REPORT NUMBER: 208-MGA-2004-004

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

Ford Motor Company
2004 Ford F-150 Truck
NHTSA No.: C40200

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

Test Dates: February 9 – May 7, 2004
Final Report Date: September 16, 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

Jeff Lewandowski, Project Engineer
Date: September 16, 2004

Reviewed by:

David Winkelbauer, Facility Director
Date: September 16, 2004

FINAL REPORT ACCEPTED BY OVSC:

Accepted By: [Signature]
Acceptance Date: 9/29/04
## Technical Report Documentation Page

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<td>Final Report of FMVSS 208 Compliance Testing of a 2004 Ford F-150 NHTSA No.: C40200</td>
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<td><strong>7. Author(s)</strong></td>
<td>Jeff Lewandowski, Project Engineer</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>9. Performing Organization Name and Address</strong></td>
<td>MGA Research Corporation 5000 Warren Road Burlington, WI 53105</td>
<td></td>
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<tr>
<td><strong>15. Supplementary Notes</strong></td>
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**16. Abstract**

Compliance tests were conducted on the subject 2004 Ford F-150 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**

**17. 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"

**18. Distribution Statement**

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SECTION 1
PURPOSE OF COMPLIANCE TEST

This Federal Motor Vehicle Safety Standard (FMVSS) 208 compliance test is 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 Ford F-150, NHTSA No. C40200, meets certain performance requirements of FMVSS 203, "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.
SECTION 2
TESTS PERFORMED

Test Vehicle: 2004 Ford F-150
Test Program: FMVSS 208 Compliance
NHTSA No.: C40220
Test Dates: 2/8-5/7/04

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 (S7.4.8)
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))
   ■ 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) (S18.1(b))
Unbelted 5th female dummy passenger (32 to 40 kmph) (S18.1(b))
40% Offset 0° Belted 5th male dummy driver and passenger (0 to 40 kmph) (S18.1)

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

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 MAR85 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. Initial Suppression Test failures in regard to S.22.2.2.1, 8-year-old unbelted Position 1, (Sitting on seat with back against seat back) resulted from the vehicle not being used for several months. Once the vehicle was driven several times the system recalibrated itself and passed all suppression tests.
SECTION 3

INJURY RESULT SUMMARY FOR FMVSS 208 TESTS

Test Vehicle: 2004 Ford F-150
Test Program: FMVSS 208 Compliance
NHTSA No.: C40200
Test Dates: 3/31 & 4/21/04

5th Percentile Female Low Risk Deployments

<table>
<thead>
<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>13</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>86.3</td>
</tr>
<tr>
<td>Peak Nij (Ntf)</td>
<td>1.0</td>
<td>0.3</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>31.8</td>
</tr>
<tr>
<td>Peak Nij (Nce)</td>
<td>1.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>182.9</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>224.9</td>
</tr>
<tr>
<td>Neck Tension</td>
<td>2070 N</td>
<td>495</td>
</tr>
<tr>
<td>Neck Compression</td>
<td>2520 N</td>
<td>200</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>9</td>
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<tr>
<td>Left Femur</td>
<td>6805 N</td>
<td>43</td>
</tr>
<tr>
<td>Right Femur</td>
<td>6805 N</td>
<td>149</td>
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Second stage fire time of 100 ms; Injuries calculated on 0 ms to 225 ms

6th Percentile Female SN 506 Position 1 (Chin On Module) 3-31-04

<table>
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<tr>
<th>Injury Criteria</th>
<th>Max. Allowable Injury Assessment Values</th>
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<tr>
<td>HIC15</td>
<td>700</td>
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<td>Peak Nij (Nte)</td>
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<td>Time (ms)</td>
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<td>Peak Nij (Ntf)</td>
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<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>42.1</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>8.8</td>
</tr>
<tr>
<td>Peak Nij (Ncf)</td>
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</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>53.6</td>
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<tr>
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<td>2070 N</td>
<td>939</td>
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<td>Neck Compression</td>
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<td>148</td>
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<tr>
<td>Chest g</td>
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<tr>
<td>Chest Displacement</td>
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<tr>
<td>Left Femur</td>
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<tr>
<td>Right Femur</td>
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<td>80</td>
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Second stage fire time of 100 ms; Injuries calculated on 0 ms to 225 ms
### INJURY RESULT SUMMARY FOR FMVSS 208 TESTS

**Test Vehicle:** 2004 Ford F-150  
**Test Program:** FMVSS 208 Compliance  
**NHTSA No.:** C40200  
**Test Date:** 5/17/04  
**Impact Angle:** Zero degrees

<table>
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<tr>
<th>Speed Range</th>
<th>Yes</th>
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<th>48 kmph</th>
<th>56 kmph</th>
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<tr>
<td>0 to 40 kmph</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 to 48 kmph</td>
<td>X</td>
<td></td>
<td>32 to 40 kmph</td>
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**Test Speed:** 39.5 kmph  
**Test Weight:** 2417.6 kg

**Driver Dummy:** 50th female  
**Passenger Dummy:** 50th male

#### 5th Percentile Female in Frontal Crash Test

**Vehicles certified to §16.1(a), §16.1(b), or §18.1**

<table>
<thead>
<tr>
<th>Injury Criteria</th>
<th>Max. Allowable Injury Assessment Values</th>
<th>Driver</th>
<th>Passenger</th>
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<tr>
<td>HIC15</td>
<td>700</td>
<td>40</td>
<td>299</td>
</tr>
<tr>
<td>Nₜₕ</td>
<td>1.0</td>
<td>0.5</td>
<td>0.2</td>
</tr>
<tr>
<td>Nₜₚ</td>
<td>1.0</td>
<td>0.2</td>
<td>0.5</td>
</tr>
<tr>
<td>Nₜₜ</td>
<td>1.0</td>
<td>0.2</td>
<td>0.1</td>
</tr>
<tr>
<td>Nₜ₝</td>
<td>1.0</td>
<td>0.1</td>
<td>0.8</td>
</tr>
<tr>
<td>Neck Tension</td>
<td>2620 N</td>
<td>1350</td>
<td>351</td>
</tr>
<tr>
<td>Neck Compression</td>
<td>2520 N</td>
<td>183</td>
<td>891</td>
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<tr>
<td>Chest a</td>
<td>80 g</td>
<td>33</td>
<td>41</td>
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<tr>
<td>Chest Displacement</td>
<td>52 mm</td>
<td>13</td>
<td>4</td>
</tr>
<tr>
<td>Left Femur</td>
<td>6805 N</td>
<td>4412</td>
<td>3948</td>
</tr>
<tr>
<td>Right Femur</td>
<td>6805 N</td>
<td>5024</td>
<td>3911</td>
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SECTION 4
DISCUSSION OF TESTS

Test Vehicle: 2004 Ford F-150
Test Program: FMVSS 208 Compliance
NHTSA No.: C40200
Test Dates: 2/8-5/7/04

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 vehicle did not meet the performance requirements of S.22.2.2.1 6-year-old unbelted Position 1. (Sitting on seat with back against seat back) Successive tests with this position yielded an 80% failure rate. A videotape of the failure was submitted to Ford on 2-10-04. Representatives from Ford and Delphi were on site at MGA on 2-13-2004. The failures were duplicated and investigated.

Supplemental 6-year-old unbelted seatings with Ford and Delphi representatives were performed on 3-12-04. The 2004 Ford F-150 6-year-old Suppression Test Plan dated 3-9-04 was performed. The Occupant Classification System was able to dynamically recalibrate while driving on the MGA test track. After the recalibration the system successfully suppressed the 6-year-old unbelted dummy in Position 1.

Supplemental 6-year-old unbelted Position 1 seatings were performed on 3-15-04. There were no test failures. Appendix G details the Suppression Test failures and subsequent clearance.

The Driver dummy (SN505) used during the Frontal Impact Test had THOR legs installed for NHTSA Research and Development.

Data Sheet 32, Photographic Targets, Section 1.4, did not meet the 815 mm minimum distance between targets. This was due to the vehicle being a Pick-Up Truck which did not accommodate this distance. The distance used was 609 mm.

Data Sheet 33, Camera Locations, had no speed recorded for film timing. The signal generator providing camera timing failed. The offboard cameras were set for a nominal rate of 1000 fps.

There were no other unexpected events or items to discuss.
# Section 5

**Test Data Sheets**

<table>
<thead>
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<th>Test Vehicle:</th>
<th>2004 Ford F-150</th>
</tr>
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<td>FMVSS 208 Compliance</td>
</tr>
<tr>
<td>NHTSA No.:</td>
<td>C40200</td>
</tr>
<tr>
<td>Test Dates:</td>
<td>2/9-5/7/04</td>
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</table>
DATA SHEET 1
COTR VEHICLE WORK ORDER

Test Vehicle: 2004 Ford F-150
Test Program: FMVSS 208 Compliance
NHTSA No.: C40200
Test Dates: 2/9-5/7/04
COTR Signature: Charles R. Case

Tests to be performed for this vehicle are checked below:

1. Rear Outboard Seating Position Seat Belts (§4.1.2(b)) & (§4.2.4)
2. Air Bag Labels (§4.5.1)
3. Readiness Indicator (§4.5.2)
4. Passenger Air Bag Manual Cut-off Device (§4.5.4)
5. Lap Belt Lockability (§7.1.1.5)
6. Seat Belt Warning System (§7.3)
7. Seat Belt Contact Force (§7.4.4)
8. Seat Belt Latch Plate Access (§7.4.4)
9. Seat Belt Retraction (§7.4.5)
10. Seat Belt Guides and Hardware (§7.4.6)
11. Suppression tests with 12-month-old CRABI dummy (Part 672, Subpart R) using the following indicated child restraints.

Section B

<table>
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<th>Britax Handle with Care 191</th>
<th>Full Rearward</th>
<th>Mid Position</th>
<th>Full Forward</th>
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<tbody>
<tr>
<td>Century Assura 4553</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Century Avanta SE 41530</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Century Smart Fit 4543</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Cosco Astra 02727</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Cosco Opus 35 02903</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Evenflo Discovery Adjusrt 212</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Evenflo First Choice 204</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Evenflo On My Way Position Right V 292</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Graco Infant 8457</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
</tbody>
</table>

Section C

<table>
<thead>
<tr>
<th>Britax Roundabout 191</th>
<th>Full Rearward</th>
<th>Mid Position</th>
<th>Full Forward</th>
</tr>
</thead>
<tbody>
<tr>
<td>Century Encore 4912</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Century STE 1000 4416</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Cosco Olympian 02503</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Cosco Tourva 02619</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Evenflo Horizon V 425</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Evenflo Medallion 264</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
</tbody>
</table>

12. Suppression tests with newborn infant (Part 672, Subpart K) using the following indicated child restraints.

Section A

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

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>Car Model</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 4418</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cosco Olympian 02803</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cosco Tourva 02519</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Evenflo Horizon V 425</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Evenflo Medallion 254</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Section D

<table>
<thead>
<tr>
<th>Car Model</th>
<th>Full Rearward</th>
<th>Mid Position</th>
<th>Full Forward</th>
</tr>
</thead>
<tbody>
<tr>
<td>Britax Roadster 9004</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Century Next Step 4620</td>
<td></td>
<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>

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 1614 and 1714)

### Section C

<table>
<thead>
<tr>
<th>Car Model</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 4418</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cosco Olympian 02803</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cosco Tourva 02519</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evenflo Horizon V 425</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evenflo Medallion 254</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Section D

<table>
<thead>
<tr>
<th>Car Model</th>
<th>Full Rearward</th>
<th>Mid Position</th>
<th>Full Forward</th>
</tr>
</thead>
<tbody>
<tr>
<td>Britax Roadster 9004</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Century Next Step 4620</td>
<td></td>
<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.
### Section D

<table>
<thead>
<tr>
<th>Car Seat Model</th>
<th>Position 1</th>
<th>Position 2</th>
<th>Position 3</th>
<th>Position 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Britax Roadster 9004</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
<td></td>
</tr>
<tr>
<td>Century Next Step 4920</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
<td></td>
</tr>
<tr>
<td>Cosco High Back Booster 42-442</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
<td></td>
</tr>
<tr>
<td>Evenflo Right Fit 245</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
<td></td>
</tr>
</tbody>
</table>

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

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 frontal 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 frontal 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.

### Section B

<table>
<thead>
<tr>
<th>Car Seat Model</th>
<th>Position 1</th>
<th>Position 2</th>
<th>Position 3</th>
<th>Position 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Britax Handle with Care 191</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
<td></td>
</tr>
<tr>
<td>Century Argus 4553</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
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</tr>
<tr>
<td>Century Avanta SE 41530</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
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</tr>
<tr>
<td>Century SmartFit 4543</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
<td></td>
</tr>
<tr>
<td>Cosco Arrive 0727</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
<td></td>
</tr>
<tr>
<td>Cosco Opus 080203</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
<td></td>
</tr>
<tr>
<td>Evenflo Discovery Adjust Right 212</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
<td></td>
</tr>
<tr>
<td>Evenflo First Choice 204</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
<td></td>
</tr>
<tr>
<td>Evenflo On My Way Position Right V 282</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
<td></td>
</tr>
<tr>
<td>Graco Infant 8457</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
<td></td>
</tr>
</tbody>
</table>

### Section C

<table>
<thead>
<tr>
<th>Car Seat Model</th>
<th>Position 1</th>
<th>Position 2</th>
<th>Position 3</th>
<th>Position 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Britax Roundabout 181</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
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<tr>
<td>Century Encore 4612</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
<td></td>
</tr>
<tr>
<td>Century STE 1000 4415</td>
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<td>Mid Position</td>
<td>Full Forward</td>
<td></td>
</tr>
<tr>
<td>Cosco Olympian 02500</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
<td></td>
</tr>
<tr>
<td>Cosco Tourriva 02519</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
<td></td>
</tr>
<tr>
<td>Event Horizon V 425</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
<td></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 km/h) (S5.1.1(a))
     - Unbelted 50th male dummy driver and passenger (0 to 48 km/h) (S5.1.2(a)(1))
     - Unbelted 50th male dummy driver and passenger (32 to 40 km/h) (S5.1.2(a) (1) or S5.1.2(b))

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

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 Frontal Indicant Test
DATA SHEET 2
REPORT OF VEHICLE CONDITION

Test Vehicle: 2004 Ford F-150  
Test Program: FMVSS 208 Compliance  
NHTSA No.: C40200  
Test Date: 2/3-5/7/04

CONTRACT NO. DTNH22-03-D-11002  
Date: 3/12/04  
FROM (Lab and rep name): MGA Research Corporation  
TO: NHTSA, CVSC (NVS-220)

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

MODEL YEAR/MAKE/MODEL/BODY STYLE: 2004 FORD F150 TRUCK
MANUFACTURE DATE: 7/03
NHTSA NO. C40200  
GVWR: 3016 kg (6650 lbs)  
BODY COLOR: RED  
GAWR (Fr): 1594 kg (3450 lbs)  
VIN: 1FTRE12W84DA05872  
GAWR (Rr): 1542 kg (3400 lbs)

ODOMETER READINGS: ARRIVAL (miles): 60  
COMPLETION (miles): 104  
DATE: 12/23/03  
DATE: 5/7/04

PURCHASE PRICE: ($) 20,835.00  
DEALER'S NAME: Geneva Lakes Ford, Lake Geneva, WI 53147

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:
   ( ) Yes  (X) 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, 218, 301

VEHICLE: 2004 FORD F150 TRUCK

NHTSA NO. C40200

REMARKS:

Equipment that is no longer on the test vehicle as noted on previous page:
The EDR was removed.

