Safety Compliance Testing for FMVSS 208
Occupant Crash Protection

General Motors Corporation
2003 Chevrolet Tahoe
NHTSA Number: C30103
TRC Inc. Test Number: 021119-2

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

Report Date: Dec. 23, 2002

Final Report

Prepared For:
U. S. Department of Transportation
National Highway Traffic Safety Administration
Safety Assurance
Office of Vehicle Safety Compliance (NVS-220)
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Washington, DC 20590
Final Report Approval by OVS:

Transportation Research Center Inc.

Aung Than, Project Manager
Date: 11/2/04

Report Approved By:

Test Performed By: Jason D. Jenkins, Senior Project Engineer

The United States government does not endorse products or manufacturers.

This publication is distributed by the T.R. Department of Transportation National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings, and conclusions expressed in this publication are those of the authors and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration, the United States government.
Compliance tests were conducted on a 2003 Chevrolet Tahoe, NHTSA No. C30103, in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP208-11 for the determination of FMVSS 208 compliance. Possible test failures identified were as follows:

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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 (TRC Inc.) under contract DYNH22-02-D-08062, Task Order VRTC-DCF2525. The purpose of the test was to determine whether the subject vehicle, a 2003 Chevrolet Tahoe, NHTSA No. C30103, meets certain performance requirements of FMVSS 208, "Occupant Crash Protection"; FMVSS 212 indicant, "Windshield Mounting"; indicant FMVSS 219, "Windshield Zone Intrusion"; and FMVSS 301 indicant, "Fuel System Integrity". The compliance test was conducted in accordance with OVCAL Laboratory Test Procedure No. TP-208-H dated August 22, 2002.
Section 2

Tests Performed
TESTS PERFORMED

The following checked items indicate the tests that were performed:

X 1. Rear outboard seating position seat belts (§4.1.4.2(b) & §4.2.4)
X 2. Air bag labels (§4.5.1)
X 3. Readiness indicator (§4.5.2)
X 4. Passenger Air Bag Manual Cut-Off Device (§4.5.4)
X 5. Lap belt lockability (§7.1.1.5)
X 6. Seat belt warning system (§7.3)
X 7. Seat belt contact force (§7.4.3)
X 8. Seat belt latch plate access (§7.4.4)
X 9. Seat belt retraction (§7.4.5)
X 10. Seat belt guides and hardware (§7.4.6)
   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)
   X 20. Impact tests
      ___ Frontal Oblique
      __  Belted 50th male dummy driver and passenger (0 to 48 km/h) (§5.1.1.(a))
      ___ Unbelted 50th male dummy driver and passenger (0 to 48 km/h) (§5.1.2.(a)(1))
      ___ Unbelted 50th male dummy driver and passenger (32 to 40 km/h) (§5.1.2.(a)(1) or §5.1.2.(b))
      ___ Frontal 0°
      __  Belted 50th male dummy driver (0 to 48 km/h) (§5.1.1.(b)(1) or §5.1.1.(a))
      ___ Belted 50th male dummy passenger (0 to 48 km/h) (§5.1.1.(b)(1) or §5.1.1.(a))
      ___ Belted 5th female dummy driver (0 to 48 km/h) (§16.1.(a))
      ___ Belted 5th female dummy passenger (0 to 48 km/h) (§16.1.(a))
      ___ Belted 50th male dummy driver and passenger (0 to 56 km/h) (§5.1.1.(b)(2))
      ___ Unbelted 50th male dummy driver and passenger (0 to 48 km/h) (§5.1.2.(a)(1))
      ___ Unbelted 50th male dummy driver (32 to 40 km/h) (§5.1.2.(a)(2) or §5.1.2.(b))
      ___ Unbelted 50th male dummy passenger (32 to 40 km/h) (§5.1.2.(a)(2) or §5.1.2.(b))
      X 5th female dummy driver (32 to 40 km/h) (§16.1.(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 201 indciant test
   ___  23. FMVSS 212 indciant test
    ___  24. FMVSS 219 indciant test
    ___  25. FMVSS 301 indciant 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.: C30103 .................................................. Test Date: 11/19/02

VIN: 1GNEK1ZXX3R165320

Frontal Crash ... Yes ... Offset Crash ... No ... Low Risk Deployment ... No

Impact Angle: 0

Belted Dummy: Yes ... No ...

Speed Range: 32 to 40 km/h ... 0 to 48 km/h ... 0 to 56 km/h

Test Speed: 39.2 km/h

Driver Dummy: 5th female ... 50th male

Passenger Dummy: 5th female ... 50th male

Test weight: 271.3 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>
<th>Driver</th>
<th>Passenger</th>
</tr>
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<tbody>
<tr>
<td>HIC15</td>
<td>700</td>
<td>66</td>
<td>84</td>
</tr>
<tr>
<td>Nfe</td>
<td>1.0</td>
<td>0.14</td>
<td>0.22</td>
</tr>
<tr>
<td>Nfr</td>
<td>1.0</td>
<td>0.24</td>
<td>0.40</td>
</tr>
<tr>
<td>Nex</td>
<td>1.0</td>
<td>0.03</td>
<td>0.14</td>
</tr>
<tr>
<td>Nel</td>
<td>1.0</td>
<td>0.07</td>
<td>0.13</td>
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<tr>
<td>Neck tension</td>
<td>2620 N</td>
<td>724</td>
<td>899</td>
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<td>Neck compression</td>
<td>2520 N</td>
<td>115</td>
<td>146</td>
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<tr>
<td>Chest g</td>
<td>60 g</td>
<td>29.2</td>
<td>33.9</td>
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<tr>
<td>Chest displacement</td>
<td>52 mm</td>
<td>28</td>
<td>10</td>
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<tr>
<td>Left femur</td>
<td>6805 N</td>
<td>5472</td>
<td>4205</td>
</tr>
<tr>
<td>Right femur</td>
<td>6805 N</td>
<td>3705</td>
<td>3681</td>
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</tbody>
</table>
Section 4

Discussion of Test
DISCUSSION OF TEST

The driver dummy’s pelvis angle was set at 25.9° to maintain the dummy’s head level.

The vehicle’s left rear and right rear pre-test attitudes did not fall between the measured attitudes for the delivered and fully loaded conditions. Deviation was 7 mm or less.

The left side view (B-post) and pit camera fuel tank view cameras ran too slowly to determine the film speed.

The left side view (barrier to front seat backs), left side view (A-post), left side view (B-post to steering wheel), left side view (front door under camera 5) and pit camera engine view cameras ran at less than 1000 frames per second.

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.
Section 15

Test Data Sheets
DATA SHEET 1
COTR Vehicle Work Order

Vehicle model year, make, and model: 2003 Chevrolet Tahoe

NHTSA No.: C30103 Test Date: 11/19/02

COTR signature: Charles R. Case

Tests to be performed for this vehicle are checked below.

X 1. Rear outboard seating position: seat belts (S4.1.4.2(b) & (S4.2.4)
X 2. Air bag labels (S4.5.1)
X 3. Readiness indicator (S4.5.2)
X 4. Passenger air bag manual on-off device (S4.5.4)
X 5. Lap belt lockability (S7.1.1.5)
X 6. Seat belt warning system (S7.3)
X 7. Seat belt contact force (S7.4.5)
X 8. Seat belt latch plate access (S7.4.4)
X 9. Seat belt retraction (S7.4.5)
X 10. Seat belt guides and hardware (S7.4.6)

11. Suppression tests with 12-month-old ISOFIX dummy (Part 572, Subpart R) using the following indicated child restraints.

Section A
- Cosco Dream Ride 02-719 Full rearward Mid position Full forward

Section B
- Britax Handle with Care 191 Full rearward Mid position Full forward
- Century Assura 4553 Full rearward Mid position Full forward
- Century Avanta SE 41230 Full rearward Mid position Full forward
- Century Smart Fit 4543 Full rearward Mid position Full forward
- Cozy Nook 02727 Full rearward Mid position Full forward
- Cozy Opus 35 02603 Full rearward Mid position Full forward
- Evenflo Discovery Adjust Right 212 Full rearward Mid position Full forward
- Evenflo First Choice 704 Full rearward Mid position Full forward
- Evenflo On My Way Position Right V 282 Full rearward Mid position Full forward
- Graco Infant 8457 Full rearward Mid position Full forward

Section C
- Britax Roundabout 161 Full rearward Mid position Full forward
- Century Encore 4612 Full rearward Mid position Full forward
- Century STE 1000 4416 Full rearward Mid position Full forward
- Cosco Olympian 02803 Full rearward Mid position Full forward
- Cosco Touriva 02519 Full rearward Mid position Full forward
- Evenflo Horizon V 425 Full rearward Mid position Full forward
- Evenflo Medalion 254 Full rearward Mid position Full forward

12. Suppression tests with 3-year-old dummy (Part 572, Subpart P) using the following indicated child restraints when a child restraint is required.

Section C
- Britax Roundabout 161 Full rearward Mid position Full forward
- Century Encore 4612 Full rearward Mid position Full forward
- Century STE 1000 4416 Full rearward Mid position Full forward
- Cosco Olympian 02803 Full rearward Mid position Full forward
- Cosco Touriva 02519 Full rearward Mid position Full forward
- Evenflo Horizon V 425 Full rearward Mid position Full forward
- Evenflo Medalion 254 Full rearward Mid position Full forward

Section D
- Britax Roadster 9004 Full rearward Mid position Full forward
- Century Next Step 4929 Full rearward Mid position Full forward

021119-2
<table>
<thead>
<tr>
<th>Restraint</th>
<th>Position 1</th>
<th>Position 2</th>
<th>Position 3</th>
</tr>
</thead>
<tbody>
<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 RightFit 245</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
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13. Suppression tests with Representative 3-year-old child using the following indicated child restraints where a child restraint is required. (Laboratory Test Procedure Appendix 11, Data Sheet 16H and 17H)

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<table>
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<th>Restraint</th>
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<tr>
<td>Briaux Roundabout 161</td>
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<td>Full forward</td>
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<tr>
<td>Century Encore 4612</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Century SST 1000 4416</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Cosco Olympian 02805</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Cosco Touriva 02519</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Evenflo Horizon V 425</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Evenflo Medallion 254</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
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Section D
<table>
<thead>
<tr>
<th>Restraint</th>
<th>Position 1</th>
<th>Position 2</th>
<th>Position 3</th>
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<tr>
<td>Britax Roadster 9004</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
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<tr>
<td>Century Next Step 4920</td>
<td>Full rearward</td>
<td>Mid position</td>
<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 RightFit 245</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
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</tbody>
</table>

14. Suppression tests with 3-year-old dummy (Part 573, Subpart P) in the following positions
- Sitting on seat with back against seat back ($22.2.2.1)
- Sitting on seat with back against reclined seat back ($22.2.2.2)
- Sitting on seat with back not against seat back ($22.2.2.3)
- Sitting on seat edge, spine vertical, hands by the child's side ($22.2.2.4)
- Standing on seat, facing forward ($22.2.2.5)
- Kneeling on seat facing forward ($22.2.2.6)
- Kneeling on seat facing rearward ($22.2.2.7)
- Lying on seat ($22.2.2.8)

15. Suppression tests with representative 3-year-old child in the following positions
- Sitting on seat with back against seat back ($22.2.2.1)
- Sitting on seat with back against reclined seat back ($22.2.2.2)
- Sitting on seat with back not against seat back ($22.2.2.3)
- Sitting on seat edge, spine vertical, hands by the child's side ($22.2.2.4)
- Standing on seat, facing forward ($22.2.2.5)
- Kneeling on seat facing forward ($22.2.2.6)
- Kneeling on seat facing rearward ($22.2.2.7)
- Lying on seat ($22.2.2.8)

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

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<table>
<thead>
<tr>
<th>Restraint</th>
<th>Position 1</th>
<th>Position 2</th>
<th>Position 3</th>
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<tr>
<td>Britax Roadster 9004</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
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<tr>
<td>Century Next Step 4920</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Cosco High Back Booster 02-442</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
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<tr>
<td>Evenflo RightFit 245</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
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17. 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>Restraint</th>
<th>Position 1</th>
<th>Position 2</th>
<th>Position 3</th>
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</thead>
<tbody>
<tr>
<td>Britax Roadster 9004</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Century Next Step 4920</td>
<td>Full rearward</td>
<td>Mid position</td>
<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 RightFit 245</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
</tbody>
</table>

