FINAL REPORT NUMBER 225-MGA-06-005

SAFETY COMPLIANCE TESTING FOR FMVSS 225
"Child Restraint Anchorage Systems"

HYUNDAI MOTOR COMPANY
2006 HYUNDAI ACCENT
NHTSA No. C60508

MGA RESEARCH CORPORATION
446 Executive Drive
Troy, Michigan 48083

Test Date: July 28, 2006
Report Date: September 18, 2006

FINAL REPORT

PREPARED FOR:

U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
400 SEVENTH STREET, SW
ROOM 6111 (NVS-220)
WASHINGTON, D.C. 20590

Prepared By: _____
Melanie Schick, Project Engineer

_____
Brad Reaume, Test Personnel

_____
Helen A. Kaleto, Laboratory Manager

Approved By: _____

Approval Date: 09/18/2006

FINAL REPORT ACCEPTANCE BY OVSC:

Accepted By: Edward Chan Digitally signed by Edward Chan DN: CN = Edward Chan, C = US Date: 2006.09.18 08:26:29 -04'00'

Acceptance Date: _____

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4. Title and Subtitle Final Report of FMVSS 225 Compliance Testing of a 2006 Hyundai Accent, NHTSA No. C60508		5. Report Date September 18, 2006 6. Performing Organization Code MGA	
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12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Enforcement Office of Vehicle Safety Compliance (NVS-220) 400 Seventh Street, SW Room 6111 Washington, DC 20590		13. Type of Report and Period Covered Final Test Report 14. Sponsoring Agency Code NVS-220	
15. Supplementary Notes			
16. Abstract A compliance test was conducted on the subject 2006 Hyundai Accent, NHTSA No. C60508, 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 tests were conducted at MGA Research Corporation in Troy, Michigan on July 28, 2006. Test failures identified were as follows: NONE The data recorded indicates that the 2006 Hyundai Accent tested appears to meet the requirements of FMVSS 225.			
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1.0 PURPOSE AND PROCEDURE

PURPOSE

The child restraint anchorage testing results presented in this report are part of the Federal Motor Vehicle Safety Standard (FMVSS) No. 225 compliance test program conducted for the National Highway Traffic Safety Administration (NHTSA) by MGA Research Corporation (MGA) under Contract No. DTNH22-02-D-11043. The purpose of the testing was to determine if the subject vehicle, a 2006 Hyundai Accent, NHTSA No. C60508 meets the performance requirements of FMVSS No. 225, "Child Restraint Anchorage Systems."

PROCEDURE

This testing was conducted in accordance with NHTSA's Office of Vehicle Safety Compliance (OVSC) Laboratory Test Procedure TP-225-01 (4/11/05) and MGA's Laboratory Test Procedure, MGATP225GOV (6/23/06).

The front occupant compartment consisted of two (2) adjustable outboard bucket seats and the rear occupant compartment consisted of a 2nd row three-passenger 60/40 split-back seat. Each 2nd row outboard seating position was equipped with a child restraint anchorage system (one tether and two lower anchorages). The 2nd row center seating position was equipped with a tether anchorage. The center-to-center spacing between the 2nd row outboard lower anchorages was approximately 654 mm. Each 2nd row outboard seating position was tested with the SFADII fixture and the 2nd row center seating position was tested with the SFADI fixture.

2.0 COMPLIANCE TEST AND DATA SUMMARY

TEST SUMMARY

The testing was conducted at MGA in Troy, Michigan on July 28, 2006.

Based on the test results, the 2006 Hyundai Accent appears to meet the requirements of FMVSS No. 225 for this testing.

The SFADII at the 2nd row left seating position sustained a maximum force of 15,217 N and held the required load for 3 seconds. The SFADII at the 2nd row right seating position sustained a maximum force of 11,255 N and held the required load for 3 seconds. The total displacement from point "X" on the SFADII for the 2nd row right seating position was 91 mm. The SFADI at the 2nd row center seating position sustained a maximum force of 15,119 N and held the required load for 2 seconds.

DATA SUMMARY

Strength and displacement summary data are provided below. Data for the configuration and the location of each child restraint anchorage system are provided in Section 5.0. Photographs are found in Section 6.0 and test plots are found in Section 7.0.

Table 1. Summary Data for Strength and Displacement

MGA Test #	Fixture Type	Test Configuration	Seating Position	Max. Load (N)	Displacement (mm)
SB6358	SFADII	Forward w/Tether	2nd Row Left	15,217	N/A
		Forward	2nd Row Right	11,255	91
SB6359	SFADI	Forward	2nd Row Center	15,119	N/A

N/A indicates that the displacement criteria does not apply to this test.

3.0 TEST VEHICLE INFORMATION

Table 2. General Test and Vehicle Parameter Data

VEH. MOD YR/MAKE/MODEL/BODY	2006 Hyundai Accent
VEH. NHTSA NO.	C60508
VIN	KMHCN46C46U016321
COLOR	Pewter
VEH. BUILD DATE	12/2005
TEST DATE	July 28, 2006
TEST LABORATORY	MGA Research Corporation
OBSERVERS	Melanie Schick, Brad Reaume, Kevin Schmitzer

GENERAL INFORMATION:

DATA FROM VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured By: Hyundai Motor Company

Date of Manufacture: 12/05; VIN: KMHCN46C46U016321

GVWR: 3638 lbs; GAWR FRONT: 1918 lbs

GAWR REAR: 1874 lbs

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load:

FRONT: 30 psi REAR: 30 psi

Recommended Tire Size: P185/65R14

Recommended Cold Tire Pressure:

FRONT: 30 psi REAR: 30 psi

Size of Tire on Test Vehicle: P185/65R14

Size of Spare Tire: T155/70D15

VEHICLE CAPACITY DATA:

Type of Front Seats: Bench ____; Bucket _X_; Split Bench ____

Number of Occupants: Front _2_; Middle N/A; Rear _3_; TOTAL _5_.

4.0 TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

MGA Research Corporation 446 Executive Drive Troy, Michigan 48083	
Test Equipment Used for Testing	**Calibration Due Date**
MGA Hydraulic Test Frame	N/A
Two (2) Load Cell 10,000 lb Capability	S/N 258 (08/13/06), S/N 270 (08/10/06)
String Potentiometer	Calibrated at each use (S/N F1603959A)
Hydraulic Pump	N/A
MGA CRF Fixture	N/A
MGA SFADI	N/A
MGA SFADII	N/A
MGA 2-Dimensional Template	N/A
Linear Scale	S/N TPM635 (01/02/07), TPM684 (07/18/07)
MGA Data Acquisition System	N/A
Digital Calipers	S/N MGA00572 (09/02/06)
Force Gauge	S/N MGA00647 (05/26/07)
Inclinometer (Digital)	S/N MGA00576 (09/01/06)

5.0 DATA

Table 3. Child Restraint Tether Anchorage Configuration

Seating Position		Permit the attachment of a tether hook	Accessible without the need for any tool other than a screwdriver or coin	Ready for use without the need for any tools	Sealed to prevent the entry of exhaust fumes
Front Row		N/A	N/A	N/A	N/A
Second Row	LH	Yes	Yes	Yes	Yes
	Ctr.	Yes	Yes	Yes	Yes
	RH	Yes	Yes	Yes	Yes
Third Row		N/A	N/A	N/A	N/A

Note: AS DETERMINED USING THE PROCEDURES SPECIFIED IN TP-225-01.

REMARKS: NONE.

