REPORT NUMBER: 208-MGA-2004-011

VEHICLE SAFETY COMPLIANCE TESTING
FOR
FMVSS 208, OCCUPANT CRASH PROTECTION
FMVSS 212, WINDSHIELD MOUNTING
FMVSS 219, WINDSHIELD INTRUSION (PARTIAL)
FMVSS 301, FUEL SYSTEM INTEGRITY

Volkswagen de Mexico S.A. de C.V.
2004 Volkswagen Beetle Passenger Car
NHTSA No.: C45802

PREPARED BY:
MGA RESEARCH CORPORATION
5000 WARREN ROAD
BURLINGTON, WI 53105

Test Dates: March 18 – August 20, 2004
Final Report Date: September 30, 2004

FINAL REPORT

PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
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Prepared _____________________________ Date: September 30, 2004
Jeff Lewandowski, Project Engineer

Reviewed by: _____________________________ Date: September 30, 2004
David Winkelbauer, Facility Director

FINAL REPORT ACCEPTED BY OVSC:

Accepted By: _____________________________

Acceptance Date: ___________________________
Abstract

Compliance tests were conducted on the subject 2004 Volkswagen Beetle Passenger Car in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP208-12 for the determination of FMVSS 208 compliance. Test failures identified were as follows:

TEST FAILURES: None

Key Words

Frontal Impact
40 kmph Vehicle Safety Compliance Testing
FMVSS 208, “Occupant Crash Protection”
FMVSS 212, “Windshield Mounting”
FMVSS 219, (partial), “Windshield Zone Intrusion”
FMVSS 301, “Fuel System Integrity”

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SECTION 1
PURPOSE OF COMPLIANCE TEST

The tests performed are part of a program conducted for the National Highway Traffic Safety Administration (NHTSA) by MGA Research Corporation (MGA) under Contract No. DTNH22-03-D-11002. The purpose of this test was to determine whether the subject vehicle, a 2004 Volkswagen Beetle Passenger Car, NHTSA No. C45802, meets certain performance requirements of FMVSS 208, "Occupant Crash Protection"; FMVSS 212, "Windshield Mounting"; FMVSS 219, "Windshield Zone Intrusion"; and FMVSS 301, "Fuel System Integrity". The compliance test was conducted in accordance with OVSC Laboratory Test Procedure No. TP208-12 dated January 14, 2003.
The following checked items indicate the tests that were performed:

1. Rear outboard seating position seat belts (S4.1.1.2(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 (S7.4.4)
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 R)
12. Suppression tests with newborn infant (Part 572, Subpart K)
13. Suppression tests with 3-year-old dummy (Part 572, Subpart P)
14. Suppression tests with 6-year-old dummy (Part 572, Subpart N)
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 R)
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 N)
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 kmph) (S5.1.1.(a))
     - Unbelted 50th male dummy driver and passenger (0 to 48 kmph) (S5.1.2(a)(1))
     - Unbelted 50th male dummy driver and passenger (32 to 40 kmph) (S5.1.2(a) (1) or S5.1.2(b))
   - Frontal 0°
     - Belted 50th male dummy driver (0 to 48 kmph) (S5.1.1.(b)(1) or S5.1.1(a))
     - Belted 50th male dummy passenger (0 to 48 kmph) (S5.1.1.(b)(1) or S5.1.1(a))
     - Belted 5th female dummy driver (0 to 48 kmph) (S16.1(a))
     - Belted 5th female dummy passenger (0 to 48 kmph) (S16.1(a))
     - Belted 50th male dummy driver and passenger (0 to 56 kmph) (S5.1.1.(b)(2))
     - Unbelted 50th male dummy driver and passenger (0 to 48 kmph) (S5.1.2(a) (1))
     - Unbelted 50th male dummy driver (32 to 40 kmph) (S5.1.2.(a)(2) or S5.1.2(b))
<table>
<thead>
<tr>
<th>Test Description</th>
<th>Status</th>
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<tr>
<td>Unbelted 50(^{th}) male dummy passenger (32 to 40 kmph)</td>
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</tr>
<tr>
<td>(S5.1.2.(a)(2) or S5.1.2(b))</td>
<td></td>
</tr>
<tr>
<td>Unbelted 5(^{th}) female dummy driver (32 to 40 kmph) (S16.1(b))</td>
<td>X</td>
</tr>
<tr>
<td>Unbelted 5(^{th}) female dummy passenger (32 to 40 kmph) (S16.1(b))</td>
<td>X</td>
</tr>
<tr>
<td>40% Offset 0° Belted 5(^{th}) male dummy driver and passenger (0 to 40 kmph)</td>
<td></td>
</tr>
<tr>
<td>(S18.1)</td>
<td></td>
</tr>
</tbody>
</table>

21. Sled Test: unbelted 50\(^{th}\) male dummy driver and passenger (S13)       |        |
22. FMVSS 204 Indicant Test                                                     |        |
23. FMVSS 212 Indicant Test                                                     | X      |
24. FMVSS 219 Indicant Test                                                     | X      |
25. FMVSS 301 Indicant Frontal Test                                             | X      |

For the crash tests, the vehicle was instrumented with 8 accelerometers. The accelerometer data from the vehicle and dummies were sampled at 10,000 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 high-speed digital video.

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

### INJURY RESULT SUMMARY FOR FMVSS 208 TESTS

Test Vehicle: 2004 Volkswagen Beetle  
NHTSA No.: C45802  
Test Program: FMVSS 208 Compliance  
Test Dates: 5/28 & 6/18/04

### 5th Percentile Female Low Risk Deployments

#### 5th Percentile Female SN 506 Position 1 (Chin On Module) 5-28-04

<table>
<thead>
<tr>
<th>Injury Criteria</th>
<th>Max. Allowable Injury Assessment Values</th>
<th>Measured Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIC15</td>
<td>700</td>
<td>32</td>
</tr>
<tr>
<td>Peak Nij (Nte)</td>
<td>1.0</td>
<td>0.5</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>43.3</td>
</tr>
<tr>
<td>Peak Nij (Ntf)</td>
<td>1.0</td>
<td>0.4</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>21.2</td>
</tr>
<tr>
<td>Peak Nij (Nce)</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>1.2</td>
</tr>
<tr>
<td>Peak Nij (Ncf)</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>1.9</td>
</tr>
<tr>
<td>Neck Tension</td>
<td>2070 N</td>
<td>768</td>
</tr>
<tr>
<td>Neck Compression</td>
<td>2520 N</td>
<td>6</td>
</tr>
<tr>
<td>Chest g</td>
<td>60 g</td>
<td>12</td>
</tr>
<tr>
<td>Chest Displacement</td>
<td>52 mm</td>
<td>11</td>
</tr>
<tr>
<td>Left Femur</td>
<td>6805 N</td>
<td>50</td>
</tr>
<tr>
<td>Right Femur</td>
<td>6805 N</td>
<td>58</td>
</tr>
</tbody>
</table>

Second stage fire time of 50 ms; Injuries calculated on 0 ms to 175 ms

#### 5th Percentile Female SN 511 Position 2 (Chin On Rim) 6-18-04

<table>
<thead>
<tr>
<th>Injury Criteria</th>
<th>Max. Allowable Injury Assessment Values</th>
<th>Measured Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIC15</td>
<td>700</td>
<td>15</td>
</tr>
<tr>
<td>Peak Nij (Nte)</td>
<td>1.0</td>
<td>0.5</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>14.4</td>
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<tr>
<td>Peak Nij (Ntf)</td>
<td>1.0</td>
<td>0.2</td>
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<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>51.1</td>
</tr>
<tr>
<td>Peak Nij (Nce)</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>4.6</td>
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<tr>
<td>Peak Nij (Ncf)</td>
<td>1.0</td>
<td>0.0</td>
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<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>5.5</td>
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<tr>
<td>Neck Tension</td>
<td>2070 N</td>
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<td>Neck Compression</td>
<td>2520 N</td>
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<tr>
<td>Chest g</td>
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<tr>
<td>Chest Displacement</td>
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<td>26</td>
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<tr>
<td>Left Femur</td>
<td>6805 N</td>
<td>60</td>
</tr>
<tr>
<td>Right Femur</td>
<td>6805 N</td>
<td>31</td>
</tr>
</tbody>
</table>

Second stage fire time of 50 ms; Injuries calculated on 0 ms to 175 ms
### Section 3...(continued)

**INJURY RESULT SUMMARY FOR FMVSS 208 TESTS**

**Test Vehicle:** 2004 Volkswagen Beetle  
**Test Program:** FMVSS 208 Compliance  
**NHTSA No.:** C45802  
**Test Date:** 5/28 & 6/18/04

#### 3 Year Old Low Risk Deployments

**3 Year Old SN 031 Position 1 (Chin On Instrument Panel) 5-28-04**

<table>
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<tr>
<th>Injury Criteria</th>
<th>Max. Allowable Injury Assessment Values</th>
<th>Measured Value</th>
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<tbody>
<tr>
<td>HIC15</td>
<td>700</td>
<td>0.1</td>
</tr>
<tr>
<td>Peak Nij (Nte)</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>25.2</td>
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<tr>
<td>Peak Nij (Ntf)</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>32.4</td>
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<tr>
<td>Peak Nij (Nce)</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>94.7</td>
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<tr>
<td>Peak Nij (Ncf)</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>37.1</td>
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<td>Neck Tension</td>
<td>1490 N</td>
<td>64</td>
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<tr>
<td>Neck Compression</td>
<td>1820 N</td>
<td>6</td>
</tr>
<tr>
<td>Chest g</td>
<td>60 g</td>
<td>2</td>
</tr>
<tr>
<td>Chest Displacement</td>
<td>40 mm</td>
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Second stage was not fired; Injuries calculated on 0 ms to 100 ms

**3 Year Old SN 032 Position 2 (Head On Instrument Panel) 6-18-04**

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<th>Injury Criteria</th>
<th>Max. Allowable Injury Assessment Values</th>
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<td>173</td>
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<td>Peak Nij (Nte)</td>
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<td>Time (ms)</td>
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<td>NA</td>
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<tr>
<td>Peak Nij (Ncf)</td>
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<tr>
<td>Time (ms)</td>
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<tr>
<td>Neck Tension</td>
<td>1490 N</td>
<td>959</td>
</tr>
<tr>
<td>Neck Compression</td>
<td>1820 N</td>
<td>7</td>
</tr>
<tr>
<td>Chest g</td>
<td>60 g</td>
<td>4</td>
</tr>
<tr>
<td>Chest Displacement</td>
<td>40 mm</td>
<td>1</td>
</tr>
</tbody>
</table>

Second stage was not fired; Injuries calculated on 0 ms to 100 ms
### 6 Year Old Low Risk Deployments

#### 6 Year Old SN 153 Position 1 (Chest On Instrument Panel) 7-09-04

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<th>Measured Value</th>
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<td>HIC15</td>
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<td>0.4</td>
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<tr>
<td>Peak Nij (Nte)</td>
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<td>0.2</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>20.2</td>
</tr>
<tr>
<td>Peak Nij (Ntf)</td>
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<td>0.0</td>
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<td>Time (ms)</td>
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<td>35.3</td>
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<td>Peak Nij (Nce)</td>
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<td>0.1</td>
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<tr>
<td>Time (ms)</td>
<td>NA</td>
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<tr>
<td>Peak Nij (Ncf)</td>
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<td>Time (ms)</td>
<td>NA</td>
<td>66.6</td>
</tr>
<tr>
<td>Neck Tension</td>
<td>1490 N</td>
<td>253</td>
</tr>
<tr>
<td>Neck Compression</td>
<td>1820 N</td>
<td>169</td>
</tr>
<tr>
<td>Chest g</td>
<td>60 g</td>
<td>8</td>
</tr>
<tr>
<td>Chest Displacement</td>
<td>40 mm</td>
<td>11</td>
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</table>

Second stage was not fired; Injuries calculated on 0 ms to 100 ms

#### 6 Year Old SN 153 Position 2 (Head On Instrument Panel) 7-09-04

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<th>Max. Allowable Injury Assessment Values</th>
<th>Measured Value</th>
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</thead>
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<td>Peak Nij (Nte)</td>
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<td>0.8</td>
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<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>23.3</td>
</tr>
<tr>
<td>Peak Nij (Ntf)</td>
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<td>0.2</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>16.6</td>
</tr>
<tr>
<td>Peak Nij (Nce)</td>
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<td>0.0</td>
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<td>Time (ms)</td>
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<td>10.5</td>
</tr>
<tr>
<td>Peak Nij (Ncf)</td>
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<td>0.1</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>14.3</td>
</tr>
<tr>
<td>Neck Tension</td>
<td>1490 N</td>
<td>1100</td>
</tr>
<tr>
<td>Neck Compression</td>
<td>1820 N</td>
<td>39</td>
</tr>
<tr>
<td>Chest g</td>
<td>60 g</td>
<td>8</td>
</tr>
<tr>
<td>Chest Displacement</td>
<td>40 mm</td>
<td>1</td>
</tr>
</tbody>
</table>

Second stage was not fired; Injuries calculated on 0 ms to 100 ms
SECTION 3...(continued)

INJURY RESULT SUMMARY FOR FMVSS 208 TESTS

Test Vehicle: 2004 Volkswagen Beetle  
NHTSA No.: C45802  
Test Program: FMVSS 208 Compliance  
Test Date: 7/23/04

40 kmph Frontal Crash

Impact Angle: Zero degrees

Belted Dummies: Yes X No (Driver and Front Passenger)

Speed Range: __ 0 to 40 kmph  
___ 0 to 48 kmph  
___ 0 to 56 kmph

Test Speed: 39.8 kmph  
Test Weight: 1443.4 kg

Driver Dummy: X 5th female  
___ 50th male

Passenger Dummy: X 5th female  
___ 50th male

Right Rear Passenger Dummy: ___ 5th female  
___ 50th male

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

<table>
<thead>
<tr>
<th>Injury Criteria</th>
<th>Max. Allowable Injury Assessment Values</th>
<th>Driver</th>
<th>Passenger</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIC15</td>
<td>700</td>
<td>157</td>
<td>158</td>
</tr>
<tr>
<td>N_{lb}</td>
<td>1.0</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>N_{lf}</td>
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<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>N_{ce}</td>
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<td>0.2</td>
<td>0.3</td>
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<td>N_{cf}</td>
<td>1.0</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Neck Tension</td>
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<td>1527</td>
<td>506</td>
</tr>
<tr>
<td>Neck Compression</td>
<td>2520 N</td>
<td>159</td>
<td>224</td>
</tr>
<tr>
<td>Chest g</td>
<td>60 g</td>
<td>48</td>
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</tr>
<tr>
<td>Chest Displacement</td>
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<td>23</td>
<td>7</td>
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<tr>
<td>Left Femur</td>
<td>6805 N</td>
<td>4054</td>
<td>5341</td>
</tr>
<tr>
<td>Right Femur</td>
<td>6805 N</td>
<td>4216</td>
<td>4739</td>
</tr>
</tbody>
</table>
SECTION 4
DISCUSSION OF TESTS

Test Vehicle: 2004 Volkswagen Beetle  NHTSA No.: C45802
Test Program: FMVSS 208 Compliance  Test Date: 3/18 - 8/20/04

The label on the dash or steering wheel hub was not present at the time of the belt and label
evaluation, but it may have been misplaced after receiving the vehicle at the test facility.
Therefore FMVSS 208 S4.5.1(e)(2) is neither a pass nor fail.

The Tire Placard label is the subject of NHTSA recall number 03V508000. The Tire Placard
label incorrectly identifies the vehicle as a five passenger vehicle instead of a four passenger
vehicle. The information recorded below is as it appeared on the vehicle tire placard.

Designated Seating Capacity Front: 2
Designated Seating Capacity Rear: 3
Total Designated Seating Capacity: 5

The information recorded below is as it should appear on the vehicle tire placard. The test was
performed using this data.

Designated Seating Capacity Front: 2
Designated Seating Capacity Rear: 2
Total Designated Seating Capacity: 4

A blanket and visor were not used in the suppression testing because they did not affect the
weight sensing system used on the vehicle.

The Cosco Dream Ride Car Bed was tested for suppression in the Forward, Middle, and
Rearward Seat Slide positions. Its orientation was lateral with the Newborn dummy’s head
placed to the left hand side of the vehicle

The passenger air bag for the 6-year-old Position 2 Low Risk Deployment on 7-9-04 was
replaced on site by Volkswagen personnel under the direction of a NHTSA representative.

Due to 6-year-old dummy availability SN 153 was used for Position 1 and Position 2 Low Risk
Deployments on 7-9-04. Only one pretest and one posttest dummy calibration was performed.
<table>
<thead>
<tr>
<th>Test Vehicle:</th>
<th>2004 Volkswagen Beetle</th>
<th>NHTSA No.:</th>
<th>C45802</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Program:</td>
<td>FMVSS 208 Compliance</td>
<td>Test Dates:</td>
<td>3/18 - 8/20/04</td>
</tr>
</tbody>
</table>
DATA SHEET 1
COTR VEHICLE WORK ORDER

Test Vehicle: 2004 Volkswagen Beetle  
Test Program: FMVSS 208 Compliance
NHTSA No.: C45802  
Test Dates: 3/18 - 8/20/04

COTR Signature: Charles R. Case

Test to be performed for this vehicle are checked below:

X 1. Rear Outboard Seating Position Seat Belts (S4.1.2(b)) & (S4.2.4)
X 2. Air Bag Labels (S4.5.1)
X 3. Readiness Indicator (S4.5.2)
X 4. Passenger Air Bag Manual Cut-off Device (S4.5.4)
X 5. Lap Belt Lockability (S7.1.1.5)
X 6. Seat Belt Warning System (S7.3)
X 7. Seat Belt Contact Force (S7.4.4)
X 8. Seat Belt Latch Plate Access (S7.4.5)
X 9. Seat Belt Retraction (S7.4.5)
X 10. Seat Belt Guides and Hardware (S7.4.6)
X 11. Suppression tests with 12-month-old CRABI dummy (Part 572, Subpart R) using the following indicated child restraints.

Section B

X Britax Handle with Care 191  
    Full Rearward  X Mid Position  X Full Forward
    Century Assura 4553  
    Full Rearward  Mid Position  Full Forward
    Century Avanta SE 41530  
    Full Rearward  Mid Position  Full Forward
    Century Smart Fit 4543  
    Full Rearward  Mid Position  Full Forward
    Cosco Arriva 02727  
    Full Rearward  Mid Position  Full Forward
    Cosco Opus 35 02603  
    Full Rearward  Mid Position  Full Forward
    Evenflo Discovery Adjust Right 212  
    Full Rearward  Mid Position  Full Forward
    Evenflo First Choice 204  
    Full Rearward  X Mid Position  X Full Forward
    Evenflo On My Way Position Right V 282  
    Full Rearward  Mid Position  Full Forward
    Graco Infant 8457  
    Full Rearward  X Mid Position  X Full Forward

Section C

X Britax Roundabout 161  
    Full Rearward  X Mid Position  X Full Forward
    Century Encore 4612  
    Full Rearward  X Mid Position  X Full Forward
    Century STE 1000 4416  
    Full Rearward  X Mid Position  X Full Forward
    Cosco Olympian 02803  
    Full Rearward  X Mid Position  X Full Forward
    Cosco Touriva 02519  
    Full Rearward  X Mid Position  X Full Forward
    Evenflo Horizon V 425  
    Full Rearward  X Mid Position  X Full Forward
    Evenflo Medallion 254  
    Full Rearward  X Mid Position  X Full Forward

X 12. Suppression tests with newborn infant (Part 572, Subpart K) using the following indicated child restraints.

Section A

X Cosco Dream Ride 02-719  
    Full Rearward  X Mid Position  X Full Forward

X 13. Suppression tests with 3-year-old dummy (Part 572, Subpart P) using the following indicated child restraints where a child restraint is required.
### Section C

<table>
<thead>
<tr>
<th>Child Restraint</th>
<th>Full Rearward</th>
<th>Mid Position</th>
<th>Full Forward</th>
</tr>
</thead>
<tbody>
<tr>
<td>Britax Roundabout 161</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Century Encore 4612</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Century STE 1000 4416</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cosco Olympian 02803</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cosco Touriva 02519</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Evenflo Horizon V 425</td>
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<tr>
<td>Evenflo Medallion 254</td>
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### Section D

<table>
<thead>
<tr>
<th>Child Restraint</th>
<th>Full Rearward</th>
<th>Mid Position</th>
<th>Full Forward</th>
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<tbody>
<tr>
<td>Britax Roadster 9004</td>
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<td></td>
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</tr>
<tr>
<td>Century Next Step 4920</td>
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<tr>
<td>Cosco High Back Booster 02-442</td>
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<tr>
<td>Evenflo Right Fit 245</td>
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</table>

14. Suppression tests with representative 3-year-old child using the following indicated child restraints where a child restraint is required. (Appendix H, Data Sheet 16H and 17H)

### Section C

<table>
<thead>
<tr>
<th>Child Restraint</th>
<th>Full Rearward</th>
<th>Mid Position</th>
<th>Full Forward</th>
</tr>
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<tbody>
<tr>
<td>Britax Roundabout 161</td>
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<tr>
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<td>Century STE 1000 4416</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Cosco Olympian 02803</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cosco Touriva 02519</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evenflo Horizon V 425</td>
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<td></td>
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<tr>
<td>Evenflo Medallion 254</td>
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<td></td>
</tr>
</tbody>
</table>

### Section D

<table>
<thead>
<tr>
<th>Child Restraint</th>
<th>Full Rearward</th>
<th>Mid Position</th>
<th>Full Forward</th>
</tr>
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<tbody>
<tr>
<td>Britax Roadster 9004</td>
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</tr>
<tr>
<td>Century Next Step 4920</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Cosco High Back Booster 02-442</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evenflo Right Fit 245</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

15. Suppression tests with 3-year-old dummy (Part 572, Subpart P) in the following Forward, Middle, and Rearward seat track 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 representative 3-year-old child in the following positions

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

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

<table>
<thead>
<tr>
<th>Section D</th>
<th>Britax Roadster 9004</th>
<th>Full Rearward</th>
<th>Mid Position</th>
<th>Full Forward</th>
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<tbody>
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<td>Century Next Step 4920</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td></td>
<td>Cosco High Back Booster 02-442</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td></td>
<td>Evenflo Right Fit 245</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
</tbody>
</table>

19. Suppression tests with 6-year-old dummy (Part 572, Subpart N) in the following Forward, Middle, and Rearward seat track 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 child’s side (S22.2.2.4)
- Sitting back in the seat and leaning on the right front passenger door (S24.2.3)

20. Suppression tests with representative 6-year-old child in the following positions:

- Sitting on seat with back against seat back (S22.2.2.1)
- Sitting on seat with back against reclined seat back (S22.2.2.2)
- Sitting on seat edge, spine vertical, hands by the child’s side (S22.2.2.4)
- Sitting back in the seat and leaning on the right front passenger door (S24.2.3)

21. Test of Reactivation of the Passenger Air Bag System with an Unbelted 5th percentile female dummy (S20.3, 22.3, S24.3). Perform this test after the following suppression tests: After each restraint.

22. Test of Reactivation of the passenger air bag system with a representative 5th percentile female (S20.3, 22.3, S24.3). Perform this test after the following suppression tests:

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

<table>
<thead>
<tr>
<th>Section B</th>
<th>Britax Handle with Care 191</th>
<th>Full Rearward</th>
<th>Mid Position</th>
<th>Full Forward</th>
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<tr>
<td></td>
<td>Century Assura 4553</td>
<td>Full Rearward</td>
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<td>Full Forward</td>
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<td>Century Avanta SE 41530</td>
<td>Full Rearward</td>
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<td></td>
<td>Century Smart Fit 4543</td>
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<td></td>
<td>Cosco Arriva 02727</td>
<td>Full Rearward</td>
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<td>Cosco Opus 35 02603</td>
<td>Full Rearward</td>
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<td>Full Forward</td>
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<tr>
<td></td>
<td>Evenflo Discovery Adjust Right 212</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
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<td>Evenflo First Choice 204</td>
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<td>Evenflo On My Way Position Right V 282</td>
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<td>Graco Infant 8457</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
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<thead>
<tr>
<th>Section C</th>
<th>Britax Roundabout 161</th>
<th>Full Rearward</th>
<th>Mid Position</th>
<th>Full Forward</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Century Encore 4612</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td></td>
<td>Century STE 1000 4416</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td></td>
<td>Cosco Olympian 02803</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td></td>
<td>Cosco Touriva 02519</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
</tbody>
</table>
24. Low risk deployment test with 3-year-old dummy (Part 572, Subpart P) in the following positions
   - Position 1
   - Position 2

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

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

27. Impact Tests
   - Frontal Oblique – Test Speed:
     - Belted 50th male dummy driver and passenger (0 to 48 kmph) (S5.1.1(a))
     - Unbelted 50th male dummy driver and passenger (0 to 48 kmph) (S5.1.2(a)(1))
     - Unbelted 50th male dummy driver and passenger (32 to 40 kmph) (S5.1.2(a) (1) or S5.1.2(b))
   - Frontal 0° - Test Speed: 39.8 kmph
     - Belted 50th male dummy driver (0 to 48 kmph) (S5.1.1.(b)(1) or S5.1.1(a))
     - Belted 50th male dummy passenger (0 to 48 kmph) (S5.1.1.(b)(1) or S5.1.1(a))
     - Belted 5th female dummy driver (0 to 48 kmph) (S16.1(a))
     - Belted 5th female dummy passenger (0 to 48 kmph) (S16.1(a))
     - Belted 50th male dummy driver and passenger (0 to 56 kmph) (S5.1.1.(b)(2))
     - Unbelted 50th male dummy driver and passenger (0 to 48 kmph) (S5.1.2(a) (1))
     - Unbelted 50th male dummy driver (32 to 40 kmph) (S5.1.2.(a)(2) or S5.1.2(b))
     - Unbelted 50th male dummy passenger (32 to 40 kmph) (S5.1.2.(a)(2) or S5.1.2(b))
     - Unbelted 5th female dummy driver (32 to 40 kmph) (S16.1(b))
     - Unbelted 5th female dummy passenger (32 to 40 kmph) (S16.1(b))
     - 40% Offset 0° Belted 5th male dummy driver and passenger (0 to 40 kmph) (S18.1)

28. Sled Test: Unbelted 50th male dummy driver and passenger (S13)
29. FMVSS 204 Indicant Test
30. FMVSS 212 Indicant Test
31. FMVSS 219 Indicant Test
32. FMVSS 301 Indicant Frontal Test
DATA SHEET 2
REPORT OF VEHICLE CONDITION

Test Vehicle: 2004 Volkswagen Beetle  NHTSA No.: C45802
Test Program: FMVSS 208 Compliance  Test Dates: 3/18 - 8/20/04

CONTRACT NO. DTNH22-03-D-11002  Date: 8/20/04
FROM (Lab and rep name): MGA Research Corporation
TO: NHTSA, OVSC (NVS-220)

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

MODEL YEAR/MAKE/MODEL/BODY STYLE: 2004 Volkswagen Beetle
MANUFACTURE DATE: 08/03
NHTSA NO. C45802  GVWR: 1638 kg (3612 lbs)
BODY COLOR: Sundown Orange  GAWR (Fr): 940 kg (2073 lbs)
VIN: 3VWBK31C04M404915  GAWR (Rr): 720 kg (1588 lbs)

ODOOMETER READINGS: ARRIVAL (miles): 117  DATE: 2/12/04
COMPLETION (miles): 120  DATE: 8/20/04
PURCHASE PRICE: ($) 16,905
DEALER’S NAME: Hall Volkswagen; 19809 W. Bluemound Rd.; Brookfield, WI 53045

A. All options listed on window sticker are present on the test vehicle:  _X_ Yes  ___No
B. Tires and wheel rims are new and the same as listed:  _X_ Yes  ___No
C. There are no dents or other interior or exterior flaws:  _X_ Yes  ___No
D. The vehicle has been properly prepared and is in running condition:  _X_ Yes  ___No
E. Keyless remote is available and working:  _X_ Yes  ___No
F. The glove box contains an owner’s manual, warranty document, consumer information, and extra set of keys:  _X_ Yes  ___No
G. Proper fuel filler cap is supplied on the test vehicle:  _X_ Yes  ___No
H. Using permanent marker, identify vehicle with NHTSA number and FMVSS test type(s) on roof line above driver door or for school buses, place a placard with NHTSA number inside the windshield and to the exterior front and rear side of bus:  _X_ Yes  ___No
I. Place vehicle in storage area:  _X_ Yes  ___No
J. Inspect the vehicle’s interior and exterior, including all windows, seats, doors, etc. to confirm that each system is complete and functional per the manufacturer’s specifications. Any damage, misadjustment, or other unusual condition that could influence the test program or test results shall be recorded. Report any abnormal condition to the NHTSA COTR before beginning any test:  _X_ Vehicle OK  ___Conditions reported below
REPORT OF VEHICLE CONDITION AT THE COMPLETION OF TESTING

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

VEHICLE:  
2004 Volkswagen Beetle  
NHTSA NO.  
C45802

REMARKS:

Equipment that is no longer on the test vehicle as noted on previous page:
Rear Seat, Both Tail Lights, Spare Tire, Tool and Jack, Trunk Interior

Explanation for equipment removal:
Components removed for instrumentation installation and to meet target weight.