Explanation for equipment removal:
The EDR was sent to Rowan University in New Jersey for analysis.

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

APPROVED BY: David Winkelbauer

DATE: 5/10/2004

DATE: 5/10/2004

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/Customet Rep:
Date:
**DATA SHEET 3**

**CERTIFICATION LABEL AND TIRE PLACARD INFORMATION**

Test Vehicle: 2004 Ford F-150  
Test Program: FMVSS 208 Compliance  
Test Technician: Clark Subrt  
NHTSA No.: C40200  
Test Date: 5/7/04

| Certification Label |  |  |
|---------------------|------------------|
| Manufacturer:       | Ford Motor Co.   |
| Date of Manufacture:| 7/03             |
| VIN:                | 1FTRF12W84NA09972|
| Vehicle Certified As (Pass. Car/MPV/Truck/Bus): | Truck |
| Front Axle GVWR:    | 3016 kg (6650 lbs) |
| Rear Axle GVWR:     | 1564 kg (3450 lbs) |
| Total GVWR:         | 1542 kg (3400 lbs) |

| Tire Placard |  |  |
|--------------|------------------|
| Not applicable. Vehicle is not a passenger car and does not have a tire placard. | YES - Not Applicable |
| This is not a passenger car, but all or part of this information is still contained on a vehicle label and is reported here. | YES - Not a Passenger Car |
| Vehicle Capacity Weight: | N/A |
| Designated Seating Capacity Front: | N/A |
| Designated Seating Capacity Rear: | N/A |
| Designated Seating Capacity Third Row: | N/A |
| Total Designated Seating Capacity: | N/A |
| Recommended Cold Tire Inflation Pressure Front: | 260 kpa (38 psi) |
| Recommended Cold Tire Inflation Pressure Rear: | 260 kpa (38 psi) |
| Recommended Tire Size: | P235/70R17 |

Signature: Clark Subrt  
Date: 5/5/04
DATA SHEET 4
REAR OUTBOARD SEATING POSITION SEAT BELTS

Test Vehicle: 2004 Ford F-150
Test Program: FMVSS 208 Compliance
Test Technician: Chad Godfrey

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do all rear outboard seating positions have Type 2 seat belts?</td>
<td></td>
<td>N/A</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: Not Applicable – No Rear Seating Positions

Signature: [Signature]
Date: 2/17/04
DATA SHEET 5
AIR BAG LABELS (S4.5.1)

Test Vehicle: 2004 Ford F-150
Test Program: FMVSS 206 Compliance
Test Technician: Chad Gedberry
NHTSA No.: C40200
Test Date: 2/17/04

☐ 1. Air bag maintenance label and owner's manual instructions: (S4.5.1(a))
   ☒ Yes, go to 1.2
   ☐ No – go to 2

☐ 1.2 Does the vehicle have a label specifying air bag maintenance or replacement?
   ☐ Yes – Pass
   ☑ No – Fail

☐ 1.3 Does the label contain one of the following?
   ☐ Yes – Pass
   ☑ No – Fail

   Check applicable schedule:
   ☐ Schedule on label specified 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______)

☐ 1.4 Is the label permanently affixed within the passenger compartment such that it cannot
      be removed without destroying or defacing the label or the survivor?
   ☐ Yes – Pass
   ☐ No – Fail

☐ 1.5 Is the label lettered in English?
   ☐ Yes – Pass
   ☐ No – Fail

☐ 1.6 Is the label in block capitals and numerals?
   ☐ Yes – Pass
   ☐ No – Fail

☐ 1.7 Are the letters and numerals at least 3/32 inches high?
   ☐ Yes – Pass
   ☐ No – Fail

☐ 1.8 Does the owner’s manual set forth the recommended schedule for maintenance or
      replacement?
   ☒ Yes – Pass
   ☐ No – Fail

☐ 2. Does the owner's manual: (S4.5.1(f))
   ☒ Yes – Pass
   ☐ No – Fail

☐ 2.1 Include a description of the vehicle's air bag system in an easily understandable
      format?
   ☐ Yes – Pass
   ☐ No – Fail

☐ 2.2 Include a statement that the vehicle is equipped with an air bag and a lap/shoulder
      belt at the front outboard seating position?
   ☒ Yes – Pass
2.3 Include a statement that the airbag is a supplement restraint at the front outboard seating position?
   - Yes - Pass
   - No - Fail

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

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

2.6 Explain that no objects should be placed over or near the air bag on the steering wheel or on the instrument panel, because any such objects could cause harm if the vehicle is in a crash severe enough to cause the air bag to inflate?
   - Yes - Pass
   - No - Fail

2.7 Is the vehicle certified to meet the requirements of S14.6, S15, S17, S19, S21, S23, and S25? (Obtain answer from COTR) (S4.5.1(f)(2))
   - Yes - (Go to 2.7.1)
   - No - (Go to 3.)

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

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

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

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

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

2.7.6 Is the vehicle certified to the requirements of S19.2, S21.2, or 23.2 (automatic suppression)?
   - Yes, continue with 2.7.9
   - No, go to 2.7.7
2.7.6.1 Contain a complete description of the passenger air bag suppression system installed in the vehicle, including a discussion of any suppression zone? (S4.5.1(f)(2)(iv))
- Yes - Pass
- No - Fail

2.7.6.2 Discuss the telltale light, specifying its location in the vehicle and explaining when the light is illuminated?
- Yes - Pass
- No - Fail

2.7.7 Explain the interaction of the advanced passenger air bag system with other vehicle components, such as seat belts, seats or other components? (S4.5.1(f)(2)(v))
- Yes - Pass
- No - Fail

2.7.8 Summarize the expected outcomes when child restraint systems, children and small teenagers or adults are both properly and improperly positioned in the passenger seat, including cautionary advice against improper placement of child restraint systems? (S4.5.1(f)(2)(vii))
- 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)(viii))
- 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)(3)) (Vehicles without back seats may omit the statement, "The back seat is the safest place for children.") (S4.5.1(b)(1)(iv))
3.1.3 Is the label heading area yellow with the word "WARNING" and the alert symbol in black? (S4.5.1(b)(1)(i))
- Driver Side, Yes - Pass
- Driver Side, No - Fail
- Passenger Side, Yes - Pass
- Passenger Side, No - Fail

3.14 Is the message area white with black text? (S4.5.1(b)(1)(ii))
- Driver Side, Yes - Pass
- Driver Side, No - Fail
- Passenger Side, Yes - Pass
- Passenger Side, No - Fail

3.15 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
3.16 Is the pictogram black with a red circle and slash on a white background? (S4.5.1(b)(2)(ii))
- Passenger Side, Yes — Pass
- Passenger Side, No — Fail
- Driver Side, Yes — Pass
- Driver Side, No — Fail
- Passenger Side, Yes — Pass
- Passenger Side, No — Fail

3.17 Is the pictogram at least 30 mm in diameter? (S4.5.1(b)(2)(iii))
- 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 S18, 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 6 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)(M)) 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))

Figure 8. Sun Visor Label Visible when Visor is in Down Position.
### 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>Pass/Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver Side</td>
<td>Pass</td>
</tr>
<tr>
<td>Passenger Side</td>
<td>Pass</td>
</tr>
<tr>
<td>Driver Side</td>
<td>Fail</td>
</tr>
<tr>
<td>Passenger Side</td>
<td>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>Pass/Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver Side</td>
<td>Pass</td>
</tr>
<tr>
<td>Passenger Side</td>
<td>Pass</td>
</tr>
<tr>
<td>Driver Side</td>
<td>Fail</td>
</tr>
<tr>
<td>Passenger Side</td>
<td>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 12.1 cm, Width 3.7 cm
- **Passenger Side:** Length 12.1 cm, Width 3.7 cm

Actual message area: 44.8 cm²

<table>
<thead>
<tr>
<th>Side</th>
<th>Pass/Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver Side</td>
<td>Pass</td>
</tr>
<tr>
<td>Passenger Side</td>
<td>Pass</td>
</tr>
<tr>
<td>Driver Side</td>
<td>Fail</td>
</tr>
<tr>
<td>Passenger Side</td>
<td>Fail</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Side</th>
<th>Pass/Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver Side</td>
<td>Pass</td>
</tr>
<tr>
<td>Passenger Side</td>
<td>Pass</td>
</tr>
<tr>
<td>Driver Side</td>
<td>Fail</td>
</tr>
<tr>
<td>Passenger Side</td>
<td>Fail</td>
</tr>
</tbody>
</table>

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

- **Driver Side:** Length 32 mm
- **Passenger Side:** Length 32 mm

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

3.3 Vehicles certified to meet the requirements of S10, 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 or 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: White over Yellow is a Pass Positive.

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

3.3.3 Is the label heading area yellow with the word "WARNING" and the alert symbol in
black? (S4.5.1(b)(3)(ii))

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

3.3.4 Is the message area white with black text? (S4.5.1(b)(3)(ii))

Driver Side, Yes – Pass
Driver Side, No – Fail
Passenger Side, Yes – Pass
Passenger Side, No – Fail
3.3.5 Is the message area at least 30 cm²? (S4.5.1(b)(3)(i))

- [ ] Driver Side: Yes - Pass
- [ ] Driver Side: No - Fail
- [ ] Passenger Side: Yes - Pass
- [ ] Passenger Side: No - Fail

3.3.6 Is the pictogram black on a white background? (S4.5.1(b)(3)(ii))

- [ ] Driver Side: Yes - Pass
- [ ] Driver Side: No - Fail
- [ ] Passenger Side: Yes - Pass
- [ ] Passenger Side: No - Fail

3.3.7 Is the pictogram at least 30 mm (1.2 inches) in length? (S4.5.1(b)(3)(iii))

- [ ] Driver Side: Length __________
- [ ] Passenger Side: Length __________

- [ ] Driver Side, Yes - Pass
- [ ] Driver Side, No - Fail
- [ ] Passenger Side, Yes - Pass
- [ ] Passenger Side, No - Fail

3.4 Is the same side of the sun visor that contains the air bag warning label free of other information with the exception of the air bag maintenance label and/or the rollover-warming label? (S4.5.1(b)(5)(i))

- [X] Driver Side, Yes - Pass
- [ ] Driver Side, No - Fail

- [X] Passenger Side, Yes - Pass
- [ ] Passenger Side, No - Fail

3.5 Is the sun visor free of other information about air bags or the need to wear seat belts with the exception of the air bag alert label and/or the rollover-warming label? (S4.5.1(b)(5)(ii))

- [X] Driver Side, Yes - Pass
- [ ] Driver Side, No - Fail

- [X] Passenger Side, Yes - Pass
- [ ] Passenger Side, No - Fail

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

- [X] Yes, go to 3.6.1
- [ ] No, go to 4 (skipping 3.6.1 through 3.6.5)
3.8.1 Are both the rollover-warning label and the air bag warning label surrounded by a continuous solid-lined border?

☐ Yes, go to 3.8.2 and skip 3.8.3

X No, go to 3.8.3 and skip 3.8.2

3.8.2 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

3.8.3 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))

☐ 3.0 cm 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.” 575.103(d))

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

X 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

4.3 Is the air bag alert label visible when the visor is in the stowed position? (S4.5.1(c))

☐ Driver Side, Yes – Pass

☐ Driver Side, No – Fail

☐ Passenger Side, Yes – Pass

☐ Passenger Side, No – Fail

4.4 Does the label conform in content to the label shown in Figure 6C? (S4.5.1(c))
Figure 6a. Sun Visor Label Valid When Visor Is in Up Position.

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

4.5 Is the message area black with yellow text? (S4.5.1(c)(1))
- Driver Side, Yes – Pass
- Driver Side, No – Fail
- Passenger Side, Yes – Pass
- Passenger Side, No – Fail

4.6 Is the message area at least 20 cm²? (S4.5.1(c)(1))
- Driver Side: Length _______ Width _______
- Passenger Side: Length _______ Width _______
- Actual message area _______ cm²
- Driver Side, Yes – Pass
- Driver Side, No – Fail
- Passenger Side, Yes – Pass
- Passenger Side, No – Fail

4.7 Is the pictogram black with a red circle and slash on a white background? (S4.5.1(c)(2))
- Driver Side, Yes – Pass
- Driver Side, No – Fail
- Passenger Side, Yes – Pass
- Passenger Side, No – Fail

4.8 Is the pictogram at least 20 mm in diameter? (S4.5.1(c)(2))
- Driver Side Diameter _______ mm
- Passenger Side Diameter _______ 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 S18, 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 6.2, skipping 5.1.1 through 5.1.8

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

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

- **Yes** — Pass
- **No** — Fail

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

- **Yes** — Pass
- **No** — Fail

5.1.3 Does the label conform in content 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))

![Label Outline, Vertical and Horizontal Line Block](image)

**This Vehicle Is Equipped with**

**Advanced Air Bags**

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

![Figure 9: Removable Label on Dash](image)

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

- **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 11.6 cm, Width 2.7 cm**
  Actual message area 31.66 cm²
X Yes - Pass
☐ No - Fail

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

5.2.1 Is the label clearly visible from all front seating positions? (S4.6.1(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)(ii))

Vehicle without back seats may omit the statement: "The back seat is the safest place for children." (S4.5.1(e)(2)(ii))

Figure 7. Removable Label on Dash.

☐ 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)(ii))
☐ 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: 2/17/04
DATA SHEET 6
FMVSS 208 READINESS INDICATOR (94.5.2)

Test Vehicle: 2004 Ford F-150
Test Program: FMVSS 208 Compliance
Test Technician: Chad Gadberry
NHTSA No.: C40200
Test Date: 2/17/04

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. Hennagerger 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: Left 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:

I certify that I have read and performed each instruction.