Table 4. Child Restraint Lower Anchorage Configuration

OBSERVED LOWER ANCHORAGE CONFIGURATION	SEAT POSITION				
		FRONT ROW	SECOND ROW		THIRD ROW
			I/B	O/B	
Above anchorage, permanently marked with a circle not less than 13 mm in Dia.; and whose color contrasts with its background; and its center is not less than 50 mm and not more than 100 mm above the bar, and in the vertical longitudinal plane that passes through the center of the bar.	LH	N/A	52	52	N/A
	Ctr		N/A		
	RH		53	52	
Each of the bars is visible, without the compression of the seat cushion or seat back, when the bar is viewed, in a vertical longitudinal plane passing through the center of the bar, along a line marking an upward 30 degree angle with a horizontal plane.	LH	N/A	No		N/A
	Ctr		N/A		
	RH		No		
Diameter of the bar (mm)	LH	N/A	6.04	6.04	N/A
	Ctr		N/A		
	RH		6.03	5.97	
Inspect if the bars are straight, horizontal and transverse	LH	N/A	Yes		N/A
	Ctr		N/A		
	RH		Yes		
Optional Marking: At least one anchorage bar (when deployed for use, if storable anchorages), one guidance fixture, or one seat marking is visible.	LH	N/A	N/A		N/A
	Ctr				
	RH				
Optional Marking: If guidance fixtures are used, the fixture(s) must be installed.	LH	N/A	N/A		N/A
	Ctr				
	RH				
Measure the distance between Point "Z" of the CRF and the front surface of the anchorage bar (mm)	LH	N/A	40		N/A
	Ctr		N/A		
	RH		44		
Measure the distance between the SRP to the front of the anchorage bar (mm)	LH	N/A	157	164	N/A
	Ctr		N/A		
	RH		156	162	

Table 4. Child Restraint Lower Anchorage Configuration (continued)

OBSERVED LOWER ANCHORAGE CONFIGURATION	SEAT POSITION				
		FRONT ROW	SECOND ROW		THIRD ROW
			I/B	O/B	
Inspect if the centroidal longitudinal axes are collinear within 5 degrees	LH	N/A	Yes		N/A
	Ctr		N/A		
	RH		Yes		
Inspect if the inside surface of the bar that is straight and horizontal section of the bars, and determine they are not less than 25 mm, but not more than 60 mm in length (mm).	LH	N/A	35.3	30.1	N/A
			43.9	33.8	
	Ctr		N/A		
	RH		33.7	30.0	
			44.1	34.1	
Inspect if the bars can be connected to, over their entire inside length by the connectors of child restraint system.	LH	N/A	Yes		N/A
	Ctr		N/A		
	RH		Yes		
Inspect if the bars are an integral and permanent part of the vehicle.	LH	N/A	Yes		N/A
	Ctr		N/A		
	RH		Yes		
Inspect if the bars are rigidly attached to the vehicle. If feasible, hold the bar firmly with two fingers and gently pull.	LH	N/A	Yes		N/A
	Ctr		N/A		
	RH		Yes		

PITCH, YAW, & ROLL INFORMATION

SEAT POSITION	PITCH (deg)	YAW (deg)	ROLL (deg)
2nd Row Left	13.1	No Data	0.0
2nd Row Center	N/A	N/A	N/A
2nd Row Right	14.0	No Data	0.5

N/A indicates that there were no lower anchorages in the 2nd row center seating position.

Note: AS DETERMINED USING THE PROCEDURES SPECIFIED IN TP-225-01.

REMARKS: NONE

Table 5. Tether Location and Dimensional Measurements

SEAT POSITION FOR TETHER		TETHER ANCHORAGE LOCATION Located in the required zone?
Front Row		N/A
Second Row	LH	Yes
	Ctr.	Yes
	RH	Yes
Third Row		N/A

Note: AS DETERMINED USING THE PROCEDURES SPECIFIED IN TP-225-01.

REMARKS: NONE

Table 6. Tether Anchorage Static Loading and Displacement

SEAT POSITION		Seat, Seat Back, & Head Restraint Positions			Type of SFAD Used	Angle (deg)	Initial Location (mm)	Onset Rate (N/sec.)	Force Applied (N)	Max. Load (N)	Final Location (mm)	Horiz. Displ. (mm)
		Seat	Seat Back	Is There a H/R?								
Front Row		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Second Row	LH	Fixed	Fixed	Yes	II	10.9	N/A	535	15,000	15,217*	N/A	N/A
	Ctr.			Yes	I	7.4	N/A	535	15,000	15,119*	N/A	N/A
	RH			Yes	II	10.5	24	387	11,000	11,255*	115	91
Third Row		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: AS DETERMINED USING THE PROCEDURES SPECIFIED IN TP-225-01.

REMARKS: * Applied force exceeded the force specified in the test procedure.

6.0 PHOTOGRAPHS

6.1 Front view

6.2 Rear view

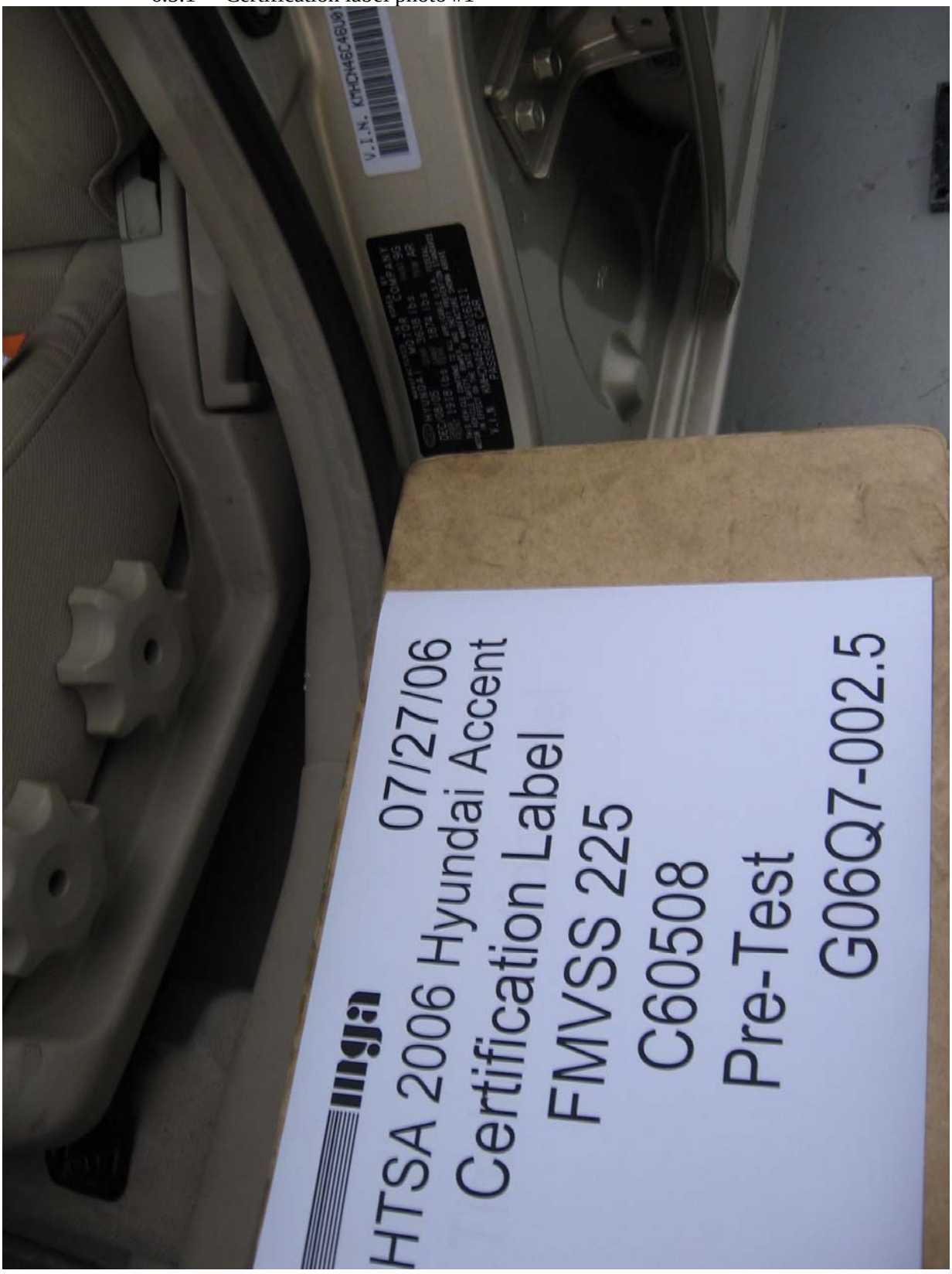

DENNIS
COLUMBUS
HYUNDAI
DENNIS
mga
07/27/06
NHTSA 2006 Hyundai Accent
Rear View
FMVSS 225
C60508
Pre-Test
G06Q7-002.5

