Report Number: 208-TRC-03-001

Safety Compliance Testing for FMVSS 208

Occupant Crash Protection

General Motors Corporation
2003 Chevrolet Suburban
NHTSA Number: C30104
TRC Inc. Test Number: 021114

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

Report Date: Dec. 19, 2002

Final Report

Prepared For:
U. S. Department of Transportation
National Highway Traffic Safety Administration
Safety Assurance
Office of Vehicle Safety Compliance (NVS-220)
400 Seventh Street, S.W., Room No. 6115
Washington, DC 20590
This publication is distributed by the U.S. 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 author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names or products are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

Test Performed By: Mike Postle, Engineering Technician

Report Approved By:

[Signature] Date 12/06/02

Virginia L. Walters, Project Manager
Transportation Research Center Inc.

Final Report Acceptance By OVSC:

[Signature] Date

Contracting Officer's Technical Representative (COTR),
NJITSA, Office of Vehicle Safety Compliance
Compliance tests were conducted on a 2003 Chevrolet Suburban, NHTSA No. 30104, in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. 12208-11 for the determination of FMVSS 208 compliance. Possible test failures identified were as follows:

None.
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 1</td>
<td>Purpose of Compliance Test</td>
<td>1-1</td>
</tr>
<tr>
<td>Section 2</td>
<td>Tests Performed</td>
<td>2-1</td>
</tr>
<tr>
<td>Section 3</td>
<td>Injury Result Summary</td>
<td>3-1</td>
</tr>
<tr>
<td>Section 4</td>
<td>Discussion of Test</td>
<td>4-1</td>
</tr>
<tr>
<td>Section 5</td>
<td>Test Data Sheets</td>
<td>5-1</td>
</tr>
<tr>
<td>Section 6</td>
<td>Test Data</td>
<td>6-1</td>
</tr>
<tr>
<td>Section 7</td>
<td>Photographs</td>
<td>7-1</td>
</tr>
<tr>
<td>Appendix A</td>
<td>Test Equipment List and Calibration Information</td>
<td>A-1</td>
</tr>
</tbody>
</table>
# List of Data Sheets

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>COIR Work Order</td>
<td>5-2</td>
</tr>
<tr>
<td>2</td>
<td>Report of Vehicle Condition</td>
<td>5-6</td>
</tr>
<tr>
<td>3</td>
<td>Certification Label and Tire Placard Information</td>
<td>5-8</td>
</tr>
<tr>
<td>4</td>
<td>Rear Outboard Seating Position Seat Belts</td>
<td>5-9</td>
</tr>
<tr>
<td>5</td>
<td>Air Bag Labels</td>
<td>5-10</td>
</tr>
<tr>
<td>6</td>
<td>FMVSS 208 Readiness Indicator</td>
<td>5-19</td>
</tr>
<tr>
<td>7</td>
<td>Passenger Manual Cut-Off Device</td>
<td>5-20</td>
</tr>
<tr>
<td>8</td>
<td>Lap Belt Lockability</td>
<td>5-23</td>
</tr>
<tr>
<td>9</td>
<td>FMVSS 208 Seat Belt Warning System Check (S7.3)</td>
<td>5-44</td>
</tr>
<tr>
<td>10</td>
<td>Belt Contact Force (S7.4.3)</td>
<td>5-46</td>
</tr>
<tr>
<td>11</td>
<td>Latchplate Access (S7.4.4)</td>
<td>5-62</td>
</tr>
<tr>
<td>12</td>
<td>Seat Belt Retraction (S7.4.5)</td>
<td>5-70</td>
</tr>
<tr>
<td>13</td>
<td>Seat Belt Guides and Hardware (S7.4.6)</td>
<td>5-76</td>
</tr>
<tr>
<td>26</td>
<td>Vehicle Weight, Fuel Tank and Attitude Data</td>
<td>5-85</td>
</tr>
<tr>
<td>27</td>
<td>Vehicle Accelerometer Locations</td>
<td>5-89</td>
</tr>
<tr>
<td>28</td>
<td>Photographic Targets</td>
<td>5-92</td>
</tr>
<tr>
<td>29</td>
<td>Camera Locations</td>
<td>5-98</td>
</tr>
<tr>
<td>30</td>
<td>Dummy Positioning Procedures for Test Dummy Conforming to Subpart O of Part 572</td>
<td>5-100</td>
</tr>
<tr>
<td>31</td>
<td>Dummy Positional Measurements</td>
<td>5-111</td>
</tr>
<tr>
<td>32</td>
<td>Crash Test</td>
<td>5-117</td>
</tr>
<tr>
<td>33</td>
<td>Offset Deformable Barrier Test Using Belted 5th Percentile Female Dummies (Part 572, Subpart O) (S18)</td>
<td>5-118</td>
</tr>
<tr>
<td>34</td>
<td>Accident Investigation Measurements</td>
<td>5-128</td>
</tr>
<tr>
<td>35</td>
<td>Windshield Mounting (FMVSS 212)</td>
<td>5-130</td>
</tr>
<tr>
<td>36</td>
<td>Windshield Zone Intrusion (FMVSS 219)</td>
<td>5-132</td>
</tr>
<tr>
<td>37</td>
<td>Fuel System Integrity (FMVSS 301)</td>
<td>5-134</td>
</tr>
</tbody>
</table>
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 DJNH22-02-D-08062, Task Order VRTC-DCF2525. The purpose of the test was to determine whether the subject vehicle, a 2003 Chevrolet Suburban, NHSTA No. C30104, meets certain performance requirements of FMVSS 208, "Occupant Crash Protection"; indicant FMVSS 212, "Windshield Mounting"; indicant FMVSS 219, "Windshield Zone Intrusion"; and indicant FMVSS 301, "Fuel System Integrity". The compliance test was conducted in accordance with OVSC Laboratory Test Procedure No. TP-208-11 dated August 22, 2002.
Section 2

Tests Performed
The following checked items indicate the tests that were performed:

- 1. Rear outboard seating position seat belts (S4.1.4.2(b) & (S4.2.4)
- 2. Air bag labels (S4.5.1)
- 3. Readiness indicator (S4.5.2)
- 4. Passenger Air Bag Manual Cut-Off Device (S4.5.4)
- 5. Lap belt lockability (S7.1.1.5)
- 6. Seat belt warning system (S7.3)
- 7. Seat belt contact force (S7.4.3)
- 8. Seat belt latch plate access (S7.4.4)
- 9. Seat belt retraction (S7.4.5)
- 10. Seat belt guides and hardware (S7.4.6)
- 11. Suppression tests with 12-month-old CRABI dummy (Part 572, Subpart N)
- 12. Suppression tests with Newborn infant Subpart K dummy (Part 572, Subpart N)
- 13. Suppression tests with 3-year-old dummy (Part 572, Subpart P)
- 14. Suppression tests with 6-year-old dummy (Part 572, Subpart R)
- 15. Test of Reactivation of the passenger Air Bag system with an Unbelted 5th Percentile female dummy
- 16. Low risk deployment test with 12-month-old dummy (Part 572, Subpart N)
- 17. Low risk deployment test with 3-year-old dummy (Part 572, Subpart P)
- 18. Low risk deployment test with 6-year-old dummy (Part 572, Subpart R)
- 19. Low risk deployment test with 5th female dummy (Part 572, Subpart O)
- 20. Impact tests
  - Frontal Oblique
    - 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°
    - Belted 50th male dummy driver (0 to 48 km/h) (S5.1.1(b)(1) or S5.1.1(a))
    - Belted 50th male dummy passenger (0 to 48 km/h) (S5.1.1(b)(1) or S5.1.1(a))
    - Belted 5th female dummy driver (0 to 48 km/h) (S16.1(a))
    - Belted 5th female dummy passenger (0 to 48 km/h) (S16.1(a))
    - Belted 50th male dummy driver and passenger (0 to 56 km/h) (S5.1.1(b)(2))
    - Unbelted 50th male dummy driver and passenger (0 to 48 km/h) (S5.1.2(a)(1))
    - Unbelted 50th male dummy driver (32 to 40 km/h) (S5.1.2(a)(2) or S5.1.2(b))
    - Unbelted 50th male dummy passenger (32 to 40 km/h) (S5.1.2(a)(2) or S5.1.2(b))
    - Unbelted 5th female dummy driver (32 to 40 km/h) (S16.1(b))
    - Unbelted 5th female dummy passenger (32 to 40 km/h) (S16.1(b))
- 21. Sled test: Unbelted 50th male dummy driver and passenger (S13)
22. FMVSS 204 indiant test
   X 23. FMVSS 212 test (indiant)
   X 24. FMVSS 219 indicant test
   X 25. FMVSS 301 frontal test (indicant)

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.: C30104 Test Date: 11/14/02

VIN: 3GNEC16Z5G108730

Frontal Crash ____ Offset Crash X Low Risk Deployment ____

Impact Angle: ______ 0

Belted Dummies: X Yes __ No

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

Test Speed: ____ 40.0 km/h

Driver Dummy: X 5th female ____ 50th male

Passenger Dummy: X 5th female ____ 50th male

Test weight: ____ 2684.3 kg

5th Percentile Female Offset 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>
</thead>
<tbody>
<tr>
<td>HIC15</td>
<td>700</td>
<td>262</td>
<td>290</td>
</tr>
<tr>
<td>N_{te}</td>
<td>1.0</td>
<td>0.40</td>
<td>0.35</td>
</tr>
<tr>
<td>N_{sf}</td>
<td>1.0</td>
<td>0.08</td>
<td>0.28</td>
</tr>
<tr>
<td>N_{ce}</td>
<td>1.0</td>
<td>0.02</td>
<td>0.03</td>
</tr>
<tr>
<td>N_{ef}</td>
<td>1.0</td>
<td>0.10</td>
<td>0.28</td>
</tr>
<tr>
<td>Neck tension</td>
<td>2520 N</td>
<td>782</td>
<td>1059</td>
</tr>
<tr>
<td>Neck compression</td>
<td>2520 N</td>
<td>140</td>
<td>55</td>
</tr>
<tr>
<td>Chest g</td>
<td>60 g</td>
<td>20.2</td>
<td>22.8</td>
</tr>
<tr>
<td>Chest displacement</td>
<td>52 mm</td>
<td>20</td>
<td>13</td>
</tr>
<tr>
<td>Left femur</td>
<td>6805 N</td>
<td>3320</td>
<td>1398</td>
</tr>
<tr>
<td>Right femur</td>
<td>6805 N</td>
<td>1241</td>
<td>1244</td>
</tr>
</tbody>
</table>
Section 4

Discussion of Test
DISCUSSION OF TEST

The airbags did not deploy in this test. The dummies were restrained with seatbelts.

The useable fuel tank capacity provided by the manufacturer to the Office of Vehicle Safety Compliance (32.5 gallons) did not agree with the fuel tank capacity provided in the owner's manual (31.0 gallons or 117.3 liters). Following instructions from the COTR, the owner's manual stated capacity of 117.3 liters was used in test weight calculations and was used in determining the amount of Stoddard to put into the fuel tank to test at the 94% full level. [TRC Inc. used the method of topping off the fuel (gasoline) for determining the fully loaded weight and then drained all the fuel and filled the fuel tank to 94 percent capacity with Stoddard solvent.]

The vehicle test weight was 154.4 kg above the maximum of the test weight corridor as shown in this report. The test weight had been recalculated on test day, with COTR approval, using Rated Cargo and Luggage Weight (RCLW) of 136 kg instead of the calculated RCLW of 100.5 kg. Thus the test weight was thought to be within the corridor on test day.

The left front and right rear vehicle pre-test attitudes did not fall between the measured attitudes for the delivered and fully loaded conditions. Deviation was 10 mm or less.

The deformable barrier face was attached to an offset rigid load cell barrier designed and owned by NHSTA's Vehicle Research and Test Center. The barrier face was mounted with the specified steel strips and 10 bolts as specified, although the 5 bolts on top and bottom were not evenly spaced.

The rear pit camera (fuel tank view) had no LED's for determination of film speed.
Section 5

Test Data Sheets
DATA SHEET 1
COTR Vehicle Work Order

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

NHTSA No.: C39104
Test Date: 11/14/02

COTR signature: Charles R. Case

Tests to be performed for this vehicle are checked below.

- [x] 1. Rear outboard seating position seat belts (§4.1.4.3(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 feasibility (§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)
- [x] 11. Suppression tests with 12-month-old CRABE dummy (Part 572, Subpart E) using the following indicated child restraints.

Section A

- [ ] Cosco Dream Ride 02-719

Section B

- [ ] Britax Handle with Care 191
- [ ] Century Assure 4353
- [ ] Century Avanti SE 41330
- [ ] Century Smart Fit 4545
- [ ] Cosco Ariva 02727
- [ ] Cosco Opus 35 02603
- [ ] Evento Discovery Adjust Right 213
- [ ] Evenflo First Choice 204
- [ ] Evento On My Way Position Right V 282
- [ ] Graco Infant 8457

Section C

- [ ] Britax Roundabout 161
- [ ] Century Encore 4612
- [ ] Century STE 1000 4416
- [ ] Cosco Olympian 02803
- [ ] Cosco Tourliva 02519
- [ ] Evento Horizon V 425
- [ ] Evento Medallion 254

Section D

- [ ] Britax Roundabout 9004
- [ ] Century Next Step 4920

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

Section C

- [ ] Britax Roundabout 161
- [ ] Century Encore 4612
- [ ] Century STE 1000 4416
- [ ] Cosco Olympian 02803
- [ ] Cosco Tourliva 02519
- [ ] Evento Horizon V 425
- [ ] Evento Medallion 254

Section D

- [ ] Britax Roundabout 9004
- [ ] Century Next Step 4920
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 F, Data Sheet 16H and 17H)

<table>
<thead>
<tr>
<th>Model</th>
<th>Position 1</th>
<th>Position 2</th>
<th>Position 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Britax Roundabout 161</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Century Enforce 4512</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Century STE 1000 4416</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Cosco Olympian 02803</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Cosco Parville 02519</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Eventho Horizon V 425</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Eventho Medallion 254</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
</tbody>
</table>

Section C

<table>
<thead>
<tr>
<th>Model</th>
<th>Position 1</th>
<th>Position 2</th>
<th>Position 3</th>
</tr>
</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>
</tr>
<tr>
<td>Cosco High Back Booster 02-442</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Eventho Right Fit 245</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
</tbody>
</table>

Section D

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

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

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

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

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

<table>
<thead>
<tr>
<th>Model</th>
<th>Position 1</th>
<th>Position 2</th>
<th>Position 3</th>
</tr>
</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>
</tr>
<tr>
<td>Cosco High Back Booster 02-442</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Eventho Right Fit 245</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
</tbody>
</table>

17. Suppression tests with representative 6-year-old child using the following indicated child restraints where a child restraint is required.

<table>
<thead>
<tr>
<th>Model</th>
<th>Position 1</th>
<th>Position 2</th>
<th>Position 3</th>
</tr>
</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>
</tr>
<tr>
<td>Cosco High Back Booster 02-442</td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
</tr>
<tr>
<td>Eventho Right Fit 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 (S22.2.2.1)
- Sitting on seat with back against reclined seat back (S22.2.2.2)
- Sitting on seat edge, spine vertical, hands by the dummy's side (S22.2.2.4)
- Sitting in the seat and leaning on the right front passenger door (S24.2.3)
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 recalled 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 (S24.3.3)

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

<table>
<thead>
<tr>
<th>Section A</th>
<th>Britax Roundabout 70</th>
<th>Full rearward</th>
<th>Mid position</th>
<th>Full forward</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Buddy Bessie 45</strong></td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
<td></td>
</tr>
<tr>
<td><strong>Evenflo Discovery Adjust Right 212</strong></td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
<td></td>
</tr>
<tr>
<td><strong>Evenflo First Choice 204</strong></td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
<td></td>
</tr>
<tr>
<td><strong>Evenflo On My Way Position Right V 282</strong></td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
<td></td>
</tr>
<tr>
<td><strong>Graco Infant 8455</strong></td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section B</th>
<th>Britax Roundabout 161</th>
<th>Full rearward</th>
<th>Mid position</th>
<th>Full forward</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Century Side 4553</strong></td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
<td></td>
</tr>
<tr>
<td><strong>Century Aria 41330</strong></td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
<td></td>
</tr>
<tr>
<td><strong>Century Smart Fit 4343</strong></td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
<td></td>
</tr>
<tr>
<td><strong>Cosco Ariva 02727</strong></td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
<td></td>
</tr>
<tr>
<td><strong>Evenflo Discovery Adjust Right 212</strong></td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
<td></td>
</tr>
<tr>
<td><strong>Evenflo First Choice 204</strong></td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
<td></td>
</tr>
<tr>
<td><strong>Evenflo On My Way Position Right V 282</strong></td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
<td></td>
</tr>
<tr>
<td><strong>Graco Infant 8455</strong></td>
<td>Full rearward</td>
<td>Mid position</td>
<td>Full forward</td>
<td></td>
</tr>
</tbody>
</table>

21. Test of Reactivation of the Passenger Air Bag System with an Unbelted 5th Percentile Female Dummy (S20.3, 22.3, 24.3). 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 Dummy (S20.3, 22.3, 24.3). 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) (SS 1.1(a))
     - Unbelted 50th male dummy driver and passenger (0 to 48 km/h) (SS 1.2(a)(1))
     - Unbelted 50th male dummy driver and passenger (32 to 40 km/h) (SS 1.2(a)(1) or SS 1.2(b))
   - Frontal 0° (Test Speed)
     - Belted 50th male dummy driver (0 to 48 km/h) (SS 1.1(b)(1) or SS 1.1(b)(2))
     - Belted 50th male dummy passenger (0 to 48 km/h) (SS 1.1(b)(1) or SS 1.1(b)(2))
     - Belted 5th female dummy driver (0 to 48 km/h) (SS 1.1(a))
     - Belted 5th female dummy passenger (0 to 48 km/h) (SS 1.1(a))
     - Unbelted 50th male dummy driver and passenger (0 to 56 km/h) (SS 1.1(b)(1))
Unbelted 50th male dummy driver (32 to 40 km/h) (S5.1.2(a)(2) or S5.1.2(b))

Unbelted 50th male dummy passenger (32 to 40 km/h) (S5.1.2(a)(2) or S5.1.2(b))

Unbelted 5th female dummy driver (32 to 40 km/h) (S16.1(b))

Unbelted 5th female dummy passenger (32 to 40 km/h) (S16.1(b))

10% Offset Belts 5th female dummy driver and passenger (0 to 40 km/h) (S18.1)

Test Speed: 40 km/h see test procedure for speed tolerance.

