirement (Enter applicable section used in block 3 by circling A, B, or C)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A) 6.3.1  B) 6.3.2  C) 6.3.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Driver</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Center (if any)</td>
<td>Block 1  A  B  C  D  E  F  Block 2  A  B  Block 3  A  B  C</td>
</tr>
<tr>
<td></td>
<td>Right (if any)</td>
<td>Block 1  A  B  C  D  E  F  Block 2  A  B  Block 3  A  B  C</td>
</tr>
<tr>
<td>Second</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Left</td>
<td>Block 1  A  B  C  D  E  F  Block 2  A  B  Block 3  A  B  C</td>
</tr>
<tr>
<td></td>
<td>Center</td>
<td>Block 1  A  B  C  D  E  F  Block 2  A  B  Block 3  A  B  C</td>
</tr>
<tr>
<td></td>
<td>Right</td>
<td>Block 1  A  B  C  D  E  F  Block 2  A  B  Block 3  A  B  C</td>
</tr>
<tr>
<td>Third</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Left</td>
<td>Block 1  A  B  C  D  E  F  Block 2  A  B  Block 3  A  B  C</td>
</tr>
<tr>
<td></td>
<td>Center</td>
<td>Block 1  A  B  C  D  E  F  Block 2  A  B  Block 3  A  B  C</td>
</tr>
<tr>
<td></td>
<td>Right</td>
<td>Block 1  A  B  C  D  E  F  Block 2  A  B  Block 3  A  B  C</td>
</tr>
<tr>
<td>Fourth</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Left</td>
<td>Block 1  A  B  C  D  E  F  Block 2  A  B  Block 3  A  B  C</td>
</tr>
<tr>
<td></td>
<td>Center</td>
<td>Block 1  A  B  C  D  E  F  Block 2  A  B  Block 3  A  B  C</td>
</tr>
<tr>
<td></td>
<td>Right</td>
<td>Block 1  A  B  C  D  E  F  Block 2  A  B  Block 3  A  B  C</td>
</tr>
</tbody>
</table>
GTL 5486
FMVSS 225, Lower Anchor, 2nd Row Left.

Displacement in Millimeters

Time in Seconds
This bulletin provides information relating to a Safety Campaign to replace the rear seat child restraint lower anchors on all 2003, 2004 and 2005MY Rio 4-door (NOT Rio Cinco 5-door) vehicles produced through June 11, 2005.

Certain child seat anchors will not fully latch onto the vehicle child lower anchors located between the rear seatback and rear seat cushion because of interference between the child lower anchors and a metal wire located in the frame of the rear seatback.

Follow the procedure in this Campaign to replace the four existing vehicle lower child seat anchors with new improved anchors.

* NOTICE

There is no charge to the vehicle owner for this repair. Under applicable law, you may not sell or otherwise deliver any affected 2003 - 2005 Rio 4-Door until it has been repaired, pursuant to the procedures set forth in this bulletin.
INSPECTION PROCEDURE:
1. Open hood and check for SC057 Campaign Completion Label on the bulkhead above the brake booster.
   - If label exists, NO FURTHER ACTION IS REQUIRED.
   - If label DOES NOT EXIST, continue to Child Seat Anchor Removal.

Note: Campaign completion must be verified on the Warranty Coverage Validation screen, prior to performing repairs (KSS Main Menu - Option 3).

CHILD SEAT ANCHOR REMOVAL:
1. Remove the two (2) rear seat bottom cushion bolts below the front edge of the cushion and remove rear seat bottom cushion from vehicle.
2. Remove the three (3) rear seat back retaining bolts located along the bottom of the rear seat back. Lift the seat back up to release the three (3) upper retainers and remove the seat back from the vehicle.
3. Remove the four (4) vehicle child seat lower anchors from the vehicle, keep the retaining bolts and discard all four (4) anchors.

