FINAL REPORT NUMBER 225-MGA-08-007

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

CHRYSLER LLC
2008 DODGE DAKOTA
NHTSA No. C80303

MGA RESEARCH CORPORATION
446 Executive Drive
Troy, Michigan 48083

Test Date: February 18, 2009
Report Date: March 24, 2009

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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Approval Date: 3/30/09

FINAL REPORT ACCEPTANCE BY OVSC:

Accepted By: Edward E. Chan
Digitally signed by Edward E. Chan
DN: CN = Edward E. Chan, C = US, O = National Highway Traffic Safety Administration, OU = Office of Vehicle Safety Compliance
Date: 2009.04.03 14:49:06 -04'00'

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7. Author(s) Helen A. Kaleto, Laboratory Manager Fern Gatilao, Project Engineer Brad Reaume, Test Personnel		8. Performing Organization Report No. 225-MGA-08-007	
9. Performing Organization Name and Address MGA Research Corporation 446 Executive Drive Troy, Michigan 48083		10. Work Unit No. 11. Contract or Grant No. DTNH22-06-C-00030/0006	
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 2008 Dodge Dakota, NHTSA No. C80303, 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 test was conducted at MGA Research Corporation in Troy, Michigan on February 18, 2009. Test failures identified were as follows: NONE The data recorded indicates that the 2008 Dodge Dakota tested appears to meet the requirements of FMVSS 225.			
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TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

LIST OF TABLES

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. DTNH22-06-C-00030/0006. The purpose of the testing was to determine if the subject vehicle, a 2008 Dodge Dakota, NHTSA No. C80303 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 rear occupant compartment consisted of a 2nd row three-passenger split-bench seat. The 2nd row outboard left and right seating positions were equipped with a child restraint anchorage system (one tether and two lower anchorages) and the center seating position was equipped with a tether anchorage. The center-to-center spacing between the 2nd row outboard lower anchorages was approximately 750 mm. The 2nd row left and right outboard seating positions were tested with the SFADII.

2.0 COMPLIANCE TEST AND DATA SUMMARY

TEST SUMMARY

The testing was conducted at MGA in Troy, Michigan on February 18, 2009.

Based on the test results, the 2008 Dodge Dakota 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 5,034 N and held the required load for 3 seconds and the total displacement was 48 mm. The SFADII at the 2nd row right seating position sustained a maximum force of 5,044 N and held the required load for 3 seconds and the total displacement was 43 mm.

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)
SC9079	SFADII	Lateral Right	2nd Row Left	5,034*	48
			2nd Row Right	5,044*	43

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

3.0 TEST VEHICLE INFORMATION

Table 2. General Test and Vehicle Parameter Data

VEH. MOD YR/MAKE/MODEL/BODY	2008 Dodge Dakota
VEH. NHTSA NO.	C80303
VIN	1D7HE28K28S541563
COLOR	Gray
VEH. BUILD DATE	11/07
TEST DATE	February 18, 2009
TEST LABORATORY	MGA Research Corporation
OBSERVERS	Fern Gatilao , Brad Reaume, Kenney Godfrey

GENERAL INFORMATION:

DATA FROM VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured By: Chrysler, LLC

Date of Manufacture: 11/07; VIN: 1D7HE28K28S541563

GVWR: 6010 lbs GAWR FRONT: 3100 lbs

GAWR REAR: 3600 lbs

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load:

FRONT: 35 psi REAR: 35 psi

Recommended Tire Size: P245/70R16

Recommended Cold Tire Pressure:

FRONT: 35 psi REAR: 35 psi

Size of Tire on Test Vehicle: P245/70R16

Size of Spare Tire: P245/70R16

VEHICLE CAPACITY DATA:

Type of Front Seats: Bench ____; Bucket X; Split Bench___

Number of Occupants: Front __2__; Middle__0___; 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 180s & 307 (6/4/09)
String Potentiometer Calibrated at each use	S/N L1608959A/L1608956A
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	TPM805 (3/1/08)
MGA Data Acquisition System	N/A
Digital Calipers	04456455 (3/19/09)
Force Gauge	MGA00801 (1/20/09)
Inclinometer (Digital)	MGA0048 (12/12/09)

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
	Ctr		N/A		
	RH		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	5.93	5.98	N/A
	Ctr		N/A		
	RH		5.99	5.98	
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	21		N/A
	Ctr		N/A		
	RH		22		
Measure the distance between the SRP to the front of the anchorage bar (mm)	LH	N/A	280	280	N/A
	Ctr		N/A		
	RH		280	280	

Table 4. Child Restraint Lower Anchorage Configuration (continued)

OBSERVED LOWER ANCHORAGE CONFIGURATION	SEAT POSITION					
			FRONT ROW	SECOND ROW I/B	SECOND ROW O/B	THIRD ROW
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	Req't>25	N/A	33	33	N/A
		Req't<60		38	38	
	Ctr	Req't>25		N/A		
		Req't<60		N/A		
	RH	Req't>25		32	32	
		Req't<60		38	38	
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	11.0	N/A	0.8
2nd Row Center	N/A	N/A	N/A
2nd Row Right	10.0	N/A	0.3

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 (kN)	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	0	11	167	5,000	5,034*	59	48
	Ctr.			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	RH			Yes	II	0	18	167	5,000	5,044*	61	43
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