6.3 ¾ Front left view

6.4 ¾ Front right view

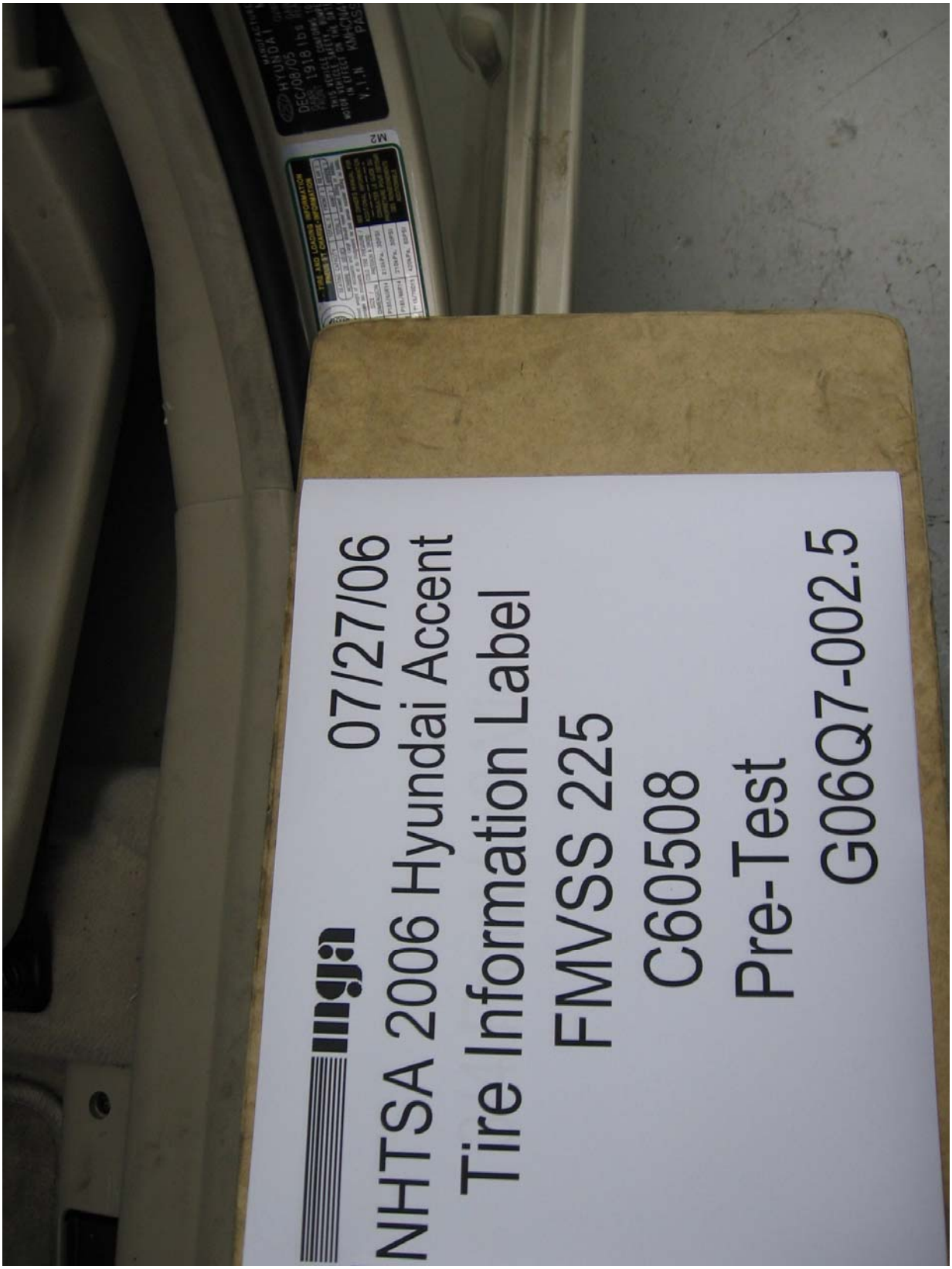
6.5 Test vehicle's certification label

6.5.1 Certification label photo #1

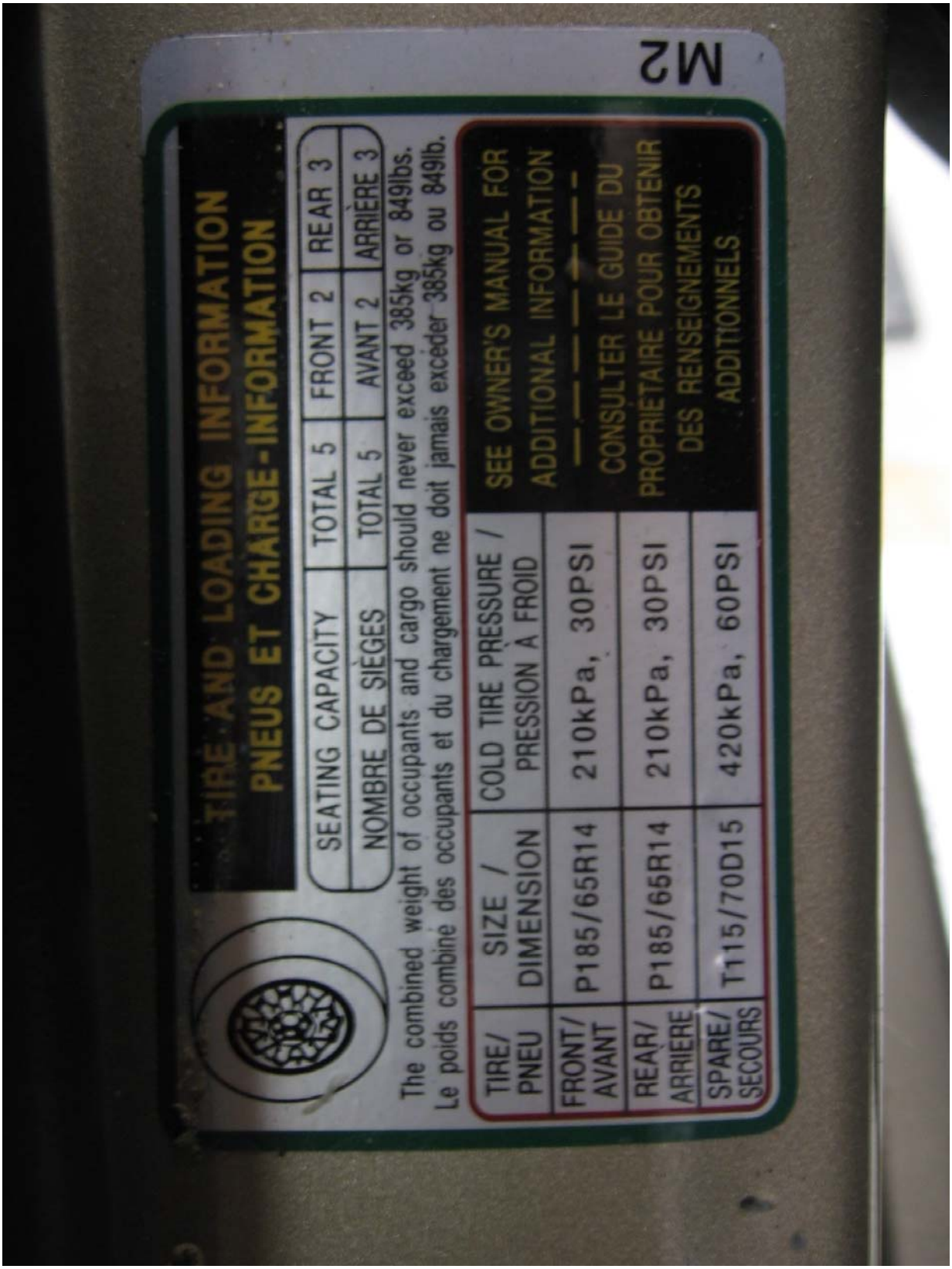


6.5.2 Certification label photo #2

6.5.3 Tire information label photo #1



6.5.4 Tire information label photo #2



6.6 Vehicle tie down at each tie down location

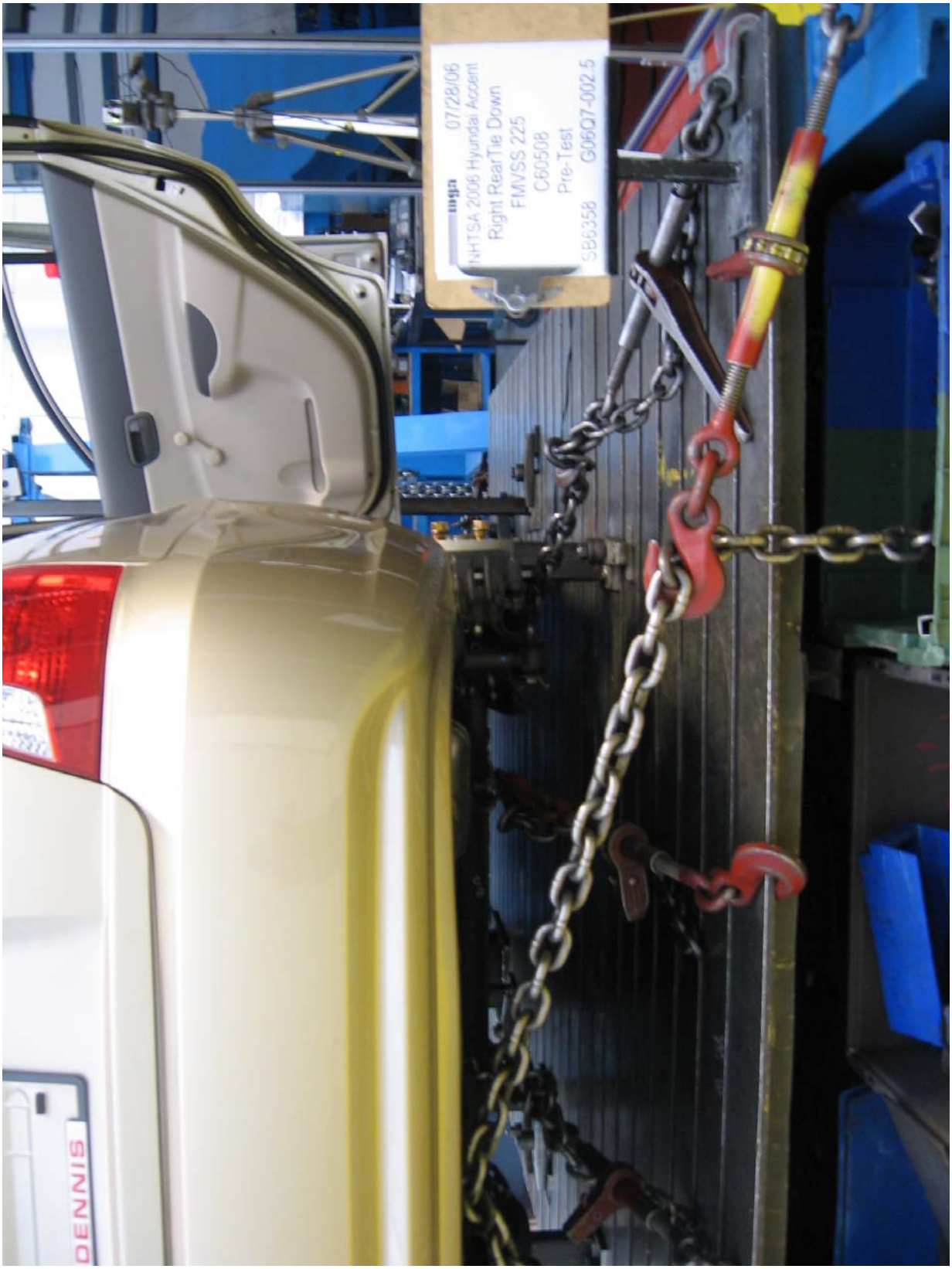
6.6.1 Front under vehicle

6.6.2 Left front

6.6.3 Left rear

6.6.4 Right front

6.6.5 Right rear



6.7 2-dimensional template

6.7.1 LH position photo #1

6.7.2 LH position photo #2

6.7.3 Center position photo #1

6.7.4 Center position photo #2

6.7.5 RH position photo #1

6.7.6 RH position photo #2

6.8 CRF verification

6.8.1 LH position photo #1

6.8.2 LH position photo #2

6.8.4 RH position photo #1

6.8.5 RH position photo #2

6.9 ¾ Front view of test vehicle with test apparatus in place

6.9.1 ¾ Front left view of SFADII test 1 of 2

