Safety Compliance Testing for FMVSS 208
Occupant Crash Protection

Honda Manufacturing of Alabama, L.L.C
2003 Honda Odyssey
NHTSA Number: C35306
TRC Inc. Test Number: 030610

Transportation Research Center Inc.
10820 State Route 347
East Liberty, OH 43319

Test Date: June 10, 2003
Report Date: July 29, 2003
Final Report

Prepared For:
U. S. Department of Transportation
National Highway Traffic Safety Administration
Office of Enforcement
Office of Vehicle Safety Compliance (NVS-220)
400 Seventh Street, S.W., Room No. 6115
Washington, DC 20590
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Test Performed By: Jason D. Jenkins, Senior Project Engineer

Report Approved By:

________________________________________  Date

Walter D. Dudek, Project Manager
Transportation Research Center Inc.

Final Report Acceptance By OVSC:

________________________________________  Date 10/20/03

Contracting Officer's Technical Representative (COTR),
NHTSA, Office of Vehicle Safety Compliance
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   Compliance tests were conducted on a 2003 Honda Odyssey, NHTSA No. C35306, in accordance with  
   the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP208-12 for the  
   determination of FMVSS 208 compliance. Possible test failures identified were as follows:

   None

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Section 1

Purpose of Compliance Test
PURPOSE

This Federal Motor Vehicle Safety Standard 208 compliance test is part of a program conducted for the National Highway Traffic Safety Administration by Transportation research Center (CRC Inc.) under contract DTNH22-02-D-08062, Task Order VRTC-DCF2525. The purpose of the test was to determine whether the subject vehicle, a 2003 Honda Odyssey, NHTSA No. C35306, meets certain performance requirements of FMVSS 208, "Occupant Crash Protection"; FMVSS 212 indcator, "Windshield Mounting"; indicator FMVSS 219, "Windshield Zone Intrusion"; and FMVSS 301 indicator, "Fuel System Integrity". The compliance test was conducted in accordance with OVC SC Laboratory Test Procedure No. TP-208-12 dated January 14, 2003.
Section 2

Tests Performed
TESTS PERFORMED

The following checked items indicate the tests that were performed:

- 1. Rear outboard seating position seat belts (S4.1.4.2(b) & (S4.2.4)
- 2. Air bag labels (S4.5.1)
- 3. Readiness indicator (S4.5.2)
- 4. Passenger Air Bag Manual Cut-Off Device (S4.5.4)
- 5. Lap belt lockability (S7.1.1.5)
- 6. Seat belt warning system (S7.3)
- 7. Seat belt contact force (S7.4.3)
- 8. Seat belt latch plate access (S7.4.4)
- 9. Seat belt retraction (S7.4.5)
- 10. Seat belt guides and hardware (S7.4.6)
- 11. Suppression tests with 12-month-old CRABI dummy (Part 572, Subpart N)
- 12. Suppression tests with Newborn infant Subpart K dummy (Part 572, Subpart N)
- 13. Suppression tests with 3-year-old dummy (Part 572, Subpart P)
- 14. Suppression tests with 6-year-old dummy (Part 572, Subpart R)
- 15. Test of Reactivation of the passenger Air Bag system with an Unbelted 5th Percentile female dummy
- 16. Low risk deployment test with 12-month-old dummy (Part 572, Subpart N)
- 17. Low risk deployment test with 3-year-old dummy (Part 572, Subpart P)
- 18. Low risk deployment test with 6-year-old dummy (Part 572, Subpart R)
- 19. Low risk deployment test with 5th female dummy (Part 572, Subpart O)

Frontal Oblique

- Belted 50th male dummy driver and passenger (0 to 48 km/h) (S5.1.1.4(a))
- Unbelted 50th male dummy driver and passenger (0 to 48 km/h) (S5.1.2(a)(1))
- Unbelted 50th male dummy driver and passenger (32 to 40 km/h) (S5.1.2(a)(1) or S5.1.2(b))

Frontal 0°

- Belted 50th male dummy driver (0 to 48 km/h) (S5.1.1(h)(1) or S5.1.1(e))
- Belted 50th male dummy passenger (0 to 48 km/h) (S5.1.1(h)(1) or S5.1.1(a))
- Belted 5th female dummy driver (0 to 48 km/h) (S16.1(a))
- Belted 5th female dummy passenger (0 to 48 km/h) (S16.1(a))
- Belted 50th male dummy driver and passenger (0 to 56 km/h) (S5.1.1(b)(2))
- Unbelted 50th male dummy driver and passenger (0 to 48 km/h) (S5.1.2(a)(1))
- Unbelted 50th male dummy driver (32 to 40 km/h) (S5.1.2(a)(2) or S5.1.2(b))
- Unbelted 50th male dummy passenger (32 to 40 km/h) (S5.1.2(a)(2) or S5.1.2(b))
- Unbelted 5th female dummy driver (32 to 40 km/h) (S16.1(b))
____ X  Unbelted 5th female dummy passenger (32 to 40 km/h) (S16.1(b))
____  40% Offset 0° Belted 5th female dummy driver and passenger (0 to 40 km/h)
       (S18.1)
____  21. Sled test: Unbelted 50th male dummy driver and passenger (S13)
____  22. FMVSS 204 indicant test
____ X  23. FMVSS 212 test
____ X  24. FMVSS 219 indicant test
____ X  25. FMVSS 301 indicant frontal test

For the crash tests, the vehicle was instrumented with 8 accelerometers. The accelerometer data from the vehicle and dummies were sampled at 12,500 samples per second and processed as specified in SAE J211/1 MAR95 and FMVSS 208, S4.13.

The dynamic tests were recorded using high speed film and digital motion picture cameras.

The vehicle appears to meet the performance requirements to which it was tested.
Section 3

Injury Result Summary
INJURY RESULT SUMMARY FOR CRASH TESTS AND/OR
LOW RISK DEPLOYMENT TESTS

NHTSA No: C35306 ____________________ Test Date: 06/10/03

VIN: SFNRL186038084369

Frontal Crash ___ X ___ Offset Crash ___ Low Risk Deployment ___

Impact Angle: ______ 0 ______

Belted Dummies: ___ Yes ___ X No

Speed Range: ___ X ___ 32 to 49 km/h ___ 0 to 48 km/h ___ 0 to 56 km/h

Test Speed: ___ 39.3 km/h ___

Driver Dummy: ___ X ___ 5th female ___ 50th male

Passenger Dummy: ___ X ___ 5th female ___ 50th male

Test weight: ___ 2121.0 kg ___

5th Percentile Female Frontal Crash Test
Vehicles certified to S16.1(a), S16.1(b), or S18.1

<table>
<thead>
<tr>
<th>Injury Criteria</th>
<th>Max. Allowable Injury Assessment Values</th>
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<th>Passenger</th>
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<tr>
<td>HIC15</td>
<td>700</td>
<td>28</td>
<td>44</td>
</tr>
<tr>
<td>N_ed</td>
<td>1.0</td>
<td>0.28</td>
<td>0.23</td>
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<tr>
<td>N_df</td>
<td>1.0</td>
<td>0.15</td>
<td>0.25</td>
</tr>
<tr>
<td>N_cx</td>
<td>1.0</td>
<td>0.00</td>
<td>0.19</td>
</tr>
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<td>N_cf</td>
<td>1.0</td>
<td>0.18</td>
<td>0.16</td>
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<tr>
<td>Neck tension</td>
<td>2620 N</td>
<td>531</td>
<td>697</td>
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<tr>
<td>Neck compression</td>
<td>2520 N</td>
<td>155</td>
<td>112</td>
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<tr>
<td>Chest g</td>
<td>60 g</td>
<td>26.6</td>
<td>27.3</td>
</tr>
<tr>
<td>Chest displacement</td>
<td>52 mm</td>
<td>31</td>
<td>6</td>
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<tr>
<td>Left femur</td>
<td>6805 N</td>
<td>2699</td>
<td>2707</td>
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<tr>
<td>Right femur</td>
<td>6805 N</td>
<td>2388</td>
<td>2921</td>
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</table>
Section 4

Discussion of Test
DISCUSSION OF TEST

TRC Inc. used the method of topping off the fuel (gasoline) for determining the fully loaded weight and then drained all the fuel and filled the fuel tank to 94 percent capacity with Stoddard solvent.

The vehicle did not contain an air bag label as referenced on Data Sheet 5 (Air Bag Labels 5.1.1) when received at laboratory (page 5-15); test not performed.

The vehicle's left and right side front and rear pre-test attitudes did not fall between the measured attitudes for the delivered and fully loaded conditions. Deviation was 11 mm or less.

The results of suppression and low risk deployment testing are contained in a separate report.
Section 5

Test Data Sheets
DATA SHEET 1
COTR Vehicle Work Order

Vehicle model year, make, and model: 2003 Honda Odyssey

NHTSA No.: C35306 Test Date: 06/10/03

COTR signature: Charles R. Case

Tests to be performed for this vehicle are checked below.

- 1. Rear outboard seating position seat belts (§4.1.4.2(b) & (§4.2.4))
- 2. Airbag labels (§4.5.1)
- 3. Readiness indicator (§4.5.2)
- 4. Passenger airbag manual cut-off device (§4.5.4)
- 5. Lap belt lockability (§7.1.1.5)
- 6. Seat belt warning system (§7.3)
- 7. Seat belt contact force (§7.4.3)
- 8. Seat belt latch plate access (§7.4.4)
- 9. Seat belt retractor (§7.4.5)
- 10. Seat belt guides and hardware (§7.4.6)
- 11. Suppression tests with 12-month-old CRABI dummy (Part 572, Subpart R) using the following indicated child restraints.

Section B

- Britax Roundabout 161
- Century Ascent 1553
- Century Aspects SR 41513
- Century Smart Fit 4543
- Cosco Aria 02727
- Cosco Opus 35 02603
- Eventflo Discovery Adjust Right 212
- Eventflo First Choice 204
- Eventflo On My Way Position Right V 282
- Cosco Infant 8457

Section C

- Britax Roundabout 161
- Century Encore 4612
- Century SIE 1000 4416
- Cosco Olympia 02805
- Cosco Touring 02519
- Eventflo Horizon V 425
- Eventflo Medallion 254

Section A

- Cosco Dream Ride 02.719

Section C

- Britax Roundabout 161
- Century Encore 4612
- Century SI 1: 1000 4416
- Cosco Olympia 02805
- Cosco Touring 02519
- Eventflo Horizon V 425
- Eventflo Medallion 254
Section D

<table>
<thead>
<tr>
<th>Britax Roadster 9004</th>
<th>Full rearward</th>
<th>Mid position</th>
<th>Full forward</th>
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<tr>
<td>Century Next Step 4920</td>
<td>Full rearward</td>
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<td>Full forward</td>
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<tr>
<td>Cosco High Back Booster 02-442</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Evenflo Right Fit 245</td>
<td>Full rearward</td>
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14. Suppression tests with representative 3-year-old child using the following indicated child restraints where a child restraint is required. (Appendix II, Data Sheet 161 and 2711)

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<th>Full rearward</th>
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<tr>
<td>Century Encore 4612</td>
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<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Century STF 1000-4416</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Cosco Olympian 20003</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Cosco Touring 02519</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
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<tr>
<td>Evenflo Horizon V 425</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Evenflo Metallion 254</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
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<tr>
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<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Evenflo Right Fit 245</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
</tbody>
</table>

15. Suppression tests with 3-year-old dummy (Part 572, Subpart P) in the following positions

X Sitting on seat with back against seat back (S22.2.2.1)
X Sitting on seat with back against reclined seat back (S22.2.2.2)
X Sitting on seat with back not against seat back (S22.2.2.3)
X Sitting on seat edge, spine vertical, hands by the child’s side (S22.2.2.4)
X Sitting on seat, facing forward (S22.2.2.5)
X Kneeling on seat facing forward (S22.2.2.6)
X Kneeling on seat facing rearward (S22.2.2.7)
X Lying on seat (S22.2.2.8)

16. Suppression tests with representative 3-year-old child in the following positions

Sitting on seat with back against seat back (S22.2.2.1)
Sitting on seat with back against reclined seat back (S22.2.2.2)
Sitting on seat with back not against seat back (S22.2.2.3)
Sitting on seat edge, spine vertical, hands by the child’s side (S22.2.2.4)
Standing on seat, facing forward (S22.2.2.5)
Kneeling on seat facing forward (S22.2.2.6)
Kneeling on seat facing rearward (S22.2.2.7)
Lying on seat (S22.2.2.8)

17. Suppression tests with 6-year-old dummy (Part 572, Subpart N) using the following indicated child restraints where a child restraint is required.

Section D

<table>
<thead>
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<th>Britax Roadster 9004</th>
<th>Full rearward</th>
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<td>Full rearward</td>
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<tr>
<td>Cosco High Back Booster 02-442</td>
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<tr>
<td>Evenflo Right Fit 245</td>
<td>Full rearward</td>
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18. Suppression tests with representative 6-year-old child using the following indicated child restraints where a child restraint is required.

Section D

<table>
<thead>
<tr>
<th>Britax Roadster 9004</th>
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<tr>
<td>Cosco High Back Booster 02-442</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Evenflo Right Fit 245</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
</tbody>
</table>

19. Suppression tests with 6-year-old dummy (Part 572, Subpart N) in the following positions

Sitting on seat with back against seat back (S22.2.2.1)
Sitting on seat with back against reclined seat back (S22.2.2.2)
Sitting on seat edge, spine vertical, hands by the dummy’s side (S22.2.2.4)
Sitting in the seat and leaning on the right front passenger door (S24.2.3)
Suppression tests with representative 6-year-old child in the following positions:
- Sitting on seat with back against seat back (S2.2.2.2.1)
- Sitting on seat with back against reclined seat back (S2.2.2.2.2)
- Sitting on seat edge, spine vertical, hands by the dummy's side (S2.2.2.2.4)
- Sitting back in the seat and leaning on the right front passenger door (S2.4.2.3)

Test of Restraint of the Passenger Air Bag System with an Unbelted 5th Percentile Female Dummy (S2.0.3, 22.3, S2.4.3) Perform this test after the following suppression test(s):
Perform following each child restraint suppression test. (12 total)

Test of Restraint of the Passenger Air Bag System with a representative 5th Percentile Female Dummy (S2.0.3, 22.3, S2.4.3) Perform this test after the following suppression test(s):

Low risk deployment test with 12-month-old dummy (Part 572, Subpart E) using the following indicated child restraints:

Section B
- Britax Handi with Care 91: Full rearward, Mid position, Full forward
- Century Argos 4503: Full rearward, Mid position, Full forward
- Century Avanti SE 41530: Full rearward, Mid position, Full forward
- Century Smart Fit 4543: Full rearward, Mid position, Full forward
- Cosco Arriva 02727: Full rearward, Mid position, Full forward
- Cosco Opus 33 02693: Full rearward, Mid position, Full forward
- Eventflo Discovery Adjust Right 212: Full rearward, Mid position, Full forward
- Eventflo First Choice 204: Full rearward, Mid position, Full forward
- Eventflo On My Way Position Right V 232: Full rearward, Mid position, Full forward
- Graco InfaKart 8457: Full rearward, Mid position, Full forward

Section C
- Britax Roundabout 161: Full rearward, Mid position, Full forward
- Century Titan 4012: Full rearward, Mid position, Full forward
- Century STI 3000 4416: Full rearward, Mid position, Full forward
- Cosco Olympian 02803: Full rearward, Mid position, Full forward
- Cosco Toura 02519: Full rearward, Mid position, Full forward
- Eventflo Horizon V 425: Full rearward, Mid position, Full forward
- Eventflo Medallion 254: Full rearward, Mid position, Full forward

Low risk deployment test with 3 year old dummy (Part 572, Subpart F) in the following positions:
- Position 1
- Position 2

Low risk deployment test with 6-year-old dummy (Part 572, Subpart G) in the following positions:
- Position 1
- Position 2

Low risk deployment test with 5th female dummy (Part 572, Subpart O) in the following positions:
- Position 1
- Position 2

Impact tests:
- Belted 50th male dummy driver and passenger (0 to 45 km/h) (S5.1.1(a))
- Unbelted 50th male dummy driver and passenger (0 to 45 km/h) (S5.1.2(a)(1))
- Belted 50th male dummy driver and passenger (32 to 40 km/h) (S5.1.2(a)(1) or S5.1.2(b))
- Belted 6th Test Speed - 39 - 0.8 km/h per Charles Case e-mail (target 24.4 mph) .
- Belted 50th male dummy driver (0 to 48 km/h) (S5.1.1(b)(1) or S5.1.1(a))
- Belted 50th male dummy passenger (0 to 48 km/h) (S5.1.1(b)(1) or S5.1.1(a))
- Belted 5th female dummy driver (0 to 48 km/h) (S16.1(a))
- Belted 5th female dummy passenger (0 to 48 km/h) (S16.1(a))
- Belted 50th male dummy driver and passenger (0 to 56 km/h) (S5.1.1(b)(2))
- Unbelted 50th male dummy driver and passenger (0 to 48 km/h) (S5.1.2(a)(1))
Test Speed

28. sled test: Unbelted 50th male dummy driver and passenger (S13)
29. FMVSS 204 indicator test
30. FMVSS 212 test
31. FMVSS 219 indicator test
32. FMVSS 301 frontal test
DATA SHEET 2

REPORT OF VEHICLE CONDITION

CONTRACT NO. DTNH22-02-D-08062 Date: 05/10/03

FROM: Transportation Research Center, Virginia L. Watters

TO: Charles R. Case OVSC, NSA-31

COTR Name

PURPOSE: ( ) Initial Receipt ( ) Received via Transfer (X) Present vehicle condition

MANUFACTURE DATE: 03/03 NIITSA NO.: C35306 BODY COLOR: Blue
VIN: 5FNRL18Y63B084369 GVWR 2570 GAWR (Fr) 1285 GAWR (Rr) 1250

ODOMETER READINGS: ARRIVAL 71 miles DATE 06/06/03
COMPLETION 71 miles DATE 05/10/03

PURCHASE PRICE: $ DEALER'S NAME:

A. All options listed on "window sticker" are present on the test vehicle.
   ( ) Yes (X) No

B. Tires and wheel rims are now the same as listed.
   ( ) Yes (X) No

C. There are no dents or other interior or exterior flaws.
   ( ) Yes (X) No

D. The vehicle has been properly prepared and is in running condition.
   (X) Yes ( ) No

E. Keyless remote is available and working.
   (X) Yes ( ) No

F. The glove box contains an owner's manual, warranty document, consumer information, and extra set of keys.
   (X) Yes ( ) No

G. Proper fuel filler cap is supplied on the test vehicle.
   (X) Yes ( ) No

II. Using permanent marker, identify vehicle with NIITSA number and FMVSS test type(s) on roof line above driver door or for school buses, place a placard with NIITSA number inside the windshield and to the exterior front and rear side of bus.
   (X) Yes ( ) No

I. Place vehicle in storage area.
   (X) Yes ( ) No

J. Inspect the vehicle's interior and exterior, including all windows, seats, doors, etc., to confirm that each system is complete and functional per the manufacturer's specifications. Any damage, misadjustment, or other unusual condition that could influence the test program or test results shall be recorded. Report any abnormal condition to the NIITSA COTR before beginning any test.
   (X) Vehicle OK ( ) Conditions reported below in comment section

Identify the letter above to which any of the following comments apply.

Comments: In a frontal impact, the vehicle sustained significant front end and unknown structural damage.
DATA SHEET 2

REPORT OF VEHICLE CONDITION AT THE COMPLETION OF TESTING

LIST OF FMVSS TESTS PERFORMED BY THIS LAB:

208, 212, 219 Indicant, 301 Frontal

MODEL YEAR/MAKE/MODEL/BODY STYLE: 2003/Honda/Odyssey/MPV

NHTSA NO. C35306

REMARKS: None

Equipment that is no longer on the test vehicle as noted on previous page: None

Explanation for equipment removal: The owner's manual is stored with the project file.

Test Vehicle Condition: In a frontal impact, the vehicle sustained significant front end and unknown structural damage.

RECORDED BY: ____________________________
DATE: ________________

APPROVED BY: ____________________________
DATE: ________________

RELEASE OF TEST VEHICLE.

The vehicle described above is released from TRC Inc. to be delivered to ____________________________

Date: ________________ Time: ________________ Odometer: ____________________________

Lab Representative: ____________________________
Signature Title

Carrier/Customer Representative: ____________________________
Signature Date

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DATA SHEET 3
Certification Label and Tire Placard Information

NHTSA No: C35306
Test Date: 06/06/03

Laboratory: TRC Inc. Test Technician(s): S. Bell

1. Certification Label
Manufacturer: Honda Manufacturing of Alabama, LLC
Date of Manufacture: 03/03
VIN: 5FNRL18603B084369
Vehicle certified as: ___ Passenger car ___ MPV ___ Truck ___ Bus
Front axle GVWR: 1285 kg/2833 lbs.
Rear axle GVWR: 1290 kg/2845 lbs.
Total GVWR: 2570 kg/5665 lbs.

2. Tire Placard
___ N/A – Vehicle is not a passenger car and does not have a tire placard.
X This is not a passenger car (see the item 1 above), but all or part of this information is still contained on a vehicle label and is reported here.