6.3 Front left view

6.4 Front right view

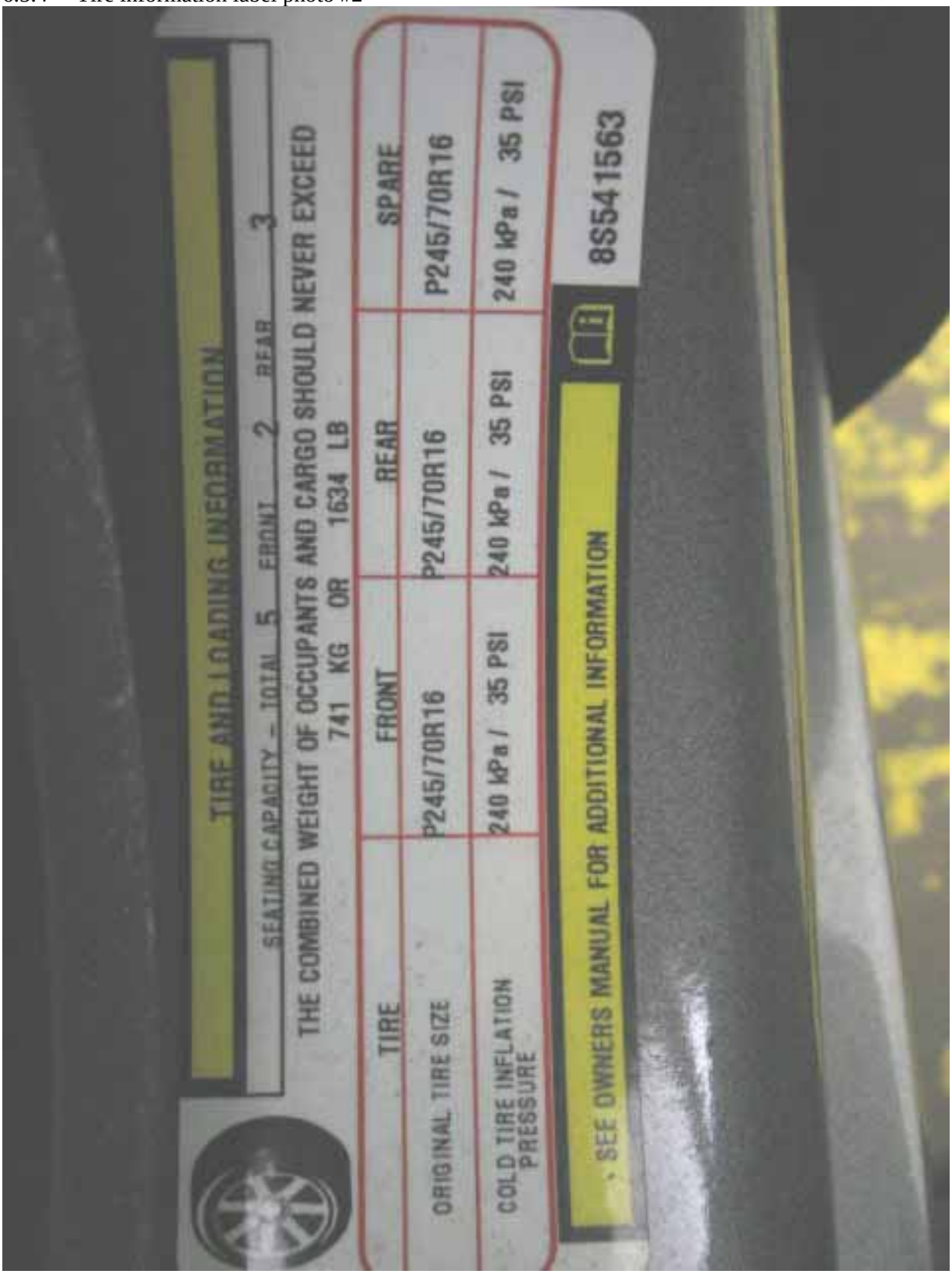
6.5 Test vehicle's certification label

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 Rear under vehicle

6.6.3 Left front

6.6.4 Left rear

6.6.5 Right front

6.6.6 Right rear

6.7 2-dimensional template

6.7.1 LH position photo #1

6.7.2 LH position photo #2

6.7.3 RH position photo #1

6.7.4 RH position photo #2

6.7.5 Center position photo #1

6.7.6 Center position photo #2

6.8 CRF verification

6.8.1 LH position photo

6.8.2 RH position photo

6.9 Front view of test vehicle with test apparatus in place

6.9.1 SFAD II LH & RH

6.9.1 SFAD II LH & RH