6.9.2 ¾ Front right view of SFADII test 1 of 2

6.9.3 ¾ Front left view of SFADI test 2 of 2

6.9.4 ¾ Front right view of SFADI test 2 of 2

6.10 Pre-test views of each child restraint anchorage system installed in the vehicle

6.10.1 Pre-test photo #1 of SFADII test 1 of 2

6.10.2 Pre-test photo #2 of SFADII test 1 of 2

6.10.3 Pre-test photo #3 of SFADII test 1 of 2

6.10.4 Pre-test photo #4 of SFADI test 2 of 2

6.10.5 Pre-test photo #5 of SFADI test 2 of 2

6.10.6 Pre-test photo #6 of SFADI test 2 of 2

6.10.7 Pre-test photo #7 of SFADI test 2 of 2

6.11 Post-test condition of each child restraint anchorage system

6.11.1 Post-test photo #1 of SFADII test 1 of 2

6.11.2 Post-test photo #2 of SFADII test 1 of 2

6.11.3 Post-test photo #3 of SFADII test 1 of 2

6.11.4 Post-test photo #4 of SFADII test 1 of 2

6.11.5 Post-test photo #5 of SFADII test 1 of 2

6.11.6 Post-test photo #6 of SFADII test 1 of 2

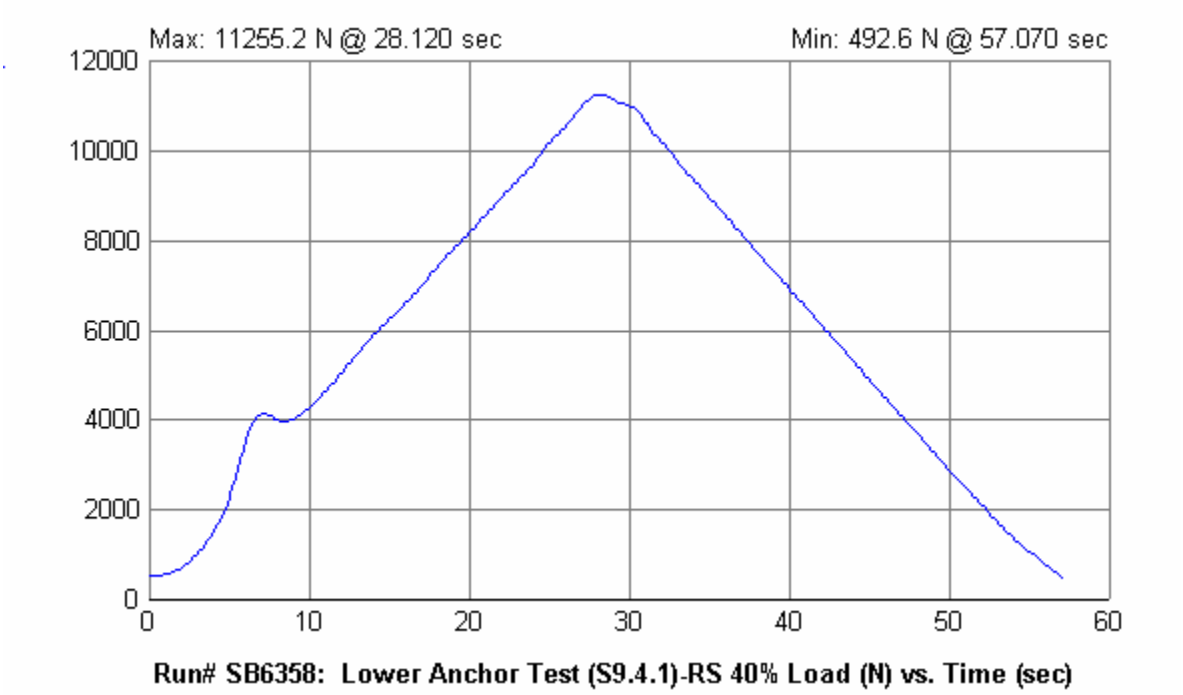
6.11.7 Post-test photo #7 of SFADII test 1 of 2