Sled test: Unbelted 50th male dummy driver and passenger (S13)

FMVSS 204 indicator test

FMVSS 212 test (indirect)

FMVSS 219 indirect test

FMVSS 301 frontal test (indirect)
DATA SHEET 2

REPORT OF VEHICLE CONDITION

CONTRACT NO.: DTNH22-D-08062 ___________ Date: 11/14/02
FROM: Transportation Research Center, Virginia L. Watters
TO: Charles R. Case

COTR Name

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

MODEL YEAR/MAKE/MODEL/BODY STYLE: 2003/Chevrolet/Suburban/MPV

MANUFACTURE DATE: 08/02 ______ NHTSA NO.: C300404 ______ BODY COLOR: Tan

VIN: 3GNEC166Z53G108730 ______ GVWR: 3175 ______ CARGO (Fr): 1425 ______ CARGO (Rr): 1814

ODOMETER READINGS: ARRIVAL: 70 ______ miles ______ DATE: 11/12/02 ______

COMPLETION: 70 ______ miles ______ DATE: 11/14/02 ______

PURCHASE PRICING: $ N/A ______ DEALER'S NAME: N/A

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

B. Tires and wheel rims are new and the same as listed.
   ( ) Yes ______ No ______

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

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

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

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

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

I. Place vehicle in storage area.
   ( ) 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 ______

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

Comments: Scratch on hood when received. No extra set of keys available. ________
REPORT OF VEHICLE CONDITION AT THE COMPLETION OF TESTING

LIST OF FMVSS TESTS PERFORMED BY THIS LAB:
.208 plus indicative: 212, 219, 301

MODEL YEAR/MAKE/MODEL/BODY STYLE: 2003/Chevrolet/Suburban/MPV

NHTSA NO. C30104

REMARKS: 

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

Explanation for equipment removal: The owner's manual was removed to store with project file.

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

RECORDED BY: Don Ledley
DATE: 11/22/02

APPROVED BY: Virginia Watters
DATE: 12/09/02

RELEASE OF TEST VEHICLE

The vehicle described above is released from TRC Inc. to be delivered to __________ (Laboratory) and __________ (Laboratory)

Date: ___________ Time: ___________ Odometer: ___________

Lab Representative: ___________ Signature ___________ Title

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

NHTSA No.: C30104  Test Date: 11/14/02

Laboratory: TRC Inc.  Test Technician(s): Don Ledley

1. Certification Label
   Manufacturer: General Motors Corporation
   Date of Manufacture: 08/02
   VIN: 3GNEC16273G108703
   Vehicle certified as: ___ Passenger car  X MPV  ___ Truck  ___ Bus
   Front axle GVWR: 1452 kg/3200 lbs.
   Rear axle GVWR: 1814 kg/4000 lbs.
   Total GVWR: 3175 kg/7000 lbs.

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

   Vehicle Capacity Weight: N/A
   Designated seating capacity front: N/A
   Designated seating capacity rear: N/A
   Total Designated seating capacity: N/A
   Recommended cold tire inflation pressure front: 240 kPa/35 psi
   Recommended cold tire inflation pressure rear: 240 kPa/35 psi
   Recommended tire size: P265/70R15

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

NHTSA No.: C30104 ________________________ Test Date: 11/12/02

Laboratory: TRC Inc. ______ Test Technician(s): Don Ledle ______

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

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

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

NHTSA No.: C30104 Test Date: 11/12/02

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

1. Air Bag Maintenance Label and Owner's Manual Instructions: (S4.5.1(a))

   1.1 Does the manufacturer recommend periodic maintenance or replacement of the air bag?
      ___ Yes (Go to 1.2) X No (Go to 2)

   1.2 Does the vehicle have a label specifying air bag maintenance or replacement?
      ___ Yes-Pass; X___ No-FAIL

   1.3 Does the label contain one of the following?
      ___ Yes-Pass; X___ 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; X___ No-FAIL

   1.5 Is the label lettered in English?
      ___ Yes-Pass; X___ No-FAIL

   1.6 Is the label in block capitals and numerals?
      ___ Yes-Pass; X___ No-FAIL

   1.7 Are the letters and numerals at least 3/32 inches high?
      ___ Yes-Pass; X___ No-FAIL

   1.8 Does the owner's manual set forth the recommended schedule for maintenance or
      replacement? ___ Yes-Pass; X___ No-FAIL

2. Does the owner's manual: (S4.5.1(f))

   2.1 Include a description of the vehicle's air bag system in an easily understandable format?
      X___ Yes-Pass; X___ No-FAIL

   2.2 Include a statement that the vehicle is equipped with an air bag and a lap/shoulder belt at the
      front outboard seating positions?
      X___ Yes-Pass; X___ No-FAIL

   2.3 Include a statement that the air bag is a supplemental restraint at the front outboard seating
      positions?
      X___ Yes-Pass; X___ No-FAIL

   2.4 Emphasize that all occupants, including the driver, should always wear their seat belts
      whether or not an air bag is also provided at their seating positions to minimize the risk of
      severe injury or death in the event of a crash?
      X___ Yes-Pass; X___ No-FAIL

   2.5 Provide any necessary precautions regarding the proper positioning of occupants, including
      children, at seating positions equipped with air bags to ensure maximum safety protection for
      those occupants?
      X___ Yes-Pass; X___ 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?
      X___ Yes-Pass; X___ No-FAIL

5-10 021114
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))
   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))
   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))
   Yes-Pass; No-FAIL
2.7.3 Present and explain the main components of the advanced passenger air bag system? (S4.5.1(f)(2)(i))
   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))
   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))
   Yes; No-FAIL
2.7.6 Is the vehicle certified to the requirements of S19.2, S21.2, or S23.2? 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))
   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?
   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))
   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))
   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))
   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,? (Obtain the answer to this question from the COTR.) (S4.5.1(b)(2))
   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 outermost seating position such that it cannot be removed without destroying or defacing the label or the sun visor? (S4.5.1(b)(2))
   Driver side Yes-Pass; No-FAIL
   Passenger side Yes-Pass; No-FAIL
3.1.2 Does the label conform to the content: "The BACK SEAT is the SAFEST place for children." (S4.5.1(b)(2)(v)) to the label shown in Figure 8 at each outermost seating position? (S4.5.1(b)(2))
   Driver side Yes-Pass; No-FAIL
   Passenger side Yes-Pass; No-FAIL
3.1.3 Is the label heading area yellow with the word “WARNING” and the alert symbol in black? (S4.5.1 (b)(2)(i))

Driver side: Yes-Pass ______  No-FAIL
Passenger side: Yes-Pass ______  No-FAIL

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

Driver side: Yes-Pass ______  No-FAIL
Passenger side: Yes-Pass ______  No-FAIL

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

Driver side: Length 12.5 cm, Width 7.8 cm
Passenger side: Length 12.5 cm, Width 7.8 cm
Driver actual message area 97.5 cm²
Passenger actual message area 97.5 cm²

Driver side: Yes-Pass ______  No-FAIL
Passenger side: Yes-Pass ______  No-FAIL

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

Driver side: Yes-Pass ______  No-FAIL
Passenger side: Yes-Pass ______  No-FAIL

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

Driver side: Length 32 mm
Passenger side: Length 32 mm
Driver side: Yes-Pass ______  No-FAIL
Passenger side: Yes-Pass ______  No-FAIL

3.2 Vehicles not certified to meet the requirements of §19, §21, and §23.

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? (§75.105 (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? (§75.105 (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.” §75.105(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 _____ Yes-Pass _____ No-FAIL
Passenger side ____ Yes-Pass _____ No-FAIL
4.6 Is the message area at least 20 cm$^2$? (S4.5.1(e)(1))
    Driver side: Length ________, Width _________
    Passenger side: Length ________, Width _________
    Actual message area ________ cm$^2$
    Driver side ___ Yes-Pass ___ No-FAIL
    Passenger side ___ Yes-Pass ___ No-FAIL

4.7 Is the pictogram black with a red circle and slash on a white background? (S4.5.1(e)(2))
    Driver side ___ Yes-Pass ___ No-FAIL
    Passenger side ___ Yes-Pass ___ No-FAIL

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

5. Label On the Dashboard
5.1 Is the vehicle certified to meet the requirements of S19, S21, and S23? ( Obtain the answer to this question from the COTR.) (S4.5.1(e)(2))
    X  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))
    X  Yes-Pass; ___ No-FAIL

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

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

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

5.1.6 Is the message area at least 30 cm$^2$? (S4.5.1(e)(2)(ii))
    Length 105 mm, Width 50 mm
    Actual message area 525.0 cm$^2$
    X  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(c)(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 7? (S4.5.1(c)(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 cm$^2$? (S4.5.1(c)(1)(ii))
    Length ________, Width ________
    Actual message area ________ cm$^2$
    ___ Yes-Pass; ___ No-FAIL
WARNING

DEATH or SERIOUS INJURY can occur

Children 13 and under can be killed by rear lap

The BACK SEAT is the SAFEST place for children

NEVER put a rear-facing child seat in the front

Always use SEAT BELTS and CHILD RESTRAINTS

Figure 8a. Sun Visor Label Visible When Visor is in Down Position.

WARNING

DEATH or SERIOUS INJURY can occur

Children 72 and under can be killed by the sun!

The BACK SEAT is the SAFEST place for children.

NEVER put a rear-facing child seat in the front

Always use SEAT BELTS and CHILD RESTRAINTS

Figure 8b. Sun Visor Label Visible When Visor is in Down Position.
Figure 8c. Sun Visor Label Visible When Visor is in Up Position.

Figure 7. Removable Label on Dash.
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 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 (S4.5.2)

NHTSA No.: C30104 ___________ Test Date: 11/12/02 ___________
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 F. Henneberger on behalf of Breed)

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

X 2. Describe the location of the readiness indicator: Left side of instrument cluster

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

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

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

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

REMARKS:

5-19 [Signature] 02114
DATA SHEET 7
Passenger Air Bag Manual Cut-Off Device (S4.5.4)

NHTSA No.: C39104  Test Date: 11/12/02

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

X 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
   ___ No, this sheet is complete

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

3. Verification of the lack of room for a child restraint in the rear seat behind the driver's seat. (S4.5.4(b))
   3.1 Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
      ___ N/A - No lumbar adjustment
   3.2 Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)
      ___ N/A - No additional support adjustment
   3.3 If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)
      ___ N/A - No independent fore-aft seat cushion adjustment
   3.4 If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)
      ___ N/A - No independent seat cushion height adjustment.
   3.5. Put the seat in its full rearward position. (S16.2.10.3.1)
      ___ N/A - the seat does not have a fore-aft adjustment
   3.6. If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)
      ___ N/A - No seat height adjustment

3.7 Draw a horizontal reference line on the side of the seat cushion.
3.8 Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid position (if there is no mid position, label the closest adjustment position to the rear of the 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. (S8.1.2)
      ___ 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. (S4.5.4.1 (b) and S8.1.3)

N/A - No seat back angle adjustment

Manufacturer's design seat back angle

Tested seat back angle

3.12 Is the driver seat a bucket seat?

Yes, go to 3.12.1 and skip 3.12.2.

No, go to 3.12.2 and skip 3.12.1.

3.12.1 Bucket seats:

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

Record the width of the seat.

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

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

mm distance

less than 720 mm - Pass

more than 720 mm - FAIL.

Go to 4

3.12.2 Bench seats (including split bench seats):

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

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

mm distance

less than 720 mm - Pass

more than 720 mm - FAIL.

Go to 4

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

Yes-Pass; No-FAIL

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

Yes-Pass; No-FAIL

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

Yes-Pass; No-FAIL

7. Telltale light (S4.5.4.3)

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

Yes-Pass; No-FAIL

7.2 Are the words "PASSenger AIR BAG OFF" (S4.5.4.3(b))

7.2.1 on the telltale?

Yes - Pass, go to 7.3

No, go to 7.2.2

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

Yes-Pass; No-FAIL
7.3 Does the telltale remain illuminated while the air bag is turned off? (§4.5.4(e)) (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? (§4.5.4(d))
   ___ Yes-Pass;    ___ No-FAIL

7.5 Is the telltale combined with the air bag readiness indicator? (§4.5.3(e))
   ___ Yes-Pass;    ___ No-FAIL

8. Owner's manual
   ___ Does the owner's manual contain complete instructions on the operation of the on-off switch? (§4.5.4(a))
       ___ Yes-Pass;    ___ No-FAIL

   ___ 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? (§4.5.4(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 condition: medical risk causes special risk for passenger
                           greater risk for harm than with the air bag on
   ___ Yes-Pass;    ___ No-FAIL

8.3 Does the owner's manual contain a warning about the safety consequences of using the on-off switch at other times?
   Yes-Pass;    ___ No-FAIL
DATA SHEET 8
LAP BELT LOCKABILITY

Passenger cars, trucks, buses, and multipurpose passenger vehicles with a GVWR of 10,000 pounds or less. (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.: C30104 ___________________________ Test Date: 11/12/02

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

DESIGNATED SEATING POSITION: Front Row Center: Third Row Center

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

1. Record test forward 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 owner 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. 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))
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 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: _________ 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))

Yes-Pass; No-FAIL: 13-12= _________ inches;

15. 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: 9-13= _________ inches;

REMARKS:
Figure 5. - Webbing Tension Pull Device

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

- Insert Webbing to Rest Against This Surface
- 1/4 Inch Diameter (Steel)

Direction of Pull
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 retractor(s) that are not solely automatic locking retractors. (S7.1.1.5(c))

NIHSA No.: C30104 ___________________________ Test Date: 11/12/02

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 (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: 48.5 __________________ 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. (S7.1.5(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(e)(4))

Measured distance between A and B 12.4 ______ ______ 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 12.9 ______ 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= 0.5 ______ inches; 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= 3.6 ______ 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.: C30104 Test Date: 11/12/02
Laboratory: IRC 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. 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 7.1 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 49.8 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))
11. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

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

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

- Measured distance between A and B: 27.5 inches

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

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

- Measured distance between A and B: 27.8 inches (S7.1.1.5(c)(6))

14. Subtract the measurement in 13 from the measurement in 12. Is the difference 2 inches or less? (S7.1.1.5(c)(7)) 13-12= 0.3 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= 23.0 inches; Yes-Pass; No-FAIL

REMARKS:
Insert Webbing to Rest Against This Surface

1/4 Inch Diameter (Steel)

Direction of Pull

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

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

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

NHTSA No.: C30104 ______________________ Test Date: 11/12/02

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

DESIGNATED SEATING POSITION: Second Row Center ______________________________

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

X ___ 1. Record test forward 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 45.4 ___________ 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: 28.6 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: 28.6 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 = 0.1 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 = 16.8 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.: C30104 Test Date: 11/12/02

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

1. Record test force-off seat position. Fixed (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))
   X 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))
   X 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?
   X Yes; ___ No (If yes, go to 7.1. If no, go to 8.)