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

6.10.1 Pre-test photo

6.10.2 Pre-test photo

6.10.3 Pre-test photo

6.10.4 Pre-test photo

6.11 Post-test condition of each child restraint anchorage system

6.11.1 Post-test photo

6.11.2 Post-test photo

6.11.3 Post-test photo

6.11.4 Post-test photo

6.11.5 Post-test photo

6.11.6 Post-test photo

6.11.7 Post-test photo

6.11.8 Post-test photo

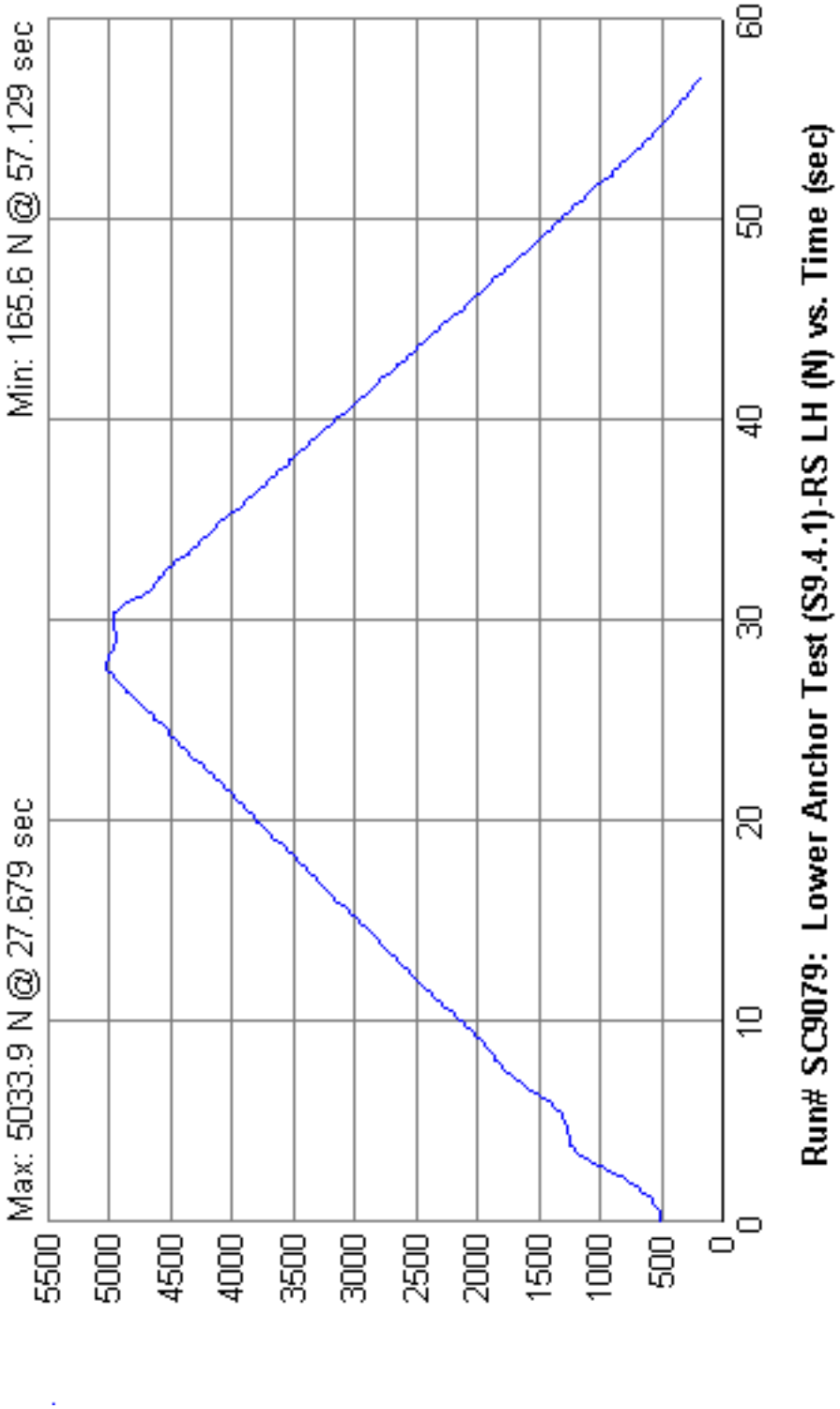
6.11.9 Post-test photo

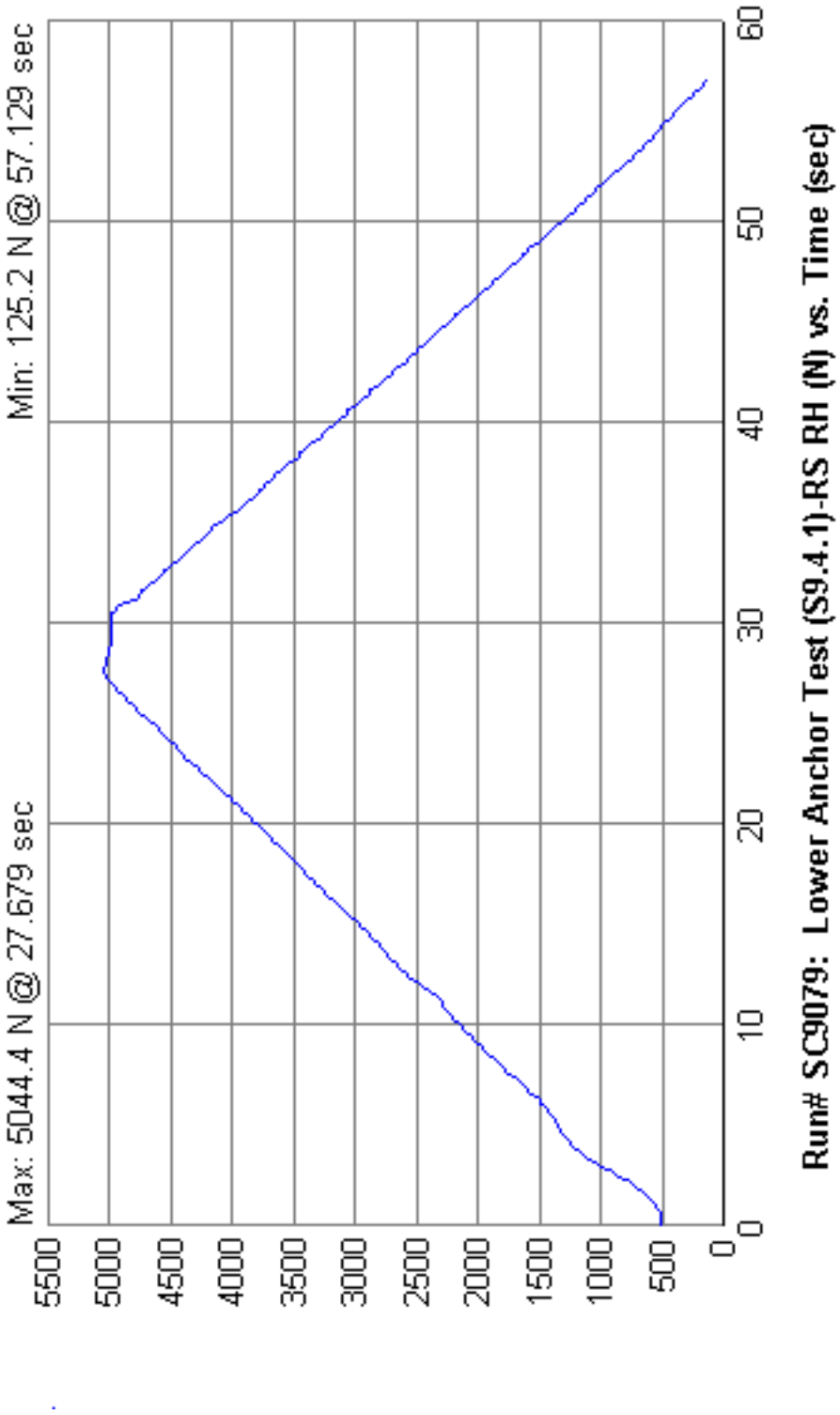
6.11.10 Post-test photo

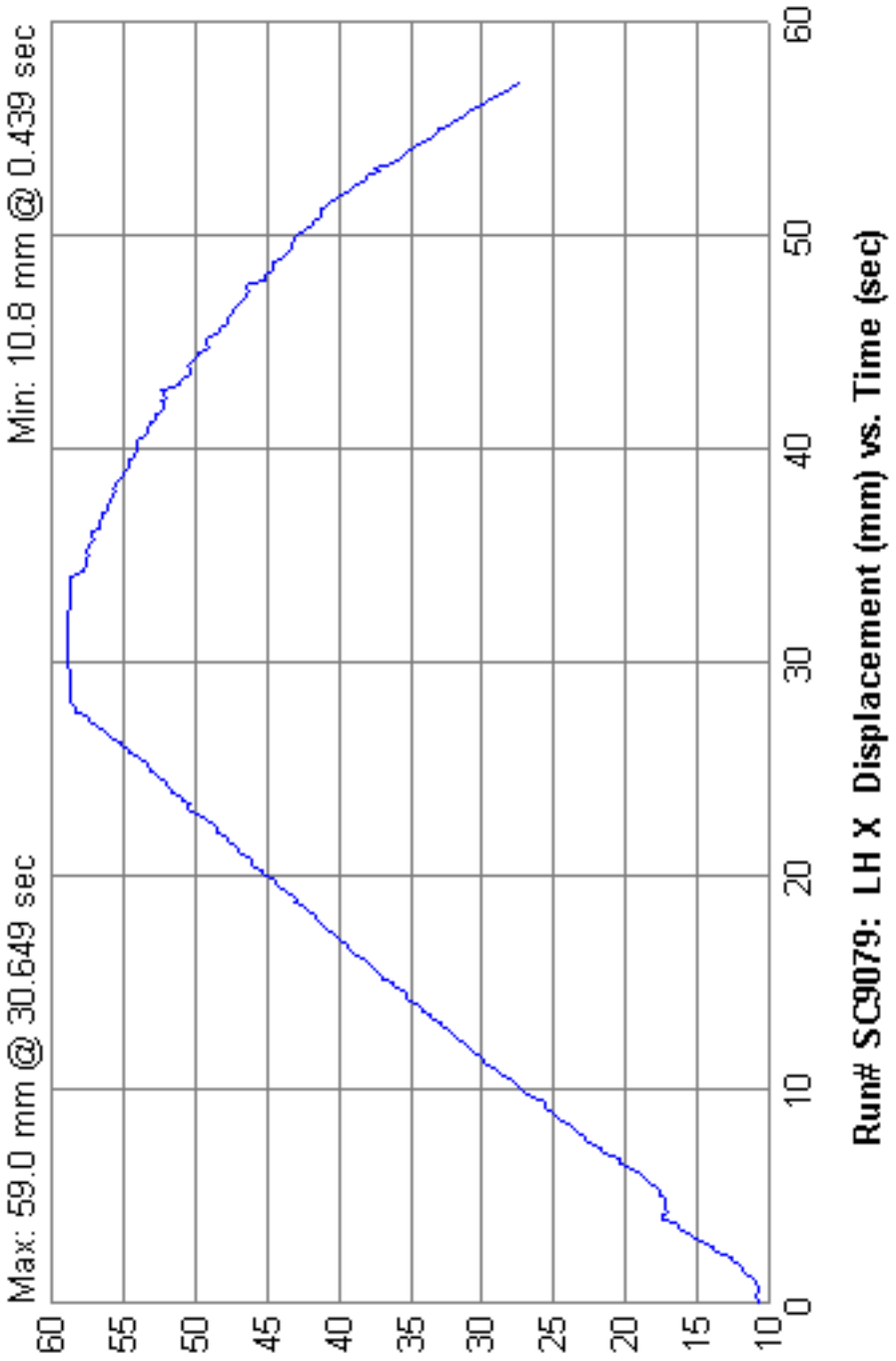
6.11.11 Post-test photo

6.11.12 Post-test photo

