FINAL REPORT NUMBER 225-MGA-06-001

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

DAIMLERCHRYSLER CORPORATION
2007 DODGE CALIBER
NHTSA No. C70300

MGA RESEARCH CORPORATION
446 Executive Drive
Troy, Michigan 48083

Test Date: July 18, 2006
Report Date: August 30, 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

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Prepared By: _____
Melanie Schick, Project Engineer

_____
Brad Reaume, Test Personnel

_____
Helen A. Kaleto, Laboratory Manager

Approved By: _____

Approval Date: 08/30/2006

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15. Supplementary Notes			
16. Abstract A compliance test was conducted on the subject 2007 Dodge Caliber, NHTSA No. C70300, 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 18, 2006. Test failures identified were as follows: NONE The data recorded indicates that the 2007 Dodge Caliber 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 2007 Dodge Caliber, NHTSA No. C70300 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 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 680 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 18, 2006.

Based on the test results, the 2007 Dodge Caliber 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 11,188 N and held the required load for 3 seconds. The total displacement from point "X" on the SFADII for the 2nd row left seating position was 39 mm. The SFADII at the 2nd row right seating position sustained a maximum force of 15,222 N and held the required load for 3 seconds. The SFADI at the 2nd row center seating position sustained a maximum force of 15,245 N and held the required load for 3 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)
SB6350	SFADII	Forward	2nd Row Left	11,188	39
		Forward w/Tether	2nd Row Right	15,222	N/A
SB6351	SFADI	Forward	2nd Row Center	15,245	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	2007 Dodge Caliber
VEH. NHTSA NO.	C70300
VIN	1B3HB48B17D541170
COLOR	White
VEH. BUILD DATE	04/2006
TEST DATE	July 18, 2006
TEST LABORATORY	MGA Research Corporation
OBSERVERS	Melanie Schick, Brad Reaume, Kenney Godfrey

GENERAL INFORMATION:

DATA FROM VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured By: DaimlerChrysler Corporation

Date of Manufacture: 04/06; VIN: 1B3HB48B17D541170

GVWR: 4435 lbs; GAWR FRONT: 2380 lbs

GAWR REAR: 2200 lbs

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load:

FRONT: 32 psi REAR: 32 psi

Recommended Tire Size: P215/60R17

Recommended Cold Tire Pressure:

FRONT: 32 psi REAR: 32 psi

Size of Tire on Test Vehicle: P225/75R17

Size of Spare Tire: T155/90D16

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 TPM522 (08/02/06), TPM655 (04/25/07)
MGA Data Acquisition System	N/A
Digital Calipers	S/N MGA00572 (09/02/06)
Force Gauge	S/N MGA00646 (05/26/07)
Inclinometer (Digital)	S/N MGA00032 (06/23/07)

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	N/A	N/A	N/A
	Ctr		N/A		
	RH		N/A	N/A	
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	Yes		N/A
	Ctr		N/A		
	RH		Yes		
Diameter of the bar (mm)	LH	N/A	5.95	5.90	N/A
	Ctr		N/A		
	RH		5.90	5.95	
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	37		N/A
	Ctr		N/A		
	RH		38		
Measure the distance between the SRP to the center of the anchorage bar (mm)	LH	N/A	159		N/A
	Ctr		N/A		
	RH		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	31.8	30.8	N/A
			41.9	42.2	
	Ctr		N/A		
	RH		33.4	32.4	
			40.2	41.9	
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	8.9	No Data	0.5
2nd Row Center	N/A	N/A	N/A
2nd Row Right	8.8	No Data	0.1

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	Most Upright	Yes	II	10.2	19	387	11,000	11,188*	58	39
	Ctr.			No	I	8	N/A	535	15,000	15,222*	N/A	N/A
	RH			Yes	II	9.6	N/A	535	15,000	15,245*	N/A	N/A
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


NHTSA 2007 Dodge Caliber
07/11/06
Rear View
FMVSS 225
C70300
Pre-Test
G06Q7-002.1
SXT
CALIBER
GALEANA'S