6.11.8 Post-test photo #8 of SFADI test 2 of 2

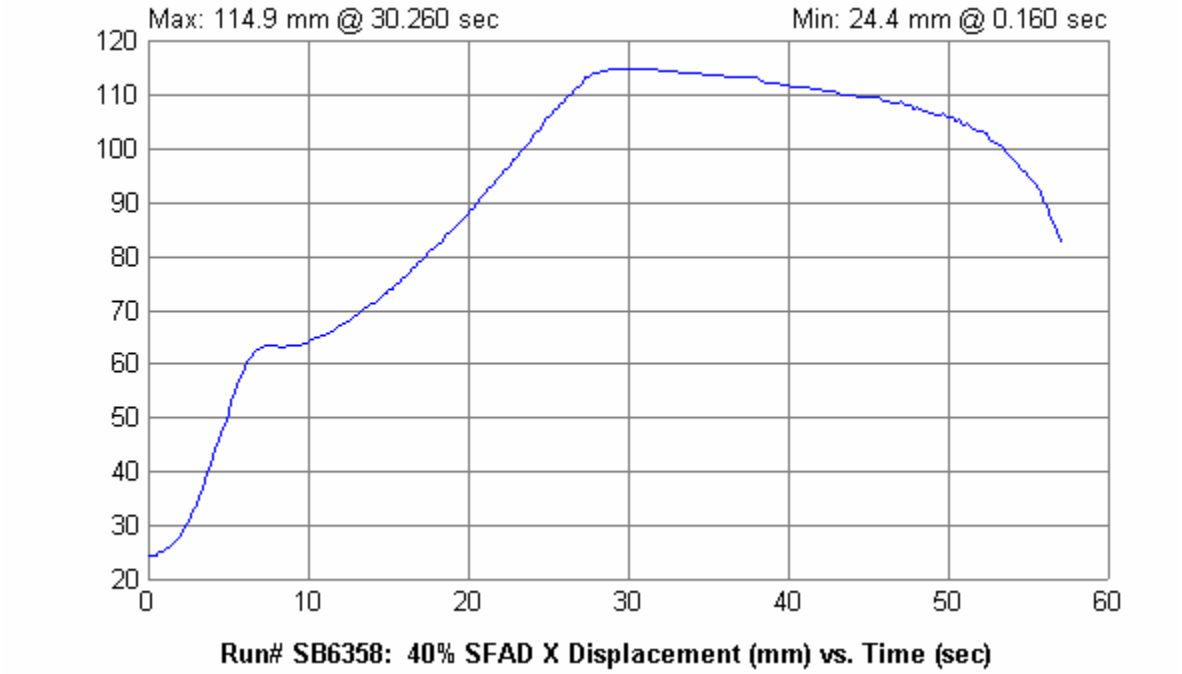
6.11.9 Post-test photo #9 of SFADI test 2 of 2

6.11.10 Post-test photo #10 of SFADI test 2 of 2

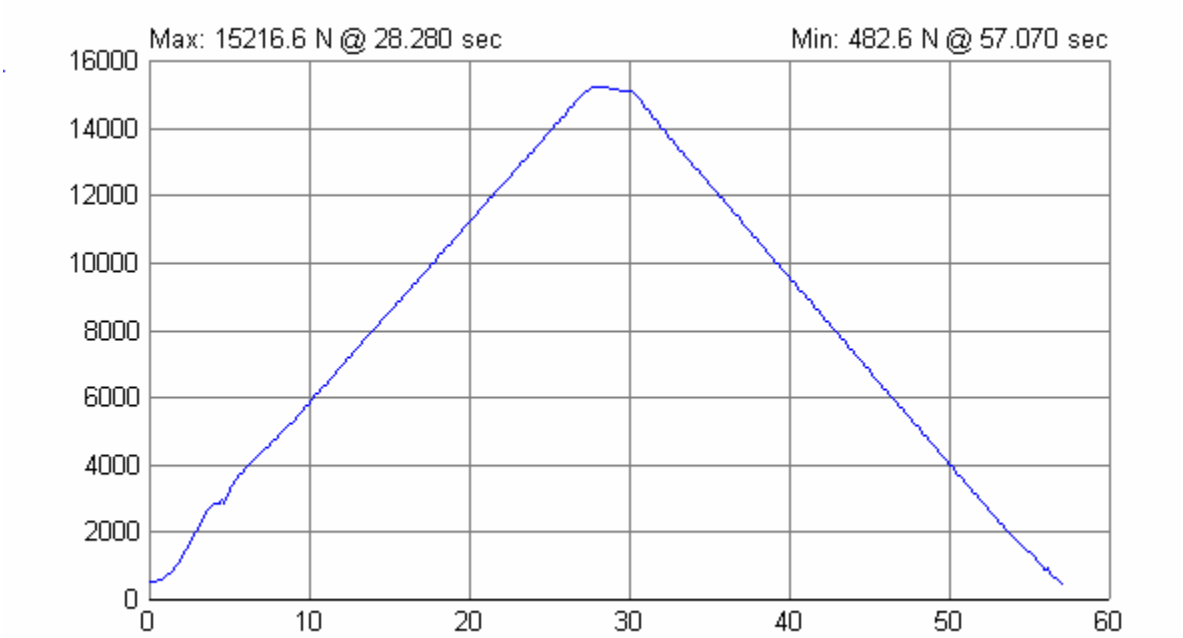
7.0 PLOTS



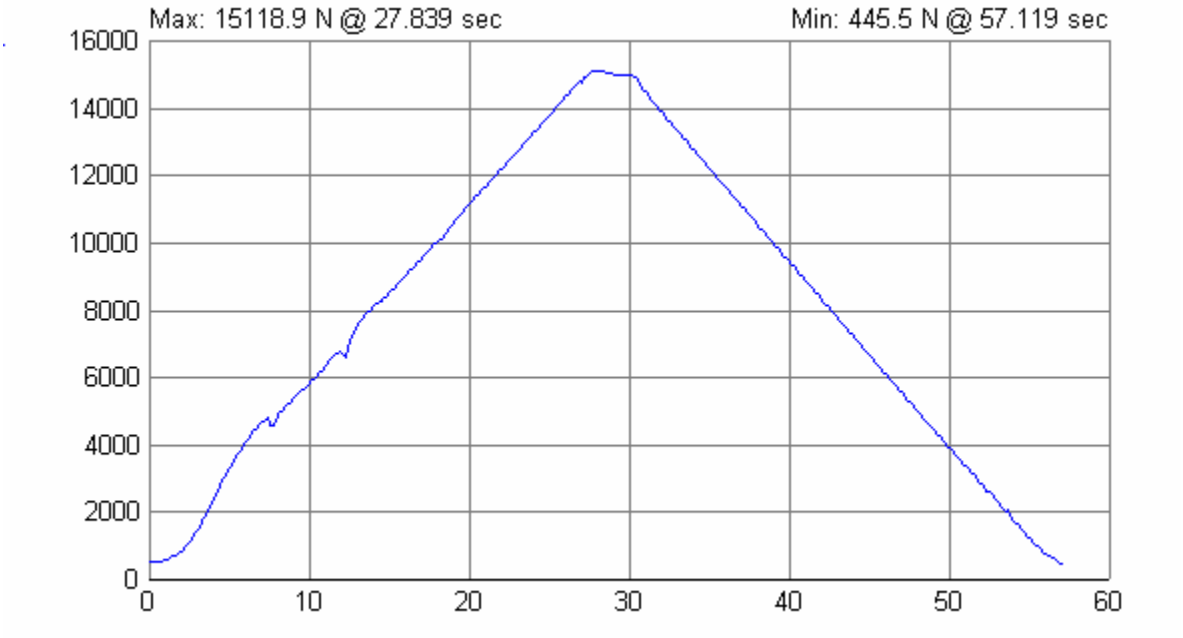
Run# SB6358: Lower Anchor Test (S9.4.1)-RS 40% Load (N) vs. Time (sec)



Run# SB6358: 40% SFAD X Displacement (mm) vs. Time (sec)



Run# SB6358: Top Tether Test (S6.3.4)-RS 60% O/B Load (N) vs. Time (sec)



Run# SB6359: Top Tether Test (S6.3.4)-RS 60% I/B Load (N) vs. Time (sec)

8.0 REPORT of VEHICLE CONDITION

REPORT OF VEHICLE CONDITION AT THE COMPLETION OF TESTING

CONTRACT No.: DTNH22-02-D-11043 DATE: July 28, 2006

From: MGA Research Corporation, 446 Executive Drive, Troy, MI 48083

To: NHTSA, OVSC, NVS-220

The following vehicle has been subjected to compliance testing for FMVSS No. 201U and 225

The vehicle was inspected upon arrival at the laboratory for the test and found to contain all of the equipment listed below. All variances have been reported within 2 working days of vehicle arrival, by letter, to the NHTSA Industrial Property Manager (NAD0-30), with a copy to the OVSC COTR. The vehicle is again inspected, after the above test has been conducted, and all changes are noted below. The final condition of the vehicle is also noted in detail.