7.0 PLOTS


Run# SC9079: Lower Anchor Test (S9.4.1)-RS LH (N) vs. Time (sec)
Max: 5033.9 N @ 27.679 sec
Min: 165.6 N @ 57.129 sec
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
0
10
20
30
40
50
60


Max: 5044.4 N @ 27.679 sec
Min: 125.2 N @ 57.129 sec
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
0
10
20
30
40
50
60
Run# SC9079: Lower Anchor Test (S9.4.1)-RS RH (N) vs. Time (sec)


Min: 10.8 mm @ 0.439 sec
Max: 59.0 mm @ 30.649 sec
Run# SC9079: LH X Displacement (mm) vs. Time (sec)
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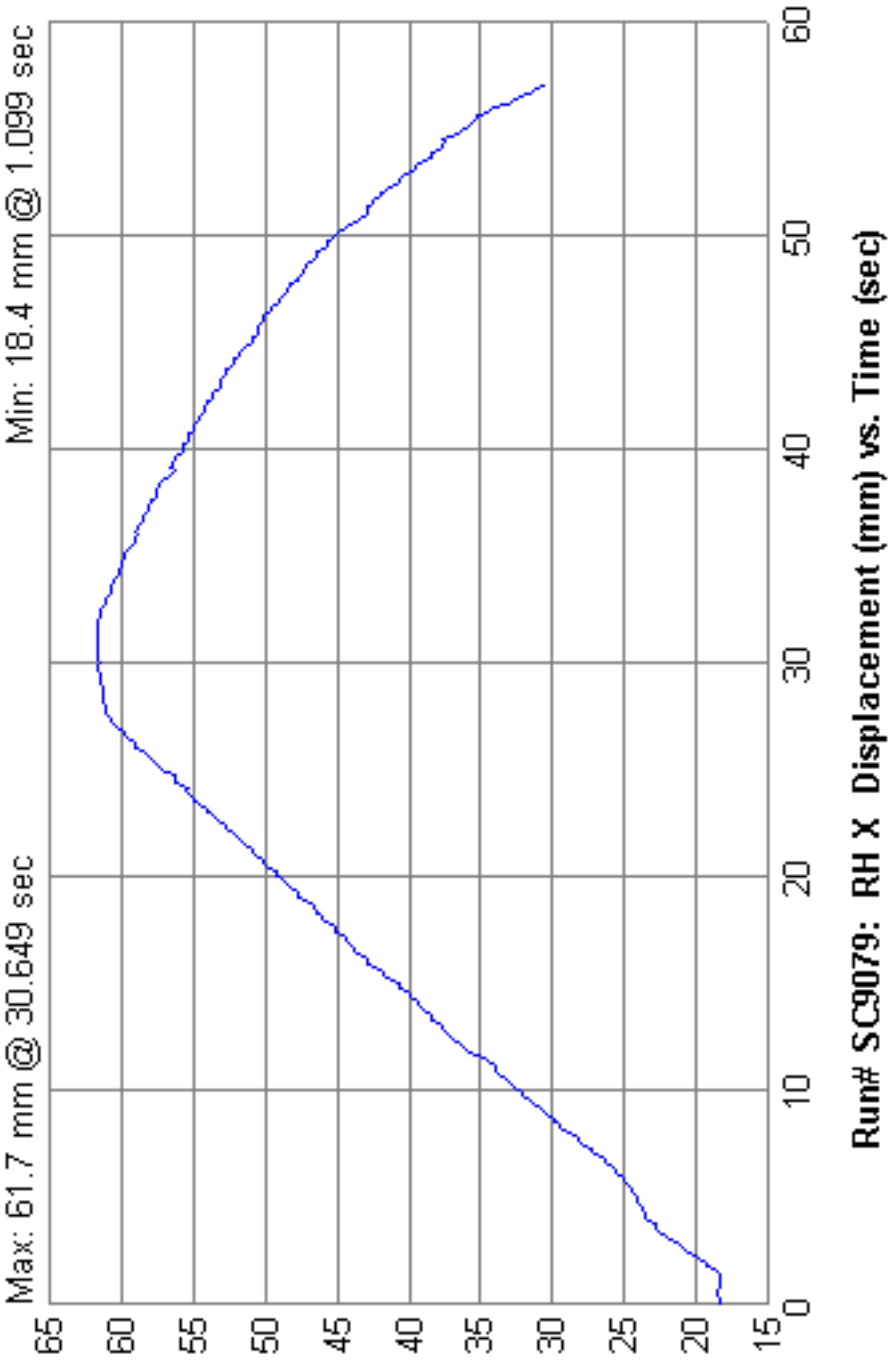
55
50
45
40
35
30
25
20
15
10
0
10
20
30
40
50
60