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

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: 50.0 _______ inches

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

5-35 021114
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 = 27.0 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 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 Ib/sec (spec. 10 to 50 Ib/sec) (S7.1.1.5(c)(5))

Measured distance between A and B = 27.2 inches (S7.1.1.5(c)(6))

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

Yes-Pass; No-FAIL

Subtract the measurement in 9 from the measurement in 13. Is the difference 3 inches or more? (S7.1.1.5(c)(8)) 9-13 = 22.8 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.: C30104 Test Date: 11/12/02

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 on 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 on 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)(3))

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 44.0 __________ inches

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

5-38 021114
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: 15.5 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. (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: 16.0 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= 0.5 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? (S7.1.1.5(c)(8)) 9-13= 28.0 inches;

X Yes-Pass; __ No-FAIL

REMARKS:
Figure 5. - Webbing Tension Pull Device
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.: ________________________ Test Date: 11/12/02 __

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 inserting, twisting or deforming of the belt webbing. (S7.1.1.5 (a))
   X Yes-Pass; ___ No-FAIL

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

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

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

X 7. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?
   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)(4))

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 4.2 ______ 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))

5-41 021114
11. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. *(S7.1.1.5(c)(4))*

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

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

Measured distance between A and B: __15.0________ inches

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

Record onset rate: __50________ lb/sec (spec. 10 to 50 lb/sec) *(S7.1.1.5(c)(5))*

Measured distance between A and B: __15.5________ inches *(S7.1.1.5(c)(6))*

14. Subtract the measurement in 13 from the measurement in 12. Is the difference 2 inches or less? *(S7.1.1.5(c)(7))* 13-12= __0.5________ inches;

X: 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= __28.7________ inches;

X: Yes-Pass;  __No-FAIL__

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

NHTSA No.: C30104 ___________________________ Test Date: 11/12/02

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

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Value</th>
<th>Specification</th>
<th>Audible Signal</th>
<th>Audible Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The occupant is in the driver’s seat.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>The seat belt is in the stowed position.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>The key is in the “on” or “start” position.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>The time duration of the audible signal beginning with key “on” or “start” is ______ seconds.</td>
<td>X</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>The occupant is in the driver’s seat.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>The seat belt is in the stowed position.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>The key is in the “on” or “start” position.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>The time duration of the warning light beginning with key “on” or “start” is ______ seconds.</td>
<td>X</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>The occupant is in the driver’s seat.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>The seat belt is in the latched position and with at least 4 inches of belt webbing extended.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>The key is in the “on” or “start” position.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>The time duration of the audible signal beginning with key “on” or “start” is ______ seconds.</td>
<td>X</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>The occupant is in the driver’s seat.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>The seat belt is in the latched position and with at least 4 inches of belt webbing extended.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>The key is in the “on” or “start” position.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>The time duration of the warning light beginning with key “on” or “start” is ______ seconds.</td>
<td>X</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Complete the following table with the data from 4, 8, 12 and 16 to determine which option is used.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specification</th>
<th>Item</th>
<th>Description</th>
<th>Value</th>
<th>Audible Signal</th>
<th>Audible Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specification</td>
<td>Item 16</td>
<td>Belt latched &amp; Key on or start</td>
<td>7</td>
<td>4 to 8 seconds</td>
<td>0 seconds**</td>
</tr>
<tr>
<td>Specification</td>
<td>Item 8</td>
<td>Belt latched &amp; Key on or start</td>
<td>7</td>
<td>60 seconds minimum</td>
<td>4 to 8 seconds</td>
</tr>
<tr>
<td>Specification</td>
<td>Item 12</td>
<td>Belt latched &amp; Key on or start</td>
<td>0</td>
<td></td>
<td>0 seconds**</td>
</tr>
<tr>
<td>Specification</td>
<td>Item 4</td>
<td>Belt latched &amp; Key on or start</td>
<td>5</td>
<td></td>
<td>4 to 8 seconds</td>
</tr>
</tbody>
</table>

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

19. Note wording of visual warning: (S7.3(a)(1) and S7.3(a)(2))
   \( \text{\ldots} \quad \text{FAIL - Does not use any of the above wording or symbol} \)
DATA SHEET 10
Belt Contact Force (S7.4.3)

NHTSA No.: C30104 Test Date: 11/12/02
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)
   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)
   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.
   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: Center of 8.5 inch travel length

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 (h) 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 0.65 lb.

   X 0.0 to 0.7 pounds - Pass
   ___ greater than 0.7 pounds - FAIL
DATA SHEET 10
BRUT CONTACT FORCE (S7.4.3)

KHTSA No.: C30104 Test Date: 11/12/02

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.

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 in the full down position. (S16.2.10.3.1)
   X N/A - No seat height adjustment

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

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

10. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the middle fore-aft position for this test. (S8.1.2)
    X Mid position. If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat. Middle notch (1/4 of 23 notches)

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°

5-48 021114
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 S8.1.3)

X 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 mid-sagittal 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 to 0.7 pounds - Pass
   greater than 0.7 pounds - FAIL
DATA SHEET 10
BELT CONTACT FORCE (S7.4.5)

NHTSA No.: C30104 ________________________  Test Date: 11/12/02

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

DESIGNATED SEATING POSITION: Front Row Center & Third Row Center are 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?
   ______ 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)
   ______ 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. (§4.5.4.1 (b) and §8.13)

- 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 ____________ 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.: C30104 ________________________ Test Date: 11/12/02

Laboratory: TRC 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)

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

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

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

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

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

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

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

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

10. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the middle fore-aft position for this test. (S8.1.3)
    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

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

      5-52
      021114
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 2 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 .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.: C30104 Test Date: 11/12/02
Laboratory: TRC Inc. Test Technician(s): R. Benavides

DESIGNATED SEATING POSITION: Second Row Center

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

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

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

X 3. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S:6.2.10.2)
   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
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 ____________ 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.: C30104
Test Date: 11/12/02

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.

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)
   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. (S16.2.10.3.1)
   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)
     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. 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
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 88.13)

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.

X  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.

X  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.

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.: C30104 ____________________________ Test Date: 11/12/02

Laboratory: TRC Inc. Test Technician(s): Third Row Left

DESIGNATED SEATING POSITION: R. Benavides

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)
   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. (S16.2.10.3.2.2.1)
   X  N/A - No adjustments
   Reference line angle as tested

5-58 021114
X 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

X 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.

X 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.

X 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 __________ 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.: C30104 Test Date: 11/12/02

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.

☐ 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)
   ☑ 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 these 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 mid-point. Describe the location of the seat. Fixed

☐ 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

5-60 021114
X 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 88.1.3)

X N/A – No adjustments

Manufacturer's design seat back angle

Tested seat back angle

X 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.

X 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.

X 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.

X greater than 0.7 pounds - FAIL

0.0 to 0.7 pounds - Pass
DATA SHEET 11
LATCHPLATE ACCESS (S7.4.4)

NHTSA No.: C30104

Test Date: 11/12/02

Laboratory: TRC 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. (S16.2.10.2)
   X N/A - No lumbar adjustment

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

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

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

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

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

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

X 8. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as 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. (S10.7)

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

___ N/A - No seat back angle adjustment
Manufacturer's design seat back angle: 13.5°
Tested seat back angle: 15.5°

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.

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

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

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

16. Place the latch plate in the stowed position.

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

___ Yes-Pass: ___ No

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

___ Yes-Pass: ___ No

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

___ Yes-Pass: ___ No-FAIL

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

___ Yes-Pass: ___ No-FAIL
Figure 3. Location of Anchoring Points for Hatchplate Reach Limiting Chains or Strings to Test for Hatchplate Accessibility Using Support E Tool Device
Figure 4—USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND ARM ACCESS

(Note corners are rounded off to reduce snagging.)
DATA SHEET 17
LATCHPLATE ACCESS (S7.4.4)

NHSTA No.: C30104 Test Date: 11/12/02

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. (S16.2.10.3)
   - X N/A - No lumbar adjustment

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

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

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

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

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

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

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

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

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

Reference line angle as tested: 0°
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°

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 H dummy.) Include the positioning check sheet with this form.

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

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

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

16. Place the latch plate in the stowed position.

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

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

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

20. Using the clearance test block, specified in Figure 4, is there sufficient clearance between the vehicle seat and the side of vehicle interior to allow the test block to move unhindered to the latch plate or buckle?
   X Yes-Pass; No-FAIL

5-67
021114
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 THIM BLOCK TO DETERMINE HAND ARM ACCESS
DATA SHEET 12
SEAT BELT RETRACTION (S7.4.5)

NHTSA No.: C30104 Test Date: 11/12/02

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

DESIGNATED SEATING POSITION: Left Front

GVWR: 3175 kg/7000 lbs.

Yes: 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)
   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.
   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. (S8.1.2)
   X N/A – No seat height adjustment

X 8. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. 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 9. Using only the controls that change the seat in the fore-aft direction, place the seat in the middle fore-aft position. (S8.1.2)
   If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat: Center of 8 1/2 inch travel length

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

Reference angle as tested: 0°
11. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S8.1.3)
   N/A – No seat back angle adjustment
   Manufacturer's design seat back angle: 15.5°
   Tested seat back angle: 15.5°

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

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

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: 360 mm
   Record the distance from the edge of the seat to Plane B: 230 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 outboard armrests that are capable of being stowed. (S7.4.5)

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

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). (S10.4.2.1) Then measure the pelvic angle with respect to the horizontal using the pelvic angle gage. Adjust the dummy position until these three measurements are within the specifications. (S10.4.2.1 & S10.4.2.2)
   Horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
   Vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
   Pelvic angle (20° to 25°)
   Vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
   Pelvic angle (20° to 25°) (S10.4.2.2)

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

25.1 Introduce the maximum amount of slack into the upper torso belt that is recommended by the vehicle manufacturer in the vehicle owner’s manual. (S10.9).

26. Check the statement that applies to this test vehicle:
   - 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
   - The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latch plate is released. X Pass
   - Neither A or B apply. ___ FAIL

27. With the webbing and hardware in the stowed position are the webbing and hardware prevented from being pinched when the door is closed?
   - Yes-Pass; ___ No-FAIL

28. If this test vehicle has an open body (without doors) and has a seat belt system with a tension-relieving device, does the belt system fully retract when the tension-relieving device is deactivated?
   - N/A
   - Yes-Pass; ___ No-FAIL
DATA SHEET 12
SEAT BELT RETRACTION (S7.4.5)

NIHSA No.: C30104 ___________________________ Test Date: 11/12/02 ___________

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

DESIGNATED SEATING POSITION: Right Front ________________________________

GVWR: 3175 kg/7000 lbs.

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

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

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

X 3. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S8.6.2.10.2)
   X  N/A - No additional support adjustment

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

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

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

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

X 8. 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. Using only the controls that change the seat in the fore-aft direction, place the seat in the middle fore-aft position. (S8.1.2)

   If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat: Middle notch (12th of 23 positions)

   X  N/A - No seat adjustments

Reference angle as tested: 0°

5-73 021114
11. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S8.1.3)
   N/A — No seat back angle adjustment
   Manufacturer's design seat back angle 15.5°
   Tested seat back angle 15.5°
12. If adjustable, set the head restraint at the full up and full forward position. (S8.1.3) Any adjustment of the head restraint shall be used to position it full forward. For example, if it rotates, rotate it such that the head restraint extends as far forward as possible.
   N/A — No head restraint adjustment
13. Place any adjustable seat belt anchorages at the vehicle manufacturer's nominal design position for a 50th percentile adult male occupant (S8.1.3)
   N/A — No adjustable upper seat belt anchorage
   Manufacturer's specified anchorage position
   Test anchorage position
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. 560 mm
   Record the distance from the edge of the seat to Plane B. 280 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. Slow outboard armrests that are capable of being stowed. (S7.4.5)
16. Remove the arms of a Subpart E dummy and place it in the seat such that the midsagittal plane is coincident with Plane B and the upper torso rests against the seat back. (S10.4.1.1 & S10.4.1.2)
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). (S10.4.2.1) Then measure the pelvic angle with respect to the horizontal using the pelvic angle gage. Adjust the dummy position until these three measurements are within the specifications. (S10.4.2.1 and S10.4.2.2)
   Horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
   Vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
   Pelvic angle (20° to 25°)
   Vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
   Pelvic angle (20° to 25°) (S10.4.2.2)
19. Set the distance between the outboard kace elbow flange surfaces at 10.6 inches.
   Measured distance (10.6 inches) (S10.5)
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.

To fasten the seat belt around the dummy.

Remove all slack from the lap belt portion. (S10.9)

Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times. (S10.9)

Apply a 2 to 4 pound tension load to the lap belt. (S10.9)

Is the belt system equipped with a tension relieving device?

Yes, continue

No, go to 26

Introduce the maximum amount of slack into the upper torso belt that is recommended by the vehicle manufacturer in the vehicle owner's manual. (S10.9). Go to 25.

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

Neither A or B apply. FAIL

With the webbing and hardware in the stowed position are the webbing and hardware prevented from being pinched when the door is closed?

Yes-Pass; No-FAIL

If this test vehicle has an open body (without doors) and has a belt system with a tension-relieving device, does the belt system fully retract when the tension-relieving device is deactivated?

N/A

Yes-Pass; No-FAIL
Data Sheet 13
Seat Belt Guides and Hardware (S7.4.6)

NHTSA No.: C30104
Test Date: 11/12/02

Laboratory: IRC 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.

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

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

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

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

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

   Identify the part(s) on top or above the seat.
   ___ seat belt latch plate; ___ buckle; ___ seat belt webbing

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

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

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

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

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

NHTSA No.: C30104 __________ __________ Test Date: 11/12/02 __________
Laboratory: TRC Inc. __________ Test Technician(s): R. Benavides __________

DESIGNATED SEATING POSITION: Center 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 bel
   ___ 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.
   ___ 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

5-77 021114
DATA SHEET 13
SEAT BELT GUIDES AND HARDWARE (S7.4.6)

NHTSA No.: C30104  Test Date: 11/12/02

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

DESIGNATED SEATING POSITION: Right Front

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

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

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

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

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

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

Identify the part(s) on top or above the seat:
   ___ seat belt latch plate; ___ buckle; ___ seat belt webbing

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

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

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

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

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

5-78  021114
DATA SHEET 13
SEAT BELT GUIDES AND HARDWARE (S7.4.6)

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

DESIGNATED SEATING POSITION: Second Row Left

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

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

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

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

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

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

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

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

8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position 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 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)

NIJSA No.: C30104
Test Date: 1/12/02

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

DESIGNATED SEATING POSITION: Second 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.

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

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

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

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

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

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

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

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

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

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

NIHSA No.: C30104 Test Date: 11/12/02

Laboratory: TRC 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
   X No; go to 2

2. Is the seat removable? (S7.4.6.1(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? (S7.4.6.1(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? (S7.4.6.1(a))
   __ Yes; go to 5.
   X No; this form is complete.

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

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

7. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unatched. (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 (§7.4.6)

NHTSA No.: C30104_________________________ Test Date: 11/12/02________

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 moveable so that the seat back serves a function other than seating? (§7.4.6.1(b))
   - 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 moveable 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 is 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.: C30104
Test Date: 11/12/02

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.

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; got to 2

X  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 seat 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)

NIHTSA No.: C30104
Test Date: 11/12/02

Laboratory: IRC 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.

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

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

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

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

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

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

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

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

9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is 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 26

VEHICLE WEIGHT, FUEL TANK, AND ATTITUDE DATA

NHTSA No.: C30104 Test Date: 11/11-14/02

Laboratory: TRC Inc. Test Technician(s): D. Ledley, B. Miller, M. Postle

Impact Angle: 0° Belted Dummies: X Yes No

Test Speed: ___ 32 to 40 km/h X ___ 0 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 usable fuel tank capacity supplied by the COTR, 32.5 gal (123.0 l)
5. Record the fuel tank capacity supplied in the owner's manual, 31.0 gal (117.3 l)
6. Using purple dyed Stoddard solvent having the physical and chemical properties of Type 1 solvent or cleaning fluid, Table 4, ASTM Standard D473-71, "Standard Specifications for Hydrocarbon Dry-cleaning Solvents," fill the fuel tank with an amount equal to the usable 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; LR 35
Owner's manual pressure: RF N/A; LF N/A; RR N/A; LR N/A
Actual inflated pressure: RF 35; LF 35; RR 35; LR 35

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

Right Front = 581.0 kg Right Rear = 616.0 kg
Left Front = 638.5 kg Left Rear = 607.0 kg

TOTAL FRONT = 1239.5 kg TOTAL REAR = 1223.0 kg

% Total Weight = 50.3 % % Total Weight = 49.7 %

UVW = TOTAL FRONT PLUS TOTAL REAR = 2462.5 kg

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

RF 943; LF 914; RR 933; LR 930

5-85 021114
15. Calculate the Rated Cargo and Luggage Weight (RCLW).
   15.1 Does the vehicle have the vehicle capacity weight (VCW) or certification label on the tire placard?
   ___ Yes, go to 15.3.
   X  No, go to 15.2.

   15.2 VCW = Gross Vehicle Weight - UVW
   VCW = 3375 - 2462.5 = 912.5

   15.3 VCW = 912.5

   15.4 Does the certification or tire placard contain the Designated Seating Capacity (DSC)?
   ___ Yes, go to 15.6.
   X  No, go to 15.5

   15.5 DSC = Total number of seat belt assemblies = 9

   15.6 DSC = 9

   15.7 RCLW = VCW - (68 kg x DSC) = 912.5 - (68 kg x 9) = 100.5

   15.8 Is the vehicle certified as a truck, MPV or bus (see the certification label on the door jams)?
   X  Yes, the maximum RCLW is 136 kg.
   ___ No, use the RCLW calculated in 15.7.

16. Fully Loaded Weight (100% fuel fill)
   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

   16.2 Load the vehicle with the RCLW from 15.7 or 15.8 whichever is applicable.

   16.3 Place the RCLW in the cargo area. Center the load over the longitudinal centerline of the vehicle. (S8.1.1 (3))

   16.4 Record the vehicle weight at each wheel to determine the Fully Loaded Weight.

   Right Front = 605.6 kg  Right Rear = 699.4 kg

   Left Front = 685.4 kg  Left Rear = 689.0 kg

   TOTAL FRONT = 1291.0 kg  TOTAL REAR = 1388.4 kg

   % Total Weight = 48.2 %  % Total Weight = 51.8 %

   % GVW = 40.7 %  % GVW = 59.3 %

   FULLY LOADED WEIGHT = TOTAL FRONT + TOTAL REAR = 2679.4 kg

17. Fully Loaded Test Vehicle Attitude: (all dimensions in millimeters)
   17.1 Place the vehicle on a level surface.

   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 905; LF 905; RR 908; LR 910

18. Calculate the test weight range (94% fuel fill).
   18.1 Calculated Test Weight = Fully Loaded Condition (See 16.4 above) - ((.06 x usable fuel tank capacity) x 0.749 kg/liter)
   Calculated Test Weight = 2679.4 - (.06 x 17.31 x 0.749) = 2673.8 kg

   18.2 Test Weight Range = Calculated Test Weight (4.5 kg - 9 kg)
   Max. Weight - Calculated Test Weight = 4.5 kg = 2669.3
   Min. Weight - Calculated Test Weight = 9 kg = 2664.8

19. Remove the RCLW from the cargo area.
20. Remove Stoddard solvent from the gas tank in the amount of 6% of the useable capacity as supplied by the COTR. 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.