VEH. MOD YR/MAKE/MODEL/BODY: 2006 Hyundai Accent

VEH. NHTSA NO.: C60508 VIN: KMHCN46C46U016321

COLOR: Pewter

ODOMETER READINGS: ARRIVAL 6 miles Date: 02/20/06

COMPLETION 8 miles Date: 07/28/06

PURCHASE PRICE: $13,605 DEALER'S NAME: Dennis Autopoint

ENGINE DATA: 4 Cylinders 1.6 Liters ____ Cubic Inches

TRANSMISSION DATA: ____Automatic X Manual No. of Speeds 5

FINAL DRIVE DATA: ____Rear Drive X Front Drive ____4 Wheel Drive

CHECK APPROPRIATE BOXES FOR VEHICLE EQUIPMENT:

TEST LABORATORY: MGA Research Corporation

OBSERVERS: Melanie Schick, Brad Reaume, Kevin Schmitzer

X	Air Conditioning		Traction Control	X	Clock
	Tinted Glass		All Wheel Drive		Roof Rack
X	Power Steering	X	Speed Control	X	Console
	Power Windows	X	Rear Window Defroster	X	Driver Air Bag
	Power Door Locks		Sun Roof or T-Top	X	Passenger Air Bag
	Power Seat(s)	X	Tachometer	X	Front Disc Brakes
X	Power Brakes	X	Tilt Steering Wheel	X	Rear Disc Brakes
X	Antilock Brake System	X	AM/FM/Compact Disc		Other

REMARKS:

Salvage only.

Equipment that is no longer on the test vehicle as noted on previous pages:

All equipment inventoried and placed in vehicle.

Explanation for equipment removal:

Windshield and front seats were removed before conducting the testing.

Test Vehicle Condition:

Salvage only.

RECORDED BY: Melanie Schick, Kevin Schmitzer DATE: July 28, 2006

APPROVED BY: Brad Reaume

APPENDIX A
OWNERS MANUAL CHILD RESTRAINT SYSTEMS

CHILD RESTRAINT SYSTEM

B230A02A-AAT

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 provided by the National Highway Traffic Safety Administration (NHTSA), 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.

All 50 states have child restraint laws. You should be aware of the specific requirements in your state. Child and/or infant safety seats must be properly placed and installed in the **rear seat.** You must use a commercially available child restraint system that meets the requirements of the Federal Motor Vehicle Safety Standards (FMVSS).

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

WARNING:

- **A child restraint system must be placed in the rear seat. Never install a child or infant seat on the front passenger's seat. Should an accident occur and cause the passenger side airbag 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.**
- **Since a safety belt or child restraint system can become very hot if it is left in a closed vehicle, be sure to check the seat cover and buckles before placing a child there.**

WARNING:

- **When the child restraint system is not in use, store it in the trunk or fasten it with a safety belt so that it will not be thrown forward in case of a sudden stop or an accident.**
- **Children who are too large to be in a child restraint should still sit in the rear seat and be restrained with the available lap/shoulder belts. Never allow children to ride in the front passenger seat.**
- **Always make sure that the shoulder belt portion of the outboard lap/shoulder belt is positioned midway over the shoulder, never across the neck or behind the back. Moving the child closer to the center of the vehicle may help provide a good shoulder belt fit. The lap belt portion of the lap/shoulder belt or the center seat lap belt must always be positioned as low as possible on the child's hips and as snug as possible.**

WARNING:

- **If the seat belt will not properly fit the child, Hyundai recommends the use of an approved booster seat in the rear seat in order to raise the child's seating height so that the seat belt will properly fit the child. Before purchasing a booster seat, make sure that it meets applicable Federal Motor Vehicle Safety Standards (FMVSS) and that it is satisfactory for use with this vehicle.**
- **Never allow a child to stand up or kneel on the seat.**
- **Never use an infant carrier or child safety seat that "hooks" over a seatback; it may not provide adequate security in an accident.**
- **Never allow a child to be held in a person's arms while they are in a moving vehicle, as this could result in serious injury to the child in the event of an accident or a sudden stop. Holding a child in a moving vehicle does not provide the child with any means of protection during an accident, even if the person holding the child is wearing a seat belt.**

B230B01E-AAT

Using a Child Restraint System with the "Tether Anchorage" System

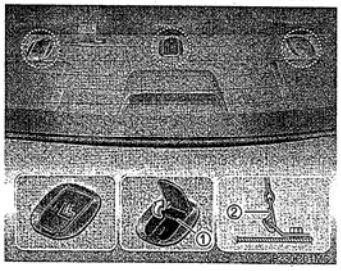
For small children and babies, the use of a child seat or infant seat is required. This child seat or infant seat should be of appropriate size for the child and should be installed in accordance with the manufacturer's instructions. It is further required that the seat be placed in the vehicle's rear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

B230C01MC-AAT

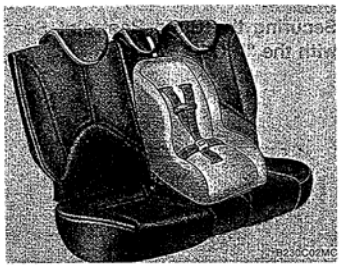
Installing a Child Restraint Seat with the "Tether Anchorage" System (4 Door)

Three child restraint hook holders are located on the rear seat package tray.

To install the child restraint seat



1. Open the tether anchor cover on the rear seat package tray.



2. 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.
3. Connect the tether strap hook (2) to the child restraint hook holder (1) and tighten to secure the seat.

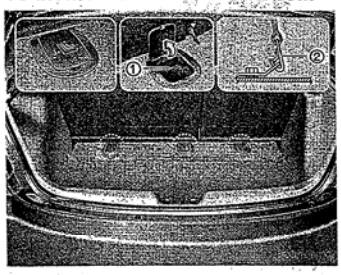
WARNING:
Do not mount more than one child restraint to a single tether or to a child restraint lower anchorage point. The improper increased load may cause the anchorage points or tether anchor to break, causing serious injury or death.

B230E01MC-AAT

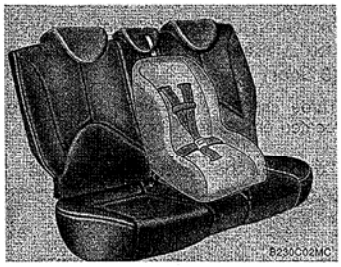
Installing a Child Restraint Seat with the "Tether Anchorage" System (3 Door)

Three child restraint hook holders are located on the rear floor panel.

To install the child restraint seat



1. Open the tether anchor cover on the rear floor panel.

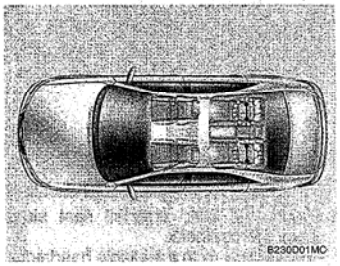


2. Route the child restraint seat strap over the seatback.
   For vehicles with adjustable headrests, route the tether strap under the headrest and between the headrest posts, otherwise route the tether strap over the top of the seatback.
3. Connect the tether strap hook (2) to the child restraint hook holder (1) through the hole on the covering shelf and tighten to secure the seat.

WARNING:
Do not mount more than one child restraint to a single tether or to a child restraint lower anchorage point. The improper increased load may cause the anchorage points or tether anchor to break, causing serious injury or death.

B230D04E-AAT

Securing the Child Restraint Seat with the "ISOFIX" System



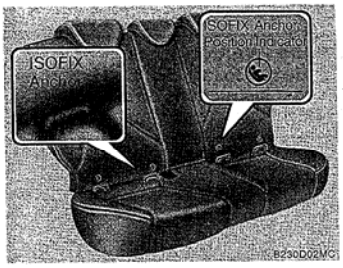
Some child seat manufacturers make safety seats that are labeled as ISOFIX or ISOFIX-compatible child seats. These seats include two rigid or webbing mounted attachments that connect to two ISOFIX anchors at specific seating positions in your vehicle. This type of child seat eliminates the need to use seat belts to attach the child seat for forward-facing child seats.