Signature: [signature]
Date: 2/17/04
DATA SHEET 7

PASSenger air bag manual cut-off device (§4.5.4)

Test Vehicle: 2004 Ford F-150
Test Program: FMVSS 208 Compliance
Test Technician: Chad Gadberry

NHTSA No.: C40200
Test Date: 2/17/04

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

2. Does the vehicle have any forward-facing rear designated seating positions? (§4.5.4(a))
   - [X] Yes, go to 3
   - [X] No, go to 4

3. Verification of the lack of room for a child restraint in the rear seat behind the driver's seat. (§4.5.4(b))
   - [ ] Position the seat's adjustable lumbars to that the lumbars support is in its lowest, retracted or deflected adjustment position (§6.1.3)
   - [ ] N/A, no lumbars adjustment
   - [ ] Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (§16.2.10.02)
   - [ ] N/A, no additional support adjustment
   - [ ] If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (§16.2.10.3.1)
   - [ ] N/A, no independent fore-aft seat cushion adjustment
   - [ ] If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position (§16.2.10.3.1)
   - [ ] N/A, no independent seat cushion height adjustment
   - [ ] Put the seat in its full rearward position. (§16.2.10.3.1)
   - [ ] N/A, the seat does not have a fore-aft adjustment
   - [ ] If the seat height is adjustable, put it in the full down position. (§16.2.10.3.1)
   - [ ] N/A, no seat height adjustment
   - [ ] 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. (§8.1.2)
   - [ ] N/A - the seat does not have fore-aft adjustment.
Mild position

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

☐ N/A – No adjustments

Angle of reference line as tested:

☐ N/A – No seat back angle adjustment

Manufacturer's design seat back angle:

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)

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 than 720 mm – Fail

Go to 4

3.12.2 Bench seats (including split bench seats):

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

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

Distance (mm):

☐ Less than 720 mm – Pass
☐ More than 720 mm – Fail

Go to 4

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

☐ Yes – Pass

☐ No – Fail

Go to 4
5. Is the on-off device separate from the ignition switch? (S4.5.4.2)
   - Yes – Pass
   - No – Fail

8. 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)
   - Yes – Pass
   - No – Fail

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

7.2.1 within 25 mm of the telltale?
   - Yes – Pass
   - No – Fail

7.2.2 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? (S4.6.4.3(d))
   - Yes – Pass
   - No – Fail

7.5 Is the telltale combined with the air bag readiness indicator? (S4.5.4.3(e))
   - Yes – Pass
   - No – Fail

8. Owner’s Manual

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

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

No – Fail

Does the owner's manual contain a warning about the safety consequences of using the on-off switch at other times?

X Yes – Pass

No – Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: [Handwritten Signature]

Date: 2/17/04
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 Ford F-150
Test Program: FMVSS 208 Compliance
Test Technician: Chad Gadberry
NHTSA No.: C40200
Test Date: 2/17/04

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:** Front Passenger

1. [ ] N/A – no recliner is at this position
   [x] N/A – the recliner is an automatic locking retractor ONLY

2. [x] Record test fore-aft seat position: Full Aft
   (S7.1.1.5(c)(1)) (Any position is acceptable)

3. [x] Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT 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

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

5. [x] Buckle the seat belt. (S7.1.1.5(c)(1))

6. [x] Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))

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

7.1 [x] 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. [x] Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner’s manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2) & S7.1.1.5(c)(1))
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): 70

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. (S7.1.1.6(c)(4))

   Measured force application angle (Spec. 5-15 degrees): 10.0

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): 38 1/8

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 restraints 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)): 10

14. Subtract the measurement in 12 from the measurement in 13. Is the difference 2 inches or less? (S7.1.1.6(c)(7))

   13 - 12 = 1 1/4

   Yes – Pass

   No – Fail

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

   9 - 13 = 30 5/8

   Yes – Pass

   No – Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: [Signature]

Date: 2/17/04
DATA SHEET 8
FMVSS 208 SEAT BELT WARNING SYSTEM CHECK (S7.3)

Test Vehicle: 2004 Ford F-150
Test Program: FMVSS 208 Compliance
Test Technician: Chad Gadberry

NHTSA No.: C40200
Test Date: 2/17/04

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: 6.0
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: 62
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: 0.0
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: 0.0
17. Complete the following table with the data from 4, 8, 12, and 16 to determine which option is used.

<table>
<thead>
<tr>
<th></th>
<th>Warning light specification</th>
<th>Audible signal specification*</th>
<th>Audible signal specification**</th>
</tr>
</thead>
<tbody>
<tr>
<td>S7.3 (a)(1)</td>
<td>Belt latched &amp; key on or start</td>
<td>Item 16: 0</td>
<td>Item 12: 0</td>
</tr>
<tr>
<td></td>
<td>Belt latched &amp; key on or start</td>
<td>Item 8: 62</td>
<td>Item 4: 6</td>
</tr>
<tr>
<td></td>
<td>Belt latched &amp; key on or start</td>
<td>Item 16: 0</td>
<td>Item 12: 0</td>
</tr>
<tr>
<td></td>
<td>Belt latched &amp; key on or start</td>
<td>Item 8: 62</td>
<td>Item 4: 6</td>
</tr>
</tbody>
</table>

* 49 USCS § 36124 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 71200 Interpretation to Patrick Rader of Hogan and Harison

35
18. The seat belt warning system meets the requirements of (manufacturers may comply with either section)

- [x] S7.3 (a)(1)
- [ ] S7.3 (a)(2)

FAIL - does not meet the requirements of either option

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

- [ ] Fasten seat belts
- [ ] Fasten belts
- [x] Symbol 101

FAIL - does not use any of the above working or symbol

REMARKS:

I certify that I have read and performed each instruction.

Signature: [Signature]

Date: 2/17/04
DATA SHEET 10
BELT CONTACT FORCE (ST.4.1

Test Vehicle: 2004 Ford F-150
Test Program: FMVSS 208 Compliance
Test Technician: Chad Gedberry

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 Front Driver

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

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

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

4. 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.
   [X] X

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

10. [X] N/A, the seat does not have a fore-aft adjustment

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

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

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

N/A, no adjustments

Reference line angle as tested: Zero

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: 18.5

Tested seat back angle: 18.5

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. (S10.6) 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): 0.5

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

REMARKS:

I certify that I have read and performed each instruction.

Signature: [Signature]

Date: 2/17/04
DATA SHEET 10
BELT CONTACT FORCE (§7.4.3)

Test Vehicle: 2004 Ford F-150
Test Program: FMVSS 208 Compliance
Test Technician: Chad Gadberry

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 Front Passenger

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

2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (§6.1.3)
   - N/A, no lumbar adjustment

3. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (§16.2.10.2)
   - 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. (§16.2.10.2)
   - 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. (§16.2.10.3.1)
   - N/A, no independent seat cushion height adjustment

6. Put the seat in its full rearward position. (§16.2.10.3.1)
   - 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. (§16.2.10.3.1)
   - N/A, no seat height adjustment

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

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

10. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the middle fore-aft position for this test. (§6.1.2)
**Mid position**
If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat:

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

**X** N/A, no adjustments
Reference line angle as tested: Zero

**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: 18.5

Tested seat back angle: 18.5

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

**14.** Fasten the seat belt latch.

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

**16.** Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.3) 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): 0.5

**X** 0.0 to 0.7 pounds – Pass

Greater than 0.7 pounds - Fail

**REMARKS:**

I certify that I have read and performed each instruction.

Signature: [Signature]
Date: 2/17/04
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:** Left Front Driver

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S16.2.10.2.3)</td>
</tr>
<tr>
<td>X</td>
<td>N/A, no lumbar adjustment</td>
</tr>
<tr>
<td>2.</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>
</tr>
<tr>
<td>X</td>
<td>N/A, no additional support adjustment</td>
</tr>
<tr>
<td>3.</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>
</tr>
<tr>
<td>X</td>
<td>N/A, no independent fore-aft seat cushion adjustment</td>
</tr>
<tr>
<td>4.</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>
</tr>
<tr>
<td>X</td>
<td>N/A, no independent seat cushion height adjustment</td>
</tr>
<tr>
<td>5.</td>
<td>Put the seat in its full rearward position. (S16.2.10.3.1)</td>
</tr>
<tr>
<td>X</td>
<td>N/A, the seat does not have a fore-aft adjustment</td>
</tr>
<tr>
<td>6.</td>
<td>If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)</td>
</tr>
<tr>
<td>X</td>
<td>N/A, no seat height adjustment</td>
</tr>
<tr>
<td>7.</td>
<td>Draw a horizontal reference line on the side of the seat cushion</td>
</tr>
<tr>
<td>X</td>
<td></td>
</tr>
<tr>
<td>8.</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 midpoint), and R for full rearward.</td>
</tr>
<tr>
<td>X</td>
<td>N/A, the seat does not have a fore-aft adjustment</td>
</tr>
<tr>
<td>9.</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 forward most fore-aft position for this test. (S16.7)</td>
</tr>
<tr>
<td>X</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>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.</td>
</tr>
<tr>
<td>X</td>
<td>N/A, no adjustments</td>
</tr>
</tbody>
</table>
Reference line angle as tested: Zero

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

☐ N/A, no seat back angle adjustment

Manufacturer’s design seat back angle: 18.5°

Tested seat back angle: 18.5°

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

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

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

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

16. Place the latch plate in the stowed position.

17. Extend inboard reach string in front of the dummy and then backward and outboard to the latch plate to generate an arc of the reach envelope of the test dummy’s arms. Is the lash 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
Attach the Inboard Reach String (196" long) at the base of the head on centerline.

Rear view 50th percentile dummy seated in fore/aft seat adjustment position.

Attach the Outboard Reach String (28" long) at this point on the torso sheath.

A—Using flexible tape measure B" from back centerline 10-1/4" from front centerline to find anchor point below arm pit on torso sheath.

Seat Plane is 90° to the Torso Line.

Figure 3. Location of Anchoring Points for Latchplate Reach Limiting Chains or Strings to Test for Latchplate Accessibility Using Subpart E Test Device.
Figure 4—USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND/ARM ACCESS

REMARKS:

I certify that I have read and performed each instruction.

Signature:  

Date: 2/17/04
DATA SHEET 11
LATCH PLATE ACCESS (S7.4.4)

Test Vehicle: 2004 Ford F-150
Test Program: FMVSS 208 Compliance
Test Technician: Chad Gadberry
NHTSA No.: C40200
Test Date: 2/17/04

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: Right Front Passenger

1. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S16.2.10.2)
   - X N/A, no lumbar adjustment

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

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

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

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.
   - X 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 forwardmost 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.
    - X N/A, no adjustments
Reference line angle as tested: Zero

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

☐ N/A, no seat back angle adjustment

Manufacturer's design seat back angle: 18.5

Tested seat back angle: 18.5

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

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

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

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

16. Place the latch plate in the stowed position.

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

X Yes – Pass

☐ No

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

X Yes – Pass

☐ No

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

X Yes – Pass

☐ No – Fail

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

X Yes – Pass

☐ No – Fail
Attach the Inboard Reach String (194" long) at the base of the head on centerline.

Attach the Outboard Reach String (29" long) at this point on the torso sheath.

A—Using flexible tape measure 8" from back centerline 10-1/4" from front centerline to find anchor point below arm pit on torso sheath.

Seat Plane is 90° to the Torso Line

Figure 3. Location of Anchoring Points for Latchplate Reach Limiting Chains or Strings to Test for Latchplate Accessibility Using Subpart E Test Device
Figure 4—USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND/ARM ACCESS

REMARKS:

I certify that I have read and performed each instruction.

Signature: [Signature]
Date: 2/17/04
DATA SHEET 12
SEAT BELT RETRACTION (57.4.5)

Test Vehicle: 2004 Ford F-150
Test Program: FMVSS 208 Compliance
Test Technician: Chad Gadberry

NHTSA No.: C40200
Test Date: 2/17/04

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: | Left Front Driver |
| GVMR: | 3016 kg |

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

2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (58.1.3)
   - [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. (58.2.10.2)
   - [X] N/A, no additional support adjustment

4. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (58.2.10.3.1)
   - [X] N/A, no independent fore-aft seat cushion adjustment

5. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (58.2.10.3.1)
   - [X] N/A, no independent seat cushion height adjustment

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

7. If the seat height is adjustable, put it in the full down position. (58.1.2)
   - [X] N/A, no seat adjustment

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

9. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid-position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.
   - [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 middle fore-aft position. (58.1.2)
    - [X] 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. (S19.2.10.3.2)

N/A - no seat adjustment
Reference angle as tested: Zero

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: 18.5
Tested seat back angle: 18.5

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 if 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: 528 mm
Record the distance from the edge of the seat to Plane B: 262 mm

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 emblems 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

50
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)

- Horizontal inches from the point 0.25 below the determined H-point (0.6 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 10.5 inches.

- Measured distance (10.5 inches) (S10.5): 10.5

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: 3

26. Is the seat 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:

- Yes, go to 27.1
- No, go to 27.1

27.1 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.

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

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

- Yes
- Pass
- 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?

- [X] N/A
- [ ] Yes – Pass
- [ ] No – Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature:  

Date: 2/17/04
DATA SHEET 12
SEAT BELT RETRACTION (S7.4.5)

Test Vehicle: 2004 Ford F-150
Test Program: FMVSS 208 Compliance
Test Technician: Chad Gadberry
NHTSA No.: C40200
Test Date: 2/17/04

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: Right Front Passenger
GVWR: 3010 kg

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

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

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

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

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

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

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

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

10. Using only the controls that change the seat in the fore-aft direction, place the seat in the
    middle fore-aft position. (S8.1.2)
    [N/A] 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 these adjustments to maintain the reference line as closely as possible to the horizontal. (S16.2.10.3.2)

   NA – no seat adjustment

   Reference angle as tested: Zero

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)

   NA – no seat back angle adjustment

   Manufacturer’s design seat back angle: 18.5

   Tested seat back angle: 18.5

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.

   NA – 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)

   NA – no adjustable upper seat belt anchorage

   Manufacturer’s specified anchorage position:

   Tested anchorage position:

15. Is the driver seat a bucket seat?

   X 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: 525 mm

   Record the distance from the edge of the seat to Plane B: 262 mm

15.2 Bench seats (including split bench seats):

   X Driver seat: Locate and mark a vertical Plane B through the center of the steering wheel parallel to the vehicle longitudinal centerline.

   X 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 mid sagittal 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)

- 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°) (S10.4.2.2)
- 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 cover flange surfaces at 10.6 inches.

- Measured distance (10.6 inches) (S10.5): 10.5

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: 3

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?

- [x] N/A
- [ ] Yes – Pass
- [ ] No – Fail

REMARKS:

I certify that I have read and performed each instruction.