Vehicle Components Removed For Weight Reduction:
None

22. 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.

23. If necessary, add ballast to achieve the actual test weight.
N/A
Weight of ballast 58.1 kg

24. 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.

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

Right Front = 636.4 kg
Left Front = 671.8 kg
TOTAL FRONT = 1308.2 kg

Right Rear = 699.6 kg
Left Rear = 676.5 kg
TOTAL REAR = 1376.1 kg

% Total Weight = 48.7 %
% Total Weight = 51.3 %
% GVW = 41.2 %
% GVW = 58.8 %

(%GVW = Axle GVW : Vehicle GVW)

26. TOTAL FRONT PLUS TOTAL REAR = 2684.3 kg

27. Is the test weight between the Max. Weight and the Min. Weight (See 18.2)? Yes
    X No, explain why not. See Section 4.0, Discussion of Test Results

28. Test Weight Vehicle Attitude: (all dimensions in millimeters)
    X 28.1 Place the vehicle on a level surface.
    X 28.2 Measure perpendicular to the level surface to the 4 points marked on the body (see 3 above) and record the measurements
    RF 910: 1F 900: RR 898: J.R 91:
29. Summary of test attitude

X 29.1
AS DELIVERED: RF 913; LF 914; RR 933; LR 930

AS TESTED: RF 910; LF 900; RR 898; LR 911

FULLY LOADED: RF 905; LF 905; RR 908; LR 910

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

Yes

X No, explain why not. COTR approved on day of test.

--

---

1 At this step the 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 The fuel tank capacity supplied in the Owner's Manual was used per the COTR.

4 At this step Stoddard solvent was introduced into the drained fuel tank: 0.94 x 117.3 liter (from Owner’s Manual per COTR). A total of 110.3 liters was added.
DATA SHEET 27
Vehicle Accelerometer Location

NHTSA No.: C30104
Test Date: 11/12/13/02

Laboratory: TRC Inc. Test Technician(s): D. Ledley

Impact Angle: 0° Belled Dummies: X Yes  No

Test Speed: ___ 32 to 40 km/h  X 0 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. Find the location where the vertical plane parallel to the longitudinal centerline of the vehicle and through the center of the left front outboard seating position intersects the left rear seat cross member. Install an accelerometer at this intersection on the rear seat cross member to record x-direction accelerations. Record the location on the following chart.

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 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 z-direction accelerations. Record the location on the following chart.
VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

TOP VIEW

REAR SEAT CUSHION ASSY. FRONT ATTACHMENT BRACKET SUPPORT

LEFT SIDE VIEW

DISC BRAKE CALIPER
**DATA SHEET 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>*</td>
</tr>
<tr>
<td>B</td>
<td>*</td>
</tr>
<tr>
<td>C</td>
<td>4642</td>
</tr>
<tr>
<td>D</td>
<td>4350</td>
</tr>
<tr>
<td>E</td>
<td>4480 left; 4480 right</td>
</tr>
<tr>
<td>F</td>
<td>*</td>
</tr>
<tr>
<td>G</td>
<td>3786</td>
</tr>
<tr>
<td>H</td>
<td>2445 left; 2405 right</td>
</tr>
<tr>
<td>J</td>
<td>303</td>
</tr>
<tr>
<td><strong>POST-TEST VALUES</strong></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>710</td>
</tr>
<tr>
<td>B</td>
<td>657</td>
</tr>
<tr>
<td>C</td>
<td>4642</td>
</tr>
<tr>
<td>D</td>
<td>4367</td>
</tr>
<tr>
<td>E</td>
<td>4400 left; 4527 right</td>
</tr>
<tr>
<td>F</td>
<td>*</td>
</tr>
<tr>
<td>G</td>
<td>3786</td>
</tr>
<tr>
<td>H</td>
<td>2450 left; 2420 right</td>
</tr>
<tr>
<td>J</td>
<td>305</td>
</tr>
</tbody>
</table>

**REMARKS:** * Several lateral measurements were inadvertently omitted.*
DATA SHEET 28
Photographic Targets

NHTSA No.: C30104
Test Date: 11/12/14/02

Laboratory: TRC Inc. Test Technician(s): R. Benavides, B. Miller, J. Claridge, M. Poswik
Impact Angle: 0° Offset percentage: 40% Belted Dummies: X Yes No
Test Speed: __32 to 40 km/h__ __0 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. FMVSS 208 vehicle targeting requirements (See Figures 28A and 28B)
   X 1.1 Targets A1 and A2 are on flat rectangular panels.
   X 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 __1.27__ mm
   X 1.3 Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted at the back on the outboard sides of A1 and A2. The center of each circular target is 100 mm from the one next to it. Distance between targets __1.27__ mm
   X 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
   X 1.5 Firmly fix target A1 on the vehicle roof in the vertical longitudinal plane that is coincident with the mid-sagittal plane of the driver dummy.
   X 1.6 Firmly fix target A2 on the vehicle roof in the vertical longitudinal plane that is coincident with the mid-sagittal plane of the passenger dummy.
   X 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
   X 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
   X 1.9 Place tape with squares having alternating colors on the top portion of the steering wheel.
   X 1.10 Chalk the bottom portion of the steering wheel.
   X 1.11 Is this an offset test?
      X Yes, continue with this section
      __ No, go to 2.
   X 1.12 Measure the width of the vehicle. Vehicle width __1.994__ mm
   X 1.13 Find the centerline of the vehicle. (½ of the vehicle width)
   X 1.14 Find the line parallel to the centerline of the vehicle and 0.1 x vehicle width from the centerline of the vehicle.
   X 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. Only 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: ____ mm

Distance between circular targets on D2: ____ 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 204 indicative test ordered on the “GMTR Vehicle Work Order”?

--- Yes, continue with this form.

--- No, this form is complete

4.2 Resection panel (Figure 28C)

--- 4.2.1 The panel deviates no more than 6 mm from perfect flatness when suspended vertically.

--- 4.2.2 The 8 targets on the panel are circular targets at least 90 mm in diameter and with black and yellow quadrants.

--- 4.2.3 The center of each of the 4 outer targets are placed within 1 mm of the corners of a square measuring 914 mm on each side.

--- 4.2.4 Locate another square with 228 mm sides and with the center of this square coincident with the center of the 914 mm square.

--- 4.2.5 The center of the 4 inner targets are placed at the midpoints of each of the 228 mm sides.

--- 4.3 Place a circular target at least 90 mm in diameter and with black and yellow quadrants on a material (cardboard, metal, etc.) that can be taped to the top of the steering column.

--- 4.4 Tape the target from 4.3 to the top of the steering column in a manner that does not interfere with the movement of the steering column in a crash.
REFERENCE PHOTO TARGETS

CONCRETE BARRIER

915 mm

810 mm

MONORAIL

COVERED PHOTO PIT

LEFT SIDE VIEW

FIGURE 28A
RESECTION PANEL TARGETING ALIGNMENT

RESECTION CONTROL POINTS PANEL

STEERING COLUMN TARGET B

STEERING WHEEL

CAR TOP TARGETS A1 & A2

REAR VIEW

TEST RUN STEERING COLUMN CAMERA VIEW OF TYPICAL TIME ZERO VEHICLE POSITION

LEFT SIDE VIEW

FIGURE 28B
OFFSET DEFORMABLE BARRIER
ADDITIONAL VEHICLE TARGETING

FIGURE 28D
# DATA SHEET 29
## CAMERA LOCATIONS

**VEH. NHTSA No.:** C30104  ;  **TEST DATE:** 11/14/02  ;  **TIME:** 1617  

**VEH. YEAR/MAKE/MODEL/BODY STYLE:** 2003/Chevrolet/Suburban/MPV

<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>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>X</strong></td>
<td><strong>Y</strong></td>
<td><strong>Z</strong></td>
<td><strong>Head</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Left Side Fuming View</td>
<td>NA, NA, NA, 103, NA</td>
<td></td>
<td></td>
<td>NA, 24</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Left Side View (barrier face to front seat back)</td>
<td>-1000, -8230, -1090</td>
<td>0</td>
<td></td>
<td>8090, 25</td>
<td>1000</td>
</tr>
<tr>
<td>3</td>
<td>Left Side View (A-post)</td>
<td>-2830, -7585, -1550</td>
<td>-0.5</td>
<td></td>
<td>7104, 35</td>
<td>1010</td>
</tr>
<tr>
<td>4</td>
<td>Left Side View (R-post aimed toward center of steering wheel)</td>
<td>-5510, -1710, -1970</td>
<td>-10</td>
<td></td>
<td>4040, 25</td>
<td>1000</td>
</tr>
<tr>
<td>5</td>
<td>Left Side View (R-post)</td>
<td>-3750, -7790, -1470</td>
<td>2</td>
<td></td>
<td>7212, 35</td>
<td>1000</td>
</tr>
<tr>
<td>6</td>
<td>Left Side View (front door under camera 5)</td>
<td>-2370, -7930, -1180</td>
<td>-1</td>
<td></td>
<td>7445, 25</td>
<td>1000</td>
</tr>
<tr>
<td>7</td>
<td>Right Side View (overall)</td>
<td>-1730, 9130, -1384</td>
<td>-3</td>
<td></td>
<td>8750, 33</td>
<td>1000</td>
</tr>
<tr>
<td>8</td>
<td>Right Side View (A-post)</td>
<td>-2490, 6709, -1579</td>
<td>-2</td>
<td></td>
<td>6154, 25</td>
<td>1000</td>
</tr>
<tr>
<td>9</td>
<td>Right Side View (B-post-angled)</td>
<td>-6130, 4930, -1930</td>
<td>-6</td>
<td></td>
<td>4020, 25</td>
<td>1000</td>
</tr>
<tr>
<td>10</td>
<td>Right Side View (front door)</td>
<td>-2220, 7030, -1180</td>
<td>1</td>
<td></td>
<td>6473, 25</td>
<td>1000</td>
</tr>
<tr>
<td>11</td>
<td>Front View Windshield</td>
<td>1970, 0, -2600</td>
<td>-37</td>
<td></td>
<td>4570, 8.5</td>
<td>1000</td>
</tr>
<tr>
<td>12</td>
<td>Front View Driver</td>
<td>1990, -255, -2630</td>
<td>-25</td>
<td></td>
<td>4590, 25</td>
<td>1000</td>
</tr>
<tr>
<td>13</td>
<td>Front View Passenger</td>
<td>1950, 250, -2630</td>
<td>-25</td>
<td></td>
<td>4530, 25</td>
<td>1000</td>
</tr>
<tr>
<td>14</td>
<td>Overhead Barrier Impact View</td>
<td>530, 0, -5600</td>
<td>-90</td>
<td></td>
<td>NA, 25</td>
<td>1000</td>
</tr>
<tr>
<td>15</td>
<td>Pit Camera Engine View</td>
<td>-500, -120, 850</td>
<td>90</td>
<td></td>
<td>NA, 13</td>
<td>997</td>
</tr>
<tr>
<td>16</td>
<td>Pit Camera Fuel Tank View</td>
<td>-2196, -120, 1010</td>
<td>90</td>
<td></td>
<td>NA, 13</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  Digital camera  
3  Unable to determine speed, no timing LED's.
CAMERA POSITIONS FOR FRONTAL IMPACTS

TOP VIEW

LEFT SIDE VIEW

CONCRETE BARRIER

CONCRETE PAD

COVER PHOTO PIT

TEST VEHICLE

MONORAIL

TOW ROAD

REAL TIME CAMERA

CAMERA FRAME RATES:

q1 = 24 fps

all 60 frames = 1.666 fps
DATA SHEET 30 - DRIVER
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: 11/14/02

Laboratory: TRC Inc.  Test Technician(s): M. Postle

Test Number: 021114

Seat Type:  ___ Bench  ___ Bucket  ___ Split Bench

(Check One)

1.0 Seat Positioning (S16.2.10)

___ 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)
___ 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)
___ 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)
___ 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)
___ 1.5 Put the seat in its full rearward position. (S16.2.10.3.1)
___ 1.6 If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)
___ 1.7 Draw a horizontal line on the side of the seat cushion.
___ 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: R for full
forward, M for mid-position (if there is no mid position, label the closest adjustment position
rearward of the mid-point), and F for full rearward.
___ 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)
___ 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. (S16.2.10.3.3)

Angle of the line on side of the seat cushion in the full forward position. 0.3 degrees

5-100  021114
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-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)

1.12 Record the mid height position. (S16.2.10.3.3)

<table>
<thead>
<tr>
<th>N/A - No seat height adjustment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. height from S1</td>
</tr>
<tr>
<td>Min. height from S1</td>
</tr>
<tr>
<td>Test height from S1</td>
</tr>
<tr>
<td>Angle of line on seat cushion at test height</td>
</tr>
</tbody>
</table>

1.13 Record the horizontal longitudinal distance between Point S1 and Point S2.

| S1, S2 separation | 5 mm |

2.0 Dummy Positioning

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.

| Width of seat cushion | 555 mm |

2.1.2 Bench seats and split-bench seats:
Mark a longitudinal vertical plane that coincides with the center of the steering wheel. (S16.3.7.1.4)

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

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 toe and all position. Do not use height or angle controls. (S16.3.2.1.1)

2.4 Fully recline the seat back. (S16.3.2.1.2)

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. (S16.3.2.1.2)

2.6 Position the dummy mid-sagittal plane vertical and coincident with the seating position centerline. (S16.3.2.1.2)

2.7 Hold down the dummy’s thighs and push rearward on the upper torso to maximize the pelvic angle. (S16.3.2.1.6)

2.8 Set the angle between the legs and the thighs to 120 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. (S16.5.2.1.6)

| Knee Separation | 165 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. (S16.3.2.1.6)

| 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. (S16.3.2.1.7)

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. (S16.3.2.1.8)

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. (S16.3.2.1.8)
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. (S16.3.2.1.8)
- Full forward position achieved. Proceed to step 2.20.
- Full forward position not achieved because of foot interference. Proceed to step 2.17
- Full forward position 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 provided 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 (0.2 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 belt.
2.22 Verify the dummy abdomen is properly installed.

2.23 If the dummy torso contacts the steering wheel while performing step 2.20, 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 aft ___ 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 TR-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.
- Pelvic angle of 20.0 degrees not achieved, the angular difference was minimized.
- Record the pelvic angle ___ degrees

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

- No contact.
- Dummy in contact with interior.
  - Seat moved aft ___ mm from the previous position.
  - Seat moved all ___ 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.

- 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 center line 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.

2.28.6 Record foot position

X Pedal Contact achieved. Contact occurred at step 2.28.2

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 at step ________.
Heel set ________ mm from floor pan.

--- Pedal Contact not achieved. Heel set ________ mm from the floor pan.

X 2.30 Driver's foot positioning, left foot.

X 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 thigh as possible with the foot parallel to the floor pan.

X 2.30.2 Place the left foot on the toe board with the heel resting on the floor pan as close to the intersection of the floor pan and the toe board as possible. Adjust the angle of the foot if necessary to contact the toe board. If the foot will not contact the toe board, set the foot perpendicular to the leg, and set the heel on the floor pan as far forward as possible. Do not place the foot on the wheel well projection or footrest. If the pedals interfere with the placement of the foot, reposition the foot by rotating the foot about the leg, or rotate the leg outboard about the hip if necessary.

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

X 2.30.3 Record foot position.

--- Heel does not contact floor pan.
--- Foot placed on toe board.

X 2.31 Driver arm/hand positioning.

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

X 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)

X 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)

X 2.31.4 Gently tape the hands to the steering wheel rim so that if the hand of the test dummy is pushed upward by a force of not less than 9 N (2 lb) and not more than 22 N (5 lb), the tape releases the hand from the steering wheel rim. (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 2.32.2 Adjust each head restraint to its lowest position. (S16.3.4.2)

X 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: __________ mm

Mid-point height: __________ mm

X 2.32.4 If the above position is not attainable, move the vertical center of the head restraint to the closest point below the center of the head CG. (S16.3.4.3)

--- N/A midpoint position attained in previous step

X Headrest set at nearest point 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) No adjustment

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.

Manufacturer's specified position: Fixed

Actual Position: Fixed

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 5 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)
DATA SHEET 30 - PASSENGER
Seating Procedure 5th Percentile Female Passenger Dummy
(Part 572, Subpart O) (S16.2- S16.3)

NIITSA No.: C39104 ____________________________  Test Date: 11/14/02
Laboratory: TRC Inc. __  Test Technician(s): M. Postle, B. Miller ________________
Test Number: 021114 ____________________________

Seat Type: Bench __  Bucket __  Split Bench __

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)
   X 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)
   X 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)
   X 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. (S16.2.10.3.7)
   X 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.
   X N/A - Seat is not a bench seat.