Test Vehicle Condition:
25 mph frontal impact damage- front suspension & structure damaged, hood & front quarter panels damaged, radiator damaged, air bags & pretensioners deployed, Stoddard in fuel system

RECORDED BY:  
Jeff Lewandowski  
DATE:  
8/20/2004

APPROVED BY:  
David Winkelbauer  
DATE:  
8/20/2004

RELEASE OF TEST VEHICLE

The vehicle described above is released from MGA to be delivered to:

Date:  
Time:  
Odometer:

Lab Rep’s Signature:  
Title:
Carrier/Customer Rep:
Date:
**DATA SHEET 3**

**CERTIFICATION LABEL AND TIRE PLACARD INFORMATION**

<table>
<thead>
<tr>
<th>Certification Label</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer:</td>
<td>Volkswagen de Mexico S.A. de C.V.</td>
</tr>
<tr>
<td>Date of Manufacture:</td>
<td>08/03</td>
</tr>
<tr>
<td>VIN:</td>
<td>3VWBK31C04M404915</td>
</tr>
<tr>
<td>Vehicle Certified As (Pass. Car/MPV/Truck/Bus):</td>
<td>Passenger Car</td>
</tr>
<tr>
<td>Front Axle GVWR:</td>
<td>940 kg (2073 lbs)</td>
</tr>
<tr>
<td>Rear Axle GVWR:</td>
<td>720 kg (1588 lbs)</td>
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<tr>
<td>Total GVWR:</td>
<td>1638 kg (3612 lbs)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tire Placard *</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable, vehicle is not a passenger car and does not have a tire placard.</td>
<td>Passenger Car</td>
</tr>
<tr>
<td>This is not a passenger car, but all or part of this information is still contained on a vehicle label and is reported here.</td>
<td>Passenger Car</td>
</tr>
<tr>
<td>Vehicle Capacity Weight:</td>
<td>351 kg (774 lbs)</td>
</tr>
<tr>
<td>Designated Seating Capacity Front:</td>
<td>2</td>
</tr>
<tr>
<td>Designated Seating Capacity Rear:</td>
<td>3</td>
</tr>
<tr>
<td>Total Designated Seating Capacity:</td>
<td>5</td>
</tr>
<tr>
<td>Recommended Cold Tire Inflation Pressure Front:</td>
<td>210 kpa (30 psi)</td>
</tr>
<tr>
<td>Recommended Cold Tire Inflation Pressure Rear:</td>
<td>260 kpa (38 psi)</td>
</tr>
<tr>
<td>Recommended Tire Size:</td>
<td>P205/55R16</td>
</tr>
</tbody>
</table>

* The Tire Placard label is the subject of NHTSA recall number 03V508000. The information recorded here is as it appeared on the vehicle tire placard. See Section 4, Page 8, for Discussion of Tests.

**Signature:**  

**Date:** 8/19/04
DATA SHEET 4
REAR OUTBOARD SEATING POSITION SEAT BELTS

<table>
<thead>
<tr>
<th>Test Vehicle:</th>
<th>2004 Volkswagen Beetle</th>
<th>NHTSA No.:</th>
<th>C45802</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Program:</td>
<td>FMVSS 208 Compliance</td>
<td>Test Date:</td>
<td>4/06/04</td>
</tr>
<tr>
<td>Test Technician:</td>
<td>Wayne Dahlke</td>
<td>NHTSA No.:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Do all rear outboard seating positions have Type 2 seat belts?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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: NONE

Signature: [Signature]

Date: 4/06/04
# DATA SHEET 5

## AIR BAG LABELS (S4.5.1)

<table>
<thead>
<tr>
<th>Test Vehicle:</th>
<th>2004 Volkswagen Beetle</th>
<th>NHTSA No.:</th>
<th>C45802</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Program:</td>
<td>FMVSS 208 Compliance</td>
<td>Test Date:</td>
<td>4/06/04</td>
</tr>
<tr>
<td>Test Technician:</td>
<td>Wayne Dahlke</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. **Air bag maintenance label and owner’s manual instructions: (S4.5.1(a))**
   - Does the manufacturer recommend periodic maintenance or replacement of the air bag?
     - Yes, go to 1.2
     - No – go to 2

2. **Does the vehicle have a label specifying air bag maintenance or replacement?**
   - Yes – Pass
   - No – Fail

3. **Does the label contain one of the following?**
   - Yes – Pass
   - No – Fail
   
   **Check applicable schedule:**
   - Schedule on label specifies month and year (Record date______)
   - Schedule on label specified vehicle mileage (Record mileage______)
   - Schedule on label specifies interval measured from date on certification label (Record interval______)

4. **Is the label permanently affixed within the passenger compartment such that it cannot be removed without destroying or defacing the label or the sunvisor?**
   - Yes – Pass
   - No – Fail

5. **Is the label lettered in English?**
   - Yes – Pass
   - No – Fail

6. **Is the label in block capitals and numerals?**
   - Yes – Pass
   - No – Fail

7. **Are the letters and numerals at least 3/32 inches high?**
   - Yes – Pass
   - No – Fail

8. **Does the owner’s manual set forth the recommended schedule for maintenance or replacement?**

9. **Does the owner’s manual: (S4.5.1(f))**
   - Include a description of the vehicle’s air bag system in an easily understandable format?
     - Yes – Pass
     - No – Fail
   
   - Include a statement that the vehicle is equipped with an air bag and a lap/shoulder belt at the front outboard seating position?
     - Yes – Pass
     - No – Fail
2.3 Include a statement that the air bag is a supplement restraint at the front outboard seating position?
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

2.7 Is the vehicle certified to meet the requirements of S14.5, S15, S17, S19, S21, S23, and S25? (Obtain answer from COTR) (S4.5.1(f)(2))
X Yes – (Go to 2.7.1)
X No – (Go to 3.)

2.7.1 Explain the proper functioning of the advanced air bag system? (S4.5.1(f)(2))
X Yes – Pass
X No – Fail

2.7.2 Provide a summary of the actions that may affect the proper functioning of the system? (S4.5.1(f)(2))
X Yes – Pass
X No – Fail

2.7.3 Present and explain the main components of the advanced passenger air bag system? (S4.5.1(f)(2)(i))
X Yes – Pass
X No – Fail

2.7.4 Explain how the components function together as part of the advanced passenger air bag system? (S4.5.1(f)(2)(ii))
X Yes – Pass
X No – Fail

2.7.5 Contain the basic requirements for proper operation, including an explanation of the actions that may affect the proper functioning of the system? (S4.5.1(f)(2)(iii))
X Yes – Pass
X No – Fail

2.7.6 Is the vehicle certified to the requirements of S19.2, S21.2, or 23.2 (automatic suppression)?
X Yes, continue with 2.7.6
X No, go to 2.7.7

2.7.6.1 Contain a complete description of the passenger air bag suppression system installed in the vehicle, including a discussion of any suppression zone? (S4.5.1(f)(2)(iv))
X Yes – Pass
X 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)) Check only one of the following:

- The vehicle is not certified to meet the requirements of S19, S21, and S23 (Obtain answer from COTR) (S4.5.1(b)(1)) Go to 3.1 and skip 3.2 and 3.3
- The vehicle is certified to meet the requirements of S19, S21, and S23 before 9/1/03. (Obtain answer from COTR) (S4.5.1(b)(2)) Go to 3.2 and skip 3.1 and 3.3
- The vehicle is certified to meet the requirements of S19, S21, and S23 on 9/1/03 or later. (Obtain answer from COTR) (S4.5.1(b)(3)) Go to 3.3 and skip 3.1 and 3.2

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

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

- Driver Side, Yes – Pass
- Driver Side, No – Fail
- Passenger Side, Yes – Pass
- Passenger Side, No – Fail
3.1.2 Does the label conform in content to the label shown in either Figure 6A or 6B (Figure 6b is for vehicles with passenger air bag on-off switches), as appropriate, at each front outboard seating position? (S4.5.1(b)(1)) (Vehicles without back seats may omit the statement: “The back seat is the safest place for children.” (S4.5.1(b)(1)(iv))

![Figure 6a](image1.png)  
**Figure 6a.** Sun Visor Label Visible When Visor is in Down Position.

![Figure 6b](image2.png)  
**Figure 6b.** Sun Visor Label Visible When Visor is in Down Position.

<table>
<thead>
<tr>
<th>Driver Side, Yes – Pass</th>
<th>Driver Side, No – Fail</th>
<th>Passenger Side, Yes – Pass</th>
<th>Passenger Side, No – Fail</th>
</tr>
</thead>
</table>

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

<table>
<thead>
<tr>
<th>Driver Side, Yes – Pass</th>
<th>Driver Side, No – Fail</th>
<th>Passenger Side, Yes – Pass</th>
<th>Passenger Side, No – Fail</th>
</tr>
</thead>
</table>

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

<table>
<thead>
<tr>
<th>Driver Side, Yes – Pass</th>
<th>Driver Side, No – Fail</th>
<th>Passenger Side, Yes – Pass</th>
<th>Passenger Side, No – Fail</th>
</tr>
</thead>
</table>
3.1.5 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
☐ Driver Side, No – Fail
☐ Passenger Side, Yes – Pass
☐ Passenger Side, No – Fail

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

☐ Driver Side, Yes – Pass
☐ Driver Side, No – Fail
☐ Passenger Side, Yes – Pass
☐ Passenger Side, No – Fail

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

Actual diameter__________mm

☐ Driver Side, Yes – Pass
☐ Driver Side, No – Fail
☐ Passenger Side, Yes – Pass
☐ Passenger Side, No – Fail

3.2 Vehicles certified to meet the requirements of S19, S21, and S23 before 9/1/03.

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

☐ Driver Side, Yes – Pass
☐ Driver Side, No – Fail
☐ Passenger Side, Yes – Pass
☐ Passenger Side, No – Fail
3.2.2 Does the label conform in content to the label shown in either Figure 8 or 11 at each front outboard seating position? (S4.5.1(b)(2)) (Vehicles without back seats may omit the statement: “The back seat is the safest place for children.” (S4.5.1(b)(2)(iv)) Vehicles without back seats or the back seat is too small to accommodate a rear-facing child restraint may omit the statement “Never put a rear-facing child seat in the front.” (S4.5.1(b)(2)(v))

<table>
<thead>
<tr>
<th>Side</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver Side</td>
<td>Yes – Pass</td>
</tr>
<tr>
<td>Driver Side</td>
<td>No – Fail</td>
</tr>
<tr>
<td>Passenger Side</td>
<td>Yes – Pass</td>
</tr>
<tr>
<td>Passenger Side</td>
<td>No – Fail</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Side</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver Side</td>
<td>Yes – Pass</td>
</tr>
<tr>
<td>Driver Side</td>
<td>No – Fail</td>
</tr>
<tr>
<td>Passenger Side</td>
<td>Yes – Pass</td>
</tr>
<tr>
<td>Passenger Side</td>
<td>No – Fail</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Side</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver Side</td>
<td>Yes – Pass</td>
</tr>
<tr>
<td>Driver Side</td>
<td>No – Fail</td>
</tr>
<tr>
<td>Passenger Side</td>
<td>Yes – Pass</td>
</tr>
<tr>
<td>Passenger Side</td>
<td>No – Fail</td>
</tr>
</tbody>
</table>
3.2.5 Is the message area at least 30 cm²? (S4.5.1(b)(2)(ii))
Driver Side: Length__________, Width__________
Passenger Side: Length__________, Width__________
Actual message area ____________ cm²
- Driver Side, Yes – Pass
- Driver Side, No – Fail
- Passenger Side, Yes – Pass
- Passenger Side, No – Fail

3.2.6 Is the pictogram black on a white background? (S4.5.1(b)(2)(iii))
- Driver Side, Yes – Pass
- Driver Side, No – Fail
- Passenger Side, Yes – Pass
- Passenger Side, No – Fail

3.2.7 Is the pictogram at least 30 mm (1.2 inches) in length? (S4.5.1(b)(2)(iii))
Driver Side: Length__________
Passenger Side: Length__________
- Driver Side, Yes – Pass
- Driver Side, No – Fail
- Passenger Side, Yes – Pass
- Passenger Side, No – Fail

3.3 Vehicles certified to meet the requirements of S19, S21, and S23 on 9/1/03 and later. (S4.5.1(b)(3))

3.3.1 Is the label permanently affixed (including permanent marking on the visor material or molding into the visor material) to either side of the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing the label or the sun visor? (S4.5.1(b)(3))
- Driver Side, Yes – Pass
- Driver Side, No – Fail
- Passenger Side, Yes – Pass
- Passenger Side, No – Fail

3.3.2 Does the label conform in content to the label shown in either Figure 11 at each front outboard seating position? (S4.5.1(b)(2)) (Vehicles without back seats may omit the statement: “The back seat is the safest place for children.” (S4.5.1(b)(3)(iv)) Vehicles without back seats or the back seat is too small to accommodate a rear-facing child restraint may omit the statement “Never put a rear-facing child seat in the front.” (S4.5.1(b)(3)(v))

![Figure 11: Sun Visor Label Visible when Visor is in Down Position.](image)
<table>
<thead>
<tr>
<th></th>
<th>3.3.3</th>
<th>Is the label heading area yellow with the word “WARNING” and the alert symbol in black? (S4.5.1(b)(3)(i))</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Driver Side, Yes – Pass</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Driver Side, No – Fail</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Passenger Side, Yes – Pass</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Passenger Side, No – Fail</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>3.3.4</th>
<th>Is the message area white with black text? (S4.5.1(b)(3)(ii))</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Driver Side, Yes – Pass</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Driver Side, No – Fail</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Passenger Side, Yes – Pass</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Passenger Side, No – Fail</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>3.3.5</th>
<th>Is the message area at least 30 cm²? (S4.5.1(b)(3)(ii))</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Driver Side: Length 7.5 cm , Width 4.3 cm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Passenger Side: Length 7.5 cm , Width 4.3 cm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Driver Actual message area 32.25 cm²</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Passenger Actual message area 32.25 cm²</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Driver Side, Yes – Pass</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Driver Side, No – Fail</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Passenger Side, Yes – Pass</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Passenger Side, No – Fail</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>3.3.6</th>
<th>Is the pictogram black on a white background? (S4.5.1(b)(3)(iii))</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Driver Side, Yes – Pass</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Driver Side, No – Fail</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Passenger Side, Yes – Pass</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Passenger Side, No – Fail</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>3.3.7</th>
<th>Is the pictogram at least 30 mm (1.2 inches) in length? (S4.5.1(b)(3)(iii))</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Driver Side: Length 30 mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Passenger Side: Length 30 mm</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Driver Side, Yes – Pass</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Driver Side, No – Fail</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Passenger Side, Yes – Pass</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Passenger Side, No – Fail</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>3.4</th>
<th>Is the same side of the sun visor that contains the air bag warning label free of other information with the exception of the air bag maintenance label and/or the rollover-warning label? (S4.5.1(b)(5)(i))</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Driver Side, Yes – Pass</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Driver Side, No – Fail</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Passenger Side, Yes – Pass</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Passenger Side, No – Fail</td>
<td></td>
</tr>
</tbody>
</table>
3.5 Is the sun visor free of other information about air bags or the need to wear seat belts with the exception of the air bag alert label and/or the rollover-warning label? (S4.5.1(b)(5)(ii))

Driver Side, Yes – Pass
Driver Side, No – Fail
Passenger Side, Yes – Pass
Passenger Side, No – Fail

3.6 Does the driver side visor contain a rollover-warning label on the same side of the visor as the air bag warning label?

Yes, go to 3.6.1
No, go to 4 (skipping 3.6.1 through 3.6.3)

3.6.1 Are both the rollover-warning label and the air bag warning label surrounded by a continuous solid-lined border?

Yes, go to 3.6.2 and skip 3.6.3
No, go to 3.6.3 and skip 3.6.2

3.6.2 Is the shortest distance from the border of the rollover label to the border of the air bag warning label at least 1 cm? (575.105 (d)(1)(iv)(B))

Actual distance

3.6.3 Is the shortest distance from any of the lettering or graphics on the rollover-warning label to any of the lettering or graphics of the air bag warning label at least 3 cm? (575.105 (d)(1)(iv)(A))

Actual distance

Yes-Pass No-FAIL

4. Air Bag Alert Label (S4.5.1(c)) (A “Rollover Warning Label” or “Rollover Alert Label” may be on the same side of the driver’s sun visor as the “Air Bag Alert Label.” 575.105(d))

4.1 Is the sun visor warning label visible when the sun visor is in the stowed position?

If yes for driver and passenger, go to 5.

Driver Side, Yes – Pass
Driver Side, No – Fail
Passenger Side, Yes – Pass
Passenger Side, No – Fail

4.2 Is the air bag alert label permanently affixed (including permanent marking on the visor material or molding into the visor material) to the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing the label or the sun visor? (S4.5.1(c))

Driver Side, Yes – Pass
Driver Side, No – Fail
Passenger Side, Yes – Pass
Passenger Side, No – Fail
<table>
<thead>
<tr>
<th>4.3</th>
<th>Is the air bag alert label visible when the visor is in the stowed position? (S4.5.1(c))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Driver Side, Yes – Pass</td>
</tr>
<tr>
<td></td>
<td>Driver Side, No – Fail</td>
</tr>
<tr>
<td>Yes</td>
<td>Passenger Side, Yes – Pass</td>
</tr>
<tr>
<td></td>
<td>Passenger Side, No – Fail</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4.4</th>
<th>Does the label conform in content to the label shown in Figure 6C? (S4.5.1(c))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Driver Side, Yes – Pass</td>
</tr>
<tr>
<td></td>
<td>Driver Side, No – Fail</td>
</tr>
<tr>
<td>Yes</td>
<td>Passenger Side, Yes – Pass</td>
</tr>
<tr>
<td></td>
<td>Passenger Side, No – Fail</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4.5</th>
<th>Is the message area black with yellow text? (S4.5.1(c)(1))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Driver Side, Yes – Pass</td>
</tr>
<tr>
<td></td>
<td>Driver Side, No – Fail</td>
</tr>
<tr>
<td>Yes</td>
<td>Passenger Side, Yes – Pass</td>
</tr>
<tr>
<td></td>
<td>Passenger Side, No – Fail</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4.6</th>
<th>Is the message area at least 20 cm²? (S4.5.1(c)(1))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Driver Side: Length 8.9, Width 2.3</td>
</tr>
<tr>
<td></td>
<td>Passenger Side: Length 8.9, Width 2.3</td>
</tr>
<tr>
<td></td>
<td>Actual message area 20.47 cm²</td>
</tr>
<tr>
<td>Yes</td>
<td>Driver Side, Yes – Pass</td>
</tr>
<tr>
<td></td>
<td>Driver Side, No – Fail</td>
</tr>
<tr>
<td>Yes</td>
<td>Passenger Side, Yes – Pass</td>
</tr>
<tr>
<td></td>
<td>Passenger Side, No – Fail</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4.7</th>
<th>Is the pictogram black with a red circle and slash on a white background? (S4.5.1(c)(2))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Driver Side, Yes – Pass</td>
</tr>
<tr>
<td></td>
<td>Driver Side, No – Fail</td>
</tr>
<tr>
<td>Yes</td>
<td>Passenger Side, Yes – Pass</td>
</tr>
<tr>
<td></td>
<td>Passenger Side, No – Fail</td>
</tr>
</tbody>
</table>
4.8 Is the pictogram at least 20 mm in diameter? (S4.5.1(c)(2))

Driver Side Diameter __21____ mm
Passenger Side Diameter __21____ mm

Driver Side, Yes – Pass
 Driver Side, No – Fail
Passenger Side, Yes – Pass
Passenger Side, No – Fail

5. Label on the Dashboard

5.1 Is the vehicle certified to meet the requirements of S19, S21, and S23? (Obtain answer from COTR) (S4.5.1(3)(2))

Yes, go to 5.1.1 and skip 5.2
No, go to 5.2, skipping 5.1.1 through 5.6

5.1.1 Does the vehicle have a label on the dash or steering wheel hub? (S4.5.1(e)(2))

Yes – Pass
No – (May have been inadvertently discarded after arrival at MGA)

5.1.2 Is the label clearly visible from all front seating positions? (S4.5.1(e)(2))

Yes – Pass
No - Fail

5.1.3 Does the label conform in content to the label shown in Figure 9? (S4.5.1(e)(2))

Vehicles without back seats may omit the statement: “The back seat is the safest place for children.” (S4.5.1(e)(2)(iii))

Yes – Pass
No - Fail

5.1.4 Is the heading area yellow with black text? (S4.5.1(e)(2)(i)

Yes – Pass
No - Fail

5.1.5 Is the message white with black text? (S4.5.1(e)(2)(ii)

Yes – Pass
No - Fail
5.1.6 Is the message area at least 30 cm²? (S4.5.1(e)(2)(ii))
Length _____ cm, Width _____ cm
Actual message area _____ cm²
Yes – Pass
No - Fail

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

5.2.1 Is the label clearly visible from all front seating positions? (S4.5.1(e)(1))
Yes – Pass
No - Fail

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

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

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

5.2.5 Is the message area at least 30 cm²? (S4.5.1(e)(1)(ii))
Length _______, Width _______
Actual message area _______ cm²
Yes – Pass
No - Fail
I certify that I have read and performed each instruction.

Signature: [Signature]

Date: 4/06/04
DATA SHEET 6
FMVSS 208 READINESS INDICATOR (S4.5.2)

Test Vehicle: 2004 Volkswagen Beetle  
Test Program: FMVSS 208 Compliance  
Test Technician: Wayne Dahlke  
NHTSA No.: C45802  
Test Date: 4/06/04

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. Hennegerger on behalf of Breed)

1. Is the system totally mechanical? If Yes, this data sheet is complete.
   - Yes
   - No

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

3. Is the readiness indicator clearly visible to the driver?
   - Yes – Pass
   - No - Fail

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

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

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

REMARKS: NONE

I certify that I have read and performed each instruction.

Signature: [Signature]  
Date: 4/06/04
DATA SHEET 7
PASSENGER AIR BAG MANUAL CUT-OFF DEVICE (S4.5.4)

Test Vehicle: 2004 Volkswagen Beetle
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

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
   X No, this sheet is complete

X 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 to 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. (S16.2.10.02)
      - 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.

Test Vehicle: 2004 Volkswagen Beetle
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

NHTSA No.: C45802
Test Date: 4/06/04
If there is no mid position, put the seat in the closest adjustment position to the rear of
the midpoint. Describe the location of the seat:

3.10 If seat adjustments, other than fore-aft, are present and the horizontal reference line is
no longer horizontal, use those adjustments to maintain the reference line as closely as
possible to the horizontal.

N/A – No adjustments

Angle of reference line as tested:

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

N/A – No seat back angle adjustment

Manufacturers 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.

Distance (mm):

Less than 720 mm – Pass

More then 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.

Distance (mm):

Less than 720 mm – Pass

More then 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))  
      on the telltale?  
      Yes – Pass, go to 7.3  
      No – go to 7.2.2  
      7.2.2 within 25 mm of the telltale?  
      Measurement from the edge of the telltale light (mm):  
      Yes – Pass  
      No – Fail  
   7.3 Does the telltale remain illuminated while the air bag is turned off? (S4.5.4.3(c)) (Leave the air bag off for 5 minutes.)  
      Yes – Pass  
      No – Fail  
   7.4 Is the telltale illuminated while the air bag is turned on? (S4.5.4.3(d))  
      Yes – Fail  
      No – Pass  
   7.5 Is the telltale combined with the air bag readiness indicator? (S4.5.4.3(e))  
      Yes – Fail  
      No – Pass  

8. Owner’s Manual  
   8.1 Does the owner’s manual contain complete instructions on the operation of the on-off switch? (S4.5.4.4(a))  
      Yes – Pass  
      No – Fail  
   8.2 Does the owner’s manual contain a statement that the on-off switch should only be used when a member of one of the following risk groups is occupying the right front passenger seating position? (S4.5.4.4(b))  
      Infants:  
      there is no back seat  
      the rear seat is too small to accommodate a child restraint  
      there is a medical condition that must be monitored constantly  
      Children  
      aged 1 to 12:  
      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
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

REMARKS: NONE

I certify that I have read and performed each instruction.

Signature: [Signature]

Date: 4/06/04
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)

Test Vehicle: 2004 Volkswagen Beetle  
NHTSA No.: C45802  
Test Program: FMVSS 208 Compliance  
Test Date: 4/06/04  
Test Technician: Wayne Dahlke

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))

<table>
<thead>
<tr>
<th>DESIGNATED SEATING POSITION: Front Passenger</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Record test fore-aft seat position: Full Rear (S7.1.1.5(c)(1)) (Any position is acceptable)</td>
</tr>
<tr>
<td>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))</td>
</tr>
<tr>
<td>Yes – Pass</td>
</tr>
<tr>
<td>No – Fail</td>
</tr>
<tr>
<td>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))</td>
</tr>
<tr>
<td>Yes – Pass</td>
</tr>
<tr>
<td>No – Fail</td>
</tr>
<tr>
<td>4. Buckle the seat belt. (S7.1.1.5(c)(1))</td>
</tr>
<tr>
<td>5. Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))</td>
</tr>
<tr>
<td>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))</td>
</tr>
<tr>
<td>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?</td>
</tr>
<tr>
<td>Yes, go to 7.1</td>
</tr>
<tr>
<td>No, go to 8</td>
</tr>
<tr>
<td>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))</td>
</tr>
<tr>
<td>Yes – Pass</td>
</tr>
<tr>
<td>No – Fail</td>
</tr>
<tr>
<td>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) &amp; S7.1.1.5(c)(1))</td>
</tr>
</tbody>
</table>
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): 71.5 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): 14.0 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): 35.25 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)): 15 lbs./sec.

Measured distance between A and B (inches) (S7.1.1.5(c)(6)): 35.5 inches

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

13 - 12 = 0.25 inches

Yes – Pass

No – Fail

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

9 - 13 = 36 inches

Yes – Pass

No – Fail

REMARKS: NONE

I certify that I have read and performed each instruction.

Signature: __________________________

Date: 4/06/04
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)

Test Vehicle: 2004 Volkswagen Beetle  NHTSA No.: C45802
Test Program: FMVSS 208 Compliance  Test Date: 4/06/04
Test Technician: Wayne Dahlke

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))

DESIGNATED SEATING POSITION: Left Rear Passenger

1. Record test fore-aft seat position: Not Adjustable (S7.1.1.5(c)(1)) (Any position is acceptable)
   - [ ] N/A – no retractor is at this position
   - [x] N/A – the retractor is an automatic locking retractor ONLY
   - [x] 1. Yes – Pass
   - [ ] No – Fail

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))
   - [x] Yes, go to 7.1
   - [ ] No, go to 8

5. Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))
   - [x] Yes – Pass
   - [ ] No – Fail

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] Yes – Pass
   - [ ] No – Fail

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, go to 7.1
   - [ ] 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))
   - [x] Yes – Pass
   - [ ] No – Fail
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): 68.5 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): 7.0 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): 31 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)): 15 lbs./sec.
Measured distance between A and B (inches) (S7.1.1.5(c)(6)): 32 inches

14. Subtract the measurement in 12 from the measurement in 13. Is the difference 2 inches or less? (S7.1.1.5(c)(7))
13 - 12 = 1 inch
Yes – Pass
No – Fail

15. Subtract the measurement in 13 from the measurement in 9. Is the difference 3 inches or more? (S7.1.1.5(c)(8))
9 - 13 = 36.5 inches
Yes – Pass
No – Fail

REMARKS: NONE

I certify that I have read and performed each instruction.

Signature: __________________________
Date: 4/06/04
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)

Test Vehicle: 2004 Volkswagen Beetle
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke
NHTSA No.: C45802
Test Date: 4/06/04

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))

DESIGNATED SEATING POSITION: Right Rear Passenger

1. Record test fore-aft seat position: Not Adjustable (S7.1.1.5(c)(1)) (Any position is acceptable)

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

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

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

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

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

7. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?
   Yes, go to 7.1
   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))

Test Vehicle: 2004 Volkswagen Beetle
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke
NHTSA No.: C45802
Test Date: 4/06/04
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): 65.5 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): 8.0 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): 30.25 inches

13. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractor systems 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)): 15 lbs./sec.

Measured distance between A and B (inches) (S7.1.1.5(c)(6)): 31 inches

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

13 - 12 = 0.75 inches

Yes – Pass

No – Fail

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

9 - 13 = 34.5 inches

Yes – Pass

No – Fail

REMARKS: NONE

I certify that I have read and performed each instruction.

Signature: __________________________

Date: 4/06/04

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

Test Vehicle: 2004 Volkswagen Beetle
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

1. The occupant is in the driver’s seat.
2. The seat belt is in the stowed position.
3. The key is in the “on” or “start” position.
4. The time duration of the audible signal beginning with key “on” or “start” is
   Seconds: 5.0
5. The occupant is in the driver’s seat.
6. The seat belt is in the stowed position.
7. The key is in the “on” or “start” position.
8. The time duration of the warning light beginning with key “on” or “start” is
   Seconds: Stays On
9. The occupant is in the driver’s seat.
10. The seat belt is in the latched position and with at least 4 inches of belt webbing extended.
11. The key is in the “on” or “start” position.
12. The time duration of the audible signal beginning with key “on” or “start” is
    Seconds: 4.0
13. The occupant is in the driver’s seat.
14. The seat belt is in the latched position and with at least 4 inches of belt webbing extended.
15. The key is in the “on” or “start” position.
16. The time duration of the warning light beginning with key “on” or “start” is
    Seconds: 5.0
17. Complete the following table with the data from 4, 8, 12, and 16 to determine which option is used.

<table>
<thead>
<tr>
<th>Test Program</th>
<th>NHTSA No.</th>
<th>Test Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMVSS 208 Compliance</td>
<td>C45802</td>
<td>4/06/04</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Warning light specification</th>
<th>Audible signal specification*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 8: Stays On minimum</td>
<td>Item 12: 4.0</td>
</tr>
<tr>
<td>Item 16: 5.0</td>
<td>Item 12: 4.0</td>
</tr>
<tr>
<td>Item 8: Stays On</td>
<td>Item 4: 5.0</td>
</tr>
<tr>
<td>Item 16: 5.0</td>
<td>Item 12: 4.0</td>
</tr>
<tr>
<td>Item 8: Stays On</td>
<td>Item 4: 5.0</td>
</tr>
<tr>
<td>Item 16: 5.0</td>
<td>Item 12: 4.0</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 Hartson.

42
18. The seat belt warning system meets the requirements of (manufacturers may comply with either section)

- S7.3 (a)(1)
- S7.3 (a)(2)
- FAIL – does not meet the requirements of either option

19. Note wording of visual warning: (S7.3(a)(1) and S7.3(a)(2))

- Fasten seat belts
- Fasten belts
- Symbol 101
- FAIL – does not used any of the above working or symbol

I certify that I have read and performed each instruction.

Signature: __________________________
Date: 4/06/04
DATA SHEET 10
BELT CONTACT FORCE (S7.4.3)

Test Vehicle: 2004 Volkswagen Beetle  
Test Program: FMVSS 208 Compliance  
Test Technician: Wayne Dahlke  
NHTSA No.: C45802  
Test Date: 4/06/04

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.