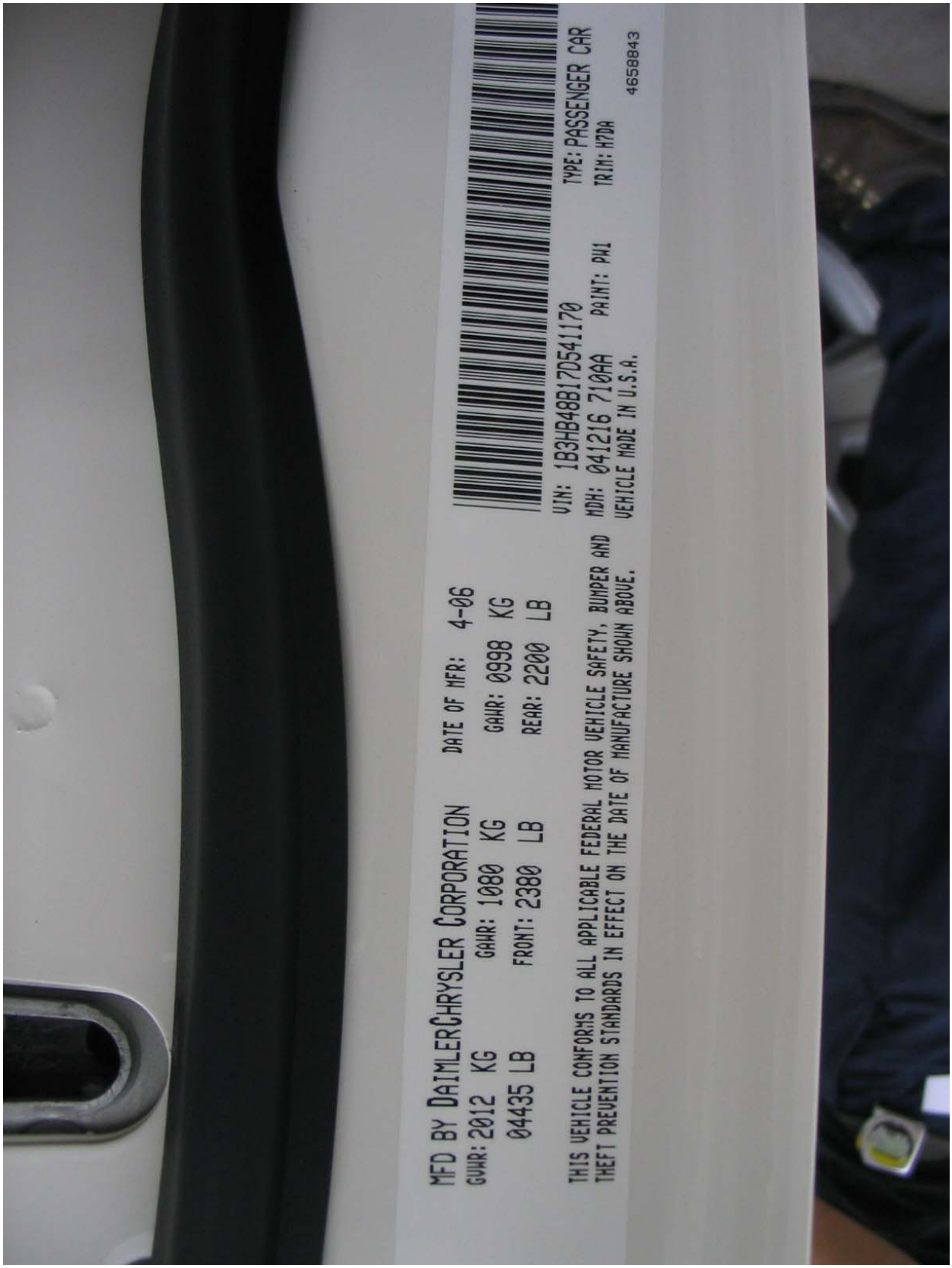
6.3 ¾ Front left view

6.4 ¾ Front right view

6.5 Test vehicle's certification label

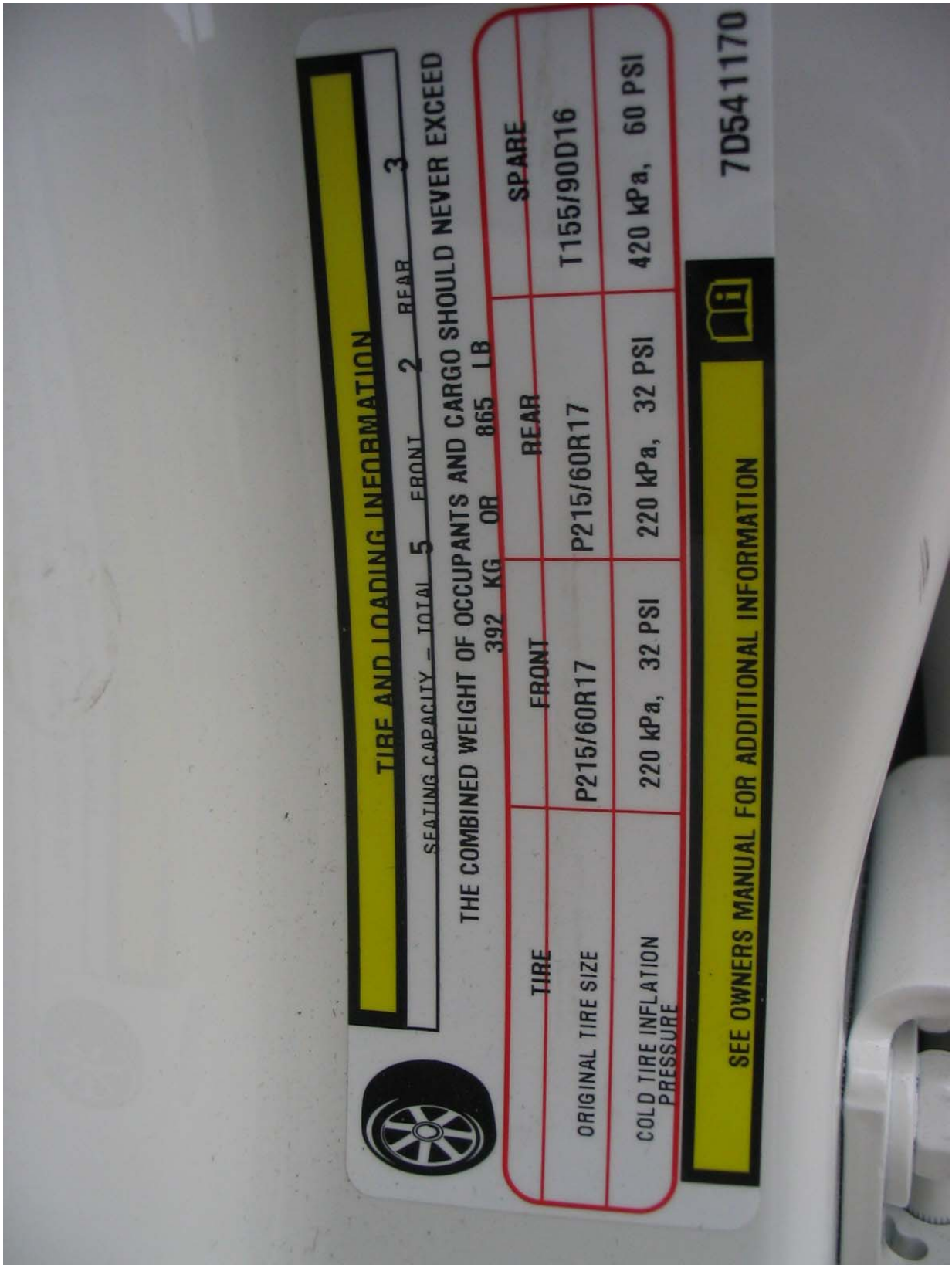
6.5.1 Certification label photo #1

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

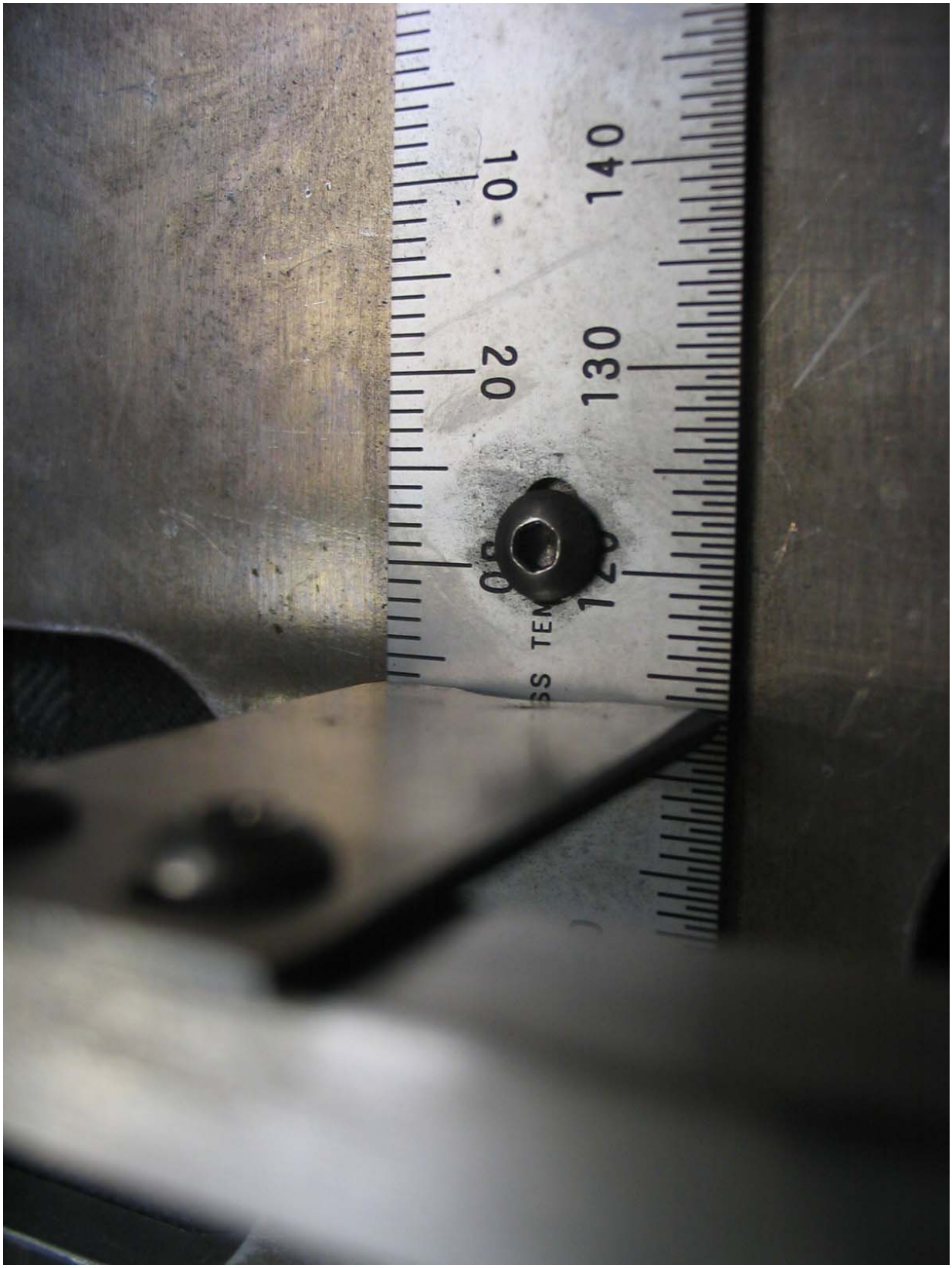
6.7.6 RH position photo #2