Signature: [Signature]

Date: 2/17/04
DATA SHEET 13
SEAT BELT GUIDES AND HARDWARE (S7.4.6)

Test Vehicle: 2004 Ford F-150
Test Program: FMVSS 208 Compliance
Test Technician: Chad Gadberry
NHTSA No.: C40200
Test Date: 2/17/04

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: Left Front Driver

1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.8.1 (b))
   - Yes, this form is complete
   - No, go to 2

2. Is the seat removable? (S7.4.8.1(b))
   - Yes, this form is complete
   - No, go to 3

3. Is the seat moveable 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)? (S7.4.8.1(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)
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. (S7.4.8.2)

☐ 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. (S7.4.8.2)

☐ 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)? (S7.4.8.2)

☐ Yes – Pass
☐ No – Fail
☐ N/A – Rear seat

REMARKS:

I certify that I have read and performed each instruction.

Signature: [Signature]

Date: 2/17/04
DATA SHEET 13
SEAT BELT GUIDES AND HARDWARE (S7.4.6)

Test Vehicle: 2004 Ford F-150
Test Program: FMVSS 208 Compliance
Test Technician: Chad Goddard

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 Front 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. (S7.4.8.2)
   ■ 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:
I certify that I have read and performed each instruction.

Signature:  

Date: 2/17/04
DATA SHEET 14
MARKING OF REFERENCE POINTS FOR VARIOUS TEST POSITIONS AND POINTS

Test Vehicle: 2004 Ford F-150  
Test Program: FMVSS 208 Compliance  
Test Technician: Eric Peckham

NHTSA No.: C40200  
Test Date: 5/17/04

1. Driver Designated Seating Position:
   1.1 **X** Position the seat's adjustable lumbar supports so that the lumbar supports are in the lowest, retracted or deflated adjustment positions. (§16.2.10.1)
      **X** N/A – No lumbar adjustment

   1.2 **X** Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position (§16.2.10.2)
      **X** N/A – No additional support adjustment

   1.3 **X** 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 **X** Draw a line (seat cushion reference line) through the seat cushion reference point.

   1.5 **X** 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 **X** 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 (§16.2.10.3)
      **X** N/A – No Independent fore-aft seat cushion adjustment

   1.7 **X** 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: N/A
      Minimum Angle: N/A
      Mid-angle: N/A

   1.8 **X** 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.
      **X** N/A – No seat height adjustment

   1.9 **X** Using only the controls that primarily move the seat in the fore-aft direction, verify the seat is in the rearmost position.

   1.10 **X** 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 **X** 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.

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: 18.5

1.18 Is the seat a bucket seat?

☐ Yes, go to 1.16.1 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: 525 mm

One half the width of the seat cushion is: 262 mm

Record the distance from the edge of the seat cushion to the seat mark: 262 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.

2. 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*)


X 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.

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

X 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.

X 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)

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

X 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.

X X X X

Minimum Angle: N/A

Mid-angle: N/A

X 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.

X N/A – No seat height adjustment

X 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.

X 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.

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

X 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 mid-height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 2.8.

X N/A – No seat height adjustment. Go to 2.16

X 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.

X 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 mid-height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 2.8.

X 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 midpoint 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: 18.5
Actual seat back angle: 18.5

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: 525 mm
One half the width of the seat cushion is: 262 mm

Record the distance from the edge of the seat cushion to the longitudinal centerline of the seat cushion. (The vertical plane through this longitudinal centerline is Plane B for suppression.) 262 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

3.1.1 Adjust the head restraint to its lowest position. (S18.3.4.2)

3.1.2 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.

3.1.3 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): 248
Mid-point height (mm): 124

3.2 Right outboard
3.2.1 Adjust the head restraint to its lowest position. (S15.3.4.2)

3.2.2 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.

3.2.3 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 midpoints of this distance.
Vertical height of head restraint (mm): 248
Mid-point height (mm): 124

4. Steering Wheel
4.1 Is the steering wheel adjustable up and down and/or in and out?

X 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.

X 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.

X N/A, steering wheel is not adjustable in and out

5. Driver Low Risk Deployment
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)

X Plane E determined using manufacturer's information supplied by the COTR. (Found in Appendix D on page D-42) OR
X Plane E determined by test lab personnel and approved by the COTR.
   (Include supporting documentation in the test report.)

<table>
<thead>
<tr>
<th>&quot;Plane E&quot; Measurement:</th>
<th>Ey (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measured:</td>
<td></td>
</tr>
<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-42) OR

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

Passenger Low Risk Deployment - Planes C and D

N/A, no low risk deployment tests scheduled

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.) (§222.4.1.3)

Plane C located using manufacturer's information supplied by the COTR.

OR

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

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.) (§222.4.1.2)

Plane D determined using manufacturer's information supplied by the COTR.

OR

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

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

5\(^{th}\) Female Dummy
Mark a point on the chin of the dummy 40 mm below the center of the mouth. (Chin Point) (§262.2.6)

6-Year-Old Dummy
Locate and mark a point on the front of the dummy's chest jacket on the midsagittal plane which is 139 mm (5.4 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." (§244.1.1)

"Point 1" measurement (mm): 139
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." (522.4.1.1)
☐ "Point 1" measurement (mm ± 3 mm): 114

REMARKS:
I certify that I have read and performed each instruction.

Signature: [Signature] Date: 5/7/04
DATA SHEET 15 SUMMARY

Suppression Test Using 12-month-old CRABI Dummy (Part 572, Subpart R)
Section 8 Rear Facing CRS

<table>
<thead>
<tr>
<th>NHTSA No.</th>
<th>TEST DATE</th>
<th>TECHNICIANS</th>
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</thead>
<tbody>
<tr>
<td>C40200</td>
<td>2-9-04</td>
<td>JL/TE</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>LABORATORY</th>
<th>DUMMY TYPE</th>
<th>DUMMY SERIAL NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGA</td>
<td>12 Month Old</td>
<td>082</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHILD RESTRAINT NAME</th>
<th>CHILD RESTRAINT MODEL</th>
<th>DATE OF MANUFACTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Britax</td>
<td>Handle With Care 191</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: 18.6°
Tested seat back angle: 18.6°
Manufacturer's specified anchorage position: Fixed

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>---------------</td>
</tr>
<tr>
<td>Belted</td>
</tr>
<tr>
<td>Rear</td>
</tr>
<tr>
<td>Facing</td>
</tr>
<tr>
<td>Unbelted</td>
</tr>
<tr>
<td>Rear</td>
</tr>
<tr>
<td>Facing</td>
</tr>
<tr>
<td>Unbelted</td>
</tr>
<tr>
<td>Forward</td>
</tr>
<tr>
<td>Facing</td>
</tr>
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</table>

Successful Unbelted 5th percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN513)
DATA SHEET 15 SUMMARY

Suppression Test Using 12-month old CRAB1 Dummy (Part 572, Subpart R)
Section B Rear Facing CRS

<table>
<thead>
<tr>
<th>NHTSA No.:</th>
<th>C40200</th>
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<tbody>
<tr>
<td>LABORATORY:</td>
<td>MGA</td>
</tr>
<tr>
<td>DUMMY TYPE:</td>
<td>12 Month Old</td>
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<td>TEST DATE:</td>
<td>2-9-04</td>
</tr>
<tr>
<td>TECHNICIANS:</td>
<td>JL/1B</td>
</tr>
<tr>
<td>DUMMY SERIAL NO.:</td>
<td>062</td>
</tr>
</tbody>
</table>

| CHILD RESTRAINT NAME: | Eventflo |
| 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:  18.5°
Tested seat back angle:  18.5°
Manufacturer's specified anchorage position:  Fixed

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 9°</td>
<td>133</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Rear</td>
<td>Middle</td>
<td>129</td>
<td>N/A</td>
<td>Suppressed</td>
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<tr>
<td>Facing</td>
<td>Rearward</td>
<td>129</td>
<td>Suppressed</td>
<td>N/A</td>
</tr>
<tr>
<td>Unbelted</td>
<td>Forward 11°</td>
<td>N/A</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Rear</td>
<td>Middle</td>
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<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 4°</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>

Successful Unbelted 5th percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN513)

* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the foremost detent position with respect to the foremost position. (1 = Full Forward; 23 = Full Rearward; 23 total Seat Slide detents)
DATA SHEET 16 SUMMARY

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

<table>
<thead>
<tr>
<th>NHTSA No.:</th>
<th>TEST DATE:</th>
<th>2-9-04</th>
</tr>
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<tbody>
<tr>
<td>LABORATORY:</td>
<td>TECHNICIANS:</td>
<td>MGA</td>
</tr>
<tr>
<td>DUMMY TYPE:</td>
<td>DUMMY SERIAL NO.:</td>
<td>12 Month Old</td>
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</table>

<table>
<thead>
<tr>
<th>CHILD RESTRAINT NAME:</th>
<th>CHILD RESTRAINT MODEL:</th>
<th>DATE OF MANUFACTURE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graco</td>
<td>Infant 8457</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: 18.5°
Tested seat back angle: 18.5°
Manufacturer's specified anchorage position: Fixed

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 4 *</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>130</td>
<td>Suppressed</td>
<td>N/A</td>
</tr>
<tr>
<td>Unbelted</td>
<td>Forward 7 *</td>
<td>N/A</td>
<td>Suppressed</td>
<td>N/A</td>
</tr>
<tr>
<td>Rear</td>
<td>Middle</td>
<td>N/A</td>
<td>Suppressed</td>
<td>N/A</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</td>
<td>N/A</td>
<td>Suppressed</td>
<td>N/A</td>
</tr>
<tr>
<td>Forward</td>
<td>Middle</td>
<td>N/A</td>
<td>Suppressed</td>
<td>N/A</td>
</tr>
<tr>
<td>Facing</td>
<td>Rearward</td>
<td>N/A</td>
<td>Suppressed</td>
<td>N/A</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; 23 = Full Rearward; 23 total Seat Slide detents)
DATA SHEET 16 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>C40200</th>
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<tr>
<td>LABORATORY:</td>
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<td>TECHNICIANS:</td>
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<tr>
<td>DUMMY TYPE:</td>
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<td>092</td>
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<tr>
<td>CHILD RESTRAINT NAME:</td>
<td>Graco</td>
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<tr>
<td>CHILD RESTRAINT MODEL:</td>
<td>Infant 8457</td>
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</tr>
<tr>
<td>DATE OF MANUFACTURE:</td>
<td>8-31-2000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Base: On Off N/A Restraint does not have a removable base

Manufacturer's design seat back angle: 18.5°
Tested seat back angle: 18.5°
Manufacturer's specified anchorage position: Fixed

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 6*</td>
<td>127</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>Suppressed</td>
<td>N/A</td>
</tr>
<tr>
<td>Unbelted</td>
<td>Forward 5*</td>
<td>N/A</td>
<td>Suppressed</td>
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</tr>
<tr>
<td>Rear</td>
<td>Middle</td>
<td>N/A</td>
<td>Suppressed</td>
<td>N/A</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</td>
<td>N/A</td>
<td>Suppressed</td>
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</tr>
<tr>
<td>Forward</td>
<td>Middle</td>
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</tr>
<tr>
<td>Facing</td>
<td>Rearward</td>
<td>N/A</td>
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</tr>
</tbody>
</table>

Successful Unbelted 5th percentile Female Dummy Reactivation was performed with the seat in the Forward position. (SN513)

* 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; 23 = Full Rearward; 23 total Seat Slide detents)
DATA SHEET 15 SUMMARY

Partial 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>C40200</th>
<th>TEST DATE:</th>
<th>2-9-04</th>
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<tbody>
<tr>
<td>LABORATORY:</td>
<td>MGA</td>
<td>TECHNICIANS:</td>
<td>JUTB</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>Roundabout 161</td>
</tr>
<tr>
<td>DATE OF MANUFACTURE:</td>
<td>7-21-2000</td>
</tr>
</tbody>
</table>

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

Manufacturer's design seat back angle:  18.5°
Tested seat back angle:  18.5°
Manufacturer's specified anchorage position:  Fixed

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>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>134</td>
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</tr>
<tr>
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<td>Middle</td>
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<tr>
<td>Facing</td>
<td>Rearward</td>
<td>131</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Unbelted</td>
<td>Forward</td>
<td>N/A</td>
<td>Suppressed</td>
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<tr>
<td>Forward</td>
<td>N/A</td>
<td>Suppressed</td>
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</tr>
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<td>Facing</td>
<td>Middle</td>
<td>128</td>
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<tr>
<td></td>
<td>Rearward</td>
<td>N/A</td>
<td>Suppressed</td>
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<tr>
<td>Belted</td>
<td>Rear</td>
<td>127</td>
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<td>128</td>
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<tr>
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<td>Rearward</td>
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<td>Suppressed</td>
</tr>
<tr>
<td>Unbelted</td>
<td>Rear</td>
<td>N/A</td>
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<tr>
<td>Rear</td>
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<td>Rearward</td>
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<td>Suppressed</td>
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</table>

Successful Unbelted 5th percentile Female Dummy Reactivation was performed with the seat in the Forward position. (SN513)
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>C40200</th>
<th>TEST DATE:</th>
<th>2-9-04</th>
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<tbody>
<tr>
<td>LABORATORY:</td>
<td>MGA</td>
<td>TECHNICIANS:</td>
<td>JU/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 4812</td>
</tr>
<tr>
<td>DATE OF MANUFACTURE:</td>
<td>8-16-2000</td>
</tr>
</tbody>
</table>

Base: _On_ __Off_ X N/A-Restraint does not have a removable base

Manufacturer's design seat back angle: 18.5°
Tested seat back angle: 18.5°
Manufacturer's specified anchorage position: Fixed

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>No Blanket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belted</td>
<td>Forward</td>
<td>128</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Forward</td>
<td>Middle</td>
<td>127</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Facing</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>Forward</td>
<td>Middle</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Facing</td>
<td>Rearward</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Belted</td>
<td>Forward</td>
<td>129</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Rear</td>
<td>Middle</td>
<td>127</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Facing</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>Rear</td>
<td>Middle</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Facing</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. (SN513)
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>C40200</th>
<th>TEST DATE:</th>
<th>2-11-04</th>
</tr>
</thead>
<tbody>
<tr>
<td>LABORATORY:</td>
<td>MGA</td>
<td>TECHNICIANS:</td>
<td>JL/KB</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: | Eventflo | CHILD RESTRAINT MODEL: | Medallion 254 | DATE OF MANUFACTURE: | 6-1-2000 |

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

Manufacturer's design seat back angle: 18.5°
Tested seat back angle: 18.5°
Manufacturer's specified anchorage position: Fixed