18. Suppression tests with 6-year-old dummy (Part 572, Subpart N) in the following positions
- Sitting on seat with back against seat back ($22.2.2.2)
- Sitting on seat with back against reclined seat back ($22.2.2.2)
- Sitting on seat edge, spine vertical, hands by the dummy's side ($22.2.2.4)
- Sitting back in the seat and leaning on the right front passenger door ($24.2.3)
19. Suppression tests with representative 6-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 edge, spine vertical, hands by the dummy's side (S22.2.2.4)
   - Sitting back in the seat and leaning on the right front passenger door (S22.2.3)

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

Section B
   - Britax Safe n Sound 191
   - Century Assura 4553
   - Century Avanta SE 41330
   - Century Smart Fit 4543
   - Cosco Ariva 02727
   - Cosco Opus 35 02603
   - Evenflo Discovery Adjust Right 212
   - Evenflo First Choice 204
   - Evenflo On My Way Position Right V 282
   - Graco infant 8457

Section C
   - Britax Roundabout 161
   - Century Encore 4612
   - Century STE 1000 4416
   - Cosco Olympian 07903
   - Cosco Tourista 02519
   - Evenflo Horizon V425
   - Evenflo Medallion 254

21. Test of Reactivation of the Passenger Air Bag System with an Unbelted 5th Percentile Female Dummy (S20.3, 22.3, S24.3) Perform this test after the following suppression test(s):

22. Test of Reactivation of the Passenger Air Bag System with a representative 5th Percentile Female (S20.3, 22.3, S24.3) Perform this test after the following suppression test(s):

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

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

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

26. Impact tests
   - Frontal Oblique  Test Speed
     - Belted 50th male dummy driver and passenger (0 to 48 km/h) (S5.1.1(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°  Test Speed 49 km/h see test procedure for speed tolerance
     - 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) (S15.1(a))
     - Belted 5th female dummy passenger (0 to 48 km/h) (S15.1(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))
27. Sled test: Unbelted 50th male dummy driver and passenger (S13)
28. FMVSS 204 indiact test
29. FMVSS 212 indiact test
30. FMVSS 219 indiact test
31. FMVSS 301 indiact frontal test
DATA SHEET 2

REPORT OF VEHICLE CONDITION

CONTRACT NO. DTMH22-02-D-08062  Date: 11/19/02
FROM: Transportation Research Center, Virginia L. Watters
TO: Charles R. Case  OVSC, NSA-31

COTR Name

PURPOSE: (X) Initial Receipt  ( ) Present vehicle condition

MAKE/MODEL/BODY STYLE; 2003 Chevrolet Tahoe/SUV

MANUFACTURE DATE: 08/02  NHTSA NO.: C30103  BODY COLOR: Black

VIN: 1GNEK13ZX3R106320  GVWR, 3130  GAWR (Fr), 1633  GAWR (Rr), 1814

ODO METER READINGS: ARRIVAL 63  DATE 11/13/02  COMPLETION 63  DATE 11/19/02

PURCHASE PRICE: $45,104  DEALER'S NAME: Smedley's Chevrolet Sales Inc.

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

B. Tires and wheel rims are new and the same as listed.
   X Yes  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.
   Yes  X  No

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

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

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

H. Using permanent marker, identify vehicle with NHTSA number and FMVSS test type(s) on roof line above driver door or for school buses, place a placard with NHTSA 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 NHTSA COTR before beginning any test.
   Vehicle OK  Conditions reported below in comment section
   X  N/A-Post-test condition

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.

5-6  021119-2
DATA SHEET 2

REPORT OF VEHICLE CONDITION AT THE COMPLETION OF TESTING

LIST OF FMVSS TESTS PERFORMED BY THIS LAB:
208, 212 Indicant, 219 Indicant, 301 Indicant

MODEL YEAR/MAKE/MODEL/BODY STYLE: 2003/Chevrolet/LaCrosse/SUV

NHTSA NO. C30103

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: R. Benavides
DATE: 1/15/02

APPROVED BY: V. Watters
DATE: 1/29/02

RELEASE OF TEST VEHICLE

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

(Laboratory) (Laboratory)

Date: Time: Odometer: 

Lab Representative: ____________________________ Signature ________ Title

Carrier/Customer Representative: ____________________________ Signature ________ Date
DATA SHEET 3
Certification Label and Tire Placard Information

NHTSA No.: C30103
Test Date: 11/15/02

Laboratory: TII Inc.
Test Technician(s): R. Benavides

1. Certification Label
Manufacturer: General Motors Corporation
Date of Manufacture: 08/02
VIN: 1GNEK13/ZX3R106320
Vehicle certified as: ___ Passenger car ___ MPV ___ Truck ___ Bus
Front axle GVWR: 1633 kg/3600 lbs.
Rear axle GVWR: 1814 kg/4000 lbs.
Total GVWR: 3130 kg/6900 lbs.

2. Tire Placard
___ X ___ 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.

   Vehicle Capacity Weight: NA'
   Designated seating capacity front: NA'
   Designated seating capacity rear: NA'
   Total Designated seating capacity: NA'
   Recommended cold tire inflation pressure front: 240 kPa/35 psi
   Recommended cold tire inflation pressure rear: 240 kPa/35 psi
   Recommended tire size: P265/70R16

' Label did not contain this information.
DATA SHEET 4
REAR OUTBOARD SEATING POSITION SEAT BELTS

NHTSA No.: C30103 Test Date: 11/15/02

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

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 (§4.5.1)

NIHTSA No.: C30103 ____________________________  Test Date: 11/15/02

Laboratory: TRC Inc.  __________  Test Technician(s): R. Benavides ____________

1. Air Bag Maintenance Label and Owner's Manual Instructions: (§4.5.1(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 survisor?
      ___ 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?
      ___ 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. Owner's manual: (§4.5.1(f))
   2.1 Include a description of the vehicle's air bag system in an easily understandable format?
      ___ 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?
      ___ Yes-Pass;  ___ No-FAIL
   2.3 Include a statement that the air bag is a supplemental restraint at the front outboard seating
      positions?
      ___ 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?
      ___ 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?
      ___ 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?
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)(ii))
   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?
   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))

3.1 Is the vehicle certified to meet the requirements of S19, S21, and S23.2? (Obtain the answer to this question from the COTR.) (S4.5.1(b)(2))
   X Yes (go to 3.1.1 and skip 3.2); ___ No (go to 3.2, skipping 3.1.1 through 3.1.6)

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 the label or the sun visor? (S4.5.1(b)(2))
   Driver side X Yes-Pass ___ No-FAIL
   Passenger side X Yes-Pass ___ No-FAIL.

3.1.2 Does the label conform in content ‘vehicles without back seats may omit the statement: “The BACK SEAT is the SAFEST place for children.”’ (S4.5.1(b)(2)(v))) to the label shown in Figure 8 at each front outboard seating position? (S4.5.1(b)(2))
   Driver side X Yes-Pass ___ No-FAIL
   Passenger side X 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)(2)(i))

Driver side  X  Yes-Pass  ____  No-FAIL.  
Passenger side  X  Yes-Pass  ____  No-FAIL.

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

Driver side  X  Yes-Pass  ____  No-FAIL  
Passenger side  X  Yes-Pass  ____  No-FAIL.

3.1.5 Is the message area at least 30 cm²? (S4.5.1(b)(2)(ii))

Driver side:  Length 12.6 cm,  Width 7.8 cm  
Passenger side: Length 12.6 cm,  Width 7.8 cm  
Driver actual message area 98.3 cm²  
Passenger actual message area 98.3 cm²  

Driver side  X  Yes-Pass  ____  No-FAIL.  
Passenger side  X  Yes-Pass  ____  No-FAIL.

3.1.6 Is the pictogram black on a white background? (S4.5.1(b)(2)(iii))

Driver side  X  Yes-Pass  ____  No-FAIL.  
Passenger side  X  Yes-Pass  ____  No-FAIL.

3.1.7 Is the pictogram at least 30 mm (1.2 in) in length? (S4.5.1(b)(2)(iii))

Driver side:  Length 31  
Passenger side: Length 31  
Driver side  X  Yes-Pass  ____  No-FAIL.  
Passenger side  X  Yes-Pass  ____  No-FAIL.

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

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 it? (S4.5.1 (b)(1))

Driver side  ____  Yes-Pass  ____  No-FAIL.  
Passenger side  ____  Yes-Pass  ____  No-FAIL.

3.2.2 Does the label conform in content (vehicles without back seats may omit the statement: “The BACK SEAT IS THE SAFEST place for children.” (S4.5.1(b)(2)(v)) to the label shown in either Figure 6a or 6b as appropriate at each front outboard seating position? (S4.5.1 (b)(1))

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)(1)(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)(1)(ii))

Driver side  ____  Yes-Pass  ____  No-FAIL  
Passenger side  ____  Yes-Pass  ____  No-FAIL.

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

Driver side:  Length ,  Width  
Passenger side: Length ,  Width  
Actual message area cm²  

Driver side  ____  Yes-Pass  ____  No-FAIL  
Passenger side  ____  Yes-Pass  ____  No-FAIL.

3.2.6 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.
3.2.7 Is the pictogram at least 30 mm in diameter? (§4.5.1(b)(2)(iii))
Actual diameter _______ mm
Driver side  _____ Yes-Pass  _____ No-FAIL
Passenger side  _____ Yes-Pass  _____ No-FAIL

3.3 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? (§4.5.1(b)(3))
Driver side  __X__ Yes-Pass  ____ No-FAIL
Passenger side  X  Yes-Pass  ____ No-FAIL.

3.4 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? (§4.5.1(b)(3))
Driver side  __X__ Yes-Pass  ____ No-FAIL
Passenger side  __X__ Yes-Pass  ____ No-FAIL.

3.5 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 3.5.1);  _X_ No (go to 4.1, skipping 3.5.1 through 3.5.)
3.5.1 Are both the rollover-warning label and the air bag warning label surrounded by a continuous solid-lined border?
  ____ Yes (go to 3.5.2 and skip 3.5.3);  ____ No (go to 3.5.3 and skip 3.5.2.)
3.5.2 Is the shortest distance from the border of the rollover label to the border of the air bag warning label at least 1 cm? (§575.105(d)(1)(iv)(B))
  ________ actual distance
  _____ Yes-Pass;  ____ No-FAIL
3.5.3 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? (§575.105(d)(1)(iv)(A))
  ________ actual distance
  __________ Yes-Pass;  ____ No-FAIL.

4. Air Bag Alert Label (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.” §575.105(d))

4.1 Is the Sun Visor Warning Label visible when the sun visor is in the stowed position?
  Driver side  __X__ Yes  ____ No  If yes, for driver and passenger go to 5.
  Passenger side  ____ No air bag  __X__ Yes  ____ No

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? (§4.5.1(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? (§4.5.1(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? (§4.5.1(c))
  Driver side  ____ Yes-Pass  ____ No-FAIL
  Passenger side  ____ Yes-Pass  ____ No-FAIL.

4.5 Is the message area black with yellow text? (§4.5.1(c)(1))
  Driver side  __X__ Yes-Pass  ____ No-FAIL
  Passenger side  __X__ Yes-Pass  ____ No-FAIL.
4.6 Is the message area at least 20 cm²? (S4.5.1(e)(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 COIT.) (S4.5.1(e)(2))
__ Yes (go to 5.1.1 and skip 5.2 through 5.2.5)
__ 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

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 (vehicles without back seats may omit the statement: "The back seat is the safest place for children.") (S4.5.1(e)(2)(iii))) to the label shown in Figure 9? (S4.5.1(e)(2))
__ 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))
__ Yes-Pass; __________ No-FAIL

5.2.2 Does the label conform in content (vehicles without back seats may omit the statement: "The back seat is the safest place for children 12 and under.") to the label shown in Figure ?? (S4.5.1(e)(1)(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(e)(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
WARNING

DEATH or SERIOUS INJURY can occur

• Child seats can be killed by the airbag

When the airbag inflates, it can kill or seriously injure a child seated in the seat position.