6.8 CRF verification

6.8.1 LH position photo #1

6.8.2 LH position photo #2

6.8.3 LH position photo #3



6.8.4 RH position photo #1

6.8.5 RH position photo #2

6.8.6 RH position photo #3

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

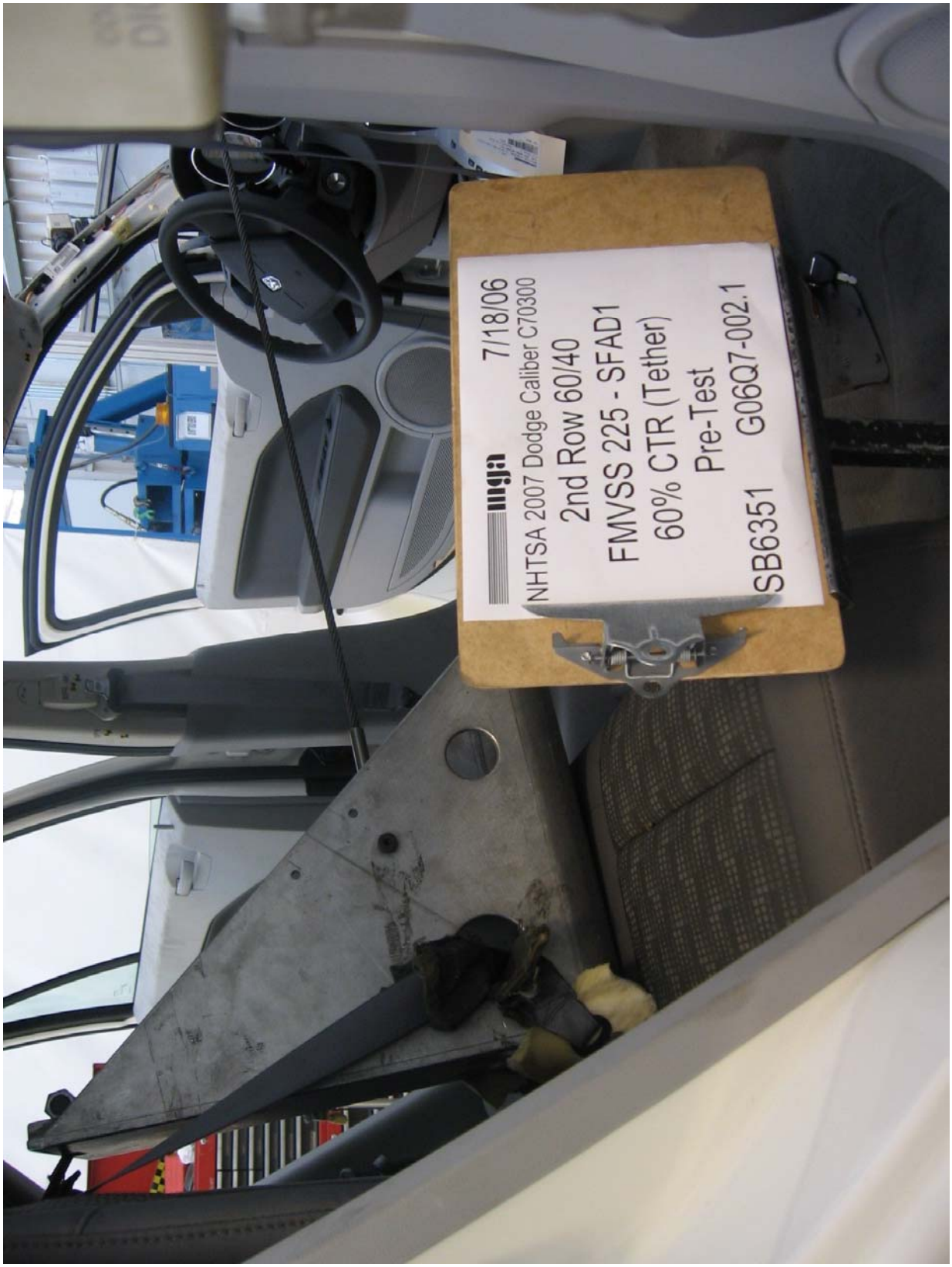
6.10.1 Pre-test photo #1 of SFADII test 1 of 2