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

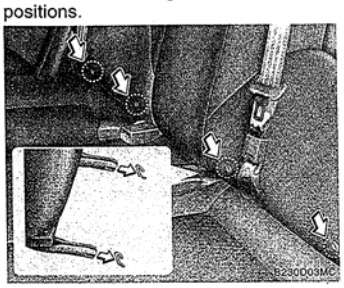
WARNING:
- **Do not install a child restraint seat at the center of the rear seat using the vehicle's ISOFIX anchors. The ISOFIX anchors are only provided for the left and right outboard rear seating positions. Do not misuse the ISOFIX anchors by attempting to attach a child restraint seat improperly in the middle of the reat seat position to the ISOFIX anchors. In a crash, the child seat ISOFIX attachments may not be strong enough to secure the child restraint seat properly in the center of the rear seat and may break, causing serious injury or death.**

WARNING:
- **When using the vehicle's "ISOFIX" system to install a child restraint system in the rear seat, all unused vehicle rear seat belt metal latch plates or tabs must be latched securely in their seat belt buckles and the seat belt webbing must be retracted behind the child restraint to prevent the child from reaching and taking hold of unretracted seat belts. Unlatched metal latch plates or tabs may allow the child to reach the unretracted seat belts which may result in strangulation and a serious injury or death to the child in the child restraint.**
- **Do not mount more than one child restraint to a single tether or to a child restraint lower anchorage point. The improper increased load may cause the anchorage points or tether anchor to break, causing serious injury or death.**
- **Attach the ISOFIX or ISOFIX-compatible child seat only to the appropriate locations shown.**

WARNING:
- **Always follow the installation and use instructions provided by the manufacturer of the child restraint.**



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



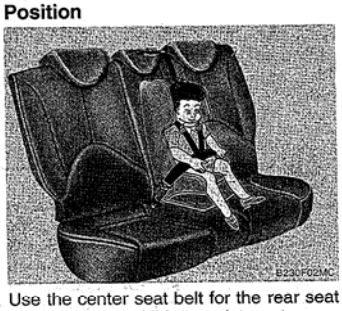
Follow the child seat manufacturer's instructions to properly install safety seats with ISOFIX or ISOFIX-compatible attachments.

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

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

B230F01A-AAT

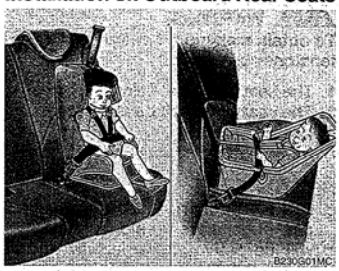
Installation on Rear Seat Center Position



Use the center seat belt for the rear seat to secure the child restraint system as illustrated. After installation of the child restraint system, rock the child seat back and forth, and side to side to ensure that it is properly secured by the seat belt. If the child seat moves, readjust the length of the seat belt. Then, if equipped, insert the child restraint tether strap hook into the child restraint hook holder and tighten to secure the seat. Always refer to the child restraint system manufacturer's recommendation before installing the child restraint system in your vehicle.

B230G01MC-AAT

Installation on Outboard Rear Seats



To install a child restraint system in the outboard rear seats, extend the shoulder/lap belt entirely from its retractor until a "click" is felt. This will engage the seat belt retractor automatic locking feature, which allows the seat belt to retract but not extend. Install the child restraint system, buckle the seat belt and allow the seat belt to take up any slack. Make sure that the lap portion of the belt is tight around the child restraint system and the shoulder portion of the belt is positioned so that it cannot interfere with the child's head or neck. Also, double check to be sure that the retractor has engaged the automatic locking feature by trying to extend webbing out of the retractor. If the retractor is in the automatic locking mode, the belt will be locked. After installation of the child restraint system, try to move it in all directions to be sure the child restraint system is securely installed. If you need to tighten the belt, pull more webbing toward the retractor. When you unbuckle the seat belt and allow it to retract, the retractor will automatically revert back to its normal seated passenger emergency locking usage condition.

NOTE:

- **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, have the system checked immediately by your authorized Hyundai dealer.**

WARNING:

- **If the retractor is not in the Automatic Locking mode, the child restraint system can move when your vehicle turns or stops abruptly.**
- **Do not install any child restraint system in the front passenger seat. Should an accident occur and cause the passenger side airbag to deploy, it could severely injure or kill an infant or child seated in an infant or child seat. Therefore, only use a child restraint system in the rear seat of your vehicle.**
- **Before installing Child Restraint System to vehicles fitted with Curtain Airbags, always refer to safety notices for Curtain Airbag systems on this manual. Whenever installing child restraints, use only approved devices and refer to "Child Restraint System" to ensure correct installation and occupant protection is maximized.**

APPENDIX B
MANUFACTURER'S DATA (OVSC FORM 14)

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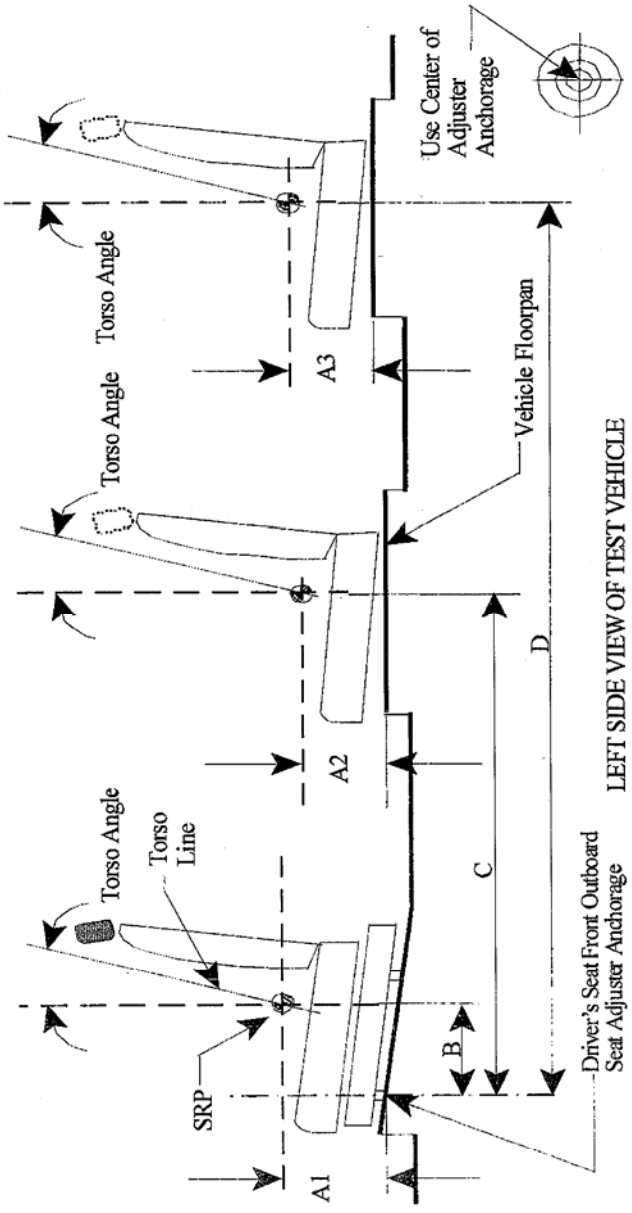
Last Updated: 12/12/2005

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

Model Year: 06MY ; Make: HMC ; Model: MC ; Body Style: SEDAN
Seat Style: Front row: Bucket ; Second row: STD-BENCH, OPT-6:4 SPLIT ; Third row: N/A



LEFT SIDE VIEW OF TEST VEHICLE

Table 1. Seating Positions[1] and Torso Angles

		Left (Driver Side)	Center (if any)	Right
A1		(Driver) 203	NA	(Front Passenger) 203
A2		97.9	123.9	97.9
A3		NA	NA	NA
B		363	NA	363
C		1095	1060	1095
D		NA	NA	NA
Torso Angle (degree)	Front Row	25	NA	25
	Second Row	26	23	26
	Third Row	NA	NA	NA

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

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

Model Year: 06MY ; Make: HMC ; Model: MC ; Body Style: SEDAN
Seat Style: Front row: Bucket ; Second row: STD-BENCH, OPT-6:4 SPLIT ; Third row: N/A