<table>
<thead>
<tr>
<th>Vehicle Capacity Weight</th>
<th>1158 lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designated seating capacity front</td>
<td>N/A</td>
</tr>
<tr>
<td>Designated seating capacity rear</td>
<td>N/A</td>
</tr>
<tr>
<td>Total Designated seating capacity</td>
<td>N/A</td>
</tr>
<tr>
<td>Recommended cold tire inflation pressure front</td>
<td>250 kPa/36 psi</td>
</tr>
<tr>
<td>Recommended cold tire inflation pressure rear</td>
<td>250 kPa/36 psi</td>
</tr>
<tr>
<td>Recommended tire size</td>
<td>P225/60R16 98T</td>
</tr>
</tbody>
</table>
DATA SHEET 4
REAR OUTBOARD SEATING POSITION SEAT BELTS

NHTSA No.: C35306

Laboratory: TRC Inc.  Test Technician(s): S. Ball

Test Date: 06/06/03

Do all rear outboard seating positions have type 2 seat belts? Yes X; No

If NO, describe the seat belt installed, the seat location, and any other information about the seat that would explain why a type 2 seat belt was not installed.

REMARKS:
DATA SHEET 5
AIR BAG LABELS (S4.5.1)

NJITSA No.: G25306 _____________ Test Date: 06/06/03

Laboratory: TRC Inc. Test Technician(s): S. Bell

1. Air Bag Maintenance Label and Owner's Manual Instructions: (S4.5.1(a))
   1.1 Does the manufacturer recommend periodic maintenance or replacement of the air bag?
      _ Yes (Go to 1.2); X No (Go to 2)
      1.2 Does the vehicle have a label specifying air bag maintenance or replacement?
         _ Yes-Pass; ___ No-FAIL
      1.3 Does the label contain one of the following?
         _ Yes-Pass; ___ No-FAIL
         Check applicable schedule:
         _ Schedule on label specifies month and year (Record date ________)
         _ Schedule on label specifies vehicle mileage (Record mileage ________)
         _ Schedule on label specifies interval measured from date on certification label
           (Record interval ________)
      1.4 Is the label permanently affixed within the passenger compartment such that it cannot be
         removed without destroying or defacing the label or the survivor?
         _ Yes-Pass; ___ No-FAIL
      1.5 Is the label lettered in English?
         _ Yes-Pass; ___ No-FAIL
      1.6 Is the label in block capitals and numerals?
         _ Yes-Pass; ___ No-FAIL
      1.7 Are the letters and numerals at least 3/32 inches high?
         ___ height of letters and numerals
         _ Yes-Pass; ___ No-FAIL
      1.8 Does the owner's manual set forth the recommended schedule for maintenance or
         replacement? _ Yes-Pass; ___ No-FAIL

2. Does the owner's manual: (S4.5.1(f))
   2.1 Include a description of the vehicle's air bag system in an easily understandable format?
      _ X Yes-Pass; ___ No-FAIL
   2.2 Include a statement that the vehicle is equipped with an air bag and a lap/shoulder belt at the
      front outboard seating positions?
      _ X Yes-Pass; ___ No-FAIL
   2.3 Include a statement that the air bag is a supplemental restraint at the front outboard seating
      positions?
      _ X Yes-Pass; ___ No-FAIL
   2.4 Emphasize that all occupants, including the driver, should always wear their seat belts
      whether or not an air bag is also provided at their seating positions to minimize the risk of
      severe injury or death in the event of a crash?
      _ X Yes-Pass; ___ No-FAIL
   2.5 Provide any necessary precautions regarding the proper positioning of occupants, including
      children, at seating positions equipped with air bags to ensure maximum safety protection for
      those occupants?
      _ X Yes-Pass; ___ No-FAIL
   2.6 Explain that no objects should be placed over or near the air bag on the steering wheel or on
      the instrument panel, because any such objects could cause harm if the vehicle is in a crash
      severe enough to cause the air bag to inflate?

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2.7 Is the vehicle certified to meet the requirements of S14.5, S15, S17, S19, S21, S23, and S25? (Obtain the answer to this question from the COTR.) (S4.5.1(f)(2))

X Yes (go to 2.7.1); No (go to 3)

2.7.1 Explain the proper functioning of the advanced air bag system? (S4.5.1(f)(2))

X Yes-Pass; No-FAIL

2.7.2 Provide a summary of the actions that may affect the proper functioning of the system? (S4.5.1(f)(2))

X Yes-Pass; No-FAIL

2.7.3 Present and explain the main components of the advanced passenger air bag system? (S4.5.1(f)(2)(i))

X Yes-Pass; No-FAIL

2.7.4 Explain how the components function together as part of the advanced passenger air bag system? (S4.5.1(f)(2)(ii))

X Yes-Pass; No-FAIL

2.7.5 Contain the basic requirements for proper operation, including an explanation of the actions that may affect the proper functioning of the system? (S4.5.1(f)(2)(iii))

X Yes-Pass; No-FAIL

2.7.6 Is the vehicle certified to the requirements of S19.2, S21.2 or S23.2 (automatic suppression)?

X Yes, continue with 2.7.6

No, go to 2.7.7

2.7.6.1 Contain a complete description of the passenger air bag suppression system installed in the vehicle, including a discussion of any suppression zone? (S4.5.1(f)(2)(iv))

X Yes-Pass; No-FAIL

2.7.6.2 Discuss the telltale light, specifying its location in the vehicle and explaining when the light is illuminated?

X Yes-Pass; No-FAIL

2.7.7 Explain the interaction of the advanced passenger air bag system with other vehicle components, such as seat belts, seats or other components? (S4.5.1(f)(2)(v))

X Yes-Pass; No-FAIL

2.7.8 Summarize the expected outcomes when child restraint systems, children and small teenagers or adults are both properly and improperly positioned in the passenger seat, including cautionary advice against improper placement of child restraint systems? (S4.5.1(f)(2)(vi))

X Yes-Pass; No-FAIL

2.7.9 Provide information on how to contact the vehicle manufacturer concerning modifications for persons with disabilities that may affect the advanced air bag system? (S4.5.1(f)(2)(vii))

X Yes-Pass; No-FAIL

3. Sun Visor Air Bag Warning Label (S4.5.1(b)) Check only one of the following:

The vehicle is not certified to meet the requirements of S19, S21, and S23. (Obtain the answer to this question from the COTR) (S4.5.1(b)(1)) Go to 3.1 and skip 3.2 and 3.3

The vehicle is certified to meet the requirements of S19, S21, and S23 before 9/1/03. (Obtain the answer to this question from the COTR) (S4.5.1(b)(2)) Go to 3.2 and skip 3.1 and 3.3

X The vehicle is certified to meet the requirements of S19, S21, and S23 on 9/1/03 or later. (Obtain the answer to this question from the COTR) (S4.5.1(b)(3)) Go to 3.3 and skip 3.1 and 3.2

3.1 Vehicles not certified to meet the requirements of S19, S21, and S23.

3.1.1 Is the label permanently affixed (including permanent marking on the visor material or molding into the visor material) to either side of the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing it? (S4.5.1(b)(1))

Driver side Yes-Pass No-FAIL

Passenger side Yes-Pass No-FAIL

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3.1.2 Does the label conform in content to the label shown in either Figure 6a or 6b (Figure 6b is for vehicles with passenger air bag on-off switches), as appropriate, at each front outboard seating position? (S4.5.1 (b)(1)) (Vehicles without back seats may omit the statement: “The BACK SEAT is the SAFEST place for children.” (S4.5.1(b)(1)(iv)))

- Driver side ___ Yes-Pass ___ No-FAIL
- Passenger side ___ Yes-Pass ___ No-FAIL

3.1.3 Is the label heading area yellow with the word “WARNING” and the alert symbol in black? (S4.5.1 (b)(1)(i))

- Driver side ___ Yes-Pass ___ No-FAIL
- Passenger side ___ Yes-Pass ___ No-FAIL

3.1.4 Is the message area white with black text? (S4.5.1(b)(1)(ii))

- Driver side ___ Yes-Pass ___ No-FAIL
- Passenger side ___ Yes-Pass ___ No-FAIL

3.1.5 Is the message area at least 30 cm²? (S4.5.1(b)(1)(iii))

- Driver side: Length , Width
- Passenger side: Length , Width
- Driver actual message area __ __ cm²
- Passenger actual message area __ __ cm²

- Driver side ___ Yes-Pass ___ No-FAIL
- Passenger side ___ Yes-Pass ___ No-FAIL

3.1.6 Is the pictogram black with a red circle and slash on a white background? (S4.5.1(b)(2)(iii))

- Driver side ___ Yes-Pass ___ No-FAIL
- Passenger side ___ Yes-Pass ___ No-FAIL

3.1.7 Is the pictogram at least 30 mm in diameter? (S4.5.1(b)(2)(iii))

- Driver side: Length __________
- Passenger side: Length __________

- Driver side ___ Yes-Pass ___ No-FAIL
- Passenger side ___ Yes-Pass ___ No-FAIL

3.2 Vehicles certified to meet the requirements of S19, S21, and S23 before 9/1/03. (S4.5.1(b)(2))

3.2.1 Is the label permanently affixed (including permanent marking on the visor material or molding into the visor material) to either side of the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing the label or the sun visor? (S4.5.1 (b)(2))

- Driver side ___ Yes-Pass ___ No-FAIL
- Passenger side ___ Yes-Pass ___ No-FAIL

3.2.2 Does the label conform in content to the label shown in Figure 8 or Figure 11 at each front outboard seating position? (S4.5.1(b)(2)) (Vehicles without back seats may omit the statement: “The BACK SEAT is the SAFEST place for children.” (S4.5.1(b)(2)(iv)) Vehicles without back seats or the back seat is too small to accommodate a rear-facing child restraint may omit the statement “Never put a rear-facing child seat in the front.” (S4.5.1(b)(2)(iv)))

- Driver side ___ Yes-Pass ___ No-FAIL
- Passenger side ___ Yes-Pass ___ No-FAIL

3.2.3 Is the label heading area yellow with the word “WARNING” and the alert symbol in black? (S4.5.1 (b)(2)(i))

- Driver side ___ Yes-Pass ___ No-FAIL
- Passenger side ___ Yes-Pass ___ No-FAIL

3.2.4 Is the message area white with black text? (S4.5.1 (b)(2)(iii))

- Driver side ___ Yes-Pass ___ No-FAIL
- Passenger side ___ Yes-Pass ___ No-FAIL
3.2.5 Is the message area at least 30 cm²? (§4.5.1(b)(2)(iii))
Driver side: Length ______, Width ______
Passenger side: Length _____, Width ______
Driver actual message area _______ cm²
Driver side ___ Yes-Pass ___ No-FAIL.
Passenger side ___ Yes-Pass ___ No-FAIL.

3.2.6 Is the pictogram black on a white background? (§4.3.1(b)(2)(iii))
Driver side ___ Yes-Pass ___ No-FAIL.
Passenger side ___ Yes-Pass ___ No-FAIL.

3.2.7 Is the pictogram at least 30 mm (1.2 in) in length? (§4.5.1(b)(2)(iii))
Driver side: Length ______
Passenger side: Length ______
Driver side ___ Yes-Pass ___ No-FAIL.
Passenger side ___ Yes-Pass ___ No-FAIL.

3.3 Vehicles certified to meet the requirements of §19, §21, and §23 on 9/1/03 and later. (§4.5.1(b)(3))

3.3.1 Is the label permanently affixed (including permanent marking on the visor material or molding into the visor material) to either side of the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing the label or the sun visor? (§4.5.1(b)(3))
Driver side ___ X Yes-Pass ___ No-FAIL.
Passenger side ___ X Yes-Pass ___ No-FAIL.

3.3.2 Does the label conform in content to the label shown in Figure 11 at each front outboard seating position? (§4.5.1(b)(2)) (Vehicles without back seats may omit the statement: "The BACK SEAT is the SAFEST place for children." (§4.5.1(b)(5)(v)) Vehicles without back seats or the back seat is too small to accommodate a rear-facing child restraint may omit the statement “Never put a rear-facing child seat in the front.” (§4.5.1(b)(3)(v)))
Driver side ___ X Yes-Pass ___ No-FAIL.
Passenger side ___ X Yes-Pass ___ No-FAIL.

3.3.3 Is the label heading area yellow with the word “WARNING” and the alert symbol in black? (§4.5.1(b)(3)(v))
Driver side ___ X Yes-Pass ___ No-FAIL.
Passenger side ___ X Yes-Pass ___ No-FAIL.

3.3.4 Is the message area white with black text? (§4.5.1(b)(3)(v))
Driver side ___ X Yes-Pass ___ No-FAIL.
Passenger side ___ X Yes-Pass ___ No-FAIL.

3.3.5 Is the message area at least 30 cm²? (§4.5.1(b)(3)(v))
Driver side: Length 115 cm, Width 40 cm
Passenger side: Length 115 cm, Width 40 cm
Driver actual message area 45.2 __ cm²
Driver side ___ X Yes-Pass ___ No-FAIL.
Passenger side ___ X Yes-Pass ___ No-FAIL.

3.3.6 Is the pictogram black on a white background? (§4.5.1(b)(3)(v))
Driver side ___ X Yes-Pass ___ No-FAIL.
Passenger side ___ X Yes-Pass ___ No-FAIL.

3.3.7 Is the pictogram at least 30 mm in length? (§4.5.1(b)(3)(v))
Driver side: Length 40 mm
Passenger side: Length 40 mm
Driver side ___ X Yes-Pass ___ No-FAIL.
Passenger side ___ X Yes-Pass ___ No-FAIL.
3.4 Is the same side of the sun visor that contains the air bag warning label free of other information with the exception of the air bag maintenance label and/or the rollover-warning label? (S4.5.1(b)(5)(i))
   Driver side  X  Yes-Pass  ___  No-FAIL
   Passenger side  X  Yes-Pass  ___  No-FAIL

3.5 Is the sun visor free of other information about air bags or the need to wear seat belts with the exception of the air bag alert label and/or the rollover-warning label? (S4.5.1(b)(5)(ii))
   Driver side  X  Yes-Pass  ___  No-FAIL
   Passenger side  X  Yes-Pass  ___  No-FAIL

3.6 Does the driver side visor contain a rollover-warning label on the same side of the visor as the air bag warning label?
   ___  Yes  (go to 3.6.1);  X  No  (go to 4., skipping 3.6.1 through 3.6.3)

3.6.1 Are both the rollover-warning label and the air bag warning label surrounded by a continuous solid-lined border?
   ___  Yes  (go to 3.6.2 and skip 3.6.3);  ___  No  (go to 3.6.2 and skip 3.6.3)

3.6.2 Is the shortest distance from the border of the rollover label to the border of the air bag warning label at least 1 cm? (S75.105(d)(1)(iv)(A))
   actual distance
   Yes-Pass:  ___  No-FAIL

3.6.3 Is the shortest distance from any of the lettering or graphics on the rollover-warning label to any of the lettering or graphics of the air bag warning label at least 3 cm? (S75.105(d)(1)(iv)(A))
   actual distance
   Yes-Pass;  ___  No-FAIL

4. Air Bag Alert Label (S4.5.1(c)) (A "Rollover Warning Label" or "Rollover Alert Label" may be on the same side of the driver’s sun visor as the "Air Bag Alert Label."  S75.105(d))

4.1 Is the Sun Visor Warning Label visible when the sun visor is in the stowed position?
   Driver side  X  Yes  ___  No
   Passenger side  X  Yes  ___  No

If yes, for driver and passenger go to 5.

4.2 Is the air bag alert label permanently affixed (including permanent marking on the visor material or molding into the visor material) to the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing the label or the sun visor? (S4.5.1(c))
   Driver side  ___  Yes-Pass  ___  No-FAIL
   Passenger side  ___  Yes-Pass  ___  No-FAIL

4.3 Is the air bag alert label visible when the visor is in the stowed position? (S4.5.1(c))
   Driver side  ___  Yes-Pass  ___  No-FAIL
   Passenger side  ___  Yes-Pass  ___  No-FAIL

4.4 Does the label conform in content to the label shown in Figure 6c? (S4.5.1(c))
   Driver side  ___  Yes-Pass  ___  No-FAIL
   Passenger side  ___  Yes-Pass  ___  No-FAIL

4.5 Is the message area black with yellow text? (S4.5.1(c)(1))
   Driver side  ___  Yes-Pass  ___  No-FAIL
   Passenger side  ___  Yes-Pass  ___  No-FAIL

4.6 Is the message area at least 20 cm²? (S4.5.1(c)(1))
   Driver side:  Length  ___  Width  ___  ___
   Passenger side:  Length  ___  Width  ___
   Actual message area  ___  ___  cm²
   Driver side  ___  Yes-Pass  ___  No-FAIL
   Passenger side  ___  Yes-Pass  ___  No-FAIL.
4.7 Is the pictogram black with a red circle and slash on a white background? (S4.5.1(e)(2))
Driver side   ___ Yes-Pass   ___ No-FAIL
Passenger side ___ Yes-Pass   ___ No-FAIL

4.8 Is the pictogram at least 20 mm in diameter? (S4.5.1(e)(2))
Driver side diameter _______ mm
Passenger side diameter _______ mm
Driver side   ___ Yes-Pass   ___ No-FAIL.
Passenger side ___ Yes-Pass   ___ No-FAIL.

5. Label On the Dashboard
5.1 Is the vehicle certified to meet the requirements of S19, S21, and S23? (Obtain the answer to this question from the COTR.) (S4.5.1(e)(2))
___ Yes (go to 5.1.1 and skip 5.2)
___ No (go to 5.2, skipping 5.1.1 through 5.1.6)

5.1.1 Does the vehicle have a label on the dash or steering wheel hub? (S4.5.1(e)(2))
___ Yes-Pass;   ___ No-FAIL.  Label had been removed; test not performed.

5.1.2 Is the label clearly visible from all front seating positions? (S4.5.1(e)(2))
___ Yes-Pass;   ___ No-FAIL.

5.1.3 Does the label conform in content to the label shown in Figure 9? (S4.5.1(e)(2)) (Vehicles without back seats may omit the statement: “The back seat is the safest place for children.”) (S4.5.1(e)(2)(iii))
___ Yes-Pass;   ___ No-FAIL.

5.1.4 Is the heading area yellow with black text? (S4.5.1(e)(2)(i))
___ Yes-Pass;   ___ No-FAIL.

5.1.5 Is the message white with black text? (S4.5.1(e)(2)(ii))
___ Yes-Pass;   ___ No-FAIL.

5.1.6 Is the message area at least 30 cm²? (S4.5.1(e)(2)(ii))
Length ______ cm   Width ______ cm
Actual message area _______ cm²
___ Yes-Pass;   ___ No-FAIL.

5.2 Does the vehicle have a label on the dash or steering wheel hub? (S4.5.1(e)(1))
___ Yes-Pass;   ___ No-FAIL.

5.2.1 Is the label clearly visible from all front seating positions? (S4.5.1(e)(1)(i))
___ Yes-Pass;   ___ No-FAIL.

5.2.2 Does the label conform in content to the label shown in Figure 7? (S4.5.1(e)(1)(iii)) (Vehicles without back seats may omit the statement: “The back seat is the safest place for children 12 and under.”) (S4.5.1(e)(2)(iii))
___ Yes-Pass;   ___ No-FAIL.

5.2.3 Is the heading area yellow with the word “WARNING” and the alert symbol in black? (S4.5.1(c)(1)(i))
___ Yes-Pass;   ___ No-FAIL.

5.2.4 Is the message white with black text? (S4.5.1(e)(1)(ii))
___ Yes-Pass;   ___ No-FAIL.

5.2.5 Is the message area at least 30 cm²? (S4.5.1(e)(1)(ii))
Length ______ cm   Width ______ cm
Actual message area _______ cm²
___ Yes-Pass;   ___ No-FAIL.
Figure 6a. Sun Visor Label Visible When Visor is in Down Position.

Figure 6b. Sun Visor Label Visible When Visor is in Down Position.
Figure 6c. Sun Visor Label Visible When Visor is in Up Position.

Figure 7. Removable Label on Dash.
Figure 8. Sun Visor Label Visible when Visor is in Down Position.
This Vehicle is Equipped with Advanced Air Bags

Even with Advanced Air Bags
Children can be killed or seriously injured by the air bag.
The back seat is the safest place for children.
Always use seat belts and child restraints.
See owner's manual for more information about air bags.

Figure 9. Removable Label on Dash.
Figure 11. Sun Visor Label Visible when Visor is in Down Position.
DATA SHEET 6
FMVSS 208 READINESS INDICATOR (S4.5.2)

NHTSA No.: C35306 ____________ Test Date: 06/06/93

Laboratory: TRC Inc. __________ Test Technician(s): S. Bell __________

An occupant restraint system that deploys in the event of a crash shall have a monitoring system with a readiness indicator. A totally mechanical system is exempt from this requirement. (11/8/94 legal interpretation to Lawrence F. Henneberger on behalf of Breed)

X 1. Is the system totally mechanical? Yes ___; No X
   (IF YES this Data Sheet is complete.)