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>No Blanket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belted</td>
<td>Forward</td>
<td>128</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Forward</td>
<td>Middle</td>
<td>129</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Facing</td>
<td>Rearward</td>
<td>130</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Unbelted</td>
<td>Forward</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Forward</td>
<td>Middle</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Facing</td>
<td>Rearward</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Belted</td>
<td>Rear</td>
<td>127</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Rear</td>
<td>Middle</td>
<td>127</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Facing</td>
<td>Rearward</td>
<td>128</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Unbelted</td>
<td>Rear</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Rear</td>
<td>Middle</td>
<td>N/A</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Facing</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. (SN513)
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>C40200</th>
<th>TEST DATE:</th>
<th>2-10-04</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>
<th>CAR BED MODEL:</th>
<th>Dream Ride 02-719</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE OF MANUFACTURE:</td>
<td>6-16-2000</td>
<td></td>
<td></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: 18.5°
Tested seat back angle: 18.5°
Manufacturer's specified anchorage position: Fixed

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 Side</th>
<th>Lateral Placement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belted</td>
<td>Forward</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>Suppressed</td>
</tr>
</tbody>
</table>

Successful Unbelted 5th percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN513)
DATA SHEET 17 SUMMARY

Suppression Test Using 3 Year Old Dummy And Booster Seats (Part 572, Subpart P)
Section D Forward Facing Belt Positioning Booster

<table>
<thead>
<tr>
<th>NHTSA No.:</th>
<th>C40200</th>
<th>TEST DATE:</th>
<th>2-9-04</th>
</tr>
</thead>
<tbody>
<tr>
<td>LABORATORY:</td>
<td>MGA</td>
<td>TECHNICIANS:</td>
<td>JL/TE</td>
</tr>
<tr>
<td>DUMMY TYPE:</td>
<td>3 Year Old</td>
<td>DUMMY SERIAL NO.:</td>
<td>032</td>
</tr>
<tr>
<td>BOOSTER SEAT NAME:</td>
<td>Century</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOOSTER SEAT MODEL:</td>
<td>Next Step 4920</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DATE OF MANUFACTURE:</td>
<td>9-16-2000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Manufacturer's design seat back angle: 18.5°
Tested seat back angle: 18.5°
Manufacturer's specified anchorage position: Fixed

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 Forward</td>
<td>Forward</td>
<td>12</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Forward Facing</td>
<td>Middle</td>
<td>15</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Without Harness</td>
<td>Rearward</td>
<td>14</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Belted Forward</td>
<td>Forward</td>
<td>130</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Forward Facing</td>
<td>Middle</td>
<td>130</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Cinched With Harness</td>
<td>Rearward</td>
<td>130</td>
<td>Suppressed</td>
</tr>
</tbody>
</table>

Successful Unbelted 5th percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN513)
DATA SHEET 17 SUMMARY

Suppression Test Using 3 Year Old Dummy And Booster Seats (Part 572, Subpart P)
Section D: Forward Facing Toddler Belt Positioning Booster Seat

<table>
<thead>
<tr>
<th>NHTSA No.</th>
<th>C40200</th>
<th>TEST DATE</th>
<th>2-9-04</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>3 Year Old</td>
<td>DUMMY SERIAL NO</td>
<td>032</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BOOSTER SEAT NAME</th>
<th>Cosco</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOOSTER SEAT MODEL</td>
<td>High Back Booster 02-442</td>
</tr>
<tr>
<td>DATE OF MANUFACTURE</td>
<td>4-28-2000</td>
</tr>
</tbody>
</table>

Manufacturer's design seat back angle: \(18.5^\circ\)
Tested seat back angle: \(18.5^\circ\)
Manufacturer's specified anchorage position: Fixed

**Test Summary**

<table>
<thead>
<tr>
<th>Seat Belt</th>
<th>Seat Slide</th>
<th>Clinch Load (N)</th>
<th>No Blanket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belted</td>
<td>Forward 9 *</td>
<td>10</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Forward Facing</td>
<td>Middle</td>
<td>14</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Without Harness</td>
<td>Rearward</td>
<td>11</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Belted</td>
<td>Forward 5 *</td>
<td>133</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Forward Facing</td>
<td>Middle</td>
<td>133</td>
<td>Suppressed</td>
</tr>
<tr>
<td>Clinched With Harness</td>
<td>Rearward</td>
<td>129</td>
<td>Suppressed</td>
</tr>
</tbody>
</table>

Successful Unbelted 5th percentile Female Dummy Reactivation was performed with the seat in the Forward position. (SN513)

* The CRS would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the foremost detent position with respect to the foremost position. (1 = Full Forward; 23 = Full Rearward; 23 total Seat Slide detents)
DATA SHEET 18 SUMMARY
Suppression Test Using 3 Year Old Dummy And Convertible Restraints (Part 572, Subpart P)
Section C Forward Facing Convertible CRS

<table>
<thead>
<tr>
<th>NHTSA No.:</th>
<th>C40200</th>
<th>TEST DATE:</th>
<th>2-9-04</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>3 Year Old</td>
<td>DUMMY SERIAL NO.:</td>
<td>032</td>
</tr>
</tbody>
</table>

| CHILD RESTRAINT NAME: | Britax |
| CHILD RESTRAINT MODEL: | Roundabout 181 |
| DATE OF MANUFACTURE: | 7-21-2000 |

Manufacturer's design seat back angle: 18.5°
Tested seat back angle: 18.5°
Manufacturer's specified anchorage position: Fixed

**Test Summary**

<table>
<thead>
<tr>
<th>Seat Belt</th>
<th>Seat Slide</th>
<th>Clinch Load (N)</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belted</td>
<td>Forward</td>
<td>130</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>134</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>134</td>
<td>Suppressed</td>
</tr>
</tbody>
</table>

Successful Unbelted 5th percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN513)
DATA SHEET 13 SUMMARY

Suppression Test Using 3 Year Old Dummy And Convertible Restraints (Part 572, Subpart P)
Section C Forward Facing Convertible CRS

<table>
<thead>
<tr>
<th>NHTSA No.</th>
<th>C40200</th>
<th>TEST DATE:</th>
<th>2-9-04</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>3 Year Old</td>
<td>DUMMY SERIAL NO.:</td>
<td>032</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 4812</td>
</tr>
<tr>
<td>DATE OF MANUFACTURE:</td>
<td>8-16-2000</td>
</tr>
</tbody>
</table>

Manufacturer's design seat back angle: **18.5°**
Tested seat back angle: **18.5°**
Manufacturer's specified anchorage position: **Fixed**

### Test Summary

<table>
<thead>
<tr>
<th>Seat Belt</th>
<th>Seat Slide</th>
<th>Cinch Load (N)</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belted</td>
<td>Forward</td>
<td>130</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>129</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>132</td>
<td>Suppressed</td>
</tr>
</tbody>
</table>

Successful Unbelted 5th percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN513)
DATA SHEET 18 SUMMARY

Suppression Test Using 3 Year Old Dummy And Convertible Restraints (Part 572, Subpart F)
Section C Forward Facing Convertible CRS

<table>
<thead>
<tr>
<th>NHTSA No.</th>
<th>C40200</th>
<th>TEST DATE:</th>
<th>2-9-04</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>3 Year Old</td>
<td>DUMMY SERIAL NO.:</td>
<td>032</td>
</tr>
<tr>
<td>CHILD RESTRAINT NAME:</td>
<td>Eventflo</td>
<td>CHILD RESTRAINT MODEL:</td>
<td>Medallion 254</td>
</tr>
<tr>
<td>DATE OF MANUFACTURE:</td>
<td>6-1-2000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Manufacturer's design seat back angle: 18.5°
Tested seat back angle: 18.5°
Manufacturer's specified anchorage position: Fixed

Test Summary

<table>
<thead>
<tr>
<th>Seat Belt</th>
<th>Seat Slide</th>
<th>Cinch Load (N)</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belted</td>
<td>Front 2 *</td>
<td>127</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>128</td>
<td>Suppressed</td>
</tr>
</tbody>
</table>

Successful Unbelted 5th percentile Female Dummy Reactivation was performed with the seat in the Forward position. (SN513)

* 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; 23 = Full Rearward; 23 total Seat Slide detents)
### DATA SHEET 19 SUMMARY

**Suppression Test Using An Unbelted 3 Year Old Dummy (Part 572, Subpart P)**

No CRS

<table>
<thead>
<tr>
<th>NHTSA No.:</th>
<th>C40200</th>
<th>TEST DATE:</th>
<th>2-10-04</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>3 Year Old</td>
<td>DUMMY SERIAL NO.:</td>
<td>032</td>
</tr>
</tbody>
</table>

#### Test Summary

<table>
<thead>
<tr>
<th>Position</th>
<th>Seat Side</th>
<th>Seat Back Angle</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Position 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sitting on seat with back against seat back</td>
<td>Forward</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td><strong>Position 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sitting on seat with back against reclined seat back</td>
<td>Forward</td>
<td>42.3</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>42.3</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>26.5*</td>
<td>Suppressed</td>
</tr>
<tr>
<td><strong>Position 3</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sitting on seat with back not against seat back</td>
<td>Forward</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td><strong>Position 4</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sitting on seat edge, spine vertical, hands at dummy's sides</td>
<td>Forward</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td><strong>Position 5</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standing on seat, facing forward</td>
<td>Rearward</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td><strong>Position 6</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kneeling on seat, facing forward</td>
<td>Rearward</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td><strong>Position 7</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kneeling on seat, facing rearward</td>
<td>Rearward</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td><strong>Position 8</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lying on seat. (Three designated seating positions only)</td>
<td>Rearward</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td>An unbelted 5th percentile Female Dummy Reactivation was not performed.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* The seat back would not recline the full amount due to interference with the back of the vehicle cab. The FMVSS 208 Standard expresses Position 2 angle as manufacturer design seat back angle plus 25° reclined.
DATA SHEET 20 SUMMARY

Suppression Test Using 6 Year Old Dummy And Booster Seats (Part 572, Subpart N)
Section D Forward Facing Toddler Belt Positioning Booster Seat

<table>
<thead>
<tr>
<th>NHTSA No.:</th>
<th>C40200</th>
<th>TEST DATE:</th>
<th>2-9-04</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>6 Year Old</td>
<td>DUMMY SERIAL NO.:</td>
<td>152</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BOOSTER SEAT NAME:</th>
<th>Century</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOOSTER SEAT MODEL:</td>
<td>Next Step 4020</td>
</tr>
<tr>
<td>DATE OF MANUFACTURE:</td>
<td>8-16-2000</td>
</tr>
</tbody>
</table>

Manufacturer's design seat back angle: 18.5°
Tested seat back angle: 18.5°
Manufacturer's specified anchorage position: Fixed

<table>
<thead>
<tr>
<th>Seat Belt</th>
<th>Seat Slide</th>
<th>Clinch Load (N)</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belted</td>
<td>Forward</td>
<td>10</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>14</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>17</td>
<td>Suppressed</td>
</tr>
</tbody>
</table>

Successful Unbelted 5th percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN513)
DATA SHEET 20 SUMMARY
Suppression Test Using 6 Year Old Dummy And Booster Seats (Part 572, Subpart N)
Section D Forward Facing Toddler Belt Positioning Booster Seat

<table>
<thead>
<tr>
<th>NHTSA No.:</th>
<th>C40200</th>
<th>TEST DATE:</th>
<th>2-9-04</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>6 Year Old</td>
<td>DUMMY SERIAL NO.:</td>
<td>152</td>
</tr>
<tr>
<td>BOOSTER SEAT NAME:</td>
<td>Cosco</td>
<td>BOOSTER SEAT MODEL:</td>
<td>High Back Booster 02-442</td>
</tr>
<tr>
<td>DATE OF MANUFACTURE:</td>
<td>4-28-2000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Manufacturer's design seat back angle: 18.5°
Tested seat back angle: 18.5°
Manufacturer's specified anchorage position: Fixed

<table>
<thead>
<tr>
<th>Seat Belt</th>
<th>Seat Slide</th>
<th>Clinch Load (N)</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belted</td>
<td>Forward</td>
<td>16</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>15</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>10</td>
<td>Suppressed</td>
</tr>
</tbody>
</table>

Successful Unbelted 5th percentile Female Dummy Reactivation was performed with the seat in the Rearward position. (SN513)
DATA SHEET 20 SUMMARY

Suppression Test Using 6 Year Old Dummy And Booster Seats (Part 572, Subpart N)
Section D Forward Facing Toddler Belt Positioning Booster Seat

<table>
<thead>
<tr>
<th>NHSTA No.:</th>
<th>C40200</th>
<th>TEST DATE:</th>
<th>2-9-04</th>
</tr>
</thead>
<tbody>
<tr>
<td>LABORATORY:</td>
<td>MGA</td>
<td>TECHNICIANS:</td>
<td>JL/TE</td>
</tr>
<tr>
<td>DUMMY TYPE:</td>
<td>6 Year Old</td>
<td>DUMMY SERIAL NO.:</td>
<td>152</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

BOOSTER SEAT NAME: Evenflo
BOOSTER SEAT MODEL: Right Fit 245
DATE OF MANUFACTURE: 6-28-2000

Manufacturer's design seat back angle: 18.5°
Tested seat back angle: 18.5°
Manufacturer's specified anchorage position: Fixed

<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>
</tbody>
</table>

Successful Unbelted 5th percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN513)

* 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; 23 = Full Rearward; 23 total Seat Slide detents)
**DATA SHEET 21 SUMMARY**

Suppression Test Using An Unbelted 5 Year Old Dummy (Part 572, Subpart N)
No CRS

<table>
<thead>
<tr>
<th>NHTSA No.</th>
<th>C40200</th>
<th>TEST DATE:</th>
<th>2-13-04</th>
</tr>
</thead>
<tbody>
<tr>
<td>LABORATORY:</td>
<td>MGA</td>
<td>TECHNICIANS:</td>
<td>JL/MB</td>
</tr>
<tr>
<td>DUMMY TYPE:</td>
<td>6 Year Old</td>
<td>DUMMY SERIAL NO.:</td>
<td>152</td>
</tr>
</tbody>
</table>

### Test Summary

<table>
<thead>
<tr>
<th>Position</th>
<th>Seat Slide</th>
<th>Seat Back Angle</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Position 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sitting on seat with back against</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>seat back</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Forward 9 *</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td><strong>Position 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sitting on seat with back against</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>reclined seat back</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Forward 9 *</td>
<td>42.6</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>42.6</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>29.5 **</td>
<td>Suppressed</td>
</tr>
<tr>
<td><strong>Position 3</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sitting on seat edge, spine vertical,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>hands at dummy's side</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Forward 9 *</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td><strong>Position 4</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sitting on seat with back against</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>seat back then leaning on the door</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Forward 9 *</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
<tr>
<td></td>
<td>Rearward</td>
<td>18.5</td>
<td>Suppressed</td>
</tr>
</tbody>
</table>

Successful Unbelted 5th percentile Female Dummy Reactivation was performed with the seat in the Middle position. (SN513)

* The ATD would not fit in this Forward Seat Slide position. If there is a number in the Seat Slide column, it indicates the forward detent position with respect to the foremost position. (1 = Full Forward; 23 = Full Rearward; 23 total Seat Slide detents)

** The seat back would not recline the full amount due to interference with the back of the vehicle cab. The FMVSS 208 Standard expresses Position 2 angle as manufacturer design seat back angle plus 25° reclined.