**DESIGNATED SEATING POSITION:** Left Rear Passenger

<p>| | | |</p>
<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Does the vehicle incorporate a webbing tension-relieving device?</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>No, continue with this check sheet</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes, this form is complete</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Position the seat’s adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>N/A, no lumbar adjustment</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>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)</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>N/A, no additional support adjustment</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>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)</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>N/A, no independent fore-aft seat cushion adjustment</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>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)</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>N/A, no independent seat cushion height adjustment</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Put the seat in its full rearward position. (S16.2.10.3.1)</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>N/A, the seat does not have a fore-aft adjustment</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>N/A, no seat height adjustment</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Draw a horizontal reference line on the side of the seat cushion.</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>N/A, the seat does not have a fore-aft adjustment</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>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)</td>
<td></td>
</tr>
</tbody>
</table>
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: Not adjustable

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)

Reference line angle as tested: zero degrees

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

N/A, no seat back angle adjustment

Manufacturer's design seat back angle:

Tested seat back angle:

13. Position the test dummies according to dummy position placement instructions in Appendix F.

14. Fasten the seat belt latch.

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

16. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a 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): 0.19 lb

0.0 to 0.7 pounds – Pass
Greater than 0.7 pounds - Fail

REMARKS: NONE

I certify that I have read and performed each instruction.

Signature: [Signature]

Date: 4/06/04
DATA SHEET 10
BELT CONTACT FORCE (S7.4.3)

Test Vehicle: 2004 Volkswagen Beetle
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

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.

DESIGNATED SEATING POSITION: Right Rear Passenger

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 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. 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 independent fore-aft seat cushion adjustment

5. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)
   - X N/A, no independent 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 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 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)
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: Not adjustable

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: zero degrees

12. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)
   X N/A, no seat back angle adjustment
   Manufacturer's design seat back angle:
   Tested seat back angle:

13. Position the test dummies according to dummy position placement instructions in Appendix F.

14. Fasten the seat belt latch.

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

16. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a 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): 0.21
   0.0 to 0.7 pounds – Pass
   Greater than 0.7 pounds - Fail

REMARKS: NONE

I certify that I have read and performed each instruction.

Signature: [Signature]

Date: 4/06/04
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.

**DESIGNATED SEATING POSITION:** Not Applicable For Any Position - Passenger Car

1. Position the seat’s adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (8.1.3)

   N/A, no lumbar adjustment

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. 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

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

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

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

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

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.

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 forward most fore-aft position for this test. (S10.7)

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
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:

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 Latchplate Reach Limiting Chains or Strings to Test for Latchplate Accessibility Using Subpart E Test Device
REMARKS: NONE

I certify that I have read and performed each instruction.

Signature: __________________________

Date: 4/06/04
DATA SHEET 12

SEAT BELT RETRACTION (S7.4.5)

Test Vehicle: 2004 Volkswagen Beetle
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke

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.

DESIGNATED SEATING POSITION: Not Applicable For Any Position - Passenger Car
GVWR:

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<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>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)</td>
</tr>
</tbody>
</table>
|   |   | 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 reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal. (S16.2.10.3.2)  

N/A – no seat adjustment  
Reference 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. (S8.1.3)  

N/A – no seat back angle adjustment  
Manufacturer’s design seat back angle:  
Tested seat back angle:  

13. 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  

14. 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:  

15. Is the driver seat a bucket seat?  
Yes, go to 15.1 and skip 15.2.  
No, go to 15.2 and skip 15.1  

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

15.2 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:  

16. Stow outboard armrests that are capable of being stowed. (S7.4.5)  

17. 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)  

18. Rest the thighs on the seat cushion
19. 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)

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°) (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°) (S10.4.2.2)

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

21. 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.

22. Fasten the seat belt around the dummy.

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

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

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

Pound load applied:

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

- Yes, continue
- No, go to 27

26.1 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). Go to 25.

27. Check the statement that applies to this test vehicle:

27.1 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

27.2 The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latch plate is released.

- Pass

27.3 Neither A or B apply

- Fail

28. 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
29. 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

REMARKS:

I certify that I have read and performed each instruction.

Signature: [Signature]

Date: 4/06/04
DATA SHEET 13
SEAT BELT GUIDES AND HARDWARE (S7.4.6)

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.

DESIGNATED SEATING POSITION: Left Rear Passenger

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

Test Vehicle: 2004 Volkswagen Beetle
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke
NHTSA No.: C45802
Test Date: 3/19/04
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
    N/A – Rear seat

REMARKS: NONE

I certify that I have read and performed each instruction.

Signature: [Signature]

Date: 4/06/04
DATA SHEET 13
SEAT BELT GUIDES AND HARDWARE (S7.4.6)

Test Vehicle: 2004 Volkswagen Beetle
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke
NHTSA No.: C45802
Test Date: 4/06/04

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.

DESIGNATED SEATING POSITION: Right Rear Passenger

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 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
    - N/A – Rear seat

REMARKS: NONE

I certify that I have read and performed each instruction.

Signature: 

Date: 4/06/04
DATA SHEET 14
MARKING OF REFERENCE POINTS FOR VARIOUS TEST POSITIONS AND POINTS

Test Vehicle: 2004 Volkswagen Beetle  
Test Program: FMVSS 208 Compliance  
Test Technician: Eric Peschman  
NHTSA No.: C45802  
Test Date: 5/28/04

1. Driver Designated Seating Position:
   1.1 Position the seat’s adjustable lumbar supports so that the lumbar supports are in the lowest, retracted or deflated adjustment positions. (S16.2.10.1)
      ✔️ N/A – No lumbar adjustment
   1.2 Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position (S16.2.10.2)
      ✔️ N/A – No additional support adjustment
   1.3 Mark a point (seat cushion reference point) on the side of the seat cushion that is between 150 mm and 250 mm from the front edge of the seat cushion.
   1.4 Draw a line (seat cushion reference line) through the seat cushion reference point.
   1.5 Using only the controls that primarily move the seat in the fore-aft direction, move the seat cushion reference point to the rearmost position.
   1.6 If the seat cushion adjusts fore-aft, independent of the seat back, use only the controls that primarily move the seat cushion in the fore-aft direction to move the seat cushion reference point to the rearmost position (S16.2.10.3)
      ✔️ N/A – No independent fore-aft seat cushion adjustment
   1.7 Using any part of any control, other than the parts just used for fore-aft positioning, determine the range of angles of the seat cushion reference line and set the seat cushion reference line at the mid-angle.
      Maximum Angle: 0.0 Degrees
      Minimum Angle: 3.8 Degrees Nose Down
      Mid-angle: 1.9 Degrees Nose Down
   1.8 If the seat and/or seat cushion height is adjustable, use any part of any control other than those which primarily move the seat or seat cushion fore-aft, to put the seat cushion reference point in its lowest position with the seat cushion reference line angle at the mid-angle found in 1.7.
      ✔️ N/A – No seat height adjustment
   1.9 Using only the controls that primarily move the seat in the fore-aft direction, verify the seat is in the rearmost position.
   1.10 Using only the controls that primarily move the seat in the fore-aft direction, mark for future reference the fore-aft seat positions. Mark each position so that there is a visual indication when the seat is at a particular position. For manual seats, move the seat forward one detent at a time and mark each detent. For power seats, mark only the rearmost, middle, and foremost positions. Label three of the positions with the following: F for foremost, 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 rearmost.
   1.11 Use only the controls that primarily move the seat in the fore-aft direction to place the seat in the rearmost position.
   1.12 Using any controls, other than the controls that primarily move the seat and/or seat cushion in the fore-aft direction, find and visually mark for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.7.

Test Vehicle: 2004 Volkswagen Beetle  
Test Program: FMVSS 208 Compliance  
Test Technician: Eric Peschman  
NHTSA No.: C45802  
Test Date: 5/28/04
1.13 Using only the controls that primarily move the seat and/or seat cushion in the fore-aft direction, place the seat in the mid-fore-aft position.

1.14 Using any controls, other than the controls that primarily move the seat in the fore-aft direction, find and visually mark for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.7.

1.15 Using only the controls that change the seat in the fore-aft direction, place the seat in the foremost position.

1.16 Using any controls, other than the controls that primarily move the seat in the fore-aft direction, find and visually mark for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.7.

1.17 Visually mark for future reference the seat back angle, if adjustable, at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer.

N/A – No seat back angle adjustment

Manufacturer’s design seat back angle: 21° On Seat Back Frame

1.18 Is the seat a bucket seat?

Yes, go to 1.18.1 and skip 1.18.2

No, go to 1.18.2 and skip 1.18.1

1.18.1 Bucket seats:

Locate and mark for future reference the longitudinal centerline of the seat cushion. 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. (S16.3.1.10)

Record the width of the seat cushion: 520 mm

One half the width of the seat cushion is: 260 mm

Record the distance from the edge of the seat cushion to the seat mark: 260 mm

1.18.2 Bench seats:

Locate and mark for future reference the longitudinal line on the seat cushion that marks the longitudinal vertical plane through the centerline of the steering wheel.

Passenger Designated Seating Position

2.1 Is the seat adjustable independent of the driver seating position?

Yes, go to 2.2

No, go to 2.18

2.2 Position the seat's adjustable lumbar supports so that the lumbar supports are in the lowest, retracted or deflated adjustment positions (S16.2.10.1, S20.1.9.1, S22.1.7.1)

N/A – No lumbar adjustment

2.3 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, S20.1.9.2, S22.1.7.2)

N/A – No additional support adjustment

2.4 Mark a point (seat cushion reference point) on the side of the seat cushion that is between 150 mm and 250 mm from the front edge of the seat cushion.

2.5 Draw a line (seat cushion reference line) through the seat cushion reference point.

2.6 Using only the controls that primarily move the seat in the fore-aft direction, move the seat cushion reference point to the rearmost position.
2.7 If the seat cushion adjusts fore-aft, independent of the seat back, use only the controls that primarily move the seat cushion in the fore-aft direction to move the seat cushion reference point to the rearmost position (S16.2.10.3, S20.1.9.3, S22.1.7.3)

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

2.8 Using any part of the control, other than the parts just used for fore-aft positioning, determine the range of angles of the seat cushion reference line and set the seat cushion reference line at the mid-angle.

Maximum Angle: 0.0 Degrees
Minimum Angle: 4.9 Degrees Nose Down
Mid-angle: 2.4 Degrees Nose Down

2.9 If the seat and/or seat cushion height is adjustable, use any part of any control other than those which primarily move the seat or seat cushion fore-aft, to put the seat cushion reference point in its lowest position with the seat cushion reference line angle at the mid-range angle.

N/A – No seat height adjustment

2.10 Using only the controls that primarily move the seat and/or seat cushion in the fore-aft direction, verify the seat is in the rearmost position.

2.11 Using only the controls that primarily move the seat in the fore-aft direction, mark for future reference the fore-aft seat positions. Mark each position so that there is a visual indication when the seat is at a particular position. For manual seats, move the seat forward one detent at a time and mark each detent. For power seats, mark only the rearmost, middle, and foremost positions. Label three of the positions with the following: F for foremost, 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 rearmost.

2.12 Using only the controls that primarily move the seat in the fore-aft direction, place the seat in the rearmost position.

2.13 Using any controls, other than the controls that primarily move the seat in the fore-aft direction, find and visually mark for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 2.8.

N/A – No seat height adjustment Go to 2.18

2.14 Using only the controls that primarily move the seat in the fore-aft direction, place the seat in the mid-fore-aft position.

2.15 Using any controls, other than the controls that primarily move the seat in the fore-aft direction, find and visually mark for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 2.8.

2.16 Using only the controls that change the seat in the fore-aft direction, place the seat in the foremost position.

2.17 Using any controls, other than the controls that primarily move the seat in the fore-aft direction, find and visually mark for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 2.8.

2.18 Visually mark for future reference the seat back angle, if adjustable, at the manufacturer’s nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer.

N/A – No seat back angle adjustment
N/A – The seat back angle adjustment is controlled by the setting of the driver seat back angle.
Manufacturer’s design seat back angle: 21° On Seat Back Frame
Actual seat back angle: 21° On Seat Back Frame

2.19 Is the seat a bucket seat?
- Yes, go to 2.19.1 and skip 2.19.2
- No, go to 2.19.2 and skip 2.19.1

2.19.1 Bucket seats:
- Locate and mark for future reference the longitudinal centerline of the seat cushion. (S20.2.1.3, 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. (S20.1.10)

Record the width of the seat cushion: 520 mm
One half the width of the seat cushion is: 260 mm

2.19.2 Bench seats:
- Locate and mark for future reference the longitudinal centerline of the passenger seat cushion. The longitudinal centerline is the same distance from the longitudinal centerline of the vehicle as the center of the steering wheel. (S20.2.1.3, S22.2.1.3)

Record the distance from the longitudinal centerline of the vehicle to the center of the steering wheel:
Record the distance from the longitudinal centerline of the vehicle to the longitudinal centerline of the seat cushion. (The vertical plane through this longitudinal centerline is Plane B for suppression.)

3. Head Restraints
- N/A, vehicle contains automatic head restraints
- N/A, there is no head restraint adjustment

3.1 Left outboard
- Adjust the head restraint to its lowest position. (S16.3.4.2)
- 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. Mark the foremost position.
- Measure the vertical distance from the top most point of the head restraint to the bottom most point. Locate and mark a horizontal plane through the midpoint of this distance.
- Vertical height of head restraint (mm): 170 mm
- Mid-point height (mm): 85 mm

3.2 Right outboard
- Adjust the head restraint to its lowest position. (S16.3.4.2)
- 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. Mark the foremost position.
- Measure the vertical distance from the top most point of the head restraint to the bottom most point. Locate and mark a horizontal plane through the midpoint of this distance.
- Vertical height of head restraint (mm): 170 mm
- Mid-point height (mm): 85 mm

4. Steering Wheel
4.1 Is the steering wheel adjustable up and down and/or in and out?
Yes, go to 4.2
No, this form is complete

4.2 Find and mark for future reference each up and down position. Label three of the positions with the following: H for highest, M for mid-position (if there is no mid-position, label the next lowest adjustment position), and L for lowest.
N/A, steering wheel is not adjustable up and down

4.3 Find and mark for future references each in and out position. Label three of the positions with the following: F for foremost, M for mid-position (if there is no mid-position, label the next rearmost adjustment position), and R for rearmost.
N/A, steering wheel is not adjustable in and out

5. Driver Low Risk Deployment
N/A, no low risk deployment tests scheduled

5.1 Position the steering wheel so the front wheels are in the straight-ahead position. (S26.2.1)

5.2 Position any adjustable parts of the steering controls to the mid-position as determined in item 3 above. If a mid-position adjustment is not achievable, position the controls to the next lowest detent position. (S26.2.1)

5.3 Locate the vertical plane parallel to the vehicle longitudinal centerline through the geometric center of the opening through which the driver air bag deploys into the occupant compartment. This is referred to as “Plane E”. (Check determination method below.) (S26.2.6)

Plane E determined using manufacturer’s information supplied by the COTR. (Found in Appendix D on pages D-102 and D-103)
Plane E determined by test lab personnel and approved by the COTR. (Include supporting documentation in the test report.)

<table>
<thead>
<tr>
<th>“Plane E” Measurement:</th>
<th>Ey (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measured:</td>
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<tr>
<td>Specified:</td>
<td></td>
</tr>
<tr>
<td>Verify Measured Equals Specified +/- 6mm:</td>
<td></td>
</tr>
</tbody>
</table>

5.4 Locate the horizontal plane through the highest point of the air bag module cover. This is referred to as “Plane F.” (Check determination method below.) (S26.2.6)

Plane F determined using manufacturer’s information supplied by the COTR. (Found in Appendix D on pages D-102 and D-103)
Plane F determined by test lab personnel and approved by the COTR. (Include supporting documentation in the test report.)

<table>
<thead>
<tr>
<th>“Plane F” Measurement:</th>
<th>Fz (mm)</th>
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<tr>
<td>Specified:</td>
<td></td>
</tr>
<tr>
<td>Verify Measured Equals Specified +/- 6mm:</td>
<td></td>
</tr>
</tbody>
</table>

6. Passenger Low Risk Deployment – Planes C and D
N/A, no low risk deployment tests scheduled

6.1 Locate the horizontal plane through the geometric center of the opening through which the right front air bag deploys into the occupant compartment. This is referred to as “Plane C.” (Check location method below.) (S22.4.1.3)
Plane C located using manufacturer’s information supplied by the COTR.
(Found in Appendix D on pages D-102 and D-103)

Plane C located by test lab personnel and approved by the COTR.
(Include supporting documentation in the test report.)

<table>
<thead>
<tr>
<th>“Plane C” Measurement:</th>
<th>Cz (mm)</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>Verify Measured Equals Specified +/- 6mm:</td>
<td></td>
</tr>
</tbody>
</table>

6.2 Locate the vertical plane parallel to the vehicle longitudinal centerline through the geometric center of the opening through which the right front air bag deploys into the occupant compartment. This is referred to as “Plane D.” (Check determination method below.) (S22.4.1.2)

Plane D determined using manufacturer’s information supplied by the COTR.
(Found in Appendix D on pages D-102 and D-103)

Plane D determined by test lab personnel and approved by the COTR.
(Include supporting documentation in the test report.)

<table>
<thead>
<tr>
<th>“Plane D” Measurement:</th>
<th>Dy (mm)</th>
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<tbody>
<tr>
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<td>Specified:</td>
<td></td>
</tr>
<tr>
<td>Verify Measured Equals Specified +/- 6mm:</td>
<td></td>
</tr>
</tbody>
</table>

6.3 Mark the intersection of Planes C and D on the instrument panel.

7. 5th Female Dummy
Mark a point on the chin of the dummy 40 mm below the center of the mouth. (Chin Point) (S26.2.6)

8. 6-Year-Old Dummy
Locate and mark a point on the front of the dummy’s chest jacket on the midsaggital plane which is 139 mm (5.5 in) ± 3 mm (± 0.1 in) along the surface of the skin down from the top of the skin at the neck line. Designate this point as “Point 1.” (S24.4.1.1)

“Point 1” measurement (mm): 139 mm

9. 3-Year-Old Dummy
Locate and mark a point on the front of the dummy’s chest jacket on the midsaggital plane which is 114 mm (4.5 in) ± 3 mm (± 0.1 in) along the surface of the skin down from the top of the skin at the neck line. Designate this point as “Point 1.” (S22.4.1.1)

“Point 1” measurement (mm +/- 3 mm): 114 mm

REMARKS: NONE

I certify that I have read and performed each instruction.

Signature: ____________________  Date: 5/28/04
DATA SHEET 15 SUMMARY
Suppression Test Using 12-month-old CRABI Dummy  (Part 572, Subpart R)
Section B  Rear Facing CRS

<table>
<thead>
<tr>
<th>NHTSA No.:</th>
<th>C45802</th>
<th>TEST DATE:</th>
<th>5/24/04</th>
</tr>
</thead>
<tbody>
<tr>
<td>LABORATORY:</td>
<td>MGA</td>
<td>TECHNICIANS:</td>
<td>JL/TB</td>
</tr>
<tr>
<td>DUMMY TYPE:</td>
<td>12 Month Old</td>
<td>DUMMY SERIAL NO.:</td>
<td>082</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHILD RESTRAINT NAME:</th>
<th>Britax</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHILD RESTRAINT MODEL:</td>
<td>Handle With Care 191</td>
</tr>
<tr>
<td>DATE OF MANUFACTURE:</td>
<td>5-26-2000</td>
</tr>
</tbody>
</table>

Base: __On __Off  _X N/A-Restraint does not have a removable base

Manufacturer’s design seat back angle:  21.0° On Seat Back
Tested seat back angle:     21.0° On Seat Back
Manufacturer’s specified anchorage position:  3rd Down
Tested anchorage position:    3rd Down

A blanket and visor were not used in the suppression testing because they did not affect the weight sensing system used on the vehicle.

<table>
<thead>
<tr>
<th>Test Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seat Belt</td>
</tr>
<tr>
<td>Belted Rear Facing</td>
</tr>
<tr>
<td>Rear Facing</td>
</tr>
<tr>
<td>Rear Facing</td>
</tr>
<tr>
<td>Unbelted Rear Facing</td>
</tr>
<tr>
<td>Rear Facing</td>
</tr>
<tr>
<td>Rear Facing</td>
</tr>
<tr>
<td>Unbelted Rear Facing</td>
</tr>
<tr>
<td>Forward Facing</td>
</tr>
<tr>
<td>Rearward Facing</td>
</tr>
</tbody>
</table>

Successful Unbelted 5th percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN507)
## DATA SHEET 15 SUMMARY

Suppression Test Using 12-month-old CRABI Dummy  (Part 572, Subpart R)
Section B  Rear Facing CRS

<table>
<thead>
<tr>
<th>NHTSA No.:</th>
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<td>JL/TB</td>
</tr>
<tr>
<td>DUMMY TYPE:</td>
<td>12 Month Old</td>
<td>DUMMY SERIAL NO.:</td>
<td>082</td>
</tr>
</tbody>
</table>

**CHILD RESTRAINT NAME:** Evenflo  
**CHILD RESTRAINT MODEL:** First Choice 204  
**DATE OF MANUFACTURE:** 6-20-2000

Base: __On ___Off __X N/A-Restraint does not have a removable base

Manufacturer’s design seat back angle: 21.0° On Seat Back  
Tested seat back angle: 21.0° On Seat Back  
Manufacturer’s specified anchorage position: 3rd Down  
Tested anchorage position: 3rd Down

A blanket and visor were not used in the suppression testing because they did not affect the weight sensing system used on the vehicle.

### Test Summary

<table>
<thead>
<tr>
<th>Seat Belt</th>
<th>Seat Slide</th>
<th>Cinch Load (N)</th>
<th>Handle Down</th>
<th>Handle Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belted</td>
<td>Forward</td>
<td>130</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Rear</td>
<td>Middle</td>
<td>131</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Facing</td>
<td>Rearward</td>
<td>133</td>
<td>N/A</td>
<td>Suppressed</td>
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<tr>
<td>Unbelted</td>
<td>Forward 3 *</td>
<td>N/A</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Rear</td>
<td>Middle</td>
<td>N/A</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Facing</td>
<td>Rearward</td>
<td>N/A</td>
<td>Suppressed</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Successful Unbelted 5th percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN507)

* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 11 = Full Rearward; 11 total Seat Slide detents)
DATA SHEET 15 SUMMARY
Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)
Section B Rear Facing CRS

<table>
<thead>
<tr>
<th>NHTSA No.:</th>
<th>C45802</th>
<th>TEST DATE:</th>
<th>5/24/04</th>
</tr>
</thead>
<tbody>
<tr>
<td>LABORATORY:</td>
<td>MGA</td>
<td>TECHNICIANS:</td>
<td>JL/TB</td>
</tr>
<tr>
<td>DUMMY TYPE:</td>
<td>12 Month Old</td>
<td>DUMMY SERIAL NO.:</td>
<td>082</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHILD RESTRAINT NAME:</th>
<th>Graco</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHILD RESTRAINT MODEL:</td>
<td>Infant 8457</td>
</tr>
<tr>
<td>DATE OF MANUFACTURE:</td>
<td>8-31-2000</td>
</tr>
</tbody>
</table>

Base: _X_On __Off __N/A-Restraint does not have a removable base

Manufacturer’s design seat back angle: 21.0° On Seat Back
Tested seat back angle: 21.0° On Seat Back
Manufacturer’s specified anchorage position: 3rd Down
Tested anchorage position: 3rd Down

A blanket and visor were not used in the suppression testing because they did not affect the weight sensing system used on the vehicle.

### Test Summary

<table>
<thead>
<tr>
<th>Seat Belt</th>
<th>Seat Slide</th>
<th>Cinch Load (N)</th>
<th>Handle Down</th>
<th>Handle Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belted</td>
<td>Forward 2 *</td>
<td>128</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Rear</td>
<td>Middle</td>
<td>130</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Facing</td>
<td>Rearward</td>
<td>131</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Unbelted</td>
<td>Forward 5 *</td>
<td>N/A</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Rear</td>
<td>Middle</td>
<td>N/A</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Facing</td>
<td>Rearward</td>
<td>N/A</td>
<td>Suppressed</td>
<td>N/A</td>
</tr>
<tr>
<td>Unbelted</td>
<td>Forward 2 *</td>
<td>N/A</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Forward</td>
<td>Middle</td>
<td>N/A</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Facing</td>
<td>Rearward</td>
<td>N/A</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
</tbody>
</table>

* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 11 = Full Rearward; 11 total Seat Slide detents)
DATA SHEET 15 SUMMARY
Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)
Section B Rear Facing CRS

NHTSA No.: C45802  TEST DATE: 5/24/04
LABORATORY: MGA  TECHNICIANS: JL/TB
DUMMY TYPE: 12 Month Old  DUMMY SERIAL NO.: 082

CHILD RESTRAINT NAME: Graco
CHILD RESTRAINT MODEL: Infant 8457
DATE OF MANUFACTURE: 8-31-2000

Base: __On  _X_Off  __N/A-Restraint does not have a removable base

Manufacturer’s design seat back angle: 21.0° On Seat Back
Tested seat back angle: 21.0° On Seat Back
Manufacturer’s specified anchorage position: 3rd Down
Tested anchorage position: 3rd Down

A blanket and visor were not used in the suppression testing because they did not affect the weight sensing system used on the vehicle.

Test Summary

<table>
<thead>
<tr>
<th>Seat Belt</th>
<th>Seat Slide</th>
<th>Cinch Load (N)</th>
<th>Handle Down</th>
<th>Handle Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belted Rear Facing</td>
<td>Forward 2 *</td>
<td>130</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>127</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>129</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Unbelted Rear Facing</td>
<td>Forward 4 *</td>
<td>N/A</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>N/A</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>N/A</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Unbelted Forward Facing</td>
<td>Forward</td>
<td>N/A</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>N/A</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>N/A</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
</tbody>
</table>

Successful Unbelted 5th percentile Female Dummy Reactivation was performed with the seat in the Forward position. (SN507)

* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 11 = Full Rearward; 11 total Seat Slide detents)
DATA SHEET 15 SUMMARY
Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)
Section C Forward Facing Convertible CRS

NHTSA No.: C45802 TEST DATE: 5/24/04
LABORATORY: MGA TECHNICIANS: JL/TB
DUMMY TYPE: 12 Month Old DUMMY SERIAL NO.: 082

CHILD RESTRAINT NAME: Britax
CHILD RESTRAINT MODEL: Roundabout 161
DATE OF MANUFACTURE: 7-21-2000

Base: __On __Off ___N/A-Restraint does not have a removable base

Manufacturer’s design seat back angle: 21.0° On Seat Back
Tested seat back angle: 21.0° On Seat Back
Manufacturer’s specified anchorage position: 3rd Down
Tested anchorage position: 3rd Down

A blanket was not used in the suppression testing because it did not affect the weight sensing system used on the vehicle.

<table>
<thead>
<tr>
<th>Test Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seat Belt</td>
</tr>
<tr>
<td>Belted</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Unbelted</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Belted</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Unbelted</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Successful Unbelted 5th percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN507)
DATA SHEET 15 SUMMARY
Suppression Test Using 12-month-old CRABI Dummy  (Part 572, Subpart R)
Section C  Forward Facing Convertible CRS

<table>
<thead>
<tr>
<th>NHTSA No.</th>
<th>C45802</th>
<th>TEST DATE:</th>
<th>5/24/04</th>
</tr>
</thead>
<tbody>
<tr>
<td>LABORATORY:</td>
<td>MGA</td>
<td>TECHNICIANS:</td>
<td>JL/TB</td>
</tr>
<tr>
<td>DUMMY TYPE:</td>
<td>12 Month Old</td>
<td>DUMMY SERIAL NO.:</td>
<td>082</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHILD RESTRAINT NAME:</th>
<th>Century</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHILD RESTRAINT MODEL:</td>
<td>Encore 4612</td>
</tr>
<tr>
<td>DATE OF MANUFACTURE:</td>
<td>8-16-2000</td>
</tr>
</tbody>
</table>

Base: ___On ___Off ___N/A-Restraint does not have a removable base

Manufacturer’s design seat back angle: 21.0° On Seat Back
Tested seat back angle: 21.0° On Seat Back
Manufacturer’s specified anchorage position: 3rd Down
Tested anchorage position: 3rd Down

A blanket was not used in the suppression testing because it did not affect the weight sensing system used on the vehicle.

Test Summary

<table>
<thead>
<tr>
<th>Seat Belt</th>
<th>Seat Slide</th>
<th>Cinch Load (N)</th>
<th>No Blanket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belted</td>
<td>Forward</td>
<td>128</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>127</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>127</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Unbelted</td>
<td>Forward</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Belted</td>
<td>Rearward</td>
<td>130</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>133</td>
<td>Suppressed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>133</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Unbelted</td>
<td>Rearward</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
</tbody>
</table>

Successful Unbelted 5th percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN507)

* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the fore-aft detent position with respect to the foremost position. (1 = Full Forward; 11 = Full Rearward; 11 total Seat Slide detents)
DATA SHEET 15 SUMMARY
Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)
Section C Forward Facing Convertible CRS

<table>
<thead>
<tr>
<th>NHTSA No.:</th>
<th>C45802</th>
<th>TEST DATE:</th>
<th>5/24/04</th>
</tr>
</thead>
<tbody>
<tr>
<td>LABORATORY:</td>
<td>MGA</td>
<td>TECHNICIANS:</td>
<td>JL/TB</td>
</tr>
<tr>
<td>DUMMY TYPE:</td>
<td>12 Month Old</td>
<td>DUMMY SERIAL NO.:</td>
<td>082</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHILD RESTRAINT NAME:</th>
<th>Evenflo</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHILD RESTRAINT MODEL:</td>
<td>Medallion 254</td>
</tr>
<tr>
<td>DATE OF MANUFACTURE:</td>
<td>6-1-2000</td>
</tr>
</tbody>
</table>

Base: __On  __Off  _X_N/A-Restraint does not have a removable base

Manufacturer’s design seat back angle:  21.0° On Seat Back
Tested seat back angle:     21.0° On Seat Back
Manufacturer’s specified anchorage position:  3rd Down
Tested anchorage position:     3rd Down

A blanket was not used in the suppression testing because it did not affect the weight sensing system used on the vehicle.