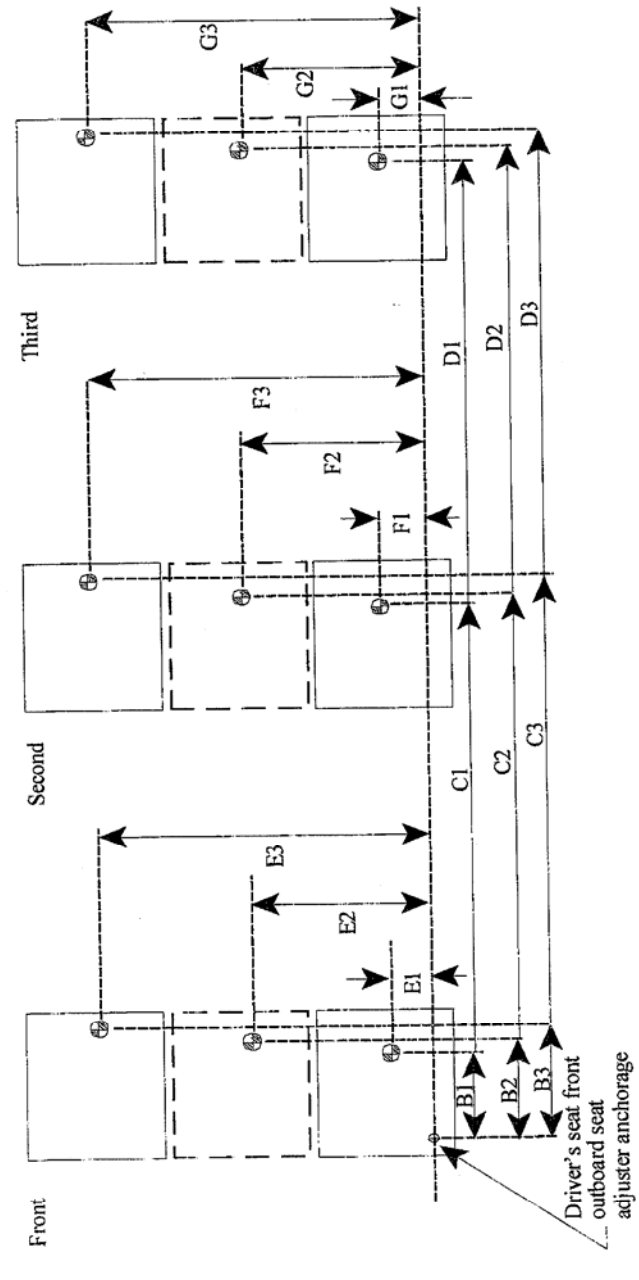


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Table 2. Seating Reference Point and Tether Anchorage Locations

Seating Reference Point (SRP)		Distance from Driver's front outboard seat adjuster anchorage[1]
Front Row	B1	363
	E1	235
	B2	NA
	E2	NA
	B3	363
	E3	905
Second Row	C1	1095
	F1	245
	C2	1060
	F2	570
	C3	1095
	F3	895
Third Row	D1	N/A
	G1	N/A
	D2	N/A
	G2	N/A
	D3	N/A
	G3	N/A

Note: 1. Use the center of anchorage.

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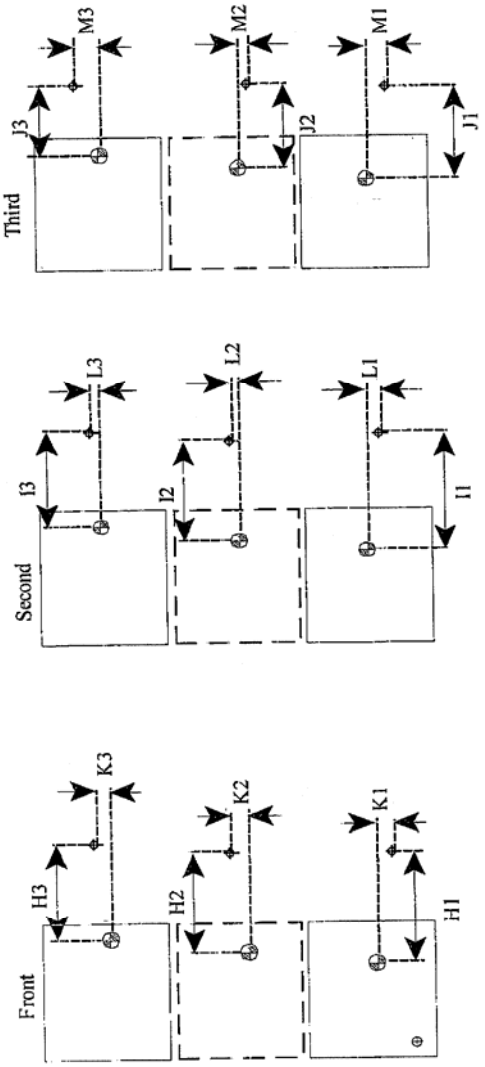
이 페이지부터 의장아저 작성항목임

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

Model Year: 06MY ; Make: HMC ; Model: MC ; Body Style: SEDAN
Seat Style: Front row: Bucket ; Second row: STD-BENCH, OPT-6:4 SPLIT ; Third row: N/A



⊕: SRP
⊕: Tether anchorage

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

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Table 3. Seating Reference Point and Tether Anchorage Locations

Seating Reference Point (SRP)	Distance from SRP	
Front Row	H1	N/A
	K1	N/A
	H2	N/A
	K2	N/A
	H3	N/A
	K3	N/A
Second Row	I1	520
	L1	10
	I2	555
	L2	0
	I3	520
	L3	10
Third Row	J1	N/A
	M1	N/A
	J2	N/A
	M2	N/A
	J3	N/A
	M3	N/A

Note: 1. Use the center of anchorage.

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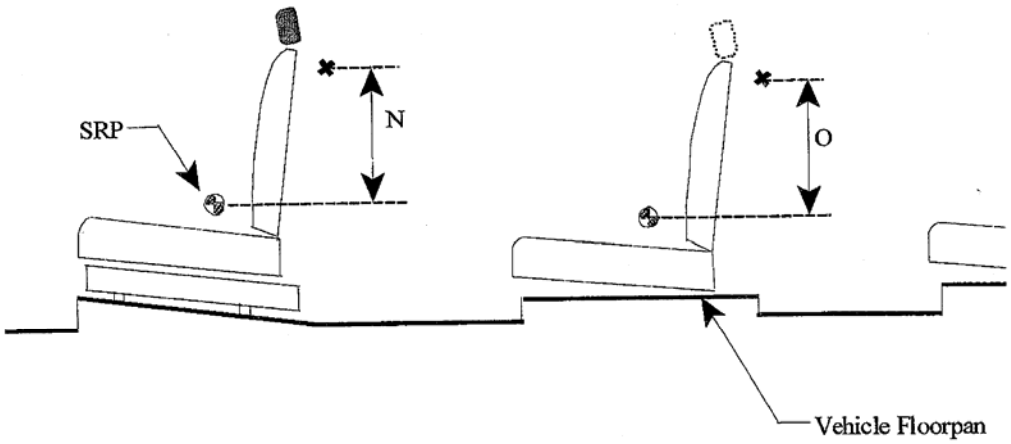
TETHER ANCHORAGE LOCATIONS - VERTICAL
FOR FMVSS 225
(All dimensions in mm)

Model Year: 06MY ; Make: HMC ; Model: MC ; Body Style: SEDAN
Seat Style: Front row: Bucket ; Second row: STD-BENCH, OPT-6:4 SPLIT ;
Third row: N/A



LEFT SIDE VIEW OF TEST VEHICLE

Table 4. Vertical Dimension For The Tether Anchorage

Seating Row	Vertical Distance from Seating Reference Point	
Front Row	N1 (Driver)	N/A
	N2 (Center)	N/A
	N3 (Right)	N/A
Second Row	O1 (Left)	518
	O2 (Center)	492
	O3 (Right)	518
Third Row	P1 (Left)	N/A
	P2 (Center)	N/A
	P3 (Right)	N/A

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

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Last Updated: 12/12/2005

For each vehicle, provide the following information:

1. **How many designated seating positions exist in the vehicle?**
   - 5 Seating position

2. **How many designated seating positions are equipped with lower anchorages and tether anchorages? Specify which position(s).**
   - Lower anchorage : 2 (RR LH & RH)
     - On the rear floor pan
   - Tether anchorage : 3 (RR LH,CTR & RH)
     - On the package tray pan

3. **How many designated seating positions are equipped with tether anchorages? Specify which position(s).**
   - See the answers above question No. 2

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