The Initial Position 1 Forward and Rearward seat slide failures are detailed in the Notice of Test Failure in Appendix G. The failures were subsequently investigated and cleared.
DATA SHEET 27 SUMMARY
Low Risk Deployment Tests Using an Unbelted 5th Percentile Female
Dummy (Part 572, Subpart 0) (S26)
Position 1 - Chin On Module (S26.2)

<table>
<thead>
<tr>
<th>NHTSA No.:</th>
<th>C40200</th>
<th>TEST DATE:</th>
<th>3-31-04</th>
</tr>
</thead>
<tbody>
<tr>
<td>LABORATORY:</td>
<td>MGA</td>
<td>TECHNICIANS:</td>
<td>WD/DWBR</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: 18.5°
Tested seat back angle: 18.6°
Tested seat position: Full Aft

Tested steering wheel angle: 20.3°
Thorax cavity angle: 26.6°
Chin Point height: 4 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>100.0</td>
<td>100.3</td>
</tr>
</tbody>
</table>

### 5th Percentile Female SN 517 Position 1 (Chin On Module) 3-31-04

<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>13</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>88.3</td>
</tr>
<tr>
<td>Peak Nij (Ntf)</td>
<td>1.0</td>
<td>0.3</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>31.6</td>
</tr>
<tr>
<td>Peak Nij (Noc)</td>
<td>1.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>182.9</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>224.9</td>
</tr>
<tr>
<td>Neck Tension</td>
<td>2070 N</td>
<td>495</td>
</tr>
<tr>
<td>Neck Compression</td>
<td>2520 N</td>
<td>200</td>
</tr>
<tr>
<td>Chest g</td>
<td>80 g</td>
<td>12</td>
</tr>
<tr>
<td>Chest Displacement</td>
<td>52 mm</td>
<td>9</td>
</tr>
<tr>
<td>Left Femur</td>
<td>6805 N</td>
<td>43</td>
</tr>
<tr>
<td>Right Femur</td>
<td>6805 N</td>
<td>149</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. (§4.11(d))
Second stage firing time of 100 ms; injuries calculated on 0 ms to 225 ms.
DATA SHEET 28 SUMMARY
Low Risk Deployment Tests Using an Unbelted 5th Percentile Female Dummy (Part 572, Subpart G) (S26)
Position 2 - Chin On Rim (S26.3)

<table>
<thead>
<tr>
<th>NHTSA No.</th>
<th>TEST DATE</th>
<th>4-21-04</th>
</tr>
</thead>
<tbody>
<tr>
<td>LABORATORY:</td>
<td>TECHNICIANS:</td>
<td>WD/DWBR</td>
</tr>
<tr>
<td>DUMMY TYPE:</td>
<td>DUMMY SERIAL NO.:</td>
<td>508</td>
</tr>
<tr>
<td>5th Percentile Female</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Manufacturer's design seat back angle: 18.5°
Tested seat back angle: 18.8°
Tested seat position: Full Aft

Tested steering wheel angle: 19.8°
Thorax cavity angle: 26.7°
Chin Point height: 9 mm Below Rim

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>100.0</td>
<td>100.3</td>
</tr>
</tbody>
</table>

5th Percentile Female SN 508 Position 2 (Chin On Rim) 4-21-04

<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>8</td>
</tr>
<tr>
<td>Peak Nij (Nte)</td>
<td>1.0</td>
<td>0.4</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>13.0</td>
</tr>
<tr>
<td>Peak Nij (Ntr)</td>
<td>1.0</td>
<td>0.1</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>42.1</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>6.6</td>
</tr>
<tr>
<td>Peak Nij (Ncd)</td>
<td>1.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>NA</td>
<td>53.6</td>
</tr>
<tr>
<td>Neck Tension</td>
<td>2070 N</td>
<td>939</td>
</tr>
<tr>
<td>Neck Compression</td>
<td>2520 N</td>
<td>148</td>
</tr>
<tr>
<td>Chest g</td>
<td>60 g</td>
<td>10</td>
</tr>
<tr>
<td>Chest Displacement</td>
<td>52 mm</td>
<td>20</td>
</tr>
<tr>
<td>Left Femur</td>
<td>5805 N</td>
<td>52</td>
</tr>
<tr>
<td>Right Femur</td>
<td>5805 N</td>
<td>60</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 28 km/h. (See 4.11(d))
Second stage firing time of 100 ms; injuries calculated on 0 ms to 225 ms.
DATA SHEET 30
VEHICLE WEIGHT, FUEL TANK, AND ATTITUDE DATA

Test Vehicle: 2004 Ford E-150  
Test Program:  FMVSS 208 Compliance  
Test Technician: Clark Subrt  
NHTSA No.: C40200  
Test Date: 5/7/04

<table>
<thead>
<tr>
<th>IMPACT ANGLE:</th>
<th>Zero Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>BELTED DUMMIES (YES/NO):</td>
<td>Yes - No - X</td>
</tr>
<tr>
<td>TEST SPEED:</td>
<td>X 32 to 40 kmph 0 to 45 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 50th Male</td>
</tr>
</tbody>
</table>

1. Fill the transmission with transmission fluid to the satisfactory range.
2. Drain fuel from vehicle.
3. Run the engine until fuel remaining in the fuel delivery system is used and the engine stops.
4. Record the usable fuel tank capacity supplied by the COTR.
   Useable Fuel Tank Capacity supplied by COTR: 98.4 liters (26.0 gallons)
5. Record the fuel tank capacity supplied in the owner's manual.
   Useable Fuel Tank Capacity in owner's manual: 98.4 liters (26.0 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 Solvent," or gasoline, fill the fuel tank.
   Amount in Tank: 98.4 liters (26.0 gallons)
7. Fill the coolant system to capacity.
8. Fill the engine with motor oil to the Max. mark on the dip stick.
9. Fill the brake reservoir with brake fluid to its normal level.
10. Fill the windshield washer reservoir to capacity.
11. Inflate the tires to the tire pressure on the tire placard. If no tire placard is available, inflate the tires to the recommended pressure in the owner's manual.

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

| Right Front (kg): | 622.5 | Right Rear (kg): | 474.5 |
| Left Front (kg): | 622.3 | Left Rear (kg): | 466.8 |
| Total Front (kg): | 1247.8 | Total Rear (kg): | 941.3 |
| % Total Weight: | 67.0 | % Total Weight: | 43.0 |
| UVW = TOTAL FRONT PLUS TOTAL REAR (KG): | 2189.1 |

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.

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

14.1 Does the vehicle have the vehicle capacity weight (VCW) on the certification label or tire placard?
- Yes, go to 14.3
- No, go to 14.2

14.2 VCW = Gross Vehicle Weight - UVW

\[
VCW = 3013.0 \text{ kg} - 2189.1 \text{ kg} = 823.9 \text{ kg}
\]

14.3 VCW = 828.9 kg (1823 lbs)

14.4 Does the certification or tire placard contain the Designated Seating Capacity (DSC)?
- Yes, go to 14.6
- No, go to 14.5 and skip 14.6

14.5 DSC = Total number of seat belt assemblies = 3

14.6 DSC = ___

14.7 RCLW = VCW - (68 kg x DSC) + 626.9 kg - (68 kg x 2) = 522.9 kg

14.8 Is the vehicle certified as a truck, MPV or bus (see the certification label on the door jamb)?
- Yes, if the calculated RCLW is greater than 138 kg, use 138 kg as the RCLW. (S8.1.1)
- No, use the RCLW calculated in 14.7

15. Fully Loaded Weight (100% fuel fill)

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

Driver: 50th male
Passenger: 5th female

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>666.3</th>
<th>Right Rear (kg):</th>
<th>582.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left Front (kg):</td>
<td>644.1</td>
<td>Left Rear (kg):</td>
<td>550.2</td>
</tr>
<tr>
<td>Total Front (kg):</td>
<td>1310.4</td>
<td>Total Rear (kg):</td>
<td>1112.7</td>
</tr>
<tr>
<td>% Total Weight:</td>
<td>54.1</td>
<td>% Total Weight:</td>
<td>45.9</td>
</tr>
<tr>
<td>% GVW</td>
<td>81.1</td>
<td>% GVW</td>
<td>18.9</td>
</tr>
</tbody>
</table>

Fully Loaded Weight = Total Front Plus Total Rear (kg): 2423.1

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

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 x .94 = 98.4 liters (26.0 gallons) x .94 = 92.5 liters (24.4 gallons)

Amount added 91.6 liters (24.2 gallons) 93.1%

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)

2423.1 kg = 2185.1 kg + 138.0 kg + 88.0 kg

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

Max. Test Weight = Calculated Test Weight - 4.5 kg = 2418.6 kg

Min. Test Weight = Calculated Test Weight - 9 kg = 2414.1 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:

None

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

26. Weight of Ballast: 113.4 kg in cargo area

27. 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.

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

<table>
<thead>
<tr>
<th>Right Front (kg)</th>
<th>680.4</th>
<th>Right Rear (kg):</th>
<th>562.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left Front (kg):</td>
<td>829.1</td>
<td>Left Rear (kg):</td>
<td>586.1</td>
</tr>
<tr>
<td>Total Front (kg):</td>
<td>1289.5</td>
<td>Total Rear (kg):</td>
<td>1128.1</td>
</tr>
<tr>
<td>% Total Weight:</td>
<td>53.3</td>
<td>% Total Weight:</td>
<td>46.7</td>
</tr>
<tr>
<td>% GVW</td>
<td>51.1</td>
<td>% GVW</td>
<td>51.9</td>
</tr>
<tr>
<td>(% GVW = Axle GVW divided by Vehicle GVW)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL FRONT PLUS TOTAL REAR (kg):</td>
<td>2417.6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
28. Is the test weight between the Max. Weight and the Min. Weight (See 20.2)?
   X Yes
   X No, explain why not.

29. Test Weight Vehicle Attitude: (all dimensions in millimeters)
   X 29.1 Place the vehicle on a level surface
   X 29.2 Measure perpendicular to the level surface to the 4 points marked on the body (see 13 above) and record the measurements
   RF: 885 LF: 893 RR: 943 LR: 952

30. Summary of test attitude
   X 30.1 AS DELIVERED:
   RF: 896 LF: 905 RR: 972 LR: 978
   AS TESTED:
   RF: 885 LF: 893 RR: 943 LR: 952
   FULLY LOADED:
   RF: 879 LF: 889 RR: 841 LR: 950

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

REMARKS:
I certify that I have read and performed each instruction.

Signature: [Signature]
Date: 5/6/04
VEHICLE ACCELEROMETER LOCATION AND MEASUREMENT

Test Vehicle: 2004 Ford F-150
Test Program: FMVSS 208 Compliance
Test Technician: Clark Subrt
NHTSA No.: C40200
Test Date: 5/7/04

<table>
<thead>
<tr>
<th>IMPACT ANGLE:</th>
<th>Zero Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>BELTED DUMMIES (YES/NO):</td>
<td>Yes - No - X</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. 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:

I certify that I have read and performed each instruction.

Signature: Clark Subrt
Date: 5/5/04
VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

ACCELEROMETER COORDINATE SYSTEM
(POSITIVE DIRECTION SHOWN)

REAR SEAT CUSHION ASSY. FRONT ATTACHMENT BRACKET SUPPORT

BOTTOM OF OIL PAN DISC BRAKE CALIPER

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>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PRETEST VALUES</strong></td>
<td></td>
</tr>
<tr>
<td>A (LH Rear Seat Xmbr)</td>
<td>430</td>
</tr>
<tr>
<td>B (RH Rear Seat Xmbr)</td>
<td>430</td>
</tr>
<tr>
<td>C (Engine Top)</td>
<td>4380</td>
</tr>
<tr>
<td>D (Engine Bottom)</td>
<td>4432</td>
</tr>
<tr>
<td>E (Caliper)</td>
<td>4306</td>
</tr>
<tr>
<td>F (Left Caliper)</td>
<td>740</td>
</tr>
<tr>
<td>G (IP)</td>
<td>3682</td>
</tr>
<tr>
<td>H (Seat)</td>
<td>2372</td>
</tr>
<tr>
<td>J (Right Caliper)</td>
<td>740</td>
</tr>
<tr>
<td>K (Trunk)</td>
<td>315</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DIMENSION</th>
<th>LENGTH (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>POST TEST VALUES</strong></td>
<td></td>
</tr>
<tr>
<td>A (LH Rear Seat Xmbr)</td>
<td>430</td>
</tr>
<tr>
<td>B (RH Rear Seat Xmbr)</td>
<td>430</td>
</tr>
<tr>
<td>C (Engine Top)</td>
<td>4380</td>
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<tr>
<td>D (Engine Bottom)</td>
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<td>E (Caliper)</td>
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</tr>
<tr>
<td>F (Left Caliper)</td>
<td>745</td>
</tr>
<tr>
<td>G (IP)</td>
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</tr>
<tr>
<td>H (Seat)</td>
<td>2397</td>
</tr>
<tr>
<td>J (Right Caliper)</td>
<td>745</td>
</tr>
<tr>
<td>K (Trunk)</td>
<td>315</td>
</tr>
</tbody>
</table>
DATA SHEET 32
PHOTOGRAPHIC TARGETS

Test Vehicle: 2004 Ford F-150
Test Program: FMVSS 208 Compliance
Test Technician: Clark Subrt
NHTSA No.: C40200
Test Date: 5/7/04

<table>
<thead>
<tr>
<th>IMPACT ANGLE:</th>
<th>Zero Degrees</th>
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<tbody>
<tr>
<td>BELTED DUMMIES (YES/NO):</td>
<td>Yes - X No -</td>
</tr>
<tr>
<td>TEST SPEED:</td>
<td>X 32 to 40 km/h</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. 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. (Pick Up Truck)
   Distance between the first and last circular targets (mm): 600 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):

95
Find the centerline of the vehicle. (% of the vehicle width)

Find the line parallel to the centerline of the vehicle and 0.1 x vehicle width from the centerline of the vehicle.

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

[X] Yes, continue with this form.
[ ] No, this form is complete.

4.2 Rejection panel (Figure 28C)

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

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

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

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

4.2.5 The center of the 4 inner targets are placed at the midpoints of each of the 228 mm sides.
4.3 Place a circular target at least 80 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.

I certify that I have read and performed each instruction.