X 1.6. 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 1.7. 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 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 mid-point), and R for full rearward.
   X 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)
   X 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)
   X N/A - No adjustments

Angle of the line on side of the seat cushion in the full forward position. 0.8 degrees

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, and 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)

☐ N/A - No seat height adjustment

Max. height from S1 ___
Min. height from S1 ______
Test height from S1 _______
Angle of line on seat cushion at test height ______ degrees

1.14 Record the horizontal longitudinal distance between Point S1 and Point S2.
S1, S2 separation ______

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?  ☒ 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 seat:
Locate and mark a vertical plane through the longitudinal centerline of the seat. (S.6.3.1.10)
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. __ mm
Record the distance from the edge of the seat cushion to the vertical plane. __ mm

2.1.2 Bench seat and split bench seat:
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 2.1.5 or 2.1.3, move the seat to the full forward position using controls that affect the force and all 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)

☐ 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 __ 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

☐ 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. (S.6.3.3.1.7)

2.12 If needed, extend the legs until the feet do not contact the floor pan. Thighs should be resting on the seat cushion. (S16.3.3.1.8)

2.13 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 5 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.

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 +/- 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

2.16 Head Level Achieved. (Check all that apply)

- Head leveled using the adjustable seat back
  Head Angle _________ degrees

2.17 Head Level NOT Achieved. (Check all that apply)

- Head leveled using the adjustable seat back
  Head Angle _________ degrees

2.18 Verify the pelvis is not interfering with the seat belt. (S16.3.3.1.9)

2.19 Measure and set the pelvis angle using the pelvic angle gauge TE-2504. The pelvic angle should be 20.0 degrees +/- 2.5 degrees. If the pelvic angle cannot be set to 20 degrees, minimize the angular difference. (S16.3.3.1.11)

- Pelvic angle set to 20.0 degrees +/- 2.5 degrees.

2.20 Record the pelvic angle _________ degrees

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

- Head Level Achieved
  Head Angle _________ degrees

- Head Level NOT Achieved
  Head Angle _________ degrees

2.22 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 a + _________ mm from previous position.
    Seat moved a + _________ detent positions from the previous position.

2.23 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 clearances 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.
2.23 Passenger seat positioning. (Indicate final position achieved) (S16.3.3.2)
   2.23.1 Place feet flat on the step board. OK
   2.23.2 If the feet cannot be placed flat on the step board, set the foot perpendicular to the
   lower leg and rest the heel as far forward on the floor pan as possible. OK
   2.23.3 If the heels do not touch the floor pan, set the leg to vertical and set the foot 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 centerlines 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
   (S16.3.3.3.3.2)
   2.23.3 Place the little fingers in contact with the seat cushion. (S16.3.3.3.3.3)

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. (S16.3.4.4)
      N/A Vehicle does not contain automatic head restraints.
   2.24.2 Adjust the head restraint to its lowest position. (S16.3.4.2)
   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 (C.G.) of the dummy head. (S16.3.4.3)
      Vertical height of head restraint: 200 mm
      Mid-point height: 161.5 mm
   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)
      N/A Midpoint position attained in previous step.
   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: Fixed
      Actual Position: Fixed

   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 at least 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 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 retraction force of the retractor. (S16.3.5.4)
### DATA SHEET 31

**DUMMY POSITIONING MEASUREMENTS**

<table>
<thead>
<tr>
<th>DRIVER (Serial No. 421)</th>
<th>PASSENGER (Serial No. 426)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WA°</td>
<td>40.0</td>
</tr>
<tr>
<td>SWA°</td>
<td>21.1</td>
</tr>
<tr>
<td>SCA°</td>
<td>68.9</td>
</tr>
<tr>
<td>SA°</td>
<td>9.7¹</td>
</tr>
<tr>
<td>HZ</td>
<td>335</td>
</tr>
<tr>
<td>HH</td>
<td>413</td>
</tr>
<tr>
<td>HW</td>
<td>671</td>
</tr>
<tr>
<td>HR</td>
<td>310</td>
</tr>
<tr>
<td>NR</td>
<td>265 ANGLE 4.0°</td>
</tr>
<tr>
<td>CD</td>
<td>475</td>
</tr>
<tr>
<td>CS</td>
<td>230</td>
</tr>
<tr>
<td>RA</td>
<td>99</td>
</tr>
<tr>
<td>KDL</td>
<td>95 Angle 61.9°</td>
</tr>
<tr>
<td>KDR</td>
<td>98</td>
</tr>
<tr>
<td>PA°</td>
<td>21.6</td>
</tr>
<tr>
<td>TA°</td>
<td>53.9</td>
</tr>
<tr>
<td>KK</td>
<td>230</td>
</tr>
<tr>
<td>ST</td>
<td>637 ANGLE -55.3°</td>
</tr>
<tr>
<td>SK</td>
<td>800 ANGLE 1.2°</td>
</tr>
<tr>
<td>SLI</td>
<td>470 ANGLE 8.5°</td>
</tr>
<tr>
<td>SHY</td>
<td>245</td>
</tr>
<tr>
<td>HS</td>
<td>301</td>
</tr>
<tr>
<td>HD</td>
<td>190</td>
</tr>
<tr>
<td>AD</td>
<td>175</td>
</tr>
</tbody>
</table>

¹ Measured on head restraint post.
DESCRIPTIONS OF DUMMY MEASUREMENTS

When a level is to be used, it is to ensure that the line containing the two points described is either parallel or perpendicular to the ground. If a measurement to be made is less than 10 inches ignore the directions to use a level and approximate a level measurement. Also, when a measurement is to be taken to or from the center of a bolt on the dummy, take the measurement from the center of the bolt hole if the bolt is recessed.

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

* **HH**  Head to Header, taken from the point where the dummy's nose meets his forehead (between his eyes) to the furthest point forward on the header.

* **HW**  Head to Windshield, taken from the point where the dummy's nose meets his forehead (between his eyes) to a point on the windshield. Use a level.

* **HZ**  Head to Roof, taken from the point where the dummy's nose meets his forehead (between his eyes) to the point on the roof directly above it. Use a level.

* **CS**  Steering Wheel to Chest, taken from the center of the steering wheel hub to the dummy's chest. Use a level.

* **CD**  Chest to 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).

* **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 H-point should also be taken (SHY). See photograph.

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

**HS** Head to Side Window, taken from the point where the dummy's nose meets his forehead (between his eyes) to the outside of the side window. In order to make this measurement, roll the window down to the exact height that allows a level measurement. Use a level. See photograph.

**AD** Arm to Door, taken from the outer surface of the elbow pivot bolt on a Hybrid II dummy to the first point it hits on the door. In the case of a Hybrid III dummy, measure from the bolt on the outer biceps. When a SID is used, make the measurement from the center of the bottom of the arm segment where it meets the dummy's torso.

* **HD** H-point to Door, taken from the H-point on the dummy to the closest point on the door. Use a level.

* **11R** 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 H-point. Use a level. See photograph.

**KK** Knee to Knee, for Hybrid II dummies measure the distance between knee pivot bolt head outer surfaces. For Hybrid III dummies measure the distance between the outboard knee clevis flange surfaces. (This measurement may not be exactly transverse)

**ANGULAR**

**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.²

**PA** Pelvic or Femur Angle, taken by inserting the pelvic angle gauge into the H-point gauging hole on the SID or the Hybrid III dummies and taking this angle with respect to the horizontal. Measure the angle of the line connecting the H-point hole and the outer knee pivot bolt hole on a Hybrid 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

² For this test, the measurement was taken on head restraint post per COTR.
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 bolts. Then place an inclinometer on the straight edge and measure the angle with respect to the horizontal.
DATA SHEET 32
CRASH TEST

NHTSA No.: C30104
Test Date: 11/14/02

Laboratory: TRC Inc.  Test Technician(s): M. Postle, B. Miller

Impact Angle: 0°  Relied Dummies: X Yes  No

Test Speed:  32 to 40 km/h  X  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. Vehicle underbody painted
2. The speed measuring devices are in place and functioning.
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)
4. Convertible top is in the closed position.
   X N/A – Not a convertible
5. Instrumentation and wires are placed so the motion of the dummies during impact is not affected.
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.
   241 kPa front left tire  240 kPa specified on tire placard or in owner information
   241 kPa front right tire  240 kPa specified on tire placard or in owner information
   241 kPa rear left tire  240 kPa specified on tire placard or in owner information
   241 kPa rear right tire  240 kPa specified on tire placard or in owner information
7. Time zero markers and switches in-place.
8. Pre test zero and shunt calibration adjustments performed and recorded
9. Dummy temperature meets requirements of section 12.2 of the test procedure.
10. Vehicle hood closed and latched
11. Transmission placed in neutral
12. Parking brake off
13. Ignition in the ON position
14. Doors closed and latched but not locked.
15. Posttest zero and shunt calibration checks performed and recorded
16. Actual test speed  40.0 km/h
17. Vehicle rebound from the barrier  NA  cm
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
19. Describe the contact points of the dummy with the interior of the vehicle.
   Passenger dummy: Head contacted grab handle on instrument panel and head restraint. Both knees contacted the glove box.
DATA SHEET 33
Offset Deformable Barrier Test Using Belted 5th Percentile Female Dummies
(Part 572, Subpart O) (S18)

NHTSA No.: C30104
Test Date: 11/14/02

Laboratory: TRC Inc.
Test Technician(s): M. Postle

Test Number: 021114
Barrier Serial Number: 053A0402/09830502
Driver Dummy Serial Number: 421
Passenger Dummy Serial Number: 426

Vehicle Speed: X 40 km/h
Offset: 40 Percent

1.0 Pre-Test Activities

X 1.1 Complete the following data sheets
X 1.1.1 Vehicle Receiving and Inspection
X 1.1.2 Vehicle Weight, Fuel Tank, and Altitude
X 1.1.3 Vehicle Accelerometer Location
X 1.1.4 General Test Vehicle Data
X 1.1.5 Photographic Targets
X 1.1.6 Camera Locations
X 1.1.7 5th Percentile Female Dummy Calibration
X 1.1.8 Appendix G 5th Percentile Female Dummy Seating and Positioning Procedure

X 1.2 Barrier Certification
X 1.2.1 Verify the offset deformable barrier materials and construction are certified to Subpart C of 49 CFR 587. (Attach vendor certification sheet to this data sheet.)

X 1.3 Verify barrier measurements and complete the table below. (See Figure 1)

<table>
<thead>
<tr>
<th>Specified Dimension in mm +/- 2.5 unless specified</th>
<th>Measured Dimension in mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Body Height RH Side</td>
<td>650</td>
</tr>
<tr>
<td>Main Body Height LHF Side</td>
<td>650</td>
</tr>
<tr>
<td>Floor to Lower Barrier LH</td>
<td>200 +/-.15</td>
</tr>
<tr>
<td>Floor to Lower Barrier LHF</td>
<td>200 +/-.15</td>
</tr>
<tr>
<td>Main Body Width</td>
<td>1000</td>
</tr>
<tr>
<td>Bumper Element Width</td>
<td>1000</td>
</tr>
<tr>
<td>Bumper Element Height LH</td>
<td>330</td>
</tr>
<tr>
<td>Bumper Element Height LHF</td>
<td>330</td>
</tr>
<tr>
<td>Main Body Depth LH</td>
<td>450</td>
</tr>
<tr>
<td>Main Body Depth LHF</td>
<td>450</td>
</tr>
<tr>
<td>Bumper Element Depth LH</td>
<td>90</td>
</tr>
<tr>
<td>Bumper Element Depth LHF</td>
<td>90</td>
</tr>
<tr>
<td>Upper Slot Location</td>
<td>220</td>
</tr>
<tr>
<td>Lower Slot Location</td>
<td>110</td>
</tr>
<tr>
<td>Upper Slot Width</td>
<td>4mm Max</td>
</tr>
<tr>
<td>Lower Slot Width</td>
<td>4mm Max</td>
</tr>
</tbody>
</table>

X 1.3.1 All Dimensions within specified tolerance
X Yes
1.4 Verify deformable barrier mounted using 10 bolts (8mm diameter minimum) and the steel strips specified. 

1.5 Verify height of Fixed Rigid Barrier relative to vehicle being tested.

1.6 Photograph pre-test condition. Include photograph shown below.

X Pre-test frontal view of test vehicle
X Pre-test left side view of test vehicle
X Pre-test right side view of test vehicle
X Pre-test left front three-quarter view of test vehicle
X Pre-test right rear three-quarter view of test vehicle
X Pre-test windshield view
X Pre-test engine compartment view
X Pre-test fuel filler cap view
X Pre-test front underbody view
X Pre-test rear underbody view
X Pre-test driver dummy position with the door open and with the camera perpendicular to the longitudinal centerline of the vehicle and in line with the markings showing the fore-aft position of the seat.
X FrONTAL Pre-test driver dummy position with the camera in the same plane as the longitudinal centerline of the dummy.
X Pre-test passenger dummy position with the door open and with the camera perpendicular to the longitudinal centerline of the vehicle and in line with the markings showing the fore-aft position of the seat.
X FrONTAL Pre-test passenger dummy position view with the camera in the same plane as the longitudinal centerline of the dummy.
X Dummy contact point(s) (vehicle and dummy)
X Pre-test view of the knee boliers.
X Pre-test view of the steering column shear capsule if any part of it is visible. Do NOT disassemble any parts to take these photographs.
X Pre-test under hood view of the steering column intersecting the firewall. Take the best photograph possible without removing any parts.
X Pre-test view of the steering column intersecting the firewall from inside the vehicle. Take the best photograph possible without removing any parts.

2.0 Test Execution

X 2.1 Impact vehicle into offset deformable barrier at a speed of 25 km/hr ± 0/2 km/hr

Record impact speed
Trap 1 40.0 km/hr
Trap 2 40.0 km/hr

Trap Location (prior to impact) 51.0 mm

X Speed at impact 40 km/hr ± 0/2 km/hr

X Yes No

X 2.2 Strike barrier at offset of 10% of vehicle width ± 50mm from the vehicle centerline.

Vehicle Width 1994 mm

Required Offset 199.4 mm

Actual Measured Offset 197.4 mm

X Offset within ± 0/50 mm

X Yes No

X 2.3 Vehicle attitude at impact 0.0 degrees ± 5 degrees

Impact angle 0 degrees

X Impact angle 0.0 ± 5 degrees

X Yes No

3.0 Post Test Activities

X 3.1 Photograph post-test condition. Include photograph shown below.

X Post test frontal view of test vehicle
X Post test left side view of test vehicle
X Post test right side view of test vehicle
X Post test left front three-quarter view of test vehicle
X Post test right rear three-quarter view of test vehicle
X Post test windshield view
X Post test engine compartment view

5-119 021:14
X Post test fuel filter cap view
X Post test front underbody view
X Post test rear underbody view
X Post test driver dummy position with the door open and with the camera perpendicular to the longitudinal centerline of the vehicle and in line with the markings showing the fore-aft position of the seat.
X Frontal post test driver dummy position with the camera in the same plane as the longitudinal centerline of the dummy.
X Frontal post test passenger dummy position with the door open and with the camera perpendicular to the longitudinal centerline of the vehicle and in line with the markings showing the fore-aft position of the seat.
X Frontal post test passenger dummy position view with the camera in the same plane as the longitudinal centerline of the dummy.
X Dummy contact point(s), vehicle and dummy
X Post test view of the knee bolsters.
X Post test view of the steering column shear capsule if any part of it is visible. Do NOT disassemble any parts to take these photographs.
X Post test under hood view of the steering column intersecting the fire wall. Take the best photograph possible without removing any parts.
X Post test view of the steering column intersecting the fire wall from inside the vehicle. Take the best photograph possible without removing any parts.
X Post test Standard solvent spillage location view, if required.
X Post test electrolyte spillage location view, if required.
X Post test top view of test vehicle while vehicle is on static rollover machine. (If applicable)

---

### FMVSS 208

<table>
<thead>
<tr>
<th><strong>Maximum Allowable Injury Assessment Value</strong></th>
<th><strong>Measured Value Driver Dummy Serial No. 421</strong></th>
<th><strong>Measured Value Passenger Dummy Serial No. 426</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>HIC&lt;sub&gt;15&lt;/sub&gt;</td>
<td>700</td>
<td>262</td>
</tr>
<tr>
<td>Chest Acceleration</td>
<td>60 g</td>
<td>20.2 g</td>
</tr>
<tr>
<td>Chest Displacement</td>
<td>52 mm</td>
<td>20 mm</td>
</tr>
<tr>
<td>Peak Nij (Ntc) Time (ms)</td>
<td>1.0</td>
<td>0.40</td>
</tr>
<tr>
<td>Peak Nij (Ntc) Time (ms)</td>
<td>NA</td>
<td>125.76 ms</td>
</tr>
<tr>
<td>Peak Nij (Ntc) Time (ms)</td>
<td>NA</td>
<td>147.20 ms</td>
</tr>
<tr>
<td>Peak Nij (Ntc) Time (ms)</td>
<td>1.0</td>
<td>0.02</td>
</tr>
<tr>
<td>Peak Nij (Ntc) Time (ms)</td>
<td>NA</td>
<td>43.36 ms</td>
</tr>
<tr>
<td>Peak Nij (Ntc) Time (ms)</td>
<td>1.0</td>
<td>0.10</td>
</tr>
<tr>
<td>Peak Nij (Ntc) Time (ms)</td>
<td>NA</td>
<td>200.16 ms</td>
</tr>
<tr>
<td>Neck Tension (Fz)</td>
<td>2620 N</td>
<td>783 N</td>
</tr>
<tr>
<td>Neck Compression (Fz)</td>
<td>2520 N</td>
<td>140 N</td>
</tr>
<tr>
<td>Left Femur Compression</td>
<td>6805 N</td>
<td>3320 N</td>
</tr>
<tr>
<td>Right Femur Compression</td>
<td>6805 N</td>
<td>1241 N</td>
</tr>
</tbody>
</table>

---

All injury Criteria within limits
X Pass
---

X 3.3 Perform post-test calibration check.
FIGURE 1
OFFSET BARRIER
### OFFSET FRONTAL BARRIER CERTIFICATION

**Date:** October 31, 2002

**To:** Transportation Research  
Ship & Rec Bldg 50  
10820 St. Route 347  
East Liberty, OH 43319-0367

### PURCHASE ORDER INFORMATION

- **Customer P.O. Number:** VERBAL  
- **Work Order Number:** 14853  
- **Quantity:** 01 piece

### CORE INFORMATION

- **Core Type:** PCGA-1.8-3/4-P-3003-T  
- **Cell Size:** 0.750 inches  
- **Density:** 1.8 pcf

**Unit Number:** 098B0502

---

This is to certify that the aluminum honeycomb core supplied, under the unit number provided, meets the crush requirements of 49.59 psi -6, -10% per DWG #WG11.