Always use SEAT BELTS and CHILD RESTRAINTS.

Figure 6a. Sunvisor Label Visible When Visor is in Down Position.

WARNING

DEATH or SERIOUS INJURY can occur

• Child seats can be killed by the airbag

When the airbag inflates, it can kill or seriously injure a child seated in the seat position.

Always use SEAT BELTS and CHILD RESTRAINTS.

Figure 6b. Sunvisor 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.
DATA SHEET 6
FMVSS 208 READINESS INDICATOR (84.5.2)

NHTSA No.: C30103 Test Date: 11/15/02
Laboratory: TRC Inc. Test Technician(s): R. Benavides

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 T. Henneberger on behalf of Breed)

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

2. Describe the location of the readiness indicator: On instrument cluster

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

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?
   X Yes-Pass; ___ No-FAIL

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

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

REMARKS:

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DATA SHEET 7
Passenger Air Bag Manual Cut-Off Device (§4.5.4)

NHTSA No.: C30103
Test Date: 11/15/02

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

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? (§4.5.4(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. (§4.5.4(b))
   N/A - No lumbar adjustment

3.1 Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (§8.1.3)
   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. (§16.2.10.2)
   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. (§16.2.10.3.1)
   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. (§16.2.10.3.1)
   N/A - No independent seat cushion height adjustment

3.5. Put the seat in its full rearward position. (§16.2.10.3.1)
   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. (§16.2.10.3.1)
   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 change. 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.

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. (§8.1.2)
   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
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. (§4.5.4.1 (b) and §8.1.3)
(a) 50A – No seat back angle adjustment
(b) Manufacturer's design seat back angle
(c) Tested seat back angle

3.12. Is the driver seat a bucket seat?
(a) Yes, go to 3.12.1 and skip 3.12.2.
(b) No, go to 3.12.2 and skip 3.12.1.

3.12.1 Bucket seat:

3.12.1.1 Locate and mark a vertical plane B through the longitudinal centerline of the seat driver's seat cushion. (§22.2.1.3) 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? (§4.5.4.2)
(a) Yes-Pass; (b) No-FAIL

5. Is the on-off device separate from the ignition switch? (§4.5.4.2)
(a) Yes-Pass; (b) No-FAIL

6. Is there a telltale light that comes on when the passenger air bag is turned off? (§4.5.4.2)
(a) Yes-Pass; (b) No-FAIL

7. Telltale light (§4.5.4.3)

7.1 Is the light yellow? (§2.5.4.3(a))
(a) Yes-Pass; (b) No-FAIL

7.2 Are the words "PASSENGER AIR BAG OFF" (§4.5.4.3(b)) on the telltale?

7.2.1 Yes - Pass, go to 7.3
7.2.2 No - go to 7.2.2

7.2.2 within 25 mm of the telltale? mm from the edge of the telltale light
(a) Yes-Pass; (b) No-FAIL
7.3 Does the telltale remain illuminated while the air bag is turned off? (S4.5.4.3(c)) (Leave the air bag off for 5 minutes.)
   Yes-Pass;   No-FAIL

7.4 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-Pass;   No-FAIL

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:    there is no back seat
                             space is not always available in the rear seat
                             there is a medical condition that must be monitored constantly
                             medical risk causes special risk for passenger
                             greater risk for harm than with the air bag on

   Yes-Pass;   No-FAIL

8.5 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 retractors. (§7.1.1.5(c))

NHTSA No.: C30103 Test Date: 11/15/02

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

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. Mid (§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 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. (§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 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. (§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 seat or seat that can be adjusted to forward-
facing?
   X Yes; ___ No (If yes, go to 7.1. If no, go to 8.)

X 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. (§7.1.1.5(b))
   X Yes-Pass; ___ No-FAIL

X 8. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedure
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.
   (§7.1.1.5(c)(2) & §7.1.1.5(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: 49.0 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. (§7.1.1.5(c)(3))
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 17.5 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 retractor is 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 50 lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))

Measured distance between A and B 18.5 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

REMARKS:
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.: C30103 ______________________ Test Date: 1/15/02 ______________
Laboratory: TRC Inc. Test Technician(s): R. Benavides ____________________________

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 test fore-aft seat position. Mid ____________________________ (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 retractors, 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.)

  X 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: 42.5 __________ 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))
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° ± 1° (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: 29.8 inches

X.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: 50 lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))

Measured distance between A and B: 30.5 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 = 0.7 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 = 12.0 inches.

X: 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.: C39103 ________________________ Test Date: 11/15/02

Laboratory: TRC Inc. __ Test Technician(s): R. Benavides ________________________

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. Fixed ____________________ (S7.1.1.5 (e)(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))
___ 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 inventing, twisting or deforming of the belt webbing. (S7.1.1.5 (a))
___ 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.; If no, go to 8.)

X 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 52.0 ________ 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))
_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. (§7.1.1.5(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. (§7.1.1.5(c)(4))

Measured distance between A and B 34.5 inches

_X_ 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 retractor 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 50 lb/sec (spec. 10 to 50 lb/sec) (§7.1.1.5(c)(5))

Measured distance between A and B 35.0 inches (§7.1.1.5(c)(6))

_X_ 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 = 0.5 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? (§7.1.1.5(c)(8)) 9-13 = 17.0 inches;

_X_ Yes-Pass;  _   No-FAIL.

REMARKS:
Insert Webbing to Rest Against This Surface

1/4 Inch Diameter (Steel)

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

Direction of Pull

**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.: C30103 ___________________________ Test Date: 11/15/02

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

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))

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))

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.)

___ X 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: 46.2 ______ 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(c)(3))
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: 30.0 _______ inches

X 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 retractor is 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 extst rate: 50 _______ lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))

Measured distance between A and B: 30.5 _______ 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= _______ 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= 15.7 _______ inches;

X 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.:  C30103 Test Date:  11/15/02

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

DESIGNATED SEATING POSITION:  Third Row Center – Not Type 2

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

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

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))
   Yes-Pass;  No-FAIL

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))
   Yes-Pass;  No-FAIL

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

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

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))

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

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))

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

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

5-35  021119-2
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 ________________ (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 ________________ 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 retractor is 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 ________________ lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))

Measured distance between A and B ________________ 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= __________ 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= __________ inches:

___ Yes-Pass; ___ No-FAIL.

REMARKS:
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.: C30103 ________________________________ Test Date: 11/15/02 __________

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

DESIGNATED SEATING POSITION: Third 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. 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; _______ No (If yes, go to 7.1. If no, go to 8.)

X 7. 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: _______ inches

X 10. Readjust the seat 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° (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: ___________ inches

X. 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 retractor is 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 50 lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))

Measured distance between A and B: ___________ 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(e)(7)) 13-12 = ___________ inches;

X. Yes-Pass: No-FAIL

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

X. 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 9
FMVSS 208 SEAT BELT WARNING SYSTEM CHECK (S7.3)

NHTSA No.: C30103 ____________________________ Test Date: 11/15/02

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

X 1. The occupant is in the driver’s seat.
X 2. The seat belt is in the stowed position.
X 3. The key is in the “on” or “start” position.
X 4. The time duration of the audible signal beginning with key “on” or “start” is 6 seconds.
X 5. The occupant is in the driver’s seat.
X 6. The seat belt is in the stowed position.
X 7. The key is in the “on” or “start” position.
X 8. The time duration of the warning light beginning with key “on” or “start” is 6 seconds.
X 9. The occupant is in the driver’s seat.
X 10. The seat belt is in the latched position and with at least 4 inches of belt webbing extended.
X 11. The key is in the “on” or “start” position.
X 12. The time duration of the audible signal beginning with key “on” or “start” is 0 seconds.
X 13. The occupant is in the driver’s seat.
X 14. The seat belt is in the latched position and with at least 4 inches of belt webbing extended.
X 15. The key is in the “on” or “start” position.
X 16. The time duration of the warning light beginning with key “on” or “start” is 7 seconds.
X 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>Item 16</th>
<th>6 seconds*</th>
<th>Item 12</th>
<th>0 seconds**</th>
</tr>
</thead>
<tbody>
<tr>
<td>S7.3 (a)(2)</td>
<td>Belt latched &amp; Key on or start</td>
<td>Item 16</td>
<td>4 to 8 seconds</td>
<td>Item 12</td>
<td>0 seconds**</td>
</tr>
<tr>
<td></td>
<td>Belt latched &amp; Key on or start</td>
<td>Item 8</td>
<td>6 to 8 seconds</td>
<td>Item 1</td>
<td>6 seconds**</td>
</tr>
</tbody>
</table>

* 49 USC § 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 §12/00 interpretation to Patrick Raher of Hogan and Plantson
X 18. The seat belt warning system meets the requirements of (manufacturers may comply with either section)
   ___ S7.3 (a)(1)
   ___ S7.3 (a)(2)
   ___ FAIL - Does NOT meet the requirements of either option
X 19. Note wording of visual warning; (S7.3(a)(1) and S7.3(a)(2))
   ___ Fasten Seat Belts
   ___ Fasten Belts
   ___ Symbol 101
   ___ FAIL — Does not use any of the above wording or symbol
DATA SHEET 10
BELT CONTACT FORCE (S7.4.3)

NHTSA No.: C30103 ___________________________ Test Date: 11/15/02

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

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.

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

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

X 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

X 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

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 midpoint), and R for full rearward.
   ___ N/A - The seat does not have a fore-aft adjustment

X 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)
   ___ 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: Mid__________

X 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)
   ___ N/A - No adjustments

Reference line angle as tested: 0°
12. 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: 15.5°
   Tested seat back angle: 15.5°

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

14. Fasten the seat belt latch.

15. 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.

16. 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: 0.59 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. : C30103 ____________________________ Test Date: 11/15/02

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

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

X 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

X 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

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 midpoint), and R for full rearward.
   ___ N/A - The seat does not have a fore-aft adjustment

X 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:
    Mid

X 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)
   ___ N/A - No adjustments
   Reference line angle as tested: 0°
12. 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 §8.13)

   N/A – No adjustments

Manufacturer's design seat back angle: 15.5°

Tested seat back angle: 15.5°

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

14. Fasten the seat belt latch.

15. 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.

16. 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: 0.60 th.

   0.0 to 0.7 pounds - Pass
   Greater than 0.7 pounds - FAIL
DATA SHEET 10
BELT CONTACT FORCÉ (S7.4.3)

NHTSA No.: C30103  Test Date: 11/15/02

Laboratory: IRC Inc.  Test Technician(s): R. Benavides

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 a webbing tension-relieving device?
   ___ Yes (this form is complete)
   X  No (continue with this check sheet)

   X  2. Position the seat’s adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflected 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. (S16.2.10.3.1)
   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. (S16.2.10.3.1)
   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. 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: Fixed

   X  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°
12. 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)
   X N/A – No adjustments
   Manufacturer's design seat back angle: ________
   Tested seat back angle: ________

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

14. Fasten the seat belt latch.

15. 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.

16. 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: 0.60 ________ 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.: C30103
Test Date: 11/15/02

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

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.

1. Does the vehicle incorporate a webbing tension-relieving device?
   Yes (this form is complete)  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 to 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)

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: $0^\circ$
12. 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. (§4.3.4.(b) and §8.1.3)

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

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

14. Fasten the seat belt latch.

15. 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.

16. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal plane 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 __0.60__ 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.: C39103

Test Date: 11/15/02

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

DESIGNATED SEATING POSITION: Third Row Left

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

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

9. **X** 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. **X** 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 mid-point. Describe the location of the seat: Fixed

11. **X** 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: $0^\circ$

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5-51  
021119-2
12. 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)
   X  N/A - No adjustments
   Manufacturer's design seat back angle
   Tested seat back angle

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

15. 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.

16. 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 0.58 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.: C30103
Test Date: 11/15/02

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

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)
     X  No (continue with this check sheet)

X 2. Position the seat's adjustable lumbar support so that the lumbar support is in its lowest,
     retracted or deflated adjustment position. (S8.1.2)
     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. (S16.2.10.3.1)
     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. (S16.2.10.3.1)
     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. 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: Fixed

X 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°
12. 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)
   X  \( /A \) - No adjustments
   Manufacturer's design seat back angle  
   Tested seat back angle

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

14. Fasten the seat belt latch.

15. 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.