CHILD SEAT ANCHOR INSTALLATION:
1. Install the two (2) new left lower anchors supplied in the Kit — Child Anchor, P/N-Q8999 9FD000Q.
   Note: There are two (2) left and two (2) right anchors. The left anchors are stamped “FL” and the right anchors are stamped “FR”.
   Install the new larger inboard left anchor stamped “FL” using the three(3) bolts from the original anchor and torque to 16-22 lb-ft.
2. Install the new outboard left anchor stamped “FL” using the two (2) bolts from the original anchor and torque to 16-22 lb-ft.

TSB: Campaign 057  December 2005
3. Install the new larger inboard right anchor stamped “FR” using the three (3) bolts from the original anchor and torque to 16-22 lb-ft.

4. Install the new outboard right anchor stamped “FR” using the two (2) bolts from the original anchor and torque to 16-22 lb-ft.

5. Install the rear seat back in the reverse order of removal and torque bolts to 16-22 lb-ft.

6. Install the rear seat bottom cushion in the reverse order of removal and torque bolts to 16-22 lb-ft.

* NOTICE

Make sure all three (3) safety belt buckles and the center lap belt are exposed and in the correct location after installing the rear seat bottom.

7. Install SC057 Campaign Completion Label in the engine compartment on the bulkhead above the brake booster.
SUBJECT: SAFETY RECALL CAMPAIGN: 2003-2005 RIO 4-DR CHILD SEAT ANCHORS SYSTEM

AFFECTED PRODUCTION RANGE:

PART NUMBER INFORMATION:

<table>
<thead>
<tr>
<th>Description</th>
<th>P/N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kit - Child Anchor</td>
<td>Q8999 9FD000Q</td>
</tr>
<tr>
<td>SC057 Campaign Completion Label</td>
<td>UR050 SC057</td>
</tr>
</tbody>
</table>

Extra SC057 Campaign Completion Labels are available at no cost through your regional PDC.

WARRANTY CLAIM INFORMATION:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>89061 FD000</td>
<td>0</td>
<td>N94</td>
<td>C61</td>
<td>SC057 ISOFIX Anchors</td>
<td>051076R0</td>
<td>0.3</td>
<td>N/A</td>
<td>1</td>
</tr>
</tbody>
</table>

*Note: Labor time includes R&R rear seats.

Note: To improve customer satisfaction always remember to refer to the Warranty Coverage Validations Inquiry Screen (Select 3) on your Kia Standard System (KSS) Dealer Main Menu for a list of any additional campaigns that may need to be performed on the vehicle before returning it to the customer.
APPENDIX E
LABORATORY NOTICE OF TEST FAILURE
LABORATORY NOTICE OF TEST FAILURE TO OVSC

FMVSS NO.: _______ 225 ________ TEST DATE: ______ 10/11/05 ______

LABORATORY: General Testing Laboratories, Inc.

CONTRACT NO.: DTNH22-02-D-01043 ; DELV. ORDER NO.: __________

LABORATORY PROJECT ENGINEER'S NAME: ______ Grant Farrand ______

TEST VEHICLE MAKE/MODEL/BODY STYLE: ______ 2005 KIA RIO ______

VEHICLE NHTSA NO.: ______ C50503 ______ VIN: ______ KNADC1256370008 ______

VEHICLE MODEL YEAR: ______ 2005 ______ BUILD DATE: ______ 11/04 ______

TEST FAILURE DESCRIPTION: Child restraint fixture (CRF) and static force application device (SFAD 2) will not hook onto lower restraint anchors due to incorrect dimensioning of the lower anchors.

S225 REQUIREMENT, PARAGRAPH S9.3: Adequate fit of lower anchorages. Shall be designed such that the CRF can be placed inside the vehicle and attached to the lower anchorages of each child restraint anchorage system.

NOTIFICATION TO NHTSA (COTR): ______ Amanda Prescott ______

DATE: ______ 10/11/05 ______ BY: ______ Grant Farrand ______

REMARKS: CRF will not fully hook onto lower anchors due to interference with metal frame of seat back cushion. All four (4) lower anchors have this problem.