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



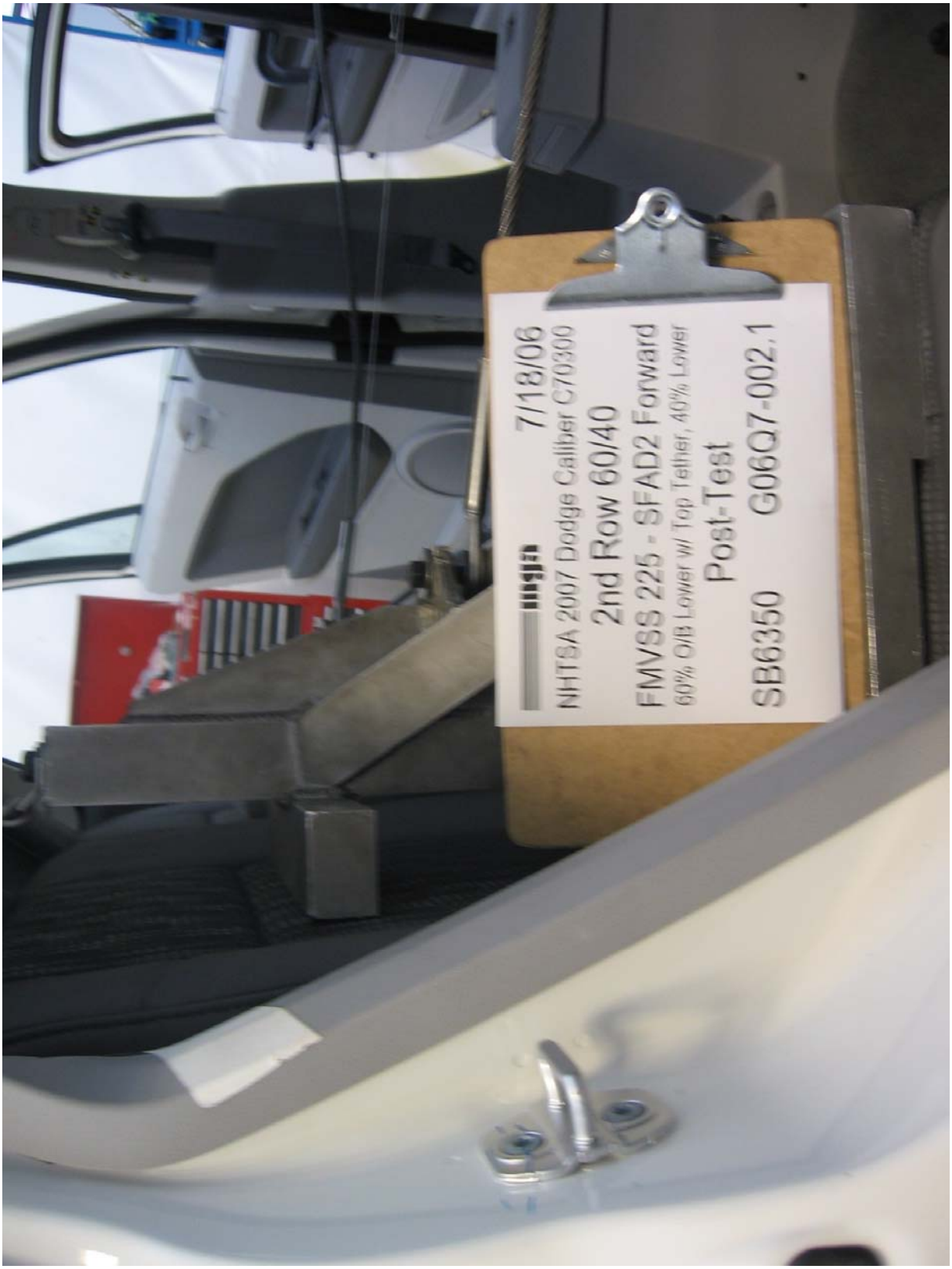
6.10.6 Pre-test photo #6 of SFADI test 2 of 2

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 SFADII test 1 of 2

6.11.9 Post-test photo #9 of SFADII test 1 of 2

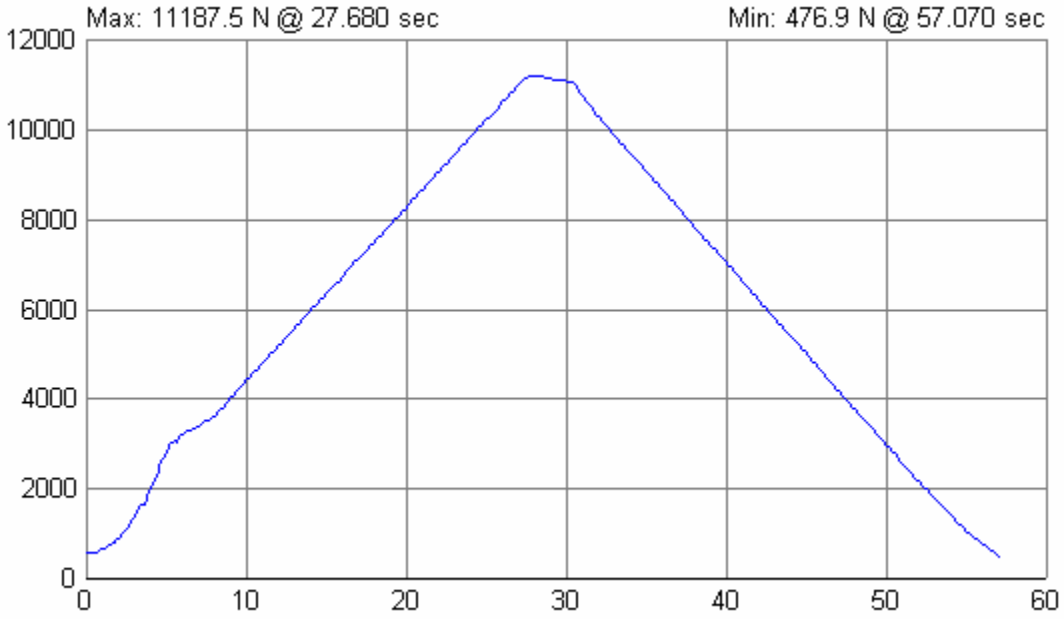
6.11.10 Post-test photo #10 of SFADI test 2 of 2