16. 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 0.58 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.: C30103 Test Date: 11/15/02
Laboratory: TEC Inc. Test Technician(s): R. Benavides

DESIGNATED SEATING POSITION: Third Row Center – Not Type 2

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?
   __ No (continue with this check sheet)
   ___ Yes (this form is complete)

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

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

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

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)
   ___ 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)
    ___ 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)
    ___ N/A - No adjustments
    Reference line angle as tested ___________________
12. 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
   Tested seat back angle

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

14. Fasten the seat belt latch.

15. 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.

16. 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 load 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
   0.0 to 0.7 pounds — Pass
   greater than 0.7 pounds — FAIL
DATA SHEET 11
LATCHPLATE ACCESS (57.4.4)

NHTSA No.: C30103 _______________ Test Date: 1/15/02

Laboratory: IRC Inc. Test Technician(s): R. Benavides

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)
   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)
   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)
   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)
   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 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.

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. (S16.7)

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°
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. (§4.5.4.1 (b) and §8.1.3)

N/A — No seat back angle adjustment

Manufacturer's design seat back angle: 15.5°

Tested seat back angle: 15.5°

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 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?

X Yes-Pass;  ____ No

X 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?

X Yes-Pass;  ____ No

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

X 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?

X Yes-Pass;  ____ No-FAIL
Figure 2. Location of Anchoring Points for Latchplate Reach Limiting Chains or Strings to Test for Latchplate Accessibility Using Subpart E Test Device.
DATA SHEET 11
LATCH PLATE ACCESS (S7.4.4)

NHTSA No.: C30103 Test Date: 11/15/82

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

DESIGNATED SEATING POSITION: Right 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. (S16.2.10.2)
     ___ 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)
     ___ 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)
     ___ 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)
     ___ 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 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 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. (S16.7)

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°
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. (§84.5.4.1 (b) and §8.1.3)

- N/A - No seat back angle adjustment

Manufacturer's design seat back angle 15.5°

Tested seat back angle 15.5°

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 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

X_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

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 Subpart E Test Device.
Figure 4: USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND ARM ACCESS
DATA SHEET 12
SEAT BELT RETRACTION (S7.4.5)

NHTSA No.: C30103 Test Date: 11/15/02

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

DESIGNATED SEATING POSITION: Left Front

GVWR: 3130 kg/6900 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)
   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. Draw a horizontal 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.
   N/A - The seat does not have a fore-aft adjustment.

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

5-65 02119-2
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. (§8.1.3)

- N/A  No seat back angle adjustment
- Manufacturer's design seat back angle 15.5°
- Tested seat back angle 15.5°

12. If adjustable, set the head restraint at the full up and full forward position. (§8.1.3) 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

13. Place any adjustable seat belt anchorages at the vehicle manufacturer's nominal design position for a 50th percentile adult male occupant (§8.1.3)

- N/A  No adjustable upper seat belt anchorage

- Manufacturer's specified anchorage position  Fixed
- Tested anchorage position  Fixed

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.

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. 584 mm
- Record the distance from the edge of the seat to Plane B. 292 mm

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 411 mm
- Distance from the vehicle centerline to Plane B 411 mm

15. Stow outward armrests that are capable of being stowed. (§7.4.3)

16. Remove the arms of a Subpart F 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. (§10.4.1.1 & §10.4.1.2)

17. Rest the thighs on the seat cushion.

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). (§10.4.2.1) 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. (§10.4.2.1 and §10.4.2.2)

- Horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (§10.4.2.1) Measurement not recorded
- Vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (§10.4.2.1) Measurement not recorded
- Pelvic angle (20° to 25°) (§10.4.2.2) Measurement not recorded

19. Set the distance between the outward knee clevis flange surfaces at 10.6 inches.

- Measured distance (10.6 inches) (§10.5)
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.

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)

25. Is the belt system equipped with a tension relieving device?
   - Yes, continue
   - No, go to 26

26. Check the statement that applies to this test vehicle:
   - 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**
   - The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latch plate is released. **Pass**

27. Neither 26.1 nor 26.3 apply. **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?
   - Yes-Pass; **No-FAIL**
   - N/A

   Yes-Pass; **No-FAIL**
DATA SHEET 12
SEAT BELT RETRACTION (S7.4.5)

NIHSA No.: C30103 ____________________________ Test Date: 11/15/02

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

DESIGNATED SEATING POSITION: Right Front ____________________________

GVWR: 3130 kg/6900 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.

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

☐ 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

☐ 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

☐ 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

☐ 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)
   ☒  N/A - No independent seat cushion height adjustment.

☐ 6. Put the seat in its full rearward position.
   ☒  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. (S8.1.2)
   ☒  N/A - No seat height adjustment

☐ 8. Draw a horizontal 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. 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° ____________

5-68 021119-2
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. (§8.1.3)
   - N/A – No seat back angle adjustment
   - Manufacturer’s design seat back angle: 15.5°

12. If adjustable, set the head restraint at the full up and full forward position. (§8.1.3) 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

13. Place any adjustable seat belt anchorages at the vehicle manufacturer’s nominal design position for a 50th percentile adult male occupant (§8.1.5)
   - N/A – No adjustable upper seat belt anchorage
   - Manufacturer’s specified anchorage position: Fixed

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

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: 584 mm

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: ______________

15. Stow outward armrests that are capable of being stowed. (§7.4.3)

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. (§10.4.1.1 & §10.4.1.3)

17. Rest the thighs on the seat cushion.

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 SAF.1826 (APR 1980). (§10.4.2.1) 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. (§10.4.2.1 and §10.4.2.2)
   - Horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.): Measurement not recorded
   - Vertical inches from the point 0.25 below the determined H-point (0.5 inch max.): Measurement not recorded
   - Pelvic angle (20° to 25°): Measurement not recorded

19. Set the distance between the outboard knee clevis flange surfaces at 10.6 inches.
   - Measured distance (10.6 inches): Measurement not recorded
20. To the extent practicable keep the thighs and the legs in a vertical plane ($10.5$) and rest the
thighs on the seat cushion while resting the feet on the floorpan or toe board.

21. Fasten the seat belt around the dummy.

22. Remove all slack from the lap belt portion. ($10.9$)

23. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times.
($10.9$)

24. Apply a 2 to 4 pound tension load to the lap belt. ($10.9$)

3. pound load applied

25. Is the belt system equipped with a tension relieving device?

Yes, continue

X  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. ($10.9$).

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. X Pass

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 26.1 nor 26.2 apply. FAIL

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

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 13
SEAT BELT GUIDES AND HARDWARE (§7.4.6)

NHTSA No.: C30103 ___________________________ Test Date: 11/15/02

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

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.

__ 1. Is the seat cushion movable so that the seat back serves a function other than seating? (§7.4.6.1(b))
   ___ Yes, this form is complete
   X  No; go to 2

__ 2. Is the seat removable? (§7.4.6.1(b))
   ___ Yes, this form is complete
   X  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? (§7.4.6.1(b))
   ___ Yes, this form is complete
   X  No; go to 4

__ 4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (§7.4.6.1(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 seat hardware is intentionally pushed behind the seat by a vehicle occupant)? (§7.4.6.1(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?
   ___ 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. (§7.4.6.2)
   ___ 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. (§7.4.6.2)
   ___ 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. (§7.4.6.2)
   ___ 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)? (§7.4.6.2)
   ___ Yes-Pass;    ___ No-FAIL
DATA SHEET 13
SEAT BELT GUIDES AND HARDWARE (S7.4.6)

NHTSA No.: C30103 ____________________________ Test Date: 11/15/02 __________________

Laboratory: TRC Inc. ____________________________ Test Technician(s): R. Bonavides ____________________________

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 non-retractable, 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 (§7.4.6)

NHTSA No.: C30105
Test Date: 11/15/02

Laboratory: IRC Inc. Test Technician(s): R. Benavides

DEVELOPED 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.

1. Is the seat cushion movable so that the seat back serves a function other than seating? (§7.4.6.1(b))
   X Yes; this form is complete
   ___ No; got to 2

2. Is the seat removable? (§7.4.6.1(b))
   Yes; this form is complete
   ___ No; got to 3

3. Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (§7.4.6.1(b))
   ___ Yes; this form is complete
   ___ No; got to 4

4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (§7.4.6.1(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)? (§7.4.6.1(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. (§7.4.6.2)
   ___ 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. (§7.4.6.2)
   ___ 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. (§7.4.6.2)
   ___ 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)? (§7.4.6.2)
    ___ Yes-Pass; ___ No-FAIL
DATA SHEET 13
SEAT BELT GUIDES AND HARDWARE (S7.4.6)

NHTSA No.: C30103
Test Date: 11/15/02

Laboratory: IRC Inc. Test Technician(s): R. Benavides

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.

☐ 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; get to 2

☐ 2. Is the seat removable? (S7.4.6.1(b))
   Yes; this form is complete
   ☑ No; get 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; get 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 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.: C30103 Test Date: 11/15/02

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

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(b))
   - [X] Yes; this form is complete
   - [X] No; got to 2

2. Is the seat removable? (S7.4.6.1(b))
   - [X] Yes; this form is complete
   - [ ] No; got 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; got 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 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 arrest in any position to which it can be adjusted (without moving the arrest)? (S7.4.6.2)
    - Yes-Pass: [ ] No-FAIL
DATA SHEET 13
SEAT BELT GUIDES AND HARDWARE (S7.4.6)

NHTSA No.: C30105  Test Date: 11/15/02
Laboratory: TRC Inc.  Test Technician(s): R. Benavides

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; got to 2
   - X

2. Is the seat removable? (S7.4.6.1(b))
   - Yes, this form is complete
   - No; got 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; got 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 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.: C30103 __________________________ Test Date: 11/15/02

Laboratory: TRC Inc. __ __________ Test Technician(s): R. Benavides ______________________

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.

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; got to 2

2. Is the seat removable? (S7.4.6.1(b))
   __ Yes; this form is complete
   __ No; got 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; got 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 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 garnet in any position to which it can be adjusted (without moving the garnet)? (S7.4.6.2)
    __ Yes-Pass; __ No-FAIL
DATA SHEET 26

VEHICLE WEIGHT, FUEL TANK, AND ATTITUDE DATA

NHTSA No.: C39103 Test Date: 11/19/02

Laboratory: TEC Inc. Test Technician(s): R. Benavides, 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 50th female ____ 50th male Passenger Dummy: X 50th 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 useful fuel tank capacity supplied by the COTR. 26.0 gallons (98.4 l).
5. Record the fuel tank capacity supplied in the owner's manual. 31.0 gallons (117.3 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," fill the fuel tank with an amount equal to the useful capacity provided by the COTR.

Amount added ____________

7. Crank the engine to fill the fuel delivery system with Stoddard solvent.
8. Fill the coolant system to capacity.
9. Fill the engine with motor oil to the max mark on the dip stick.
10. Fill the brake reservoir with brake fluid to its normal level.
11. Fill the windshield washer reservoir to capacity.
12. 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 __35__, LF __35__, RR __35__
Owner's manual pressure: RF __N/A__, LF __N/A__, RR __N/A__
Actual inflated pressure: RF __35__, LF __35__, RR __35__

13. Record the vehicle weight at each wheel to determine the unloaded vehicle weight (UVW), i.e., "as delivered" weight.

Right Front = ___607.0___ kg Right Rear = ___607.5___ kg
Left Front = ___689.0___ kg Left Rear = ___602.0___ kg

TOTAL FRONT = ___1296.0___ kg TOTAL REAR = ___1209.5___ kg

% Total Weight = ___51.7___ % % Total Weight = ___48.3___ %

UVW = TOTAL FRONT PLUS TOTAL REAR = ___2505.5___ kg

14. UVW Test Vehicle Attitude: (all dimensions in millimeters)
1. Mark a point on the vehicle above the center of each wheel.
2. Place the vehicle on a level surface.
3. Measure perpendicular to the level surface to the 4 points marked on the body and record the measurements.