X 2. Describe the location of the readiness indicator: Upper right hand corner of instrument panel

X 3. Is the readiness indicator clearly visible to the driver? Yes-Pass; ___ No-FAIL

X 4. Is a list of the elements in the occupant restraint system, being monitored by the readiness indicator, provided on a label or in the owner's manual? Yes-Pass; ___ No-FAIL

X 5. Does the vehicle have an on-off switch for the passenger air bag? Yes (go to 6) ___ No (this form is complete)

X 6. Is the air bag readiness indicator off when the passenger air bag switch is in the off position? Yes-Pass; ___ No-FAIL

REMARKS.
DATA SHEET 7
Passenger Air Bag Manual Cut-Off Device (S4.5.4)

NHTSA No.: C35306  Test Date: 06/06/93

Laboratory: TRC Inc.  Test Technician(s): S. Bell

1. Is the vehicle equipped with an on-off switch that deactivates the air bag installed at the right front outboard seating position?
   __ Yes, go to 2
   X No, this sheet is complete

2. Does the vehicle have any forward-facing rear designated seating positions? (S4.5.4(a))
   __ Yes, go to 3
   __ No, go to 4

3. Verification of the lack of room for a child restraint in the rear seat behind the driver's seat.
   (S4.5.4(b))
   3.1 Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest,
   retracted or deflated adjustment position. (S8.1.3)
   __ N/A - No lumbar adjustment

3.2. Position any adjustable parts of the seat that provide additional support so that they are in
   the lowest or most open adjustment position. (S16.2.10.2)
   __ N/A - No additional support adjustment

3.3. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to
   the full rearward position. (S16.2.10.3.1)
   __ N/A - No independent fore/aft seat cushion adjustment

3.4. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full
   down position. (S16.2.10.3.1)
   __ N/A - No independent seat cushion height adjustment.

3.5. Put the seat in its full rearward position. (S16.2.10.3.1)
   __ N/A - The seat does not have a fore/aft adjustment

3.6. If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)
   __ N/A - No seat height adjustment

3.7. Draw a horizontal reference line on the side of the seat cushion.

3.8. Using only the controls that change the seat in the fore/aft direction, mark the fore/aft seat
   positions. Mark the side of the seat and a reference position directly below on a part of the
   vehicle that does not adjust. For manual seats, move the seat forward one detent at a time
   and mark each detent as was done for the full rearward position. For power seats, mark
   only the full rearward, middle, and full forward positions. Label three of the positions with
   the following: F for full forward, M for mid-position (if there is no mid position, label the
   closest adjustment position to the rear of the midpoint), and R for full rearward.
   __ N/A - The seat does not have a fore/aft adjustment.

3.9. Using only the controls that change the seat in the fore/aft direction, place the seat in the
   full rearward position and then place the seat in the middle fore/aft position. (S8.1.3)
   __ N/A - The seat does not have fore/aft adjustment.

Mid position

If there is no mid position, put the seat in the closest adjustment position to the rear of the
midpoint. Describe the location of the seat:

3.10. If seat adjustments, other than fore/aft, are present and the horizontal reference line is no
   longer horizontal, use those adjustments to maintain the reference line as closely as
   possible to the horizontal.
   __ N/A - No adjustments
Angle of reference line as tested

3.11. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)

- N/A – No seat back angle adjustment

Manufacturer's design seat back angle

Tested seat back angle

3.12 Is the driver seat a bucket seat?

- Yes, go to 3.12.1 and skip 3.12.2.
- No, go to 3.12.2 and skip 3.12.1.

3.12.1 Bucket seats:

3.12.1.1 Locate and mark a vertical Plane B through the longitudinal centerline of the seat driver's seat cushion. (S22.2.1.3) The longitudinal centerline of a bucket seat cushion is determined at the widest part of the seat cushion. Measure perpendicular to the longitudinal centerline of the vehicle.

Record the width of the seat:

Record the distance from the edge of the seat to Plane B:

3.12.1.2 Locate the longitudinal horizontal line in Plane B that is tangent to the highest point of the rear seat cushion behind the driver's seat. Measure along this line from the front of the seat back of the rear seat to the rear of the seat back of the driver's seat:

mm distance

less than 720 mm – Pass

more than 720 mm – FAIL

Go to 4.

3.12.2 Bench seats (including split bench seats):

3.12.2.1 Locate and mark a vertical Plane B through the center of the steering wheel parallel to the vehicle longitudinal centerline.

3.12.2.2 Locate the longitudinal horizontal line in Plane B that is tangent to the highest point of the rear seat cushion. Measure along this line from the front of the seat back of the rear seat to the rear of the seat back of the front seat:

mm distance

less than 720 mm – Pass

more than 720 mm – FAIL

Go to 4.

4. Does the device turn the air bag on and off using the vehicle's ignition key? (S4.5.4.2)

- Yes – Pass: __ No – FAIL

5. Is the on-off device separate from the ignition switch? (S4.5.4.2)

- Yes – Pass: __ No – FAIL

6. Is there a telltale light that comes on when the passenger air bag is turned off? (S4.5.4.2)

- Yes – Pass: __ No – FAIL

7. Telltale light (S4.5.4.3)

7.1 Is the light yellow? (S4.5.4.3(a))

- Yes – Pass: __ No – FAIL

7.2 Are the words “PASSENGER AIR BAG OFF” (S4.5.4.3(b))

7.2.1 on the telltale?

- Yes – Pass; go to 7.3

- No – go to 7.2.2

7.2.2 within 25 mm of the telltale? mm from the edge of the telltale light

- Yes – Pass: __ No – FAIL

7.3 Does the telltale remain illuminated while the air bag is turned off? (S4.5.4.3c) (Leave the airbag off for 5 minutes.)

- Yes – Pass: __ No – FAIL
7.1 Is the telltale illuminated while the air bag is turned on? (S4.5.4.3(d))
   Yes-Pass; No-FAIL

7.5 Is the telltale combined with the air bag readiness indicator? (S4.5.3(e))
   Yes-FAIL; No-Pass

8. Owner's manual

8.1 Does the owner's manual contain complete instructions on the operation of the on-off switch? (S4.5.4.4(a))
   Yes-Pass; No-FAIL

8.2 Does the owner's manual contain a statement that the on-off switch should only be used when a member of one of the following risk groups is occupying the right front passenger seating position? (S4.5.4.4(b))
   Infants:
   there is no back seat
   the rear seat is too small to accommodate a child restraint
   there is a medical condition that must be monitored constantly
   Children aged 1 to 12:
   space is not always available in the rear seat
   there is a medical condition that must be monitored constantly
   Medical condition:
   medical risk causes special risk for passenger
   greater risk for harm than with the air bag on
   Yes-Pass; No-FAIL

8.3 Does the owner's manual contain a warning about the safety consequences of using the on-off switch at other times?
   Yes-Pass; No-FAIL
DATA SHEET 8
LAP BELT LOCKABILITY
Passenger cars, trucks, buses, and multipurpose passenger
vehicles with a GVWR of 10,000 pounds or less. (§7.1.1.5)

Complete one of these forms for each designated seating position that can be adjusted to
forward-facing or that is a forward-facing seat, other than the driver’s seat (§7.1.1.5(a), and
that has seat belt retractors that are not solely automatic locking retractor. (§7.1.1.5(c)))

NHTSA No.: C35306  Test Date: 06/09/03

Laboratory: TRC Inc.  Test Technician(s): S. Bell

DESIGNATED SEATING POSITION: Front Row Right

___ N/A – No retractor is at this position
___ N/A – The retractor is an automatic locking retractor ONLY

X 1. Record test fore-aft seat position. (Pull rear) (§7.1.1.5 (c)(1))
   (Any position is acceptable.)

X 2. Does the lap belt portion of the seat belt in the forward-facing or seat that can be adjusted
to forward-facing consist of a locking device that does NOT have to be attached by the
vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (§7.1.1.5 (a))
   X Yes-Pass;  ____ No-FAIL.

X 3. Does the lap belt portion of the seat belt in the forward-facing or seat that can be adjusted
to forward-facing consist of a locking device that does NOT require inverting, twisting or
deforming the seat webbing. (§7.1.1.5 (a))
   X Yes-Pass;  ____ No-FAIL.

X 4. Buckle the seat belt. (§7.1.1.5(c)(1))

X 5. Locate a reference point A on the seat belt buckle. (§7.1.1.5(c)(2))

X 6. Locate a reference point B on the attachment hardware or retractor assembly at the other end
of the lap belt or lap belt portion of the seat belt assembly. (§7.1.1.5(c)(2))

X 7. Does the vehicle user need to take some action to activate the locking feature on the lap belt
portion of the seat belt in any forward-facing or seat that can be adjusted to forward-facing?
   _ Yes;  X No (If yes, go to 7.1. If no, go to 8.)

___ 7.1 Does the vehicle owner’s manual include a description in words and/or diagram describing
how to activate the locking feature so that the seat belt assembly can tightly secure a child
restraint system and how to deactivate the locking feature to remove the child restraint
system. (§7.1.1.5(b))
   ___ Yes-Pass;  ____ No-FAIL

X 8. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures
recommended in the vehicle owner’s manual to activate any locking feature so that the
webbing between points A and B is at the maximum length allowed by the belt system.
(S7.1.1.5(c)(2) & S7.1.1.5(c)(1))

X 9. Measure and record the distance between points A and B along the longitudinal centerline of
the webbing for the lap belt or lap belt portion of the seat belt assembly. (§7.1.1.5(c)(2))
   Measured distance between A and B: 49.5 inches

X 10. Re-activate the belt system so that the webbing between points A and B is at any length that is 5
inches or more shorter than the maximum length of the webbing. (§7.1.1.5(c)(3))

5-25  030610
To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

Measured force application angle __10°_____ (spec. 5 - 15 degrees)

Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

Measured distance between A and B __7.9_____ inches

Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

Record onset rate __25_____ lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))

Measured distance between A and B __8.2_____ inches (S7.1.1.5(c)(6))

Subtract the measurement in 13 from the measurement in 12. Is the difference 2 inches or less? (S7.1.1.5(c)(7)) 13-12=__0.3_____ inches; Yes-Pass: __No-FAIL

Subtract the measurement in 9 from the measurement in 13. Is the difference 3 inches or more? (S7.1.1.5(c)(8)) 9-13=__32.3_____ inches; Yes-Pass: __No-FAIL

REMARKS:
Figure 5. - Webbing Tension Pull Device

- **Dimension A**: Width of Webbing Plus 1/2 Inch
- **Dimension B**: 1/2 of Dimension A
DATA SHEET 8
LAP BELT LOCKABILITY
Passenger cars, trucks, buses, and multipurpose passenger vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)

Complete one of these forms for each designated seating position that can be adjusted to forward-facing or that is a forward-facing seat, other than the driver’s seat (S7.1.1.5(a), and that has seat belt restraints that are not solely automatic locking restraints. (S7.1.1.5(c))

NHTSA No.: C35306 ___________________________ Test Date: 06/09/03 ___________________________

Laboratory: TRC Inc. ___________________________ Test Technician(s): S. Bell ___________________________

DESIGNATED SEATING POSITION: Second Row Left ___________________________

___ N/A No retractor is at this position ___________________________
___ N/A The retractor is an automatic locking retractor ONLY ___________________________

X 1. Record text fore-aft seat position. Full rear ___________________________ (S7.1.1.5 (c)(1))
   (Any position is acceptable.) ___________________________

X 2. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5(c))
   X Yes-Pass; ___ No-FAIL ___________________________

X 3. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the seat webbing. (S7.1.1.5(a))
   X Yes-Pass; ___ No-FAIL ___________________________

X 4. Buckle the seat belt. (S7.1.1.5(c)(1)) ___________________________

X 5. Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2)) ___________________________

X 6. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2)) ___________________________

X 7. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?
   ___ Yes; ___ No (If yes, go to 7.1. If no, go to 8.) ___________________________

7.1 Does the vehicle owner’s manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system. (S7.1.1.5(b))
   ___ Yes-Pass; ___ No-FAIL ___________________________

X 8. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner’s manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(7) & S7.1.1.5(c)(1)) ___________________________

X 9. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
   Measured distance between A and B …………… inches ___________________________

X 10. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing. (S7.1.1.5(c)(3)) ___________________________

5-28 030610
11. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (7.1.1.5(c)(4))

Measured force application angle: 10° (spec. 5 - 15 degrees)

12. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (7.1.1.5(c)(4))

Measured distance between A and B: 14.3 inches

13. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (7.1.1.5(c)(5))

Record onset rate: 25 lb/sec (spec. 10 to 50 lb/sec) (7.1.1.5(c)(5))

Measured distance between A and B: 14.6 inches (7.1.1.5(c)(6))

14. Subtract the measurement in 13 from the measurement in 12. Is the difference 2 inches or less? (7.1.1.5(c)(7))

13-12 = 0.2 inches; **Yes-Pass; No-FAIL**

15. Subtract the measurement in 9 from the measurement in 13. Is the difference 3 inches or more? (7.1.1.5(c)(8))

9-13 = -38.5 inches; **Yes-Pass; No-FAIL**

REMARKS:
Figure 5. - Webbing Tension Pull Device

Dimension A - Width of Webbing Plus 1/2 Inch
Dimension B - 1/2 of Dimension A
DATA SHEET 8

LAP BELT LOCKABILITY

Passenger cars, trucks, buses, and multipurpose passenger
vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)

Complete one of these forms for each designated seating position that can be adjusted to
forward-facing or that is a forward-facing seat, other than the driver's seat (S7.1.1.5(a), and
that has seat belt retractors that are not solely automatic locking retractors. (S7.1.1.5(c))

NHTSA No.: C35306

Test Date: 06/09/93

Laboratory: TRC Inc. Test Technician(s): S. Bell

DESIGNATED SEATING POSITION: Second Row Right

N/A - No retractor is at this position
N/A - The retractor is an automatic locking retractor ONLY

X 1. Record test fore-aft seat position. Full rear (S7.1.1.5 (c)(1))
(Any position is acceptable)

X 2. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted
to forward-facing consist of a locking device that does NOT have to be attached by the
vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5 (a))
X Yes-Pass; No-FAIL.

X 3. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted
to forward-facing consist of a locking device that does NOT require inverting, twisting or
deforming of the belt webbing. (S7.1.1.5 (a))
X Yes-Pass; No-FAIL.

X 4. Buckle the seat belt. (S7.1.1.5(c)(1))

X 5. Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))

X 6. Locate a reference point B on the attachment hardware or retractor assembly at the other end
of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

X 7. Does the vehicle user need to take some action to activate the locking feature on the lap belt
portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?

X Yes; _ No (If yes, go to 7.1. If no, go to 8.)

7.1 Does the vehicle owner's manual include a description in words and/or diagrams describing
how to activate the locking feature so that the seat belt assembly can tightly secure a child
restraint system and how to deactivate the locking feature to remove the child restraint
system. (S7.1.1.5(b))

X Yes-Pass; No-FAIL.

X 8. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures
recommended in the vehicle owner's manual to activate any locking feature so that the
webbing between points A and B is at the maximum length allowed by the belt system.
(S7.1.1.5(c)(2) & S7.1.1.5(c)(1))

X 9. Measure and record the distance between points A and B along the longitudinal centerline of
the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

Measured distance between A and B = 53.0 inches

X 10. Readjust the belt system so that the webbing between points A and B is at any length that is 5
inches or more shorter than the maximum length of the webbing. (S7.1.1.5(c)(3))

5-31 030610
To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

Measured force application angle _10° _____ (spec. 5 - 15 degrees)

Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

Measured distance between A and B _14.2 _______ inches

Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

Record onset rate _25 _____ lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))

Measured distance between A and B _4.4 _______ inches (S7.1.1.5(c)(6))

Subtract the measurement in 13 from the measurement in 12. Is the difference 2 inches or less? (S7.1.1.5(c)(7))

Yes-Pass; __ No-FAIL

Subtract the measurement in 9 from the measurement in 13. Is the difference 3 inches or more? (S7.1.1.5(c)(8))

Yes-Pass; __ No-FAIL
Figure 5. - Webbing Tension Pull Device
DATA SHEET 8
LAP BELT LOCKABILITY

Passenger cars, trucks, buses, and multipurpose passenger vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)

Complete one of these forms for each designated seating position that can be adjusted to forward-facing or that is a forward-facing seat. other than the driver’s seat (S7.1.1.5(a), and that has seat belt retractors that are not solely automatic locking retractors. (S7.1.1.5(c))

NIHTSA No.: C35306 _______ _______ _______ _______ Test Date: 06/09/03

Laboratory: TRC Inc. Test Technician(s): S. Bell _______ _______ _______ _______

DESIGNATED SEATING POSITION: Third Row Left _______ _______ _______ _______

____ N/A - No retractor is at this position
____ N/A - The retractor is an automatic locking retractor ONLY

X 1. Record test fore-aft seat position. _______ Fixed_________ _______ _______ _______ _______ _______ _______ _______ _______ _______ _______ (S7.1.1.5(c)(1)) _______ (Any position is acceptable.)

X 2. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5(a))

  X Yes-Pass; _______ No-FAIL _______

X 3. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inserting, twisting or deforming of the belt webbing. (S7.1.1.5(a))

  X Yes-Pass; _______ No-FAIL _______

X 4. Buckle the seat belt. (S7.1.1.5(c)(1))

X 5. Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))

X 6. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

X 7. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?

  ____ Yes; _______ X No (If yes, go to 7.1. If no, go to 8.)

  7.1 Does the vehicle owner’s manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system. (S7.1.1.5(b))

  ____ Yes-Pass; _______ No-FAIL _______

X 8. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner’s manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2) & S7.1.1.5(c)(1))

X 9. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

  Measured distance between A and B = 40.2 _______ inches

X 10. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing. (S7.1.1.5(e)(3))

5-34 030610
11. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

Measured force application angle 10°, (spec. 5 - 15 degrees)

12. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

Measured distance between A and B 14.9 inches

13. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

Record onset rate 25 lb/sec (spec. 16 to 50 lb/sec) (S7.1.1.5(c)(5))

Measured distance between A and B 15.1 inches (S7.1.1.5(c)(6))

14. Subtract the measurement in 13 from the measurement in 12. Is the difference 2 inches or less? (S7.1.1.5(c)(7))

13-12= 0.2 inches; Yes-Pass; No-FAIL

15. Subtract the measurement in 9 from the measurement in 13. Is the difference 3 inches or more? (S7.1.1.5(c)(8))

9-13= 25.2 inches; Yes-Pass; No-FAIL

REMARKS:


Direction of Pull

Dimension A - Width of Webbing Plus 1/2 Inch
Dimension B - 1/2 of Dimension A

Figure 5. - Webbing Tension Pull Device
DATA SHEET 8
LAP BELT LOCKABILITY
Passenger cars, trucks, buses, and multipurpose passenger vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)

Complete one of these forms for each designated seating position that can be adjusted to forward-facing or that is a forward-facing seat, other than the driver's seat (S7.1.1.5(a), and that has seat belt retractors that are not solely automatic locking retractors. (S7.1.1.5(c))

NHTSA No.: C35306 Test Date: 06/09/03
Laboratory: TRC Inc. Test Technician(s): S. Bell

DESIGNATED SEATING POSITION: Third Row Center

___ N/A – No retractor is at this position
___ N/A – The retractor is an automatic locking retractor ONLY

X. 1. Record test fore-aft seat position. Fixed ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ (S7.1.1.5(c)(1))
   (Any position is acceptable.)

X. 2. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5(a))
   __ X Yes-Pass; ___ No-FAIL

X. 3. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing. (S7.1.1.5(a))
   __ X Yes-Pass; ___ No-FAIL

X. 4. Buckle the seat belt. (S7.1.1.5(c)(1))

X. 5. Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))

X. 6. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

X. 7. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?
   __ X Yes; ___ X No (If yes, go to 7.1. If no, go to 8.)

7.1 Does the vehicle owner’s manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system. (S7.1.1.5(b))
   __ X Yes-Pass; ___ No-FAIL

X. 8. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner’s manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2) & S7.1.1.5(c)(1))

X. 9. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
   Measured distance between A and B ___ 32.3 ___ inches

X. 10. Redo the system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing. (S7.1.1.5(c)(3))

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X. 11. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

Measured force application angle = 10° __ __ __ (spec. 5 - 15 degrees)

X. 12. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

Measured distance between A and B = 19.9 __ __ __ inches

X. 13. Increase the load to 30 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

Record onset rate = 25 __ __ __ lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))

Measured distance between A and B = 20.1 __ __ __ inches (S7.1.1.5(c)(6))

X. 14. Subtract the measurement in 13 from the measurement in 12. Is the difference 2 inches or less? (S7.1.1.5(c)(7)) 13-12 = __ 0.2 __ inches;

X Yes-Pass; ______ No-FAIL

X. 15. Subtract the measurement in 9 from the measurement in 13. Is the difference 3 inches or more? (S7.1.1.5(c)(8)) 9-13 = __ 12.2 __ inches;

X Yes-Pass; ______ No-FAIL

REMARKS:

5-38 030610
Figure 5. - Webbing Tension Pull Device
DATA SHEET 8
LAP BELT LOCKABILITY
Passenger cars, trucks, buses, and multipurpose passenger vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)

Complete one of these forms for each designated seating position that can be adjusted to forward-facing or that is a forward-facing seat, other than the driver's seat (S7.1.1.5(a), and that has seat belt restraints that are not solely automatic locking restraints. (S7.1.1.5(c))

NHTSA No.: C35306 ____________________________ Test Date: 06/03/03 ____________

Laboratory: TRC Inc. Test Technician(s): S. Bell ________________

DESIGNATED SEATING POSITION: Third Row Right

1. Fixed ________ (S7.1.1.5(c)(1))
   N/A - No retractor is at this position
   N/A - The retractor is an automatic locking retractor ONLY
   Yes-Pass: ___ No-FAIL

2. X. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached to the vehicle user to the seat belt webbing, retractor, or any part of the vehicle. (S7.1.1.5(a))
   Yes-Pass: ___ No-FAIL

3. X. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing. (S7.1.1.5(a))
   Yes-Pass: ___ No-FAIL

4. X. Buckle the seat belt. (S7.1.1.5(c)(1))

5. X. Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))

6. X. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

7. X. Does the vehicle user need to take some action to deactivate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?
   Yes: ___ No (if yes, go to 7.1. If no, go to 8.)