---

**Quality Control Representative**  
Karl D. Zwaanstra
**Crush Data**

49.59 psi +0, -10% psi per DWG #WG11

<table>
<thead>
<tr>
<th>Block Number:</th>
<th>098B0502</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specimen Number</td>
<td>Zone 1</td>
</tr>
<tr>
<td>1</td>
<td>45.28</td>
</tr>
<tr>
<td>2</td>
<td>45.08</td>
</tr>
<tr>
<td>3</td>
<td>45.00</td>
</tr>
<tr>
<td>4</td>
<td>45.03</td>
</tr>
<tr>
<td>5</td>
<td>47.14</td>
</tr>
<tr>
<td>6</td>
<td>46.56</td>
</tr>
<tr>
<td>7</td>
<td>46.04</td>
</tr>
</tbody>
</table>
OFFSET FRONTAL BARRIER CERTIFICATION

Date: October 31, 2002

To: Transportation Research
Ship & Rec Bldg 50
10820 St. Route 347
East Liberty, OH 43319-0367

PURCHASE ORDER INFORMATION

Customer P.O. Number: VERBAL
Work Order Number: 14853
Quantity: 01 piece

CORE INFORMATION

Core Type: PCGA-1/4-5.2-P-3003-T
Measured Cell Size: 0.250 inches
Measured Density: 5.2 pcf
Unit Number: 053 A0402

This is to certify that the aluminum honeycomb core supplied, under the unit number provided, meets the crush requirements of 248.1 psi @ 0, -10% psi per DWG #WG11.

[Signature]
Quality Control Representative
Karl D. Zwaanstra
Crush Data
248.1 psi +0,-10% psi per DWG #WG11

Block Number: 053A0402

<table>
<thead>
<tr>
<th>Specimen Number</th>
<th>Zone 1</th>
<th>Zone 2</th>
<th>Zone 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>234.32</td>
<td>234.34</td>
<td>233.15</td>
</tr>
<tr>
<td>2</td>
<td>240.03</td>
<td>241.88</td>
<td>241.78</td>
</tr>
<tr>
<td>3</td>
<td>241.42</td>
<td>241.30</td>
<td>239.35</td>
</tr>
<tr>
<td>4</td>
<td>232.07</td>
<td>233.20</td>
<td>233.82</td>
</tr>
<tr>
<td>5</td>
<td>238.06</td>
<td>236.19</td>
<td>233.80</td>
</tr>
<tr>
<td>6</td>
<td>235.70</td>
<td>233.91</td>
<td>233.08</td>
</tr>
<tr>
<td>7</td>
<td>244.58</td>
<td>245.55</td>
<td>241.24</td>
</tr>
</tbody>
</table>
DATA SHEET 34
ACCIDENT INVESTIGATION MEASUREMENTS

NHTSA No.: C30104---------------------- Test Date: 11/14/02

Laboratory: TRC Inc. Test Technician(s): R. Benavides, K. Watkins, S. Sterling

Impact Angle: 0° Belted Dummies: X Yes No

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

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

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

VIN: 3GNEC16Z53G108730

Wheelbase: 3300 Build Date: 08/02

Veh. Size Category: MPV Test Weight: 2684.3

Front Overhang: 926 Overall Width: 1994

Veh. Impact Speed: 40.0 Vel. Change: 49.8

Collision Deformation Classification (CDC) Code: 12FYEW2

* From integration of Left Rear Seat Crossmember X-axis acceleration.
Impact Mode: 40% Offset

Crash Depth Dimensions:

C1 = 450 mm
C2 = 374 mm
C3 = 419 mm
C4 = 189 mm
C5 = 29 mm
C6 = 191 mm

Midpoint of Damage: D = -599

(Left from Vehicle Longitudinal Centerline)

Length of Damage Region:

L = 1830 mm

REMARKS:
DATA SHEET 35
WINDSHIELD MOUNTING (FMVSS 212)

NHTSA No.: C30104 Test Date: 11/12/14/02

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

Impact Angle: 0° Belted Dummies: X Yes No

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

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

X 2. Mark the longitudinal centerline of the windshield.

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

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

X 5. Measure from the edge of the retainer or molding to the edge of the windshield.
   Dimension G: ___18___ mm

X 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 - Skip to the table, complete it by repeating the pre-crash measurements in the post-crash column, and calculate the retention percentage which will be 100%.
   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
### 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><strong>Left side</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>698</td>
<td>698</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>670</td>
<td>670</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>876</td>
<td>876</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2244</td>
<td>2244</td>
<td>100</td>
</tr>
<tr>
<td><strong>Right side</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>698</td>
<td>698</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>670</td>
<td>670</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>876</td>
<td>876</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2244</td>
<td>2244</td>
<td>100</td>
</tr>
</tbody>
</table>

Indicate area of mounting failure: **None**

**FRONT VIEW OF WINDSHIELD**

**INDICATE WIDTH OF MOLDING**

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

NHTSA No.: C30104

Test Date: 11/11-14/02

Laboratory: TRC Inc.  Test Technician(s): B. Miller, D. Summers, M. Postle

Impact Angle: 0°  Beaked Dummies: X Yes  No

Test Speed: 32 to 40 km/h  X 0 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(h))

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

F

X

Y

ZERO POINT (0,0)

LOWER EDGE OF PROTECTED ZONE

A. Windshield Dimensions

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1397</td>
<td>360</td>
<td>1753</td>
<td>670</td>
<td>485</td>
<td>935</td>
</tr>
</tbody>
</table>

5-132  021114
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>
<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>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

REMARKS: No penetration in or beneath the protected zone.
DATA SHEET 37
FUEL SYSTEM INTEGRITY (MVSS 301)

TEST VEHICLE NHTSA NO.: C30104 ; TEST DATE: 11/14/02

VEHICLE YEAR/MAKE/MODEL/BODY STYLE: M. Postle

TYPE OF IMPACT: 40 % Offset

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: Test time to start of rollover was 57 minutes; no spillage occurred during the interval.
A. TEST PHASE = 0° TO 90°

Determination of Stoddard
Solvent Collection Time Period:

1. Rollover Fixture 90° Rotation Time = __ minutes, __ seconds
   (Specified Range is 1 to 5 minutes)

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

3. TOTAL = __ minutes, __ seconds

4. NEXT WHOLE MINUTE INTERVAL = __ minutes

Actual Test Vehicle Stoddard Solvent Spillage:

1. First 5 minutes from onset of rotation = __ grams
   (142 grams allowed)

2. 6th minute = __ grams
   (28 grams allowed)

3. 7th minute = __ grams
   (28 grams allowed)

4. 8th minute (if required) = __ grams
   (28 grams allowed)

Provide Details of Stoddard Solvent Spillage Locations - None
B. TEST PHASE – 90° TO 180°

Determination of Stoddard Solvent Collection Time Period:

1. Rollover Fixture 90° Rotation Time = __ minutes, __ seconds
   (Specified Range is 1 to 3 minutes)

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

3. TOTAL = __ minutes, __ seconds

4. NEXT WHOLE MINUTE INTERVAL = ___ minutes

Actual Test Vehicle Stoddard Solvent Spillage:

1. First 5 minutes from onset of rotation = __ grams
   (142 grams allowed)

2. 6th minute = __ grams
   (28 grams allowed)

3. 7th minute = __ grams
   (28 grams allowed)

4. 8th minute (if required) = 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 = 
   1 minute, 30 seconds

   (Specified Range is 1 to 3 minutes)

2. PMVSS 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. Rollover Fixture 90° Rotation Time = \( \underline{1} \) minutes, \( \underline{30} \) seconds
   
   (Specified Range is 1 to 3 minutes)

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

3. **TOTAL** = \( \underline{6} \) minutes, \( \underline{30} \) seconds

4. **NEXT WHOLE MINUTE INTERVAL** = \( \underline{7} \) minutes

   Actual Test Vehicle Stoddard Solvent Spillage:

   1. First 5 minutes from onset of rotation = \( \underline{0} \) grams
      
      (142 grams allowed)

   2. 6th minute = \( \underline{0} \) grams
      
      (28 grams allowed)

   3. 7th minute = \( \underline{0} \) grams
      
      (28 grams allowed)

   4. 8th minute (if required) = \( \text{NA} \) grams
      
      (28 grams allowed)

   **Provide Details of Stoddard Solvent Spillage Locations - None**
Section 7

Photographs
<table>
<thead>
<tr>
<th>Image</th>
<th>Image Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pre-Test Front View</td>
<td>7-5</td>
</tr>
<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>
<td>7-8</td>
</tr>
<tr>
<td>5</td>
<td>Pre-Test Right Side View</td>
<td>7-9</td>
</tr>
<tr>
<td>6</td>
<td>Post-Test Right Side View</td>
<td>7-10</td>
</tr>
<tr>
<td>7</td>
<td>Pre-Test Left Front Three-Quarter View</td>
<td>7-11</td>
</tr>
<tr>
<td>8</td>
<td>Post-Test Left Front Three-Quarter View</td>
<td>7-12</td>
</tr>
<tr>
<td>9</td>
<td>Pre-Test Right Rear Three-Quarter View</td>
<td>7-13</td>
</tr>
<tr>
<td>10</td>
<td>Post-Test Right Rear Three-Quarter View</td>
<td>7-14</td>
</tr>
<tr>
<td>11</td>
<td>Pre-Test Overhead View</td>
<td>7-15</td>
</tr>
<tr>
<td>12</td>
<td>Post-Test Overhead View</td>
<td>7-16</td>
</tr>
<tr>
<td>13</td>
<td>Pre-Test Windshield View</td>
<td>7-17</td>
</tr>
<tr>
<td>14</td>
<td>Post-Test Windshield View</td>
<td>7-18</td>
</tr>
<tr>
<td>15</td>
<td>Pre-Test Engine Compartment View</td>
<td>7-19</td>
</tr>
<tr>
<td>16</td>
<td>Post-Test Engine Compartment View</td>
<td>7-20</td>
</tr>
<tr>
<td>17</td>
<td>Pre-Test Steering Column and Firewall - Under Hood View</td>
<td>7-21</td>
</tr>
<tr>
<td>18</td>
<td>Post-Test Steering Column and Firewall - Under Hood View</td>
<td>7-22</td>
</tr>
<tr>
<td>19</td>
<td>Pre-Test Steering Box View</td>
<td>7-23</td>
</tr>
<tr>
<td>20</td>
<td>Post-Test Steering Box View</td>
<td>7-24</td>
</tr>
<tr>
<td>21</td>
<td>Pre-Test Steering Column and Firewall - Interior View</td>
<td>7-25</td>
</tr>
<tr>
<td>22</td>
<td>Post-Test Steering Column and Firewall - Interior View</td>
<td>7-26</td>
</tr>
<tr>
<td>23</td>
<td>Steering Column Position View</td>
<td>7-27</td>
</tr>
<tr>
<td>24</td>
<td>Pre-Test Front Underbody View</td>
<td>7-28</td>
</tr>
<tr>
<td>25</td>
<td>Post-Test Front Underbody View</td>
<td>7-29</td>
</tr>
<tr>
<td>26</td>
<td>Pre-Test Mid Underbody View</td>
<td>7-30</td>
</tr>
<tr>
<td>27</td>
<td>Post-Test Mid Underbody View</td>
<td>7-31</td>
</tr>
<tr>
<td>28</td>
<td>Pre-Test Rear Underbody View</td>
<td>7-32</td>
</tr>
<tr>
<td>29</td>
<td>Post-Test Rear Underbody View</td>
<td>7-33</td>
</tr>
</tbody>
</table>
### List of Photographs, Continued

<table>
<thead>
<tr>
<th>Image</th>
<th>Image Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>Pre-Test Fuel Tank View</td>
<td>7-34</td>
</tr>
<tr>
<td>31</td>
<td>Post-Test Fuel Tank View</td>
<td>7-35</td>
</tr>
<tr>
<td>32</td>
<td>Pre-Test Fuel Lines View</td>
<td>7-36</td>
</tr>
<tr>
<td>33</td>
<td>Post-Test Fuel Lines View</td>
<td>7-37</td>
</tr>
<tr>
<td>34</td>
<td>Pre-Test Fuel Filler Neck - View 1</td>
<td>7-38</td>
</tr>
<tr>
<td>35</td>
<td>Post-Test Fuel Filler Neck - View 1</td>
<td>7-39</td>
</tr>
<tr>
<td>36</td>
<td>Pre-Test Fuel Filler Neck - View 2</td>
<td>7-40</td>
</tr>
<tr>
<td>37</td>
<td>Post-Test Fuel Filler Neck - View 2</td>
<td>7-41</td>
</tr>
<tr>
<td>38</td>
<td>Pre-Test Fuel Filler Cap View</td>
<td>7-42</td>
</tr>
<tr>
<td>39</td>
<td>Post-Test Fuel Filler Cap View</td>
<td>7-43</td>
</tr>
<tr>
<td>40</td>
<td>Pre-Test Offset Barrier Face Front View</td>
<td>7-44</td>
</tr>
<tr>
<td>41</td>
<td>Post-Test Offset Barrier Face Front View</td>
<td>7-45</td>
</tr>
<tr>
<td>42</td>
<td>Pre-Test Offset Barrier Face Left Side View</td>
<td>7-46</td>
</tr>
<tr>
<td>43</td>
<td>Post-Test Offset Barrier Face Left Side View</td>
<td>7-47</td>
</tr>
<tr>
<td>44</td>
<td>Pre-Test Offset Barrier Face Right Side View</td>
<td>7-48</td>
</tr>
<tr>
<td>45</td>
<td>Post-Test Offset Barrier Face Right Side View</td>
<td>7-49</td>
</tr>
<tr>
<td>46</td>
<td>Pre-Test Offset Barrier Face Overhead View</td>
<td>7-50</td>
</tr>
<tr>
<td>47</td>
<td>Post-Test Offset Barrier Face Overhead View</td>
<td>7-51</td>
</tr>
<tr>
<td>48</td>
<td>Pre-Test Driver Dummy Front View</td>
<td>7-52</td>
</tr>
<tr>
<td>49</td>
<td>Post-Test Driver Dummy Front View</td>
<td>7-53</td>
</tr>
<tr>
<td>50</td>
<td>Pre-Test Driver Dummy Position View</td>
<td>7-54</td>
</tr>
<tr>
<td>51</td>
<td>Post-Test Driver Dummy Position View</td>
<td>7-55</td>
</tr>
<tr>
<td>52</td>
<td>Pre-Test Driver Dummy &amp; Vehicle Intrusion View</td>
<td>7-56</td>
</tr>
<tr>
<td>53</td>
<td>Post-Test Driver Dummy &amp; Vehicle Intrusion View</td>
<td>7-57</td>
</tr>
<tr>
<td>54</td>
<td>Pre-Test Passenger Dummy Front View</td>
<td>7-58</td>
</tr>
<tr>
<td>55</td>
<td>Post-Test Passenger Dummy Front View</td>
<td>7-59</td>
</tr>
<tr>
<td>56</td>
<td>Pre-Test Passenger Dummy Position View</td>
<td>7-60</td>
</tr>
<tr>
<td>57</td>
<td>Post-Test Passenger Dummy Position View</td>
<td>7-61</td>
</tr>
<tr>
<td>58</td>
<td>Pre-Test Passenger Dummy &amp; Vehicle View</td>
<td>7-62</td>
</tr>
<tr>
<td>Image</td>
<td>Image Title</td>
<td>Page</td>
</tr>
<tr>
<td>-------</td>
<td>-------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>59</td>
<td>Post-Test Passenger Dummy &amp; Vehicle Intrusion View</td>
<td>7-63</td>
</tr>
<tr>
<td>60</td>
<td>Post-Test Driver Dummy View</td>
<td>7-64</td>
</tr>
<tr>
<td>61</td>
<td>Post-Test Driver Dummy Head Contact - View 1</td>
<td>7-65</td>
</tr>
<tr>
<td>62</td>
<td>Post-Test Driver Dummy Head Contact - View 2</td>
<td>7-66</td>
</tr>
<tr>
<td>63</td>
<td>Pre-Test Driver Dummy Knee Bolster View</td>
<td>7-67</td>
</tr>
<tr>
<td>64</td>
<td>Post-Test Driver Dummy Knee Contact View</td>
<td>7-68</td>
</tr>
<tr>
<td>65</td>
<td>Post-Test Passenger Dummy View</td>
<td>7-69</td>
</tr>
<tr>
<td>66</td>
<td>Post-Test Passenger Dummy Head Contact - View 1</td>
<td>7-70</td>
</tr>
<tr>
<td>67</td>
<td>Post-Test Passenger Dummy Head Contact - View 2</td>
<td>7-71</td>
</tr>
<tr>
<td>68</td>
<td>Pre-Test Passenger Dummy Knee Bolster View</td>
<td>7-72</td>
</tr>
<tr>
<td>69</td>
<td>Post-Test Passenger Dummy Knee Contact View</td>
<td>7-73</td>
</tr>
<tr>
<td>70</td>
<td>Post-Test Vehicle on Static Rollover Device - 90° View</td>
<td>7-74</td>
</tr>
<tr>
<td>71</td>
<td>Pre-Test Vehicle Ballast View</td>
<td>7-75</td>
</tr>
<tr>
<td>72</td>
<td>Pre-Test Vehicle Certification and Recommended Tire Pressure Label View</td>
<td>7-76</td>
</tr>
<tr>
<td>73</td>
<td>Pre-Test Vehicle Window Sticker</td>
<td>7-77</td>
</tr>
</tbody>
</table>
Image 12 Post-Test Overhead View
Image 14 Post-Test Windshield View
Image 18  Post-Test Steering Column and Firewall - Under Hood View
Image 30  Pre-Test Fuel Tank View
Image 31 Post-Test Fuel Tank View
Image 35  Post-Test Fuel Filler Neck - View 1
Image 39  Post-Test Fuel Filler Cap View
Image 41 Post-Test Offset Barrier Face Front View
Image 49  Post-Test Driver Dummy Front View
Image 57 Post-Test Passenger Dummy Position View
Image 59 Post-Test Passenger Dummy & Vehicle Intrusion View
Image 80  Post-Test Driver Dummy View
Image 61  Post-Test Driver Dummy Head Contact - View 1
Image 63  Pre-Test Driver Dummy Knee Bolster View
Image 64: Post-Test Driver Dummy Knee Contact View
Image 65  Post-Test Passenger Dummy View
Image 68 Pre-Test Passenger Dummy Knee Bolster View
Image 69 Post-Test Passenger Dummy Knee Contact View
Appendix A