RF __921__, LF __912__, RR __940__, LR __931__
15. Calculate the Rated Cargo and Luggage Weight (RCLW).
   
   15.1 Does the vehicle have the vehicle capacity weight (VCW) on the certification label or tire placard?
   
   X No, go to 15.2.
   
   X Yes, go to 15.3.
   
   X VCW = Gross Vehicle Weight - LVW
   VCW = 3130.0 - 2505.5 = 624.5
   
   X VCW = 624.5
   
   X 15.4 Does the certification or tire placard contain the Designated Seating Capacity (DSC)?
   
   X No, go to 15.5
   
   X Yes, go to 15.6.
   
   X DSC = Total number of seat belt assemblies - 7
   
   X 15.6 RCLW = VCVW - (68 kg x DSC) = 624.5 - (68 kg x 7) = 48.5
   
   X Is the vehicle certified as a truck, MPV or bus (see the certification label on the door jamb)?
   
   X Yes, the maximum RCLW is 136 kg.
   
   X No, use the RCLW calculated in 15.7.
   
   16. Fully Loaded Weight (100% fuel fill)
   
   X 16.1 Place the appropriate test dummy in both front outboard seating positions:
   
   Driver: X 5th female ... 50th male
   
   Passenger: X 5th female ... 50th male
   
   X 16.2 Load the vehicle with the RCLW from 15.7 or 15.8 whichever is applicable.
   
   X 16.3 Place the RCLW in the cargo area. Center the load over the longitudinal centerline of the vehicle. (88.1.1 (d))
   
   X 16.4 Record the vehicle weight at each wheel to determine the Fully Loaded Weight.
   
   Right Front = 618.0 kg Right Rear = 706.0 kg
   
   Left Front = 629.5 kg Left Rear = 703.0 kg
   
   TOTAL FRONT = 1317.5 kg TOTAL REAR = 1409.0 kg
   
   % Total Weight = 48.3 kg % Total Weight = 51.7 kg
   
   % GVW = 32.1 kg % GVW = 48.0 kg
   
   FULLY LOADED WEIGHT = TOTAL FRONT + TOTAL REAR = 2726.5 kg
   
   X 17. Fully Loaded Test Vehicle Attitude: (all dimensions in millimeters)
   
   X 17.1 Place the vehicle on a level surface.
   
   X 17.2 Measure perpendicular to the level surface to the 4 points marked on the body (see 14.1 above) and record the measurements
   
   RF 918; LF 907; RR 910; LR 902
   
   X 18. Calculate the test weight range (94% fuel fill).
   
   X 18.1 Calculated Test Weight = Fully Loaded Condition (See 16.4 above) - (0.06 x usable fuel tank capacity) x 0.79 (kg/liter)
   
   Calculated Test Weight = 2726.5 - (0.06 x 98.4 x 0.79 kg/l) = 2721.8 kg
   
   X 18.2 Test Weight Range = Calculated Test Weight (-4.5 kg, -9 kg)
   
   Max. Weight = Calculated Test Weight - 4.5 kg = 2717.3 kg
   
   Min. Weight = Calculated Test Weight - 9 kg = 2712.8 kg
   
   X 19. Remove the RCLW from the cargo area.

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20. Remove Stoddard solvent from the gas tank in the amount of 6% of the useable capacity as supplied by the COTR. 
   \[ 0.06 \times \text{useable capacity} = \] 
   Amount removed

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

22. Vehicle Components Removed For Weight Reduction:
   None

23. 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.

24. If necessary, add ballast to achieve the actual test weight.
   N/A
   Weight of ballast 87.0 kg

25. 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.

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

<table>
<thead>
<tr>
<th></th>
<th>Weight (kg)</th>
<th>Right Front</th>
<th>678.4</th>
<th>Right Rear</th>
<th>684.6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left Front</td>
<td>688.4</td>
<td>Left Rear</td>
<td>662.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL FRONT</td>
<td>1366.8</td>
<td>TOTAL REAR</td>
<td>1346.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Total Weight 50.4 %</td>
<td>% Total Weight 49.6 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% GVW 43.7 %</td>
<td>% GVW 43.0 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ \text{TOTAL FRONT PLUS TOTAL REAR} = 2713.4 \text{ kg} \]

27. Is the test weight between the Max. Weight and the Min. Weight (Sec 18.2)?
   Yes
   No, explain why not.

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

   28.1 Place the vehicle on a level surface.

   28.2 Measure perpendicular to the level surface to the 4 points marked on the body (see 3 above) and record the measurements.

   RF 900; LF 890; RR 912; LR 909...
Summary of test attitude

AS DELIVERED: RF 921; LF 912; RR 940; LR 951

AS TESTED: RF 900; LF 890; RR 914; LR 909

FULLY LOADED: RF 918; LF 907; RR 910; LR 902

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

- Yes
- No, explain why not. Approved by COTR on test day.

1 At this step gasoline in the fuel tank was topped off (Stoddard was not introduced until after fully loaded weight and attitudes were obtained). The exact amount of fuel in the tank was unknown.

2 The owner's manual said to see certification/tire label for tire pressure.

3 At this step Stoddard solvent was introduced into the drained fuel tank; 0.094 x 117.3 liter. A total of 110.3 liters was added.
DATA SHEET 27
Vehicle Accelerometer Location

NHTSA No.: C30103 ___________________________ Test Date: 11/19/92

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

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

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

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

X 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 left seat cross member to record x-direction accelerations. Record the location on the following chart.

X 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.

X 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.

X 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.

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

X 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.

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

X 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 x-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

ENGINE

DISC BRAKE CALIPER
### DATA SHEET 27

**VEHICLE ACCELEROMETER LOCATION MEASUREMENTS**

<table>
<thead>
<tr>
<th>DIMENSION</th>
<th>LENGTH (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PRE-TEST VALUES</strong></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>813</td>
</tr>
<tr>
<td>B</td>
<td>813</td>
</tr>
<tr>
<td>C</td>
<td>4226</td>
</tr>
<tr>
<td>D</td>
<td>3851</td>
</tr>
<tr>
<td>E</td>
<td>3983 left; 3983 right</td>
</tr>
<tr>
<td>F</td>
<td>693 left; 688 right</td>
</tr>
<tr>
<td>G</td>
<td>3299</td>
</tr>
<tr>
<td>H</td>
<td>2039 left; 2685 right</td>
</tr>
<tr>
<td>K</td>
<td>330</td>
</tr>
<tr>
<td><strong>POST-TEST VALUES</strong></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>813</td>
</tr>
<tr>
<td>B</td>
<td>813</td>
</tr>
<tr>
<td>C</td>
<td>4121</td>
</tr>
<tr>
<td>D</td>
<td>3850</td>
</tr>
<tr>
<td>E</td>
<td>3910 left; 3900 right</td>
</tr>
<tr>
<td>F</td>
<td>719 left; 720 right</td>
</tr>
<tr>
<td>G</td>
<td>3302</td>
</tr>
<tr>
<td>H</td>
<td>2019</td>
</tr>
<tr>
<td>K</td>
<td>307</td>
</tr>
</tbody>
</table>

**REMARKS:**
DATA SHEET 28
Photographic Targets

NHTSA No.: C30103 Test Date: 11/18/02

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

Impact Angle: 0° Offset percentage: 0% Belted Dummies: ___ Yes ___ No

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

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

1. FMVSS 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 127 ___ 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 on A1 and A2. The center of each circular target is 100 mm from the one next to it. Distance between targets 127 ___ 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 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 ___ mm

   1.13 Find the centerline of the vehicle. (% 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. **One target over driver dummy**

   2.2 Targets D1 and D2 are on a rectangular panel. **No D2 target**

   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: 127 mm
   Distance between circular targets on D2: N/A mm

3. FMVSS 208 dummy targeting requirements
   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).

   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).

   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.

   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
   4.1 Is an FMVSS 201 indicator test ordered on the “COTR Vehicle Work Order?”

   **X** No, this form is complete

   4.2 Reection 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.
OFFSET DEFORMABLE BARRIER
ADDITIONAL VEHICLE TARGETING

FIGURE 28D
# DATA SHEET 29

## CAMERA LOCATIONS

**VIIH, NHTSA No.: C30103**
**TEST DATE: 11/19/02**
**TIME: 1605**

**VEH, YEAR/MAKE/MODEL/BODY STYLE: 2003/Chevrolet/Tahoe/SUV**

<table>
<thead>
<tr>
<th>CAMERA NO.</th>
<th>VIEW</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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</thead>
<tbody>
<tr>
<td>1</td>
<td>Left Side View</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>24</td>
</tr>
<tr>
<td>2</td>
<td>Left Side View (barrier face to front seat backs)</td>
<td>-946 -5760 -960</td>
<td>-1.0</td>
<td>5350</td>
<td>25</td>
<td>445</td>
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<tr>
<td>3</td>
<td>Left Side View (A-post)</td>
<td>-1230 -7660 -1280</td>
<td>0</td>
<td>7200</td>
<td>25</td>
<td>735</td>
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<tr>
<td>4</td>
<td>Left Side View (B-post aimed toward center of steering wheel)</td>
<td>-5530 -4970 -2134</td>
<td>-9.2</td>
<td>4320</td>
<td>25</td>
<td>500</td>
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<tr>
<td>5</td>
<td>Left Side View (B-post)</td>
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<td>-5.5</td>
<td>7200</td>
<td>25</td>
<td>NA²</td>
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<tr>
<td>6</td>
<td>Left Side View (front door under camera 5)</td>
<td>-1600 -7310 -950</td>
<td>0</td>
<td>6820</td>
<td>25</td>
<td>595</td>
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<tr>
<td>7</td>
<td>Right Side View (overall)</td>
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<td>8480</td>
<td>13</td>
<td>1000</td>
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<tr>
<td>8</td>
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<td>1000</td>
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<td>25</td>
<td>1007</td>
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<tr>
<td>11²</td>
<td>Front View Windshield</td>
<td>470 0 -2500 -66</td>
<td>2150</td>
<td>8.5</td>
<td>1000</td>
<td></td>
</tr>
<tr>
<td>12³</td>
<td>Front View Driver</td>
<td>470 -270 -2500 -62</td>
<td>2200</td>
<td>17</td>
<td>1000</td>
<td></td>
</tr>
<tr>
<td>13³</td>
<td>Front View Passenger</td>
<td>560 220 -2500 -62</td>
<td>2180</td>
<td>17</td>
<td>1000</td>
<td></td>
</tr>
<tr>
<td>14²</td>
<td>Overhead Barrier Impact View</td>
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<td>NA¹</td>
<td>13</td>
<td>1000</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Pit Camera Engine View</td>
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<td>NA¹</td>
<td>17</td>
<td>687</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Pit Camera Fuel Tank View</td>
<td>-2650 130 1000 90</td>
<td>NA²</td>
<td>13</td>
<td>NA²</td>
<td></td>
</tr>
</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

1. Not applicable
2. Unable to determine speed, camera ran too slow to tome
3. Digital camera
DATA SHEET 30
DUMMY POSITIONING PROCEDURES FOR TEST DUMMY CONFORMING TO
SUBPART O OF PART 572

Seating Procedure 5th Percentile Female Driver Dummy (Part 572, Subpart O)
(S16.2 - S16.3)

NHTSA No.: C30104 Test Date: 11/19/02

Laboratory: TRC Inc. Test Technician(s): J. Jenkins

Test Number: 021119-2

Seat Type: ___ Bench  X  Bucket  ___ Split Bench
(Check One)

1.0 Seat Positioning (S16.2.10)

X 1.1 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)
   ___ N/A - No lumbar adjustment

X 1.2 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

X 1.3 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

X 1.4 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.

X 1.5 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 1.6 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 1.7 Draw a horizontal line on the side of the seat cushion.

X 1.8 Using only the controls which 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
rearward of the mid-point), and R for full rearward.
   ___ N/A - The seat does not have a fore-aft adjustment.

X 1.9 Using only the controls which change the seat in the fore-aft direction, place the seat in the full
forward position. (S16.2.10.3.2)
   ___ N/A - The seat does not have a fore-aft adjustment.