8. X. Does the vehicle owner's manual include a description in words and/or diagrams describing how to deactivate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system. (S7.1.1.5(b))
   Yes-Pass: ___ No-FAIL

9. X. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2) & S7.1.1.5(c)(1))

10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
    Measured distance between A and B ______ inches

11. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing. (S7.1.1.5(c)(3))
X 11. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

Measured force application angle __10°____ inches (spec. 5 - 15 degrees)

X 12. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

Measured distance between A and B __14.8____ inches

X 13. Increase the load to 30 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

Record onset rate __25____ lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))

Measured distance between A and B __15.2____ inches (S7.1.1.5(c)(6))

X 14. Subtract the measurement in 13 from the measurement in 12. Is the difference 2 inches or less? (S7.1.1.5(c)(7)) 13-12= __0.4____ inches;

X Yes-Pass; ___ No-FAIL

X 15. Subtract the measurement in 9 from the measurement in 13. Is the difference 3 inches or more? (S7.1.1.5(c)(8)) 9-13= __25.0____ inches;

X Yes-Pass; ___ No-FAIL

REMARKS;
Figure 5. - Webbing Tension Pull Device
DATA SHEET 9  
FMVSS 208 SEAT BELT WARNING SYSTEM CHECK (S7.3)  

NHTSA No.: C35306  
Test Date: 06/06/03  
Test Technician(s): S. Bell  

1. The occupant is in the driver's seat.  
2. The seat belt is in the stowed position.  
3. The key is in the "on" or "start" position.  
4. The time duration of the audible signal beginning with key "on" or "start" is 6 seconds.  
5. The occupant is in the driver's seat.  
6. The seat belt is in the stowed position.  
7. The key is in the "on" or "start" position.  
8. The time duration of the warning light beginning with key "on" or "start" is 60 seconds.  
9. The occupant is in the driver's seat.  
10. The seat belt is in the latched position and with at least 4 inches of belt webbing extended.  
11. The key is in the "on" or "start" position.  
12. The time duration of the audible signal beginning with key "on" or "start" is 0 seconds.  
13. The occupant is in the driver's seat.  
14. The seat belt is in the latched position and with at least 4 inches of belt webbing extended.  
15. The key is in the "on" or "start" position.  
16. The time duration of the warning light beginning with key "on" or "start" is 0 seconds.  
17. Complete the following table with the data from 4, 8, 12 and 16 to determine which option is used.

<table>
<thead>
<tr>
<th>S7.3 (a)(1)</th>
<th>Belt latched &amp; Key on or start</th>
<th>Belt stowed &amp; Key on or start</th>
<th>Warning light specification</th>
<th>Audible signal specification*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 16</td>
<td>Item 8</td>
<td>Item 8</td>
<td>Item 16</td>
<td>Item 8</td>
</tr>
<tr>
<td>60 seconds**</td>
<td>60 seconds minimum</td>
<td>4 to 8 seconds***</td>
<td>4 to 8 seconds</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S7.3 (a)(2)</th>
<th>Belt latched &amp; Key on or start</th>
<th>Belt stowed &amp; Key on or start</th>
<th>Audible signal specification*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 16</td>
<td>Item 8</td>
<td>Item 8</td>
<td>Item 12</td>
</tr>
<tr>
<td>4 to 8 seconds</td>
<td>4 to 8 seconds</td>
<td>0 seconds**</td>
<td></td>
</tr>
</tbody>
</table>

* 49 USCS @ 30124 does NOT allow an audible signal to operate for more than 8 seconds.  
** 0 seconds means the light or audible signal are NOT permitted to operate under these conditions.  
See 7/12/00 interpretation to Patrick Raher of Hogan and Harison
18. The seat belt warning system meets the requirements of (manufacturers may comply with either section)
   X  S7.3 (a)(1)
   ___ S7.3 (a)(2)
   ___ **FAIL** - Does NOT meet the requirements of either option

19. Note wording of visual warning: (S7.3(a)(1) and S7.3(a)(2))
   ___ Fasten Seat Belts
   ___ Fasten Belts
   ___ **FAIL** - Does not use any of the above wording or symbol
DATA SHEET 10
BELT CONTACT FORCE (S7.4.3)

NHTSA No.: C35306  Test Date: 06/09/03

Laboratory: TRC Inc. Test Technician(s): S. Bell

DESIGNATED SEATING POSITION: Front Row Left

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

1. Does the vehicle incorporate a webbing tension-relieving device?
   X Yes (this form is complete)
   X No (continue with this check sheet)

2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
   X N/A - No lumbar adjustment

3. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
   X N/A - No additional support adjustment

4. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)
   X N/A - No independent fore-aft seat cushion adjustment

5. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)
   X N/A - No independent seat cushion height adjustment

6. Put the seat in its full rearward position. (S16.2.10.3.1)
   X N/A - the seat does not have a fore-aft adjustment

7. If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)
   X N/A - No seat height adjustment

8. Draw a horizontal reference line on the side of the seat cushion.

9. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.
   X N/A - The seat does not have a fore-aft adjustment.

10. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the middle fore-aft position for this test. (S8.1.2)
    X Mid position. If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat: ____________________________

11. If seat adjustments other than fore-aft are present and the horizontal reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal. (S16.2.10.3.2.1)
    X N/A - No adjustments

Reference line angle as tested: 0°

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X 13. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (84.5.4.1 (b) and S8.1.3)
   N/A – No adjustments
   Manufacturer's design seat back angle
   Tested seat back angle
   distance between outer bolt for sun visor bracket and outer hole for head restraint equals 71.5 mm
   distance between outer bolt for sun visor bracket and outer hole for head restraint equals 71.5 mm

X 14. Position the test dummies according to dummy position placement instructions in Appendix B and include the positioning check sheets.

X 15. Fasten the seat belt latch.

X 16. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.

X 17. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.
   Contact force [x.x] lb.
   0.0 to 0.7 pounds - Pass
   greater than 0.7 pounds - FAIL
DATA SHEET 10
BELT CONTACT FORCE (S7.4.3)

NHTSA No.: C35306  Test Date: 06/09/03

Laboratory: TRC Inc.  Test Technician(s): S. Bell

DESIGNATED SEATING POSITION: Front Row Right

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outward designated seating positions in passenger cars. Complete a form for each applicable seat belt.

1. Does the vehicle incorporate a webbing tension-relieving device?
   __ X Yes (this form is complete)  
   _N/A_ No (continue with this check sheet)

2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
   __ X N/A_ No lumbar adjustment

3. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
   __ X N/A_ No additional support adjustment

4. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)
   __ X N/A_ No independent fore-aft seat cushion adjustment

5. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)
   __ X N/A_ No independent seat cushion height adjustment.

6. Put the seat in its full rearward position. (S16.2.10.3.1)
   __ _N/A_ - the seat does not have a fore-aft adjustment

7. If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)
   __ _N/A_ - No seat height adjustment

8. Draw a horizontal reference line on the side of the seat cushion.

9. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.
   __ _N/A_ - The seat does not have a fore-aft adjustment.

10. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the middle fore-aft position for this test. (S8.1.2)
    __ X Mid position. If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat:

11. If seat adjustments other than fore-aft are present and the horizontal reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal. (S16.2.10.3.2.1)
    __ X N/A_ - No adjustments
    Reference line angle as tested 0°

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13. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1(b) and S8.1.3)

   __ N/A - No adjustments
   Manufacturer's design seat back angle  5 detents reward from first locking position
   Tested seat back angle  5 detents reward from first locking position

14. Position the test dummies according to dummy position placement instructions in Appendix B and include the positioning check sheets.

15. Fasten the seat belt latch.

16. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.

17. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.

   Contact force  0.48  lb.

   __ 0.0 to 0.7 pounds - Pass
   __ greater than 0.7 pounds - FAIL.
DATA SHEET 10
BELT CONTACT FORCE (S7.4.3)

NHTSA No.: C35306  Test Date: 06/09/03
Laboratory: TRC Inc.  Test Technician(s): S. Bell

DESIGNATED SEATING POSITION: Second Row Left

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

X 1. Does the vehicle incorporate awebbing tension-relieving device?

   ___ Yes (this form is complete)
   X  No (continue with this checklist)

X 3. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)

   X  N/A - No lumbar adjustment

X 4. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)

   X  N/A - No additional support adjustment

X 5. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)

   X  N/A - No independent fore-aft seat cushion adjustment

X 6. If the seat cushion height adjusts independently of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)

   ___ N/A - No independent seat cushion height adjustment.

X 7. Put the seat in its full rearward position. (S16.2.10.5.1)

   ___ N/A - the seat does not have a fore-aft adjustment

X 8. If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)

   X  N/A - No seat height adjustment

X 9. Draw a horizontal reference line on the side of the seat cushion.

X 10. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one dent at a time and mark each dent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.

   X  N/A - The seat does not have a fore-aft adjustment.

X 11. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the middle fore-aft position for this test. (S8.1.2)

   X  Mid position. If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat: ____________________________

X 12. If seat adjustments other than fore-aft are present and the horizontal reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal. (S16.2.10.3.2.1)

   ___ N/A - No adjustments

Reference line angle as tested: 0" _______
13. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position. The seat back angle is set to the manufacturer's design seat back angle. The seat back angle is tested for the first locking position and set to the manufacturer's design seat back angle. (S4.5.4.1 (b) and S8.1.3)

N/A - No adjustments
Manufacturer's design seat back angle
Tested seat back angle

14. Position the test dummies according to dummy position placement instructions in Appendix B and include the positioning check sheets.

15. Fasten the seat belt latch.

16. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.

17. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.

Contact force: 0.5: ______ lb.

0.0 to 0.7 pounds - Pass
Greater than 0.7 pounds - FAIL
DATA SHEET 16
BELT CONTACT FORCE (S7.4.3)

NHTSA No.: C35306

Test Date: 06/09/03

Laboratory: TRC Inc.
Test Technician(s): S. Bell

DESIGNATED SEATING POSITION: Second Row Right

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

X 1. Does the vehicle incorporate a webbing tension-relieving device?
   Yes (this form is complete)
   X No (continue with this check sheet)

X 3. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position (S8.1.3)
   X N/A - No lumbar adjustment

X 4. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position (S16.2.10.2)
   X N/A - No additional support adjustment

X 5. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)
   X N/A - No independent fore-aft seat cushion adjustment

X 6. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)
   X N/A - No independent seat cushion height adjustment.

X 7. Put the seat in its full rearward position. (S16.2.10.3.1)
   N/A - The seat does not have a fore-aft adjustment

X 8. If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)
   X N/A - No seat height adjustment

X 9. Draw a horizontal reference line on the side of the seat cushion.

X 10. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid-position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.
   N/A - The seat does not have a fore-aft adjustment.

X 11. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the middle fore-aft position for this test. (S8.1.2)
   X Mid position. If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat:

X 12. If seat adjustments other than fore-aft are present and the horizontal reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal. (S16.2.10.3.2.1)
   N/A - No adjustments
   Reference line angle as tested 0°

5-51
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X 13. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (§4.5.4.1 (b) and §8.1.3)

N/A  No adjustments
Manufacturer's design seat back angle  5 detents reward from first locking position
Tested seat back angle  5 detents reward from first locking position

X 14. Position the test dummies according to dummy position placement instructions in Appendix B and include the positioning check sheets.

X 15. Fasten the seat belt latch.

X 16. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.

X 17. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (§10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.

Contact force .52 lb.
X 0.0 to 0.7 pounds - Pass
greater than 0.7 pounds - FAIL
DATA SHEET 10
BELT CONTACT FORCt (§7.4.3)

NHTSA No.: C35306

Test Date: 06/09/03

Laboratory: TRC Inc. Test Technician(s): S. Bell

DESIGNATED SEATING POSITION: Third Row Left

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

X 1. Does the vehicle incorporate a webbing tension-relieving device?
   ___ Yes (this form is complete)
   X  No (continue with this sheet)

X 2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (§8.1.3)
   X  N/A - No lumbar adjustment

X 3. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (§16.2.40.2)
   X  N/A - No additional support adjustment

X 4. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (§16.2.10.3.1)
   X  N/A - No independent fore-aft seat cushion adjustment

X 5. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (§16.2.10.3.1)
   X  N/A - No independent seat cushion height adjustment.

X 6. Put the seat in its full rearward position. (§16.2.10.3.1)
   X  N/A - the seat does not have a fore-aft adjustment

X 7. If the seat height is adjustable, put it in the full down position. (§16.2.10.3.1)
   X  N/A - No seat height adjustment

X 8. Draw a horizontal reference line on the side of the seat cushion.

X 9. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.
   X  N/A - The seat does not have a fore-aft adjustment.

X 10. If seat adjustments other than fore-aft are present and the horizontal reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal. (§16.2.10.3.2.1)
   X  N/A - No adjustments
   Reference line angle as tested 0°
X 13. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)

X N/A - No adjustments

Manufacturer's design seat back angle  

Tested seat back angle 

X 14. Position the test dummies according to dummy position placement instructions in Appendix B and include the positioning check sheets.

X 15. Fasten the seat belt latch.

X 16. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.

X 17. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest (S10.8). Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.

Contact force 0.52  lb.

X 0.0 to 0.7 pounds - Pass

greater than 0.7 pounds - FAIL
DATA SHEET 10
BELT CONTACT FORCE (S7.4.3)

NHTSA No.: C35306

Laboratory: TRC Inc. Test Technician(s): S. Bell

DESIGNATED SEATING POSITION: Third Row Center

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

X 1. Does the vehicle incorporate a webbing tension-relieving device?
   Yes (this form is complete)
   No (continue with this check sheet)

X 3. Position the seat’s adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
   N/A - No lumbar adjustment

X 4. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
   N/A - No additional support adjustment

X 5. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)
   N/A - No independent fore-aft seat cushion adjustment

X 6. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)
   N/A - No independent seat cushion height adjustment

X 7. Put the seat in its full rearward position. (S16.2.10.3.1)
   N/A - The seat does not have a fore-aft adjustment

X 8. If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)
   N/A - No seat height adjustment

X 9. Draw a horizontal reference line on the side of the seat cushion.

X 10. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.
   N/A - The seat does not have a fore-aft adjustment.

X 11. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the middle fore-aft position for this test. (S8.1.2)
   Mid position. If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat.

X 12. If seat adjustments other than fore-aft are present and the horizontal reference line is no longer horizontal, use these adjustments to maintain the reference line as closely as possible to the horizontal. (S16.2.10.3.2.1)
   N/A - No adjustments
   Reference line angle as tested: 0°
13. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (§ 4.5.4.1 (b) and § 8.1.3)

N/A - No adjustments
Manufacturer's design seat back angle
Tested seat back angle

14. Position the test dummies according to dummy position placement instructions in Appendix B and include the positioning check sheets.

15. Fasten the seat belt latch.

16. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.

17. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (§ 10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.

Contact force _0.5_ lb.

0.0 to 0.7 pounds - Pass
Greater than 0.7 pounds - Fail
**DATA SHEET 10**

**BELT CONTACT FORCE (S7.4.3)**

NHTSA No.: C35306 ___________________________ Test Date: 06/09/03

Laboratory: TRC Inc. Test Technician(s): S. Bell

**DESIGNATED SEATING POSITION: Third Row Right**

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

\[X\] 1. Does the vehicle incorporate a webbing tension-relieving device?
   - Yes (this form is complete)
   - No (continue with this check sheet)

\[X\] 3. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position (S8.1.3)
   - N/A - No lumbar adjustment

\[X\] 4. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position (S16.2.10.2)
   - N/A - No additional support adjustment

\[X\] 5. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position (S16.2.10.3.1)
   - N/A - No independent fore-aft seat cushion adjustment

\[X\] 6. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position (S16.2.10.3.1)
   - N/A - No independent seat cushion height adjustment

\[X\] 7. Put the seat in its full rearward position (S16.2.10.3.1)
   - N/A - the seat does not have a fore-aft adjustment

\[X\] 8. If the seat height is adjustable, put it in the full down position (S16.2.10.3.1)
   - N/A - No seat height adjustment

\[X\] 9. Draw a horizontal reference line on the side of the seat cushion.

\[X\] 10. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one dent that is done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.
   - N/A - The seat does not have a fore-aft adjustment

\[X\] 11. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place it in the middle fore-aft position for this test (S8.1.2)
   - Mid position. If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat: Fixed.

\[X\] 12. If seat adjustments other than fore-aft are present and the horizontal reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal (S16.2.10.3.2.1)
   - N/A - No adjustments
   - Reference line angle as tested 0°

5-57 030610
13. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (§4.5.4.1(b) and 88.13)

X N/A No adjustments
Manufacturer's design seat back angle N/A
Tested seat back angle N/A

14. Position the test dummies according to dummy position placement instructions in Appendix B and include the positioning check sheets.

X 15. Fasten the seat belt latch.

16. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.

X 17. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (§10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.

Contact force 0.52 lb.

X 0.0 to 0.7 pounds - Pass
___ greater than 0.7 pounds - FAIL
DATA SHEET II
LATCHPLATE ACCESS (S7.4.4)

NIITSA No.: _C35306_  Test Date: _06/09/03_

Laboratory: TRC Inc.  Test Technician(s): S. Bell

DESIGNATED SEATING POSITION: Left Front

Test all front outboard seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

X 1. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (8.1.3)
   X  N/A  No lumbar adjustment

X 2. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
   X  N/A  No additional support adjustment

X 3. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)
   X  N/A  No independent fore-aft seat cushion adjustment

X 4. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)
   X  N/A  No independent seat cushion height adjustment

X 5. Put the seat in its full rearward position. (S16.2.10.3.1)
   ___ N/A  - the seat does not have a fore-aft adjustment

X 6. If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)
   ___ N/A  - No seat height adjustment

X 7. Draw a horizontal reference line on the side of the seat cushion

X 8. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for forward, M for mid-position (if there is no mid position, label the closest adjustment position to the rear of the midpoint), and R for full rearward.
   ___ N/A  - The seat does not have a fore-aft adjustment.

X 9. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the forwardmost fore-aft position for this test. (S10.7)

X 10. If seat adjustments, other than fore-aft, are present and the horizontal reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal.
   ___ N/A  - No adjustments

Reference line angle as tested  _0^

5-59  030610
11. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)

N/A - No seat back angle adjustment

Manufacturer's design seat back angle  
distance between outer bolt for sun visor bracket and outer hole for head restraint equals 715 mm

Tested seat back angle  
distance between outer bolt for sun visor bracket and outer hole for head restraint equals 715 mm

12. Position the test dummy using the procedures in Appendix A. (Some modifications to the positioning procedure may need to be made because the seat is in its forwardmost position. Note on the Appendix A positioning check sheet any deviations necessary to position the Part 572, Subpart F dummy.) Include the positioning check sheet with this form.

13. Position the adjustable seat belt anchorage in the manufacturer's nominal design position for a 50th percentile adult male occupant.

14. Attach the inboard reach string to the base of the head following the instructions on Figure 3.

15. Attach the outboard reach string to the torso sheath following the instructions on Figure 3.

16. Place the latch plate in the stowed position.

17. Extend inboard reach string in front of the dummy and then backward and outboard to the latch plate to generate an arc of the reach envelope of the test dummy’s arms. Is the latch plate within the reach envelope?

Yes-Pass;  No

18. Extend outboard reach string in front of the dummy and then backward and outboard to the latch plate to generate an arc of the reach envelope of the test dummy’s arms. Is the latch plate within the reach envelope?

Yes-Pass;  No

19. Is the latch plate within the inboard (item 17) or outboard (item 18) reach envelope?

Yes-Pass;  No-FAIL

20. Using the clearance test block, specified in Figure 4, is there sufficient clearance between the vehicle seat and the side of vehicle interior to allow the test block to move unhindered to the latch plate or buckle?

Yes-Pass;  No-FAIL
Figure 3. Location of Anchoring Points for Latchplate Reach Limiting Chains or Strings to Test for Latchplate Accessibility Using Subpart B Test Device
Fig. 4 - USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND-ARM ACCESS
DATA SHEET 11
LATCH PLATE ACCESS (S7.4.4)

NIHSA No.: C25306 - - - - - - - - - - - Test Date: 06/09/03

Laboratory: TRC Inc. - - Test Technician: S. Bell

DESIGNATED SEATING POSITION: Right Front

Test all front outbound seat belts other than those in walk-in van-type vehicles and those at front outbound designated seating positions in passenger cars. Complete a form for each applicable seat belt.

X 1. Position the seat’s adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
   X N/A - No lumbar adjustment

X 2. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
   X N/A - No additional support adjustment

X 3. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)
   X N/A - No independent fore-aft seat cushion adjustment

X 4. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)
   X N/A - No independent seat cushion height adjustment.

X 5. Put the seat in its full rearward position. (S16.2.10.3.1)
   X N/A - the seat does not have a fore-aft adjustment

X 6. If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)
   X N/A - No seat height adjustment

X 7. Draw a horizontal reference line on the side of the seat cushion

X 8. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid-position (if there is no mid position, label the closest adjustment position to the rear of the midpoint), and R for full rearward.
   X N/A - The seat does not have a fore-aft adjustment.