Test Equipment List and Calibration Information
<table>
<thead>
<tr>
<th>Charnme</th>
<th>Location</th>
<th>Model</th>
<th>Name</th>
<th>Manufacturer</th>
<th>Sens./mV/V/U</th>
<th>Fullscale</th>
<th>Caldate</th>
<th>Pos Output</th>
<th>Flip</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBDXG</td>
<td>Head Accel X</td>
<td>EG-73B6Q-20 0210216-A13</td>
<td>Entran</td>
<td>0.023</td>
<td>g</td>
<td>2000</td>
<td>9/24/02</td>
<td>Re</td>
<td>1</td>
</tr>
<tr>
<td>HBDYG</td>
<td>Head Accel Y</td>
<td>EG-73B6Q-20 0210216-A08</td>
<td>Entran</td>
<td>0.0213</td>
<td>g</td>
<td>2000</td>
<td>9/24/02</td>
<td>Lt</td>
<td>1</td>
</tr>
<tr>
<td>HBDZG</td>
<td>Head Accel Z</td>
<td>EG-73B6Q-20 0210216-A18</td>
<td>Entran</td>
<td>0.0225</td>
<td>g</td>
<td>2000</td>
<td>9/24/02</td>
<td>Up</td>
<td>1</td>
</tr>
<tr>
<td>NLSNF</td>
<td>Neck Force X</td>
<td>IF-205</td>
<td>IF-205-180-FX</td>
<td>FTSS</td>
<td>0.000182423</td>
<td>N</td>
<td>8896</td>
<td>3/18/02</td>
<td>Rd, Pd, Ctr, Rr</td>
</tr>
<tr>
<td>NLSNY</td>
<td>Neck Force Y</td>
<td>IF-205</td>
<td>IF-205-180-FY</td>
<td>FTSS</td>
<td>0.000175996</td>
<td>N</td>
<td>8896</td>
<td>3/18/02</td>
<td>Rd, Tt, Ctr, Rr</td>
</tr>
<tr>
<td>NLSNZ</td>
<td>Neck Force Z</td>
<td>IF-205</td>
<td>IF-205-180-FZ</td>
<td>FTSS</td>
<td>0.00092266</td>
<td>N</td>
<td>13344</td>
<td>3/18/02</td>
<td>Rd, Up, Ctr, Dv</td>
</tr>
<tr>
<td>NLMX</td>
<td>Neck Moment X</td>
<td>IF-205</td>
<td>IF-205-125-MX</td>
<td>FTSS</td>
<td>0.00577999</td>
<td>Nc</td>
<td>282.5</td>
<td>3/18/02</td>
<td>Rr, Lat to Rr, Shld</td>
</tr>
<tr>
<td>NLMY</td>
<td>Neck Moment Y</td>
<td>IF-205</td>
<td>IF-205-125-MY</td>
<td>FTSS</td>
<td>0.00280124</td>
<td>Nc</td>
<td>282.5</td>
<td>3/18/02</td>
<td>Ctr, Lat to Rr, Shld</td>
</tr>
<tr>
<td>NLMZ</td>
<td>Neck Moment Z</td>
<td>IF-205</td>
<td>IF-205-125-MZ</td>
<td>FTSS</td>
<td>0.00812178</td>
<td>Nc</td>
<td>282.5</td>
<td>3/18/02</td>
<td>Ctr, Lt to Lh, Shld</td>
</tr>
<tr>
<td>CSXG</td>
<td>Chest Accel X</td>
<td>EG-73B6Q-20 B02A25-N03</td>
<td>Entran</td>
<td>0.02163</td>
<td>g</td>
<td>2000</td>
<td>8/5/02</td>
<td>Fwd</td>
<td>0</td>
</tr>
<tr>
<td>CSTYG</td>
<td>Chest Accel Y</td>
<td>EG-73B6Q-20 02A18-N12</td>
<td>Entran</td>
<td>0.01976</td>
<td>g</td>
<td>2000</td>
<td>8/5/02</td>
<td>Lf</td>
<td>1</td>
</tr>
<tr>
<td>CSTZG</td>
<td>Chest Accel Z</td>
<td>EG-73B6Q-20 B02A25-N10</td>
<td>Entran</td>
<td>0.01967</td>
<td>g</td>
<td>2000</td>
<td>8/5/02</td>
<td>Up</td>
<td>1</td>
</tr>
<tr>
<td>CNSX</td>
<td>Chest Deflection X</td>
<td>14CB1-2897 14CB1-2897-1355</td>
<td>Servo</td>
<td>1.70969</td>
<td>mm</td>
<td>100</td>
<td>3/25/02</td>
<td>Shw, Arm, Ctr, Dv</td>
<td>0</td>
</tr>
<tr>
<td>PEVXG</td>
<td>Pelvis Accel X</td>
<td>T26D-2000LC AFRK3</td>
<td>Entran</td>
<td>0.0212</td>
<td>g</td>
<td>2000</td>
<td>8/5/02</td>
<td>Rvd</td>
<td>1</td>
</tr>
<tr>
<td>PEVYG</td>
<td>Pelvis Accel Y</td>
<td>EG-73B6Q-20 02A16-A26</td>
<td>Entran</td>
<td>0.0209</td>
<td>g</td>
<td>2000</td>
<td>8/5/02</td>
<td>Lf</td>
<td>1</td>
</tr>
<tr>
<td>PEVZG</td>
<td>Pelvis Accel Z</td>
<td>EG-73B6Q-20 02A18-N14</td>
<td>Entran</td>
<td>0.01877</td>
<td>g</td>
<td>2000</td>
<td>8/5/02</td>
<td>Up</td>
<td>1</td>
</tr>
<tr>
<td>LFZP</td>
<td>L1 L fern Force Z</td>
<td>2430 2430-739</td>
<td>GS</td>
<td>0.000967676</td>
<td>N</td>
<td>13344</td>
<td>3/18/02</td>
<td>Knee Ed, Pel, Rr</td>
<td>0</td>
</tr>
<tr>
<td>RFZP</td>
<td>Right Fern Force Z</td>
<td>2430 2430-760</td>
<td>GS</td>
<td>0.000967676</td>
<td>N</td>
<td>13344</td>
<td>3/18/02</td>
<td>Knee Ed, Pel, Rr</td>
<td>0</td>
</tr>
<tr>
<td>Chname</td>
<td>Location</td>
<td>Model</td>
<td>Name</td>
<td>Manufacturer</td>
<td>Sens./mV/V/U</td>
<td>Fullscale</td>
<td>Caldate</td>
<td>Pos Output</td>
<td>Flip</td>
</tr>
<tr>
<td>-----------</td>
<td>------------</td>
<td>---------------</td>
<td>-----------------</td>
<td>--------------</td>
<td>-------------</td>
<td>-----------</td>
<td>---------</td>
<td>------------</td>
<td>------</td>
</tr>
<tr>
<td>INDXG</td>
<td>Head Accel X</td>
<td>7264C-2KLC-2- P17837</td>
<td>Endeveo</td>
<td>0.014155 g</td>
<td>2000</td>
<td>11/6/02</td>
<td>F</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>INDYG</td>
<td>Head Accel Y</td>
<td>7264C-2KLC-2- P17859</td>
<td>Endeveo</td>
<td>0.0141605 g</td>
<td>2000</td>
<td>11/6/02</td>
<td>Lf</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>HEDZG</td>
<td>Head Accel Z</td>
<td>7264C-2KLC-2- P* 8656</td>
<td>Endeveo</td>
<td>0.014711 g</td>
<td>2000</td>
<td>11/6/02</td>
<td>Up</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>NEFNF</td>
<td>Neck Force X</td>
<td>IF-205</td>
<td>IF-205-287-FX</td>
<td>FTSS</td>
<td>0.000178125 N</td>
<td>8896.4</td>
<td>11/6/02</td>
<td>Hld Fd,Cat Rr</td>
<td>1</td>
</tr>
<tr>
<td>NERNF</td>
<td>Neck Force Y</td>
<td>IF-205</td>
<td>IF-205-287-FY</td>
<td>FTSS</td>
<td>0.000171009 N</td>
<td>8896.4</td>
<td>11/6/02</td>
<td>Tld Lf,Cat Rr</td>
<td>0</td>
</tr>
<tr>
<td>NEKZF</td>
<td>Neck Force Z</td>
<td>IF-205</td>
<td>IF-205-287-PZ</td>
<td>FTSS</td>
<td>0.000090436 N</td>
<td>13344.6</td>
<td>11/6/02</td>
<td>Lhd Up,Cat Dn</td>
<td>0</td>
</tr>
<tr>
<td>NEKXM</td>
<td>Neck Moment X</td>
<td>IF-205</td>
<td>IF-205-297-MX</td>
<td>FTSS</td>
<td>0.005443186 N-m</td>
<td>282.5</td>
<td>11/6/02</td>
<td>Rr Ror in Rr Shld</td>
<td>0</td>
</tr>
<tr>
<td>NERYM</td>
<td>Neck Moment Y</td>
<td>IF-205</td>
<td>IF-205-287-MY</td>
<td>FTSS</td>
<td>0.000449912 N-m</td>
<td>282.5</td>
<td>11/6/02</td>
<td>Chin to Strum</td>
<td>0</td>
</tr>
<tr>
<td>NEKZM</td>
<td>Neck Moment Z</td>
<td>IF-205</td>
<td>IF-205-287-MZ</td>
<td>FTSS</td>
<td>0.0068 N-m</td>
<td>282.5</td>
<td>11/6/02</td>
<td>Chin to Lt Shld</td>
<td>0</td>
</tr>
<tr>
<td>CSTDXG</td>
<td>Chest Accel X</td>
<td>7264C-2KLC-2- P16194</td>
<td>Endeveo</td>
<td>0.0140455 g</td>
<td>2000</td>
<td>11/6/02</td>
<td>Fwd</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CSTYG</td>
<td>Chest Accel Y</td>
<td>7264C-2KLC-2- P16517</td>
<td>Endeveo</td>
<td>0.015077 g</td>
<td>2000</td>
<td>11/6/02</td>
<td>Lf</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CSTZG</td>
<td>Chest Accel Z</td>
<td>7264C-2KLC-2- P16428</td>
<td>Endeveo</td>
<td>0.0148929 g</td>
<td>2000</td>
<td>11/6/02</td>
<td>Up</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CSTXG</td>
<td>Chest Deflection X</td>
<td>14CBI-2897</td>
<td>14CBI-2897-1392</td>
<td>Servo</td>
<td>1.8878 mm</td>
<td>160</td>
<td>11/13/02</td>
<td>Strum Away Frm Spn</td>
<td>0</td>
</tr>
<tr>
<td>LFZFP</td>
<td>Left Femur Force Z #2</td>
<td>2121</td>
<td>2121-22257</td>
<td>Danon</td>
<td>0.0001000043 N</td>
<td>13344.6</td>
<td>11/6/02</td>
<td>Knee In Frt Rr</td>
<td>0</td>
</tr>
<tr>
<td>RFZFP</td>
<td>Right Femur Force Z #12</td>
<td>2121</td>
<td>2121-2259</td>
<td>Danon</td>
<td>0.000099478 N</td>
<td>13344.6</td>
<td>11/6/02</td>
<td>Knee Fd,Pel Rr</td>
<td>0</td>
</tr>
<tr>
<td>-------</td>
<td>----------</td>
<td>----------</td>
<td>-------------------</td>
<td>------</td>
<td>-------</td>
<td>-----------</td>
<td>-------</td>
<td>------</td>
<td>--------</td>
</tr>
<tr>
<td>0001</td>
<td>EVENT</td>
<td>SYNCA</td>
<td>SYNCA</td>
<td></td>
<td></td>
<td>5.12</td>
<td>V</td>
<td>10/15/2002</td>
<td>OK</td>
</tr>
<tr>
<td>0002</td>
<td>02012116-A13</td>
<td>REDXG1</td>
<td>Head Accl X</td>
<td>Rs</td>
<td>795.03105</td>
<td>g</td>
<td>9/24/2002</td>
<td>OK</td>
<td>421v(20)</td>
</tr>
<tr>
<td>0003</td>
<td>02012116-A08</td>
<td>REDYG1</td>
<td>Head Accl Y</td>
<td>Lf</td>
<td>801.25195</td>
<td>g</td>
<td>9/24/2002</td>
<td>OK</td>
<td>421v(20)</td>
</tr>
<tr>
<td>0004</td>
<td>02012116-A18</td>
<td>HEDZG1</td>
<td>Head Accl Z</td>
<td>Up</td>
<td>812.69841</td>
<td>g</td>
<td>9/24/2002</td>
<td>OK</td>
<td>421v(20)</td>
</tr>
<tr>
<td>0005</td>
<td>IF-205-180-FX</td>
<td>NEKXG1</td>
<td>Neck Force X</td>
<td>Hl</td>
<td>13361.552</td>
<td>N</td>
<td>3/18/2002</td>
<td>OK</td>
<td>421v(20)</td>
</tr>
<tr>
<td>0006</td>
<td>IF-205-180-FY</td>
<td>NEKVY1</td>
<td>Neck Force Y</td>
<td>Hl</td>
<td>13375.155</td>
<td>N</td>
<td>3/18/2002</td>
<td>OK</td>
<td>421v(20)</td>
</tr>
<tr>
<td>0007</td>
<td>IF-205-180-FZ</td>
<td>NEKZP1</td>
<td>Neck Force Z</td>
<td>Hl</td>
<td>20035.115</td>
<td>N</td>
<td>3/18/2002</td>
<td>OK</td>
<td>421v(20)</td>
</tr>
<tr>
<td>0008</td>
<td>IF-205-180-MX</td>
<td>NEKXFI</td>
<td>Neck Moment X</td>
<td>Rs Hr</td>
<td>424.97280</td>
<td>N-mm</td>
<td>3/18/2002</td>
<td>OK</td>
<td>421v(20)</td>
</tr>
<tr>
<td>0009</td>
<td>IF-205-180-MY</td>
<td>NEKYM1</td>
<td>Neck Moment Y</td>
<td>Chin</td>
<td>425.08793</td>
<td>N-mm</td>
<td>3/18/2002</td>
<td>OK</td>
<td>421v(20)</td>
</tr>
<tr>
<td>0010</td>
<td>IF-205-180-MZ</td>
<td>NEKZM1</td>
<td>Neck Moment Z</td>
<td>Chin</td>
<td>425.91822</td>
<td>N-mm</td>
<td>3/18/2002</td>
<td>OK</td>
<td>421v(20)</td>
</tr>
<tr>
<td>0011</td>
<td>B02A25-N03</td>
<td>CSTXG1</td>
<td>Chest Accl X</td>
<td>Pwd</td>
<td>401.20946</td>
<td>g</td>
<td>8/5/2002</td>
<td>OK</td>
<td>421v(20)</td>
</tr>
<tr>
<td>0012</td>
<td>02A18-N12</td>
<td>CSTYG1</td>
<td>Chest Accl Y</td>
<td>Lf</td>
<td>402.78171</td>
<td>g</td>
<td>8/5/2002</td>
<td>OK</td>
<td>421v(20)</td>
</tr>
<tr>
<td>0013</td>
<td>B02A25-N10</td>
<td>CSTZG1</td>
<td>Chest Accl Z</td>
<td>Lf</td>
<td>400.45363</td>
<td>g</td>
<td>8/5/2002</td>
<td>OK</td>
<td>421v(20)</td>
</tr>
<tr>
<td>0014</td>
<td>14CB1-2897-135</td>
<td>CSTD1</td>
<td>Chest Deflection X</td>
<td>Smm</td>
<td>119.78779</td>
<td>mm</td>
<td>3/23/2002</td>
<td>OK</td>
<td>421v(20)</td>
</tr>
<tr>
<td>0015</td>
<td>2430-739</td>
<td>LFMZF1</td>
<td>Leg Femur Force Z S37</td>
<td>Knee</td>
<td>20607.520</td>
<td>N</td>
<td>3/18/2002</td>
<td>OK</td>
<td>241v(20)</td>
</tr>
<tr>
<td>0016</td>
<td>2430-760</td>
<td>LMZM1</td>
<td>Right Femur Force Z VRTC 4</td>
<td>Knee</td>
<td>20036.559</td>
<td>N</td>
<td>3/18/2002</td>
<td>OK</td>
<td>241v(20)</td>
</tr>
<tr>
<td>0017</td>
<td>P17837</td>
<td>HEDXG2</td>
<td>Head Accl X</td>
<td>Rs</td>
<td>804.08323</td>
<td>g</td>
<td>11/6/2002</td>
<td>OK</td>
<td>426v</td>
</tr>
<tr>
<td>0018</td>
<td>P17559</td>
<td>HEDYG2</td>
<td>Head Accl Y</td>
<td>Lf</td>
<td>806.90075</td>
<td>g</td>
<td>11/6/2002</td>
<td>OK</td>
<td>426v</td>
</tr>
<tr>
<td>0019</td>
<td>P15836</td>
<td>HDZG2</td>
<td>Head Accl Z</td>
<td>Up</td>
<td>791.05123</td>
<td>g</td>
<td>11/6/2002</td>
<td>OK</td>
<td>426v</td>
</tr>
<tr>
<td>0023</td>
<td>IF-205-287-MX</td>
<td>NEKXMF2</td>
<td>Neck Moment X</td>
<td>Rs Hr</td>
<td>425.62324</td>
<td>N-mm</td>
<td>11/6/2002</td>
<td>OK</td>
<td>426v</td>
</tr>
<tr>
<td>0026</td>
<td>P16194</td>
<td>CSXG2</td>
<td>Chest Accl X</td>
<td>Fwd</td>
<td>400.37378</td>
<td>g</td>
<td>11/6/2002</td>
<td>OK</td>
<td>426v</td>
</tr>
<tr>
<td>0027</td>
<td>P16517</td>
<td>CSTYG2</td>
<td>Chest Accl Y</td>
<td>Lf</td>
<td>399.70234</td>
<td>g</td>
<td>11/6/2002</td>
<td>OK</td>
<td>426v</td>
</tr>
<tr>
<td>0028</td>
<td>P16428</td>
<td>CSTZG2</td>
<td>Chest Accl Z</td>
<td>Lf</td>
<td>399.75346</td>
<td>g</td>
<td>11/6/2002</td>
<td>OK</td>
<td>426v</td>
</tr>
<tr>
<td>0029</td>
<td>14CB1-2897-139</td>
<td>CSTD1</td>
<td>Chest Deflection X</td>
<td>Smm</td>
<td>118.92614</td>
<td>mm</td>
<td>11/6/2002</td>
<td>OK</td>
<td>426v</td>
</tr>
<tr>
<td>0030</td>
<td>2121-0257</td>
<td>LFMZF2</td>
<td>Leg Femur Force Z #2</td>
<td>Knee</td>
<td>20029.759</td>
<td>N</td>
<td>11/6/2002</td>
<td>OK</td>
<td>426v</td>
</tr>
<tr>
<td>Time</td>
<td>Channel</td>
<td>Description</td>
<td>Code</td>
<td>Lift Position</td>
<td>Date</td>
<td>Status</td>
<td>Code</td>
<td>Phone</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>------------------------------</td>
<td>------</td>
<td>---------------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>0031</td>
<td>2121-02558</td>
<td>Right Front Door Zone 12</td>
<td>RPMZP2</td>
<td>Kase</td>
<td>1/16/2002</td>
<td>OK</td>
<td>426v</td>
<td>Denton</td>
<td></td>
</tr>
<tr>
<td>0032</td>
<td>J31779</td>
<td>LEFT REAR SEAT</td>
<td>LSXXG</td>
<td>LWD 977.13655</td>
<td>10/28/2002</td>
<td>OK</td>
<td>-1</td>
<td>Endevco</td>
<td>7264-200017</td>
</tr>
<tr>
<td>-------</td>
<td>----------</td>
<td>----------</td>
<td>-------------</td>
<td>------</td>
<td>-----------</td>
<td>-----------</td>
<td>-------</td>
<td>------</td>
<td>-----------</td>
</tr>
<tr>
<td>0001</td>
<td>A8511</td>
<td>LSXYG</td>
<td>LEFT REAR SHAT</td>
<td>RT</td>
<td>1091.2515</td>
<td>+</td>
<td>6/19/2002</td>
<td>OK</td>
<td>-1</td>
</tr>
<tr>
<td>0003</td>
<td>J10451</td>
<td>ESXYG</td>
<td>RIGHT REAR SHAT</td>
<td>RT</td>
<td>1025.0045</td>
<td>=</td>
<td>11/5/2002</td>
<td>OK</td>
<td>-1</td>
</tr>
<tr>
<td>0004</td>
<td>J36226</td>
<td>TENXG</td>
<td>TOP OF ENGINE X-AXIS</td>
<td>FWD</td>
<td>1500.5551</td>
<td>=</td>
<td>9/10/2002</td>
<td>OK</td>
<td>-1</td>
</tr>
<tr>
<td>0005</td>
<td>ACCM9</td>
<td>BENXG</td>
<td>BOTTOM OF ENGINE X-AXIS</td>
<td>FWD</td>
<td>1498.1273</td>
<td>=</td>
<td>5/23/2002</td>
<td>OK</td>
<td>-1</td>
</tr>
<tr>
<td>0006</td>
<td>J11642</td>
<td>RFCXG</td>
<td>RIGHT FRONT BRAKE</td>
<td>FWD</td>
<td>1075.0645</td>
<td>=</td>
<td>11/5/2002</td>
<td>OK</td>
<td>-1</td>
</tr>
<tr>
<td>0007</td>
<td>J33791</td>
<td>LFPCXG</td>
<td>LEFT FRONT BRAKE</td>
<td>RR</td>
<td>1013.7607</td>
<td>=</td>
<td>10/31/2002</td>
<td>OK</td>
<td>-1</td>
</tr>
<tr>
<td>0008</td>
<td>J44082</td>
<td>DPCXG</td>
<td>INSTRUMENT PANEL TOP</td>
<td>RR</td>
<td>1000.1562</td>
<td>=</td>
<td>10/30/2002</td>
<td>OK</td>
<td>-1</td>
</tr>
<tr>
<td>0009</td>
<td>A1598</td>
<td>HDKZG</td>
<td>REAR DECK Z-AXIS</td>
<td>UP</td>
<td>994.36783</td>
<td>=</td>
<td>11/5/2002</td>
<td>OK</td>
<td>-1</td>
</tr>
</tbody>
</table>
### Shunt Measurement after Test