<table>
<thead>
<tr>
<th>Seat Belt</th>
<th>Seat Slide</th>
<th>Cinch Load (N)</th>
<th>No Blanket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belted</td>
<td>Forward</td>
<td>128</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>130</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>134</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Unbelted</td>
<td>Forward</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Belted</td>
<td>Rearward</td>
<td>133</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>131</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>132</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Unbelted</td>
<td>Rearward</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
</tbody>
</table>

Successful Unbelted 5th percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN507)
DATA SHEET 16 SUMMARY
Suppression Test Using Newborn Infant Dummy (Part 572, Subpart K)
Section A Car Bed

<table>
<thead>
<tr>
<th>NHTSA No.:</th>
<th>C45802</th>
<th>TEST DATE:</th>
<th>5/24/04</th>
</tr>
</thead>
<tbody>
<tr>
<td>LABORATORY:</td>
<td>MGA</td>
<td>TECHNICIANS:</td>
<td>JL/TB</td>
</tr>
<tr>
<td>DUMMY TYPE:</td>
<td>Newborn Infant</td>
<td>DUMMY SERIAL NO.:</td>
<td>003</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAR BED NAME:</th>
<th>Cosco</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAR BED MODEL:</td>
<td>Dream Ride 02-719</td>
</tr>
<tr>
<td>DATE OF MANUFACTURE:</td>
<td>6-16-2000</td>
</tr>
</tbody>
</table>

Base: __On __Off _X N/A-Restraint does not have a removable base
(A car bed with a removable base shall be treated as two separate models, i.e. this form and
test procedure will be completed with the base on and then repeated on a new form with the
base off.

Manufacturer’s design seat back angle: 21.0° On Seat Back
Tested seat back angle: 21.0° On Seat Back
Manufacturer’s specified anchorage position: 3rd Down
Tested anchorage position: 3rd Down

A blanket and visor were not used in the suppression testing because they did not affect
the weight sensing system used on the vehicle.

Test Summary

<table>
<thead>
<tr>
<th>Seat Belt</th>
<th>Seat Slide</th>
<th>Handle Down</th>
<th>Handle Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belted</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Forward 3 *</td>
<td>Suppressed</td>
<td>N/A</td>
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<tr>
<td></td>
<td>Middle</td>
<td>Suppressed</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>Suppressed</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Successful Unbelted 5th percentile Female Dummy Reactivation was performed with the
seat in the Forward position. (SN507)

* The CRS would not fit in this Forward Seat Slide position. If there is a number in the
Seat Slide column, it indicates the fore-aft detent position with respect to the foremost
position. (1 = Full Forward; 11 = Full Rearward; 11 total Seat Slide detents)
Low Risk Deployment Tests Using an Unbelted 3-Year-Old Dummy
(Part 572, Subpart N) (S24)
Position 1 - Chest On Instrument Panel (S24.4.2)

NHTSA No.: C45802  TEST DATE:  5-28-04
LABORATORY: MGA  TECHNICIANS: CN/DW/BR
DUMMY TYPE: 3-Year-Old  DUMMY SERIAL NO.: 031

Manufacturer’s design seat back angle: 21° on Seat Back
Tested seat back angle: 21° on Seat Back
Tested seat position: Full Aft

Thorax cavity angle: 0.0°
Thigh Angle 35.4°
Point 1 height: 0.0 mm

**Air Bag Deployment Timing**

<table>
<thead>
<tr>
<th>Stage No.</th>
<th>Firing time (ms)</th>
<th>Recorded firing time (ms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>2 *</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* Only the first stage out of two stages was fired during this test as specified by the manufacturer.

**3-Year-Old SN 031 Position 1 (Chest On Instrument Panel) 5-28-04**

<table>
<thead>
<tr>
<th>Injury Criteria</th>
<th>Max. Allowable Injury Assessment Values</th>
<th>Measured Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIC15</td>
<td>700</td>
<td>0.1</td>
</tr>
<tr>
<td>Peak Nij (Nte)</td>
<td>1.0</td>
<td>0.1</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>25.2</td>
</tr>
<tr>
<td>Peak Nij (Ntf)</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>32.4</td>
</tr>
<tr>
<td>Peak Nij (Nce)</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>94.7</td>
</tr>
<tr>
<td>Peak Nij (Ncf)</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>37.1</td>
</tr>
<tr>
<td>Neck Tension</td>
<td>1490 N</td>
<td>64</td>
</tr>
<tr>
<td>Neck Compression</td>
<td>1820 N</td>
<td>6</td>
</tr>
<tr>
<td>Chest g</td>
<td>60 g</td>
<td>2</td>
</tr>
<tr>
<td>Chest Displacement</td>
<td>40 mm</td>
<td>4</td>
</tr>
</tbody>
</table>

Calculated on data recorded for 100 ms after the initial deployment of the air bag. (S4.11(b))
DATA SHEET 24 SUMMARY

Low Risk Deployment Tests Using an Unbelted 3-Year-Old Dummy
(Part 572, Subpart N) (S24)
Position 2 - Head On Instrument Panel (S24.4.3)

NHTSA No.: C45802  TEST DATE: 6-18-04
LABORATORY: MGA  TECHNICIANS: WD/DW/BR
DUMMY TYPE: 3-Year-Old  DUMMY SERIAL NO.: 032

Manufacturer’s design seat back angle: 21° on Seat Back
Tested seat back angle: 21.1° on Seat Back
Tested seat position: Full Aft

Thorax cavity angle: 6.1°
Thigh Angle: 31.0°
Point 1 Height 152 mm Below Airbag Center

Air Bag Deployment Timing

<table>
<thead>
<tr>
<th>Stage No.</th>
<th>Firing time (ms)</th>
<th>Recorded firing time (ms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>2 *</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* Only the first stage out of two stages was fired during this test as specified by the manufacturer.

3-Year-Old SN 032 Position 2 (Head On Instrument Panel) 6-18-04

<table>
<thead>
<tr>
<th>Injury Criteria</th>
<th>Max. Allowable Injury Assessment Values</th>
<th>Measured Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIC15</td>
<td>700</td>
<td>173</td>
</tr>
<tr>
<td>Peak Nij (Nte)</td>
<td>1.0</td>
<td>0.3</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>61.3</td>
</tr>
<tr>
<td>Peak Nij (Ntf)</td>
<td>1.0</td>
<td>0.6</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>15.1</td>
</tr>
<tr>
<td>Peak Nij (Nce)</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>12.3</td>
</tr>
<tr>
<td>Peak Nij (Ncf)</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>1.6</td>
</tr>
<tr>
<td>Neck Tension</td>
<td>1490 N</td>
<td>959</td>
</tr>
<tr>
<td>Neck Compression</td>
<td>1820 N</td>
<td>7</td>
</tr>
<tr>
<td>Chest g</td>
<td>60 g</td>
<td>4</td>
</tr>
<tr>
<td>Chest Displacement</td>
<td>40 mm</td>
<td>1</td>
</tr>
</tbody>
</table>

Calculated on data recorded for 100 ms after the initial deployment of the air bag. (S4.11(b))
DATA SHEET 25 SUMMARY
Low Risk Deployment Tests Using an Unbelted 6-Year-Old Dummy
(Part 572, Subpart N) (S24)
Position 1 - Chest On Instrument Panel (S24.4.2)

<table>
<thead>
<tr>
<th>NHTSA No.:</th>
<th>C45802</th>
<th>TEST DATE:</th>
<th>7-09-04</th>
</tr>
</thead>
<tbody>
<tr>
<td>LABORATORY:</td>
<td>MGA</td>
<td>TECHNICIANS:</td>
<td>CN/DW/BR</td>
</tr>
<tr>
<td>DUMMY TYPE:</td>
<td>6-Year-Old</td>
<td>DUMMY SERIAL NO.:</td>
<td>153</td>
</tr>
</tbody>
</table>

Manufacturer’s design seat back angle: 21° on Seat Back
Tested seat back angle: 21° on Seat Back
Tested seat position: Full Aft

Thorax cavity angle: 6.0°
Point 1 height: 0.0 mm

Air Bag Deployment Timing

<table>
<thead>
<tr>
<th>Stage No.</th>
<th>Firing time (ms)</th>
<th>Recorded firing time (ms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>2 *</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* Only the first stage out of two stages was fired during this test as specified by the manufacturer.

6-Year-Old SN 153 Position 1 (Chest On Instrument Panel) 7-09-04

<table>
<thead>
<tr>
<th>Injury Criteria</th>
<th>Max. Allowable Injury Assessment Values</th>
<th>Measured Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIC15</td>
<td>700</td>
<td>0.4</td>
</tr>
<tr>
<td>Peak Nij (Nte)</td>
<td>1.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>20.2</td>
</tr>
<tr>
<td>Peak Nij (Ntf)</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>35.3</td>
</tr>
<tr>
<td>Peak Nij (Nce)</td>
<td>1.0</td>
<td>0.1</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>22.8</td>
</tr>
<tr>
<td>Peak Nij (Ncf)</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>66.6</td>
</tr>
<tr>
<td>Neck Tension</td>
<td>1490 N</td>
<td>253</td>
</tr>
<tr>
<td>Neck Compression</td>
<td>1820 N</td>
<td>169</td>
</tr>
<tr>
<td>Chest g</td>
<td>60 g</td>
<td>8</td>
</tr>
<tr>
<td>Chest Displacement</td>
<td>40 mm</td>
<td>11</td>
</tr>
</tbody>
</table>

Calculated on data recorded for 100 ms after the initial deployment of the air bag. (S4.11(b))
DATA SHEET 26 SUMMARY
Low Risk Deployment Tests Using an Unbelted 6-Year-Old Dummy
(Part 572, Subpart N) (S24)
Position 2 - Head On Instrument Panel (S24.4.3)

NHTSA No.: C45802  TEST DATE:  7-09-04
LABORATORY: MGA  TECHNICIANS:  WD/DW/BR
DUMMY TYPE: 6-Year-Old  DUMMY SERIAL NO.:  153

Manufacturer’s design seat back angle:  21° on Seat Back
Tested seat back angle:  21° on Seat Back
Tested seat position:  Full Aft

Thorax cavity angle:  30.6°
Thigh Angle:  9.5°

Air Bag Deployment Timing

<table>
<thead>
<tr>
<th>Stage No.</th>
<th>Firing time (ms)</th>
<th>Recorded firing time (ms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>2 *</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* Only the first stage out of two stages was fired during this test as specified by the manufacturer.

6-Year-Old SN 153 Position 2 (Head On Instrument Panel) 7-09-04

<table>
<thead>
<tr>
<th>Injury Criteria</th>
<th>Max. Allowable Injury Assessment Values</th>
<th>Measured Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIC15</td>
<td>700</td>
<td>296</td>
</tr>
<tr>
<td>Peak Nij (Nte)</td>
<td>1.0</td>
<td>0.8</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>23.3</td>
</tr>
<tr>
<td>Peak Nij (Ntf)</td>
<td>1.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>16.6</td>
</tr>
<tr>
<td>Peak Nij (Nce)</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>10.5</td>
</tr>
<tr>
<td>Peak Nij (Ncf)</td>
<td>1.0</td>
<td>0.1</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>14.3</td>
</tr>
<tr>
<td>Neck Tension</td>
<td>1490 N</td>
<td>1100</td>
</tr>
<tr>
<td>Neck Compression</td>
<td>1820 N</td>
<td>39</td>
</tr>
<tr>
<td>Chest g</td>
<td>60 g</td>
<td>8</td>
</tr>
<tr>
<td>Chest Displacement</td>
<td>40 mm</td>
<td>1</td>
</tr>
</tbody>
</table>

Calculated on data recorded for 100 ms after the initial deployment of the air bag. (S4.11(b))
DATA SHEET 27 SUMMARY
Low Risk Deployment Tests Using an Unbelted 5th Percentile Female Dummy (Part 572, Subpart O) (S26)
Position 1 - Chin On Module (S26.2)

<table>
<thead>
<tr>
<th>NHTSA No.</th>
<th>C45802</th>
<th>TEST DATE:</th>
<th>5/28/04</th>
</tr>
</thead>
<tbody>
<tr>
<td>LABORATORY:</td>
<td>MGA</td>
<td>TECHNICIANS:</td>
<td>CN/DW/BR</td>
</tr>
<tr>
<td>DUMMY TYPE:</td>
<td>5th Percentile Female</td>
<td>DUMMY SERIAL NO.:</td>
<td>506</td>
</tr>
</tbody>
</table>

Manufacturer’s design seat back angle: 21.0° On Seat Back
Tested seat back angle: 21.0° On Seat Back
Tested seat position: Full Aft

Tested steering wheel angle: 23.4°
Thorax cavity angle: 29.3°
Chin Point height: 5 mm Above Module

### Air Bag Deployment Timing

<table>
<thead>
<tr>
<th>Stage No.</th>
<th>Firing time (ms)</th>
<th>Recorded firing time (ms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>2</td>
<td>50.0</td>
<td>50.2</td>
</tr>
</tbody>
</table>

### 5th Percentile Female SN 506 Position 1 (Chin On Module) 5-28-04

<table>
<thead>
<tr>
<th>Injury Criteria</th>
<th>Max. Allowable Injury Assessment Values</th>
<th>Measured Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIC15</td>
<td>700</td>
<td>32</td>
</tr>
<tr>
<td>Peak Nij (Nte)</td>
<td>1.0</td>
<td>0.5</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>43.3</td>
</tr>
<tr>
<td>Peak Nij (Ntf)</td>
<td>1.0</td>
<td>0.4</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>21.2</td>
</tr>
<tr>
<td>Peak Nij (Nce)</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>1.2</td>
</tr>
<tr>
<td>Peak Nij (Ncf)</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>1.9</td>
</tr>
<tr>
<td>Neck Tension</td>
<td>2070 N</td>
<td>768</td>
</tr>
<tr>
<td>Neck Compression</td>
<td>2520 N</td>
<td>6</td>
</tr>
<tr>
<td>Chest g</td>
<td>60 g</td>
<td>12</td>
</tr>
<tr>
<td>Chest Displacement</td>
<td>52 mm</td>
<td>11</td>
</tr>
<tr>
<td>Left Femur</td>
<td>6805 N</td>
<td>50</td>
</tr>
<tr>
<td>Right Femur</td>
<td>6805 N</td>
<td>58</td>
</tr>
</tbody>
</table>

Calculated on data recorded for 125 ms after the initiation of the final stage of air bag deployment designed to deploy in any full frontal rigid barrier crash up to 26 km/h. (S4.11(d))
Second stage fire time of 50 ms; Injuries calculated on 0 ms to 175 ms.
DATA SHEET 28 SUMMARY
Low Risk Deployment Tests Using an Unbelted 5th Percentile Female Dummy (Part 572, Subpart O) (S26) Position 2 - Chin On Rim (S26.3)

NHTSA No.: C45802  TEST DATE: 6/18/04
LABORATORY: MGA  TECHNICIANS: WD/DW/BR
DUMMY TYPE: 5th Percentile Female  DUMMY SERIAL NO.: 511

Manufacturer’s design seat back angle: 21.0° On Seat Back
Tested seat back angle: 21.0° On Seat Back
Tested seat position: Full Aft

Tested steering wheel angle: 23.4°
Thorax cavity angle: 29.4°
Chin Point height: 8 mm

Air Bag Deployment Timing

<table>
<thead>
<tr>
<th>Stage No.</th>
<th>Firing time (ms)</th>
<th>Recorded firing time (ms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>2</td>
<td>50.0</td>
<td>50.4</td>
</tr>
</tbody>
</table>

5th Percentile Female SN 511 Position 2 (Chin On Rim) 6-18-04

<table>
<thead>
<tr>
<th>Injury Criteria</th>
<th>Max. Allowable Injury Assessment Values</th>
<th>Measured Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIC15</td>
<td>700</td>
<td>15</td>
</tr>
<tr>
<td>Peak Nij (Nte)</td>
<td>1.0</td>
<td>0.5</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>14.4</td>
</tr>
<tr>
<td>Peak Nij (Ntf)</td>
<td>1.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>51.1</td>
</tr>
<tr>
<td>Peak Nij (Nce)</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>4.6</td>
</tr>
<tr>
<td>Peak Nij (Ncf)</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>5.5</td>
</tr>
<tr>
<td>Neck Tension</td>
<td>2070 N</td>
<td>802</td>
</tr>
<tr>
<td>Neck Compression</td>
<td>2520 N</td>
<td>52</td>
</tr>
<tr>
<td>Chest g</td>
<td>60 g</td>
<td>19</td>
</tr>
<tr>
<td>Chest Displacement</td>
<td>52 mm</td>
<td>26</td>
</tr>
<tr>
<td>Left Femur</td>
<td>6805 N</td>
<td>60</td>
</tr>
<tr>
<td>Right Femur</td>
<td>6805 N</td>
<td>31</td>
</tr>
</tbody>
</table>

Calculated on data recorded for 125 ms after the initiation of the final stage of air bag deployment designed to deploy in any full frontal rigid barrier crash up to 26 km/h. (S4.11(d))
Second stage fire time of 100 ms; Injuries calculated on 0 ms to 175 ms
DATA SHEET 30
VEHICLE WEIGHT, FUEL TANK, AND ATTITUDE DATA

Test Vehicle: 2004 Volkswagen Beetle  NHTSA No.: C45802
Test Program: FMVSS 208 Compliance  Test Date: 8/20/04
Test Technician: Clark Subrt

IMPACT ANGLE: Zero Degrees
BELTED DUMMIES (YES/NO): No – Front Occupants
TEST SPEED: X 32 to 40 kmph  _ 0 to 48 kmph  _ 0 to 56 kmph
DRIVER DUMMY: X 5TH female  _ 50TH Male
PASSENGER DUMMY: X 5TH female  _ 50TH Male

1. Fill the transmission with transmission fluid to the satisfactory range.
2. Drain fuel from vehicle
3. Run the engine until fuel remaining in the fuel delivery system is used and the engine stops.
4. Record the useable fuel tank capacity supplied by the COTR
   Useable Fuel Tank Capacity supplied by COTR: 55 liters (14.5 gallons)
5. Record the fuel tank capacity supplied in the owner's manual.
   Useable Fuel Tank Capacity in owner's manual: 55 liters (14.5 gallons)
6. Using purple dyed Stoddard solvent having the physical and chemical properties of Type 1 solvent or cleaning fluid, Table 1, ASTM Standard D484-71, “Standard Specifications for Hydrocarbon Dry-cleaning Solvents,” or gasoline, fill the fuel tank.
   Amount Added: 55 liters (14.5 gallons)
7. Fill the coolant system to capacity.
8. Fill the engine with motor oil to the Max. mark on the dip stick.
9. Fill the brake reservoir with brake fluid to its normal level.
10. Fill the windshield washer reservoir to capacity.
11. Inflate the tires to the tire pressure on the tire placard. If no tire placard is available, inflate the tires to the recommended pressure in the owner’s manual.

| Tire placard pressure: | RF: 30 psi | LF: 30 psi | RR: 38 psi | LR: 38 psi
|------------------------|------------|------------|------------|------------|
| Owner's manual pressure: | RF: 30 psi | LF: 30 psi | RR: 38 psi | LR: 38 psi
| Actual inflated pressure: | RF: 30 psi | LF: 30 psi | RR: 38 psi | LR: 38 psi

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

<table>
<thead>
<tr>
<th>Right Front (kg):</th>
<th>394.2</th>
<th>Right Rear (kg):</th>
<th>241.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left Front (kg):</td>
<td>406.0</td>
<td>Left Rear (kg):</td>
<td>230.0</td>
</tr>
<tr>
<td>Total Front (kg):</td>
<td>800.2</td>
<td>Total Rear (kg):</td>
<td>471.3</td>
</tr>
<tr>
<td>% Total Weight:</td>
<td>62.9</td>
<td>% Total Weight:</td>
<td>37.1</td>
</tr>
<tr>
<td>UVW = TOTAL FRONT PLUS TOTAL REAR (KG):</td>
<td>1271.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13. UVW Test Vehicle Attitude: (All dimensions in millimeters)
13.1 Mark a point on the vehicle above the center of each wheel.
13.2 Place the vehicle on a level surface.
13.3 Measure perpendicular to the level surface to the 4 points marked on the body and record the measurements

RF: 680 LF: 679 RR: 687 LR: 693

14. Calculate the Rated Cargo and Luggage Weight (RCLW).

14.1 Does the vehicle have the vehicle capacity weight (VCW) on the certification label or tire placard?

X Yes, go to 14.3 On inside left front door frame

X No, go to 14.2

14.2 VCW = Gross Vehicle Weight – UVW

VCW = __________ - __________ = __________

14.3 VCW = 351 kg (774 lbs)

14.4 Does the certification or tire placard contain the Designated Seating Capacity (DSC)? The Tire Placard label is the subject of NHTSA recall number 03V508000. The Tire Placard label incorrectly identifies the vehicle as a five passenger vehicle instead of a four passenger vehicle. The correct four passenger data was used to perform the test. See Discussion of Tests, Section 4, Page 8, for further information.

X Yes, go to 14.6

X No, go to 14.5 and skip 14.6

14.5 DSC = Total number of seat belt assemblies = _________

14.6 DSC = 4

14.7 RCLW = VCW – (68 kg x DSC) = 351 kg - (68 kg x 4 ) = 79 kg

14.8 Is the vehicle certified as a truck, MPV or bus (see the certification label on the door jamb)?

X Yes, if the calculated RCLW is greater than 136 kg, use 136 kg as the RCLW. (S8.1.1)

X No, use the RCLW calculated in 14.7

15. Fully Loaded Weight (100% fuel fill)

15.1 Place the appropriate test dummy in both front outboard seating positions.

Driver: X 5th female __ 50th male

Passenger: X 5th female __ 50th male

15.2 Load the vehicle with the RCLW from 14.7 or 14.8 whichever is applicable.

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

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

<table>
<thead>
<tr>
<th>Right Front (kg):</th>
<th>446.0</th>
<th>Right Rear (kg):</th>
<th>278.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left Front (kg):</td>
<td>456.0</td>
<td>Left Rear (kg):</td>
<td>267.0</td>
</tr>
<tr>
<td>Total Front (kg):</td>
<td>902.0</td>
<td>Total Rear (kg):</td>
<td>545.8</td>
</tr>
<tr>
<td>% Total Weight:</td>
<td>62.3</td>
<td>% Total Weight:</td>
<td>37.7</td>
</tr>
<tr>
<td>% GVW:</td>
<td>55.1</td>
<td>% GVW:</td>
<td>33.3</td>
</tr>
<tr>
<td>Fully Loaded Weight = Total Front Plus Total Rear (kg):</td>
<td>1447.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. Fully Loaded Test Vehicle Attitude: (All dimensions in millimeters)

16.1 Place the vehicle on a level surface.
16.2 Measure perpendicular to the level surface to the 4 points marked on the body (see 13.1 above) and record the measurements

<table>
<thead>
<tr>
<th>RF</th>
<th>LF</th>
<th>RR</th>
<th>LR</th>
</tr>
</thead>
<tbody>
<tr>
<td>671</td>
<td>670</td>
<td>675</td>
<td>680</td>
</tr>
</tbody>
</table>

17. Drain the fuel system

18. Using purple dyed Stoddard solvent having the physical and chemical properties of Type 1 solvent or cleaning fluid, Table 1, ASTM Standard D484-71, “Standard Specifications for Hydrocarbon Dry-cleaning Solvents,” fill the fuel tank to 92 - 94 percent of useable capacity.

Fuel tank capacity \( \times 0.94 = 55.0 \text{ liters (14.5 gallons)} \times 0.94 = 51.7 \text{ liters (13.6 gallons)} \)

Amount added 51.7 liters (13.6 gallons) 94%

19. Crank the engine to fill the fuel delivery system with Stoddard solvent

20. Calculate the test weight range.

20.1 Calculated Weight = UVW (see 12 above) + RCLW (see 14 above) + 2x(dummy weight)

\[ 1448.5 \text{ kg} = 1271.5 \text{ kg} + 79.0 \text{ kg} + 98.0 \text{ kg} \]

20.2 Test Weight Range = Calculated Weight (- 4.5 kg, - 9 kg.)

Max. Test Weight = Calculated Test Weight – 4.5 kg = 1444.0 kg

Min. Test Weight = Calculated Test Weight – 9 kg = 1439.5 kg

21. Remove the RCLW from the cargo area.

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

23. Vehicle Components Removed For Weight Reduction:
Rear Seat, Both Tail Lights, Spare Tire, Tool and Jack, Trunk Interior

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

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

N/A

Weight of Ballast:

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

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

| Right Front (kg): | 438.5 | Right Rear (kg): | 288.0 |
| Left Front (kg):  | 431.3 | Left Rear (kg):  | 285.3 |
| Total Front (kg): | 869.8 | Total Rear (kg): | 573.3 |
| % Total Weight:   | 60.3  | % Total Weight:  | 39.7  |
| % GVW            | 53.1  | % GVW          | 35.0  |

\( (% \text{ GVW} = \text{Axle GVW divided by Vehicle GVW}) \)

TOTAL FRONT PLUS TOTAL REAR (kg): 1443.1
28. Is the test weight between the Max. Weight and the Min. Weight (See 20.2)?
   - Yes
   - No, explain why not.

29. Test Weight Vehicle Attitude: (all dimensions in millimeters)
   - 29.1 Place the vehicle on a level surface
   - 29.2 Measure perpendicular to the level surface to the 4 points marked on the body (see 13 above) and record the measurements
     
     RF: 672  LF: 675  RR: 678  LR: 680

30. Summary of test attitude
   - 30.1 AS DELIVERED:
     
     RF: 680  LF: 679  RR: 687  LR: 693

     AS TESTED:
     
     RF: 672  LF: 675  RR: 678  LR: 680

     FULLY LOADED:
     

   - 30.2 Is the “as tested” test attitude equal to or between the “fully loaded” and “as delivered” attitude?
   - Yes
   - No, explain why not.

REMARKS: NONE

I certify that I have read and performed each instruction.

Signature: [Signature]

Date: 8/19/04
DATA SHEET 31

VEHICLE ACCELEROMETER LOCATION AND MEASUREMENT

Test Vehicle: 2004 Volkswagen Beetle  
Test Program: FMVSS 208 Compliance  
Test Technician: Clark Subrt

IMPACT ANGLE: Zero Degrees
BELTED DUMMIES (YES/NO): No – Front Occupants
TEST SPEED: X 32 to 40 kmph  _ 0 to 48 kmph  _ 0 to 56 kmph
DRIVER DUMMY: _X 5TH female  ___ 50th Male
PASSENGER DUMMY: _X 5TH female  ___ 50th Male

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

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

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

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

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

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

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

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

REMARKS: NONE

I certify that I have read and performed each instruction.

Signature:  
Date: 8/19/04
Dimensions Corresponding To The Letters “A” Through “K” (Excluding “I”) Are Recorded In The Table On The Following Page. Accelerometers Corresponding To The Numbers 1 Through 8 Are Specified On The Preceding Page.
<table>
<thead>
<tr>
<th>DIMENSION</th>
<th>LENGTH (mm)</th>
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<tbody>
<tr>
<td><strong>PRETEST VALUES</strong></td>
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</tr>
<tr>
<td>A (LH Rear Seat Xmbr)</td>
<td>380</td>
</tr>
<tr>
<td>B (RH Rear Seat Xmbr)</td>
<td>380</td>
</tr>
<tr>
<td>C (Engine Top)</td>
<td>3448</td>
</tr>
<tr>
<td>D (Engine Bottom)</td>
<td>3415</td>
</tr>
<tr>
<td>E (Caliper)</td>
<td>Right Side 3270</td>
</tr>
<tr>
<td>F (Left Caliper)</td>
<td>713</td>
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<tr>
<td>G (IP)</td>
<td>2742</td>
</tr>
<tr>
<td>H (Seat)</td>
<td>1460</td>
</tr>
<tr>
<td>J (Right Caliper)</td>
<td>713</td>
</tr>
<tr>
<td>K (Trunk)</td>
<td>825</td>
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<td><strong>POST TEST VALUES</strong></td>
<td></td>
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<tr>
<td>A (LH Rear Seat Xmbr)</td>
<td>380</td>
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<tr>
<td>B (RH Rear Seat Xmbr)</td>
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<td>E (Caliper)</td>
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<td>H (Seat)</td>
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<td>713</td>
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<tr>
<td>K (Trunk)</td>
<td>825</td>
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DATA SHEET 32
PHOTOGRAPHIC TARGETS

<table>
<thead>
<tr>
<th>Test Vehicle:</th>
<th>2004 Volkswagen Beetle</th>
<th>NHTSA No.:</th>
<th>C45802</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Program:</td>
<td>FMVSS 208 Compliance</td>
<td>Test Date:</td>
<td>8/20/04</td>
</tr>
<tr>
<td>Test Technician:</td>
<td>Clark Subrt</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| IMPACT ANGLE:       | Zero Degrees           |
| BELTED DUMMIES (YES/NO): | No – Front Occupants |
| TEST SPEED:         | X 32 to 40 kmph       |
|                     | _ 0 to 48 kmph        |
|                     | _ 0 to 56 kmph        |
| DRIVER DUMMY:       | X 5<sup>th</sup> female |
|                     | __ 50<sup>th</sup> Male |
| PASSENGER DUMMY:    | X 5<sup>th</sup> female |
|                     | __ 50<sup>th</sup> Male |

1. FMVSS 208 vehicle targeting requirements  (See Figures 28A and 28B)
   1.1 Targets A1 and A2 are on flat rectangular panels.
   1.2 Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted at the front on the outboard sides of A1 and A2. The center of each circular target is 100 mm from the one next to it.
   Distance between targets (mm): 100 mm
   1.3 Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted at the back on the outboard sides of on A1 and A2. The center of each circular target is 100 mm from the one next to it.
   Distance between targets (mm): 100 mm
   1.4 The distance between the first circular target at the front of A1 and A2 and the last circular target at the back of A1 and A2 is at least 915 mm.
   Distance between the first and last circular targets (mm): 915 mm
   1.5 Firmly fix target A1 on the vehicle roof in the vertical longitudinal plane that is coincident with the midsagittal plane of the driver dummy.
   1.6 Firmly fix target A2 on the vehicle roof in the vertical longitudinal plane that is coincident with the midsagittal plane of the passenger dummy.
   1.7 Two circular targets (C1 and C2) at least 90 mm in diameter and with black and yellow quadrants are mounted on the outside of the driver door. The centers of each circular target are at least 610 mm apart.
   Distance between targets (mm): 610 mm
   1.8 Two circular targets (C1 and C2) at least 90 mm in diameter and with black and yellow quadrants are mounted on the outside of the passenger door. The centers of each circular target are at least 610 mm apart.
   Distance between targets (mm): 610 mm
   1.9 Place tape with squares having alternating colors on the top portion of the steering wheel.
   1.10 Chalk the bottom portion of the steering wheel
   1.11 Is this an offset test?
   Yes, continue with this section
   No, go to 2.
   1.12 Measure the width of the vehicle.
   Vehicle width (mm):
   1.13 Find the centerline of the vehicle. (¼ of the vehicle width)
1.14 Find the line parallel to the centerline of the vehicle and 0.1 x vehicle width from the centerline of the vehicle.