Run# SC9079: RH X Displacement (mm) vs. Time (sec)
Max: 61.7 mm @ 30.649 sec
Min: 18.4 mm @ 1.099 sec
65
60
55
50
45
40
35
30
25
20
15
0
10
20
30
40
50
60

8.0 REPORT OF VEHICLE CONDITION

REPORT OF VEHICLE CONDITION AT THE COMPLETION OF TESTING

CONTRACT No.: DTNH22-06-C-00030/0006 DATE: February 18, 2008

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. 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: 2008 Dodge Dakota

VEH. NHTSA NO.: C80303 VIN: 1D7HE28K28S541563

COLOR: Gray

ODOMETER READINGS: ARRIVAL 150 miles Date: 7/9/08

COMPLETION 150 miles Date: 2/18/09

PURCHASE PRICE: $21,385 DEALER'S NAME: Unknown

ENGINE DATA: 6 Cylinders 3.7 Liters ___ Cubic Inches

TRANSMISSION DATA: X Automatic __ Manual No. of Speeds

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

CHECK APPROPRIATE BOXES FOR VEHICLE EQUIPMENT:

TEST LABORATORY: MGA Research Corporation

OBSERVERS: Fern Gatilao, Brad Reaume, Kenney Godfrey

X	Air Conditioning	X	Traction Control	X	Clock
X	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
	Power Brakes		Tilt Steering Wheel	X	Rear Disc Brakes
	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:

Test Vehicle Condition:

Salvage only.

RECORDED BY: Fern Gatilao, Kenney Godfrey DATE: February 18, 2009

APPROVED BY: Brad Reaume

APPENDIX A
OWNERS MANUAL CHILD RESTRAINT SYSTEMS

2. Used in defense of litigation involving a DaimlerChrysler Corporation product
3. Requested by police under a legal warrant
4. Otherwise required by law

Data Parameters that May Be Recorded:

- Diagnostic trouble code(s) and warning lamp status for electronically-controlled safety systems, including the airbag system
- "Time" of airbag deployment (in terms of ignition cycles and vehicle mileage)
- Airbag deployment level (if applicable)
- Impact acceleration and angle
- Seatbelt status
- Brake status (service and parking brakes)
- Accelerator status (including vehicle speed)
- Engine control status (including engine speed)
- Transmission gear selection
- Cruise control status
- Traction/stability control status
- Tire pressure monitoring system status (if equipped)

Child Restraint

Everyone in your vehicle needs to be buckled up all the time - 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.

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

Infants and Small Children

- 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.
- 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 20 lbs (9 kg) but are less than one year old. Both types of child restraints are held in the vehicle by the seatbelt or the LATCH child restraint anchorage system. (See the LATCH - Child Seat Anchorage System section.)
- Rearward-facing child seats must NEVER be used in the front seat of a vehicle with a front passenger airbag that does not have a switch to turn the airbag Off. An airbag deployment could cause severe injury or death to infants in this position.

Older Children and Child Restraints

- 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 are older than one year old. These child seats are also held

in the vehicle by the seatbelt or the LATCH child restraint anchorage system. (See the LATCH - Child Seat Anchorage System section.)

- 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 seat cushion while the child's back is against the seatback, they need a belt-positioning booster seat. The child and booster seat are held in the vehicle by the lap/shoulder belt.

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.
- The lap portion should be low on the hips and as snug as possible.
- Check belt fit periodically. A child's squirming or slouching can move the belt out of position.
- If the shoulder belt contacts the face or neck, move the child closer to the center of the vehicle. Never allow a child to put the shoulder belt under an arm.

For additional information, refer to www.seatcheck.org.

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 infant restraint should only be used in a rear seat of a vehicle that does not have an airbag off switch. A rearward facing infant restraint in the front seat may be struck by a deploying passenger airbag which may cause severe or fatal to the infant.**

Here are some tips for 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. The manufacturer recommends that you try a child restraint in the vehicle seats 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 Extended Cab first and Club/Crew Cab second row outside seating positions have cinching latch plates. These 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.

- Buckle the child into the restraint exactly as the manufacturer's instructions tell you.
- When your child restraint is not in use, secure it in the vehicle with the seat belt or remove it from the vehicle. Do not 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.

LATCH - Child Seat Anchorage System (Lower Anchors and Tether for CHildren) — If Equipped

Each vehicle is equipped with the child restraint anchorage system called LATCH, which stands for Lower Anchors and Tethers for CHildren. The LATCH system provides for the installation of the child restraint without using the vehicle's seat belts, instead securing the child restraint using lower anchorages and upper tether straps from the child restraint to the vehicle structure. LATCH-compatible child restraint systems are now available. However, because the lower anchorages are to be introduced over a period of years, child restraint systems having attachments for those anchorages will continue to also have features for installation using the vehicle's seat belts. Child restraints having tether straps and hooks for connection to the top tether anchorages have been available for some time. For some older child restraints, many child restraint manufacturers offer add-on tether strap kits or retro-fit kits. You are urged to take advantage of all the available attachments provided with your child restraint in any vehicle.