<p>| Name of | Name of | Channel | Shunt 1 | | | Shunt 2 (-) | | | Shunt 3 (+) {K3600 only!} | | | Shunt 4 (-) {K3600 only!} | |
|---------|---------|---------|---------|---|---|---------|---|---|---------|---|---|---------|---|---|
| DAUA    | 0210216-A13 | 0002 | 3.000 | 3.167 | Yes | | | | | | | | |
| DAUA    | 0210216-A18 | 0004 | 3.000 | 3.165 | Yes | | | | | | | | |
| DAUA    | IF-205-180-FX | 0005 | 3.700 | 3.714 | No | | | | | | | | |
| DAUA    | IF-205-180-FY | 0006 | 3.700 | 3.710 | No | | | | | | | | |
| DAUA    | IF-205-180-PZ | 0007 | 3.700 | 3.679 | No | | | | | | | | |
| DAUA    | IF-205-180-M | 0008 | 3.700 | 3.721 | No | | | | | | | | |
| DAUA    | 02A25-A03 | 0011 | 3.000 | 3.161 | Yes | | | | | | | | |
| DAUA    | 02A18-N12 | 0012 | 3.000 | 3.164 | Yes | | | | | | | | |
| DAUA    | 02A25-N10 | 0013 | 3.000 | 3.168 | Yes | | | | | | | | |
| DAUA    | 14CB1-287-1 355 | 0014 | 5.000 | 3.365 | Yes | | | | | | | | |
| DAUA    | 2430-739 | 0015 | 3.700 | 3.735 | No | | | | | | | | |
| DAUA    | 2430-760 | 0016 | 3.700 | 3.719 | No | | | | | | | | |
| DAUA    | P17837 | 0017 | 3.000 | 3.147 | Yes | | | | | | | | |
| DAUA    | P17559 | 0018 | 3.000 | 3.166 | Yes | | | | | | | | |
| DAUA    | P15856 | 0019 | 3.000 | 3.145 | Yes | | | | | | | | |
| DAUA    | IF-205-287-FX | 0020 | 2.700 | 2.707 | No | | | | | | | | |
| DAUA    | IF-205-287-FY | 0021 | 3.700 | 3.719 | No | | | | | | | | |
| DAUA    | IF-205-287-PZ | 0022 | 3.700 | 3.675 | No | | | | | | | | |
| DAUA    | IF-205-287-M | 0023 | 3.700 | 3.712 | No | | | | | | | | |
| DAUA    | IF-205-287-M X | 0024 | 3.700 | 3.716 | No | | | | | | | | |
| DAUA    | IF-205-287-M Y | 0025 | 3.700 | 3.718 | No | | | | | | | | |</p>
<table>
<thead>
<tr>
<th>Name of</th>
<th>Name of</th>
<th>Channel</th>
<th>Shunt 1</th>
<th>Shunt 2 (-)</th>
<th>Shunt 3 (-) [%3600 only?</th>
<th>Shunt 4 (-) [%3600 only?</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAUA</td>
<td>112-2015-287-M</td>
<td>0025</td>
<td>3.700</td>
<td>3.662</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>P16194</td>
<td>0026</td>
<td>3.000</td>
<td>3.154</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>P16517</td>
<td>0027</td>
<td>3.000</td>
<td>3.142</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>P16128</td>
<td>0028</td>
<td>3.000</td>
<td>3.145</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>14CB1-2827-1 392</td>
<td>0029</td>
<td>5.000</td>
<td>3.173</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>2201-0257</td>
<td>0030</td>
<td>3.700</td>
<td>3.683</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>2121-0258</td>
<td>0031</td>
<td>3.700</td>
<td>3.695</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>DAUB</td>
<td>P11779</td>
<td>0032</td>
<td>3.000</td>
<td>3.078</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUB</td>
<td>A85J1</td>
<td>0034</td>
<td>3.000</td>
<td>2.782</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUB</td>
<td>115067</td>
<td>0035</td>
<td>3.000</td>
<td>2.702</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUB</td>
<td>JA9454</td>
<td>0036</td>
<td>3.000</td>
<td>2.688</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUB</td>
<td>JA6226</td>
<td>0037</td>
<td>3.000</td>
<td>2.313</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUB</td>
<td>ACCCM9</td>
<td>0038</td>
<td>3.000</td>
<td>2.410</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUB</td>
<td>JA1642</td>
<td>0039</td>
<td>3.000</td>
<td>2.607</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUB</td>
<td>JA5701</td>
<td>0040</td>
<td>3.000</td>
<td>2.750</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUB</td>
<td>JA1082</td>
<td>0041</td>
<td>3.000</td>
<td>2.869</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUB</td>
<td>JA598</td>
<td>0042</td>
<td>3.000</td>
<td>2.826</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAU</td>
<td>Sensor</td>
<td>Channel</td>
<td>Shunt 1 (0)</td>
<td>Shunt 2 (0)</td>
<td>Shunt 3 (+) [K3600 only!</td>
<td>Shunt 4 (-) [K3600 only!]</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
<td>---------</td>
<td>-------------</td>
<td>-------------</td>
<td>---------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Voltage /</td>
<td>Voltage /</td>
<td>Voltage /</td>
<td>Voltage /</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Shunt</td>
<td>Shunt</td>
<td>Shunt</td>
<td>Shunt</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Value /</td>
<td>Value /</td>
<td>Value /</td>
<td>Value /</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Out Range</td>
<td>Out Range</td>
<td>Out Range</td>
<td>Out Range</td>
</tr>
<tr>
<td>DAUA</td>
<td>EVENT</td>
<td>0001</td>
<td>3.000</td>
<td>3.169</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>0202116-A13</td>
<td>0002</td>
<td>3.000</td>
<td>3.167</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>0202116-A08</td>
<td>0003</td>
<td>3.000</td>
<td>3.171</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>IF-205-180-FX</td>
<td>0004</td>
<td>3.700</td>
<td>3.714</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>IF-205-180-FY</td>
<td>0005</td>
<td>3.700</td>
<td>3.711</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>IF-205-180-FZ</td>
<td>0006</td>
<td>3.700</td>
<td>3.679</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>IF-205-180-M</td>
<td>0007</td>
<td>3.700</td>
<td>3.721</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>IF-205-180-M</td>
<td>0008</td>
<td>3.700</td>
<td>3.710</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>IF-205-180-M</td>
<td>0009</td>
<td>3.700</td>
<td>3.660</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>IF-205-180-M</td>
<td>0010</td>
<td>3.700</td>
<td>3.162</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>MEA23-N03</td>
<td>0011</td>
<td>3.000</td>
<td>3.163</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>02A18-N12</td>
<td>0012</td>
<td>3.000</td>
<td>3.166</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>P02A13-N10</td>
<td>0013</td>
<td>3.000</td>
<td>3.339</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>4X151-2897-1</td>
<td>0014</td>
<td>3.000</td>
<td>3.735</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>2430-739</td>
<td>0015</td>
<td>3.700</td>
<td>3.719</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>2430-760</td>
<td>0016</td>
<td>3.700</td>
<td>3.148</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>P1783</td>
<td>0017</td>
<td>3.000</td>
<td>3.165</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>P17559</td>
<td>0018</td>
<td>3.000</td>
<td>3.145</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>P15856</td>
<td>0019</td>
<td>3.700</td>
<td>3.706</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>IF-205-287-FX</td>
<td>0020</td>
<td>3.700</td>
<td>3.719</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>IF-205-287-FY</td>
<td>0021</td>
<td>3.700</td>
<td>3.674</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>IF-205-287-FZ</td>
<td>0022</td>
<td>3.700</td>
<td>3.712</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>IF-205-287-M</td>
<td>0023</td>
<td>3.700</td>
<td>3.716</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>IF-205-287-M</td>
<td>0024</td>
<td>3.700</td>
<td>3.716</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>DATE</td>
<td>Sensor</td>
<td>Channel</td>
<td>Shunt 1 (+)</td>
<td>Shunt 2 (-)</td>
<td>Shunt 3 (+) [K3600 only!]</td>
<td>Shunt 4 (-) [K3600 only!]</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
<td>---------</td>
<td>-------------</td>
<td>-------------</td>
<td>---------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Reference Voltage</td>
<td>Shunt Value</td>
<td>Out Range</td>
<td>Reference Voltage</td>
</tr>
<tr>
<td>DAUA</td>
<td>IF-205-287-Z</td>
<td>0025</td>
<td>3.700</td>
<td>3.662</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>PI6194</td>
<td>0026</td>
<td>3.000</td>
<td>3.156</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>PI6517</td>
<td>0027</td>
<td>3.000</td>
<td>3.143</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>PI6428</td>
<td>0028</td>
<td>3.000</td>
<td>3.146</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>14CB1-2897-1</td>
<td>0029</td>
<td>5.000</td>
<td>3.168</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>2121-0257</td>
<td>0030</td>
<td>3.700</td>
<td>3.683</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>DAUA</td>
<td>2121-0258</td>
<td>0031</td>
<td>3.700</td>
<td>3.695</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>DAUB</td>
<td>J31779</td>
<td>0032</td>
<td>3.000</td>
<td>3.084</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUB</td>
<td>A85JJ</td>
<td>0001</td>
<td>3.000</td>
<td>2.787</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUB</td>
<td>J13067</td>
<td>0002</td>
<td>3.000</td>
<td>2.703</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUB</td>
<td>J10454</td>
<td>0003</td>
<td>3.000</td>
<td>2.690</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUB</td>
<td>J36226</td>
<td>0004</td>
<td>3.000</td>
<td>3.320</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUB</td>
<td>ACCM9</td>
<td>0005</td>
<td>3.000</td>
<td>2.414</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUB</td>
<td>J11642</td>
<td>0006</td>
<td>3.000</td>
<td>2.817</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUB</td>
<td>J35701</td>
<td>0007</td>
<td>3.000</td>
<td>2.754</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUB</td>
<td>J41042</td>
<td>0008</td>
<td>3.000</td>
<td>2.874</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DAUB</td>
<td>AJ598</td>
<td>0009</td>
<td>3.000</td>
<td>2.841</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>