X 1.10 If seat adjustments other than fore-aft are present and the line on the side of the seat cushion
changes from the horizontal, use those adjustment to maintain the line as close as possible to the
horizontal. (S16.2.10.3.2)
   ___ N/A - No adjustments

Angle of the line on side of the seat cushion in the full forward position: 0.5 degrees

5-93  021119-2
1.11 If the seat height is adjustable, determine the maximum and minimum heights. Identify a reference point on the vehicle that does not move with respect to the seat. Identify this point as “S1”. Mark a reference point on the seat. Identify this point as “S2”. Locate the maximum height, the minimum height and the mid-height with respect to the S1 reference point. If seat adjustments other than fore and aft are present and the line on the side of the seat cushion changes from the horizontal, use those adjustments to maintain the line as close as possible to the horizontal at all height positions. (§16.2.10.3.2)

1.12 Record the mid-height position. (§16.2.10.3.3)

<table>
<thead>
<tr>
<th>Max height from S1</th>
<th>119 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. height from S1</td>
<td>85 mm</td>
</tr>
<tr>
<td>Test height from S1</td>
<td>95 mm</td>
</tr>
</tbody>
</table>

Angle of line on seat cushion at test height: 9.9 degrees

1.13 Record the horizontal longitudinal distance between Point S1 and Point S2. S1, S2 separation: 57 mm

2.0 Dummy Positioning

2.1. Is the seat a bucket seat? X Yes No

If yes, go to 2.1.1 and skip 2.1.2. If no, go to 2.1.2 and skip 2.1.1.

2.1.1 Bucket seats:

Locate and mark a vertical plane through the longitudinal centerline of the seat. (§16.3.1.1.4) 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 cushion: 510 mm

Record the distance from the edge of the seat cushion to the vertical plane: 250 mm

2.1.2 Bench seats and split bench seats:

Mark a longitudinal vertical plane that coincides with the center of the steering wheel (§16.3.2.1.4)

2.2 If the vehicle has an adjustable accelerator pedal, place it in the full forward position. (§16.3.2.2.1)

X N/A accelerator pedal not adjustable

2.3 With the seat in the position from step 1.11, move the seat to the full rearward position using controls that affect the fore and aft position. Do not use height or angle controls. (§16.3.2.1.1)

2.4 Fully recline the seat back. (§16.3.2.1.2)

X N/A seat back not adjustable.

2.5 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. (§16.3.2.1.2)

2.6 Position the dummy mid-sagittal plane vertical and coincident with the seating position centerline. (§16.3.2.1.3)

2.7 Hold down the dummy’s thighs and push rearward on the upper torso to maximize the pelvic angle. (§16.3.2.1.6)

2.8 Set the angle between the legs and the thighs to 170 degrees.

2.9 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 seat centerline. (§16.3.2.1.6)

Record Knee Separation: 160 mm

2.10 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. (§16.3.2.1.6)

X Pelvis contacted seat back.

Calves contacted seat cushion.

2.11 Gently rock the upper torso 5 degrees (approximately 51 mm (2 inches)) side to side three times to reduce the friction between the dummy and the seat. (§16.3.2.1.7)

2.12 If needed, extend the legs until the feet do not contact the floor pan. The thighs should be resting on the seat cushion. (§16.3.2.1.8)

2.13 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. (§16.3.2.1.8)
2.14 Rotate the left leg and thigh laterally to equalize the distance between each knee and the seating position centerline. (S16.3.2.1.8)

2.15 Using only the controls that move the seat fore and aft, attempt to return the seat to the full forward position. The right foot may contact and depress the accelerator and/or change the angle of the foot with respect to the leg. (S16.3.3.1.8)
   - Full forward position achieved. Proceed to step 2.20.
   - Full forward not achieved because of foot interference. Proceed to step 2.17
   - Full forward not achieved because of steering wheel contact.

2.16 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)
   - N/A - there was no leg contact
   - Steering wheel repositioned
   - Knees separated

2.17 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 left thigh outward at the hip the minimum amount required for clearance. (S16.3.2.1.8)
   - N/A - No foot interference with pedals.
   - Foot adjusted to provide clearance.
   - Foot and thigh adjusted to provide clearance.

2.18 Continue to move the seat forward until the full forward position is reached, or until the dummy contacts the interior. 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 which does not cause dummy contact. (S16.3.2.1.8)
   - Full Forward reached
   - Dummy contact. Clearance set at maximum of 5mm
     Measured Clearance ________

   Dummy Contact. Seat set at nearest detent position.
   Seat position _______ detent positions rearward of full forward
     (Full forward is position zero)

2.19 If the steering wheel was repositioned in step 2.16, 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.
   - N/A - Steering wheel was not repositioned.
   - Original position achieved.
   - Dummy contact. Clearance set at maximum of 5mm
     Measured Clearance ________

   Dummy Contact. Steering wheel set at nearest detent position.
   Steering wheel position _______ detent positions upward of original position.
     (Original position is position zero)

2.20 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, minimize the angle.
   - 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

2.21 Verify the pelvis is not interfering with the seat bight.
2.22 Verify the dummy abdomen is properly installed.

2.23 If the dummy torso contacts the steering wheel while performing step 2.29, reposition the steering wheel in the following order to eliminate contact.

- N/A No dummy torso contact with the steering wheel.
- 2.23.1 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.
- 2.23.2 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
- 2.23.3 Adjust Seat in the aft direction.
  - No Adjustment performed.
  - Seat moved all ___ mm from original position.
  - Seat moved aft ___ detent positions from the original position.

2.24 Measure and set the pelvic angle using the pelvic angle gage T7-2504. The pelvic angle should be 20.0 degrees +/- 2.5 degrees. If the pelvic angle cannot be set to 20 degrees, minimize the angular difference.

- Pelvic angle set to 20.0 degrees +/- 2.5 degrees.
- X Pelvic angle of 20.0 degrees not achieved, the angular difference was minimized.
- X Record the pelvic angle: 25.9 _______ degrees

2.25 Check the dummy for contact with interior after completing adjustments.

- X No contact.
  - Dummy in contact with interior.
    - Seat moved Aft ___ mm from the previous position.
    - Seat moved Aft ___ detent positions from the previous position.

2.26 Check the dummy to see if additional interior clearance is obtained, allowing the seat to be moved forward.

- X 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.

2.27 Driver's foot positioning, right foot

2.27.1 Place the foot perpendicular to the leg and determine if the right heel contacts the floor pan at any leg position. If the heel contacts the floor pan proceed to step 2.28 otherwise, proceed to step 2.29.

2.28 Perform the following steps until either all steps are completed, or the foot contacts the accelerator pedal. Step 2.28.6 shall be completed in all cases.

2.28.1 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.

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

2.28.3 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.
2.28.4 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.

2.28.5 Align the center line of the foot in the same horizontal plane as the centerline 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.

X 2.28.6 Record foot position
   X Pedal Contact achieved. Contact occurred at step 2.28.1__
   X Heel contacts floor pan
   Heel set __ mm from floor pan.
   Pedal Contact not achieved. Heel set __ mm from the floor pan.

FIGURE G1

2.29 Perform the following steps until either all steps are completed, or the foot contacts the accelerator pedal. Step 2.29.5 shall be completed in all cases.

2.29.1 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 G1 under the heel with the shallow part of the taper facing forward.

2.29.2 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 G1 under the heel with the shallow part of the taper facing forward.
2.29.3 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.

2.29.4 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 G1 under the heel with the shallow part of the taper facing forward.

2.29.5 Record foot position

--- Pedal Contact achieved. Contact occurred in step ... ---

--- Pedal Contact not achieved. Heel set ... millimeters from floor pan.

X 2.30 Driver's foot positioning: left foot.

2.30.1 Place the foot perpendicular to the leg and determine if the left heel contacts the floor pan at any leg position. If the heel contacts the floor pan, proceed to step 2.30.2 otherwise, position the leg as perpendicular to the thighs as possible with the foot parallel to the floor pan.

2.30.2 Place the left foot on the floor 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 footrest. If the pedal interferes with the placement of the foot, reposition the foot by rotating the foot about the leg, or rotate the leg outward about the hip if necessary.

--- Foot rotated about the leg

--- Foot rotated about the leg, and the leg rotated about the hip.

2.30.3 Record foot position.

--- Heel does not contact floor pan.

--- Foot placed on toe board.

X Foot placed on floor pan.

X 2.31 Driver arm/hand positioning.

2.31.1 Place the dummy's upper arms adjacent to the torso with the arm centerline as close to a vertical longitudinal plane as possible. (S16.3.2.3.1)

2.31.2 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. (S16.3.2.3.2)

2.31.3 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. (S16.3.2.3.3)

2.31.4 Lightly tap 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. S16.3.2.3.4

X 2.32 Adjustable head restraints

2.32.1 If the head restraint has an automatic adjustment, leave it where the system positions the restraint after the dummy is placed in the seat. (S16.3.4.1)

X N/A Vehicle does not contain automatic head restraints.

2.32.2 Adjust each head restraint to its lowest position. (S16.3.4.2)

2.32.3 Measure the vertical distance from the top most point of the head restraint to the bottom most point. Locate a horizontal plane through the midpoint of this distance. Adjust each head restraint vertically so that this horizontal plane is aligned with the center of gravity (CG) of the dummy head. (S16.3.4.3)

Vertical height of head restraint 200 mm
Mid-point height 190 mm

X 2.32.4 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. (S16.3.4.3)

X N/A Midpoint position attained in previous step

--- Headrest set at nearest detent below the head CG.
2.32.5 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. (S16.3.4.4)

2.33 Driver and passenger manual belt adjustment (for tests conducted with a belted dummy). S16.3.5

2.33.1 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.

<table>
<thead>
<tr>
<th>Manufacturer's specified position</th>
<th>Actual Position</th>
</tr>
</thead>
</table>

2.33.2 Place the Type 2 manual belt around the test dummy and fasten the latch. (S16.3.5.2)

2.33.3 Ensure that the dummy's head remains as level as possible. (S16.3.5.3)

2.33.4 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. (S16.3.5.4)
Seating Procedure 5th Percentile Female Passenger Dummy
(Part 572, Subpart O) (S16.2- S16.3)

NHTSA No.: C30104 Test Date: 11/19/02

Laboratory: TRC Inc. Test Technician(s): J. Jenkins

Test Number: 021119-2

Seat Type: __ Bench __ Bucket __ Split Bench
(Check One)

1.0 Seat Positioning (S16.2.10)

X 1.1 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)
   ____ N/A = No lumbar adjustment

X 1.2 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

X 1.3 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

X 1.4 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

X 1.5 If the seat is a bench seat, use the position determined for the driver's side and proceed to Section
   2.0.
   ____ N/A = Seat is not a bench seat.

X 1.6 Put the seat in its full rearward position. (S16.2.19.3.1)
   ____ N/A = The seat does not have a fore-aft adjustment

X 1.7 If the seat height is adjustable, place in the full down position. (S16.2.19.3.1)
   ____ N/A = No seat height adjustment

X 1.8 Draw a horizontal line on the side of the seat cushion.

X 1.9 Using only the controls which 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 rearward of the midpoint), and R for full rearward.
   ____ N/A = The seat does not have a fore-aft adjustment.

X 1.10 Using only the controls which change the seat in the fore-aft direction, place the seat in the full
   forward position. (S16.2.10.3.2)
   ____ N/A = The seat does not have a fore-aft adjustment.

X 1.11 If seat adjustments other than fore-aft are present and the line on the side of the seat cushion
   changes from the horizontal, use those adjustment to maintain the line as close as possible to the
   horizontal. (S16.2.10.3.2)
   ____ N/A = No adjustments

X 1.12 If the seat height is adjustable, determine the maximum and minimum heights. Identify a reference
   point on the vehicle that does not move with respect to the seat. Identify this point as "S1". Mark a
   reference point on the seat. Identify this point as "S2". Locate the maximum height, the minimum
   height, the mid height with respect to the S1 reference point. If seat adjustments other than fore-
   aft are present and the line on the side of the seat cushion changes from the horizontal, use those
   adjustment to maintain the line as close as possible to the horizontal at all height positions.
   (S16.2.10.3.3)
1.13 Record the mid height position of S2. (S16.2.10.3.3)
   X N/A - No seat height adjustment
   Max. height from S2: 52 mm
   Min. height from S1: 24 mm
   Test height from S1: 38 mm
   Angle of line on seat cushion at test height: 0.0.0 degrees

1.14 Record the horizontal longitudinal distance between Point S1 and Point S2.
   S1, S2 separation: 28 mm

2.0 Dummy Positioning

   NOTE: Certain steps may need to be performed simultaneously with the positioning of the
driver side dummy.