6.11.11 Post-test photo #11 of SFADI test 2 of 2

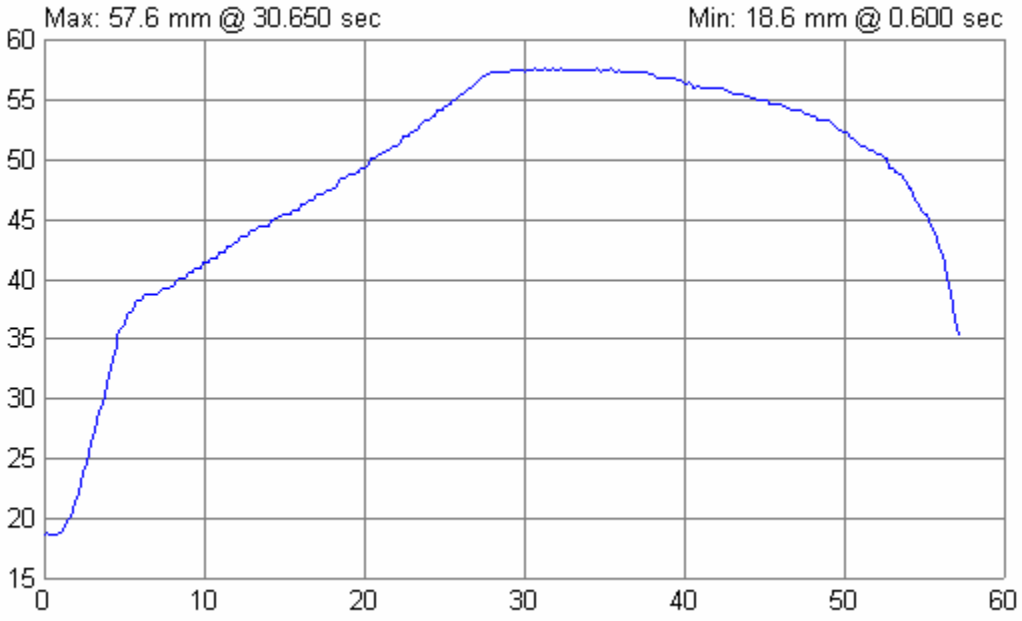
6.11.12 Post-test photo #12 of SFADI test 2 of 2

6.11.13 Post-test photo #13 of SFADI test 2 of 2

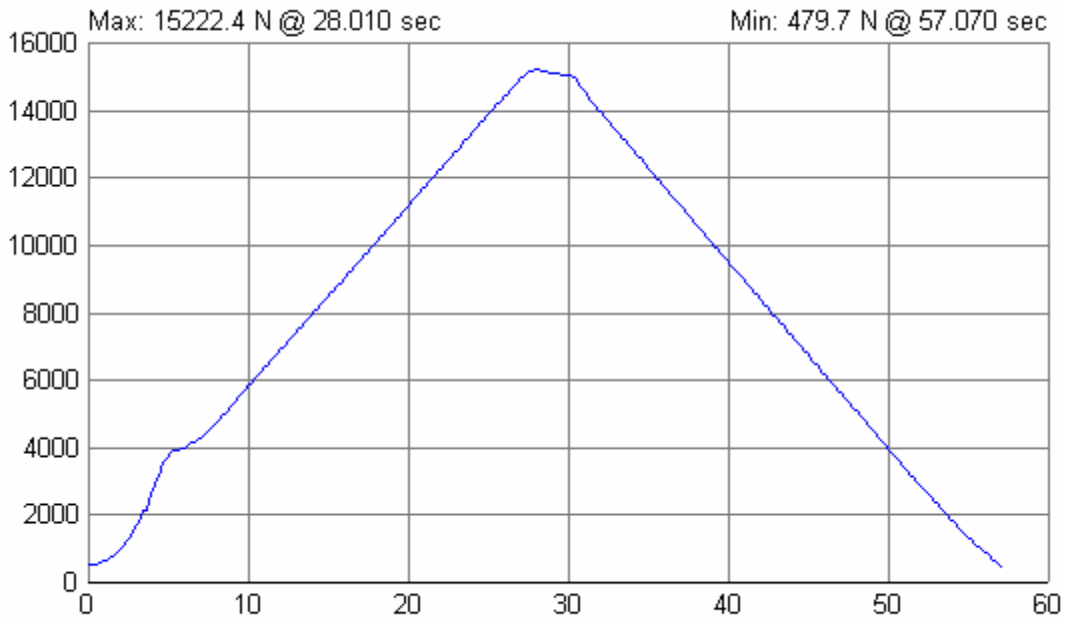
7.0 PLOTS



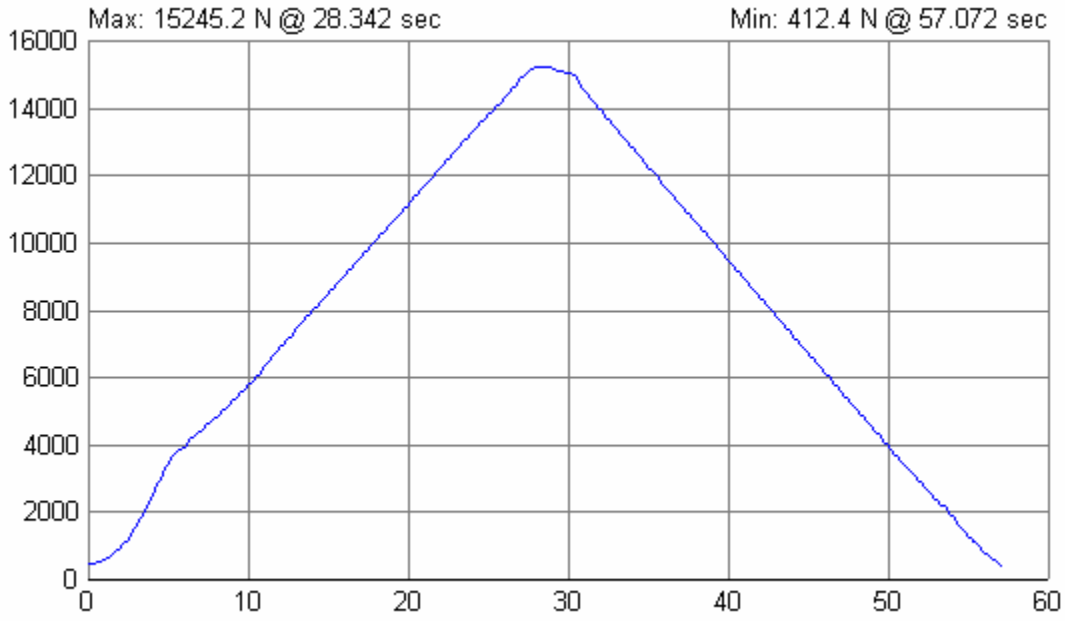
Run# SB6350: Lower Anchor Test (S9.4.1)-RS 40% Load (N) vs. Time (sec)