Signature: [Signature]
Date: 5/7/04
RESECTION PANEL TARGETING ALIGNMENT
CAR TOP TARGETS A1 & A2

RESECTION CONTROL POINTS PANEL

STEERING WHEEL

STEERING COLUMN TARGET B

REAR VIEW

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

LEFT SIDE VIEW
PRE-RUN STEERING COLUMN HIGH SPEED CAMERA VIEW

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

Test Vehicle: 2004 Ford F-150  
Test Program: FMVSS 208 Compliance

<table>
<thead>
<tr>
<th>CAMERA NO.</th>
<th>VIEW</th>
<th>CAMERA POSITIONS (mm) *</th>
<th>LENS (mm)</th>
<th>SPEED (fps)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>Y</td>
<td>Z</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>-1000</td>
<td>8000</td>
<td>1630</td>
<td>25</td>
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<tr>
<td>3</td>
<td>-1500</td>
<td>10300</td>
<td>1580</td>
<td>75</td>
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<td>6</td>
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<td>8000</td>
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<td>25</td>
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<td>7</td>
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<td>16</td>
<td>-2750</td>
<td>0</td>
<td>-3140</td>
<td>13</td>
</tr>
</tbody>
</table>

**X - film plane to barrier face  **

**Y - film plane to monorail centerline  **

**Z - film plane to ground  **

**No usable film  **

NT = No Timing
DATA SHEET 34

APPENDIX G

DUMMY POSITIONING PROCEDURES

FOR 50th DRIVER TEST DUMMY CONFORMING TO SUBPART 0 OF PART 572

Test Vehicle: 2004 Ford E-150
Test Program: FMVSS 208 Compliance
Test Technician: Eric Peschman
NHTSA No.: C40200
Test Date: 6/7/04

<table>
<thead>
<tr>
<th>IMPACT ANGLE:</th>
<th>Zero Degrees</th>
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</thead>
<tbody>
<tr>
<td>BELTED DUMMIES (YES/NO):</td>
<td>Yes - X</td>
</tr>
<tr>
<td>TEST SPEED:</td>
<td>32 to 40 km/h</td>
</tr>
<tr>
<td>DRIVER DUMMY:</td>
<td>5th female</td>
</tr>
<tr>
<td>PASSENGER DUMMY:</td>
<td>5th female</td>
</tr>
</tbody>
</table>

X.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 NA – No lumbar adjustment

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

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

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

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

X.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)

X.7. Fully recline the seat back. (S16.3.2.1.2)
   X NA seat back not adjustable

X.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)

X.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)

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

X.11. Set the angle between the legs and the thighs to 120 degrees. (S16.3.2.1.6)
104
_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 5 mm
   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 5 mm (0.2 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 5 mm
   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)

_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 ___ 0.4 ___ 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

_24. Verify the pelvis is not interfering with the seat bight. (S16.3.2.1.8)
   X No interference
   ___ Pelvis moved forward the minimum amount so that it is not caught in the seat bight.

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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

X.26. Head Angle
   __ N/A, neither the pelvis nor the abdomen were adjusted.

X.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

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

X.27.1 Adjust telescoping mechanism.
      X 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.

X.27.2 Adjust tilt mechanism.
      __ N/A No tilt adjustment.
      X No adjustment performed.
      __ Adjustment performed.
      Steering wheel moved ____ detent positions Upward/Downward.
      (circle one)
      Steering wheel moved ____ degrees Upward/Downward.

X.27.3 Adjust Seat in the aft direction.
      X No Adjustment performed.
      __ Seat moved aft ____ mm from original position.
      __ Seat moved aft ____ detent positions from the original position.

X.28. Measure and set the pelvic angle using the pelvic angle 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.
      X 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. ____ 20.3 _______ degrees
X 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.

X 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.

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

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

X 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.

X 32.6 Record foot position
   _ 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)

X 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 38. Adjustable head restraints
   N/A, there is no head restraint adjustment

X 38.1 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.38.2 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.38.3 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
   √ Headrest set at nearest detent below the head CG

X.38.4 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.37. Driver and passenger manual belt adjustment (for tests conducted with a belted dummy). (S16.3.5) Unbelted Test

X.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 ____________________________

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

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

X.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:

I certify that I have read and performed each instruction.

Signature: ____________________________ Date: 5/7/04
APPENDIX G
DUMMY POSITIONING PROCEDURES
FOR 6th% PASSENGER TEST DUMMY CONFORMING TO SUBPART O OF PART 572

Test Vehicle: 2004 Ford F-150  NHTSA No.: C40200
Test Program: FMVSS 208 Compliance  Test Date: 5/7/04
Test Technician: Chris Novak

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<thead>
<tr>
<th>IMPACT ANGLE:</th>
<th>Zero Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>BELTED DUMMIES (YES/NO):</td>
<td>Yes – No – X</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>

(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 lumber supports so that the lumber supports are in the lowest, retracted or deflated adjustment position. (S16.2.10.1)
   - NA – 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)
   - NA – 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)
   - NA – 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)
   - NA 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. (S16.3.3.1.8)
X.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 168 mm.

X.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.

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

X.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)

X.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)

X.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
   __ Head Level Achieved. (Check all that apply)
      — Head leveled using the adjustable seat back
      — Head leveled using the neck bracket.
      Head Angle __________ degrees
   __ Head Level NOT Achieved. (Check all that apply)
      __ Head adjusted using the adjustable seat back
      __ Head adjusted using the neck bracket.
      Head Angle __________ degrees
X.16. Verify the pelvis is not interfering with the seat belt. (S18.3.3.1.9)
   ___ No interference
   ___ Pelvis moved forward the minimum amount so that it is not caught in the seat belt.

X.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

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

X.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

X.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. ___ 22.4 ______ degrees

X.20. Check the dummy for contact with the interior after completing adjustments.
       ___ No contact.
       ___ Dummy in contact with interior.
       ___ Seat moved aft ___ mm from the previous position.
       ___ Seat moved aft ___ detention positions from the previous position.

X.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. (S18.3.3.1.9, S16.3.3.1.10, and S18.3.3.1.11)
   ___ Head Level Achieved
       ___ Head Angle ___.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
   __ 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)
   __ 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.

X 25.2 Adjust each head restraint vertically so that the horizontal plane determined in Item 3 of Data Sheet 14 is aligned with the center of gravity (CG) of the dummy head. (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
   ___ Headrest set at nearest detent below the head CG

   __ 25.4 If the head restraint has a fore and aft adjustment, place the restraint in the foremost position or until contact with the head is made, whichever occurs first. (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 GCTR. 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:

I certify that I have read and performed each instruction.

Signature: [Signature]
Date: 5/7/04
DATA SHEET 35
DUMMY MEASUREMENTS

Test Vehicle: 2004 Ford F-150
Test Program: FMVSS 208 Compliance
Test Technician: Eric Peschmen
NHTSA No.: C40200
Test Date: 5/7/04

DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS

AD  Arm to Door
HD  H-Point to Door
HR  Head to Side Header
HS  Head to Side Window
KR  Knee to Knee
SHY  Striker to H-Point (Y Axis)
KDA  Knee to Dash Angle
KDL  Left Knee to Dash
KDR  Right Knee to Dash
NA  Nose to Rim Angle
NR  Nose to Rim
PA  Pelvic Angle
RA  Rim to Abdomen
SA  Seat Back Angle
SCA  Steering Column Angle
SH  Striker to H-Point
SK  Striker to Knee
ST  Striker to Head
SWA  Steering Wheel Angle
TA  Tibial Angle
WA  Windshield Angle

Seat Back Angle Line...
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<td>Head to Windshield</td>
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<td>Rim to Abdomen</td>
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SEAT BELT POSITIONING DATA

FRONT VIEW OF DUMMY

SEAT BELT POSITIONING MEASUREMENTS

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

Test Vehicle: 2004 Ford F-150
Test Program: FMVSS 208 Compliance
Test Technician: Eric Peachman
NHTSA No.: C40200
Test Date: 2/17/04

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<tr>
<td>BELTED DUMMIES (YES/NO):</td>
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<tr>
<td>Yes - X</td>
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<tr>
<td>TEST SPEED:</td>
</tr>
<tr>
<td>X 32 to 40 kmph</td>
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<tr>
<td>0 to 40 kmph</td>
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<td>0 to 50 kmph</td>
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<tr>
<td>DRIVER DUMMY:</td>
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<tr>
<td>X 5th female</td>
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<td>50th Male</td>
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<tr>
<td>PASSENGER DUMMY:</td>
</tr>
<tr>
<td>X 5th female</td>
</tr>
<tr>
<td>50th Male</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. Instrumentation and wires are placed so the motion of the dummies during impact is not affected.
7. Tires inflated to pressure on the 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.

280 kpa front left tire
280 kpa front right tire
280 kpa rear left tire
280 kpa rear right tire

280 kpa specified on the placard or in owner information
280 kpa specified on the placard or in owner information
280 kpa specified on the placard or in owner information
280 kpa specified on the placard or in owner information

7. Time zero markers and switches in place.
8. Pre test zero and shunt calibration adjustments performed and recorded
9. Dummy temperature meets requirements of section 12.2 of the test procedure.
10. Vehicle hood closed and latched
11. Transmission placed in neutral
12. Parking brake off
13. Ignition in the ON position
14. Doors closed and latched but not locked
15. Posttest zero and shunt calibration checks performed and recorded
16. Actual test speed 39.0 kmph
17. Vehicle rebound from the barrier 37.8 cm
18. Describe whether the doors open after the test and what method is used to open the doors.

X Left Front Door: Door remained closed and latched; Door opened without tools
X Right Front Door: Door remained closed and latched; Door opened without tools
X Left 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.
   - Driver Dummy: Head to Air Bag, Visor and Headrest; Chest and Abdomen to Air Bag; Knees to Knee Bolster
   - Passenger Dummy: Head to Air Bag and Headrest; Chest and Abdomen to Air Bag; Knees to Glove Box

REMARKS:

I certify that I have read and performed each instruction.

Signature: [Signature]
Date: 5/7/04
**DATA SHEET NO. 38**

**ACCIDENT INVESTIGATION DIVISION DATA**

Test Vehicle: 2004 Ford F-150  
Test Program: FMVSS 208 Compliance  
Test Technician: Eric Pecharman  
NHTSA No.: C40200  
Test Date: 5/27/04

| IMPACT ANGLE: Zero Degrees | BELTED DUMMIES (YES/NO): Yes - X  
| Test Speed: X 32 to 40 kmph | 0 to 48 kmph  
| DRIVER DUMMY: X 5th female | 50th Male  
| PASSENGER DUMMY: X 6th female | 50th Male |

| Vehicle Year/Make/Model/Body Style: 2004 Ford F-150 Truck  
| VIN: 1FTRF12W84NA09972  
| Wheelbase: 3193 mm  
| Build Date: 7/03  
| Vehicle Size Category: 6  
| Test Weight: 2417.6 kg  
| Front Overhang: 633 mm  
| Overall Width: 1979 mm  
| Overall Length Center: 5370 mm |

**Accelerometer Data**

| Location: As per measurements on Data Sheet 31  
| Linearity: >99.9%  
| Integration Algorithm: Trapezoidal  
| Vehicle Impact Speed: 39.8 kmph  
| Time of Separation: 112.4 ms  
| Velocity Change: 48.3 kmph |
CRUSH PROFILE

Collision Deformation Classification: 12FDEWs
Midpoint of Damage: Vehicle Longitudinal Centerline
Damage Region Length (mm): 1520
Impact Mode: Frontal Barrier

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<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>5230</td>
<td>4987</td>
<td>243</td>
</tr>
<tr>
<td>C2</td>
<td>Crush zone 2 at left side</td>
<td>mm</td>
<td>5328</td>
<td>5025</td>
<td>303</td>
</tr>
<tr>
<td>C3</td>
<td>Crush zone 3 at left side</td>
<td>mm</td>
<td>5362</td>
<td>5015</td>
<td>347</td>
</tr>
<tr>
<td>C4</td>
<td>Crush zone 4 at right side</td>
<td>mm</td>
<td>5361</td>
<td>5006</td>
<td>355</td>
</tr>
<tr>
<td>C5</td>
<td>Crush zone 5 at right side</td>
<td>mm</td>
<td>5322</td>
<td>5014</td>
<td>308</td>
</tr>
<tr>
<td>C6</td>
<td>Crush zone 6 at right side</td>
<td>mm</td>
<td>5226</td>
<td>4975</td>
<td>253</td>
</tr>
<tr>
<td>L</td>
<td>Width</td>
<td>mm</td>
<td>1520</td>
<td>1512</td>
<td>8</td>
</tr>
<tr>
<td>N/A</td>
<td>Crush at vehicle centerline</td>
<td>mm</td>
<td>5370</td>
<td>5010</td>
<td>360</td>
</tr>
</tbody>
</table>

REMARKS:

I certify that I have read and performed each instruction.

Signature: [Signature]

Date: 5/7/04
DATA SHEET 39
WINDSHIELD MOUNTING (FMVSS 212)

Test Vehicle: 2004 Ford F-150  
Test Program: FMVSS 208 Compliance  
Test Technician: Clark Subr  
NHTSA No.: C40200  
Test Date: 5/7/04

<table>
<thead>
<tr>
<th>IMPACT ANGLE:</th>
<th>Zero Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>BELTED DUMMIES (YES/NO):</td>
<td>Yes – X, No – X</td>
</tr>
<tr>
<td>TEST SPEED:</td>
<td>X 32 to 48 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. Pre-Crash
   
   1.1 Describe from visual inspection how the windshield is mounted and describe any trim material.
   Retained with glue
   Rubber trim on Top and Sides
   Plastic trim on Bottom

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 reamer or molding to the edge of the windshield.
   Dimension G (mm): 13

2. Post Crash

2.1 Can a single thickness of copper-type paper (as small a piece as necessary) slide between the windshield and the vehicle body?
   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%?
   Yes, Fail
   No, Pass

2.6 Is total left side percent retention less than 75%?
   Yes, Fail
   No, Pass

123
## 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>Left Side</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>718</td>
<td>716</td>
<td>100%</td>
</tr>
<tr>
<td>B</td>
<td>775</td>
<td>775</td>
<td>100%</td>
</tr>
<tr>
<td>C</td>
<td>907</td>
<td>907</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td>2398</td>
<td>2398</td>
<td>100%</td>
</tr>
<tr>
<td>Right Side</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>716</td>
<td>716</td>
<td>100%</td>
</tr>
<tr>
<td>E</td>
<td>764</td>
<td>764</td>
<td>100%</td>
</tr>
<tr>
<td>F</td>
<td>907</td>
<td>907</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td>2387</td>
<td>2387</td>
<td>100%</td>
</tr>
</tbody>
</table>

Indicate area of mounting failure. NONE

---

### FRONT VIEW OF WINDSHIELD

**INDICATE WIDTH OF MOLDING**

![Diagram of Windshield](attachment:image.png)

**Remarks:**

I certify that I have read and performed each instruction.