1.15 Apply 25 mm wide tape with alternating black and yellow squares parallel to and on each side of the line found in 1.14. The edge of each tape shall be 50 mm from the line found in 1.14. The tape shall extend from the bottom of the bumper to the front edge of the windshield. (Figure 28D)

2. Barrier Targeting

2.1 Fix two stationary targets D1 and D2 to the barrier as shown in the Figure 28A. One target is in the vertical longitudinal plane that is coincident with the midsagittal plane of the driver dummy. The other is in the vertical longitudinal plane that is coincident with the midsagittal plane of the passenger dummy.

2.2 Targets D1 and D2 are on a rectangular panel.

2.3 Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted on the sides of the rectangular panel away from the longitudinal centerline of the vehicle. The center of each circular target is 100 mm from the one next to it.

Distance between circular targets on D1 (mm): 100mm
Distance between circular targets on D2 (mm): 100mm

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 indicant test ordered on the “COTR Vehicle Work Order?”

Yes, continue with this form.

No, this form is complete. (Removed at manufacturer’s request with COTR approval)

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

REMARKS:

I certify that I have read and performed each instruction.

Signature: [Signature]

Date: 8/20/04
RESECTION PANEL TARGETING ALIGNMENT

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

LEFT SIDE VIEW

REAR VIEW
PRE-RUN STEERING COLUMN HIGH SPEED CAMERA VIEW

LEFT SIDE VIEW
## DATA SHEET 33
### CAMERA LOCATIONS

<table>
<thead>
<tr>
<th>CAMERA NO.</th>
<th>VIEW</th>
<th>CAMERA POSITIONS (mm) *</th>
<th>LENS (mm)</th>
<th>SPEED (fps)</th>
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<tbody>
<tr>
<td>1</td>
<td>Real Time Left Side View</td>
<td></td>
<td>13</td>
<td>24</td>
</tr>
<tr>
<td>2</td>
<td>Left Side View (Barrier face to front seat backs)</td>
<td>950</td>
<td>-7740</td>
<td>1325</td>
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<tr>
<td>3</td>
<td>Left Side View (Driver)</td>
<td>1600</td>
<td>-6310</td>
<td>1503</td>
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<tr>
<td>4</td>
<td>Left Side View (B-post aimed toward center of steering wheel)</td>
<td>5593</td>
<td>-5100</td>
<td>1974</td>
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<tr>
<td>5</td>
<td>Left Side View (Steering Column)</td>
<td>1920</td>
<td>-5838</td>
<td>1570</td>
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<td>6</td>
<td>Left Side View (Steering Column)</td>
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<td>7</td>
<td>Right Side View (Overall)</td>
<td>1900</td>
<td>6820</td>
<td>1480</td>
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<td>8</td>
<td>Right Side View (Passenger)</td>
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<td>8200</td>
<td>1443</td>
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<td>Right Side View (Angle)</td>
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<td>5190</td>
<td>1970</td>
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<td>10</td>
<td>Right Side View (Front door)</td>
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<td>8240</td>
<td>1450</td>
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<td>11</td>
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<td>Pit Camera Fuel Tank View</td>
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<td>-3150</td>
</tr>
</tbody>
</table>

*COORDINATES
+X – forward of impact plane
+Y – right of monorail centerline
+Z – above ground level

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Test Vehicle: 2004 Volkswagen Beetle
Test Program: FMVSS 208 Compliance
NHTSA No.: C45802
Test Date: 8/20/04
Time: 1:00 pm
CAMERA POSITIONS FOR FMVSS 208

TOP VIEW

LEFT SIDE VIEW

CONCRETE PAD

COVERED PHOTO PIT

TOW ROAD

MONORAIL

CONCRETE BARRIER

REAL TIME CAMERA

CONCRETE BARRIER

MONORAIL

COVERED PHOTO PIT

LEFT SIDE VIEW

CAMERA POSITIONS FOR FMVSS 208

CONCRETE PAD

COVERED PHOTO PIT

TOW ROAD

MONORAIL

CONCRETE BARRIER

REAL TIME CAMERA

CONCRETE BARRIER

MONORAIL

COVERED PHOTO PIT

LEFT SIDE VIEW

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

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

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

4. Use the seat markings determined during the completion of Data Sheet 14 to set the rearmost fore-aft position, mid-height position and the seat cushion mid-angle. (S16.3.2.1.1)

5. If the vehicle has an adjustable accelerator pedal, place it in the full forward position. (S16.3.2.2.1)
   X N/A accelerator pedal not adjustable

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

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

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

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

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

11. Set the angle between the legs and the thighs to 120 degrees. (S16.3.2.1.6)
12. Set the transverse distance between the centers of the front of the knees at 160 to 170 mm. (6.3 to 6.7 inches) Center the knee separation with respect to the longitudinal seat cushion marking as determined in item 1.18 of Data Sheet 14. (S16.3.2.1.6)
   Record Knee Separation 165 mm

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

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

15. 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)

16. 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)

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

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

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

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

21. Continue to move the seat. Use seat controls to line up the seat markings determined during the completion of Data Sheet 14 to set the foremost fore-aft position, mid-height position and the seat cushion mid-angle. If the dummy contacts the interior move the seat rearward until a maximum clearance of 5 mm (0.2 inches) is achieved or the seat is in the closest detent position that does not cause dummy contact. (S16.3.2.1.8)
__Foremost, mid-height position and the seat cushion mid-angle 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 foremost
   (Foremost is position zero)

__22. If the steering wheel was repositioned in step 19, return the steering wheel to the original position. If the steering wheel contacts the dummy before reaching the original position, position the wheel until a maximum clearance of 5mm (.2 inches) is achieved, or the steering wheel is in the closest detent position that does not cause dummy contact. (S16.3.2.1.8)
__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)

_X 23. If the seat back is adjustable, rotate the seat back forward while holding the thighs in place. Continue rotating the seat back forward until the transverse instrument platform of the dummy head is level ± 0.5 degrees. If the head cannot be leveled using the seat back adjustment, or the seat back is not adjustable, use the lower neck bracket adjustment to level the head. If a level position cannot be achieved, minimize the angle. (S16.3.2.1.9)
_X Head Level Achieved. (Check all that apply)
   _X Head leveled using the adjustable seat back
   __Head leveled using the neck bracket.
      Head Angle ______0.0______ degrees

__Head Level NOT Achieved. (Check all that apply)
   __Head adjusted using the adjustable seat back
   __Head adjusted using the neck bracket.
      Head Angle _____________ degrees

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

_X 25. Verify the dummy abdomen is properly installed. (S16.3.2.1.9)
_X Abdomen still seated properly into dummy
__Abdomen was adjusted because it was not seated properly into dummy
26. Head Angle
   N/A, neither the pelvis nor the abdomen were adjusted.

26.1 Head still level (Go to 27)

26.2 Head level adjusted

   __Head Level Achieved. (Check all that apply)
   __Head leveled using the adjustable seat back
   __Head leveled using the neck bracket.

   Head Angle ____________ degrees

   __Head Level NOT Achieved. (Check all that apply)
   __Head level adjusted using the adjustable seat back
   __Head level adjusted using the neck bracket.

   Head Angle ____________ degrees

27. If the dummy torso contacts the steering wheel while performing step 23, reposition the
steering wheel in the following order to eliminate contact.
   N/A, No dummy torso contact with the steering wheel.

27.1 Adjust telescoping mechanism.
   N/A No telescoping adjustment.

   __Adjustment performed  (fill in appropriate change)
   Steering wheel moved ____ detent positions in the forward direction.
   Steering wheel moved ____ mm in the forward direction.

27.2 Adjust tilt mechanism.
   N/A No tilt adjustment.

   __No adjustment performed.
   __Adjustment performed.

   Steering wheel moved ____ detent positions Upward/Downward.
   (circle one)

   Steering wheel moved ____ degrees Upward/Downward

27.3 Adjust Seat in the aft direction.
   N/A No Adjustment performed.

   __Seat moved aft ___ mm from original position.
   __Seat moved aft ___ detent positions from the original position.

28. Measure and set the pelvic angle using the pelvic angle gage TE-2504. The pelvic
angle should be 20.0 degrees ± 2.5 degrees. If the pelvic angle cannot be set to the
specified range because the head will not be level, adjust the pelvis as closely as
possible to the angle range, but keep the head level.

   __Pelvic angle set to 20.0 degrees ± 2.5 degrees.
   X Pelvic angle of 20.0 degrees not achieved, the angular difference was minimized.
   X Record the pelvic angle: ____________ degrees
29. Check the dummy for contact with the interior after completing adjustments.
   X No contact.
   __Dummy in contact with interior.
      __Seat moved aft ___ mm from the previous position.
      __Seat moved aft ___ detent positions from the previous position.

30. Check the dummy to see if additional interior clearance is obtained, allowing the seat to be moved forward.
   X N/A, Seat already at foremost 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.

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

32. Perform the following steps until either all steps are completed, or the foot contacts the accelerator pedal. Step 32.6 shall be completed in all cases.

   32.1 With the rear of the heel contacting the floor pan, move the foot forward until pedal contact occurs or the foot is at the full forward position.

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

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

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

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

   32.6 Record foot position
       X Pedal Contact achieved. Contact occurred at step 32.1.
       X Heel contacts floor pan
              __Heel set _____ mm from floor pan.

       __ Pedal Contact not achieved. Heel set _____ mm from the floor pan.
FIGURE G1

__33. Perform the following steps until either all steps are completed, or the foot contacts the accelerator pedal. Step 33.5 shall be completed in all cases.

__33.1 Extend the leg until the foot contacts the pedal. Do not raise the toe of the foot higher than the top of the accelerator pedal. If the foot does not contact the pedal, proceed to the next step. If pedal contact does occur, place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward.

__33.2 If the vehicle has an adjustable accelerator pedal, move the pedals rearward until pedal contact occurs or the pedals reach the full rearward position. If pedal contact does occur, place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward.

__33.3 Angle the foot to achieve contact between the foot and the pedal. If the foot does not contact the pedal, 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.

__33.4 Align the centerline of the foot in the same horizontal plane as the centerline of the accelerator pedal. Place a tapered foam block as shown in Figure G1 under the heel with the shallow part of the taper facing forward.
33.5 Record foot position

__Pedal Contact achieved. Contact occurred at step __
__Heel set _____ mm from floor pan.

__Pedal Contact not achieved. Heel set _____ mm from the floor pan.

X 34. Driver’s foot positioning, left foot.

X 34.1 Place the foot perpendicular to the leg and determine if the heel contacts the floor pan at any leg position. If the heel contacts the floor pan proceed to step 34.2, otherwise position the leg as perpendicular to the thigh as possible with the foot parallel to the floor pan.

X 34.2 Place the foot on the toe board with the heel resting on the floor pan as close to the intersection of the floor pan and the toe board as possible. Adjust the angle of the foot if necessary to contact the toe board. If the foot will not contact the toe board, set the foot perpendicular to the leg, and set the heel on the floor pan as far forward as possible. Do not place the foot on the wheel well projection or 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 No pedal interference

X 34.3 Record foot position.
__Heel does not contact floor pan.
__Foot placed on toe board.
_X Foot placed on floor pan.

X 35. Driver arm/hand positioning.

X 35.1 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 35.2 Place the palms of the dummy in contact with the outer part of the steering wheel rim at its horizontal centerline with the thumbs over the steering wheel rim. (S16.3.2.3.2)

_35.3 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 35.4 Lightly tape the hands to the steering wheel rim so that if the hand of the test dummy is pushed upward by a force of not less than 9 N (2 lb) and not more than 22 N (5 lb), the tape releases the hand from the steering wheel rim. S16.3.2.3.4

X 36. Adjustable head restraints
___N/A, there is no head restraint adjustment

X 36.1 If the head restraint has an automatic adjustment, leave it where the system positions the restraint after the dummy is placed in the seat. (S16.3.4.1) Go to 37.
X 36.2 Adjust each head restraint vertically so that the horizontal plane determined in item 3 of Data Sheet 14 is aligned with the center of gravity (CG) of the dummy head. (S16.3.4.3)

X 36.3 If the above position is not attainable, move the vertical center of the head restraint to the closest detent below the center of the head CG. (S16.3.4.3)  
   N/A midpoint position attained in previous step 
   X Headrest set at nearest detent above the head CG

X 36.4 If the head restraint has a fore and aft adjustment, place the restraint in the foremost position or until contact with the head is made, whichever occurs first. (S16.3.4.4)

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

37.1 If an adjustable seat belt D-ring anchorage exists, place it in the manufacturer’s design position for a 5th percentile adult female. 
This information will be supplied by the COTR. 
Manufacturer’s specified position _____________________________________  
Actual Position____________________________________________________

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

37.3 Ensure that the dummy’s head remains as level as possible. (S16.3.5.3)

37.4 Remove all slack from the lap belt. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this operation four times. Apply a 9 N (2 lbf) to 18 N (4 lbf) tension load to the lap belt. If the belt system is equipped with a tension-relieving device, introduce the maximum amount of slack into the upper torso belt that is recommended by the manufacturer. If the belt system is not equipped with a tension-relieving device, allow the excess webbing in the shoulder belt to be retracted by the retractive force of the retractor. (S16.3.5.4)

REMARKS: NONE

I certify that I have read and performed each instruction.

Signature: [Signature] Date: 8/20/04
APPENDIX G
DUMMY POSITIONING PROCEDURES
FOR 5th% PASSENGER TEST DUMMY CONFORMING TO SUBPART O OF PART 572

<table>
<thead>
<tr>
<th>Test Vehicle:</th>
<th>2004 Volkswagen Beetle</th>
<th>NHTSA No.:</th>
<th>C45802</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Program:</td>
<td>FMVSS 208 Compliance</td>
<td>Test Date:</td>
<td>8/20/04</td>
</tr>
<tr>
<td>Test Technician:</td>
<td>Wayne Dahlke</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### IMPACT ANGLE: Zero Degrees
<table>
<thead>
<tr>
<th>BELTED DUMMIES (YES/NO):</th>
<th>No – Front Occupants</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEST SPEED:</td>
<td><em>X</em> 32 to 40 kmph</td>
</tr>
<tr>
<td>DRIVER DUMMY:</td>
<td><em>X</em> 5th female</td>
</tr>
<tr>
<td>PASSENGER DUMMY:</td>
<td><em>X</em> 5th female</td>
</tr>
</tbody>
</table>

(Check this item ONLY if it applies to this vehicle.)

_The passenger seat adjustments are controlled by the adjustments made to the driver’s seat. Therefore, positioning of the passenger dummy is made simultaneously with the driver dummy. Adjustments made to the seat to position the driver will over ride any adjustments that would normally be made to position the passenger._ (S16.2.10.3)

_1._ Position the seat’s adjustable lumbar supports so that the lumbar supports are in the lowest, retracted or deflated adjustment position. (S16.2.10.1)

- _X_ N/A – No lumbar adjustment

_2._ Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)

- _X_ N/A – No additional support adjustment

_3._ If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)

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

_4._ Use the seat markings determined during the completion of Data Sheet 14 to set the rearmost fore-aft position, mid-height position and the seat cushion mid-angle. (S16.3.3.1.1)

_5._ Fully recline the seat back. (S16.3.3.1.2)

- _X_ N/A seat back not adjustable.

_6._ 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)

_7._ Position the dummy in the seat such that the midsagittal plane is coincident with the longitudinal seat cushion marking that was determined in item 2.19 of Data Sheet 14 (S16.3.3.1.3 and S16.3.3.1.4)

_8._ Hold down the dummy’s thighs and push rearward on the upper torso to maximize the pelvic angle. (S16.3.3.1.5)

_9._ Set the angle between the legs and the thighs to 120 degrees. (S16.3.3.1.6)
10. Set the transverse distance between the centers of the front of the knees at 160 to 170 mm. (6.3 to 6.7 inches) Center the knee separation with respect to the longitudinal seat cushion marking that was determined in item 2.19 of Data Sheet 14. (S16.3.3.1.6) Record Knee Separation 169 mm

11. 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.

12. Gently rock the upper torso ± 5 degrees (approximately 51 mm (2 inches)) side-to-side three times. (S16.3.3.1.7)

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

14. Use seat controls to line up the seat markings determined during the completion of Data Sheet 14 to set the foremost fore-aft position, mid-height position and the seat cushion mid-angle. If the dummy contacts the interior move the seat rearward until a maximum clearance of 5 mm (0.2 inches) is achieved or the seat is in the closest detent position that does not cause dummy contact. (S16.3.3.1.8)
   - Foremost, mid-height position and the seat cushion mid-angle reached
     - Dummy contact. Clearance set at maximum of 5mm
     - Measured Clearance__________
   - Dummy Contact. Seat set at nearest detent position.
   - Seat position ___ detent positions rearward of foremost
     (Foremost is position zero)

15. If the seat back is adjustable, rotate the seat back forward while holding the thighs in place. Continue rotating the seat back forward until the transverse instrument platform of the dummy head is level ± 0.5 degrees. If head cannot be leveled using the seat back adjustment, or the seat back is not adjustable, use the lower neck bracket adjustment to level the head. If a level position cannot be achieved, adjust the head as closely as possible to the ± 0.5 degree range. (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

   X Head Level Achieved. (Check all that apply)
   - X Head leveled using the adjustable seat back
   - _ Head leveled using the neck bracket.
     - Head Angle ______0.1______ degrees
   _ Head Level NOT Achieved. (Check all that apply)
   - _ Head adjusted using the adjustable seat back
   - _ Head adjusted using the neck bracket.
     - Head Angle ____________ degrees
16. Verify the pelvis is not interfering with the seat bight. (S16.3.3.1.9)
   - No interference
   - Pelvis moved forward the minimum amount so that it is not caught in the seat bight.

17. Verify the dummy abdomen is properly installed. (S16.3.3.1.9)
   - Abdomen still seated properly into dummy
   - Abdomen was adjusted because it was not seated properly into dummy

18. Head Angle
   - N/A, neither the pelvis nor the abdomen were adjusted.

18.1 Head still level (Go to 19)

18.2 Head level adjusted

   - Head Level Achieved. (Check all that apply)
     - Head leveled using the adjustable seat back
     - Head leveled using the neck bracket.
       - Head Angle ____________ degrees

   - Head Level NOT Achieved. (Check all that apply)
     - Head adjusted using the adjustable seat back
     - Head adjusted using the neck bracket.
       - Head Angle ____________ degrees

19. Measure and set the pelvic angle using the pelvic angle gage TE-2504. The pelvic angle should be 20.0 degrees ± 2.5 degrees. If the pelvic angle cannot be set to the specified range because the head will not be level, adjust the pelvis as closely as possible to the angle range, but keep the head level.
   - Pelvic angle set to 20.0 degrees ± 2.5 degrees.
   - Pelvic angle of 20.0 degrees not achieved, the angular difference was minimized.
   - Record the pelvic angle. 32.0 degrees

20. Check the dummy for contact with the interior after completing adjustments.
   - No contact.

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 0.1 degrees
   - Head Level NOT Achieved
     - Head Angle ____________ degrees
X.22. 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
- X N/A Seat already at full forward position.
- Clearance unchanged. No adjustments required.
- Additional clearance available
  - Seat moved Forward ___ mm from the previous position.
  - Seat moved Forward ___ detent positions from the previous position.
  - Seat moved Forward, Full Forward position reached.

X.23. Passenger foot positioning. (Indicate final position achieved) (S16.3.3.2)

- 23.1 Place feet flat on the toe board; OR

X.23.2 If the feet cannot be placed flat on the toe board, set the feet perpendicular to the lower leg, and rest the heel as far forward on the floor pan as possible; OR

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

X.24. Passenger arm/hand positioning. (S16.3.3.3)

- X.24.1 Place the dummy’s upper arms adjacent to the torso with the arm centerlines as close to a vertical longitudinal plane as possible. (S16.3.2.3.1)

- X.24.2 Place the palms of the dummy in contact with the outer part of the thighs (S16.3.3.3.2)

- X.24.3 Place the little fingers in contact with the seat cushion. (S16.3.3.3.3)

X.25. Adjustable head restraints

- N/A, there is no head restraint adjustment

- 25.1 If the head restraint has an automatic adjustment, leave it where the system positions the restraint after the dummy is placed in the seat. (S16.3.4.1) Go to 26.

- 25.2 Adjust each head restraint vertically so that the horizontal plane determined in item 3 of Data Sheet 14 is aligned with the center of gravity (CG) of the dummy head. (S16.3.4.3)

- X.25.3 If the above position is not attainable, move the vertical center of the head restraint to the closest detent below the center of the head CG. (S16.3.4.3)
  - N/A midpoint position attained in previous step
  - X Headrest set at nearest detent below the head CG

X.25.4 If the head restraint has a fore and aft adjustment, place the restraint in the foremost position or until contact with the head is made, whichever occurs first. (S16.3.4.4)

X.26. Manual belt adjustment (for tests conducted with a belted dummy) S16.3.5

- N/A, Unbelted test
26.1 If an adjustable seat belt D-ring anchorage exists, place it in the manufacturer's design position for a 5th percentile adult female.  
This information will be supplied by the COTR.  
Manufacturer's specified position ____________________________________
Actual Position ________________________________________________

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

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

26.4 Remove all slack from the lap belt. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this operation four times. Apply a 9 N (2 lbf) to 18 N (4 lbf) tension load to the lap belt. If the belt system is equipped with a tension-relieving device, introduce the maximum amount of slack into the upper torso belt that is recommended by the manufacturer. If the belt system is not equipped with a tension-relieving device, allow the excess webbing in the shoulder belt to be retracted by the retractive force of the retractor. (S16.3.5.4)

REMARKS: NONE

I certify that I have read and performed each instruction.

Signature: ____________________  Date: 8/20/04
DATA SHEET 35

DUMMY MEASUREMENTS

Test Vehicle: 2004 Volkswagen Beetle
Test Program: FMVSS 208 Compliance
Test Technician: Eric Peschman
NHTSA No.: C45802
Test Date: 8/20/04

DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD</td>
<td>Chest to Dash</td>
</tr>
<tr>
<td>CS</td>
<td>Chest to Steering Wheel Hub</td>
</tr>
<tr>
<td>HH</td>
<td>Head to Header</td>
</tr>
<tr>
<td>HW</td>
<td>Head to Windshield</td>
</tr>
<tr>
<td>HZ</td>
<td>Head to Roof</td>
</tr>
<tr>
<td>KDA</td>
<td>Knee to Dash Angle</td>
</tr>
<tr>
<td>KDL</td>
<td>Left Knee to Dash</td>
</tr>
<tr>
<td>KDR</td>
<td>Right Knee to Dash</td>
</tr>
<tr>
<td>NA</td>
<td>Nose to Rim Angle</td>
</tr>
<tr>
<td>NR</td>
<td>Nose to Rim</td>
</tr>
<tr>
<td>PA</td>
<td>Pelvic Angle</td>
</tr>
<tr>
<td>RA</td>
<td>Rim to Abdomen</td>
</tr>
<tr>
<td>SA</td>
<td>Seat Back Angle</td>
</tr>
<tr>
<td>SCA</td>
<td>Steering Column Angle</td>
</tr>
<tr>
<td>SH</td>
<td>Striker to H-Point</td>
</tr>
<tr>
<td>SK</td>
<td>Striker to Knee</td>
</tr>
<tr>
<td>ST</td>
<td>Striker to Head</td>
</tr>
<tr>
<td>SWA</td>
<td>Steering Wheel Angle</td>
</tr>
<tr>
<td>TA</td>
<td>Tibial Angle</td>
</tr>
<tr>
<td>WA</td>
<td>Windshield Angle</td>
</tr>
</tbody>
</table>

Test Vehicle: 2004 Volkswagen Beetle
Test Program: FMVSS 208 Compliance
Test Technician: Eric Peschman
NHTSA No.: C45802
Test Date: 8/20/04
## DATA SHEET 35

### DUMMY MEASUREMENTS

<table>
<thead>
<tr>
<th>Code</th>
<th>Measurement Description</th>
<th>Driver SN 505</th>
<th>Passenger SN 511</th>
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</thead>
<tbody>
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<td></td>
<td></td>
<td>Length (mm)</td>
<td>Length (mm)</td>
</tr>
<tr>
<td>WA</td>
<td>Windshield Angle</td>
<td>29.5</td>
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<tr>
<td>SWA</td>
<td>Steering Wheel Angle</td>
<td>23.7</td>
<td></td>
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<tr>
<td>SCA</td>
<td>Steering Column Angle</td>
<td>23.6</td>
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<tr>
<td>SA</td>
<td>Seat Back Angle (On headrest post)</td>
<td>1.7</td>
<td>2.1</td>
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<tr>
<td>HZ</td>
<td>Head to Roof (Z)</td>
<td>340 90 354 90</td>
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<tr>
<td>HH</td>
<td>Head to Header</td>
<td>496 30.9 572 26.7</td>
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<tr>
<td>HW</td>
<td>Head to Windshield</td>
<td>872 0 951 0</td>
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<td>HR</td>
<td>Head to Side Header (Y)</td>
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<td>Chest to Steering Hub</td>
<td>198 9.4</td>
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<td>RA</td>
<td>Rim to Abdomen</td>
<td>113 0</td>
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<td>KDL</td>
<td>Left Knee to Dash</td>
<td>97 30.5 134 31.4</td>
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<tr>
<td>KDR</td>
<td>Right Knee to Dash</td>
<td>109</td>
<td>145 32.0</td>
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<td>PA</td>
<td>Pelvic Angle</td>
<td>25.3</td>
<td>32.0</td>
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<tr>
<td>TA</td>
<td>Tibia Angle</td>
<td>48.2</td>
<td>52.7</td>
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<tr>
<td>KK</td>
<td>Knee to Knee (Y)</td>
<td>288</td>
<td>213</td>
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<td>SK</td>
<td>Striker to Knee</td>
<td>806 97.6 760 99.6</td>
<td></td>
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<tr>
<td>ST</td>
<td>Striker to Head</td>
<td>480 41.6 443 35.5</td>
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<tr>
<td>SH</td>
<td>Striker to H-Point</td>
<td>499 113.5 455 114.9</td>
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<tr>
<td>SHY</td>
<td>Striker to H-Point (Y)</td>
<td>276</td>
<td>285</td>
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<tr>
<td>HS</td>
<td>Head to Side Window</td>
<td>380</td>
<td>368</td>
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<tr>
<td>HD</td>
<td>H-Point to Door (Y)</td>
<td>211</td>
<td>205</td>
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<tr>
<td>AD</td>
<td>Arm to Door (Y)</td>
<td>156</td>
<td>171</td>
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<tr>
<td>AA</td>
<td>Ankle to Ankle</td>
<td>292</td>
<td>140</td>
</tr>
</tbody>
</table>

**Test Vehicle:** 2004 Volkswagen Beetle  
**Test Program:** FMVSS 208 Compliance  
**Test Technician:** Eric Peschman  
**NHTSA No.:** C45802  
**Test Date:** 8/20/04
SEAT BELT POSITIONING DATA

DUMMY'S CENTERLINE

SHOULDER BELT PORTION

TBI

'D' RING

SHOULDER BELT PORTION

LAP BELT PORTION

1/8" THICK ALUMINUM PLATE

EMERGENCY LOCKING RETRACTOR

OUTBOARD ANCHORAGE

INBOARD ANCHORAGE

FLOORPAN

BUCKLE ASSEMBLY

MALE BLADE

REEL

PBU

PBL

FRONT VIEW OF DUMMY

SEAT BELT POSITIONING MEASUREMENTS

<table>
<thead>
<tr>
<th>Measurement Description</th>
<th>Units</th>
<th>Driver</th>
<th>Passenger</th>
<th>Rear Passenger</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBU - Top surface of reference to belt upper edge</td>
<td>mm</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>PBL - To surface of reference to belt lower edge</td>
<td>mm</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
**DATA SHEET 36**  
**CRASH TEST**

**Test Vehicle:** 2004 Volkswagen Beetle  
**NHTSA No.:** C45802  
**Test Program:** FMVSS 208 Compliance  
**Test Date:** 8/20/04  
**Test Technician:** Eric Peschman

<table>
<thead>
<tr>
<th>IMPACT ANGLE:</th>
<th>Zero Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>BELTED DUMMIES (YES/NO):</td>
<td>No – Front Occupants</td>
</tr>
<tr>
<td>TEST SPEED:</td>
<td>X 32 to 40 kmph</td>
</tr>
<tr>
<td>DRIVER DUMMY:</td>
<td>X 5th female</td>
</tr>
<tr>
<td>PASSENGER DUMMY:</td>
<td>X 5th female</td>
</tr>
</tbody>
</table>

1. Vehicle underbody painted  
2. The speed measuring devices are in place and functioning.  
3. The speed measuring devices are _1.0_ m from the barrier (spec. 1.5m) and _30_ cm from the barrier (spec. is 30 cm)  
4. Convertible top is in the closed position.  
5. N/A, not a convertible  
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.  
   210 kpa front left tire  
   210 kpa front right tire  
   260 kpa rear left tire  
   260 kpa rear right tire  
7. Time zero contacts on barrier 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 39.8 kmph  
17. Vehicle rebound from the barrier 387 cm  
18. Describe whether the doors open after the test and what method is used to open the doors.  
   Left Front Door: Door remained closed and latched; Door opened without tools  
   Right Front Door: Door remained closed and latched; Door opened without tools  
   Left Rear Door: Door remained closed and latched; Door opened without tools  
   Right Rear Door: Door remained closed and latched; Door opened without tools
19. Describe the contact points of the dummy with the interior of the vehicle.

X Driver Dummy: Head to Air Bag and Headrest, Chest and Abdomen to Air Bag; Knees to Knee Bolster

X Passenger Dummy: Head to Air Bag and Headrest; Chest and Abdomen to Air Bag; Knees to Glove Box

REMARKS: NONE

I certify that I have read and performed each instruction.