X 9. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the forwardmost fore-aft position for this test. (S10.7)

X 10. If seat adjustments, other than fore-aft, are present and the horizontal reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal.
   X N/A - No adjustments

Reference line angle as tested 0°
X 11. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)
   ___ N/A – No seat back angle adjustment
   Manufacturer's design seat back angle  __5 detents reward from first locking position
   Tested seat back angle __5 detents reward from first locking position

X 12. Position the test dummy using the procedures in Appendix A. (Some modifications to the positioning procedure may need to be made because the seat is in its forward most position. Note on the Appendix A positioning check sheet any deviations necessary to position the Part 572, Subpart E dummy.) Include the positioning check sheet with this form.

X 13. Position the adjustable seat belt anchorage in the manufacturer's nominal design position for a 50th percentile adult male occupant.

X 14. Attach the inboard reach string to the base of the head following the instructions on Figure 3.

X 15. Attach the outboard reach string to the torso sheath following the instructions on Figure 3.

X 16. Place the latch plate in the stowed position.

X 17. Extend inboard reach string in front of the dummy and then backward and outward to the latch plate to generate an arc of the reach envelope of the test dummy's arms. Is the latch plate within the reach envelope?
   ___ Yes-Pass; ___ No

X 18. Extend outboard reach string in front of the dummy and then backward and outward to the latch plate to generate an arc of the reach envelope of the test dummy's arms. Is the latch plate within the reach envelope?
   ___ Yes-Pass; ___ No

X 19. Is the latch plate within the inboard (item 17) or outboard (item 18) reach envelope?
   ___ Yes-Pass; ___ No-FAIL

X 20. Using the clearance test block, specified in Figure 4, is there sufficient clearance between the vehicle seat and the side of vehicle interior to allow the test block to move unhindered to the latch plate or buckle?
   ___ Yes-Pass; ___ No-FAIL
Figure 3. Location of Anchoring Points for Latchplate Reach Limiting Chains or Strings to Test for Latchplate Accessibility Using Support B Test Device.
Figure 4—USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND-ARM ACCESS
DATA SHEET 12
SEAT BELT RETRACTION (S7.4.3)

NHTSA No.: C32306

Test Date: 06/09/03

Laboratory: TRC Inc.

Test Technician(s): S. Bell

DESIGNATED SEATING POSITION: Left Front

GVWR: 2569.6 kg/5655 lbs

Test all front outboard seat belts, except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

X 1. Is the vehicle a passenger car or walk-in van-type vehicle?

Yes, this form is complete

X No

X 2. Position the seat’s adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)

N/A - No lumbar adjustment

X 3. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)

N/A - No additional support adjustment

X 4. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)

N/A - No independent fore-aft seat cushion adjustment

X 5. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)

X N/A - No independent seat cushion height adjustment

X 6. Put the seat in its full rearward position.

N/A - the seat does not have a fore-aft adjustment

X 7. If the seat height is adjustable, put it in the full down position. (S8.1.2)

N/A - No seat height adjustment

X 8. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid position (if there is no mid position, label the closest adjustment position in the rear of the mid-point), and R for full rearward.

X N/A - The seat does not have a fore-aft adjustment

X 9. Using only the controls that change the seat in the fore-aft direction, place the seat in the middle fore-aft position. (S8.1.2)

If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat:

X 10. If seat adjustments, other than fore-aft, are present and the reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal. (S16.2.10.3.2)

N/A - No seat adjustments

Reference angle as tested: 0°

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X 11. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S8.1.3)

   N/A - No seat back angle adjustment

   Manufacturer's design seat back angle: distance between outer bolt for sun visor bracket and outer hole for head restraint equals 715 mm.

   Tested seat back angle: distance between outer bolt for sun visor bracket and outer hole for head restraint equals 715 mm.

X 12. If adjustable, set the head restraint at the full up and full forward position. (S8.1.3) Any adjustment of the head restraint shall be used to position it full forward. For example, if it rotates, rotate it such that the head restraint extends as far forward as possible.

   N/A - No head restraint adjustment.

X 13. Place any adjustable seat belt anchorages at the vehicle manufacturer's nominal design position for a 50th percentile adult male occupant (S8.1.3)

   N/A - No adjustable upper seat belt anchorage

   Manufacturer's specified anchorage position: ____________

   Tested anchorage position: ____________

X 14. Is the driver seat a bucket seat?
   X Yes, go to 14.1 and skip 14.2.
   X No, go to 14.2 and skip 14.1.

X 14.1 Bucket seats:
   Locate and mark a vertical Plane B through the longitudinal centerline of the seat. The longitudinal centerline of a bucket seat cushion is determined at the widest part of the seat cushion. Measure perpendicular to the longitudinal centerline of the vehicle.
   Record the width of the seat. ____________
   Record the distance from the edge of the seat to Plane B. ____________

X 14.2 Bench seats (including split bench seats):
   X Driver seat: Locate and mark a vertical Plane B through the center of the steering wheel parallel to the vehicle longitudinal centerline.
   __ Passenger seat: Locate and mark a vertical longitudinal Plane B on the seat that is the same distance from the longitudinal centerline of the vehicle as the center of the steering wheel.
   Distance from the vehicle centerline to the center of the steering wheel: ____________
   Distance from the vehicle centerline to Plane B: ____________

X 15. Stow outboard armrests that are capable of being stowed. (S7.4.2)

X 16. Remove the arms of a Subpart E dummy and place it in the seat such that the midsagittal plane is coincident with Plane B and the upper torso rests against the seat back. (S10.4.1.1 & S10.4.1.2)

X 17. Rest the thighs on the seat cushion.

X 18. Position the H-point of the dummy within 0.5 inch of the vertical dimension and 0.5 inch of the horizontal dimension of a point 0.25 inch below the H-point determined by using the equipment and procedures specified in SAE J826 (APR 1980). (S10.4.2.1) Then measure the pelvic angle with respect to the horizontal using the pelvic angle gage. Adjust the dummy position until these three measurements are within the specifications. (S10.4.2.1) and S10.4.2.2)

   __ horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.)
   __ vertical inches from the point 0.25 below the determined H-point (0.5 inch max.)
   __ pelvic angle (20° to 25°)

X 19. Set the distance between the outboard knee clevis flange surfaces at 10.6 inches. __ measured distance (10.6 inches) (S10.5)

X 20. To the extent practicable keep the thighs and the legs in a vertical plane (S10.5) and rest the thighs on the seat cushion while resting the feet on the floorpan or toe board.

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21. Fasten the seat belt around the dummy.
X 22. Remove all slack from the lap belt portion. (S10.9)
X 23. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times.
(S10.9)
X 24. Apply ±2 to 4 pound tension load to the lap belt. (S10.9)
   4_ pound load applied
X 25. Is the belt system equipped with a tension relieving device?
   ___ Yes, continue
   X   No, go to 26
X 26. Check the statement that applies to this test vehicle:
   ___ 26.1 The torso and lap belt webbing of the seat belt system automatically retracts to a stowed
         position when the adjacent vehicle door is in an open position and the seat belt latch plate is
         released. ___ Pass
X   26.2 The torso and lap belt webbing of the seat belt system automatically retracts when the seat
         belt latch plate is released. X   Pass
   26.3 Neither A or B apply. ___ FAIL
X 27. With the webbing and hardware in the stowed position are the webbing and hardware
         prevented from being pinched when the door is closed?
   X   Yes-Pass;
   ___ No-FAIL
X 28. If this test vehicle has an open body (without doors) and has a belt system with a
         tension-relieving device, does the belt system fully retract when the tension-relieving device
         is deactivated?
   X   N/A
   ___ Yes-Pass;
   ___ No-FAIL
DATA SHEET 12
SEAT BELT RETRACTION (S7.4.1)

NHTSA No.: C33306 ___________________ Test Date: 06/09/03

Laboratory: TRC Inc. __________ Test Technician(s): S. Bell __________

DESIGNATED SEATING POSITION: Right Front

GVWR: 2569.6 kg/5665 lbs. __________

Test all four outboard seat belts, except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

X 1. Is the vehicle a passenger car or walk-in van-type vehicle?
   Yes, this form is complete
   X No

X 2. Position the seat’s adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
   X N/A – No lumbar adjustment

X 3. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
   X N/A – No additional support adjustment

X 4. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)
   X N/A – No independent fore-aft seat cushion adjustment

X 5. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)
   X N/A – No independent seat cushion height adjustment.

X 6. Put the seat in its full rearward position.
   N/A – The seat does not have a fore-aft adjustment

X 7. If the seat height is adjustable, put it in the full down position. (S8.1.2)
   X N/A – No seat height adjustment

X 8. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Make the sides of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid position (if there is no mid position, label the closest adjustment position to the rear of the midpoint), and R for full rearward.
   X N/A – The seat does not have a fore-aft adjustment

X 9. Using only the controls that change the seat in the fore-aft direction, place the seat in the middle fore-aft position. (S8.1.2)
   If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat: ____________________________

X 10. If seat adjustments, other than fore-aft, are present and the reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal. (S16.2.10.3.2)
   X N/A – No seat adjustments
   Reference angle as tested: 0° __________
X. 11. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S8.1.3)
   N/A - No seat back angle adjustment
   Manufacturer's design seat back angle 5 detents reward from first locking position
   Tested seat back angle 5 detents reward from first locking position

X. 12. If adjustable, set the head restraint at the full up and full forward position. (S8.1.3) Any adjustment of the head restraint shall be used to position it full forward. For example, if it rotates, rotate it such that the head restraint extends as far forward as possible.
   N/A - No head restraint adjustment

X. 13. Place any adjustable seat belt anchorages at the vehicle manufacturer's nominal design position for a 50th percentile adult male occupant (S8.1.3)
   N/A - No adjustable upper seat belt anchorage
   Manufacturer's specified anchorage position
   Tested anchorage position

X. 14. Is the driver seat a bucket seat?
   X. Yes, go to 14.1 and skip 14.2.
   _ No, go to 14.2 and skip 14.1.

X. 14.1 Bucket seats:
   Locate and mark a vertical Plane B through the longitudinal centerline of the seat. The longitudinal centerline of a bucket seat cushion is determined at the widest part of the seat cushion. Measure perpendicular to the longitudinal centerline of the vehicle.
   Record the width of the seat.
   
   Record the distance from the edge of the seat to Plane B.

X. 14.2 Bench seats (including split bench seats):
   _ Driver seat: Locate and mark a vertical Plane B through the center of the steering wheel parallel to the vehicle longitudinal centerline.
   _ Passenger seat: Locate and mark a vertical longitudinal Plane B on the seat that is the same distance from the longitudinal centerline of the vehicle as the center of the steering wheel.
   Distance from the vehicle centerline to the center of the steering wheel
   Distance from the vehicle centerline to Plane B

X. 15. Show outboard armrests that are capable of being stowed (S7.4.5)

X. 16. Remove the arms of a Subpart E dummy and place it in the seat such that the midsagittal plane is coincident with Plane B and the upper torso rests against the seat back. (S10.4.1.1 & S10.4.1.2)

X. 17. Rest the thighs on the seat cushion.

X. 18. Position the H-point of the dummy within 0.5 inch of the vertical dimension and 0.5 inch of the horizontal dimension of a point 0.25 inch below the H-point determined by using the equipment and procedures specified in SAE J826 (APR 1980). (S10.4.2.1) Then measure the pelvic angle with respect to the horizontal using the pelvic angle gauge. Adjust the dummy position until these three measurements are within the specifications. (S10.4.2.1 and S10.4.2.2)
   0.25 horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.)
   0.25 vertical inches from the point 0.25 below the determined H-point (0.5 inch max.)
   22°-25° pelvic angle (20°-25°)

X. 19. Set the distance between the outboard knee clevis flange surfaces at 10.6 inches.
   Measured distance (10.6 inches) (S10.5)

X. 20. To the extent practicable keep the thighs and the legs in a vertical plane (S10.5) and rest the thighs on the seat cushion while resting the feet on the floorpan or toe board.

X. 21. Fasten the seat belt around the dummy.
22. Remove all slack from the lap belt portion. (S10.9)
23. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times. (S10.9)
24. Apply a 2 to 4 pound tension load to the lap belt. (S10.9)
4 pound load applied
25. Is the belt system equipped with a tension relieving device?
   Yes, continue
   No, go to 26
25.1 Introduce the maximum amount of slack into the upper torso belt that is recommended by the vehicle manufacturer in the vehicle owner's manual. (S10.9)
26. Check the statement that applies to this test vehicle:
   26.1 The torso and lap belt webbing of the seat belt system automatically retracts to a stowed position when the adjacent vehicle door is in an open position and the seat belt latch plate is released. Pass
   26.2 The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latch plate is released.  Pass
   26.3 Neither A or B apply.  FAIL
27. With the webbing and hardware in the stowed position are the webbing and hardware prevented from being pinched when the doors are closed?
   Yes-Pass
   No-FAIL
28. If this test vehicle has an open body (without doors) and has a belt system with a tension-relieving device, does the belt system fully retract when the tension-relieving device is deactivated?
   N/A
   Yes-Pass
   No-FAIL
DATA SHEET 13
SEAT BELT GUIDES AND HARDWARE (S7.4.6)

NHTSA No.: C33506 _____________________________ Test Date: 06/06/03

Laboratory: TRC Inc. ___________ Test Technician(s): S. Bell _____________________________

DESIGNATED SEATING POSITION: Left Front ______________________________________

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated
seating positions in passenger cars. Complete a form for each applicable seat belt.

X 1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1(b))
   — Yes; this form is complete
   — No; go to 2

X 2. Is the seat removable? (S7.4.6.1(b))
   — Yes; this form is complete
   — No; go to 3

X 3. Is the seat movable so that the space formerly occupied by the seat can be used for a
   secondary function? (S7.4.6.1(b))
   — Yes; this form is complete
   — No; go to 4

X 4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat
   back? (S7.4.6.1(a))
   — Yes; go to 5.
   — No; this form is complete.

5. Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt
   webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions
   other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)?
   (S7.4.6.1(a))
   — Yes-Pass; ___________ No-FAIL
   Identify the part(s) on top or above the seat.
   ______ seat belt latch plate; ______ buckle; ______ seat belt webbing

6. Are the remaining two seat belt parts accessible under normal conditions?
   — Yes-Pass; ___________ No-FAIL

7. The buckle and latch plate do not pass through the guides or conduits provided and fall
   behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt
   is unlatched. (S7.4.6.2)
   — Yes-Pass; ___________ No-FAIL

8. The buckle and latch plate do not pass through the guides or conduits provided and fall
   behind the seat when the seat is moved to any position to which it is designed to be adjusted.
   (S7.4.6.2)
   — Yes-Pass; ___________ No-FAIL

9. The buckle and latch plate do not pass through the guides or conduits provided and fall
   behind the seat when the seat back, if foldable, is folded forward as far as possible and then
   moved backward into position. (S7.4.6.2)
   — Yes-Pass; ___________ No-FAIL

10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard
    designated seating position, accessible with the center armrest in any position to which it can
    be adjusted (without moving the armrest)? (S7.4.6.2)
    — Yes-Pass; ___________ No-FAIL

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DATA SHEET 13
SEAT BELT GUIDES AND HARDWARE (S7.4.6)

NHTSA No.: C35206_ ____________ Test Date: 06/06/03

Laboratory: TRC Inc. Test Technician(s): S. Bell

DESIGNATED SEATING POSITION: Right Front

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

X 1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1(b))
   ___ Yes; this form is complete
   X ___ No; go to 2

X 2. Is the seat removable? (S7.4.6.1(b))
   ___ Yes; this form is complete
   X ___ No; go to 3

X 3. Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))
   ___ Yes; this form is complete
   X ___ No; go to 4

X 4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))
   ___ Yes; go to 5.
   X ___ No; this form is complete.

5. Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a))
   ___ Yes-Pass; ___ No-FAIL
   Identify the part(s) on top or above the seat.
   ___ seat belt latch plate; ___ buckle; ___ seat belt webbing

6. Are the remaining two seat belt parts accessible under normal conditions?
   ___ Yes-Pass; ___ No-FAIL

7. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2)
   ___ Yes-Pass; ___ No-FAIL

8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)
   ___ Yes-Pass; ___ No-FAIL

9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)
   Yes-Pass; ___ No-FAIL

10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)
    ___ Yes-Pass; ___ No-FAIL

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DATA SHEET 13
SEAT BELT GUIDES AND HARDWARE (S7.4.6)

NHTSA No.: C35306 ____________________________ Test Date: 06/06/03 __________

Laboratory: TRC Inc. ____________________________ Test Technician(s): S. Bell ____________________________

DESIGNATED SEATING POSITION: Second Row Left ____________________________

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

X 1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1 (b))
   __ Yes; this form is complete
   X No; go to 2

X 2. Is the seat removable? (S7.4.6.1(b))
   X Yes; this form is complete
   __ No; go to 3

3. Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))
   __ Yes; this form is complete
   __ No; go to 4

4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))
   __ Yes; go to 5.
   __ No: this form is complete.

5. Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a))
   __ Yes-Pass;  __ No-FAIL
   Identify the part(s) on top or above the seat:
   __ seat belt latch plate; __ buckle; __ seat belt webbing

6. Are the remaining two seat belt parts accessible under normal conditions? (S7.4.6.2)
   __ Yes-Pass;  __ No-FAIL

7. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlaunched. (S7.4.6.2)
   __ Yes-Pass;  __ No-FAIL

8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)
   __ Yes-Pass;  __ No-FAIL

9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)
   __ Yes-Pass;  __ No-FAIL

10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)
    __ Yes-Pass;  __ No-FAIL
DATA SHEET 13
SEAT BELT GUIDES AND HARDWARE (S7.4.6)

NHTSA No.: C35306
Test Date: 06/06/03

Laboratory: TRC Inc.
Test Technician(s): S. Bell

DESIGNATED SEATING POSITION: Second Row Right

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

X 1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1 (b))
   __ Yes; this form is complete
   X  No; go to 2

X 2. Is the seat removable? (S7.4.6.1(b))
   X  Yes; this form is complete
   __ No; go to 3

   3. Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))
      __ Yes; this form is complete
      __ No; go to 4

   4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))
      __ Yes; go to 5.
      __ No: this form is incomplete.

   5. Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a))
      __ Yes-Pass;  __ No-FAIL
      Identify the part(s) on top or above the seat.
      _ seat belt latch plate; _ buckle; _ seat belt webbing

   6. Are the remaining two seat belt parts accessible under normal conditions?
      __ Yes-Pass;  __ No-FAIL

   7. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2)
      __ Yes-Pass;  __ No-FAIL

   8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)
      __ Yes-Pass;  __ No-FAIL

   9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)
      __ Yes-Pass;  __ No-FAIL

   10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)
      __ Yes-Pass;  __ No-FAIL
DATA SHEET 13
SEAT BELT GUIDES AND HARDWARE (S7.4.6)

NHTSA No.: C35396 ___ ___ ___ ___ Test Date: 06/06/03___

Laboratory: TRC Inc. ___ ___ Test Technician(s): S. Bell

DESIGNATED SEATING POSITION: Third Row Left

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1(a))
   - Yes; this form is complete
   - No; go to 2

2. Is the seat removable? (S7.4.6.1(b))
   - Yes; this form is complete
   - No; go to 3

3. Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))
   - Yes; this form is complete
   - No; go to 4

4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))
   - Yes; go to 5
   - No; this form is complete

5. Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a))
   - Yes-Pass; ___ No-FAIL.
   - Identify the part(s) on top or above the seat.
     __ seat belt latch plate; __ buckle; __ seat belt webbing

6. Are the remaining two seat belt parts accessible under normal conditions?
   - Yes-Pass; ___ No-FAIL.

7. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2)
   - Yes-Pass; ___ No-FAIL.

8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)
   - Yes-Pass; ___ No-FAIL.

9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)
   - Yes-Pass; ___ No-FAIL.

10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)
    - Yes-Pass; ___ No-FAIL.

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DATA SHEET 13
SEAT BELT GUIDES AND HARDWARE (S7.4.6)

NHTSA No.: C35306  Test Date: 06/06/03

Laboratory: TRC Inc. Test Technician(s): S. Bell

DESIGNATED SEATING POSITION: Third Row Center

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

☐ 1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1 (b))
  ☐ Yes; this form is complete
   ☐ No; go to 2

☐ 2. Is the seat removable? (S7.4.6.1(b))
   ☐ Yes; this form is complete
   ☐ No; go to 3

☐ 3. Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))
   ☐ Yes; this form is complete
   ☐ No; go to 4

☐ 4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))
   ☐ Yes; go to 5.
   ☐ No: this form is complete.

☐ 5. Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a))
   ☐ Yes-Pass; ☐ No-FAIL.
   Identify the part(s) on top or above the seat.
   ☐ seat belt latch plate; ☐ buckle; ☐ seat belt webbing

☐ 6. Are the remaining two seat belt parts accessible under normal conditions?
   ☐ Yes-Pass; ☐ No-FAIL

☐ 7. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2)
   ☐ Yes-Pass; ☐ No-FAIL

☐ 8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position in which it is designed to be adjusted. (S7.4.6.2)
   Yes-Pass; ☐ No-FAIL

☐ 9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is folded forward as far as possible and then moved backward into position. (S7.4.6.2)
   Yes-Pass; ☐ No-FAIL

☐ 10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)
   Yes-Pass; ☐ No-FAIL

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DATA SHEET 13
SEAT BELT GUIDES AND HARDWARE (S7.4.6)

NHTSA No.: C35306 Test Date: 06/06/03

Laboratory: TRC Inc. Test Technician(s): S. Bell

DESIGNATED SEATING POSITION: Third Row Right

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

X 1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1(b))
   X Yes; this form is complete
   _ No; go to 2

2. Is the seat removable? (S7.4.6.1(b))
   _ Yes; this form is complete
   _ No; go to 3

3. Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))
   _ Yes; this form is complete
   _ No; go to 4

4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))
   _ Yes; go to 5.
   _ No; this form is complete.

5. Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a))
   _ Yes-Pass; _ No-FAIL
   Identify the part(s) on top or above the seat.
   __ seat belt latch plate; __ buckle; __ seat belt webbing

6. Are the remaining two seat belt parts accessible under normal conditions?
   _ Yes-Pass; _ No-FAIL

7. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)
   _ Yes-Pass; _ No-FAIL

8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)
   _ Yes-Pass; _ No-FAIL

9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)
   _ Yes-Pass; _ No-FAIL

10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)
    _ Yes-Pass; _ No-FAIL

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DATA SHEET 30

VEHICLE WEIGHT, FUEL TANK, AND ATTITUDE DATA

NHTSA No.: C35306 _______________ Test Date: 06/16/03

Laboratory: TRC Inc. Test Technician(s): R. Benavides ________________ ___

Impact Angle: 0° Belted Dummies: ___ Yes ___ No

Test Speed: ___ X ___ 32 to 40 km/h ___ 0 to 48 km/h ___ 0 to 56 km/h

Driver Dummy: ___ X ___ 5th female ___ 50th male Passenger Dummy: ___ X ___ 5th female ___ 50th male

1. Fill the transmission with transmission fluid to the satisfactory range.
2. Drain fuel from vehicle.
3. Run the engine until fuel remaining in the fuel delivery system is used and the engine stops.
4. Record the usable fuel tank capacity supplied by the COIR. 20.9 gallons (79.7 L) ___
5. Record the fuel tank capacity supplied in the owner’s manual. 20.9 gallons (79.7 L) ___
6. Using purple dyed Stoddard solvent having the physical and chemical properties of Type I solvent or cleaning fluid, Table 1, ASTM Standard D484-71, “Standard Specifications for Hydrocarbon Dry-cleaning Solvents,” or gasoline, fill the fuel tank.
   Amount added: 20.0 gallons
7. Fill the coolant system to capacity.
8. Fill the engine with motor oil to the max. mark on the dip stick.
9. Fill the brake reservoir with brake fluid to its normal level.
10. Fill the windshield washer reservoir to capacity.
11. Inflate the tires to the tire pressure on the tire placard. If no tire placard is available, inflate the tires to the recommended pressure in the owner’s manual.
   Tire placard pressure: RF 36; LF 36; RR 36; LR 36
   Owner’s manual pressure: RF 36; LF 36; RR 36; LR 36
   Actual inflated pressure: RF 36; LF 36; RR 36; LR 36
12. Record the vehicle weight at each wheel to determine the unloaded vehicle weight (UVW), i.e. “as delivered” weight.
   Right Front = 547.0 kg Right Rear = 426.5 kg
   Left Front = 588.0 kg Left Rear = 420.5 kg
   TOTAL FRONT = 1135.0 kg TOTAL REAR = 847.0 kg
   % Total Weight = 57.3 % % Total Weight = 42.7 %

UVW = TOTAL FRONT PLUS TOTAL REAR = 1982.0 kg

13. UVW Test Vehicle Attitude (all dimensions in millimeters)
   13.1 Mark a point on the vehicle above the center of each wheel.
   13.2 Place the vehicle on a level surface.
   13.3 Measure perpendicular to the level surface to the 4 points marked on the body and record the measurements
   RF 778; LF 768; RR 770; LR 765

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14. Calculate the Rated Cargo and Luggage Weight (RCLW).
   14.1 Does the vehicle have the vehicle capacity weight (VCW) on the certification
   label or tire placard?
   ___ Yes, go to 14.6
   ___ No, go to 14.2.
   14.2 VCW - Gross Vehicle Weight - UVW
   VCW = __________ - __________ = __________
   14.3 VCW = 525.3 kg
   14.4 Does the certification or tire placard contain the Designated Seating Capacity
   (DSC)?
   ___ Yes, go to 14.5
   ___ No, go to 14.6
   14.5 DSC = Total number of seat belt assemblies = __________
   14.6 DSC = __________
   14.7 RCLW - VCW - (68 kg x DSC) = 525.3 - (68 kg x __________) = 493
   14.8 Is the vehicle certified as a truck, MPV or bus (see the certification label on the
   door jamb)?
   ___ Yes. If the calculated RCLW is greater than 136 kg, use 136 kg as the
   RCLW. (S8.1.1)
   ___ No, use the RCLW calculated in 14.7.

15. Fully Loaded Weight (100% fuel fill)
   15.1 Place the appropriate test dummy in both front outboard seating positions.
   Driver: ___ 5th female ___ 50th male
   Passenger: ___ 5th female ___ 50th male
   15.2 Load the vehicle with the RCLW from 14.7 or 14.8 whichever is applicable.
   15.3 Place the RCLW in the cargo area. Center the load over the longitudinal
   centerline of the vehicle. (S8.1.1 (d))
   15.4 Record the vehicle weight at each wheel to determine the Fully Loaded Weight.

   Right Front = __________ kg
   Left Front = __________ kg
   TOTAL FRONT = __________ kg

   Right Rear = __________ kg
   Left Rear = __________ kg
   TOTAL REAR = __________ kg

   % Total Weight = __________ %
   % Total Weight = __________ %
   % GVW = __________ %

   FULLY LOADED WEIGHT = TOTAL FRONT + TOTAL REAR = __________ kg

16. Fully Loaded Test Vehicle Attitude: (all dimensions in millimeters)
   16.1 Place the vehicle on a level surface.
   16.2 Measure perpendicular to the level surface to the 4 points marked on the body (see
   13.1 above) and record the measurements
   RF 763 __ LF 765 __ RR 750 __ LR 750 __

17. Drain the fuel system

18. Using purple dyed Stoddard solvent having the physical and chemical properties of Type 1
    solvent or cleaning fluid, Table 1, ASTM Standard D484-71, “Standard Specifications for
    Hydrocarbon Dry-cleaning Solvents,” fill the fuel tank to 94 percent of useable capacity.
    Fuel tank capacity x .94 = __________
    Amount added = __________ gal

19. Crank the engine to fill the fuel delivery system with Stoddard solvent.
20. Calculate the test weight range.

\[ \text{Test Weight Range} = \text{Calculated Weight} \pm \text{RCLW} \pm \text{dummy weight} \]

\[ \begin{align*}
2129.3 & \pm 1982.0 \pm 49.3 = 98.0 \\
\end{align*} \]

21. Remove the RCLW from the cargo area.

22. Drain transmission fluid, engine coolant, motor oil, and windshield washer fluid from the test vehicle so that standard solvent leakage from the fuel system will be evident.

23. Vehicle Components Removed For Weight Reduction:

N/A

24. Secure the equipment and ballast in the load carrying area and distribute it, as nearly as possible, to obtain the proportion of axle weight indicated by the gross axle weight ratings and center it over the longitudinal centerline of the vehicle.

25. If necessary, add ballast to achieve the actual test weight.

N/A

Weight of ballast: 41.7 kg

26. Ballast, including test equipment, must be contained so that it will not shift during the impact event or interfere with data collection or interfere with high-speed film recordings or affect the structural integrity of the vehicle or do anything else to affect test results. Care must be taken to assure that any attachment hardware added to the vehicle is not in the vicinity of the fuel tank or lines.

27. Record the vehicle weight at each wheel to determine the actual test weight.

Right Front = 573.4 kg

Left Front = 396.8 kg

Right Rear = 481.4 kg

Left Rear = 468.0 kg

TOTAL FRONT = 1170.2 kg

TOTAL REAR = 949.4 kg

\% Total Weight = 55.0 \%

\% GVM = 46.0 \%

\% GVW = 37.0 \%

(\%GVW = Axle GVW + Vehicle GVW)

28. Is the test weight between the Max. Weight and the Min. Weight (See 29.2)?

Yes

29. Test Weight Vehicle Attitude: (all dimensions in millimeters)

29.1 Place the vehicle on a level surface.

29.2 Measure perpendicular to the level surface to the 4 points marked on the body (see 13 above) and record the measurements:

RF 751; LF 743; RR 741; LR 741
30. Summary of test attitude

30.1

AS DELIVERED: RF 778; LF 768; RR 770; LR 765

AS TESTED: RF 752; LF 746; RR 741; LR 742

FULLY LOADED: RF 763; LF 756; RR 759; LR 750

30.2 Is the "as tested" test attitude equal to or between the "fully loaded" and "as delivered" attitude?

Yes

X No, explain why not. As tested attitudes are lower than the fully loaded attitudes.
DATA SHEET 31
Vehicle Accelerometer Location

NHTSA No.: C35306

Test Date: 06/10/05

Laboratory: TRC Inc. Test Technician(s): R. Benavides, D. Summers

Impact Angle: 0° Belted Dummies: Yes No

Test Speed: X 32 to 40 km/h 0 to 48 km/h 0 to 56 km/h

Driver Dummy: X 5th female 50th male Passenger Dummy: X 5th female 50th male

1. Find the location where the vertical plane parallel to the longitudinal centerline of the vehicle and through the center of the left front outboard seating position intersects the left rear seat cross member. Install an accelerometer at this intersection on the rear seat cross member to record x-direction accelerations. Record the location on the following chart.

2. Find the location where the vertical plane parallel to the longitudinal centerline of the vehicle and through the center of the right front outboard seating position intersects the right rear seat cross member. Install an accelerometer at this intersection on the rear seat cross member to record x-direction accelerations. Record the location on the following chart.

3. Find the location where a vertical plane through the longitudinal centerline of the vehicle and a vertical transverse plane through the center of the two wheels on opposite sides of the engine intersect at the top of the engine. Install an accelerometer at this intersection to record x-direction accelerations. Record the location on the following chart.

4. Find the location where a vertical plane through the longitudinal centerline of the vehicle and a vertical transverse plane through the center of the two wheels on opposite sides of the engine intersect at the bottom of the engine. Install an accelerometer at this intersection to record x-direction accelerations. Record the location on the following chart.

5. Install an accelerometer on the right front brake caliper to record x-direction accelerations. Record the location on the following chart.

6. Find the location where a vertical plane through the longitudinal centerline of the vehicle intersects the top of the instrument panel. Install an accelerometer at this intersection to record x-direction accelerations. Record the location on the following chart.

7. Install an accelerometer on the left front brake caliper to record x-direction accelerations. Record the location on the following chart.

8. Find the location where a vertical plane through the longitudinal centerline of the vehicle intersects the floor of the trunk. Install an accelerometer on the trunk floor at this intersection to record z-direction accelerations. Record the location on the following chart.
VEHICLE ACCELEROMETER LOCATION
AND DATA SUMMARY

TOP VIEW

REAR SEAT CUSHION
ASSY. FRONT ATTACHMENT
BRACKET SUPPORT

LEFT SIDE VIEW

DISC BRAKE
CALIPER
# DATA SHEET 3:
# VEHICLE ACCELEROMETER LOCATION MEASUREMENTS

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<th>DIMENSION</th>
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<td><strong>PRE-TEST VALUES</strong></td>
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<tr>
<td>A</td>
<td>760</td>
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<td>B</td>
<td>760</td>
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<tr>
<td>C</td>
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<td>D</td>
<td>4375</td>
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<td>4270 left; 4270 right</td>
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<tr>
<td>F</td>
<td>751 left; 751 right</td>
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<tr>
<td>G</td>
<td>4290</td>
</tr>
<tr>
<td>H</td>
<td>760 left; 760 right</td>
</tr>
<tr>
<td>K</td>
<td>915</td>
</tr>
<tr>
<td><strong>POST-TEST VALUES</strong></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>760</td>
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<td>B</td>
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<td>D</td>
<td>4255</td>
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<td>4200 left; 4225 right</td>
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<td>F</td>
<td>755 left; 749 right</td>
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<tr>
<td>G</td>
<td>4283</td>
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<tr>
<td>H</td>
<td>760 left; 760 right</td>
</tr>
<tr>
<td>K</td>
<td>915</td>
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**REMARKS:**

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DATA SHEET 32
Photographic Targets

NHTSA No.: C35306 ____________________________ Test Date: 06/10/03

Laboratory: TRC Inc. ______ Test Technician(s): R. Benavides ______________

Impact Angle: 0° Offset percentage: N/A Bolted Dummies: ___ Yes ___ No

Test Speed: ___ 32 to 40 km/h ___ 0 to 48 km/h ___ 0 to 56 km/h

Driver Dummy: ___ 50th female ___ 50th male Passenger Dummy: ___ 5th female ___ 50th male

1. JMVSS 208 vehicle targeting requirements (See Figures 28A and 28B)
   ___ 1.1 Targets A1 and A2 are on flat rectangular panels.
   ___ 1.2 Three circular targets at least 90 mm in diameter and with black and yellow quadrants are
       mounted at the front on the outboard sides of A1 and A2. The center of each circular
       target is 100 mm from the one next to it. Distance between targets __120__ ___ mm
   ___ 1.3 Three circular targets at least 90 mm in diameter and with black and yellow quadrants are
       mounted at the back on the outboard sides of A1 and A2. The center of each circular
       target is 100 mm from the one next to it. Distance between targets __120__ ___ mm
   ___ 1.4 The distance between the first circular target at the front of A1 and A2 and the last circular
       target at the back of A1 and A2 is at least 915 mm.
       Distance between the first and last circular targets __915______ mm
   ___ 1.5 Firmly fix target A1 on the vehicle roof in the vertical longitudinal plane that is coincident
       with the midsagittal plane of the driver dummy.
   ___ 1.6 Firmly fix target A2 on the vehicle roof in the vertical longitudinal plane that is coincident
       with the midsagittal plane of the passenger dummy.
   ___ 1.7 Two circular targets (C1 and C2) at least 90 mm in diameter and with black and yellow
       quadrants are mounted on the outside of the driver door. The centers of each circular
       target are at least 610 mm apart. Distance between targets __610__ ___ mm
   ___ 1.8 Two circular targets (C1 and C2) at least 90 mm in diameter and with black and yellow
       quadrants are mounted on the outside of the passenger door. The centers of each circular
       target are at least 610 mm apart. Distance between targets __610__ ___ mm
   ___ 1.9 Place tape with squares having alternating colors on the top portion of the steering wheel.
   ___ 1.10 Chalk the bottom portion of the steering wheel.
   ___ 1.11 Is this an offset test?
      ___ Yes, continue with this section
      ___ No, go to 2
   ___ 1.12 Measure the width of the vehicle. Vehicle width __1920__ ___ mm
   ___ 1.13 Find the centerline of the vehicle. (½ of the vehicle width)
   ___ 1.14 Find the line parallel to the centerline of the vehicle and 0.1 x vehicle width from the
       centerline of the vehicle.
   ___ 1.15 Apply 25 mm wide tape with alternating black and yellow squares parallel to and on each
       side of the line found in 1.14. The edge of each tape shall be 50 mm from the line found
       in 1.14. The tape shall extend from the bottom of the bumper to the front edge of the
       windshield. (Figure 28D)
2. Barrier targeting
   2.1 Fix two stationary targets D1 and D2 to the barrier as shown in the Figure 28A. One target is in the vertical longitudinal plane that is coincident with the midsagittal plane of the driver dummy. The other is in the vertical longitudinal plane that is coincident with the midsagittal plane of the passenger dummy.
   2.2 Targets D1 and D2 are on a rectangular panel.
   2.3 Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted on the sides of the rectangular panel away from the longitudinal centerline of the vehicle. The center of each circular target is 100 mm from the one next to it.
   Distance between circular targets on D1 _________ mm
   Distance between circular targets on D2 _________ mm

3. FMVSS 208 dummy targeting requirements
   X 3.1 Place a circular target with black and yellow quadrants on both sides of the driver dummy head as close as possible to the center of gravity of the head in the x and z direction (relative to the measuring directions of the accelerometers).
   X 3.2 Place a circular target with black and yellow quadrants on both sides of the passenger dummy head as close as possible to the center of gravity of the head in the x and z direction (relative to the measuring directions of the accelerometers).
   X 3.3 Place a circular target with black and yellow quadrants on the outboard shoulder of the driver dummy. Place the target as high up on the arm as possible at the intersection of the arm and shoulder. The sleeve of the shirt on the dummy may be cut to make the target visible, but do not remove any material.
   X 3.4 Place a circular target with black and yellow quadrants on the outboard shoulder of the passenger dummy. Place the target as high up on the arm as possible at the intersection of the arm and shoulder. The sleeve of the shirt on the dummy may be cut to make the target visible, but do not remove any material.

4. FMVSS 204 targeting requirements
   X 4.1 Is an FMVSS 204 indicator test ordered on the “COTR Vehicle Work Order”?
      Yes, continue with this form.
      X No, this form is complete
   4.2 Rejection panel (Figure 28C)
      4.2.1 The panel deviates no more than 6 mm from perfect flatness when suspended vertically.
      4.2.2 The 8 targets on the panel are circular targets at least 90 mm in diameter and with black and yellow quadrants.
      4.2.3 The center of each of the 4 outer targets are placed within 1 mm of the corners of a square measuring 914 mm on each side.
      4.2.4 Locate another square with 228 mm sides and with the center of this square coincident with the center of the 914 mm square.
      4.2.5 The center of the 4 inner targets are placed at the midpoints of each of the 228 mm sides.
   4.3 Place a circular target at least 90 mm in diameter and with black and yellow quadrants on a material (cardboard, metal, etc.) that can be taped to the top of the steering column.
   4.4 Tape the target from 4.3 to the top of the steering column in a manner that does not interfere with the movement of the steering column in a crash.
REFERENCE PHOTO TARGETS

CONCRETE BARRIER

915 mm

127 mm

610 mm

MONORAIL

COVERED PHOTO PIT

LEFT SIDE VIEW

FIGURE 28A
FIGURE 28B
PRE-RUN STEERING COLUMN HIGH SPEED CAMERA VIEW

LEFT SIDE VIEW

FIGURE 28C
OF-SH-I DEFORMABLE BARRIER
ADDITIONAL VEHICLE TARGETING

±50mm TOLERANCE MARKING (USE 25mm BLACK AND YELLOW BLOCK TAPE MARKING STOPS AT THE WINDSHIELD).
## Data Sheet 33
### Camera Locations

**Vehicle Information:**
- **VEH. NHTSA No.:** C3536
- **Test Date:** 06/10/03
- **Time:** 1220

**Vehicle Year/Make/Model/Body Style:** 2003/Honda/Odyssey/MPV

<table>
<thead>
<tr>
<th>Camera No.</th>
<th>View Description</th>
<th>Camera Positions (mm) *</th>
<th>Angle (deg)</th>
<th>Film Plane to Head Target</th>
<th>Lens (mm)</th>
<th>Speed (fps)</th>
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<tr>
<td>1</td>
<td>Left Side View</td>
<td>-1050 -9250 -1460</td>
<td>-2.7</td>
<td>8850</td>
<td>25</td>
<td>1010</td>
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<td>2</td>
<td>Left Side View (barrier face to front seat backs)</td>
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<td>1.6</td>
<td>8300</td>
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<td>1020</td>
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<td>3</td>
<td>Left Side View (A-post)</td>
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<td>-9.4</td>
<td>4500</td>
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<td>Left Side View (B-post aimed toward center of steering wheel)</td>
<td>-1650 -7000 -2250</td>
<td>-9.5</td>
<td>6500</td>
<td>25</td>
<td>1060</td>
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<td>-1650 -7100 -450</td>
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<td>6600</td>
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<td>995</td>
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<td>11</td>
<td>Front View Driver</td>
<td>350 0 -2600 -57</td>
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<td>17</td>
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<td>Overhead Barrier Impact View</td>
<td>730 0 -5650 -90</td>
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</tbody>
</table>

* +X - film plane forward (downstream) from barrier impact surface
  +Y - film plane to right of monorail centerline from driver’s perspective
  +Z - film plane below ground level
CAMERA POSITIONS FOR FRONTAL IMPACTS
DATA SHEET 34
DUMMY POSITIONING PROCEDURES FOR TEST DUMMY CONFORMING TO
SUBPART G OF PART 572
Seating Procedure 5th Percentile Female Driver Dummy (Part 572, Subpart O)
(S16.2 - S16.3)

NIHTSA No.: C35306 Test Date: 06/10/93
Laboratory: TRC Inc. Test Technician(s): W. Miller, D. Schmitt
Test Number: 030610

1. Position the seat's adjustable lumbar supports so that the lumbar supports are in the lowest,
   retracted or deflated adjustment position. (S16.2.10.1)
   X N/A - No lumbar adjustment

2. Position any adjustable parts of the seat that provide additional support so that they are in the
   lowest or most open adjustment position. (S16.2.10.2)
   X N/A - No additional support adjustment

3. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full
   rearward position. (S16.2.10.3.1)
   X N/A - No independent fore-aft seat cushion adjustment

4. Use the seat markings determined during the completion of Data Sheet 14 to set the rearmost fore-
   aft position, mid-height position and the seat cushion mid-angle. (S16.3.2.1.1)
   X N/A - Accelerator pedal not adjustable

5. If the vehicle has an adjustable accelerator pedal, place it in the full forward position. (S16.3.2.2.1)

6. Set the steering wheel hub at the geometric center of the full range of driving positions including
   any telescoping positions as determined in data sheet 14. (S16.2.9)

7. Fully recline the seat back. (S16.3.2.1.2)
   X N/A - Seat back not adjustable.

8. Place the dummy in the seat with the legs at an angle of 120 degrees to the thighs. The calves
   should not be touching the seat cushion. (S16.3.2.1.2)

9. Position the dummy in the seat such that the midsagittal plane is coincident with the longitudinal
   seat cushion markings as determined in item 1.18 of Data Sheet 14 (S16.3.2.1.3 and S16.3.2.1.4)

10. Hold down the dummy's thighs and push rearward on the upper torso to maximize the pelvic angle.
    (S16.3.2.1.5)

11. Set the angle between the legs and the thighs to 120 degrees. (S16.3.2.1.6)

12. Set the transverse distance between the centers of the front of the knees at 160 to 170 mm. (6.3 to
    6.7 inches) Center the knee separation with respect to the longitudinal seat cushion markings as
    determined in item 1.18 of Data Sheet 14. (S16.3.2.1.6)

13. Push rearward on the dummy's knees until the pelvis contacts the seat back, or the backs of the
    calves contact the seat cushion, whichever occurs first. (S16.3.2.1.6)

14. X Calves contacted seat cushion.

15. Gently rock the upper torso ± 5 degrees (approximately 51 mm (2 inches)) side to side three time
    (S16.3.2.1.7)

16. If needed, extend the legs until the feet do not contact the floor pan. The thighs should be resting
    on the seat cushion. (S16.3.2.1.8)

17. Position the right foot until the foot is in line with a longitudinal vertical plane passing through the
    center of the accelerator pedal. Maintain the leg and thigh in a vertical plane. (S16.3.2.1.8)

18. Rotate the left leg and thigh laterally to equalize the distance between each knee and the
    longitudinal seat cushion markings as determined in item 1.18 of Data Sheet 14. (S16.3.2.1.8)

Record Knee Separation: 165 mm
18. Attempt to return the seat to the foremost fore-all position, mid-height, and seat cushion mid-angle. The foot may contact and depress the accelerator and/or change the angle of the foot with respect to the leg. (S16.3.2.1.8)
   X  Foremost position achieved. Proceed to step 23.
   X  Foremost not achieved because of foot interference. Proceed to step 20.
   X  Foremost not achieved because of steering wheel contact.