**Signature:** [signature]

**Date:** 5/7/04
DATA SHEET 40
WINDSHIELD ZONE INTRUSION (FMVSS 219)

Test Vehicle: 2004 Ford F-150  
Test Program: FMVSS 208 Compliance  
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>Yes - X</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. 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.

![Diagram](attachment:Front View of Windshield.png)
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>1432</td>
</tr>
<tr>
<td>B</td>
<td>mm</td>
<td>630</td>
</tr>
<tr>
<td>C</td>
<td>mm</td>
<td>1814</td>
</tr>
<tr>
<td>D</td>
<td>mm</td>
<td>775</td>
</tr>
<tr>
<td>E</td>
<td>mm</td>
<td>533</td>
</tr>
<tr>
<td>F</td>
<td>mm</td>
<td>591</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.

<table>
<thead>
<tr>
<th>X</th>
<th>Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>NONE</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>X</th>
<th>Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>NONE</td>
<td></td>
</tr>
</tbody>
</table>

REMARKS:

I certify that I have read and performed each instruction.

Signature: [Signature]
Date: 5/7/04
DATA SHEET 41
FUEL SYSTEM INTEGRITY (FMVSS 301)

Test Vehicle: 2004 Ford F-150
Test Program: FMVSS 208 Compliance
Test Technician: Eric Peachman

NHTSA No.: C40200
Test Date: 6/7/94

**TYPE OF IMPACT:** 25 mph Unbelted Flat Frontal

Stoddard Solvent Spillage Measurements

<table>
<thead>
<tr>
<th>Description</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. From impact until vehicle motion ceases</td>
<td>0.0 grams</td>
</tr>
<tr>
<td>(Maximum Allowable = 28 grams)</td>
<td></td>
</tr>
<tr>
<td>B. For the 5 minute period after motion ceases</td>
<td>0.0 grams</td>
</tr>
<tr>
<td>(Maximum Allowable = 142 grams)</td>
<td></td>
</tr>
<tr>
<td>C. For the following 25 minutes</td>
<td>0.0 grams</td>
</tr>
<tr>
<td>(Maximum Allowable = 28 grams/minute)</td>
<td></td>
</tr>
<tr>
<td>D. Spillage</td>
<td>NONE</td>
</tr>
</tbody>
</table>

REMARKS: NO SPILLAGE
DATA SHEET NO. 41
FMVSS 301 STATIC ROLLOVER DATA

Test Vehicle: 2004 Ford F-150
Test Program: FMVSS 208 Compliance
NHTSA No.: C40200
Test Date: 5/7/04

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>Test Phase</th>
<th>Rotation Time (sec.)</th>
<th>Hold Time (sec.)</th>
<th>Spillage (grams)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0° to 90°</td>
<td>169</td>
<td>300</td>
<td>0.0</td>
</tr>
<tr>
<td>90° to 180°</td>
<td>150</td>
<td>300</td>
<td>0.0</td>
</tr>
<tr>
<td>180° to 270°</td>
<td>140</td>
<td>300</td>
<td>0.0</td>
</tr>
<tr>
<td>270° to 360°</td>
<td>165</td>
<td>300</td>
<td>0.0</td>
</tr>
</tbody>
</table>
APPENDIX A

CRASH TEST DATA
<table>
<thead>
<tr>
<th>Figure No.</th>
<th>Description</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 1</td>
<td>Driver Head X Acceleration vs. Time</td>
<td>A-1</td>
</tr>
<tr>
<td>No. 2</td>
<td>Driver Head Y Acceleration vs. Time</td>
<td>A-1</td>
</tr>
<tr>
<td>No. 3</td>
<td>Driver Head Z Acceleration vs. Time</td>
<td>A-1</td>
</tr>
<tr>
<td>No. 4</td>
<td>Driver Head Resultant Acceleration vs. Time</td>
<td>A-1</td>
</tr>
<tr>
<td>No. 5</td>
<td>Driver Head X Velocity vs. Time</td>
<td>A-2</td>
</tr>
<tr>
<td>No. 6</td>
<td>Driver Head Y Velocity vs. Time</td>
<td>A-2</td>
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<tr>
<td>No. 7</td>
<td>Driver Head Z Velocity vs. Time</td>
<td>A-2</td>
</tr>
<tr>
<td>No. 8</td>
<td>Driver Neck Force X vs. Time</td>
<td>A-3</td>
</tr>
<tr>
<td>No. 9</td>
<td>Driver Neck Force Y vs. Time</td>
<td>A-3</td>
</tr>
<tr>
<td>No. 10</td>
<td>Driver Neck Force Z vs. Time</td>
<td>A-3</td>
</tr>
<tr>
<td>No. 11</td>
<td>Driver Neck Force Resultant vs. Time</td>
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</tr>
<tr>
<td>No. 12</td>
<td>Driver Neck Moment X vs. Time</td>
<td>A-4</td>
</tr>
<tr>
<td>No. 13</td>
<td>Driver Neck Moment Y vs. Time</td>
<td>A-4</td>
</tr>
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<td>No. 14</td>
<td>Driver Neck Moment Z vs. Time</td>
<td>A-4</td>
</tr>
<tr>
<td>No. 15</td>
<td>Driver Neck Moment Resultant vs. Time</td>
<td>A-4</td>
</tr>
<tr>
<td>No. 16</td>
<td>Driver Chest X Acceleration vs. Time</td>
<td>A-5</td>
</tr>
<tr>
<td>No. 17</td>
<td>Driver Chest Y Acceleration vs. Time</td>
<td>A-5</td>
</tr>
<tr>
<td>No. 18</td>
<td>Driver Chest Z Acceleration vs. Time</td>
<td>A-5</td>
</tr>
<tr>
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<td>A-5</td>
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<tr>
<td>No. 20</td>
<td>Driver Chest X Velocity vs. Time</td>
<td>A-6</td>
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<tr>
<td>No. 21</td>
<td>Driver Chest Y Velocity vs. Time</td>
<td>A-6</td>
</tr>
<tr>
<td>No. 22</td>
<td>Driver Chest Z Velocity vs. Time</td>
<td>A-6</td>
</tr>
<tr>
<td>No. 23</td>
<td>Driver Chest Displacement vs. Time</td>
<td>A-6</td>
</tr>
<tr>
<td>No. 24</td>
<td>Driver Left Femur Force vs. Time</td>
<td>A-8</td>
</tr>
<tr>
<td>No. 25</td>
<td>Driver Right Femur Force vs. Time</td>
<td>A-7</td>
</tr>
<tr>
<td>No. 26</td>
<td>Driver Left Knee Shear vs. Time</td>
<td>A-7</td>
</tr>
<tr>
<td>No. 27</td>
<td>Driver Right Knee Shear vs. Time</td>
<td>A-7</td>
</tr>
<tr>
<td>No. 28</td>
<td>Driver Left Upper Tibia Moment X vs. Time</td>
<td>A-8</td>
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<tr>
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<td>Driver Left Upper Tibia Moment Y vs. Time</td>
<td>A-8</td>
</tr>
<tr>
<td>Figure No.</td>
<td>Description</td>
<td>Page No.</td>
</tr>
<tr>
<td>-----------</td>
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</tr>
<tr>
<td>30</td>
<td>Driver Left Upper Tibia Force X vs. Time</td>
<td>A-8</td>
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<td>31</td>
<td>Driver Left Upper Tibia Force Z vs. Time</td>
<td>A-8</td>
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<tr>
<td>32</td>
<td>Driver Left Lower Tibia Moment X vs. Time</td>
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<tr>
<td>33</td>
<td>Driver Left Lower Tibia Moment Y vs. Time</td>
<td>A-9</td>
</tr>
<tr>
<td>34</td>
<td>Driver Left Lower Tibia Force X vs. Time</td>
<td>A-10</td>
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<tr>
<td>35</td>
<td>Driver Left Lower Tibia Force Y vs. Time</td>
<td>A-10</td>
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<td>Driver Left Lower Tibia Force Z vs. Time</td>
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<td>37</td>
<td>Driver Right Upper Tibia Moment X vs. Time</td>
<td>A-11</td>
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<td>38</td>
<td>Driver Right Upper Tibia Moment Y vs. Time</td>
<td>A-11</td>
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<td>Driver Right Upper Tibia Force X vs. Time</td>
<td>A-11</td>
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<td>40</td>
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<td>Driver Right Lower Tibia Moment X vs. Time</td>
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<td>42</td>
<td>Driver Right Lower Tibia Moment Y vs. Time</td>
<td>A-12</td>
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<td>43</td>
<td>Driver Right Lower Tibia Force X vs. Time</td>
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<tr>
<td>44</td>
<td>Driver Right Lower Tibia Force Y vs. Time</td>
<td>A-13</td>
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<td>Driver Right Lower Tibia Force Z vs. Time</td>
<td>A-13</td>
</tr>
<tr>
<td>46</td>
<td>Driver Left Tibia Mid- Shaft X Acceleration vs. Time</td>
<td>A-14</td>
</tr>
<tr>
<td>47</td>
<td>Driver Left Tibia Mid- Shaft Y Acceleration vs. Time</td>
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<td>Driver Right Tibia Mid- Shaft X Acceleration vs. Time</td>
<td>A-14</td>
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<td>Driver Right Tibia Mid- Shaft Y Acceleration vs. Time</td>
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<td>Driver Right Mid-Foot X Acceleration vs. Time</td>
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<td>Driver Right Mid-Foot Y Acceleration vs. Time</td>
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<td>Driver Right Mid-Foot Z Acceleration vs. Time</td>
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<td>53</td>
<td>Driver Right Mid-Foot Resultant Acceleration vs. Time</td>
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<td>Driver Left Mid-Foot X Acceleration vs. Time</td>
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<td>Driver Left Mid-Foot Y Acceleration vs. Time</td>
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<td>56</td>
<td>Driver Left Mid-Foot Z Acceleration vs. Time</td>
<td>A-16</td>
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<td>57</td>
<td>Driver Left Mid-Foot Resultant Acceleration vs. Time</td>
<td>A-16</td>
</tr>
<tr>
<td>58</td>
<td>Driver Left Dors/Plantar Flexion Degree vs. Time</td>
<td>A-17</td>
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<td>59</td>
<td>Driver Left Inversion/Eversion Degree vs. Time</td>
<td>A-17</td>
</tr>
<tr>
<td>Figure No.</td>
<td>Description</td>
<td>Page No.</td>
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<tr>
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<tr>
<td>60</td>
<td>Driver Left Internal/External Degree vs. Time</td>
<td>A-17</td>
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<td>Driver Right Dorsiflexion/Plantar Flexion Degree vs. Time</td>
<td>A-18</td>
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<td>Driver Right Inversion/Eversion Degree vs. Time</td>
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<td>Driver Right Internal/External Degree vs. Time</td>
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<td>Passenger Head X Acceleration vs. Time</td>
<td>A-19</td>
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<td>65</td>
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<td>Passenger Head Resultant Acceleration vs. Time</td>
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<td>68</td>
<td>Passenger Head X Velocity vs. Time</td>
<td>A-20</td>
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<td>Passenger Head Y Velocity vs. Time</td>
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<td>Passenger Head Z Velocity vs. Time</td>
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<td>Passenger Neck Force X vs. Time</td>
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<td>Passenger Neck Force Resultant vs. Time</td>
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<td>A-22</td>
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<td>Passenger Neck Moment Y vs. Time</td>
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<td>Passenger Neck Moment Z vs. Time</td>
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<td>78</td>
<td>Passenger Neck Moment Resultant vs. Time</td>
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<td>Passenger Chest Resultant Acceleration vs. Time</td>
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25MPH FRONTAL UNBELTED
2004 FORD F-150 (C40200)

Test Date: 05/07/04
Speed: 24.7 mph (39.8 km/h)

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

- Max: 39.8 kph
- Tmax: 13.3 ms
- Min: -9.1 kph
- Tmin: 288.4 ms
- CFC 180

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

- Max: 13.0 kph
- Tmax: 260.8 ms
- Min: -0.3 kph
- Tmin: 45.1 ms
- CFC 180

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

- Max: 4.4 kph
- Tmax: 276.7 ms
- Min: -13.7 kph
- Tmin: 103.2 ms
- CFC 180
25MPH FRONTAL UNBELTED
2004 FORD F-150 (C40200)

Test Date: 05/07/04
Speed: 24.7 mph (39.8 km/h)

**DRIVER RIGHT LOWER TIBIA FX (N) vs TIME (ms)**

Max: 118.4 N
Tmax: 98.6 ms
Min: -188.8 N
Tmin: 64.9 ms
CFC 600

**DRIVER RIGHT LOWER TIBIA FY (N) vs TIME (ms)**

Max: 48.5 N
Tmax: 38.7 ms
Min: -321.5 N
Tmin: 86.0 ms
CFC 600

**DRIVER RIGHT LOWER TIBIA FZ (N) vs TIME (ms)**

Max: 251.9 N
Tmax: 127.0 ms
Min: -1923.2 N
Tmin: 66.8 ms
CFC 600
25MPH FRONTAL UNBELTED
2004 FORD F-150 (C4021D)

Test Date: 05/07/04
Speed: 24.7 mph (39.8 km/h)

**INSTRUMENT PANEL X (G's) vs TIME (ms)**
- Max: 7.6 G's
- Tmax: 42.8 ms
- Min: -52.3 G's
- Tmin: 35.7 ms
- CFC 60

**INSTRUMENT PANEL X Velocity (kph) vs TIME (ms)**
- Max: 39.8 kph
- Tmax: 0.0 ms
- Min: -89.7 kph
- Tmin: 300.0 ms
- CFC 180

**TRUNK Z (G's) vs TIME (ms)**
- Max: 15.4 G's
- Tmax: 91.7 ms
- Min: -20.3 G's
- Tmin: 16.3 ms
- CFC 60

**TRUNK Z Velocity (kph) vs TIME (ms)**
- Max: 6.3 kph
- Tmax: 262.2 ms
- Min: -8.7 kph
- Tmin: 75.2 ms
- CFC 180
25MPH FRONTAL IMPACT
2004 FORD F150 (C40200)

Test Date: 05/07/04
Speed: 24.7 mph (39.8 km/h)

Pass. nij (NTF) () vs TIME (ms)
Max: 0.5
Tmax: 72.7 ms
Min: 0.0
Tmin: 0.0 ms

Pass. nij (NTE) () vs TIME (ms)
Max: 0.2
Tmax: 125.2 ms
Min: 0.0
Tmin: 0.0 ms

Pass. nij (NCF) () vs TIME (ms)
Max: 0.8
Tmax: 88.8 ms
Min: 0.0
Tmin: 0.0 ms

Pass. nij (NCE) () vs TIME (ms)
Max: 0.1
Tmax: 32.1 ms
Min: 0.0
Tmin: 0.0 ms

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APPENDIX B

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