2

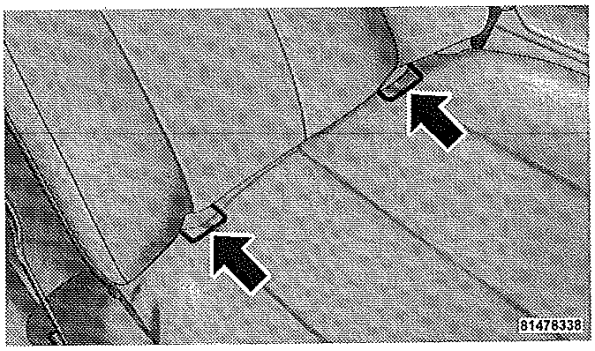
Extended Cab

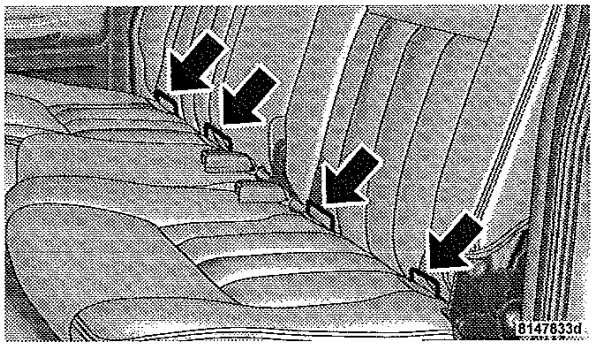
- The Extended Cab front and right rear (if equipped with a rear seat) passenger seating positions have lower anchorages for LATCH equipped child restraints.

Crew Cab

- The Crew Cab second row seat has lower anchorages that are capable of accommodating LATCH-compatible child seats having flexible, webbing-mounted lower attachments at all three seating positions. 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 the next section for typical installation instructions.





Installing the LATCH-Compatible Child Restraint System — If Equipped

We urge that you carefully follow the directions of the manufacturer when installing your child restraint. Not all child restraint systems will be installed as described here. Again, carefully follow the installation instructions that were provided with the child restraint system. The rear seat lower anchorages are round bars, located at the rear of the seat cushion where it meets the seat back, and are just visible when you lean into the vehicle to install the child restraint. You will easily feel them if you run your finger along the intersection of the seatback and seat cushion surfaces. In addition, there are tether strap anchorages each LATCH seating position (see section on Child Restraint Tether Anchor). Many, but not all restraint systems will be equipped with separate straps on each side, with each having a hook or connector for attachment to the lower anchorage and a means of adjusting the tension in the strap. Forward-facing toddler restraints and some rear-facing infant restraints will also be equipped with a tether strap, a hook for attachment to the tether strap anchorage and a means of adjusting the tension of the strap. You will first loosen the adjusters on the lower straps and on the tether strap so that you can more easily attach the hooks or connectors to the vehicle anchorages. Next attach the lower hooks or connectors

over the top of the anchorage bars, pushing aside the seat cover material. Then attach the tether strap to the anchorage located on the back of the seat, being careful to route the tether strap to provide the most direct path between the anchor and the child restraint. If your vehicle is equipped with adjustable rear head restraints, raise the head restraint and, route the tether strap under the head restraint and between the two posts. Finally, tighten all three straps as you push the child restraint rearward and downward into the seat, removing slack in the straps according to the child restraint manufacturer's instructions.

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.

WARNING!

Improper installation of a child restraint to the LATCH anchorages can lead to failure of an infant or child restraint. The child could be badly injured or killed. Follow the manufacturer's directions exactly when installing an infant or child restraint.

Installing Child Restraints Using the Vehicle Seat Belt

The passenger seat belts are equipped with either cinching latch plates or automatic locking retractors, which are designed to keep the lap portion tight around the child restraint so that it should not be 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 an automatic locking retractor, it will have a distinctive label. 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 the belt until it is all extracted from the retractor. Allow the belt to return to the retractor, pulling on the excess webbing to tighten the lap portion about the child restraint. For automatic locking retractor seat belts, refer to "Automatic Locking Mode" earlier in this section. If you 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, follow these steps. If the buckle is webbing mounted, disconnect the latch plate from the buckle and twist the short buckle-end belt to shorten it. Insert the latch plate into the buckle with the release button facing out. If the belt still can't be tightened, the buckle is not webbing mounted, or if by pulling and pushing on the restraint loosens the belt, you may need to do something more. 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 or use the locking clip provided with your child restraint. See the section "Child Restraint Tether Anchor" to complete the child seat installation.

Child Restraint Tether Anchor

The Extended Cab model has one routing strap located behind the passenger side rear outboard seating position. The tether anchor itself is located in the center of vehicle, in between the two seating positions. The front outboard passenger seating position is also equipped with a child tether anchorage, located at the base of the front seat back. When there is a rear seat delete option, the tether anchorage located on the cab back panel is designed to be used for the front seat center seating position. The Crew Cab model has three anchorages located behind each of the rear seating positions (rear left, rear center, and rear right).

WARNING!

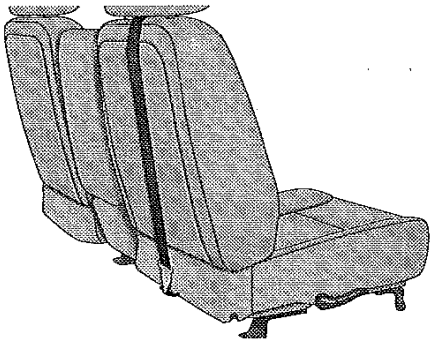
With a child restraint installed in the rear passenger side locations, use care when adjusting the front seat(s) rearward, to avoid the front seat back coming in contact with the belted child directly behind the seat. The child could be injured.

WARNING!

Improper installation can lead to failure of an infant or child restraint. It could come loose in a collision. The child could be seriously injured or killed. Make sure the child restraint tether strap is always routed through the proper anchor strap inner loop.

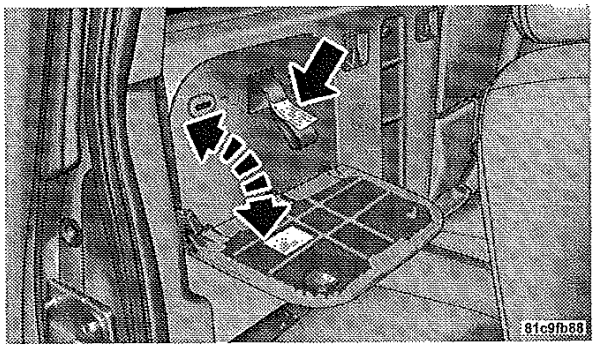
Tether Strap at the Front Passenger Seat (Extended Cab)

1. Route the child restraint tether strap up and over the front passenger seat back and under the head restraint.
2. Connect the tether strap to the lower anchor.
3. Remove the slack in the tether strap so that it is pulled tight.