Signature: [Signature] Date: 8/20/04
# DATA SHEET NO. 38

## ACCIDENT INVESTIGATION DIVISION DATA

<table>
<thead>
<tr>
<th>Test Vehicle:</th>
<th>2004 Volkswagen Beetle</th>
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<tbody>
<tr>
<td>Test Program:</td>
<td>FMVSS 208 Compliance</td>
</tr>
<tr>
<td>Test Technician:</td>
<td>Eric Peschman</td>
</tr>
<tr>
<td>NHTSA No.:</td>
<td>C45802</td>
</tr>
<tr>
<td>Test Date:</td>
<td>8/20/04</td>
</tr>
</tbody>
</table>

### IMPACT ANGLE:
Zero Degrees

### BELTED DUMMIES (YES/NO):
No – Front Occupants

### TEST SPEED:
- 32 to 40 kmph
- 0 to 48 kmph
- 0 to 56 kmph

### DRIVER DUMMY:
- 5th female
- 50th Male

### PASSENGER DUMMY:
- 5th female Right Rear

### Vehicle Year/Make/Model/Body Style:
2004 Volkswagen Beetle

### VIN:
3VWBK31C04M404915

### Wheelbase:
2523 mm

### Build Date:
08/03

### Vehicle Size Category:
2

### Test Weight:
1443.4 kg

### Front Overhang:
780 mm

### Overall Width:
1690 mm

### Overall Length Center:
4027 mm

### Accelerometer Data

<table>
<thead>
<tr>
<th>Location:</th>
<th>As per measurements on Data Sheet 31</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linearity:</td>
<td>&gt;99.9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Integration Algorithm:</th>
<th>Trapezoidal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Impact Speed:</td>
<td>39.8 kmph</td>
</tr>
<tr>
<td>Time of Separation:</td>
<td>78.1 ms</td>
</tr>
<tr>
<td>Velocity Change:</td>
<td>44.3 kmph</td>
</tr>
</tbody>
</table>
**CRUSH PROFILE**

Collision Deformation Classification: 12FDEW6  
Midpoint of Damage: Vehicle Longitudinal Centerline  
Damage Region Length (mm): 1228  
Impact Mode: Frontal Barrier

<table>
<thead>
<tr>
<th>No.</th>
<th>Measurement Description</th>
<th>Units</th>
<th>Pre-Test</th>
<th>Post-Test</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>Crush zone 1 at left side</td>
<td>mm</td>
<td>3918</td>
<td>3793</td>
<td>125</td>
</tr>
<tr>
<td>C2</td>
<td>Crush zone 2 at left side</td>
<td>mm</td>
<td>3989</td>
<td>3824</td>
<td>165</td>
</tr>
<tr>
<td>C3</td>
<td>Crush zone 3 at left side</td>
<td>mm</td>
<td>4019</td>
<td>3849</td>
<td>170</td>
</tr>
<tr>
<td>C4</td>
<td>Crush zone 4 at right side</td>
<td>mm</td>
<td>4019</td>
<td>3858</td>
<td>161</td>
</tr>
<tr>
<td>C5</td>
<td>Crush zone 5 at right side</td>
<td>mm</td>
<td>3989</td>
<td>3819</td>
<td>170</td>
</tr>
<tr>
<td>C6</td>
<td>Crush zone 6 at right side</td>
<td>mm</td>
<td>3918</td>
<td>3739</td>
<td>179</td>
</tr>
</tbody>
</table>

REMARKS: NONE

I certify that I have read and performed each instruction.

Signature: [Signature]

Date: 8/20/04
DATA SHEET 39
WINDSHIELD MOUNTING (FMVSS 212)

Test Vehicle: 2004 Volkswagen Beetle  
NHTSA No.: C45802
Test Program: FMVSS 208 Compliance  
Test Date: 8/20/04
Test Technician: Clark Subrt

<table>
<thead>
<tr>
<th>IMPACT ANGLE:</th>
<th>Zero Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>BELTED DUMMIES (YES/NO):</td>
<td>No – Front Occupants</td>
</tr>
</tbody>
</table>
| TEST SPEED: | X 32 to 40 kmph  
| | _ 0 to 48 kmph  
| | _ 0 to 56 kmph |
| DRIVER DUMMY: | X 5th female  
| | _ 50th Male |
| PASSENGER DUMMY: | X 5th female  
| | _ 5th female Right Rear |

1. Pre-Crash

1.1 Describe from visual inspection how the windshield is mounted and describe any trim material.

Retained with glue
Plastic trim

1.2 Mark the longitudinal centerline of the windshield

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

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

1.5 Measure from the edge of the retainer or molding to the edge of the windshield.
Dimension G (mm): 0 mm

2. Post Crash

2.1 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 of measurements, 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 2.2

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

2.3 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.

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

2.5 Is total right side percent retention less than 75%?

X Yes, Fail

No, Pass

2.6 Is total left side percent retention less than 75%?

X Yes, Fail

No, Pass
### WINDSHIELD RETENTION MEASUREMENTS

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Pre-Crash (mm)</th>
<th>Post-Crash (mm)</th>
<th>Percent Retention (Post-Test ÷ Pre-Crash)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>570</td>
<td>570</td>
<td>100%</td>
</tr>
<tr>
<td>B</td>
<td>720</td>
<td>720</td>
<td>100%</td>
</tr>
<tr>
<td>C</td>
<td>720</td>
<td>720</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td>2010</td>
<td>2010</td>
<td>100%</td>
</tr>
<tr>
<td>D</td>
<td>570</td>
<td>570</td>
<td>100%</td>
</tr>
<tr>
<td>E</td>
<td>720</td>
<td>720</td>
<td>100%</td>
</tr>
<tr>
<td>F</td>
<td>720</td>
<td>720</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td>2010</td>
<td>2010</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)**

**REMARKS:** NONE

I certify that I have read and performed each instruction.

Signature: [Signature]

Date: 8/20/04
DATA SHEET 40
WINDSHIELD ZONE INTRUSION (FMVSS 219)

<table>
<thead>
<tr>
<th>IMPACT ANGLE:</th>
<th>Zero Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>BELTED DUMMIES (YES/NO):</td>
<td>No – Front Occupants</td>
</tr>
<tr>
<td>TEST SPEED:</td>
<td>X 32 to 40 kmph   0 to 48 kmph   0 to 56 kmph</td>
</tr>
<tr>
<td>DRIVER DUMMY:</td>
<td>X 5th female     50th Male</td>
</tr>
<tr>
<td>PASSENGER DUMMY:</td>
<td>X 5th female     5th female Right Rear</td>
</tr>
</tbody>
</table>

1. Place a 165 mm diameter rigid sphere, with a mass of 6.8 kg on the instrument panel so that it is simultaneously touching the instrument panel and the windshield. (571.219 S6.1(a))

2. Roll the sphere from one side of the windshield to the other while marking on the windshield where the sphere contacts the windshield. (571.219 S6.1(b))

3. From the outermost contactable points on the windshield draw a horizontal line to the edges of the windshield. (571.219 S6.1(b))

4. Draw a line on the inner surface of the windshield that is 13 mm below the line determined in items 2 and 3

5. After the crash test, record any points where a part of the exterior of the vehicle has marked, penetrated, or broken the windshield.

Provide all dimensions necessary to reproduce the protected area.
WINDSHIELD DIMENSIONS

<table>
<thead>
<tr>
<th>Item</th>
<th>Units</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>mm</td>
<td>1140</td>
</tr>
<tr>
<td>B</td>
<td>mm</td>
<td>520</td>
</tr>
<tr>
<td>C</td>
<td>mm</td>
<td>1440</td>
</tr>
<tr>
<td>D</td>
<td>mm</td>
<td>720</td>
</tr>
<tr>
<td>E</td>
<td>mm</td>
<td>512</td>
</tr>
<tr>
<td>F</td>
<td>mm</td>
<td>490</td>
</tr>
</tbody>
</table>

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.

C. Provide coordinates of the area beneath the protected zone template that the inner surface of the windshield was penetrated by a vehicle component.

REMARKS: NONE

I certify that I have read and performed each instruction.

Signature: _____________________ Date:  8/20/04
DATA SHEET 41
FUEL SYSTEM INTEGRITY (FMVSS 301)

Test Vehicle: 2004 Volkswagen Beetle
Test Program: FMVSS 208 Compliance
Test Technician: Eric Peschman

NHTSA No.: C45802
Test Date: 8/20/04

TYPE OF IMPACT: 25 mph Unbelted Flat Frontal

Stoddard Solvent Spillage Measurements

A. From impact until vehicle motion ceases: 0.0 grams
   (Maximum Allowable = 28 grams)
B. For the 5 minute period after motion ceases: 0.0 grams
   (Maximum Allowable = 142 grams)
C. For the following 25 minutes: 0.0 grams
   (Maximum Allowable = 28 grams/minute)
D. Spillage: NONE

REMARKS: NO SPILLAGE
1. The specified fixture rollover rate for each 90° of rotation is 60 to 180 seconds.
2. The position hold time at each position is 300 seconds (minimum).
3. Details of Stoddard Solvent spillage locations: None
<table>
<thead>
<tr>
<th>Figure No.</th>
<th>Data Description</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Driver Head X Acceleration vs. Time</td>
<td>A-1</td>
</tr>
<tr>
<td>2</td>
<td>Driver Head Y Acceleration vs. Time</td>
<td>A-1</td>
</tr>
<tr>
<td>3</td>
<td>Driver Head Z Acceleration vs. Time</td>
<td>A-1</td>
</tr>
<tr>
<td>4</td>
<td>Driver Head Resultant Acceleration vs. Time</td>
<td>A-1</td>
</tr>
<tr>
<td>5</td>
<td>Driver Head X Velocity vs. Time</td>
<td>A-2</td>
</tr>
<tr>
<td>6</td>
<td>Driver Head Y Velocity vs. Time</td>
<td>A-2</td>
</tr>
<tr>
<td>7</td>
<td>Driver Head Z Velocity vs. Time</td>
<td>A-2</td>
</tr>
<tr>
<td>8</td>
<td>Driver Neck Force X vs. Time</td>
<td>A-3</td>
</tr>
<tr>
<td>9</td>
<td>Driver Neck Force Y vs. Time</td>
<td>A-3</td>
</tr>
<tr>
<td>10</td>
<td>Driver Neck Force Z vs. Time</td>
<td>A-3</td>
</tr>
<tr>
<td>11</td>
<td>Driver Neck Force Resultant vs. Time</td>
<td>A-3</td>
</tr>
<tr>
<td>12</td>
<td>Driver Neck Moment X vs. Time</td>
<td>A-4</td>
</tr>
<tr>
<td>13</td>
<td>Driver Neck Moment Y vs. Time</td>
<td>A-4</td>
</tr>
<tr>
<td>14</td>
<td>Driver Neck Moment Z vs. Time</td>
<td>A-4</td>
</tr>
<tr>
<td>15</td>
<td>Driver Neck Moment Resultant vs. Time</td>
<td>A-4</td>
</tr>
<tr>
<td>16</td>
<td>Driver Chest X Acceleration vs. Time</td>
<td>A-5</td>
</tr>
<tr>
<td>17</td>
<td>Driver Chest Y Acceleration vs. Time</td>
<td>A-5</td>
</tr>
<tr>
<td>18</td>
<td>Driver Chest Z Acceleration vs. Time</td>
<td>A-5</td>
</tr>
<tr>
<td>19</td>
<td>Driver Chest Resultant Acceleration vs. Time</td>
<td>A-5</td>
</tr>
<tr>
<td>20</td>
<td>Driver Chest X Velocity vs. Time</td>
<td>A-6</td>
</tr>
<tr>
<td>21</td>
<td>Driver Chest Y Velocity vs. Time</td>
<td>A-6</td>
</tr>
<tr>
<td>22</td>
<td>Driver Chest Z Velocity vs. Time</td>
<td>A-6</td>
</tr>
<tr>
<td>23</td>
<td>Driver Chest Displacement vs. Time</td>
<td>A-6</td>
</tr>
<tr>
<td>24</td>
<td>Driver Left Femur Force vs. Time</td>
<td>A-7</td>
</tr>
<tr>
<td>25</td>
<td>Driver Right Femur Force vs. Time</td>
<td>A-7</td>
</tr>
<tr>
<td>26</td>
<td>Passenger Head X Acceleration vs. Time</td>
<td>A-8</td>
</tr>
<tr>
<td>27</td>
<td>Passenger Head Y Acceleration vs. Time</td>
<td>A-8</td>
</tr>
<tr>
<td>28</td>
<td>Passenger Head Z Acceleration vs. Time</td>
<td>A-8</td>
</tr>
<tr>
<td>29</td>
<td>Passenger Head Resultant Acceleration vs. Time</td>
<td>A-8</td>
</tr>
</tbody>
</table>
Figure No. 30. Passenger Head X Velocity vs. Time A-9
Figure No. 31. Passenger Head Y Velocity vs. Time A-9
Figure No. 32. Passenger Head Z Velocity vs. Time A-9
Figure No. 33. Passenger Neck Force X vs. Time A-10
Figure No. 34. Passenger Neck Force Y vs. Time A-10
Figure No. 35. Passenger Neck Force Z vs. Time A-10
Figure No. 36. Passenger Neck Force Resultant vs. Time A-10
Figure No. 37. Passenger Neck Moment X vs. Time A-11
Figure No. 38. Passenger Neck Moment Y vs. Time A-11
Figure No. 39. Passenger Neck Moment Z vs. Time A-11
Figure No. 40. Passenger Neck Moment Resultant vs. Time A-11
Figure No. 41. Passenger Chest X Acceleration vs. Time A-12
Figure No. 42. Passenger Chest Y Acceleration vs. Time A-12
Figure No. 43. Passenger Chest Z Acceleration vs. Time A-12
Figure No. 44. Passenger Chest Resultant Acceleration vs. Time A-12
Figure No. 45. Passenger Chest X Velocity vs. Time A-13
Figure No. 46. Passenger Chest Y Velocity vs. Time A-13
Figure No. 47. Passenger Chest Z Velocity vs. Time A-13
Figure No. 48. Passenger Chest Displacement vs. Time A-13
Figure No. 49. Passenger Left Femur Force vs. Time A-14
Figure No. 50. Passenger Right Femur Force vs. Time A-14
Figure No. 51. Driver Nij ($N_{TF}$) vs. Time A-15
Figure No. 52. Driver Nij ($N_{TE}$) vs. Time A-15
Figure No. 53. Driver Nij ($N_{CF}$) vs. Time A-15
Figure No. 54. Driver Nij ($N_{CE}$) vs. Time A-15
Figure No. 55. Passenger Nij ($N_{TF}$) vs. Time A-16
Figure No. 56. Passenger Nij ($N_{TE}$) vs. Time A-16
Figure No. 57. Passenger Nij ($N_{CF}$) vs. Time A-16
Figure No. 58. Passenger Nij ($N_{CE}$) vs. Time A-16
Figure No. 59. Driver Occipital Condyle Moment vs. Time A-17
Figure No. 60. Passenger Occipital Condyle Moment vs. Time A-17
Figure No. 61. Left Rear Seat Crossmember X Acceleration vs. Time A-18
Figure No. 62. Left Rear Seat Crossmember X Velocity vs. Time A-18
Figure No. 63. Right Rear Seat Crossmember X Acceleration vs. Time A-18
Figure No. 64. Right Rear Seat Crossmember X Velocity vs. Time A-18
Figure No. 65. Top of Engine X Acceleration vs. Time A-19
Figure No. 66. Top of Engine X Velocity vs. Time A-19
Figure No. 67. Bottom of Engine X Acceleration vs. Time A-19
Figure No. 68. Bottom of Engine X Velocity vs. Time A-19
Figure No. 69. Left Brake Caliper X Acceleration vs. Time A-20
Figure No. 70. Left Brake Caliper X Velocity vs. Time A-20
Figure No. 71. Right Brake Caliper X Acceleration vs. Time A-20
Figure No. 72. Right Brake Caliper X Velocity vs. Time A-20
Figure No. 73. Instrument Panel X Acceleration vs. Time A-21
Figure No. 74. Instrument Panel X Velocity vs. Time A-21
Figure No. 75. Trunk Z Acceleration vs. Time A-21
Figure No. 76. Trunk Z Velocity vs. Time A-21
Figure No. 77. Barrier Force – Upper Left vs. Time A-22
Figure No. 78. Barrier Force – Upper Center vs. Time A-22
Figure No. 79. Barrier Force – Upper Right vs. Time A-22
Figure No. 80. Barrier Force – Lower Left vs. Time A-23
Figure No. 81. Barrier Force – Lower Center vs. Time A-23
Figure No. 82. Barrier Force – Lower Right vs. Time A-23
Figure No. 83. Barrier Force – Sum Left vs. Time A-24
Figure No. 84. Barrier Force – Sum Center vs. Time A-24
Figure No. 85. Barrier Force – Sum Right vs. Time A-24
Figure No. 86. Barrier Force – Sum All vs. Time A-24
Figure No. 87. Barrier Force – Sum All vs. Average Seat X-member Displacement A-25
2004 VOLKSWAGEN BEETLE (C45802)

Test Date: 08/20/04
Speed: 24.7 mph (39.8 km/h)

**DRIVER HEAD X Velocity (kph) vs TIME (ms)**
- Max: 39.8 kph
- Tmax: 24.1 ms
- Min: -23.7 kph
- Tmin: 141.7 ms

**DRIVER HEAD Y Velocity (kph) vs TIME (ms)**
- Max: 9.9 kph
- Tmax: 300.0 ms
- Min: -0.1 kph
- Tmin: 34.1 ms

**DRIVER HEAD Z Velocity (kph) vs TIME (ms)**
- Max: 6.5 kph
- Tmax: 228.5 ms
- Min: -0.8 kph
- Tmin: 54.7 ms
25MPH FRONTAL UNBELTED
2004 VOLKSWAGEN BEETLE (C45802)

Test Date: 08/20/04
Speed: 24.7 mph (39.8 km/h)

Max: 635.2 N
Tmax: 74.4 ms
Min: -157.4 N
Tmin: 196.9 ms
CFC 1000

Max: 68.4 N
Tmax: 106.9 ms
Min: -282.6 N
Tmin: 73.8 ms
CFC 1000

Max: 1527.2 N
Tmax: 70.2 ms
Min: -159.4 N
Tmin: 195.0 ms
CFC 1000

Max: 1631.1 N
Tmax: 70.2 ms
Min: 0.3 N
Tmin: 0.0 ms
CFC 1000
25MPH FRONTAL UNBELTED
2004 VOLKSWAGEN BEETLE (C45802)

Test Date: 08/20/04
Speed: 24.7 mph (39.8 km/h)

DRIVER NECK MX (Nm) vs TIME (ms)
Max: 13.9 Nm
Tmax: 77.7 ms
Min: -3.1 Nm
Tmin: 157.6 ms
CFC 600

DRIVER NECK MY (Nm) vs TIME (ms)
Max: 31.9 Nm
Tmax: 50.5 ms
Min: -13.6 Nm
Tmin: 197.5 ms
CFC 600

DRIVER NECK MZ (Nm) vs TIME (ms)
Max: 3.0 Nm
Tmax: 203.6 ms
Min: -3.1 Nm
Tmin: 45.1 ms
CFC 600

DRIVER NECK MResultant (Nm) vs TIME (ms)
Max: 33.0 Nm
Tmax: 69.0 ms
Min: 0.0 Nm
Tmin: 0.0 ms
CFC 600
25MPH FRONTAL UNBELTED
2004 VOLKSWAGEN BEETLE (C45802)

Test Date: 08/20/04
Speed: 24.7 mph (39.8 km/h)

**DRIVER CHEST X (G's) vs TIME (ms)**
Max: 6.5 G's
Tmax: 196.4 ms
Min: -49.5 G's
Tmin: 70.4 ms
CFC 180

**DRIVER CHEST Y (G's) vs TIME (ms)**
Max: 4.2 G's
Tmax: 67.7 ms
Min: -1.6 G's
Tmin: 103.8 ms
CFC 180

**DRIVER CHEST Z (G's) vs TIME (ms)**
Max: 6.6 G's
Tmax: 68.5 ms
Min: -5.1 G's
Tmin: 40.3 ms
CFC 180

**DRIVER CHEST Resultant (G's) vs TIME (ms)**
Max: 49.8 G's
Tmax: 70.4 ms
Min: 0.0 G's
Tmin: 0.0 ms
CFC 180
25MPH FRONTAL UNBELTED
2004 VOLKSWAGEN BEETLE (C45802)

Test Date: 08/20/04
Speed: 24.7 mph (39.8 km/h)

**DRIVER CHEST X Velocity (kph) vs TIME (ms)**

Max: 39.8 kph
Tmax: 9.6 ms
Min: -19.3 kph
Tmin: 99.6 ms
CFC 180

**DRIVER CHEST Y Velocity (kph) vs TIME (ms)**

Max: 3.1 kph
Tmax: 300.0 ms
Min: -0.1 kph
Tmin: 41.2 ms
CFC 180

**DRIVER CHEST Z Velocity (kph) vs TIME (ms)**

Max: 5.8 kph
Tmax: 226.6 ms
Min: -3.3 kph
Tmin: 61.4 ms
CFC 180

**DRIVER CHEST DISPLACEMENT (mm) vs TIME (ms)**

Max: 0.3 mm
Tmax: 19.2 ms
Min: -22.9 mm
Tmin: 74.4 ms
CFC 600
25MPH FRONTAL UNBELTED
2004 VOLKSWAGEN BEETLE (C45802)

Test Date: 08/20/04
Speed: 24.7 mph (39.8 km/h)

Max: 149.4 N
Tmax: 157.1 ms
Min: -4054.4 N
Tmin: 61.2 ms
CFC 600

Max: 241.8 N
Tmax: 128.5 ms
Min: -4216.1 N
Tmin: 54.6 ms
CFC 600
25MPH FRONTAL UNBELTED
2004 VOLKSWAGEN BEETLE (C45802)

Test Date: 08/20/04
Speed: 24.7 mph (39.8 km/h)

PASSENGER HEAD X (G's) vs TIME (ms)

Max: 4.1 G's
Tmax: 52.4 ms
Min: -44.7 G's
Tmin: 81.0 ms
CFC 1000

PASSENGER HEAD Y (G's) vs TIME (ms)

Max: 5.2 G's
Tmax: 38.0 ms
Min: -4.5 G's
Tmin: 53.8 ms
CFC 1000

PASSENGER HEAD Z (G's) vs TIME (ms)

Max: 12.7 G's
Tmax: 65.6 ms
Min: -13.2 G's
Tmin: 98.6 ms
CFC 1000

PASSENGER HEAD Resultant (G's) vs TIME (ms)

Max: 45.0 G's
Tmax: 81.0 ms
Min: 0.0 G's
Tmin: 0.0 ms
CFC 1000
**25MPH FRONTAL UNBELTED**

**2004 VOLKSWAGEN BEETLE (C45802)**

Test Date: 08/20/04

Speed: 24.7 mph (39.8 km/h)

---

**PASSENGER HEAD X Velocity (kph) vs TIME (ms)**

Max: 40.0 kph

Tmax: 35.7 ms

Min: -13.7 kph

Tmin: 260.5 ms

CFC 180

---

**PASSENGER HEAD Y Velocity (kph) vs TIME (ms)**

Max: 2.2 kph

Tmax: 138.7 ms

Min: -0.3 kph

Tmin: 61.5 ms

CFC 180

---

**PASSENGER HEAD Z Velocity (kph) vs TIME (ms)**

Max: 8.4 kph

Tmax: 292.8 ms

Min: -3.2 kph

Tmin: 126.1 ms

CFC 180
25MPH FRONTAL UNBELTED
2004 VOLKSWAGEN BEETLE (C45802)

Test Date: 08/20/04
Speed: 24.7 mph (39.8 km/h)

PASSENGER NECK FX (N) vs TIME (ms)
Max: 1249.3 N
Tmax: 72.2 ms
Min: -134.9 N
Tmin: 199.3 ms
CFC 1000

PASSENGER NECK FY (N) vs TIME (ms)
Max: 159.3 N
Tmax: 99.9 ms
Min: -130.6 N
Tmin: 70.2 ms
CFC 1000

PASSENGER NECK FZ (N) vs TIME (ms)
Max: 506.2 N
Tmax: 81.5 ms
Min: -224.4 N
Tmin: 45.9 ms
CFC 1000

PASSENGER NECK FResultant (N) vs TIME (ms)
Max: 1278.6 N
Tmax: 72.1 ms
Min: 0.4 N
Tmin: 0.0 ms
CFC 1000
25MPH FRONTAL UNBELTED
2004 VOLKSWAGEN BEETLE (C45802)

Test Date: 08/20/04
Speed: 24.7 mph (39.8 km/h)

- PASSENGER NECK MX (Nm) vs TIME (ms)
  - Max: 7.3 Nm
  - Tmax: 109.1 ms
  - Min: -5.1 Nm
  - Tmin: 170.1 ms
  - CFC 600

- PASSENGER NECK MY (Nm) vs TIME (ms)
  - Max: 86.6 Nm
  - Tmax: 71.1 ms
  - Min: -12.3 Nm
  - Tmin: 120.5 ms
  - CFC 600

- PASSENGER NECK MZ (Nm) vs TIME (ms)
  - Max: 9.7 Nm
  - Tmax: 110.0 ms
  - Min: -5.4 Nm
  - Tmin: 196.9 ms
  - CFC 600

- PASSENGER NECK MResultant (Nm) vs TIME (ms)
  - Max: 86.6 Nm
  - Tmax: 71.1 ms
  - Min: 0.0 Nm
  - Tmin: 0.0 ms
  - CFC 600
25MPH FRONTAL UNBELTED
2004 VOLKSWAGEN BEETLE (C45802)
Test Date: 08/20/04
Speed: 24.7 mph (39.8 km/h)

PASSENGER CHEST X (G's) vs TIME (ms)
Max: 2.1 G's
Tmax: 192.5 ms
Min: -41.3 G's
Tmin: 82.4 ms
CFC 180

PASSENGER CHEST Y (G's) vs TIME (ms)
Max: 2.5 G's
Tmax: 51.7 ms
Min: -4.2 G's
Tmin: 78.8 ms
CFC 180

PASSENGER CHEST Z (G's) vs TIME (ms)
Max: 12.3 G's
Tmax: 72.5 ms
Min: -5.2 G's
Tmin: 48.0 ms
CFC 180

PASSENGER CHEST Resultant (G's) vs TIME (ms)
Max: 42.0 G's
Tmax: 82.4 ms
Min: 0.0 G's
Tmin: 0.0 ms
CFC 180
25MPH FRONTAL UNBELTED
2004 VOLKSWAGEN BEETLE (C45802)
Test Date: 08/20/04
Speed: 24.7 mph (39.8 km/h)

**PASSENGER CHEST X Velocity (kph) vs TIME (ms)**
- Max: 39.8 kph
- Tmax: 15.4 ms
- Min: -13.9 kph
- Tmin: 158.8 ms
- CFC 180

**PASSENGER CHEST Y Velocity (kph) vs TIME (ms)**
- Max: 1.3 kph
- Tmax: 65.4 ms
- Min: -0.3 kph
- Tmin: 142.9 ms
- CFC 180

**PASSENGER CHEST Z Velocity (kph) vs TIME (ms)**
- Max: 10.7 kph
- Tmax: 284.2 ms
- Min: -4.0 kph
- Tmin: 63.2 ms
- CFC 180

**PASSENGER CHEST DISPLACEMENT (mm) vs TIME (ms)**
- Max: 0.4 mm
- Tmax: 32.3 ms
- Min: -7.4 mm
- Tmin: 69.1 ms
- CFC 600
25MPH FRONTAL UNBELTED
2004 VOLKSWAGEN BEETLE (C45802)

Test Date: 08/20/04
Speed: 24.7 mph (39.8 km/h)

PASSENGER LEFT FEMUR (N) vs TIME (ms)
Max: 134.4 N
Tmax: 205.1 ms
Min: -5340.8 N
Tmin: 56.5 ms
CFC 600

PASSENGER RIGHT FEMUR (N) vs TIME (ms)
Max: 93.2 N
Tmax: 31.7 ms
Min: -4739.1 N
Tmin: 63.2 ms
CFC 600
25MPH FRONTAL UNBELTED
2004 VOLKSWAGEN BEETLE (C45802)

Test Date: 08/20/04
Speed: 24.7 mph (39.8 km/h)

Drv. nij (NTF) () vs TIME (ms)
Max: 0.5
Tmax: 70.2 ms
Min: 0.0
Tmin: 0.0 ms
CFC 600

Drv. nij (NTE) () vs TIME (ms)
Max: 0.2
Tmax: 98.0 ms
Min: 0.0
Tmin: 0.0 ms
CFC 600

Drv. nij (NCF) () vs TIME (ms)
Max: 0.1
Tmax: 38.0 ms
Min: 0.0
Tmin: 0.0 ms
CFC 600

Drv. nij (NCE) () vs TIME (ms)
Max: 0.2
Tmax: 197.4 ms
Min: 0.0
Tmin: 0.0 ms
CFC 600
25MPH FRONTAL UNBELTED
2004 VOLKSWAGEN BEETLE (C45802)

Test Date: 08/20/04
Speed: 24.7 mph (39.8 km/h)

**Driver Occipital Condyle Moment (Nm) vs TIME (ms)**

- Max: 25.3 Nm
- Tmax: 52.6 ms
- Min: -10.8 Nm
- Tmin: 197.5 ms

**Passenger Occipital Condyle Moment (Nm) vs TIME (ms)**

- Max: 64.5 Nm
- Tmax: 70.9 ms
- Min: -14.8 Nm
- Tmin: 118.4 ms
25MPH FRONTAL UNBELTED
2004 VOLKSWAGEN BEETLE (C45802)

Test Date: 08/20/04
Speed: 24.7 mph (39.8 km/h)

LEFT REAR SEAT CROSSMEMBER X (G's) vs TIME (ms)
Max: 2.6 G's
Tmax: 20.8 ms
Min: -38.9 G's
Tmin: 36.0 ms
CFC 60

LEFT REAR SEAT CROSSMEMBER X Velocity (kph) vs TIME (ms)
Max: 39.8 kph
Tmax: 0.0 ms
Min: -4.8 kph
Tmin: 300.0 ms
CFC 180