19. If the dummy's legs contact the steering wheel, move the steering wheel up the minimum amount required to avoid contact. If the steering wheel is not adjustable separate the knees the minimum required to avoid contact. (S16.3.2.1.8)
   X  N/A - there was no leg contact
   X  Steering wheel repositioned
   X  Knees separated

20. If the left foot interferes with the clutch or brake pedals, rotate the left foot about the leg to provide clearance. If this is not sufficient, rotate the thigh outward at the hip the minimum amount required for clearance. (S16.3.2.1.8)
   X  N/A, No foot interference with pedals.
   X  Foot adjusted to provide clearance.
   X  Foot and Thigh adjusted to provide clearance.

21. Continue to move the seat. Use seat controls to line up the seat markings determined during the completion of Data Sheet 14 to set the foremost fore-all position, mid-height position and the seat cushion mid-angle. If the dummy contacts the interior move the seat rearward until a maximum clearance of 5 mm (.2 inches) is achieved or the seat is in the closest detent position that does not cause dummy contact. (S16.3.2.1.8)
   X  Foremost, mid-height position and the seat cushion mid-angle reached
   X  Dummy contact. Clearance set at maximum of 5mm
   X  Dummy contact. Seat set at nearest detent position.
   X  Seat position __ detent positions rearward of foremost
   (foremost is position zero)

22. If the steering wheel was repositioned in step 19, return the steering wheel to the original position. If the steering wheel contacts the dummy before reaching the original position, position the wheel until a maximum clearance of 5mm (.2 inches) is achieved, or the steering wheel is in the closest detent position that does not cause dummy contact. (S16.3.2.1.8)
   X  N/A Steering wheel was not repositioned.
   X  Original position achieved.
   X  Dummy contact. Clearance set at maximum of 5mm
   X  Dummy Contact. Steering wheel set at nearest detent position.
   X  Steering wheel position __ detent positions upward of original position
   (Original position is position zero)

23. If the seat back is adjustable, rotate the seat back forward while holding the thighs in place. Continue rotating the seat back forward until the transverse instrument platform of the dummy head is level ± 0.5 degrees. If the head cannot be leveled using the seat back adjustment, or the seat back is not adjustable, use the lower neck bracket adjustment to level the head. If a level position cannot be achieved, minimize the angle. (S16.3.2.1.9)
   X  Head Level Achieved. (Check all that apply)
   X  Head leveled using the adjustable seat back
   X  Head leveled using the neck bracket.
   X  Head Angle __________ degrees
   X  Head Level NOT Achieved. (Check all that apply)
   X  Head adjusted using the adjustable seat back
   X  Head adjusted using the neck bracket.
   X  Head Angle __________ degrees

24. Verify the pelvis is not interfering with the seat tight. (S16.3.2.1.9)
   X  No interference
   X  Pelvis moved forward the minimum amount so that it is not caught in the seat tight.

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X 25. Verify the dummy abdomen is properly installed (S16.3.2.1.9)
   ____ Abdomen still seated properly into dummy
   ___ Abdomen was adjusted because it was not seated properly into dummy

X 26. Head Angle
   ____ N/A, neither the pelvis nor the abdomen were adjusted.
   ____ 26.1 Head still level (Go to 27)
   ___ 26.2 Head level adjusted
       ____ Head Level Achieved. (Check all that apply)
       ____ Head leveled using the adjustable seat back
       ____ Head leveled using the neck bracket.
       ___ Head Angle ___ degrees
       ____ Head Level NOT Achieved. (Check all that apply)
       ____ Head adjusted using the adjustable seat back
       ____ Head adjusted using the neck bracket.
       ___ Head Angle ___ degrees

X 27. If the dummy torso contacts the steering wheel while performing step 23, reposition the steering
       wheel in the following order to eliminate contact.
   ____ N/A. No dummy torso contact with the steering wheel.
   ____ 27.1 Adjust telescoping mechanism.
       ____ N/A No telescoping adjustment.
       ___ Adjustment performed (fill in appropriate change)
       ____ Steering wheel moved ___ detent positions in the forward direction.
       ____ Steering wheel moved ___ mm in the forward direction.
   ____ 27.2 Adjust tilt mechanism.
       ____ N/A No tilt adjustment.
       ___ No adjustment performed.
       ___ Adjustment performed.
       ____ Steering wheel moved ___ detent positions Upward/Downward. (circle one)
       -- Steering wheel moved ___ degrees Upward/Downward
   ____ 27.3 Adjust Seat in the all direction.
       ____ No Adjustment performed.
       ____ Seat moved aft ___ mm from original position.
       ___ Seat moved aft ___ detent positions from the original position.

X 28. Measure and set the pelvic angle using the pelvic angle gauge TE-2504. The pelvic angle should
       be 20.0 degrees ± 2.5 degrees. If the pelvic angle cannot be set to the specified range because the head
       will not be level, adjust the pelvis as closely as possible to the angle range, but keep the head level.
   ____ Pelvic angle set to 20.0 degrees ± 2.5 degrees.
   ____ Pelvic angle of 20.0 degrees not achieved, the angular difference was minimized.
   ____ Record the pelvic angle: ___ 18.8 degrees

X 29. Check the dummy for contact with the interior after completing adjustments.
   ____ No contact.
   ____ Seat moved aft ___ mm from previous position.
   ___ Seat moved aft ___ detent positions from the previous position.

X 30. Check the dummy to see if additional interior clearance is obtained, allowing the seat to be moved forward.
   ____ N/A, Seat already at foremost position.
   ____ Clearance unchanged. No adjustments required.
   ____ Additional clearance available:
   ____ Seat moved Forward ___ mm from previous position.
   ____ Seat moved Forward ___ detent positions from previous position.

X 31. Driver's foot positioning, right foot. Place the foot perpendicular to the leg and determine if the
       heel contacts the floor pan at any leg position. If the heel contacts the floor pan proceed to step 32
       otherwise proceed to step 33.

X 32. Perform the following steps until either all steps are completed, or the foot contacts the accelerator
       pedal. Step 32.6 shall be completed in all cases.
   ____ 32.1 With the rear of the heel contacting the floor pan, move the foot forward until pedal contact
       occurs or the foot is at the full forward position.

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32.2 If the vehicle has an adjustable accelerator pedal, move the pedals rearward until pedal contact occurs or the pedals reach the full rearward position.

32.3 Extend the leg, allowing the heel to lose contact with the floor until the foot contacts the pedal. Do not raise the toe of the foot higher than the top of the accelerator pedal. If the foot does not contact the pedal, proceed to the next step. If pedal contact does occur, place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward.

32.4 Angle the foot to achieve contact between the foot and the pedal. If the foot does not contact the pedal, return the foot to the perpendicular orientation. If pedal contact does occur, place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward.

32.5 Align the centerline of the foot with the vertical-longitudinal plane passing through the center of the accelerator pedal. Place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward.

32.6 Record foot position

X. Pedal Contact achieved. Contact occurred at step 32.1.
X. Heel contacts floor pan
Heel set _____ mm from floor pan.

Pedal Contact not achieved. Heel set _____ mm from the floor pan.

FIGURE G1
33. Perform the following steps until either all steps are completed, or the foot contacts the accelerator pedal. Step 33.5 shall be completed in all cases.

   33.1 Extend the leg until the foot contacts the pedal. Do not raise the toe of the foot higher than the top of the accelerator pedal. If the foot does not contact the pedal, proceed to the next step. If pedal contact does occur, place a tapered foam block as shown in Figure 61 under the heel with the shallow part of the taper facing forward.

   33.2 If the vehicle has an adjustable accelerator pedal, move the pedals rearward until pedal contact occurs or the pedals reach the full rearward position. If pedal contact does occur, place a tapered foam block as shown in Figure 61 under the heel with the shallow part of the taper facing forward.

   33.3 Angle the foot to achieve contact between the foot and the pedal. If the foot does not contact the pedal, reorient the foot to the perpendicular orientation. If pedal contact does occur, place a tapered foam block as shown in Figure 61 under the heel with the shallow part of the taper facing forward.

   33.4 Align the centerline of the foot in the same horizontal plane as the centerline of the accelerator pedal. Place a tapered foam block as shown in Figure 61 under the heel with the shallow part of the taper facing forward.

   33.5 Record foot position

   Pedal Contact achieved. Contact occurred at step _______.

   Heel set ______ mm from floor pan.

   Pedal Contact not achieved. Heel set ______ mm from floor pan.

   X 34. Driver's foot positioning, left foot.

   X 34.1 Place the foot perpendicular to the leg and determine if the heel contacts the floor pan at any leg position. If the heel contacts the floor pan proceed to step 34.2. Otherwise position the leg as perpendicular to the thigh as possible with the foot parallel to the floor pan.

   X 34.2 Place the foot on the toe board with the heel resting on the floor pan as close to the intersection of the floor pan and the toe board as possible. Adjust the angle of the foot if necessary to contact the toe board. If the foot will not contact the toe board, set the foot perpendicular to the leg, and set the heel on the floor pan as far forward as possible. Do not place the foot on the wheel well projection or眉座. If the pedals interfere with the placement of the foot, reposition the foot by rotating the foot about the leg or rotating the leg outward about the hip if necessary.

   X 35. Foot rotated about the leg

   ______ Foot rotated about the leg, and the leg rotated about the hip.

   X 34.3 Record foot position.

   ______ Heel does not contact floor pan.

   ______ Foot placed on toe board.

   X 35. Foot placed on floor pan.

   X 35. Driver arm/hand positioning.

   X 35.1 Place the dummy's upper arm adjacent to the torso with the arm centerline as close to a vertical longitudinal plane as possible. (§16.3.2.3.1)

   X 35.2 Place the palms of the dummy in contact with the outer part of the steering wheel rim at its horizontal centerline with the thumbs over the steering wheel rim. (§16.3.2.3.2)

   ______ If it is not possible to position the thumbs inside the steering wheel rim at its horizontal centerline, then position them above and as close to the horizontal centerline of the steering wheel rim as possible. (§16.3.2.3.3)

   X 35.4 Lightly tape the hands to the steering wheel rim so that if the hand of the test dummy is pushed upward by a force of not less than 9 N (2 lb) and not more than 22 N (5 lb), the tape releases the hand from the steering wheel rim. (§16.3.2.3.4)

   X 36. Adjustable head restraint

   N/A. There is no head restraint adjustment.

   X 36.1 If the head restraint has an automatic adjustment, leave it where the system positions the restraint after the dummy is placed in the seat. (§16.3.4.1) Go to 37.

   X 36.2 Adjust each head restraint vertically so that the horizontal plane determined in item 3 of Data Sheet 14 is aligned with the center of gravity (CG) of the dummy head. (§16.3.4.3).

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36.3 If the above position is not attainable, move the vertical center of the head restraint to the closest detent below the center of the head CG. (§16.3.4.3)

36.4 If the head restraint has a fore and aft adjustment, place the restraint in the forwardmost position or until contact with the head is made, whichever occurs first. (§16.3.4.4)

37.1 Driver and passenger manual belt adjustment (for tests conducted with a belted dummy). (§16.3.5.1)

37.2 Place the Type 2 manual belt around the test dummy and fasten the latch. (§16.3.5.2)

37.3 Ensure that the dummy's head remains as level as possible. (§16.3.5.3)

37.4 Remove all slack from the lap belt. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this operation four times. Apply a 9 N (2 lbf) to 18 N (4 lbf) tension load to the lap belt. If the belt system is equipped with a tension-relieving device, introduce the maximum amount of slack into the upper torso belt that is recommended by the manufacturer. If the belt system is not equipped with a tension-relieving device, allow the excess webbing in the shoulder belt to be retracted by the retractive force of the retractor. (§16.3.5.4)
Seating Procedure 5th Percentile Female Passenger Dummy
(Part 572, Subpart O) (§16.2-§16.3)

NEITSA No.: C35306 Test Date: 06/10/03
Laboratory: TRC Inc. Test Technician(s): W. Miller, D. Schmitt
Test Number: 030610

(Check this item ONLY if it applies to this vehicle.)

☐ The passenger seat adjustments are controlled by the adjustments made to the driver’s seat. Therefore, positioning of the passenger dummy is made simultaneously with the driver dummy. Adjustments made to the seat to position the dummy will over ride any adjustments that would normally be made to position the passenger. (§16.2.10.3)

☐ Position the seat’s adjustable backrest supports so that the backrest supports are in the lowest, retracted or deformed adjustment position. (§16.2.10.1)
☐ N/A — No backrest adjustment

☐ Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (§16.2.10.2)
☐ N/A — No additional support adjustment

☐ If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (§16.2.10.3.1)
☐ N/A — No independent fore-aft seat cushion adjustment

☐ Use the seat markings determined during the completion of Data Sheet 14 to set the rearmost fore-aft position, mid-height position and the seat cushion mid-angle. (§16.3.3.1.1)

☐ Fully recline the seat back. (§16.3.3.1.2)
☐ N/A seat back not adjustable.

☐ Place the dummy in the seat with the legs at an angle of 120 degrees to the thighs. The calves should not be touching the seat cushion. (§16.3.3.1.2)

☐ Position the dummy in the seat such that the midsagittal plane is coincident with the longitudinal seat cushion marking that was determined in item 2.19 of Data Sheet 14 (§16.3.3.1.3 and §16.3.3.1.4)

☐ Hold down the dummy’s thighs and push rearward on the upper torso to maximize the pelvic angle. (§16.3.3.1.5)

☐ Set the angle between the legs and the thighs to 120 degrees. (§16.3.3.1.6)

☐ Set the transverse distance between the centers of the front of the knees at 160 to 170 mm (6.3 to 6.7 inches) Center the knee separation with respect to the longitudinal seat cushion marking that was determined in item 2.19 of Data Sheet 14. (§16.3.3.1.6) Record Knee Separation ___

☐ Push rearward on the dummy’s knees until the pelvis contacts the seat back, or the backs of the calves contact the seat cushion, whichever occurs first. (§16.3.3.1.6)
☐ Pelvis contacted seat back.

☐ Calves contacted seat cushion.

☐ Gently rock the upper torso + 5 degrees (approximately 51 mm (2 inches)) side-to-side three times. (§16.3.3.1.7)

☐ If needed, extend the legs until the feet do not contact the floor pan. The thighs should be resting on the seat cushion. (§16.3.3.1.8)

☐ Use seat controls to line up the seat markings determined during the completion of Data Sheet 14 to set the foremost fore-aft position, mid-height position, and the seat cushion mid-angle. If the dummy contacts the interior move the seat rearward until a maximum clearance of 5 mm (0.2 inches) is achieved or the seat is in the closest detect position that does not cause dummy contact. (§16.3.3.1.8)
☐ Foremost, mid-height position and the seat cushion mid-angle reached

☐ Dummy contact. Clearance set at maximum of 5mm

Measured Clearance __5__  ___
__ Dummy contact. Seat set at nearest detent position.

Seat position _ detent positions rearward of foremost
(formost is position zero)

__ 15. If the seat back is adjustable, rotate the seat back forward while holding the thighs in place. Continue rotating the seat back forward until the transverse instrument platform of the dummy head is level ± 0.5 degrees. If head cannot be leveled using the seat back adjustment, or the seat back is not adjustable, use the lower neck bracket adjustment to level the head. If a level position cannot be achieved, adjust the head as closely as possible in the ± 0.5 degree range. (S16.3.1.9 and S16.3.3.1.10)

(Check All That Apply)

___ Seat back not adjustable

___ Seat back not independent of driver side seat back

__ Head Level Achieved. (Check all that apply)

___ Head leveled using the adjustable seat back

___ Head leveled using the neck bracket.

___ Head Angle _______ degrees

___ Head Level NOT Achieved. (Check all that apply)

___ Head adjusted using the adjustable seat back

___ Head adjusted using the neck bracket.

___ Head Angle _______ degrees

__ 16. Verify the pelvis is not interfering with the seat back. (S16.3.3.1.9)

___ No interference

___ Pelvis moved forward the minimum amount so that it is not caught in the seat back.

__ 17. Verify the dummy abdomen is properly installed. (S16.3.3.1.9)

___ Abdomen still seated properly into dummy

___ Abdomen was adjusted because it was not seated properly into dummy

__ 18. Head Angle

___ N/A, neither the pelvis nor the abdomen were adjusted.

___ 18.1 Head still level (Go to 19)

___ 18.2 Head level adjusted

___ Head Level Achieved. (Check all that apply)

___ Head leveled using the adjustable seat back

___ Head leveled using the neck bracket

___ Head Angle _______ degrees

___ Head Level NOT Achieved. (Check all that apply)

___ Head leveled using the adjustable seat back

___ Head leveled using the neck bracket

___ Head Angle _______ degrees

__ 19. Measure and set the pelvic angle using the pelvic angle gauge TE-2594. The pelvic angle should be 20.0 degrees ± 2.5 degrees. If the pelvic angle cannot be set to the specified range because the head will not be level, adjust the pelvis as closely as possible to the angle range, but keep the head level.

___ Pelvic angle set to 20.0 degrees ± 2.5 degrees.

___ Pelvic angle of 20.0 degrees not achieved, the angular difference was minimized.

___ Record the pelvic angle _______ degrees

__ 20. Check the dummy for contact with the interior after completing adjustments.

___ No contact.

___ Dummy in contact with interior.

___ Seat moved aft ______ mm from the previous position.

___ Seat moved aft ______ detent positions from the previous position.

__ 21. Verify the transverse instrument platform of the dummy head is level ± 0.5 degrees. Use the lower neck bracket adjustment to level the head. If a level position cannot be achieved, minimize the angle. (S16.3.1.9, S16.3.3.1.10, and S16.3.3.1.11)

___ Head Level Achieved.

___ Head Angle _______ degrees

___ Head Level NOT Achieved.

___ Head Angle _______ degrees

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030610
X. 22. Check the dummy to see if additional interior clearance is obtained, allowing the seat to be moved forward. (§16.3.3.1.12)
   □ N/A Bench Seat
   □ N/A Seat already at full forward position
   □ Clearance unchanged. No adjustments required.
   □ Additional clearance available
     □ Seat moved Forward ___ mm from the previous position.
     □ Seat moved Forward ___ detent positions from the previous position.
     □ Seat moved Forward, Full Forward position reached.
X. 23. Passenger foot positioning (indicate final position achieved) (§16.3.3.2)
   □ 23.1 Place feet flat on the toe board; OR
   X 23.2 If the feet cannot be placed flat on the toe board, set the feet perpendicular to the lower leg, and rest the heel as far forward on the floor pan as possible; OR
   □ 23.3 If the heels do not touch the floor pan, set the legs to vertical and set the feet parallel to the floor pan.
X. 24. Passenger arm/hand positioning. (§16.3.3.3)
   □ 24.1 Place the dummy’s upper arms adjacent to the torso with the arm centerlines as close to a vertical longitudinal plane as possible. (§16.3.2.3.1)
   □ 24.2 Place the palms of the dummy in contact with the outer part of the thighs (§16.3.3.1.2)
   X 24.3 Place the little fingers in contact with the seat cushion. (§16.3.3.3.3)
X. 25. Adjustable head restraints
   □ N/A, there is no head restraint adjustment
   □ 25.1 If the head restraint has an automatic adjustment, leave it where the system positions the restraint after the dummy is placed in the seat. (§16.3.4.1) Go to 26.
   X 25.2 Adjust each head restraint vertically so that the horizontal plane determined in Item 3 of Data Sheet 14 is aligned with the center of gravity (CG) of the dummy head. (§16.3.4.3)
   □ 25.3 If the above position is not attainable, move the vertical center of the head restraint to the closest detent below the center of the head CG. (§16.3.4.3)
   □ N/A midpoint position attained in previous step
   □ Headrest set at nearest detent below the head CG
   □ 25.4 If the head restraint has a fore and aft adjustment, place the restraint in the foremost position or until contact with the head is made, whichever occurs first. (§16.3.4.4)
X. 26. Manual belt adjustment (for tests conducted with a belted dummy) §16.3.5
   □ N/A, Unbelted test
   □ 26.1 If an adjustable seat belt D-ring anchorage exists, place it in the manufacturer’s design position for a 5th percentile adult female. This information will be supplied by the COTR.