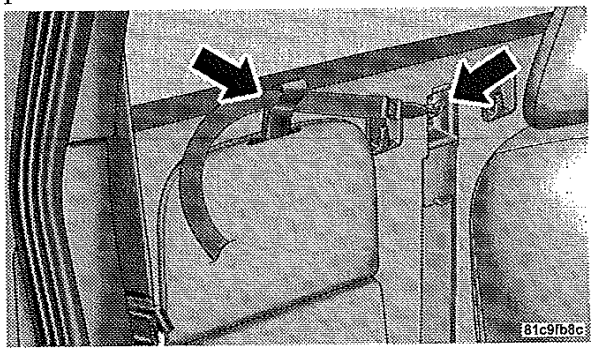


Tether Straps at the Rear Passenger Seat (Extended Cab)

1. Route the child restraint tether strap through the routing loop, located directly behind the child restraint. The routing loops are located behind the flip-down door on the cab back panel (padded bolster).



2. Route the tether strap across to the center tether anchorage. The center tether is located behind the slide door in the center of the vehicle, between the two seating positions.

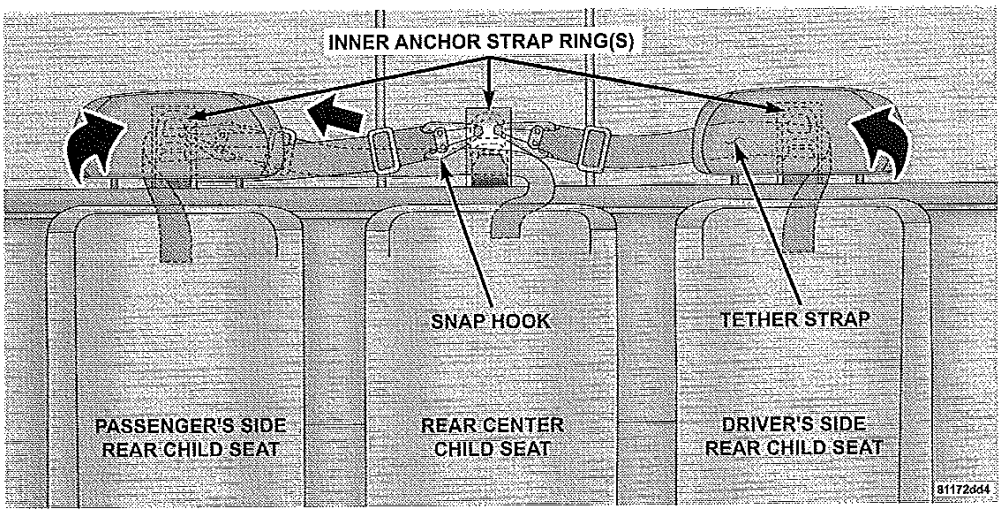


3. Remove the slack in the tether strap so that the anchor strap is pulled tight.

Tether Straps at the Rear Passenger Seat (Crew Cab)

1. Route the child restraint tether strap under the head restraint for the outboard seating positions, and then through the anchor strap outer loop (webbing material loop), located directly behind the child restraint.
2. Route the tether strap across to the nearest installed anchor strap, and attach the tether strap hook to the anchor strap inner metal ring.
3. Remove the slack in the tether strap so that both anchor straps are pulled tight.

NOTE: Two Anchors must be used for any of the three seating positions.



Multiple Child Restraints

WARNING!

An incorrectly anchored tether strap could lead to seat failure and injury to the child. In a collision, the seat could come loose and allow the child to crash into the inside of the vehicle or other passengers, or even be thrown from the vehicle. Use only the anchor positions directly behind the child restraint to secure a child restraint top tether strap. See your dealer for help if necessary.

Transporting Pets

Airbags deploying in the front seat could harm your pet. An unrestrained pet will be thrown about and possibly injured, or injure a passenger during panic braking or in a collision. Pets should be restrained in the rear seat in pet harnesses or pet carriers that are secured by seat belts.

ENGINE BREAK-IN RECOMMENDATIONS

A long break-in period is not required for the engine in your new vehicle. Drive moderately during the first 300 miles (500 km). After the initial 60 miles (100 km), speeds up to 50 or 55 mph (80 or 90 km/h) are desirable. While cruising, brief full-throttle acceleration, within the limits of local traffic laws, contributes to a good break-in.

Avoid wide open throttle acceleration in low gear.

The engine oil installed in the engine at the factory is a high-quality, energy-conserving type lubricant. Oil changes should be consistent with anticipated climate conditions under which vehicle operations will occur. The recommended viscosity and quality grades are shown in Section 7.

NON-DETERGENT OR STRAIGHT MINERAL OILS MUST NEVER BE USED.

APPENDIX B
MANUFACTURER'S DATA (OVSC FORM 14)

FORM – 225
Rev. 03/20/07

SEAT REFERENCE POINT (SRP) AND TORSO ANGLE DATA

FMVSS No. 225

(All dimensions in mm[1])

MODEL YEAR: _2008____ / MAKE: ___Dodge_____ / MODEL: __ND_____ / BODY STYLE: ____Quad Cab__

SEAT STYLE: FRONT ROW: Bucket/40-20-40 SECOND ROW: ___40/60_____ / 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		220.9	220.9	220.9
A2		214.5	214.5	214.5
A3		n/a	n/a	n/a
B		329.8	329.8	329.8
C		1157.8	1157.8	1157.8
D		n/a	n/a	n/a
Torso Angle (degree)	Front Row	22	22	24
	Second Row	24	24	24
	Third Row	n/a	n/a	n/a