RIGHT REAR SEAT CROSSMEMBER X (G's) vs TIME (ms)
Max: 2.2 G's
Tmax: 95.6 ms
Min: -36.5 G's
Tmin: 35.0 ms
CFC 60

RIGHT REAR SEAT CROSSMEMBER X Velocity (kph) vs TIME (ms)
Max: 39.8 kph
Tmax: 0.0 ms
Min: -4.2 kph
Tmin: 78.1 ms
CFC 180
25MPH FRONTAL UNBELTED
2004 VOLKSWAGEN BEETLE (C45802)

Test Date: 08/20/04
Speed: 24.7 mph (39.8 km/h)

TOP OF ENGINE X (G's) vs TIME (ms)
Max: 31.7 G's
Tmax: 44.1 ms
Min: -70.6 G's
Tmin: 27.0 ms
CFC 60

TOP OF ENGINE X Velocity (kph) vs TIME (ms)
Max: 39.8 kph
Tmax: 0.0 ms
Min: -8.4 kph
Tmin: 300.0 ms
CFC 180

BOTTOM OF ENGINE X (G's) vs TIME (ms)
Max: 10.1 G's
Tmax: 41.9 ms
Min: -84.5 G's
Tmin: 29.5 ms
CFC 60

BOTTOM OF ENGINE X Velocity (kph) vs TIME (ms)
Max: 41.0 kph
Tmax: 15.7 ms
Min: -0.1 kph
Tmin: 91.1 ms
CFC 180
25MPH FRONTAL UNBELTED
2004 VOLKSWAGEN BEETLE (C45802)

Test Date: 08/20/04
Speed: 24.7 mph (39.8 km/h)

LEFT BRAKE CALIPER X (G's) vs TIME (ms)
Max: 9.4 G's
Tmax: 90.3 ms
Min: -46.5 G's
Tmin: 42.8 ms
CFC 60

LEFT BRAKE CALIPER X Velocity (kph) vs TIME (ms)
Max: 40.1 kph
Tmax: 7.6 ms
Min: -6.1 kph
Tmin: 80.5 ms
CFC 180

RIGHT BRAKE CALIPER X (G's) vs TIME (ms)
Max: 7.8 G's
Tmax: 90.1 ms
Min: -32.0 G's
Tmin: 45.4 ms
CFC 60

RIGHT BRAKE CALIPER X Velocity (kph) vs TIME (ms)
Max: 39.9 kph
Tmax: 6.8 ms
Min: -4.7 kph
Tmin: 82.8 ms
CFC 180
INSTRUMENT PANEL X (G's) vs TIME (ms)

Max: 20.5 G's
Tmax: 34.3 ms
Min: -74.4 G's
Tmin: 51.1 ms
CFC 60

INSTRUMENT PANEL X Velocity (kph) vs TIME (ms)

Max: 39.8 kph
Tmax: 0.0 ms
Min: -9.1 kph
Tmin: 94.5 ms
CFC 180

TRUNK Z (G's) vs TIME (ms)

Max: 15.0 G's
Tmax: 20.4 ms
Min: -12.7 G's
Tmin: 26.5 ms
CFC 60

TRUNK Z Velocity (kph) vs TIME (ms)

Max: 6.5 kph
Tmax: 190.2 ms
Min: -2.2 kph
Tmin: 7.4 ms
CFC 180
25MPH FRONTAL UNBELTED
2004 VOLKSWAGEN BEETLE (C45802)

Test Date: 08/20/04
Speed: 24.7 mph (39.8 km/h)

BARRIER FORCE - UPPER LEFT (kn) vs TIME (ms)
Max: 13.3 kn
Tmax: 43.6 ms
Min: -3.3 kn
Tmin: 6.3 ms
CFC 60

BARRIER FORCE - UPPER CENTER (kn) vs TIME (ms)
Max: 25.2 kn
Tmax: 35.7 ms
Min: -7.5 kn
Tmin: 3.6 ms
CFC 60

BARRIER FORCE - UPPER RIGHT (kn) vs TIME (ms)
Max: 8.7 kn
Tmax: 44.6 ms
Min: -10.0 kn
Tmin: 16.7 ms
CFC 60
Speed: 24.7 mph (39.8 km/h)

2004 VOLKSWAGEN BEETLE (C45802)

Test Date: 08/20/04

BARRIER FORCE - LOWER LEFT (kn) vs TIME (ms)
Max: 121.9 kn
Tmax: 39.8 ms
Min: -1.5 kn
Tmin: 3.6 ms
CFC 60

BARRIER FORCE - LOWER CENTER (kn) vs TIME (ms)
Max: 128.3 kn
Tmax: 12.4 ms
Min: -2.5 kn
Tmin: 0.0 ms
CFC 60

BARRIER FORCE - LOWER RIGHT (kn) vs TIME (ms)
Max: 189.7 kn
Tmax: 28.0 ms
Min: -1.7 kn
Tmin: 2.6 ms
CFC 60
25MPH FRONTAL UNBELTED
2004 VOLKSWAGEN BEETLE (C45802)

Test Date: 08/20/04
Speed: 24.7 mph (39.8 km/h)

BARRIER FORCE - SUM LEFT (kn) vs TIME (ms)
Max: 133.0 kn
Tmax: 39.8 ms
Min: -4.2 kn
Tmin: 4.6 ms
CFC 60

BARRIER FORCE - SUM CENTER (kn) vs TIME (ms)
Max: 137.8 kn
Tmax: 10.7 ms
Min: -2.1 kn
Tmin: 0.0 ms
CFC 60

BARRIER FORCE - SUM RIGHT (kn) vs TIME (ms)
Max: 186.8 kn
Tmax: 28.1 ms
Min: -4.7 kn
Tmin: 4.2 ms
CFC 60

BARRIER FORCE - SUM ALL (kn) vs TIME (ms)
Max: 397.7 kn
Tmax: 27.9 ms
Min: -2.0 kn
Tmin: 0.0 ms
CFC 60
BARRIER FORCE - SUM ALL (kn) vs Average Rear Seat X-mem Displacement (mm)

Max: 397.7 kn
Tmax: 267.8 mm
Min: -2.0 kn
Tmin: -24.3 mm
CFC 60
APPENDIX B

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LOW RISK DEPLOYMENT
2004 VW BEETLE (5TH P1)

Test Date: 05/28/04
Speed: 0.0 mph (0.0 km/h)

5TH FEM. DRIVER HEAD X (G's) vs TIME (ms)
- Max: 27.3 G's
- Tmax: 122.8 ms
- Min: -27.8 G's
- Tmin: 5.0 ms
- CFC 1000

5TH FEM. DRIVER HEAD Y (G's) vs TIME (ms)
- Max: 5.1 G's
- Tmax: 123.8 ms
- Min: -4.8 G's
- Tmin: 5.9 ms
- CFC 1000

5TH FEM. DRIVER HEAD Z (G's) vs TIME (ms)
- Max: 13.5 G's
- Tmax: 10.2 ms
- Min: -8.1 G's
- Tmin: 4.6 ms
- CFC 1000

5TH FEM. DRIVER HEAD Resultant (G's) vs TIME (ms)
- Max: 29.0 G's
- Tmax: 5.1 ms
- Min: 0.0 G's
- Tmin: 0.0 ms
- CFC 1000
LOW RISK DEPLOYMENT
2004 VW BEETLE (5TH P1)

Test Date: 05/28/04
Speed: 0.0 mph (0.0 km/h)

5TH FEM. DRIVER HEAD X Velocity (kph) vs TIME (ms)
Max: 10.3 kph
Tmax: 282.8 ms
Min: -22.4 kph
Tmin: 53.0 ms
CFC 180

5TH FEM. DRIVER HEAD Y Velocity (kph) vs TIME (ms)
Max: 2.4 kph
Tmax: 291.4 ms
Min: -0.8 kph
Tmin: 53.3 ms
CFC 180

5TH FEM. DRIVER HEAD Z Velocity (kph) vs TIME (ms)
Max: 29.8 kph
Tmax: 247.0 ms
Min: -0.1 kph
Tmin: 4.9 ms
CFC 180
LOW RISK DEPLOYMENT
2004 VW BEETLE (5TH P1)

Test Date: 05/28/04
Speed: 0.0 mph (0.0 km/h)

5TH FEM. DRIVER NECK MX (Nm) vs TIME (ms)

Max: 3.1 Nm
Tmax: 172.3 ms
Min: -3.9 Nm
Tmin: 188.4 ms
CFC 600

5TH FEM. DRIVER NECK MY (Nm) vs TIME (ms)

Max: 45.6 Nm
Tmax: 21.1 ms
Min: -29.0 Nm
Tmin: 43.4 ms
CFC 600

5TH FEM. DRIVER NECK MZ (Nm) vs TIME (ms)

Max: 1.6 Nm
Tmax: 27.1 ms
Min: -2.4 Nm
Tmin: 159.8 ms
CFC 600

Drv. Occipital Condyle Moment (Nm) vs TIME (ms)

Max: 35.4 Nm
Tmax: 21.2 ms
Min: -23.5 Nm
Tmin: 43.8 ms
CFC 600
LOW RISK DEPLOYMENT
2004 VW BEETLE (5TH P1)

Test Date: 05/28/04
Speed: 0.0 mph (0.0 km/h)

**5TH FEM. DRIVER CHEST X (G's) vs TIME (ms)**
- Max: 5.6 G's
- Tmax: 177.3 ms
- Min: -14.9 G's
- Tmin: 8.8 ms
- CFC 180

**5TH FEM. DRIVER CHEST Y (G's) vs TIME (ms)**
- Max: 1.1 G's
- Tmax: 15.1 ms
- Min: -1.3 G's
- Tmin: 24.7 ms
- CFC 180

**5TH FEM. DRIVER CHEST Z (G's) vs TIME (ms)**
- Max: 5.6 G's
- Tmax: 11.9 ms
- Min: -4.8 G's
- Tmin: 6.2 ms
- CFC 180

**5TH FEM. DRIVER CHEST Resultant (G's) vs TIME (ms)**
- Max: 15.6 G's
- Tmax: 8.8 ms
- Min: 0.0 G's
- Tmin: 0.0 ms
- CFC 180
LOW RISK DEPLOYMENT
2004 VW BEETLE (5TH P1)
Test Date: 05/28/04
Speed: 0.0 mph (0.0 km/h)

5TH FEM. DRIVER CHEST X Velocity (kph) vs TIME (ms)
Max: 5.1 kph
Tmax: 300.0 ms
Min: -9.0 kph
Tmin: 47.4 ms
CFC 180

5TH FEM. DRIVER CHEST Y Velocity (kph) vs TIME (ms)
Max: 1.4 kph
Tmax: 256.6 ms
Min: -0.1 kph
Tmin: 12.0 ms
CFC 180

5TH FEM. DRIVER CHEST Z Velocity (kph) vs TIME (ms)
Max: 10.7 kph
Tmax: 236.5 ms
Min: -0.3 kph
Tmin: 7.3 ms
CFC 180

5TH FEM. DRIVER CHEST DISPLACEMENT (mm) vs TIME (ms)
Max: 0.3 mm
Tmax: 0.0 ms
Min: -10.9 mm
Tmin: 38.5 ms
CFC 600
LOW RISK DEPLOYMENT
2004 VW BEETLE (5TH P1)

Test Date: 05/28/04
Speed: 0.0 mph (0.0 km/h)

5TH FEM. DRIVER LEFT FEMUR (N) vs TIME (ms)

Max: 242.0 N
Tmax: 126.4 ms
Min: -50.1 N
Tmin: 8.2 ms
CFC 600

5TH FEM. DRIVER RIGHT FEMUR (N) vs TIME (ms)

Max: 208.8 N
Tmax: 176.6 ms
Min: -58.4 N
Tmin: 8.2 ms
CFC 600
LOW RISK DEPLOYMENT
2004 VW BEETLE (5TH P1)

Test Date: 05/28/04
Speed: 0.0 mph (0.0 km/h)

FIRE VOLTAGE #1 (Volts) vs TIME (ms)
Max: 15.1 Volts
Tmax: 1.4 ms
Min: -0.1 Volts
Tmin: 0.0 ms
CFC 1000

FIRE CURRENT #1 (Amps) vs TIME (ms)
Max: 2.1 Amps
Tmax: 0.2 ms
Min: -0.6 Amps
Tmin: 8.4 ms
CFC 1000

FIRE VOLTAGE #2 (Volts) vs TIME (ms)
Max: 16.1 Volts
Tmax: 50.5 ms
Min: -0.1 Volts
Tmin: 49.7 ms
CFC 1000

FIRE CURRENT #2 (Amps) vs TIME (ms)
Max: 1.7 Amps
Tmax: 50.1 ms
Min: -3.2 Amps
Tmin: 50.5 ms
CFC 1000
LOW RISK DEPLOYMENT
2004 VW BEETLE (5TH P1)
Test Date: 05/28/04
Speed: 0.0 mph (0.0 km/h)

Drv. nij (NTF) () vs TIME SPECIAL CHS (ms)
Max: 0.4
Tmax: 21.2 ms
Min: 0.0
Tmin: 0.1 ms
CFC 600

Drv. nij (NTE) () vs TIME SPECIAL CHS (ms)
Max: 0.5
Tmax: 43.3 ms
Min: 0.0
Tmin: 0.3 ms
CFC 600

Drv. nij (NCF) () vs TIME SPECIAL CHS (ms)
Max: 0.0
Tmax: 1.9 ms
Min: 0.0
Tmin: 0.1 ms
CFC 600

Drv. nij (NCE) () vs TIME SPECIAL CHS (ms)
Max: 0.0
Tmax: 1.2 ms
Min: 0.0
Tmin: 0.1 ms
CFC 600
LOW RISK DEPLOYMENT
2004 VW BEETLE (5TH P2)

Test Date: 06/18/04
Speed: 0.0 mph (0.0 km/h)

5TH FEM. DRIVER HEAD X (G's) vs TIME (ms)
Max: 11.8 G's
Tmax: 184.6 ms
Min: -14.8 G's
Tmin: 15.7 ms
CFC 1000

5TH FEM. DRIVER HEAD Y (G's) vs TIME (ms)
Max: 1.5 G's
Tmax: 244.1 ms
Min: -1.9 G's
Tmin: 178.1 ms
CFC 1000

5TH FEM. DRIVER HEAD Z (G's) vs TIME (ms)
Max: 24.1 G's
Tmax: 10.3 ms
Min: -2.4 G's
Tmin: 58.6 ms
CFC 1000

5TH FEM. DRIVER HEAD Resultant (G's) vs TIME (ms)
Max: 24.3 G's
Tmax: 10.3 ms
Min: 0.0 G's
Tmin: 0.0 ms
CFC 1000
LOW RISK DEPLOYMENT
2004 VW BEETLE (5TH P2)
Test Date: 06/18/04
Speed: 0.0 mph (0.0 km/h)

5TH FEM. DRIVER HEAD X Velocity (kph) vs TIME (ms)
Max: 15.9 kph
Tmax: 300.0 ms
Min: -18.8 kph
Tmin: 86.8 ms
CFC 180

5TH FEM. DRIVER HEAD Y Velocity (kph) vs TIME (ms)
Max: 1.5 kph
Tmax: 293.6 ms
Min: -0.7 kph
Tmin: 213.8 ms
CFC 180

5TH FEM. DRIVER HEAD Z Velocity (kph) vs TIME (ms)
Max: 43.3 kph
Tmax: 284.5 ms
Min: -0.1 kph
Tmin: 6.1 ms
CFC 180
LOW RISK DEPLOYMENT
2004 VW BEETLE (5TH P2)

Test Date: 06/18/04
Speed: 0.0 mph (0.0 km/h)

5TH FEM. DRIVER NECK FX (N) vs TIME (ms)
Max: 103.1 N
Tmax: 128.7 ms
Min: -428.2 N
Tmin: 15.9 ms
CFC 1000

5TH FEM. DRIVER NECK FY (N) vs TIME (ms)
Max: 32.0 N
Tmax: 28.4 ms
Min: -39.1 N
Tmin: 15.3 ms
CFC 1000

5TH FEM. DRIVER NECK FZ (N) vs TIME (ms)
Max: 801.5 N
Tmax: 10.3 ms
Min: -52.4 N
Tmin: 5.4 ms
CFC 1000

5TH FEM. DRIVER NECK FResultant (N) vs TIME (ms)
Max: 807.2 N
Tmax: 10.3 ms
Min: 0.4 N
Tmin: 0.0 ms
CFC 1000
LOW RISK DEPLOYMENT
2004 VW BEETLE (5TH P2)
Test Date: 06/18/04
Speed: 0.0 mph (0.0 km/h)

5TH FEM. DRIVER NECK MX (Nm) vs TIME (ms)
Max: 4.8 Nm
Tmax: 34.4 ms
Min: -4.4 Nm
Tmin: 63.3 ms
CFC 600

5TH FEM. DRIVER NECK MY (Nm) vs TIME (ms)
Max: 24.2 Nm
Tmax: 52.5 ms
Min: -34.2 Nm
Tmin: 15.8 ms
CFC 600

5TH FEM. DRIVER NECK MZ (Nm) vs TIME (ms)
Max: 3.1 Nm
Tmax: 256.2 ms
Min: -1.5 Nm
Tmin: 57.4 ms
CFC 600

Drv. Occipital Condyle Moment (Nm) vs TIME (ms)
Max: 29.7 Nm
Tmax: 52.5 ms
Min: -26.6 Nm
Tmin: 15.8 ms
CFC 600
LOW RISK DEPLOYMENT
2004 VW BEETLE (5TH P2)

Test Date: 06/18/04
Speed: 0.0 mph (0.0 km/h)

5TH FEM. DRIVER CHEST X (G's) vs TIME (ms)
Max: 6.8 G's
Tmax: 16.5 ms
Min: -33.7 G's
Tmin: 7.5 ms
CFC 180

5TH FEM. DRIVER CHEST Y (G's) vs TIME (ms)
Max: 1.5 G's
Tmax: 28.8 ms
Min: -2.9 G's
Tmin: 7.1 ms
CFC 180

5TH FEM. DRIVER CHEST Z (G's) vs TIME (ms)
Max: 6.4 G's
Tmax: 9.3 ms
Min: -1.2 G's
Tmin: 296.3 ms
CFC 180

5TH FEM. DRIVER CHEST Resultant (G's) vs TIME (ms)
Max: 34.0 G's
Tmax: 7.5 ms
Min: 0.0 G's
Tmin: 0.0 ms
CFC 180
LOW RISK DEPLOYMENT
2004 VW BEETLE (5TH P2)

Test Date: 06/18/04
Speed: 0.0 mph (0.0 km/h)

5TH FEM. DRIVER CHEST X Velocity (kph) vs TIME (ms)
Max: 9.4 kph
Tmax: 300.0 ms
Min: -11.7 kph
Tmin: 45.7 ms
CFC 180

5TH FEM. DRIVER CHEST Y Velocity (kph) vs TIME (ms)
Max: 0.1 kph
Tmax: 273.8 ms
Min: -0.8 kph
Tmin: 47.2 ms
CFC 180

5TH FEM. DRIVER CHEST Z Velocity (kph) vs TIME (ms)
Max: 11.1 kph
Tmax: 277.3 ms
Min: -0.0 kph
Tmin: 6.1 ms
CFC 180

5TH FEM. DRIVER CHEST DISPLACEMENT (mm) vs TIME (ms)
Max: 0.3 mm
Tmax: 0.0 ms
Min: -26.4 mm
Tmin: 11.6 ms
CFC 600
LOW RISK DEPLOYMENT
2004 VW BEETLE (5TH P2)

Test Date: 06/18/04
Speed: 0.0 mph (0.0 km/h)

- 5TH FEM. DRIVER LEFT FEMUR (N) vs TIME (ms)
  - Max: 420.9 N
  - Tmax: 35.2 ms
  - Min: -150.5 N
  - Tmin: 265.7 ms
  - CFC 600

- 5TH FEM. DRIVER RIGHT FEMUR (N) vs TIME (ms)
  - Max: 527.1 N
  - Tmax: 34.3 ms
  - Min: -822.3 N
  - Tmin: 299.9 ms
  - CFC 600
LOW RISK DEPLOYMENT
2004 VW BEETLE (5TH P2)

Test Date: 06/18/04
Speed: 0.0 mph (0.0 km/h)

FIRE VOLTAGE #1 (Volts) vs TIME (ms)
Max: 15.3 Volts
Tmax: 1.5 ms
Min: -0.2 Volts
Tmin: 0.0 ms
CFC 1000

FIRE CURRENT #1 (Amps) vs TIME (ms)
Max: 2.1 Amps
Tmax: 0.3 ms
Min: -0.1 Amps
Tmin: 0.0 ms
CFC 1000

FIRE VOLTAGE #2 (Volts) vs TIME (ms)
Max: 15.2 Volts
Tmax: 51.1 ms
Min: -0.2 Volts
Tmin: 49.8 ms
CFC 1000

FIRE CURRENT #2 (Amps) vs TIME (ms)
Max: 1.3 Amps
Tmax: 50.5 ms
Min: -0.0 Amps
Tmin: 49.8 ms
CFC 1000
LOW RISK DEPLOYMENT
2004 VW BEETLE (5TH P2)

Test Date: 06/18/04
Speed: 0.0 mph (0.0 km/h)

Drv. nij (NTF) ($) vs TIME SPECIAL CHS (ms)
Max: 0.2
Tmax: 51.2 ms
Min: 0.0
Tmin: 0.1 ms
CFC 600

Drv. nij (NTE) ($) vs TIME SPECIAL CHS (ms)
Max: 0.5
Tmax: 14.4 ms
Min: 0.0
Tmin: 0.1 ms
CFC 600

Drv. nij (NCF) ($) vs TIME SPECIAL CHS (ms)
Max: 0.0
Tmax: 5.5 ms
Min: 0.0
Tmin: 0.6 ms
CFC 600

Drv. nij (NCE) ($) vs TIME SPECIAL CHS (ms)
Max: 0.0
Tmax: 4.6 ms
Min: 0.0
Tmin: 0.1 ms
CFC 600
LOW RISK DEPLOYMENT
2004 VW BEETLE (6YO P1)
Test Date: 07/09/04
Speed: 0.0 mph (0.0 km/h)

6YR OLD PASSENGER HEAD X (G's) vs TIME (ms)
Max: 1.1 G's
Tmax: 29.5 ms
Min: -8.0 G's
Tmin: 22.8 ms
CFC 1000

6YR OLD PASSENGER HEAD Y (G's) vs TIME (ms)
Max: 1.6 G's
Tmax: 31.2 ms
Min: -1.4 G's
Tmin: 22.8 ms
CFC 1000

6YR OLD PASSENGER HEAD Z (G's) vs TIME (ms)
Max: 6.8 G's
Tmax: 19.4 ms
Min: -2.5 G's
Tmin: 31.0 ms
CFC 1000

6YR OLD PASSENGER HEAD Resultant (G's) vs TIME (ms)
Max: 8.8 G's
Tmax: 22.8 ms
Min: 0.0 G's
Tmin: 0.0 ms
CFC 1000
LOW RISK DEPLOYMENT
2004 VW BEETLE (6YO P1)

Test Date: 07/09/04
Speed: 0.0 mph (0.0 km/h)

6YR OLD PASSENGER HEAD X Velocity (kph) vs TIME (ms)

Max: 1.1 kph
Tmax: 243.5 ms
Min: -1.0 kph
Tmin: 67.3 ms
CFC 180

6YR OLD PASSENGER HEAD Y Velocity (kph) vs TIME (ms)

Max: 0.8 kph
Tmax: 55.0 ms
Min: -0.3 kph
Tmin: 284.7 ms
CFC 180

6YR OLD PASSENGER HEAD Z Velocity (kph) vs TIME (ms)

Max: 0.8 kph
Tmax: 24.4 ms
Min: -0.7 kph
Tmin: 300.0 ms
CFC 180
LOW RISK DEPLOYMENT
2004 VW BEETLE (6YO P1)

Test Date: 07/09/04
Speed: 0.0 mph (0.0 km/h)

6YR OLD PASSENGER CHEST X (G's) vs TIME (ms)

Max: 4.7 G's
Tmax: 24.0 ms
Min: -12.8 G's
Tmin: 17.5 ms
CFC 180

6YR OLD PASSENGER CHEST Y (G's) vs TIME (ms)

Max: 2.1 G's
Tmax: 19.2 ms
Min: -1.2 G's
Tmin: 35.8 ms
CFC 180

6YR OLD PASSENGER CHEST Z (G's) vs TIME (ms)

Max: 1.9 G's
Tmax: 20.4 ms
Min: -1.8 G's
Tmin: 29.2 ms
CFC 180

6YR OLD PASSENGER CHEST Resultant (G's) vs TIME (ms)

Max: 12.8 G's
Tmax: 17.5 ms
Min: 0.0 G's
Tmin: 0.0 ms
CFC 180
LOW RISK DEPLOYMENT
2004 VW BEETLE (6YO P1)

Test Date: 07/09/04
Speed: 0.0 mph (0.0 km/h)

6YR OLD PASSENGER CHEST X Velocity (kph) vs TIME (ms)
Max: 0.7 kph
Tmax: 300.0 ms
Min: -1.5 kph
Tmin: 20.8 ms
CFC 180

6YR OLD PASSENGER CHEST Y Velocity (kph) vs TIME (ms)
Max: 0.2 kph
Tmax: 29.8 ms
Min: -0.3 kph
Tmin: 300.0 ms
CFC 180

6YR OLD PASSENGER CHEST Z Velocity (kph) vs TIME (ms)
Max: 0.3 kph
Tmax: 26.0 ms
Min: -0.4 kph
Tmin: 299.5 ms
CFC 180

6YR OLD PASSENGER CHEST DISPLACEMENT (mm) vs TIME (ms)
Max: 0.8 mm
Tmax: 27.5 ms
Min: -10.8 mm
Tmin: 18.7 ms
CFC 600
LOW RISK DEPLOYMENT
2004 VW BEETLE (6YO P1)

Test Date: 07/09/04
Speed: 0.0 mph (0.0 km/h)

FIRE VOLTAGE #1 (Volts) vs TIME (ms)
Max: 16.3 Volts
Tmax: 0.4 ms
Min: -0.3 Volts
Tmin: 0.0 ms
CFC 1000

FIRE CURRENT #1 (Amps) vs TIME (ms)
Max: 2.8 Amps
Tmax: 0.6 ms
Min: -0.1 Amps
Tmin: 10.2 ms
CFC 1000
LOW RISK DEPLOYMENT
2004 VW BEETLE (6YO P1)
Test Date: 07/09/04
Speed: 0.0 mph (0.0 km/h)

PASS. nij (NTF) () vs TIME SPECIAL CHS (ms)
Max: 0.0
Tmax: 35.3 ms
Min: 0.0
Tmin: 0.1 ms
CFC 600

PASS. nij (NTE) () vs TIME SPECIAL CHS (ms)
Max: 0.2
Tmax: 20.2 ms
Min: 0.0
Tmin: 0.1 ms
CFC 600

PASS. nij (NCF) () vs TIME SPECIAL CHS (ms)
Max: 0.0
Tmax: 27.8 ms
Min: 0.0
Tmin: 0.7 ms
CFC 600

PASS. nij (NCE) () vs TIME SPECIAL CHS (ms)
Max: 0.1
Tmax: 22.8 ms
Min: 0.0
Tmin: 0.1 ms
CFC 600
LOW RISK DEPLOYMENT
2004 VW BEETLE (6YO P2)

Test Date: 07/09/04
Speed: 0.0 mph (0.0 km/h)

6YR OLD PASSENGER HEAD X (G's) vs TIME (ms)
Max: 8.3 G's
Tmax: 246.0 ms
Min: -113.6 G's
Tmin: 12.2 ms
CFC 1000

6YR OLD PASSENGER HEAD Y (G's) vs TIME (ms)
Max: 8.3 G's
Tmax: 22.5 ms
Min: -4.5 G's
Tmin: 12.1 ms
CFC 1000

6YR OLD PASSENGER HEAD Z (G's) vs TIME (ms)
Max: 31.5 G's
Tmax: 23.7 ms
Min: -17.2 G's
Tmin: 16.2 ms
CFC 1000

6YR OLD PASSENGER HEAD Resultant (G's) vs TIME (ms)
Max: 113.7 G's
Tmax: 12.2 ms
Min: 0.0 G's
Tmin: 0.0 ms
CFC 1000
LOW RISK DEPLOYMENT
2004 VW BEETLE (6YO P2)

Test Date: 07/09/04
Speed: 0.0 mph (0.0 km/h)

6YR OLD PASSENGER HEAD X Velocity (kph) vs TIME (ms)
Max: 0.1 kph
Tmax: 9.9 ms
Min: -26.8 kph
Tmin: 39.2 ms
CFC 180

6YR OLD PASSENGER HEAD Y Velocity (kph) vs TIME (ms)
Max: 1.9 kph
Tmax: 30.8 ms
Min: -2.8 kph
Tmin: 300.0 ms
CFC 180

6YR OLD PASSENGER HEAD Z Velocity (kph) vs TIME (ms)
Max: 34.1 kph
Tmax: 252.5 ms
Min: -1.0 kph
Tmin: 17.7 ms
CFC 180
LOW RISK DEPLOYMENT
2004 VW BEETLE (6YO P2)

Test Date: 07/09/04
Speed: 0.0 mph (0.0 km/h)

6YR OLD PASSENGER NECK FX (N) vs TIME (ms)

Max: 456.9 N
Tmax: 12.7 ms
Min: -5.4 N
Tmin: 283.4 ms
CFC 1000

6YR OLD PASSENGER NECK FY (N) vs TIME (ms)

Max: 21.9 N
Tmax: 12.5 ms
Min: -148.0 N
Tmin: 28.4 ms
CFC 1000

6YR OLD PASSENGER NECK FZ (N) vs TIME (ms)

Max: 1099.8 N
Tmax: 22.5 ms
Min: -66.6 N
Tmin: 288.2 ms
CFC 1000

6YR OLD PASSENGER NECK FResultant (N) vs TIME (ms)

Max: 1104.4 N
Tmax: 22.5 ms
Min: 0.2 N
Tmin: 0.0 ms
CFC 1000
LOW RISK DEPLOYMENT
2004 VW BEETLE (6YO P2)

Test Date: 07/09/04
Speed: 0.0 mph (0.0 km/h)