Manufacturer’s specified position __________________________. _____.

Actual Position ____________________________________________

□ 26.2 Place the Type 2 manual belt around the test dummy and fasten the buckle. (§16.3.5.2)
□ 26.3 Ensure that the dummy’s head remains as level as possible. (§16.3.5.3)
□ 26.4 Remove all slack from the lap belt. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this operation four times. Apply a 9 N (2 lbf) to 18 N (4 lbf) tension load to the lap belt. If the belt system is equipped with a tension-relieving device, introduce the maximum amount of slack into the upper torso belt that is recommended by the manufacturer. If the belt system is not equipped with a tension-relieving device, allow the excess webbing in the shoulder belt to be retracted by the retractive force of the retractor. (§16.3.5.4)
**DATA SHEET 35**

**DUMMY POSITIONING MEASUREMENTS**

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<thead>
<tr>
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<th>DRIVER (Serial No. 505)</th>
<th>PASSENGER (Serial No. 506)</th>
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</thead>
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<td>31.3°</td>
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</tr>
<tr>
<td>$SWA&quot;</td>
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<td>SCA&quot;</td>
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<td>SA&quot;</td>
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<td>9.9&quot; at head rest</td>
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<td>280</td>
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<td>TA&quot;</td>
<td>57.9°</td>
<td>59.0°</td>
</tr>
<tr>
<td>KK</td>
<td>270</td>
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<td>ST</td>
<td>600 ANGLE -60°</td>
<td>564 ANGLE -60.2°</td>
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<tr>
<td>SK</td>
<td>750 ANGLE 2.2°</td>
<td>757 ANGLE 1.8°</td>
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</tr>
<tr>
<td>AD</td>
<td>181</td>
<td>187</td>
</tr>
</tbody>
</table>
DESCRIPTIONS OF DUMMY MEASUREMENTS

When a level is to be used, it is to ensure that the line containing the two points described is either parallel or perpendicular to the ground. If a measurement to be made is less than 10 inches ignore the directions to use a level and approximate a level measurement. Also, when a measurement is to be taken to or from the center of a bolt on the dummy, take the measurement from the center of the bolt hole if the bolt is recessed.

The following measurements are to be made within a vertical longitudinal plane.

* HH  Head to Header, taken from the point where the dummy’s nose meets his forehead (between his eyes) to the furthest point forward on the header.

* HW  Head to Windshield, taken from the point where the dummy’s nose meets his forehead (between his eyes) to a point on the windshield. Use a level.

* HZ  Head to Roof, taken from the point where the dummy’s nose meets his forehead (between his eyes) to the point on the roof directly above it. Use a level.

* CS  Steering Wheel to Chest, taken from the center of the steering wheel hub to the dummy’s chest. Use a level.

* CD  Chest to D ash, place a tape measure on the tip of the dummy’s chin and rotate five inches of it downward toward the dummy to the point of contact on the transverse center of the dummy’s chest. Measure from this point to the closest point on the dashboard either between the upper part of the steering wheel between the hub and the rim, or measure to the dashboard placing the tape measure above the rim, whichever is a shorter measurement. See photograph.

* RA  Steering Wheel Rim to Abdomen, taken from the bottommost point of the steering wheel rim horizontally rearward to the dummy. Use a level.

* NR  Nose to Rim, taken from the tip of the dummy’s nose to the closest point on the top of the steering wheel rim. Also indicate the angle this line makes with respect to the horizontal (NA).

*1 KDL, KDR  Left and Right Knees to Dashboard, taken from the center of the knee pivot bolt’s outer surface to the closest point forward acquired by swinging the tape measure in continually larger arcs until it contacts the dashboard. Also reference the angle of this measurement with respect to the horizontal for the outboard knee (KDA). See photograph.

* SH, SK, ST  Striker to Hip, Knee, and Head, these measurements are to be taken in the X-Z plane measured from the forward most center point on the striker to the center of the H-point, outer knee bolt, and head target. When taking this measurement a firm device that can be rigidly connected to the striker should be used. Use a level. The angles of these measurements with respect to the

* Measurement used in Data Tape Reference Guide

1 Only outboard measurement is referenced in Data Tape Reference Guide

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horizontal should also be recorded. The measurement in the Y (transverse) direction from the striker to the H-point should also be taken (SHY). See photograph.

The following measurements are to be made within a vertical transverse plane.

**HS** Head to Side Window, taken from the point where the dummy's nose meets his forehead (between his eyes) to the outside of the side window. In order to make this measurement, roll the window down to the exact height that allows a level measurement. Use a level. See photograph.

**AD** Arm to Door, taken from the outer surface of the elbow pivot bolt on a Hybrid II dummy to the first point it hits on the door. In the case of a Hybrid III dummy, measure from the bolt on the outer hinge. When a SID is used make the measurement from the center of the bottom of the arm segment where it meets the dummy's torso.

**HD** H-point to Door, taken from the H-point on the dummy to the closest point on the door. Use a level.

**HR** Head to Side Header, measure the shortest distance from the point where the dummy's nose meets his forehead (between his eyes) to the side edge of the header just above the window frame, directly adjacent to the dummy.

**STV** Striker to H-point, taken from a rod rigidly connected to the forward most center point on the striker to the H-point. Use a level. See photograph.

**KK** Knee to Knee, for Hybrid II dummies measure the distance between knee pivot bolt head outer surfaces. For Hybrid III dummies measure the distance between the outboard knee clevis flange surfaces. (This measurement may not be exactly transverse)

**ANGLES**

**SA** Seat Back Angle, find this angle using the instructions provided by the manufacturer. If the manufacturer doesn't provide clear instructions contact the CSTR.

**PA** Pelvic or Femur Angle, taken by inserting the pelvic angle gauge into the H-point gauging hole on the SID or the Hybrid III dummies and taking this angle with respect to the horizontal. Measure the angle of the line connecting the H-point hole and the outer knee pivot bolt hole on a Hybrid III dummy with respect to the horizontal, to find the femur angle.

**SWA** Steering Wheel Angle, find this by placing a straight edge against the steering wheel rim along the longitudinal plane. Then measure the acute angle of the straight edge with respect to the horizontal.

* Measurement used in Data Tape Reference Guide
* Only outboard measurement is referenced in Data Tape Reference Guide
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCA</td>
<td>Steering Column Angle, measured with respect to the horizontal by placing an inclinometer on the center of the underside of the steering column.</td>
</tr>
<tr>
<td>NA</td>
<td>Measure the angle made when taking the measurement NR with respect to the horizontal.</td>
</tr>
<tr>
<td>KDA</td>
<td>Knee to Dash Angle, the angle that the measurement KD is taken at with respect to the horizontal. Only get this angle for the outboard knee. See photograph.</td>
</tr>
<tr>
<td>WA</td>
<td>Windshield Angle, place an inclinometer along the transverse center of the windshield exterior (measurement is made with respect to horizontal).</td>
</tr>
<tr>
<td>TA</td>
<td>Tibial Angle, use a straight edge to connect the dummy's knee and ankle bolts. Then place an inclinometer on the straight edge and measure the angle with respect to the horizontal.</td>
</tr>
</tbody>
</table>
DATA SHEET 36
CRASH TEST

NHTSA No.: C35306_______  __________ Test Date: 06/10/03

Laboratory: TRC Inc. ______ Test Technician(s): D. Schmitt

Impact Angle: 0° ______ ______ Belted Dummies: __ Yes __ No

Test Speed: __ X__ 32 to 40 km/h ______ 0 to 48 km/h ______ 0 to 56 km/h

Driver Dummy: __ X__ 5th female ___ 50th male Passenger Dummy: __ X__ 5th female ___ 50th male

1. X Vehicle underbody painted
2. X The speed measuring devices are in place and functioning.
3. X The speed measuring devices are __ 4.8 m from the barrier (spec. 1.5m) and __ 0 cm from the barrier (spec. is 30 cm)
4. X Convertible top is in the closed position.
      X N/A — Not a convertible
5. X Instrumentation and wires are placed so the motion of the dummies during impact is not affected.
6. X Tires inflated to pressure on tire placard or if it does not have a tire placard because it is not a passenger car, then inflated to the tire pressure specified in the owner information.
   248 kPa front left tire __ 250 kPa specified on tire placard or in owner information
   248 kPa front right tire __ 250 kPa specified on tire placard or in owner information
   248 kPa rear left tire __ 250 kPa specified on tire placard or in owner information
   248 kPa rear right tire __ 250 kPa specified on tire placard or in owner information
7. X Time zero markers and switches in-place.
8. X Pre test zero and shunt calibration adjustments performed and recorded
9. X Dummy temperature meets requirements of section 12.2 of the test procedure.
10. X Vehicle hood closed and latched
11. X Transmission placed in neutral
12. X Parking brake off
13. X Ignition in the ON position
14. X Doors closed and latched but not locked.
15. X Post test zero and shunt calibration checks performed and recorded
16. X Actual test speed __ 39.3 ___ km/h
17. X Vehicle rebound from the barrier __ 131.6 ___ cm
18. X Describe whether the doors open after the test and what method is used to open the doors.
   Left front door __ Easy ______ __________
   Right front door __ Easy ______ __________
   Left rear door __ Easy ______ __________
   Right rear door __ Easy ______ __________
19. X Describe the contact points of the dummy with the interior of the vehicle.
   Passenger dummy __ Head contacted airbag. Chest contacted airbag. Both knees contacted the glove box.
DATA SHEET 38
ACCIDENT INVESTIGATION MEASUREMENTS

NHTSA No.: C35306  Test Date: 06/10/03
Laboratory: TEC Inc.  Test Technician(s): J. Jenkins

Impact Angle: 0°  Belted Dummies: Yes  No

Test Speed: X 32 to 40 km/h  0 to 48 km/h  0 to 56 km/h

Driver Dummy: X 5th female .. 50th male  Passenger Dummy: X 5th female .. 50th male

Vehicle Year/Make/Model/Body Style: 2003/Honda/Odyssey/MPV

VIN: 5FNRL18603B084369

Wheelbase: 3005  Build Date: 03/03

Veh. Size Category: SUV  Test Weight: 2121.0

Front Overhang: 975  Overall Width: 1930

Veh. Impact Speed: 39.3  Vel. Change1: 43.3 km/h

Collision Deformation Classification (CDC) Code: 12FDBW2

1 From integration of right rear seat crossmember X-axis accelerometer.

5-111  030610
Impact Mode: 0° Front

Crush Depth Dimensions:

\[\begin{align*}
C1 &= 410 \text{ mm} \\
C2 &= 390 \text{ mm} \\
C3 &= 310 \text{ mm} \\
C4 &= 308 \text{ mm} \\
C5 &= 346 \text{ mm} \\
C6 &= 415 \text{ mm}
\end{align*}\]

Midpoint of Damage: \(D = 0\text{ mm}\) (Left of Vehicle Longitudinal Centerline)

Length of Damage Region:

\[L = 1525 \text{ mm}\]

REMARKS:

Numbered from left to right of vehicle.
DATA SHEET 39
WINDSHIELD MOUNTING (FMVSS 212)

NHTSA No.: C35306 __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ ______
## Windshield Periphery Measurement

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<tr>
<th>Dimension</th>
<th>Pre-crash (mm)</th>
<th>Post-crash (mm)</th>
<th>Percent Retention (Post-crash + Pre-crash)</th>
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<tr>
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</tr>
<tr>
<td>A</td>
<td>610</td>
<td>610</td>
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</tr>
<tr>
<td>B</td>
<td>875</td>
<td>875</td>
<td></td>
</tr>
<tr>
<td>C</td>
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<td>825</td>
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</tr>
<tr>
<td>Total</td>
<td>2310</td>
<td>2310</td>
<td>100%</td>
</tr>
<tr>
<td>Right side</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>D</td>
<td>610</td>
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<td></td>
</tr>
<tr>
<td>E</td>
<td>875</td>
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<tr>
<td>F</td>
<td>845</td>
<td>845</td>
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</tr>
<tr>
<td>Total</td>
<td>2330</td>
<td>2330</td>
<td>100%</td>
</tr>
</tbody>
</table>

Indicate area of mounting failure.

### Front View of Windshield

**Indicate Width of Molding**

- A
- D
- B
- C
- F
- G
- E

**Zero Point (0,0)**
DATA SHEET 40
WINDSHIELD ZONE INTRUSION (FMVS 219)

Test Date: 06/10/03

Laboratory: TRC Inc. Test Technician(s): R. Benavides, D. Summers

Impact Angle: 0° Belted Dummies: _ Yes _ X _ No

Test Speed: _ X_ 32 to 40 km/h  ___ 0 to 43 km/h  ___ 0 to 56 km/h

Driver Dummy: _ X_ 5th female _ ___ 50th male Passenger Dummy: _ X_ 5th female _ ___ 50th male

1. Place a 165 mm diameter rigid sphere, with a mass of 6.8 kg on the instrument panel so that is simultaneously touching the instrument panel and the windshield. (571.219 S6.1(a))

2. Roll the sphere from one side of the windshield to the other while marking on the windshield where the sphere contacts the windshield. (571.219 S6.1(b))

3. From the outermost contactable points on the windshield draw a horizontal line to the edges of the windshield. (571.219 S6.1(b))

4. Draw a line on the inner surface of the windshield that is 13 mm below the line determined in items 2 and 3.

5. After the crash test, record any points where a part of the exterior of the vehicle has marked, penetrated, or broken the windshield.

SKETCH OF FRONT VIEW OF WINDSHIELD:

Provide all dimensions necessary to reproduce the protected area.

FRONT VIEW OF WINDSHIELD

ZERO POINT (0,0)
LOWER EDGE OF PROTECTED ZONE

A. Windshield Dimensions

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<td>C</td>
<td>1670</td>
<td>D</td>
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<tr>
<td>E</td>
<td>560</td>
<td>F</td>
<td>700</td>
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</tbody>
</table>

5-115 039610
AREA OF PROTECTED ZONE FAILURES:

B. Provide coordinates of the area that the protected zone was penetrated more than 0.25 inches by a vehicle component other than one which is normally in contact with the windshield.

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<th>X</th>
<th>Y</th>
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</thead>
<tbody>
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</tbody>
</table>

C. Provide coordinates of the area beneath the protected zone template that the inner surface of the windshield was penetrated by a vehicle component.

<table>
<thead>
<tr>
<th>X</th>
<th>Y</th>
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</thead>
<tbody>
<tr>
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</tbody>
</table>

REMARKS:

No penetration into or beneath the protected zone.
DATA SHEET 41
FUEL SYSTEM INTEGRITY (FMVSS 301)

TEST VEHICLE NHTSA NO.: C25306 TEST DATE: 06/10/03

VEHICLE YEAR/MAKE/MODEL/BODY STYLE: 2003/Honda/Odyssey/MPV

TYPE OF IMPACT: 0º Flat Frontal

STANDARD SOLVENT SPILLAGE MEASUREMENT:
A. From impact until vehicle motion ceases —
   Actual = 0 grams. (Maximum Allowable = 28 grams)
B. For 5 minute period after vehicle motion ceases —
   Actual = 0 grams. (Maximum Allowable = 142 grams)
C. For next 25 minutes —
   Actual = 0 grams. (Maximum Allowable = 28 grams/minute)
D. Provide Spillage Details: None

REMARKS:

No spillage occurred during the interval between test time and the start of the rollover.
FMVSS 301 STATIC ROLLOVER DATA SHEET

A. TEST PHASE = 0° TO 90°

   Determination of Stoddard Solvent Collection Time Period:

1. Rollover Fixture 90° Rotation Time — 1 minutes, 0 seconds
   (Specified Range is 1 to 3 minutes)

2. FMVSS 301 Position Hold Time = 5 minutes, 0 seconds

3. TOTAL — 6 minutes, 0 seconds

4. NEXT WHOLE MINUTE INTERVAL = 7 minutes

Actual Test Vehicle Stoddard Solvent Spillage:

1. First 5 minutes from onset of rotation = 0 grams
   (142 grams allowed)

2. 6th minute = 0 grams
   (28 grams allowed)

3. 7th minute = 0 grams
   (28 grams allowed)

4. 8th minute (if required) = ___ grams
   (28 grams allowed)

Provide Details of Stoddard Solvent Spillage Locations — None
B. TEST PHASE - 90° TO 180°

Determination of Stoddard
Solvent Collection Time Period:

1. Rollover Fixture 90° Rotation Time = ___ minutes, ___ seconds
   (Specified Range is 1 to 3 minutes)

2. FMVSS 201 Position Hold
   Time = 5 minutes, 0 seconds

3. TOTAL = ___ minutes, ___ seconds

4. NEXT WHOLE MINUTE INTERVAL = ___ minutes

   Actual Test Vehicle Stoddard
   Solvent Spillage:

1. First 5 minutes from onset of
   rotation = ___ grams
   (142 grams allowed)

2. 6th minute = ___ grams
   (28 grams allowed)

3. 7th minute = ___ grams
   (28 grams allowed)

4. 8th minute (if required) ___ grams
   (28 grams allowed)

Provide Details of Stoddard Solvent Spillage Locations - None
C. **TEST PHASE – 180° TO 270°**

Determination of Stoddard Solvent Collection Time Period:

1. Rollover Fixture 90° Rotation Time = ______ minutes, ___ seconds

(Specified Range is 1 to 3 minutes)

2. IMPVSS 301 Position Hold
   Time = 5 minutes, 0 seconds

3. TOTAL = ______ minutes, ___ seconds

4. NEXT WHOLE MINUTE INTERVAL = ______ minutes

Actual Test Vehicle Stoddard Solvent Spillage:

1. First 5 minutes from onset of rotation = _____ grams
   (142 grams allowed)

2. 6th minute = _____ grams
   (28 grams allowed)

3. 7th minute = _____ grams
   (28 grams allowed)

4. 8th minute (if required) = _____ grams
   (28 grams allowed)

Provide Details of Stoddard Solvent Spillage Locations  None
D. TEST PHASE - 270° TO 360°

Determination of Stoddard Solvent Collection Time Period:

1. Rollover Fixture 90° Rotation Time = 1 minutes, 0 seconds
   (Specified Range is 1 to 3 minutes)

2. FMVSS 301 Position Hold
   Time = 5 minutes, 0 seconds

3. TOTAL = 6 minutes, 0 seconds

4. NEXT WHOLE MINUTE INTERVAL = 7 minutes

Actual Test Vehicle Stoddard Solvent Spillage:

1. First 5 minutes from onset of rotation = 0 grams
   (142 grams allowed)

2. 6th minute = 0 grams
   (28 grams allowed)

3. 7th minute = 0 grams
   (28 grams allowed)

4. 8th minute (if required) = 0 grams
   (28 grams allowed)

Provide Details of Stoddard Solvent Spillage Locations - None
Section 6

Test Data
2003 HONDA ODYSSEY
RIGHT FRONT PASSENGER SEAT RESULTANT ACCELERATION

ACCELERATION (G X 10^-1)

0

-20 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420 430 440 450 460 470 480 490
C-FRAME / 2003 HONDA ODYSSEY
RIGHT FRONT PASSENGER REAR VARRS SHEAR FORCE
FLAT FRONTAL - UNHELD
TEST NUMBER: B35827

FORCE INN

CHANNEL WHEEZE FILTER: ON CLASS 10000
PEAK DATA 11:32 N 68 66 NS -24 0 4 0 51 60 MS
Section 7

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<td>3</td>
<td>Pre-Test Left Side View</td>
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<td>Post-Test Left Side View</td>
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<td>Pre-Test Right Side View</td>
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<td>Post-Test Driver Dummy Head Contact - View 1</td>
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7-3  030610
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<td>Post-Test Vehicle on Static Rollover Device - 90° View</td>
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<td>Post-Test Vehicle on Static Rollover Device - 180° View</td>
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<td>Post-Test Vehicle on Static Rollover Device - 270° View</td>
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<td>Post-Test Vehicle Ballast View</td>
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Image 13: Pre-Test Engine Compartment View
Image 18 Post-Test Front Underbody View

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Image 20 Post-Test Front Mid Underbody View
Image 22 Post-Test Mid Underbody View
Image 23 Pre-Test Rear Mid Underbody View

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030610
Image 26: Post-Test Rear Underbody View
Image 33  Pre-Test Fuel Filler Neck View
Image 36 Post-Test Fuel Filler Cap View
Image 37 Pre-Test Driver Dummy Front View
Image 41: Pre-Test Driver Seat Position View
Image 42 Post-Test Driver Seat Position View
Image 52 Post-Test Passenger Dummy Knee Bolster View
Image 57  Post-Test Driver Dummy Knee Contact - View 2
Image 62 Post-Test Vehicle on Static Rollover Device - 90° View
Image 66 Post-Test Vehicle Ballast View
Appendix A

Test Equipment List and Calibration Information
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