Run# SB6350: 40% SFAD X Displacement (mm) vs. Time (sec)



Run# SB6350: Top Tether Test (S6.3.4)-RS 60% O/B Load (N) vs. Time (sec)



Run# SB6351: 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 18, 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: 2007 Dodge Caliber

VEH. NHTSA NO.: C70300 VIN: 1B3HB48B17D541170

COLOR: White

ODOMETER READINGS: ARRIVAL 28 miles Date: 04/26/06

COMPLETION 29 miles Date: 07/18/06

PURCHASE PRICE: $16,835 DEALER'S NAME: Galeana's Van Dyke Dodge

ENGINE DATA: 4 Cylinders 2.0 Liters ____ Cubic Inches

TRANSMISSION DATA: X Automatic ____ 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, Kenney Godfrey

X	Air Conditioning		Traction Control	X	Clock
	Tinted Glass		All Wheel Drive		Roof Rack
X	Power Steering	X	Speed Control	X	Console
X	Power Windows	X	Rear Window Defroster	X	Driver Air Bag
X	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, Kenney Godfrey DATE: July 18, 2006

APPROVED BY: Brad Reaume

APPENDIX A
OWNERS MANUAL CHILD RESTRAINT SYSTEMS

- Accelerator status (including vehicle speed)
- Engine control status (including engine speed)
- Cruise control status
- Traction/stability control status

Child Restraint

Everyone in your vehicle needs to be buckled up at all times — babies and children, too. Every state in the United States and all Canadian provinces require that small children ride in proper restraint systems. This is the law, and you can be prosecuted for ignoring it.

Children 12 years and under should ride properly buckled up in a rear seat, if available. According to crash statistics, children are safer when properly restrained in the rear seats, rather than in the front.

WARNING!

In a collision, an unrestrained child, even a tiny baby, can become a missile inside the vehicle. The force required to hold even an infant on your lap could become so great that you could not hold the child, no matter how strong you are. The child and others could be badly injured. Any child riding in your vehicle should be in a proper restraint for the child's size.

Infants And Small Children

There are different sizes and types of restraints for children from newborn size to the child almost large enough for an adult safety belt. Always check the child seat owner's manual to ensure you have the correct seat for your child. Use the restraint that is correct for your child:

- Safety experts recommend that children ride rearward-facing in the vehicle until they are at least one year old and weigh at least 20 lbs (9 kg). Two types of child restraints can be used rearward-facing: infant

carriers and "convertible" child seats. Both types of child restraints are held in the vehicle by the lap/shoulder belt or the LATCH child restraint anchorage system.

- The infant carrier is only used rearward-facing in the vehicle. It is recommended for children who weigh up to about 20 lbs (9 kg). "Convertible" child seats can be used either rearward-facing or forward-facing in the vehicle. Convertible child seats often have a higher weight limit in the rearward-facing direction than infant carriers do, so they can be used rearward-facing by children who weigh more than 9 kg (20 lbs) but are less than one year old.
- Rearward-facing child seats must **NEVER** be used in the front seat of a vehicle with a front passenger airbag. An airbag deployment could cause severe injury or death to infants in this position.
- Children who weigh more than 20 lbs (9 kg) and who are older than one year can ride forward-facing in the vehicle. Forward-facing child seats and convertible child seats used in the forward-facing direction are for children who weigh 20 to 40 lbs (9 to 18 kg) and who are older than one year. These child seats are also held in the vehicle by the lap/shoulder belt or the LATCH child restraint anchorage system.
- The belt-positioning booster seat is for children weighing more than 40 lbs (18 kg), but who are still too small to fit the vehicle's seat belts properly. If the child cannot sit with knees bent over the vehicle's cushion while the child's back is against the seat back; they should use a Belt Positioning Booster Seat. The child and booster seat are held in the vehicle by the lap/shoulder belt. (Some booster seats are equipped with a front shield and are held in the vehicle by the lap portion.)

NOTE: For additional information refer to www.seatcheck.org.

2

WARNING!

- **Improper installation can lead to failure of an infant or child restraint. It could come loose in a collision. The child could be badly injured or killed. Follow the manufacturer's directions exactly when installing an infant or child restraint.**
- **A rearward facing child restraint should only be used in a rear seat. A rearward facing child restraint in the front seat may be struck by a deploying passenger airbag which may cause severe or fatal injury to the infant.**

Here are some tips on getting the most out of your child restraint:

- Before buying any restraint system, make sure that it has a label certifying that it meets all applicable Safety Standards. We also recommend that you make sure that you can install the child restraint in the vehicle where you will use it, before you buy it.
- The restraint must be appropriate for your child's weight and height. Check the label on the restraint for weight and height limits.
- Carefully follow the instructions that come with the restraint. If you install the restraint improperly, it may not work when you need it.

The passenger seat belts are equipped with either cinching latch plates or seat belt retractors that can be switched to an automatic locking mode, which are designed to keep the lap portion tight around the child restraint so that it is not necessary to use a locking clip. If the seat belt has a cinching latch plate, pulling up on the shoulder portion of the lap/shoulder belt will tighten the belt. The cinching latch plate will keep the belt tight, however, any seat belt system will loosen with time, so check the belt occasionally and pull it tight if necessary.

If the seat belt has a switchable retractor, it will have a distinctive label. To operate the switchable retractor, please refer to Automatic-Locking Retractor (ALR) in this section.

- In the rear seat, you may have trouble tightening the lap/shoulder belt on the child restraint because the buckle or latch plate is too close to the belt path opening on the restraint. Disconnect the latch plate from the buckle and twist the short buckle end of the belt several times to shorten it. Insert the latch plate into the buckle with the release button facing out.
- If the belt still can't be tightened, or if by pulling and pushing on the restraint loosens the belt, disconnect the latch plate from the buckle, turn the latch plate around, and insert the latch plate into the buckle again. If you still can't make the child restraint secure, try a different seating position.
- Buckle the child into the seat according to the child restraint manufacturer's directions.
- When your child restraint is not in use, secure it in the vehicle with the seat belt or remove it from the vehicle. Don't leave it loose in the vehicle. In a sudden stop or collision, it could strike the occupants or seat backs and cause serious personal injury.