2.1 Is the seat a bucket seat?
   X Yes  X No
   If yes, go to 2.1.1 and skip 2.1.2. If no, go to 2.1.2 and skip 2.1.1.

2.1.1 Bucket seats:
   Locate and mark a vertical plane through the longitudinal centerline of the seat. (S16.3.1.10)
   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 cushion: 510.0 mm
   Record the distance from the edge of the seat cushion to the vertical plane: 255.0 mm

2.1.2 Bench seats and split bench seats:
   Mark a longitudinal vertical plane that is the same distance from the longitudinal centerline
   of the vehicle as the center of the steering wheel. (S16.3.3.1.4)

2.3 With the seat in the position from step 2.3 or 1.13, move the seat to the full rearward position using
   controls that affect the torso and seat position. Do not use height or angle controls. (S16.3.3.1.1)

2.4 Fully recline the seat back. (S16.3.3.1.2)
   X N/A seat back not adjustable.

2.5 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. (S16.3.3.1.2)

2.6 Position the dummy mid sagittal plane vertical and coincident with the seating position centerline.
   (S16.3.3.1.3 or S16.3.3.1.4)

2.7 Hold down the dummy's thighs and push rearward on the upper torso to maximize the pelvic angle.
   (S16.3.3.1.5)

2.8 Set the angle between the legs and the thighs to 120 degrees. (S16.3.3.1.6)

2.9 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 seat centerline. (S16.3.3.1.6)
   Record Knee Separation: 160.0 mm

2.10 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. (S16.3.3.1.6)
   Pelvis contacted seat back.
   X Calves contacted seat cushion.

2.11 Gently rock the upper torso +/− 5 degrees (approximately 51 mm (2 inches) side to side three times
   to reduce the friction between the dummy and the seat. (S16.3.3.1.7)

2.12 If the seat is a bench seat perform the driver dummy setup first and perform only the steps that do
   not affect the seat position or seat back angle of the driver as indicated. (S16.2.10.3)
2.14 Using only the controls that move the seat fore and aft, move the seat forward until the full forward position is reached, or until the dummy contacts the interior. If the dummy contacts the interior move the seat rearward until a maximum clearance of 3 mm (0.2 inches) is achieved or the seat is in the closest detent position which does not cause dummy contact. (S16.3.3.1.8)

[ ] N/A Bench Seat
[ ] Full Forward reached

... Dummy Contact. Clearance set at maximum of 5mm

[ ] Measured Clearance ______ mm

[ ] Dummy Contact. Seat set at nearest detent position.

... Seat position ______ detent position retained or full forward (full forward is position zero)

2.15 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 within 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, minimize the angle. (S16.3.3.1.9 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 leveled using the adjustable seat back

... Head leveled using the neck bracket

... Head Angle ________ degrees

2.16 Verify the pelvis is not interfering with the seat height. (S16.3.3.1.9)

2.17 Verify the dummy abdomen is properly installed. (S16.3.3.1.9)

2.18 Measure and set the pelvic angle using the pelvic angle gauge TL-2504. The pelvic angle should be 20.0 degrees ± 2.5 degrees. If the pelvic angle cannot be set to 20 degrees, minimize the angular difference. (S16.3.3.1.11)

[ ] 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

2.19 Verify the transverse instrument platform of the dummy head is level within 0.5 degrees. Use the lower neck bracket adjustment to level the head. If a level position cannot be achieved, minimize the angle. (S16.3.3.1.9, S16.3.3.1.10, and S16.3.3.1.11)

[ ] Head Level Achieved

... Head Angle ______ Measurement not recorded ______ degrees

[ ] Head Level NOT Achieved

... Head Angle ______ degrees

2.20 Check the dummy for contact with interior after completing adjustments. (S16.3.3.1.12)

[ ] N/A Bench Seat

[ ] No contact

... Dummy in contact with interior

... Seat moved at ______ mm from previous position

... Seat moved at ______ detent positions from the previous position

2.21 Check the dummy to see if additional interior clearance is obtained, allowing the seat to be moved forward. (S16.3.3.1.12)

[ ] 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

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2.22 Passenger foot positioning. (Indicate final position achieved) (S16.3.3.2)

2.22.1 Place feet flat on the toe board, OR.

2.22.2 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

2.22.3 If the heels do not touch the floor pan, set the legs to vertical and set the feet parallel to the floor pan.

2.23 Passenger arm/hand positioning. (S16.3.3.3)

2.23.1 Place the dummy's upper arms adjacent to the torso with the arm sometimes as close to a vertical longitudinal plane as possible. (S16.3.3.3.1)

2.23.2 Place the palms of the dummy in contact with the outer part of the thighs (S16.3.3.3.2)

2.23.3 Place the little fingers in contact with the seat cushion. (S16.3.3.3.3)

2.24 Adjustable head restraints

2.24.1 If the head restraint has an automatic adjustment, leave it where the system positions the restraint after the dummy is placed in the seat. (S16.3.4.1)

X 2.24.2 Adjust the head restraint to its lowest position. (S16.3.4.2)

X 2.24.3 Measure the vertical distance from the top most point of the head restraint to the bottom most point. Locate a horizontal plane through the midpoint of this distance. Adjust the head restraint vertically so that this horizontal plane is aligned with the center of gravity (CG) of the dummy head. (S16.3.4.3)

Vertical height of head restraint 190 mm
Mid-point height 95 mm

X 2.24.4 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. (S16.3.4.3)

2.24.5 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. (S16.3.4.4) No adjustment.

2.25 Driver and passenger manual belt adjustment (for tests conducted with a belted dummy) (S16.3.5)

2.25.1 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

2.25.2 Place the Type 2 manual belt around the test dummy and fasten the latch. (S16.3.5.2)

2.25.3 Ensure that the dummy's head remains as level as possible. (S16.3.5.3)

2.25.4 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 lb) in 18 N (4 lb) tension load to the lap belt. If the belt system is equipped with a tension-releasing 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-releasing device, allow the excess webbing in the shoulder belt to be retracted by the retractive force of the retractor. (S16.3.5.4)
<table>
<thead>
<tr>
<th><strong>DATA SHEET 31</strong></th>
<th><strong>DUMMY POSITIONING MEASUREMENTS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DRIVER (Serial No. 426</strong></td>
<td><strong>PASSENGER (Serial No. 421)</strong>*</td>
</tr>
<tr>
<td><strong>WA°</strong></td>
<td><strong>40°</strong></td>
</tr>
<tr>
<td><strong>SWA°</strong></td>
<td>69.0°</td>
</tr>
<tr>
<td><strong>SCA°</strong></td>
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</tr>
<tr>
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<td><strong>HH</strong></td>
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<tr>
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<td>702</td>
</tr>
<tr>
<td><strong>HR</strong></td>
<td>320</td>
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<tr>
<td><strong>NR</strong></td>
<td>320 ANGLE -7.9°</td>
</tr>
<tr>
<td><strong>CD</strong></td>
<td>482</td>
</tr>
<tr>
<td><strong>CS</strong></td>
<td>229</td>
</tr>
<tr>
<td><strong>RA</strong></td>
<td>98</td>
</tr>
<tr>
<td><strong>KDL</strong></td>
<td>119 ANGLE 57.1°</td>
</tr>
<tr>
<td><strong>KDR</strong></td>
<td>212</td>
</tr>
<tr>
<td><strong>PA°</strong></td>
<td>25.6°</td>
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<tr>
<td><strong>TA°</strong></td>
<td>54.1°</td>
</tr>
<tr>
<td><strong>KK</strong></td>
<td>235</td>
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<tr>
<td><strong>SI</strong></td>
<td>611 ANGLE -55.5°</td>
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<tr>
<td><strong>SK</strong></td>
<td>794 ANGLE -1.0°</td>
</tr>
<tr>
<td><strong>SH</strong></td>
<td>480 ANGLE 8.6°</td>
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<tr>
<td><strong>DS</strong></td>
<td>300</td>
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<tr>
<td><strong>HD</strong></td>
<td>209</td>
</tr>
<tr>
<td><strong>AD</strong></td>
<td>184</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.

* ITW  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 Dash, 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
horizontal should also be recorded. The measurement in the Y (transverse) direction from the striker to the II-point should also be taken (SHY). See photograph.

The following measurements are to be made within a vertical transverse plane.

**TTS**  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 bicaps. 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.

**IID**  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.

**SHY**  Striker to H-point, taken from a rod rigidly connected to the forward most center point on the striker to the II-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 COTR.

**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 II-point hole and the outer knee pivot bolt hole on a Hybrid II 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

1 Only outboard measurement is referenced in Data Tape Reference Guide
SCA  Steering Column Angle, measured with respect to the horizontal by placing an inclinometer on the center of the underside of the steering column.

NA  Measure the angle made when taking the measurement NR with respect to the horizontal.

KDA  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.

WA  Windshield Angle, place an inclinometer along the transverse center of the windshield exterior (measurement is made with respect to horizontal).

TA  Tibia Angle, use a straight edge to connect the dummy’s knee and ankle boots. Then place an inclinometer on the straight edge and measure the angle with respect to the horizontal.
DATA SHEET 32
CRASH TEST

NIITSA No.: C30103 _____________________ Test Date: 11/19/02________

Laboratory: TRC 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

. X. 1. Vehicle underbody painted
. X. 2. The speed measuring devices are in place and functioning.
. X. 3. The speed measuring devices are ___ 1.5 m from the barrier (spec. 1.5 m) and ___ 30 cm from the barrier (spec. is 30 cm)
. X. 4. Convertible top is in the closed position.
. ___ X. N/A – Not a convertible
. X. 5. Instrumentation and wires are placed so the motion of the dummies during impact is not affected.
. X. 6. 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.
   240 kPa front left tire 240 kPa specified on tire placard or in owner information
   240 kPa front right tire 240 kPa specified on tire placard or in owner information
   240 kPa rear left tire 240 kPa specified on tire placard or in owner information
   240 kPa rear right tire 240 kPa specified on tire placard or in owner information
. X. 7. Time zero markers and switches in-place.
. X. 8. Pre test zero and shunt calibration adjustments performed and recorded
. X. 9. Dummy temperature meets requirements of section 12.2 of the test procedure.
. X. 10. Vehicle hood closed and latched
. X. 11. Transmission placed in neutral
. X. 12. Parking brake off
. X. 13. Ignition in the ON position
. X. 14. Doors closed and latched but not locked.
. X. 15. Post test zero and shunt calibration checks performed and recorded
. X. 16. Actual test speed ___ 39.2 ___ km/h
. X. 17. Vehicle rebound from the barrier ___ 49.5 ___ cm
. X. 18. 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

X 19. Describe the contact points of the dummy with the interior of the vehicle.
   Driver dummy: Head contacted airbag and seat back at the point where the shoulder belt comes out of the seat. Chest contacted airbag. Abdomen contacted airbag and steering wheel. Both knees contacted knee bolster.
   Passenger dummy: Head contacted airbag and head restraint. Chest and abdomen contacted airbag. Both knees contacted the glove box.
DATA SHEET 34
ACCIDENT INVESTIGATION MEASUREMENTS

NHTSA No.: C30103 ___________________ Test Date: 11/19/02

Laboratory: TRC Inc. Test Technician(s): J. Jenkins

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

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

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

Vehicle Year/Make/Model/Body Style: 2003/Chevrolet/Tahoe/MPV

VIN: 1GNEK13Z33R106320

Wheelbase: 2945 ______ Build Date: 08/02

Veh. Size Category: SUV ______ Test Weight: 2713.4 ______

Front Overhang: 925 ______ Overall Width: 1990

Veh. Impact Speed: 39.2 ______ Vel. Change¹: 44.7 km/h

Collision Deformation Classification (CDC) Code: 12FDEW2

¹ From integration of right rear seat crossmember X-axis accelerometer.
Impact Mode: 0° Front

Crush Depth Dimensions:

C1 = 256 mm
C2 = 379 mm
C3 = 452 mm
C4 = 451 mm
C5 = 400 mm
C6 = 349 mm

Midpoint of Damage: D = 0 mm
(Left of Vehicle Longitudinal Centerline)

Length of Damage Region:

L = 1762 mm

REMARKS:

Numbered from left to right of vehicle.
DATA SHEET 35
WINDSHIELD MOUNTING (FMVSS 212)

NHTSA No.: C30103               Test Date: 11/19/02

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

Impact Angle: 0°               Belted Dummies: Yes  X 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

Most vehicle windshields are either bonded in place and covered with chrome or plastic strips or they are held to the body by a rubber retainer. It is difficult to determine the exact periphery of the windshield because the glazing edge is hidden from view. The test engineer will measure the perimeter inside the retainer or molding at several locations. After the impact test the covering over the glazing edge may be removed for exact measurement of the windshield periphery. Do not disturb the molding or retainer in the event of a noncompliance.