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

FORM – 225

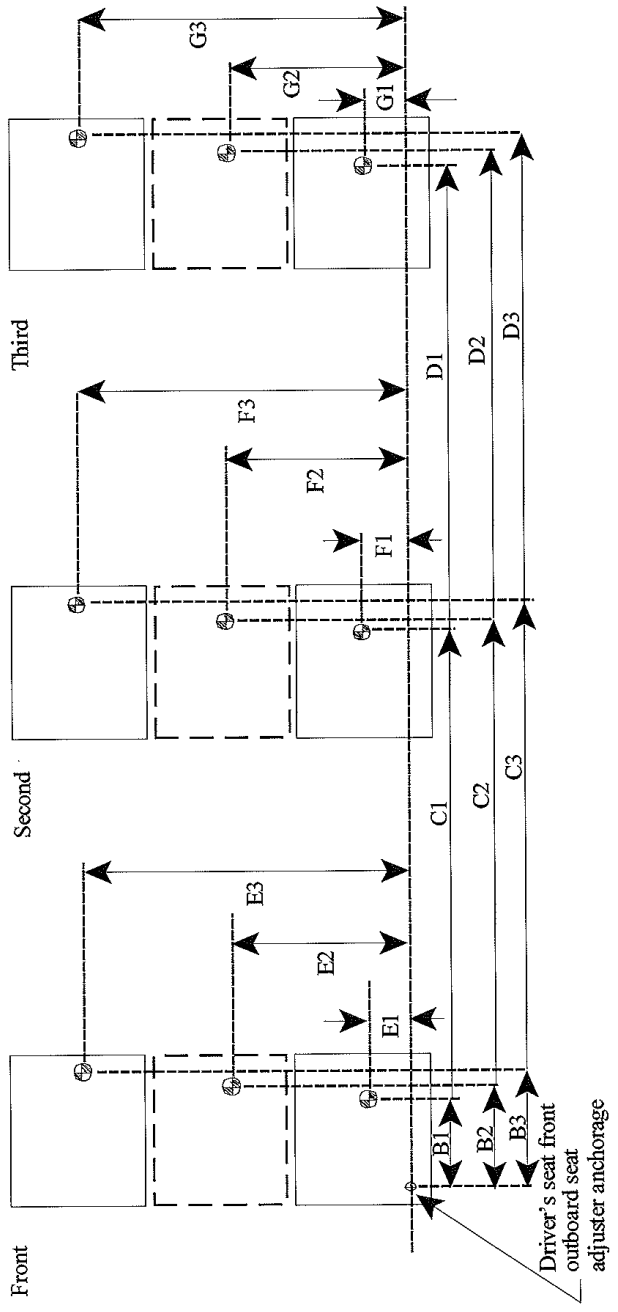
3

SEATING REFERENCE POINT

FMVSS No. 225
(All dimensions in mm)

MODEL YEAR: ___2008 MAKE: ___Dodge_____ / MODEL: _ND_____ / BODY STYLE: _Quad Cab_____

SEAT STYLE: FRONT ROW: __Bucket/40-20-40___ / SECOND ROW: _40/60_____ / THIRD ROW: _n/a_____



FORM – 225

4

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	329.8
	E1	168
	B2	329.8
	E2	538
	B3	329.8
	E3	908
Second Row	C1	1157.8
	F1	168
	C2	1157.8
	F2	538
	C3	1157.8
	F3	908
Third Row	D1	n/a
	G1	n/a
	D2	n/a
	G2	n/a
	D3	n/a
	G3	n/a

Note: Use the center of anchorage.

TETHER ANCHORAGE LOCATIONS

FMVSS No. 225
(All dimensions in mm)

MODEL YEAR: _2008___ / MAKE: _Dodge_____ / MODEL: _ND_____ / BODY STYLE: __Quad Cab_____

SEAT STYLE: FRONT ROW: _Bucket/40-20-40 SECOND ROW: _40/60_____ / THIRD ROW: _n/a_____

⊕: SRP
⊕: Tether anchorage

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

FORM – 225

6

Table 3. Seating Reference Point and Tether Anchorage Locations

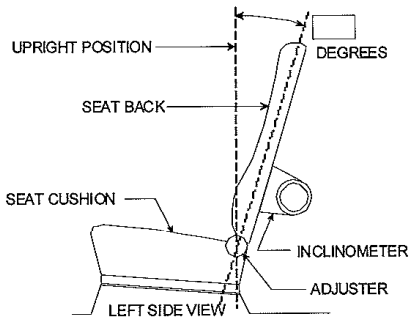
Seating Reference Point (SRP)	Distance from SRP	
Front Row	H1	n/a
	K1	n/a
	H2	n/a
	K2	n/a
	H3	n/a
	K3	n/a
Second Row	I1	356.6
	L1	0
	I2	355.8
	L2	35.4
	I3	356.6
	L3	0
Third Row	J1	n/a
	M1	n/a
	J2	n/a
	M2	n/a
	J3	n/a
	M3	n/a

Note: Use the center of anchorage.

7

NOMINAL DESIGN RIDING POSITION

For adjustable driver, passenger, 2nd row and 3rd row seat backs, describe how to position the inclinometer to measure the seat back angle. Include a description of the location of the seat back adjustment latch detent if applicable. Indicate if applicable, how the detents are numbered (Is the first detent "0"or "1"?). Indicate if the seat back angle is measured with the dummy in the seat.



Seat back angle for driver's seat = _21.3 degrees.

Measurement Instructions:

__Inclinometer needs to be placed at 300 mm above the pivot point___

___(past the bend in the frame) on the back side_____

Seat back angle for passenger's seat = __24__ degrees.

Measurement Instructions:

_ Inclinometer needs to be placed at 300 mm above the pivot point___

_____(past the bend in the frame) on the back side

Seat back angle for 2nd row seat = _24__ degrees.

Measurement Instructions:

_ Inclinometer can be placed anywhere above the pivot point on the back side of frame

Seat back angle for 3rd row seat = __n/a_ degrees.

Measurement Instructions:

8

TETHER ANCHORAGE LOCATIONS - VERTICAL

FMVSS No. 225
(All dimensions in mm)

MODEL YEAR: __2008___ / MAKE: ___Dodge_____ / MODEL: ____ND_____ / BODY STYLE: _Quad Cab___

SEAT STYLE: FRONT ROW: _Bucket/40-20-40 / SECOND ROW: _40/60_____ / THIRD ROW: __n/a_____

LEFT SIDE VIEW OF TEST VEHICLE

FORM – 225

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)	327.3
	O2 (Center)	327.6
	O3 (Right)	327.3
Third Row	P1 (Left)	N/A
	P2 (Center)	N/A
	P3 (Right)	N/A

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

For each vehicle, provide the following information:

1. How many designated seating positions exist in the vehicle? **6**

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

3. How many designated seating positions are equipped with tether anchorages? Specify which positions(s). **1 at center rear**
4. Lower Anchorages Marking and Conspicuity: Whether the anchorages are certified to S9.5(a) or S9.5(b) of FMVSS No. 225. **S9.5(b)**