2

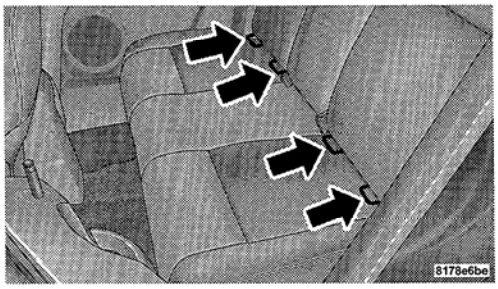
Automatic-Locking Retractor (ALR)

To operate the switchable retractor, pull the belt from the retractor until there is enough to allow you to pass through the child restraint and slide the latch plate into the buckle. Then pull on the belt until it is all removed from the retractor. Allow the belt to return into the retractor, pulling on the excess webbing to tighten the lap portion about the child restraint. Follow the instructions of the child restraint manufacture.

NOTE: To reset this feature you must let all of the belt webbing return into the retractor. You will not be able to pull out more webbing until all of the webbing has been returned back into the retractor.

Lower Anchors and Tether for CHildren (LATCH)

Your vehicle is equipped with the child restraint anchorage system called LATCH, which stands for Lower Anchors and Tether for CHildren. The LATCH system provides for the installation of the child restraint without using the vehicle seat belt. All three rear seating positions have lower anchorages that are capable of accommodating LATCH-compatible child seats having flexible, webbing-mounted lower attachments. Child seats with fixed lower attachments must be installed in the outboard positions only. Regardless of the specific type of lower attachment, **NEVER** install LATCH-compatible child seats such that two seats share a common lower anchorage. If you are installing LATCH-compatible child restraints in adjacent rear seating positions, you can use the LATCH anchors or the vehicle's seat belt for the outboard position, but you must use the vehicle's seat belt at the center position. If your child restraints are not LATCH-compatible, you can only install the child restraints using the vehicle's seat belts. Please refer to, Installing the Child Restraint System for typical installation instructions.



Rear Seat LATCH

Child restraints systems having attachments designed to connect to the lower anchorages are now available. Child restraints having tether straps and hooks for connection to the top tether anchorage have been available for some time. In fact, many child restraint manufacturers will provide add-on tether strap kits for some of their older products. Tether anchorage kits are also available for most older vehicles.

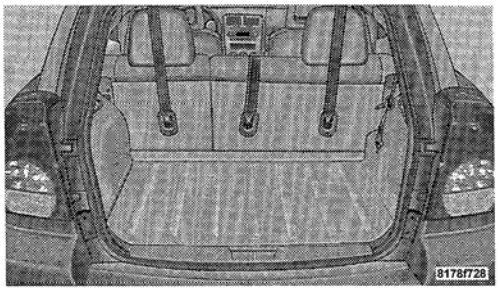
Because the lower anchorages are to be introduced to passenger carrying vehicles over a period of years, child restraint systems having attachments for those anchorages will continue to have features for installation in vehicles using the lap or lap/shoulder belt. They will also have tether straps, and you are urged to take advantage of all of the available attachments provided with your child restraint in any vehicle.

NOTE: When using the LATCH attaching system to install a child restraint, please ensure that all seat belts not being used for occupant restraints are stowed and out of reach of children. It is recommended that before installing the child restraint, buckle the seat belt so the seat belt is tucked behind the child restraint and out of reach. If the buckled seat belt interferes with the child restraint installation, instead of tucking the seat belt behind the child restraint, route the seat belt through the child restraint belt path and then buckle it. This should stow the seat belt out of the reach of an inquisitive child. Remind all children in the vehicle that the seat belts are not toys and should not be played with, and never leave your child unattended in the vehicle.

Installing the Child Restraint System

We urge that you carefully follow the directions of the manufacturer when installing your child restraint. Many, but not all, restraint systems will be equipped with separate straps on each side, with each having a hook or connector and a means for adjusting the tension in the strap. Forward-facing toddler restraints and some rearward-facing infant restraints will also be equipped with a tether strap with a hook and means for adjusting the tension in the strap.

In general, you will first loosen the adjusters on the lower and tether straps so that you can more easily attach the hook or connector to the lower and tether anchorages. The tether strap should be routed under the center of the head restraint and attached to the tether anchor on the rear of the seat back. Then tighten all three straps as you push the child restraint rearward and downward into the seat.



Rear Seat Tether Anchors

Not all child restraint systems will be installed as we have described here. Again, carefully follow the instructions that come with the child restraint system.

NOTE: If your child restraint seat is not LATCH compatible, install the restraint using the vehicle seat belts.

WARNING!

An incorrectly anchored tether strap could lead to increased head motion and possible injury to the child. Use only the anchor position directly behind the child seat to secure a child restraint top tether strap.

Children Too Large For Booster Seats

Children who are large enough to wear the shoulder belt comfortably, and whose legs are long enough to bend over the front of the seat when their back is against the seat back, should use the lap/shoulder belt in a rear seat.

- Make sure that the child is upright in the seat.

APPENDIX B
MANUFACTURER'S DATA (OVSC FORM 14)

Table 1. Seating Positions[1] and Torso Angles

		Left (Driver Side)	Center (if any)	Right
A1		219.71		219.71
A2		236.72 from front & 274.06 from cushion attachment.	236.72 from front & 274.06 from cushion attachment.	236.72 from front & 274.06 from cushion attachment.
A3				
B		376.42	376.42	376.42
C		1170.94	1170.94	1170.94
D				
Torso Angle (degree)	Front Row			
	Second Row	23 deg	23 deg	23 deg
	Third Row			

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: **2007** Make: **DODGE** Model: **PM49 (Caliber)** Body Style: **4-Door Hatch Back**
Seat Style: Front row: Second row: X Third row:

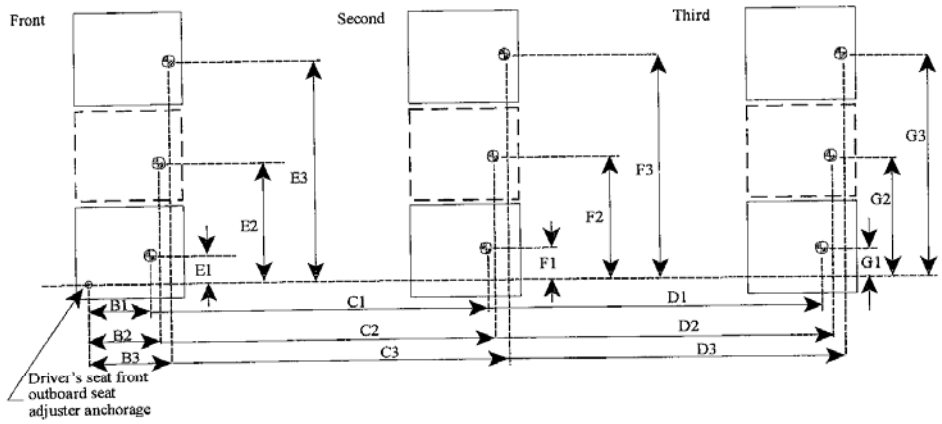


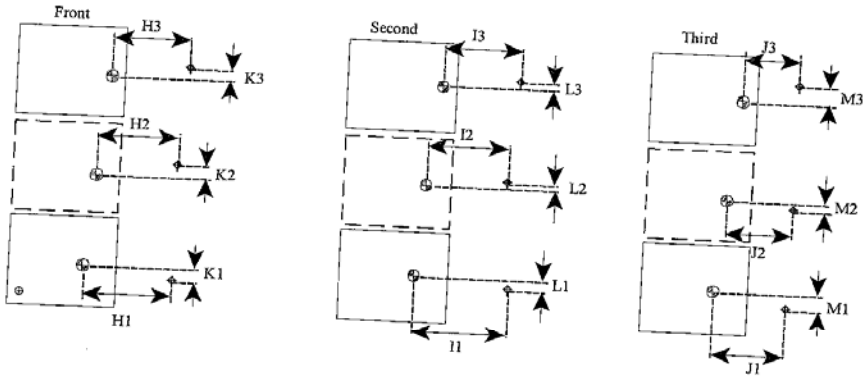
Table 2. Seating Reference Point and Tether Anchorage Locations

Seating Reference Point (SRP)		Distance from Driver's front outboard seat adjuster anchorage[1]
Front Row	B1	
	E1	
	B2	
	E2	
	B3	
	E3	
Second Row	C1	236.72
	F1	184.91
	C2	236.72
	F2	519.93
	C3	236.72
	F3	854.96
Third Row	D1	
	G1	
	D2	
	G2	
	D3	
	G3	

Note: 1. Use the center of anchorage.

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

Model Year: **2007** Make: **DODGE** Model: **PM49 (Caliber)** Body Style: **4-Door Hatch Back**
Seat Style: Front row: Second row: X Third row:



: SRP
: Tether anchorage

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

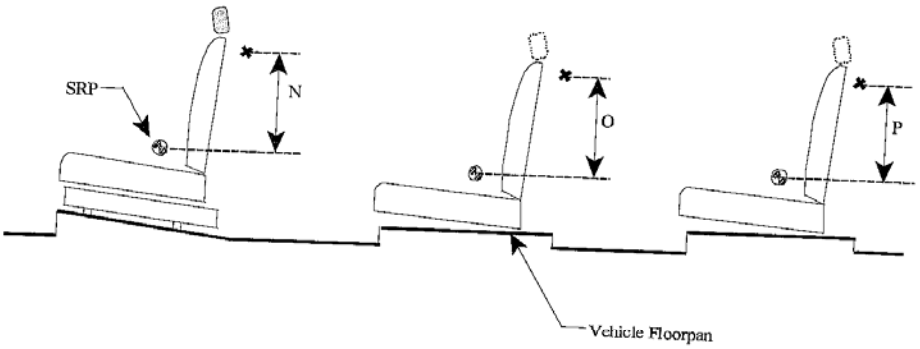
Table 3. Seating Reference Point and Tether Anchorage Locations

Seating Reference Point (SRP)	Distance from SRP	
Front Row	H1	
	K1	
	H2	
	K2	
	H3	
	K3	
Second Row	I1	160
	L1	0
	I2	160
	L2	0
	I3	160
	L3	0
Third Row	J1	
	M1	
	J2	
	M2	
	J3	
	M3	

Note: 1. Use the center of anchorage.

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

Model Year: **2007** Make: **DODGE** Model: **PM49 (Caliber)** Body Style: **4-Door Hatch Back**
Seat Style: Front row: Second row: X Third row:



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)	217.58
	O2 (Center)	217.58
	O3 (Right)	217.58
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.

07/05/2006 15:29 FAX 202 336 3081 DOT OVSC 221 → MGA TROY 010

Test Procedures Used for Compliance Tests

Tether Anchorages

Seating Location		FMVSS Section(s) - Req.
Front	Driver	N/A
	Center (if any)	
	Right (if any)	
Second	Left	X
	Center	X
	Right (if any)	X
Third	Left	N/A
	Center	
	Right	
Fourth	Left	N/A
	Center	
	Right	

Lower Anchorages

Seating Location		FMVSS Section(s) - Req.
Front	Driver	N/A
	Center (if any)	
	Right (if any)	
Second	Left	X
	Center	X
	Right	X
Third	Left	N/A
	Center	
	Right	
Fourth	Left	N/A
	Center	
	Right	

For each vehicle, provide the following information:

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

   Total of five designated seating positions exist in this vehicle. One front driver and passenger seating position; three seating positions for rear seat.

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

   All three rear seating positions are equipped with lower & tether anchorages; two outboard and one center position.

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

   All three rear seating positions are equipped with tether anchorages; two outboard and one center position.

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

   The anchorages are certified to S9.5(b) of FMVSS 225.

Melanie Schick

From: Ed.Chan@dot.gov
Sent: Wednesday, July 12, 2006 8:31 AM
To: melanie.schick@mgaresearch.com
Subject: RE: C70300-Dodge Caliber

Melanie,

James told me that the rear seat is the same as the front seat and to use 24 degrees. The lab (Calspan) actually had 24.4 degrees.

Sorry.

Rear Seat Backframe angle

Ed

Edward E. Chan
Safety Compliance Engineer
National Highway Traffic Safety Administration
Department of Transportation
400 Seventh St. SW
Room 6111
Washington, DC 20590
(202) 493-0335
(800) 986-9678 ext 3-0335

From: Melanie Schick [mailto:melanie.schick@mgaresearch.com]
Sent: Wednesday, July 12, 2006 8:25 AM
To: Chan, Ed <NHTSA>
Subject: C70300-Dodge Caliber

Hi Ed,

The sheet you faxed me yesterday doesn't tell me anything about the rear seat.
Attached is the fax you sent me.

Melanie Schick
MGA Research Corporation
446 Executive Drive
Troy, MI 48083 USA
Main (248)577-5001
Fax (248)577-5025
http://www.mgaresearch.com
http://www.mgafixtures.com

7/12/2006