1. Describe from visual inspection how the windshield is mounted and describe any trim material.
   Plastic trim around perimeter, held by adhesive around inner perimeter.

2. Mark the longitudinal centerline of the windshield.

3. Measure pre-crash A, B, and C for the left side and record in the chart below.

4. Measure pre-crash D, E, and F for the right side and record in the chart below.

5. Measure from the edge of the retainer or molding to the edge of the windshield.
   Dimension G: 20 mm

6. Can a single thickness of copier type paper (as small a piece as necessary) slide between the windshield and the vehicle body?
   X No, pass.
   ___ Yes, go to 7.

7. Visibly mark the beginning and end of the portions of the periphery where the paper slides between the windshield and the vehicle body.

8. Measure and record post-crash A, B, C, D, E, and F such that the measurements do not include any of the parts of the windshield where the paper slides between the windshield and the vehicle body.

9. Calculate and record the percent retention for the right and left side of the windshield.

10. Is total right side percent retention less than 75%?
    ___ Yes, FAIL
    ___ No, Pass

11. Is total left side percent retention less than 75%?
    ___ Yes, FAIL
    ___ No, Pass

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### WINDSHIELD PERIPHERY MEASUREMENT

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Pre-crash mm</th>
<th>Post-crash mm</th>
<th>Percent Retention (Post-crash ÷ Pre-crash)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left side</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>700</td>
<td>700</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>675</td>
<td>675</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>880</td>
<td>880</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2255</td>
<td>2255</td>
<td>100</td>
</tr>
<tr>
<td>Right side</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>700</td>
<td>700</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>675</td>
<td>675</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>880</td>
<td>880</td>
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</tr>
<tr>
<td>Total</td>
<td>2255</td>
<td>2255</td>
<td>100</td>
</tr>
<tr>
<td>Width of Molding</td>
<td>G</td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>

Indicate area of mounting failure.

### FRONT VIEW OF WINDSHIELD

INDICATE WIDTH OF MOLDING

ZERO POINT (0,0)
DATA SHEET 36
WINDSHIELD ZONE INTRUSION (FMVSS 219)

NHTSA No.: C30103  Test Date: 11/19/02

Laboratory: TRC Inc.  Test Technician(s): R. Beravides, J. Jenkins

Impact Angle: 0°  Belted Dummies: _ Yes  X 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. Place a 165 mm diameter rigid sphere, with a mass of 6.8 kg on the instrument panel so that it 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

A

D

E

X

B

C

ZERO POINT (0,0)
LOWER EDGE OF PROTECTED ZONE

A. Windshield Dimensions

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
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<tbody>
<tr>
<td>1400</td>
<td>350</td>
<td>1760</td>
<td>675</td>
<td>465</td>
<td>910</td>
</tr>
</tbody>
</table>

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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.

<table>
<thead>
<tr>
<th>X</th>
<th>Y</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</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>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

REMARKS:

No penetration into or beneath the protected zone.
DATA SHEET 37
FUEL SYSTEM INTEGRITY (FMVSS 301)

TEST VEHICLE NHTSA NO.: C30103 ; TEST DATE: 1/19/02

VEHICLE YEAR/MAKE/MODEL/BODY STYLE: J. Jenkins

TYPE OF IMPACT: 0° Front

STODDARD 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.
A. TEST PHASE = 0° TO 90°

Determination of Stoddard Solvent Collection Time Period:

1. Rollover Fixture 90° Rotation: Time = 1 minute, 30 seconds

(Specified Range is 1 to 3 minutes)

2. FMVSS 301 Position Hold
   Time = 5 minutes, 0 seconds

3. TOTAL = 6 minutes, 30 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) = NA 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 = 1 minutes, 30 seconds
   (Specified Range is 1 to 3 minutes)

2. JMYSS 301 Position Hold
   Time = 5 minutes, 0 seconds

3. TOTAL = 6 minutes, 30 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) = NA 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 = 11 minutes, 30 seconds
   (Specified Range is 1 to 3 minutes)

2. FMVSS 301 Position Hold
   Time = 5 minutes, 0 seconds

3. **TOTAL = 6 minutes, 30 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) = NA 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. Roll-over Fixture 90° Rotation Time – 1 minutes, 30 seconds
   (Specified Range is 1 to 3 minutes)

2. FMVSS 301 Position Hold
   Time = 5 minutes, 0 seconds

3. TOTAL – 6 minutes, 30 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) – NA grams
   (28 grams allowed)

Provide Details of Stoddard Solvent Spillage Locations - None
Section 6

Test Data
Pre-Test Dummy Soak Time (Test Time: 10:00)

Lower and Upper Temperature Boundaries Indicated with Solid Lines at 20.6°C and 22.2°C
Section 7

Photographs
<table>
<thead>
<tr>
<th>Image</th>
<th>Image Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
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<td>Pre-Test Front View</td>
<td>7-5</td>
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<tr>
<td>2</td>
<td>Post-Test Front View</td>
<td>7-6</td>
</tr>
<tr>
<td>3</td>
<td>Pre-Test Left Side View</td>
<td>7-7</td>
</tr>
<tr>
<td>4</td>
<td>Post-Test Left Side View</td>
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<td>5</td>
<td>Pre-Test Right Side View</td>
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<td>6</td>
<td>Post-Test Right Side View</td>
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<td>7</td>
<td>Pre-Test Left Front Three-Quarter View</td>
<td>7-11</td>
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<td>8</td>
<td>Post-Test Left Front Three-Quarter View</td>
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<td>9</td>
<td>Pre-Test Right Rear Three-Quarter View</td>
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<tr>
<td>10</td>
<td>Post-Test Right Rear Three-Quarter View</td>
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<tr>
<td>11</td>
<td>Pre-Test Windshield View</td>
<td>7-15</td>
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<td>12</td>
<td>Post-Test Windshield View</td>
<td>7-16</td>
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<td>13</td>
<td>Pre-Test Engine Compartment View</td>
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<td>Post-Test Engine Compartment View</td>
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<td>15</td>
<td>Pre-Test Steering Column and Firewall - Under Hood View</td>
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<td>16</td>
<td>Post-Test Steering Column and Firewall - Under Hood View</td>
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<td>Post-Test Steering Column View</td>
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<td>19</td>
<td>Pre-Test Steering Column and Firewall - Interior View</td>
<td>7-23</td>
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<td>Post-Test Steering Column and Firewall - Interior View</td>
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<td>21</td>
<td>Pre-Test Front Underbody View</td>
<td>7-25</td>
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<td>22</td>
<td>Post-Test Front Underbody View</td>
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<td>23</td>
<td>Pre-Test Mid Underbody View</td>
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<td>Post-Test Mid Underbody View</td>
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<td>Post-Test Fuel Tank View</td>
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<td>Post-Test Fuel Lines View</td>
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<td>Pre-Test Fuel Filler Neck View</td>
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<td>Post-Test Fuel Filler Neck View</td>
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<td>Pre-Test Fuel Filter View</td>
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<td>Post-Test Fuel Filter View</td>
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<td>Pre-Test Fuel Filler Cap View</td>
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<td>Post-Test Fuel Filler Cap View</td>
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<td>Pre-Test Driver Dummy Front View</td>
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<td>38</td>
<td>Post-Test Driver Dummy Front View</td>
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<td>Pre-Test Driver Dummy Position View</td>
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<td>Post-Test Driver Dummy Position View</td>
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<td>Pre-Test Driver Seat Position View</td>
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<td>Post-Test Driver Seat Position View</td>
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<td>Pre-Test Driver Dummy &amp; Vehicle Intrusion View</td>
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<td>Post-Test Driver Dummy &amp; Vehicle Intrusion View</td>
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<td>Pre-Test Passenger Dummy Front View</td>
<td>7-49</td>
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<td>46</td>
<td>Post-Test Passenger Dummy Front View</td>
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<tr>
<td>47</td>
<td>Pre-Test Passenger Dummy Position View</td>
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<td>48</td>
<td>Post-Test Passenger Dummy Position View</td>
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<td>49</td>
<td>Pre-Test Passenger Seat Position View</td>
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<td>Post-Test Passenger Seat Position View</td>
<td>7-54</td>
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<td>Pre-Test Passenger Dummy &amp; Vehicle Intrusion View</td>
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<td>Post-Test Driver Dummy Head Contact - View 1</td>
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<td>Post-Test Driver Dummy Head Contact - View 2</td>
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<td>Pre-Test Driver Dummy Knee Bolster View</td>
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<td>Post-Test Driver Dummy Knee Contact View</td>
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<td>Post-Test Driver Toepan View</td>
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<td>Post-Test Passenger Dummy Head Contact - View 1</td>
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<td>59</td>
<td>Post-Test Passenger Dummy Head Contact - View 2</td>
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<td>Pre-Test Passenger Dummy Knee Bolster View</td>
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<td>Post-Test Passenger Dummy Knee Contact View</td>
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<td>Post-Test Passenger Toopan View</td>
<td>7-66</td>
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<td>63</td>
<td>Post-Test Vehicle on Static Rollover Device - 90° View</td>
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<td>64</td>
<td>Pre-Test Vehicle Ballast View</td>
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<td>65</td>
<td>Pre-Test Vehicle Certification and Recommended Tire Pressure Label View</td>
<td>7-69</td>
</tr>
<tr>
<td>66</td>
<td>Pre-Test Vehicle Window Sticker</td>
<td>7-70</td>
</tr>
</tbody>
</table>
Image 4  Post-Test Left Side View
Image 7 Pre-Test Left Front Three-Quarter View
Image 13  Pre-Test Engine Compartment View
Image 23  Pre-Test Mid Underbody View
Image 30  Post-Test Fuel Lines View
Image 31  Pre-Test Fuel Filler Neck View
Image 35  Pre-Test Fuel Filler Cap View
Image 36  Post-Test Fuel Filler Cap View
Image 42  Post-Test Driver Seat Position View
Image 47 Pre-Test Passenger Dummy Position View
Image 49 Pre-Test Passenger Seat Position View
Image 51  Pre-Test Passenger Dummy & Vehicle Intrusion View
Image 60  Pre-Test Passenger Dummy Knee Bolster View
Image 61 Post-Test Passenger Dummy Knee Contact View
Image 62  Post-Test Passenger Toepan View
Image 63  Post-Test Vehicle on Static Rollover Device - 90° View
Appendix A

Test Equipment List and Calibration Information
<table>
<thead>
<tr>
<th>ChName</th>
<th>Location</th>
<th>Model</th>
<th>Name</th>
<th>Manufacturer</th>
<th>Sens./mV/°</th>
<th>Fullscale</th>
<th>Caldate</th>
<th>Pos Output</th>
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<tbody>
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<td>HFXNXG</td>
<td>Head Accel X</td>
<td>EXP-B20</td>
<td>0210216-A18</td>
<td>Entran</td>
<td>0.023</td>
<td>2000</td>
<td>9/24/02</td>
<td>Ry</td>
<td>1</td>
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<td>EXP-B20</td>
<td>0210216-A18</td>
<td>Entran</td>
<td>0.0213</td>
<td>2000</td>
<td>9/24/02</td>
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<td>1</td>
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