6YR OLD PASSENGER NECK MX (Nm) vs TIME (ms)
Max: 8.8 Nm
Tmax: 27.1 ms
Min: -3.2 Nm
Tmin: 53.6 ms
CFC 600

6YR OLD PASSENGER NECK MY (Nm) vs TIME (ms)
Max: 14.3 Nm
Tmax: 13.3 ms
Min: -22.3 Nm
Tmin: 52.3 ms
CFC 600

6YR OLD PASSENGER NECK MZ (Nm) vs TIME (ms)
Max: 3.4 Nm
Tmax: 75.2 ms
Min: -8.6 Nm
Tmin: 44.1 ms
CFC 600

Pass. Occipital Condyle Moment (Nm) vs TIME (ms)
Max: 9.8 Nm
Tmax: 274.6 ms
Min: -24.8 Nm
Tmin: 55.0 ms
CFC 600
LOW RISK DEPLOYMENT
2004 VW BEETLE (6YO P2)

Test Date: 07/09/04
Speed: 0.0 mph (0.0 km/h)

6YR OLD PASSENGER CHEST X (G's) vs TIME (ms)
Max: 5.3 G's
Tmax: 18.5 ms
Min: -8.6 G's
Tmin: 32.0 ms
CFC 180

6YR OLD PASSENGER CHEST Y (G's) vs TIME (ms)
Max: 2.4 G's
Tmax: 27.3 ms
Min: -0.9 G's
Tmin: 267.8 ms
CFC 180

6YR OLD PASSENGER CHEST Z (G's) vs TIME (ms)
Max: 4.0 G's
Tmax: 62.5 ms
Min: -9.6 G's
Tmin: 18.2 ms
CFC 180

6YR OLD PASSENGER CHEST Resultant (G's) vs TIME (ms)
Max: 10.9 G's
Tmax: 18.3 ms
Min: 0.0 G's
Tmin: 0.0 ms
CFC 180
LOW RISK DEPLOYMENT
2004 VW BEETLE (6YO P2)

Test Date: 07/09/04
Speed: 0.0 mph (0.0 km/h)

FIRE VOLTAGE #1 (Volts) vs TIME (ms)

-2.5 0 2.5 5 7.5 10 12.5 15 17.5
-20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300
Max: 16.5 Volts
Tmax: 0.5 ms
Min: -0.2 Volts
Tmin: 0.0 ms
CFC 1000

FIRE CURRENT #1 (Amps) vs TIME (ms)

-0.5 0 1 1.5 2 2.5 3 3.5
-20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300
Max: 3.8 Amps
Tmax: 1.2 ms
Min: -0.1 Amps
Tmin: 0.0 ms
CFC 1000
LOW RISK DEPLOYMENT
2004 VW BEETLE (3YO P1)

Test Date: 05/28/04
Speed: 0.0 mph (0.0 km/h)

3YR OLD PASSENGER HEAD X (G's) vs TIME (ms)
Max: 0.8 G's
Tmax: 21.1 ms
Min: -3.4 G's
Tmin: 30.3 ms
CFC 1000

3YR OLD PASSENGER HEAD Y (G's) vs TIME (ms)
Max: 1.2 G's
Tmax: 34.1 ms
Min: -0.3 G's
Tmin: 58.7 ms
CFC 1000

3YR OLD PASSENGER HEAD Z (G's) vs TIME (ms)
Max: 2.0 G's
Tmax: 21.8 ms
Min: -0.6 G's
Tmin: 38.7 ms
CFC 1000

3YR OLD PASSENGER HEAD Resultant (G's) vs TIME (ms)
Max: 3.5 G's
Tmax: 30.3 ms
Min: 0.0 G's
Tmin: 0.0 ms
CFC 1000
LOW RISK DEPLOYMENT
2004 VW BEETLE (3YO P1)
Test Date: 05/28/04
Speed: 0.0 mph (0.0 km/h)

3YR OLD PASSENGER HEAD X Velocity (kph) vs TIME (ms)
Max: 0.6 kph
Tmax: 300.0 ms
Min: -1.1 kph
Tmin: 56.7 ms
CFC 180

3YR OLD PASSENGER HEAD Y Velocity (kph) vs TIME (ms)
Max: 0.7 kph
Tmax: 51.7 ms
Min: -0.4 kph
Tmin: 300.0 ms
CFC 180

3YR OLD PASSENGER HEAD Z Velocity (kph) vs TIME (ms)
Max: 0.3 kph
Tmax: 28.7 ms
Min: -0.1 kph
Tmin: 300.0 ms
CFC 180
LOW RISK DEPLOYMENT
2004 VW BEETLE (3YO P1)
Test Date: 05/28/04
Speed: 0.0 mph (0.0 km/h)

3YR OLD PASSENGER NECK FX (N) vs TIME (ms)
Max: 11.8 N
Tmax: 21.8 ms
Min: -12.0 N
Tmin: 29.0 ms
CFC 1000

3YR OLD PASSENGER NECK FY (N) vs TIME (ms)
Max: 3.8 N
Tmax: 20.5 ms
Min: -14.0 N
Tmin: 49.9 ms
CFC 1000

3YR OLD PASSENGER NECK FZ (N) vs TIME (ms)
Max: 63.7 N
Tmax: 22.7 ms
Min: -9.2 N
Tmin: 114.0 ms
CFC 1000

3YR OLD PASSENGER NECK FResultant (N) vs TIME (ms)
Max: 64.0 N
Tmax: 22.7 ms
Min: 0.2 N
Tmin: 0.0 ms
CFC 1000
LOW RISK DEPLOYMENT
2004 VW BEETLE (3YO P1)

Test Date: 05/28/04
Speed: 0.0 mph (0.0 km/h)

- 3YR OLD PASSENGER NECK MX (Nm) vs TIME (ms)
  - Max: 3.3 Nm
  - Tmax: 29.7 ms
  - Min: -0.6 Nm
  - Tmin: 60.9 ms
  - CFC 600

- 3YR OLD PASSENGER NECK MY (Nm) vs TIME (ms)
  - Max: 1.0 Nm
  - Tmax: 39.8 ms
  - Min: -1.2 Nm
  - Tmin: 25.1 ms
  - CFC 600

- 3YR OLD PASSENGER NECK MZ (Nm) vs TIME (ms)
  - Max: 0.7 Nm
  - Tmax: 82.7 ms
  - Min: -2.8 Nm
  - Tmin: 42.7 ms
  - CFC 600

- Pass. Occipital Condyle Moment (Nm) vs TIME (ms)
  - Max: 1.1 Nm
  - Tmax: 38.0 ms
  - Min: -1.1 Nm
  - Tmin: 25.1 ms
  - CFC 600
LOW RISK DEPLOYMENT
2004 VW BEETLE (3YO P1)
Test Date: 05/28/04
Speed: 0.0 mph (0.0 km/h)

3YR OLD PASSENGER CHEST X (G's) vs TIME (ms)
Max: 1.7 G's
Tmax: 30.0 ms
Min: -4.5 G's
Tmin: 21.4 ms
CFC 180

3YR OLD PASSENGER CHEST Y (G's) vs TIME (ms)
Max: 0.5 G's
Tmax: 27.7 ms
Min: -0.4 G's
Tmin: 31.5 ms
CFC 180

3YR OLD PASSENGER CHEST Z (G's) vs TIME (ms)
Max: 1.2 G's
Tmax: 20.8 ms
Min: -0.5 G's
Tmin: 33.2 ms
CFC 180

3YR OLD PASSENGER CHEST Resultant (G's) vs TIME (ms)
Max: 4.5 G's
Tmax: 21.4 ms
Min: 0.0 G's
Tmin: 0.0 ms
CFC 180
LOW RISK DEPLOYMENT
2004 VW BEETLE (3YO P1)
Test Date: 05/28/04
Speed: 0.0 mph (0.0 km/h)

3YR OLD PASSENGER CHEST X Velocity (kph) vs TIME (ms)
Max: 1.0 kph
Tmax: 300.0 ms
Min: -0.5 kph
Tmin: 26.3 ms
CFC 180

3YR OLD PASSENGER CHEST Y Velocity (kph) vs TIME (ms)
Max: 0.3 kph
Tmax: 281.4 ms
Min: -0.1 kph
Tmin: 49.9 ms
CFC 180

3YR OLD PASSENGER CHEST Z Velocity (kph) vs TIME (ms)
Max: 0.3 kph
Tmax: 90.9 ms
Min: -0.5 kph
Tmin: 300.0 ms
CFC 180

3YR OLD PASSENGER CHEST DISPLACEMENT (mm) vs TIME (ms)
Max: 0.7 mm
Tmax: 63.8 ms
Min: -4.0 mm
Tmin: 23.5 ms
CFC 600
LOW RISK DEPLOYMENT
2004 VW BEETLE (3YO P1)

Test Date: 05/28/04
Speed: 0.0 mph (0.0 km/h)

FIRE VOLTAGE #1 (Volts) vs TIME (ms)

Max: 15.5 Volts
Tmax: 0.4 ms
Min: -0.2 Volts
Tmin: 0.0 ms
CFC 1000

FIRE CURRENT #1 (Amps) vs TIME (ms)

Max: 3.2 Amps
Tmax: 9.8 ms
Min: -0.1 Amps
Tmin: 10.3 ms
CFC 1000
LOW RISK DEPLOYMENT
2004 VW BEETLE (3YO P1)

Test Date: 05/28/04
Speed: 0.0 mph (0.0 km/h)

PASS. nij (NTF) () vs TIME SPECIAL CHS (ms)
Max: 0.0
Tmax: 32.4 ms
Min: 0.0
Tmin: 0.1 ms
CFC 600

Pass. nij (NTE) () vs TIME SPECIAL CHS (ms)
Max: 0.1
Tmax: 25.2 ms
Min: 0.0
Tmin: 1.2 ms
CFC 600

Pass. nij (NCF) () vs TIME SPECIAL CHS (ms)
Max: 0.0
Tmax: 37.1 ms
Min: 0.0
Tmin: 0.1 ms
CFC 600

Pass. nij (NCE) () vs TIME SPECIAL CHS (ms)
Max: 0.0
Tmax: 94.7 ms
Min: 0.0
Tmin: 0.1 ms
CFC 600
LOW RISK DEPLOYMENT
2004 VW Beetle (3YO P2)

Test Date: 06/18/04
Speed: 0.0 mph (0.0 km/h)

3YR OLD PASSENGER HEAD X (G's) vs TIME (ms)
Max: 8.8 G's
Tmax: 16.3 ms
Min: -115.2 G's
Tmin: 13.6 ms
CFC 1000

3YR OLD PASSENGER HEAD Y (G's) vs TIME (ms)
Max: 6.0 G's
Tmax: 20.1 ms
Min: -3.9 G's
Tmin: 13.9 ms
CFC 1000

3YR OLD PASSENGER HEAD Z (G's) vs TIME (ms)
Max: 8.8 G's
Tmax: 19.1 ms
Min: -20.1 G's
Tmin: 13.5 ms
CFC 1000

3YR OLD PASSENGER HEAD Resultant (G's) vs TIME (ms)
Max: 116.9 G's
Tmax: 13.6 ms
Min: 0.0 G's
Tmin: 0.0 ms
CFC 1000
LOW RISK DEPLOYMENT
2004 VW Beetle (3YO P2)

Test Date: 06/18/04
Speed: 0.0 mph (0.0 km/h)

3YR OLD PASSENGER HEAD X Velocity (kph) vs TIME (ms)
Max: 0.1 kph
Tmax: 11.8 ms
Min: -9.8 kph
Tmin: 26.2 ms
CFC 180

3YR OLD PASSENGER HEAD Y Velocity (kph) vs TIME (ms)
Max: 1.9 kph
Tmax: 40.0 ms
Min: -0.3 kph
Tmin: 300.0 ms
CFC 180

3YR OLD PASSENGER HEAD Z Velocity (kph) vs TIME (ms)
Max: 12.1 kph
Tmax: 300.0 ms
Min: -0.7 kph
Tmin: 16.7 ms
CFC 180
LOW RISK DEPLOYMENT
2004 VW Beetle (3YO P2)

Test Date: 06/18/04
Speed: 0.0 mph (0.0 km/h)

3YR OLD PASSENGER NECK FX (N) vs TIME (ms)
Max: 458.5 N
Tmax: 13.8 ms
Min: -30.9 N
Tmin: 225.5 ms
CFC 1000

3YR OLD PASSENGER NECK FY (N) vs TIME (ms)
Max: 18.7 N
Tmax: 86.0 ms
Min: -115.0 N
Tmin: 21.8 ms
CFC 1000

3YR OLD PASSENGER NECK FZ (N) vs TIME (ms)
Max: 958.5 N
Tmax: 15.1 ms
Min: -47.7 N
Tmin: 215.4 ms
CFC 1000

3YR OLD PASSENGER NECK FResultant (N) vs TIME (ms)
Max: 985.3 N
Tmax: 15.1 ms
Min: 0.2 N
Tmin: 0.0 ms
CFC 1000
LOW RISK DEPLOYMENT
2004 VW Beetle (3YO P2)
Test Date: 06/18/04
Speed: 0.0 mph (0.0 km/h)

3YR OLD PASSENGER NECK MX (Nm) vs TIME (ms)
Max: 11.7 Nm
Tmax: 24.1 ms
Min: -2.2 Nm
Tmin: 98.9 ms
CFC 600

3YR OLD PASSENGER NECK MY (Nm) vs TIME (ms)
Max: 11.0 Nm
Tmax: 13.9 ms
Min: -6.5 Nm
Tmin: 61.3 ms
CFC 600

3YR OLD PASSENGER NECK MZ (Nm) vs TIME (ms)
Max: 0.9 Nm
Tmax: 197.0 ms
Min: -8.3 Nm
Tmin: 43.5 ms
CFC 600

Pass. Occipital Condyle Moment (Nm) vs TIME (ms)
Max: 11.0 Nm
Tmax: 13.9 ms
Min: -6.5 Nm
Tmin: 61.3 ms
CFC 600
LOW RISK DEPLOYMENT
2004 VW Beetle (3YO P2)

Test Date: 06/18/04
Speed: 0.0 mph (0.0 km/h)

3YR OLD PASSENGER CHEST X Velocity (kph) vs TIME (ms)
- Max: 1.9 kph
- Tmax: 300.0 ms
- Min: -3.9 kph
- Tmin: 139.5 ms
- CFC 180

3YR OLD PASSENGER CHEST Y Velocity (kph) vs TIME (ms)
- Max: 1.4 kph
- Tmax: 137.1 ms
- Min: 0.0 kph
- Tmin: 15.7 ms
- CFC 180

3YR OLD PASSENGER CHEST Z Velocity (kph) vs TIME (ms)
- Max: 4.2 kph
- Tmax: 300.0 ms
- Min: -1.4 kph
- Tmin: 32.7 ms
- CFC 180

3YR OLD PASSENGER CHEST DISPLACEMENT (mm) vs TIME (ms)
- Max: 0.8 mm
- Tmax: 24.1 ms
- Min: -0.8 mm
- Tmin: 16.0 ms
- CFC 600
LOW RISK DEPLOYMENT
2004 VW Beetle X3 (3YO P2)

Test Date: 06/18/04
Speed: 0.0 mph (0.0 km/h)

FIRE VOLTAGE #1 (Volts) vs TIME (ms)

Max: 15.2 Volts
Tmax: 1.1 ms
Min: -0.2 Volts
Tmin: 0.0 ms
CFC 1000

FIRE CURRENT #1 (Amps) vs TIME (ms)

Max: 2.7 Amps
Tmax: 1.9 ms
Min: -0.1 Amps
Tmin: 10.2 ms
CFC 1000
LOW RISK DEPLOYMENT
2004 VW Beetle (3YO P2)

Test Date: 06/18/04
Speed: 0.0 mph (0.0 km/h)

PASS. nij (NTF) () vs TIME SPECIAL CHS (ms)
Max: 0.6
Tmax: 15.1 ms
Min: 0.0
Tmin: 0.1 ms
CFC 600

Pass. nij (NTE) () vs TIME SPECIAL CHS (ms)
Max: 0.3
Tmax: 61.3 ms
Min: 0.0
Tmin: 0.1 ms
CFC 600

Pass. nij (NCF) () vs TIME SPECIAL CHS (ms)
Max: 0.0
Tmax: 1.6 ms
Min: 0.0
Tmin: 0.1 ms
CFC 600

Pass. nij (NCE) () vs TIME SPECIAL CHS (ms)
Max: 0.0
Tmax: 12.3 ms
Min: 0.0
Tmin: 0.4 ms
CFC 600
APPENDIX C

CRASH TEST PHOTOGRAPHS
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<th>Rear: 3</th>
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<tr>
<td>The combined weight of occupants and cargo should never exceed 351 kg or 774 lbs.</td>
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#### Original Size: 205/55 R16 91H

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<tr>
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## See Owner's Manual for Additional Information
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Pre-Test Left Side View of Test Vehicle
Post-Test Left Side View of Test Vehicle
Post-Test Right Side View of Test Vehicle
Post-Test Right Front Three-Quarter View of Test Vehicle
Pre-Test Left Rear Three-Quarter View of Test Vehicle
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C45802
25 MPH FRONTAL UNBELTED
04082001
MGA RESEARCH CORP.
2004 VOLKSWAGEN BEETLE
Post-Test Passenger Dummy Knee Contact
Post-Test Passenger Dummy Airbag Contact
Rollover 180 Degrees
Rollover 270 Degrees
APPENDIX D

LOW RISK PHOTOGRAPHS
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<td>Post-Test 5&lt;sup&gt;th&lt;/sup&gt; Fem. P1 Driver Dummy Right Side View</td>
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<td>Post-Test 5&lt;sup&gt;th&lt;/sup&gt; Fem. P1 Driver Dummy Right Side View (Door Open)</td>
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Post-Test 5th Fem. P1 Driver Dummy Right Side View (Door Open)
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Post-Test 5th Fem. P1 Driver Dummy Left Side Head Position View
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Pre-Test 5th Fem. P2 Driver Dummy Left Side Head Position View
Post-Test 5th Fem. P2 Driver Dummy Left Side Head Position View
Pre-Test 5th Fem. P2 Driver Dummy Left Side Mid Position View
Post-Test 5th Fem. P2 Driver Dummy Left Side Mid Position View
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Post-Test 5th Fem. P2 Driver Dummy Head Contact (Headrest)
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Post-Test 5th Fem. P2 Driver Dummy Head Contact (Side Header)
Pre-Test 6 Year Old Passenger P1 Dummy Left Side View
Post-Test 6 Year Old Passenger P1 Dummy Left Side View
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Post-Test 6 Year Old Passenger P1 Dummy Left Side Mid Position View
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Post-Test 3 Year Old Passenger P1 Dummy Right Side Knee Position View
Post-Test 3 Year Old Passenger P1 Dummy Airbag Contact
3 YO Low Risk Deployment Position 2
6-18-04      C45802
2004 VW Beetle
MGA Research Corp.

Post-Test 3 Year Old Passenger P2 Dummy Left Side View
3 YO Low Risk Deployment Position 2
6-18-04 C45802
2004 VW Beetle
MGA Research Corp.

Pre-Test 3 Year Old Passenger P2 Dummy Right Side View
Post-Test 3 Year Old Passenger P2 Dummy Right Side View
Post-Test 3 Year Old Passenger P2 Dummy Left Side View (Door Open)
Pre-Test 3 Year Old Passenger P2 Dummy Right Side View (Door Open)
Pre-Test 3 Year Old Passenger P2 Dummy Left Side Knee Position View
Pre-Test 3 Year Old Passenger P2 Dummy Right Side Knee Position View
Post-Test 3 Year Old Passenger P2 Dummy Right Side Head Position View
### 2.2.1 Crash sensors
See section 3, "Up-front and occupant sensors" for information about this.

### 2.2.2 Driver's airbag

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<td>Part number steering wheel</td>
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<td>3</td>
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<td>4</td>
<td>Number of chambers</td>
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<td>7</td>
<td>Number of generator stages</td>
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#### Flap and deployment

- Dimensions of the airbag cover (x / y)
  - ~175 / 125 [mm / mm]
- The white lines indicate the vertical edges.

- Dimensions of the airbag cover (area)
  - ~21875 [mm²]

#### Supplier (ASSY module)

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<th>Address (street, town, zip code)</th>
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<td>10</td>
<td>TRW Aschaffenburg</td>
<td>Hofner-Alteneck-Str. 11, 68743 Aschaffenburg</td>
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Photo 2.2: Definition of the middle position of the air bag opening at the bottom side

Photo 2.3: Definition of the middle position of the air bag opening at the top side

Photo 2.4: Marking the center point in lateral direction

Transfer the marked middle points on the cover using a metal rule (Photo 2.4). The vertical plane, which intersects this point is designated as plane "D". To define plane "C", determine the center point in longitudinal direction of the air bag opening (S22.4.1.3). The cross where both lines intersect defines the geometric center point of the air bag deployment opening (Photo 2.5).

Photo 2.5: Definition of the center point of the air bag opening
APPENDIX E
SUPPRESSION PHOTOGRAPHS
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<td>69</td>
<td>Unbelted 5th Percentile Female Reactivation, Middle Seat Track</td>
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<td>70</td>
<td>Evenflo Medallion 254 Fwd Facing With Belt, Forward Seat Track</td>
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<td>Evenflo Medallion 254 Fwd Facing With Belt, Middle Seat Track</td>
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<td>Unbelted 5th Percentile Female Reactivation, Rearward Seat Track</td>
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DOT/NHTSA 208 Suppression Test – 2004 Volkswagen Beetle (C45802)

Newborn Section A Car Bed

- Cosco Dream Ride Car Bed With Belt, Forward Seat Track
- Cosco Dream Ride Car Bed With Belt, Middle Seat Track
- Cosco Dream Ride Car Bed With Belt, Rearward Seat Track
- Unbelted 5th Percentile Female Reactivation, Forward Seat Track
Britax Handle With Care 191 Fwd Facing Unbelted, Rearward Seat Track, Handle Down

Unbelted 5th Percentile Female Reactivation, Rearward Seat Track
DOT/NHTSA 208 Suppression Test – 2004 Volkswagen Beetle (C45802)
12 Month Section B Rear Facing CRS

Evenflo First Choice 204 With Belt, Forward Seat Track, Handle Up

Evenflo First Choice 204 With Belt, Middle Seat Track, Handle Up

Evenflo First Choice 204 With Belt, Rearward Seat Track, Handle Up

Evenflo First Choice 204 Unbelted, Forward Seat Track, Handle Up
DOT/NHTSA 208 Suppression Test – 2004 Volkswagen Beetle (C45802)
12 Month Section B Rear Facing CRS

Evenflo First Choice 204 Unbelted, Middle Seat Track, Handle Up
Evenflo First Choice 204 Unbelted, Rearward Seat Track, Handle Down

Evenflo First Choice 204 Fwd Facing Unbelted, Forward Seat Track, Handle Up
Evenflo First Choice 204 Fwd Facing Unbelted, Middle Seat Track, Handle Up
DOT/NHTSA 208 Suppression Test – 2004 Volkswagen Beetle (C45802)

12 Month Section B Rear Facing CRS

- Evenflo First Choice 204 Fwd Facing Unbelted, Rearward Seat Track, Handle Up

- Unbelted 5th Percentile Female Reactivation, Middle Seat Track
DOT/NHTSA 208 Suppression Test – 2004 Volkswagen Beetle (C45802)

12 Month Section B Rear Facing CRS

- Graco Infant W/ Base Unbelted, Middle Seat Track, Handle Up
- Graco Infant W/ Base Unbelted, Rearward Seat Track, Handle Down
- Graco Infant W/ Base Fwd Facing Unbelted, Forward Seat Track, Handle Up
- Graco Infant W/ Base Fwd Facing Unbelted, Middle Seat Track, Handle Up
Graco Infant W/ Base Fwd Facing Unbelted,
Rearward Seat Track, Handle Up
DOT/NHTSA 208 Suppression Test – 2004 Volkswagen Beetle (C45802)
12 Month Section B Rear Facing CRS

Graco Infant W/O Base With Belt, Forward Seat Track, Handle Up
Graco Infant W/O Base With Belt, Middle Seat Track, Handle Up
Graco Infant W/O Base With Belt, Rearward Seat Track, Handle Up
Graco Infant W/O Base Unbelted, Forward Seat Track, Handle Up
DOT/NHTSA 208 Suppression Test – 2004 Volkswagen Beetle (C45802)
12 Month Section B Rear Facing CRS

Graco Infant W/O Base Unbelted, Middle Seat Track, Handle Up
Graco Infant W/O Base Unbelted, Rearward Seat Track, Handle Down
Graco Infant W/O Base Fwd Facing Unbelted, Forward Seat Track, Handle Up
Graco Infant W/O Base Fwd Facing Unbelted, Middle Seat Track, Handle Up
Graco Infant W/O Base Fwd Facing Unbelted,
Rearward Seat Track, Handle Up

Unbelted 5th Percentile Female Reactivation,
Forward Seat Track
DOT/NHTSA 208 Suppression Test – 2004 Volkswagen Beetle (C45802)

12 Month Section C Forward Facing Convertible CRS

Britax Roundabout 161 Fwd Facing With Belt, Forward Seat Track

Britax Roundabout 161 Fwd Facing With Belt, Middle Seat Track

Britax Roundabout 161 Fwd Facing With Belt, Rearward Seat Track

Britax Roundabout 161 Fwd Facing Unbelted, Forward Seat Track
DOT/NHTSA 208 Suppression Test – 2004 Volkswagen Beetle (C45802)

12 Month Section C Forward Facing Convertible CRS

Britax Roundabout 161 Fwd Facing Unbelted,
Middle Seat Track

Britax Roundabout 161 Fwd Facing Unbelted,
Rearward Seat Track

Britax Roundabout 161 Rear Facing With Belt,
Forward Seat Track

Britax Roundabout 161 Rear Facing With Belt,
Middle Seat Track
DOT/NHTSA 208 Suppression Test – 2004 Volkswagen Beetle (C45802)
12 Month Section C Forward Facing Convertible CRS

Britax Roundabout 161 Rear Facing With Belt, Rearward Seat Track
Britax Roundabout 161 Rear Facing Unbelted, Forward Seat Track
Britax Roundabout 161 Rear Facing Unbelted, Middle Seat Track
Britax Roundabout 161 Rear Facing Unbelted, Rearward Seat Track
Unbelted 5th Percentile Female Reactivation,
Rearward Seat Track
DOT/NHTSA 208 Suppression Test – 2004 Volkswagen Beetle (C45802)
12 Month Section C Forward Facing Convertible CRS

Century Encore Fwd Facing Unbelted, Middle Seat Track
Century Encore Fwd Facing Unbelted, Rearward Seat Track
Century Encore Rear Facing With Belt, Forward Seat Track
Century Encore Rear Facing With Belt, Middle Seat Track
DOT/NHTSA 208 Suppression Test – 2004 Volkswagen Beetle (C45802)

12 Month Section C Forward Facing Convertible CRS

Unbelted 5th Percentile Female Reactivation, Middle Seat Track
DOT/NHTSA 208 Suppression Test – 2004 Volkswagen Beetle (C45802)

12 Month Section C Forward Facing Convertible CRS

- Evenflo Medallion 254 Fwd Facing With Belt, Forward Seat Track
- Evenflo Medallion 254 Fwd Facing With Belt, Middle Seat Track
- Evenflo Medallion 254 Fwd Facing With Belt, Rearward Seat Track
- Evenflo Medallion 254 Fwd Facing Unbelted, Forward Seat Track
DOT/NHTSA 208 Suppression Test – 2004 Volkswagen Beetle (C45802)
12 Month Section C Forward Facing Convertible CRS

Evenflo Medallion 254 Fwd Facing Unbelted, Middle Seat Track

Evenflo Medallion 254 Fwd Facing Unbelted, Rearward Seat Track

Evenflo Medallion 254 Rear Facing With Belt, Forward Seat Track

Evenflo Medallion 254 Rear Facing With Belt, Middle Seat Track
Unbelted 5th Percentile Female Reactivation, Rearward Seat Track
APPENDIX F

INSTRUMENTATION CALIBRATION
### INSTRUMENTS FOR DRIVER DUMMY NO. 505

<table>
<thead>
<tr>
<th>Instrument Type</th>
<th>Serial No.</th>
<th>Manufacturer</th>
<th>Calibration Date</th>
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<tbody>
<tr>
<td>Head X</td>
<td>C29-N24</td>
<td>Entran</td>
<td>7/01/04</td>
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<td>Head Y</td>
<td>C29-N21</td>
<td>Entran</td>
<td>7/01/04</td>
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<td>Head Z</td>
<td>B10-Z10</td>
<td>Entran</td>
<td>7/01/04</td>
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<td>Neck Load Cell</td>
<td>1703</td>
<td>Denton</td>
<td>2/25/04</td>
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<td>Chest X</td>
<td>AKAD6</td>
<td>Endevco</td>
<td>4/16/04</td>
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<td>Chest Y</td>
<td>AM748</td>
<td>Endevco</td>
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<td>Chest Z</td>
<td>AHTF1</td>
<td>Endevco</td>
<td>4/16/04</td>
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<td>Chest Displacement</td>
<td>505</td>
<td>Servo</td>
<td>3/30/04</td>
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<td>Left Femur Load Cell</td>
<td>1362</td>
<td>GSE</td>
<td>3/03/04</td>
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### INSTRUMENTS FOR PASSENGER DUMMY NO. 516

<table>
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<td>3/31/04</td>
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<td>606</td>
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<td>3/24/04</td>
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<td>Chest X</td>
<td>AJ4J3</td>
<td>Endevco</td>
<td>5/25/04</td>
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<td>Chest Y</td>
<td>AJ9D8</td>
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<td>5/25/04</td>
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### INSTRUMENTS FOR DRIVER DUMMY NO. 506 (LOW RISK DEPLOYMENT P1)

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<td>Chest Y</td>
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### INSTRUMENTS FOR DRIVER DUMMY NO. 511 (LOW RISK DEPLOYMENT P2)

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## INSTRUMENTS FOR PASSENGER DUMMY NO. 032 (LOW RISK DEPLOYMENT P2)

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### VEHICLE INSTRUMENTS

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<td>Bottom of Engine X</td>
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<td>3/11/04</td>
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<td>Entran</td>
<td>7/02/04</td>
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<tr>
<td>Right Brake Caliper X</td>
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<td>L19-K03</td>
<td>Entran</td>
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